

Movement by Perfection

# Centrifugal Fans

Main Catalogue 2019

**The Royal League** in **ventilation**, control and drive technology

# Using air intelligently

Air is always there but is hardly perceived consciously. Directing air in a specific form of movement is the competence of ZIEHL-ABEGG. As the world's leading provider of fans with adapted control technology, ZIEHL-ABEGG relies on the efficiency and reliability of the products. With the trailblazing solutions from ZIEHL-ABEGG, customers use air and energy optimally for their individual requirements.

## FANselect The fan selection program




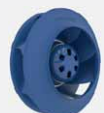





With the first fully comprehensive certified fan selection program FANselect the customer can find the optimum fans and system components for his needs conveniently, precisely and quickly. The specified values conform to reality. They are determined in the ZIEHL-ABEGG InVent technology centre which houses the world's biggest combined air and noise test benches of the ventilation system branch. More information on [www.fanselect.info](http://www.fanselect.info)

## Other catalogues

In the ZIEHL-ABEGG catalogues, the reader can find out all about ZIEHL-ABEGG fans, motors and the perfectly adapted control technology. All the catalogues are available on [www.ziehl-abegg.de](http://www.ziehl-abegg.de) website in the "Downloads" section.



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Wir entwickeln und produzieren die  
effizientesten Ventilatoren für die Zukunft

# ZIEHL-ABEGG

Die Königsklasse

*der Lufttechnik  
Regeltechnik und Antriebstechnik*

Einzigartige  
Kunststoffproduktion  
für bionische Hightech-  
Ventilatoren

# Welcome to the world of ZIEHL-ABEGG

## Top technology "Made by ZIEHL-ABEGG"

A pioneering spirit and the courage of innovation were the driving forces behind Emil Ziehl's development of his first external rotor motor over a hundred years ago. With this he laid the corner stone for the success story of ZIEHL-ABEGG in 1910. Today, the family company ZIEHL-ABEGG, with its headquarters in Künzelsau, develops, produces and sells high quality, high-tech components: Fans, special electric motors and their perfectly adapted, state-of-the-art control technology. Still today, Emil Ziehl's pioneering spirit is the motivator for making good even better and finding new, revolutionary solutions. ZIEHL-ABEGG is based in Southern Germany but is at home all over the world. At the world-wide production and sales sites, thousands of employees develop, produce and sell technical, economical and ecological progress.

Welcome to the world of ventilation, control and drive technology.

## Your contact into the world of ZIEHL-ABEGG

Would you like to learn more about the company ZIEHL-ABEGG, its products and applications? Your current direct contact partners can always be found at [www.ziehl-abegg.com](http://www.ziehl-abegg.com)



# One-stop expertise

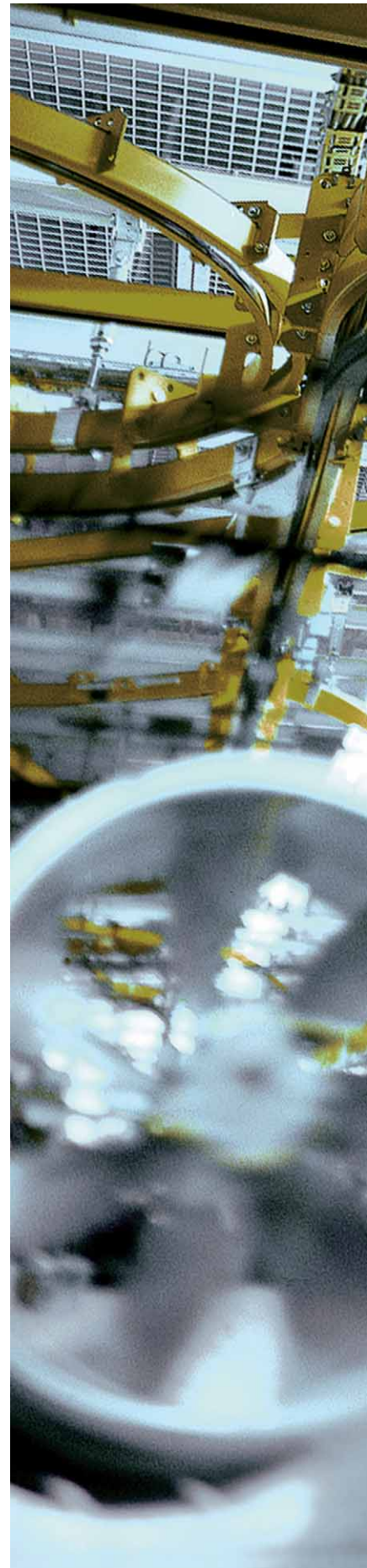
## Fan, motor and control technology

Whether air conditioning, drying, cooling or ventilating, the efficient fans with adapted drive and control technology from ZIEHL-ABEGG cope with these tasks safely and reliably. Individual and also complex customer requirements are welcome challenges.

At ZIEHL-ABEGG headquarters in Künzelsau, more than 300 engineers and technicians concentrate daily on finding the best solution. In the InVent, one of the most modern technology centres of its kind, they work on the innovations of the future. Their ideas are put into practice by excellently trained specialists on state-of-the-art plants. The production as well as all processes are accompanied by prudent quality management. ZIEHL-ABEGG products are subjected to rigorous testing before being put into operation at the customer's. On the world's biggest air and noise test bench, vibrations and external noises are eliminated and thus ensure top class fan measurements in accordance with ISO and DIN. The result is top class products and services which are marked by the seals "Premium Quality" and "Premium Efficiency".

The world's biggest and most modern test bench for fans at the headquarters in Künzelsau

State-of-the-art production lines to meet the highest demands





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# EC fans of the Royal League

## Quiet, efficient, environmentally friendly

EC fans from ZIEHL-ABEGG unite state-of-the-art motor technology with innovative aerodynamics. This symbiosis scores high marks by merging revolutionary ECblue technology with premium fans. The result is efficiency and absolutely economical operation. The new generation of axial fans heads the ECblue technology: The FE2owlet has biologically designed rotor blades for almost noiseless conveyance of air. Moreover, the FE2owletbio is made from 100% recyclable bio-polyamides. Further highlights of material development at ZIEHL-ABEGG are shown in the Cpro centrifugal fan with the new ZAmid® technology. The new high performance composite material is as hard as steel but only half the weight. This is kind on the bearings and saves energy. Greater efficiency also comes from the newly developed blade geometry in the centrifugal impellers which has only become possible thanks to the innovative composite material. In standard application, EC-fans achieve maximum air flows with extraordinary efficiency despite their low noise. Together with the ECblue motors, ZIEHL-ABEGG fans achieve a dynamic response which makes them absolute leaders in environmental friendliness and efficiency.



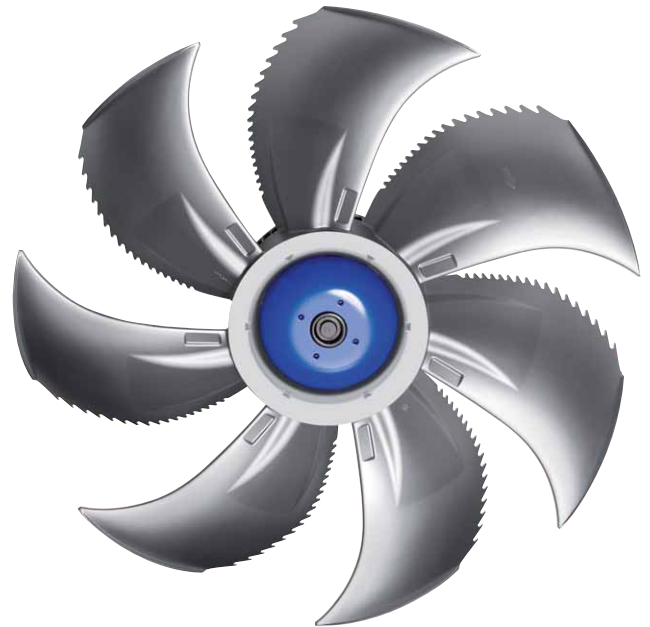
ECblue motor technology



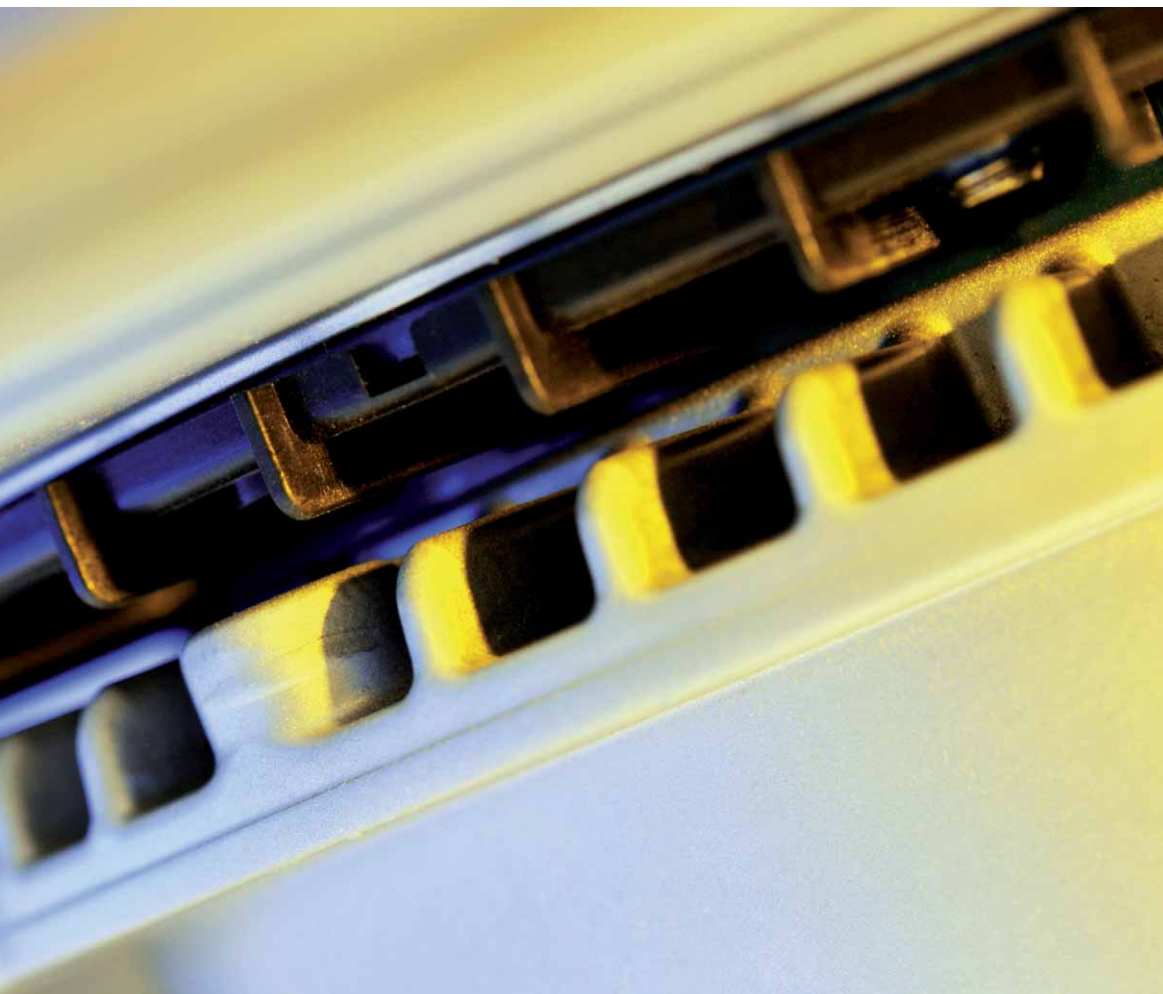




Maximum efficiency and minimum consumption  
ECblue with the latest **ZAmid**<sup>®</sup> Technology  
Radial fans sector



Unique bionic profile FE2owlet,  
combined with ECblue technology



ECblue – highest efficiency

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# AC-fans of the Royal League

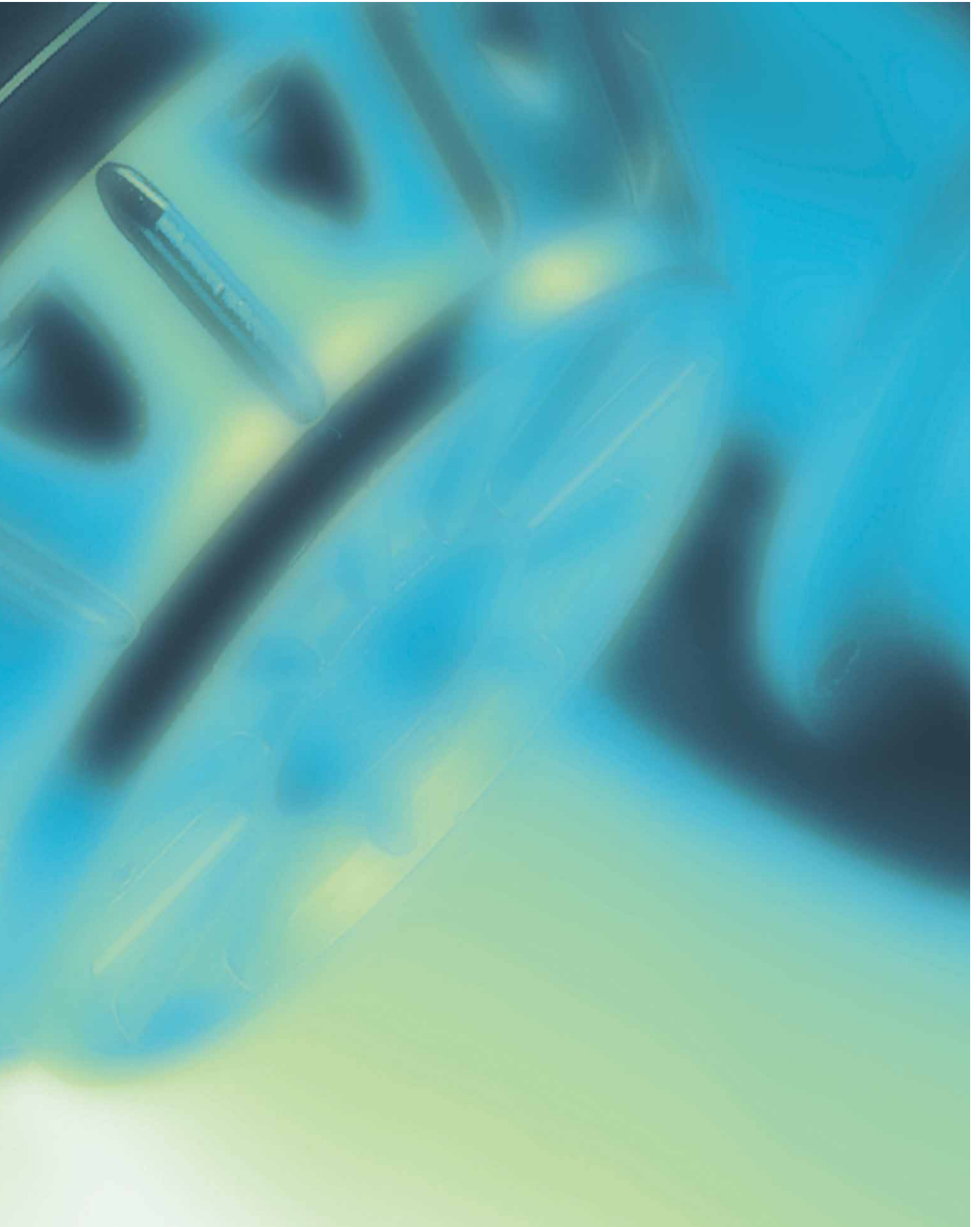
## Strong, robust, extraordinary

In all applications in which the material is exposed to immense stress, the AC fans from ZIEHL-ABEGG demonstrate their quality and ability. Their solid components and robust design and technology are able to withstand even the greatest stresses. The fans are therefore used in many different areas of industry or agriculture - wherever absolute insensitivity and stability is important.

The high quality motor technology is the result of decades of experience at ZIEHL-ABEGG. Intelligently used components such as the Fcontrol frequency inverter make them environmentally friendly and efficient key players. Maintenance-free and extraordinarily performant, AC fans from ZIEHL-ABEGG are a safe and rewarding investment.

AC motor technology, robust in operation





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# Expertise in ventilation

## ErP directive

With the Kyoto protocol, the European Union pledged to reduce CO<sub>2</sub> emissions by at least 20 per cent by the year 2020. One measure for achieving this is the ErP directive for improved energy efficiency and general environmental compatibility of energy-related products – also known in Germany as the Eco Design directive. It supports a resource-friendly and energy-efficient product design. The implementation of these requirements is carried out for electromotors according to the Implementing Regulation (EU) No. 640/2009 and for fans according to the Implementing Regulation (EU) No. 327/2011.

With the implementation of the ErP directive, stricter efficiency requirements for **fans in the output range from 125 W to 500 kW** apply since 2013 and 2015 in two stages. The current ErP directive is under revision and a next stage with higher efficiency requirements is planned. Energy efficiency is thus given the same standing as the compliance with the low voltage or EMC directive. The system efficiency requirement is a prerequisite for a CE mark and is thus essential for a product to be used in EU member states.

## Notes pertaining to the ErP evaluation

In order to meet ErP requirements, a fan must achieve a particular minimum efficiency (target energy efficiency). The directive sets out the corresponding formulae for calculating the limit value for the relevant fan type. The actual efficiency in the efficiency optimum of the fan, which is used for the ErP evaluation, is designated  $\eta_{\text{statA}}$ . The efficiency  $N$  is a parameter in the calculation of the target energy efficiency of the ErP directive. As a reference value for the required efficiency  $N_{\text{nominal}}$ , ZIEHL-ABEGG specifies the actual efficiency  $N_{\text{actual}}$  relative to a motor input power of 10 kW.

All specifications relevant for ErP relate to the requirements in the 2nd stage of ErP 2015. The measured data was determined in line with measurement category A using an inlet nozzle without contact protection complying with ISO 5801.

The **European Ventilation Industry Association (EVIA)** represents the European ventilation industry in dealings with national and European institutions.

The EVIA is a key platform for fan manufacturers and provides an interface with politicians, decision-makers in the European Union and other associations that use fans in their products. The EVIA supports the use of high-efficiency fans in Europe, in order to implement the EU efficiency increase targets.

ZIEHL-ABEGG played a major role in establishing the EVIA and supports it through active participation in its working groups.



# Technical description

## ZAbluefin-ECblue

### Product specification

Free running impeller of the latest generation made of high performance composite material ZAmid with 5 backward curved blades in sizes 250 to 560 mm. Air flow rates up to 19,000 m<sup>3</sup>/h free blowing, max. static pressure increase up to 1,800 Pa possible. Design involves impeller mounted on motor flange and inlet nozzle with measuring device for air flow measurement. Ventilation units GR for compact installation in customer applications/devices for vertical air flow

### Properties and special features

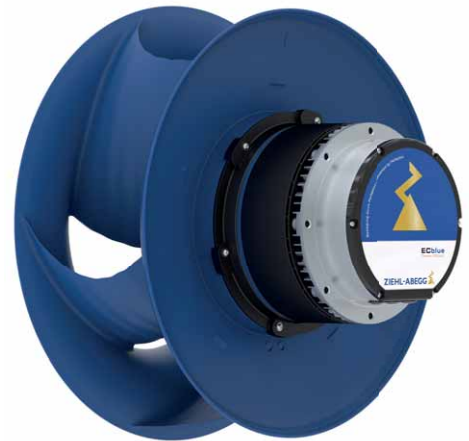
- Impeller with bionic 3D profile thanks to innovative design in the form of specially twisted blade geometry. The corrugated leading edge of the blades, as well as the V-shaped serrated rear edge allow a characteristic map range with a wide optimal efficiency. Coupled with an opening, rotating diffusor the highest efficiencies are achieved.
- The innovatively rippled blade surface ensures a scattered noise emission and the lowest noise level.
- Impellers can be used in the application temperature range from -35 °C\*\*\* to 60 °C

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

### Motor concepts

External rotor motors

- EC technology ECblue with integrated controller matched to the fan



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# Technical description

## Cpro-ECblue

### Product specification

Free running Cpro impeller made of high performance composite material ZAmid with 7 backward curved, profiled blades in sizes 250 to 630 mm. Air flow rates up to 19,000 m<sup>3</sup>/h free blowing, static pressure increase up to 1,800 Pa possible. Design involves impeller mounted on motor flange and inlet nozzle with measuring device for air flow measurement.

Ventilation units GR for compact installation in customer applications/devices for horizontal and vertical air flow.

ER built-in fans, e.g. for vibration-damped use in central air handling units for horizontal air flow.



### Properties and special features

- Impeller with rotating, bladeless diffusor for high efficiencies and favourable acoustic behaviour.
- Reduced tonal noise as a result of special 3D blade geometry.
- Impeller made of high-quality composite material with high chemical resistance and hygienically tested.
- Impellers can be used in the application temperature range from -35 °C\*\*\* to 60 °C.

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

### Motor concepts

#### External rotor motors

- EC technology ECblue with integrated controller matched to the fan



# Technical description

## C-ECblue

### Product specification

Free running impeller with 7 backward curved blades in sizes 250 to 800 mm. Impeller made of sheet steel. Impeller version mounted on motor flange and inlet nozzle with measurement device for air flow measurement. Air flow rates up to 24,000 m<sup>3</sup>/h free blowing, max. static pressure increase up to 1,800 Pa possible.

GR modules for compact installation in customer applications/devices for horizontal and vertical air flow.

ER plug fans e.g. for vibration-damped use in central air-conditioning units with horizontal air flow.

### Characteristics and special features

- Impeller with rotating vaneless diffusor for high efficiency levels and favourable acoustic characteristics.
- Aluminium impeller for use with external rotor motors.
- Impellers can be used in the application temperature range from -40°C\*\*\* to 60°C.

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -40 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

### Motor concepts

#### Internal rotor motors

- EC technology ECblue with integrated controller matched to the fan



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# Technical description

## ZAvblue-ECblue & ZAvblue

### Product specification

Free running impeller ZAvblue made of high performance composite material with 7 backward curved, profiled blades in sizes 250 to 630 mm. Design involves impeller on motor flange and inlet nozzle made of composite material with measuring device for air flow measurement. Air flow rate up to approx. 19,000 m<sup>3</sup>/h free blowing, max. static pressure increase up to 800 Pa possible. Ventilation units GR for compact installation in customer applications/devices for horizontal and vertical air flow.

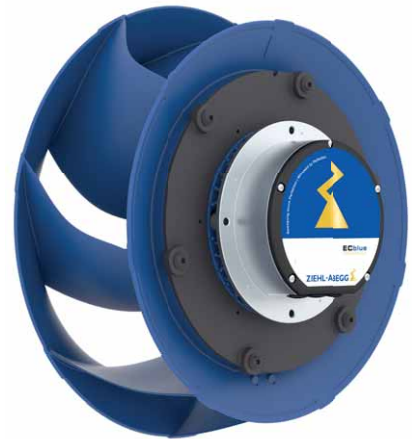
### Properties and special features

- High air flow rates and low sound power level thanks to special 3D blade geometry with diagonal outflow, reduced tonal noise. Ideally suited for low-pressure applications in confined installation spaces.
- Complete model range meets ErP 2015 including in AC technology.
- Impellers can be used in the application temperature range from -15°C to 60°C

### Motor concepts

#### External rotor motors

- EC technology ECblue with integrated controller matched to the fan
- AC technology





# Technical description

## ZAvblue & ZApilot with EC055

### Product specification

Free running impeller ZAvblue with EC055 made of high performance composite material with 7 backward curved blades in sizes 175 up to 250 mm. Design involves impeller on motor flange with inlet nozzle made of composite material.  
Air flow rates up to 1,300 m<sup>3</sup>/h free blowing, max. static pressure increase up to 1,000 Pa possible.

A fast Plug & Play solution is offered by the ventilation unit GR ZApilot which is available for all sizes and optimised for compact installation in customer applications/devices. In addition, the module enables a performance increase compared to backward curved motor impellers by means of aerodynamic enhancement .

### Properties and special features

- Acoustics-optimised products for use in particularly noise-critical applications
- Compact, highly efficient motor
- Bionic elements in the form of 3D blade geometry and honey-comb structure
- Impellers can be used in the application temperature range from -30°C\*\*\* to 60°C

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

### Motor concepts

#### External rotor motors

- EC technology ECblue with integrated controller matched to the fan



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# Technical description

## Vpro-ECblue & Vpro

### Product specification

Free running Vpro impeller made of high performance composite material with 6 backward curved, profiled blades in sizes 190 to 630 mm. Design involves impeller on motor flange and inlet nozzle. Air flow rates up to 18,000 m<sup>3</sup>/h free blowing, max. static pressure increase up to 1,300 Pa possible. Ventilation units GR for compact installation in customer applications/devices for horizontal and vertical air flow.

### Properties and special features

- High air flow rates, high efficiency, low sound power levels thanks to special 3D blade geometry, reduced tonal noise. Ideally suited for low-pressure applications.
- Impellers can be used in the application temperature range from -15°C to 60°C

### Motor concepts

#### External rotor motors

- EC technology ECblue with integrated controller matched to the fan
- AC technology



# Technical description

## Ventilation unit GR

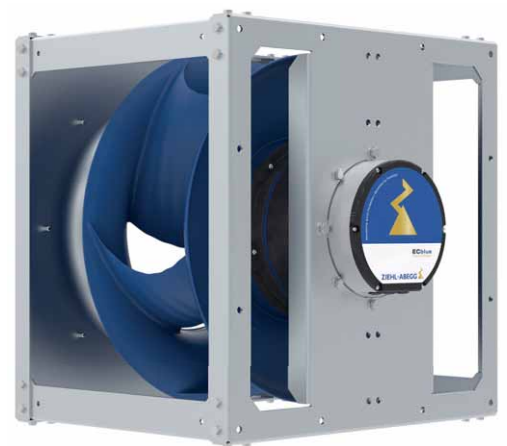
### Product specification

Compact optimised construction made of galvanised sheet metal parts complying with DIN EN 10346, surface type A resp. welded and powder coated motor suspension in spider design. Integrated galvanised sheet steel inlet nozzle for optimum flow to impeller, with measurement device for air flow determination.

### Characteristics and special features

- Complete fans are delivered balanced in accordance with ISO 21940-11 for the appropriate fan category in accordance with ISO 14694.
- The ventilation units have an application temperature range of -20°C to 40°C, with different temperatures available on request.
- All ventilation units GR units can be mounted in any installation positions H (horizontal air flow), Vo (intake from above), Vu (intake from below)

More GR ventilation units, see FANselect selection software or on request.



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## ZAcube

### Product specification

Stackable fan module with built-in Premium Optimizer for maximum efficiency with reduced acoustics. Modules feature free running impeller in sizes 315 to 560 mm. Impeller made of high performance composite material ZAmid. Air flow rate up to approx. 17,500 m<sup>3</sup>/h free blowing, max. static pressure increase up to 2,100 Pa possible. Modules in 3 sizes for easy handling and multiple fan formation set-up for horizontal air feed in air handling units or for retrofitting of older existing devices.

### Properties and special features

- ZAcube modules feature the Premium Optimizer. This ensures a substantially improved flow pattern at the module outlet to increase the ventilation performance. At the same time, the acoustics are significantly improved. The components below are more homogeneously supplied with it being possible to reduce their distance to the fan.
- The modular design of the ZAcube fans enables a fast and easy multiple fan formation set-up. Fans can be stacked up to 5 levels and operated in parallel.
- The modules possess smooth surfaces without sharp edges offering very good accessibility and cleanability for the highest hygienic requirements thanks to the Premium Optimizer's click system.
- Standardised connection screws are provided with every ZAcube ensuring easy interconnectability. The surrounding flange level allows the ZAcube modules to be sealed from one another for leak-proof operation of the multiple fan formation.
- The advantages of the space-optimised design of the ZAcube modules are noticeable as early as during transport and handling.
- Modules can be used in the application temperature range from -35 °C\*\*\* to 60 °C

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

### Motor concepts

#### External rotor motors

- EC technology ECblue with integrated controller matched to the fan



# Technical description

## Housing fans

### Product specification

Single-/double-ended sucking EC centrifugal fans in optimised spiral housing with forward curved blades. Energy-optimised for operation in spiral housing for high efficiencies and favourable acoustic behaviour. Available in sizes 108 to 450 mm (single-sided) and 133 to 450 mm (double-sided). Air flow rates up to 9,000 m<sup>3</sup>/h and static pressures up to 1,100 Pa achievable.

### Properties and special features

- Housing fans are characterized by a very high output density.
- The high number of blades means the fans have very good sound characteristics with very little tonal noise of blades.
- Housing with discharge flange and fixing bracket.
- Fans can be used in the application temperature range from -20°C to 60°C

### Motor concepts

#### External rotor motors

- EC technology ECblue with integrated controller matched to the fan



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# Type key

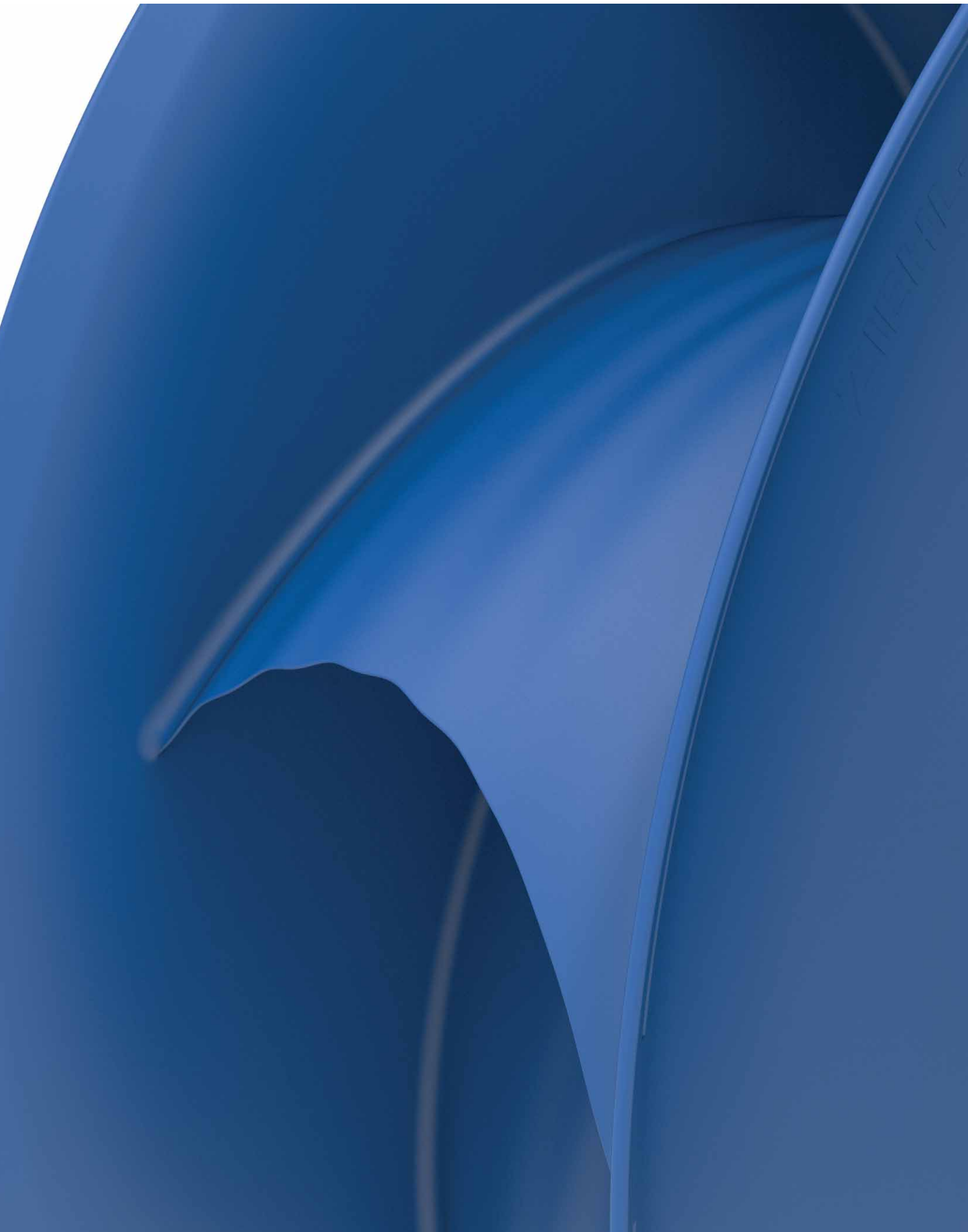
	Example	<b>RH 56 I - Z I D . G Q . C R</b>
	Design	
Motorised impeller	<b>RH</b>	
Ventilation unit	<b>GR</b>	
Plug fan	<b>ER</b>	
Fan module	<b>WR</b>	
Motorised impeller	<b>RE</b>	
Housing fan single inlet	<b>RG</b>	
Housing fan double inlet	<b>RD</b>	
	Size impeller	
Impeller diameter 560 mm	<b>56</b>	
	...	
	Series	
ZAbluefin	<b>I</b>	
C/Cpro	<b>C</b>	
Vpro/ZAblue	<b>V</b>	
R	<b>R</b>	
S	<b>S</b>	
	Number of poles	
6 pole	<b>6</b>	
10 pole	<b>Z</b>	
	Type of current	
external rotor EC motor with controller	<b>I</b>	
three phase alternating current	<b>D</b>	
single phase alternating current	<b>E</b>	
	Motor design	
Offset flange on rotor outer diameter	<b>D</b>	
Flange on rotor diameter	<b>K</b>	
	Motor	
	Impeller version	
	Direction of rotation	
Clockwise rotation	<b>R</b>	
Counter clockwise rotation	<b>L</b>	

## Ordering information

The following shall be stated when ordering: Type, article no. and when ordering system components part no.









# ZAbluefin-ECblue

## EC-Technology

### Product overview

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# ZBluefin-ECblue

Size 250

RH25I



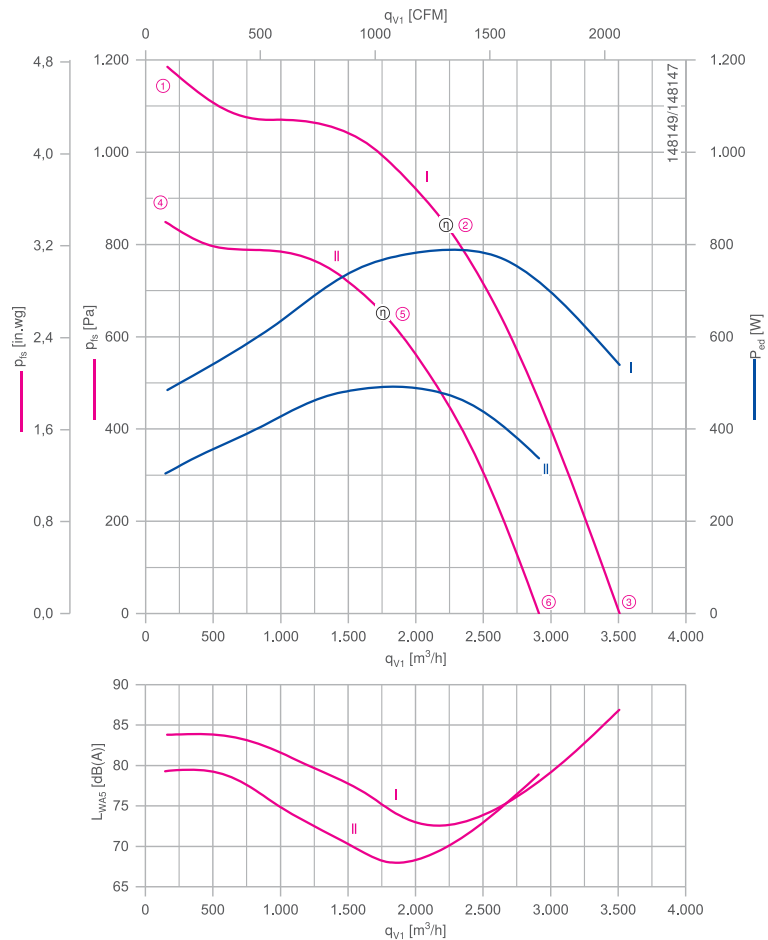
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00414630  
 Connection diagrams  
 System components

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## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
I	1~ 200-277	<b>RH25I-6ID.BD.CR</b>	BD	<b>116855</b>	780 W	4.00-2.90	3730	74.1	85.7	2015	yes		5.20
	1~ 200-277	<b>GR25I-6ID.BD.CR</b>	BD	<b>116883/A01</b>	780 W					2015			11.00
II	1~ 200-277	<b>RH25I-6ID.BD.CR</b>	BD	<b>116854</b>	500 W	2.50-1.80	3170	73.6	87.3	2015			5.20
	1~ 200-277	<b>GR25I-6ID.BD.CR</b>	BD	<b>116882/A01</b>	500 W					2015			11.00

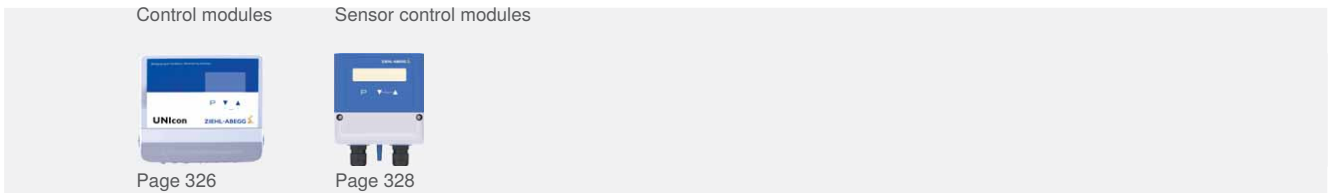
Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
_25I-6ID.BD.CR	I	3730	①	2.10	480	84	55	230
			②	3.50	780	73		
			③	2.40	540	87		
	II	3170	④	1.35	300	79	55	
			⑤	2.20	500	68		
			⑥	1.50	340	79		

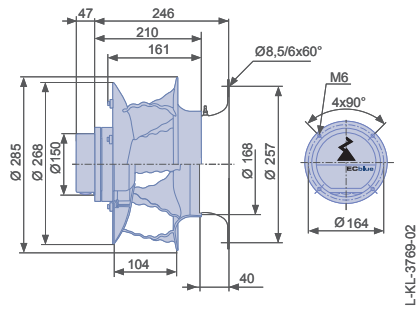
Control technology



Dimensions mm

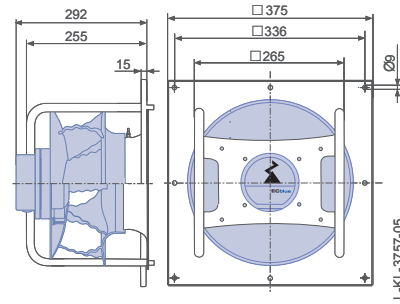
Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

BD



Ventilation unit GR in installation position H/Vu/Vo

Inlet nozzle integrated



# ZBluefin-ECblue

Size 280

RH281



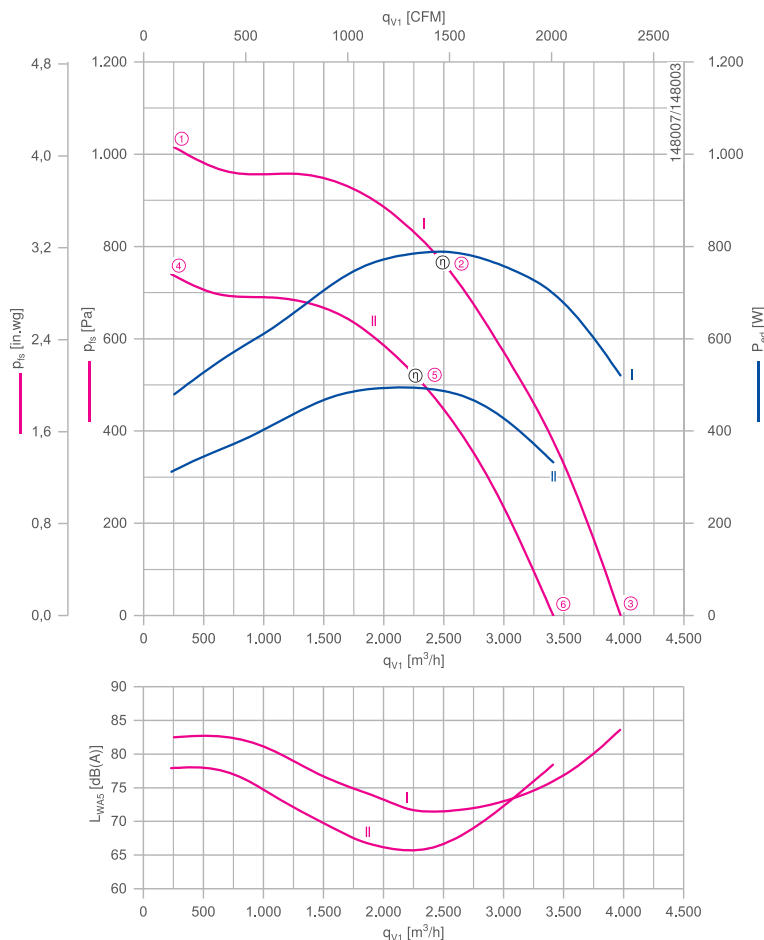
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00414631  
 Connection diagrams  
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## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
I	1~ 200-277	<b>RH281-6ID.BD.CR</b>	BD	<b>116857</b>	780 W	4.00-2.90	3110	75.4	87.0	2015	yes		5.50
	1~ 200-277	<b>GR281-6ID.BD.CR</b>	BD	<b>116885/A01</b>	780 W					2015			12.00
II	1~ 200-277	<b>RH281-6ID.BD.CR</b>	BD	<b>116856</b>	500 W	2.50-1.80	2640	75.3	89.0	2015			5.50
	1~ 200-277	<b>GR281-6ID.BD.CR</b>	BD	<b>116884/A01</b>	500 W					2015			12.00

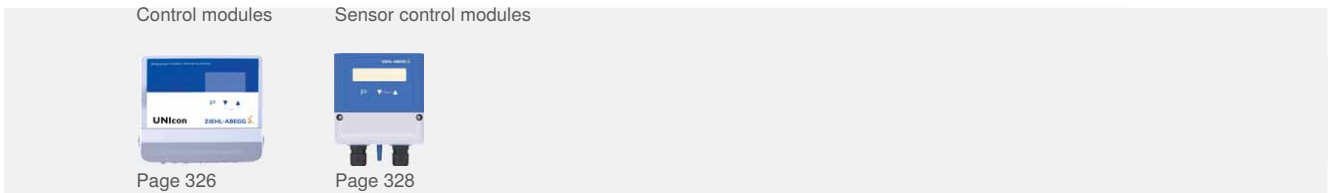
Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
_28I-6ID.BD.CR	I	3110	①	2.10	480	83	50	230
			②	3.50	780	72		
			③	2.30	520	84		
	II	2640	④	1.35	310	78	55	
			⑤	2.20	500	66		
			⑥	1.45	330	78		

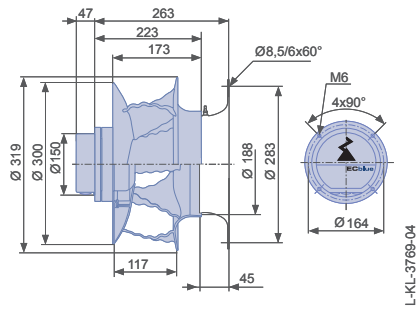
Control technology



Dimensions mm

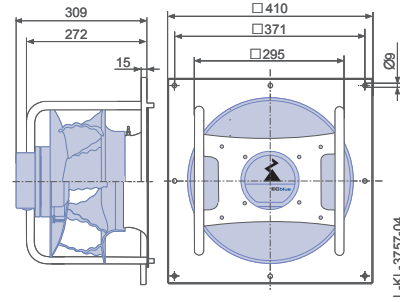
Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

BD



Ventilation unit GR in installation position H/Vu/Vo

Inlet nozzle integrated



# ZBluefin-ECblue

Size 315

RH311



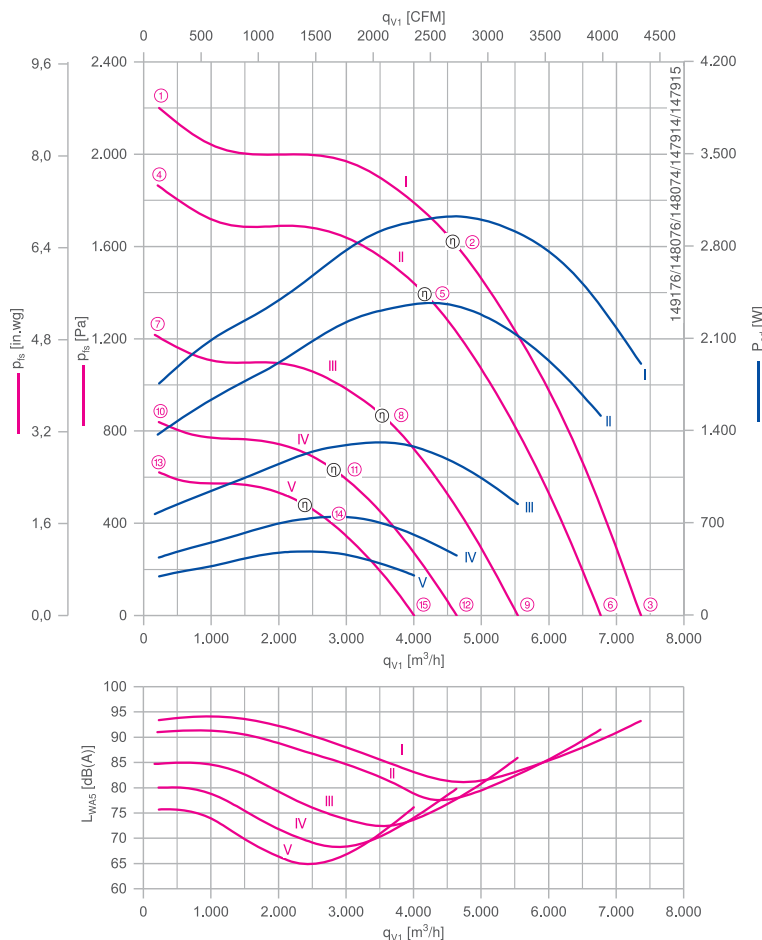
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : min. IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00414632  
 Connection diagrams  
 System components

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 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	U <sub>N</sub> V				P <sub>ed</sub>	I <sub>N</sub> A	n <sub>N</sub> min <sup>-1</sup>	n <sub>statA</sub> %	N <sub>actual</sub> %			kg	
I	3~ 380-480	<b>RH311-ZID.DC.CR</b>	DC	<b>116862</b>	3.00 kW	4.80-3.80	4020	73.7	79.2	2015	yes	UL Listed Product	10.70
	3~ 380-480	<b>GR311-ZID.DC.CR</b>	DC	<b>116890/A01</b>	3.00 kW					2015			21.00
II	3~ 380-480	<b>RH311-ZID.DC.CR</b>	DC	<b>116861</b>	2.40 kW	3.80-3.00	3700	74.3	80.8	2015			8.90
	3~ 380-480	<b>GR311-ZID.DC.CR</b>	DC	<b>116889/A01</b>	2.40 kW					2015			18.00
III	1~ 200-277	<b>RH311-ZID.DC.CR</b>	DC	<b>116860</b>	1.30 kW	6.60-4.80	3000	71.9	81.2	2015			8.90
	1~ 200-277	<b>GR311-ZID.DC.CR</b>	DC	<b>116888/A01</b>	1.30 kW					2015			18.00
IV	1~ 200-277	<b>RH311-6IK.BD.CR</b>	BD	<b>116859</b>	740 W	3.80-2.70	2520	74.6	86.5	2015			5.90
	1~ 200-277	<b>GR311-6IK.BD.CR</b>	BD	<b>116887/A01</b>	740 W					2015			14.00
V	1~ 200-277	<b>RH311-6IK.BD.CR</b>	BD	<b>116858</b>	480 W	2.40-1.75	2170	75.4	89.3	2015			5.90
	1~ 200-277	<b>GR311-6IK.BD.CR</b>	BD	<b>116886/A01</b>	480 W					2015			14.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage U V	
				I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)	t <sub>amb</sub> (max.) °C		
_31F-I__CR	I	4020	①	2.70	1750	93	45	400	
			②	4.60	3000	81			
			③	3.00	1900	93			
	II	3700	④	2.20	1350	91	55		230
			⑤	3.70	2400	78			
			⑥	2.40	1500	92			
	III	3000	⑦	3.60	760	85	50	230	
			⑧	6.00	1300	72			
			⑨	3.90	840	86			
	IV	2520	⑩	1.95	440	80	40		230
			⑪	3.30	740	68			
			⑫	2.00	460	80			
	V	2170	⑬	1.30	290	76	50	230	
			⑭	2.10	480	66			
			⑮	1.30	300	76			

Control technology

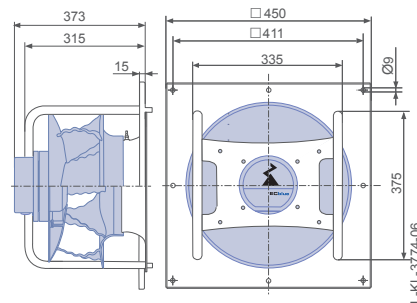
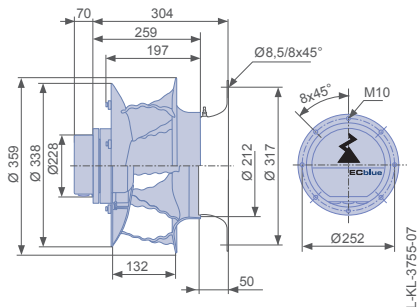
Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

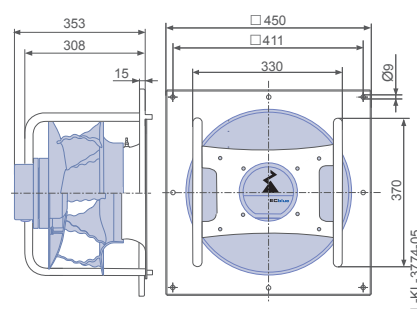
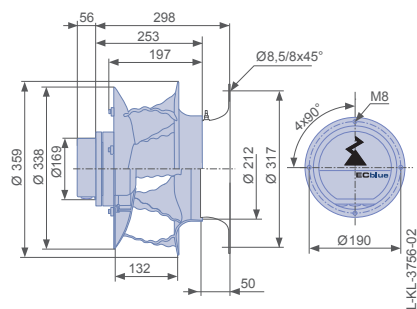
Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/Vo  
Inlet nozzle integrated

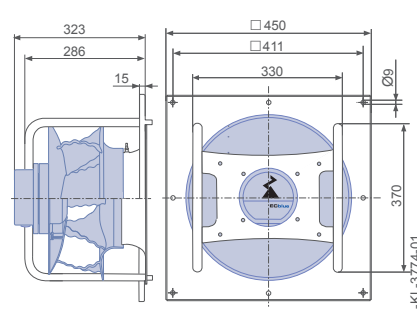
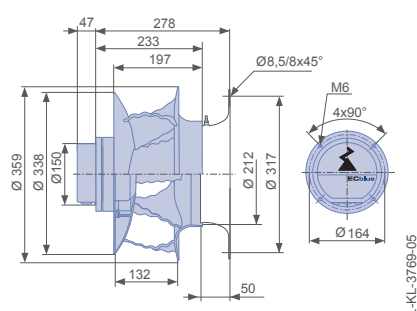
DC I



DC



BD



# ZBluefin-ECblue

Size 355

RH35I



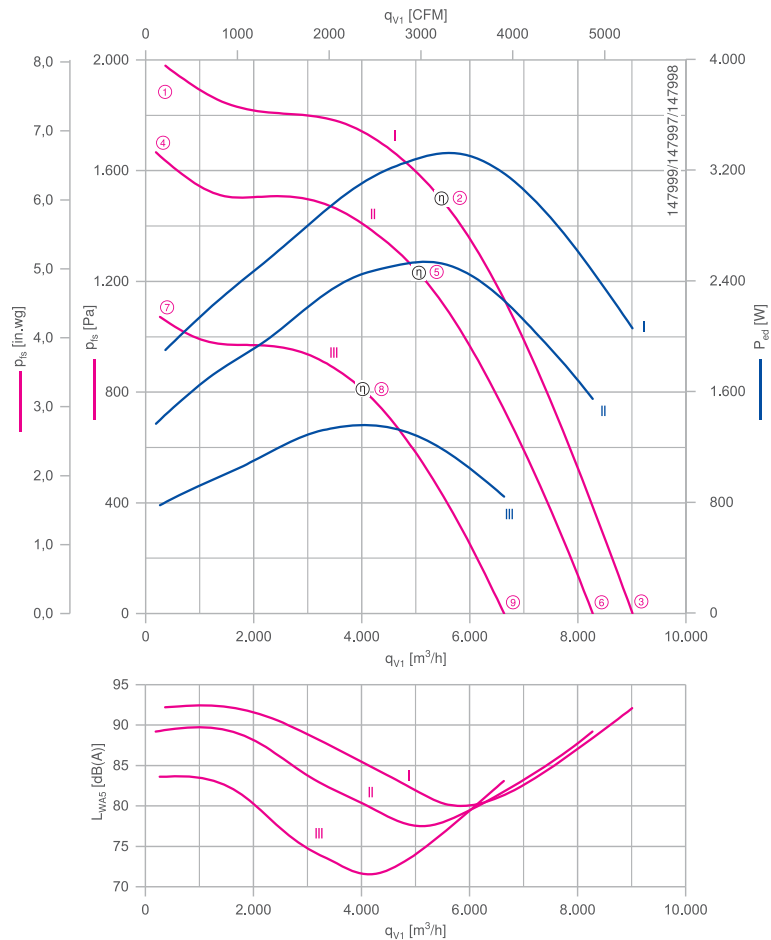
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP55  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00414633  
 Connection diagrams  
 System components

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 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %			kg	
I	3~ 380-480	<b>RH35I-ZID.DG.CR</b>	DG	<b>116865</b>	3.30 kW	5.40-4.20	3410	74.0	79.0	2015	yes	UL Listed Product	13.10
	3~ 380-480	<b>GR35I-ZID.DG.CR</b>	DG	<b>116893/A01</b>	3.30 kW					2015			25.00
II	3~ 380-480	<b>RH35I-ZID.DC.CR</b>	DC	<b>116864</b>	2.50 kW	4.00-3.20	3100	74.1	80.4	2015			9.40
	3~ 380-480	<b>GR35I-ZID.DC.CR</b>	DC	<b>116892/A01</b>	2.50 kW					2015			21.00
III	1~ 200-277	<b>RH35I-ZID.DC.CR</b>	DC	<b>116863</b>	1.35 kW	6.80-5.00	2490	73.6	82.8	2015			9.40
	1~ 200-277	<b>GR35I-ZID.DC.CR</b>	DC	<b>116891/A01</b>	1.35 kW					2015			21.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WAS}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C	Voltage
		$n$ $min^{-1}$		$I$ A	$P_{ed}$ W			$U$ V
_35I-ZID.D_CR	I	3410	①	3.00	1900	92	50	400
			②	5.20	3300	80		
			③	3.20	2100	92		
	II	3100	④	2.20	1350	89	50	230
			⑤	3.90	2500	78		
			⑥	2.40	1550	89		
	III	2490	⑦	3.60	780	84	50	230
			⑧	6.20	1350	72		
			⑨	3.90	840	83		

Control technology

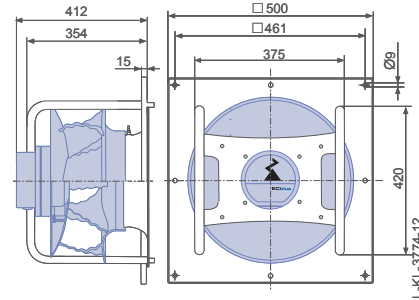
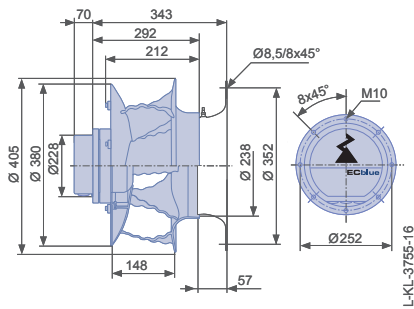


Dimensions mm

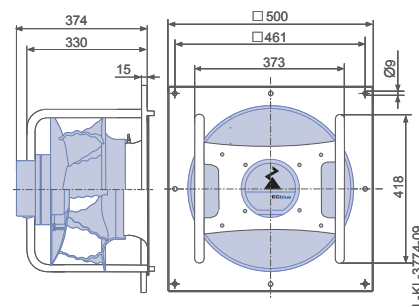
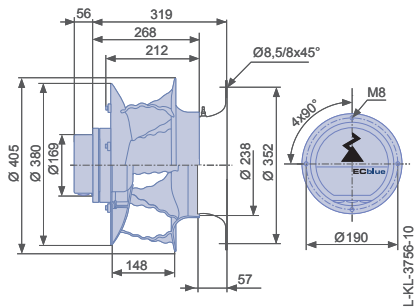
Motor      Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/  
Vo  
Inlet nozzle integrated

DG



DC



# ZBluefin-ECblue

Size 400

RH40I



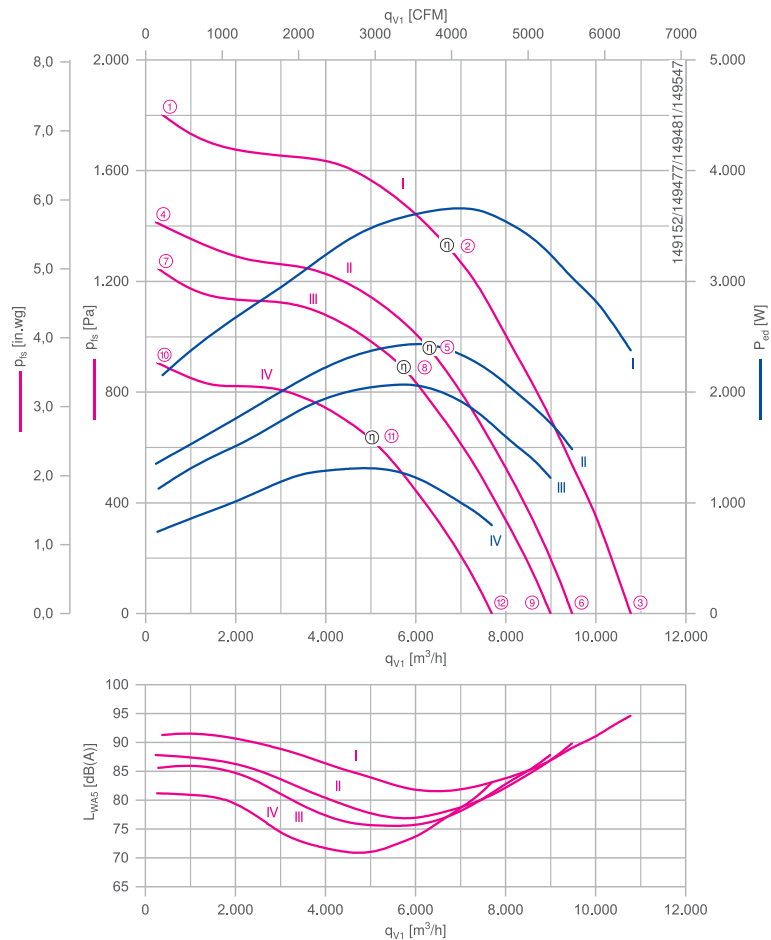
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP55  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00414634  
 Connection diagrams  
 System components

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## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
I	3~ 380-480	<b>RH40I-ZID.GG.CR</b>	GG	<b>116869</b>	3.70 kW	5.80-4.60	2860	72.7	77.3	2015	yes	UL Listed Product	19.50
	3~ 380-480	<b>GR40I-ZID.GG.CR</b>	GG	<b>116897/A01</b>	3.70 kW					2015			34.00
II	3~ 380-480	<b>RH40I-ZID.DG.CR</b>	DG	<b>116868</b>	2.50 kW	4.00-3.10	2500	75.0	81.5	2015	yes	UL Listed Product	14.20
	3~ 380-480	<b>GR40I-ZID.DG.CR</b>	DG	<b>116896A01</b>	2.50 kW					2015			29.00
III	3~ 380-480	<b>RH40I-ZID.DC.CR</b>	DC	<b>116867</b>	2.10 kW	3.40-2.70	2360	74.7	81.9	2015	yes	UL Listed Product	10.50
	3~ 380-480	<b>GR40I-ZID.DC.CR</b>	DC	<b>116895/A01</b>	2.10 kW					2015			26.00
IV	1~ 200-277	<b>RH40I-ZID.DC.CR</b>	DC	<b>116866</b>	1.30 kW	6.80-5.00	2020	74.3	83.5	2015	yes	UL Listed Product	10.50
	1~ 200-277	<b>GR40I-ZID.DC.CR</b>	DC	<b>116894/A01</b>	1.30 kW					2015			26.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WAS} dE_i(A)$	Maximum ambient temperature $t_{amb}^{(max.)}$ °C	Voltage
		n min <sup>-1</sup>		I A	$P_{ed}$ W			U V
__40I-ZID__CR	I	2860	①	3.30	2200	91	55	400
			②	5.60	3700	81		
			③	3.60	2400	95		
	II	2500	④	2.10	1350	88	60	
			⑤	3.80	2500	77		
			⑥	2.30	1500	90		
	III	2360	⑦	1.80	1150	86	40	
			⑧	3.20	2100	76		
			⑨	1.95	1250	88		
	IV	2020	⑩	3.50	740	81	45	230
			⑪	6.00	1300	71		
			⑫	3.70	800	83		

Control technology

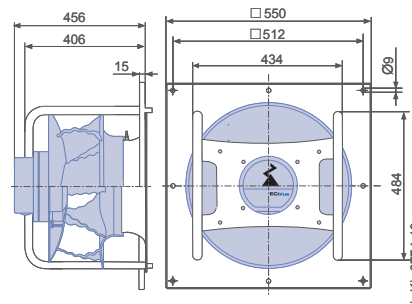
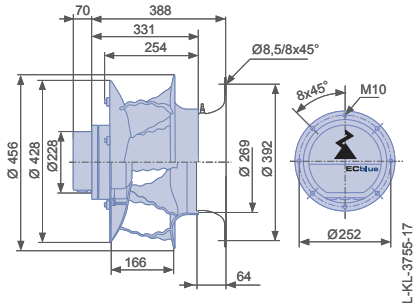
Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D, G, G Page 332	Page 344

Dimensions mm

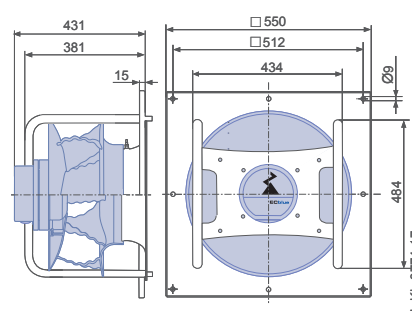
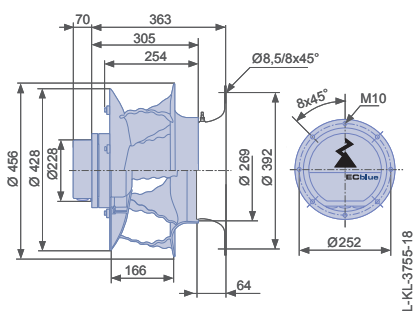
Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/Vo  
Inlet nozzle integrated

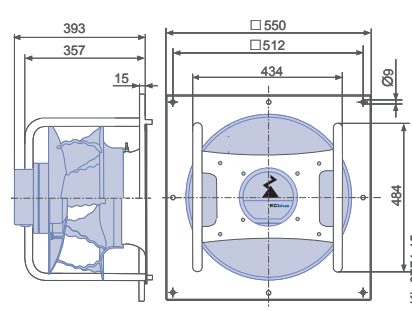
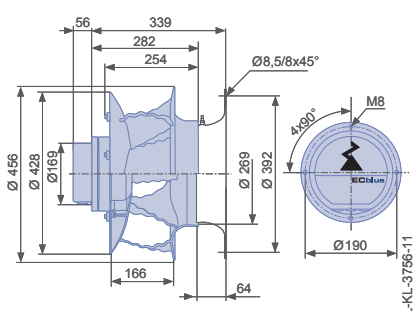
GG



DG



DC



# ZBluefin-ECblue

Size 450

RH45I

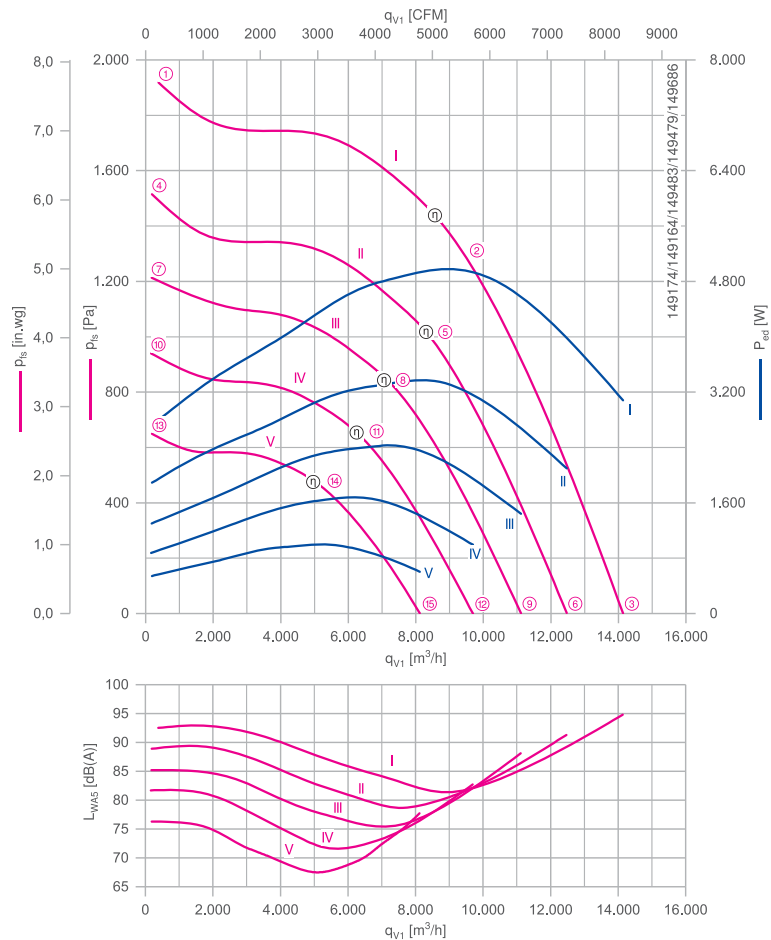


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP55  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00414635                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ $min^{-1}$	$\eta_{statA}$ %	$N_{actual}$ %			kg	
I	3~ 380-480	RH45I-ZID.GG.CR	GG	116875	5.00 kW	8.00-6.40	2620	73.4	76.6	2015	yes	UL Listed Product	20.70
	3~ 380-480	GR45I-ZID.GG.CR	GG	116903/A01	5.00 kW								37.00
II	3~ 380-480	RH45I-ZID.GG.CR	GG	116874	3.40 kW	5.40-4.20	2300	75.0	80.0	2015			20.70
	3~ 380-480	GR45I-ZID.GG.CR	GG	116902/A01	3.40 kW								37.00
III	3~ 380-480	RH45I-ZID.DG.CR	DG	116873	2.40 kW	3.90-3.10	2050	75.1	81.5	2015			15.40
	3~ 380-480	GR45I-ZID.DG.CR	DG	116901/A01	2.40 kW								31.00
IV	3~ 380-480	RH45I-ZID.DC.CR	DC	116872	1.70 kW	2.80-2.20	1800	74.3	82.4	2015			11.70
	3~ 380-480	GR45I-ZID.DC.CR	DC	116900/A01	1.70 kW								28.00
V	1~ 200-277	RH45I-ZID.DC.CR	DC	116871	1.00 kW	5.20-3.70	1500		84.8	2015			11.70
	1~ 200-277	GR45I-ZID.DC.CR	DC	116899/A01	1.00 kW								28.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage	
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)			t <sub>amb</sub> (max.) °C
__45I-ZID__CR	I	2620	①	4.40	2800	93	40	400	
			②	7.80	5000	82			
			③	4.80	3100	95			
	II	2300	④	2.90	1900	89	55		
			⑤	5.20	3400	79			
			⑥	3.20	2100	91			
	III	2050	⑦	2.10	1300	85	40		
			⑧	3.80	2400	75			
			⑨	2.30	1450	88			
	IV	1800	⑩	1.45	880	82	40		
			⑪	2.60	1700	72			
			⑫	1.60	1000	83			
	V	1500	⑬	2.60	540	76	50		230
			⑭	4.60	1000	67			
			⑮	2.80	600	78			

Control technology

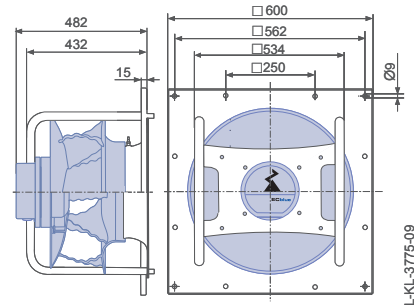
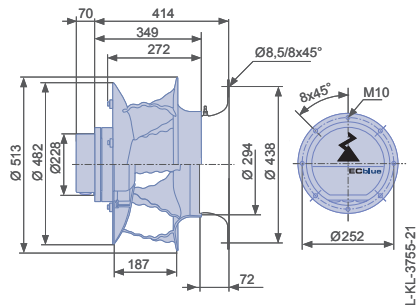
Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

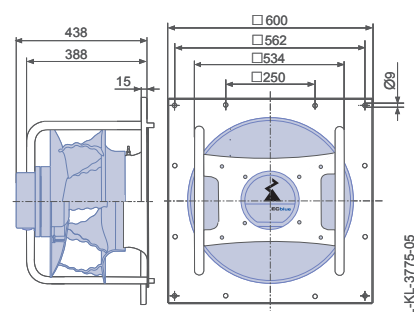
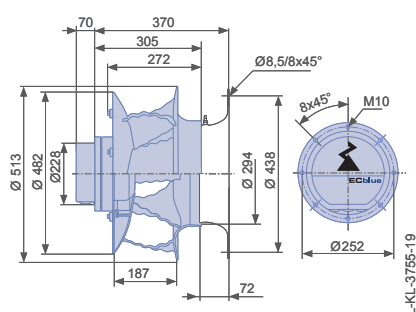
Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/Vo  
Inlet nozzle integrated

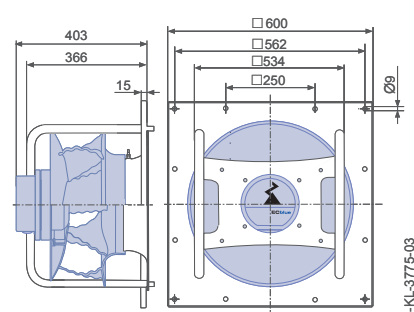
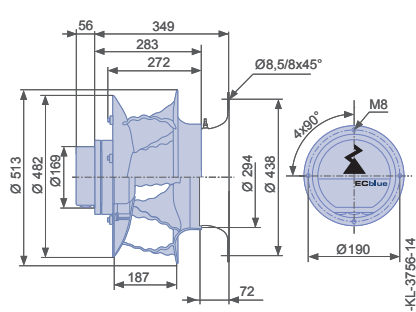
GG



DG



DC



# ZBluefin-ECblue

Size 500

RH50I



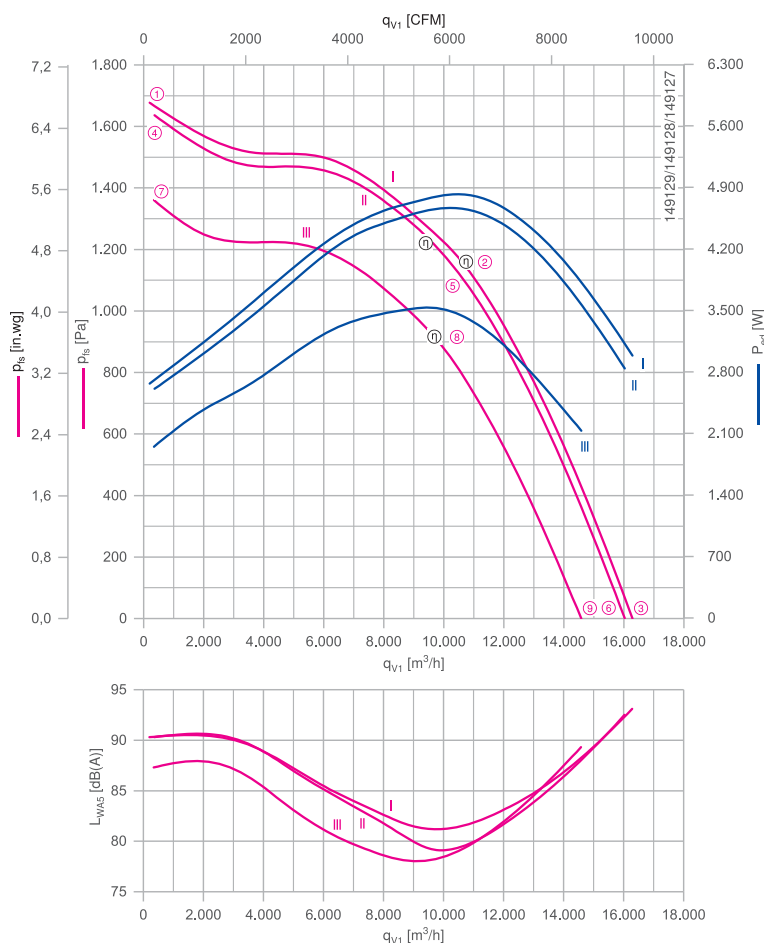
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP55  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00414636  
 Connection diagrams  
 System components

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 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	U <sub>N</sub> V				P <sub>ed</sub>	I <sub>N</sub> A	n <sub>N</sub> min <sup>-1</sup>	n <sub>statA</sub> %	N <sub>actual</sub> %			kg	
I	3~ 380-480	<a href="#">RH50I-ZID.GQ.CR</a>	GQ	<a href="#">116878</a>	4.80 kW	7.80-6.20	2180	75.5	78.9	2015	yes	UL Listed Product	33.30
	3~ 380-480	<a href="#">GR50I-ZID.GQ.CR</a>	GQ	<a href="#">116906/A01</a>	4.80 kW					2015			61.00
II	3~ 380-480	<a href="#">RH50I-ZID.GL.CR</a>	GL	<a href="#">116877</a>	4.60 kW	7.40-6.00	2150	75.1	78.6	2015			26.50
	3~ 380-480	<a href="#">GR50I-ZID.GL.CR</a>	GL	<a href="#">116905/A01</a>	4.60 kW					2015			54.00
III	3~ 380-480	<a href="#">RH50I-ZID.GG.CR</a>	GG	<a href="#">116876</a>	3.50 kW	5.60-4.40	1950	75.2	80.0	2015			21.90
	3~ 380-480	<a href="#">GR50I-ZID.GG.CR</a>	GG	<a href="#">116904/A01</a>	3.50 kW					2015			49.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)		
_50I-ZID.G_CR	I	2180	①	4.20	2700	90	45	400
			②	7.40	4800	82		
			③	4.60	3000	93		
	II	2150	④	4.00	2600	90	40	
			⑤	7.20	4600	80		
			⑥	4.40	2800	93		
	III	1950	⑦	3.00	1950	87	55	
			⑧	5.40	3500	78		
			⑨	3.30	2100	89		

Control technology

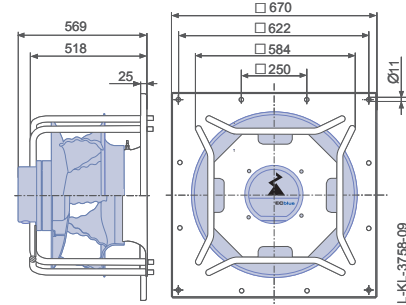
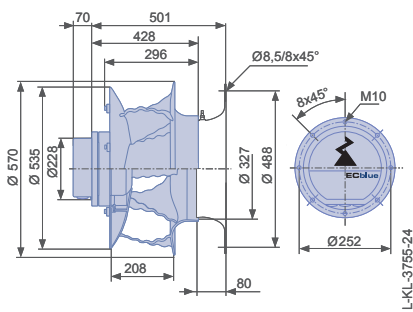
Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D, G, Page 332	Page 344

Dimensions mm

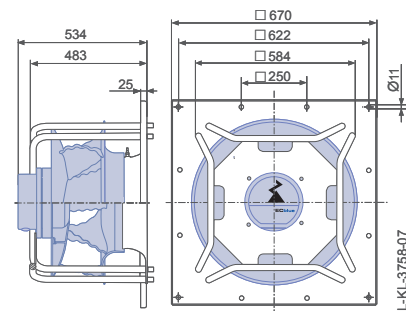
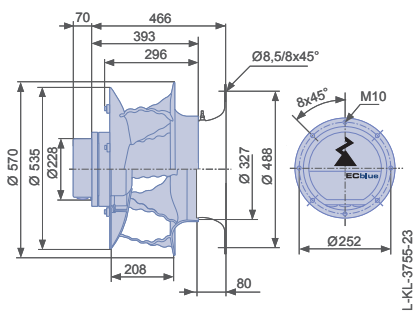
Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/  
Vo  
Inlet nozzle integrated

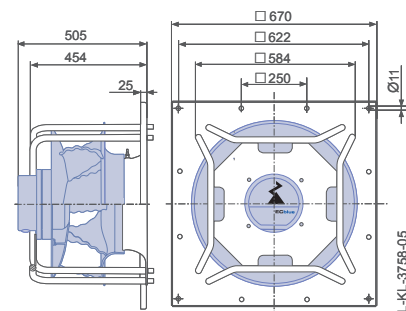
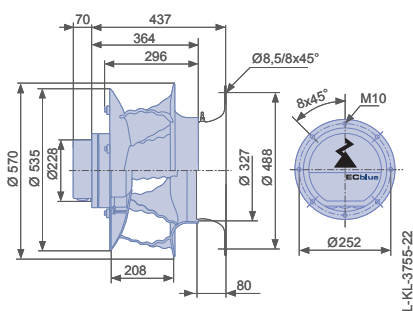
GQ



GL



GG



# ZBluefin-ECblue

Size 560

RH56I



## Description

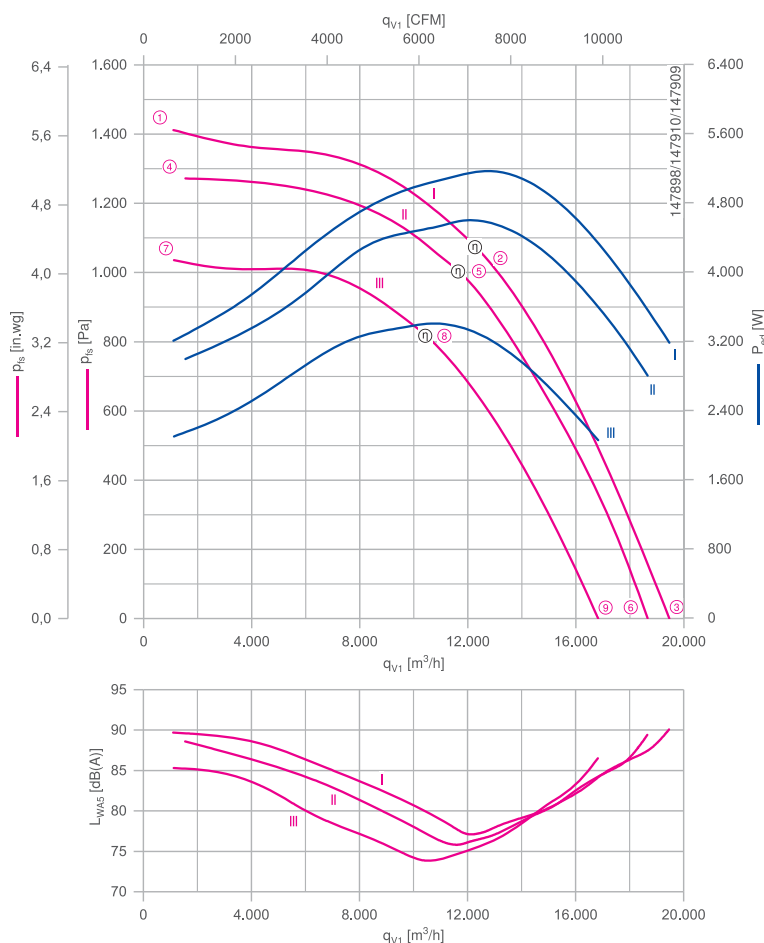
Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP55  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring  
 Connection diagrams  
 System components

00414637

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## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
I	3~ 380-480	<a href="#">RH56I-ZID.GQ.CR</a>	GQ	<a href="#">116881</a>	5.20 kW	8.20-6.60	1860	75.8	78.8	2015	yes	UL Listed Product	35.40
	3~ 380-480	<a href="#">GR56I-ZID.GQ.CR</a>	GQ	<a href="#">116909/A01</a>	5.20 kW					2015			67.00
II	3~ 380-480	<a href="#">RH56I-ZID.GL.CR</a>	GL	<a href="#">116880</a>	4.60 kW	7.40-5.80	1780	75.7	79.3	2015	yes	UL Listed Product	28.60
	3~ 380-480	<a href="#">GR56I-ZID.GL.CR</a>	GL	<a href="#">116908A01</a>	4.60 kW					2015			59.00
III	3~ 380-480	<a href="#">RH56I-ZID.GG.CR</a>	GG	<a href="#">116879</a>	3.40 kW	5.40-4.40	1610	73.8	78.7	2015	yes	UL Listed Product	24.00
	3~ 380-480	<a href="#">GR56I-ZID.GG.CR</a>	GG	<a href="#">116907A01</a>	3.40 kW					2015			54.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage U V
				I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)	t <sub>amb (max.)</sub> °C	
_56I-ZID.G_CR	I	1860	①	5.00	3200	90		400
			②	8.00	5200	77	40	
			③	5.00	3200	90		
	II	1780	④	4.60	3000	89		
			⑤	7.00	4600	76	40	
			⑥	4.40	2800	89		
	III	1610	⑦	3.30	2100	85		
			⑧	5.20	3400	74	50	
			⑨	3.20	2100	87		

Control technology

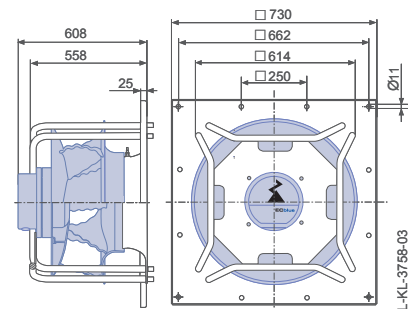
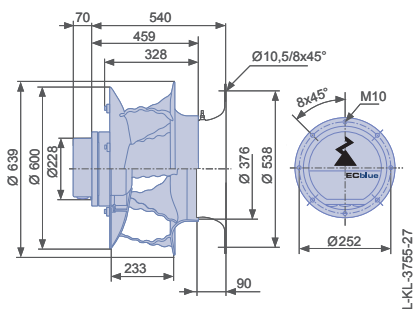
Control modules	Sensor control modules	Add-on modules	Operating terminal
			
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Dimensions mm

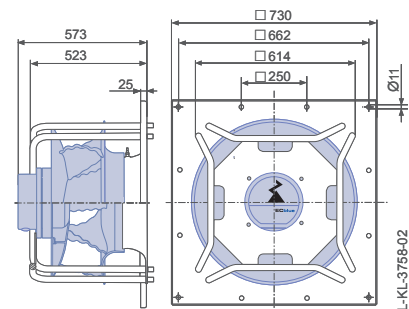
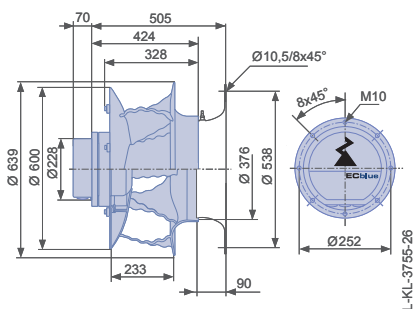
Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/  
Vo  
Inlet nozzle integrated

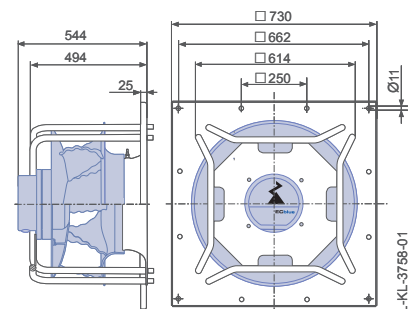
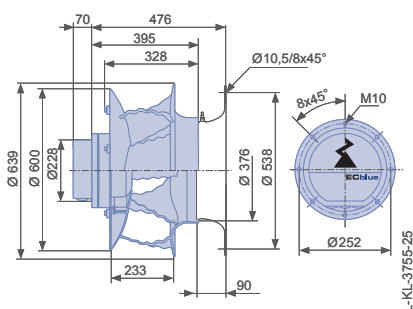
GQ



GL



GG





# Cpro-ECblue

## EC-Technology

### Product overview

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Information

ZBluefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

Control  
technology

General notes

# Cpro-ECblue

Size 250

RH25C

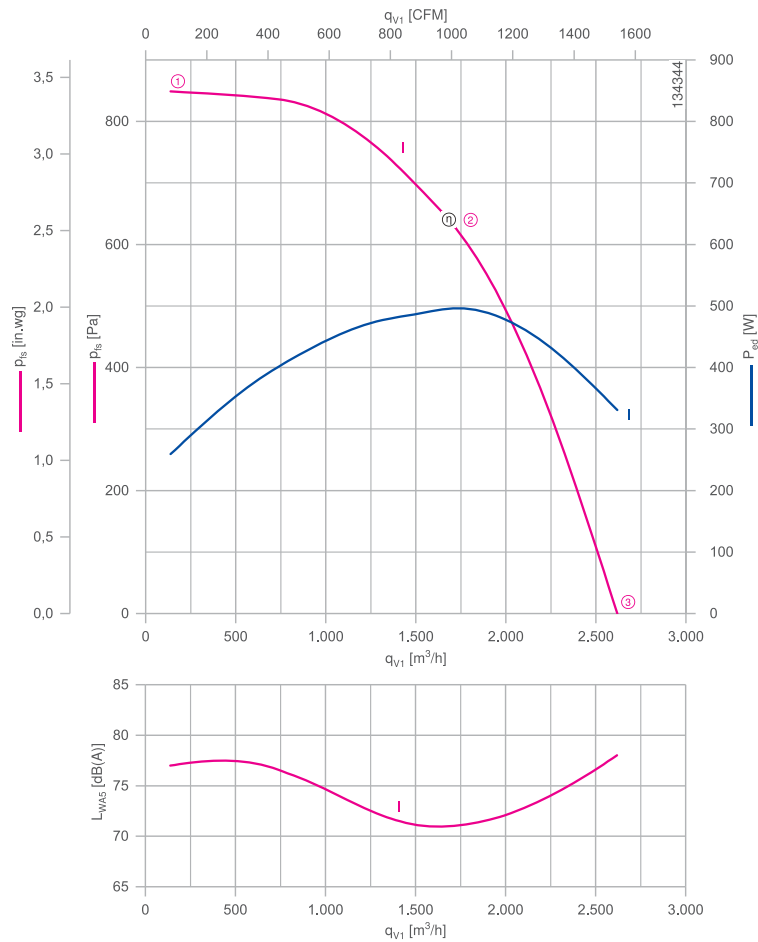


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00401504                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

Inlet ring	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
I	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ $min^{-1}$	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
	1~ 200-277	<b>RH25C-6ID.BD.CR</b>	BD	<b>114843</b>	0.50 kW	2.50-1.80	3080	67.3	81.1	2015	yes		6.00
	1~ 200-277	<b>GR25C-6ID.BD.CR</b>	BD	<b>115466/A01</b>	0.50 kW					2015			12.00

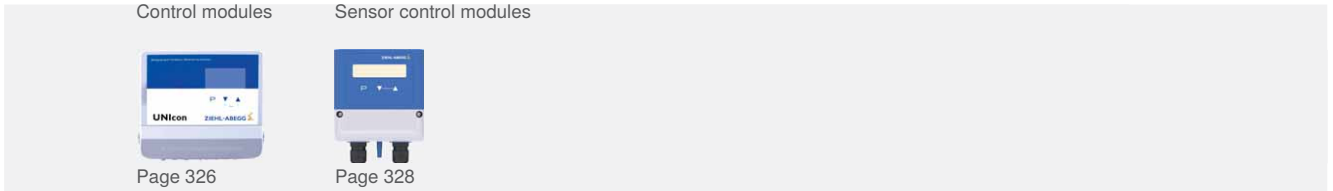
Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current I A	Input power P <sub>ed</sub> W	Suction side sound power level L <sub>WAS</sub> dB(A)	Maximum ambient temperature t <sub>amb</sub> (max.) °C	Voltage U V
_25C-6ID.BD.CR	I	3880	①	0.37	260	77	60	230
			②	0.70	500	71		
			③	0.48	330	78		

Control technology

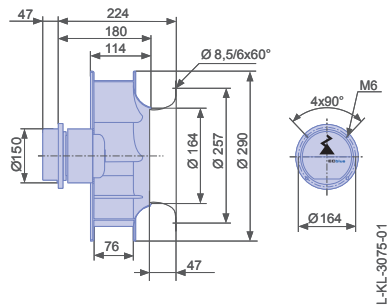


Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo

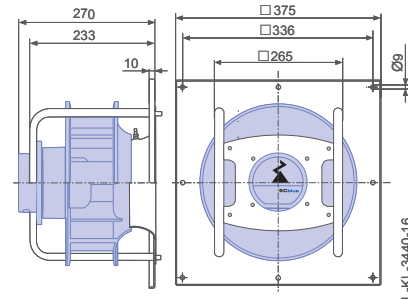
Inlet nozzle not included

BD



Ventilation unit GR in installation position H/Vu/  
Vo

Inlet nozzle integrated



# Cpro-ECblue

Size 280

RH28C



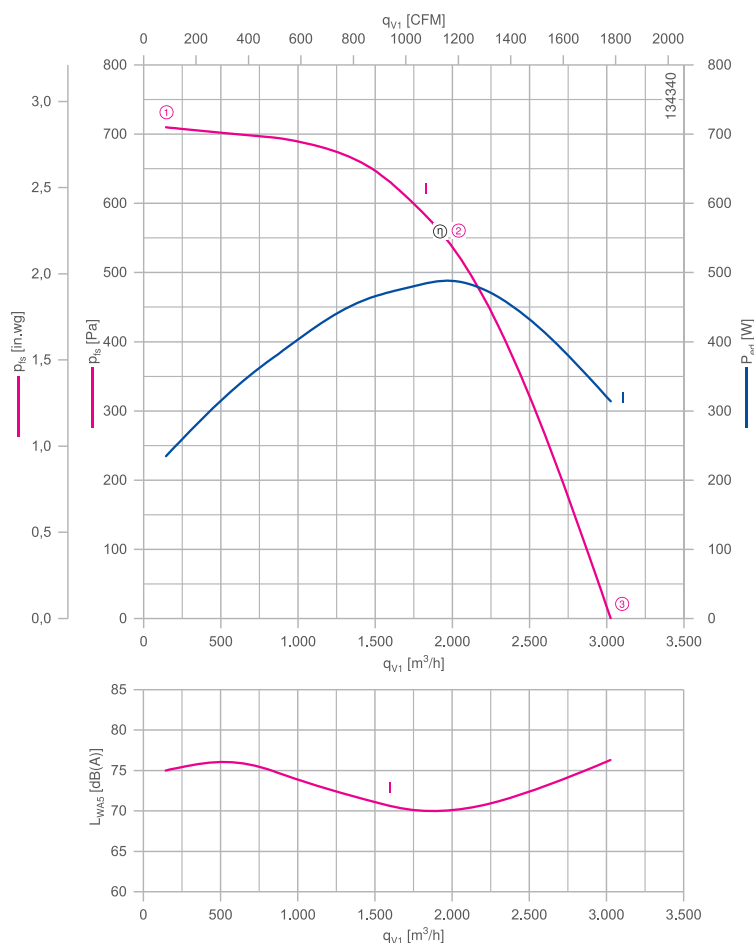
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00401505  
 Connection diagrams  
 System components

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 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

I	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
	1~ 200-277	<b>RH28C-6ID.BD.CR</b>	BD	<b>114844</b>	0.48 kW	2.50-1.75	2510	68.2	82.0	2015	yes		6.00
	1~ 200-277	<b>GR28C-6ID.BD.CR</b>	BD	<b>115468/A01</b>	0.48 kW					2015			13.00

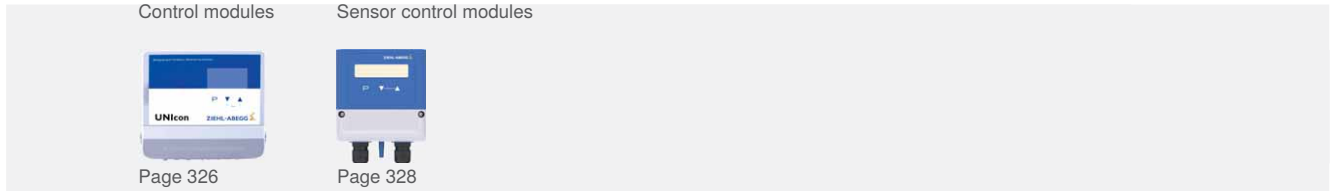
Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current I A	Input power P <sub>ed</sub> W	Suction side sound power level L <sub>WA5</sub> dB(A)	Maximum ambient temperature t <sub>amb</sub> (max.) °C	Voltage U V
_28C-6ID.BD.CR	I	2510	①	0.34	230	75	60	230
			②	0.70	480	70		
			③	0.46	310	76		

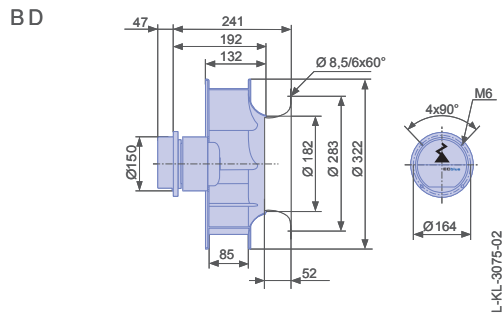
Control technology



Dimensions mm

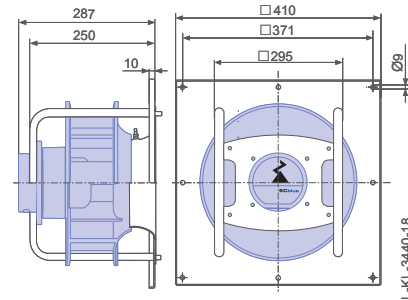
Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo

Inlet nozzle not included



Ventilation unit GR in installation position H/Vu/  
Vo

Inlet nozzle integrated



# Cpro-ECblue

Size 315

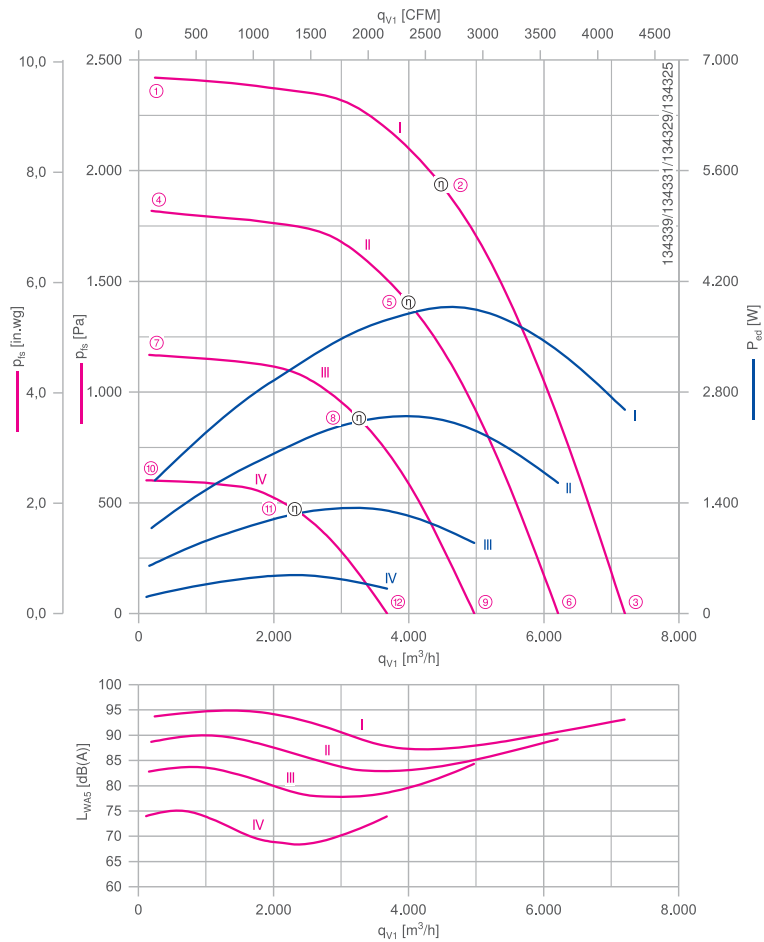
RH31C



## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

Inlet ring                    00411860                    Page 288  
 Connection diagrams                    Page 358  
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## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	<b>RH31C-ZID.DG.CR</b>	DG	<b>114866</b>	3.90 kW	6.20-5.00	4200	65.6	69.9	2015	yes	UL Listed Product	13.00
	3~ 380-480	<b>GR31C-ZID.DG.CR</b>	DG	<b>115474/A01</b>	3.90 kW					2015			22.00
II	3~ 380-480	<b>RH31C-ZID.DC.CR</b>	DC	<b>114488</b>	2.50 kW	4.00-3.20	3640	66.5	72.9	2015			10.00
	3~ 380-480	<b>GR31C-ZID.DC.CR</b>	DC	<b>115506/A01</b>	2.50 kW					2015			17.00
III	1~ 200-277	<b>RH31C-ZID.DC.CR</b>	DC	<b>114484</b>	1.35 kW	6.70-4.80	2920	65.0	74.2	2015			10.00
	1~ 200-277	<b>GR31C-ZID.DC.CR</b>	DC	<b>115472/A01</b>	1.35 kW					2015			17.00
IV	1~ 200-277	<b>RH31C-6ID.BD.CR</b>	BD	<b>114845</b>	0.48 kW	2.40-1.75	2100	69.3	83.1	2015			7.00
	1~ 200-277	<b>GR31C-6ID.BD.CR</b>	BD	<b>115470/A01</b>	0.48 kW					2015			14.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage U V
				I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
__31C_ID__CR	I	4200	①	2.60	1700	94	40	400
			②	6.00	3900	87		
			③	4.00	2600	93		
	II	3650	④	1.70	1100	89	55	
			⑤	3.80	2500	83		
			⑥	2.50	1650	89		
	III	2920	⑦	2.70	600	83	45	
			⑧	5.80	1350	78		
			⑨	3.90	900	84		
	IV	2100	⑩	0.92	210	74	60	
			⑪	2.10	480	68		
			⑫	1.35	310	74		

Control technology

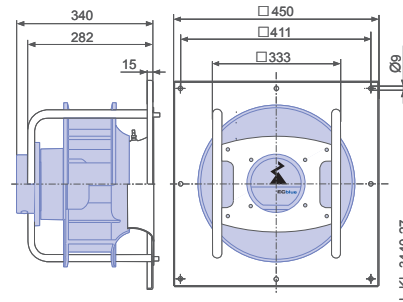
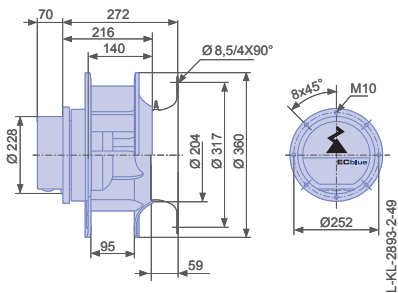
Control modules	Sensor control modules	Add-on modules	Operating terminal
			
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Dimensions mm

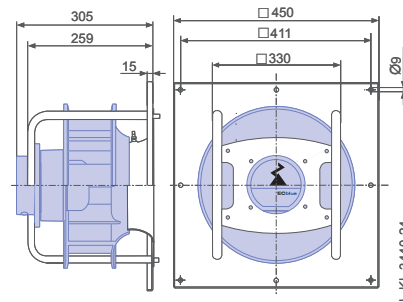
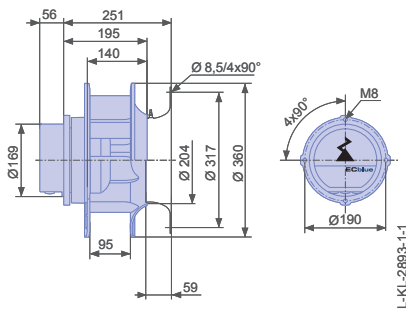
Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/Vo  
Inlet nozzle integrated

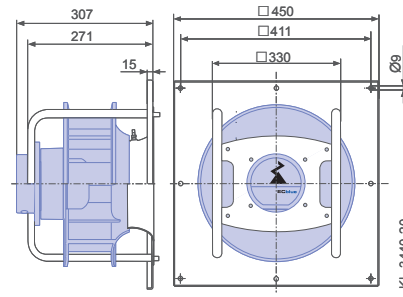
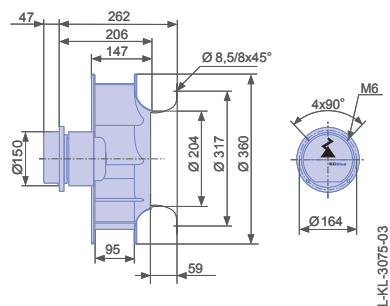
DG



DC



BD



# Cpro-ECblue

Size 355

RH35C

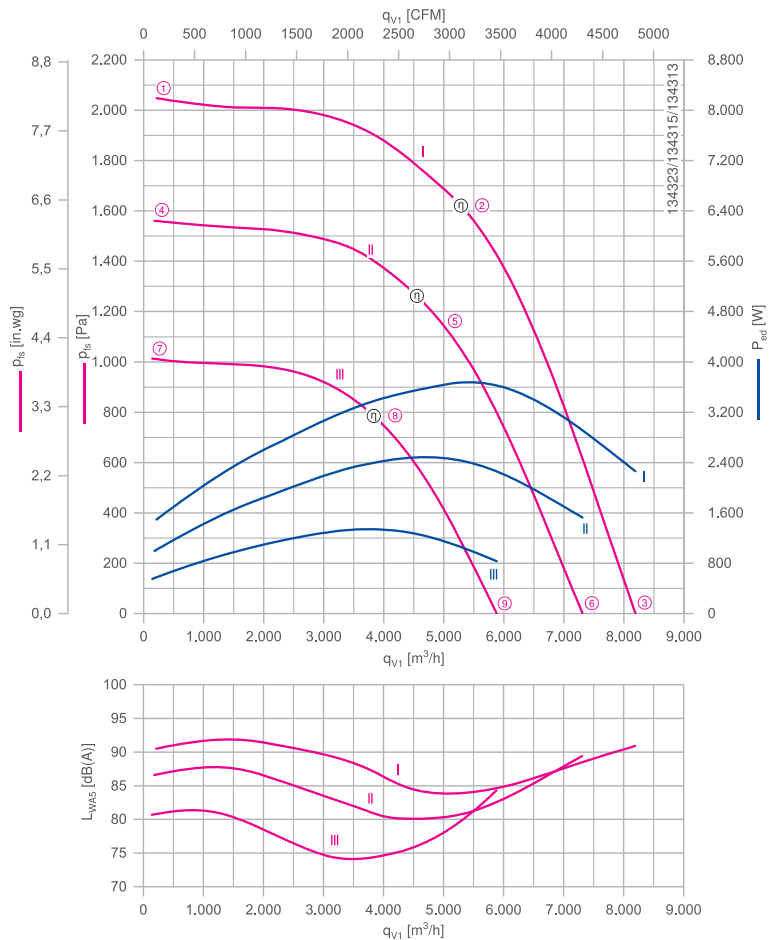


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00411861                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
I	3~ 380-480	<b>RH35C-ZID.DG.CR</b>	DG	<b>114874</b>	3.70 kW	5.80-4.60	3400	68.4	72.9	2015	yes	UL Listed Product	14.00
	3~ 380-480	<b>GR35C-ZID.DG.CR</b>	DG	<b>115477/A01</b>	3.70 kW					2015			24.00
II	3~ 380-480	<b>RH35C-ZID.DC.CR</b>	DC	<b>114500</b>	2.50 kW	4.00-3.20	2970	68.6	74.9	2015			11.00
	3~ 380-480	<b>GR35C-ZID.DC.CR</b>	DC	<b>115510/A01</b>	2.50 kW					2015			20.00
III	1~ 200-277	<b>RH35C-ZID.DC.CR</b>	DC	<b>114496</b>	1.35 kW	6.80-4.90	2400	67.5	76.7	2015			11.00
	1~ 200-277	<b>GR35C-ZID.DC.CR</b>	DC	<b>115475/A01</b>	1.35 kW					2015			20.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature $t_{amb}^{(max.)}$ °C	Voltage U V
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)		
_35C-ZID.D_CR	I	3410	①	2.30	1500	91	40	400
			②	5.60	3700	84		
			③	3.50	2300	91		
	II	2970	④	1.60	1000	87	50	
			⑤	3.80	2500	80		
			⑥	2.40	1550	89		
	III	2400	⑦	2.50	560	81	45	
			⑧	6.00	1350	74		
			⑨	3.70	840	84		

Control technology

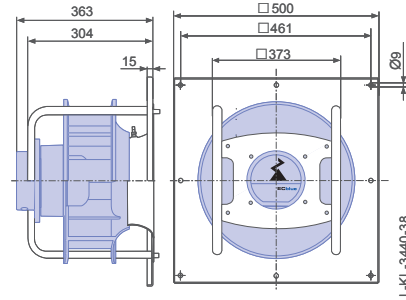
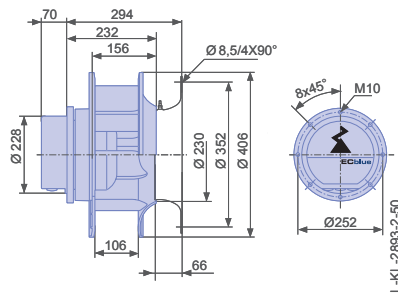
Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D, G_ Page 332	Page 344

Dimensions mm

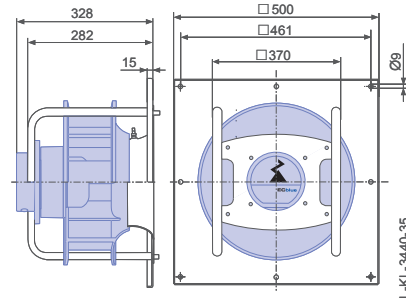
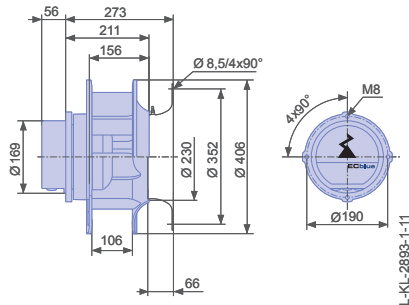
Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/  
Vo  
Inlet nozzle integrated

DG



DC



# Cpro-ECblue

Size 400

RH40C

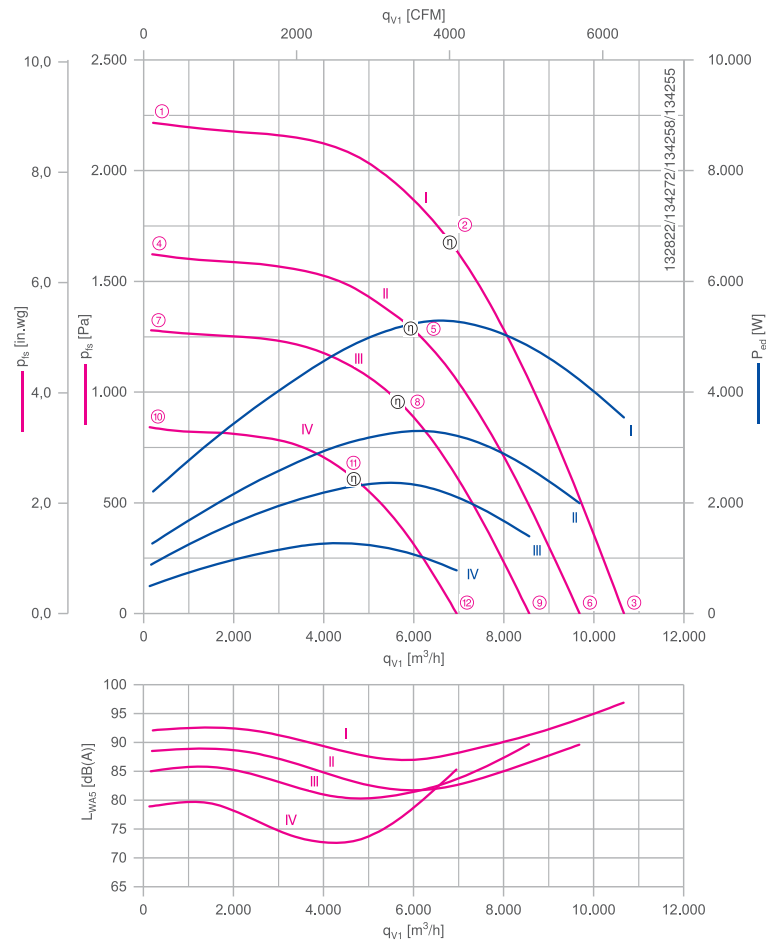


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00411862                      Page 288  
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## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	<b>RH40C-ZID.GG.CR</b>	GG	<b>114703</b>	5.60 kW	9.00-7.10	3170	61.8	64.4	2015	yes	UL Listed Product	21.00
	3~ 380-480	<b>GR40C-ZID.GG.CR</b>	GG	<b>115527/A01</b>	5.60 kW								39.00
II	3~ 380-480	<b>RH40C-ZID.DG.CR</b>	DG	<b>114878</b>	3.30 kW	5.40-4.20	2700	68.4	73.4	2015			14.00
	3~ 380-480	<b>GR40C-ZID.DG.CR</b>	DG	<b>115503/A01</b>	3.30 kW								34.00
III	3~ 380-480	<b>RH40C-ZID.DC.CR</b>	DC	<b>114512</b>	2.40 kW	3.90-3.10	2400	68.3	74.9	2015			12.00
	3~ 380-480	<b>GR40C-ZID.DC.CR</b>	DC	<b>115514/A01</b>	2.40 kW								24.00
IV	1~ 200-277	<b>RH40C-ZID.DC.CR</b>	DC	<b>114508</b>	1.25 kW	6.40-4.60	1950		77.7	2015			12.00
	1~ 200-277	<b>GR40C-ZID.DC.CR</b>	DC	<b>115478/A01</b>	1.25 kW								24.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature $t_{amb}^{(max.)}$ °C	Voltage U V
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)		
__40C-ZID__CR	I	3170	①	3.40	2200	92	40	400
			②	8.20	5200	87		
			③	5.40	3500	97		
	II	2710	④	2.10	1250	89	40	
			⑤	5.20	3300	82		
			⑥	3.20	2000	90		
	III	2400	⑦	1.45	880	85	40	
			⑧	3.70	2400	81		
			⑨	2.20	1400	90		
	IV	1950	⑩	2.30	500	79	45	
			⑪	5.60	1250	73		
			⑫	3.50	780	85		

Control technology

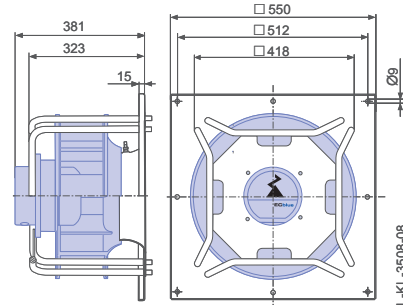
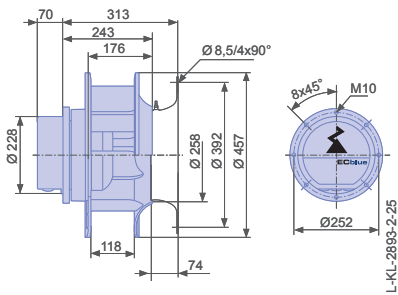
Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

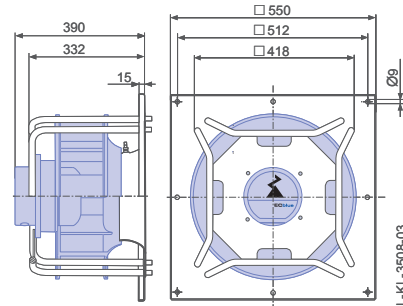
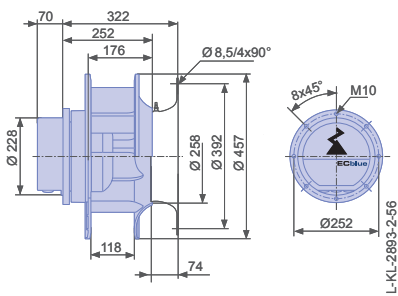
Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/Vo  
Inlet nozzle integrated

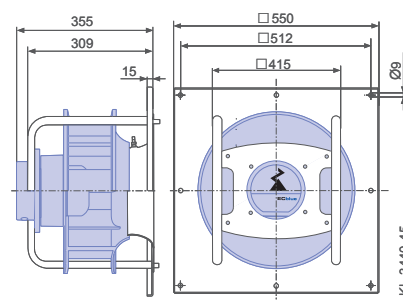
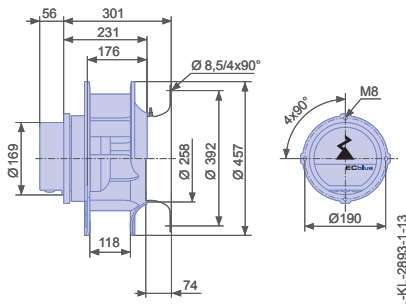
GG



DG



DC



# Cpro-ECblue

Size 450

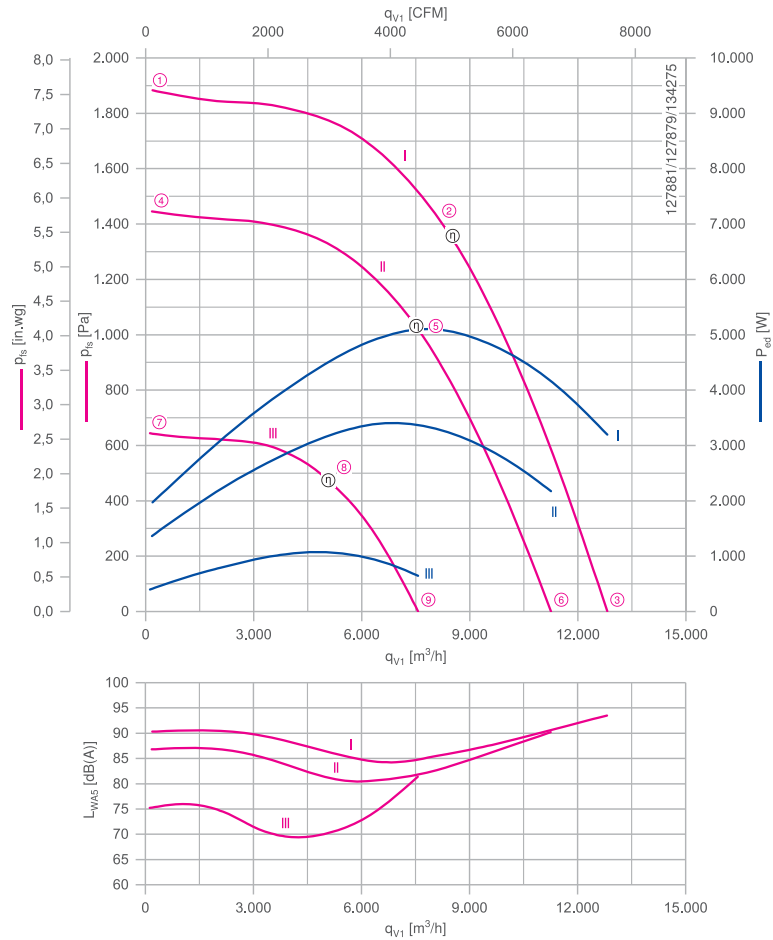
RH45C



## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection: IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

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## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	<b>RH45C-ZID.GG.CR</b>	GG	<b>114707</b>	5.20 kW	8.40-6.60	2570	65.7	68.7	2015	yes	UL Listed Product	22.00
	3~ 380-480	<b>GR45C-ZID.GG.CR</b>	GG	<b>115528/A01</b>	5.20 kW					2015			42.00
II	3~ 380-480	<b>RH45C-ZID.GG.CR</b>	GG	<b>114615</b>	3.60 kW	5.80-4.60	2260	67.1	71.8	2015			22.00
	3~ 380-480	<b>GR45C-ZID.GG.CR</b>	GG	<b>115521/A01</b>	3.60 kW					2015			42.00
III	1~ 200-277	<b>RH45C-ZIK.DC.CR</b>	DC	<b>114514</b>	1.05 kW	5.80-4.20	1500	68.3	82.1	2015			13.00
	1~ 200-277	<b>GR45C-ZIK.DC.CR</b>	DC	<b>115482/A01</b>	1.05 kW					2015			33.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WAS}$ dB(A)	Maximum ambient temperature $t_{amb} (max.)$ °C	Voltage	
		n min <sup>-1</sup>		I A	$P_{ed}$ W			U V	
__45C-ZI__CR	I	2570	①	3.00	1950	90	40	400	
			②	7.80	5200	85			
			③	4.80	3200	94			
	II	2260	④	2.20	1350	87	55		
			⑤	5.20	3400	81			
			⑥	3.30	2200	90			
	III	1500	⑦	1.95	400	75	45		230
			⑧	5.00	1100	70			
			⑨	3.10	640	81			

Control technology

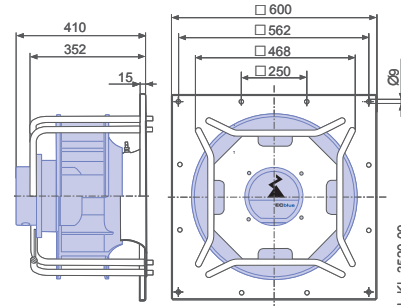
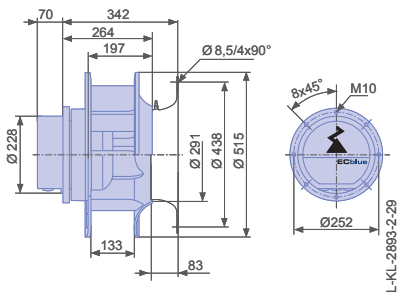
Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

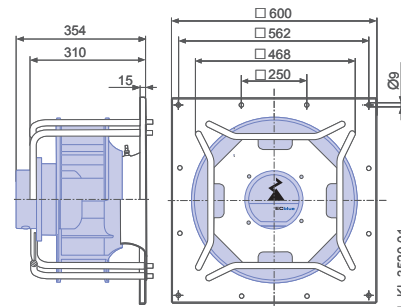
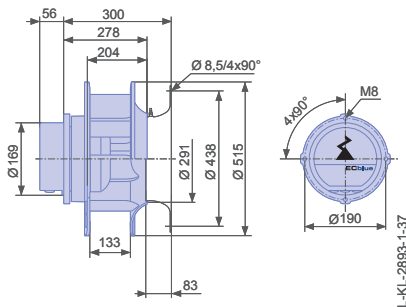
Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/  
Vo  
Inlet nozzle integrated

GG



DC



# Cpro-ECblue

Size 500

RH50C



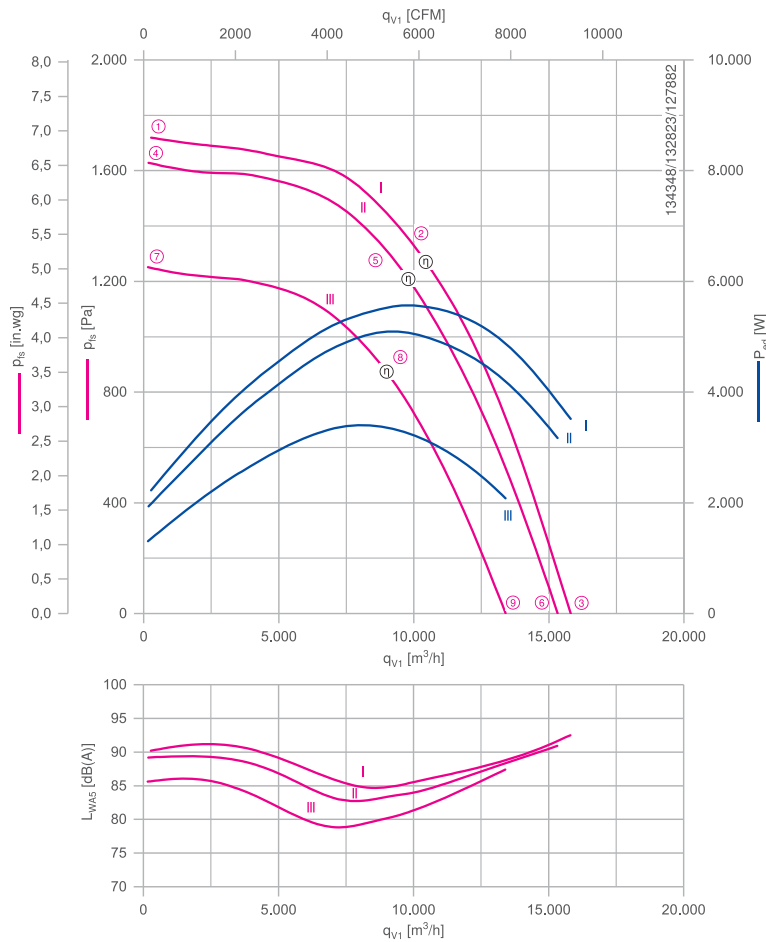
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00411864  
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 System components

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 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %		yes	UL Listed Product	kg
I	3~ 380-480	<b>RH50C-ZID.GQ.CR</b>	GQ	<b>176076</b>	5.60 kW	8.80-7.00	2180	69.5	72.2	2015	yes	UL Listed Product	35.00
	3~ 380-480	<b>GR50C-ZID.GQ.CR</b>	GQ	<b>176216</b>	5.60 kW					2015			60.40
II	3~ 380-480	<b>RH50C-ZID.GL.CR</b>	GL	<b>114711</b>	5.40 kW	8.60-6.80	2130	66.5	69.5	2015	yes	UL Listed Product	29.00
	3~ 380-480	<b>GR50C-ZID.GL.CR</b>	GL	<b>115497/A01</b>	5.40 kW					2015			55.00
III	3~ 380-480	<b>RH50C-ZID.GG.CR</b>	GG	<b>114623</b>	3.50 kW	5.60-4.40	1860	67.2	72.0	2015	yes	UL Listed Product	24.00
	3~ 380-480	<b>GR50C-ZID.GG.CR</b>	GG	<b>115523/A01</b>	3.50 kW					2015			50.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage U V
				I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
_50C-ZID.G_CR	I	2180	①	3.40	2200	90	40	400
			②	8.60	5600	85		
			③	5.40	3500	93		
	II	2130	④	3.00	1950	89	40	
			⑤	7.80	5000	84		
			⑥	4.80	3200	91		
	III	1860	⑦	2.10	1300	86	55	
			⑧	5.20	3400	79		
			⑨	3.20	2100	87		

Control technology

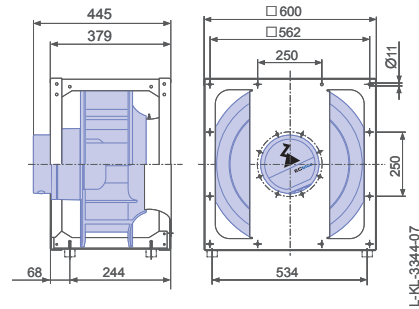
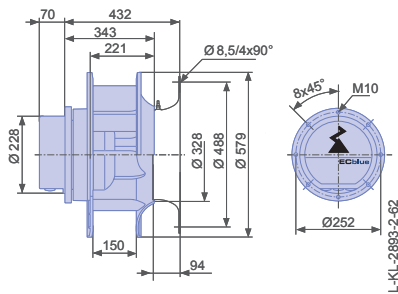


Dimensions mm

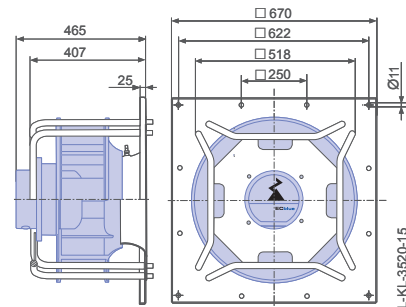
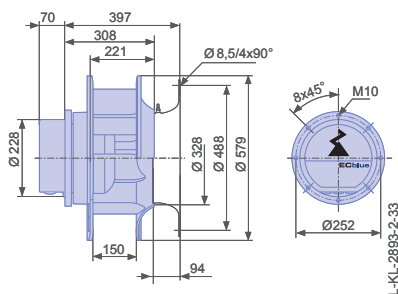
Motor      Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/  
Vo  
Inlet nozzle integrated

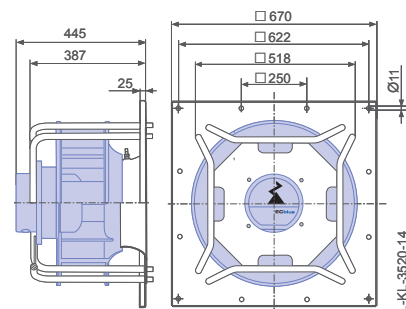
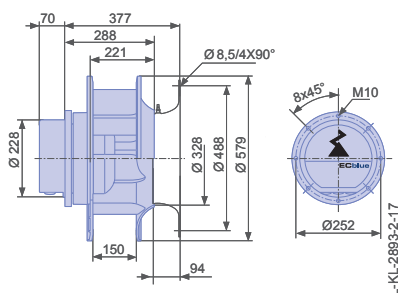
GQ



GL



GG



# Cpro-ECblue

Size 560

RH56C



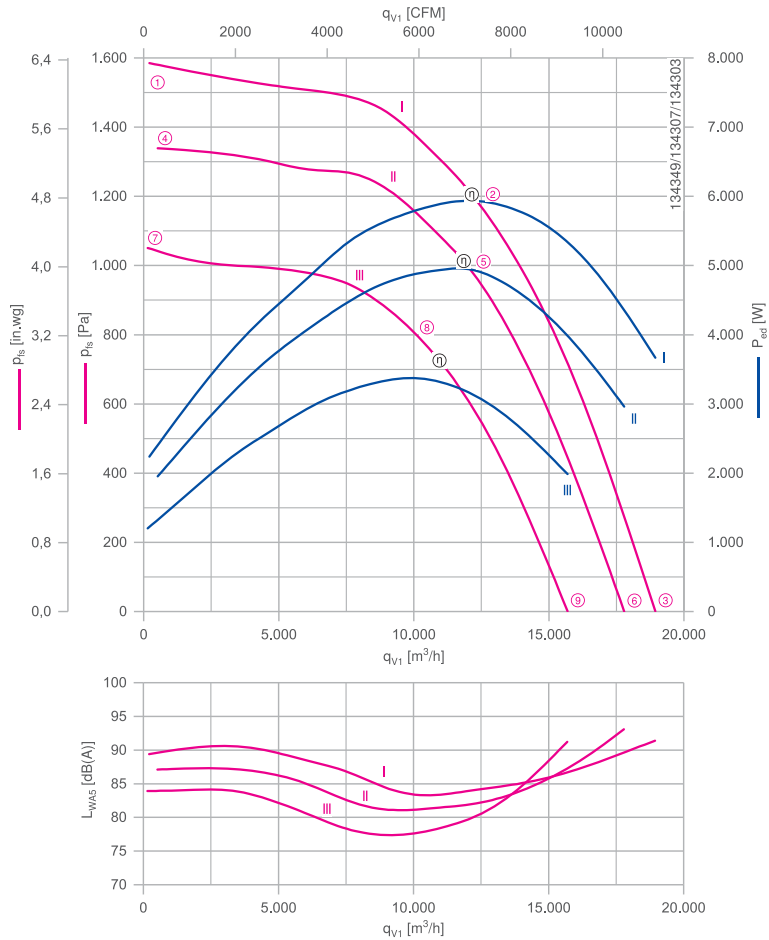
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00411865  
 Connection diagrams  
 System components

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 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	U <sub>N</sub> V										CE	UL	
I	3~ 380-480	RH56C-ZID.GQ.CR	GQ	115271	6.00 kW	9.40-7.40	1860	69.9	72.3	2015	yes	UL Listed Product	39.00
	3~ 380-480	GR56C-ZID.GQ.CR	GQ	115278	6.00 kW					2015			71.00
II	3~ 380-480	RH56C-ZID.GL.CR	GL	114715	5.00 kW	8.00-6.40	1750	71.6	74.8	2015			32.00
	3~ 380-480	GR56C-ZID.GL.CR	GL	115492/A01	5.00 kW					2015			64.00
III	3~ 380-480	RH56C-ZID.GG.CR	GG	114631	3.40 kW	5.40-4.20	1550	70.2	75.2	2015			27.00
	3~ 380-480	GR56C-ZID.GG.CR	GG	115525/A01	3.40 kW					2015			59.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage U V
				I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)	t <sub>amb (max.)</sub> °C	
_56C-ZID.G_CR	I	1860	①	3.50	2200	89	40	400
			②	9.20	6000	84		
			③	5.60	3700	91		
	II	1750	④	3.00	1950	87	40	
			⑤	7.60	5000	82		
			⑥	4.60	3000	93		
	III	1550	⑦	1.90	1200	84	45	
			⑧	5.20	3400	78		
			⑨	3.00	2000	91		

Control technology

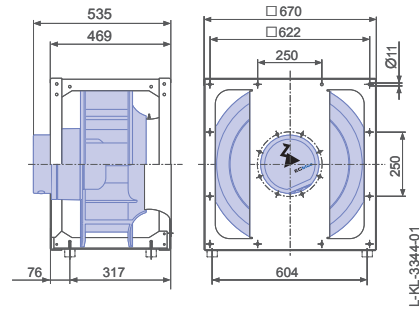
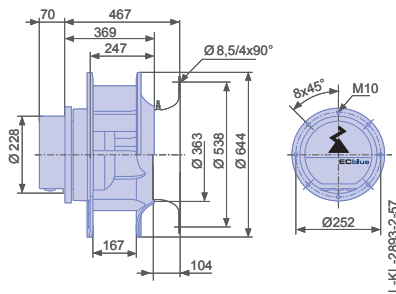


Dimensions mm

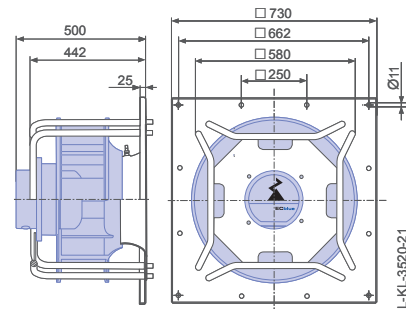
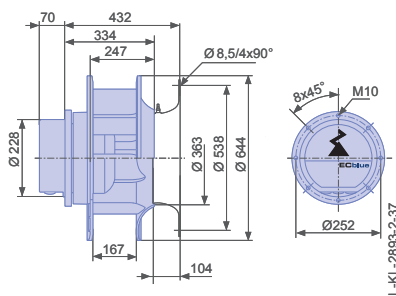
Motor      Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/  
Vo  
Inlet nozzle integrated

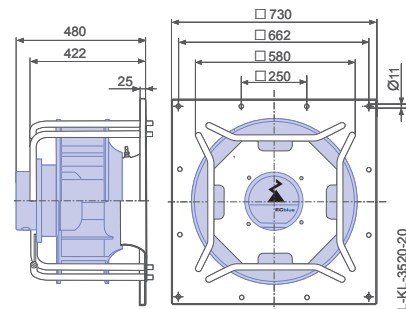
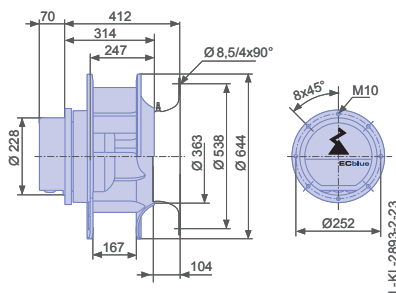
GQ



GL



GG



# Cpro-ECblue

Size 630

RH63C

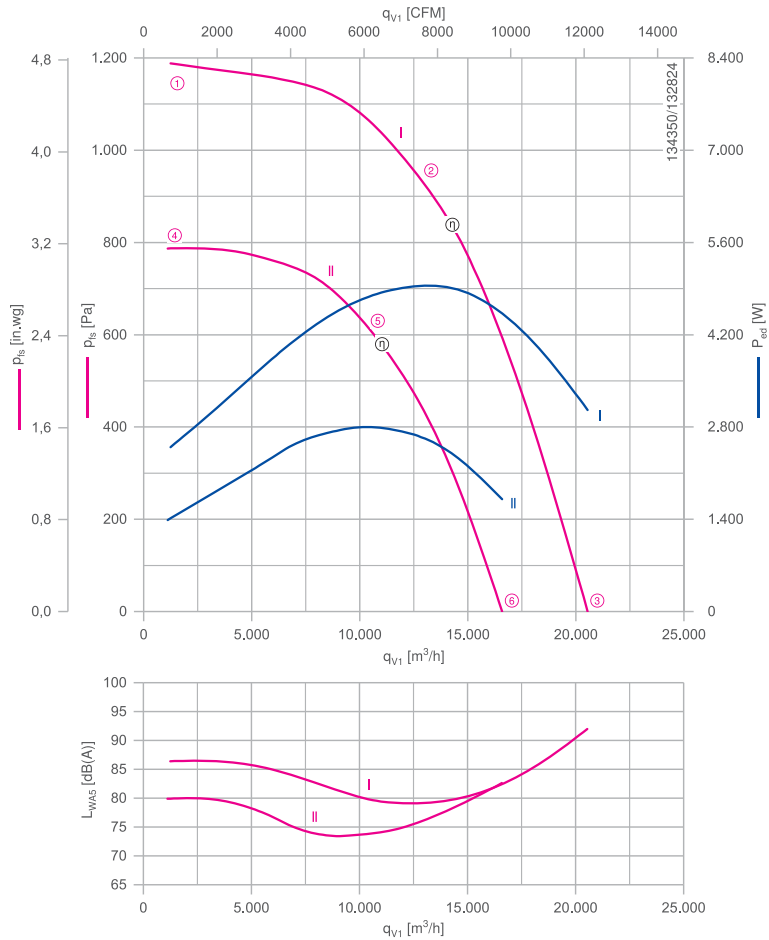


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00411866                      Page 288  
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 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
I	3~ 380-480	<b>RH63C-ZID.GQ.CR</b>	GQ	<b>115272</b>	5.00 kW	7.80-6.20	1450	70.7	74.0	2015	yes	UL Listed Product	43.00
	3~ 380-480	<b>GR63C-ZID.GQ.CR</b>	GQ	<b>115279</b>	5.00 kW					2015			80.00
II	3~ 380-480	<b>RH63C-ZIK.GG.CR</b>	GG	<b>114635</b>	2.90 kW	4.80-3.80	1200	65.5	71.1	2015	yes	UL Listed Product	31.00
	3~ 380-480	<b>GR63C-ZIK.GG.CR</b>	GG	<b>115534/A01</b>	2.90 kW					2015			72.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)		
_63C-ZI_G_CR	I	1450	①	3.80	2500	86	40	400
			②	7.60	5000	79		
			③	4.60	3100	92		
	II	1200	④	2.10	1400	80		
			⑤	4.20	2800	74		
			⑥	2.60	1700	83		

Control technology

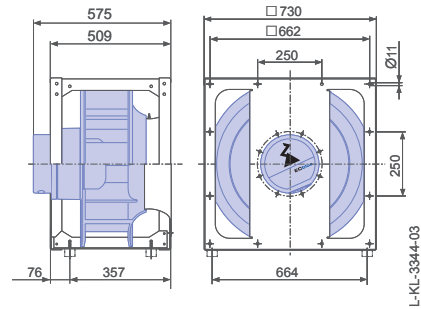
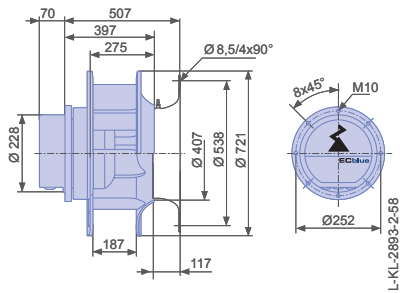


Dimensions mm

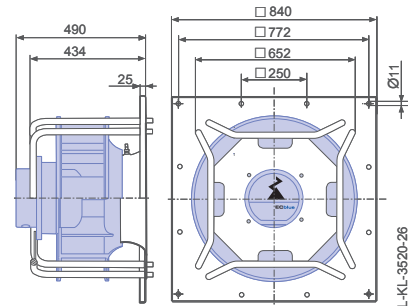
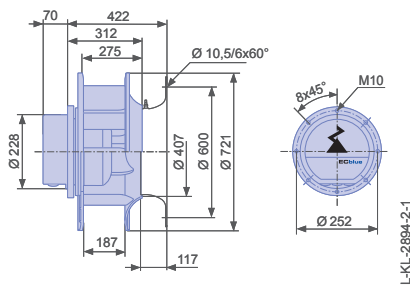
Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

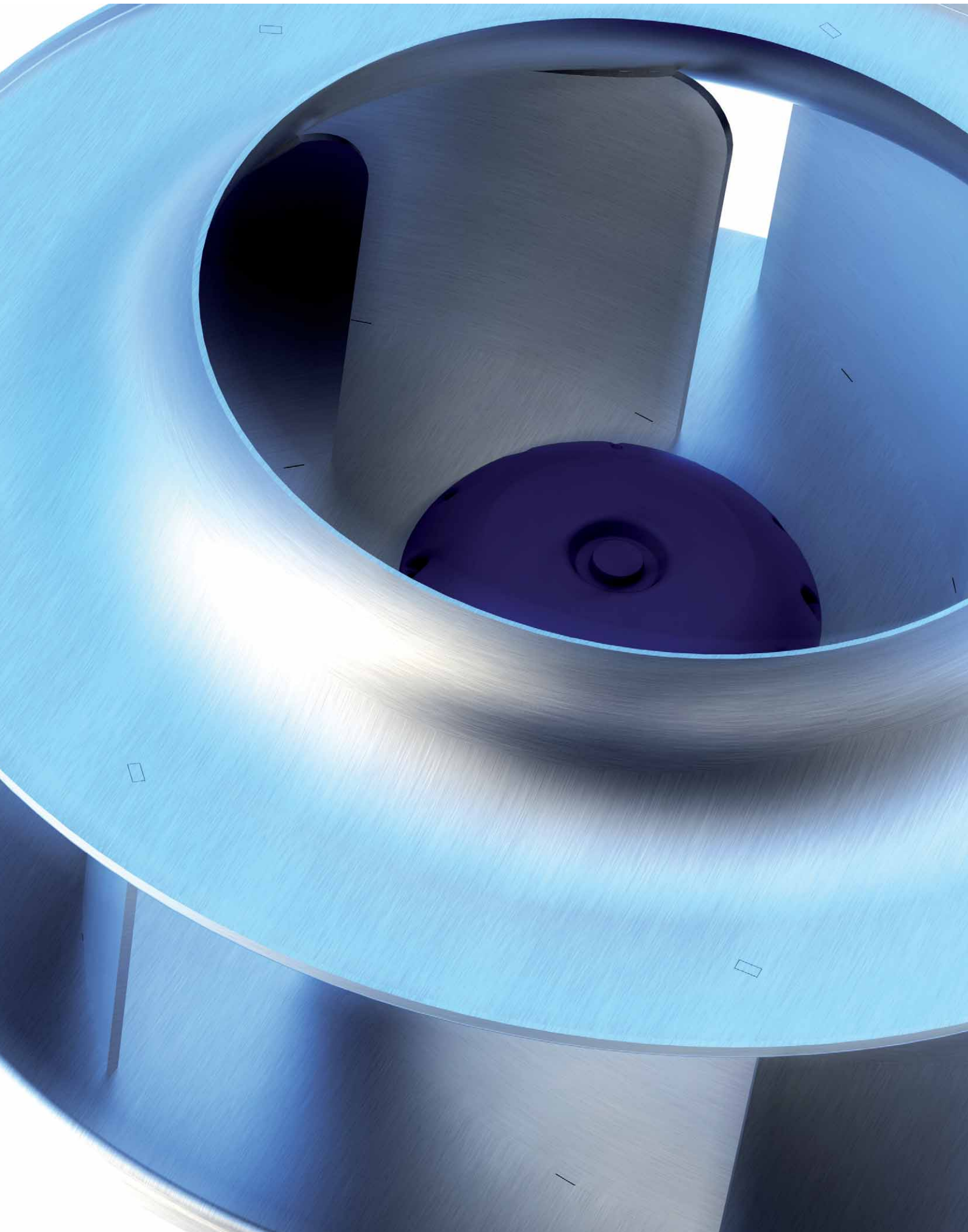
Ventilation unit GR in installation position H/Vu/Vo  
Inlet nozzle integrated

GQ



GG





# C-ECblue

## EC-Technology

### Product overview

Size 250	Page 64
Size 280	Page 66
Size 315	Page 68
Size 355	Page 70
Size 400	Page 72
Size 450	Page 74
Size 500	Page 76
Size 560	Page 78
Size 630	Page 80
Size 710	on request
Size 800	on request

Information

ZBluefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

Control  
technology

General notes

# C-ECblue

Size 250

RH25C

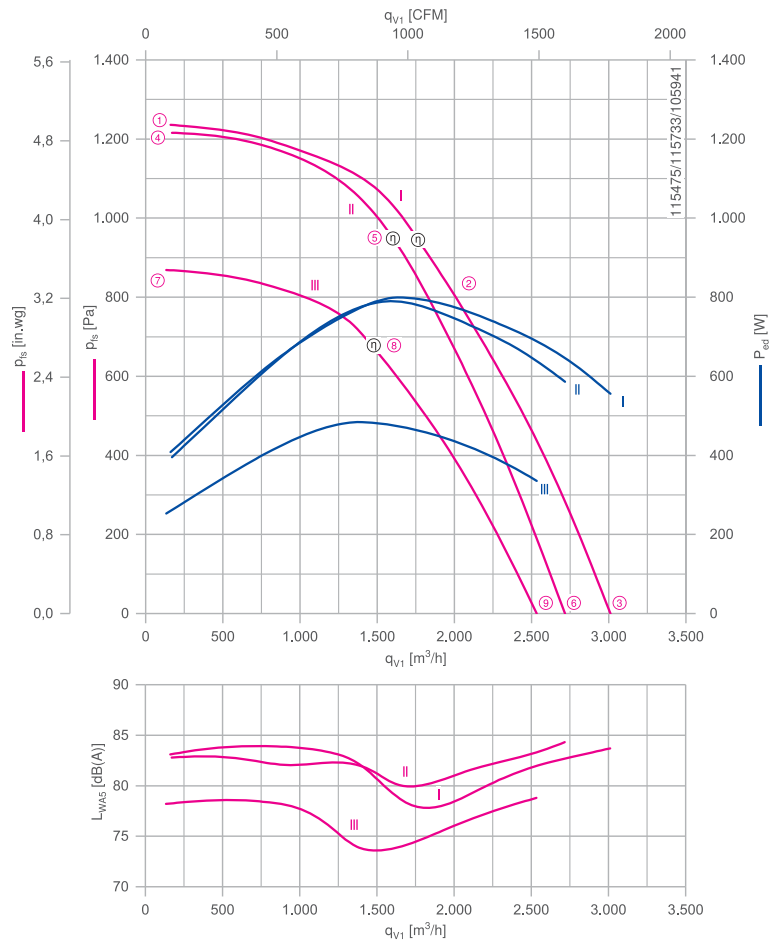


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -35 °C\*\*\*  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of aluminium, uncoated  
 \* Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Inlet ring                      00401504                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	U <sub>N</sub> V				P <sub>ed</sub>	I <sub>N</sub> A	n <sub>N</sub> min <sup>-1</sup>	n <sub>statA</sub> %	N <sub>actual</sub> %			kg	
I	1~ 200-277	<b>RH25C-6ID.BD.1R</b>	BD	<b>115396</b>	0.80 kW	4.00-2.90	3730	65.3	76.9	2015	yes		5.00
II	1~ 200-277	<b>RH25C-6IK.BA.1R</b>	BA	<b>115399</b>	0.78 kW		3660	60.1	71.6	2015			4.40
III	1~ 200-277	<b>RH25C-6ID.BD.1R</b>	BD	<b>115172</b>	0.48 kW	2.40-1.75	3120	65.1	78.9	2015			6.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.

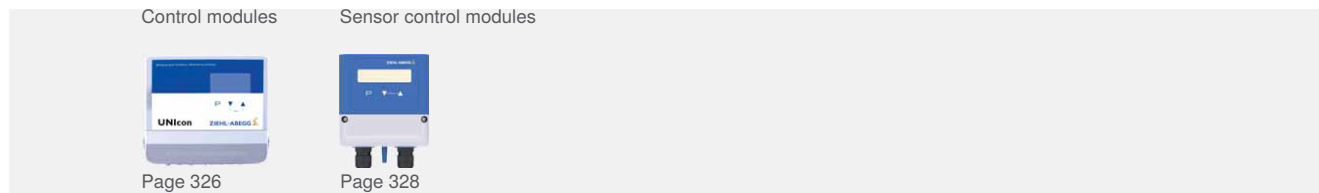




Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
RH25C-6I_B_1R	I	3730	①	1.80	400	83	50	230
			②	3.50	800	79		
			③	2.40	560	84		
	II	3660	④	1.75	400	83	40	
			⑤	3.50	780	80		
			⑥	2.60	580	84		
	III	3120	⑦	1.10	250	78	60	
			⑧	2.10	480	74		
			⑨	1.45	340	79		

Control technology

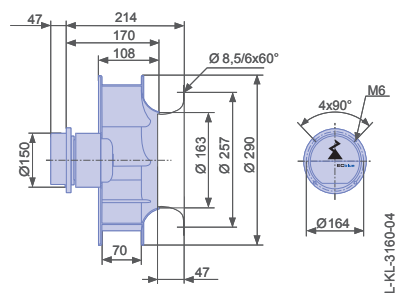


Dimensions mm

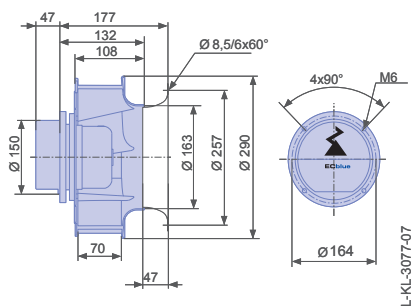
Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo

Inlet nozzle not included

BD



BA



# C-ECblue

Size 280

RH28C

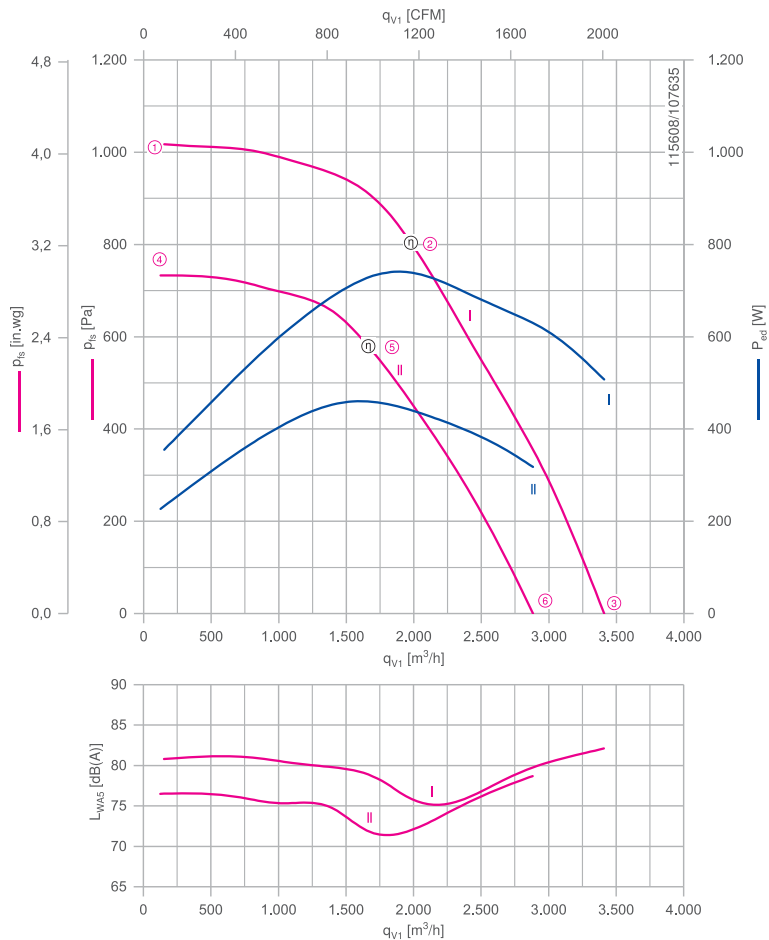


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -35 °C\*\*\*  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of aluminium, uncoated  
 \* Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Inlet ring                      00401505                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ $min^{-1}$	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	1~ 200-277	<b>RH28C-6ID.BD.1R</b>	BD	<b>115397</b>	0.74 kW	3.70-2.70	3000	67.2	79.1	2015	yes		5.20
II	1~ 200-277	<b>RH28C-6ID.BD.1R</b>	BD	<b>115173</b>	0.46 kW	2.30-1.65	2580	66.3	80.3	2015			6.20

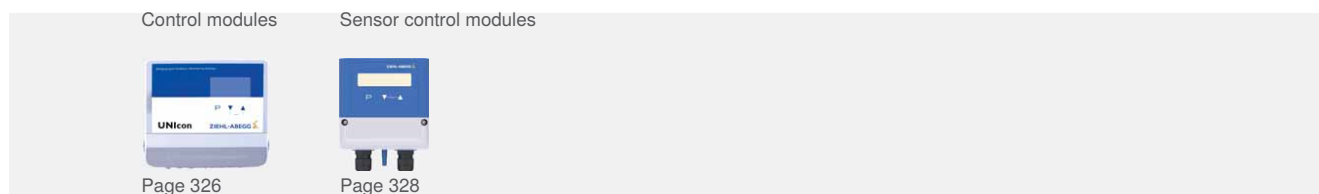
Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
RH28C-6ID.BD.1R	I	3000	①	1.55	360	81	50	230
			②	3.20	740	76		
			③	2.20	500	82		
	II	2580	④	1.00	230	77		
			⑤	2.00	460	72		
			⑥	1.40	320	79		

Control technology

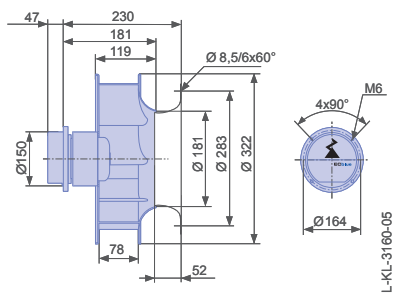


Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo

Inlet nozzle not included

BD



# C-ECblue

Size 315

RH31C

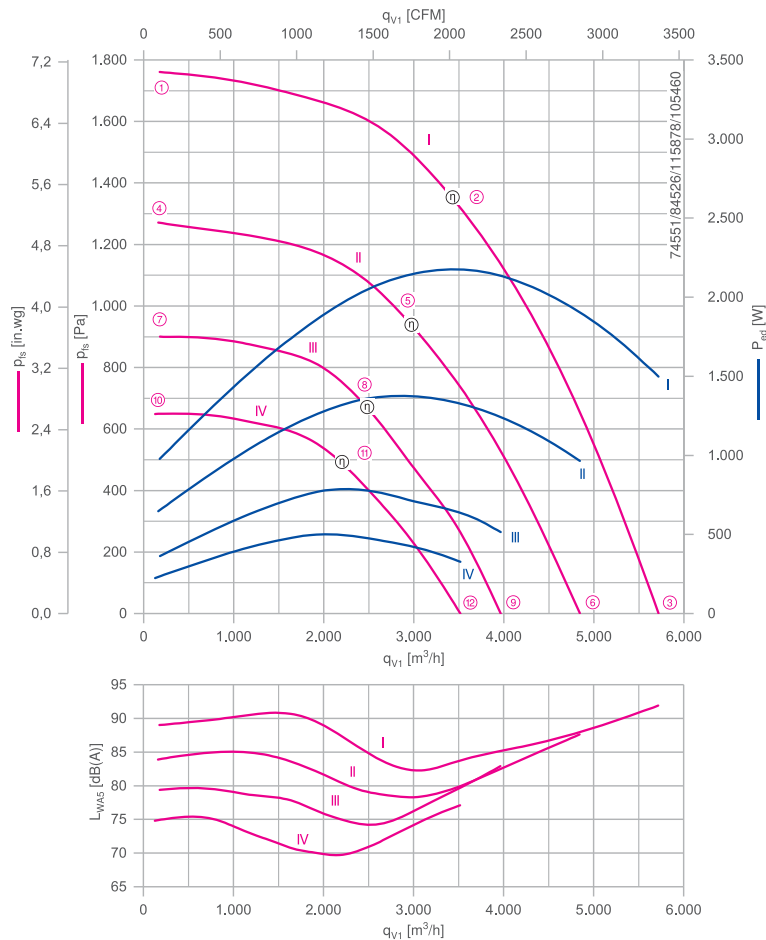


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -35 °C\*\*\*  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of aluminium, uncoated  
 \* Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Inlet ring                      00411860                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	<b>RH31C-ZID.DC.1R</b>	DC	<b>113481</b>	2.20 kW	3.60-2.85	3550	60.7	67.8	2015	yes	UL	10.00
II	1~ 200-277	<b>RH31C-ZID.DC.1R</b>	DC	<b>113483</b>	1.35 kW	6.90-5.00	3000	62.2	71.3	2015		Listed Product	10.00
III	1~ 200-277	<b>RH31C-6ID.BD.1R</b>	BD	<b>115398</b>	0.78 kW	4.00-2.90	2540	66.6	78.2	2015			6.10
IV	1~ 200-277	<b>RH31C-6ID.BD.1R</b>	BD	<b>115174</b>	0.50 kW	2.50-1.80	2160	68.4	82.1	2015			7.10

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage U V
				I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
__31C_ID__1R	I	3550	①	1.70	980	89	60	400
			②	3.40	2200	84		
			③	2.40	1500	92		
	II	3000	④	2.90	640	84	230	
			⑤	6.00	1350	79		
			⑥	4.20	960	88		
	III	2540	⑦	1.60	360	79		45
			⑧	3.40	780	75		
			⑨	2.30	520	83		
	IV	2170	⑩	1.00	220	75	55	
			⑪	2.20	500	70		
			⑫	1.45	330	77		

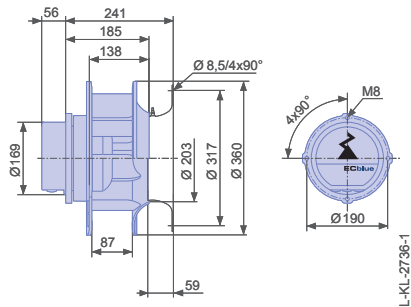
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

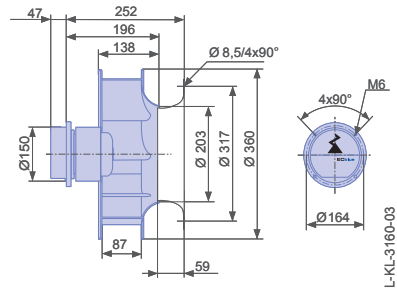
Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

DC



BD



# C-ECblue

Size 355

RH35C

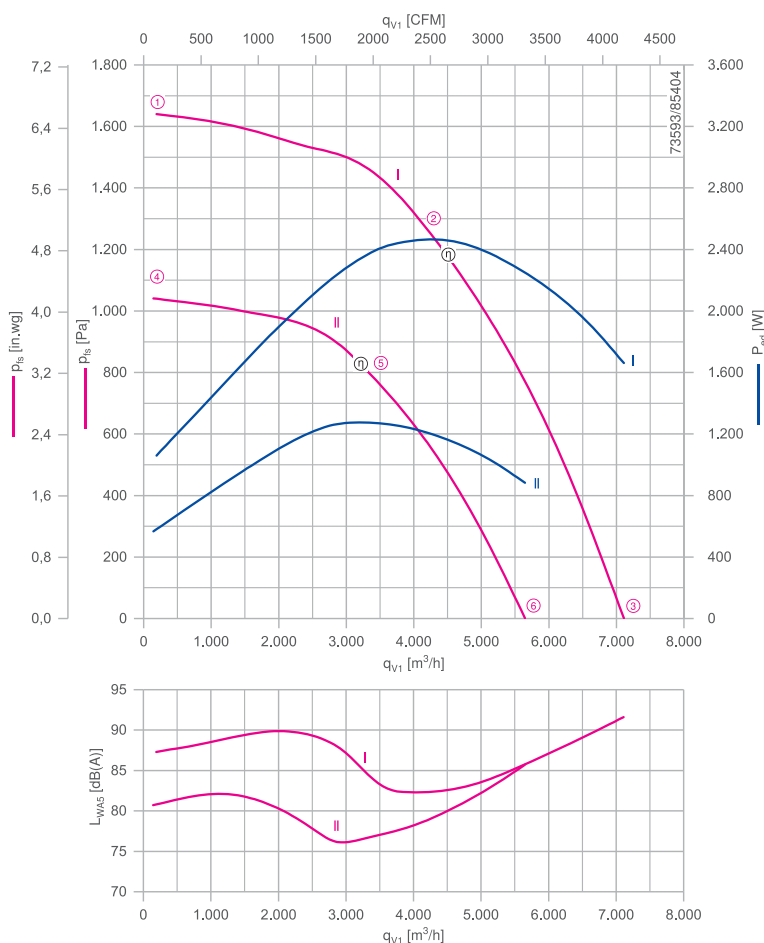


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -35 °C\*\*\*  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of aluminium, uncoated  
 \* Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Inlet ring                      00411861                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	<b>RH35C-ZID.DC.1R</b>	DC	<b>113484</b>	2.50 kW	4.00-3.20	3000	65.0	72.1	2015	yes	UL	10.00
II	1~ 200-277	<b>RH35C-ZID.DC.1R</b>	DC	<b>113486</b>	1.30 kW	6.40-4.60	2390	64.2	73.6	2015		Listed Product	9.50

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

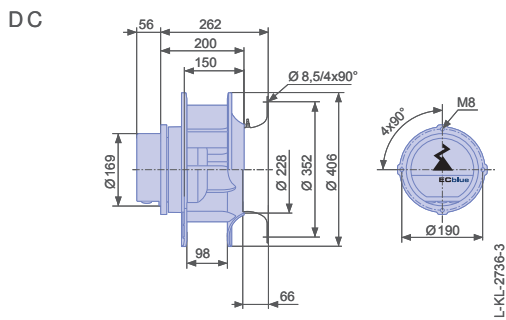
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
_35C-ZID.DC.1R	I	3000	①	1.85	1050	87	50	400
			②	3.80	2500	82		
			③	2.70	1650	92		
	II	2390	④	2.60	560	81	40	230
			⑤	5.60	1250	77		
			⑥	3.90	880	86		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# C-ECblue

Size 400

RH40C

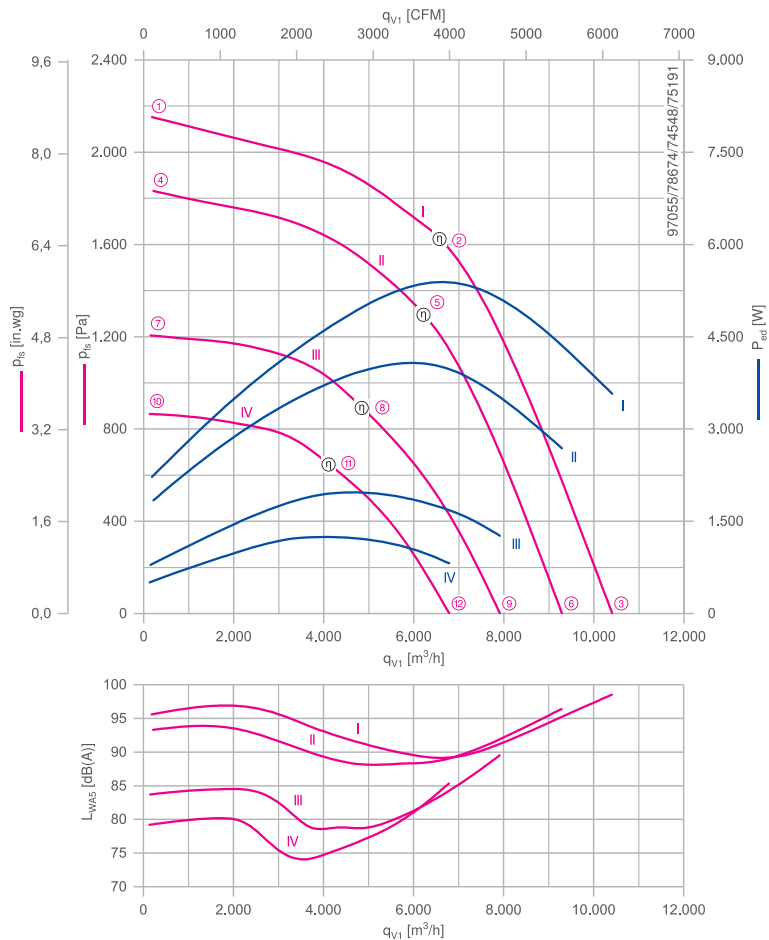


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -35 °C\*\*\*  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of aluminium, uncoated  
 \* Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Inlet ring 00411862 Page 288  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	<b>RH40C-ZID.GG.1R</b>	GG	<b>114763</b>	5.40 kW	8.60-6.80	3200	59.1	62.0	2015	yes	UL Listed Product	21.00
II	3~ 380-480	<b>RH40C-ZID.GG.1R</b>	GG	<b>113962</b>	4.10 kW	6.50-5.20	2900	59.9	64.0	2015			20.00
III	3~ 380-480	<b>RH40C-ZID.DC.1R</b>	DC	<b>113487</b>	1.95 kW	3.30-2.60	2300	67.9	75.3	2015			11.00
IV	1~ 200-277	<b>RH40C-ZID.DC.1R</b>	DC	<b>113489</b>	1.25 kW	6.20-4.50	1950	65.9	75.4	2015			10.60

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
				I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	U V
RH40C-ZID...1R	I	3200	①	3.50	2200	96	40	400
			②	8.20	5400	89		
			③	5.40	3600	99		
	II	2900	④	2.90	1850	93		
			⑤	6.20	4000	88	60	
			⑥	4.20	2700	96		
	III	2300	⑦	1.45	800	84		
			⑧	3.10	1950	79	50	
			⑨	2.10	1250	90		
	IV	1950	⑩	2.30	500	79		
			⑪	5.40	1250	75	40	
			⑫	3.60	820	85		

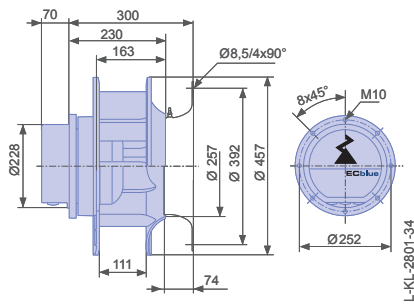
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D <sub>-</sub> , G <sub>-</sub> Page 332	Page 344

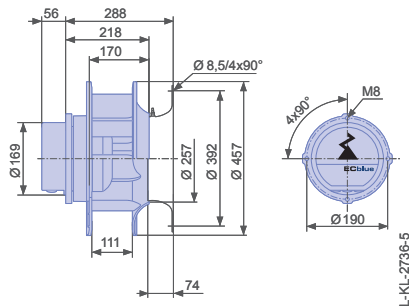
Dimensions mm

Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

GG



DC



# C-ECblue

Size 450

RH45C

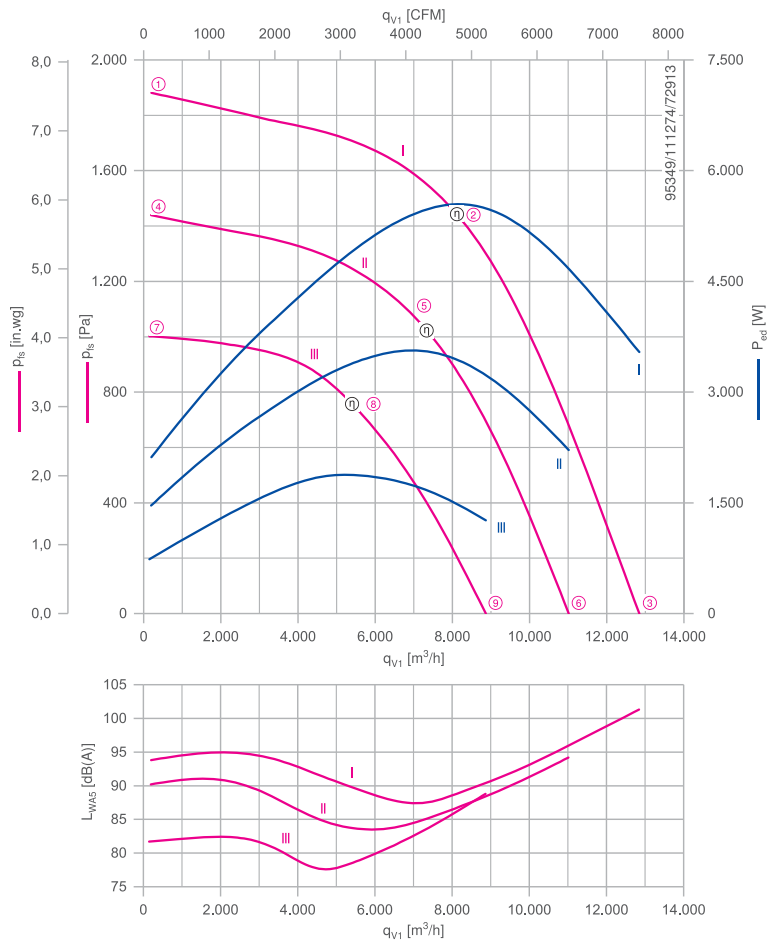


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -35 °C\*\*\*  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of aluminium, uncoated  
 \* Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Inlet ring                      00411863                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ $min^{-1}$	$n_{statA}$ %	$N_{actual}$ %		CE	UL	
I	3~ 380-480	<b>RH45C-ZID.GG.1R</b>	GG	<b>114765</b>	5.60 kW	8.80-7.00	2630	62.4	65.1	2015	yes	UL	22.00
II	3~ 380-480	<b>RH45C-ZID.GG.1R</b>	GG	<b>113966</b>	3.60 kW	5.80-4.60	2300	63.1	67.9	2015		Listed Product	22.00
III	3~ 380-480	<b>RH45C-ZIK.DG.1R</b>	DG	<b>113492</b>	1.90 kW	3.20-2.50	1850	66.3	73.9	2015			12.40

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

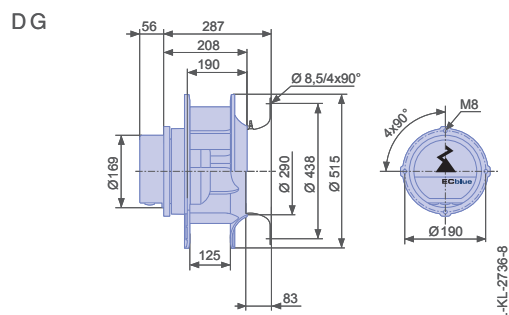
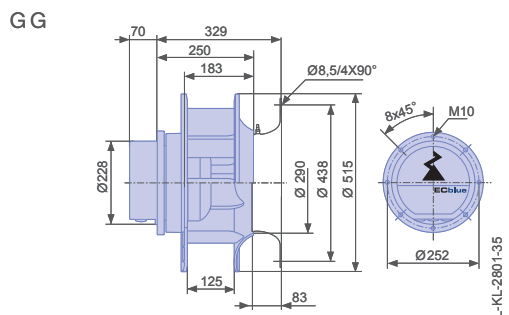
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)		
RH45C-ZI_G.1R	I	2630	①	3.30	2100	94	40	400
			②	8.60	5600	89		
			③	5.40	3500	101		
	II	2300	④	2.40	1450	90	60	
			⑤	5.60	3600	84		
			⑥	3.50	2200	94		
	III	1850	⑦	1.40	740	82	40	
			⑧	3.00	1900	79		
			⑨	2.10	1250	89		

Control technology



Dimensions mm

Motor      Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



Information

ZAbluefin-ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-Cpro-ECblue

Housing fans

System components

Control technology

General notes

# C-ECblue

Size 500

RH50C

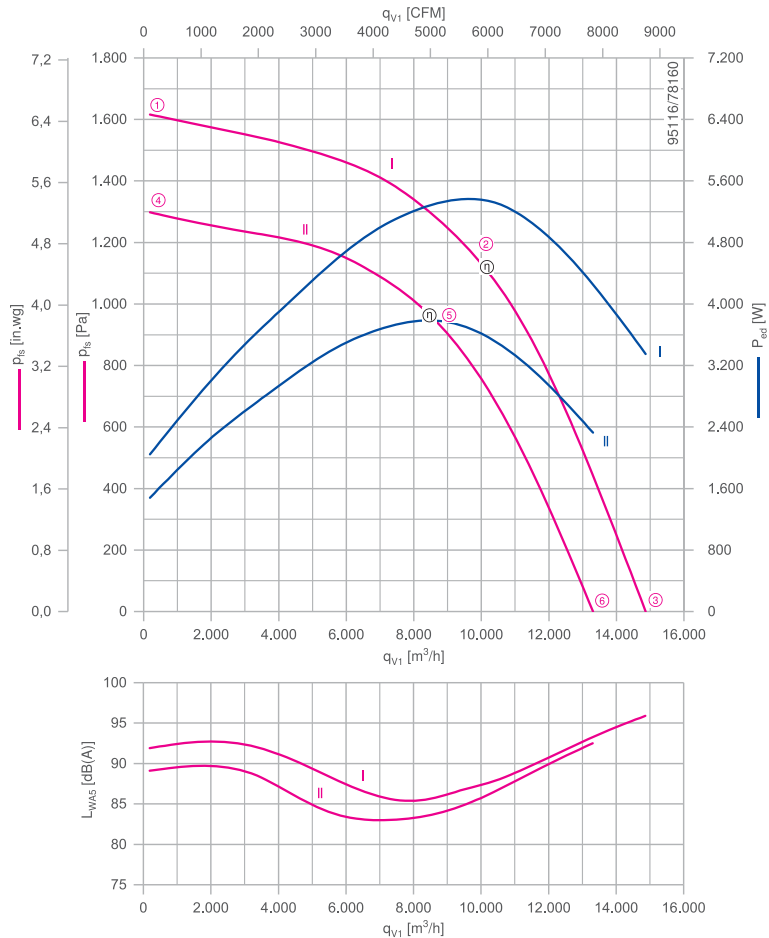


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -35 °C\*\*\*  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of aluminium, uncoated  
 \* Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Inlet ring                      00411864                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
I	3~ 380-480 V	RH50C-ZID.GL.1R	GL	114767	5.40 kW	8.60-6.80 A	2160 min <sup>-1</sup>	62.5 %	65.4 %	2015	yes	UL Listed Product	29.00 kg
II	3~ 380-480 V	RH50C-ZID.GG.1R	GG	113970	3.80 kW	6.10-4.80 A	1920 min <sup>-1</sup>	64.4 %	68.8 %	2015	yes	UL Listed Product	25.00 kg

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.

Performance data

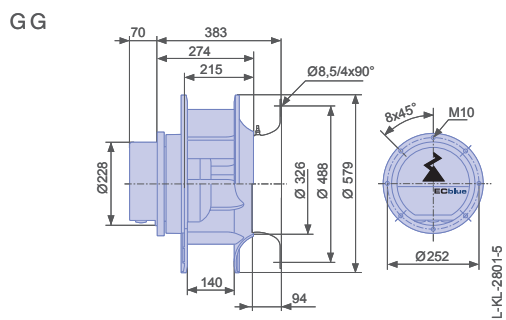
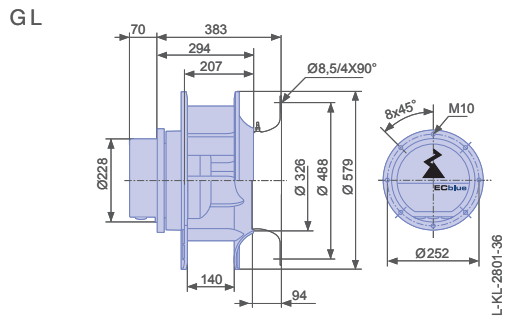
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
RH50C-ZID.G_1R	I	2160	①	3.20	2000	92	40	400
			②	8.20	5400	87		
			③	5.20	3400	96		
	II	1920	④	2.40	1500	89	60	
			⑤	5.80	3800	84		
			⑥	3.60	2300	93		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included



Information

ZAbuefin-ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-Cpro-ECblue

Housing fans

System components

Control technology

General notes

# C-ECblue

Size 560

RH56C

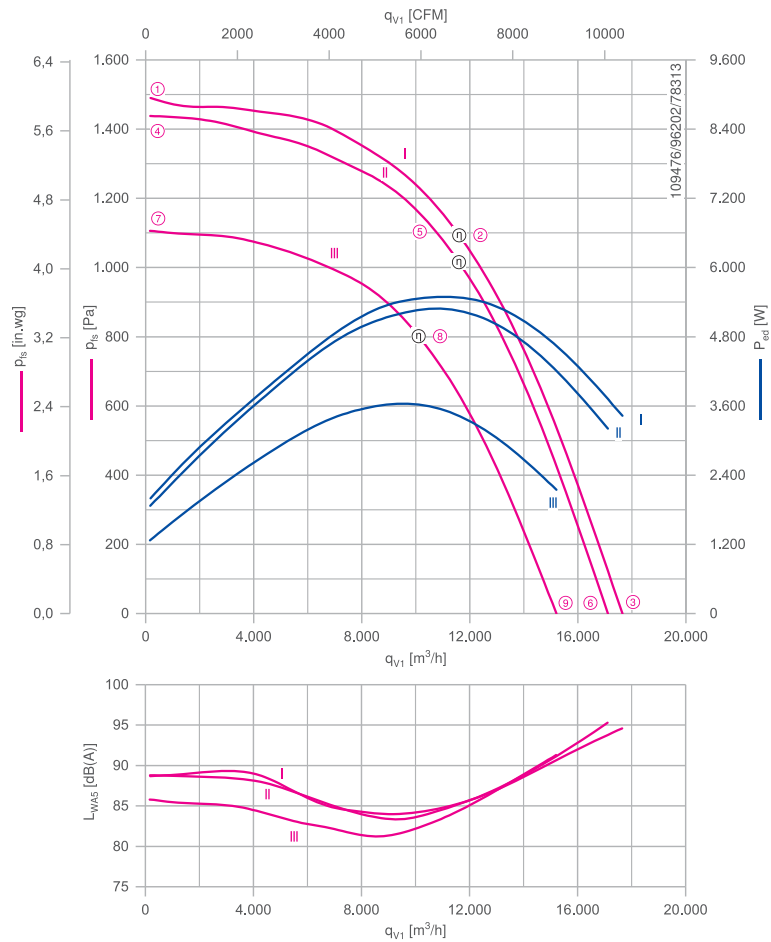


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -35 °C\*\*\*  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of aluminium, uncoated  
 \* Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Inlet ring                      00411865                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
I	3~ 380-480	<b>RH56C-ZID.GQ.1R</b>	GQ	<b>115273</b>	5.40 kW	8.80-7.00	1840	68.5	71.3	2015	yes	UL Listed Product	36.00
II	3~ 380-480	<b>RH56C-ZID.GL.1R</b>	GL	<b>114769</b>	5.20 kW	8.40-6.60	1800	66.3	69.3	2015			29.00
III	3~ 380-480	<b>RH56C-ZID.GG.1R</b>	GG	<b>113974</b>	3.60 kW	5.90-4.70	1580	66.8	71.5	2015			26.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

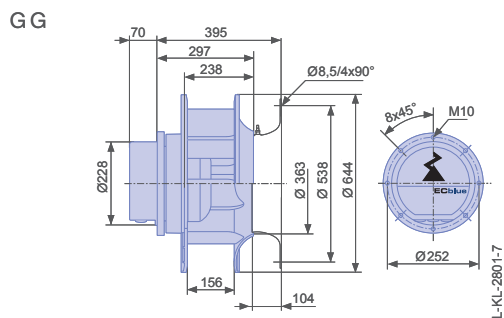
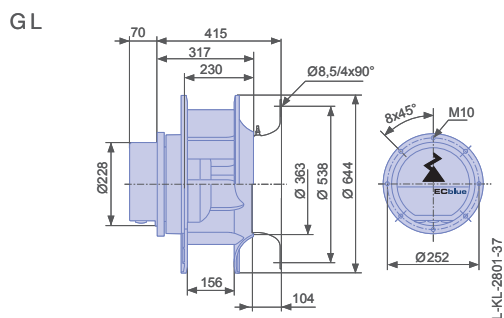
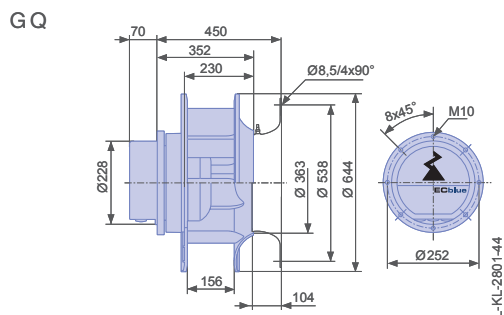
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)	t <sub>amb (max.)</sub> °C	
RH56C-ZID.G_1R	I	1840	①	3.10	2000	89	40	400
			②	8.40	5400	85		
			③	5.20	3400	95		
	II	1800	④	2.90	1850	89	40	
			⑤	8.00	5200	84		
			⑥	4.80	3200	95		
	III	1580	⑦	2.10	1250	86	55	
			⑧	5.60	3600	82		
			⑨	3.30	2100	91		

Control technology



Dimensions mm

Motor      Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# C-ECblue

Size 630

RH63C

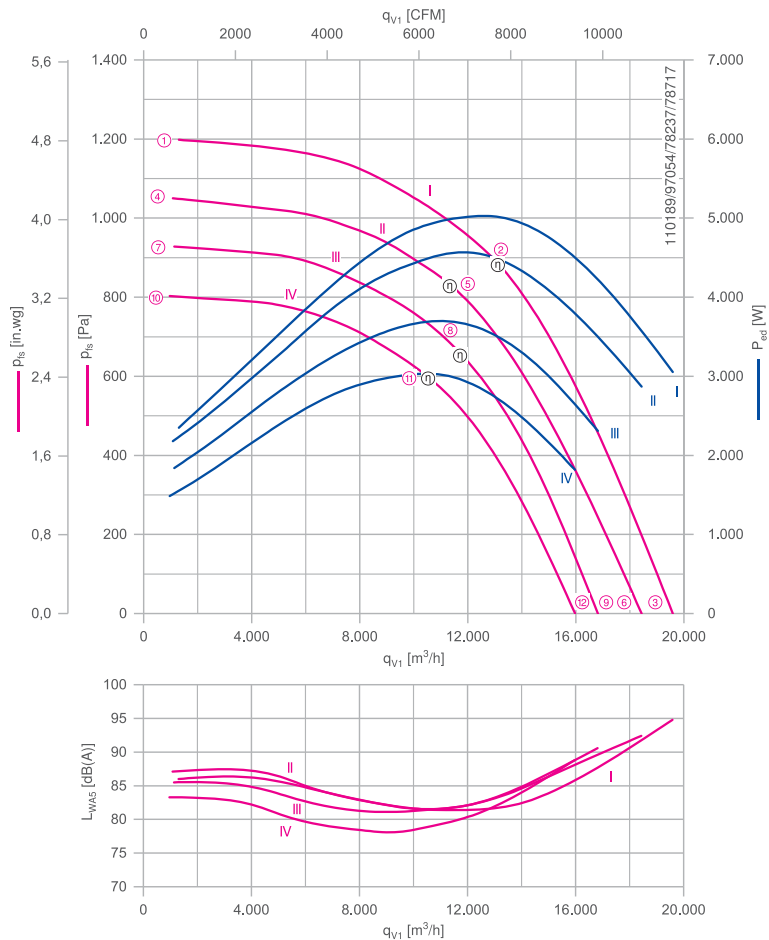


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -35 °C\*\*\*  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of aluminium, uncoated  
 \* Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -35 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Inlet ring                      00411866                      Page 288  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	<b>RH63C-ZID.GQ.1R</b>	GQ	<b>115274</b>	5.00 kW	8.00-6.40	1480	68.5	71.7	2015	yes	UL Listed Product	40.00
II	3~ 380-480	<b>RH63C-ZIK.GL.1R</b>	GL	<b>114770</b>	4.60 kW	7.20-5.80	1430	61.5	65.1	2015			33.00
III	3~ 380-480	<b>RH63C-ZIK.GL.1R</b>	GL	<b>113998</b>	3.70 kW	5.90-4.70	1320	62.7	67.3	2015			33.00
IV	3~ 380-480	<b>RH63C-ZIK.GG.1R</b>	GG	<b>113978</b>	3.00 kW	4.80-3.80	1230	62.4	67.9	2015			29.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

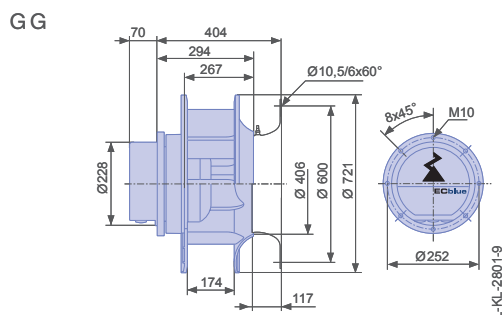
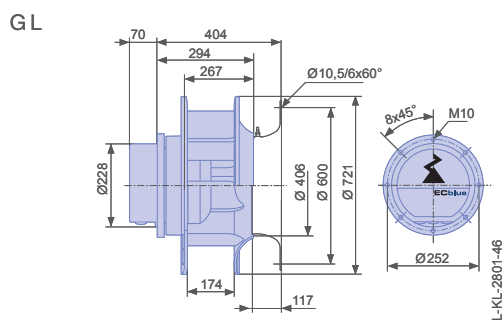
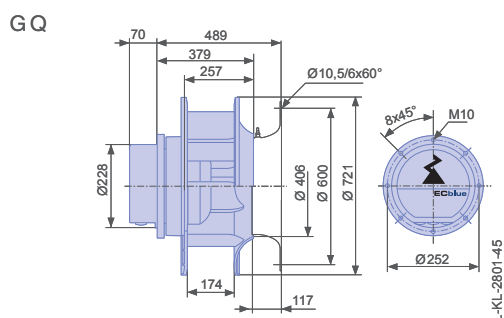
Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage U V
				I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
RH63C-ZI_G_1R	I	1480	①	3.60	2400	86		400
			②	7.60	5000	82	40	
			③	4.60	3100	95		
	II	1430	④	3.30	2200	87		
			⑤	7.00	4600	82	40	
			⑥	4.40	2900	92		
	III	1330	⑦	2.80	1850	86		
			⑧	5.60	3700	82	55	
			⑨	3.50	2300	91		
	IV	1230	⑩	2.30	1500	83		
			⑪	4.60	3000	79	40	
			⑫	2.80	1800	89		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included







# ZAvblue

## Product overview

ZAvblue-ECblue	Page 84
ZAvblue	Page 104
ZAvblue with EC055	Page 140
ZApilot with EC055	Page 170

Information

ZBluefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

Control  
technology

General notes



# ZAvblue-ECblue

## EC-Technology

### Product overview

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Information

ZBluefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

Control  
technology

General notes

# ZAvblue-ECblue

Size 250

RH25V

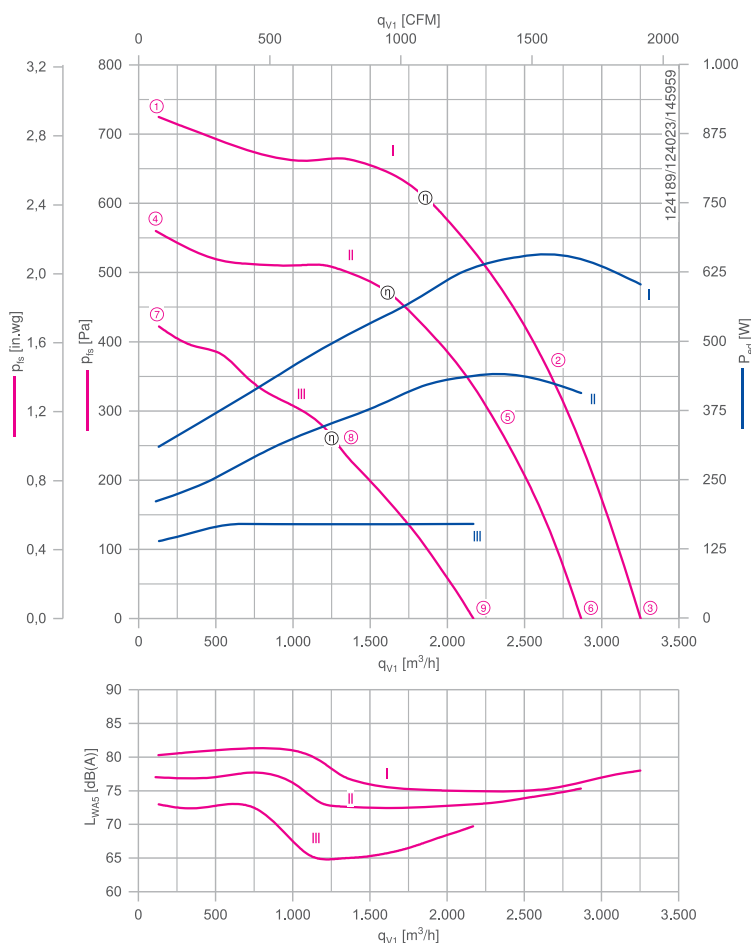


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00412364                      Page 290  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
I	1~ 200-277	RH25V-6IK.BA.VR	BA	115775	660 W	3.30-2.40	3250	61.3	74.3	2015	yes		4.30
	1~ 200-277	GR25V-6IK.BA.VR	BA	115778/A01	660 W								2015
II	1~ 200-277	RH25V-6IK.BA.VR	BA	115774	440 W	2.20-1.60	2860	62.6	77.4	2015			4.30
	1~ 200-277	GR25V-6IK.BA.VR	BA	115777/A01	440 W								2015
III	1~ 200-240	RH25V-ZIP.0A.VR*	0A	179840	170 W	1.80-1.50	2060	64.2	82.8	2015			2.80

\* on request



Further fans can be found in the selection program FANselect:  
[www.fanselect.net](http://www.fanselect.net) Other voltages and versions on request.



Performance data

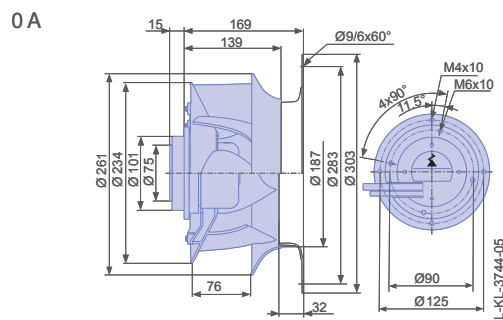
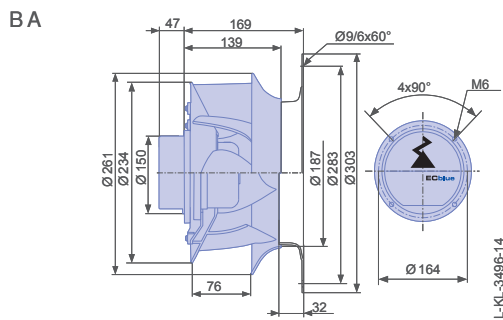
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)		
_25V-_I-_A.VR	I	3250	①	1.35	310	80	50	230
			②	2.90	660	75		
			③	2.60	600	78		
	II	2860	④	0.92	210	77	60	
			⑤	1.90	440	73		
			⑥	1.75	400	75		
	III	2510	⑦	1.35	140	73	60	
			⑧	1.60	170	65		
			⑨	1.60	170	70		

Control technology

Control modules	Sensor control modules
 Page 326	 Page 328

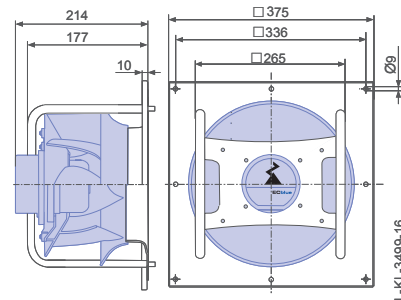
Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



Ventilation unit GR in installation position H/Vu/  
Vo

Inlet nozzle integrated



# ZAvblue-ECblue

Size 280

RH28V



## Description

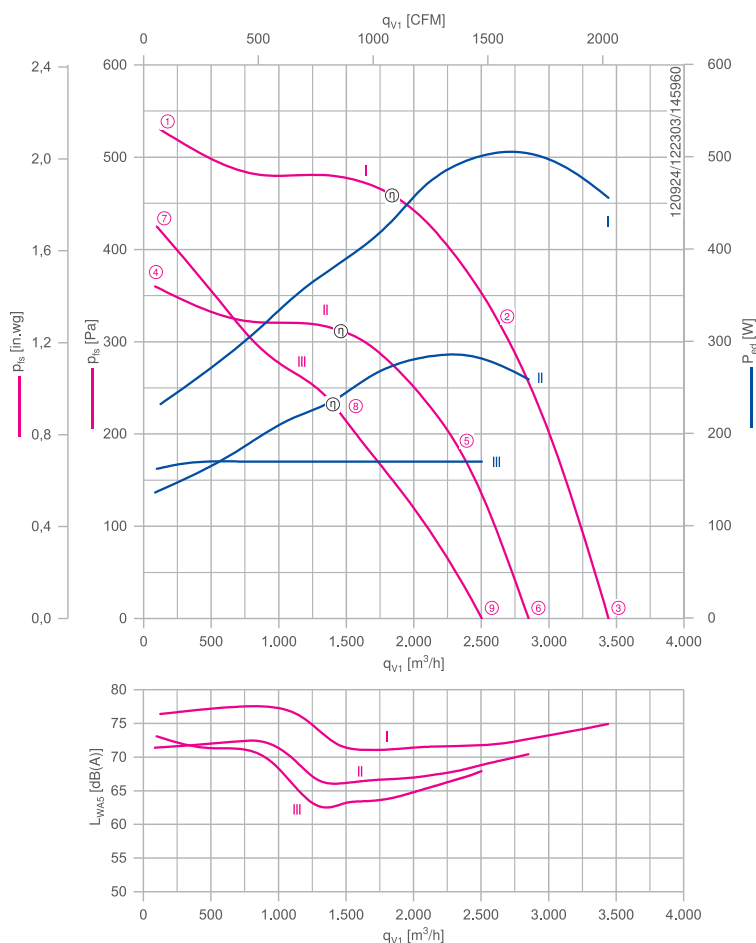
Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring  
 Connection diagrams  
 System components

00412366

Page 290  
 Page 358  
 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
I	1~ 200-277	RH28V-6IK.BA.VR	BA	115689	0.50 kW	2.60-1.85	2450	62.8	77.2	2015	yes		4.50
	1~ 200-277	GR28V-6IK.BA.VR	BA	115729/A01	0.50 kW					2015			10.00
II	1~ 200-277	RH28V-6IK.BA.VR	BA	115688	290 W	1.45-1.05	2040	61.6	78.6	2015			4.50
	1~ 200-277	GR28V-6IK.BA.VR	BA	115728/A01	290 W					2015			10.00
III	1~ 200-240	RH28V-ZIP.0A.VR*	0A	179841	170 W	1.75-1.45	1710	63.9	82.5	2015			2.90

\* on request

Further fans can be found in the selection program FANselect:  
[www.fanselect.net](http://www.fanselect.net) Other voltages and versions on request.







Performance data

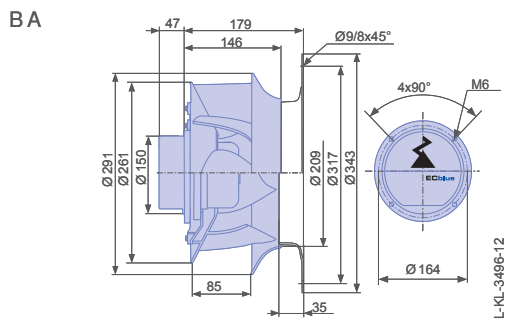
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)	t <sub>amb (max.)</sub> °C	
_28V-_I-_A.VR	I	2450	①	1.05	230	76	55	230
			②	2.20	500	72		
			③	2.00	460	75		
	II	2040	④	0.60	140	71	60	
			⑤	1.25	290	68		
			⑥	1.15	260	70		
	III	2220	⑦	1.45	160	73	60	
			⑧	1.55	170	62		
			⑨	1.50	170	68		

Control technology

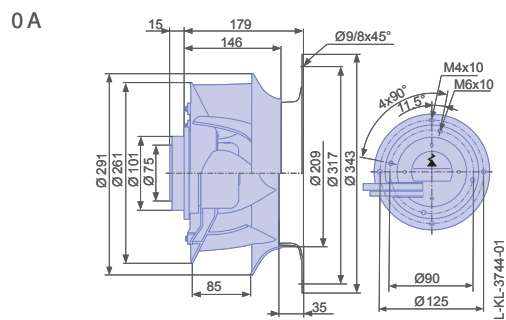
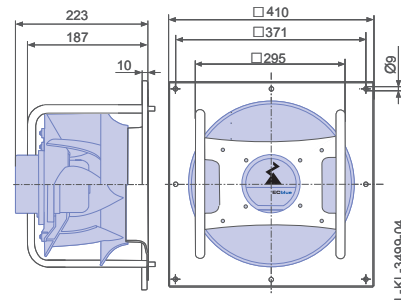
Control modules	Sensor control modules
 Page 326	 Page 328

Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



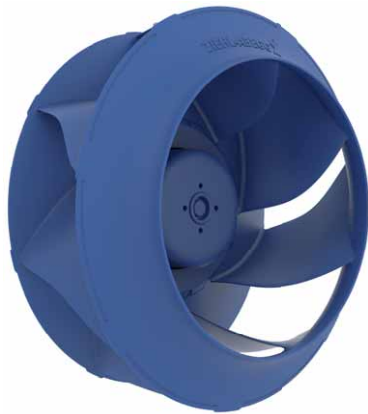
Ventilation unit GR in installation position H/Vu/  
Vo  
Inlet nozzle integrated



# ZAvblue-ECblue

Size 315

RH31V

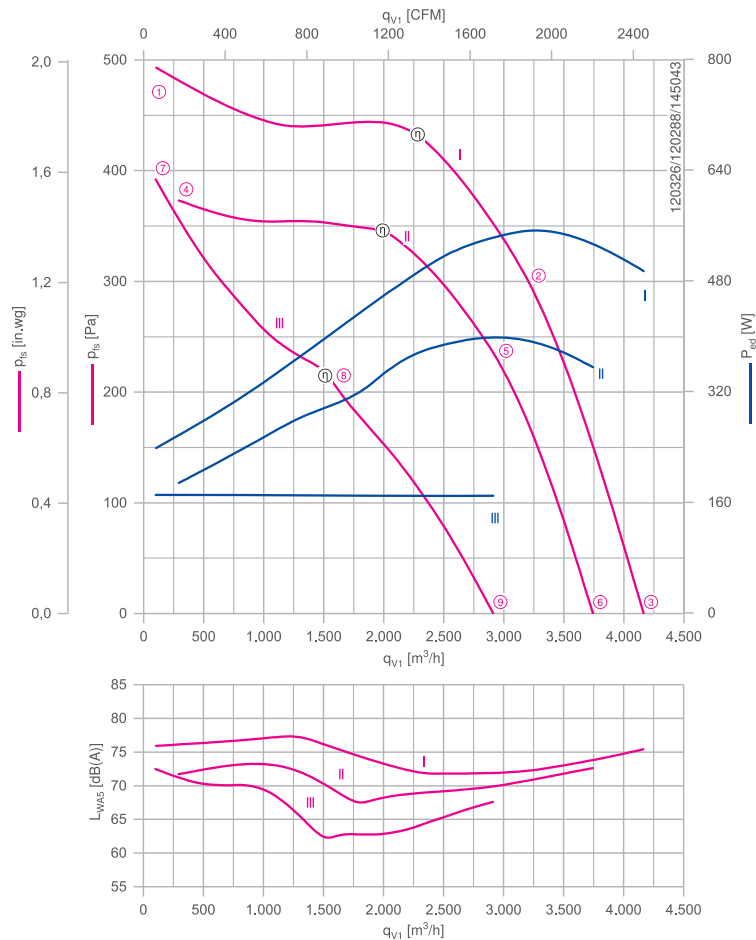


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00412368              Page 290  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information



	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ $min^{-1}$	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	1~ 200-277	<b>RH31V-6IK.BD.VR</b>	BD	<b>115691</b>	0.56 kW	2.80-2.00	2100	63.6	77.3	2015	yes		5.50
	1~ 200-277	<b>GR31V-6IK.BD.VR</b>	BD	<b>115731/A01</b>	0.56 kW					2015			12.00
II	1~ 200-277	<b>RH31V-6IK.BD.VR</b>	BD	<b>115690</b>	0.40 kW	2.00-1.45	1880	63.7	79.0	2015			5.40
	1~ 200-277	<b>GR31V-6IK.BD.VR</b>	BD	<b>115730/A01</b>	0.40 kW					2015			12.00
III	1~ 200-240	<b>RH31V-ZIP.0F.VR*</b>	0F	<b>179842</b>	170 W	1.80-1.50	1410	63.9	82.5	2015			4.10

\* on request  
 Further fans can be found in the selection program FANselect:  
[www.fanselect.net](http://www.fanselect.net) Other voltages and versions on request.

Performance data

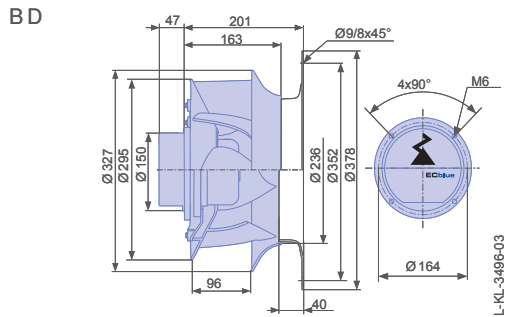
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
__31V-__I__VR	I	2100	①	1.05	240	76	55	230
			②	2.40	560	72		
			③	2.20	500	75		
	II	1880	④	0.82	190	72	55	
			⑤	1.75	400	70		
			⑥	1.55	360	73		
	III	1520	⑦	1.45	170	73	60	
			⑧	1.50	170	62		
			⑨	1.45	170	68		

Control technology

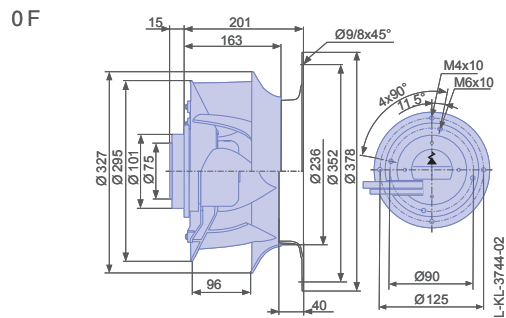
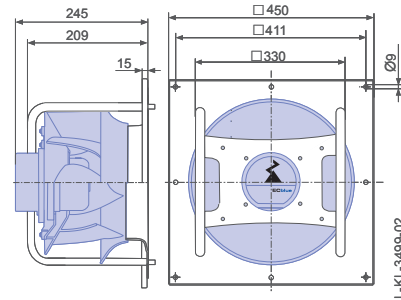
Control modules	Sensor control modules
 Page 326	 Page 328

Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



Ventilation unit GR in installation position H/Vu/  
Vo  
Inlet nozzle integrated



# ZAvblue-ECblue

Size 355

RH35V



## Description

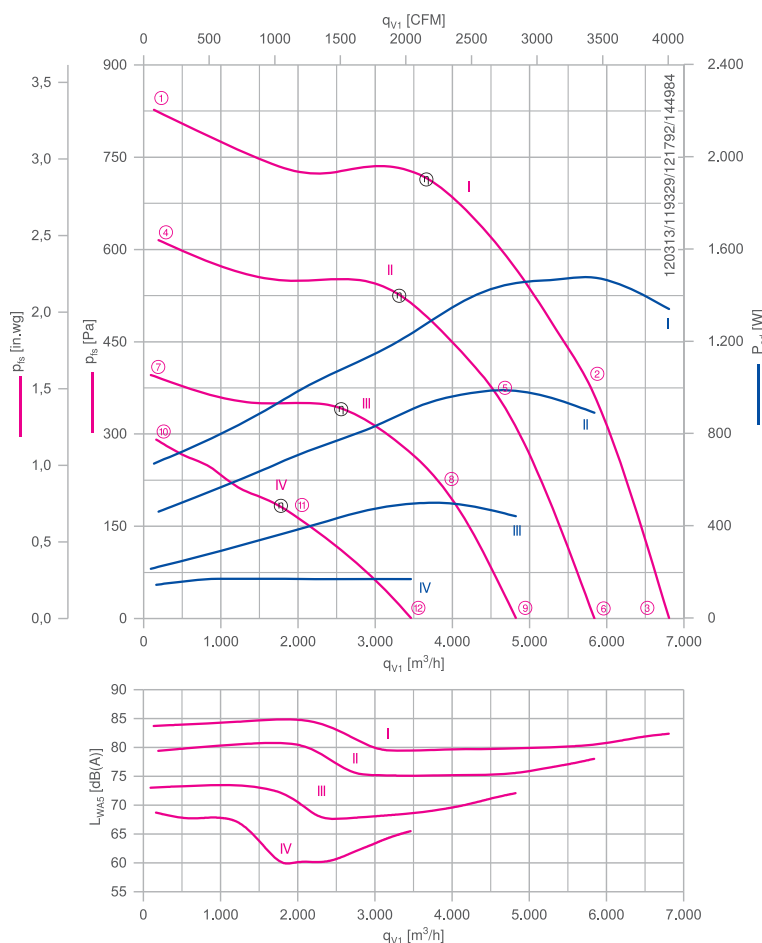
Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring  
 Connection diagrams  
 System components

00412370

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## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ $min^{-1}$	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	RH35V-ZIK.DC.VR	DC	115694	1.50 kW	2.40-1.90	2430	63.7	73.1	2015	yes	UL Listed Product	8.70
	3~ 380-480	GR35V-ZIK.DC.VR	DC	115734/A01	1.50 kW					2015			17.00
II	1~ 200-277	RH35V-ZIK.DC.VR	DC	115696	0.98 kW	5.00-3.60	2090	62.1	73.2	2015			8.70
	1~ 200-277	GR35V-ZIK.DC.VR	DC	115736/A01	0.98 kW					2015			17.00
III	1~ 200-277	RH35V-6IK.BD.VR	BD	115693	0.50 kW	2.50-1.85	1680	63.9	78.1	2015			5.80
	1~ 200-277	GR35V-6IK.BD.VR	BD	115733/A01	0.50 kW					2015			14.00
IV	1~ 200-240	RH35V-ZIP.0F.VR*	0F	179843	170 W	1.85-1.50	1150	65.8	85.4	2015			4.50

\* on request

Further fans can be found in the selection program FANselect:  
[www.fanselect.net](http://www.fanselect.net) Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage	
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)			t <sub>amb (max.)</sub> °C
_35V-_I_-_VR	I	2430	①	1.15	660	84	60	400	
			②	2.30	1500	80			
			③	2.10	1350	82			
	II	2090	④	2.10	460	79	55	230	
			⑤	4.40	980	75			
			⑥	4.00	880	78			
	III	1680	⑦	0.94	210	73	55		
			⑧	2.20	500	69			
			⑨	1.95	440	72			
	IV	1450	1250	⑩	1.30	140	69	60	
				⑪	1.50	170	59		
				⑫	1.50	170	66		

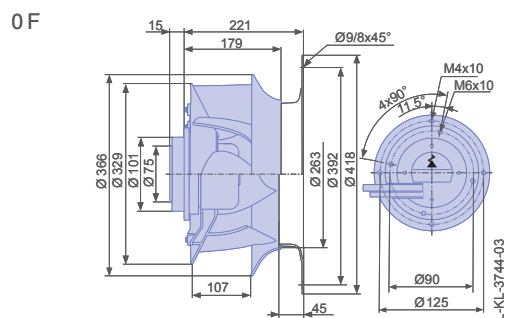
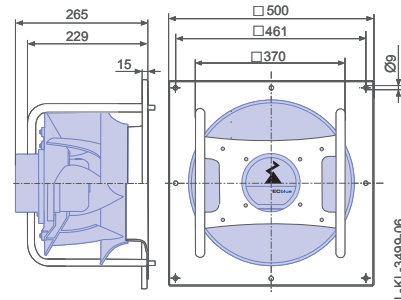
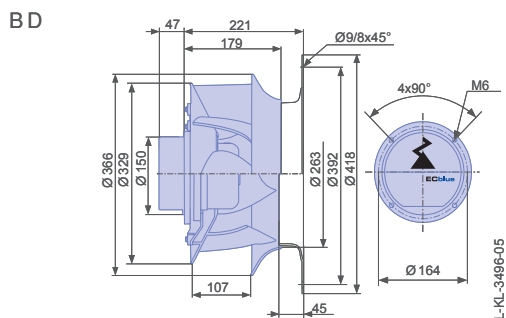
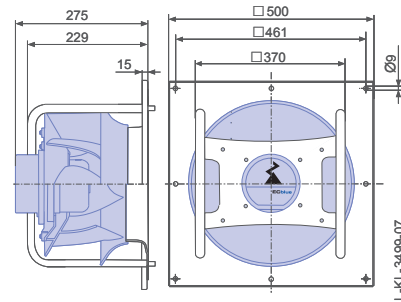
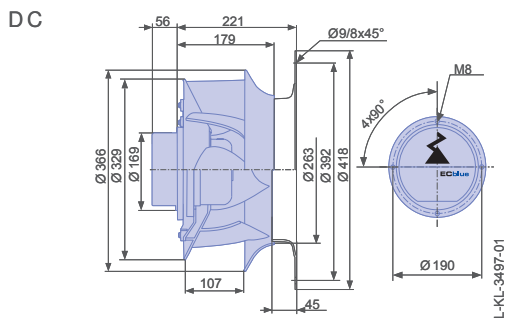
Control technology



Dimensions mm

Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/Vo  
Inlet nozzle integrated



# ZAvblue-ECblue

Size 400

RH40V

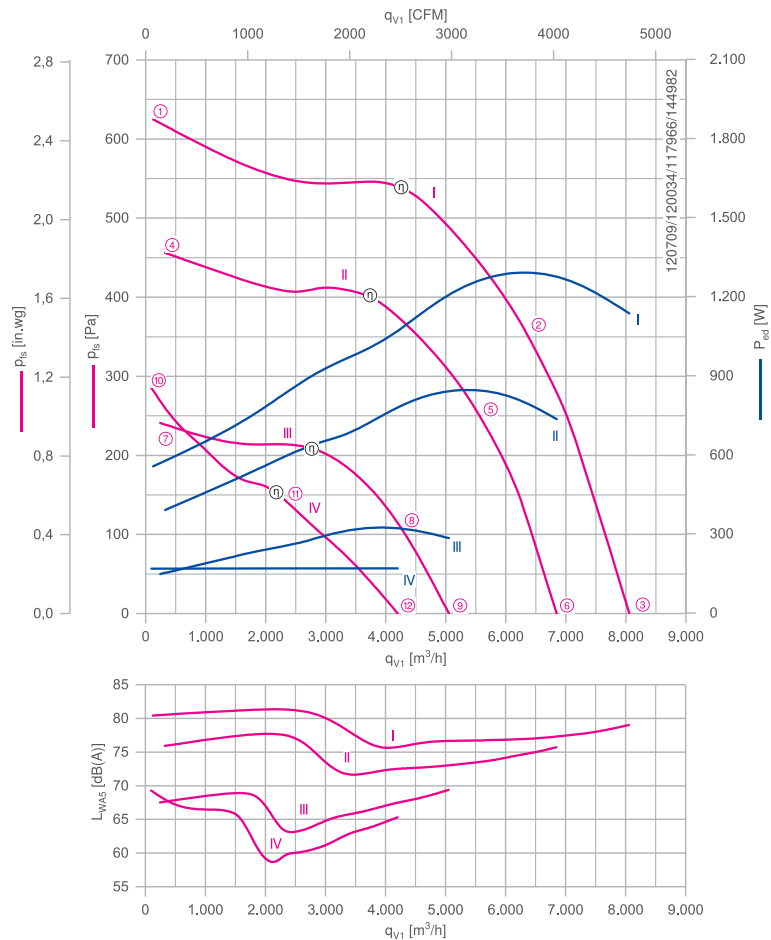


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00411684                      Page 290  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ $min^{-1}$	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	RH40V-ZIK.DC.VR	DC	115699	1.30 kW	2.10-1.70	1840	66.0	76.1	2015	yes	UL Listed Product	9.40
	3~ 380-480	GR40V-ZIK.DC.VR	DC	115739/A01	1.30 kW					2015			20.00
II	1~ 200-277	RH40V-ZIK.DC.VR	DC	115701	0.84 kW	4.20-3.10	1580	65.0	77.0	2015			9.40
	1~ 200-277	GR40V-ZIK.DC.VR	DC	115741/A01	0.84 kW					2015			20.00
III	1~ 200-277	RH40V-6IK.BD.VR	BD	115698	0.33 kW	1.70-1.20	1150	66.6	82.9	2015			6.50
	1~ 200-277	GR40V-6IK.BD.VR	BD	115738/A01	0.33 kW					2015			17.00
IV	1~ 200-240	RH40V-ZIP.0F.VR*	0F	179844	170 W	1.75-1.45	920	63.9	82.5	2015			5.10

\* on request

Further fans can be found in the selection program FANselect:  
[www.fanselect.net](http://www.fanselect.net) Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature $t_{amb}^{(max.)}$ °C	Voltage	
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)		U V	
_40V-_I_-VR	I	1840	①	0.98	560	80	60	400	
			②	2.00	1300	77			
			③	1.80	1150	79			
	II	1580	④	1.75	390	76	55	230	
			⑤	3.70	840	73			
			⑥	3.20	740	76			
	III	1150	⑦	0.68	150	68	60		
			⑧	1.45	330	68			
			⑨	1.25	280	69			
	IV	1230	980	⑩	1.45	170	69	60	
				⑪	1.50	170	58		
				⑫	1.55	170	65		

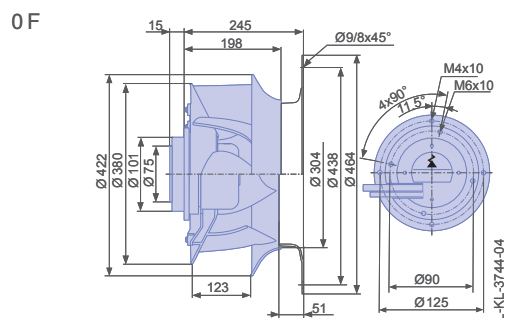
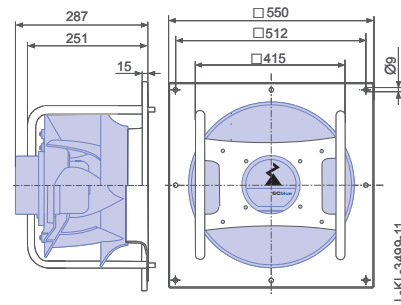
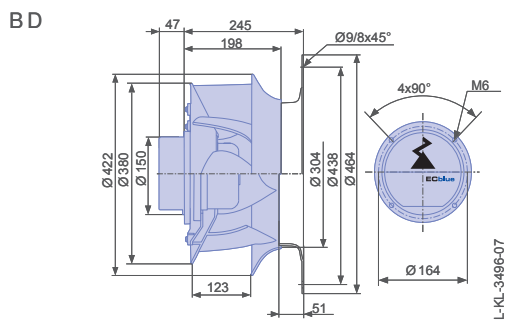
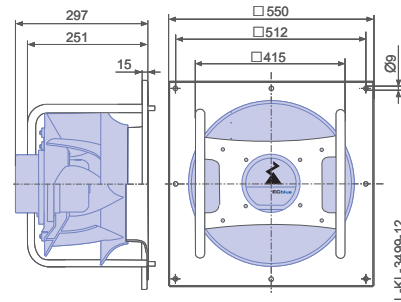
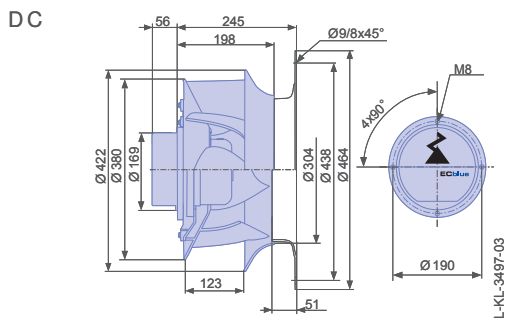
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

Motor Free-running motorized impeller RH in installation position H/Vu  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/  
Vo Inlet nozzle integrated



# ZAvblue-ECblue

Size 450

RH45V



## Description

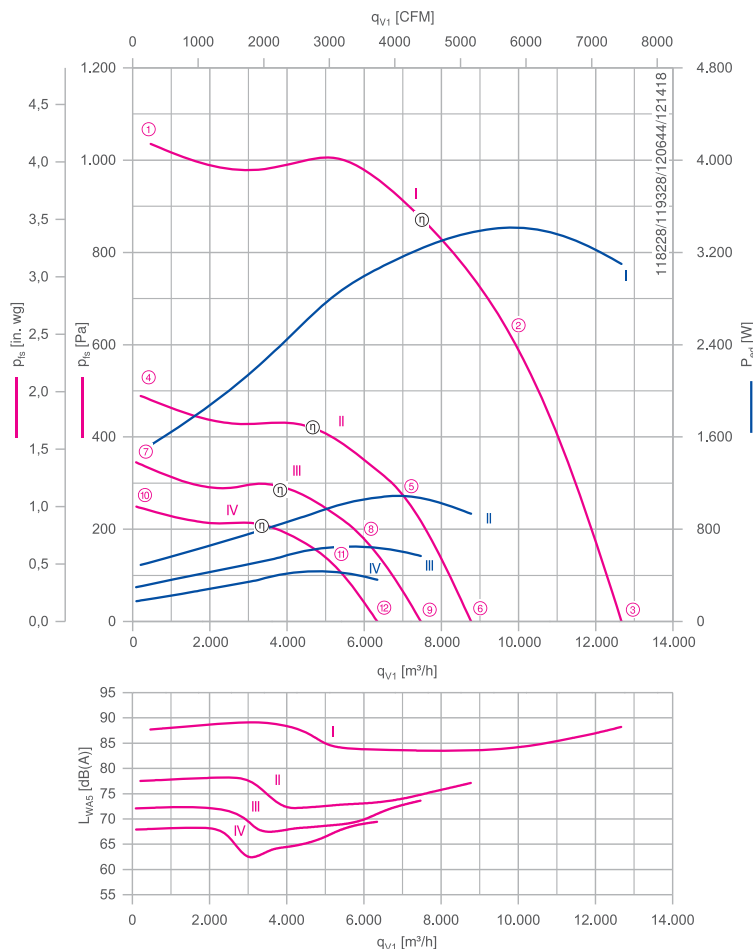
Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring  
 Connection diagrams  
 System components

00411686

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 Page 358  
 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ $min^{-1}$	$\eta_{statA}$ %	$N_{actual}$ %			kg	
I	3~ 380-480	RH45V-ZIK.GG.VR	GG	115707	3.40 kW	5.40-4.40	2120	60.4	65.6	2015	yes	UL Listed Product	19.00
	3~ 380-480	GR45V-ZIK.GG.VR	GG	115747/A01	3.40 kW					2015			36.00
II	3~ 380-480	RH45V-ZIK.DC.VR	DC	115704	1.10 kW	1.80-1.45	1450	66.3	77.1	2015			10.50
	3~ 380-480	GR45V-ZIK.DC.VR	DC	115744/A01	1.10 kW					2015			28.00
III	1~ 200-277	RH45V-ZIK.DC.VR	DC	115706	0.64 kW	3.30-2.40	1220	63.4	76.7	2015			10.50
	1~ 200-277	GR45V-ZIK.DC.VR	DC	115746/A01	0.64 kW					2015			28.00
IV	1~ 200-277	RH45V-6IK.BD.VR	BD	115703	0.44 kW	2.20-1.60	1040	61.9	77.2	2015			7.60
	1~ 200-277	GR45V-6IK.BD.VR	BD	115743/A01	0.44 kW					2015			25.00

Further fans can be found in the selection program FANselect:  
[www.fanselect.net](http://www.fanselect.net) Other voltages and versions on request.





Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
				I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	U V
__45V-_IK__VR	I	2120	①	2.40	1550	88	60	400
			②	5.20	3400			
			③	4.80	3100			
	II	1450	④	0.92	500	78	60	230
			⑤	1.75	1100	74		
			⑥	1.50	940	77		
	III	1220	⑦	1.35	300	72	60	230
			⑧	2.80	640	69		
			⑨	2.50	560	74		
	IV	1040	⑩	0.80	180	68	45	230
			⑪	1.90	440	66		
			⑫	1.60	360	69		

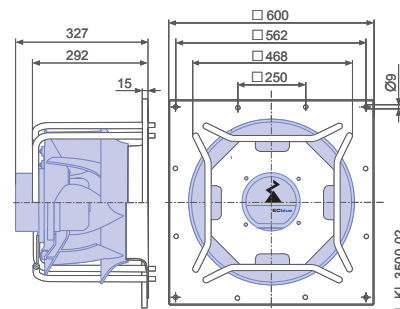
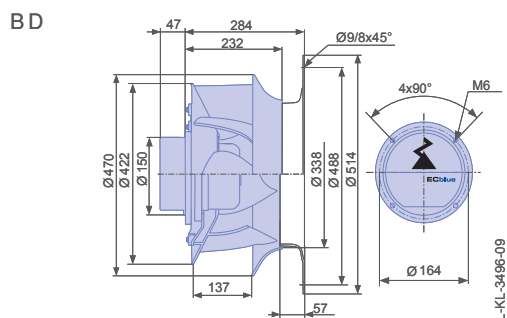
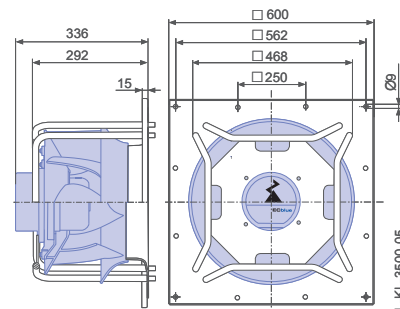
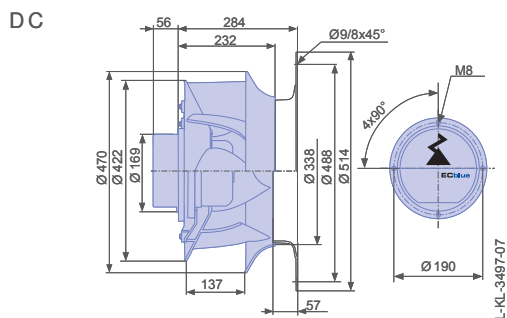
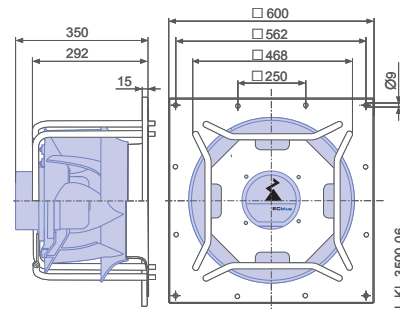
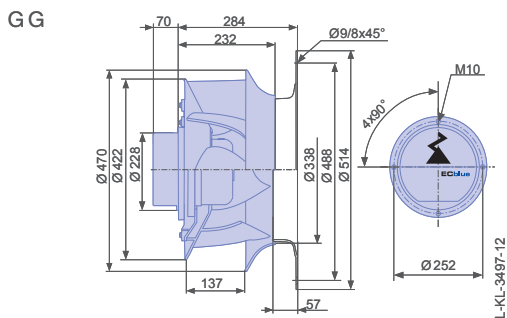
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/Vo  
Inlet nozzle integrated



# ZAvblue-ECblue

Size 500

RH50V



## Description

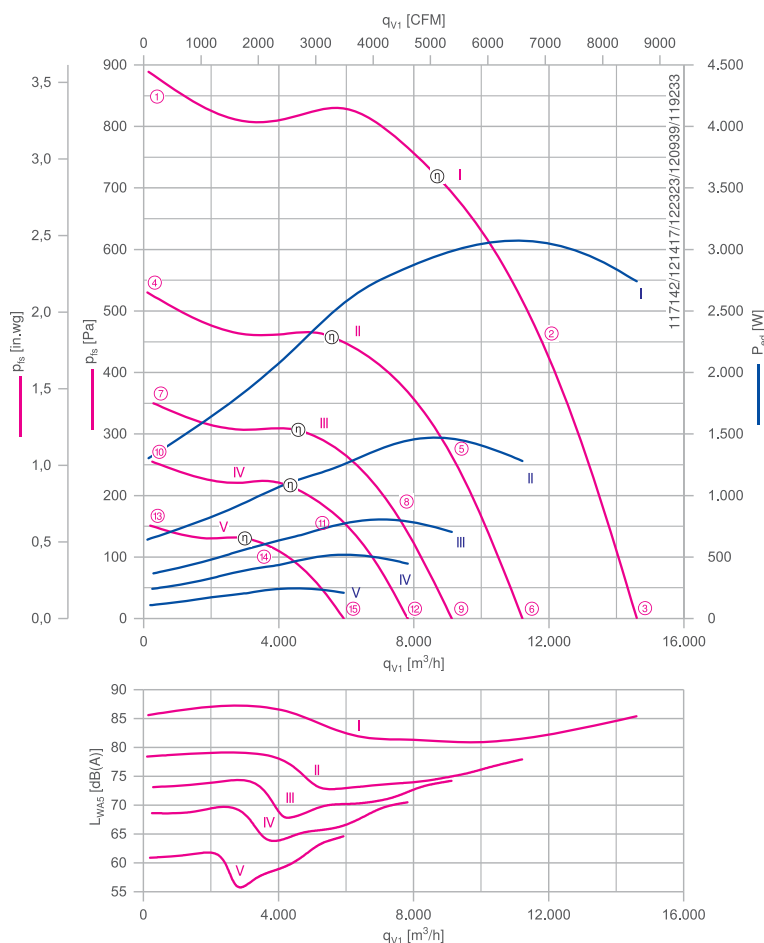
Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material,  
 unlackiert, ultramarine blue  
 \* Rated data

Inlet ring  
 Connection diagrams  
 System components

00412014

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 Page 358  
 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	<b>RH50V-ZIK.GG.VR</b>	GG	<b>115714</b>	3.10 kW	5.00-3.90	1770	63.6	69.1	2015	yes	UL Listed Product	19.90
	3~ 380-480	<b>GR50V-ZIK.GG.VR</b>	GG	<b>115754/A01</b>	3.10 kW					2015			42.00
II	3~ 380-480	<b>RH50V-ZIK.DG.VR</b>	DG	<b>173036</b>	1.50 kW	2.40-1.95	1380	65.1	74.6	2015			12.80
	3~ 380-480	<b>GR50V-ZIK.DG.VR</b>	DG	<b>179214/A01</b>	1.50 kW					2015			35.00
III	3~ 380-480	<b>RH50V-ZIK.DC.VR</b>	DC	<b>115711</b>	0.82 kW	1.40-1.15	1120	65.8	78.0	2015			11.40
	3~ 380-480	<b>GR50V-ZIK.DC.VR</b>	DC	<b>115751/A01</b>	0.82 kW					2015			34.00
IV	1~ 200-277	<b>RH50V-ZIK.DC.VR</b>	DC	<b>115713</b>	0.52 kW	2.60-1.90	960	65.0	79.2	2015			11.40
	1~ 200-277	<b>GR50V-ZIK.DC.VR</b>	DC	<b>115753/A01</b>	0.52 kW					2015			34.00
V	1~ 200-277	<b>RH50V-6IK.BD.VR</b>	BD	<b>115710</b>	0.25 kW	1.25-0.92	730	61.7	79.5	2015			8.60
	1~ 200-277	<b>GR50V-6IK.BD.VR</b>	BD	<b>115750/A01</b>	0.25 kW					2015			31.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)		
_50V-_IK__VR	I	1770	①	2.00	1300	86	60	400
			②	4.60	3100	82		
			③	4.20	2700	85		
	II	1380	④	1.10	640	78	40	
			⑤	2.30	1500	75		
			⑥	2.00	1300	78		
	III	1120	⑦	0.76	370	73	55	
			⑧	1.35	820	71		
			⑨	1.20	700	74		
	IV	960	⑩	1.10	240	69	60	230
			⑪	2.30	520	67		
			⑫	1.95	440	71		
	V	730	⑬	0.52	110	61	55	
			⑭	1.10	250	60		
			⑮	0.94	210	65		

Control technology

Control modules



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Sensor control modules



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Add-on modules



Motor D\_, G\_  
Page 332

Operating terminal

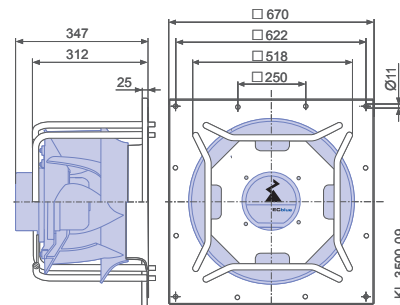
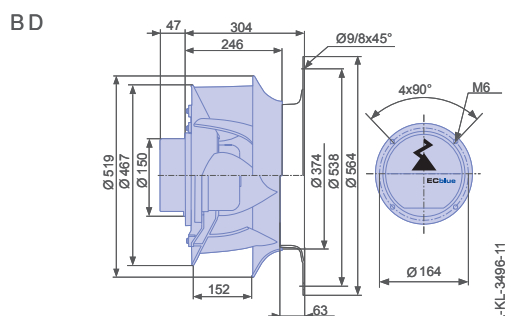
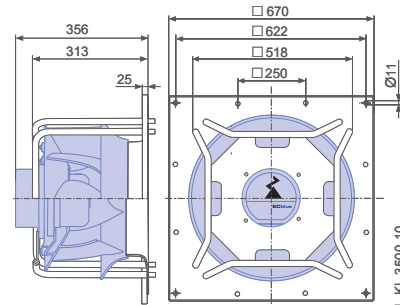
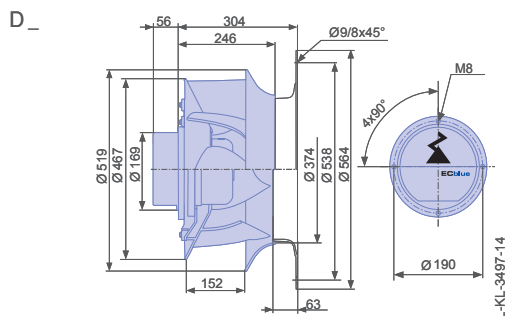
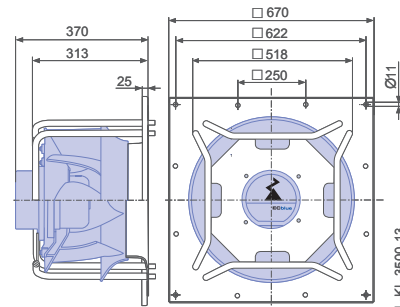
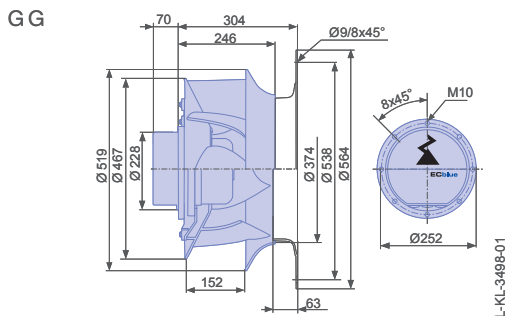


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Dimensions mm

Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/Vo  
Inlet nozzle integrated



# ZAvblue-ECblue

Size 560

RH56V



## Description

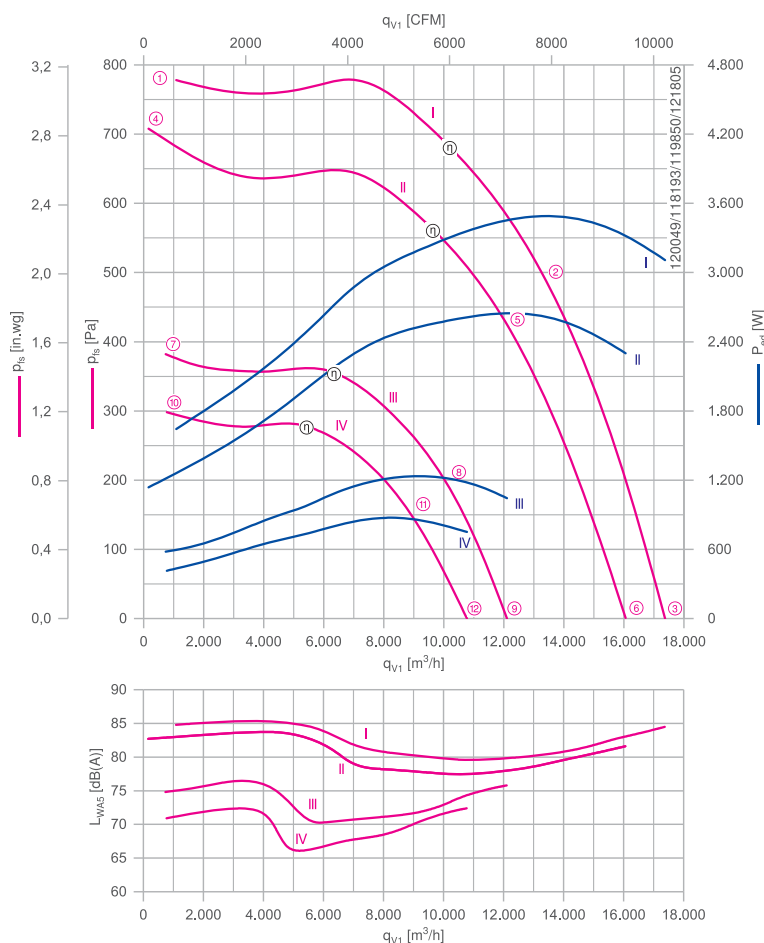
Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring  
 Connection diagrams  
 System components

00412015

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 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %		yes	UL Listed Product	kg
I	3~ 380-480	<b>RH56V-ZIK.GL.VR</b>	GL	<b>115721</b>	3.50 kW	5.60-4.40	1550	63.1	68.1	2015	yes	UL Listed Product	25.90
	3~ 380-480	<b>GR56V-ZIK.GL.VR</b>	GL	<b>115761/A01</b>	3.50 kW					2015			52.00
II	3~ 380-480	<b>RH56V-ZIK.GG.VR</b>	GG	<b>115719</b>	2.60 kW	4.20-3.40	1410	64.1	70.3	2015	yes	UL Listed Product	21.60
	3~ 380-480	<b>GR56V-ZIK.GG.VR</b>	GG	<b>115759/A01</b>	2.60 kW					2015			48.00
III	3~ 380-480	<b>RH56V-ZIK.DG.VR</b>	DG	<b>115716</b>	1.25 kW	2.00-1.60	1080	64.2	74.4	2015	yes	UL Listed Product	14.40
	3~ 380-480	<b>GR56V-ZIK.DG.VR</b>	DG	<b>115756/A01</b>	1.25 kW					2015			42.00
IV	1~ 200-277	<b>RH56V-ZIK.DG.VR</b>	DG	<b>115718</b>	0.88 kW	4.40-3.20	960	63.8	75.7	2015	yes	UL Listed Product	14.40
	1~ 200-277	<b>GR56V-ZIK.DG.VR</b>	DG	<b>115758/A01</b>	0.88 kW					2015			42.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)		
_56V-ZIK_VR	I	1550	①	2.50	1650	85	50	400
			②	5.20	3500	80		
			③	4.80	3100	85		
	II	1410	④	1.85	1150	83	60	
			⑤	4.00	2600	78		
			⑥	3.50	2300	82		
	III	1080	⑦	1.00	580	75	40	
			⑧	1.95	1250	73		
			⑨	1.65	1050	76		
	IV	960	⑩	1.90	420	71	45	230
			⑪	3.90	880	69		
			⑫	3.30	760	72		

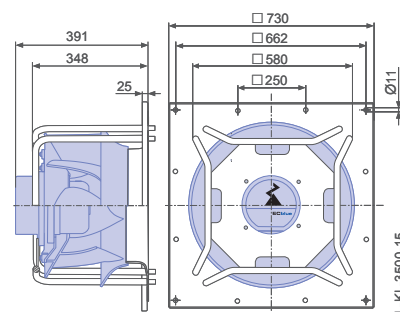
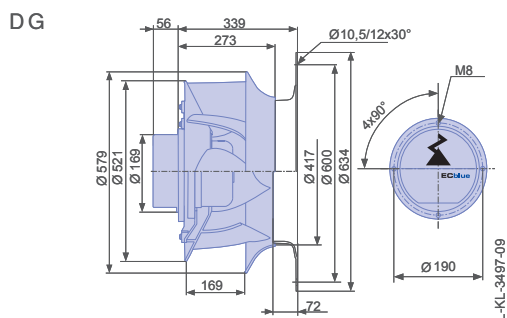
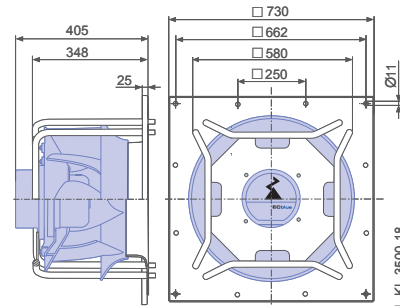
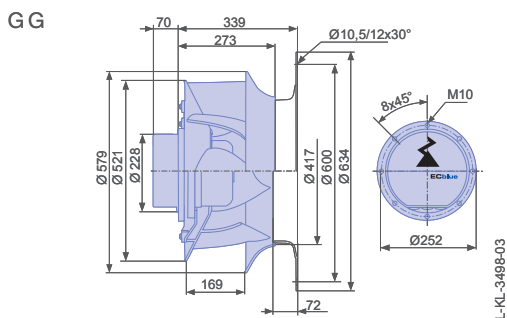
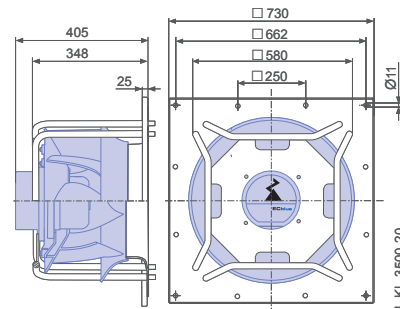
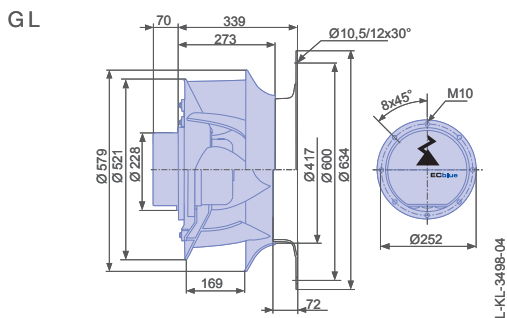
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/Vo  
Inlet nozzle integrated



# ZAvblue-ECblue

Size 630

RH63V

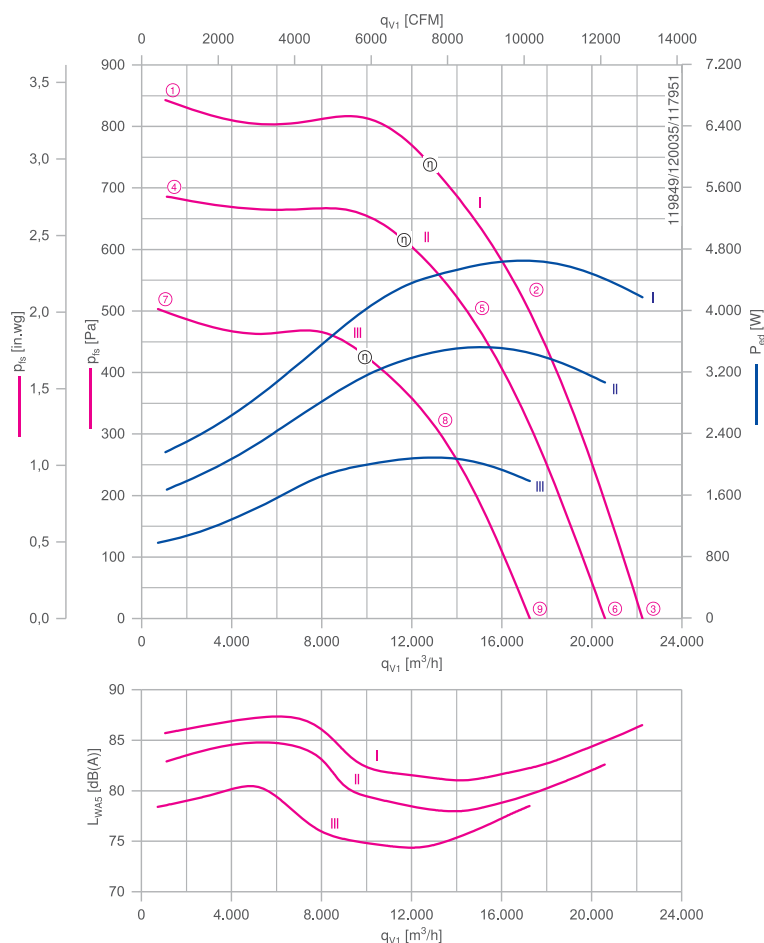


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00412371 Page 290  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ $min^{-1}$	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	RH63V-ZIK.GQ.VR	GQ	171449	4.60 kW	7.40-6.00	1430	63.4	67.1	2015	yes	UL Listed Product	34.70
II	3~ 380-480	RH63V-ZIK.GL.VR	GL	171427	3.50 kW	5.60-4.40	1300	64.2	69.2	2015			27.90
	3~ 380-480	GR63V-ZIK.GL.VR	GL	178044/A01	3.50 kW								2015
III	3~ 380-480	RH63V-ZIK.GG.VR	GG	115723	2.10 kW	3.40-2.70	1090	64.9	72.2	2015		23.50	
	3~ 380-480	GR63V-ZIK.GG.VR	GG	115763/A01	2.10 kW							2015	58.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature $t_{amb}^{(max.)}$ °C	Voltage U V
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)		
_63V-ZIK.G_VR	I	1430	①	3.30	2200	86	40	400
			②	7.00	4600	82		
			③	6.40	4200	87		
	II	1300	④	2.60	1650	83	40	
			⑤	5.40	3500	78		
			⑥	4.60	3100	83		
	III	1090	⑦	1.60	980	78	60	
			⑧	3.20	2100	74		
			⑨	2.70	1800	79		

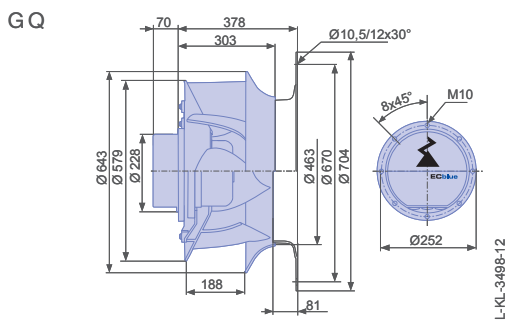
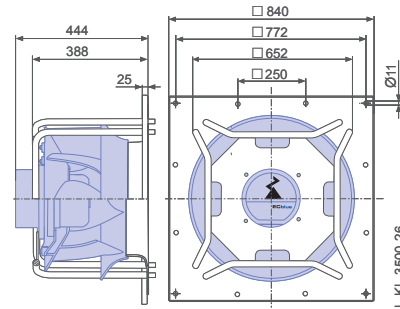
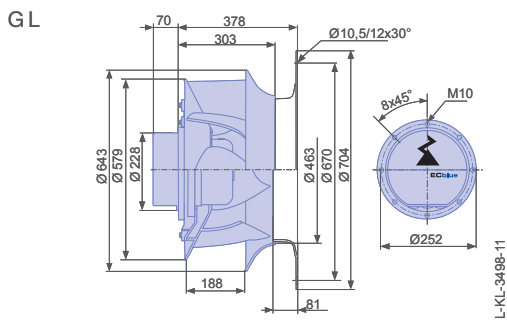
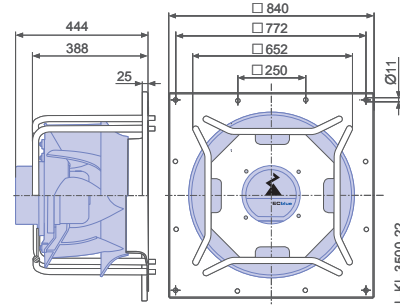
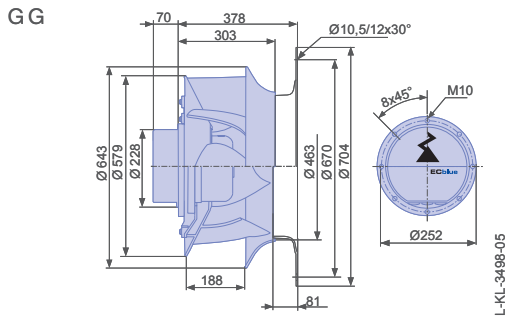
Control technology



Dimensions mm

Motor      Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

Ventilation unit GR in installation position H/Vu/  
Vo  
Inlet nozzle integrated









# ZAvblue

## AC-Technology

### Product overview

Size 250	Page 106
Size 280	Page 110
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Size 400	Page 122
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Size 560	Page 134
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Information

ZAbluefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

Control  
technology

General notes

# ZAvblue

Size 250 for 1~ alternating current

RH25V

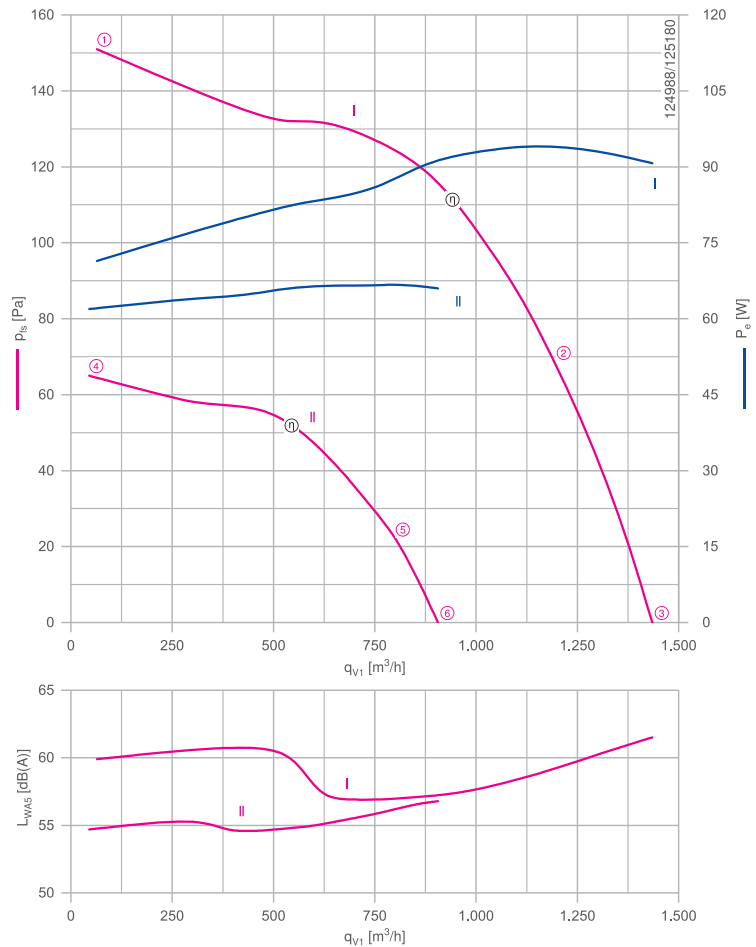


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 1~ 230 V $\pm$ 10 %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00412364              Page 290  
 Connection diagrams              Page 358  
 System components              Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power	Rated current	Rated speed	Current increase	Service capacitor	Starting current	Efficiency	Efficiency grade	ErP	Conformity		Weight
													CE	UL	
I	RH25V-4EK.0C.VR	0C	115769	95 W	0.48 A	1440 min <sup>-1</sup>	20 %	2.5uF/400V		32.7 %	32.7 %	not relevant	yes		3.40
II	RH25V-6EK.2A.VR	2A	115773	65 W	0.38 A	950 min <sup>-1</sup>	0 %	2,0uF/400V	0.80 A	12.3 %	12.3 %				3.10

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V		I A	$P_e$ W	n min <sup>-1</sup>		
Rh25V-_EK_._VR	I	230	①	0.42	70	1470	60	60
		230*	②	0.48*	95*	1440*	59	
		230	③	0.46	90	1440	62	
	II	230	④	0.37	60	970	55	60
		230*	⑤	0.38*	65*	950*	56	
		230	⑥	0.38	65	960	57	

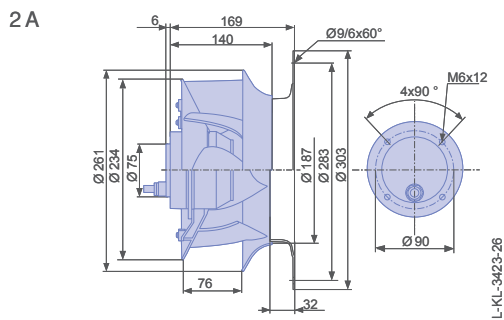
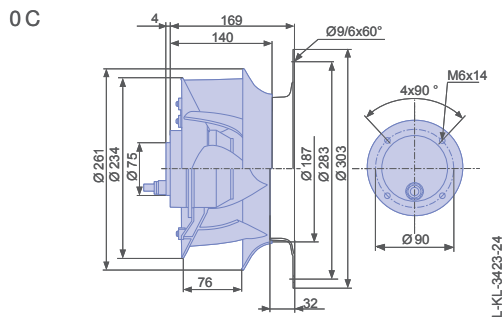
\*rated data

Control technology

<p>Frequency inverters Fcontrol 1~</p>  <p>Page 306</p>	<p>Motor protection units 1~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 1~</p>  <p>Page 320</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 250 for 3~ alternating current

RH25V

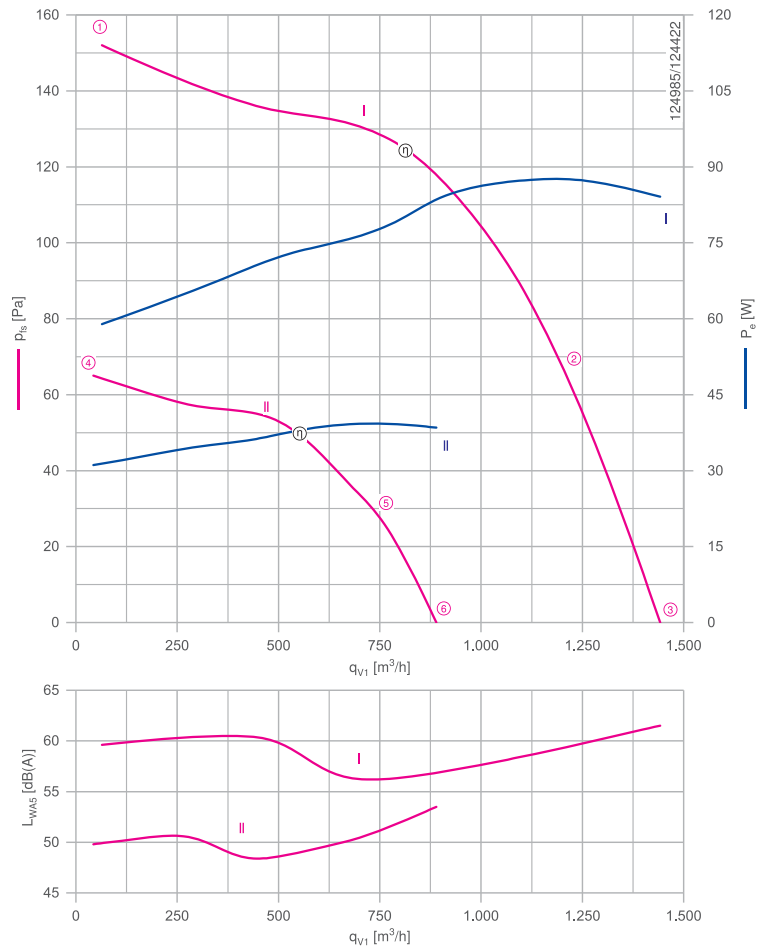


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 3~ 230/400 V (D/Y)  $\pm 10$  %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00412364 Page 290  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power	Rated current		Rated speed	Current increase	Starting current	Efficiency	Efficiency grade	ErP	Conformity		Weight
					$P_e$	$I_N$							CE	UL	
					A		$n_N$	$\Delta I$	$I_A$	$n_{statA}$	$N_{actual}$				kg
I	RH25V-4DK.0C.VR	0C	115768	90 W	0.46 / 0.26		1440	0	1.70/1.00	36.4	36.4	not relevant	yes		3.40
II	RH25V-6DK.2A.VR	2A	115772	40 W	0.18 / 0.10		940	0	0.40/0.24	20.6	20.6	not relevant			3.10

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V		I A	$P_e$ W	n min <sup>-1</sup>		
RH25V-DK_VR	I	400	①	0.26	60	1480	60	
		400*	②	0.26*	90*	1440*	59	60
		400	③	0.26	85	1450	62	
	II	400	④	0.10	32	970	50	
		400*	⑤	0.11*	40*	940*	51	60
		400	⑥	0.11	38	940	54	

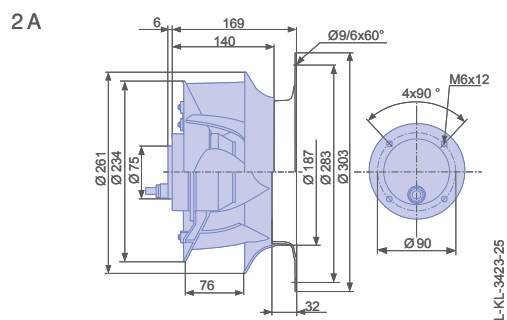
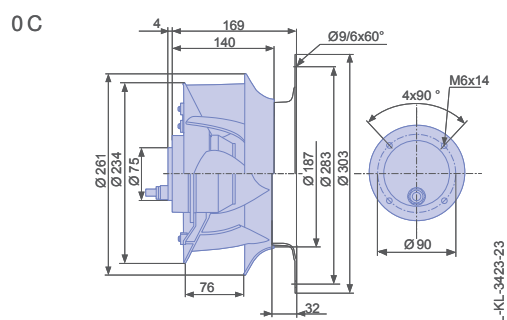
\*rated data

Control technology

<p>Frequency inverters Fcontrol 3~</p>  <p>Page 310</p>	<p>Motor protection units 3~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 3~</p>  <p>Page 322</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 280 for 1~ alternating current

RH28V

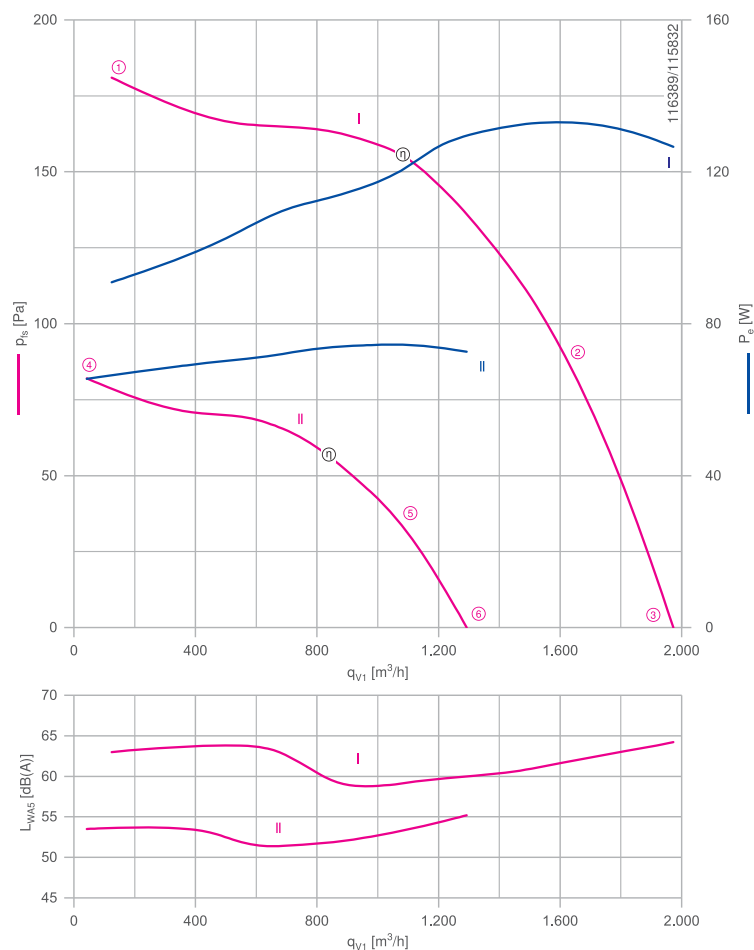


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 1~ 230 V $\pm$ 10 %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00412366              Page 290  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power	Rated current	Rated speed	Current increase	Service capacitor	Starting current	Efficiency	Efficiency grade	ErP	Conformity		Weight
													CE	UL	
I	RH28V-4EK.0F.VR	0F	115578	0.13 kW	0.66	1430	40	3uF/400V	2.40	40.2	40.2	not relevant	yes		4.30
II	RH28V-6EK.2A.VR	2A	115580	0.07 kW	0.40	930	0	2uF/400V	0.75	18.3	18.3	not relevant			3.30

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V		I A	$P_e$ W	n min <sup>-1</sup>		
RH28V-_EK__VR	I	230	①	0.56	90	1470	63	60
		230*	②	0.66*	130*	1430*	62	
		230	③	0.64	130	1440	64	
	II	230	④	0.38	65	960	54	60
		230*	⑤	0.40*	75*	930*	53	
		230	⑥	0.39	75	940	55	

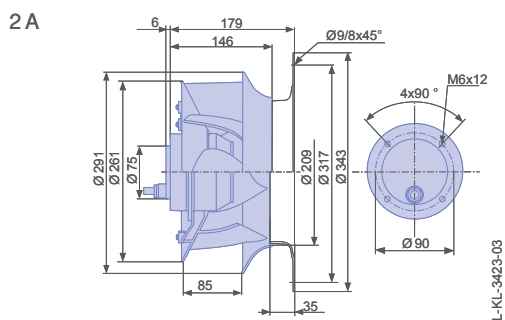
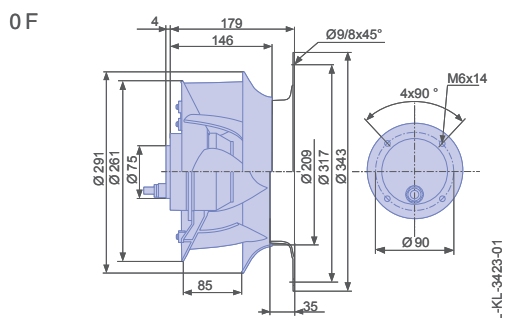
\*rated data

Control technology

<p>Frequency inverters Fcontrol 1~</p>  <p>Page 306</p>	<p>Motor protection units 1~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 1~</p>  <p>Page 320</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 280 for 3~ alternating current

RH28V

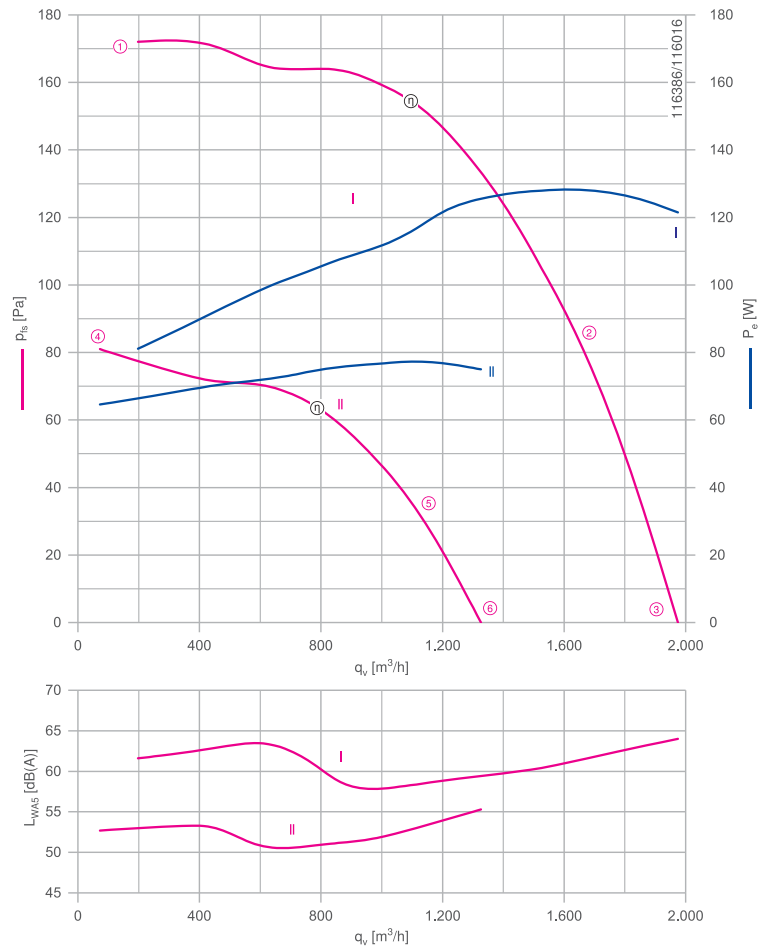


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 3~ 230/400 V (D/Y)  $\pm 10$  %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00412366 Page 290  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power		Rated current		Rated speed		Current increase		Starting current		Efficiency		ErP	Conformity		Weight
				$P_e$	$I_N$	$n_N$	$\Delta I$	$I_A$	$n_{statA}$	$N_{actual}$	CE	UL	kg						
I	RH28V-4DK.0F.VR	0F	115579	0.13 kW	0.62/ 0.36	1440	0	2.80/1.70	42.0	42.0	not relevant	yes			4.30				
II	RH28V-6DK.2A.VR	2A	115581	0.08 kW	0.44/ 0.26	950	0	0.90/0.55	19.1	19.1	not relevant				3.30				

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V		I A	$P_e$ W	n min <sup>-1</sup>		
RH28V-DK-__VR	I	400	①	0.34	80	1470	62	60
		400*	②	0.36*	130*	1440*	61	
		400	③	0.35	120	1440	64	
	II	400	④	0.25	65	970	53	60
		400*	⑤	0.25*	75*	950*	53	
		400	⑥	0.25	75	950	55	

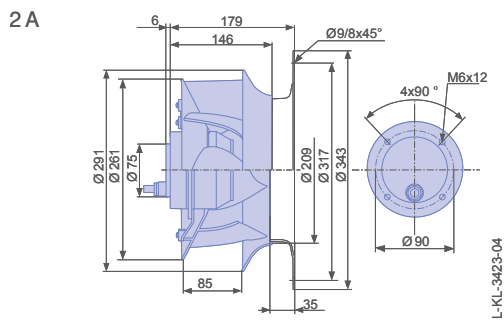
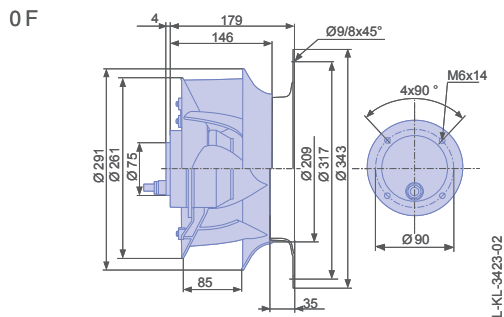
\*rated data

Control technology

<p>Frequency inverters Fcontrol 3~</p>  <p>Page 310</p>	<p>Motor protection units 3~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 3~</p>  <p>Page 322</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 315 for 1~ alternating current

RH31V

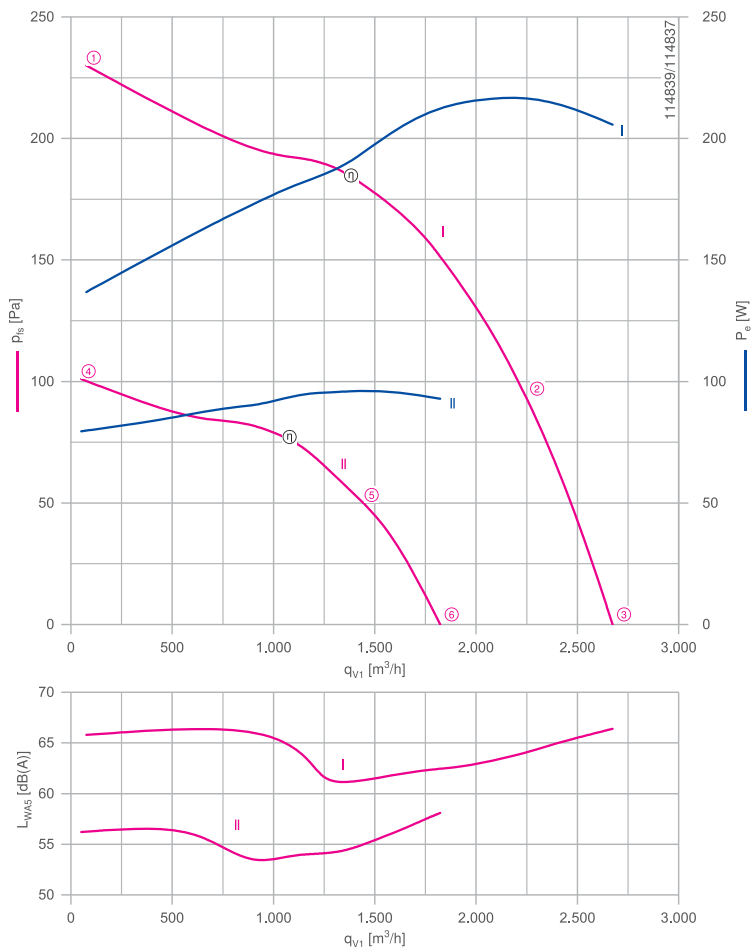


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 1~ 230 V $\pm$ 10 %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring	00412368	Page 290
Connection diagrams		Page 358
System components		Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power	Rated current	Rated speed	Current increase	Service capacitor	Starting current	Efficiency	Efficiency grade	ErP	Conformity		Weight
													CE	UL	
I	<b>RH31V-4EK.2F.VR</b>	2F	<b>115582</b>	0.22 kW	1.10 A	1370 min <sup>-1</sup>	15 %	3uF/400V	3.00 A	38.5 %	56.3 %	2015	yes		5.10
II	<b>RH31V-6EK.2C.VR</b>	2C	<b>115583</b>	0.10 kW	0.48 A	910 min <sup>-1</sup>	0 %	3uF/400V	1.00 A	25.1 %	25.1 %	not relevant			4.30

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb} (max.)$ °C
		U V		I A	$P_e$ W	n min <sup>-1</sup>		
RH31V- <u>EK.2_VR</u>	I	230	①	0.84	140	1440	66	60
		<b>230*</b>	②	<b>1.10*</b>	<b>220*</b>	<b>1370*</b>	64	
		230	③	1.05	210	1380	66	
	II	230	④	0.44	80	950	56	60
		<b>230*</b>	⑤	<b>0.48*</b>	<b>95*</b>	<b>910*</b>	55	
		230	⑥	0.46	95	920	58	

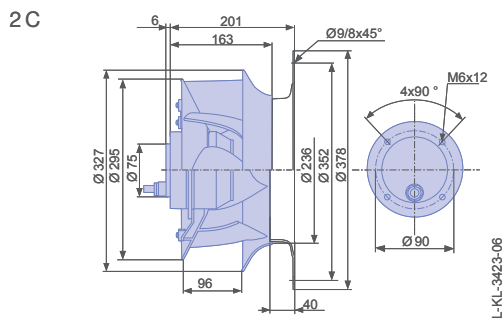
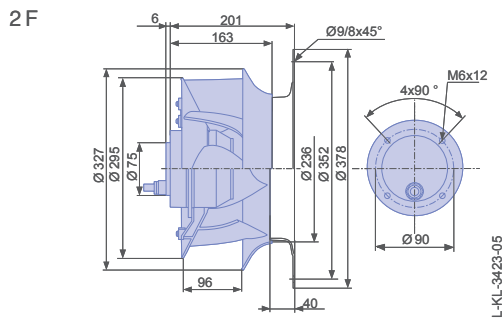
\*rated data

Control technology

<p>Frequency inverters Fcontrol 1~</p>  <p>Page 306</p>	<p>Motor protection units 1~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 1~</p>  <p>Page 320</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 315 for 3~ alternating current

RH31V

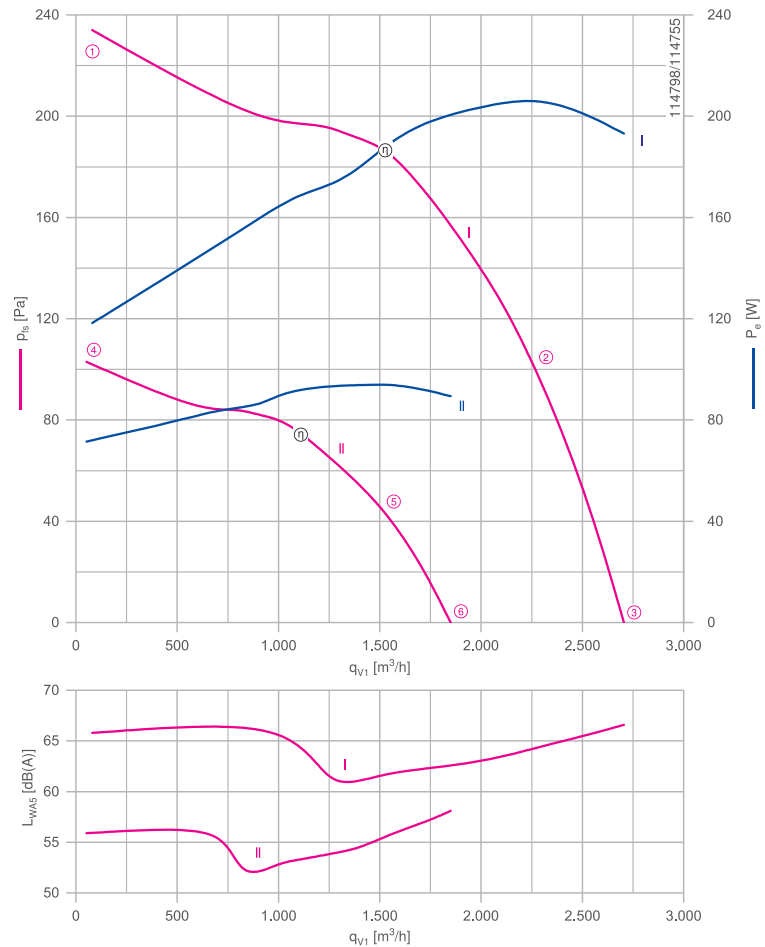


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 3~ 230/400 V (D/Y)  $\pm 10$  %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring	00412368	Page 290
Connection diagrams		Page 358
System components		Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power		Rated current		Rated speed		Current increase		Starting current		Efficiency		ErP	Conformity		Weight
				$P_e$	$I_N$	$n_N$	$\Delta I$	$I_A$	$n_{statA}$	$N_{actual}$	CE	UL	kg						
I	<b>RH31V-4DK.2F.VR</b>	2F	<b>115584</b>	0.21 kW	0.88/ 0.50	1390	0	3.40/2.00	42.9	61.0	2015	yes			5.10				
II	<b>RH31V-6DK.2A.VR</b>	2A	<b>115585</b>	0.09 kW	0.44/ 0.26	910	0	0.90/0.55	25.8	25.8	not relevant			3.70					

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V		I A	$P_e$ W	n $min^{-1}$		
RH31V-DK.2_VR	I	400	①	0.46	120	1450	66	60
		400*	②	0.50*	210*	1390*	64	
		400	③	0.50	190	1400	67	
	II	400	④	0.25	70	960	56	60
		400*	⑤	0.25*	95*	910*	56	
		400	⑥	0.25	90	920	58	

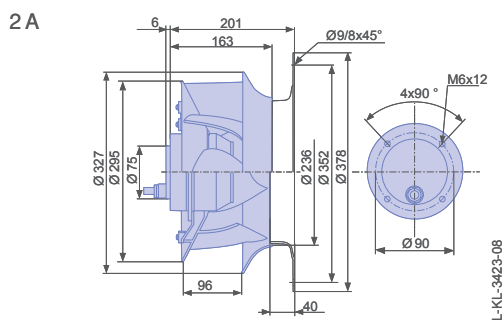
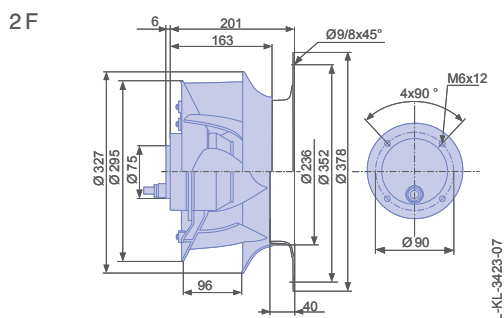
\*rated data

Control technology

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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



Information  
 ZAvblue-ECblue  
 Cpro-ECblue  
 C-ECblue  
 ZAvblue  
 Vpro-ECblue  
 ZAcube-Cpro-ECblue  
 Housing fans  
 System components  
 Control technology  
 General notes

# ZAvblue

Size 355 for 1~ alternating current

RH35V

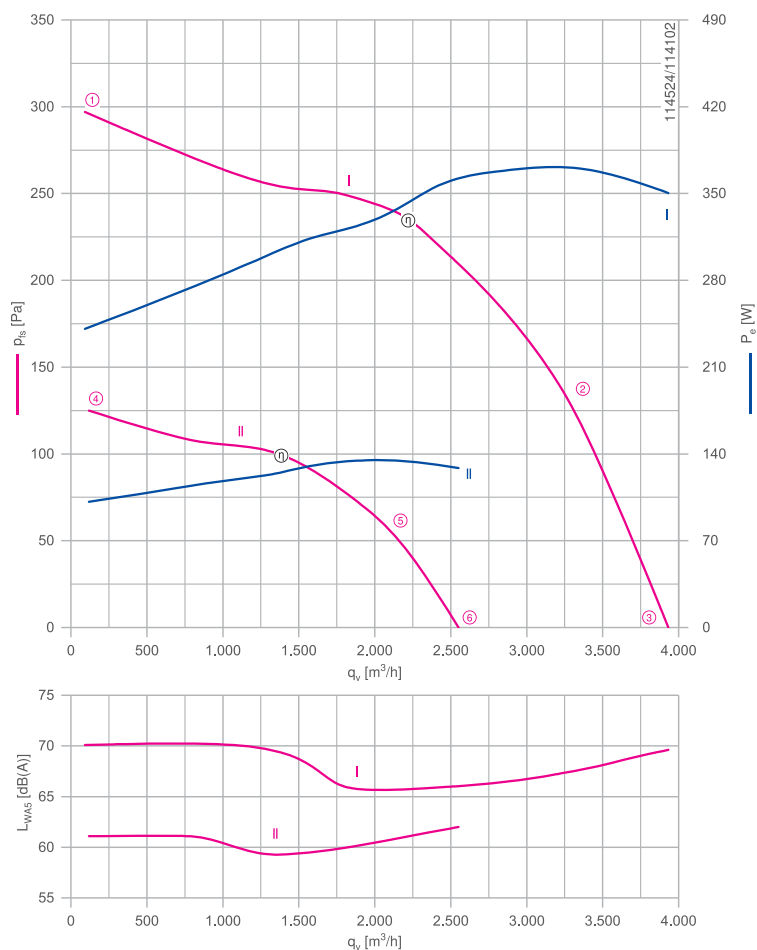


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 1~ 230 V $\pm$ 10 %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00412370 Page 290  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power	Rated current	Rated speed	Current increase	Service capacitor	Starting current	Efficiency	Efficiency grade	ErP	Conformity		Weight
													CE	UL	
I	<b>RH35V-4EK.4F.VR</b>	4F	<b>115589</b>	0.37 kW	1.85 A	1390 min <sup>-1</sup>	10 %	10uF/400V	5.50 A	43.9 %	59.3 %	2015	yes		7.90
II	<b>RH35V-6EK.2F.VR</b>	2F	<b>115586</b>	0.13 kW	0.64 A	900 min <sup>-1</sup>	0 %	4uF/400V	1.50 A	31.8 %	31.8 %	not relevant			5.50

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb} (max.)$ °C
		U V		I A	$P_e$ W	n $min^{-1}$		
RH35V-_EK_F.VR	I	230	①	1.40	240	1450	70	60
		230*	②	1.85*	370*	1390*	67	
		230	③	1.75	350	1400	70	
	II	230	④	0.54	100	950	61	60
		230*	⑤	0.64*	130*	900*	61	
		230	⑥	0.62	130	910	62	

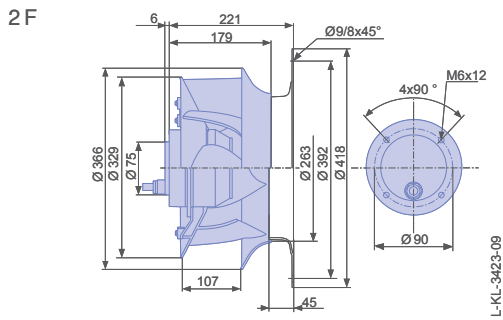
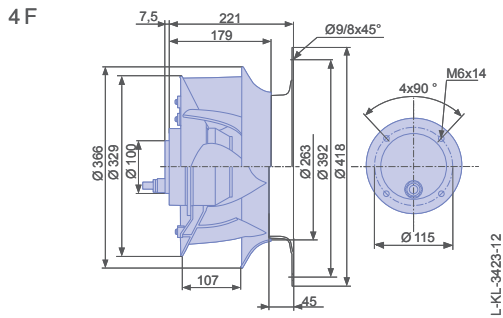
\*rated data

Control technology

<p>Frequency inverters Fcontrol 1~</p>  <p>Page 306</p>	<p>Motor protection units 1~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 1~</p>  <p>Page 320</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 355 for 3~ alternating current

RH35V

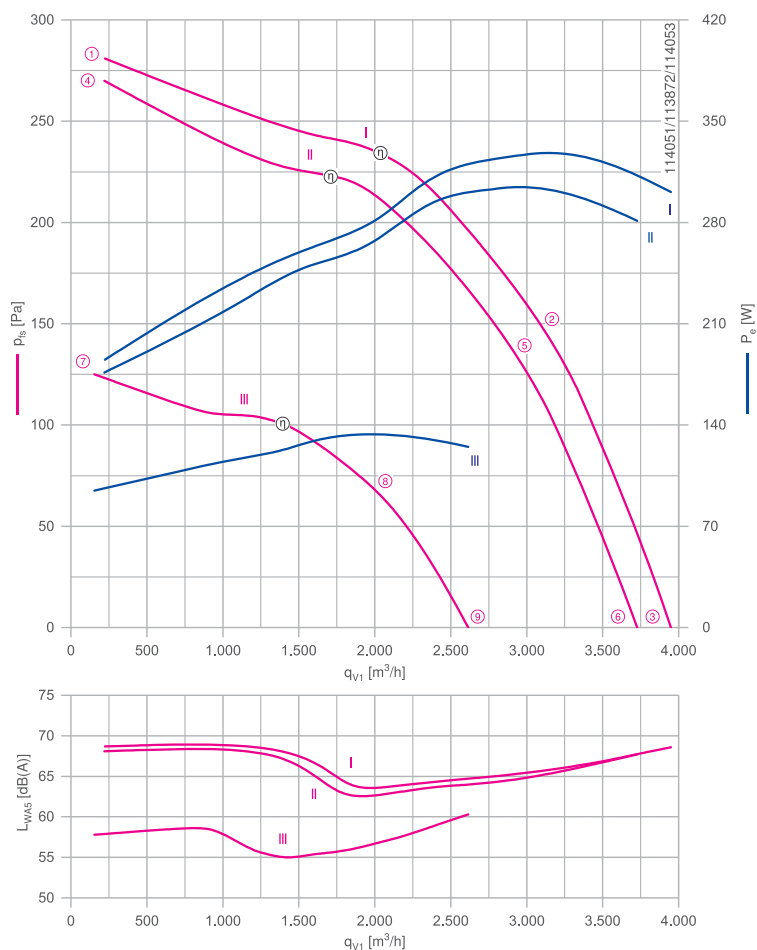


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 3~ 230/400 V (D/Y)  $\pm 10$  %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00412370 Page 290  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Mo- tor	Article no.	Input power		Rated current		Rated speed		Current in- crease		Starting cur- rent		Efficiency		Ef- ficiency grade		ErP	Conformity		Weight kg
				$P_e$	$I_N$ A	$n_N$ $min^{-1}$	$\Delta I$ %	$I_A$ A	$n_{statA}$ %	$N_{actual}$ %	CE	UL									
I	<b>RH35V-4DK.4C.VR</b>	4C	<b>115591</b>	0.33 kW	1.15/ 0.68	1380	5	4.80/2.80	48.5	64.7	2015	yes		6.50							
II	<b>RH35V-4DK.2F.VR</b>	2F	<b>115587</b>	300 W	1.05/ 0.60	1310	0	3.40/2.00	46.1	62.7	2015			5.50							
III	<b>RH35V-6DK.2C.VR</b>	2C	<b>115588</b>	0.13 kW	0.62/ 0.36	910	0	1.50/0.85	34.1	34.1	not relevant			4.70							

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V		I A	$P_e$ W	n min <sup>-1</sup>		
RH35V-DK-__VR	I	400	①	0.56	190	1440	69	60
		400*	②	0.68*	330*	1380*	66	
		400	③	0.64	300	1390	69	
	II	400	④	0.48	180	1410	68	60
		400*	⑤	0.60*	300*	1310*	65	
		400	⑥	0.56	280	1330	68	
	III	400	⑦	0.35	95	950	58	60
		400*	⑧	0.36*	130*	910*	57	
		400	⑨	0.36	120	920	60	

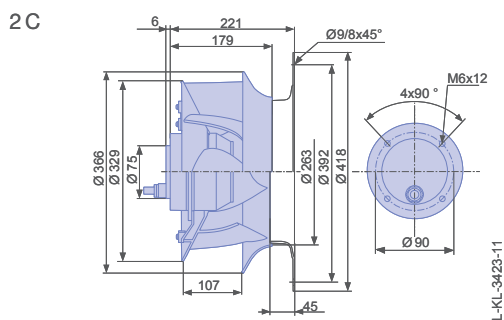
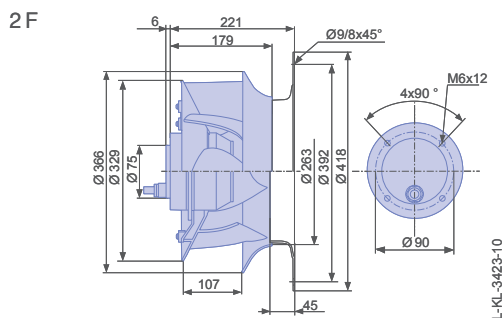
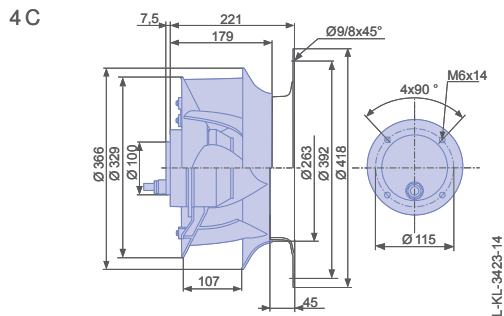
\*rated data

Control technology

<p>Frequency inverters Fcontrol 3~</p>  <p>Page 310</p>	<p>Motor protection units 3~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 3~</p>  <p>Page 322</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 400 for 1~ alternating current

RH40V

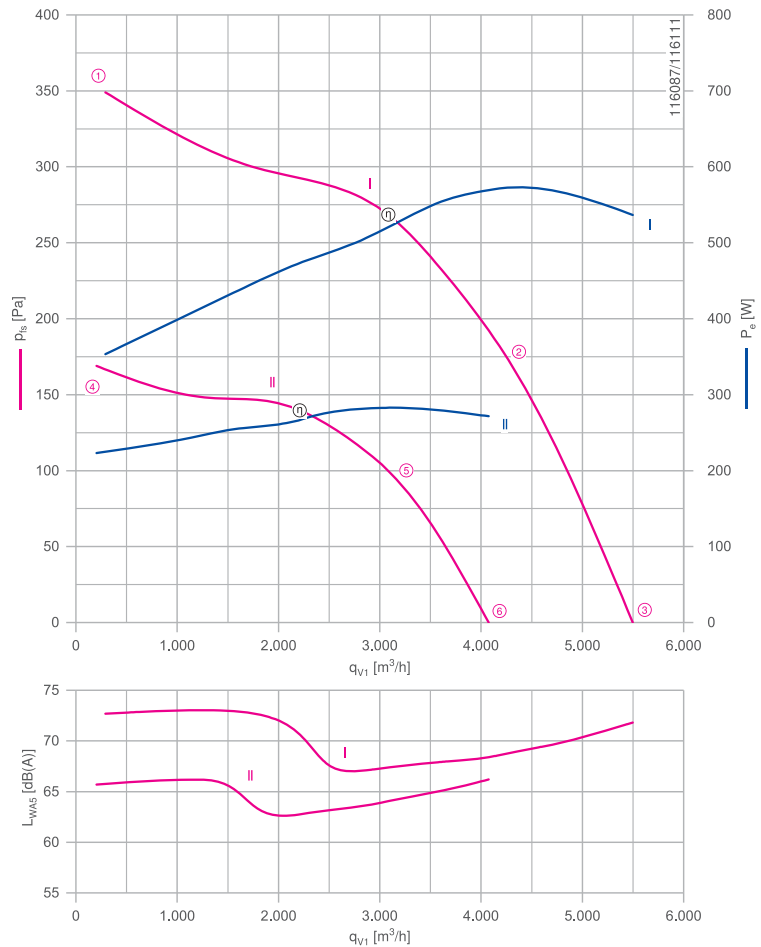


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 1~ 230 V $\pm$ 10 %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring	00411684	Page 290
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System components		Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power	Rated current	Rated speed	Current increase	Service capacitor	Starting current	Efficiency	Efficiency grade	ErP	Conformity		Weight
													CE	UL	
I	RH40V-4EK.4I.VR	4I	115593	0.58 kW	2.60 A	1270 min <sup>-1</sup>	5 %	12uF/400V	6.00 A	45.7 %	59.2 %	2015	yes		10.20
II	RH40V-6EK.4F.VR	4F	115594	0.28 kW	1.35 A	940 min <sup>-1</sup>	0 %	12uF/400V	3.20 A	33.5 %	50.0 %	2015			8.60

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb} (max.)$ °C
		U V		I A	$P_e$ W	n $min^{-1}$		
RH40V-EK.4_VR	I	230	①	1.65	350	1390	73	60
		230*	②	2.60*	580*	1270*	69	
		230	③	2.40	540	1300	72	
	II	230	④	1.20	220	970	66	60
		230*	⑤	1.35*	280*	940*	64	
		230	⑥	1.30	270	940	66	

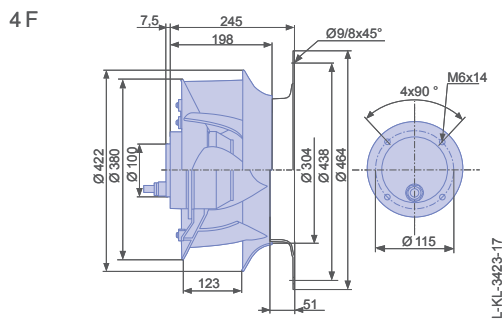
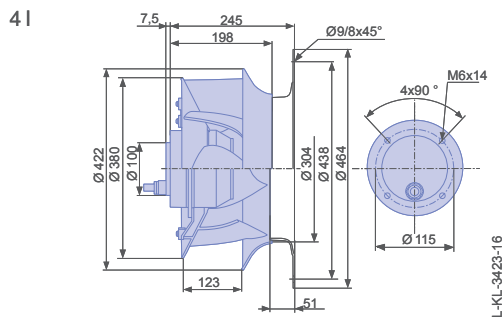
\*rated data

Control technology

<p>Frequency inverters Fcontrol 1~</p>  <p>Page 306</p>	<p>Motor protection units 1~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 1~</p>  <p>Page 320</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 400 for 3~ alternating current

RH40V

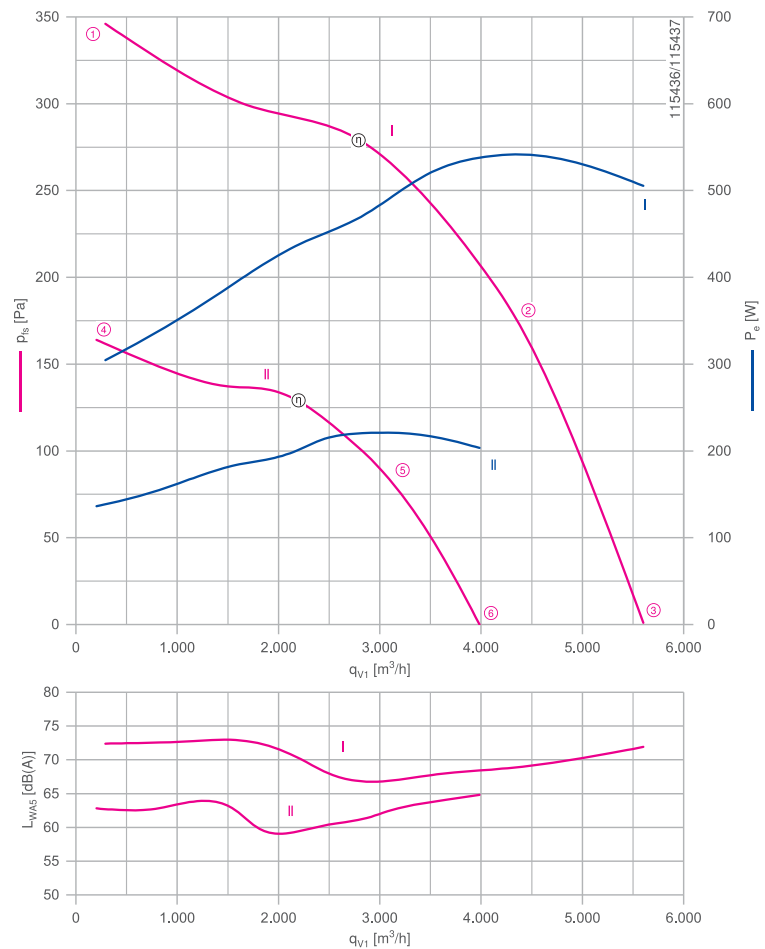


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 3~ 230/400 V (D/Y)  $\pm 10$  %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance  
 Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00411684 Page 290  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Mo- tor	Article no.	Input power		Rated current		Rated speed		Current in- crease		Starting cur- rent		Efficiency		Ef- ficiency grade		ErP	Conformity		Weight kg
				$P_e$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\Delta I$ %	$I_A$ A	$n_{statA}$ %	$N_{actual}$ %	CE	UL									
I	RH40V-4DK.4I.VR	4I	115595	0.54 kW	2.00/ 1.20	1290	0	7.50/4.20	48.3	62.3	2015	yes			10.20						
II	RH40V-6DK.4C.VR	4C	115596	0.22 kW	0.98/ 0.56	900	0	2.40/1.40	40.5	58.3	2015			7.20							

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb} (max.)$ °C
		U V		I A	$P_e$ W	n $min^{-1}$		
RH40V-DK.4_VR	I	400	①	0.92	300	1390	72	60
		400*	②	1.15*	540*	1290*	69	
		400	③	1.10	500	1310	72	
	II	400	④	0.48	140	950	63	60
		400*	⑤	0.56*	220*	900*	63	
		400	⑥	0.54	200	910	65	

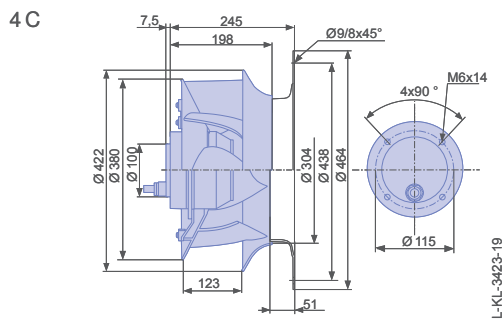
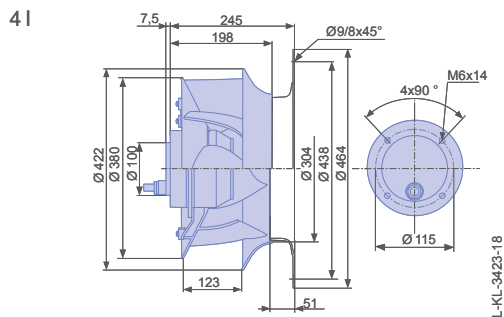
\*rated data

Control technology

<p>Frequency inverters Fcontrol 3~</p>  <p>Page 310</p>	<p>Motor protection units 3~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 3~</p>  <p>Page 322</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 450 for 1~ alternating current

RH45V

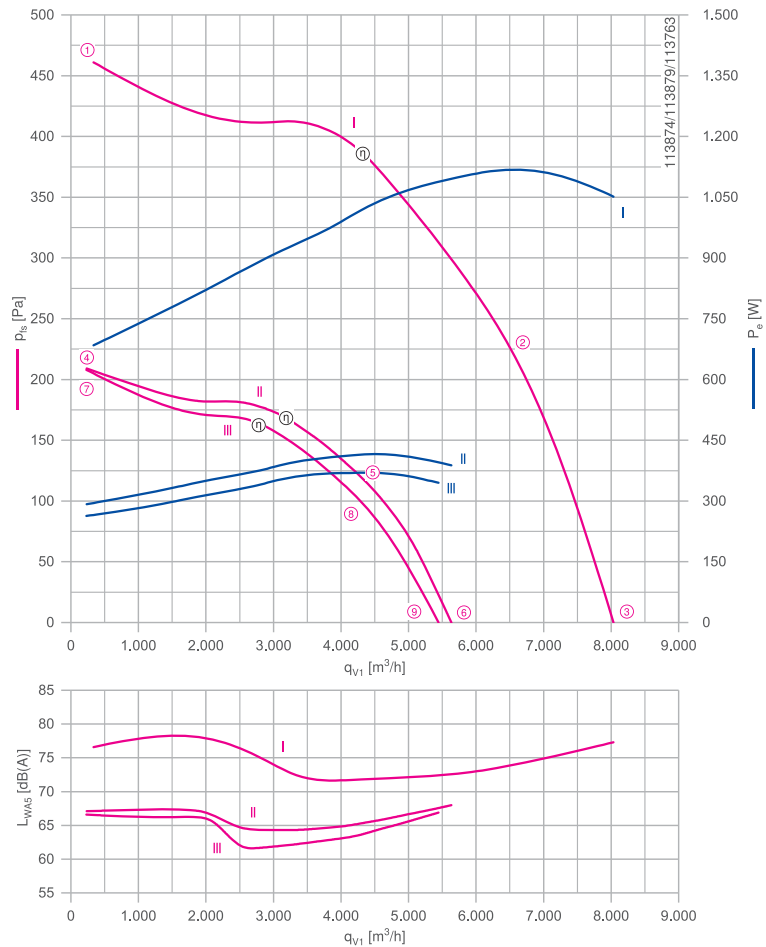


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 1~ 230 V $\pm$ 10 %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00411686              Page 290  
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 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power	Rated current	Rated speed	Current increase	Service capacitor	Starting current	Efficiency	Efficiency grade	ErP	Conformity		Weight
													CE	UL	
I	RH45V-4EK.6K.VR	6K	115599	1.10 kW	5.20 A	1380 min <sup>-1</sup>	10 %	30uF/400V	17.00 A	46.6 %	57.0 %	2015	yes		20.00
II	RH45V-6EK.6F.VR	6F	115600	0.42 kW	2.30 A	940 min <sup>-1</sup>	5 %	12uF/400V	7.00 A	39.0 %	53.7 %	2015			16.20
III	RH45V-6EK.4F.VR	4F	115597	0.37 kW	1.75 A	880 min <sup>-1</sup>	0 %	8uF/400V		38.6 %	54.1 %	2015			9.60

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V		I A	$P_e$ W	n $min^{-1}$		
RH45V-__EK__VR	I	230	①	3.60	680	1450	77	60
		230*	②	5.20*	1100*	1380*	74	
		230	③	5.00	1050	1400	77	
	II	230	④	2.00	290	970	67	60
		230*	⑤	2.30*	420*	940*	65	
		230	⑥	2.20	390	950	68	
	III	230	⑦	1.45	260	950	67	60
		230*	⑧	1.80*	370*	880*	64	
		230	⑨	1.70	340	900	67	

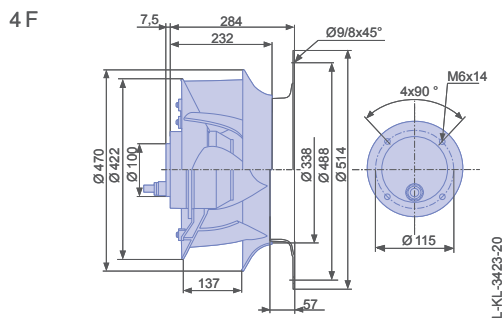
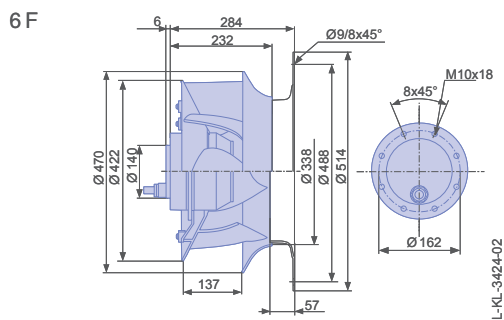
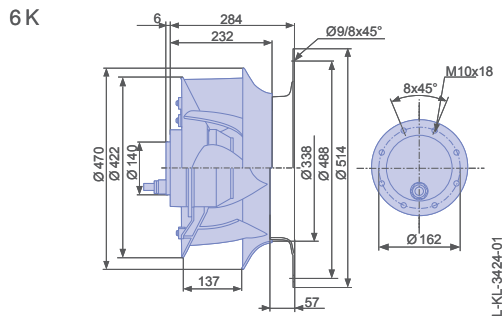
\*rated data

Control technology



Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 450 for 3~ alternating current

RH45V

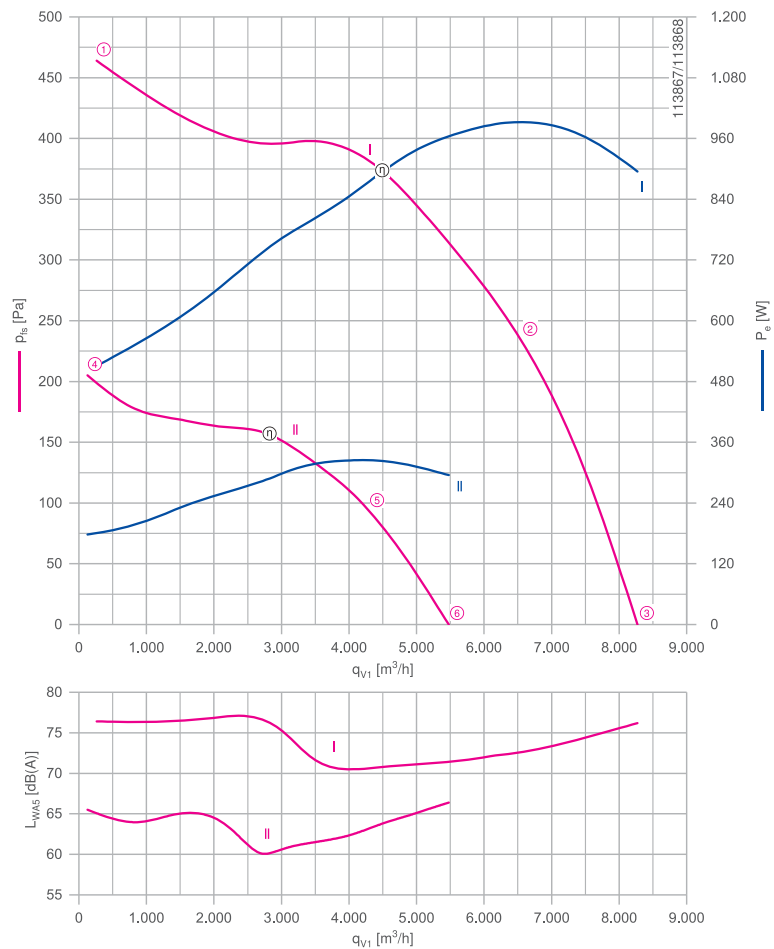


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 3~ 230/400 V (D/Y)  $\pm 10$  %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00411686 Page 290  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power		Rated current		Rated speed		Current increase		Starting current		Efficiency		Efficiency grade		ErP	Conformity		Weight
				$P_e$	$I_N$	$n_N$	$\Delta I$	$I_A$	$n_{statA}$	$N_{actual}$	CE	UL	kg								
I	RH45V-4DK.6F.VR	6F	115601	1.00 kW	3.40/ 1.95	1370	5	17.00/9.50	53.6	64.6	2015	yes			16.20						
II	RH45V-6DK.4F.VR	4F	115598	0.32 kW	1.20/ 0.70	880	0		44.6	60.8	2015			9.60							

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V		I A	$P_e$ W	n min <sup>-1</sup>		
RH45V-DK-__VR	I	400	①	1.45	520	1440	76	60
		400*	②	1.95*	1000*	1370*	73	
		400	③	1.85	900	1380	76	
	II	400	④	0.52	180	950	66	60
		400*	⑤	0.70*	320*	880*	63	
		400	⑥	0.66	300	890	66	

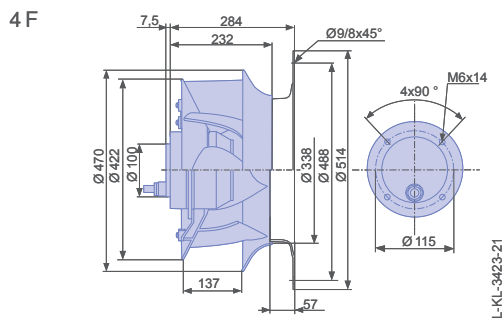
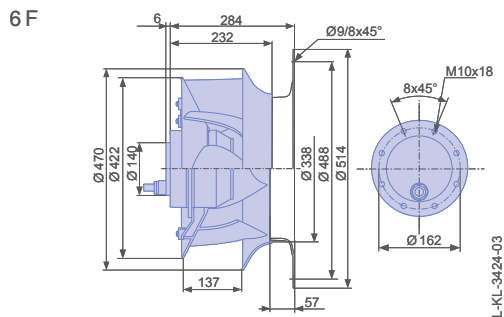
\*rated data

Control technology

<p>Frequency inverters Fcontrol 3~</p>  <p>Page 310</p>	<p>Motor protection units 3~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 3~</p>  <p>Page 322</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 500 for 1~ alternating current

RH50V

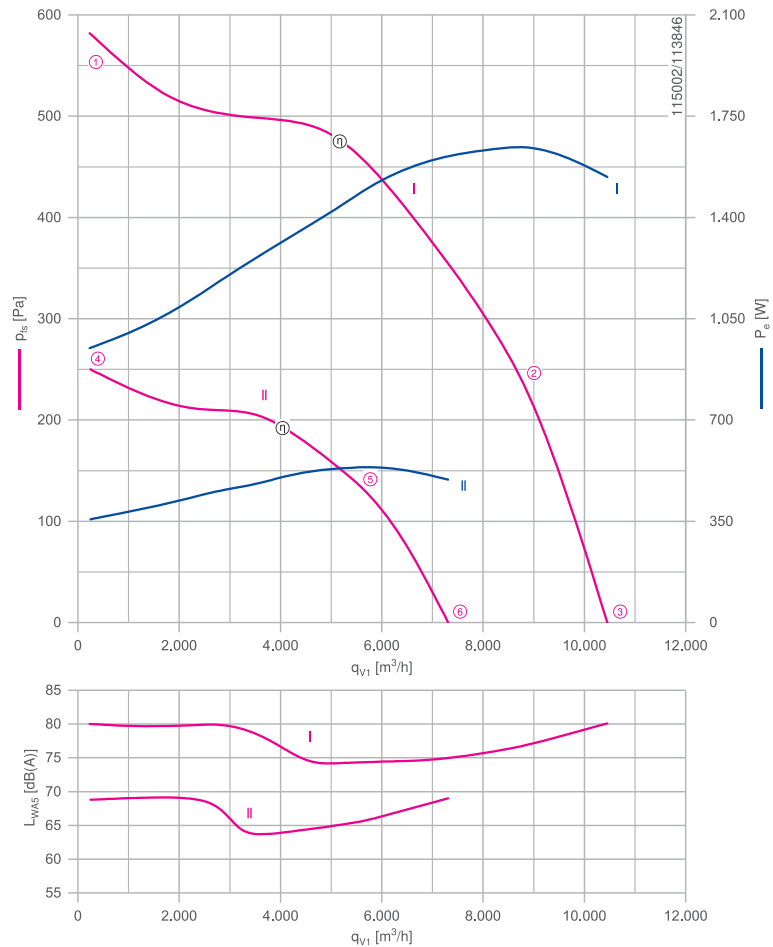


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 1~ 230 V $\pm$ 10 %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring                      00412014              Page 290  
 Connection diagrams              Page 358  
 System components              Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power	Rated current	Rated speed	Current increase	Service capacitor	Starting current	Efficiency	Efficiency grade	ErP	Conformity		Weight
													CE	UL	
I	RH50V-4EK.6N.VR	6N	115606	1.65 kW	7.40	1350	15	35uF/400V	22.00	49.4	58.3	2015	yes		25.20
II	RH50V-6EK.6F.VR	6F	115603	0.54 kW	2.50	900	5	14uF/400V	6.00	44.1	57.7				17.20

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V		I A	$P_e$ W	n $min^{-1}$		
RH50V-_EK.6_VR	I	230	①	4.20	940	1440	80	60
		230*	②	7.40*	1650*	1350*	77	
		230	③	6.80	1550	1370	80	
	II	230	④	1.75	360	950	69	60
		230*	⑤	2.50*	540*	900*	66	
		230	⑥	2.30	500	910	69	

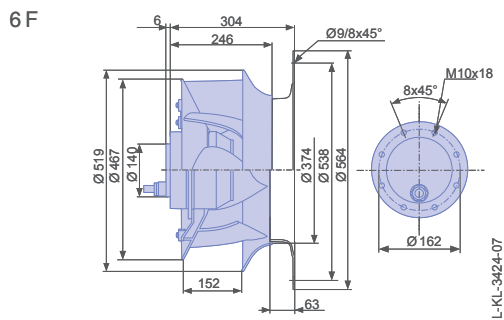
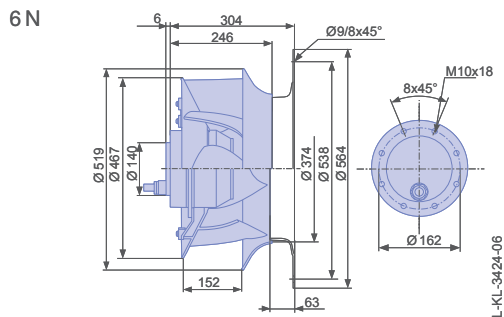
\*rated data

Control technology

<p>Frequency inverters Fcontrol 1~</p>  <p>Page 306</p>	<p>Motor protection units 1~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 1~</p>  <p>Page 320</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 500 for 3~ alternating current

RH50V

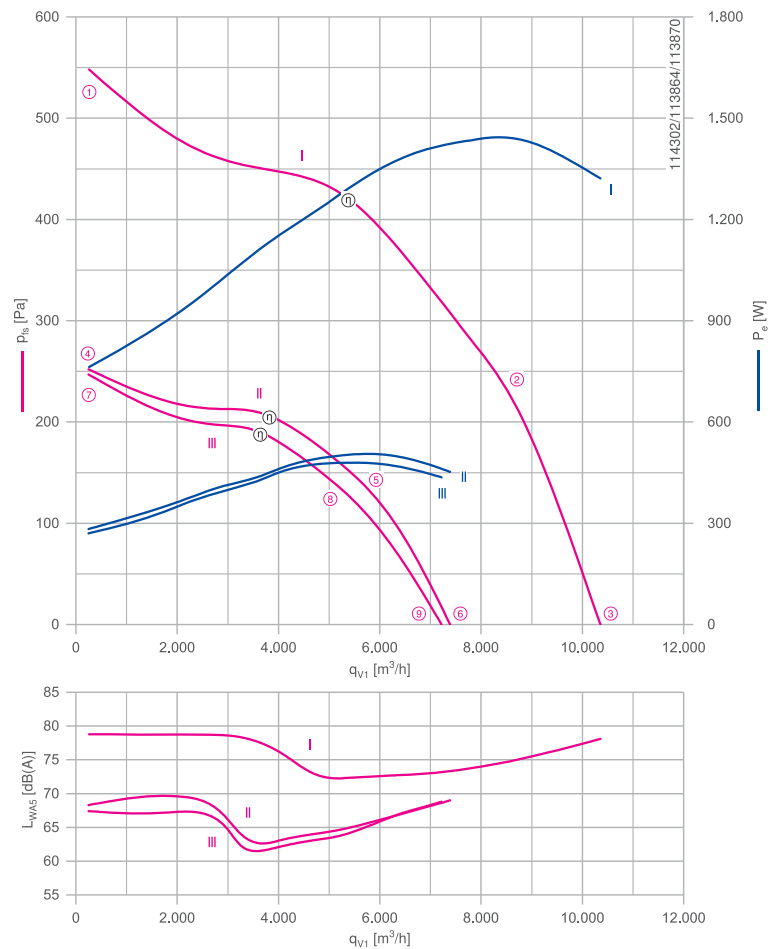


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 3~ 230/400 V (D/Y)  $\pm 10$  %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring 00412014 Page 290  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power	Rated current		Rated speed	Current increase	Starting current	Efficiency	Efficiency grade	ErP	Conformity		Weight
					$P_e$	$I_N$							$n_N$	$\Delta I$	
					A	min <sup>-1</sup>	%	A	%	%		yes			kg
I	RH50V-4DK.6K.VR	6K	115604	1.45 kW	5.00/ 2.80	1280	0	16.00/9.50	50.2	59.5	2015	yes			21.00
II	RH50V-6DK.6F.VR	6F	115605	0.50 kW	2.30/ 1.30	920	0	8.50/5.00	49.9	64.1	2015				17.20
III	RH50V-6DK.4F.VR	4F	115602	0.48 kW	1.55/ 0.88	860	0	4.80/2.80	46.4	60.9	2015				10.60

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V		I A	$P_e$ W	n min <sup>-1</sup>		
RH50V-DK-__VR	I	400	①	1.90	760	1400	79	60
		400*	②	2.80*	1450*	1280*	75	
		400	③	2.60	1300	1310	78	
	II	400	④	1.10	280	960	68	60
		400*	⑤	1.30*	500*	920*	66	
		400	⑥	1.25	460	920	69	
	III	400	⑦	0.66	270	930	67	60
		400*	⑧	0.88*	480*	860*	65	
		400	⑨	0.82	440	880	69	

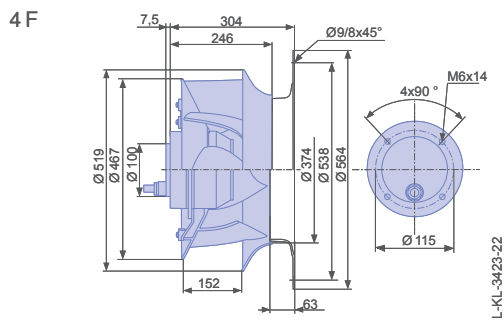
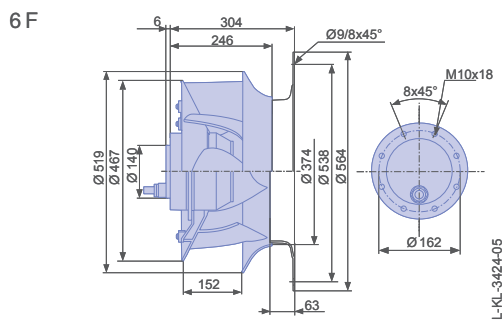
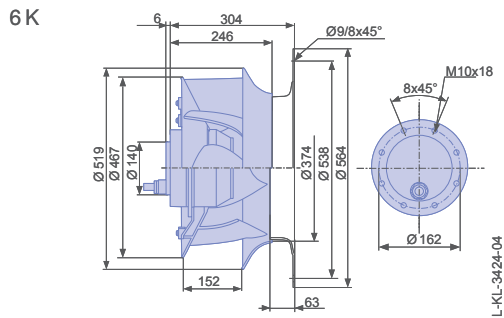
\*rated data

Control technology

<p>Frequency inverters Fcontrol 3~</p>  <p>Page 310</p>	<p>Motor protection units 3~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 3~</p>  <p>Page 322</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 560 for 1~ alternating current

RH56V

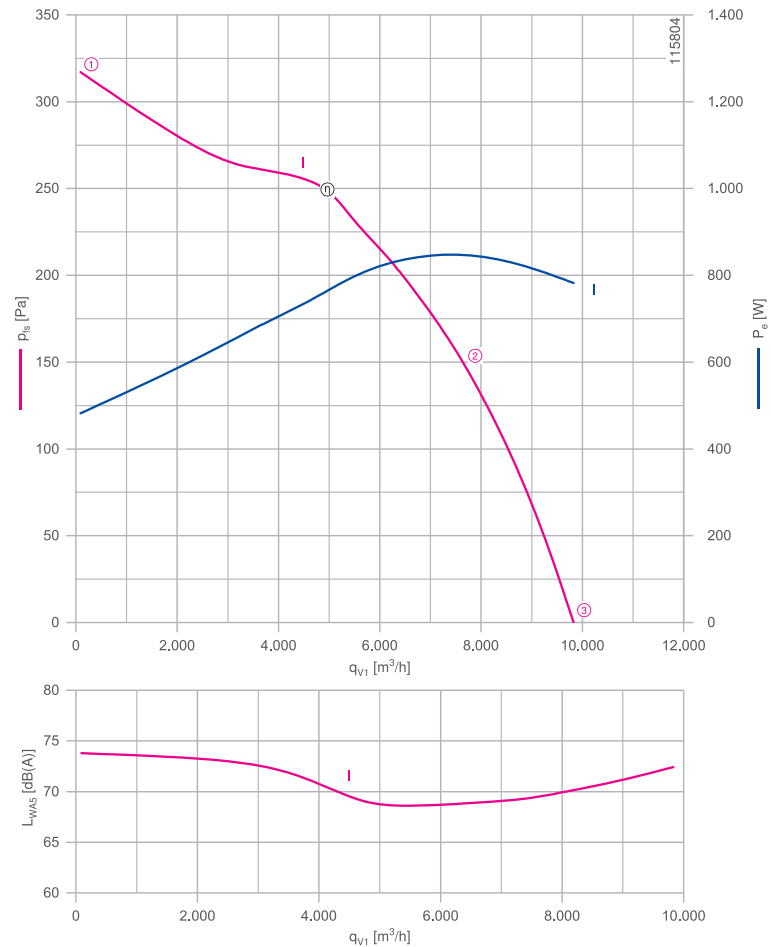


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 1~ 230 V $\pm$ 10 %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring	00412015	Page 290
Connection diagrams		Page 358
System components		Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

Type	Motor	Article no.	Input power $P_e$	Rated current $I_N$ [A]	Rated speed $n_N$ [min <sup>-1</sup> ]	Current increase $\Delta I$ [%]	Service capacitor	Starting current $I_A$ [A]	Efficiency $\eta_{statA}$ [%]	Efficiency grade $N_{actual}$ [%]	ErP	Conformity		Weight [kg]
												CE	UL	
I RH56V-6EK.6N.VR	6N	115607	0.84 kW	4.20	890	10	16uF/400V	11.00	46.5	58.2	2015	yes		26.80

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb (max.)}$ °C
		U V		I A	$P_e$ W	n min <sup>-1</sup>		
RH56V-6EK.6N.VR	I	230	①	2.80	480	950	74	60
		230*	②	4.20*	840*	890*	70	
		230	③	4.00	780	900	72	

\*rated data

Control technology

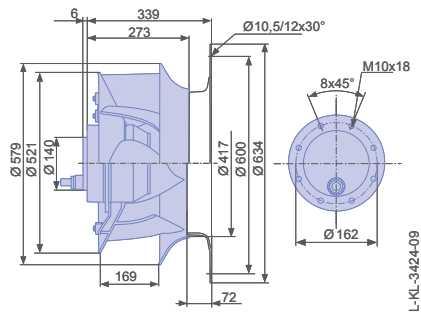
<p>Frequency inverters Fcontrol 1~</p>  <p>Page 306</p>	<p>Motor protection units 1~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 1~</p>  <p>Page 320</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo

Inlet nozzle not included

6 N



# ZAvblue

Size 560 für 3~ alternating current

RH56V

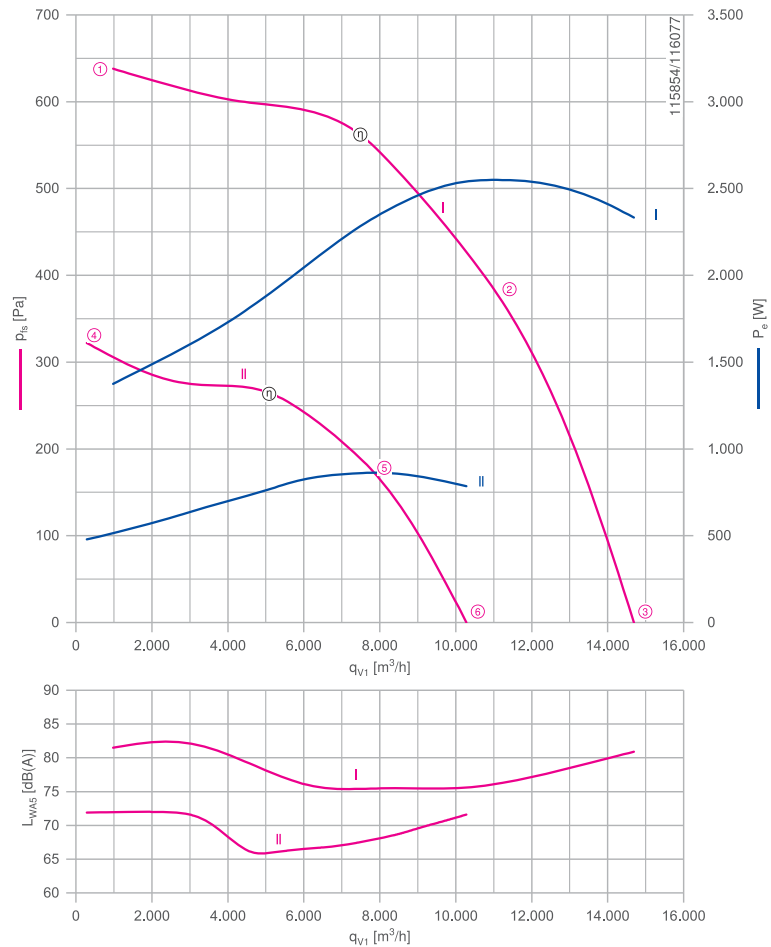


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 3~ 230/400 V (D/Y)  $\pm 10$  %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material,  
 uncoated, ultramarine blue  
 \* Rated data

Inlet ring	00412015	Page 290
Connection diagrams		Page 358
System components		Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Mo- tor	Article no.	Input power	Rated		Cur- rent in- crease	Starting cur- rent	Effi- ciency	Ef- fici- ency grade	ErP	Conform- ity		Weight
					$P_e$	$I_N$						$n_N$	$\Delta I$	
					A	min <sup>-1</sup>	%	A	%	%				kg
I	<b>RH56V-4DK.6N.VR</b>	6N	<b>115641</b>	2.50 kW	8.20/ 4.60	1330	5	38.00/22.00	52.6	59.3	2015	yes		26.80
II	<b>RH56V-6DK.6K.VR</b>	6K	<b>115608</b>	0.86 kW	3.80/ 2.20	920	0	16.00/9.00	50.7	62.5				22.60

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ °C
		U V						
RH56V-DK.6_VR	I	400	①	3.20	1400	1420	82	45
		400*	②	4.60*	2500*	1330*	76	
		400	③	4.40	2300	1350	81	
	II	400	④	1.90	480	960	72	60
		400*	⑤	2.20*	860*	920*	68	
		400	⑥	2.10	780	930	72	

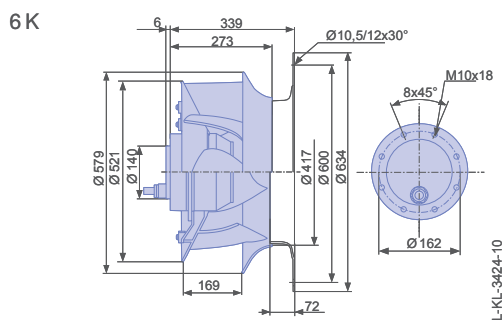
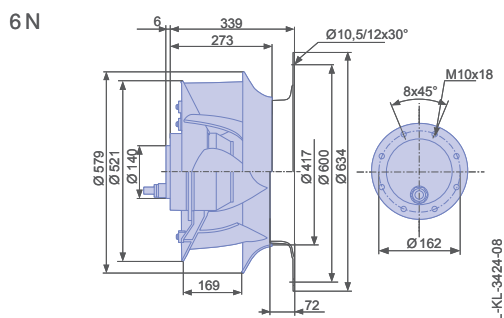
\*rated data

Control technology

<p>Frequency inverters Fcontrol 3~</p>  <p>Page 310</p>	<p>Motor protection units 3~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 3~</p>  <p>Page 322</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# ZAvblue

Size 630 for 3~ alternating current

RH63V

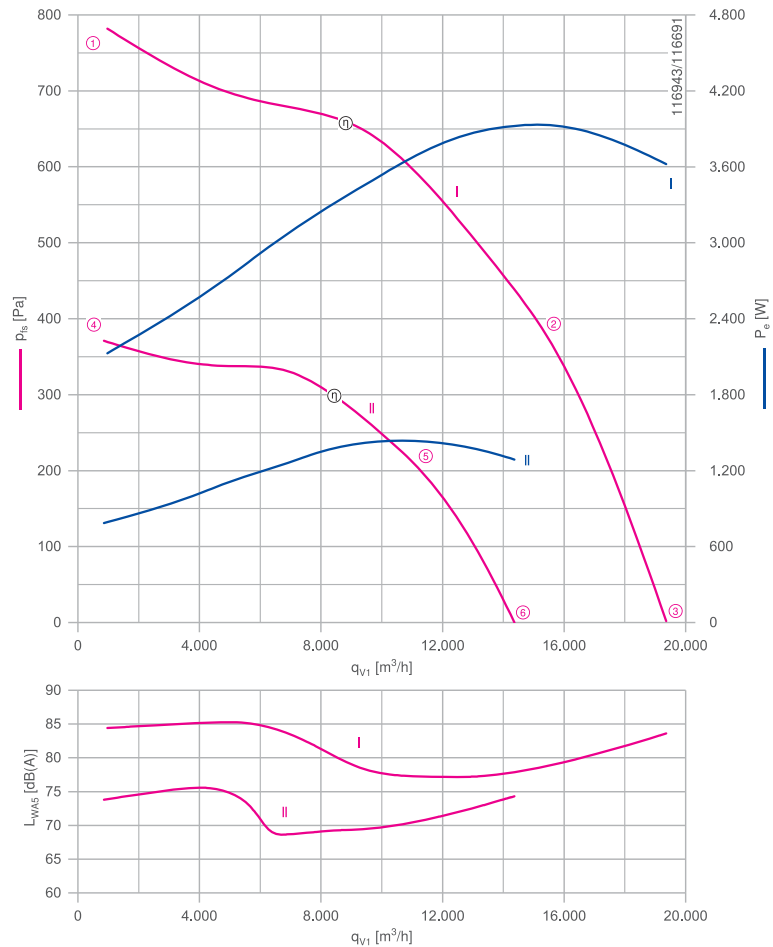


## Description

Motor technology: AC  
 Rated voltage  $U_N$ : 3~ 230/400 V (D/Y)  $\pm 10$  %\*  
 Rated frequency  $f_N$ : 50 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Supply cable axial, 105cm  
 Degree of protection : IP54  
 Motor protection: thermal contact  
 Impeller made of High Performance Composite Material, uncoated, ultramarine blue  
 \* Rated data

Inlet ring	00412371	Page 290
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## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Type	Motor	Article no.	Input power	Rated current		Rated speed	Current increase	Starting current	Efficiency	Efficiency grade	ErP	Conformity		Weight
					$P_e$	$I_N$							$n_N$	$\Delta I$	
I	<b>RH63V-4DK.7Q.VR</b>	7Q	<b>115611</b>	3,90 kW	11.50/ 6.60	1270	5	46.00/26.00	51.5	56.3	2015	yes		41.80	
II	<b>RH63V-6DK.6N.VR</b>	6N	<b>115609</b>	1,45 kW	6.00/ 3.40	920	0	22.00/12.00	51.8	60.8				28.70	

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Voltage	Operating point	Current	Input power	Speed	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb (max.)}$ °C
		U V		I A	$P_e$ W	n $min^{-1}$		
RH63V-DK-VR	I	400	①	4.20	2100	1390	84	55
		400*	②	6.60*	3900*	1270*	79	
		400	③	6.20	3600	1300	84	
	II	400	④	2.70	780	960	74	60
		400*	⑤	3.40*	1450*	920*	71	
		400	⑥	3.20	1300	930	74	

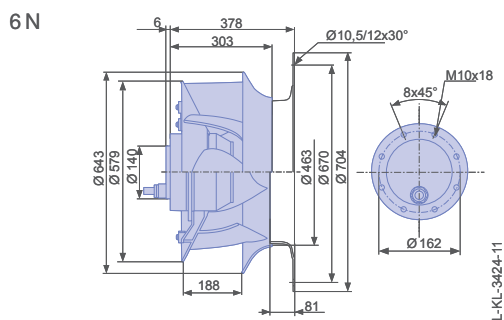
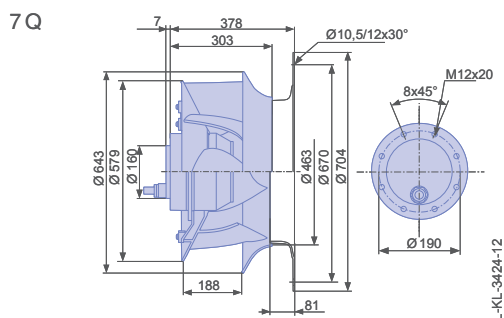
\*rated data

Control technology

<p>Frequency inverters Fcontrol 3~</p>  <p>Page 310</p>	<p>Motor protection units 3~</p>  <p>Page 304</p>	<p>Electronic voltage controllers 3~</p>  <p>Page 322</p>
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Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included







# ZAvblue with EC055

## EC-Technology

### Product overview

Size 175	Page 142
Size 190	Page 146
Size 200	Page 150
Size 220	Page 158
Size 225	Page 162
Size 250	Page 166

Information

ZBluefin-  
ECblue

Cpro-ECblue

C-ECblue

**ZAvblue**

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

Control  
technology

General notes

# ZAvblue with EC055

for single phase alternating current, 200-240 V

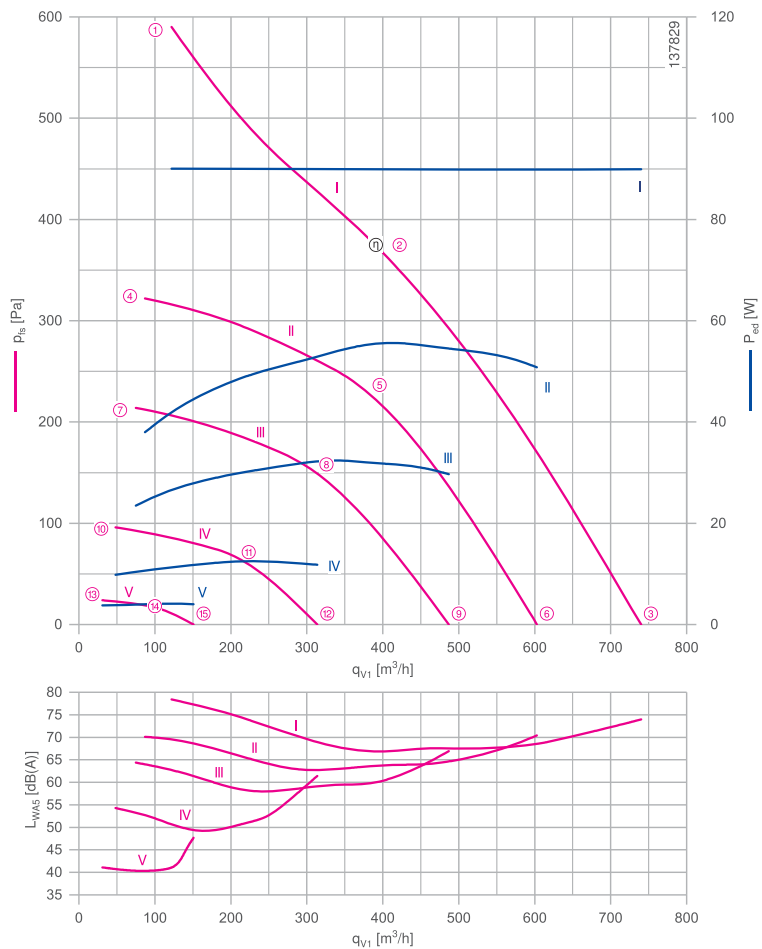
RH18V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.90-0.74 A\*  
 Rated speed  $n_N$ : 3570 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

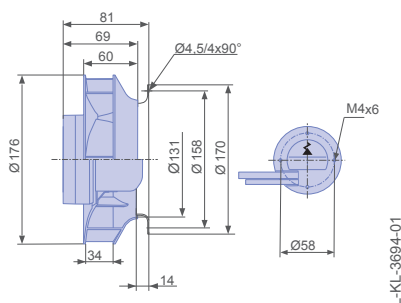


Measured with inlet nozzle, without guard grille according to ISO 5801

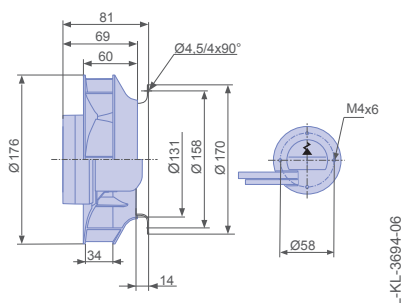
Inlet ring	00407897	Page 290
Connection diagram	1360-404	Page 358
System components		Page 286

## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet  
nozzle





Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH18V-4IP.Z8.AR	I	4100	①	0.78	90	78
		3650	②	0.78	90	67
		3700	③	0.78	90	74
	II	3010	④	0.36	38	70
			⑤	0.50	55	63
			⑥	0.48	50	70
	III	2460	⑦	0.23	24	64
			⑧	0.30	32	59
			⑨	0.28	30	67
	IV	1640	⑩	0.11	10	54
			⑪	0.13	12	50
			⑫	0.12	12	61
	V	820	⑬	0.05	4	41
			⑭	0.05	4	40
			⑮	0.05	4	48

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH18V-4IP.Z8.AR</b>	<b>RH18V-4IP.Z8.AR</b>
Article no.	<b>178183</b>	<b>178183/01</b>
Weight kg	1.20	1.40
* Inlet nozzle not included in the scope of delivery		
** Inlet nozzle included in the scope of delivery		

Control technology

Control modules	Sensor control modules
	
Page 326	Page 328

# ZAvblue with EC055

for single phase alternating current, 200-240 V

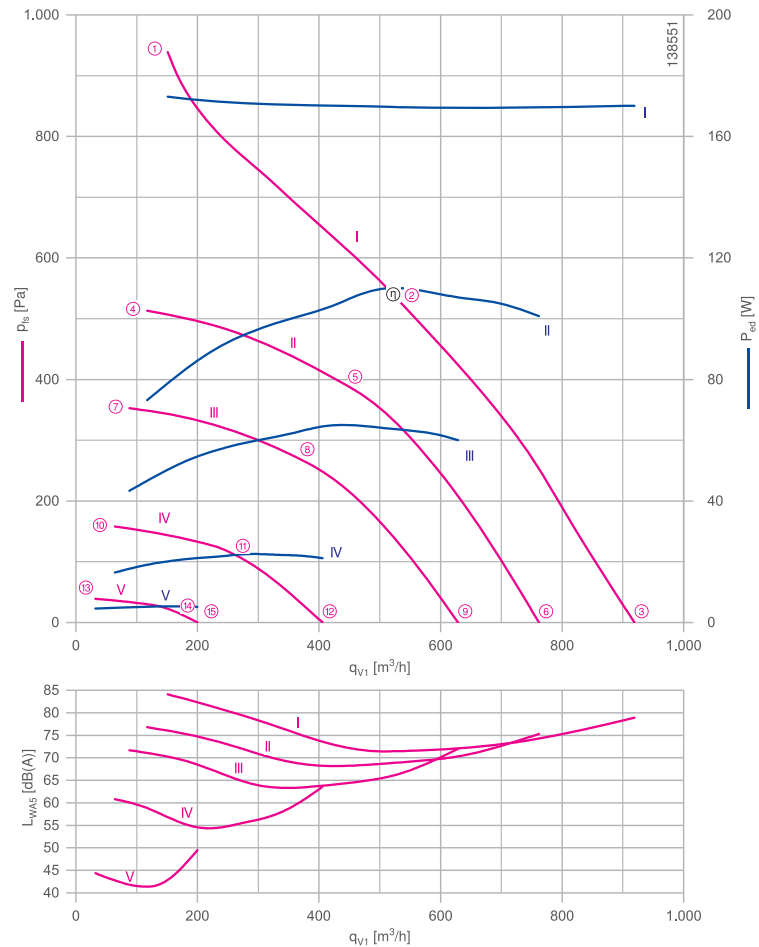
RH18V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.75-1.45 A\*  
 Rated speed  $n_N$ : 4440 min<sup>-1</sup>\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 53.9 %  
 Efficiency grade:  $N_{actual} = 72.5 / N_{target} = 62^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015  
 \*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

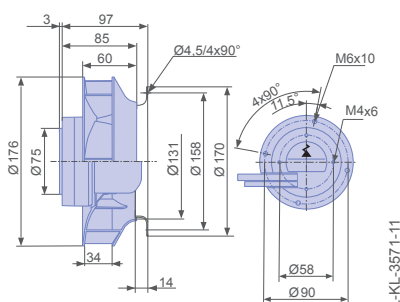


Measured with inlet nozzle, without guard grille according to ISO 5801

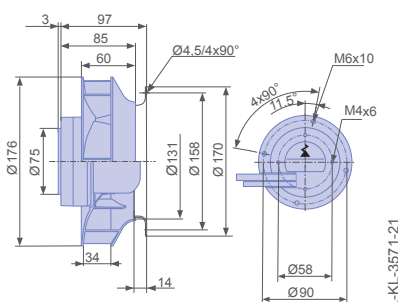
Inlet ring	00407897	Page 290
Connection diagram	1360-404	Page 358
System components		Page 286

## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet  
nozzle







### Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH18V-4IP.Z8.AR	I	5200	①	1.50	170	84
		4440	②	1.50	170	72
		4630	③	1.50	170	79
	II	3840	④	0.68	75	77
			⑤	0.94	100	68
			⑥	0.96	100	75
	III	3200	⑦	0.42	44	72
			⑧	0.58	60	63
			⑨	0.56	60	72
	IV	2130	⑩	0.19	17	61
			⑪	0.24	22	54
			⑫	0.23	22	64
	V	1060	⑬	0.06	5	44
			⑭	0.07	5	42
			⑮	0.07	5	50

Current values determined at 230V

### Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
<b>Type</b>	<b>RH18V-4IP.Z8.AR</b>	<b>RH18V-4IP.Z8.AR</b>
<b>Article no.</b>	<b>177317</b>	<b>177317/01</b>
Weight kg	1.30	1.40
* Inlet nozzle not included in the scope of delivery		
** Inlet nozzle included in the scope of delivery		

### Control technology

Control modules	Sensor control modules
	
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- Information
- ZAvbluefin-ECblue
- Cpro-ECblue
- C-ECblue
- ZAvblue
- Vpro-ECblue
- ZAcube-Cpro-ECblue
- Housing fans
- System components
- Control technology
- General notes



# ZAvblue with EC055

for single phase alternating current, 200-240 V

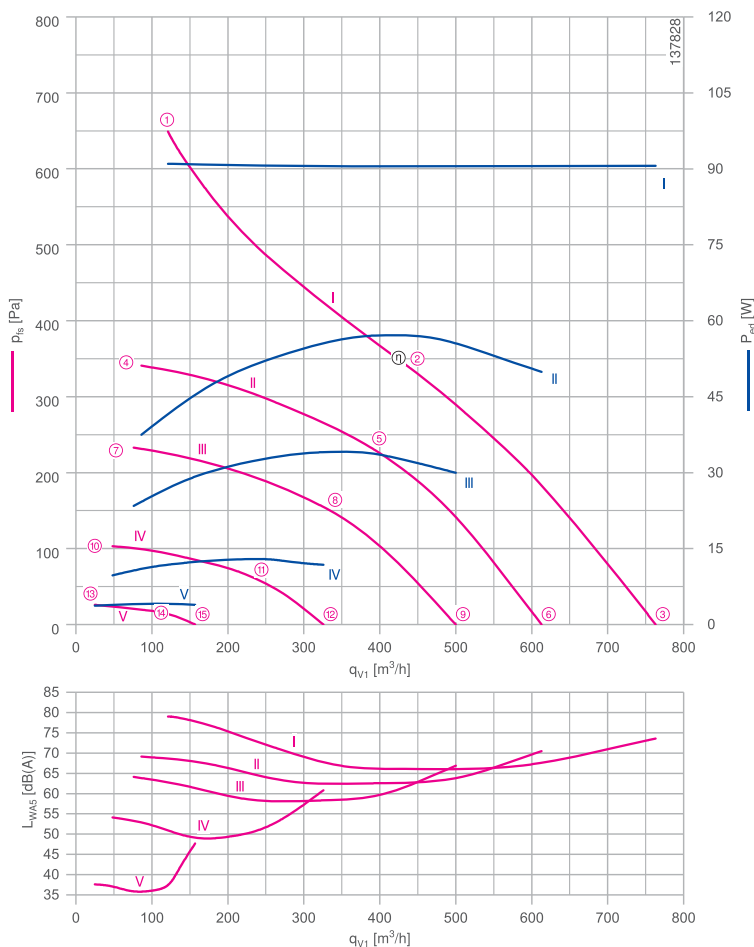
RH19V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.90-0.76 A\*  
 Rated speed  $n_N$ : 3240 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}^-$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}^+$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

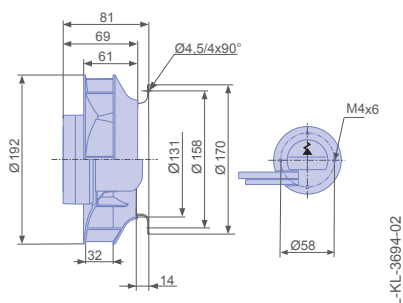


Measured with inlet nozzle, without guard grille according to ISO 5801

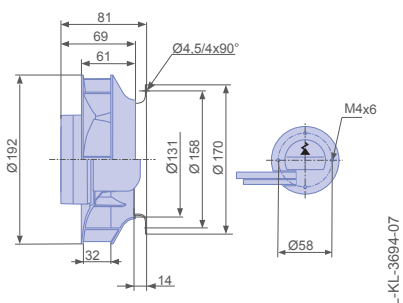
Inlet ring	00407897	Page 290
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## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet  
nozzle

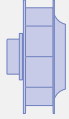
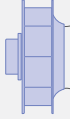


Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH19V-4IP.Z8.AR	I	3800	①	0.78	90	79
		3250	②	0.78	90	66
		3420	③	0.78	90	74
	II	2760	④	0.35	38	69
			⑤	0.52	55	63
			⑥	0.48	50	71
	III	2280	⑦	0.23	24	64
			⑧	0.33	34	58
			⑨	0.30	30	67
	IV	1520	⑩	0.11	10	54
			⑪	0.14	13	49
			⑫	0.13	12	61
	V	760	⑬	0.05	4	38
			⑭	0.05	4	36
			⑮	0.05	4	48

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH19V-4IP.Z8.AR</b>	<b>RH19V-4IP.Z8.AR</b>
Article no.	<b>178184</b>	<b>178184/01</b>
Weight kg	1.30	1.40
* Inlet nozzle not included in the scope of delivery		
** Inlet nozzle included in the scope of delivery		

Control technology

Control modules	Sensor control modules
	
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# ZAvblue with EC055

for single phase alternating current, 200-240 V

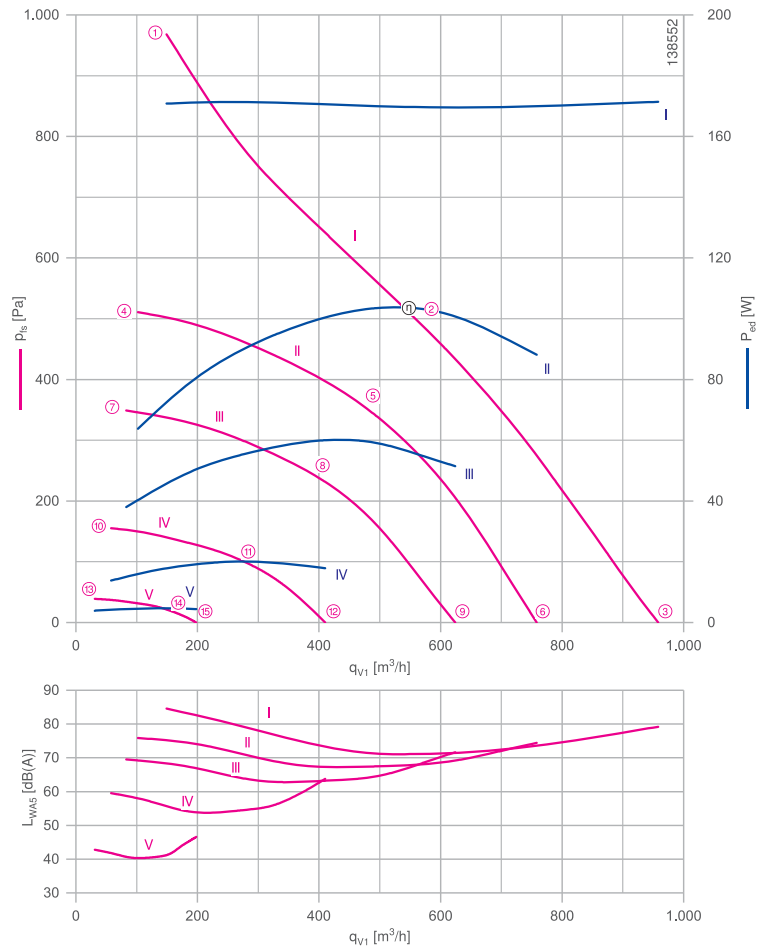
RH19V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.75-1.45 A\*  
 Rated speed  $n_N$ : 4000 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 53.6 %  
 Efficiency grade:  $N_{actual} = 72.2 / N_{target} = 62$ \*\*  
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015  
 \*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

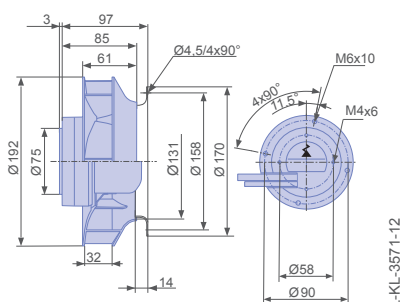


Measured with inlet nozzle, without guard grille according to ISO 5801

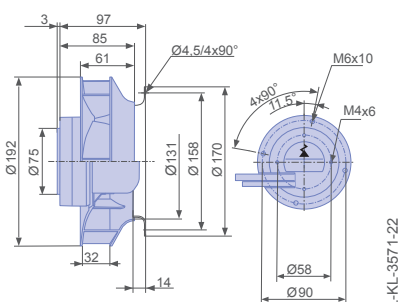
Inlet ring	00407897	Page 290
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## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet  
nozzle





### Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH19V-4IP.Z8.AR	I	4710	①	1.50	170	85
		4020	②	1.50	170	71
		4270	③	1.55	170	79
	II	3420	④	0.58	65	76
			⑤	0.94	100	67
			⑥	0.82	90	74
	III	2830	⑦	0.39	38	70
			⑧	0.56	60	63
			⑨	0.46	50	72
	IV	1880	⑩	0.15	14	60
			⑪	0.23	20	54
			⑫	0.20	18	64
	V	940	⑬	0.05	4	43
			⑭	0.06	5	41
			⑮	0.05	4	47

Current values determined at 230V

### Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
<b>Type</b>	<b>RH19V-4IP.Z8.AR</b>	<b>RH19V-4IP.Z8.AR</b>
<b>Article no.</b>	<b>177318</b>	<b>177318/01</b>
Weight kg	1.40	1.50
* Inlet nozzle not included in the scope of delivery		
** Inlet nozzle included in the scope of delivery		

### Control technology

Control modules	Sensor control modules
	
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# ZAvblue with EC055

for single phase alternating current, 200-240 V Performance

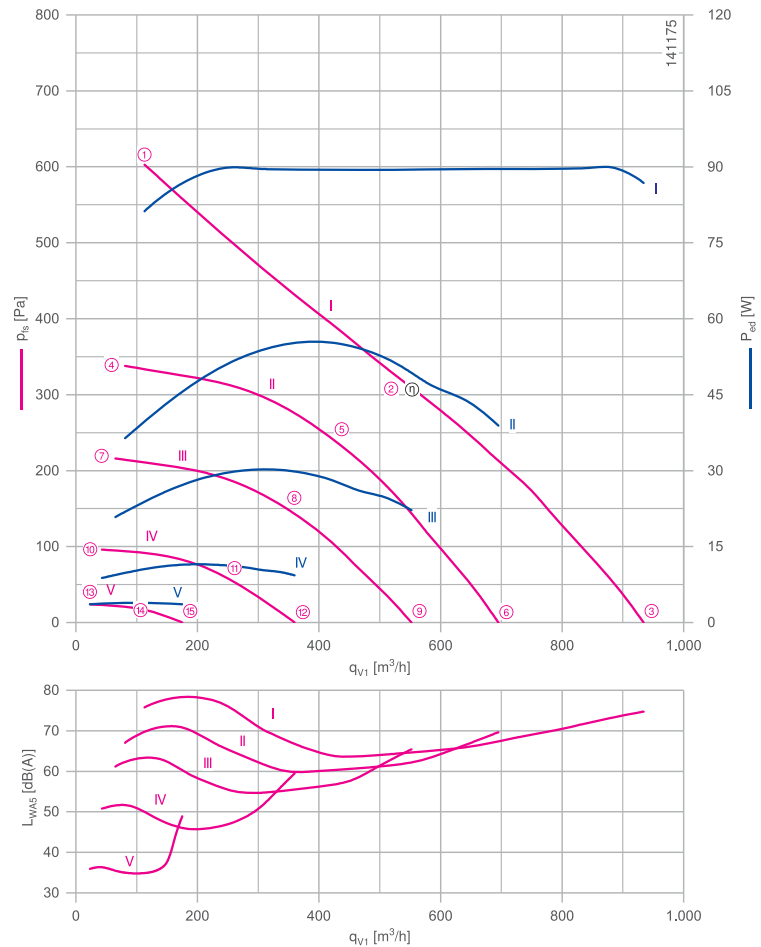
RH20V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.90-0.74 A\*  
 Rated speed  $n_N$ : 3280 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

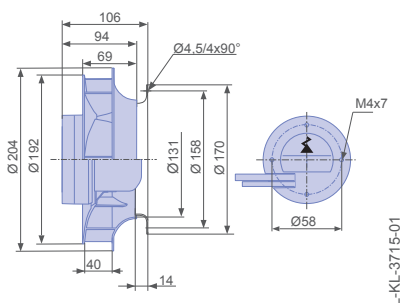


Measured with inlet nozzle, without guard grille according to ISO 5801

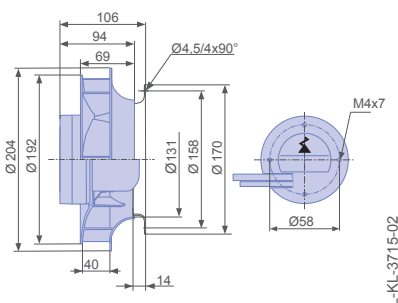
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## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet  
nozzle





Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH20V-4IP.Z8.AR	I	3710	①	0.72	80	76
		3300	②	0.78	90	65
		3710	③	0.74	85	75
	II	2780	④	0.38	36	67
			⑤	0.54	55	60
			⑥	0.39	38	70
	III	2220	⑦	0.23	20	61
			⑧	0.32	30	55
			⑨	0.24	22	65
	IV	1480	⑩	0.10	9	51
			⑪	0.13	12	46
			⑫	0.11	9	60
	V	740	⑬	0.05	4	36
			⑭	0.05	4	35
			⑮	0.05	4	49

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH20V-4IP.Z8.AR</b>	<b>RH20V-4IP.Z8.AR</b>
Article no.	<b>178683</b>	<b>178683/01</b>
Weight kg	1.30	1.40
	* Inlet nozzle not included in the scope of delivery	
	** Inlet nozzle included in the scope of delivery	

Control technology

Control modules	Sensor control modules
	
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# ZAvblue with EC055

for single phase alternating current, 200-240 V Performance

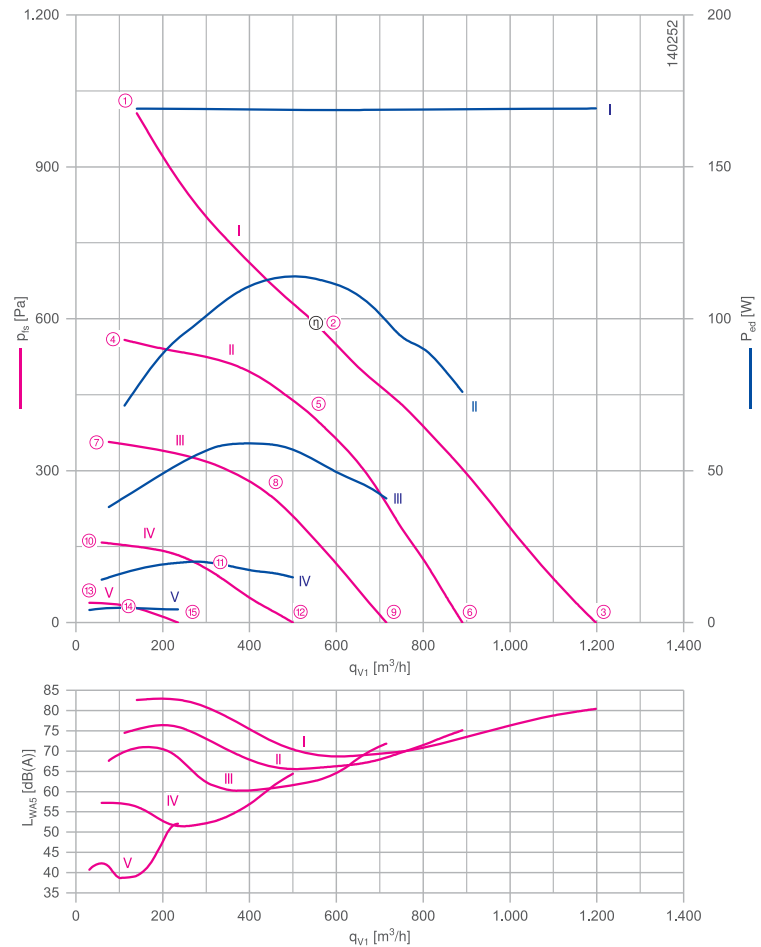
RH20V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.65-1.40 A\*  
 Rated speed  $n_N$ : 4020 min<sup>-1</sup>\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 63.2 %  
 Efficiency grade:  $N_{actual} = 81.8 / N_{target} = 62^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015  
 \*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

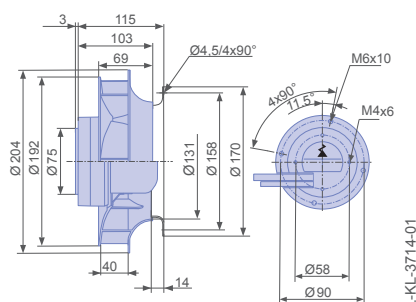


Measured with inlet nozzle, without guard grille according to ISO 5801

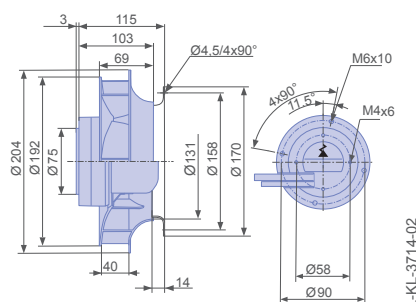
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## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet  
nozzle



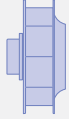
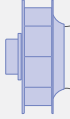


Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH20V-4IP.Z8.AR	I	4760	①	1.45	170	83
		4030	②	1.45	170	69
		4650	③	1.45	170	80
	II	3520	④	0.66	70	75
			⑤	1.05	110	66
			⑥	0.68	75	75
	III	2820	⑦	0.39	38	68
			⑧	0.56	60	60
			⑨	0.40	40	72
	IV	1880	⑩	0.16	14	57
			⑪	0.22	20	52
			⑫	0.17	15	64
	V	940	⑬	0.06	4	41
			⑭	0.06	5	39
			⑮	0.06	4	52

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH20V-4IP.Z8.AR</b>	<b>RH20V-4IP.Z8.AR</b>
Article no.	<b>178679</b>	<b>178679/01</b>
Weight kg	1.40	1.50
* Inlet nozzle not included in the scope of delivery		
** Inlet nozzle included in the scope of delivery		

Control technology

Control modules	Sensor control modules
	
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# ZAvblue with EC055

for single phase alternating current, 200-240 V Compact

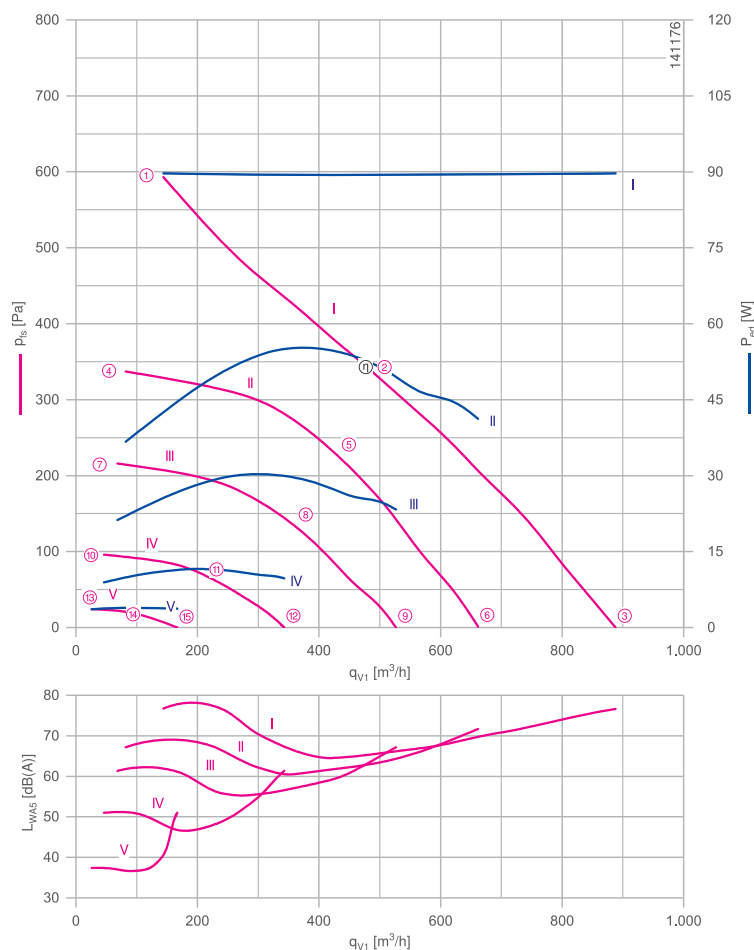
RH20V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.90-0.74 A\*  
 Rated speed  $n_N$ : 3270 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

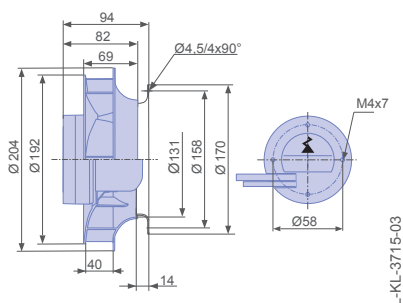


Measured with inlet nozzle, without guard grille according to ISO 5801

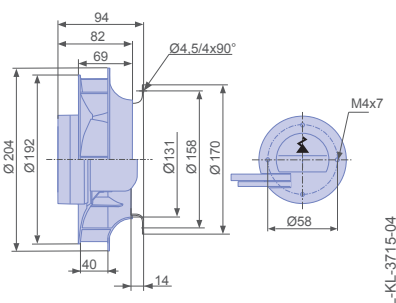
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## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet  
nozzle





Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH20V-4IP.Z8.AR	I	3710	①	0.76	90	77
		3270	②	0.76	90	65
		3680	③	0.78	90	77
	II	2780	④	0.38	36	67
			⑤	0.52	55	62
			⑥	0.40	42	72
	III	2220	⑦	0.23	22	61
			⑧	0.32	30	56
			⑨	0.24	24	67
	IV	1480	⑩	0.11	9	51
			⑪	0.13	12	46
			⑫	0.11	10	61
	V	740	⑬	0.05	4	37
			⑭	0.05	4	37
			⑮	0.05	4	51

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH20V-4IP.Z8.AR</b>	<b>RH20V-4IP.Z8.AR</b>
Article no.	<b>178684</b>	<b>178684/01</b>
Weight kg	1.30	1.40
	* Inlet nozzle not included in the scope of delivery	
	** Inlet nozzle included in the scope of delivery	

Control technology

Control modules	Sensor control modules
	
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# ZAvblue with EC055

for single phase alternating current, 200-240 V Compact

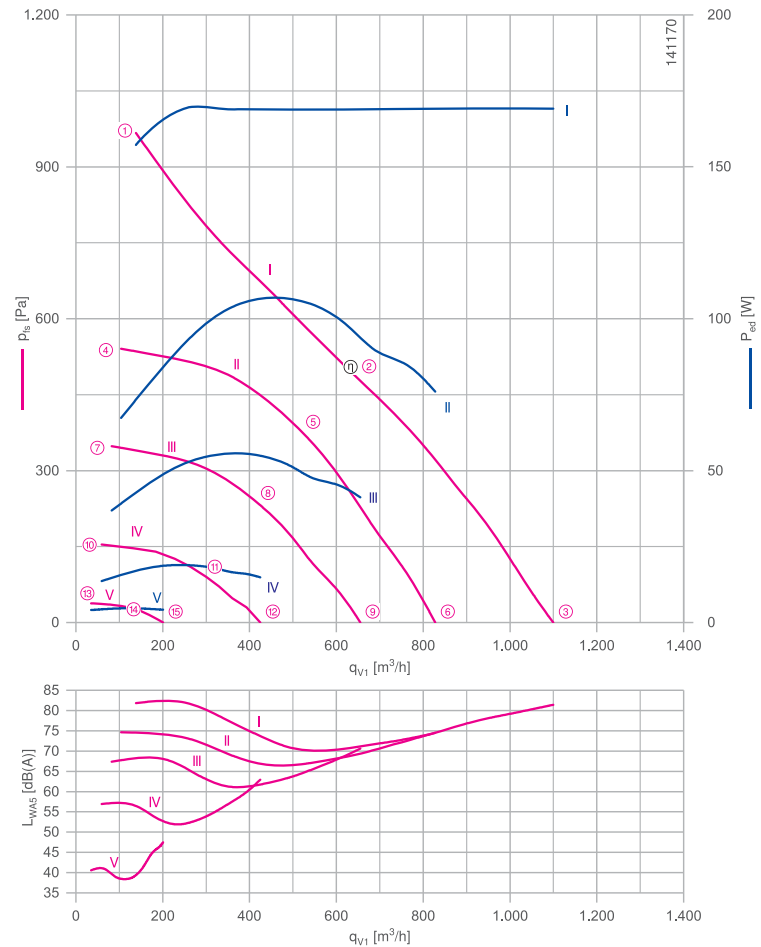
RH20V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.70-1.40 A\*  
 Rated speed  $n_N$ : 4110 min<sup>-1</sup>\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb}^-$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}^+$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 60.4 %  
 Efficiency grade:  $N_{actual} = 79.0 / N_{target} = 62^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015  
 \*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

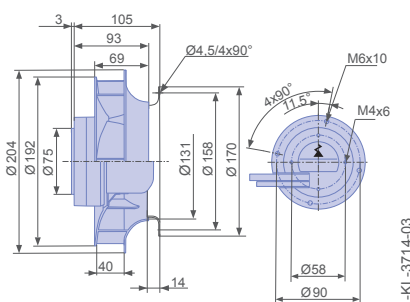


Measured with inlet nozzle, without guard grille according to ISO 5801

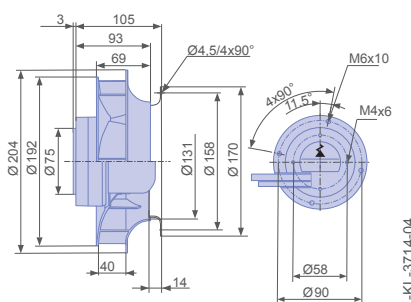
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## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet  
nozzle





Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH20V-4IP.Z8.AR	I	4700	①	1.40	160	82
		4120	②	1.50	170	71
		4660	③	1.45	170	81
	II	3530	④	0.68	65	75
			⑤	0.98	110	66
			⑥	0.72	75	75
	III	2820	⑦	0.40	36	67
			⑧	0.56	55	61
			⑨	0.42	42	71
	IV	1880	⑩	0.16	14	57
			⑪	0.22	19	52
			⑫	0.18	15	63
	V	940	⑬	0.05	4	41
			⑭	0.06	5	39
			⑮	0.06	4	48

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH20V-4IP.Z8.AR</b>	<b>RH20V-4IP.Z8.AR</b>
Article no.	<b>178680</b>	<b>178680/01</b>
Weight kg	1.40	1.50
* Inlet nozzle not included in the scope of delivery		
** Inlet nozzle included in the scope of delivery		

Control technology

Control modules	Sensor control modules
	
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- ZAvbluefin-ECblue
- Cpro-ECblue
- C-ECblue
- ZAvblue
- Vpro-ECblue
- ZAcube-Cpro-ECblue
- Housing fans
- System components
- Control technology
- General notes



# ZAvblue with EC055

for single phase alternating current, 200-240 V

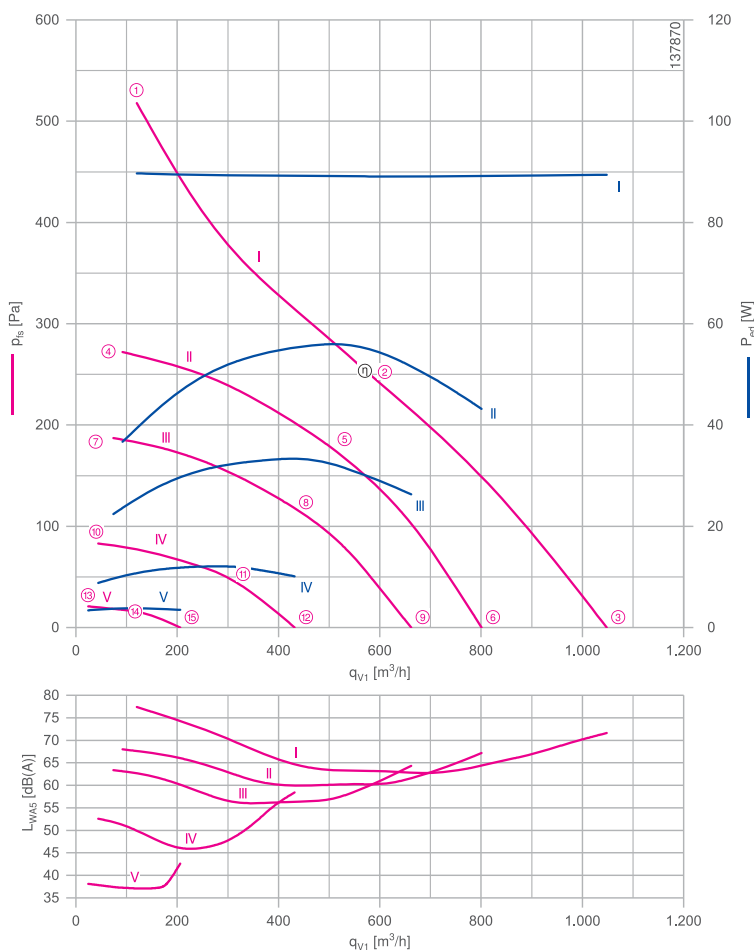
RH22V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.94-0.78 A\*  
 Rated speed  $n_N$ : 2620 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

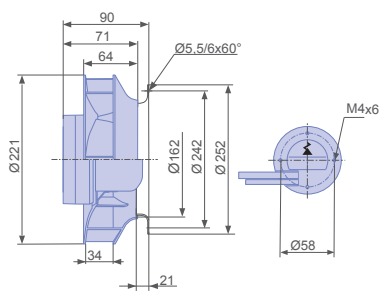


Measured with inlet nozzle, without guard grille according to ISO 5801

Inlet ring	00407898	Page 290
Connection diagram	1360-404	Page 358
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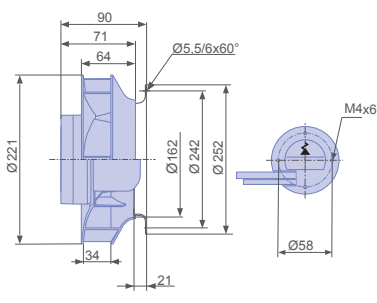
## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



L-KL-3694-03

Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet nozzle



L-KL-3694-08

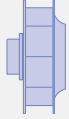
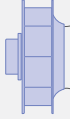


Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	
RH22V-4IP.Z8.AR	I	3100	①	0.84	90	77	
		2620	②	0.82	90	63	
		2910	③	0.80	90	72	
	II	2240	④	0.40	36	68	
			⑤	0.56	55	60	
			⑥	0.46	44	67	
	III	1860		⑦	0.22	22	63
				⑧	0.32	34	56
				⑨	0.26	26	64
	IV	1240		⑩	0.10	9	53
				⑪	0.13	12	47
				⑫	0.12	10	58
	V	620		⑬	0.05	3	38
				⑭	0.05	4	37
				⑮	0.05	4	43

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH22V-4IP.Z8.AR</b>	<b>RH22V-4IP.Z8.AR</b>
Article no.	<b>178185</b>	<b>178185/01</b>
Weight kg	1.30	1.60
	* Inlet nozzle not included in the scope of delivery	
	** Inlet nozzle included in the scope of delivery	

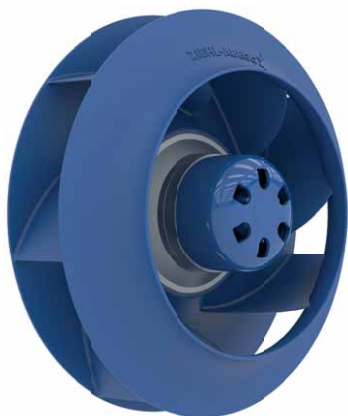
Control technology

Control modules	Sensor control modules
	
Page 326	Page 328

# ZAvblue with EC055

for single phase alternating current, 200-240 V

RH22V-4IP



## Description

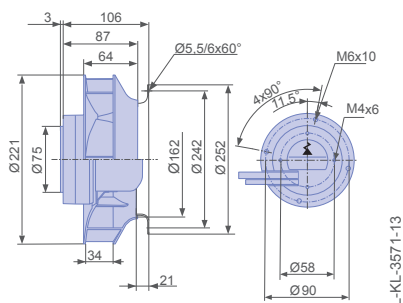
Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.70-1.40 A\*  
 Rated speed  $n_N$ : 3280 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable attached cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: ErP 2015, CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 56.0 %  
 Efficiency grade:  $N_{actual} = 74.7 / N_{target} = 62^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

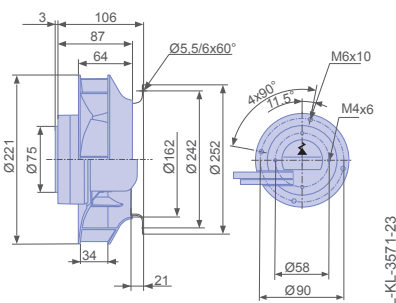
Inlet ring	00407898	Page 290
Connection diagram	1360-404	Page 358
System components		Page 286

## Dimensions mm

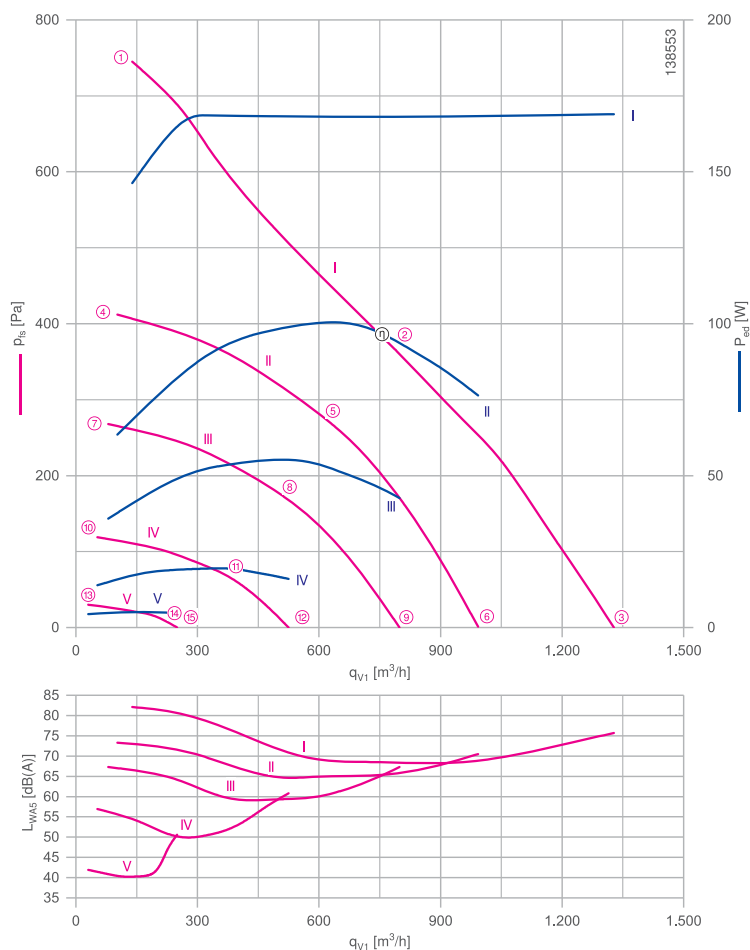
Free-running motorized impeller RH in installation position H/Vu/Vo



Free-running motorized impeller RH in installation position H/Vu/Vo incl. inlet nozzle



## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801







Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH22V-4IP.ZC.AR	I	3700	①	1.30	150	82
		3280	②	1.45	170	69
		3640	③	1.45	170	76
	II	2750	④	0.58	65	73
			⑤	0.90	100	65
			⑥	0.70	75	71
	III	2220	⑦	0.33	36	67
			⑧	0.52	55	59
			⑨	0.42	42	67
	IV	1480	⑩	0.17	14	57
			⑪	0.22	19	50
			⑫	0.18	16	61
	V	740	⑬	0.06	4	42
			⑭	0.07	5	40
			⑮	0.06	5	51

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH22V-4IP.ZC.AR</b>	<b>RH22V-4IP.ZC.AR</b>
Article no.	<b>177319</b>	<b>177319/01</b>
Weight kg	1.70	2.00
	* Inlet nozzle not included in the scope of delivery	
	** Inlet nozzle included in the scope of delivery	

Control technology

Control modules	Sensor control modules
	
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- Information
- ZAvbluefin-ECblue
- Cpro-ECblue
- C-ECblue
- ZAvblue
- Vpro-ECblue
- ZAcube-Cpro-ECblue
- Housing fans
- System components
- Control technology
- General notes



# ZAvblue with EC055

for single phase alternating current, 200-240 V

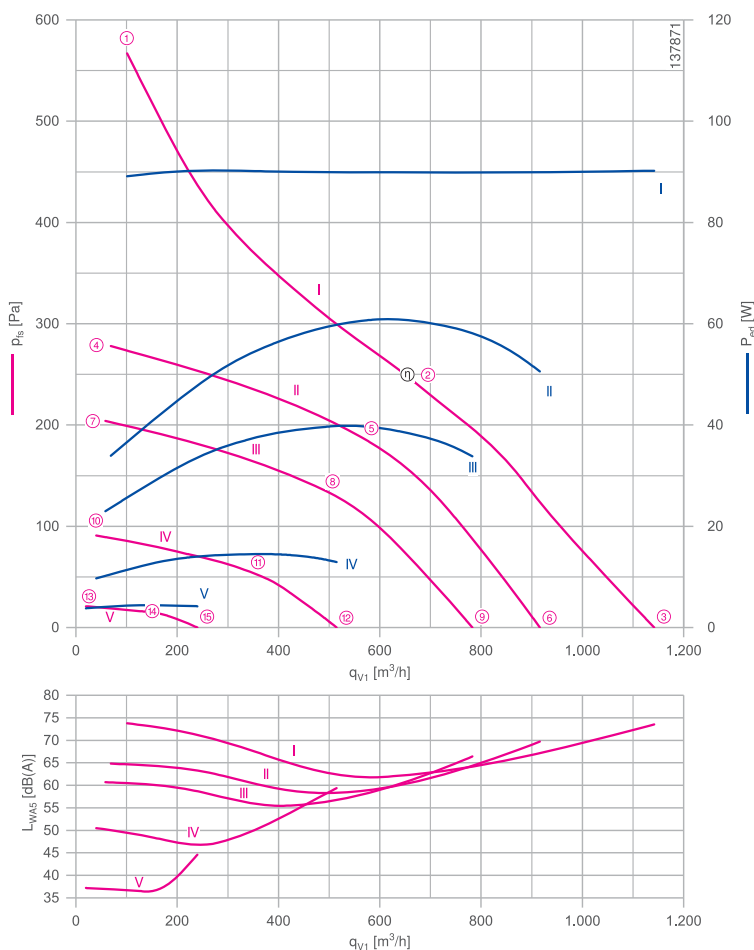
RH22V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.90-0.74 A\*  
 Rated speed  $n_N$ : 2320 min<sup>-1</sup>\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

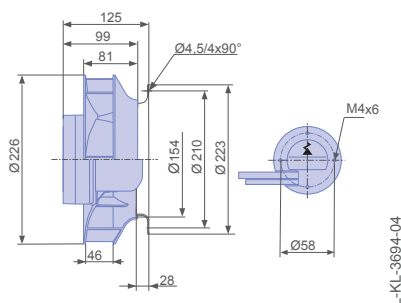


Measured with inlet nozzle, without guard grille according to ISO 5801

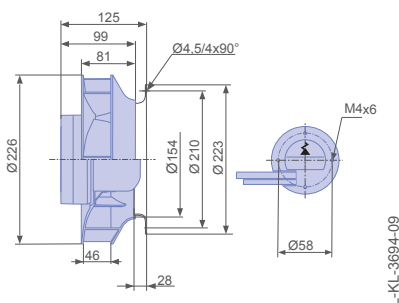
Inlet ring	00407899	Page 290
Connection diagram	1360-404	Page 358
System components		Page 286

## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet nozzle





Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	
RH22V-4IP.ZC.BR	I	2900	①	0.78	90	74	
		2330	②	0.78	90	62	
		2500	③	0.78	90	74	
	II	2030	④	0.33	34	65	
			⑤	0.56	60	59	
			⑥	0.48	50	70	
	III	1740		⑦	0.23	24	61
				⑧	0.38	40	56
				⑨	0.33	34	66
	IV	1160		⑩	0.11	10	51
				⑪	0.16	14	48
				⑫	0.14	13	59
	V	580		⑬	0.05	4	37
				⑭	0.06	4	37
				⑮	0.06	4	45

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH22V-4IP.ZC.BR</b>	<b>RH22V-4IP.ZC.BR</b>
Article no.	<b>178186</b>	<b>178186/01</b>
Weight kg	1.70	1.90
	* Inlet nozzle not included in the scope of delivery	
	** Inlet nozzle included in the scope of delivery	

Control technology

Control modules	Sensor control modules
	
Page 326	Page 328

# ZAvblue with EC055

for single phase alternating current, 200-240 V

RH22V-4IP



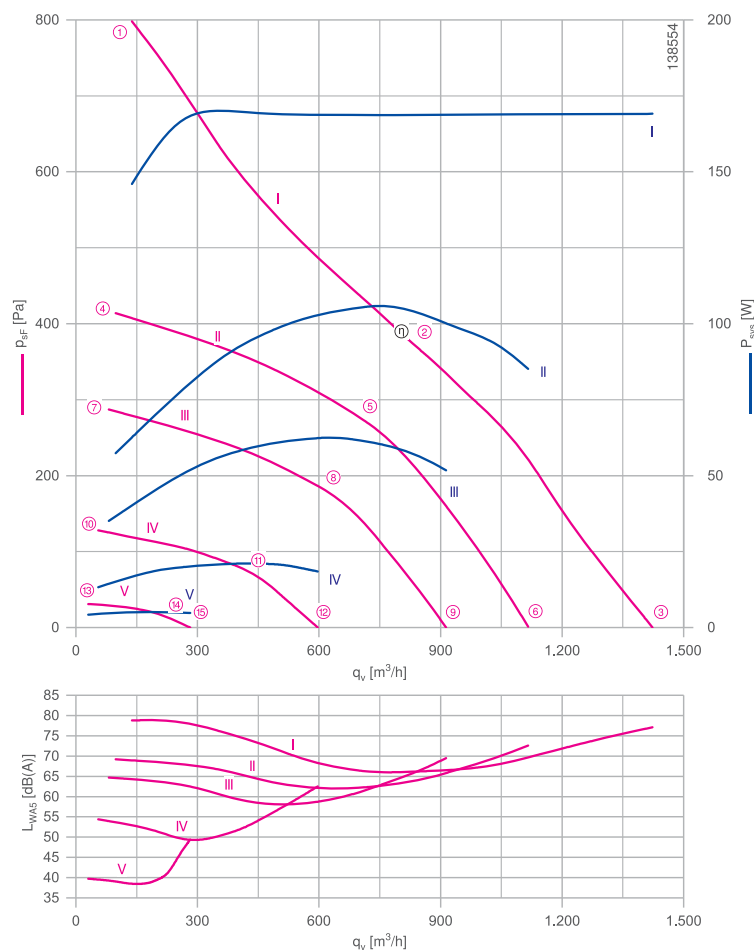
## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.75-1.45 A\*  
 Rated speed  $n_N$ : 2860 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 59.8 %  
 Efficiency grade:  $N_{actual} = 78.4 / N_{target} = 62^{**}$   
 EC controller integrated

\*Rated data  
 \*\*ErP 2015

\*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

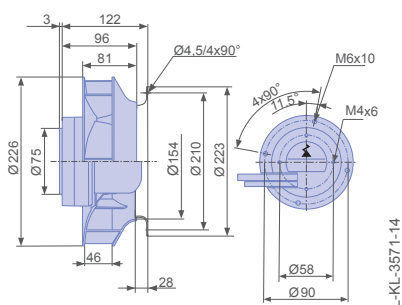


Measured with inlet nozzle, without guard grille according to ISO 5801

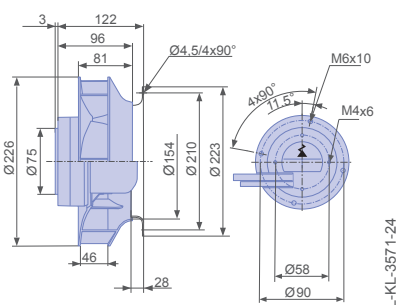
Inlet ring	00407899	Page 290
Connection diagram	1360-404	Page 358
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## Dimensions mm

Free-running motorized impeller RH  
 in installation position H/Vu/Vo



Free-running motorized impeller RH  
 in installation position H/Vu/Vo incl. inlet  
 nozzle





Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH22V-4IP.ZC.BR	I	3400	①	1.30	150	79
		2870	②	1.50	170	66
		3100	③	1.50	170	77
	II	2450	④	0.52	55	69
			⑤	0.94	100	62
			⑥	0.78	85	73
	III	2040	⑦	0.36	36	65
			⑧	0.58	60	58
			⑨	0.48	50	70
	IV	1360	⑩	0.16	13	54
			⑪	0.23	20	51
			⑫	0.21	18	63
	V	680	⑬	0.07	4	40
			⑭	0.07	5	39
			⑮	0.07	5	49

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH22V-4IP.ZC.BR</b>	<b>RH22V-4IP.ZC.BR</b>
Article no.	<b>177320</b>	<b>177320/01</b>
Weight kg	1.80	2.00
* Inlet nozzle not included in the scope of delivery		
** Inlet nozzle included in the scope of delivery		

Control technology

Control modules	Sensor control modules
	
Page 326	Page 328

# ZAvblue with EC055

for single phase alternating current, 200-240 V

RH25V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.90-0.76 A\*  
 Rated speed  $n_N$ : 2040 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: CE, UL

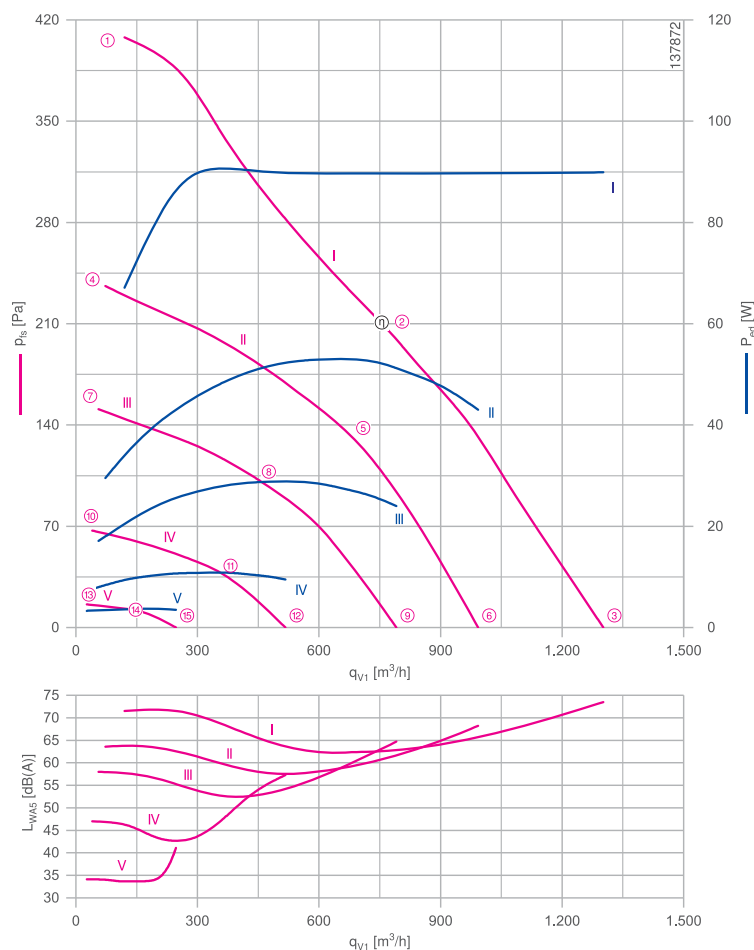
### ErP-data

Not subject to the regulations of ErP directive ( $P_i < 125$  W)

\*Rated data

\*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

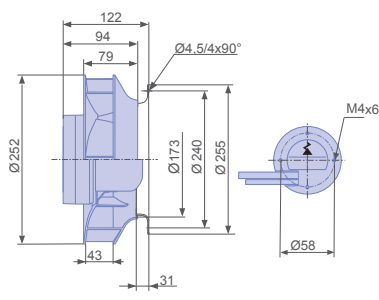


Measured with inlet nozzle, without guard grille according to ISO 5801

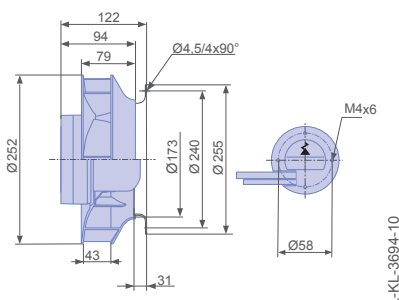
Inlet ring	00407900	Page 290
Connection diagram	1360-404	Page 358
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## Dimensions mm

Free-running motorized impeller RH  
 in installation position H/Vu/Vo



Free-running motorized impeller RH  
 in installation position H/Vu/Vo incl. inlet  
 nozzle





### Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH25V-4IP.ZC.AR	I	2270	①	0.62	65	72
		2040	②	0.80	90	63
		2210	③	0.76	90	74
	II	1700	④	0.31	30	64
			⑤	0.50	55	59
			⑥	0.42	44	68
	III	1360	⑦	0.18	17	58
			⑧	0.30	28	53
			⑨	0.25	24	65
	IV	910	⑩	0.08	8	47
			⑪	0.11	11	46
			⑫	0.10	10	57
	V	450	⑬	0.04	3	34
			⑭	0.06	4	34
			⑮	0.06	4	41

Current values determined at 230V

### Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
<b>Type</b>	<b>RH25V-4IP.ZC.AR</b>	<b>RH25V-4IP.ZC.AR</b>
<b>Article no.</b>	<b>178187</b>	<b>178187/01</b>
Weight kg	1.70	2.10
* Inlet nozzle not included in the scope of delivery		
** Inlet nozzle included in the scope of delivery		

### Control technology

Control modules	Sensor control modules
	
Page 326	Page 328

# ZAvblue with EC055

for single phase alternating current, 200-240 V

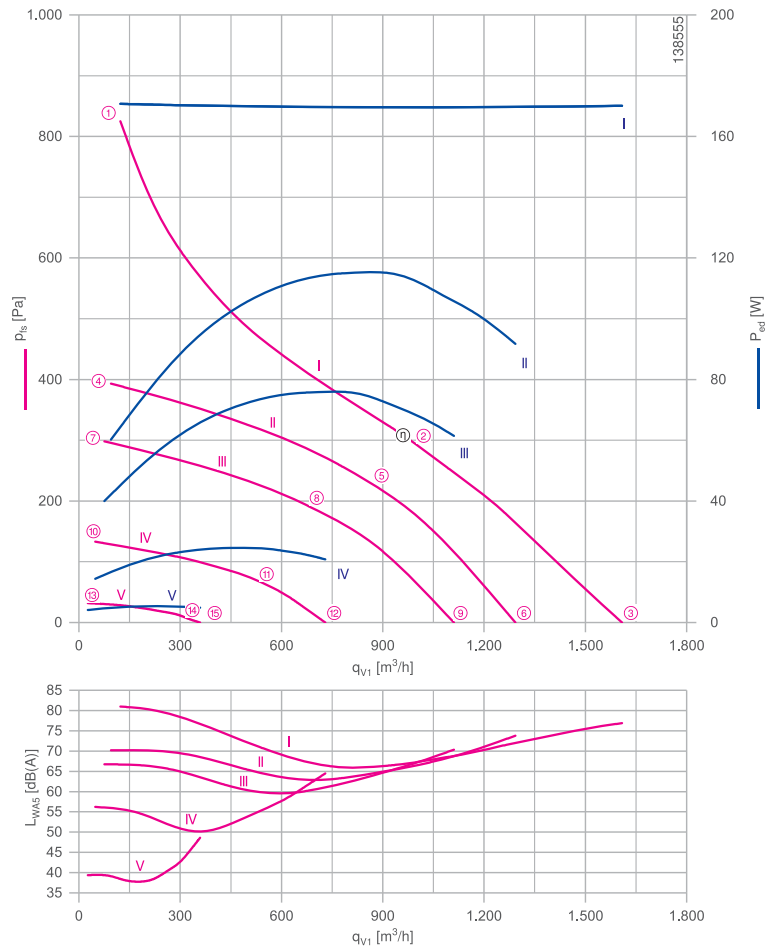
RH25V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.65-1.35 A\*  
 Rated speed  $n_N$ : 2520 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material,  
 uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 56.9 %  
 Efficiency grade:  $N_{actual} = 75.4 / N_{target} = 62$ \*\*  
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015  
 \*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve

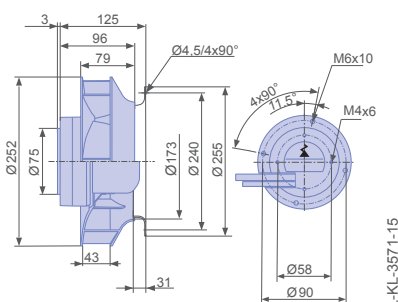


Measured with inlet nozzle, without guard grille according to ISO 5801

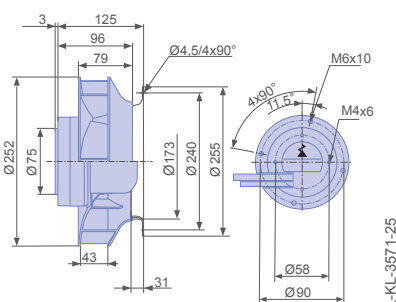
Inlet ring	00407900	Page 290
Connection diagram	1360-404	Page 358
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## Dimensions mm

Free-running motorized impeller RH  
in installation position H/Vu/Vo



Free-running motorized impeller RH  
in installation position H/Vu/Vo incl. inlet  
nozzle







Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RH25V-4IP.ZC.AR	I	3220	①	1.50	170	81
		2530	②	1.40	170	67
		2750	③	1.40	170	77
	II	2230	④	0.58	60	70
			⑤	1.00	120	64
			⑥	0.84	90	74
	III	1930	⑦	0.38	40	67
			⑧	0.70	75	59
			⑨	0.58	60	70
	IV	1290	⑩	0.16	14	56
			⑪	0.26	24	53
			⑫	0.23	20	65
	V	640	⑬	0.05	4	39
			⑭	0.07	5	38
			⑮	0.06	5	49

Current values determined at 230V

Fan ordering information

Design	RH*	RH**
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>RH25V-4IP.ZC.AR</b>	<b>RH25V-4IP.ZC.AR</b>
Article no.	<b>177321</b>	<b>177321/01</b>
Weight kg	1.80	2.10
* Inlet nozzle not included in the scope of delivery		
** Inlet nozzle included in the scope of delivery		

Control technology

Control modules	Sensor control modules
	
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# ZApilot with EC055

## EC-Technology

### Product overview

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Information

ZAbluefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAVblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

Control  
technology

General notes

# ZApilot with EC055

for single phase alternating current, 200-240 V

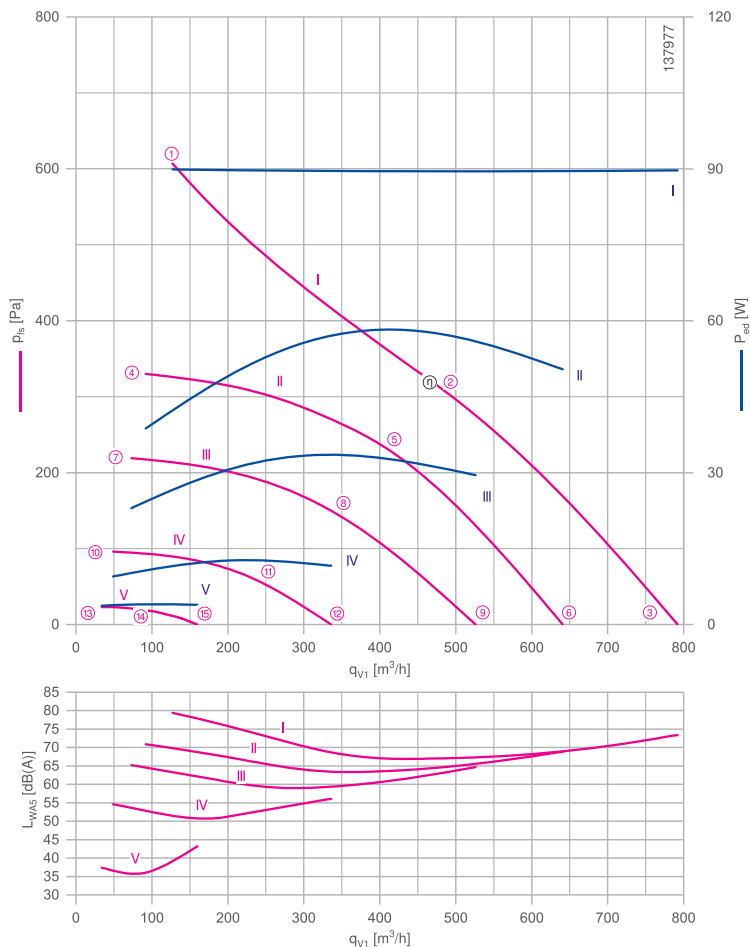
GR18V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.88-0.72 A\*  
 Rated speed  $n_N$ : 3490 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable attached cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

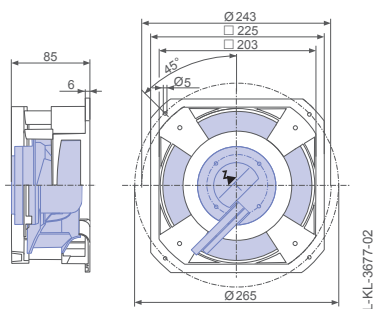


Measured with inlet nozzle, without guard grille according to ISO 5801

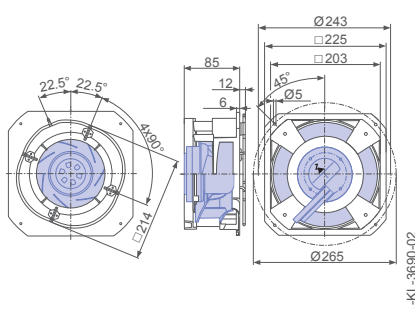
Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Ventilation unit GR in installation position H/Vu/Vo



Ventilation unit GR incl. measuring devices in installation position H/Vu/Vo

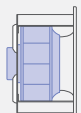
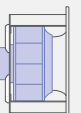


Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
GR18V-4IP.Z8.AR	I	4090	①	0.76	90	79
		3510	②	0.76	90	67
		3710	③	0.76	90	73
	II	3010	④	0.37	38	71
			⑤	0.50	60	64
			⑥	0.46	50	69
	III	2460	⑦	0.24	24	65
			⑧	0.33	34	59
			⑨	0.30	30	65
	IV	1640	⑩	0.11	10	55
			⑪	0.14	13	52
			⑫	0.14	12	56
	V	820	⑬	0.05	4	37
			⑭	0.05	4	37
			⑮	0.05	4	43

Current values determined at 230V

Fan ordering information

Design	GR**	GR***
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>GR18V-4IP.Z8.AR</b>	<b>GR18V-4IP.Z8.AR</b>
Article no.	<b>178236</b>	<b>178236/A02</b>
Weight kg	1.70	1.70
** Inlet nozzle integrated		
*** Inlet nozzle integrated, incl. four mounted pressure taps for volume flow measurement		

Control technology

Control modules	Sensor control modules
	
Page 326	Page 328

# ZApilot with EC055

for single phase alternating current, 200-240 V

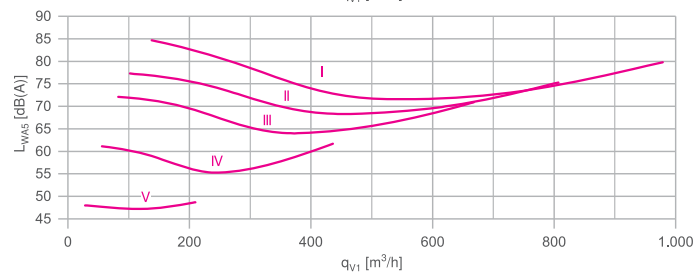
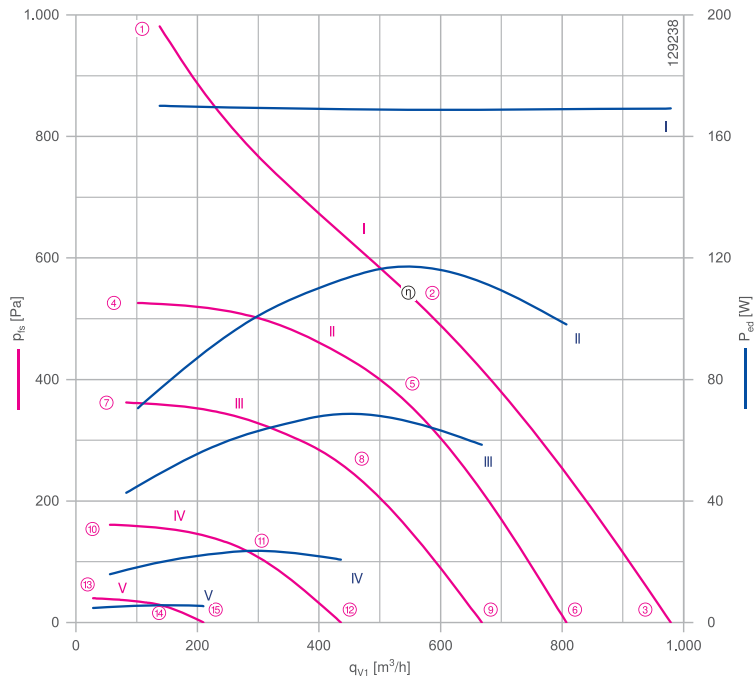
GR18V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.75-1.50 A\*  
 Rated speed  $n_N$ : 4340 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with lateral attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 57.0 %  
 Efficiency grade:  $N_{actual} = 75.6 / N_{target} = 62^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

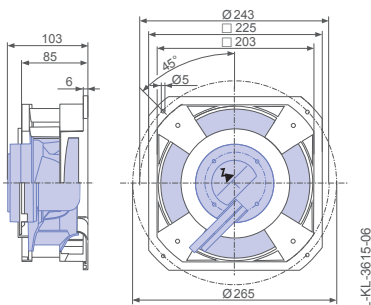


Measured with inlet nozzle, without guard grille according to ISO 5801

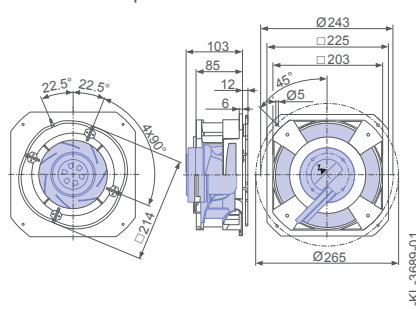
Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Ventilation unit GR in installation position H/Vu/Vo



Ventilation unit GR incl. measuring devices in installation position H/Vu/Vo

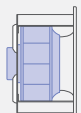
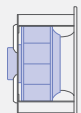


Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	
GR18V-4IP.Z8.AR	I	5230	①	1.50	170	85	
		4370	②	1.50	170	72	
		4640	③	1.50	170	80	
	II	3840	④	0.62	70	77	
			⑤	1.00	120	69	
			⑥	0.86	100	75	
	III	3190		⑦	0.42	42	72
				⑧	0.60	70	64
				⑨	0.52	60	71
	IV	2130		⑩	0.18	16	61
				⑪	0.25	24	56
				⑫	0.22	20	62
	V	1060		⑬	0.08	5	48
				⑭	0.08	6	47
				⑮	0.07	5	49

Current values determined at 230V

Fan ordering information

Design	GR**	GR***
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>GR18V-4IP.Z8.AR</b>	<b>GR18V-4IP.Z8.AR</b>
Article no.	<b>178086</b>	<b>178086/A02</b>
Weight kg	1.80	1.80
** Inlet nozzle integrated		
*** Inlet nozzle integrated, incl. four mounted pressure taps for volume flow measurement		

Control technology

Control modules	Sensor control modules
	
Page 326	Page 328

# ZApilot with EC055

for single phase alternating current, 200-240 V

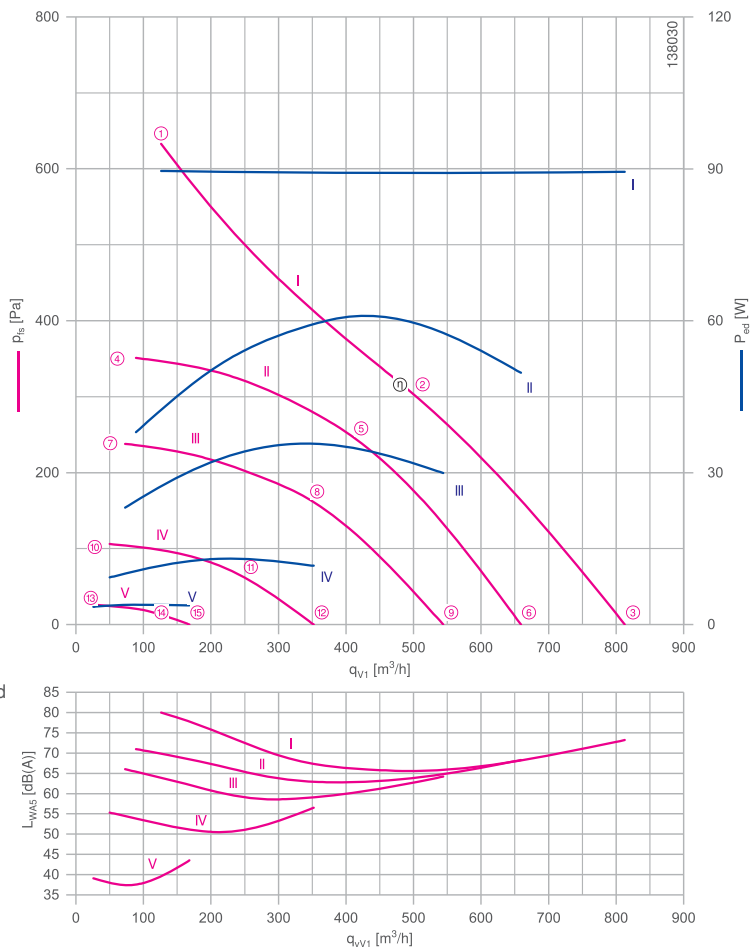
GR19V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.88-0.72 A\*  
 Rated speed  $n_N$ : 3150 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with lateral attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

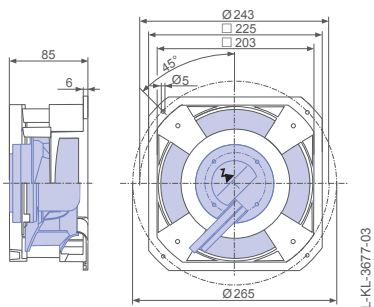


Measured with inlet nozzle, without guard grille according to ISO 5801

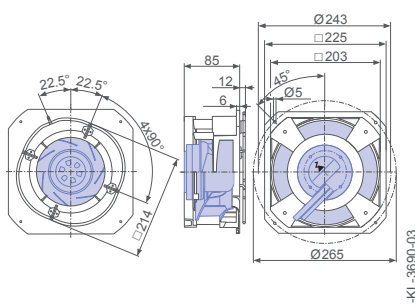
Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Ventilation unit GR in installation position H/Vu/Vo



Ventilation unit GR incl. measuring devices in installation position H/Vu/Vo



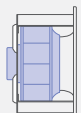
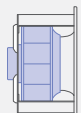


### Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
GR19V-4IP.Z8.AR	I	3730	①	0.76	90	80
		3150	②	0.76	90	66
		3400	③	0.76	90	73
	II	2760	④	0.36	38	71
			⑤	0.54	60	63
			⑥	0.46	50	68
	III	2280	⑦	0.23	24	66
			⑧	0.34	36	59
			⑨	0.29	30	64
	IV	1520	⑩	0.11	9	55
			⑪	0.14	13	51
			⑫	0.12	12	57
	V	760	⑬	0.05	4	39
			⑭	0.05	4	38
			⑮	0.05	4	44

Current values determined at 230V

### Fan ordering information

Design	GR**	GR***
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>GR19V-4IP.Z8.AR</b>	<b>GR19V-4IP.Z8.AR</b>
Article no.	<b>178237</b>	<b>178237/A02</b>
Weight kg	1.70	1.70
** Inlet nozzle integrated		
*** Inlet nozzle integrated, incl. four mounted pressure taps for volume flow measurement		

### Control technology

Control modules	Sensor control modules
	
Page 326	Page 328

Information

ZAbluefin-ECblue

Cpro-ECblue

C-ECblue

ZAVblue

Vpro-ECblue

ZAcube-Cpro-ECblue

Housing fans

System components

Control technology

General notes

# ZApilot with EC055

for single phase alternating current, 200-240 V

GR19V-4IP



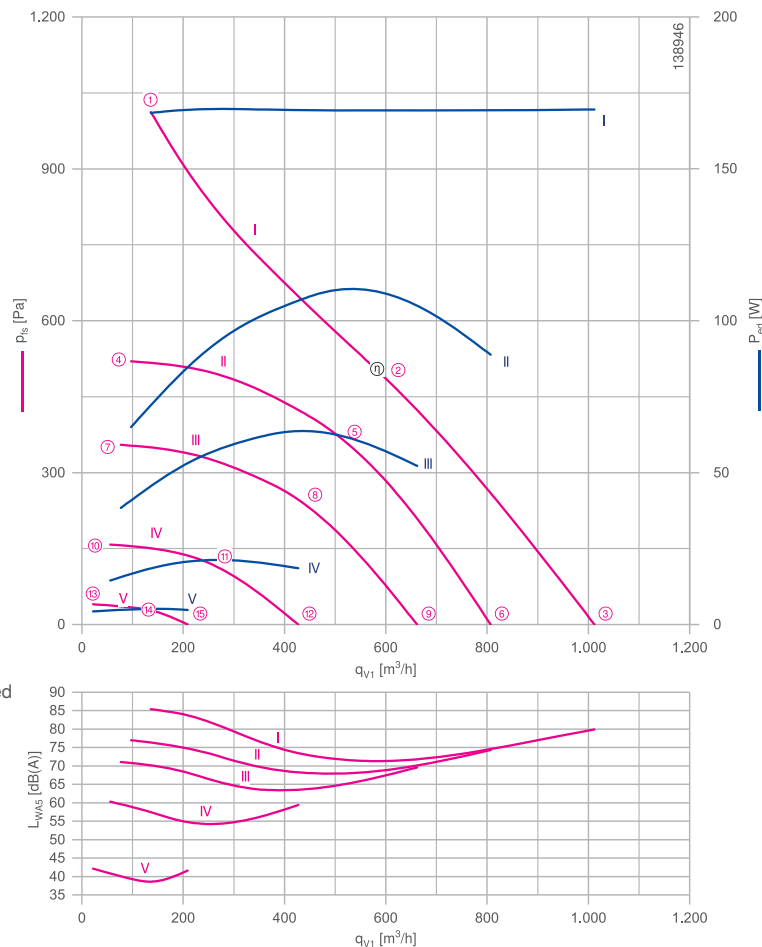
## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.70-1.45 A\*  
 Rated speed  $n_N$ : 3930 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with lateral attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 56.2 %  
 Efficiency grade:  $N_{actual} = 74.8 / N_{target} = 62^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Connection diagram 1360-404 Page 358  
 System components Page 286

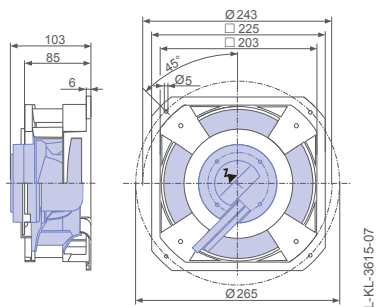
## Characteristic curve



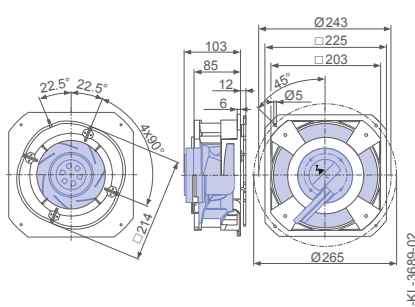
Measured with inlet nozzle, without guard grille according to ISO 5801

## Dimensions mm

Ventilation unit GR in installation position H/Vu/Vo



Ventilation unit GR incl. measuring devices in installation position H/Vu/Vo

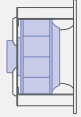
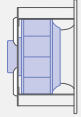


Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
GR19V-4IP.Z8.AR	I	4750	①	1.45	170	85
		3940	②	1.50	170	71
		4250	③	1.50	170	80
	II	3410	④	0.56	65	77
			⑤	0.92	110	68
			⑥	0.72	90	74
	III	2820	⑦	0.37	38	71
			⑧	0.58	65	63
			⑨	0.52	50	70
	IV	1880	⑩	0.17	15	60
			⑪	0.23	22	54
			⑫	0.20	19	59
	V	940	⑬	0.06	4	42
			⑭	0.07	5	39
			⑮	0.06	5	42

Current values determined at 230V

Fan ordering information

Design	GR**	GR***
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>GR19V-4IP.Z8.AR</b>	<b>GR19V-4IP.Z8.AR</b>
Article no.	<b>178087</b>	<b>178087/A02</b>
Weight kg	1.80	1.80
** Inlet nozzle integrated		
*** Inlet nozzle integrated, incl. four mounted pressure taps for volume flow measurement		

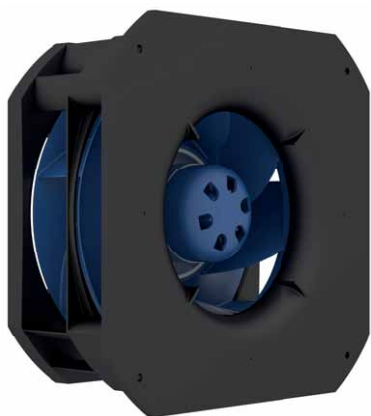
Control technology

Control modules	Sensor control modules
	
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# ZApilot with EC055

for single phase alternating current, 200-240 V

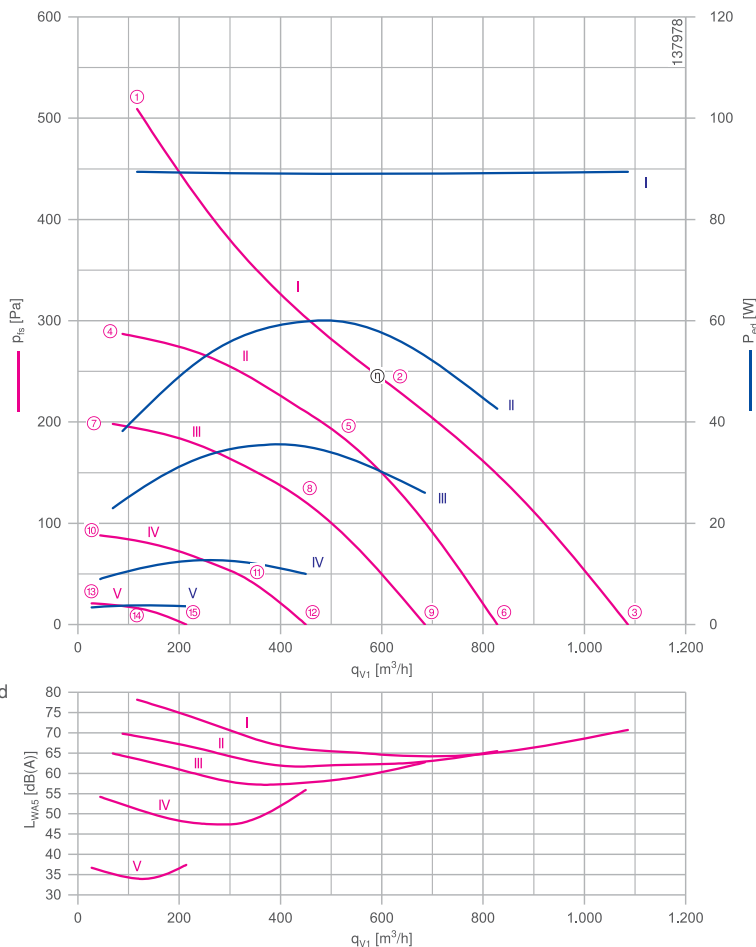
GR22V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.92-0.76 A\*  
 Rated speed  $n_N$ : 2570 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with lateral attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

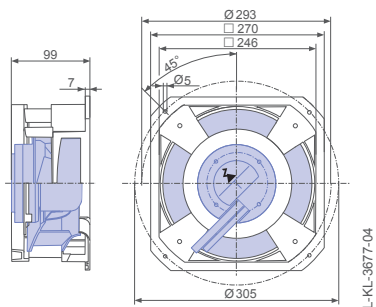


Measured with inlet nozzle, without guard grille according to ISO 5801

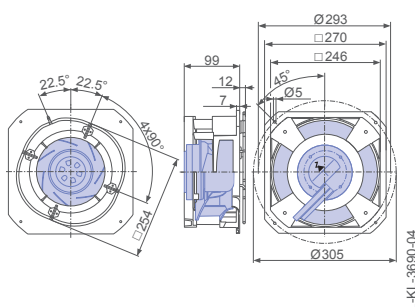
Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Ventilation unit GR in installation position  
H/Vu/Vo



Ventilation unit GR incl. measuring devices  
in installation position H/Vu/Vo

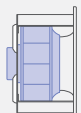
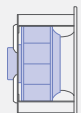


### Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
GR22V-4IP.Z8.AR	I	3020	①	0.80	90	78
		2570	②	0.80	90	65
		2920	③	0.82	90	71
	II	2240	④	0.42	38	70
			⑤	0.58	60	62
			⑥	0.44	42	66
	III	1860	⑦	0.26	24	65
			⑧	0.39	36	57
			⑨	0.30	26	63
	IV	1240	⑩	0.11	9	54
			⑪	0.14	13	48
			⑫	0.12	10	56
	V	620	⑬	0.05	3	37
			⑭	0.05	4	34
			⑮	0.05	4	37

Current values determined at 230V

### Fan ordering information

Design	GR**	GR***
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>GR22V-4IP.Z8.AR</b>	<b>GR22V-4IP.Z8.AR</b>
Article no.	<b>178238</b>	<b>178238/A02</b>
Weight kg	2.20	2.10
** Inlet nozzle integrated		
*** Inlet nozzle integrated, incl. four mounted pressure taps for volume flow measurement		

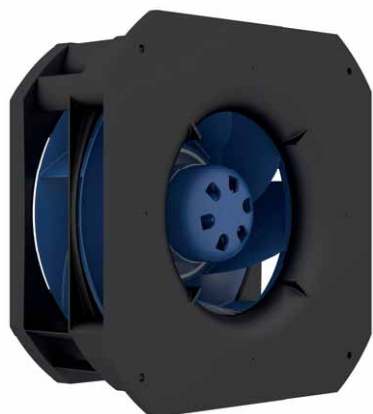
### Control technology

Control modules	Sensor control modules
	
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# ZApilot with EC055

for single phase alternating current, 200-240 V

GR22V-4IP

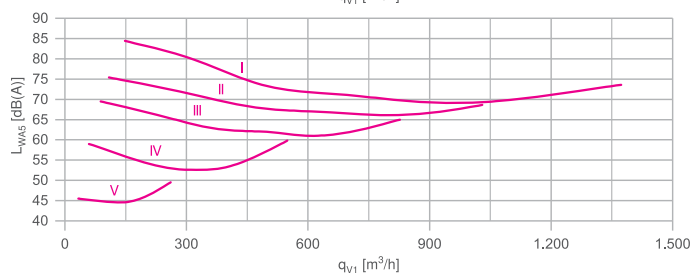
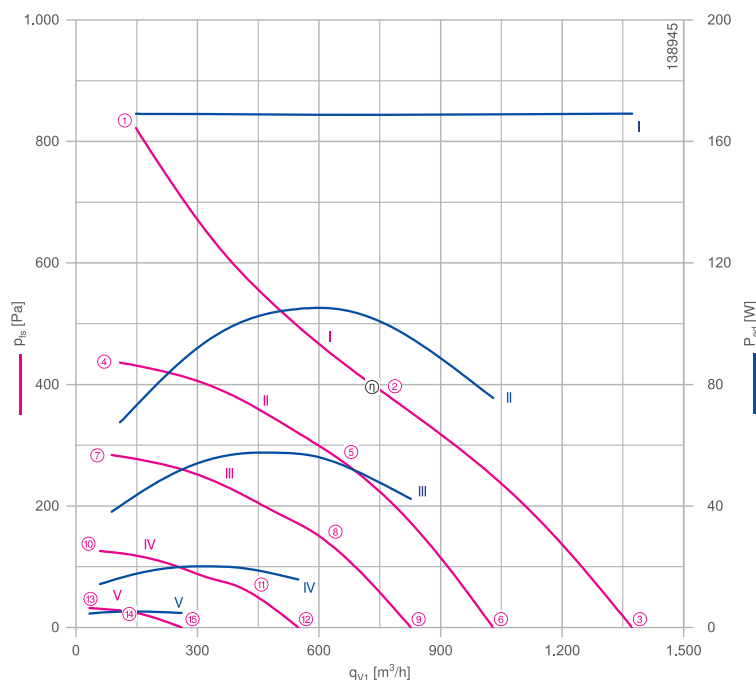


## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.70-1.40 A\*  
 Rated speed  $n_N$ : 3230 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with lateral attached cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: ErP 2015, CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 56.4 %  
 Efficiency grade:  $N_{actual} = 75.0 / N_{target} = 62^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

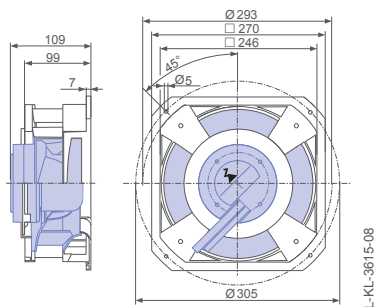


Measured with inlet nozzle, without guard grille according to ISO 5801

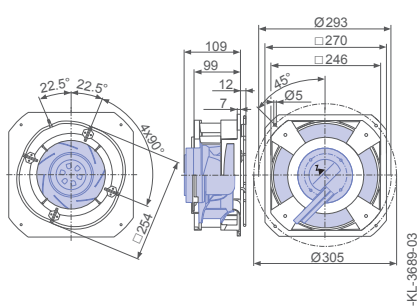
Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Ventilation unit GR in installation position H/Vu/Vo



Ventilation unit GR incl. measuring devices in installation position H/Vu/Vo

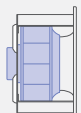
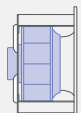


Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	
GR22V-4IP.ZC.AR	I	3790	①	1.45	170	84	
		3230	②	1.45	170	71	
		3650	③	1.45	170	74	
	II	2750	④	0.58	70	75	
			⑤	0.88	110	67	
			⑥	0.68	75	69	
	III	2220		⑦	0.42	38	70
				⑧	0.54	55	61
				⑨	0.40	42	65
	IV	1480		⑩	0.15	14	59
				⑪	0.19	20	53
				⑫	0.16	16	60
	V	740		⑬	0.06	5	46
				⑭	0.07	5	45
				⑮	0.07	5	50

Current values determined at 230V

Fan ordering information

Design	GR**	GR***
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>GR22V-4IP.ZC.AR</b>	<b>GR22V-4IP.ZC.AR</b>
Article no.	<b>178088</b>	<b>178088/A02</b>
Weight kg	2.50	2.50
** Inlet nozzle integrated		
*** Inlet nozzle integrated, incl. four mounted pressure taps for volume flow measurement		

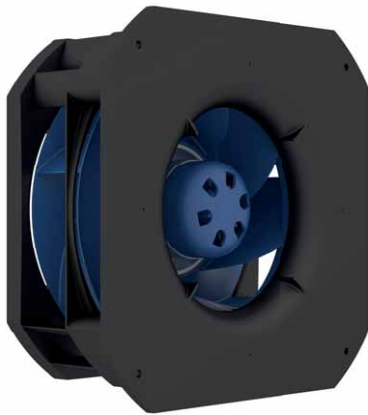
Control technology

Control modules	Sensor control modules
	
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# ZApilot with EC055

for single phase alternating current, 200-240 V

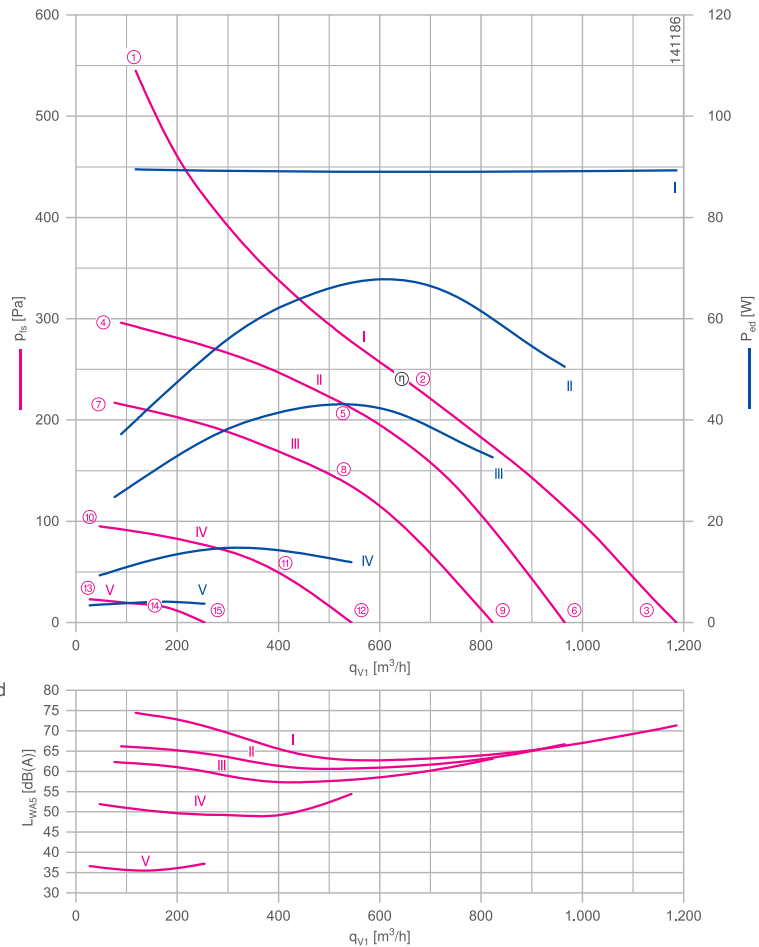
GR22V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.96-0.80 A\*  
 Rated speed  $n_N$ : 2220 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with lateral attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

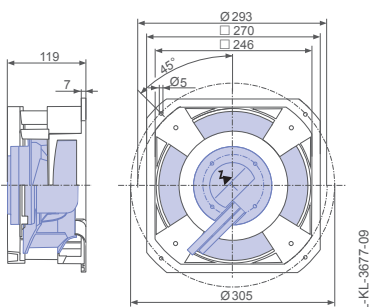


Measured with inlet nozzle, without guard grille according to ISO 5801

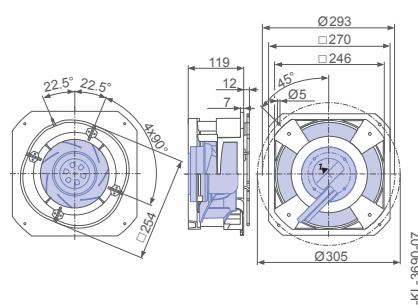
Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Ventilation unit GR in installation position H/Vu/Vo



Ventilation unit GR incl. measuring devices in installation position H/Vu/Vo



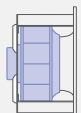
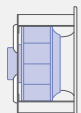


Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
GR22V-4IP.Z8.BR	I	2750	①	0.80	90	74
		2220	②	0.82	90	63
		2470	③	0.84	90	71
	II	2030	④	0.35	38	66
			⑤	0.64	70	61
			⑥	0.48	50	67
	III	1740	⑦	0.25	24	62
			⑧	0.42	44	58
			⑨	0.32	32	63
	IV	1160	⑩	0.10	9	52
			⑪	0.16	15	49
			⑫	0.13	12	54
	V	580	⑬	0.05	3	37
			⑭	0.06	4	36
			⑮	0.05	4	37

Current values determined at 230V

Fan ordering information

Design	GR**	GR***
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>GR22V-4IP.Z8.BR</b>	<b>GR22V-4IP.Z8.BR</b>
Article no.	<b>178239</b>	<b>178239/A02</b>
Weight kg	2.20	2.20
** Inlet nozzle integrated		
*** Inlet nozzle integrated, incl. four mounted pressure taps for volume flow measurement		

Control technology

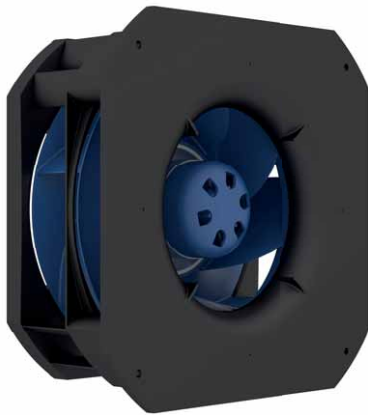
Control modules	Sensor control modules
	
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- ZAbluefin-ECblue
- Cpro-ECblue
- C-ECblue
- ZAVblue
- Vpro-ECblue
- ZAcube-Cpro-ECblue
- Housing fans
- System components
- Control technology
- General notes

# ZApilot with EC055

for single phase alternating current, 200-240 V

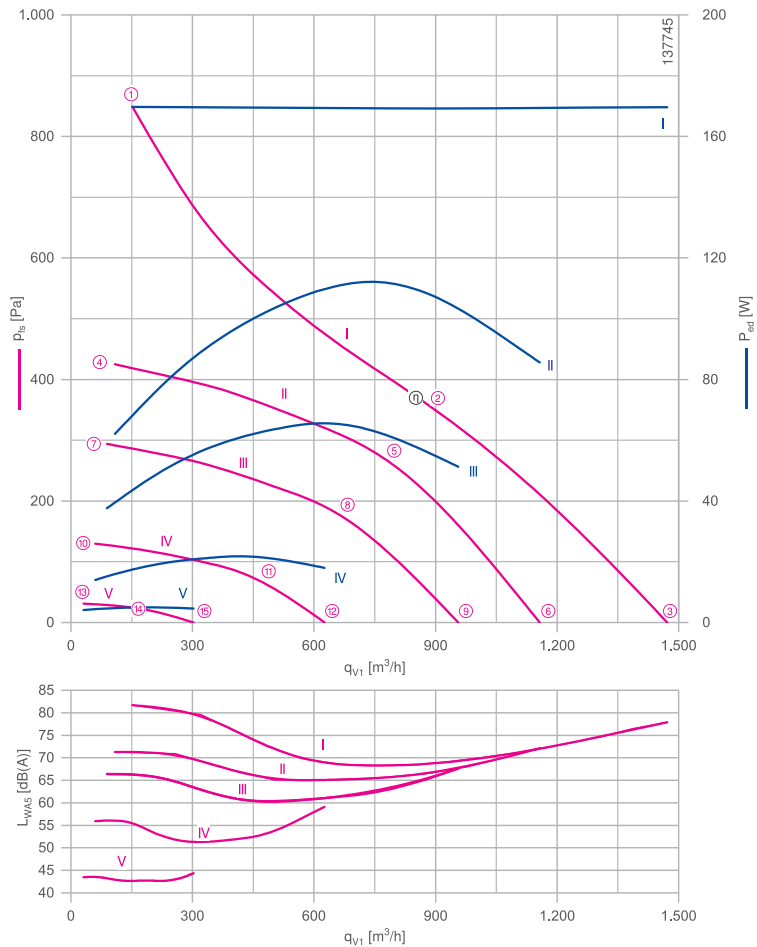
GR22V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.65-1.40 A\*  
 Rated speed  $n_N$ : 2810 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with lateral attached cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: ErP 2015, CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 60.8 %  
 Efficiency grade:  $N_{actual} = 79.4 / N_{target} = 62^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

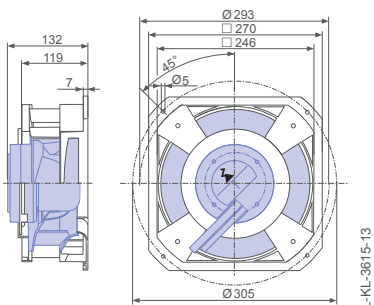


Measured with inlet nozzle, without guard grille according to ISO 5801

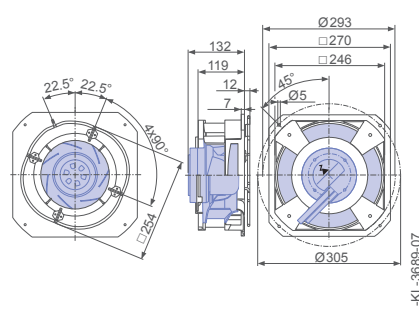
Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Ventilation unit GR in installation position H/Vu/Vo



Ventilation unit GR incl. measuring devices in installation position H/Vu/Vo

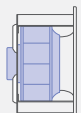
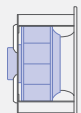


### Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
GR22V-4IP.ZC.BR	I	3460	①	1.45	170	82
		2810	②	1.45	170	69
		3100	③	1.45	170	78
	II	2450	④	0.56	60	71
			⑤	0.96	110	66
			⑥	0.74	85	72
	III	2040	⑦	0.37	38	66
			⑧	0.56	65	61
			⑨	0.46	50	68
	IV	1360	⑩	0.16	14	56
			⑪	0.23	22	52
			⑫	0.20	18	59
	V	680	⑬	0.05	4	44
			⑭	0.06	5	43
			⑮	0.06	5	44

Current values determined at 230V

### Fan ordering information

Design	GR**	GR***
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>GR22V-4IP.ZC.BR</b>	<b>GR22V-4IP.ZC.BR</b>
Article no.	<b>178089</b>	<b>178089/A02</b>
Weight kg	2.60	2.60
** Inlet nozzle integrated		
*** Inlet nozzle integrated, incl. four mounted pressure taps for volume flow measurement		

### Control technology

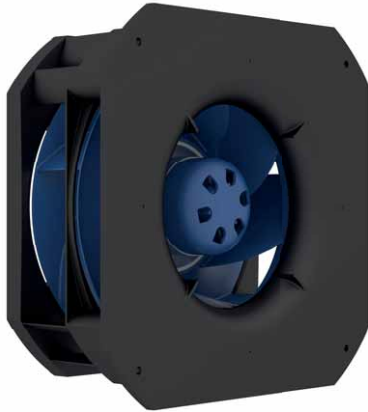
Control modules	Sensor control modules
	
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- Cpro-ECblue
- C-ECblue
- ZAVblue
- Vpro-ECblue
- ZAcube-Cpro-ECblue
- Housing fans
- System components
- Control technology
- General notes

# ZApilot with EC055

for single phase alternating current, 200-240 V

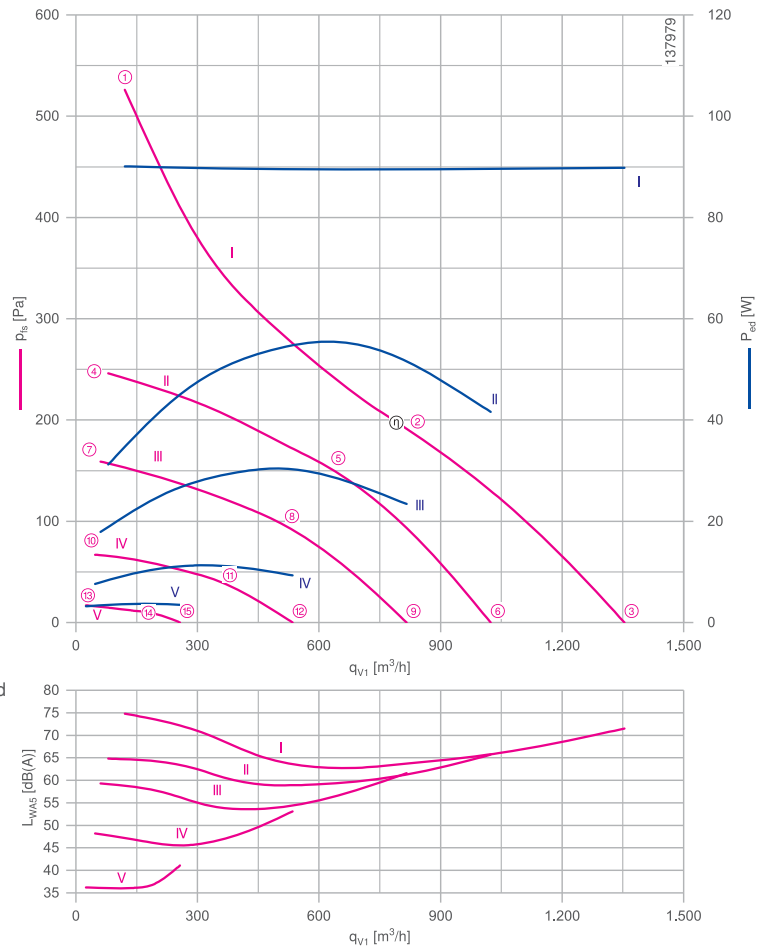
GR25V-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.90-0.76 A\*  
 Rated speed  $n_N$ : 2000 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with lateral attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: CE, UL  
**ErP-data**  
 Not subject to the regulations of ErP directive ( $P_i < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

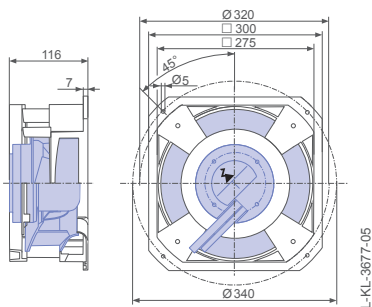


Measured with inlet nozzle, without guard grille according to ISO 5801

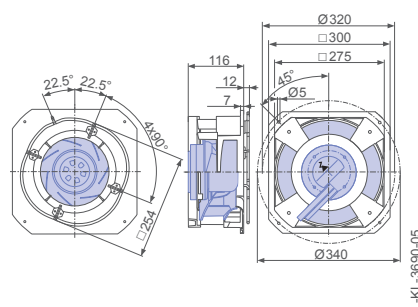
Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Ventilation unit GR in installation position H/Vu/Vo



Ventilation unit GR incl. measuring devices in installation position H/Vu/Vo

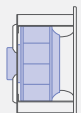
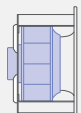


Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
GR25V-4IP.ZC.AR	I	2490	①	0.80	90	75
		2000	②	0.78	90	64
		2240	③	0.78	90	72
	II	1700	④	0.29	32	65
			⑤	0.48	55	59
			⑥	0.39	42	66
	III	1370	⑦	0.17	18	59
			⑧	0.30	30	54
			⑨	0.23	24	62
	IV	910	⑩	0.09	8	48
			⑪	0.15	11	46
			⑫	0.11	9	53
	V	460	⑬	0.04	3	36
			⑭	0.06	4	37
			⑮	0.04	4	41

Current values determined at 230V

Fan ordering information

Design	GR**	GR***
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	<b>GR25V-4IP.ZC.AR</b>	<b>GR25V-4IP.ZC.AR</b>
Article no.	<b>178240</b>	<b>178240/A02</b>
Weight kg	2.70	2.70
** Inlet nozzle integrated		
*** Inlet nozzle integrated, incl. four mounted pressure taps for volume flow measurement		

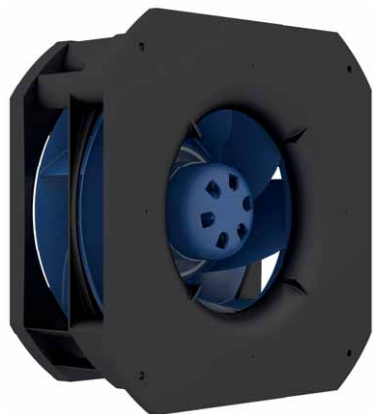
Control technology

Control modules	Sensor control modules
	
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# ZApilot with EC055

for single phase alternating current, 200-240 V

GR25V-4IP



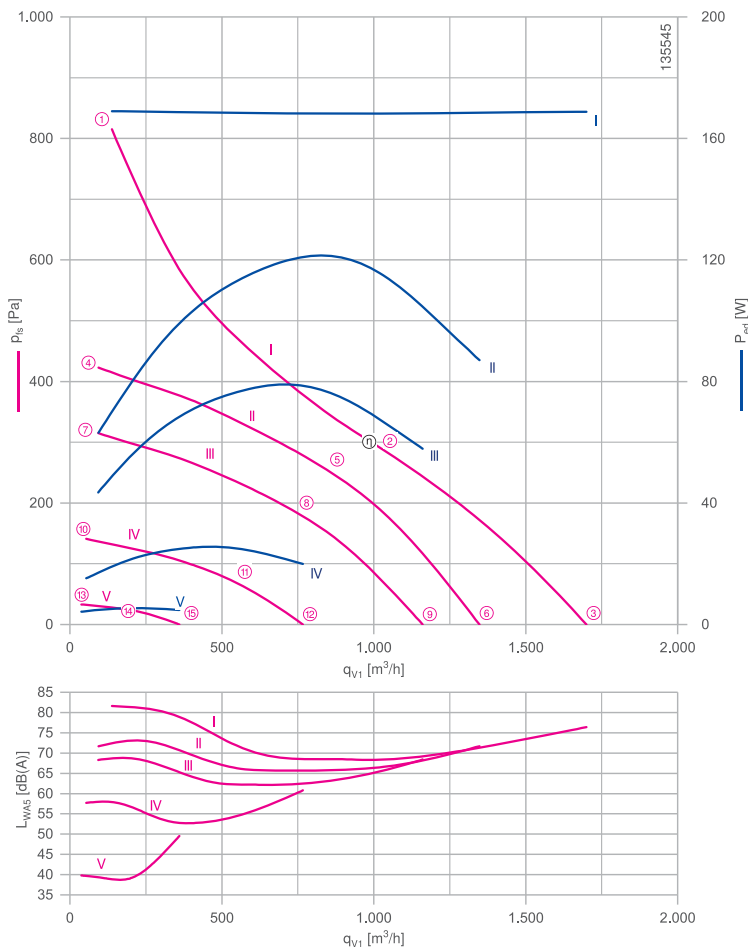
## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.75-1.45 A\*  
 Rated speed  $n_N$ : 2480 min<sup>-1</sup>\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with lateral attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of High Performance Composite Material, uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 57.6 %  
 Efficiency grade:  $N_{actual} = 76.2 / N_{target} = 62^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Connection diagram 1360-404 Page 358  
 System components Page 286

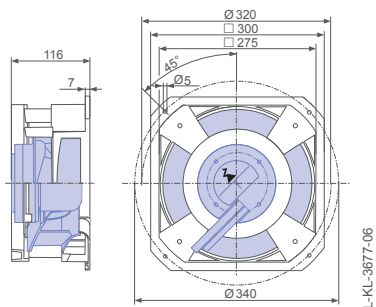
## Characteristic curve



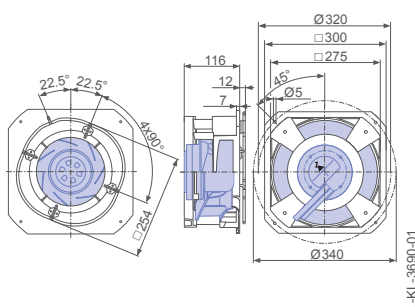
Measured with inlet nozzle, without guard grille according to ISO 5801

## Dimensions mm

Ventilation unit GR in installation position H/Vu/Vo



Ventilation unit GR incl. measuring devices in installation position H/Vu/Vo

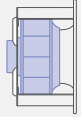
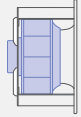


Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	
GR25V-4IP.ZC.AR	I	3110	①	1.50	170	82	
		2480	②	1.50	170	68	
		2800	③	1.50	170	76	
	II	2230	④	0.62	65	72	
			⑤	1.10	120	66	
			⑥	0.84	85	72	
	III	1930		⑦	0.44	44	68
				⑧	0.76	80	62
				⑨	0.56	60	68
	IV	1290		⑩	0.17	15	58
				⑪	0.28	26	53
				⑫	0.22	20	61
	V	640		⑬	0.06	4	40
				⑭	0.07	5	40
				⑮	0.06	5	50

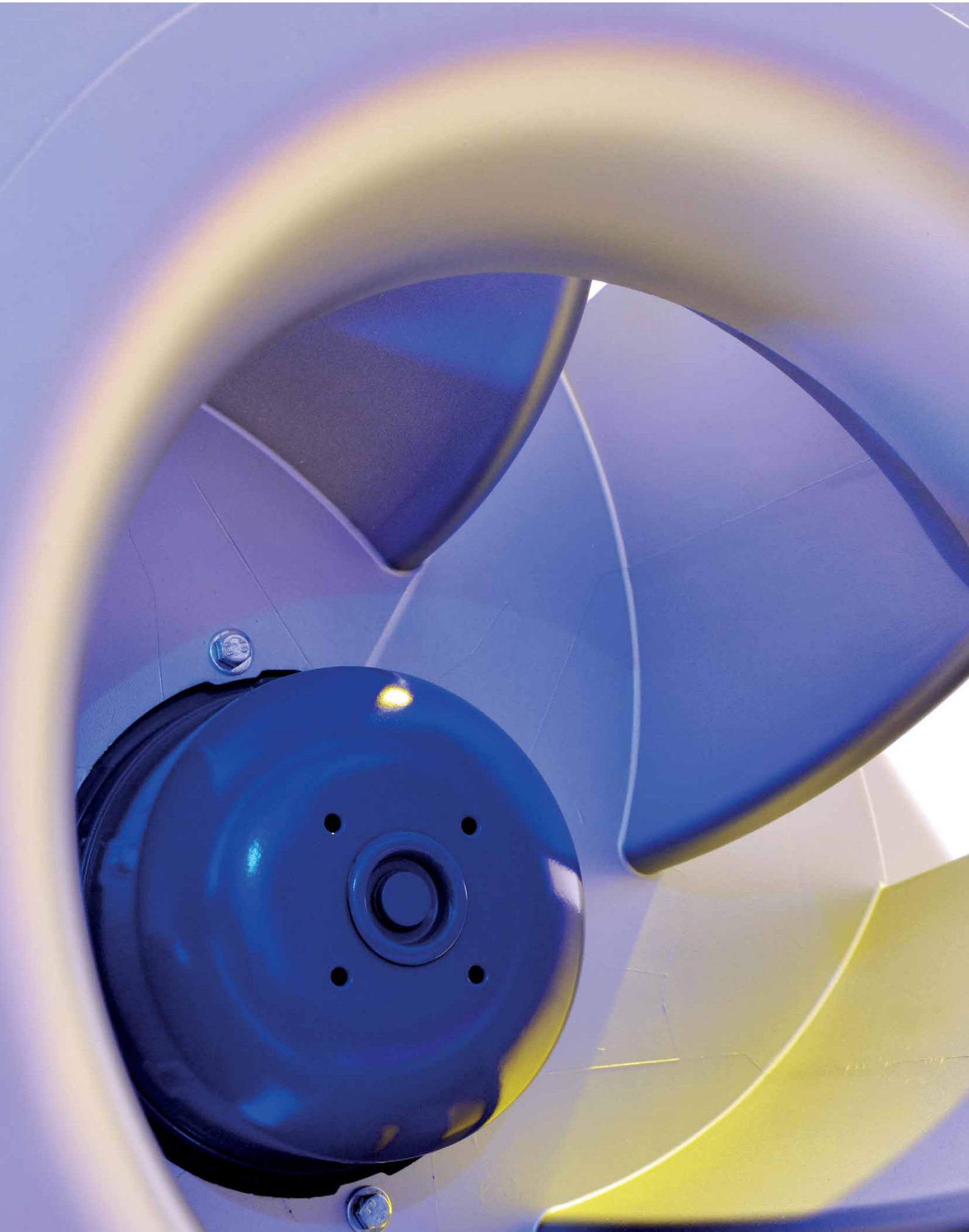
Current values determined at 230V

Fan ordering information

Design	GR**	GR***
Installation position	H/Vu/Vo	H/Vu/Vo
		
Type	GR25V-4IP.ZC.AR	GR25V-4IP.ZC.AR
Article no.	178090	178090/A02
Weight kg	2.80	2.80
** Inlet nozzle integrated		
*** Inlet nozzle integrated, incl. four mounted pressure taps for volume flow measurement		

Control technology

Control modules	Sensor control modules
	
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# Vpro-ECblue

## EC-Technology

### Product overview

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Information

ZBluefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

Control  
technology

General notes

# Vpro-ECblue

Size 250

RH25V

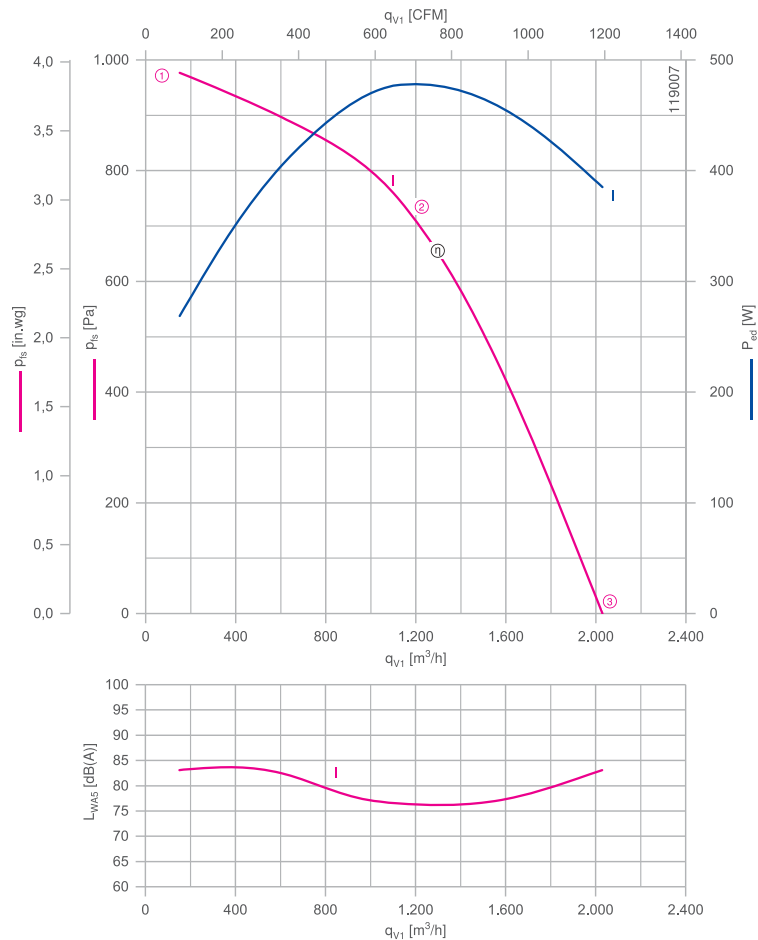


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated  
 \* Rated data

Inlet ring                      00407900              Page 289  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

I	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
I	1~200-277	<b>RH25V-6IK.BA.1R</b>	BA	<b>171287</b>	0.48 kW	2.40-1.75	3600	56.3	70.2	2015	yes		4.10

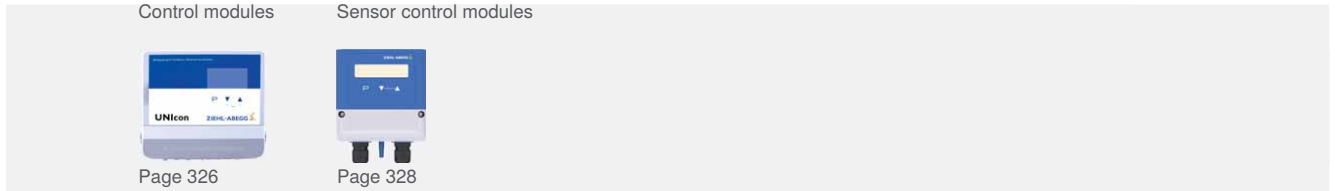
Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
				I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	U V
RH25V-6IK.BA.1R	I	3610	①	1.15	270	83		230
			②	2.10	480	76	40	
			③	1.70	390	83		

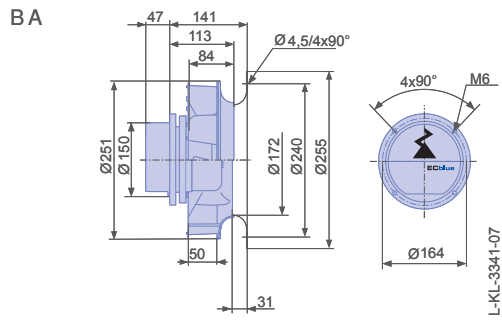
Control technology



Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo

Inlet nozzle not included



# Vpro-ECblue

Size 280

RH28V

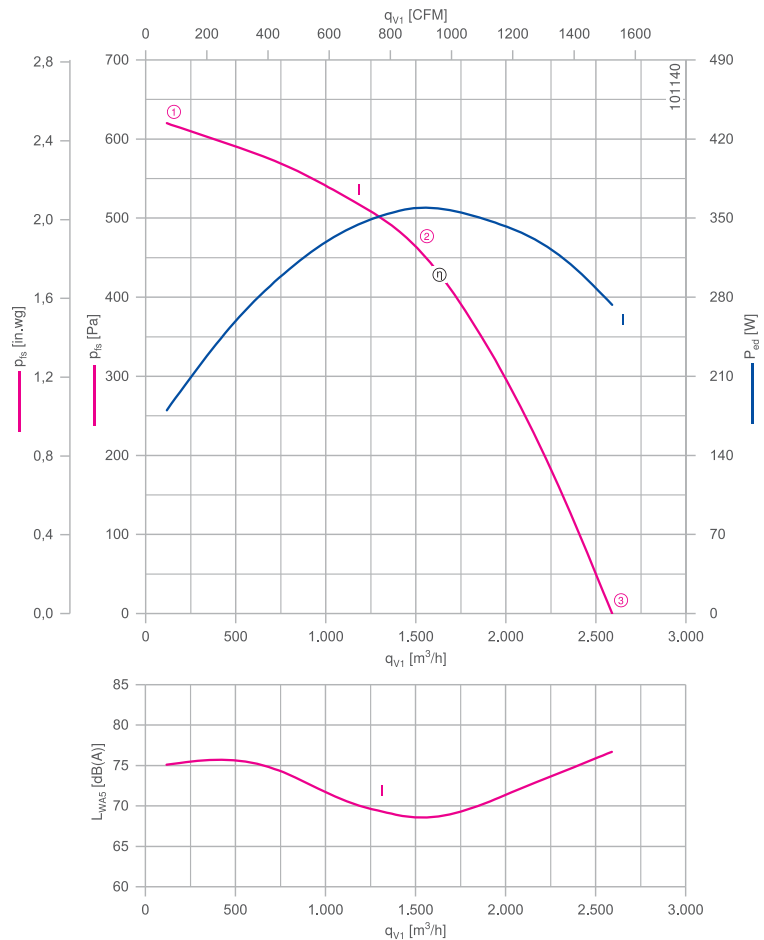


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated  
 \* Rated data

Inlet ring	00275848	Page 289
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## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

I	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
	$U_N$ V										CE	UL	
I	1~200-277	<b>RH28V-6IK.BA.1R</b>	BA	<b>114835</b>	0.36 kW	1.80-1.30	2450	62.4	77.6	2015	yes		4.50

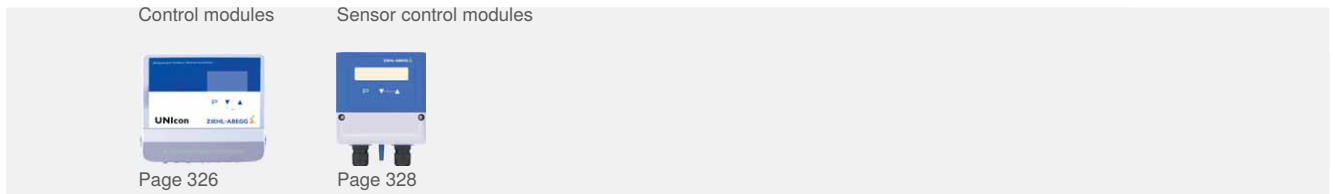
Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed $n$ $\text{min}^{-1}$	Operating point	Current $I$ A	Input power $P_{ed}$ W	Suction side sound power level $L_{WAS}$ dB(A)	Maximum ambient temperature $t_{amb}^{(max.)}$ $^{\circ}\text{C}$	Voltage $U$ V
RH28V-6IK.BA.1R	I	2450	①	0.80	180	75	60	230
			②	1.55	360	69		
			③	1.20	270	77		

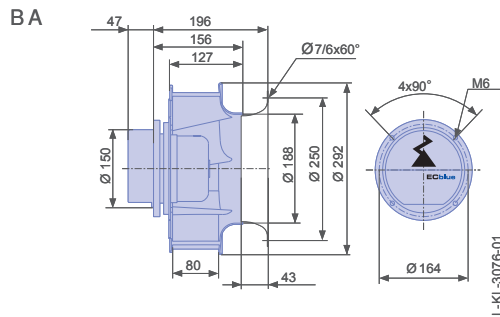
Control technology



Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo

Inlet nozzle not included



# Vpro-ECblue

Size 315

RH31V

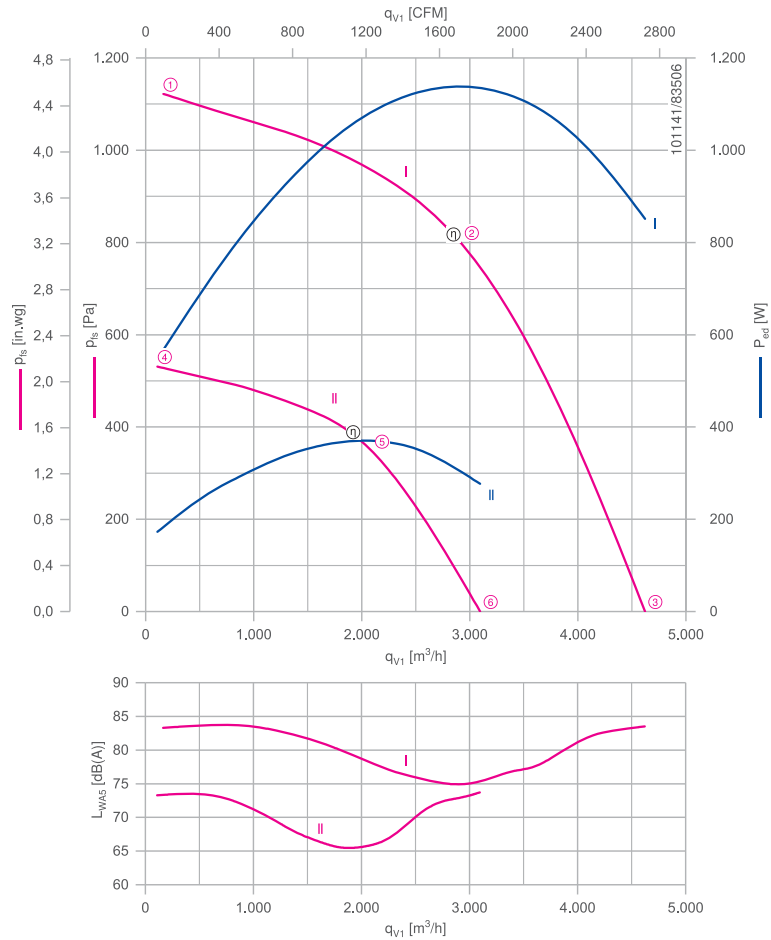


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated  
 \* Rated data

Inlet ring 00335943 Page 289  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
I	3~ 380-480 V	RH31V-ZID.DC.1R	DC	160949	1.15 kW	1.90-1.50 A	2900 min <sup>-1</sup>	62.8 %	72.0 %	2015	yes	UL Listed Product	8.80 kg
II	1~ 200-277 V	RH31V-6IK.BD.1R	BD	114836	0.37 kW	1.65-1.35 A	2010 min <sup>-1</sup>	63.5 %	78.5 %	2015			5.40 kg

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

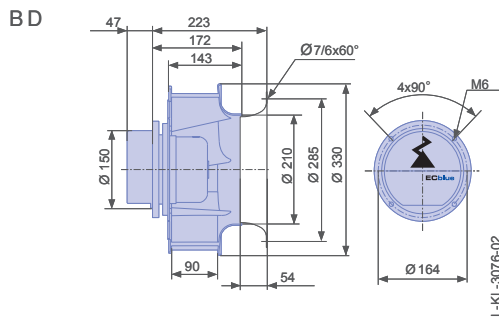
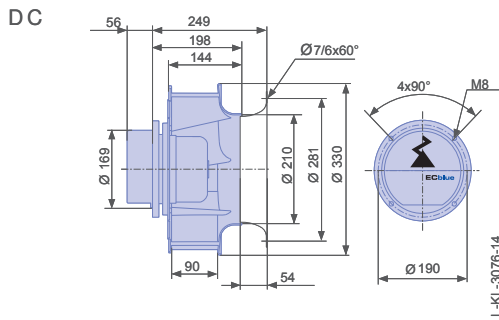
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)		
RH31V-____1R	I	2900	①	1.00	560	83		400
			②	1.80	1150	75		
			③	1.40	860	84		
	II	2010	④	0.76	170	73		230
			⑤	1.60	370	66		
			⑥	1.20	280	74		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# Vpro-ECblue

Size 355

RH35V

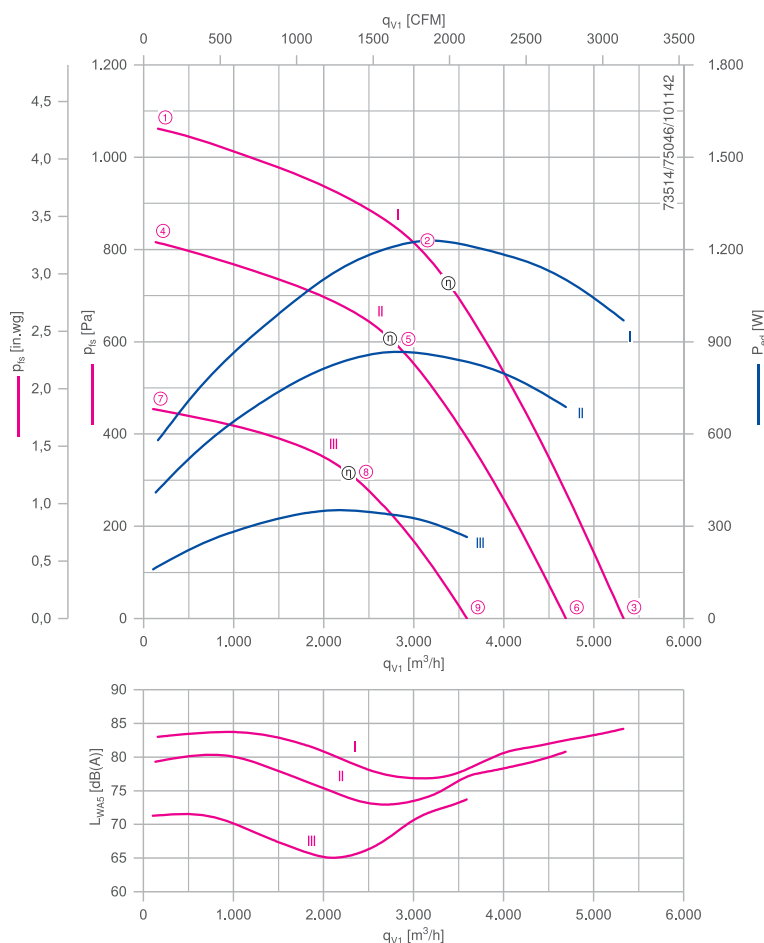


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated  
 \* Rated data

Inlet ring	00275850	Page 289
Connection diagrams		Page 358
System components		Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	<b>RH35V-ZIK.DC.1R</b>	DC	<b>113466</b>	1.25 kW	2.10-1.65	2500	62.0	71.6	2015	yes	UL	8.80
II	1~ 200-277	<b>RH35V-ZIK.DC.1R</b>	DC	<b>113468</b>	0.86 kW	4.40-3.20	2200	59.7	70.8	2015		Listed Product	8.80
III	1~ 200-277	<b>RH35V-6IK.BD.1R</b>	BD	<b>114837</b>	0.35 kW	1.80-1.30	1650	65.1	80.3	2015			5.90

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)		
RH35V- <u>IK</u> -1R	I	2500	①	1.10	580	83	60	400
			②	2.00	1250	77		
			③	1.65	960	84		
	II	2200	④	1.90	400	79	60	230
			⑤	3.90	860	73		
			⑥	3.10	680	81		
	III	1650	⑦	0.72	160	71	60	
			⑧	1.55	350	65		
			⑨	1.15	260	74		

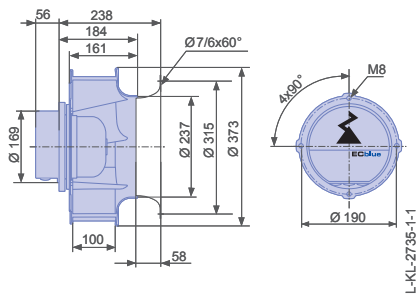
Control technology



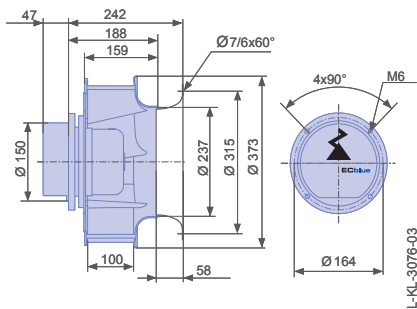
Dimensions mm

Motor      Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

DC



BD



# Vpro-ECblue

Size 400

RH40V

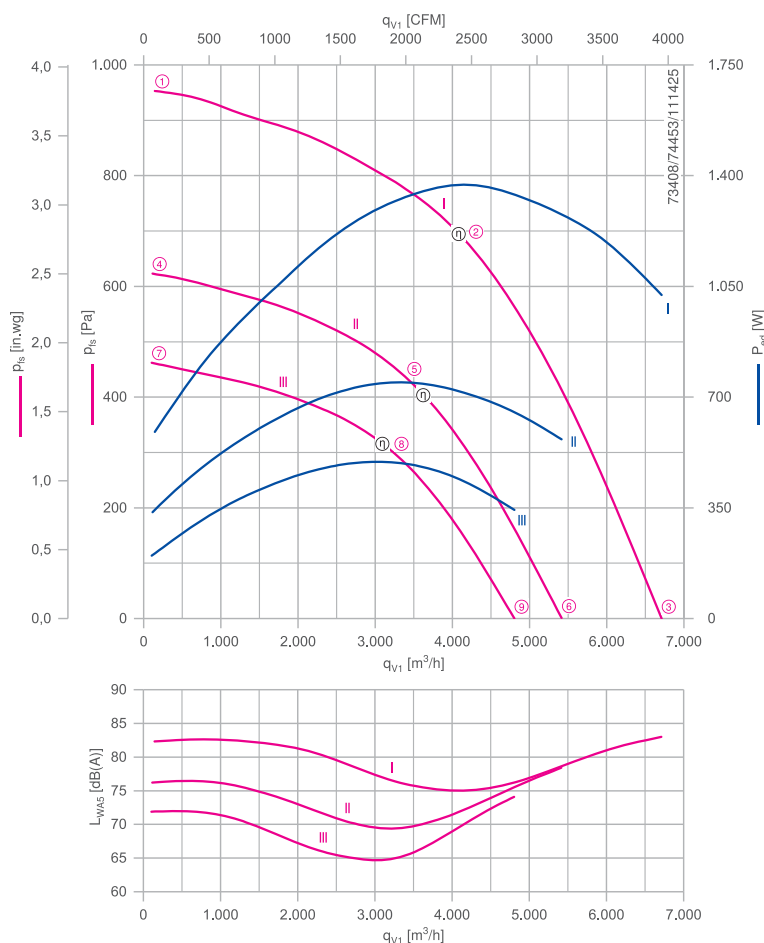


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated  
 \* Rated data

Inlet ring                      00275570              Page 289  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$N_{actual}$ %				kg
I	3~ 380-480	<b>RH40V-ZIK.DC.1R</b>	DC	<b>113469</b>	1.35 kW	2.40-1.90	2100	63.7	72.7	2015	yes	UL	10.00
II	1~ 200-277	<b>RH40V-ZIK.DC.1R</b>	DC	<b>113471</b>	0.74 kW	3.90-2.80	1700	61.7	73.6	2015		Listed Product	10.00
III	1~ 200-277	<b>RH40V-6IK.BD.1R</b>	BD	<b>168782</b>	0.50 kW	2.50-1.80	1470	62.3	76.0	2015			6.60

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)	t <sub>amb (max.)</sub> °C	U V
RH40V- <u>IK</u> __1R	I	2100	①	1.15	600	82		400
			②	2.30	1350	75	60	
			③	1.80	1000	83		
	II	1700	④	1.60	340	76		230
			⑤	3.40	740	69	60	
			⑥	2.60	560	78		
	III	1470	⑦	0.86	200	72		45
			⑧	2.10	500	65		
			⑨	1.50	340	74		

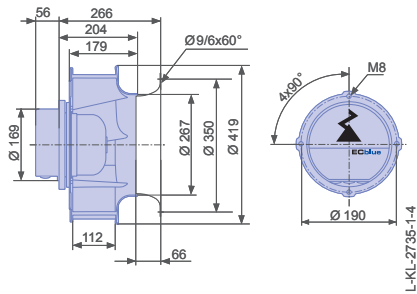
Control technology



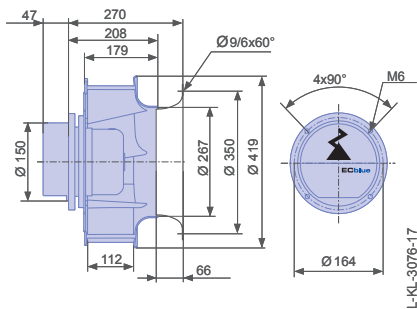
Dimensions mm

Motor      Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included

DC



BD



# Vpro-ECblue

Size 450

RH45V

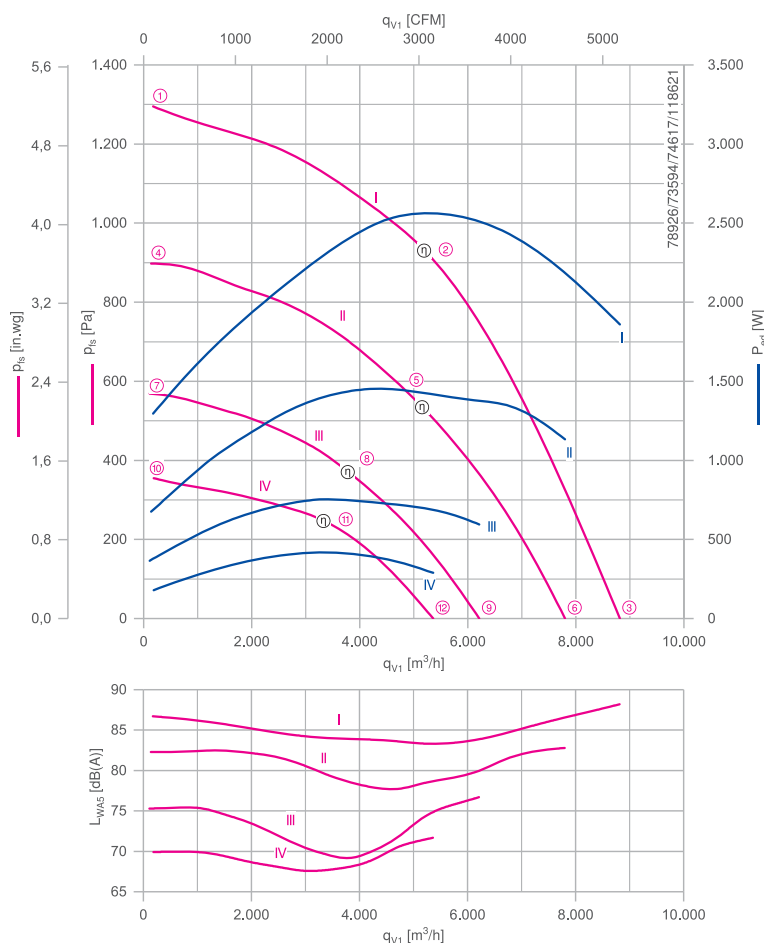


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated  
 \* Rated data

Inlet ring 00275571 Page 289  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$N_{actual}$ %			kg	
I	3~ 380-480	<b>RH45V-ZIK.GG.1R</b>	GG	<b>113930</b>	2.60 kW	4.20-3.30	2120	57.8	64.0	2015	yes	UL	20.00
II	3~ 380-480	<b>RH45V-ZIK.DC.1R</b>	DC	<b>113473</b>	1.45 kW	2.50-2.00	1800	59.3	68.2	2015		Listed Product	10.30
III	1~ 200-277	<b>RH45V-ZIK.DC.1R</b>	DC	<b>113475</b>	0.76 kW	3.90-2.80	1440	58.6	70.5	2015			10.30
IV	1~ 200-277	<b>RH45V-6IK.BD.1R</b>	BD	<b>168847</b>	0.42 kW	2.10-1.50	1150	62.6	77.1	2015			7.40

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

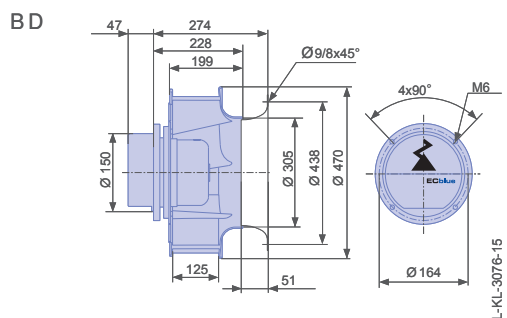
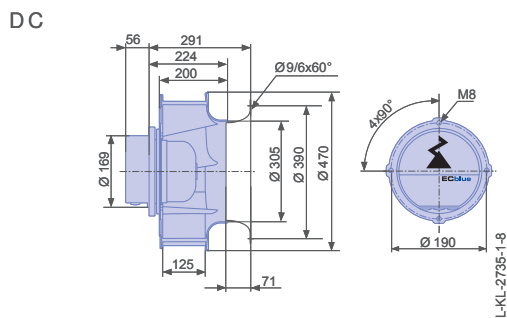
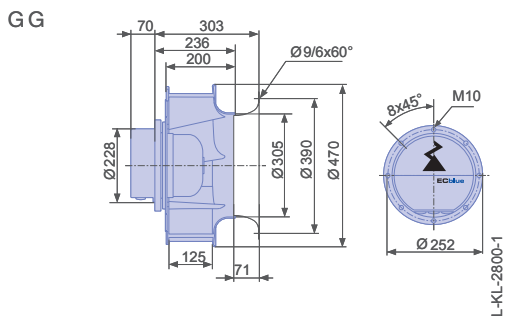
Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage U V
				I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)	t <sub>amb (max.)</sub> °C	
RH45V- <u>IK</u> __1R	I	2120	①	2.10	1300	87		400
			②	4.00	2600	83	60	
			③	2.90	1850	88		
	II	1800	④	1.25	680	82		230
			⑤	2.30	1450	77	60	
			⑥	1.90	1150	83		
	III	1440	⑦	1.70	370	75		230
			⑧	3.40	760	70	60	
			⑨	2.70	600	77		
	IV	1150	⑩	0.80	180	70		230
			⑪	1.85	420	68	40	
			⑫	1.25	290	72		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included



# Vpro-ECblue

Size 500

RH50V

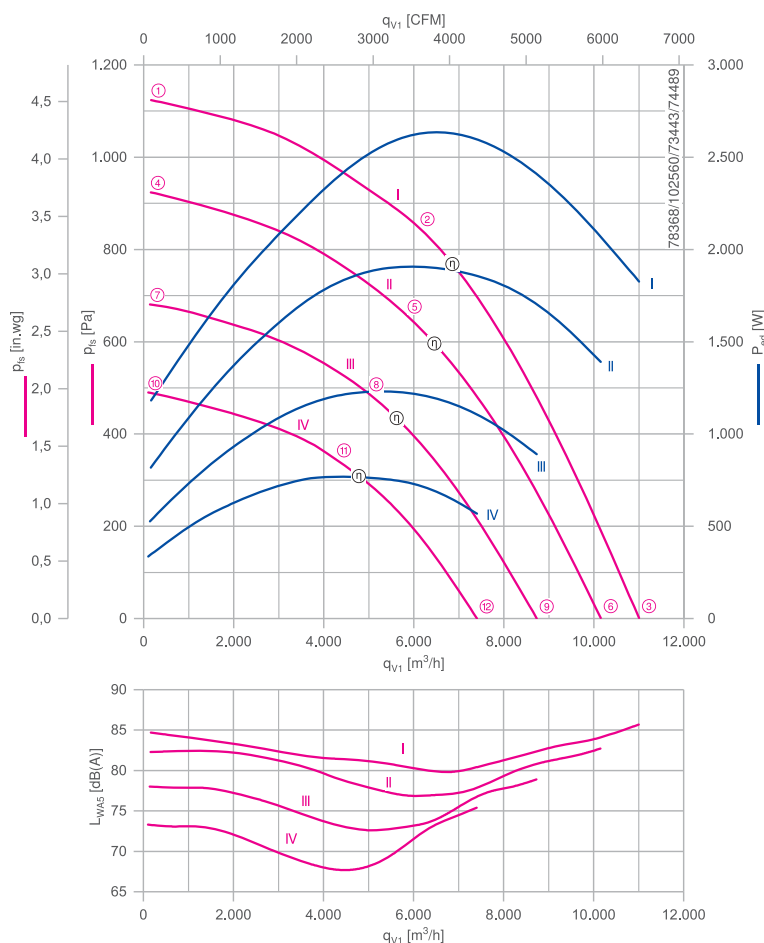


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated  
 \* Rated data

Inlet ring 00275572 Page 289  
 Connection diagrams Page 358  
 System components Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ $min^{-1}$	$n_{statA}$ %	$N_{actual}$ %			kg	
I	3~ 380-480	<b>RH50V-ZIK.GG.1R</b>	GG	<b>113934</b>	2.60 kW	4.30-3.40	1800	60.5	66.6	2015	yes	UL Listed Product	19.90
II	3~ 380-480	<b>RH50V-ZIK.DG.1R</b>	DG	<b>176031</b>	1.90 kW	3.10-2.50	1650	61.7	69.3	2015			13.00
III	3~ 380-480	<b>RH50V-ZIK.DC.1R</b>	DC	<b>113477</b>	1.25 kW	2.10-1.65	1400	61.8	71.4	2015			12.50
IV	1~ 200-277	<b>RH50V-ZIK.DC.1R</b>	DC	<b>113479</b>	0.76 kW	3.90-2.80	1200	60.4	72.1	2015			12.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed n min <sup>-1</sup>	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage U V
				I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)	t <sub>amb (max.)</sub> °C	
RH50V-ZIK...1R	I	1800	①	1.95	1200	85		400
			②	4.00	2600	80		
			③	2.90	1850	86	60	
	II	1650	④	1.40	820	82		40
			⑤	3.00	1900	77		
			⑥	2.20	1400	83		
	III	1400	⑦	1.05	520	78		60
			⑧	2.00	1250	72		
			⑨	1.55	900	79		
	IV	1200	⑩	1.50	340	73		230
			⑪	3.40	760	68	40	
			⑫	2.50	560	75		

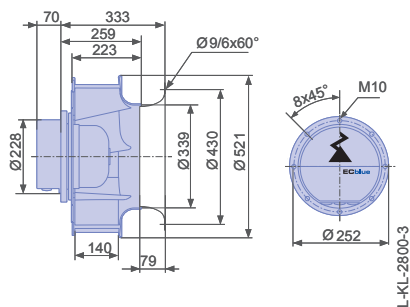
Control technology



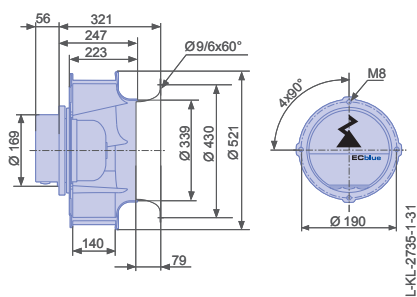
Dimensions mm

Motor Free-running motorized impeller RH in installation position H/Vu/Vo  
Inlet nozzle not included

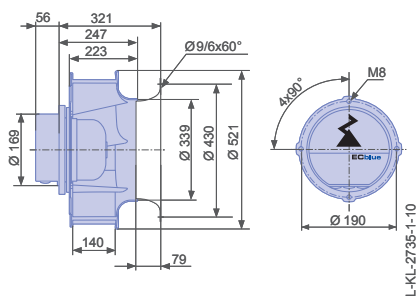
GG



DG



DC



Information  
ZBluefin-ECblue  
Cpro-ECblue  
C-ECblue  
ZAvblue  
Vpro-ECblue  
ZAcube-Cpro-ECblue  
Housing fans  
System components  
Control technology  
General notes

# Vpro-ECblue

Size 560

RH56V

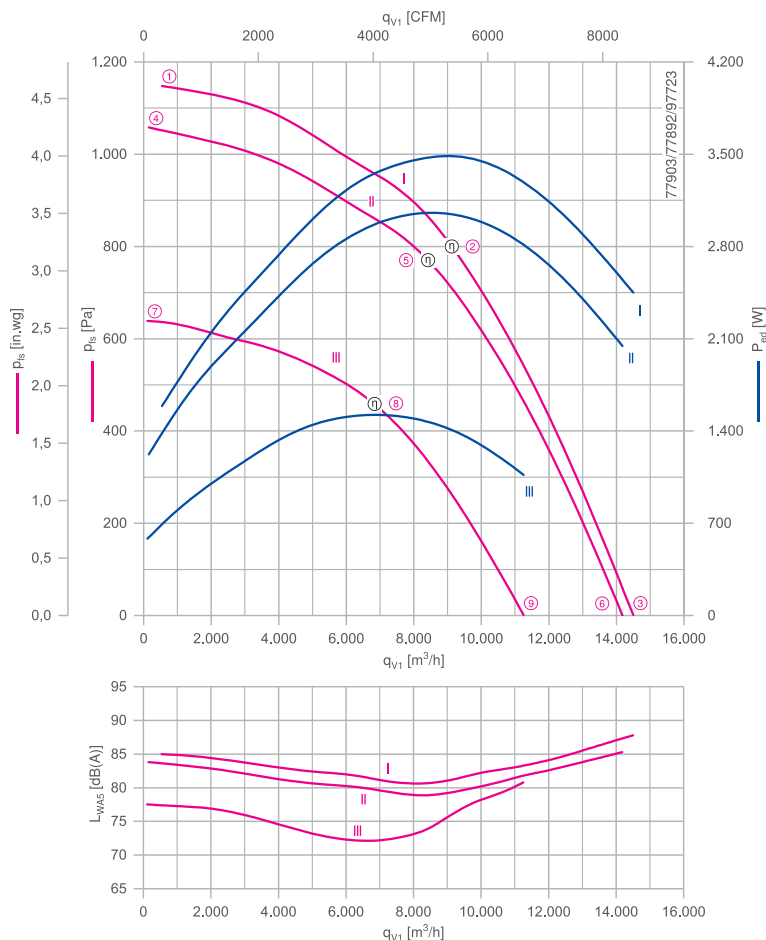


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated  
 \* Rated data

Inlet ring                      00278489                      Page 289  
 Connection diagrams                      Page 358  
 System components                      Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %				kg
I	3~ 380-480	<b>RH56V-ZIK.GL.1R</b>	GL	<b>113954</b>	3.50 kW	5.70-4.50	1620	62.6	67.4	2015	yes	UL Listed Product	26.00
II	3~ 380-480	<b>RH56V-ZIK.GG.1R</b>	GG	<b>113938</b>	3.10 kW	5.00-4.00	1560	63.8	69.2	2015			22.00
III	3~ 380-480	<b>RH56V-ZIK.DG.1R</b>	DG	<b>113905</b>	1.50 kW	2.60-2.10	1230	63.0	71.6	2015			14.40

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

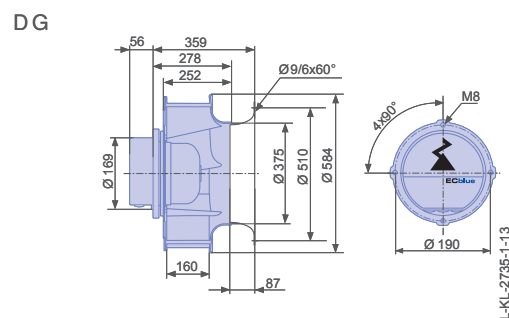
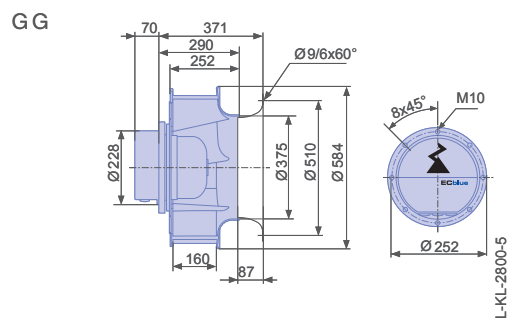
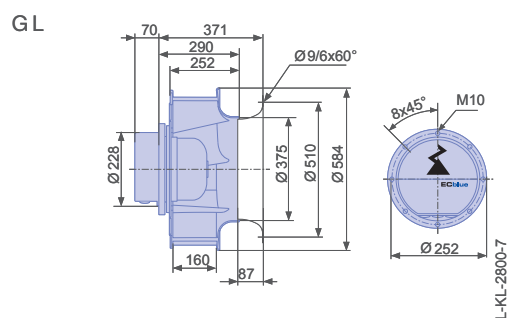
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)		
RH56V-ZIK...1R	I	1620	①	2.60	1600	85	60	400
			②	5.40	3500	81		
			③	3.80	2400	88		
	II	1560	④	2.00	1200	84	60	
			⑤	4.80	3100	79		
			⑥	3.20	2000	85		
	III	1230	⑦	1.15	580	78	40	
			⑧	2.50	1500	72		
			⑨	1.85	1050	81		

Control technology



Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included



# Vpro-ECblue

Size 630

RH63V

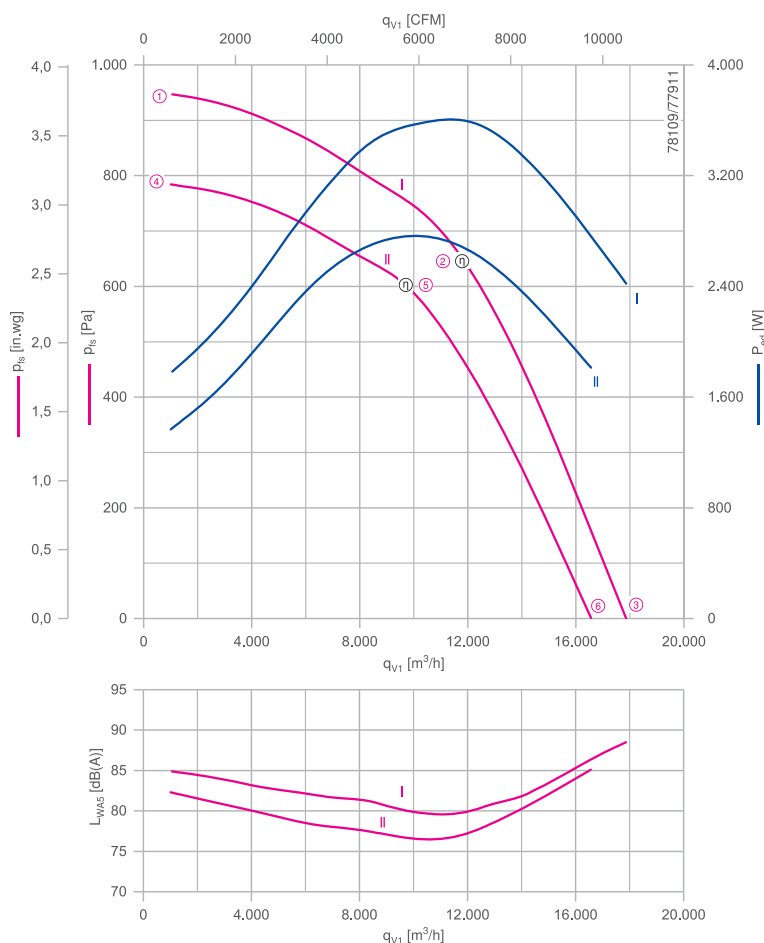


## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -15 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of High Performance Composite Material, uncoated  
 \* Rated data

Inlet ring	00279305	Page 289
Connection diagrams		Page 358
System components		Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
I	3~ 380-480	<b>RH63V-ZIK.GL.1R</b>	GL	<b>113958</b>	3.60 kW	5.70-4.50	1340	63.6	68.2	2015	yes	UL	28.20
II	3~ 380-480	<b>RH63V-ZIK.GG.1R</b>	GG	<b>113942</b>	2.80 kW	4.40-3.50	1230	63.8	69.6	2015		Listed Product	24.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

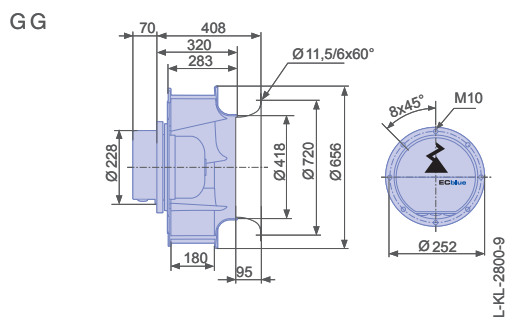
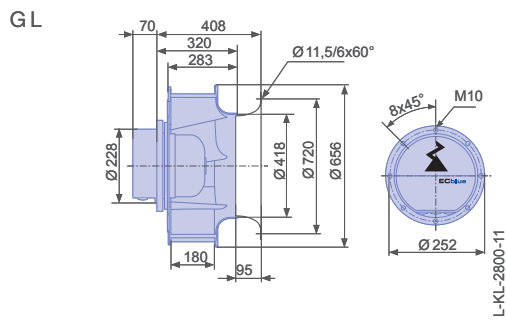
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
RH63V-ZIK.G_ <sub>1</sub> R	I	1340	①	2.70	1800	85		400
			②	5.40	3600	80		
			③	3.70	2400	89		
	II	1230	④	2.10	1350	82	60	
			⑤	4.20	2800	77		
			⑥	2.80	1800	85		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_ <sub>1</sub> , G_ <sub>1</sub> Page 332	Page 344

Dimensions mm

Motor Free-running motorized impeller RH  
in installation position H/Vu/Vo  
Inlet nozzle not included







# ZAcube-Cpro-ECblue

## EC-Technology

### Product overview

Module size 607 x 607 mm	Page 214
Module size 760 x 760 mm	Page 216
Module size 912 x 912 mm	Page 218

Information

ZAbuefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAbuefin-  
ECblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

Control  
technology

General notes

# ZAcube-Cpro-ECblue

Cube 607 x 607 mm

WR..C/HO11



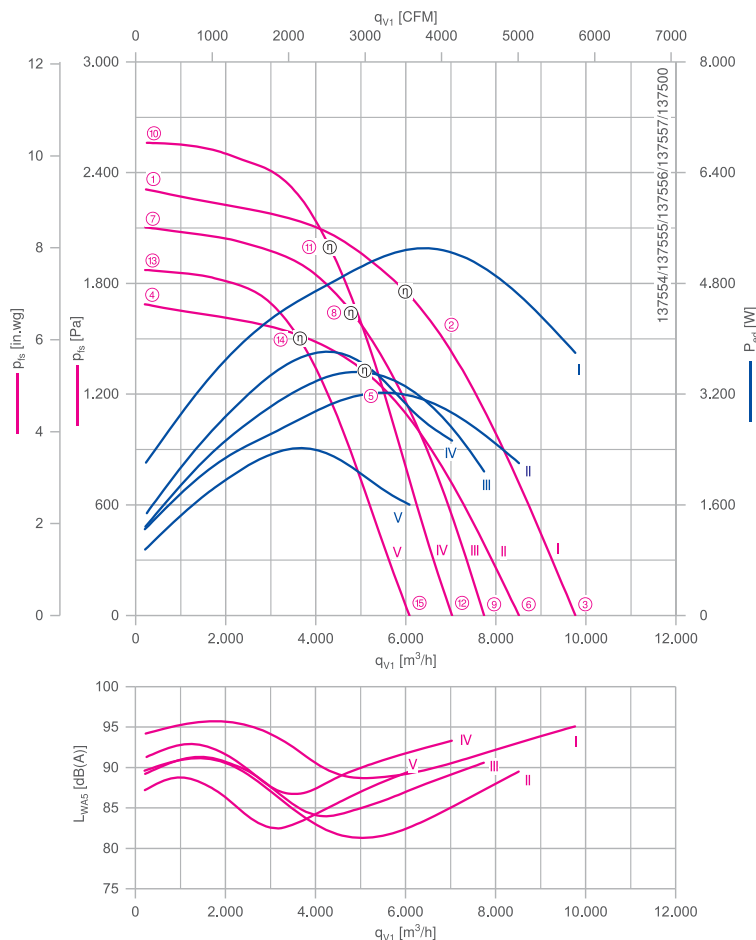
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Connection diagrams  
 System components

Page 358  
 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$n_{statA}$ %	$N_{actual}$ %				kg
I	3~ 380-480	<a href="#">WR40C-ZID.GG.CR</a>	GG	<a href="#">116029/H011</a>	5.60 kW	9.00-7.10	3170	61.8	64.4	2015	yes	UL Listed Product	53.00
II	3~ 380-480	<a href="#">WR40C-ZID.DG.CR</a>	DG	<a href="#">116028/H011</a>	3.30 kW	5.40-4.20	2700	68.4	73.4	2015			47.00
III	3~ 380-480	<a href="#">WR35C-ZID.DG.CR</a>	DG	<a href="#">116027/H011</a>	3.70 kW	5.80-4.60	3400	68.4	72.9	2015			46.00
IV	3~ 380-480	<a href="#">WR31C-ZID.DG.CR</a>	DG	<a href="#">116026/H011</a>	3.90 kW	6.20-5.00	4200	65.6	69.9	2015			45.00
V	3~ 380-480	<a href="#">WR31C-ZID.DC.CR</a>	DC	<a href="#">116025/H011</a>	2.50 kW	4.00-3.20	3640	66.5	72.9	2015			42.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
WR_C-ZID__CR	I	3170	①	3.40	2200	94	40	400
			②	8.20	5400	90		
			③	5.80	3800	95		
	II	2700	④	2.00	1250	90	40	
			⑤	5.00	3200	82		
			⑥	3.40	2200	90		
	III	3400	⑦	2.00	1300	89	40	
			⑧	5.40	3500	85		
			⑨	3.20	2100	91		
	IV	4200	⑩	2.30	1500	91	40	
			⑪	5.80	3800	88		
			⑫	3.90	2500	93		
	V	3640	⑬	1.55	960	87	55	
			⑭	3.70	2400	83		
			⑮	2.50	1600	90		

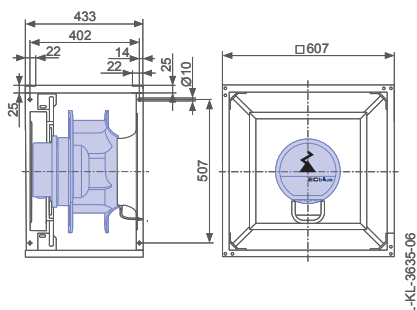
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

Fan module WR in installation position H

Inlet nozzle integrated



- Information
- ZAbuefin-ECblue
- Cpro-ECblue
- C-ECblue
- ZAbuefin-ECblue
- Vpro-ECblue
- ZAcube-Cpro-ECblue
- Housing fans
- System components
- Control technology
- General notes

# ZAcube-Cpro-ECblue

Cube 760 x 760 mm

WR..C/HO12



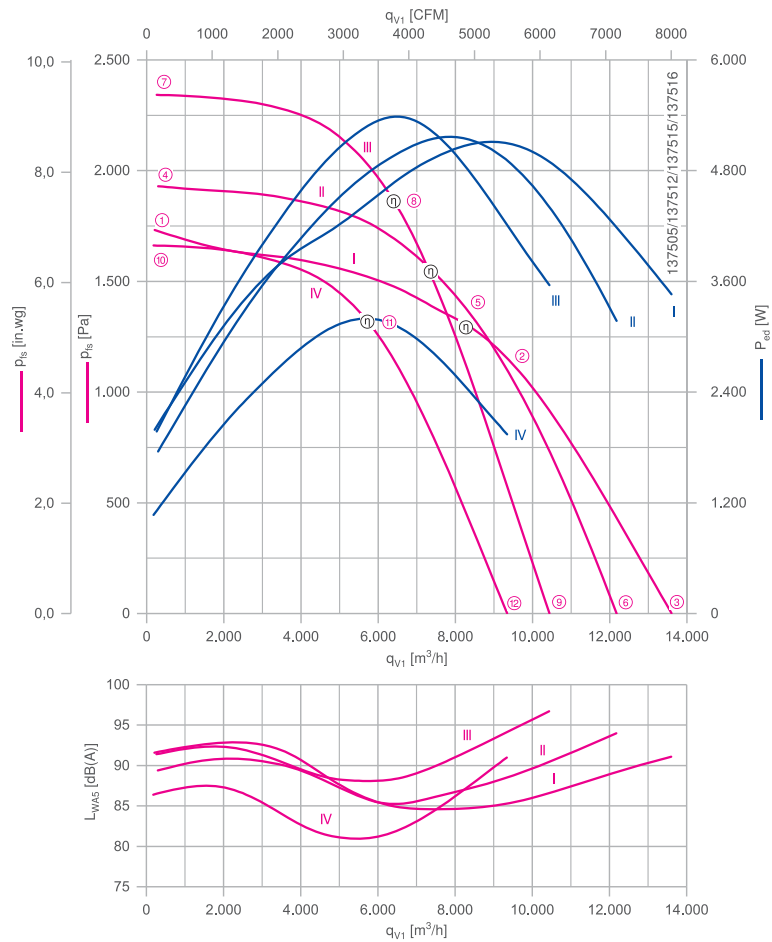
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Connection diagrams  
 System components

Page 358  
 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
	$U_N$ V				$P_{ed}$	$I_N$ A	$n_N$ min <sup>-1</sup>	$\eta_{statA}$ %	$\eta_{actual}$ %		yes	UL Listed Product	kg
I	3~ 380-480	<a href="#">WR50C-ZID.GL.CR</a>	GL	<a href="#">116033/HO12</a>	5.40 kW	8.60-6.80	2130	66.5	69.5	2015	yes	UL Listed Product	75.00
II	3~ 380-480	<a href="#">WR45C-ZID.GG.CR</a>	GG	<a href="#">116032/HO12</a>	5.20 kW	8.40-6.60	2570	65.7	68.7	2015			69.00
III	3~ 380-480	<a href="#">WR40C-ZID.GG.CR</a>	GG	<a href="#">116031/HO12</a>	5.60 kW	9.00-7.10	3170	61.8	64.4	2015			68.00
IV	3~ 380-480	<a href="#">WR40C-ZID.DG.CR</a>	DG	<a href="#">116030/HO12</a>	3.30 kW	5.40-4.20	2700	68.4	73.4	2015			62.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.





Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
WR_C-ZID__CR	I	2130	①	3.10	2000	92	40	400
			②	8.00	5200	85		
			③	5.40	3500	91		
	II	2570	④	2.70	1750	89	40	
			⑤	2.70	1750	89		
			⑥	8.00	5200	87		
	III	3170	⑦	3.00	1950	91	40	
			⑧	8.20	5400	88		
			⑨	5.40	3600	97		
	IV	2700	⑩	1.70	1050	86	40	
			⑪	4.80	3200	81		
			⑫	3.00	1950	91		

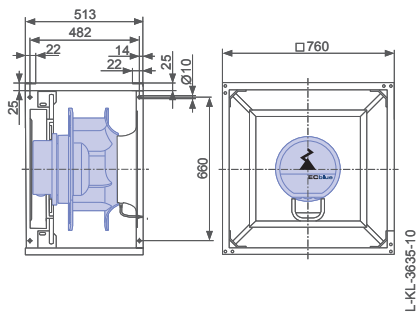
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Page 332	Page 344

Dimensions mm

Fan module WR in installation position H

Inlet nozzle integrated



# ZAcube-Cpro-ECblue

Cube 912 x 912 mm

WR..C/HO13



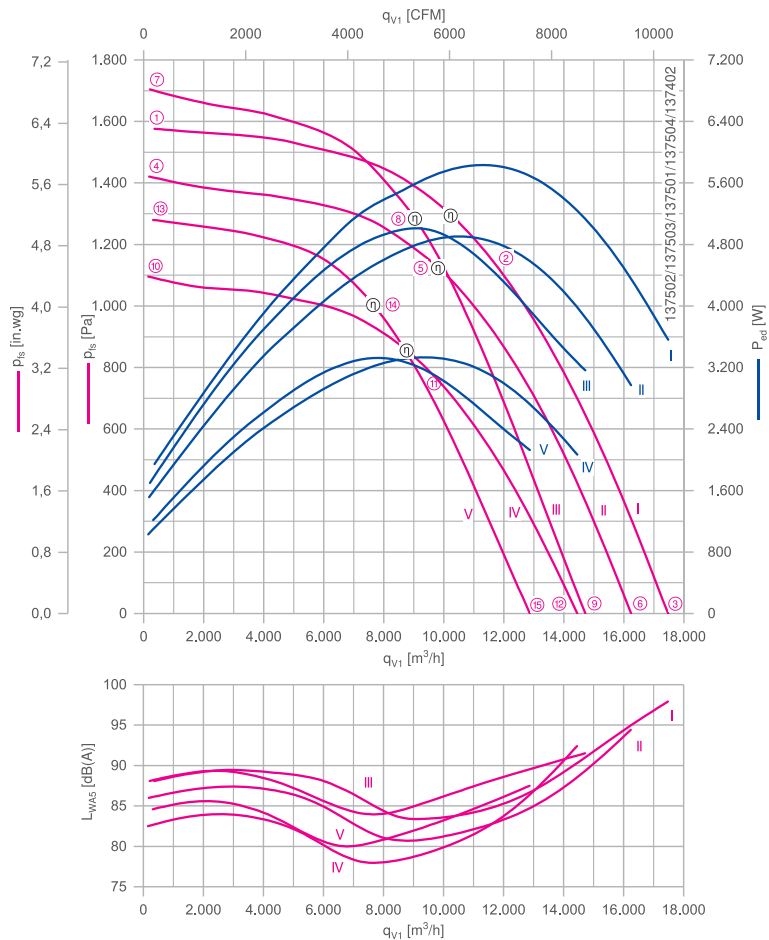
## Description

Motor technology: EC  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb(min)}$ : -20 °C  
 Electrical connection: Integrated controller  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller made of ZAmid, uncoated, ultramarine blue  
 \* Rated data

Connection diagrams  
 System components

Page 358  
 Page 286

## Characteristic curve



Measured with inlet nozzle, without guard grille according to ISO 5801

## Fan ordering information

	Rated voltage	Type	Motor	Article no.	Input power	Rated current	Rated speed	Efficiency	Efficiency grade	ErP	Conformity		Weight
											CE	UL	
I	3~ 380-480	WR56C-ZID.GQ.CR	GQ	116038/H013	6.00 kW	9.40-7.40	1860	69.9	72.3	2015	yes	UL Listed Product	105.00
II	3~ 380-480	WR56C-ZID.GL.CR	GL	116037/H013	5.00 kW	8.00-6.40	1750	71.6	74.8	2015			98.00
IV	3~ 380-480	WR56C-ZID.GG.CR	GG	116036/H013	3.40 kW	5.40-4.20	1550	70.2	75.2	2015			94.00
III	3~ 380-480	WR50C-ZID.GL.CR	GL	116035/H013	5.40 kW	8.60-6.80	2130	66.5	69.5	2015			95.00
V	3~ 380-480	WR50C-ZID.GG.CR	GG	116034/H013	3.50 kW	5.60-4.40	1860	67.2	72.0	2015			90.00

Further fans can be found in the selection program FANselect: [www.fanselect.net](http://www.fanselect.net)  
 Other voltages and versions on request.



Performance data

Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	Voltage
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)	t <sub>amb (max.)</sub> °C	
WR5_-ZID.G_CR	I	1860	①	3.00	1950	88	40	400
			②	8.80	5800	85		
			③	5.40	3600	98		
	II	1750	④	2.40	1500	86	40	
			⑤	7.40	4800	81		
			⑥	4.60	3000	94		
	III	2130	⑦	2.60	1700	88	40	
			⑧	7.60	5000	85		
			⑨	4.80	3200	92		
	IV	1550	⑩	1.65	1050	83	45	
			⑪	5.00	3300	80		
			⑫	3.20	2100	92		
	V	1860	⑬	1.95	1200	85	55	
			⑭	5.20	3300	81		
			⑮	3.30	2100	88		

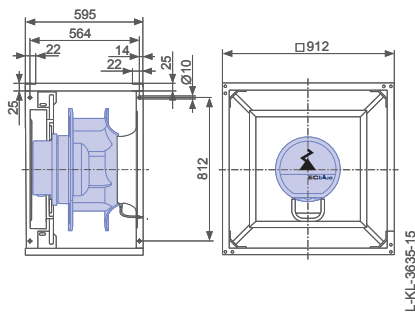
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Motor D_, G_ Page 332	Page 344

Dimensions mm

Fan module WR in installation position H

Inlet nozzle integrated



Information

ZAbuefin-ECblue

Cpro-ECblue

C-ECblue

ZAbuefin-ECblue

Vpro-ECblue

ZAcube-Cpro-ECblue

Housing fans

System components

Control technology

General notes



# Housing fans-ECblue

## EC-Technology

### Product overview

Single inlet		Double inlet	
Size 108	Page 222	Size 133	Page 264
Size 120	Page 224	Size 146	Page 268
Size 133	Page 226	Size 160	Page 270
Size 140	Page 228	Size 250	Page 272
Size 146	Page 232	Size 280	Page 274
Size 160	Page 234	Size 315	Page 276
Size 180	Page 236	Size 400	Page 280
Size 200	Page 240	Size 450	Page 284
Size 225	Page 242		
Size 250	Page 244		
Size 280	Page 248		
Size 315	Page 254		
Size 355	Page 258		
Size 400	Page 260		
Size 450	Page 262		

Information

ZAbuefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

Control  
technology

General notes

# RG..R-ECblue

for single phase alternating current, 200-240 V

RG 1 R-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.88-0.74 A\*  
 Rated speed  $n_N$ : 4230 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable attached cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: CE, UL

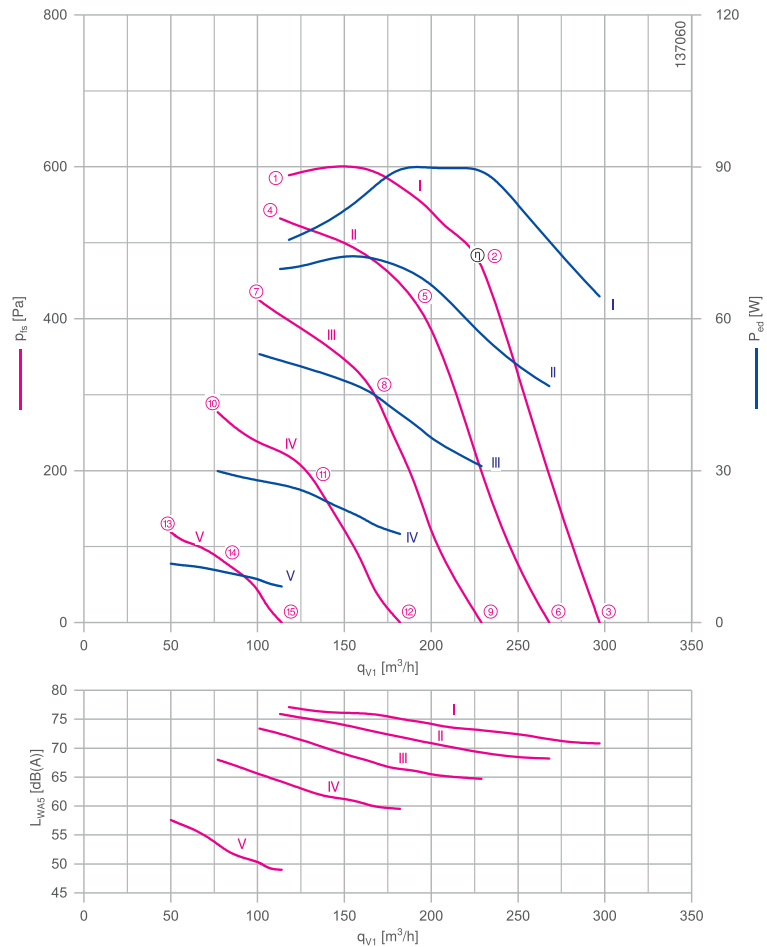
### ErP-data

Not subject to the regulations of ErP directive ( $P_1 < 125$  W)

\*Rated data

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve



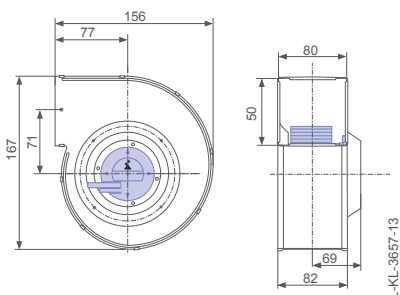
Measured with inlet nozzle, without guard grille according to ISO 5801

Inlet ring	00413145	Page 291
Connection diagram	1360-404	Page 358
System components		Page 286

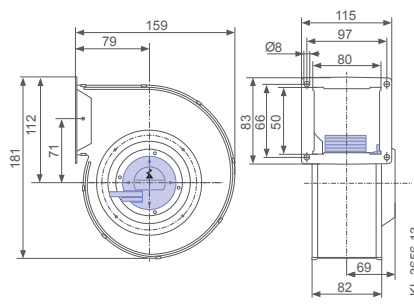
## Dimensions mm

### Clockwise rotation

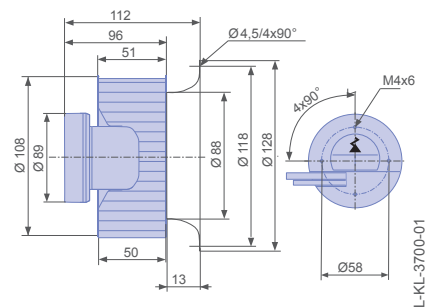
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo



Performance data

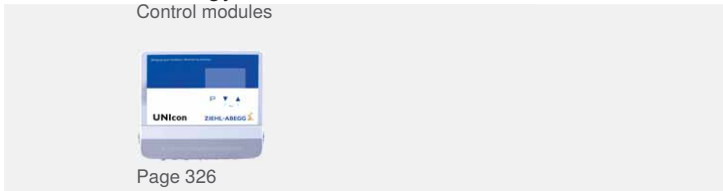
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
RG11R-4IP.Z8.4R	I	4660	①	0.72	75	77
		4230	②	0.76	90	73
		2860	③	0.60	65	71
	II	4540	④	0.62	70	76
		3990	⑤	0.64	70	71
		2560	⑥	0.46	46	68
	III	3930	⑦	0.48	55	73
		3420	⑧	0.42	46	68
		2210	⑨	0.30	30	65
	IV	3300	⑩	0.28	30	68
		2750	⑪	0.24	26	63
		1770	⑫	0.17	18	60
	V	2170	⑬	0.13	12	58
		1910	⑭	0.12	11	54
		1150	⑮	0.08	7	49

Current values determined at 230V

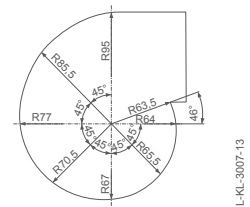
Fan ordering information

Clockwise rotation			Counter clockwise rotation			
Design	RG (without flange)	RG (with flange)	RE..P*	RG (without flange)	RG (with flange)	RE..P*
<b>Type</b>	<b>RG11R-4IP.Z8.4R</b>	<b>RG11R-4IP.Z8.4R</b>	<b>RE11P-4IP.Z8.1R</b>	<b>RG11R-4IP.Z8.4L</b>	<b>RG11R-4IP.Z8.4L</b>	<b>RE11P-4IP.Z8.1L</b>
<b>Article no.</b>	<b>178210</b>	<b>178202</b>	<b>178194</b>	<b>178214</b>	<b>178206</b>	<b>178198</b>
<b>Weight kg</b>	1.90	2.10	1.20	1.90	2.10	1.20
* Inlet nozzle not included in the scope of delivery						

Control technology

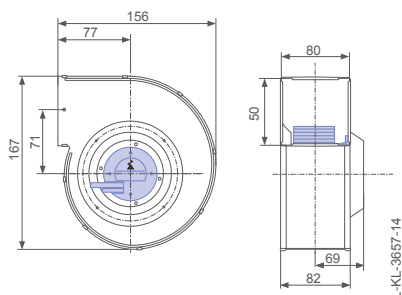


Used scroll

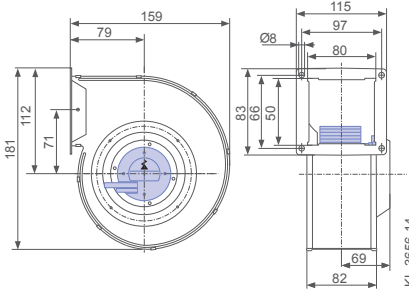


Counter clockwise rotation

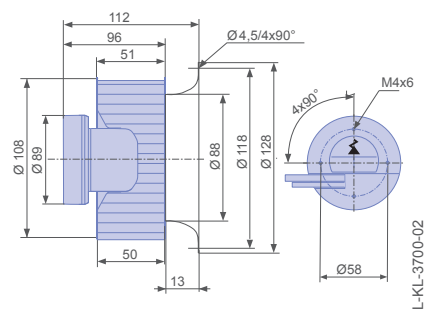
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo



# RG..R-ECblue

for single phase alternating current, 200-240 V

RG12R-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.90-0.74 A\*  
 Rated speed  $n_N$ : 3660 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable attached cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: CE, UL

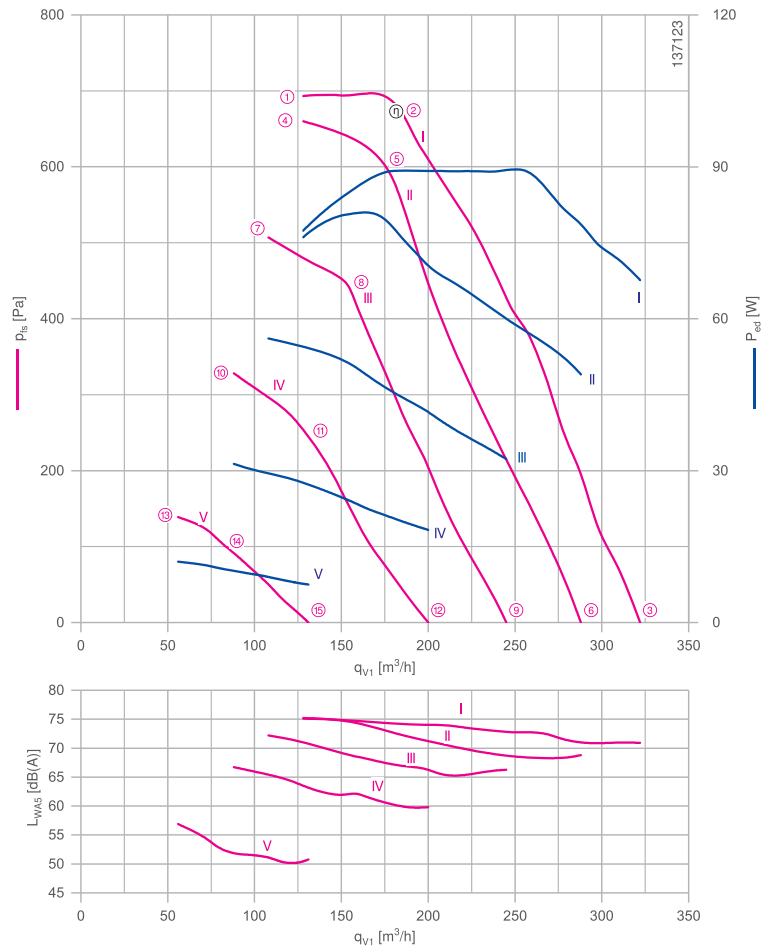
### ErP-data

Not subject to the regulations of ErP directive ( $P_1 < 125$  W)

\*Rated data

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve



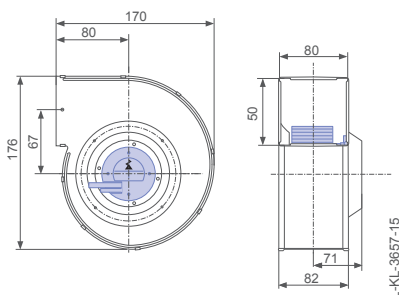
Measured with inlet nozzle, without guard grille according to ISO 5801

Inlet ring	00413146	Page 291
Connection diagram	1360-404	Page 358
System components		Page 286

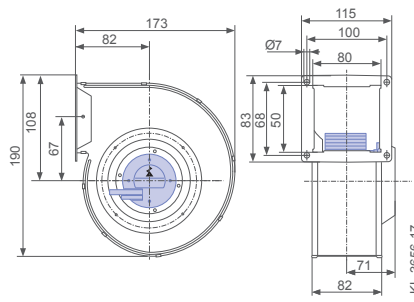
## Dimensions mm

Clockwise rotation

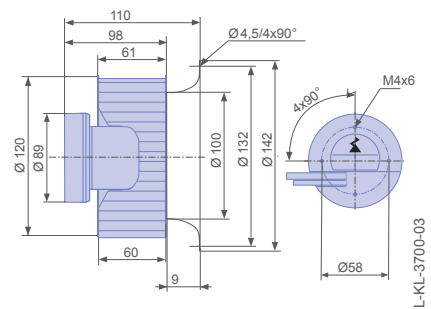
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo





Performance data

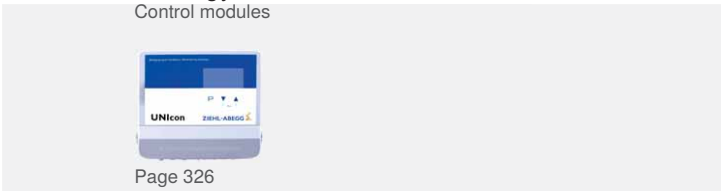
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
RG12R-4IP.Z8.4R	I	4420	①	0.68	75	75
		4230	②	0.78	90	74
		2620	③	0.58	70	71
	II	4380	④	0.72	75	75
		4030	⑤	0.72	80	73
		2350	⑥	0.42	50	69
	III	3730	⑦	0.58	55	72
		3490	⑧	0.54	50	69
		2030	⑨	0.39	32	66
	IV	3100	⑩	0.35	32	67
		2640	⑪	0.33	28	63
		1630	⑫	0.24	18	60
	V	1960	⑬	0.12	12	57
		1780	⑭	0.11	11	53
		1090	⑮	0.08	8	51

Current values determined at 230V

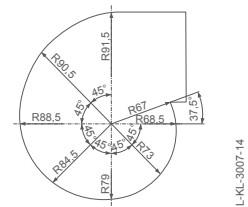
Fan ordering information

	Clockwise rotation			Counter clockwise rotation		
Design	RG (without flange)	RG (with flange)	RE..P*	RG (without flange)	RG (with flange)	RE..P*
<b>Type</b>	<b>RG12R-4IP.Z8.4R</b>	<b>RG12R-4IP.Z8.4R</b>	<b>RE12P-4IP.Z8.1R</b>	<b>RG12R-4IP.Z8.4L</b>	<b>RG12R-4IP.Z8.4L</b>	<b>RE12P-4IP.Z8.1L</b>
<b>Article no.</b>	<b>178211</b>	<b>178203</b>	<b>178195</b>	<b>178215</b>	<b>178207</b>	<b>178199</b>
<b>Weight kg</b>	2.10	2.20	1.20	2.10	2.20	1.20
* Inlet nozzle not included in the scope of delivery						

Control technology

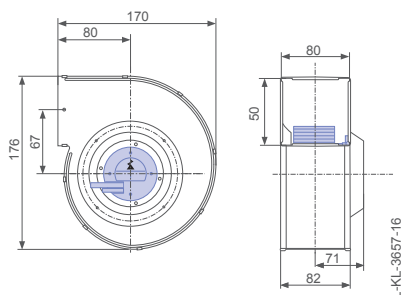


Used scroll

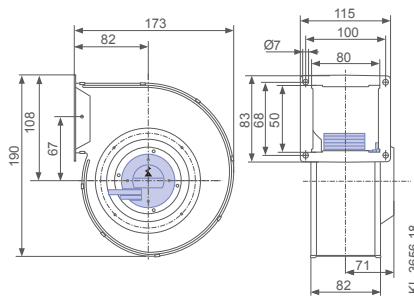


Counter clockwise rotation

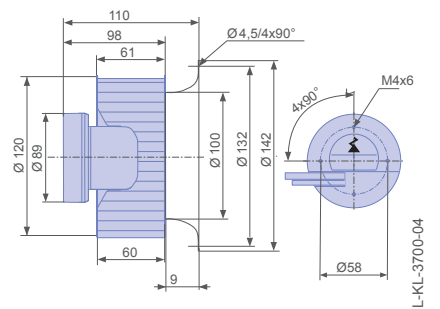
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo



# RG..R-ECblue

for single phase alternating current, 200-240 V

RG13R-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.92-0.76 A\*  
 Rated speed  $n_N$ : 3900 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable attached cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: CE, UL

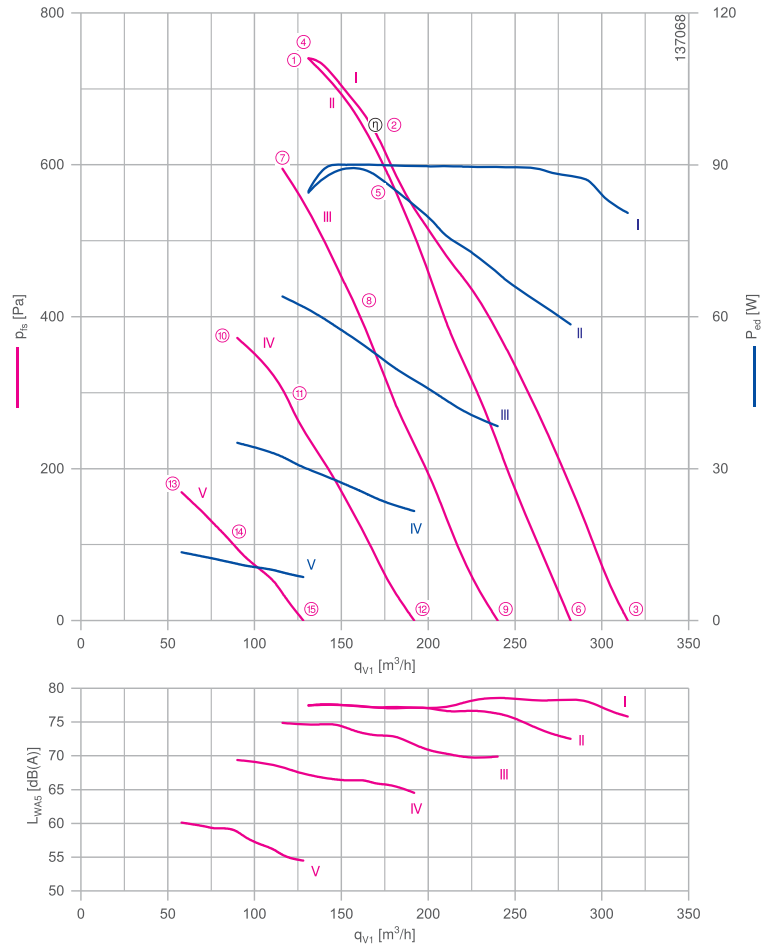
### ErP-data

Not subject to the regulations of ErP directive ( $P_1 < 125$  W)

\*Rated data

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve



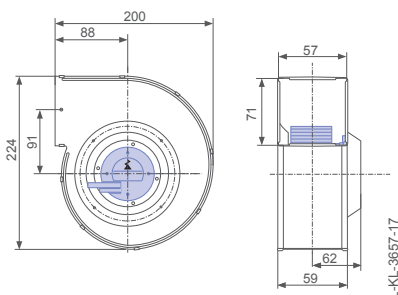
Measured with inlet nozzle, without guard grille according to ISO 5801

Inlet ring	00413147	Page 291
Connection diagram	1360-404	Page 358
System components		Page 286

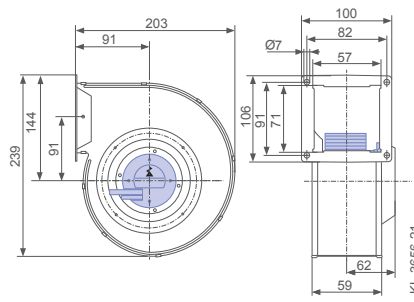
## Dimensions mm

### Clockwise rotation

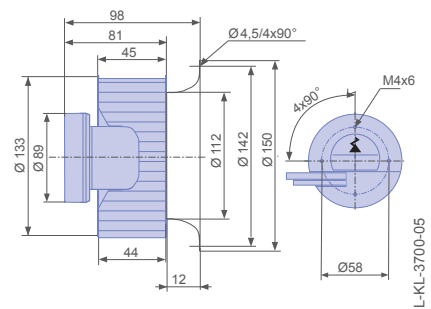
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo



Performance data

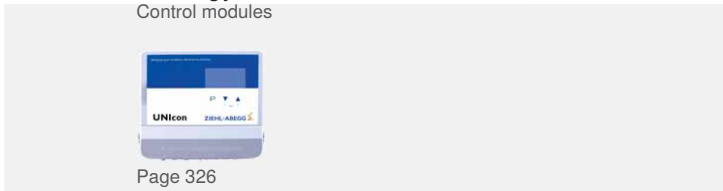
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
RG13R.4IP.Z8.4R	I	4010	①	0.72	85	77
		3790	②	0.76	90	77
		2600	③	0.70	80	76
	II	4000	④	0.76	85	78
		3570	⑤	0.74	85	77
		2340	⑥	0.54	60	73
	III	3620	⑦	0.60	65	75
		3090	⑧	0.54	55	74
		2020	⑨	0.39	38	70
	IV	2920	⑩	0.33	36	69
		2600	⑪	0.31	32	68
		1640	⑫	0.23	22	65
	V	1980	⑬	0.14	14	60
		1660	⑭	0.13	12	59
		1110	⑮	0.10	9	55

Current values determined at 230V

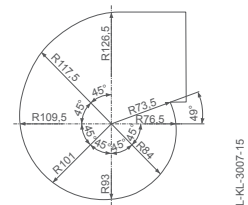
Fan ordering information

Clockwise rotation			Counter clockwise rotation			
Design	RG (without flange)	RG (with flange)	RE..P*	RG (without flange)	RG (with flange)	RE..P*
<b>Type</b>	<b>RG13R-4IP.Z8.4R</b>	<b>RG13R-4IP.Z8.4R</b>	<b>RE13P-4IP.Z8.1R</b>	<b>RG13R-4IP.Z8.4L</b>	<b>RG13R-4IP.Z8.4L</b>	<b>RE13P-4IP.Z8.1L</b>
<b>Article no.</b>	<b>178212</b>	<b>178204</b>	<b>178196</b>	<b>178216</b>	<b>178208</b>	<b>178200</b>
<b>Weight kg</b>	2.20	2.30	1.20	2.20	2.30	1.20
* Inlet nozzle not included in the scope of delivery						

Control technology

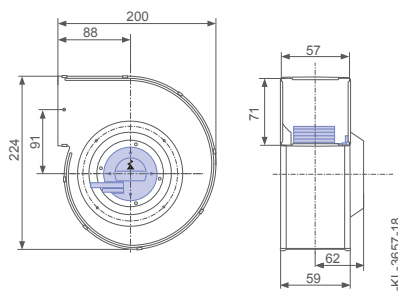


Used scroll

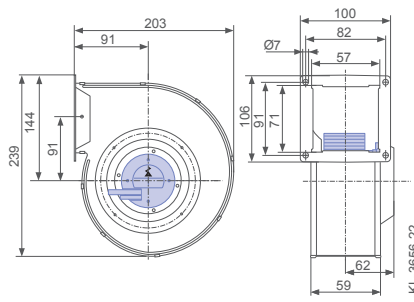


Counter clockwise rotation

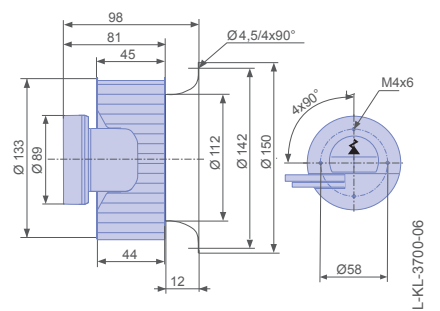
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo



# RG..R-ECblue

for single phase alternating current, 200-240 V

RG1 4R-4IP



## Description

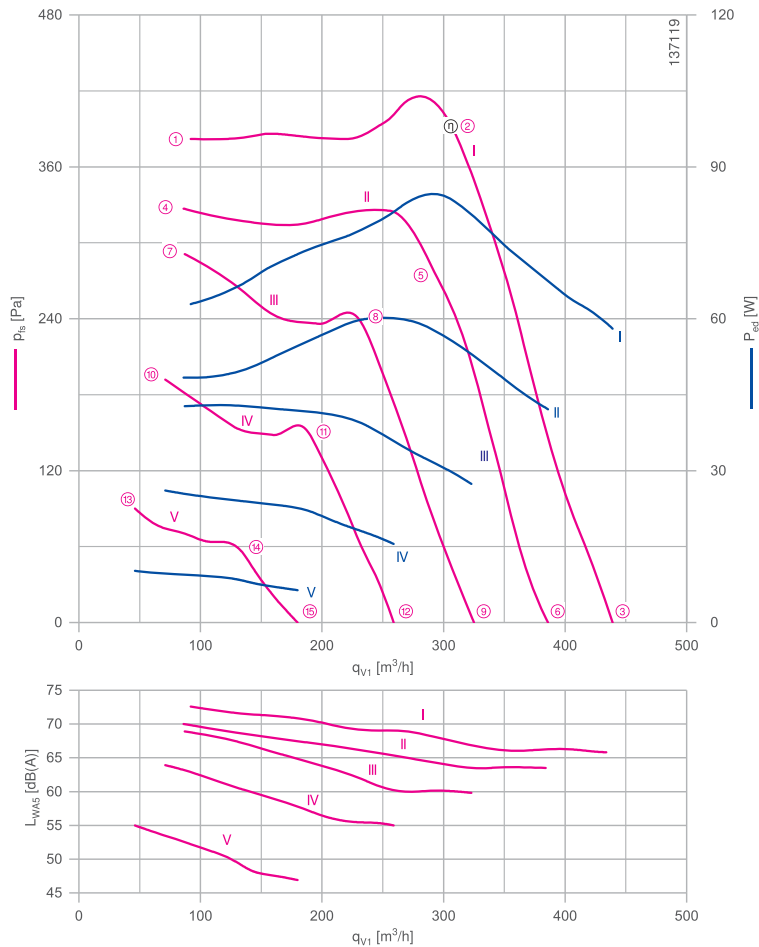
Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 85 W\*  
 Rated current  $I_N$ : 0.86-0.72 A\*  
 Rated speed  $n_N$ : 2550 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: CE, UL

### ErP-data

Not subject to the regulations of ErP directive ( $P_1 < 125$  W)  
 \*Rated data

\*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve



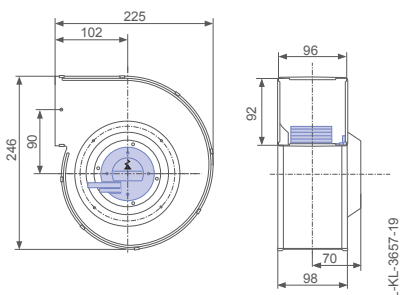
Measured with inlet nozzle, without guard grille according to ISO 5801

Inlet ring	00413148	Page 291
Connection diagram	1360-404	Page 358
System components		Page 286

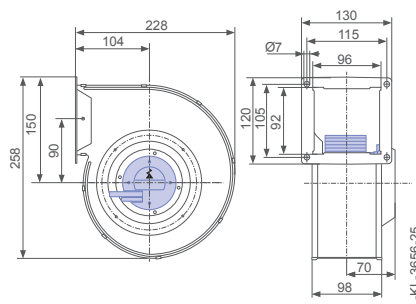
## Dimensions mm

### Clockwise rotation

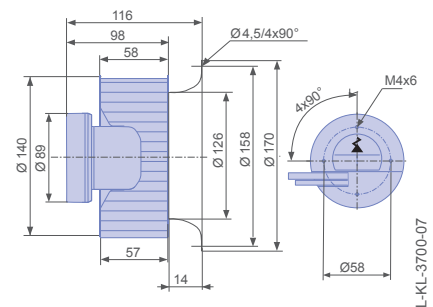
Fan with housing, single inlet, without  
flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange,  
in installation position H/Vu/Vo



Motorised impeller in installation position H/  
Vu/Vo









Performance data

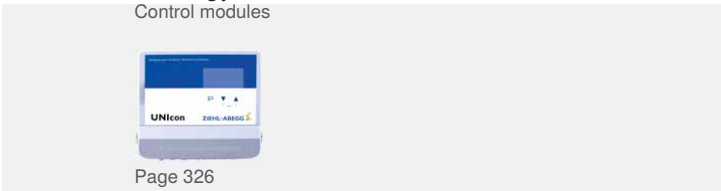
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
RG14R-4IP.Z8.4R	I	2480	①	0.28	65	73
		2550	②	0.74	85	68
		1640	③	0.56	60	66
	II	2360	④	0.48	48	70
		2150	⑤	0.54	60	64
		1470	⑥	0.42	42	64
	III	2200	⑦	0.44	42	69
		2000	⑧	0.40	40	62
		1260	⑨	0.28	28	60
	IV	2110	⑩	0.27	26	64
		1650	⑪	0.23	22	58
		1020	⑫	0.16	16	55
	V	1260	⑬	0.11	10	55
		1020	⑭	0.10	8	49
		680	⑮	0.08	6	47

Current values determined at 230V

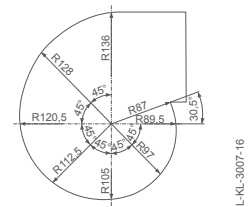
Fan ordering information

Design	Clockwise rotation			Counter clockwise rotation		
	RG (without flange)	RG (with flange)	RE..P*	RG (without flange)	RG (with flange)	RE..P*
						
<b>Type</b>	<b>RG14R-4IP.Z8.4R</b>	<b>RG14R-4IP.Z8.4R</b>	<b>RE14P-4IP.Z8.1R</b>	<b>RG14R-4IP.Z8.4L</b>	<b>RG14R-4IP.Z8.4L</b>	<b>RE14P-4IP.Z8.1L</b>
<b>Article no.</b>	<b>178213</b>	<b>178205</b>	<b>178197</b>	<b>178217</b>	<b>178209</b>	<b>178201</b>
<b>Weight kg</b>	2.60	2.80	1.20	2.60	2.80	1.20
* Inlet nozzle not included in the scope of delivery						

Control technology

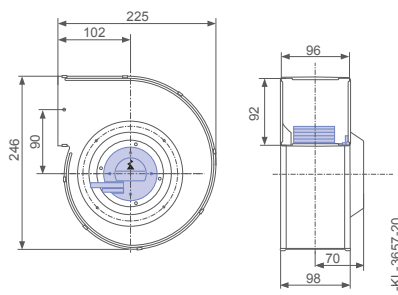


Used scroll

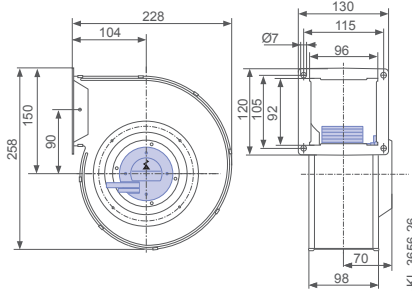


Counter clockwise rotation

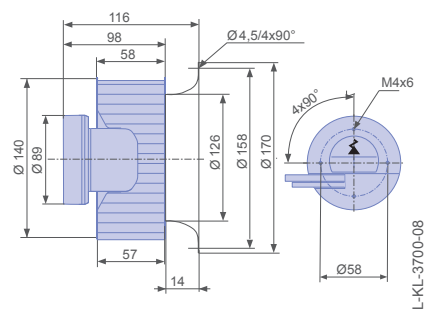
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo



# RG..R-ECblue

for single phase alternating current, 200-240 V

RG1 4R-4IP



## Description

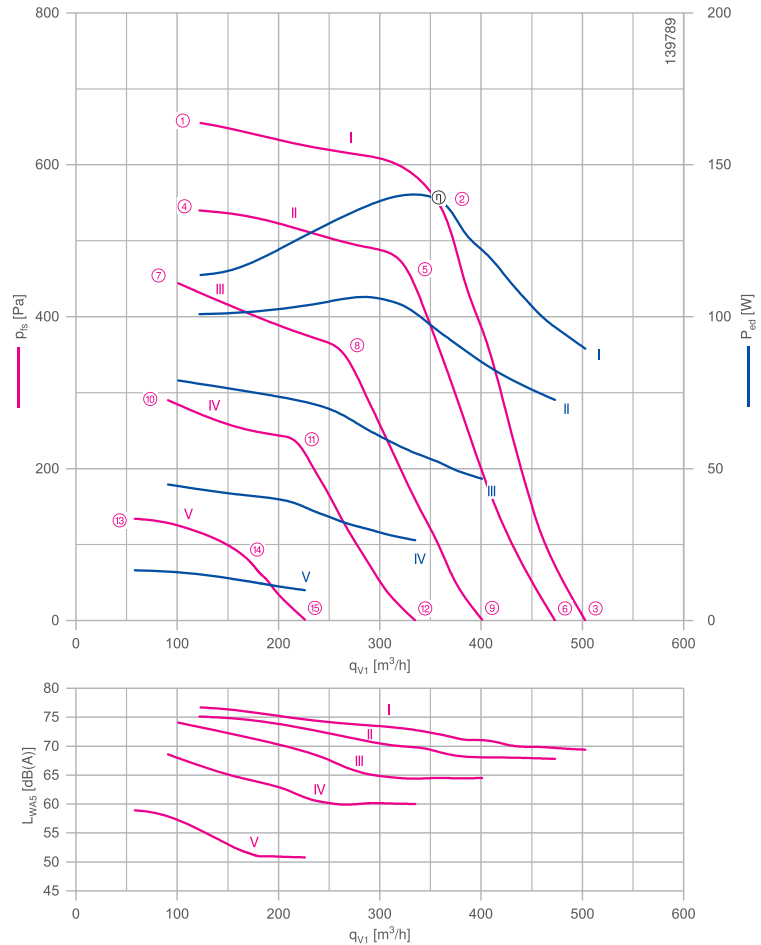
Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 150 W\*  
 Rated current  $I_N$ : 1.45-1.20 A\*  
 Rated speed  $n_N$ : 3310 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable attached cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015, CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 48.5 %  
 Efficiency grade:  $N_{actual} = 60.2 / N_{target} = 44^{**}$   
 EC controller integrated

\*Rated data  
 \*\*ErP 2015

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

Inlet ring	00413148	Page 291
Connection diagram	1360-404	Page 358
System components		Page 286

## Characteristic curve

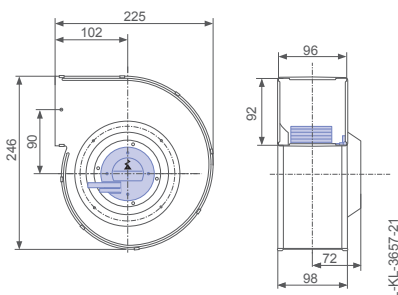


Measured with inlet nozzle, without guard grille according to ISO 5801

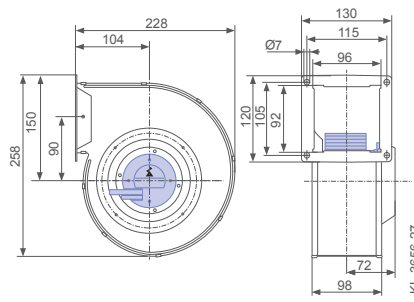
## Dimensions mm

Clockwise rotation

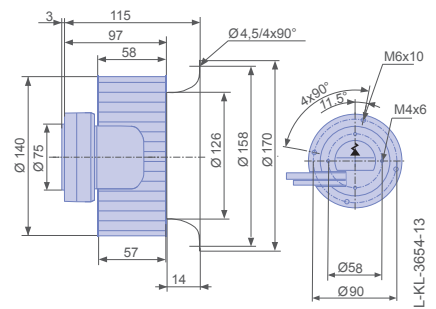
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo



Performance data

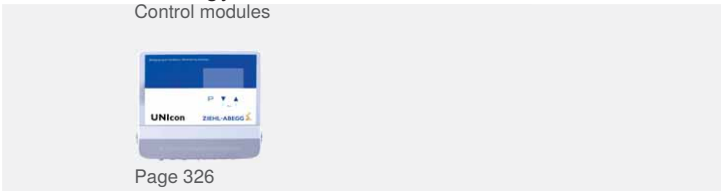
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
RG14R-4IP.Z8.4R	I	3640	①	1.05	110	77
		3040	②	1.25	140	72
		1930	③	0.82	90	69
	II	2980	④	0.92	100	75
		2760	⑤	0.94	100	70
		1800	⑥	0.70	75	68
	III	2700	⑦	0.74	80	74
		2510	⑧	0.64	70	66
		1560	⑨	0.48	46	65
	IV	2570	⑩	0.46	44	69
		1970	⑪	0.40	38	62
		1280	⑫	0.28	26	60
	V	1510	⑬	0.23	17	59
		1270	⑭	0.20	13	52
		870	⑮	0.12	10	51

Current values determined at 230V

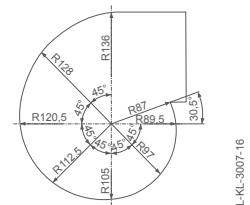
Fan ordering information

Clockwise rotation			Counter clockwise rotation			
Design	RG (without flange)	RG (with flange)	RE..P*	RG (without flange)	RG (with flange)	RE..P*
Type	RG14R-4IP.Z8.4R	RG14R-4IP.Z8.4R	RE14P-4IP.Z8.1R	RG14R-4IP.Z8.4L	RG14R-4IP.Z8.4L	RE14P-4IP.Z8.1L
Article no.	177435	177441	177423	177436	177442	177424
Weight kg	2.70	2.80	1.30	2.70	2.80	1.30
* With electronic flange on request, inlet nozzle not included in the scope of delivery						

Control technology

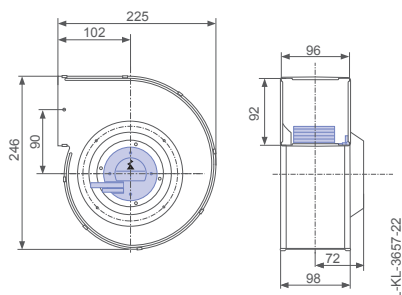


Used scroll

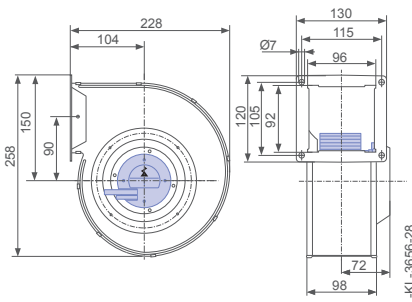


Counter clockwise rotation

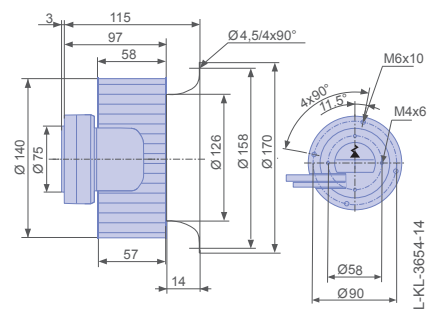
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo



# RG..R-ECblue

for single phase alternating current, 200-240 V

RG15R-4IP



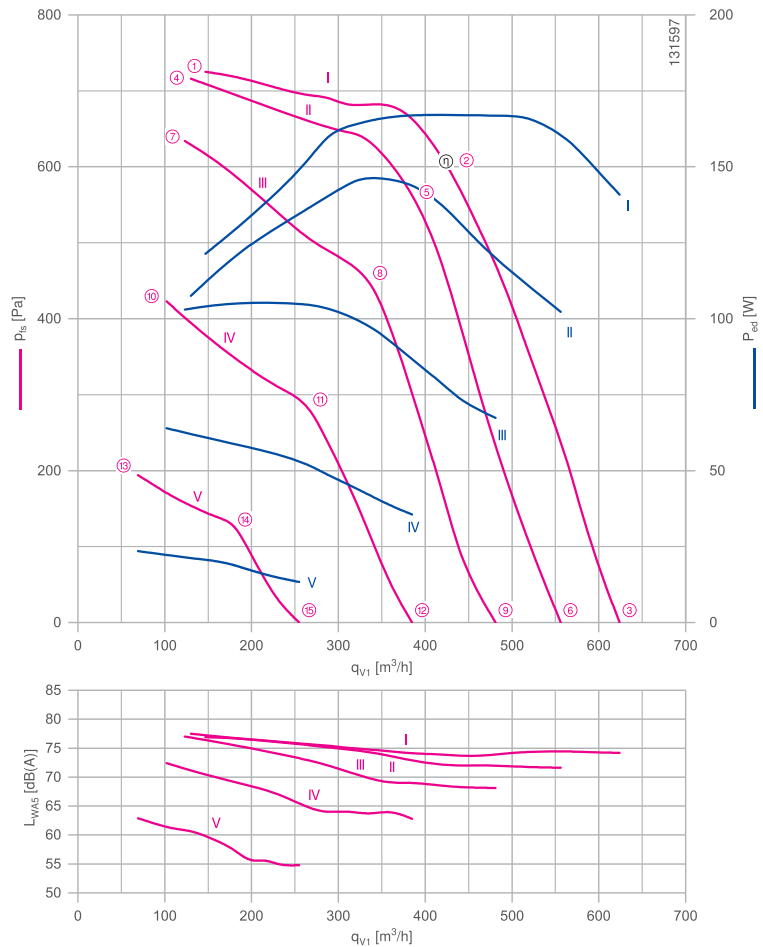
## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.65-1.35 A\*  
 Rated speed  $n_N$ : 3420 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 50.2 %  
 Efficiency grade:  $N_{actual} = 61.4 / N_{target} = 44$ \*\*  
 EC controller integrated

\*Rated data  
 \*\*ErP 2015

\*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve



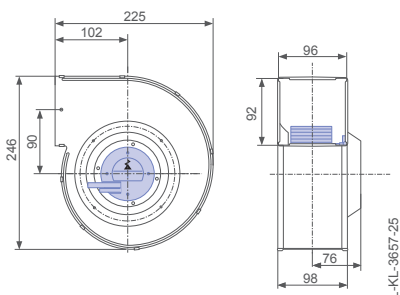
Measured with inlet nozzle, without guard grille according to ISO 5801

Inlet ring	00413148	Page 291
Connection diagram	1360-404	Page 358
System components		Page 286

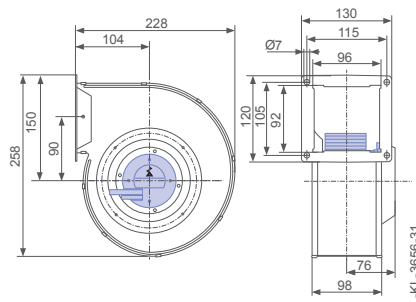
## Dimensions mm

Clockwise rotation

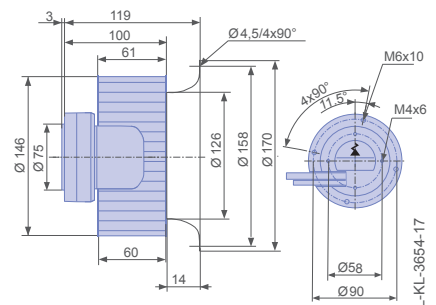
Fan with housing, single inlet, without  
flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange,  
in installation position H/Vu/Vo



Motorised impeller in installation position H/  
Vu/Vo





Performance data

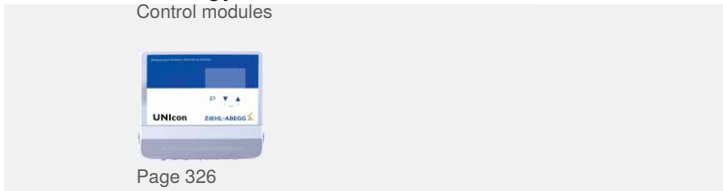
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
RG15R-4IP.ZC.4R	I	3400	①	0.78	120	77
		3050	②	1.40	170	74
		2190	③	1.20	140	74
	II	3340	④	0.98	110	78
		2960	⑤	1.20	140	73
		1970	⑥	0.94	100	72
	III	3170	⑦	0.92	100	77
		2620	⑧	0.86	100	70
		1730	⑨	0.64	65	68
	IV	2730	⑩	0.60	65	72
		2150	⑪	0.50	50	65
		1370	⑫	0.37	36	63
	V	1740	⑬	0.25	24	63
		1430	⑭	0.22	19	58
		940	⑮	0.16	13	55

Current values determined at 230V

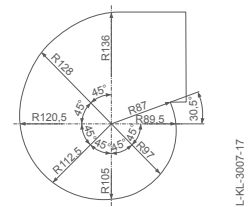
Fan ordering information

	Clockwise rotation			Counter clockwise rotation		
Design	RG (without flange)	RG (with flange)	RE..P*	RG (without flange)	RG (with flange)	RE..P*
Type	RG15R-4IP.ZC.4R	RG15R-4IP.ZC.4R	RE15P-4IP.ZC.2R	RG15R-4IP.ZC.4L	RG15R-4IP.ZC.4L	RE15P-4IP.ZC.2L
Article no.	177437	177443	177425	177438	177444	177426
Weight kg	3.00	3.20	1.70	3.00	3.20	1.70
* With electronic flange on request, inlet nozzle not included in the scope of delivery						

Control technology

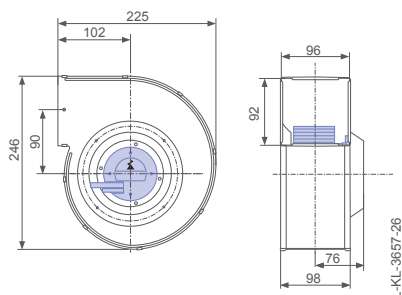


Used scroll

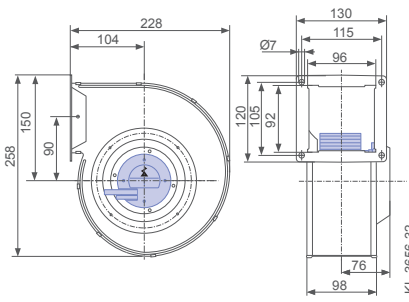


Counter clockwise rotation

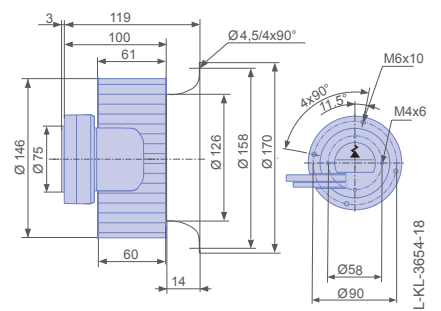
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo



# RG..R-ECblue

for single phase alternating current, 200-240 V

RG16R-4IP



## Description

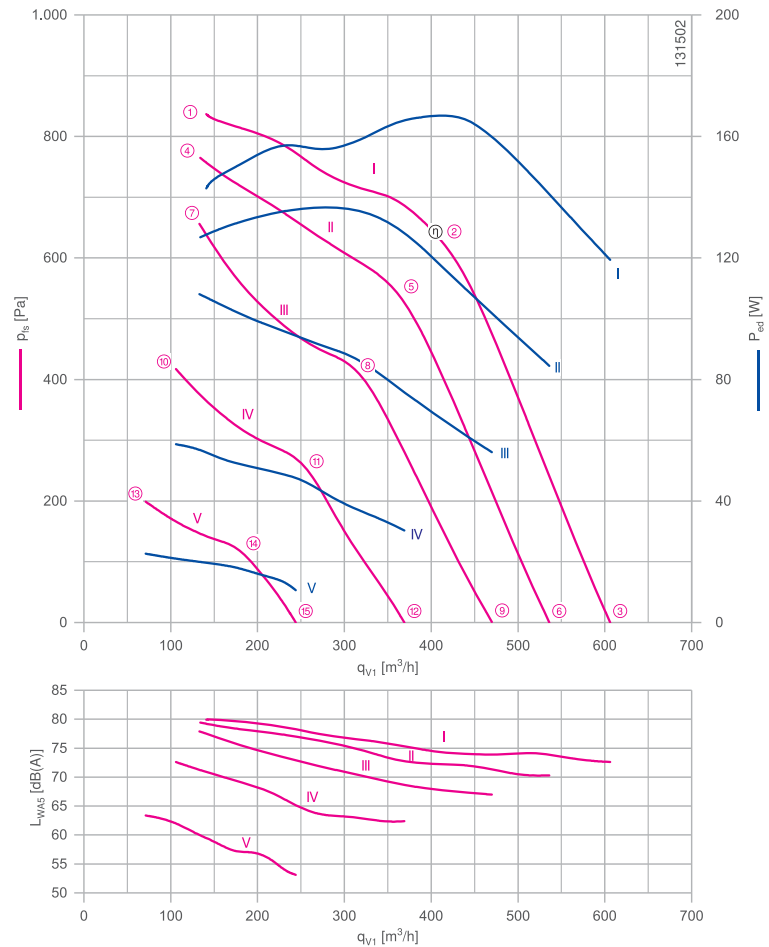
Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.80-1.50 A\*  
 Rated speed  $n_N$ : 2880 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable at-  
 tached cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015, CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 50.8 %  
 Efficiency grade:  $N_{actual} = 62.0 / N_{target} = 44^{**}$   
 EC controller integrated

\*Rated data

\*\*ErP 2015

\*\*\* Continuous operation with occasional starts (S1) ac-  
 cording to DIN EN 60034-1:2011-02. Occasional starting  
 between -30 °C and -25 °C is permissible. Continuous  
 operation below -25 °C only with special bearings for  
 refrigeration applications on request.

## Characteristic curve



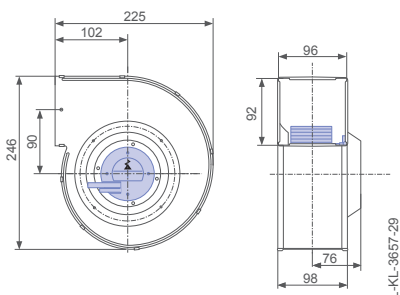
Measured with inlet nozzle, without guard grille according to ISO 5801

Inlet ring	00413149	Page 291
Connection diagram	1360-404	Page 358
System components		Page 286

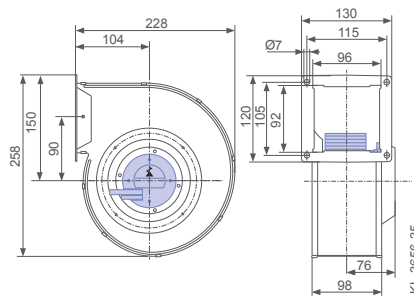
## Dimensions mm

Clockwise rotation

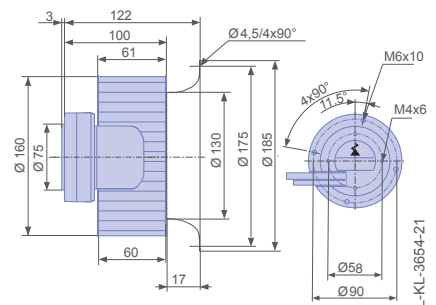
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



Motorised impeller in installation position H/Vu/Vo









Performance data

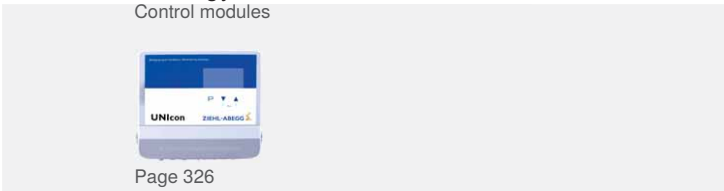
Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
RG16R-4IP.ZC.4R	I	3230	①	0.98	140	80
		2880	②	1.55	170	74
		1820	③	1.15	120	73
	II	3110	④	1.25	130	79
		2680	⑤	1.15	130	73
		1620	⑥	0.78	85	70
	III	2850	⑦	0.94	110	78
		2350	⑧	0.88	90	71
		1410	⑨	0.56	55	67
	IV	2310	⑩	0.58	60	73
		1880	⑪	0.46	48	64
		1140	⑫	0.31	30	62
	V	1620	⑬	0.24	22	63
		1330	⑭	0.21	18	57
		750	⑮	0.13	11	53

Current values determined at 230V

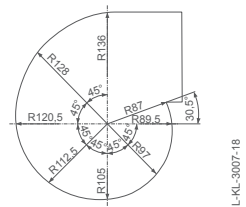
Fan ordering information

Design	Clockwise rotation			Counter clockwise rotation		
	RG (without flange)	RG (with flange)	RE..P*	RG (without flange)	RG (with flange)	RE..P*
						
<b>Type</b>	<b>RG16R-4IP.ZC.4R</b>	<b>RG16R-4IP.ZC.4R</b>	<b>RE16P-4IP.ZC.1R</b>	<b>RG16R-4IP.ZC.4L</b>	<b>RG16R-4IP.ZC.4L</b>	<b>RE16P-4IP.ZC.1L</b>
<b>Article no.</b>	<b>177439</b>	<b>177445</b>	<b>177427</b>	<b>177440</b>	<b>177446</b>	<b>177428</b>
<b>Weight kg</b>	3.10	3.30	1.80	3.00	3.30	1.80
* With electronic flange on request, inlet nozzle not included in the scope of delivery						

Control technology

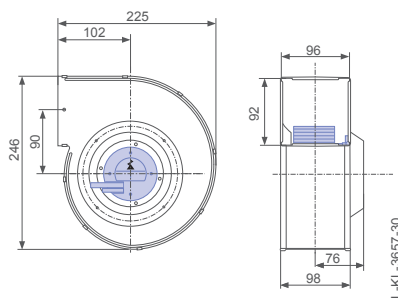


Used scroll

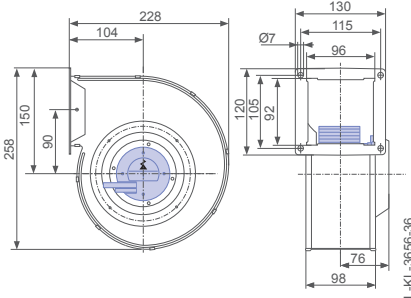


Counter clockwise rotation

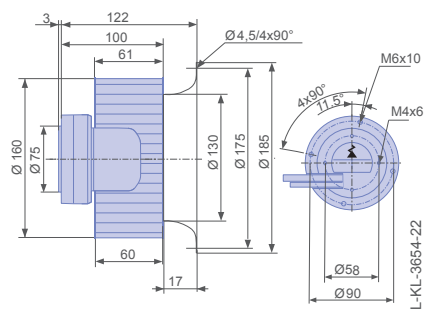
Fan with housing, single inlet, without flange, in installation position H/Vu/Vo



Fan with housing, single inlet, with flange, in installation position H/Vu/Vo



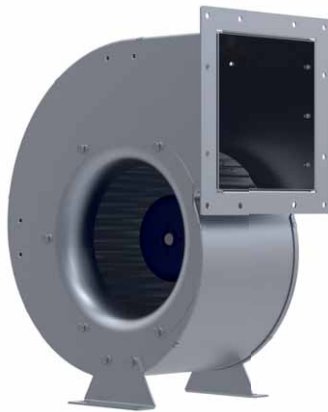
Motorised impeller in installation position H/Vu/Vo



# RG..R-ECblue

for single phase alternating current, 200-277 V

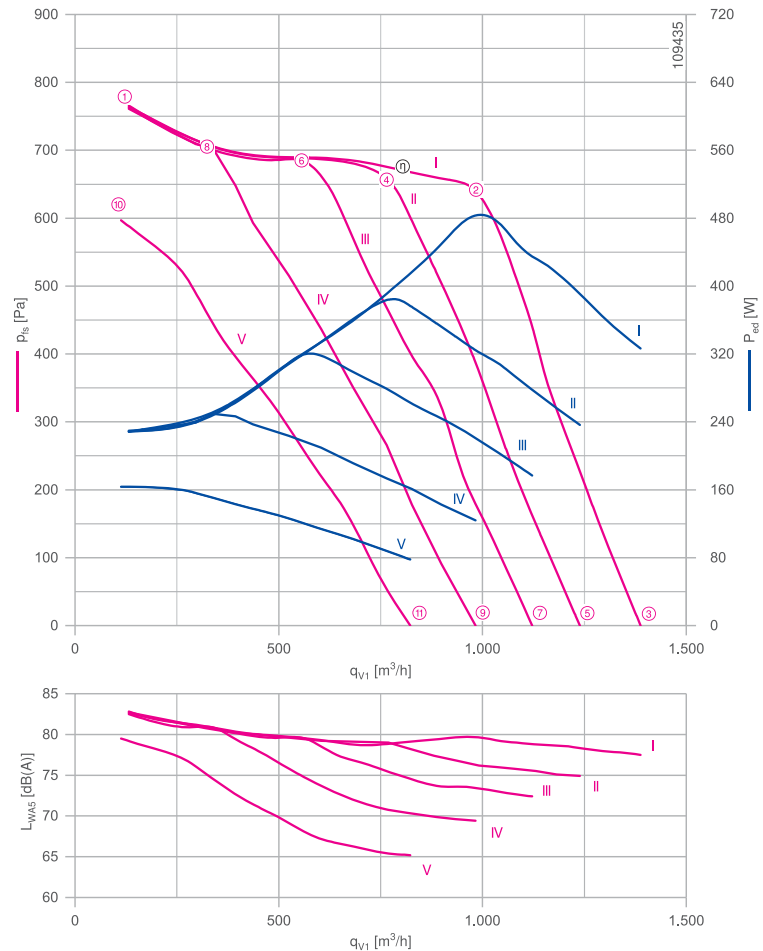
RG18R-6IK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-277 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 0.48 kW\*  
 Rated current  $I_N$ : 2.40-1.75 A\*  
 Rated speed  $n_N$ : 2740 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 55 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 42.1 %  
 Efficiency grade:  $N_{actual} = 50.9 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

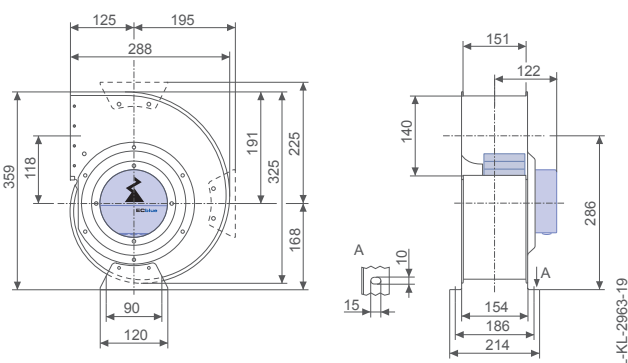


Measured with inlet nozzle, without guard grille according to ISO 5801

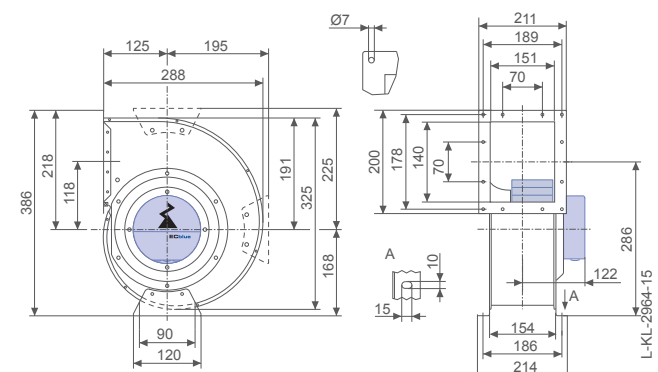
Inlet ring	00412586	Page 291
Connection diagram	1360-384	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H

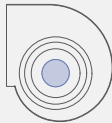




Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RG18R-6IK.BA.4R	I	2770	100	①	1.00	230	83	55
		2740		②	2.10	480	80	
		1760		③	1.40	330	78	
	II	2770	80	④	1.70	390	79	60
		1590		⑤	1.05	240	75	
	III	2770	100	⑥	1.40	320	80	
		1440		⑦	0.78	180	72	
	IV	2770	100	⑧	1.10	250	81	
		1260		⑨	0.54	120	69	
	V	2450	90	⑩	0.72	160	80	
		1070		⑪	0.36	80	65	



Current values determined at 230V

Fan ordering information

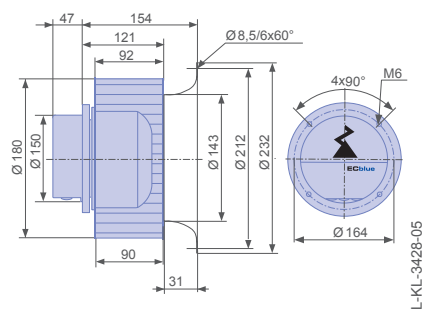
Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
Type	RG18R-6IK.BA.4R	RG18R-6IK.BA.4R	RE18P-6IK.BA.1R
Article no.	115225	115226	115215
Weight kg	7.00	8.00	4.10

\* Inlet nozzle not included in the scope of delivery

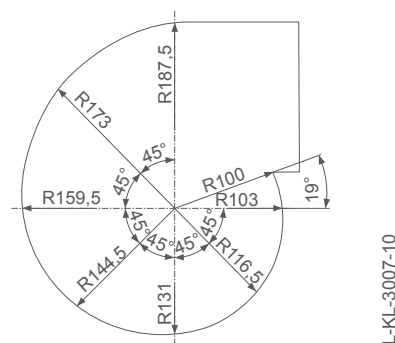
Control technology

Control modules	Operating terminal
	
Page 326	Page 344

Motorised impeller in installation position H/Vu/Vo



Used scroll



# RG..S-ECblue

for single phase alternating current, 200-240 V

RG18S-4IP



## Description

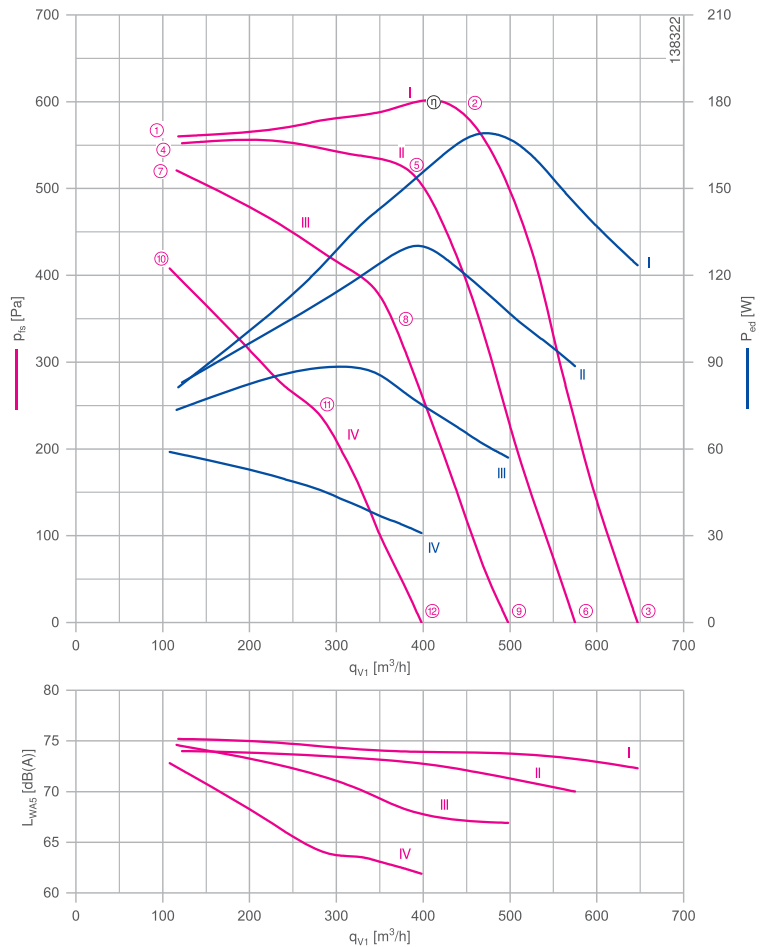
Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 170 W\*  
 Rated current  $I_N$ : 1.60-1.35 A\*  
 Rated speed  $n_N$ : 2250 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable attached cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015, CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 51.4 %  
 Efficiency grade:  $N_{actual} = 62.8 / N_{target} = 44$ \*\*  
 EC controller integrated

\*Rated data

\*\*ErP 2015

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve



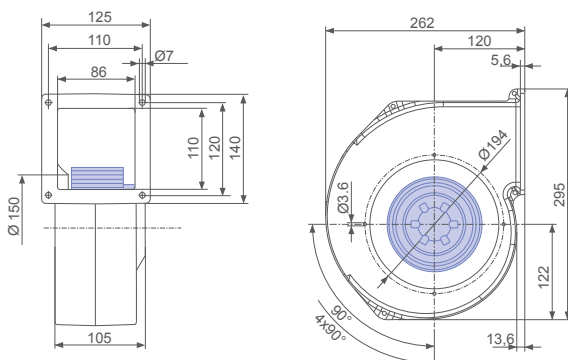
Measured with inlet nozzle, without guard grille according to ISO 5801

Connection diagram 1360-404  
 System components

Page 358  
 Page 286

## Dimensions mm

Fan with housing, single inlet, with flange, in installation position H/  
 Vu/Vo



L-KL-3765-01

Performance data


Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RG18S-4IP.ZC.5R	I	2370	①	0.78	80	75
		2400	②	1.30	160	74
		1520	③	1.00	120	72
	II	2390	④	0.78	85	74
		2230	⑤	1.10	130	73
		1360	⑥	0.78	90	70
	III	2230	⑦	0.66	75	75
		1830	⑧	0.72	80	69
		1180	⑨	0.56	55	67
	IV	2010	⑩	0.56	60	73
		1530	⑪	0.48	46	64
		960	⑫	0.32	30	62

Current values determined at 230V

Fan ordering information

Design RG (with flange)

Installation position H/Vu/Vo




**Type** RG18S-4IP.ZC.5R  
**Article no.** 178798

Weight kg 3.30  
Inlet nozzle integrated

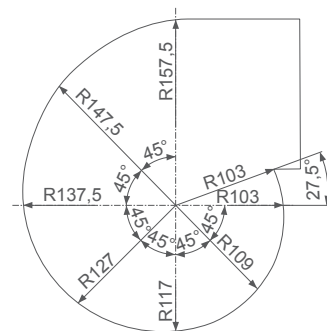
Control technology

Control modules



Page 326

Used scroll

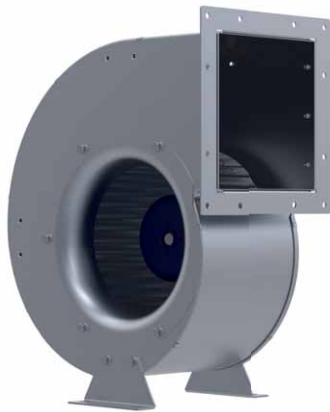


L-KL-2960-24

# RG..R-ECblue

for single phase alternating current, 200-277 V

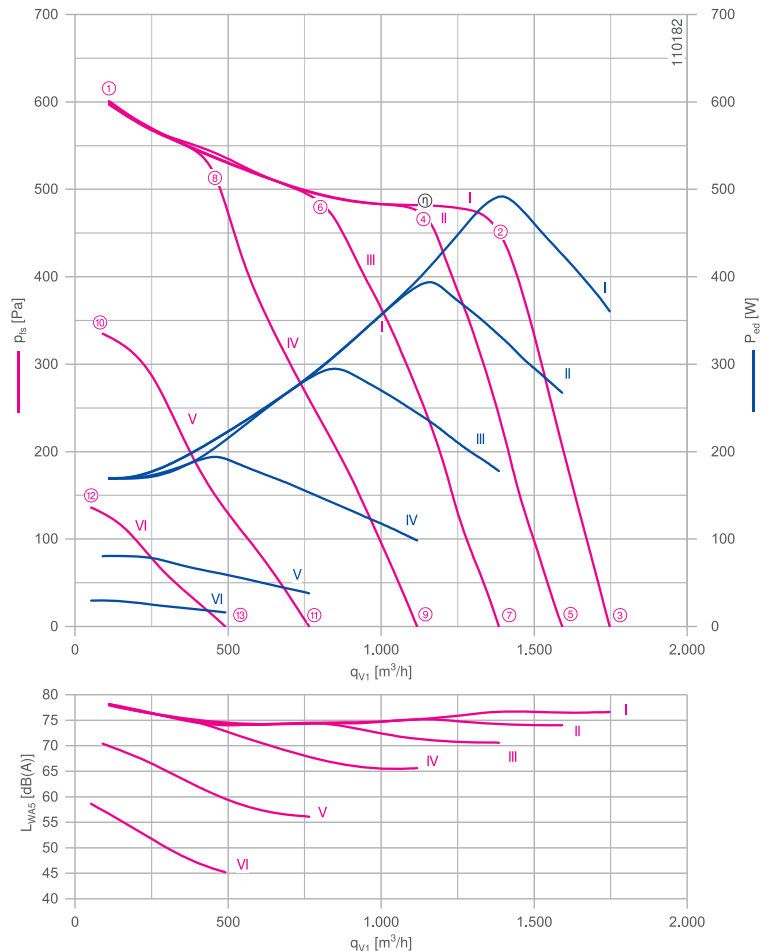
RG20R-6IK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-277 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 0.50 kW\*  
 Rated current  $I_N$ : 2.50-1.80 A\*  
 Rated speed  $n_N$ : 2040 min<sup>-1</sup>\*  
 Thermal class: **THCL155**\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 50 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 43.3 %  
 Efficiency grade:  $N_{actual} = 52.1 / N_{target} = 44$ \*\*  
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

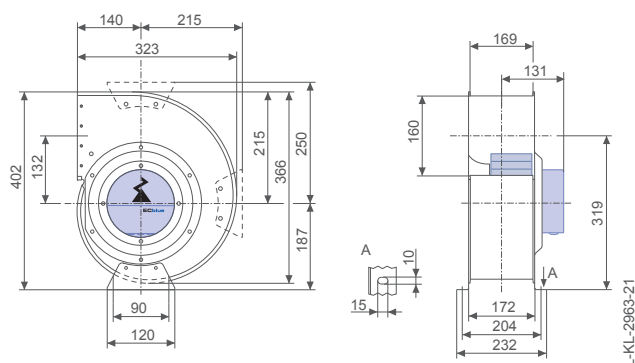


Measured with inlet nozzle, without guard grille according to ISO 5801

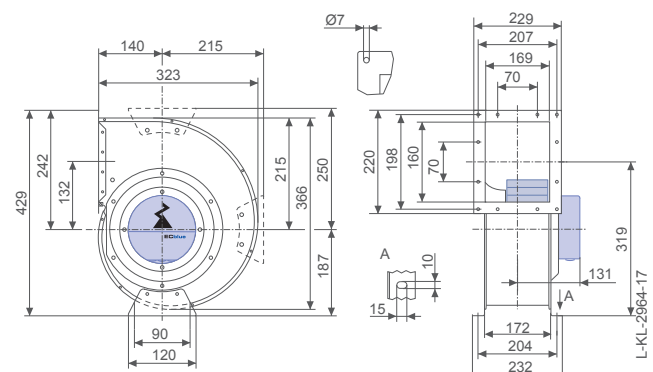
Inlet ring	00412587	Page 291
Connection diagram	1360-384	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H



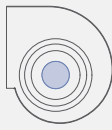




Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	
		n min <sup>-1</sup>	%						I A
RG20R-6IK.BA.4R	I	2060	100	①	0.76	170	78	50	
		2040		②	2.20	500	77		
		1430		③	1.60	360	77		
	II	2060	80	④	1.75	400	75		60
		1290		⑤	1.15	270	74		
		2050		⑥	1.30	300	74		
	III	1130	60	⑦	0.78	180	71		
		1990		⑧	0.86	190	73		
	IV	920	40	⑨	0.44	100	66		
		1560		⑩	0.38	80	70		
	V	640	20	⑪	0.21	38	56		
		1000		⑫	0.18	30	59		
	VI	420	20	⑬	0.15	16	45		



Current values determined at 230V

Fan ordering information

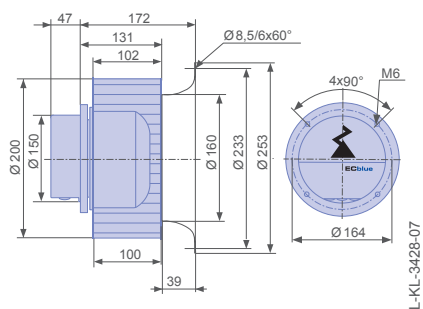
Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
<b>Type</b>	<b>RG20R-6IK.BA.4R</b>	<b>RG20R-6IK.BA.4R</b>	<b>RE20P-6IK.BA.2R</b>
<b>Article no.</b>	<b>115227</b>	<b>115228</b>	<b>115216</b>
Weight kg	8.00	9.00	4.20

\* Inlet nozzle not included in the scope of delivery

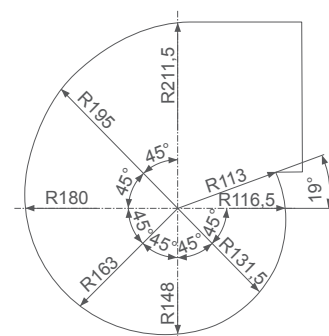
Control technology

Control modules	Operating terminal
	
Page 326	Page 344

Motorised impeller in installation position H/Vu/Vo



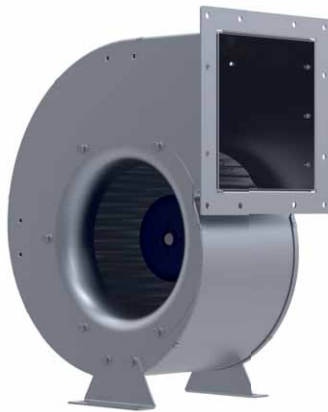
Used scroll



# RG..R-ECblue

for single phase alternating current, 200-277 V

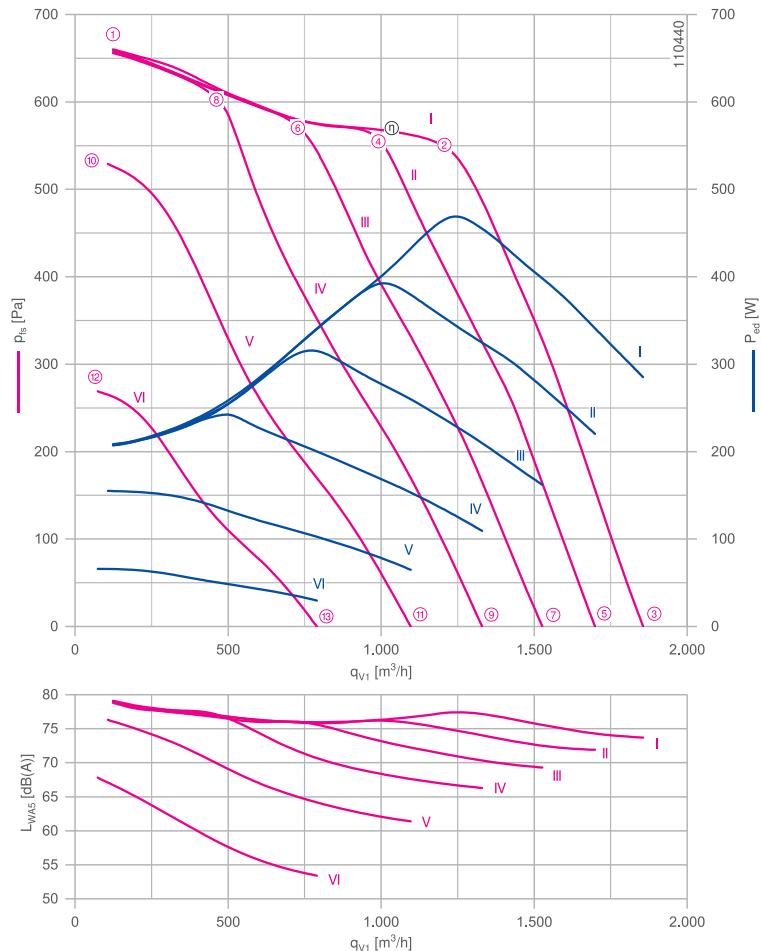
RG22R-6IK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-277 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 0.48 kW\*  
 Rated current  $I_N$ : 2.40-1.75 A\*  
 Rated speed  $n_N$ : 1880 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 50 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 45.6 %  
 Efficiency grade:  $N_{actual} = 54.4 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

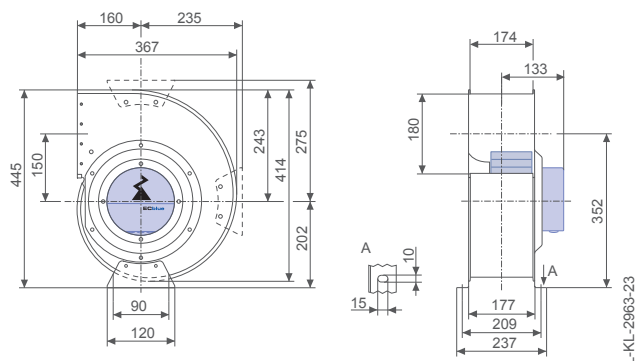


Measured with inlet nozzle, without guard grille according to ISO 5801

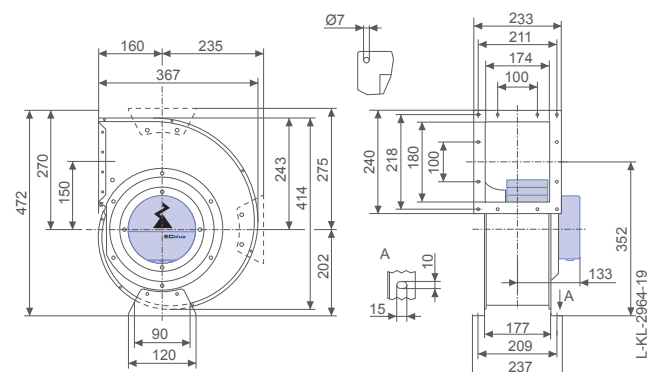
Inlet ring	00412588	Page 291
Connection diagram	1360-384	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H

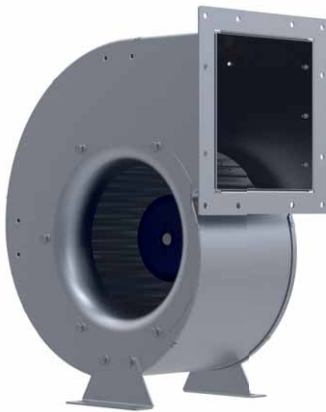




# RG..R-ECblue

for single phase alternating current, 200-277 V

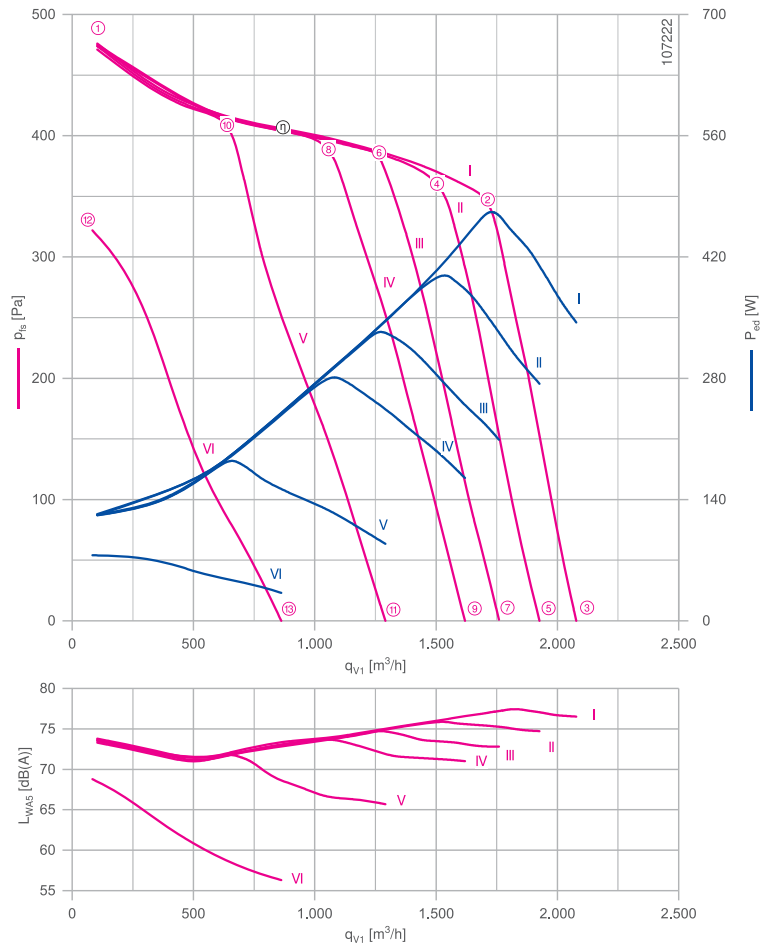
RG25R-6IK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-277 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 0.48 kW\*  
 Rated current  $I_N$ : 2.40-1.70 A\*  
 Rated speed  $n_N$ : 1440 min<sup>-1</sup>\*  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 45 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 47.0 %  
 Efficiency grade:  $N_{actual} = 56.7 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

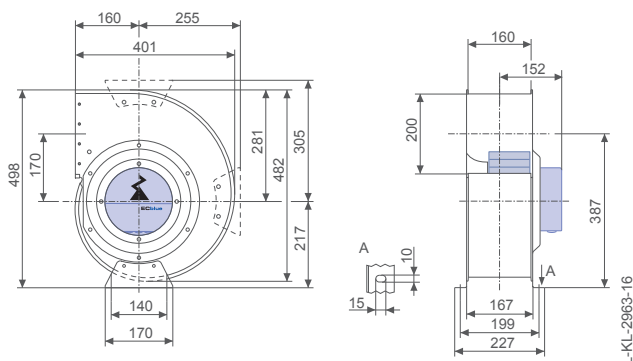


Measured with inlet nozzle, without guard grille according to ISO 5801

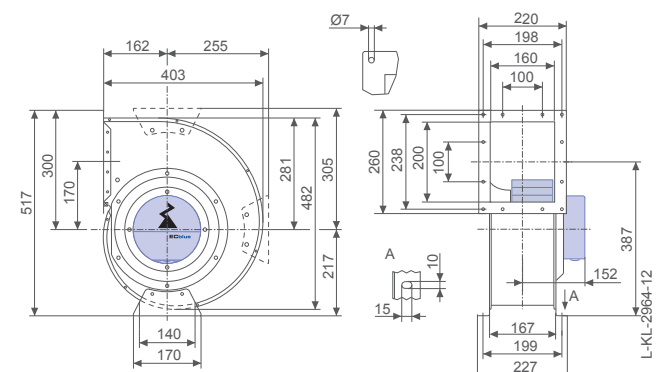
Inlet ring	00412589	Page 291
Connection diagram	1360-384	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H

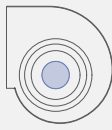




Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature	
		n min <sup>-1</sup>	%						I A
RG25R-6IK.BD.4R	I	1450	100	①	0.56	120	74	45	
		1450		②	2.10	480	77		
		980		③	1.50	340	77		
	II	1450	86	④	1.80	400	76		60
		910		⑤	1.20	270	75		
		1450		⑥	1.50	340	75		
	III	830	72	⑦	0.92	210	73		
		1450		⑧	1.25	280	74		
	IV	770	62	⑨	0.74	170	71		
		1450		⑩	0.82	190	72		
	V	620	41	⑪	0.42	90	66		
		1200		⑫	0.36	75	69		
VI	420	20	⑬	0.19	32	56			



Current values determined at 230V

Fan ordering information

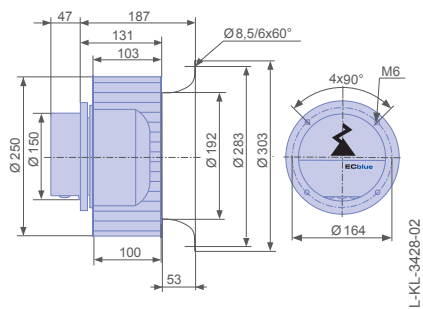
Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
<b>Type</b>	<b>RG25R-6IK.BD.4R</b>	<b>RG25R-6IK.BD.4R</b>	<b>RE25P-6IK.BD.1R</b>
<b>Article no.</b>	<b>115231</b>	<b>115232</b>	<b>115218</b>
Weight kg	14.00	14.00	5.80

\* Inlet nozzle not included in the scope of delivery

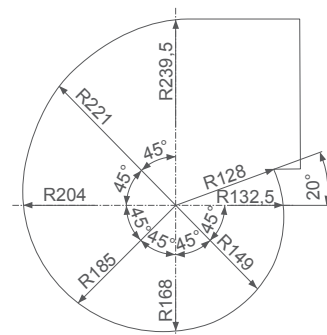
Control technology

Control modules	Operating terminal
	
Page 326	Page 344

Motorised impeller in installation position H/Vu/Vo



Used scroll



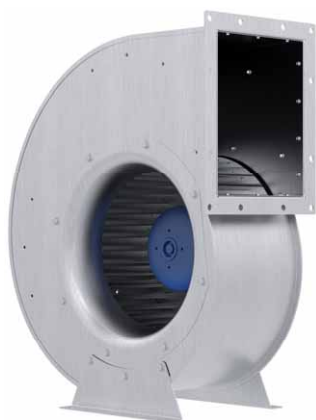
Information  
ZABluefin-ECblue  
Cpro-ECblue  
C-ECblue  
ZAVblue  
Vpro-ECblue  
ZAcube-Cpro-ECblue  
Housing fans

System components  
Control technology  
General notes

# RG..R-ECblue

for single phase alternating current, 200-277 V

RG25R-ZIK



## Description

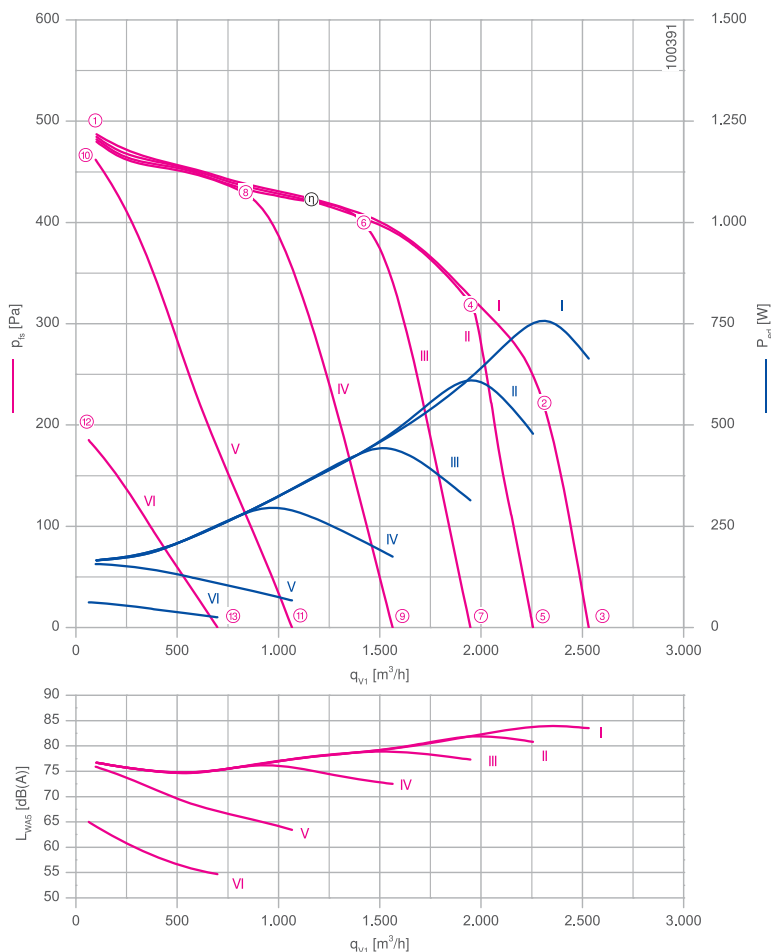
Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-277 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 0.78 kW\*  
 Rated current  $I_N$ : 3.90-2.80 A\*  
 Rated speed  $n_N$ : 1550 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE, UL

## ErP-data

Efficiency  $\eta$ : 42.5 %  
 Efficiency grade:  $N_{actual} = 51.6 / N_{target} = 44^{**}$   
 EC controller integrated

\*Rated data  
 \*\*ErP 2015

## Characteristic curve

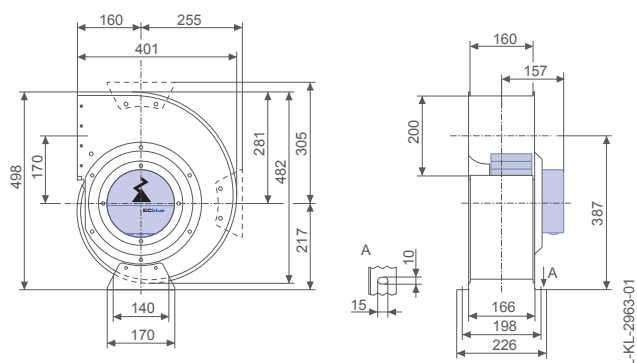


Measured with inlet nozzle, without guard grille according to ISO 5801

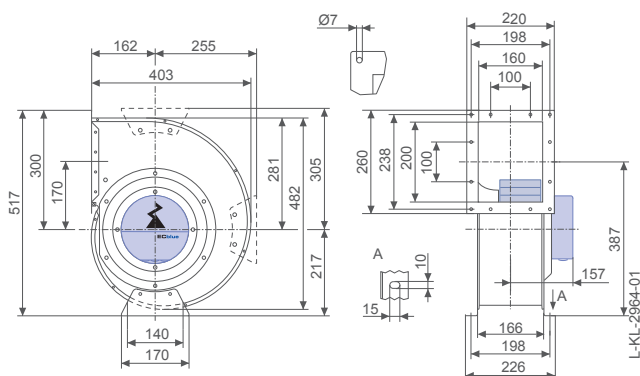
Inlet ring	00411503	Page 291
Connection diagram	1360-403	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H






Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>	%		I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)
RG25R-ZIK.DC.4R	I	1560	100	①	0.76	170	77
		1550		②	3.40	780	84
		1300		③	2.90	660	84
	II	1560	80	④	2.70	620	82
		1160		⑤	2.10	480	81
	III	1560	100	⑥	2.00	460	79
		1020	60	⑦	1.40	310	77
	IV	1550	100	⑧	1.35	310	77
		830	40	⑨	0.80	180	73
	V	1520	100	⑩	0.72	160	76
		570	20	⑪	0.37	65	63
	VI	980	60	⑫	0.52	60	65
		390	10	⑬	0.36	26	55

Current values determined at 230V

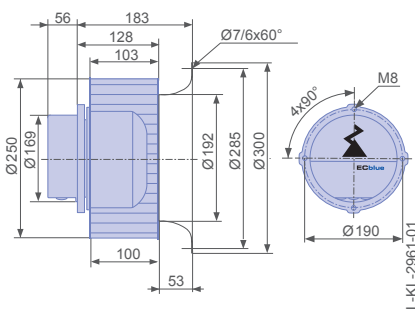
Fan ordering information

Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
<b>Type</b>	<b>RG25R-ZIK.DC.4R</b>	<b>RG25R-ZIK.DC.4R</b>	<b>RE25P-ZIK.DC.1R</b>
<b>Article no.</b>	<b>114791</b>	<b>114792</b>	<b>114783</b>
Weight kg	15.00	16.00	8.40
* Inlet nozzle not included in the scope of delivery			

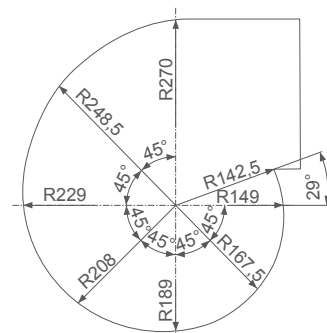
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Page 332	Page 344

Motorised impeller in installation position H/Vu/Vo



Used scroll

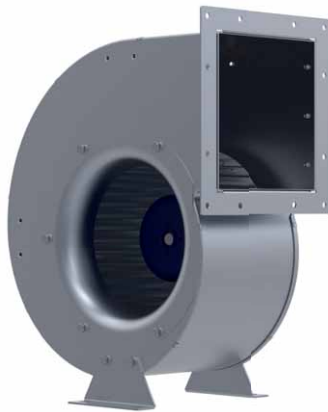


L-KL-3007-01

# RG..R-ECblue

for single phase alternating current, 200-277 V

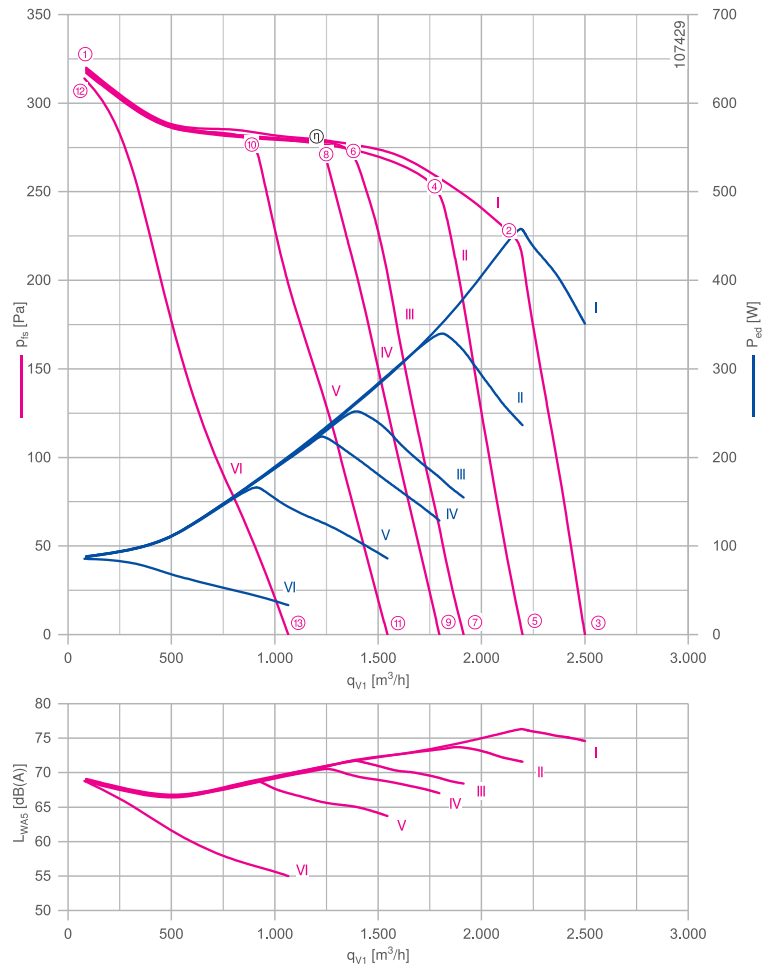
RG28R-6IK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-277 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 0.46 kW\*  
 Rated current  $I_N$ : 2.30-1.65 A\*  
 Rated speed  $n_N$ : 1050 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 40 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 49.0 %  
 Efficiency grade:  $N_{actual} = 59.5 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

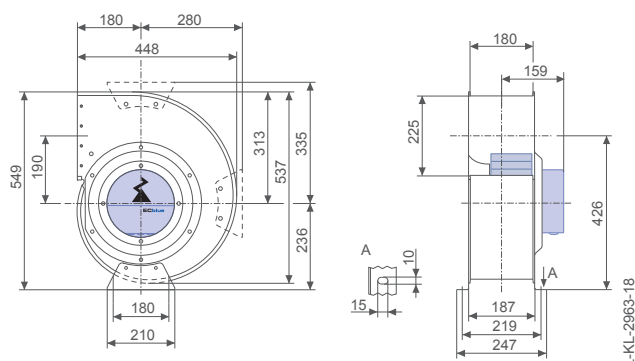


Measured with inlet nozzle, without guard grille according to ISO 5801

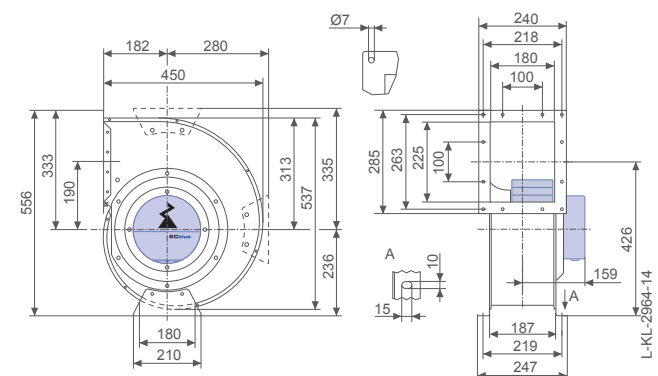
Inlet ring	00412590	Page 291
Connection diagram	1360-384	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H



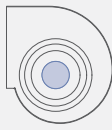




Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RG28R-6IK.BD.4R	I	1040	100	①	0.40	90	69	40
		1040		②	2.00	460	76	
		750		③	1.55	350	75	
	II	1040	④	1.50	340	73	60	
		670	⑤	1.05	240	72		
		1040	⑥	1.10	250	72		
	III	1040	⑦	0.68	150	68		
		580	⑧	0.98	230	71		
	IV	1040	⑨	0.58	130	67		
		550	⑩	0.76	170	69		
	V	1040	⑪	0.40	85	64		
		480	⑫	0.40	85	69		
VI	1040	⑬	0.20	34	55			



Current values determined at 230V

Fan ordering information

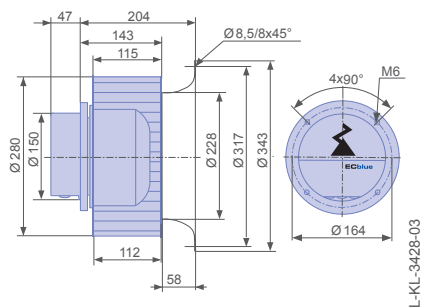
Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
<b>Type</b>	<b>RG28R-6IK.BD.4R</b>	<b>RG28R-6IK.BD.4R</b>	<b>RE28P-6IK.BD.1R</b>
<b>Article no.</b>	<b>115233</b>	<b>115234</b>	<b>115219</b>
Weight kg	16.00	17.00	6.20

\* Inlet nozzle not included in the scope of delivery

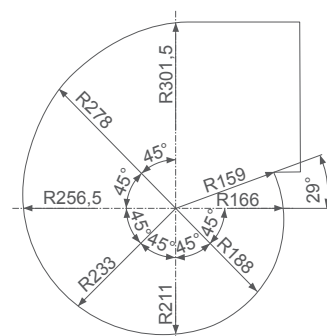
Control technology

Control modules	Operating terminal
	
Page 326	Page 344

Motorised impeller in installation position H/Vu/Vo



Used scroll



Information  
ZABluefin-ECblue  
Cpro-ECblue  
C-ECblue  
ZAVblue  
Vpro-ECblue  
ZAcube-Cpro-ECblue  
Housing fans  
System components  
Control technology  
General notes

# RG..R-ECblue

for single phase alternating current, 200-277 V

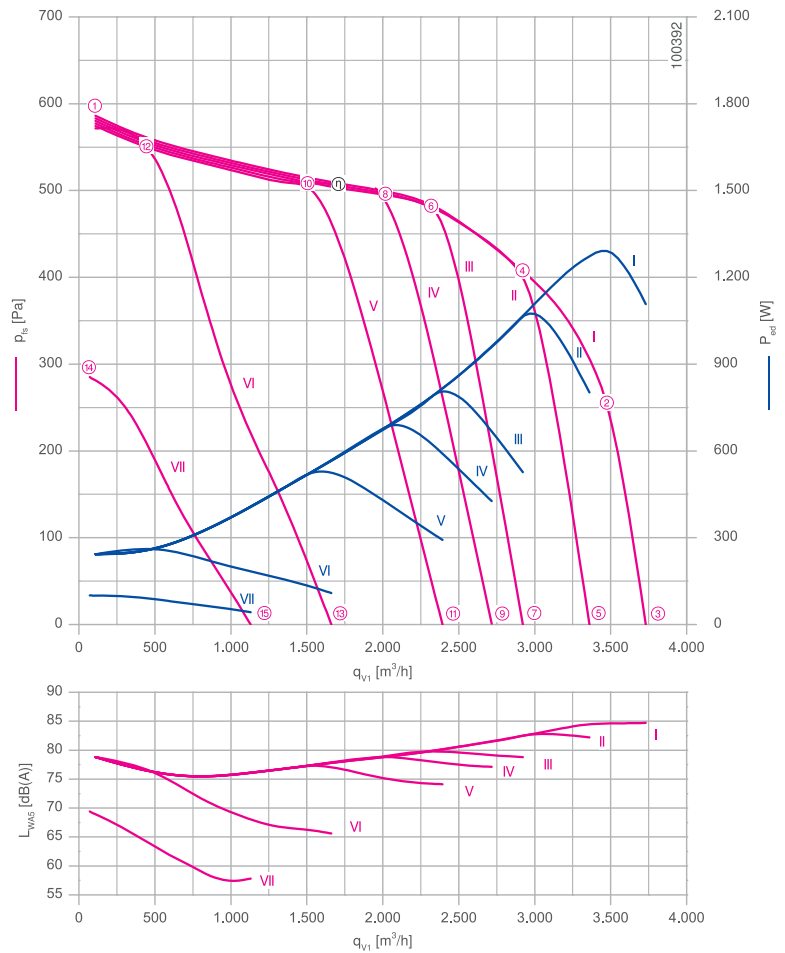
RG28R-ZIK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-277 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 1.30 kW\*  
 Rated current  $I_N$ : 6.40-4.60 A\*  
 Rated speed  $n_N$ : 1390 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 40 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 47.0 %  
 Efficiency grade:  $N_{actual} = 54.9 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

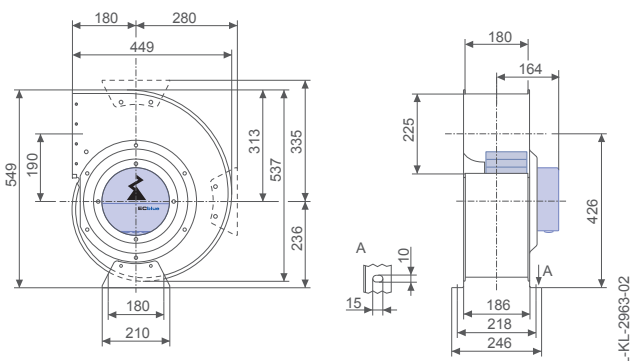


Measured with inlet nozzle, without guard grille according to ISO 5801

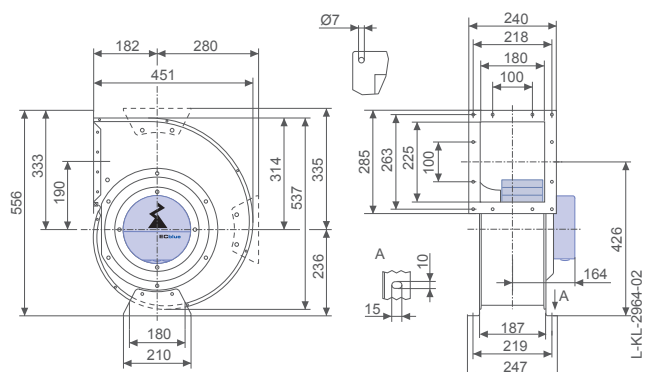
Inlet ring	00411504	Page 291
Connection diagram	1360-403	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H

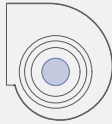




Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RG28R-ZIK.DC.4R	I	1450	100	①	1.10	240	79	40
		1390	100	②	5.60	1300	85	
		1160	100	③	4.80	1100	85	
	II	1450	100	④	4.80	1050	83	60
		1050	80	⑤	3.50	800	82	
	III	1450	100	⑥	3.50	780	80	
		920	60	⑦	2.30	520	79	
	IV	1450	100	⑧	3.00	680	79	
		870	52	⑨	1.95	420	77	
	V	1450	100	⑩	2.30	520	77	
		760	40	⑪	1.35	290	74	
	VI	1450	100	⑫	1.20	260	76	
		540	20	⑬	0.54	110	66	
	VII	1020	70	⑭	0.50	100	69	
		380	10	⑮	0.42	42	58	

Current values determined at 230V

Fan ordering information

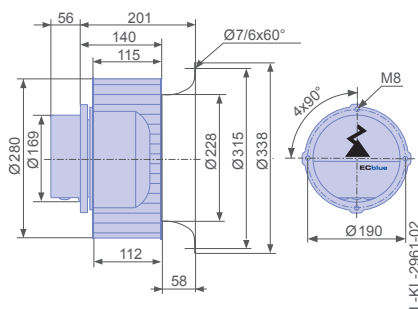
Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
Type	RG28R-ZIK.DC.4R	RG28R-ZIK.DC.4R	RE28P-ZIK.DC.1R
Article no.	114793	114794	114784
Weight kg	18.00	18.00	8.90

\* Inlet nozzle not included in the scope of delivery

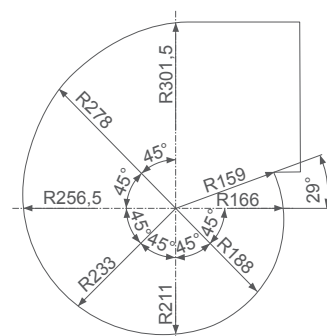
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Page 332	Page 344

Motorised impeller in installation position H/Vu/Vo



Used scroll



L-KL-3007-02

# RG..R-ECblue

for three phase alternating current, 380-480 V

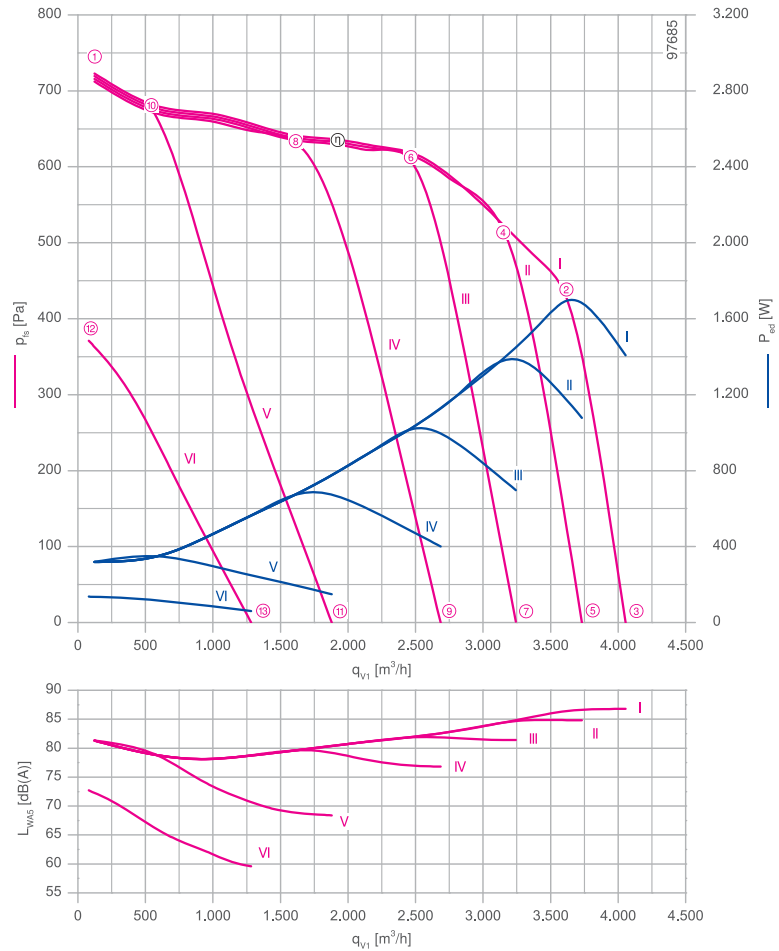
RG28R-ZIK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 3-380-480 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 1.70 kW\*  
 Rated current  $I_N$ : 2.80-2.20 A\*  
 Rated speed  $n_N$ : 1600 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 40 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 48.1 %  
 Efficiency grade:  $N_{actual} = 55.0 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

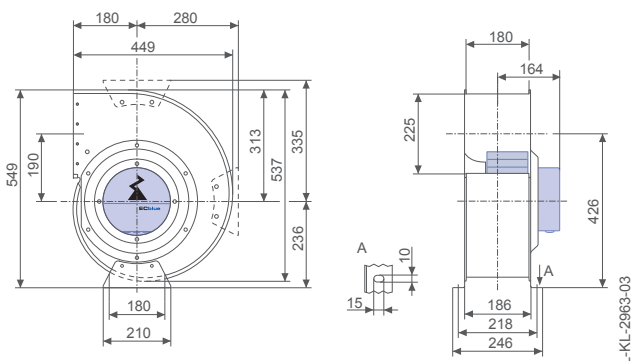


Measured with inlet nozzle, without guard grille according to ISO 5801

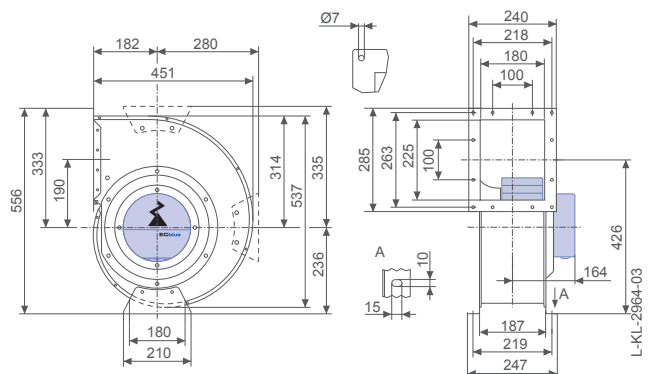
Inlet ring	00411504	Page 291
Connection diagram	1360-403	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H

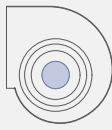




Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RG28R-ZIK.DC.4R	I	1610	100	①	0.70	320	81	40
		1600	100	②	2.70	1700	87	
		1260	100	③	2.20	1400	87	
	II	1610	100	④	2.20	1400	85	60
		1160	80	⑤	1.75	1100	85	
	III	1610	100	⑥	1.70	1050	82	
		1010	58	⑦	1.20	700	81	
	IV	1610	100	⑧	1.20	700	80	
		840	40	⑨	0.82	400	77	
	V	1610	100	⑩	0.74	350	79	
		600	20	⑪	0.44	150	68	
	VI	1160	70	⑫	0.40	140	73	
		420	10	⑬	0.26	60	60	

Current values determined at 400V

Fan ordering information

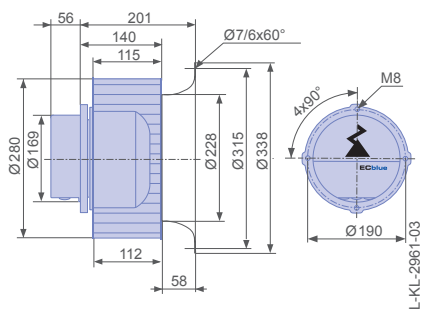
Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
<b>Type</b>	<b>RG28R-ZIK.DC.4R</b>	<b>RG28R-ZIK.DC.4R</b>	<b>RE28P-ZIK.DC.1R</b>
<b>Article no.</b>	<b>114795</b>	<b>114796</b>	<b>114785</b>
Weight kg	18.00	18.00	8.90

\* Inlet nozzle not included in the scope of delivery

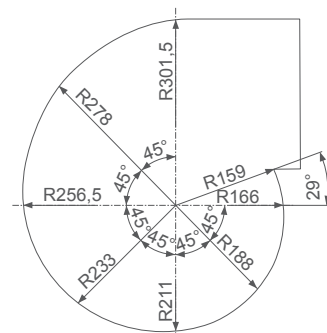
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Page 332	Page 344

Motorised impeller in installation position H/Vu/Vo



Used scroll



L-KL-3007-02

# RG..R-ECblue

for three phase alternating current, 380-480 V

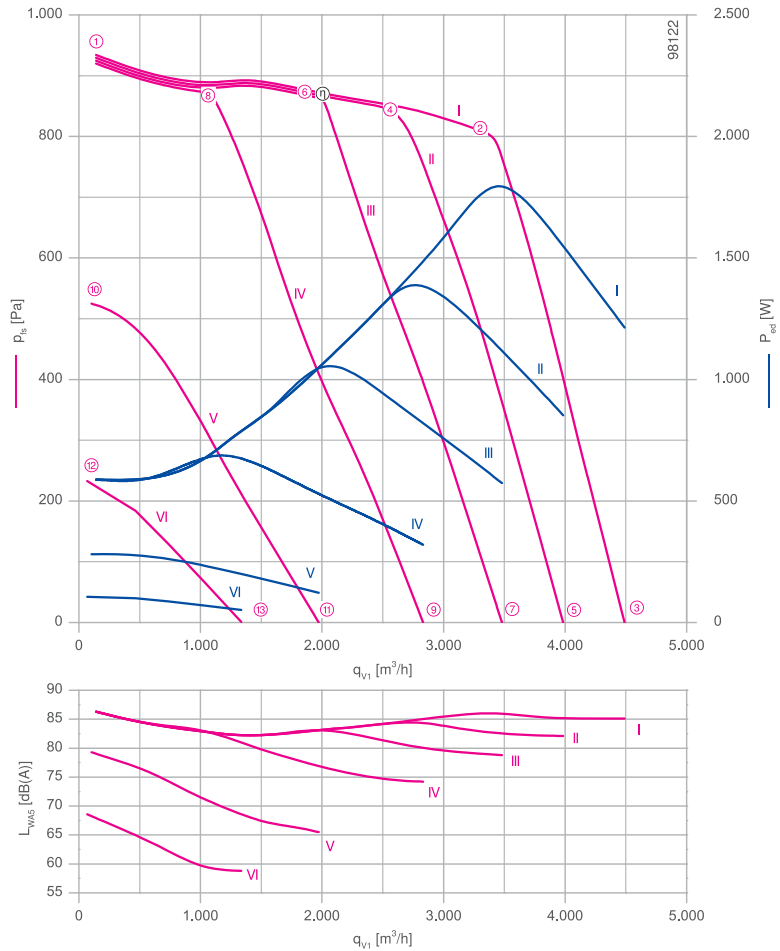
RG31R-ZIK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 3-380-480 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 1.80 kW\*  
 Rated current  $I_N$ : 3.00-2.30 A\*  
 Rated speed  $n_N$ : 1610 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 40 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 50.6 %  
 Efficiency grade:  $N_{actual} = 56.8 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

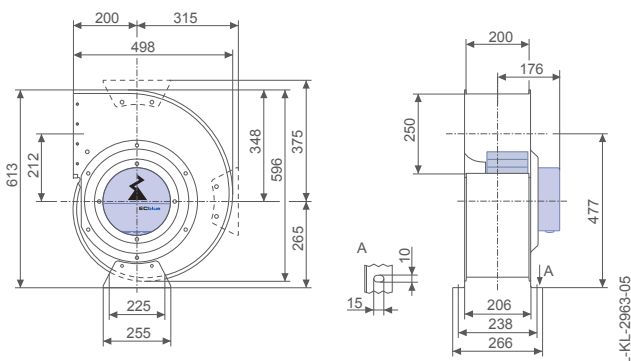


Measured with inlet nozzle, without guard grille according to ISO 5801

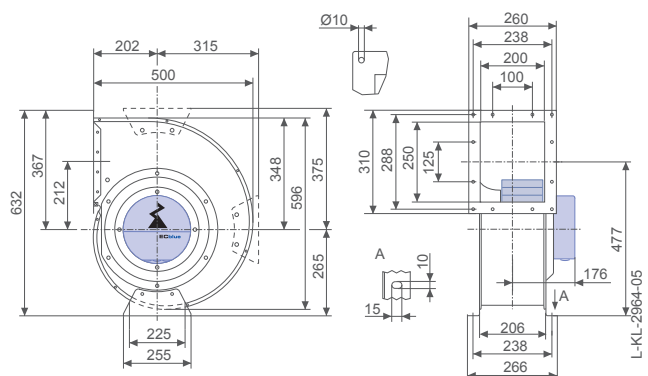
Inlet ring	00411505	Page 291
Connection diagram	1360-403	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H

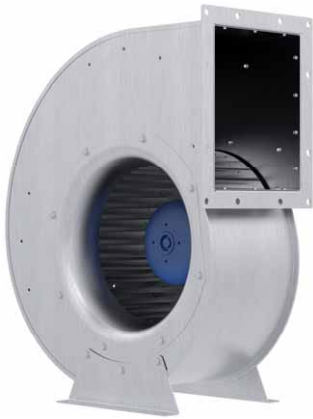




# RG..R-ECblue

for three phase alternating current, 380-480 V

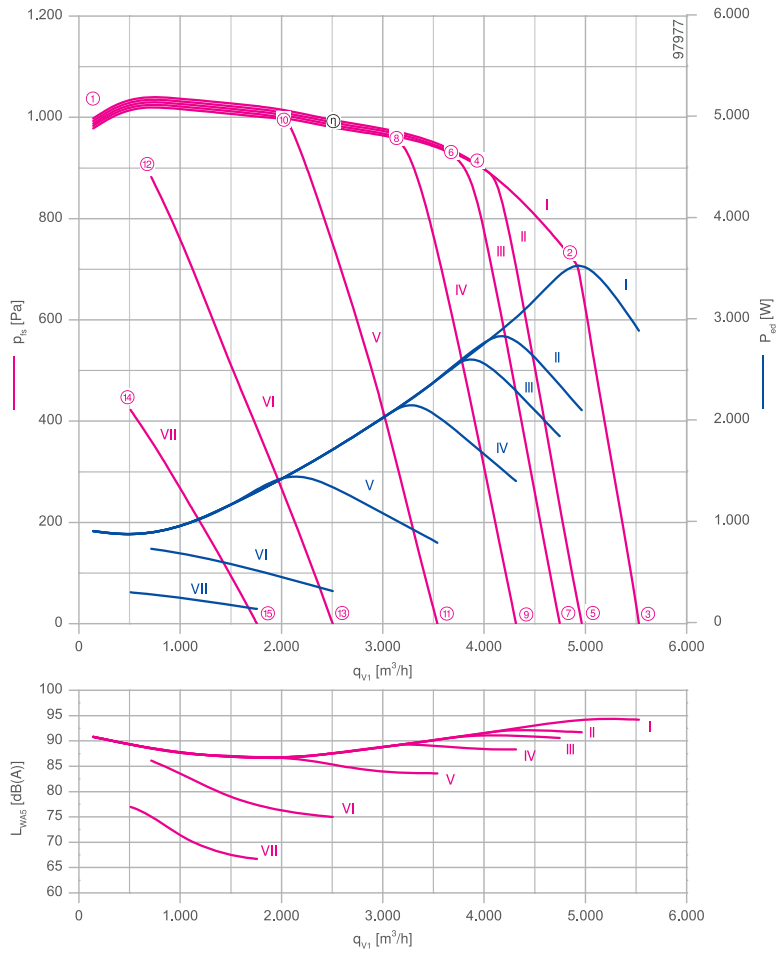
RG31R-ZIK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 3-380-480 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 3.60 kW\*  
 Rated current  $I_N$ : 5.80-4.60 A\*  
 Rated speed  $n_N$ : 1850 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 40 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 44.5 %  
 Efficiency grade:  $N_{actual} = 49.3 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

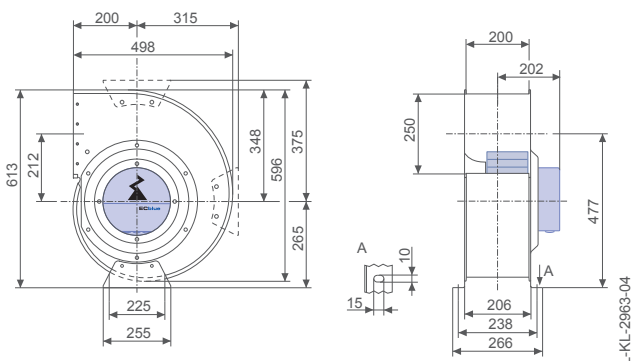


Measured with inlet nozzle, without guard grille according to ISO 5801

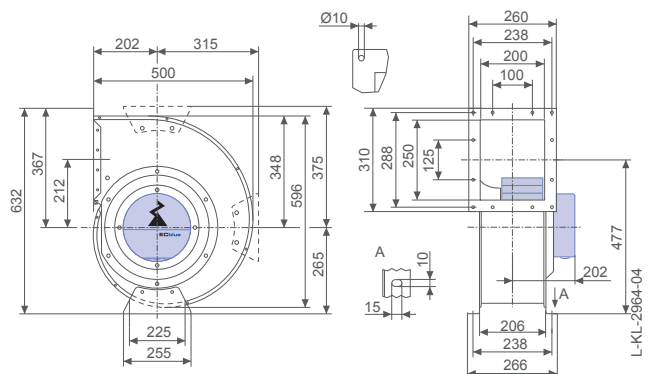
Inlet ring	00411505	Page 291
Connection diagram	1360-403	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H



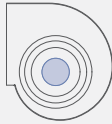




Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RG31R-ZIK.GG.4R	I	1820	100	①	1.50	900	91	40
		1850	100	②	5.40	3600	94	
		1850	100	③	4.40	2900	94	
	II	1850	100	④	4.40	2900	92	60
		1320	80	⑤	3.20	2100	92	
	III	1850	100	⑥	4.00	2600	91	
		1260	73	⑦	2.80	1850	91	
	IV	1860	100	⑧	3.40	2200	89	
		1160	60	⑨	2.20	1400	88	
	V	1850	100	⑩	2.30	1450	87	
		950	40	⑪	1.35	780	84	
	VI	1710	90	⑫	1.25	720	86	
		680	20	⑬	0.70	310	75	
	VII	1200	60	⑭	0.68	300	77	
		490	10	⑮	0.39	130	67	

Current values determined at 400V

Fan ordering information

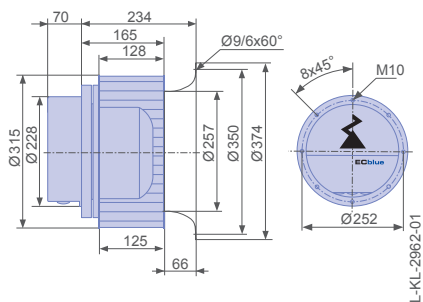
Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
Type	RG31R-ZIK.GG.4R	RG31R-ZIK.GG.4R	RE31P-ZIK.GG.1R
Article no.	114799	114800	114787
Weight kg	29.00	30.00	18.00

\* Inlet nozzle not included in the scope of delivery

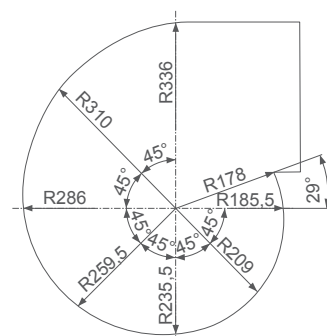
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
 Page 326	 Page 328	 Page 332	 Page 344

Motorised impeller in installation position H/Vu/Vo



Used scroll



# RG..R-ECblue

for three phase alternating current, 380-480 V

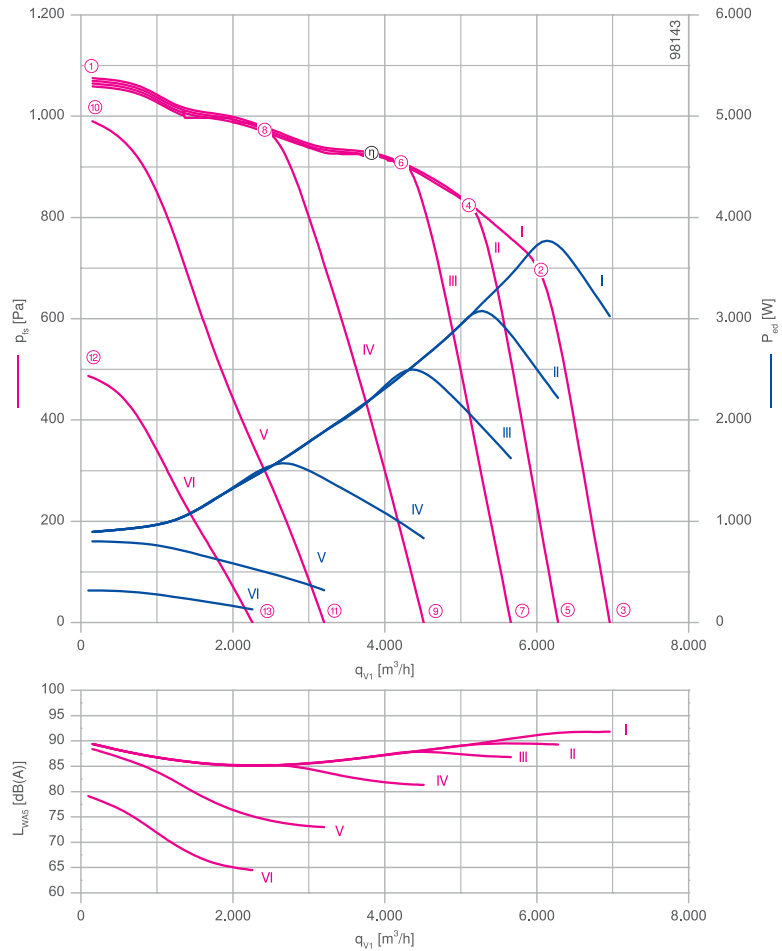
RG35R-ZIK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 3-380-480 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 3.80 kW\*  
 Rated current  $I_N$ : 6.00-4.80 A\*  
 Rated speed  $n_N$ : 1500 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 40 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 48.7 %  
 Efficiency grade:  $N_{actual} = 52.8 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

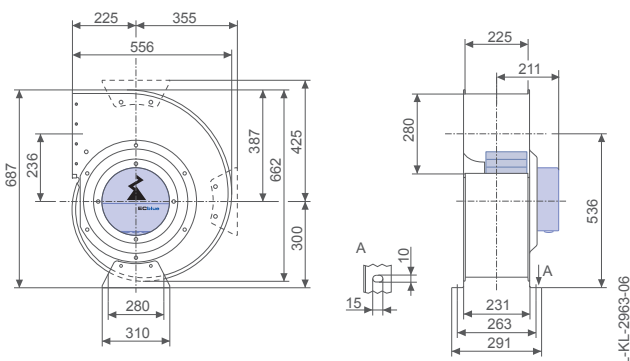


Measured with inlet nozzle, without guard grille according to ISO 5801

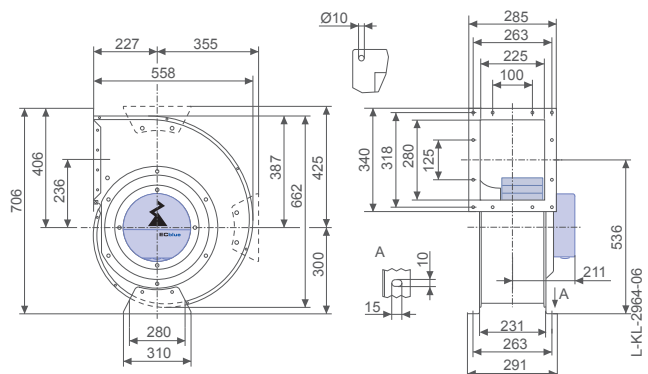
Inlet ring	00411506	Page 291
Connection diagram	1360-403	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H

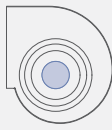




Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)	Maximum ambient temperature $t_{amb(max)}$ °C
		n min <sup>-1</sup>	%					
RG35R-ZIK.GG.4R	I	1500	100	①	1.50	900	89	40
		1500	100	②	5.80	3800	91	
		1140	100	③	4.60	3000	92	
	II	1510	100	④	4.80	3100	89	60
		1040	80	⑤	3.40	2200	89	
	III	1510	100	⑥	3.90	2500	88	
		940	64	⑦	2.50	1600	87	
	IV	1510	100	⑧	2.50	1600	85	
		750	40	⑨	1.40	840	81	
	V	1450	100	⑩	1.35	800	88	
		540	20	⑪	0.70	320	73	
	VI	1020	70	⑫	0.72	320	79	
		390	10	⑬	0.42	130	65	

Current values determined at 400V

Fan ordering information

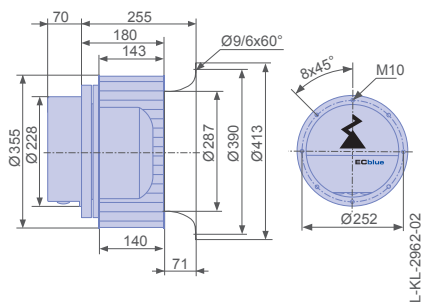
Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
<b>Type</b>	<b>RG35R-ZIK.GG.4R</b>	<b>RG35R-ZIK.GG.4R</b>	<b>RE35P-ZIK.GG.1R</b>
<b>Article no.</b>	<b>114801</b>	<b>114802</b>	<b>114788</b>
Weight kg	32.00	33.00	19.00

\* Inlet nozzle not included in the scope of delivery

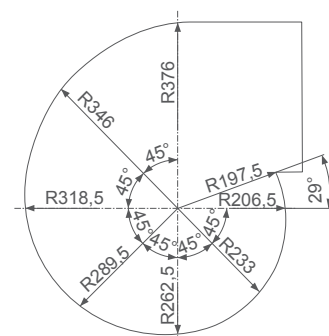
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Page 332	Page 344

Motorised impeller in installation position H/Vu/Vo



Used scroll



Information

ZBluefin-ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-Cpro-ECblue

Housing fans

System components

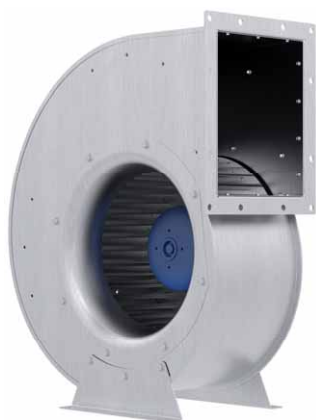
Control technology

General notes

# RG..R-ECblue

for three phase alternating current, 380-480 V

RG40R-ZIK



## Description

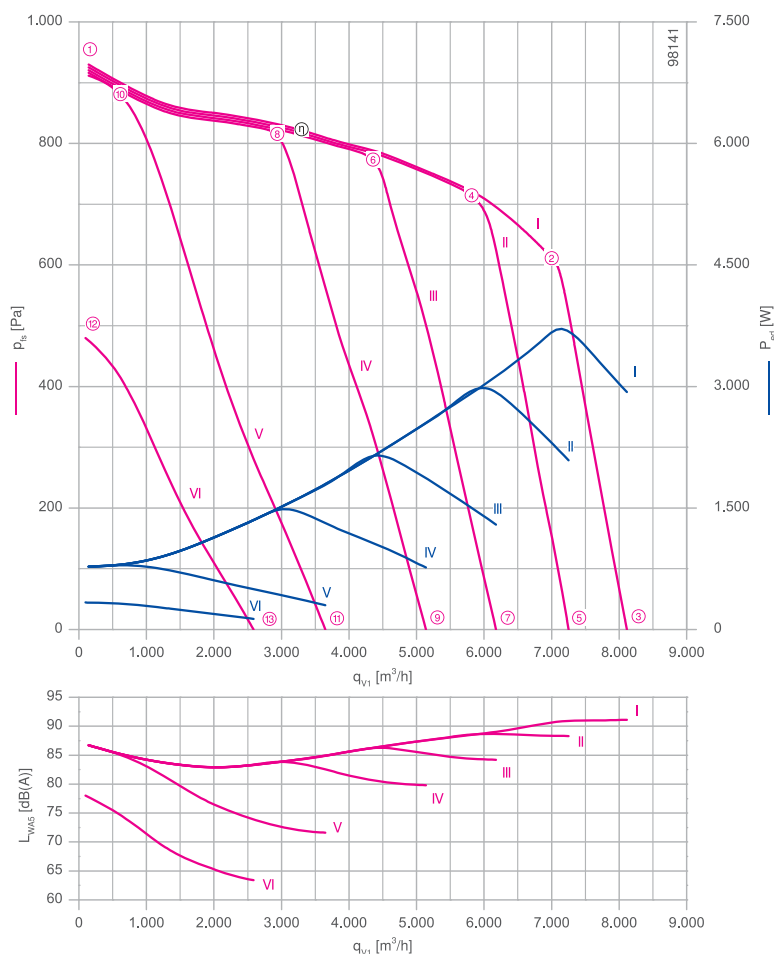
Motor technology: EC  
 Rated voltage  $U_N$ : 3-380-480 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 3.70 kW\*  
 Rated current  $I_N$ : 6.00-4.80 A\*  
 Rated speed  $n_N$ : 1260 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 40 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE, UL

### ErP-data

Efficiency  $\eta_{statA}$ : 50.6 %  
 Efficiency grade:  $N_{actual} = 55.6 / N_{target} = 44^{**}$   
 EC controller integrated

\*Rated data  
 \*\*ErP 2015

## Characteristic curve

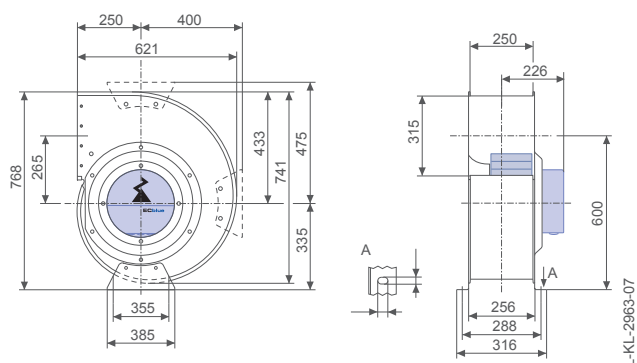


Measured with inlet nozzle, without guard grille according to ISO 5801

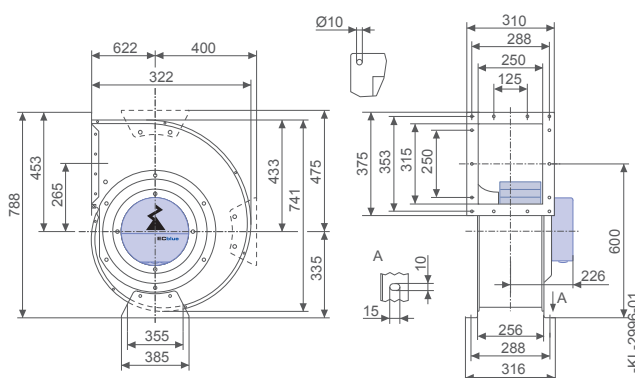
Inlet ring	00411507	Page 291
Connection diagram	1360-403	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H

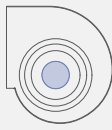




Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RG40R-ZIK.GL.4R	I	1260	100	①	1.30	780	87	40
		1260	100	②	5.80	3700	91	
		960	100	③	4.40	2900	91	
	II	1260	100	④	4.60	3000	89	60
		860	80	⑤	3.20	2100	88	
	III	1260	100	⑥	3.30	2200	86	
		730	58	⑦	2.00	1300	84	
	IV	1260	100	⑧	2.30	1500	84	
		610	40	⑨	1.30	760	80	
	V	1260	100	⑩	1.35	800	85	
		440	20	⑪	0.68	300	72	
	VI	920	70	⑫	0.74	330	78	
		320	10	⑬	0.42	130	63	

Current values determined at 400V

Fan ordering information

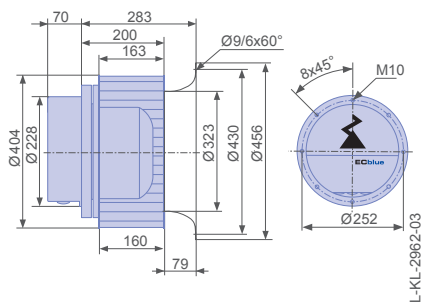
Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
<b>Type</b>	<b>RG40R-ZIK.GL.4R</b>	<b>RG40R-ZIK.GL.4R</b>	<b>RE40P-ZIK.GL.1R</b>
<b>Article no.</b>	<b>114803</b>	<b>114804</b>	<b>114789</b>
Weight kg	41.00	41.70	25.00

\* Inlet nozzle not included in the scope of delivery

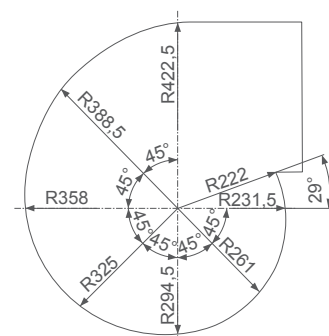
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Page 332	Page 344

Motorised impeller in installation position H/Vu/Vo



Used scroll



# RG..R-ECblue

for three phase alternating current, 380-480 V

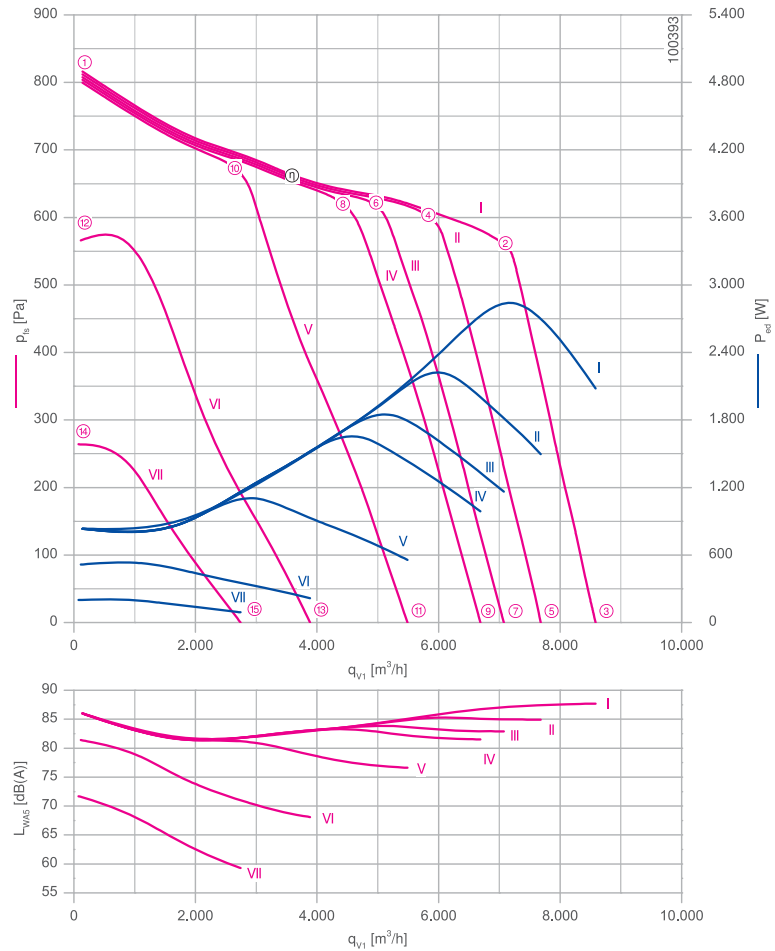
RG45R-ZIK



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 3-380-480 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 2.90 kW\*  
 Rated current  $I_N$ : 4.60-3.70 A\*  
 Rated speed  $n_N$ : 980 min<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 40 °C  
 Electrical connection: Integrated controller  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: Integrated active temperature management  
 Impeller made of galvanised sheet metal, uncoated  
 Conformity: ErP 2015 , CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 51.3 %  
 Efficiency grade:  $N_{actual} = 56.6 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

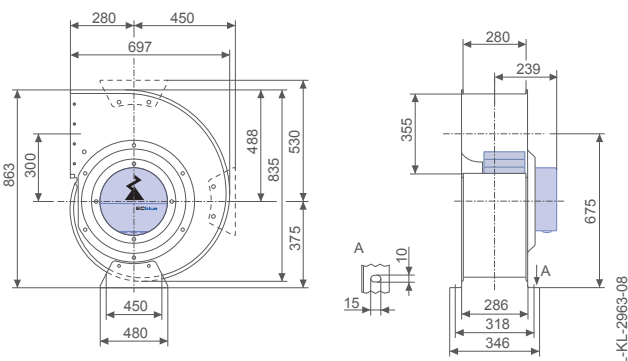


Measured with inlet nozzle, without guard grille according to ISO 5801

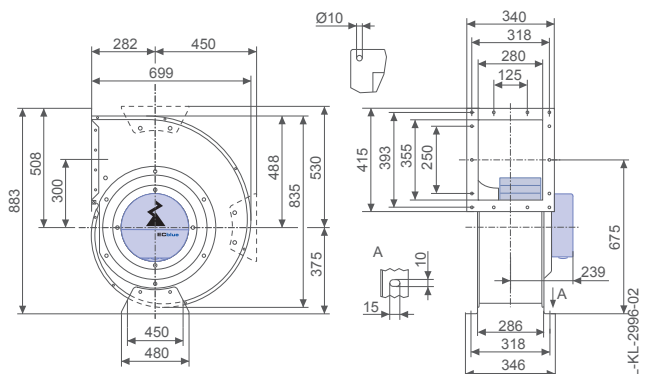
Inlet ring	00411508	Page 291
Connection diagram	1360-403	Page 358
System components		Page 286

## Dimensions mm

Fan with housing, single inlet, without flange, in installation position H



Fan with housing, single inlet, with flange, in installation position H

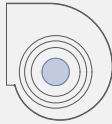




Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RG45R-ZIK.GL.4R	I	980	100	①	1.40	840	86	40
		980	100	②	4.40	2900	87	
		680	100	③	3.20	2100	88	
	II	980	100	④	3.50	2300	86	60
		610	80	⑤	2.30	1500	85	
	III	980	100	⑥	3.00	1950	84	
		560	67	⑦	1.85	1150	83	
	IV	980	100	⑧	2.60	1700	84	
		530	60	⑨	1.60	980	82	
	V	970	100	⑩	1.85	1150	82	
		440	40	⑪	1.00	560	77	
	VI	830	80	⑫	0.96	520	81	
		310	20	⑬	0.54	220	68	
	VII	570	60	⑭	0.52	200	72	
		230	10	⑮	0.33	90	59	

Current values determined at 400V

Fan ordering information

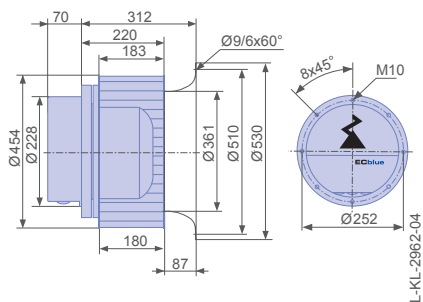
Design	RG (without flange)	RG (with flange)	RE..P*
Installation position	H	H	H/Vu/Vo
			
Type	RG45R-ZIK.GL.4R	RG45R-ZIK.GL.4R	RE45P-ZIK.GL.1R
Article no.	114805	114806	114790
Weight kg	49.00	49.00	27.00

\* Inlet nozzle not included in the scope of delivery

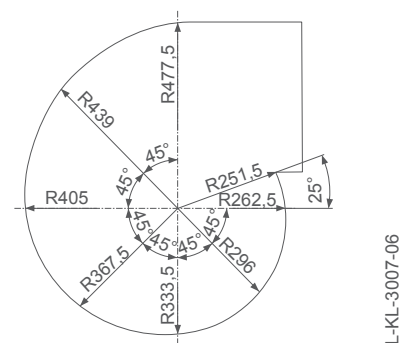
Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
Page 326	Page 328	Page 332	Page 344

Motorised impeller in installation position H/Vu/Vo



Used scroll



# RD..R-ECblue

for single phase alternating current, 200-240 V

RD 13R-4IP



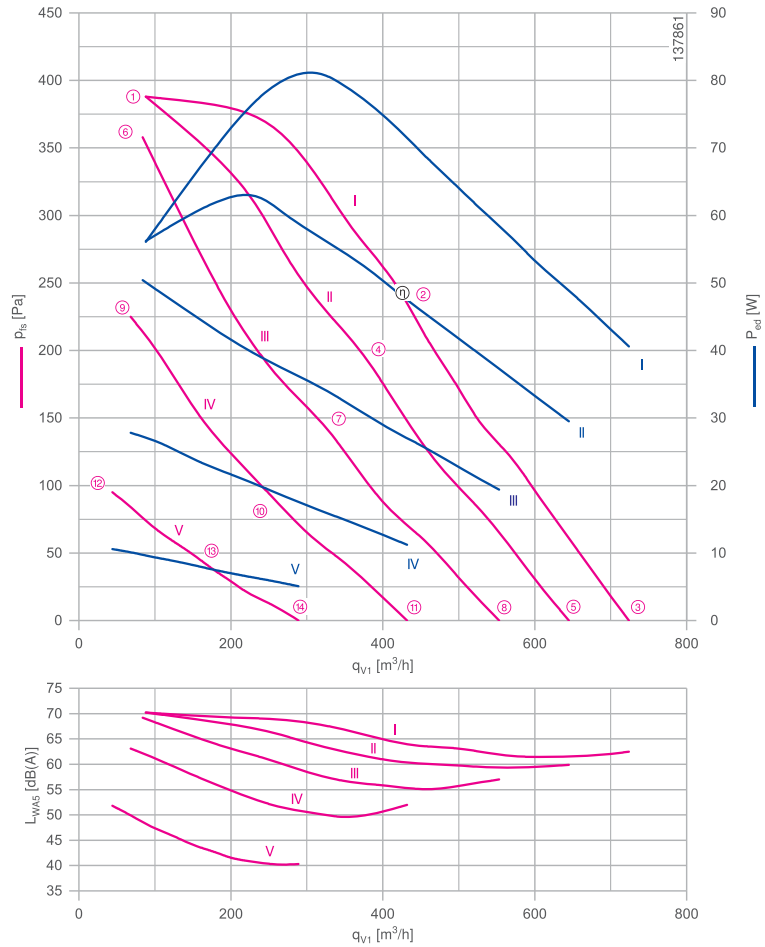
## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 80 W\*  
 Rated current  $I_N$ : 0.84-0.70 A\*  
 Rated speed  $n_N$ : 2530 rpm<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: CE, UL

### ErP-data

Not subject to the regulations of ErP directive ( $P_e < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

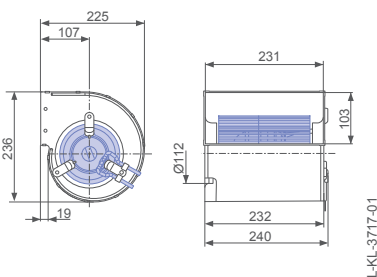


Measured with inlet nozzle, without guard grille according to ISO 5801

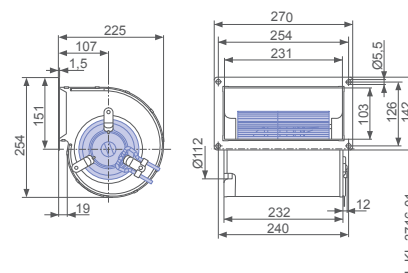
Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Fan with housing double inlet, without flange, in installation position H



Fan with housing double inlet, with flange, in installation position H



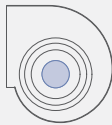



Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
RD13R-4IP.Z8.2R	I	2700	①	0.54	55	70
		2130	②	0.66	70	64
		1020	③	0.40	40	63
	II	1940	④	0.52	55	62
		930	⑤	0.31	30	60
		2600	⑥	0.50	50	69
	III	1680	⑦	0.37	34	58
		800	⑧	0.20	19	57
		2070	⑨	0.30	28	63
	IV	1270	⑩	0.20	18	51
		660	⑪	0.13	11	52
		1370	⑫	0.13	11	52
	V	990	⑬	0.10	8	44
		460	⑭	0.07	5	40

Current values determined at 230V

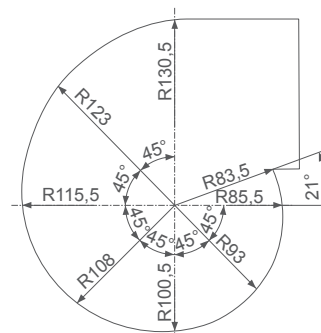
Fan ordering information

Design	RD (without flange)	RD (with flange)
Installation position	H	H
		
Type	RD13R-4IP.Z8.2R	RD13R-4IP.Z8.2R
Article no.	178235	178234
Weight kg	3.00	3.40
Inlet nozzle integrated		

Control technology

Control modules	Sensor control modules
	
Page 326	Page 328

Used scroll



L-KL-3007-21

# RD..S-ECblue

for single phase alternating current, 200-240 V

RD13S-4IP



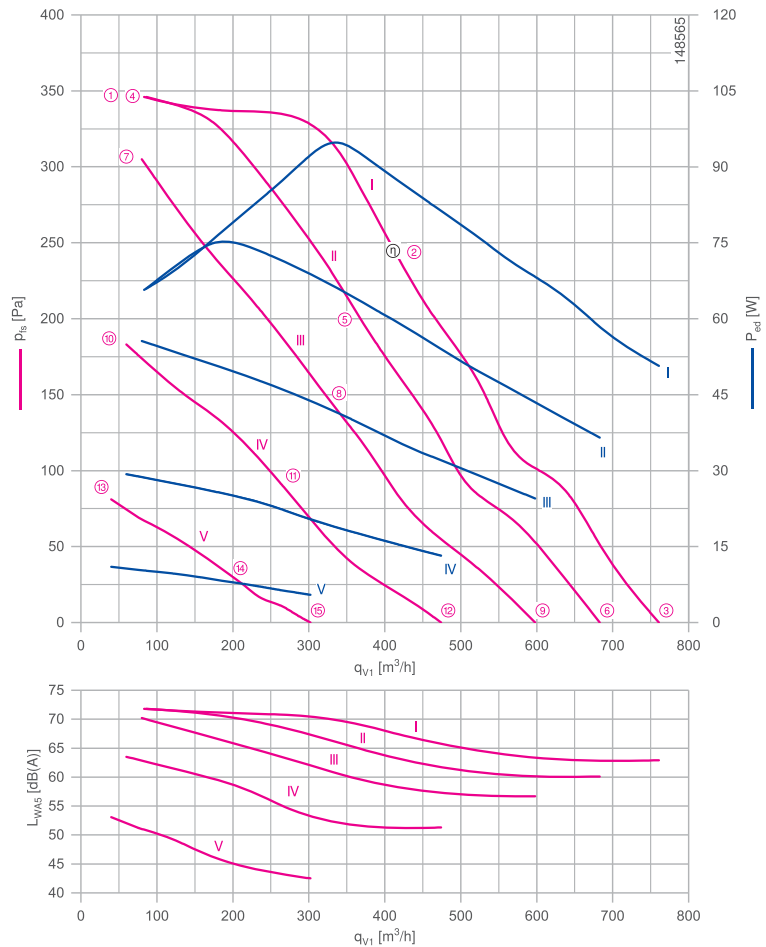
## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 150 W\*  
 Rated current  $I_N$ : 1.70-1.40 A\*  
 Rated speed  $n_N$ : 3400 rpm<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: CE, UL

### ErP-data

Not subject to the regulations of ErP directive ( $P_e < 125$  W)  
 \*Rated data  
 \*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

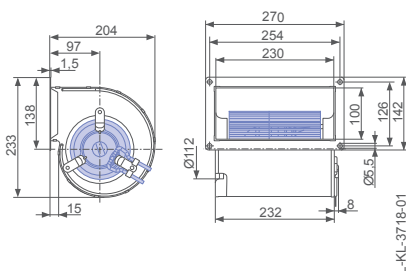


Measured with inlet nozzle, without guard grille according to ISO 5801

Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Fan with housing double inlet, with flange, in installation position H



Performance data


Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>		I A	P <sub>ed</sub> W	L <sub>WA5</sub> dB(A)
RD13S-4IP.Z8.2R	I	2500	①	0.60	65	72
		2210	②	0.76	90	68
		1070	③	0.48	50	63
	II	2500	④	0.60	65	72
		1990	⑤	0.56	65	65
		960	⑥	0.35	36	60
	III	2360	⑦	0.50	55	70
		1700	⑧	0.40	42	61
		850	⑨	0.26	24	57
	IV	1870	⑩	0.30	30	64
		1360	⑪	0.24	22	55
		690	⑫	0.15	13	51
	V	1250	⑬	0.13	11	53
		960	⑭	0.11	9	47
		480	⑮	0.07	6	43

Current values determined at 230V

Fan ordering information

Design RD (with flange)

Installation position H




**Type** RD13S-4IP.Z8.2R  
**Article no.** 178289

Weight kg 4.00  
Inlet nozzle integrated

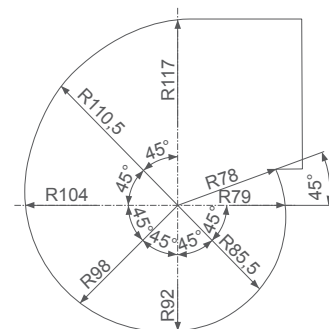
Control technology

Control modules



Page 326

Used scroll



L-KL-2950-28



Information

ZBluefin-ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-Cpro-ECblue

Housing fans

System components

Control technology

General notes

# RD..R-ECblue

for single phase alternating current, 200-240 V

RD 15R-4IP



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 150 W\*  
 Rated current  $I_N$ : 1.45-1.25 A\*  
 Rated speed  $n_N$ : 2290 rpm<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with variable cable  
 Balancing quality: G 6.3  
 Degree of protection: IP54  
 Motor protection: integrated active temperature management  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: 2015, CE, UL

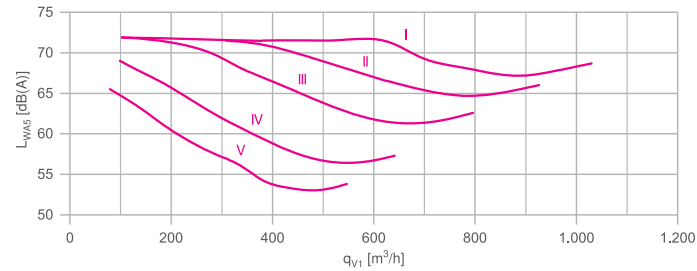
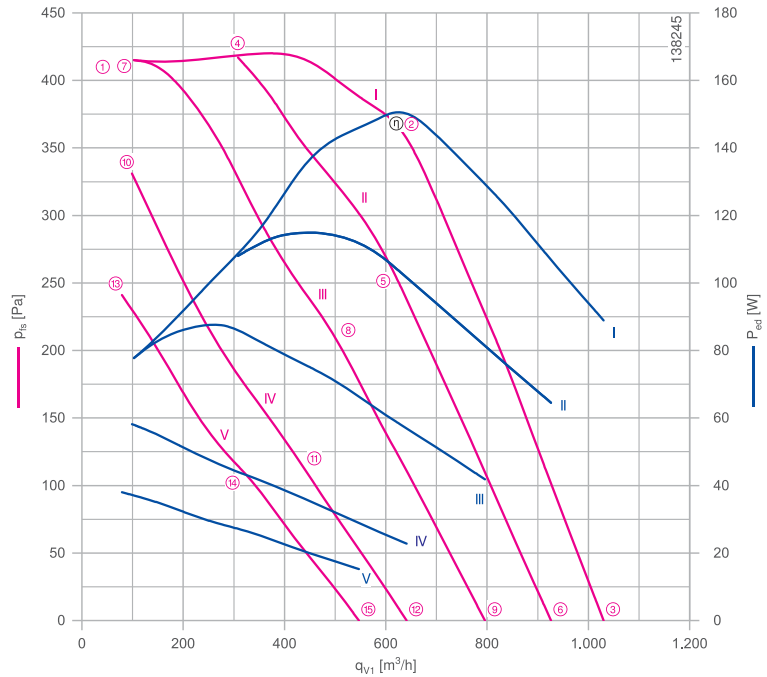
### ErP-data

Efficiency  $\eta_{statA}$ : 49.7 %  
 Efficiency grade:  $N_{actual} = 61.3 / N_{target} = 44^{**}$   
 EC controller integrated

\*Rated data  
 \*\*ErP 2015

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

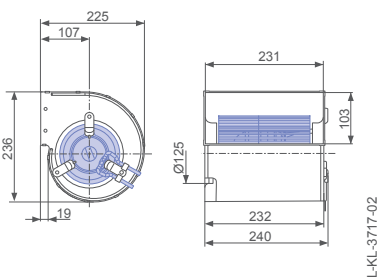


Measured with inlet nozzle, without guard grille according to ISO 5801

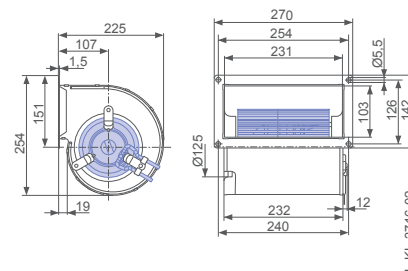
Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Fan with housing double inlet, without flange, in installation position H



Fan with housing double inlet, with flange, in installation position H





Performance data



Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
RD15R-4IP.ZC.2R	I	2500	①	0.72	80	72
		2290	②	1.25	150	72
		1210	③	0.80	90	69
	II	1920	④	0.94	100	67
		1080	⑤	0.60	65	66
	III	1790	⑥	0.70	70	64
		940	⑦	0.44	42	63
	IV	2240	⑧	0.58	60	69
		1370	⑨	0.38	38	58
		760	⑩	0.25	22	57
	V	1920	⑪	0.38	38	66
		1250	⑫	0.27	26	56
		660	⑬	0.17	15	54

Current values determined at 230V

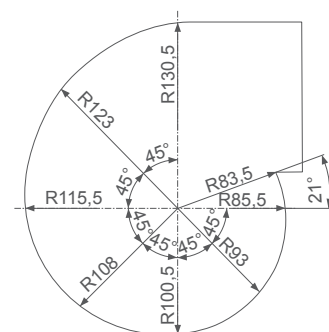
Fan ordering information

Design	RD (without flange)	RD (with flange)
Installation position	H	H
		
<b>Type</b>	<b>RD15R-4IP.ZC.2R</b>	<b>RD15R-4IP.ZC.2R</b>
<b>Article no.</b>	<b>178250</b>	<b>178249</b>
Weight kg	3.50	3.80
Inlet nozzle integrated		

Control technology

Control modules	Sensor control modules
	
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Used scroll



L-KL-3007-20

# RD..S-ECblue

for single phase alternating current, 200-240 V

RD16S-4IL



## Description

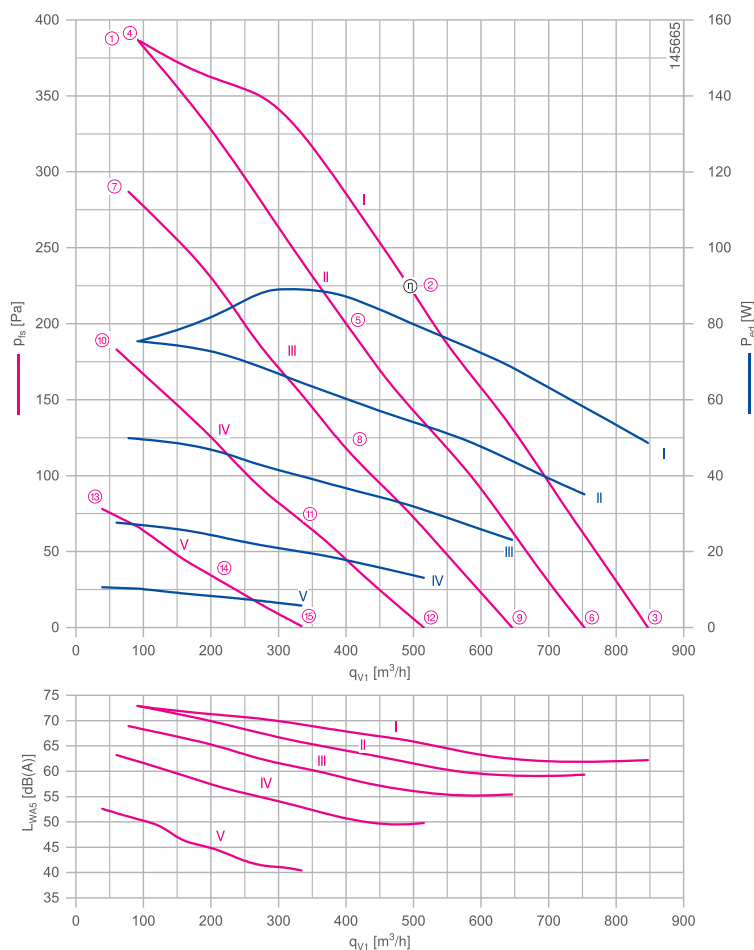
Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-240 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 90 W\*  
 Rated current  $I_N$ : 0.86-0.72 A\*  
 Rated speed  $n_N$ : 2100 rpm<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -30 °C\*\*\*  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: CE, UL

### ErP-data

Not subject to the regulations of ErP directive ( $P_e < 125$  W)  
 \*Rated data

\*\*\* Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02. Occasional starting between -30 °C and -25 °C is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

## Characteristic curve

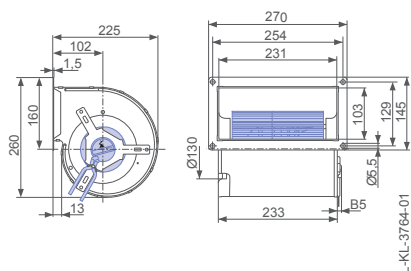


Measured with inlet nozzle, without guard grille according to ISO 5801

Connection diagram 1360-404 Page 358  
 System components Page 286

## Dimensions mm

Fan with housing double inlet, with flange, in installation position H



Performance data


Type	Characteristic curve	Speed	Operating point	Current	Input power	Suction side sound power level $L_{WA5}$ dB(A)
		n min <sup>-1</sup>		I A	$P_{ed}$ W	
RD16S-4IL.ZC.XR	I	2100	①	0.72	75	73
		1710	②	0.76	80	66
		930	③	0.48	48	62
	II	2100	④	0.72	75	73
		1590	⑤	0.60	60	64
		840	⑥	0.35	36	59
	III	1820	⑦	0.52	50	69
		1410	⑧	0.44	40	61
		720	⑨	0.25	24	55
	IV	1460	⑩	0.30	28	63
		1010	⑪	0.21	20	53
		580	⑫	0.13	13	50
	V	970	⑬	0.12	11	53
		730	⑭	0.10	9	46
		400	⑮	0.07	6	40

Current values determined at 230V

Fan ordering information

Design RD (with flange)

Installation position H




**Type** RD16S-4IL.ZC.XR  
**Article no.** 179928

Weight kg 5.00  
Inlet nozzle integrated

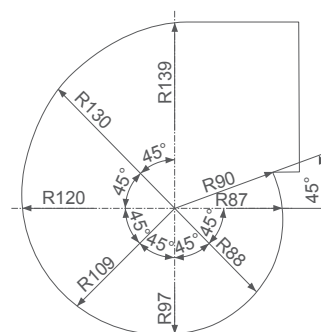
Control technology

Control modules



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L-KL-2960-27

# RD..R-ECblue

for single phase alternating current, 200-277 V

RD25R-6IL



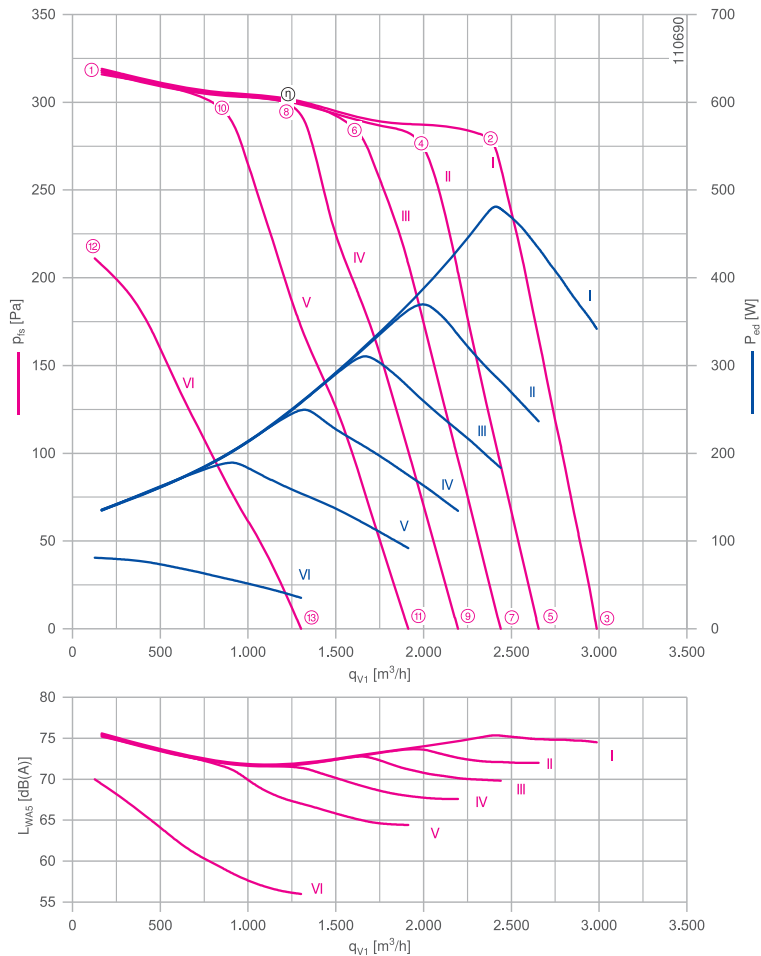
## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-277 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 0.48 kW\*  
 Rated current  $I_N$ : 2.40-1.75 A\*  
 Rated speed  $n_N$ : 1210 rpm<sup>1\*</sup>  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 50 °C  
 Electrical connection: Integrated controller with attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: 2015, CE

### ErP-data

Efficiency  $\eta_{statA}$ : 47.2 %  
 Efficiency grade:  $N_{actual} = 56.0 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

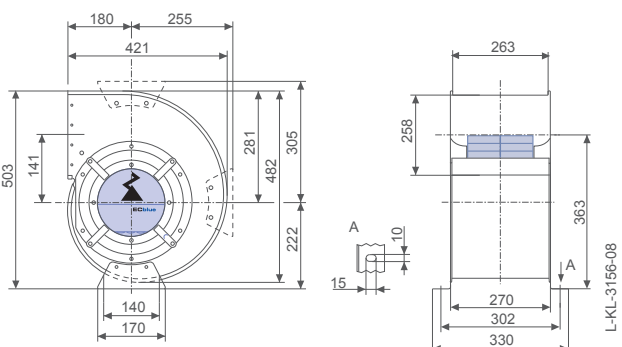
## Characteristic curve



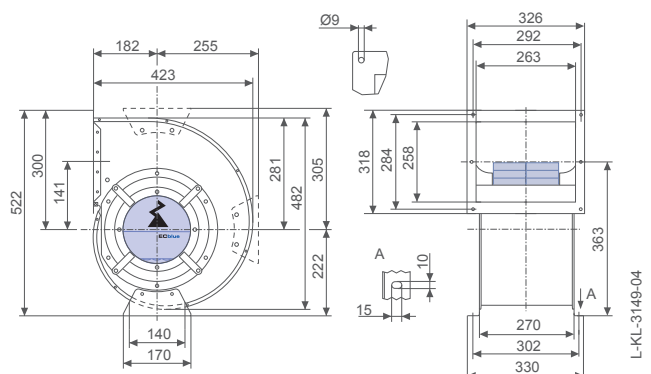
Connection diagram 1360-402 Page 358  
 System components Page 286

## Dimensions mm

Fan with housing double inlet, without flange, in installation position H



Fan with housing double inlet, with flange, in installation position H



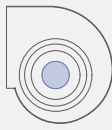



Performance data



Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RD25R-6IL.BD.4R	I	1220	100	①	0.60	140	76	50
		1210		②	2.10	480	75	
		790		③	1.50	340	75	
	II	1220	79	④	1.65	380	74	60
		700		⑤	1.05	240	72	
	III	1210	100	⑥	1.35	310	73	
		650		⑦	0.80	180	70	
	IV	1210	100	⑧	1.10	250	72	
		580		⑨	0.60	130	68	
	V	1210	100	⑩	0.84	190	72	
		510		⑪	0.42	90	64	
	VI	990	80	⑫	0.38	80	70	
		360		⑬	0.21	36	56	

Current values determined at 230V

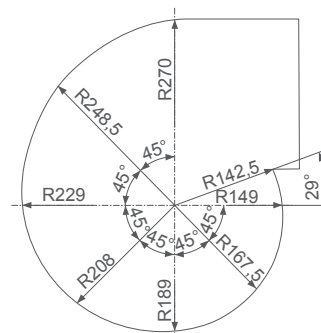
Fan ordering information

Design	RD (without flange)	RD (with flange)
Installation position	H	H
		
Type	<b>RD25R-6IL.BD.4R</b>	<b>RD25R-6IL.BD.4R</b>
Article no.	<b>115292</b>	<b>115293</b>
Weight kg	16.00	17.00
Inlet nozzle integrated		

Control technology

Control modules	Operating terminal
	
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L-KL-3007-01

# RD..R-ECblue

for single phase alternating current, 200-277 V

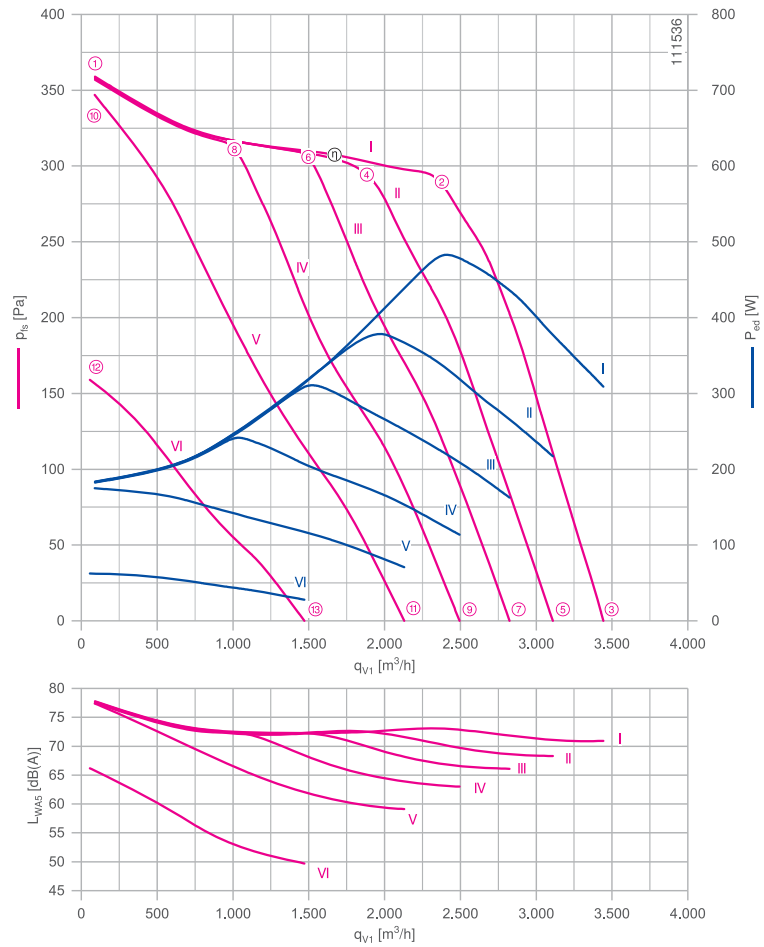
RD28R-6IL



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 1~200-277 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 0.48 kW\*  
 Rated current  $I_N$ : 2.50-1.75 A\*  
 Rated speed  $n_N$ : 1050 rpm<sup>1\*</sup>  
 Thermal class: **THCL155\***  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 50 °C  
 Electrical connection: Integrated controller with attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: 2015, CE  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 47.4 %  
 Efficiency grade:  $N_{actual} = 56.6 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

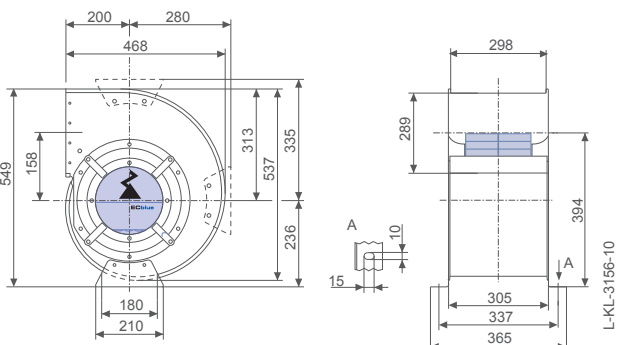


Measured with inlet nozzle, without guard grille according to ISO 5801

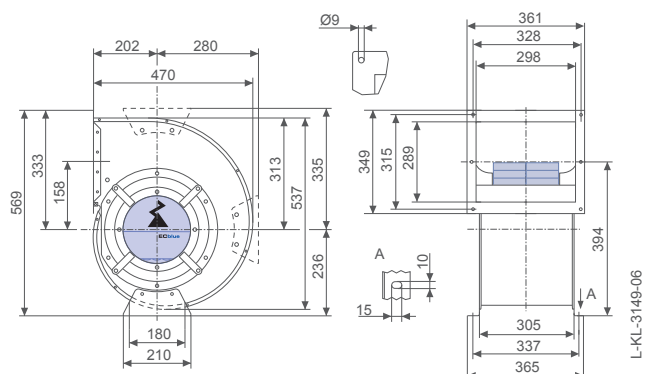
Connection diagram 1360-402 Page 358  
 System components Page 286

## Dimensions mm

Fan with housing double inlet, without flange, in installation position H



Fan with housing double inlet, with flange, in installation position H

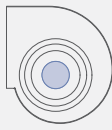



Performance data



Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RD28R-6IL.BD.4R	I	1060	100	①	0.80	180	78	50
		1050		②	2.10	480	73	
		570		③	1.35	310	71	
	II	1060	80	④	1.65	390	73	60
		520		⑤	0.94	220	68	
		1060		100	⑥	1.35	310	
	III	470	66	⑦	0.72	160	66	
		1060		100	⑧	1.05	250	
	IV	420	52	⑨	0.52	110	63	
		1060		100	⑩	0.78	180	77
	V	360	38	⑪	0.34	70	59	
		710		70	⑫	0.31	65	66
	VI	250	20	⑬	0.19	28	50	

Current values determined at 230V

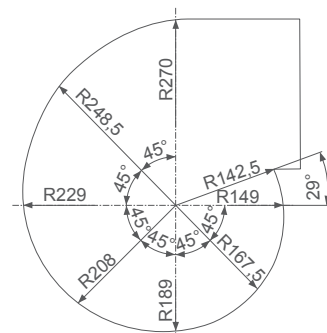
Fan ordering information

Design	RD (without flange)	RD (with flange)
Installation position	H	H
		
Type	<b>RD28R-6IL.BD.4R</b>	<b>RD28R-6IL.BD.4R</b>
Article no.	<b>115294</b>	<b>115295</b>
Weight kg	20.00	21.00
Inlet nozzle integrated		

Control technology

Control modules	Operating terminal
	
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L-KL-3007-01

# RD..R-ECblue

for single phase alternating current, 200-277 V

RD31R-ZIL



## Description

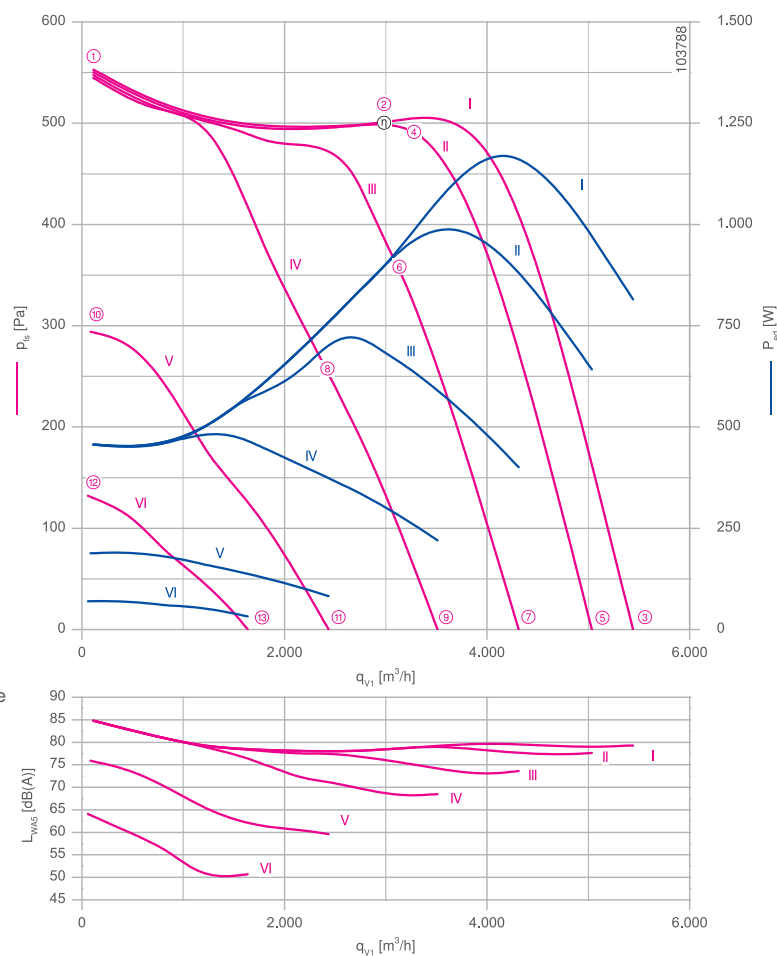
Motor technology: EC  
 Rated voltage  $U_N$ : 1-200-277 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 1.25 kW\*  
 Rated current  $I_N$ : 6.40-4.60 A\*  
 Rated speed  $n_N$ : 1200 rpm<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 50 °C  
 Electrical connection: Integrated controller with attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: 2015, CE, UL

## ErP-data

Efficiency  $\eta_{statA}$ : 51.8 %  
 Efficiency grade:  $N_{actual} = 58.4 / N_{target} = 44^{**}$   
 EC controller integrated

\*Rated data  
 \*\*ErP 2015

## Characteristic curve

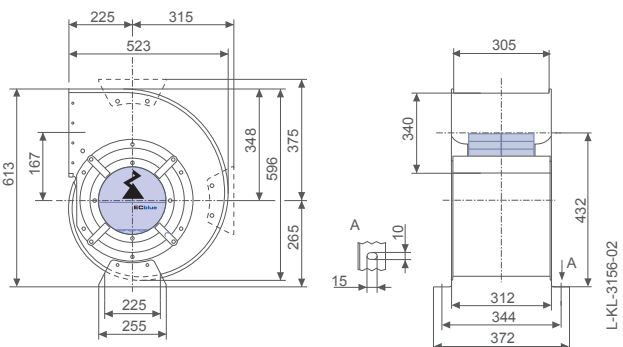


Measured with inlet nozzle, without guard grille according to ISO 5801

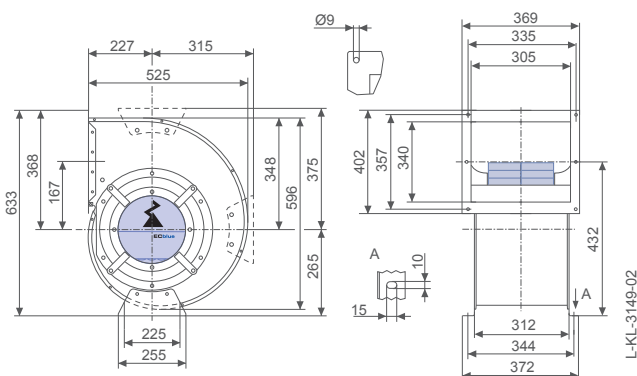
Connection diagram 1360-389 Page 358  
 System components Page 286

## Dimensions mm

Fan with housing double inlet, without flange, in installation position H



Fan with housing double inlet, with flange, in installation position H

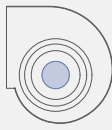



Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RD31R-ZIL.DG.4R	I	1200	100	①	2.70	560	79	50
		1200		②	5.60	1250	80	
		720		③	3.70	820	79	
	II	1200	83	④	4.60	1000	79	60
		680		⑤	3.00	640	78	
		1200		⑥	3.30	720	77	
	III	580	60	⑦	1.90	400	74	
		1200		⑧	2.30	480	79	
	IV	480	40	⑨	1.00	220	69	
		1200		⑩	0.86	190	76	
	V	880	70	⑪	0.44	85	60	
		340		⑫	0.38	70	64	
	VI	590	50	⑬	0.38	70	64	
230		⑭		0.38	32	51		

Current values determined at 230V

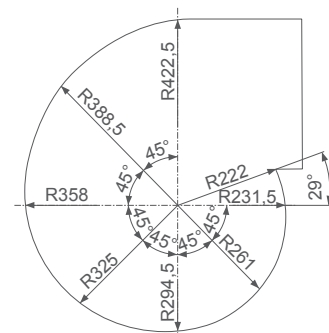
Fan ordering information

Design	RD (without flange)	RD (with flange)
Installation position	H	H
		
<b>Type</b>	<b>RD31R-ZIL.DG.4R</b>	<b>RD31R-ZIL.DG.4R</b>
<b>Article no.</b>	<b>115066</b>	<b>115065</b>
Weight kg	26.00	27.00
Inlet nozzle integrated		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
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Used scroll

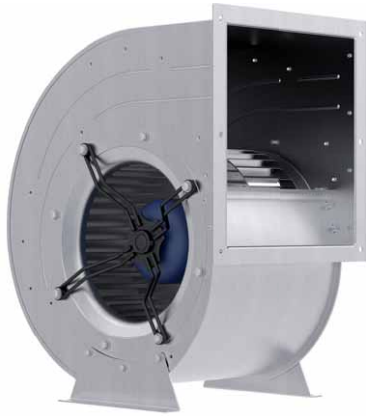


L-KL-3007-05

# RD..R-ECblue

for three phase alternating current, 380-480 V

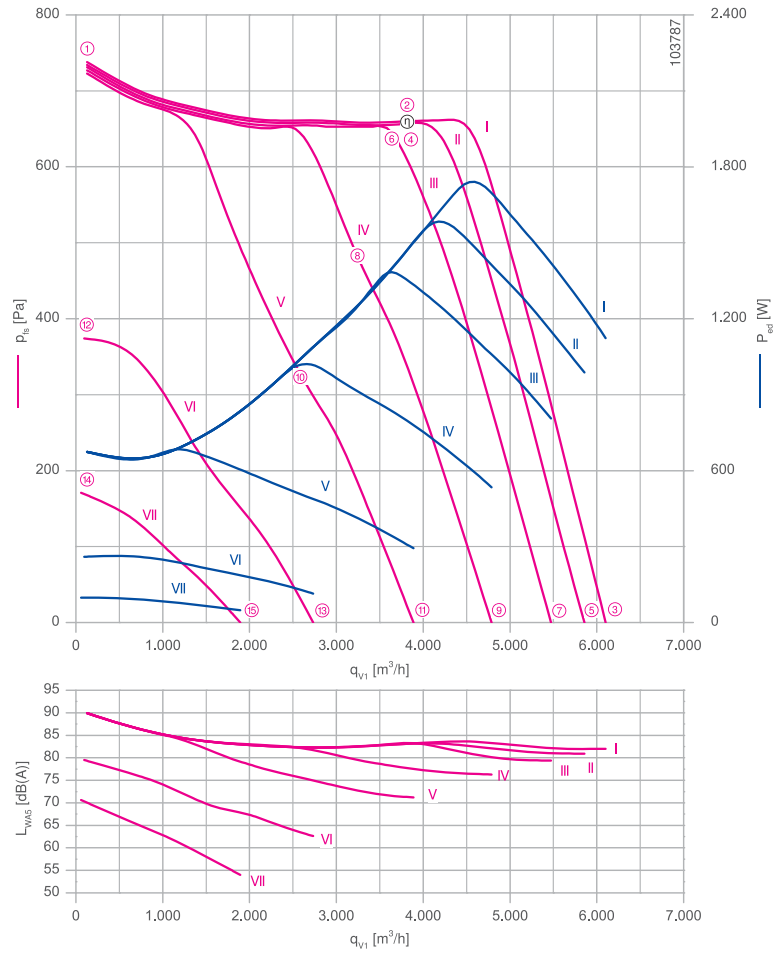
RD31R-ZIL



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 3-380-480 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 1.75 kW\*  
 Rated current  $I_N$ : 2.90-2.30 A\*  
 Rated speed  $n_N$ : 1380 rpm<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 50 °C  
 Electrical connection: Integrated controller with attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: 2015, CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 52.4 %  
 Efficiency grade:  $N_{actual} = 57.7 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

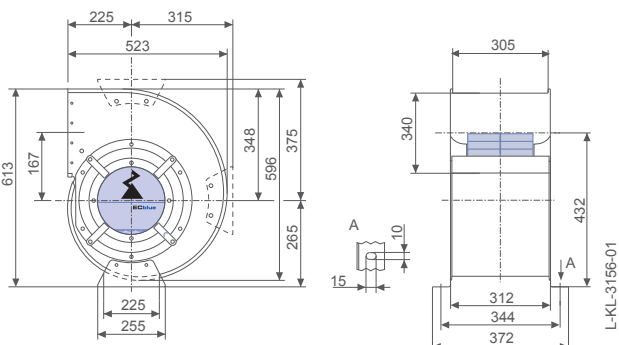


Measured with inlet nozzle, without guard grille according to ISO 5801

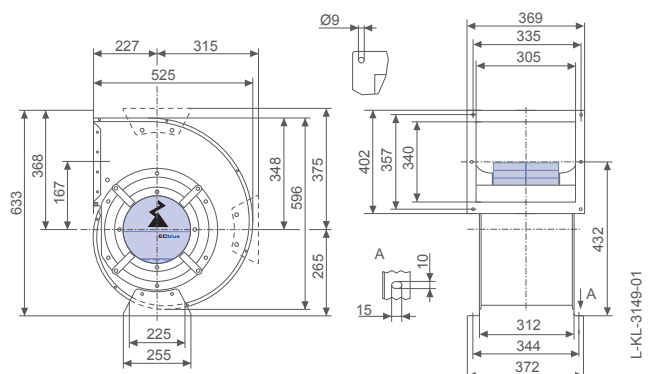
Connection diagram 1360-390 Page 358  
 System components Page 286

## Dimensions mm

Fan with housing double inlet, without flange, in installation position H



Fan with housing double inlet, with flange, in installation position H

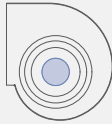



Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RD31R-ZIL.DG.4R	I	1380	100	①	1.10	660	86	50
		1380		②	2.70	1750	84	
		800		③	1.80	1100	82	
	II	1380	91	④	2.50	1600	84	60
		780		⑤	1.60	980	81	
	III	1380	100	⑥	2.20	1400	83	
		730		⑦	1.35	800	79	
	IV	1380	100	⑧	1.65	1000	82	
		640		⑨	0.96	540	76	
	V	1380	100	⑩	1.15	680	84	
		520		⑪	0.64	290	71	
	VI	990	70	⑫	0.60	260	80	
		370		⑬	0.37	110	63	
	VII	670	50	⑭	0.34	100	71	
		260		⑮	0.23	48	54	

Current values determined at 400V

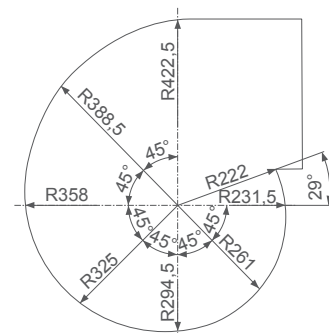
Fan ordering information

Design	RD (without flange)	RD (with flange)
Installation position	H	H
		
Type	RD31R-ZIL.DG.4R	RD31R-ZIL.DG.4R
Article no.	115068	115067
Weight kg	26.00	27.00
Inlet nozzle integrated		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
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Used scroll

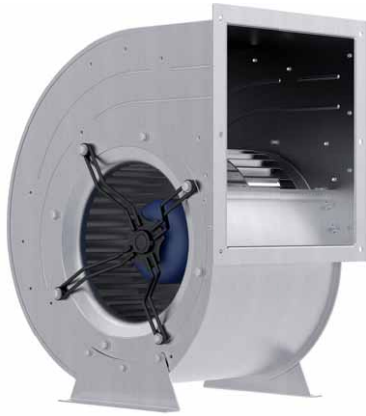


L-KL-3007-05

# RD..R-ECblue

for three phase alternating current, 380-480 V

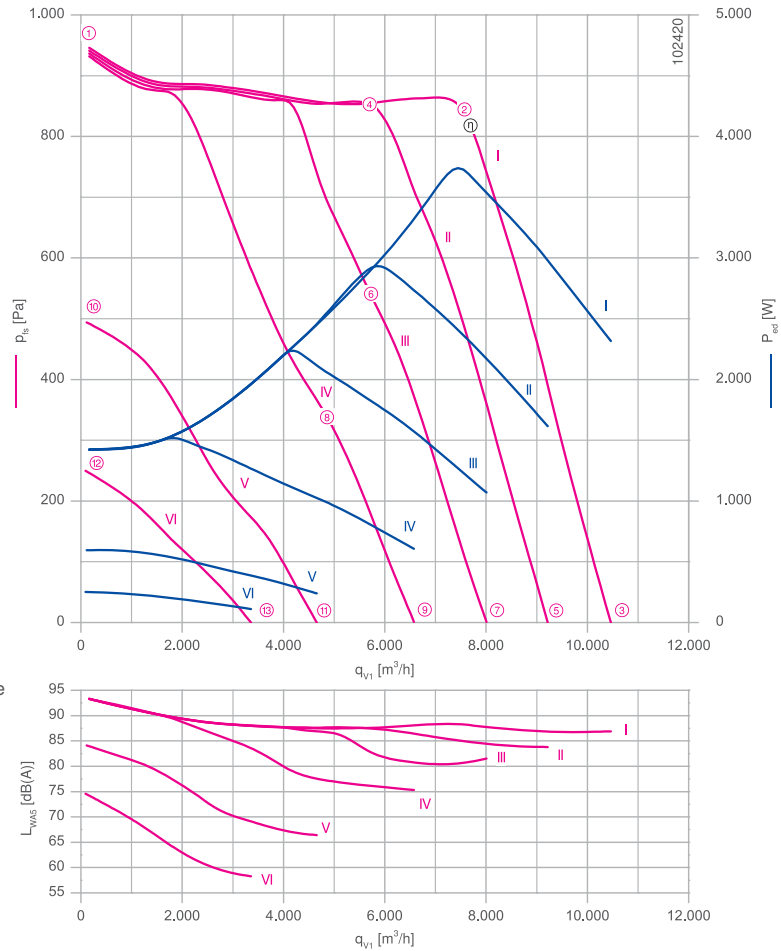
RD40R-ZIL



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 3-380-480 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 3.70 kW\*  
 Rated current  $I_N$ : 6.00-4.80 A\*  
 Rated speed  $n_N$ : 1260 rpm<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 60 °C  
 Electrical connection: Integrated controller with attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: 2015, CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 51.1 %  
 Efficiency grade:  $N_{actual} = 53.9 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

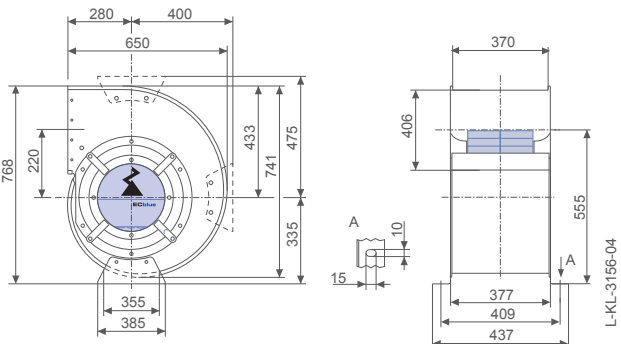


Measured with inlet nozzle, without guard grille according to ISO 5801

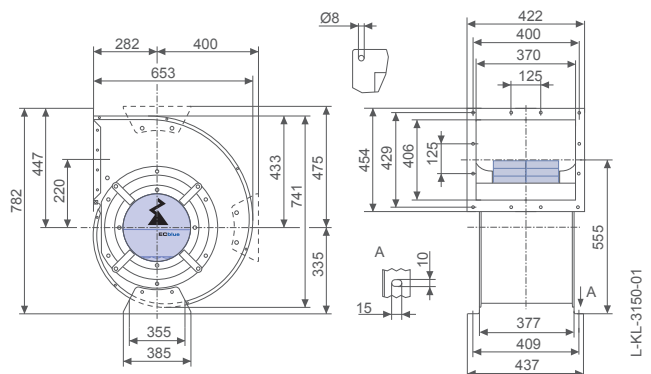
Connection diagram 1360-390 Page 358  
 System components Page 286

## Dimensions mm

Fan with housing double inlet, without flange, in installation position H



Fan with housing double inlet, with flange, in installation position H







Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level
		n min <sup>-1</sup>	%		I A	P <sub>ed</sub> W	L <sub>WAS</sub> dB(A)
RD40R-ZIL.GL.4R	I	1260	100	①	2.20	1400	93
		1260		②	5.60	3700	88
		740		③	3.50	2300	87
	II	1260	80	④	4.40	2900	87
		650		⑤	2.50	1600	84
	III	1260	100	⑥	3.40	2200	88
		570	60	⑦	1.70	1050	82
	IV	1260	100	⑧	2.30	1500	90
		470	40	⑨	1.10	600	75
	V	920	70	⑩	1.05	600	84
		340	20	⑪	0.58	240	66
	VI	660	50	⑫	0.60	250	75
		250	10	⑬	0.36	110	58

Current values determined at 400V

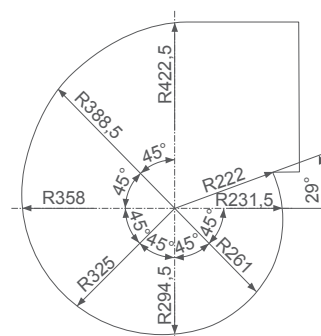
Fan ordering information

Design	RD (without flange)	RD (with flange)
Installation position	H	H
		
Type	<b>RD40R-ZIL.GL.4R</b>	<b>RD40R-ZIL.GL.4R</b>
Article no.	<b>115070</b>	<b>115069</b>
Weight kg	50.00	51.00
Inlet nozzle integrated		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
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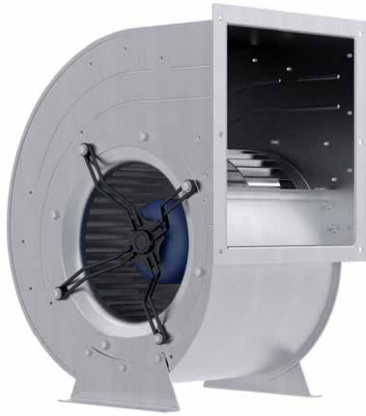


L-KL-3007-05

# RD..R-ECblue

for three phase alternating current, 380-480 V

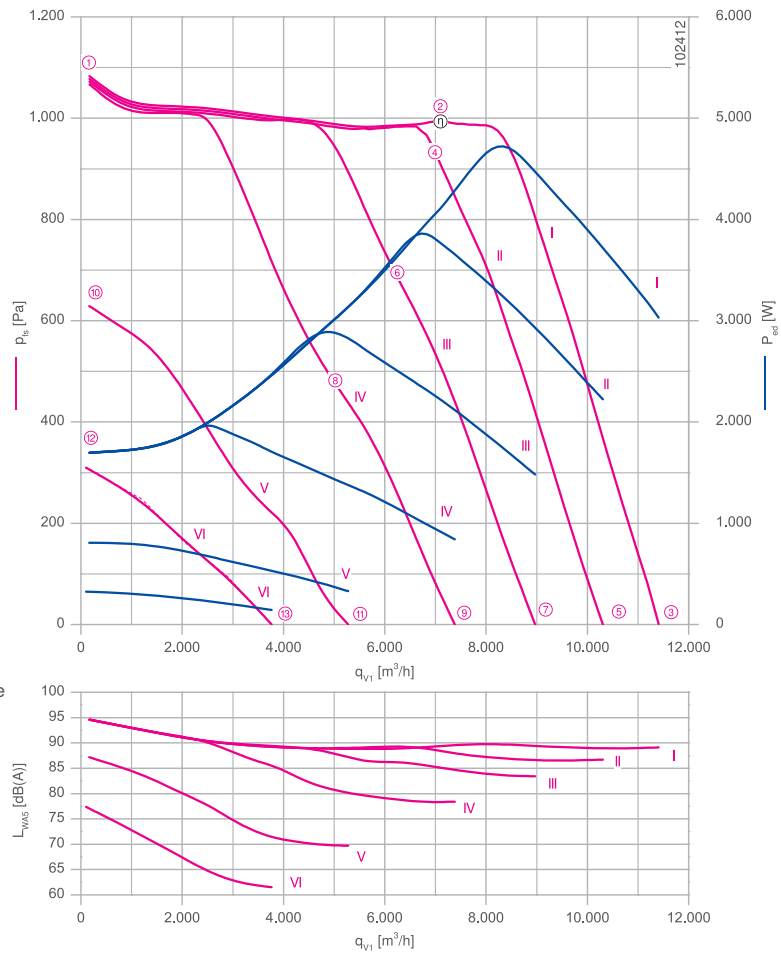
RD40R-ZIL



## Description

Motor technology: EC  
 Rated voltage  $U_N$ : 3-380-480 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 4.80 kW\*  
 Rated current  $I_N$ : 7.60-6.00 A\*  
 Rated speed  $n_N$ : 1350 rpm<sup>1\*</sup>  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 40 °C  
 Electrical connection: Integrated controller with attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: 2015, CE, UL  
**ErP-data**  
 Efficiency  $\eta_{statA}$ : 51.1 %  
 Efficiency grade:  $N_{actual} = 53.6 / N_{target} = 44^{**}$   
 EC controller integrated  
 \*Rated data  
 \*\*ErP 2015

## Characteristic curve

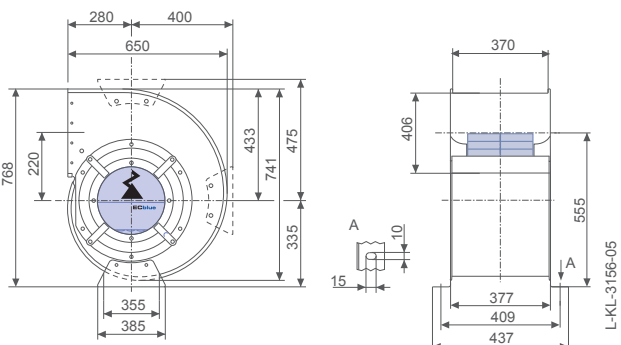


Measured with inlet nozzle, without guard grille according to ISO 5801

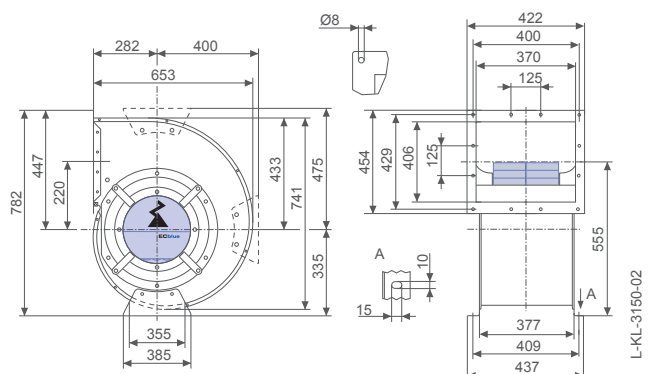
Connection diagram 1360-390 Page 358  
 System components Page 286

## Dimensions mm

Fan with housing double inlet, without flange, in installation position H



Fan with housing double inlet, with flange, in installation position H

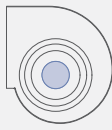


Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RD40R-ZIL.GL.4R	I	1360	100	①	3.40	2200	90	40
		1360		②	7.40	4800	90	
		800		③	4.60	3000	89	
	II	1360	80	④	6.00	3900	89	60
		720		⑤	3.40	2200	87	
	III	1360	100	⑥	4.40	2900	89	
		640		⑦	2.30	1500	83	
	IV	1360	100	⑧	3.00	1950	91	
		530		⑨	1.40	840	78	
	V	1040	80	⑩	1.35	800	87	
		380		⑪	0.72	330	70	
	VI	740	50	⑫	0.72	320	77	
		280		⑬	0.44	140	62	

Current values determined at 400V

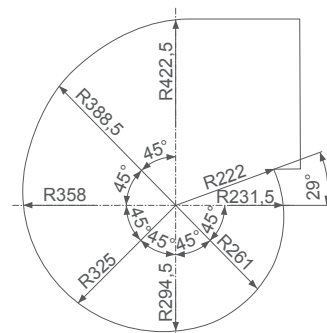
Fan ordering information

Design	RD (without flange)	RD (with flange)
Installation position	H	H
		
Type	<b>RD40R-ZIL.GL.4R</b>	<b>RD40R-ZIL.GL.4R</b>
Article no.	<b>115072</b>	<b>115071</b>
Weight kg	50.00	51.00
Inlet nozzle integrated		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
			
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Used scroll



L-KL-3007-05

# RD..R-ECblue

for three phase alternating current, 380-480 V

RD45R-ZIL



## Description

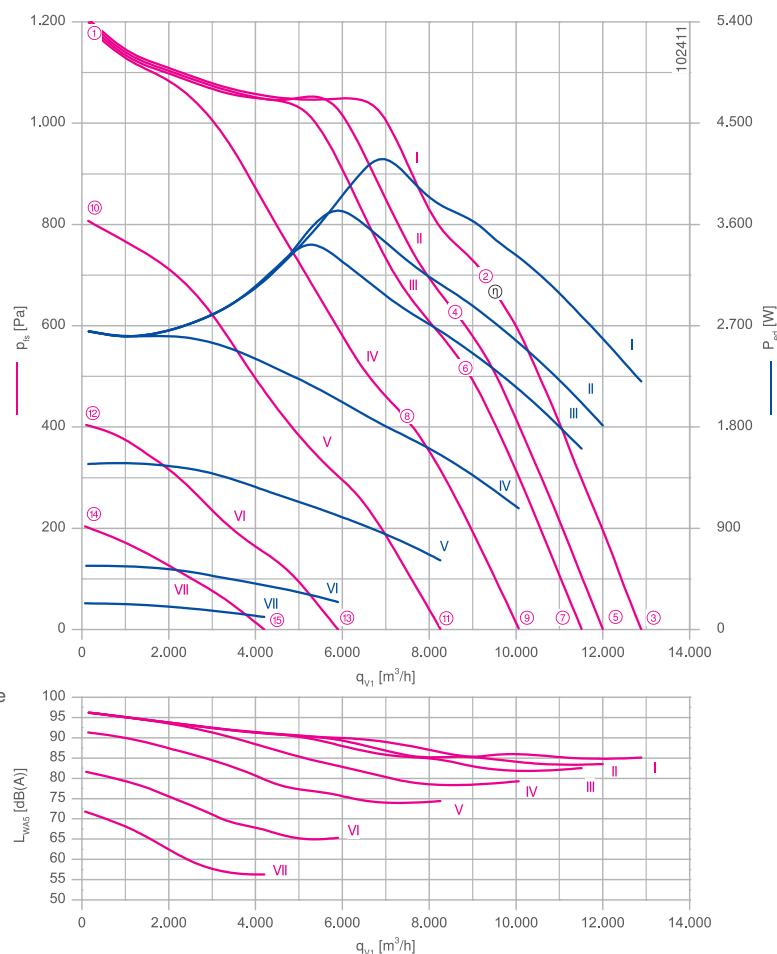
Motor technology: EC  
 Rated voltage  $U_N$ : 3-380-480 V\*  
 Rated frequency  $f_N$ : 50/60 Hz\*  
 Input power  $P_{ed}$ : 4.20 kW\*  
 Rated current  $I_N$ : 6.80-5.40 A\*  
 Rated speed  $n_N$ : 1200 rpm<sup>-1</sup>\*  
 Thermal class: THCL155\*  
 Min. permitted ambient temperature  $t_{amb}$ : -20 °C  
 Max. permitted ambient temperature  $t_{amb}$  at  $n_{max}$ : 40 °C  
 Electrical connection: Integrated controller with attached cable  
 Balancing quality: G 6.3  
 Degree of protection : IP54  
 Motor protection: integrated active temperaturemanagement  
 Impeller: Galvanized sheet metal, uncoated  
 Conformity: 2015, CE, UL

### ErP-data

Efficiency  $\eta_{statA}$ : 54.7 %  
 Efficiency grade:  $N_{actual} = 57.6 / N_{target} = 44^{**}$   
 EC controller integrated

\*Rated data  
 \*\*ErP 2015

## Characteristic curve



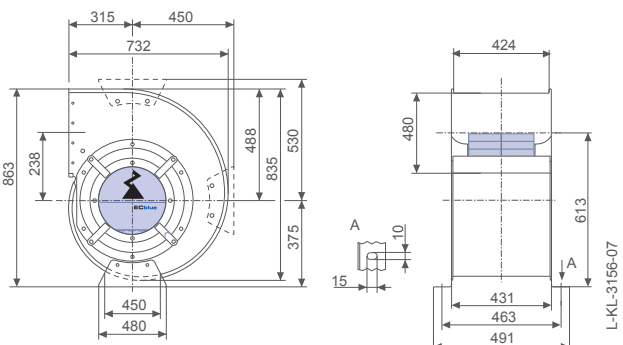
Measured with inlet nozzle, without guard grille according to ISO 5801

Connection diagram 1360-390  
 System components

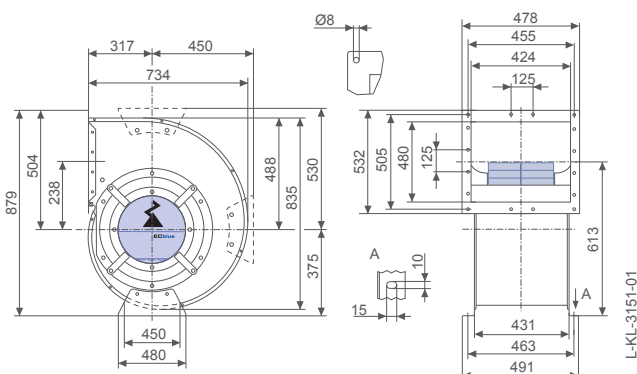
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## Dimensions mm

Fan with housing double inlet, without flange, in installation position H



Fan with housing double inlet, with flange, in installation position H

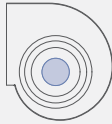



Performance data

Type	Characteristic curve	Speed	Speed	Operating point	Current	Input power	Suction side sound power level	Maximum ambient temperature
		n min <sup>-1</sup>	%					
RD45R-ZIL.GL.4R	I	1200	100	①	4.00	2700	94	40
		1200		②	6.40	4200	89	
		550		③	3.40	2200	85	
	II	1200	88	④	5.80	3700	90	60
		520		⑤	2.80	1800	84	
		1200		⑥	5.20	3500	90	
	III	500	80	⑦	2.50	1600	83	
		1200		⑧	4.00	2700	96	
	IV	440	60	⑨	1.75	1100	79	
		990		⑩	2.30	1500	90	
	V	360	40	⑪	1.10	620	74	
		700		⑫	1.05	560	82	
	VI	260	20	⑬	0.60	240	65	
		500		⑭	0.58	230	72	
	VII	190	10	⑮	0.39	110	56	

Current values determined at 400V

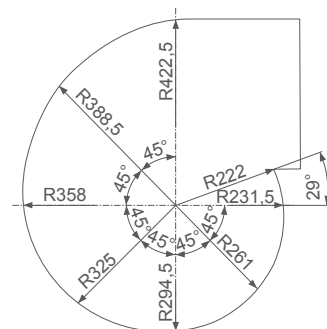
Fan ordering information

Design	RD (without flange)	RD (with flange)
Installation position	H	H
		
Type	RD45R-ZIL.GL.4R	RD45R-ZIL.GL.4R
Article no.	115074	115073
Weight kg	58.00	59.00
Inlet nozzle integrated		

Control technology

Control modules	Sensor control modules	Add-on modules	Operating terminal
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# System components

## Product overview

Inlet nozzle	Page 288
Guard grille on suction side	Page 292
Service capacitor	Page 295

Information

ZAbuefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

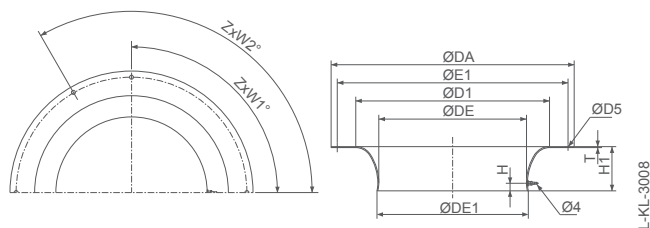
Control  
technology

General notes

# System components

## Inlet nozzle for ZAbluefin and C/Cpro

- Material: Sheet steel, galvanised
- With measuring device for air flow measurement
- Fastening diameter according to DIN EN 12 220



### Inlet nozzle with pressure tap

Size	Article no. galvanized	Article no. coated	DA mm	DE mm	DE1 mm	D1 mm	D5 mm	E1 mm	H mm	H1 mm	T mm	ZxW1° (1)	ZxW2° (2)	Weight kg
RH25I	00414630	00414639	277	162.2	165.7	206.4	8.5	257	13.3	39.7	1.5	6x60°	-	0.6
RH28I	00414631	00414640	303	182.1	185.6	231.7	8.5	283	13.4	44.6	1.5	6x60°	-	0.8
RH31I	00414632	00414641	343	205.2	208.8	261.2	8.5	317	13.6	50.2	1.5	4x90°	8x45°	1.0
RH35I	00414633	00414642	378	231.7	235.4	294.9	8.5	352	13.8	56.7	1.5	4x90°	8x45°	1.2
RH40I	00414634	00414643	418	260.4	265.2	331.4	8.5	392	15.0	63.7	2.0	4x90°	8x45°	1.9
RH45I	00414635	00414644	464	293.5	298.4	373.5	8.5	438	16.3	71.9	2.0	4x90°	3x120°	2.3
RH50I	00414636	00414645	514	326.6	331.5	415.6	8.5	488	18.5	79.9	2.0	4x90°	3x120°	2.9
RH56I	00414637	00414646	564	366.3	371.3	466.1	8.5	538	22.8	89.6	2.0	4x90°	8x45°	3.4

(1) fastening inlet nozzle, (2) fastening guard grille

### Inlet nozzle with pressure tap

Size	Article no. galvanized	Article no. coated	DA mm	DE mm	DE1 mm	D1 mm	D5 mm	E1 mm	H mm	H1 mm	T mm	ZxW1° (1)	Weight kg
RH22C	00401503	00401736	253	135	140	179	8.5	233	12	42	1.5	6x60°	0.6
RH25C	00401504	00401737	277	153	158	202	8.5	257	12	47	1.5	6x60°	0.7
RH28C	00401505	00401738	303	171	176	225	8.5	283	12	52	1.5	6x60°	0.8
RH31C	00411860	00412243	343	193	198	253	8.5	317	12	59	1.5	8x45°	1.1
RH35C	00411861	00412244	378	218	223	286	8.5	352	12	66	1.5	8x45°	1.3
RH40C	00411862	00412245	418	246	252	322	8.5	392	13	74	2.0	8x45°	2.1
RH45C	00411863	00412246	464	278	285	364	8.5	438	14	83	2.0	8x45°	2.5
RH50C	00411864	00412247	514	312	320	410	8.5	488	16	94	2.0	8x45°	3.1
RH56C	00411865	00412248	564	347	355	455	10.5	538	18	104	2.0	8x45°	3.8
RH63C	00411866	00412249	634	389	397	510	10.5	600	20	117	2.0	12x30°	4.7
RH71C	00412791	00412795	704	437	447	573	10.5	670	23	131	2.0	12x30°	5.8
RH80C	00412792	00412796	784	493	504	646	10.5	750	25	148	2.5	12x30°	9.0
RH90C	00412793	00412797	874	555	567	728	10.5	840	29	167	2.5	16x22.5°	11.2
RH10C	00412794	00412798	974	625	637	819	10.5	940	32	187	2.5	16x22.5°	14.0
RH11C	00401306	00401750	1075	694	707	910	10.5	1041	36	208	2.5	16x22.5°	17.0

(1) fastening inlet nozzle

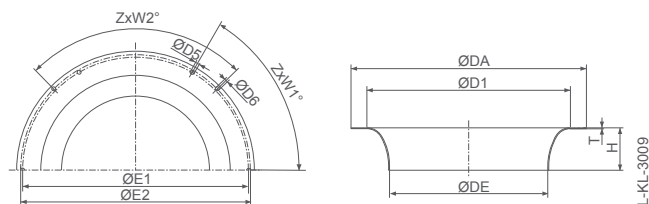




# System components

## Inlet nozzle for Vpro-ECblue and Vpro

- Material: Sheet steel, galvanised



### Inlet nozzle

Size	Article no.	DA	DE	D1	D5	D6	E1	E2	H	T	ZxW1°	ZxW2°	Weight kg
		mm	mm	mm	mm	mm	mm	mm	mm	mm	(1)	(2)	
RH19V	<b>00407897</b>	170	125.5	145.5	4.5	-	158	-	14	1.0	4x90°	-	0.1
RH22V (220)	<b>00407898</b>	252	155.0	195.0	5.5	4.3	242	245	21	1.0	6x60°	4x90°	0.3
RH22V (225)	<b>00407899</b>	223	146.4	196.6	4.5	-	210	-	28	1.0	4x90°	-	0.2
RH25V	<b>00407900</b>	255	165.0	221.6	4.5	-	240	-	31	1.0	4x90°	-	0.3
RH28V	<b>00275848</b>	265	180	234.6	7.0	-	250	-	43	1.0	6x60°	-	0.4
RH31V	<b>00335943</b>	300	203	260.6	7.0	-	285	-	54	1.0	6x60°	-	0.5
RH35V	<b>00275850</b>	338	228	292.2	7.0	-	315	-	58	1.0	6x60°	-	0.6
RH40V	<b>00275570</b>	374	257	324.9	9.0	-	350	-	66	1.0	6x60°	-	0.8
RH45V	<b>00275571</b>	413	287	364.0	9.0	-	390	-	71	1.0	6x60°	-	0.9
RH50V	<b>00275572</b>	456	323	410.0	9.0	-	430	-	79	1.0	6x60°	-	1.1
RH56V	<b>00278489</b>	530	361	459.0	9.0	-	510	-	87	1.5	6x60°	-	2.2
RH63V	<b>00279305</b>	745	407	510.3	11.5	-	720	-	95	1.5	12x30°	-	4.6

(1) fastening inlet nozzle, (2) fastening guard grille

## Inlet nozzle for ZAvblue with EC055

### Inlet nozzle

Size	Article no.	DA	DE	D1	D5	D6	E1	E2	H	T	ZxW1°	ZxW2°	Weight kg
		mm	mm	mm	mm	mm	mm	mm	mm	mm	(1)	(2)	
RH18V..AR	<b>00407897</b>	170	126	146	5,5	4.3	158	-	14	1	4x90°	-	0.1
RH19V..AR	<b>00407897</b>	170	126	146	5,5	4.3	158	-	14	1	4x90°	-	0.1
RH19V..AR*	<b>00375776</b>	190	126	146	5,5	4.3	158	-	14	1	4x90°	-	0.2
RH20V..AR	<b>00407897</b>	170	126	146	5,5	4.3	158	-	14	1	4x90°	-	0.1
RH22V..AR	<b>00412010</b>	230	155	195	5,5	4.3	210	-	21	1	4x90°	-	0.2
RH22V..BR	<b>00407899</b>	223	145	196	5,5	4.3	210	-	28	1	4x90°	-	0.2
RH25V..AR	<b>00407900</b>	255	164	222	5,5	4.3	240	-	31	1	4x90°	-	0.3

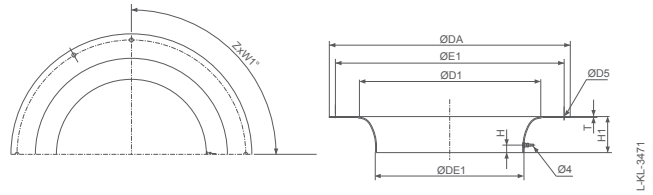
(1) fastening inlet nozzle

\*for the use of the RH19V.AR with pressure tapping incl. annular piping (accessory art. 00705277)

# System components

## Inlet nozzle for ZAvblue

- Material: composite material. black



Inlet nozzle												
Size	Article no.	Article no. with measuring device	DA	DE1	D1	D5	E1	H1	H	T	ZxW1°	Weight
			mm	mm	mm	mm	mm	mm	mm	mm	(1)	kg
RH25V	<b>00412364</b>	<b>00412601</b>	303	183.5	224.1	9.0	283	32.3	10.5	2	6x60°	0.1
RH28V	<b>00412366</b>	<b>00412602</b>	343	204.9	250.6	9.0	317	35.3	12.0	2	8x45°	0.2
RH31V	<b>00412368</b>	<b>00412603</b>	378	230.8	282.6	9.0	352	40.3	14.5	2	8x45°	0.2
RH35V	<b>00412370</b>	<b>00412604</b>	418	258.0	316.6	9.0	392	45.3	16.0	2	8x45°	0.2
RH40V	<b>00411684</b>	<b>00411994</b>	464	298.1	362.8	9.0	438	50.7	15.5	4	8x45°	0.5
RH45V	<b>00411686</b>	<b>00411995</b>	514	331.1	406.8	9.0	488	56.6	17.5	4	8x45°	0.7
RH50V	<b>00412014</b>	<b>00412357</b>	564	366.1	448.1	9.0	538	63.1	20.5	4	8x45°	0.8
RH56V	<b>00412015</b>	<b>00412358</b>	634	408.1	499.9	10.5	600	71.6	23.0	4	12x30°	1.0
RH63V	<b>00412371</b>	<b>00412605</b>	704	453.6	556.6	10.5	670	80.7	29.5	4	12x30°	1.2

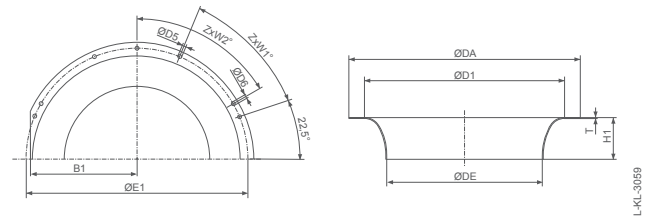
(1) fastening inlet nozzle



# System components

## Inlet nozzle for R-series

- Material: galvanised sheet steel



L-KL-3089

Inlet nozzle											
Size	Article no.	B1 mm	DA mm	DE mm	D1 mm	E1 mm	H1 mm	T mm	ZxW1° (1)	ZxW2° (2)	Weight kg
RG11R	00413145	-	128	88	106	118	13	1	-	4x90°	0.1
RG12R	00413146	-	142	100	116	132	9	1	-	4x90°	0.1
RG13R	00413147	-	150	112	132	142	12	1	3x120°	4x90°	0.1
RG14R	00413148	-	170	125.5	145.5	158	14	1	3x120°	4x90°	0.1
RG15R	00413148	-	170	125.5	145.5	158	14	1	3x120°	4x90°	0.1
RG16R	00413149	-	185	130	154	175	17	1	-	4x90°	0.1
RG18R	00412586	-	232	143	187.8	212	31	1	6x60°	---	0.3
RG20R	00412587	-	253	160	207.2	233	39	1	6x60°	---	0.3
RG22R	00412588	-	277	180	234.6	257	43	1	6x60°	---	0.4
RG25R	00411503	140.0	303	192	268	383	53	1	6x60°	-	0.5
RG28R	00411504	158.4	343	228	292.2	317	58	1	-	8x45°	0.6
RG31R	00411505	174.6	378	257	324.9	352	66	1	-	8x45°	0.8
RG35R	00411506	193.1	418	287	364	392	71	1.5	-	8x45°	0.9
RG40R	00411507	214.3	464	323	410	438	79	1.5	-	8x45°	1.1
RG45R	00411508	237.4	514	361	459	488	87	1.5	-	8x45°	2.0

(1) fastening inlet nozzle, (2) fastening guard grille

Information

ZAbbluefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAvblue

Vpro-ECblue

ZAcube-  
Cpro-ECblue

Housing fans

System  
components

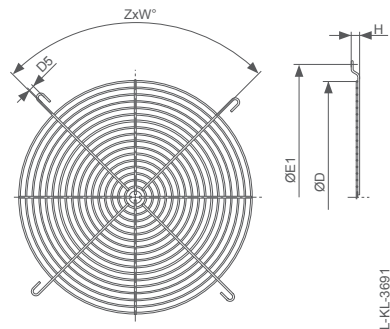
Control  
technology

General notes

# System components

## Suction side guard grille for ZAbuefin and C/Cpro

- Material: Steel, coated, black RAL 9005
- Maximum mesh width  $\leq 10$  mm



Guard grille on suction side							
Size	Article no.	D	E1	D5	H	ZxW° (1)	Weight kg
		mm	mm	mm	mm		
RH/GR25I	<b>00411643</b>	203	257	6,5	8	3x120°	0,2
RH/GR28I	<b>00411570</b>	245	283	6,5	8	3x120°	0,3
RH/GR31I	<b>00411571</b>	266	317	6,5	8	4x90°	0,3
RH/GR35I	<b>00411572</b>	308	352	6,5	8	4x90°	0,4
RH/GR40I	<b>00411573</b>	350	392	6,5	8	4x90°	0,5
RH/GR45I	<b>00411574</b>	392	438	6,5	8	4x90°	0,7
RH/GR50I	<b>00411575</b>	434	488	6,5	8	4x90°	0,8
RH/GR56I	<b>00411644</b>	476	538	6,5	8	4x90°	1,0

(1) fastening guard grille

Guard grille on suction side							
Size	Article no.	D	E1	D5	H	ZxW° (1)	Weight kg
		mm	mm	mm	mm		
RH/GR25C	<b>00411643</b>	203	257	6,5	8	3x120°	0,2
RH/GR28C	<b>00411570</b>	245	283	6,5	8	3x120°	0,3
RH/GR31C	<b>00411571</b>	266	317	6,5	8	4x90°	0,3
RH/GR35C	<b>00411572</b>	308	352	6,5	8	4x90°	0,4
RH/GR40C	<b>00411573</b>	350	392	6,5	8	4x90°	0,5
RH/GR45C	<b>00411574</b>	392	438	6,5	8	4x90°	0,7
RH/GR50C	<b>00411575</b>	434	488	6,5	8	4x90°	0,8
RH/GR56C	<b>00411644</b>	476	538	6,5	8	4x90°	1,0
RH/GR63C	<b>00411645</b>	535	600	9,0	12	6x60°	1,4

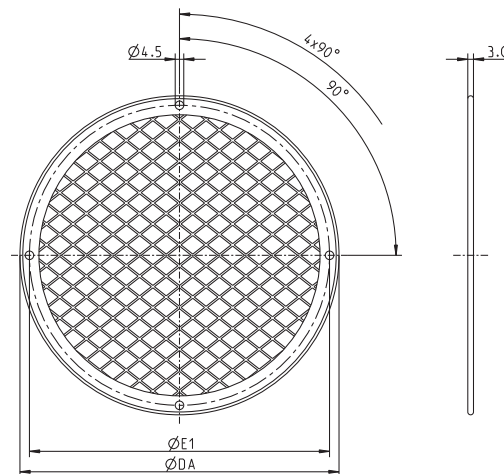
(1) fastening guard grille

# System components

## Suction side guard grille for Vpro-ECblue and Vpro

- Material: Steel, galvanised
- maximum mesh width < 8 mm

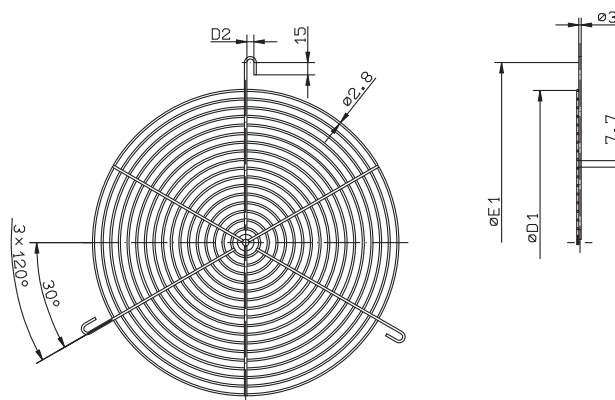
Guard grille on suction side			
Size	Article no.	DA mm	E1 mm
RH19V	<b>00408187</b>	168	158
RH22V (220)	<b>00408188</b>	255	245
RH22V (225)	<b>00408189</b>	220	210
RH25V	<b>00408190</b>	250	240
RH31V (.W_)	<b>00408192</b>	291	281



L-KL-2580

- Material: Steel, coated, black
- maximum mesh width < 8 mm

Guard grille on suction side				
Size	Article no.	D1 mm	D2 mm	E1 mm
RH28V	<b>00279178</b>	202	6.5	259
RH31V (.0_)	<b>00279179</b>	223	6.5	286
RH31V (.2_)	<b>00279179</b>	223	6.5	286
RH35V	<b>00279180</b>	265	6.5	322
RH40V	<b>00279181</b>	286	8.5	356
RH45V	<b>00279182</b>	328	8.5	395
RH50V	<b>00279183</b>	370	8.5	438

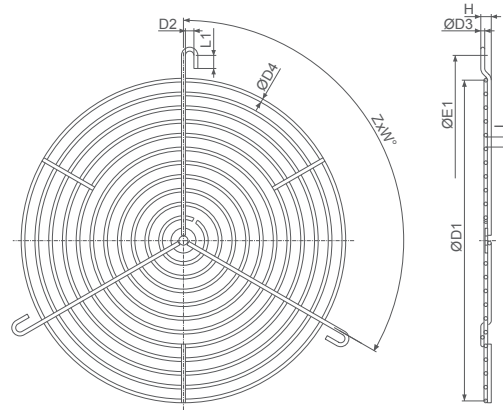


L-KL-1665

# System components

## Suction side guard grille for R-series, single inlet

- Material: Steel, coated, black RAL 9005
- Maximum mesh width < 8 mm



### Guard grille on suction side

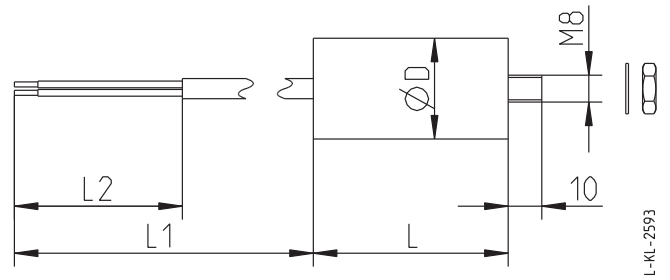
Size	Article no.	D1 mm	D2 mm	D3 mm	D4 mm	E1 mm	H mm	L mm	L1 mm	ZxW° (1)	Number of rings
RG25R	<b>00411570</b>	245	6.5	3	2.8	283	8	7.7	10	3x120°	11
RG28R	<b>00411571</b>	266	6.5	3	2.8	317	8	7.7	10	4x90°	12
RG31R	<b>00411572</b>	308	6.5	3	2.8	352	8	7.7	10	4x90°	14
RG35R	<b>00411573</b>	350	6.5	3	2.8	392	8	7.7	10	4x90°	16
RG40R	<b>00411574</b>	392	6.5	3	2.8	438	8	7.7	10	4x90°	18
RG45R	<b>00411575</b>	434	6.5	3	2.8	488	8	7.7	10	4x90°	20

(1) fastening guard grille



# Service capacitor

- Material: plastic housing
- Wiring: AWG18 or AWG20
- Max. Voltage:  $U_{max} = 400V$
- Ambient temperature:  $-25\text{ °C}$  to  $+85\text{ °C}$



L-KL-2593

Service capacitor					
Capacity $\mu F$	Article no.	D mm	L mm	L1 mm	L2 mm
1.0	<a href="#">02006926</a>	26	53	350	50
1.5	<a href="#">02006927</a>	26	53	180	50
2.0	<a href="#">02006930</a>	26	53	350	50
2.5	<a href="#">02006931</a>	26	53	350	50
3.0	<a href="#">02006932</a>	26	53	350	50
3.5	<a href="#">02011670</a>	30	49	210	210
4.0	<a href="#">02006933</a>	30	58	350	50
5.0	<a href="#">02006934</a>	30	58	350	50
6.0	<a href="#">02006935</a>	30	72	350	50
7.0	<a href="#">02006936</a>	30	78	350	50
8.0	<a href="#">02006937</a>	30	98	350	50
10.0	<a href="#">02006938</a>	35	71	350	50
12.0	<a href="#">02006939</a>	35	71	350	50
14.0	<a href="#">02006940</a>	40	68	350	50
16.0	<a href="#">02006941</a>	40	68	350	50
20.0	<a href="#">02006942</a>	40	93	350	50
25.0	<a href="#">02006943</a>	40	92	350	50
30.0	<a href="#">02006944</a>	40	133	350	50
35.0	<a href="#">02006945</a>	40	133	350	50
40.0	<a href="#">02006961</a>	45	119	350	50
50.0	<a href="#">02018401</a>	50	117	250	40

Information

ZAbuefin-  
ECblue

Cpro-ECblue

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ZAvblue

Vpro-ECblue

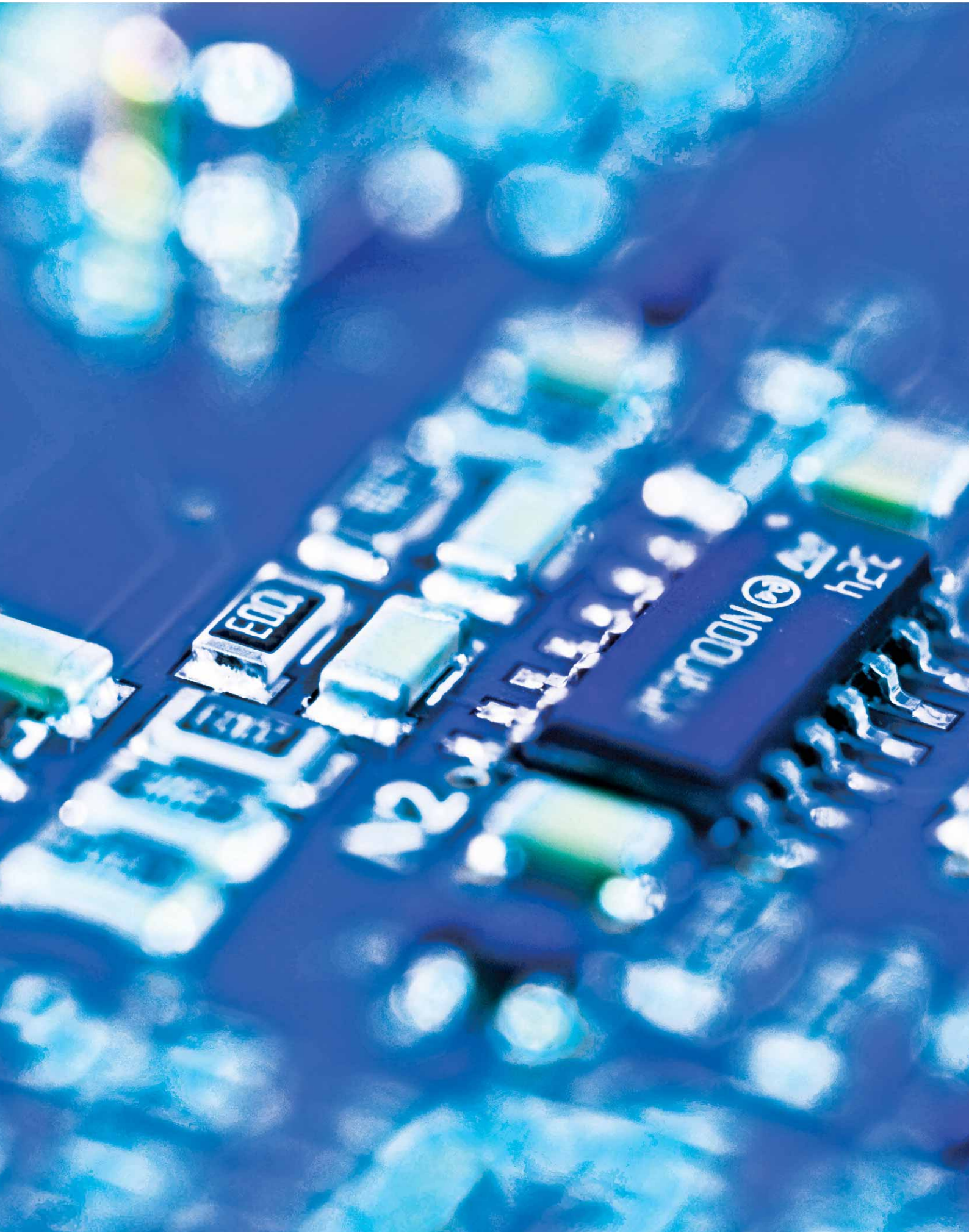
ZAcube-  
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# Control technology

## Product overview

ZAcode - Products and philosophy	Page 298
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# ZAcode

## The unique fan control philosophy

### Market challenge

Manufacturers of products which involve moving air are confronted with a variety of products and technologies.

In addition to fans with asynchronous motors, which are mainly controlled by frequency inverters, the proportion of EC motors (highly efficient motors with permanent magnets and integrated power electronics) is rising.

Solutions are increasingly available involving mounting frequency inverters on internal rotor motors according to the IEC standard.

That is why companies rely on different manufacturers and technologies to cover the power range of smaller than 1 kW to 30 kW.

This involves a great effort in terms of design, documentation and storage of parts as well as employee training.

Interface problems, e.g. the interaction of frequency inverters and fans of different manufacturers, involve effort and expenditure which may delay projects and lead to complaints.

### ZIEHL-ABEGG's philosophy

Simple products and solutions.

From the planner via production to installation and maintenance - everyone involved with the system should have an easy time and be able to understand it.

ZIEHL-ABEGG has been busy with this challenge adapting products which cover the decisive power range accordingly. Products have been reduced to the essential, but can be easily expanded to meet requirements at any time.

ZIEHL-ABEGG's products are 100% matched to one another. This means ZIEHL-ABEGG fans and frequency inverters create an energy-saving, quiet and reliably functioning system. The same is true of the combination of control modules with ECblue fans and other products.

At ZIEHL-ABEGG, you have only one contact person for fans, motors and the perfectly matching one-stop control engineering.

This philosophy makes the effort involved easier in terms of planning, production, installation and maintenance.

## Covering the big power range from < 1 kW up to 30 kW



ECblue Basic  
Power: < 1 kW up to 6 kW



AMblue / PMblue  
Power: 2.2 kW up to 22 kW



Frequenzumrichter Fcontrol Basic /  
Icontrol Basic  
Power: 1.1 kW up to 30 kW



## ZAcode - the solution - your advantages

On a cross-product basis - ZAcode encompasses the key technologies on the market

- Axial and centrifugal fans
- EC technology and AC technology
- Integrated electronics and external electronics for speed control
- Communication and control intelligence

### Simplicity

- Can be operated and understood by everyone

### Uniformity

- Identical connection concept of the various products and technologies
- Identical communication (add-on modules for required bus systems)
- Identical functionality
- Modular expandability, thus providing a cost-effective basis
- Expandable on demand - sustainable
- Available in a wide power range of smaller than 1 kW to 30 kW

### Safety and reliability

- courtesy of perfectly matched systems
- courtesy of error prevention during installation, start-up, operation and maintenance

### Speed

- Uniformity ensures speed in relation to engineering. Hence, the short time to market in relation to product development. Fast start-up and service.

### Cost savings

- Your processes will become more efficient, e.g. with regard to engineering
- Basic equipment of ZIEHL-ABEGG products = Buy basic equipment and pay, buy add-ons if necessary - buy only what you need!

### Flexibility

- Modular system, expandable and customisable
- Customisable to current and future bus systems
- Basic expandability

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# ZAcode

Simple, cross-product, uniform

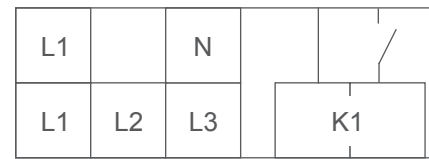
Fans with ECblue Basic  
< 1 kW to approx. 6 kW

Highly efficient external rotor motors with permanent magnets and integrated power electronics



The unique fan co

Same con



Easily expandable for inte

AM-MODBUS

AM-CAN-OPEN

AM-LON



Fans with asynchronous motors

< 1 kW to approx. 30 kW

Control via mounted Fcontrol Basic or Icontrol Basic frequency inverters



Expandable and combin

AM-PREMIUM

UNICon control  
modules



Control philosophy

Connectivity

E1	D1	GND	10V	24V
----	----	-----	-----	-----

Integration into bus systems

AM-PROFIBUS AM-ETHERCAT and others



Variable control intelligence



PMblue centrifugal fans with mounted PMIcontrol Basic-M

< 2.2 kW to approx. 22 kW

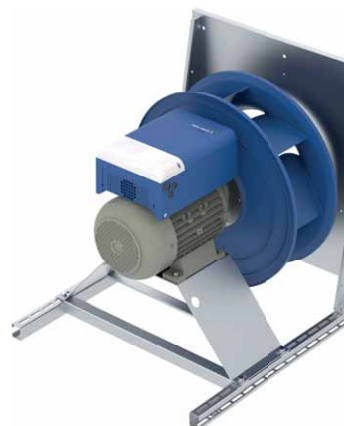
PMblue combines PM motor with permanent magnets and mounted frequency inverter (optionally mountable PMIcontrol)



AMblue centrifugal fans with mounted PMIcontrol Basic-M

< 2.2 kW to 22 kW

AMblue combines AC motor (asynchronous motor) and mounted frequency inverter



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# Products with system competence

ZIEHL-ABEGG is the only fan manufacturer that develops methods to change the speed of fans and produces the control engineering itself.

The result for our customers is perfectly matched products which provide added value in all applications involving moving air.

Together with the fans, perfect system solutions are the result. A major advantage for our customers is the supply of a wide variety of one-stop solutions and technologies. There is a contact person for customers for planning and implementing daily challenges for all products.

A wide range of control engineering products are available to choose from:

Voltage controller



Frequency inverters



Control modules



Motor protection units



Sensors



## Options for speed control

### Voltage controllers

Voltage controllers have been established for many years. These are available as electronic voltage controllers, so-called phase angle controllers, or as transformer-based controllers.

Typically, voltage variable external rotor motors (asynchronous motors) are controlled using these products.

The advantage of this technology is extremely low investment costs. Electronic voltage controllers are available for rated currents up to 80 A. There are designs for all applications in ventilation technology.

Up till now, transformer-based voltage controllers have been established in simple applications. Integrated 5-step switches are standard and the products control motors and fans without producing electronic running noise.



Electronic voltage controllers and 5-step transformer-based controllers for 1~ and 3~ power supply.



## Highly efficient frequency inverters

ZIEHL-ABEGG frequency inverters cover an extremely wide range of applications. To make it very easy for operators, the frequency inverters are equipped so that they can be quickly put into operation and are easy to operate in ventilation system applications. Frequency inverters are available up to an output of approx. 30 kW (rated current 50 – 62 A).

### Frequency inverter Fcontrol

The integrated, all-pole sine filter makes the Fcontrol unique among frequency inverters. Comparable to the power supply, the Fcontrol controls motors, fans without increased demands on the winding insulation and motor bearings.

Operation is extremely energy-saving, efficient and without electromagnetic running noise. No shielded motor line is necessary. The cable length is not limited by the Fcontrol. Smooth parallel operation of motors and fans is guaranteed and typical frequency inverter measures are unnecessary.



Fcontrol frequency inverter for 1~ and 3~ power supply. Control of motors and fans (external rotor motors or motors according to the IEC standard).

### Highly efficient fan drives ECblue, PMblue and AMblue

ECblue are highly efficient external rotor motors with permanent magnets and integrated power electronics. The result is a highly compact drive system for controlled operation with a variety of fans with different impeller geometries.

PMblue combines PM motor with permanent magnets and PMcontrol / PMIcontrol frequency inverter. The AMblue drive system combines an asynchronous motor with a mounted PMIcontrol Basic-M. ZIEHL-ABEGG offers an enormous range of different fan designs with a variety of motor technologies, thus covering an enormous power range for moving air.



### Frequency inverters Icontrol / PMcontrol / PMIcontrol

The Icontrol standard frequency inverters for inexpensive easy control of motors and fans (internal rotor asynchronous motors according to the IEC standard).

PMcontrol are comparable, but these are designed for PM motors and fans with PM motors (PM = internal rotor motors with permanent magnets according to the IEC standard).

PMIcontrol Basic-M can control both motor types, asynchronous motors and PM motors. These are designed as PMIcontrol Basic-M for direct mounting on internal rotor motors according to the IEC standard.

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# Motor protection devices

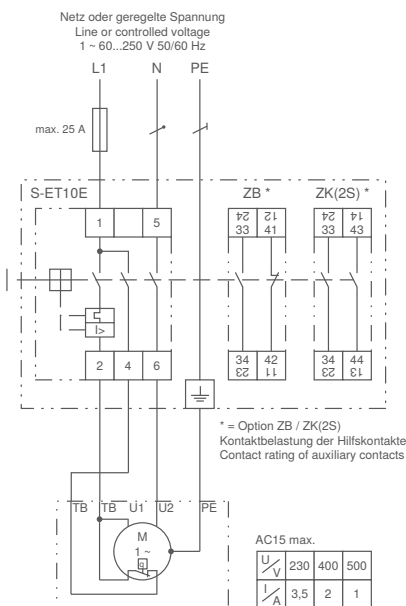
## For monitoring thermostats (TB)



Complete motor protection is implemented by connecting the thermostat, which is integrated into the motor, to the motor protection unit. Most ZIEHL-ABEGG external rotor motors are equipped with thermostats (TB) in the winding. These thermostats open during high winding temperatures, facilitating the direct monitoring of the temperature in the motor, thus ensuring the direct protection of the motor. When the thermostat opens, the motor protection unit is triggered and has to be manually reset; this is done to prevent an unwanted reconnection after the motor has cooled off.

Additional functions of the 3~ STDT motor protection units: They have an overcurrent trigger integrated. That means the device acts like a fuse and can be used for "current distribution". The adjustable overcurrent trigger protects the cable leading to the connected motors. Dual terminals located on the input and output sides of the motor protection unit facilitate simple wiring of multiple motors or fans on the output side of a powerful controller.

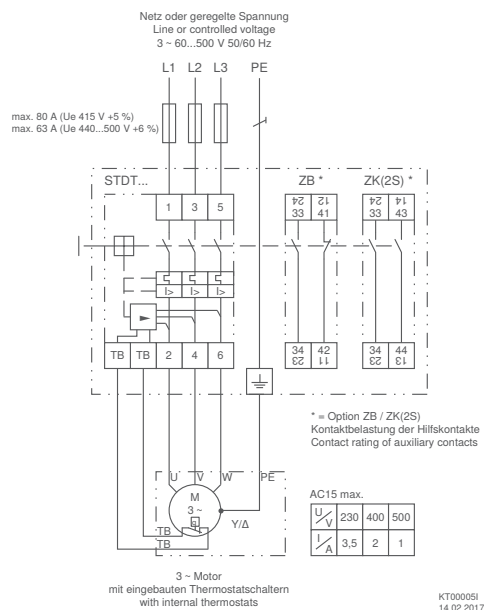
Connection diagram S-ET



- ① Line or controlled voltage
- ② Motor with integrated thermostats
- ③ Contact load of auxiliary contacts

\* Option ZB/ZK(2S)

Connection diagram STDT



- ① Line or controlled voltage
- ② Motor with integrated thermostats
- ③ Contact load of auxiliary contacts

\* Option ZB/ZK(2S)





### Equipment/Characteristics

#### Complete motor protection

Automatic shut-off when connected thermostat „TB“ opens (direct temperature monitoring in the motor winding).

#### Integrated button

Switch connected motors on and off manually. Manual reset after motor fault (protection from unwanted restarting)

#### Optional: operating status contact

Type „ZB“ with one open contact and one close contact  
Type „ZK“ with two close contacts

#### Optional padlock feature

Type „Zrep“ for the IP55 housing version. The motor protection unit can be locked during servicing (max. 3 locks)

#### Cable protection (only in 3~ STDT devices)

Via integrated overcurrent trigger, which can be adjusted to the cable cross section.

#### Accessories

Type	Article no.	Weight kg
ZB	382013	0.03
ZK	382022	0.03
Zrep	382025	0.11

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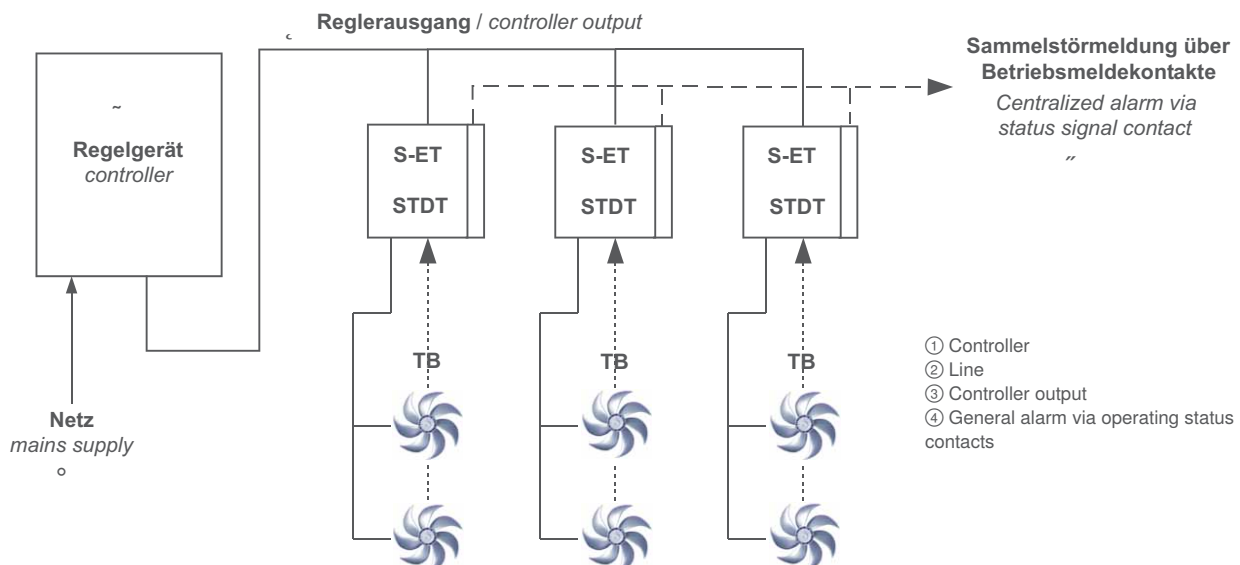
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Motor protection units for monitoring thermostats (TB)										
Line	Installation	Type	Article no.	Rated current	Overcurrent trigger	Minimum ambient temperature	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
				A		°C	°C		kg	mm
1~ 60...250V 50/60Hz	Rail according to EN 60715	S-ET10E	382021	10		-25	55	IP20	0.17	45 x 80 x 85.5
1~ 60...250V 50/60Hz	Wall mounting	S-ET10	382020	10		-25	40	IP55	0.44	80 x 150 x 97.5
3~ 60...500V 50/60Hz	Rail according to EN 60715	STDT16E	382012	16	Overcurrent 10...16 A	-25	55	IP20	0.33	54 x 80 x 85.5
3~ 60...500V 50/60Hz		STDT25E	382015	25	Overcurrent 20...25 A	-25	55		0.50	54 x 80 x 85.5
3~ 60...500V 50/60Hz	Wall mounting	STDT16	382011	16	Overcurrent 10...16 A	-25	40	IP55	0.60	80 x 150 x 97.5
3~ 60...500V 50/60Hz		STDT25	382014	25	Overcurrent 20...25 A	-25	40		0.75	80 x 150 x 97.5

#### Application example

Motor protection units S-ET or STDT, depending on the line. With S-ET monitoring of individual fans, with STDT monitoring of several fans per motor protection unit possible. Thermostats are wired in series.



# Frequency inverters

## 1~ Fcontrol, universal controller with display and bypass main switch



The Fcontrol frequency inverters provide special advantages. Fcontrols have an all pole effective sine filter integrated which provides sinusoidal output voltage that is comparable with the standard mains. That means the frequency inverter enables reliable, demand-oriented and energy-saving control of asynchronous motors (external rotor motors, IEC standard motors) without having to take measures into consideration required by standard frequency inverters.

The advantages provided by the Fcontrol frequency inverter are:







- Operation without shielded motor feed lines
- The line length is not restricted by Fcontrol
- Operation without electromagnetic motor noises (ideal for noise sensitive areas)
- No risk to motors (they do not have to be frequency inverter compatible) since they are supplied with sinusoidal voltage that corresponds to the line voltage.

The benefits are especially advantageous in plants in which motors or fans are operated in parallel on a frequency inverter. Motors connected in parallel often means long cable lengths which is no problem with the Fcontrol. On top of that, unshielded cables can be used.

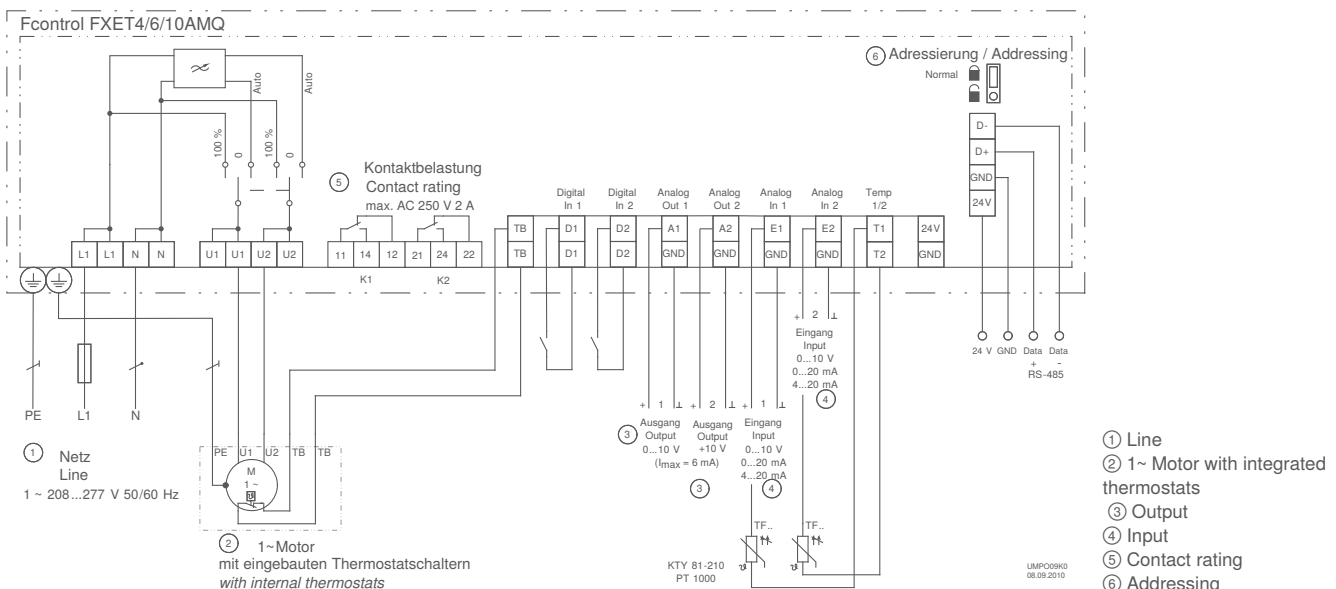
The Fcontrol universal devices are ideal for the following applications: refrigeration, air conditioning, agriculture, general air supply and ventilation tasks, clean room technology.

Fast commissioning for typical applications in the stated sectors by selecting pre-programmed operating modes possible.

### Input for sensors or speed settings through

-  Setting of the desired speed through device or by external default, e.g. 0...10 V
-  Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0...30 bar, 0...50 bar
-  Connection of thermistors, e.g. sensors type TF.. e.g. active sensor type MTG..
-  Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0...6000 Pa, acquisition of volume flows up to 65000 m³/h
-  Connecting air velocity sensors, e.g. type MAL.. sensors, measuring range 0...1 m/s, 0...10 m/s
-  Connecting additional sensors, e.g. combination sensors, CO<sub>2</sub>, sensor signal 0...10 V / 0...20 mA / 4...20 mA

### Connection diagram



## Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

## Equipment/properties

### Integrated all-pole effective sine filter

Phase to phase and phase to PE conductor. Thus sinusoidal output voltage. Frequency inverter typical measures such as shielded motor cables are not necessary.

### Integrated PFC (Power Factor Controller)

Active power factor adaptation for sinusoidal current consumption. Therefore low line feedback.

### Integrated main switch with bypass function

Switch positions: Auto (for control mode), 0 and 100 % (100 % means that the integrated device electronics are bypassed, the applied line voltage is switched to the output).

### LC multifunction display with clear text display:

Different menu languages are selectable

### Simple commissioning by operating modes:

Typical operating modes, e.g. for air conditioning, refrigeration or ventilation technology can be selected.

### Simple programmability:

Typical settings can be made easily: e.g. setting of a minimum speed, limitation of the maximum speed, inversions and limits. Setting, e.g. for multistep mode

### 2 analog inputs for sensors or setting signals:

Analog input E1 and E2: Setting by operating modes or manually programmable, e.g. 0-10 V, 0-20 mA, 4-20 mA  
analog input E2: programmable, e.g. comparison with sensor 1, difference to sensor 1, average value formation, setpoint setting, setpoint adaptation (e.g. outside temperature-dependent)

### 2 digital inputs D1 and D2:

Programmable, e.g. enable, setpoint switchover 1 or 2, switchover control or manual mode, switchover E1 or E2, control function reversal, output limitation, display of external fault, reset, direction of rotation reversal

### 1 analog output A1:

Setting by operating modes or manually programmable, e.g. output signal proportional to modulation, output signal proportional to input signal, invertible, 10 V constant voltage, group control

### 2 digital outputs (relays) K1 and K2:

Setting by operating modes or manually programmable, e.g. operating indication, fault indication, limits, external fault at digital output, activation of external devices, e.g. heating, shutters, group control fans, etc.

### Integrated motor protection function:

Connection possibility for thermostats TB

### Interface RS485 MODBUS RTU:

Integration into bus system

### Set protection / memory for settings:

Activation of set protection against unauthorised access, restoration of made settings

### Event memory:

Querying of occurred events, operating times, etc.

## Fcontrol, universal controller with display and bypass main switch

1~ 208...277V 50/60Hz

Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	°C	A	W	°C		kg	mm
<b>FXET4AMQ</b>	<b>308134</b>	230	4	35	16	65	55	IP54	3.40	240 x 284 x 132
<b>FXET6AMQ</b>	<b>308157</b>		6	40	16	103	55		5.70	250 x 302 x 212
<b>FXET10AMQ</b>	<b>308136</b>		10	50	16	187	55		6.80	250 x 302 x 212

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.

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# Frequency inverters

## 1~ Fcontrol, speed controller optional with bypass main switch



The 1~ Fcontrol frequency inverters with all-pole effective sine filter are available in the version as speed controllers. There is an optional version with integrated main switch (Auto – 0 – 100%).

The speed setting can be made by a master control by 0 – 10 V, e.g. by a ZIEHL-ABEGG control module of the UNIcon series. The speed can also be set manually by connecting a potentiometer. Two-stage operation with adjustable speeds is possible optionally. The frequency inverters control asynchronous motors (external rotor motors, IEC standard motors) gently, requirement-based and energy saving.

Advantages achieved by Fcontrol frequency inverters are:

- High energy saving
- Operation without shielded motor cables
- The cable length is not limited by the Fcontrol
- Operation without electromagnetic motor noises (ideal for noise sensitive areas)
- No danger to motors (these must not be suitable for frequency inverters) because they are supplied with sinusoidal voltage according to the mains voltage.

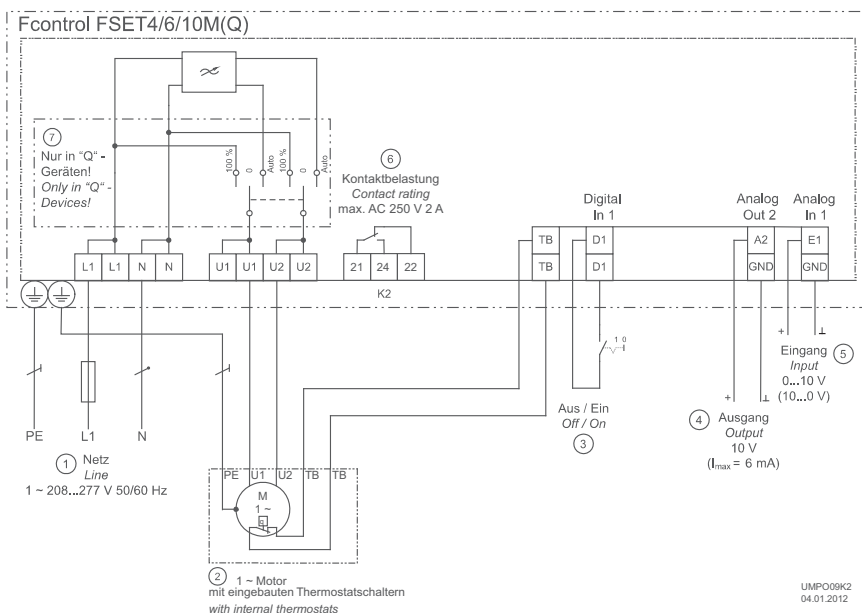
### Input for sensors or speed settings through



Setting of the desired speed through device or by external default, e.g. 0...10 V

The 1~ Fcontrol speed controllers are universally suitable for many different applications: E.g. refrigerant technology, air conditioning, agriculture, general ventilation tasks, clean room technology.

### Connection diagram



- ① Line
- ② 1~ Motor with integrated thermostats
- ③ Off/On
- ④ Output
- ⑤ Input
- ⑥ Contact rating
- ⑦ Only in "Q"-Devices

UMPO09K2  
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Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

Equipment / Characteristics

**Integrated all pole effective sine filte**

Phase to phase and phase to grounded conductor thus producing sinusoidal output voltage. Typical measures for frequency inverters such as shielded motor feeder cables are not necessary.

**Integrated PFC (Power Factor Controller)**

Active power factor adaptation for sinusoidal current consumption, resulting in lower harmonic current emissions.

**1 analogue input for speed preset**

Input E1 for 0-10 V setpoint signal or 10-0 V depending on device version

**1 digital input**

Input D1 for enable (standby), for external reset (motor fault)

**1 digital output (relay)**

Floating change-over contact for error message

**Integrated motor protection function**

Connection facility for "TB" thermostat

Optional equipment

Devices with integrated bypass main switch

Switch positions:

Auto (for speed control mode), 0 and 100% (100% = the integrated device electronics are bypassed, the applied line voltage is switched to the output)

Fcontrol as speed controller

1~ 208...277V 50/60Hz

Input	Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
			V	A	°C	A	W	°C		kg	mm
0-10 V	FSET4M	308128	230	4	35	16	65	55	IP54	3.20	240 x 284 x 115
	FSET6M	308156		6	40	16	103	55		5.50	250 x 302 x 195.5
	FSET10M	308130		10	50	16	187	55		6.60	250 x 302 x 195.5
	FSET4MQ	308154		4	35	16	65	55		3.30	240 x 284 x 132
	FSET6MQ	308155		6	40	16	103	55		5.60	250 x 302 x 212
	FSET10MQ	308187		10	50	16	187	55		6.70	250 x 302 x 212
10-0 V	FSET4M	308158	230	4	35	16	65	55	IP54	3.20	240 x 284 x 115
	FSET6M	308159		6	40	16	103	55		5.50	250 x 302 x 195.5
	FSET10M	308160		10	50	16	187	55		6.60	250 x 302 x 195.5
	FSET4MQ	308248		4	35	16	65	55		3.30	240 x 284 x 132
	FSET6MQ	308249		6	40	16	103	55		5.60	250 x 302 x 212
	FSET10MQ	308250		10	50	16	187	55		6.70	250 x 302 x 212

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.

Information

ZAbluefin-ECblue

Cpro-ECblue

C-ECblue

ZAblue-ECblue

Vpro-ECblue

ZAcube

Housing fans

System components

Control technology

General notes



# Frequency inverters

## 3~ Fcontrol, universal controller with display



The Fcontrol frequency inverters provide special advantages. Fcontrols have an all pole effective sine filter integrated which provides sinusoidal output voltage that is comparable with the standard mains. That means the frequency inverter enables reliable, demand-oriented and energy-saving control of asynchronous motors (external rotor motors, IEC standard motors) without having to take measures into consideration required by standard frequency inverters.

The advantages provided by the Fcontrol frequency inverter are:







- Operation without shielded motor feed lines
- The line length is not restricted by Fcontrol
- Operation without electromagnetic motor noises (ideal for noise sensitive areas)
- No risk to motors (they do not have to be frequency inverter compatible) since they are supplied with sinusoidal voltage that corresponds to the line voltage.

The benefits are especially advantageous in plants in which motors or fans are operated in parallel on a frequency inverter. Motors connected in parallel often means long cable lengths which is no problem with the Fcontrol. On top of that, unshielded cables can be used.

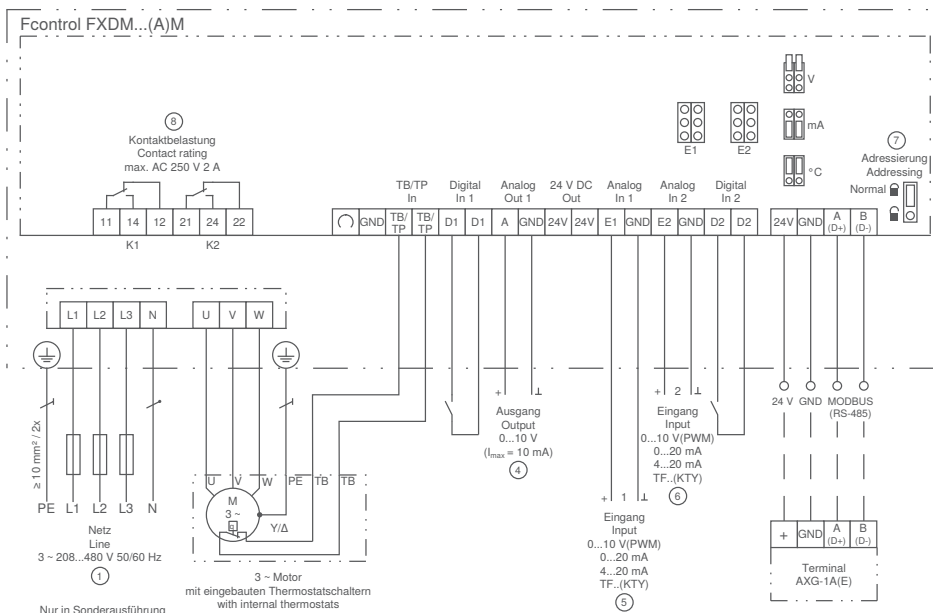
The Fcontrol universal devices are ideal for the following applications: refrigeration, air conditioning, agriculture, general air supply and ventilation tasks, clean room technology.

Fast commissioning for typical applications in the stated sectors by selecting pre-programmed operating modes possible.

### Input for sensors or speed settings through

-  Setting of the desired speed through device or by external default, e.g. 0...10 V
-  Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0...30 bar, 0...50 bar
-  Connection of thermistors, e.g. sensors type TF.. e.g. active sensor type MTG..
-  Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0...6000 Pa, acquisition of volume flows up to 65000 m³/h
-  Connecting air velocity sensors, e.g. type MAL.. sensors, measuring range 0...1 m/s, 0...10 m/s
-  Connecting additional sensors, e.g. combination sensors, CO₂, sensor signal 0...10 V / 0...20 mA / 4...20 mA

### Connection diagram



- ① Line
- ② Only in special version suitable for IT system!
- ③ Motor feeder cable
- ④ Output
- ⑤ Input
- ⑥ Addressing
- ⑦ Contact rating



## Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

## Equipment/Characteristics

### Integrated all pole effective sine filter

Phase to phase and phase to grounded conductor which means sinusoidal output voltage. Measures typical for frequency inverters such as shielded motor feed lines are not required.

### LC-multifunction display with plain text:

Various menu languages can be selected

### Simple commissioning through operating modes:

Typical operating modes, e.g. for air-conditioning, refrigeration or ventilation technology can be selected.

### Easy to program:

Typical settings can be made: e.g., default a minimum speed, limit the maximum speed, inverting and limits. Setting, e.g. for 2-stage mode

### 2 analogue inputs for sensors or setpoint signals:

Analogue input E1 and E2: Setting through operating modes or manually programmable, e.g. 0-10 V, 0-20 mA, 4-20 mA  
Analogue input E2: programmable, e.g. comparison to Sensor 1, difference to Sensor 1, average calculation, setpoint input, setpoint adjustment (e.g. dependent on outdoor temperature)

### Two digital inputs. D2 and D1:

Programmable, e.g. enable, switchover Setpoint 2 or 1 switchover control or manual operation, switchover E2, or E2, reverse control function, limit output, display of external fault, reset, reverse the rotary direction

### 2, analogue output A1:

Setting through operating modes or manually programmable, e.g., output signal proportional modulation, output signal proportional input signal, invertible, 10 V constant voltage, group control

### 10 digital outputs (relays) K1 and K2:

Setting through operating modes or manual programming, e.g. operating status, limits, external fault on digital input, enabling external devices, e.g. heating, dampers, group control of fans, etc.

### Integrated motor protection function:

Connection facility for PTC thermistors or alternatively thermostats (TB or TP).

### Interface RS485 MODBUS RTU:

Integration into bus system

### Setting protection / memory for settings:

Enable settings protection from unauthorised access, restore implemented settings

### Event memory:

Query events that have occurred, operating times, etc.

## Optional equipment

### Add-on modules for frequency inverters

- IO add-on module type Z-module, Article No. **380052**  
If the integrated inputs and outputs are not sufficient, other inputs and outputs can be created with the Z-Modul-B. These are also programmable:
  - 1 analog input
  - 1 analog output
  - 3 digital inputs
  - 2 digital outputs (relays)
- LON® Add-on module type Z-Modul-L, Article No. **380086**  
For integration into a bus system LON® by a two-wire

Information

ZAbluefin-  
ECblue

Cpro-ECblue

C-ECblue

ZAblue-  
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Vpro-ECblue

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# Frequency inverters

## 3~ Fcontrol, universal device with display

### Fcontrol, universal controller with display

3~ 208...480V 50/60Hz

Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)	
		V	A	°C	A	W	°C		kg	mm	
<b>FXDM2.5AM</b>	<b>308099</b>	400	2.5	40	6	50	55	IP54	3.30	240 x 284 x 115	
<b>FXDM5AM</b>	<b>308138</b>		5	50	10	100	55		7.20	250 x 302 x 195.5	
<b>FXDM8AM</b>	<b>308140</b>		8	50	10	150	55		7.90	250 x 302 x 195.5	
<b>FXDM10AM</b>	<b>308142</b>		10	55	16	210	55		8.20	250 x 302 x 195.5	
<b>FXDM14AM</b>	<b>308144</b>		14	40	16	310	55		8.70	250 x 302 x 195.5	
<b>FXDM18AM</b>	<b>308174</b>		18	40	20	400	55		9.10	250 x 302 x 195.5	
<b>FXDM22AM</b>	<b>308108</b>		22	40	25	520	55		14.50	280 x 355 x 239	
<b>FXDM32AM</b>	<b>308009</b>		32	50	35	700	55		29.60	386 x 525 x 283	
<b>FXDM40AM</b>	<b>308177</b>		40	50	50	790	55		29.60	386 x 525 x 283	
<b>FXDM50AM</b>	<b>308183</b>		50	50	63	910	55		32.80	386 x 525 x 283	
<b>FXDM32AME</b>	<b>308008</b>		IP20	32	50	35	700		55	33.14	343 x 600 x 280
<b>FXDM40AME</b>	<b>308176</b>			40	50	50	790		55	33.10	343 x 600 x 280
<b>FXDM50AME</b>	<b>308182</b>			50	50	63	910		55	36.65	343 x 600 x 280

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.

### Fcontrol, universal controller with display, UL

3~ 208...480V 50/60Hz

Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	°C	A	W	°C		kg	mm
<b>FXDM32AM</b>	<b>308009-UL</b>	400	32	50	35	700	55	IP54	28.50	386 x 525 x 283
<b>FXDM32AME</b>	<b>308008-UL</b>		32	50	35	700	55	IP20	33.10	343 x 600 x 280

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.





Information

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ZAvblue-  
ECblue

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# Frequency inverters

## 3~ Fcontrol, universal device with display (2nd edition)



The Fcontrol frequency inverters offer special benefits. Fcontrol have an integrated all-pole active sine filter which ensures a sinusoidal output voltage which is comparable with the normal supply network. This means that the frequency inverters enable reliable, requirement-based, energy-saving control of asynchronous motors (external rotor motors, IEC standard motors) without needing to consider measures that must be observed with standard frequency inverters.

Advantages provided by Fcontrol frequency inverters are:

- Operation without shielded motor cables
- The cable length is not limited by the Fcontrol
- Operation without electromagnetic motor noises (ideal for noise-sensitive areas)
- No danger for motors (these need not be frequency inverter compatible) because they are supplied by sinusoidal voltage according to the line voltage.

Especially in systems in which motors or fans are operated parallel to a frequency inverter, the advantages are particularly valuable. Parallel connected motors often mean long cable lengths, this is no problem with the Fcontrol and unshielded cables can also be used.

The Fcontrol universal devices are especially suitable for the following applications: refrigeration, air-conditioning, agriculture, general airing and venting tasks, clean-room application. For typical applications in the named areas, fast commissioning by selecting pre-programmed operating modes is possible.

Frequency inverters of the 2nd edition enable modern operation by capacitive keys.

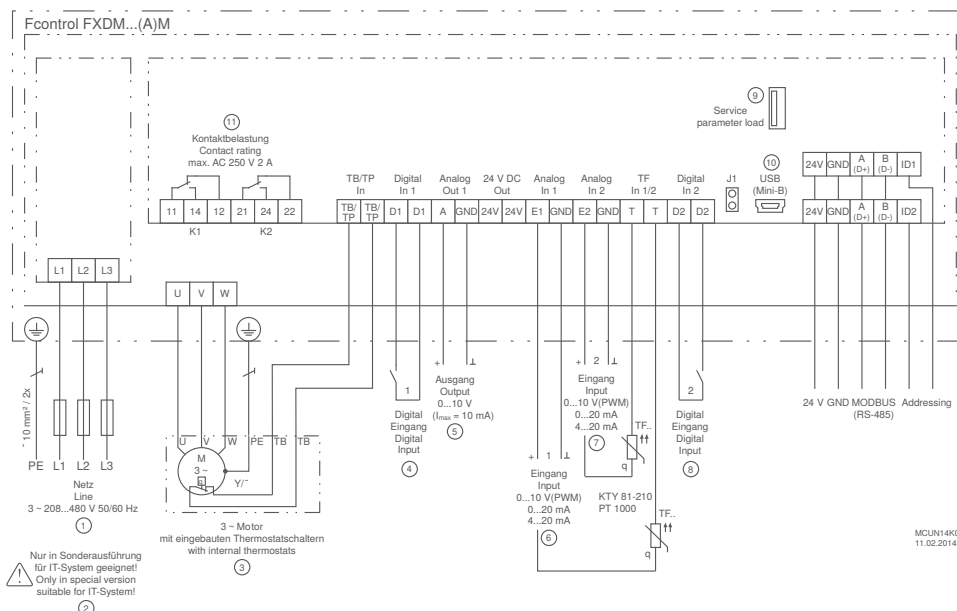
This means that no mechanical key is pressed but the operation is capacitive by touching the key surface. In addition there is a directly selectable On/Off key and two keys the functions of which depend on where you currently are in the menu (softkeys). A commissioning wizard and help texts are available for commissioning.

There is a 2nd control circuit in the device and the possibility of retrofitting a clock module as a timer.

### Input for sensors or speed settings through

- Setting of the desired speed through device or by external default, e.g. 0...10 V
- Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0...30 bar, 0...50 bar
- Connection of thermistors, e.g. sensors type TF.. e.g. active sensor type MTG..
- Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0...6000 Pa, acquisition of volume flows up to 65000 m³/h
- Connecting air velocity sensors, e.g. type MAL.. sensors, measuring range 0...1 m/s, 0...10 m/s
- Connecting additional sensors, e.g. combination sensors, CO<sub>2</sub>, sensor signal 0...10 V / 0...20 mA / 4...20 mA

### Connection diagram



- ① Mains 3~ 208...480 V 50/60 Hz
- ② Only suitable for IT system in special version!
- ③ 3~ motor with built-in thermostats
- ④ Digital input D1 for potential-free contact
- ⑤ Output 0...10 V ( $I_{max} = 10 \text{ mA}$ )
- ⑥ Input 0...10 V
- ⑦ Input 0...10 V
- ⑧ Digital input D2 for potential-free contact
- ⑨ Parameter interface, only for manufacturer's service purposes!
- ⑩ USB interface for communication
- ⑪ Contact load max. 2A / 250 V AC

## Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

## Equipment/properties

### Integrated all-pole effective sine filter

Phase to phase and phase to PE conductor. Thus sinusoidal output voltage. Frequency inverter typical measures such as shielded motor cables are not necessary.

### LC multifunction display with clear text display:

Different menu languages are selectable

### Simple commissioning by operating modes:

Typical operating modes, e.g. for air-conditioning, refrigeration or ventilation technology can be selected.

### Activation of a 2nd control circuit in the selected operating mode:

By assignment of the sensor function input 2 (E2) for the 2nd control circuit.

### Simple programmability:

Typical settings can be made easily: e.g. setting of a minimum speed, limitation of the maximum speed, inversions and limits. Setting, e.g. for 2-step mode

### 2 analog inputs for sensors or setting signals:

Analog input E1 and E2: Setting by operating modes or manually programmable, e.g. 0-10 V, 0-20 mA, 4-20 mA  
Analog input E2: programmable, e.g. comparison with sensor 1, difference to sensor 1, average value formation, setpoint setting, setpoint adaptation (e.g. outside temperature-dependent), activation of 2nd control circuit.

### 2 digital inputs D1 and D2:

Programmable, e.g. enable, switch over setpoint 1 or 2, switch over control or manual mode, switch over E1 or E2, control function reversal, output limitation, display of external fault, reset, direction of rotation reversal

### 1 analog output A1:

Setting by operating modes or manually programmable, e.g. output signal proportional to modulation, output signal proportional to input signal, invertible, 10 V constant voltage, group control, activation as output for 2nd control circuit

### 2 digital outputs (relays) K1 and K2:

Setting by operating modes or manually programmable, e.g. operating indication, fault indication, limits, external fault at digital input, activation of external devices, e.g. heating, shutters, group control fans, etc.

### Integrated motor protection function:

Connection possibility of PTC thermistors or alternatively thermostats (TB or TP).

### Interface RS485 for MODBUS RTU:

Integration into bus system, addressing of the device manually or automatically possible.

### Interface USB:

For software update, communication with PC, etc.

### Set protection / memory for settings:

Activation of set protection against unauthorised access, restoration of made settings

### Event memory:

Querying of occurred events, operating times etc.

## Optional equipment

### Add-on modules for frequency inverters

- IO add-on module type Z-module, Article No. **380052**  
If the integrated inputs and outputs are not sufficient, other inputs and outputs can be created with the Z-Modul-B. These are also programmable:
  - 1 analog input
  - 1 analog output
  - 3 digital inputs
  - 2 digital outputs (relays)
- Clock module Z-Modul-RTC, Article No. **380056**, for retrofitting real-time clock and timer function. The switching clock can be assigned the same functions as the digital inputs (D1 and D2).

## Fcontrol, universal controller with display, 2nd edition

3~ 208...480V 50/60Hz

Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	°C	A	W	°C		kg	mm
<b>FXDM25AM</b>	<b>308289</b>	400	25	55	35	550	55	IP54	21.50	279 x 405 x 260
<b>FXDM32AM</b>	<b>308283</b>		32	50	35	700	55		23.10	279 x 405 x 260

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.

# Frequency inverters

## 3~ Fcontrol Basic, modularly extendable speed controllers



The 3~ Fcontrol frequency inverters with integrated all-pole effective sine filter are available in the "Basic" version as speed controllers. The special feature of the Fcontrol Basic without display is the functional extendibility by pluggable add-on modules. This enables integration into different BUS networks. Functional extension as a controller is also possible with add-on modules.

In operation as a speed controller, the speed setting can be made by a master control by 0 – 10 V, e.g. by a ZIEHL-ABEGG control module of the UNIcon product series. The speed can also be set manually by connecting a potentiometer. Two-stage operation with adjustable speeds is also possible optionally.

The frequency inverters control asynchronous motors (external rotor motors, IEC standard motors) gently, requirement-based and energy saving.

Advantages achieved by Fcontrol frequency inverters are:

- High energy saving
- Operation without shielded motor cables
- The cable length is not limited by the Fcontrol
- Operation without electromagnetic motor noises (ideal for noise sensitive areas)
- No danger to motors (these must not be suitable for frequency inverters) because they are supplied with sinusoidal voltage according to the mains voltage.

The 3~ Fcontrol Basic inverters are universally suitable for many different applications: E.g. refrigerant technology, air conditioning, agriculture, general ventilation tasks, clean room technology.

### Input for sensors or speed settings through

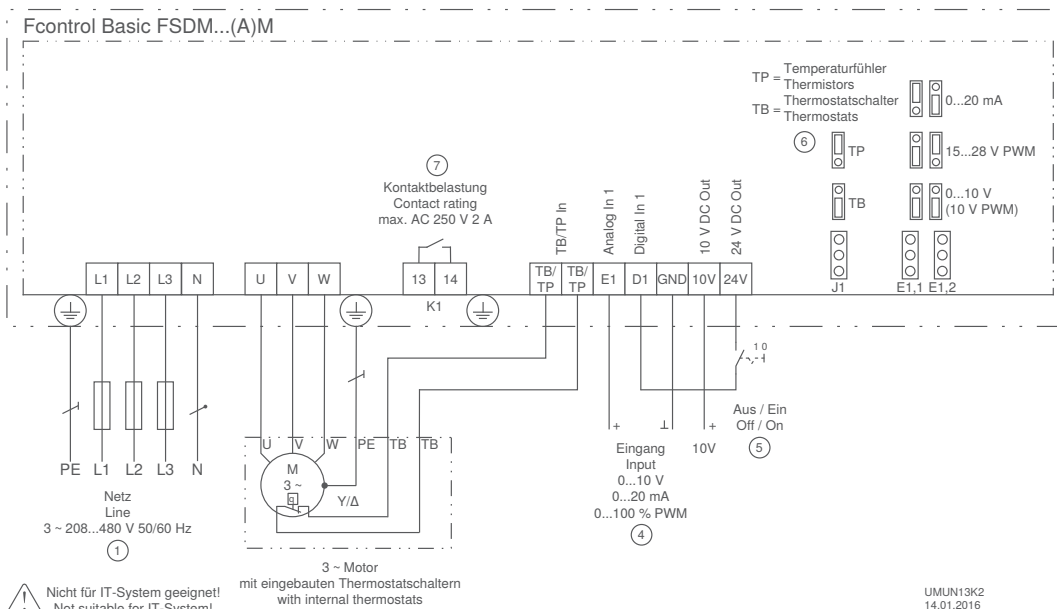


Setting of the desired speed through device or by external default, e.g. 0...10 V



Add-on modules for functional extension

### Connection diagram



### Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

### Equipment/properties

#### Integrated all-pole effective sinefilter

Phase to phase and phase to protective earth. Thus sinusoidal output voltage. Frequency inverter typical measures such as shielded motor cables are not necessary.

#### 1 analog input for speed setting:

Analog input E1: Setting by jumper to desired setting signal: 0-10 V, 0-20 mA or PWM

#### 1 digital input:

D1 - 24 V: Enable function On/Off

#### 1 potential-free fault indication contact:

The contact drops out in case of a fault. Max. load 250 V, 2 A.

#### Integrated motor protection function:

Connection possibility for thermostats "TB" or thermistors "TP".

### Optional equipment

Add-on modules for functional extension:

Article No.	Type
349045	AM-MODBUS
349050	AM-MODBUS-W
349077	AM-MODBUS-WB
349046	AM-PREMIUM
349051	AM-PREMIUM-W
349065	AM-AMPsignal
349071	AM-ETHERCAT
349064	AM-CAN-OPEN
349049	AM-LON
349063	AM-PROFIBUS
349072	AM-PROFINET
349084	AM-BACNET

Fcontrol Basic without display										
3~ 208...480V 50/60Hz										
Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	°C	A	W	°C		kg	mm
<b>FSDM2.5M</b>	<b>308251</b>	400	2.5	40	6	50	55	IP54	2.70	240 x 284 x 115
<b>FSDM5M</b>	<b>308238</b>		5	55	10	90	55		5.40	250 x 302 x 195.5
<b>FSDM8M</b>	<b>308239</b>		8	40	10	140	55		6.30	250 x 302 x 195.5
<b>FSDM10M</b>	<b>308262</b>		10	55	16	200	55		6.80	250 x 302 x 195.5
<b>FSDM16M</b>	<b>308302</b>		16	40	20	360	55		7.00	250 x 302 x 195.5
<b>FSDM22M</b>	<b>308314</b>		22	40	25	520	55		14.30	280 x 355 x 239
<b>FSDM32M</b>	<b>308316</b>		32	50	35	700	55		29.40	386 x 525 x 283
<b>FSDM40M</b>	<b>308318</b>		40	50	50	790	55		29.40	386 x 525 x 283
<b>FSDM50M</b>	<b>308320</b>		50	50	63	910	55		32.60	386 x 525 x 283

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.

# Frequency inverters

## 3~ Fcontrol Basic, Speed controller with display



The 3~ Fcontrol frequency inverters with all-pole effective sine filter are available in the "Basic" version with integrated display as speed controllers.

The speed setting can be made by a master control by 0 – 10 V, e.g. by a ZIEHL-ABEGG control module of the UNIcon product series. The speed can also be set manually by connecting a potentiometer. Two-stage operation with adjustable speeds is also possible optionally.

The frequency inverters control asynchronous motors (external rotor motors, IEC standard motors) gently, requirement-based and energy saving.

Advantages achieved by Fcontrol frequency inverters are:

- High energy saving
- Operation without shielded motor cables
- The cable length is not limited by the Fcontrol
- Operation without electromagnetic motor noises (ideal for noise sensitive areas)
- No danger to motors (these must not be suitable for frequency inverters) because they are supplied with sinusoidal voltage according to the mains voltage.

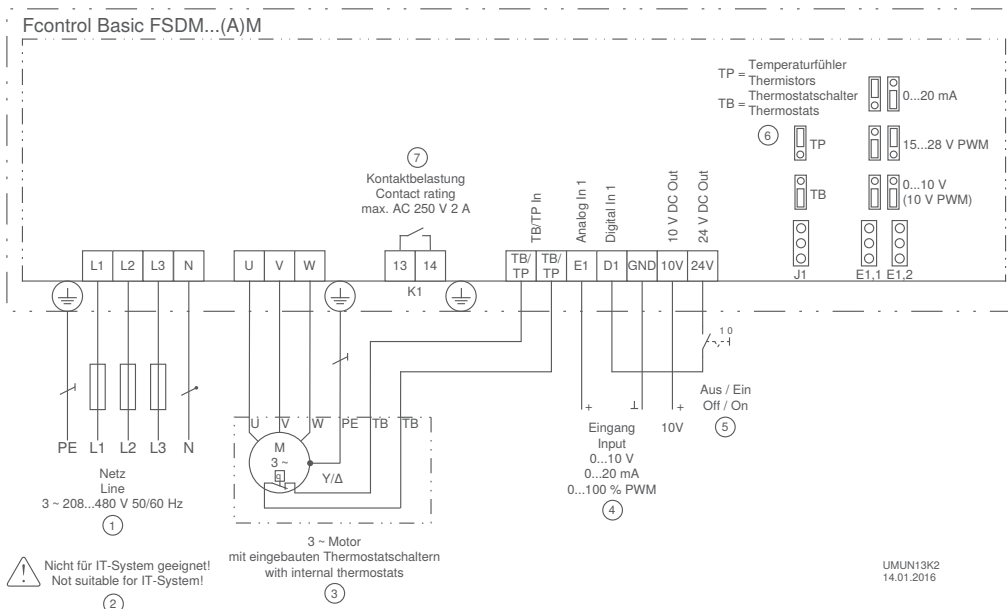
### Input for sensors or speed settings through



Setting of the desired speed through device or by external default, e.g. 0...10 V

The 3~ Fcontrol Basic inverters are universally suitable for many different applications: E.g. refrigerant technology, air conditioning, agriculture, general ventilation tasks, clean room technology.

### Connection diagram



## Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

## Equipment/properties

**Integrated all-pole sinefilter**

Phase to phase and phase to protective earth. Thus sinusoidal output voltage. Frequency inverter typical measures such as shielded motor cables are not necessary.

**LC multi-function display with plain text display:**

Setting of desired values: speeds, motor parameters. Display of modulation, operating states etc.

**1 analog input for speed setting:**

Analog input E1: Setting by jumper to desired setting signal: 0-10 V, 0-20 mA or PWM

**1 digital input:**

D1 - 24 V: Enable function On/Off

**1 potential-free fault indication contact:**

The contact drops out in case of a fault. Max. load 250 V, 2 A.

**Integrated motor protection function:**

Connection possibility for thermostats "TB" or thermistors "TP".

Fcontrol Basic, Speed controller with display										
3~ 208...480V 50/60Hz										
Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	°C	A	W	°C		kg	mm
<b>FSDM2.5AM</b>	<b>308252</b>	400	2.5	40	6	50	55	IP54	2.90	240 x 284 x 115
<b>FSDM5AM</b>	<b>308240</b>		5	55	10	90	55		5.60	250 x 302 x 195.5
<b>FSDM8AM</b>	<b>308241</b>		8	40	10	140	55		6.50	250 x 302 x 195.5
<b>FSDM10AM</b>	<b>308260</b>		10	55	16	200	55		7.00	250 x 302 x 195.5
<b>FSDM16AM</b>	<b>308303</b>		16	40	20	360	55		7.20	250 x 302 x 195.5
<b>FSDM22AM</b>	<b>308315</b>		22	40	25	520	55		14.50	280 x 355 x 239
<b>FSDM32AM</b>	<b>308317</b>		32	50	35	700	55		29.60	386 x 525 x 283
<b>FSDM40AM</b>	<b>308319</b>		40	50	50	790	55		29.60	386 x 525 x 283
<b>FSDM50AM</b>	<b>308321</b>		50	50	63	910	55		32.80	386 x 525 x 283

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.

# Electronic voltage controllers

## 1~ Acontrol, universal controller with display and bypass main switch



Most ZIEHL-ABEGG external rotor motors can be voltage controlled. For simple and cost-effective speed control of these motors and fans, electronic voltage controllers are available.

For the various applications in refrigeration, air-conditioning and general ventilation technology we supply universal controllers from the Acontrol product family.


These universal controllers provide a facility for controlling temperature, pressure (for example, refrigerant pressure in cooling devices), differential pressure in ventilation systems and other physical factors.


These units have a multifunctional display used for programming and to display the measured values. A bypass main switch is integrated which allows bypassing the internal device electronics. In the bypass position the applied mains voltage is switched directly to the output.


The Acontrol universal devices are ideal for the following applications: refrigeration, air conditioning, agriculture, general air supply and ventilation, clean room technology.


Quick commissioning is facilitated for typical applications in the stated areas by selecting pre-programmed operating modes.


### Input for sensors or speed settings through


- 

Setting of the desired speed through device or by external default, e.g. 0...10 V
- 

Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0...30 bar, 0...50 bar
- 

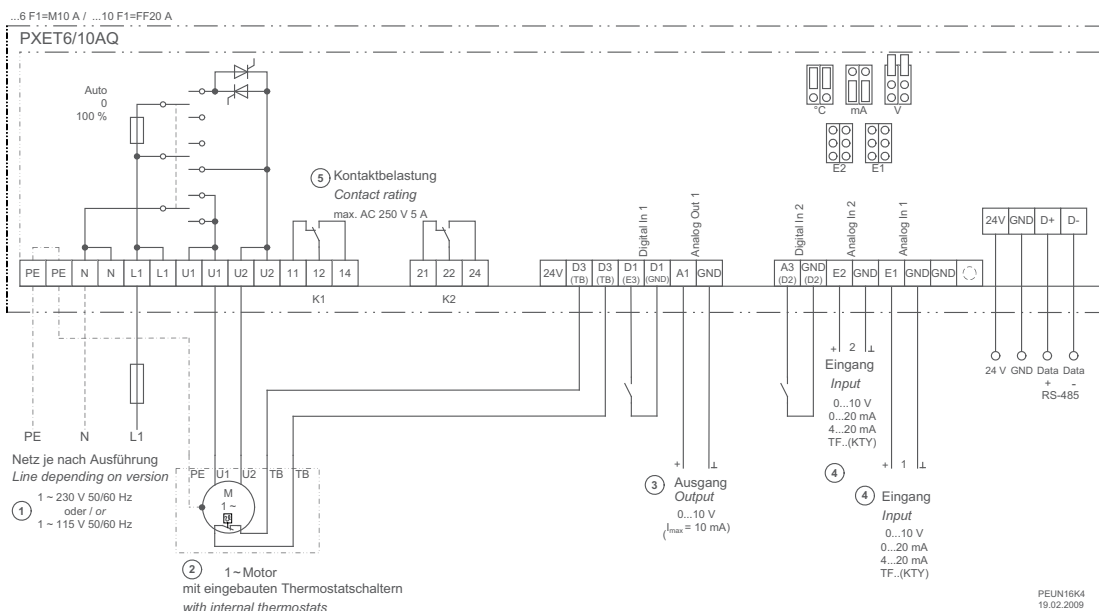
Connection of thermistors, e.g. sensors type TF.. e.g. active sensor type MTG..
- 

Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0...6000 Pa, acquisition of volume flows up to 65000 m³/h
- 

Connecting air velocity sensors, e.g. type MAL.. sensors, measuring range 0...1 m/s, 0...10 m/s
- 

Connecting additional sensors, e.g. combination sensors, CO<sub>2</sub>, sensor signal 0...10 V / 0...20 mA / 4...20 mA

### Connection diagram





## Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

## Equipment/properties

### LC multifunction display with clear text display:

Different menu languages are selectable

### Simple commissioning by operating modes:

Typical operating modes e.g. for air-conditioning, refrigeration or ventilation technology can be selected.

### Easy programmability:

Typical settings can be made easily: e.g. setting of a minimum speed, limitation of the maximum speed, inversions and limits. Setting, e.g. for 2-step mode

### 2 analog inputs for sensors or setting signals:

Analog input E1 and E2: Setting by operating modes or manually programmable, e.g. 0-10 V, 0-20 mA, 4-20 mA

Analog input E2: programmable, e.g. comparison with sensor 1, difference to sensor 1, average value formation, setpoint setting, setpoint adaptation (e.g. outside temperature-dependent)

### 2 digital inputs D1 and D2:

Programmable, e.g. enable, switchover setpoint 1 or 2, switchover control or manual mode, switch over E1 or E2, control function reversal, output limitation, display of external fault, reset

### 1 analog output A1:

Setting by operating modes or manually programmable, e.g. output signal proportional to modulation, output signal proportional to input signal, invertible, 10 V constant voltage, group control

### 2 digital outputs (relays) K1 and K2:

Setting by operating modes or manually programmable, e.g. operating indication, fault indication, limits, external fault at digital input, activation of external devices, e.g. heating, shutters, group control, fans, etc.

### Integrated motor protection function:

Connection possibility for thermostats "TB".

### Interface RS485 MODBUS RTU:

Integration into bus system

### Set protection:

Activation of set protection against unauthorised access, restoration of made settings

### Event memory:

Query of occurred events, operating times etc.

## Acontrol, universal controller with display and bypass main switch

1~ 230V 50/60Hz

Type	Article no.	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		A	°C	A	W	°C		kg	mm
PXET6AQ	303610	6	45	10	20	55	IP54	1.40	223 x 200 x 131
PXET10AQ	303611	10	40	16	40	55	IP54	2.40	240 x 284 x 132

# Electronic voltage controllers

## 3~ Ucontrol, universal controller with display









Most ZIEHL-ABEGG external rotor motors are voltage controllable. For simple and cost-effective speed control of these motors or fans, electronic voltage controllers can be supplied.

For the various applications in refrigeration, air-conditioning and general ventilation technology we supply universal devices from the Ucontrol product family.

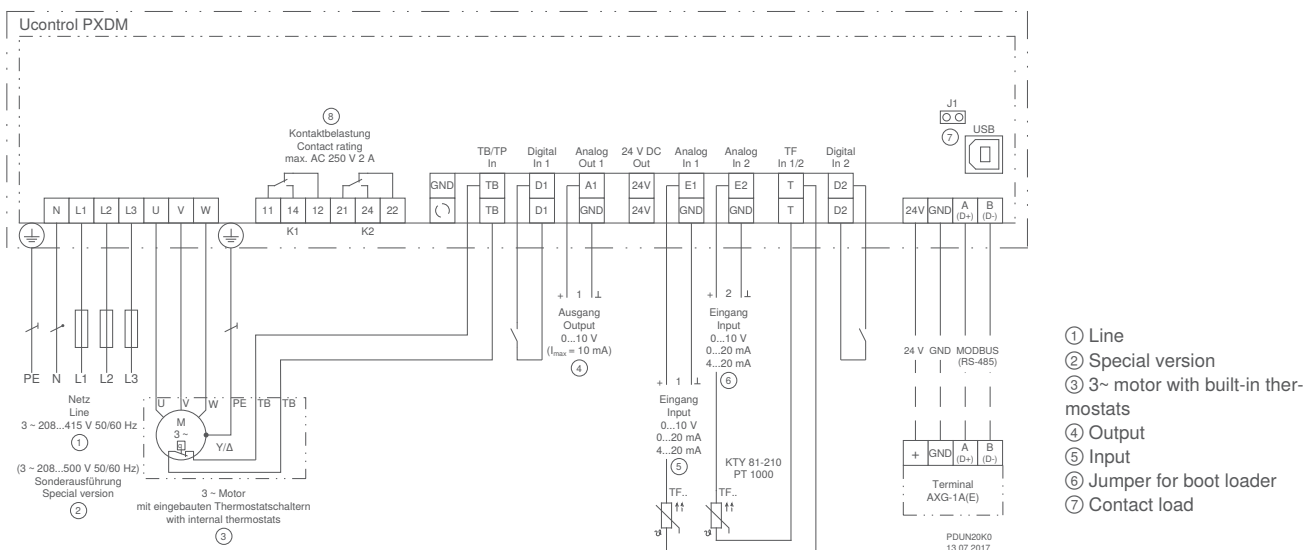
These universal control devices also provide an option to control based on temperature, pressure (for example refrigerant pressure in cooling equipment), differential pressure in ventilation systems, or other physical factors.

The Ucontrol universal devices are ideal for following applications: refrigeration, air conditioning, agriculture, general air supply and ventilation jobs, clean room technology. By selecting pre-programmed operating modes, fast commissioning for typical applications in the stated sectors is possible.

### Input for sensors or speed settings through

- 
Setting of the desired speed through device or by external default, e.g. 0...10 V
- 
Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0...30 bar, 0...50 bar
- 
Connection of thermistors, e. g. sensors type TF.. e. g. active sensor type MTG..
- 
Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0...6000 Pa, acquisition of volume flows up to 65000 m³/h
- 
Connecting air velocity sensors, e.g. type MAL.. sensors, measuring range 0...1 m/s, 0...10 m/s
- 
Connecting additional sensors, e.g. combination sensors, CO₂, sensor signal 0...10 V / 0...20 mA / 4...20 mA

### Connection diagram



## Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

## Equipment/properties

### LC multi-function display with plain text display:

Different menu languages can be selected

### Simple start-up by operating modes:

Typical operating modes, e.g. for air conditioning, refrigerant or ventilation technology can be selected.

### Simple programmability:

Typical settings can be made easily: e.g. minimum speed setting, limitation of the maximum speed, inversions and limits. Setting, e.g. for 2-step mode

### 2 analog inputs for sensors or setting signals:

analog input E1 and E2: Setting by operating modes or manually programmable, e.g. 0-10 V, 0-20 mA, 4-20 mA

analog input E2: programmable, e.g. comparison with sensor 1, difference to sensor 1, average value formation, setpoint setting, setpoint adaptation (e.g. outdoor temperature-dependent)

### 2 digital inputs D1 und D2:

Programmable, e.g. enable, switchover setpoint 1 or 2, switchover control or manual mode, switchover E1 or E2, invert control function, output limitation, display of external fault, reset

### 1 analog output A1:

Setting by operating modes or manually programmable, e.g. output signal proportional to modulation, output signal proportional to input signal, invertible, 10 V constant voltage, group control

### 2 digital outputs (relays) K1 and K2:

Setting by operating modes or manually programmable, e.g. operating indication, fault indication, limits, external fault at digital input, activation of external devices, e.g. heating, shutters, group control, fans, etc.

### Integrated motor protection function:

Connection possibility for PTC thermistors or alternatively thermostats (TB or TP).

### Interface RS485 MODBUS RTU:

Integration into bus system

### Interface USB:

For e.g. software update, communication with PC

### Set protection:

Activation set protection against unauthorised access, restoration of made settings

### Event memory:

Querying of occurred events, operating times, etc.

## Optional equipment

IO add-on module type Z-Modul-B, Article No. **380052** if the integrated inputs and outputs are not sufficient other inputs and outputs can be created with the Z-Modul-B. These are also programmable:

- 1 analog input
- 1 analog output
- 3 digital inputs
- 2 digital outputs (relays)

LON® Add-on module type Z-Modul-L, Article No. **380086**

Information

ZAbuefin-  
ECblue

Cpro-  
ECblue

C-  
ECblue

ZAbuefin-  
ECblue

Vpro-  
ECblue

ZAcube

Housing fans

System  
components

Control  
technology

General notes

## Ucontrol, universal controller with display

3~ 208...415V 50/60Hz

Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	°C	A	W	°C		kg	mm
PXDM6A	304594	400	6	40	10	30	55	IP54	2.25	240 x 284 x 115
PXDM10A	304595		10	45	16	50	55		2.75	240 x 284 x 115
PXDM12A	304596		12	40	16	75	55		3.65	270 x 323 x 146
PXDM15A	304597		15	40	20	100	55		4.95	270 x 323 x 146
PXDM20A	304598		20	45	25	200	55		5.50	250 x 302 x 195.5
PXDM25A	304599		25	45	35	270	55		11.10	280 x 355 x 239
PXDM35A	304600		35	50	50	440	55		11.15	280 x 355 x 239
PXDM50A	304639		50	40	63	170	55		20.00	386 x 525 x 283
PXDM80A	304640		80	40	100	270	55		21.00	386 x 525 x 283
PXDM25AE	304624		25	50	35	260	55		IP20	7.65
PXDM35AE	304625		35	50	50	430	55	7.75		246 x 362 x 180
PXDM50AE	304649		50	50	63	160	55	13.80		336 x 471 x 220
PXDM80AE	304650		80	50	100	255	55	15.40		336 x 471 x 220

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.

## Ucontrol, universal controller for increased ambient temperature with display

3~ 208...415V 50/60Hz

Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	°C	A	W	°C		kg	mm
PXDM6AZ	304607	400	6	50	10	25	55	IP54	2.25	240 x 284 x 115
PXDM10AZ	304608		10	50	16	45	55		2.75	240 x 284 x 115
PXDM12AZ	304609		12	50	16	70	55		3.65	270 x 323 x 146
PXDM15AZ	304610		15	50	20	95	55		4.95	270 x 323 x 146
PXDM20AZ	304611		20	50	25	190	55		5.50	250 x 302 x 195.5
PXDM25AZ	304612		25	50	35	260	55		11.10	280 x 355 x 239
PXDM35AZ	304613		35	55	50	430	55		11.15	280 x 355 x 239
PXDM50AZ	304645		50	50	63	160	55		18.60	386 x 525 x 283
PXDM80AZ	304646		80	50	100	255	55		19.60	386 x 525 x 283

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.



# Electronic voltage controllers

## 3~ Ucontrol, universal controller with display and bypass main switch



Most ZIEHL-ABEGG external rotor motors are voltage controllable. For simple and cost-effective speed control of these motors or fans, electronic voltage controllers can be supplied.

For the various applications in refrigeration, air-conditioning and general ventilation technology we supply universal devices from the Ucontrol product family.

These universal control devices also provide an option to control based on temperature, pressure (for example refrigerant pressure in cooling equipment), differential pressure in ventilation systems, or other physical factors.

The Ucontrol universal devices are ideal for following applications: refrigeration, air conditioning, agriculture, general air supply and ventilation jobs, clean room technology. By selecting pre-programmed operating modes, fast commissioning for typical applications in the stated sectors is possible.

These versions have an additionally integrated bypass main switch. This offers the possibility of bypassing the internal device electronics. In the bypass position, the applied line voltage is switched directly to the output.

### Input for sensors or speed settings through



Setting of the desired speed through device or by external default, e.g. 0...10 V



Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0...30 bar, 0...50 bar



Connection of thermistors, e.g. sensors type TF.. e.g. active sensor type MTG..



Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0...6000 Pa, acquisition of volume flows up to 65000 m³/h



Connecting air velocity sensors, e.g. type MAL.. sensors, measuring range 0...1 m/s, 0...10 m/s



Connecting additional sensors, e.g. combination sensors, CO<sub>2</sub>, sensor signal 0...10 V / 0...20 mA / 4...20 mA

### Ucontrol, universal controller with display and bypass main switch

3~ 208...415V 50/60Hz

Type	Article no.	Rated voltage	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	°C	A	W	°C		kg	mm
PXDM6AQ	304614	400	6	40	10	30	55	IP54	2.55	240 x 284 x 132
PXDM10AQ	304615		10	45	16	50	55		3.05	240 x 284 x 132
PXDM12AQ	304616		12	40	16	75	55		4.00	270 x 323 x 162
PXDM15AQ	304617		15	40	20	100	55		5.30	270 x 323 x 162
PXDM25AQ	304618		25	45	35	270	55		11.40	280 x 355 x 256
PXDM35AQ	304619		35	50	50	440	55		11.45	280 x 355 x 256
PXDM50AQ	304641		50	40	63	170	55		20.70	386 x 525 x 299.5
PXDM80AQ	304642		80	40	100	270	55		22.80	386 x 525 x 299.5

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.

# Control modules


## UNIcon universal control module (with MODBUS Master function)





All ZIEHL-ABEGG sensors can be combined with the UNIcon CXE/AV(E) universal control module. The actual value measured at the sensor is compared with the setpoint. This results in the 0-10 V output signal. Two 0-10 V outputs are integrated. These serve to activate EC fans, frequency inverters or other devices. Optionally, connected field devices (frequency inverters/EC fans with plugged MODBUS add-on module) can be activated by the integrated MODBUS-RTU interface (MODBUS Master function). Groups of frequency inverters or ECblue fans can be conveniently addressed quickly and automatically. The device also contains two separate control circuits, a real time clock and timer functions. UNIcon universal control modules are especially suitable for the following applications: Refrigeration, air conditioning, general ventilation tasks, clean room technology. For typical applications in the areas mentioned, fast start-up is possible by selecting pre-programmed operating modes.


We supply special control modules for agriculture.


### Input for sensors or speed settings through


- 

Setting of the desired speed through device or by external default, e.g. 0...10 V
- 

Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0...30 bar, 0...50 bar
- 

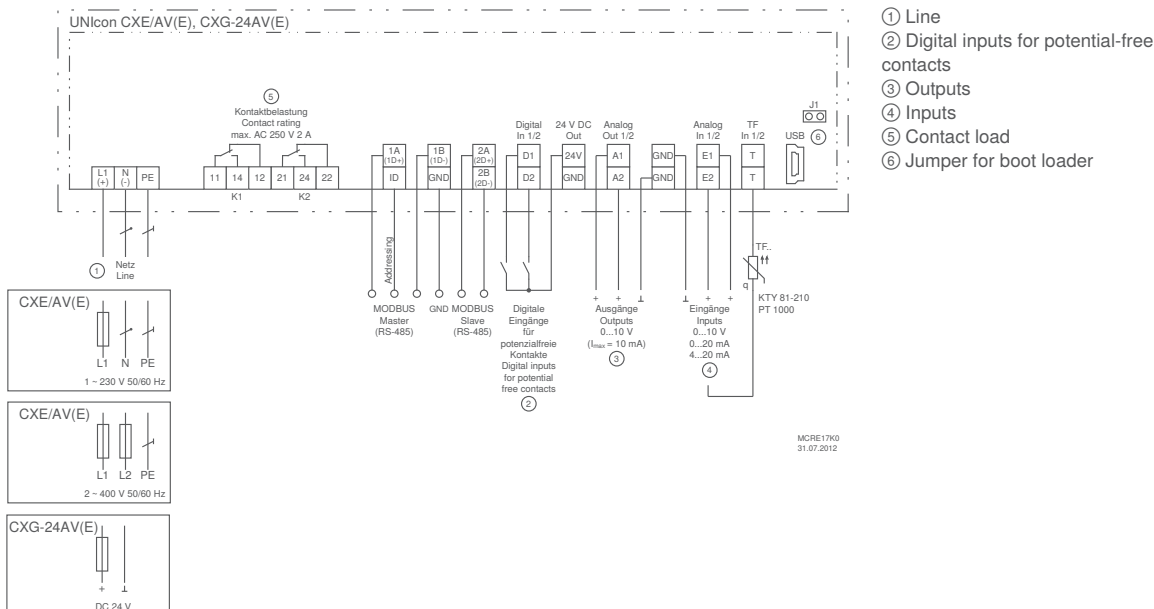
Connection of thermistors, e. g. sensors type TF.. e. g. active sensor type MTG..
- 

Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0...6000 Pa, acquisition of volume flows up to 65000 m³/h
- 

Connecting air velocity sensors, e.g. type MAL.. sensors, measuring range 0...1 m/s, 0...10 m/s
- 

Connecting additional sensors, e.g. combination sensors, CO<sub>2</sub>, sensor signal 0...10 V / 0...20 mA / 4...20 mA

### Connection diagram



## Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

## Equipment/properties

### Multifunction display with clear text display:

Different menu languages are selectable

### Simple commissioning by operating modes:

Typical operating modes, e.g. for air-conditioning, refrigeration or ventilation technology can be selected.

### Simple programmability:

e. g. setting of a minimum speed, limitation of the maximum speed, inversions and limits.

Setting, e.g. for 2-step mode

### 2 analog inputs for sensors or setting signals:

Analog input E1 and E2: Setting by operating modes or manually programmable, e.g. 0-10 V, 0-20 mA, 4-20 mA

Analog input E2: programmable, e.g. comparison with sensor 1, difference to sensor 1, average value formation, setpoint setting, setpoint adaptation (e.g. outside temperature-dependent)

### 2 digital inputs D1, D2:

Programmable, e.g. enable, switch over setpoint 1 or 2, switchover control or manual mode, switchover E1 or E2, control function reversal, output limitation, display of external fault

### 2 analog outputs for controlling external speed controllers, EC fans, other devices:

Analog output A1 and A2: Setting by operating modes or manually programmable, e.g. output signal proportional to modulation, output signal proportional to input signal, invertible, 10 V constant voltage, group control

### 2 digital outputs (relays) K1 and K2:

Setting by operating modes or manually programmable, e.g. operating indication, fault indication, limits, external fault at digital input, activation of external devices, e.g. heating, group control fans, etc.

### 2 interfaces RS485:

a) For connecting ZIEHL-ABEGG field devices with MODBUS RTU interface (e.g. field devices with integrated add-on module "AM-MODBUS"). With the possibility of automatic addressing of these field devices.

b) MODBUS Slave function of the UNIcon, for connection to a master control station (GLT).

### Set protection/memory for settings:

Activation of set protection against unauthorised access, restoration of made settings

### Event memory:

Query of occurred events, operating times etc.

### Integrated real-time clock with timer:

The timer function behaves like a digital input, the desired function can be selected accordingly. Up to four switching times per day can be set for the desired function.

## Optional equipment

Z-Modul-B02, article no. 380099, as additional I/O expansion.

- Two additional inputs E3 + E4 (0-10 V), option to program as digital inputs (see inputs D1,D2)
- One additional analog output (0-10 V), adjustable (see output A1, A2)

UNIcon universal control module								
Line	Type	Article no.	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
			A	W	°C		kg	mm
1~ 230V 50/60Hz	<b>CXE/AV</b>	<b>320053</b>	10	10	55	IP54	0.90	223 x 200 x 115
1~ 230V 50/60Hz	<b>CXE/AVE</b>	<b>320056</b>	10	10	55	IP00	0.65	166 x 106 x 55 mm / mounting depth: max. 105
2~ 400V 50/60Hz	<b>CXE/AV</b>	<b>320055</b>	10	10	55	IP54	0.90	223 x 200 x 115

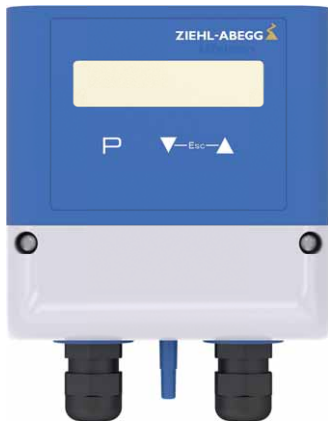
Panel-mounting AVE (when installed IP54)

UNIcon universal control module								
Line voltage	Type	Article no.	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
			A	W	°C		kg	mm
	<b>CXG-24AV</b>	<b>320057</b>	10	10	55	IP54	0.75	223 x 200 x 115
24VDC	<b>CXG-24AVE</b>	<b>320058</b>	10	10	55	IP00	0.50	166 x 106 x 55 mm / mounting depth: max. 105

Panel-mounting AVE (when installed IP54)

# Control modules

## UNIcon sensor control module for differential pressure/air flow (2nd edition)



The sensor control module for differential pressure and volume flow measures and indicates the pressure or, optionally, the volume flow in a ventilation system. The calculation of the volume flow is performed by entering the K-factor of the fan inlet ring.

Depending on the desired setpoint and control range, the sensor control module generates 0-10 V to control the EC fan or e.g., a frequency inverter.

The sensor control module is supplied by the fan or frequency inverter which it controls, e.g., with 10-24 V DC. No additional supply voltage is necessary.

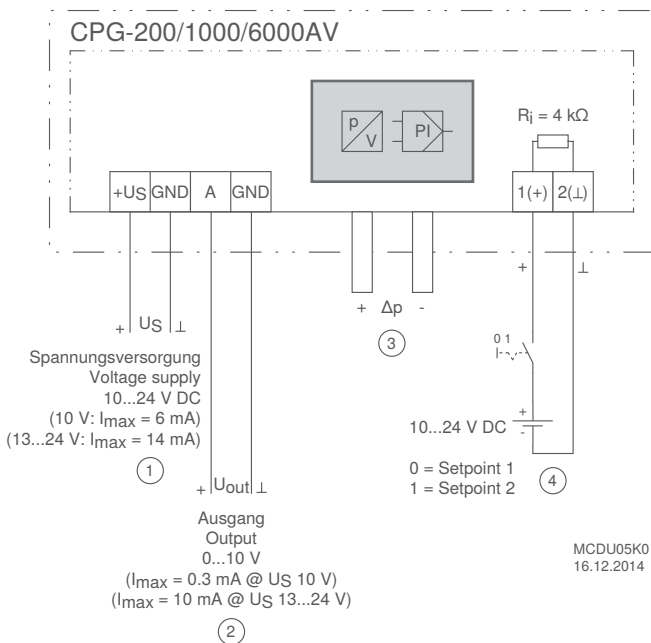
### Input for sensors or speed settings through

- $\Delta Pa$

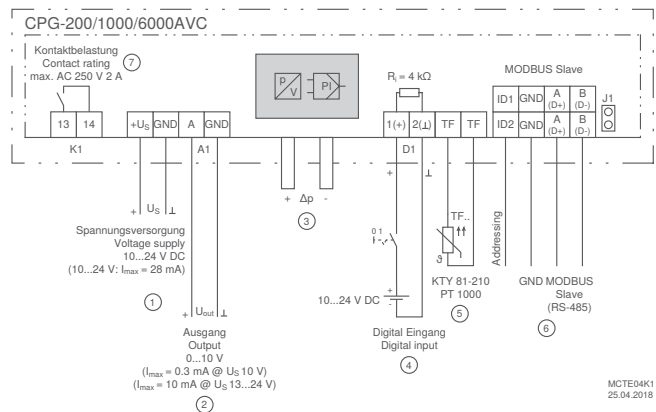
 Pressure sensor and control intelligence are combined in one device
- $m^3$

 Air flow sensor (by input of K-factor) and control intelligence are combined in one device

### Connection diagram



- ① Line
- ② Output
- ③ Connection sockets
- ④ Voltage input for switch



- ① Voltage supply 10...24 V DC
- ② Output 0...10 V
- ③ Pressure connections
- ④ Digital input (voltage ON/OFF)
- ⑤ Outdoor temperature sensor KTY81-210 or PT 1000
- ⑥ MODBUS Slave interface RS-485 (J1 plugged = Bus terminating resistor 150 Ω active)
- ⑦ Contact rating max. AC 250 V 2 A





## Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

## Equipment/properties

### Integrated display:

For pressure or volumetric air flow display and for programming  
It is possible to switch over the display from SI units to Imperial units.

### Simple commissioning by operating modes:

Operation as pressure or volumetric air flow sensor  
Operation as pressure or volumetric air flow controller

### Simple programmability by 3 buttons:

Selection of measuring range, input of setpoints (1/2),  
Control range, K-factor for volumetric air flow determination,  
minimum or maximum output signal.

### Different measuring ranges can be selected depending on the version:

CPG-200AV(C): 0-50 / 100 / 150 / 200 Pa  
CPG-1000AV(C): 0-200 / 300 / 500 / 1000 Pa  
CPG-6000AV(C): 0-2000 / 3000 / 4000 / 6000 Pa  
Maximum air flow measuring range: 65,000 m<sup>3</sup>/h

### Voltage input D1 (digital input):

Version CPG-...AV: switch over setpoint 1 or 2  
Extended versions CPG-...AVC:  
Enable, display of external fault, switch over setpoint 1 or 2

### 1 analog output:

for activation of EC fans, frequency inverters, other devices

### Additional CPG-...AVC

Digital output K1 in CPG-...AVC:  
Operating indication, fault indication, external fault at digital input,  
indication of limits.

Real-time clock with timer in CPG-...AVC:  
For example automatic setpoint switch over

Possibility to shift the setpoint depending from outdoor temperature  
with CPG-...AVC:

In operation as pressure- or volumetric air flow controller the set-  
point can be shifted depending from outdoor temperature (to bring  
in less air during cold outdoor temperature)

CPG-...AVC with interface RS485 für MODBUS RTU:  
Integration into network, manually or automatic addressing possible.

## Application/Function

The sensor control module is connected to the ventilation system  
via 2 pressure ports (pressure socket + and -).  
The differential pressure registered on the ventilation system affects  
the sensor on a silicone membrane in the device. The deformation  
of the membrane is registered through a measuring element and  
transmitted to the integrated electronics. Function: Pressure rise on  
+, compared to pressure on - connection.  
Optionally, the device can be operated as a pressure sensor, i.e.,  
pressure indicator and proportional output signal 0-10 V corre-  
sponding to the set measurement range.  
Optional operation as a volume flow sensor, i.e. volume flow (by  
entering the K-factor of the centrifugal fans) and 0-10 V proportional  
output signal corresponding to the set measurement range.  
Optional operation as a control module for pressure or volume flow.  
The entered setpoint is compared to the actual value; the 0-10  
V output signal results from that. That is used to trigger EC fans,  
frequency inverters or other devices.

## UNICon sensor control module for pressure

### DC10...24

Type	Article no.	Minimum ambient temperature °C	Maximum ambient temperature °C	Protection class	Weight kg	Dimensions (W x H x D) mm
CPG-200AV	320063	-10	60	IP54	0.23	106.3 x 137 x 56
CPG-1000AV	320064	-10	60	IP54	0.23	106.3 x 137 x 56
CPG-6000AV	320065	-10	60	IP54	0.23	106.3 x 137 x 56
CPG-200AVC	320075	-10	60	IP54	0.25	106.3 x 137 x 56
CPG-1000AVC	320076	-10	60	IP54	0.25	106.3 x 137 x 56
CPG-6000AVC	320077	-10	60	IP54	0.25	106.3 x 137 x 56

Dimensions with cable gland

# Control modules

## UNIcon temperature control module (2nd edition)



The CTG temperature control module can be combined with various temperature sensors.

The actual value measured on the sensor is compared with the setpoint. That produces the 0-10 V output signal. This is used to trigger EC fans, frequency inverters or other devices.

The control module is supplied with 10-24 V DC from the fan or frequency inverter it is triggering. No additional power supply necessary.

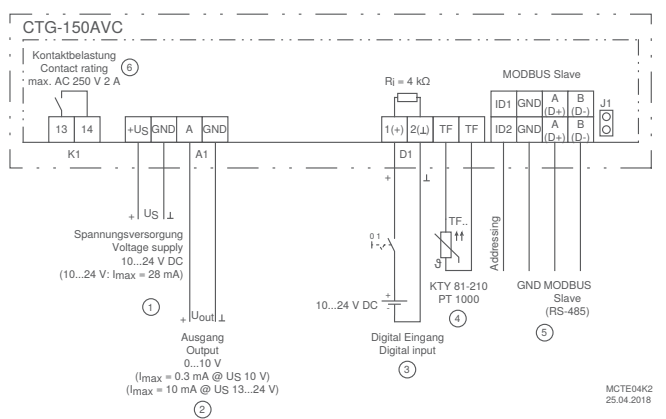
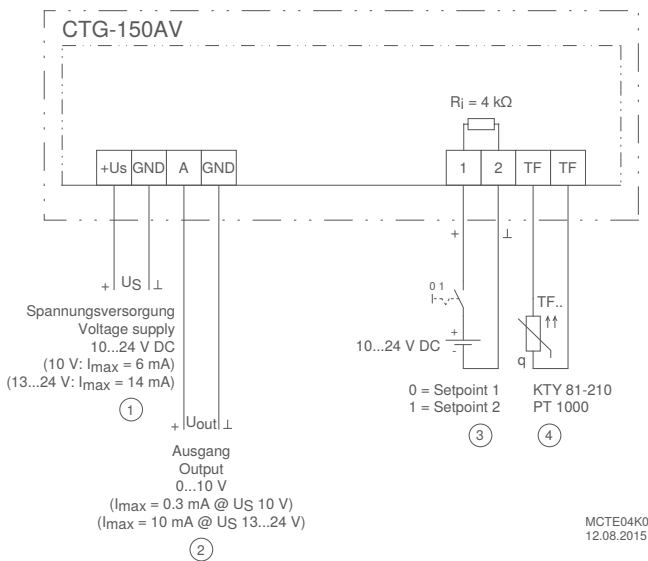
Optionally, the module can also be used as a temperature display. The 0-10 V output signal is then proportional to the set measurement range.

### Input for sensors or speed settings through



Connection of temperature sensors,  
e.g. Type TF.. sensors, device measurement range -50...+150°C

### Connection diagram



- ① Input 10...24V DC
- ② Output 0...10 V
- ③ Temperature sensor KTY 81-210 or PT 1000
- ④ Voltage input for switch

- ① Input 10...24 V DC
- ② Output 0...10 V
- ③ Digital input (voltage ON/OFF)
- ④ Temperature sensor KTY 81-210 or PT 1000
- ⑤ MODBUS Slave interface RS-485 (J1 plugged = Bus terminating resistor 150 Ω active)
- ⑥ Contact rating max. AC 250 V 2 A



## Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-1 (domestic)

## Equipment/Characteristics

### Integrated display:

For temperature display and for programming

### Simple commissioning of the operating modes:

Operation as temperature sensor or temperature controller

### Easy to program using 3 buttons:

Select measurement range, enter setpoint (1/2), control range,  
Minimum or maximum output signal

### Adjustable measurement range when using as temperature sensor:

-50 °C...+150 °C

### Voltage input D1 (digital input)

Versions CTG-150AV: Switchover setpoint 1 or 2

Extended versions: CTG-150AVC:

Enable, display of external fault, switch over setpoint 1 or 2

### 1 analogue output:

To control EC fans, frequency inverters, other devices

### Additional CTG-150AVC:

Digital output K1 in CPG-150AVC:

Operating indication, fault indication, external fault at digital input,  
indication of limits two-position controller "heating/cooling"

Real-time clock with timer in CTG-150AVC:

For example automatic setpoint switch over

CTG-150AVC with interface RS485 for MODBUS RTU:

Integration into network, manually or automatic addressing possible

UNIcon temperature control module						
Type	Article no.	Minimum ambient temperature °C	Maximum ambient temperature °C	Protection class	Weight kg	Dimensions (W x H x D) mm
<b>CTG-150AV</b>	<b>320073</b>	-10	60	IP54	0.21	106.3 x 137 x 56
<b>CTG-150AVC</b>	<b>320074</b>	-10	60	IP54	0.22	106.3 x 137 x 56

Dimensions with cable gland

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# Add-on modules

## AM-MODBUS (-W) for Basic Frequency inverter and ECblue



Pluggable add-on modules for function extension of the "Iconrol Basic" and "Fcontrol Basic" frequency inverters without integrated display as well as ECblue motors and fans.

With the AM-MODBUS/-W add-on modules, the devices integrated into MODBUS networks or the A-G-247NW operating terminal can be connected. Parameterization and data polling by radio (with AM-MODBUS-W) are optionally possible.

Whole groups of frequency inverters or ECblue motors and fans that are equipped with these AM-MODBUS add-on modules can be addressed quickly and automatically by a ZIEHL-ABEGG UNIcon control module with MODBUS-Master function. These devices are then controlled conveniently by the UNIcon "master" device.

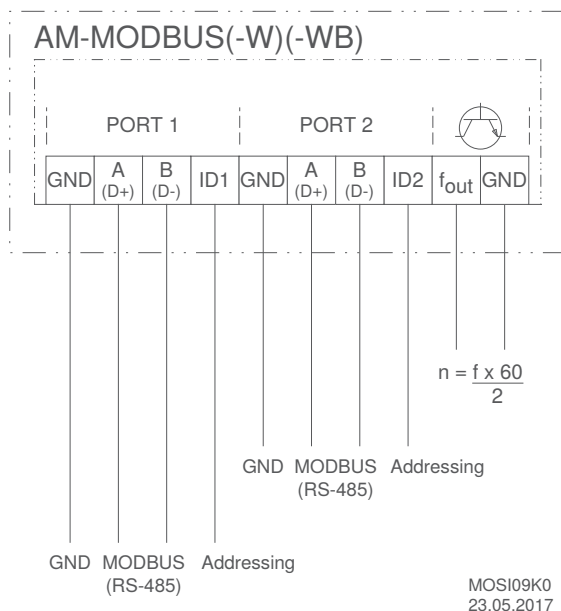
### Equipment/properties

#### 2 x interface RS485:

For integration into a MODBUS RTU network (MODBUS Slave). With the possibility of automatic addressing by a UNIcon control module with MODBUS-Master function.

Add-on module - AM-MODBUS (-W)		
Type	Article no.	Weight kg
AM-MODBUS	349045	0.03
AM-MODBUS-W	349050	0.03

### Connection diagram



# Add-on modules

## AM-MODBUS-WB for Basic Frequency inverter and ECblue fans



Pluggable add-on modules for function extensions of the “Icontrol Basic” and “Fcontrol Basic” frequency inverters without an integrated display, as well as ECblue motors and fans. With the AM-MODBUS-WB add-on modules, access to the respective frequency inverter or ECblue fan can take place wirelessly using Bluetooth.

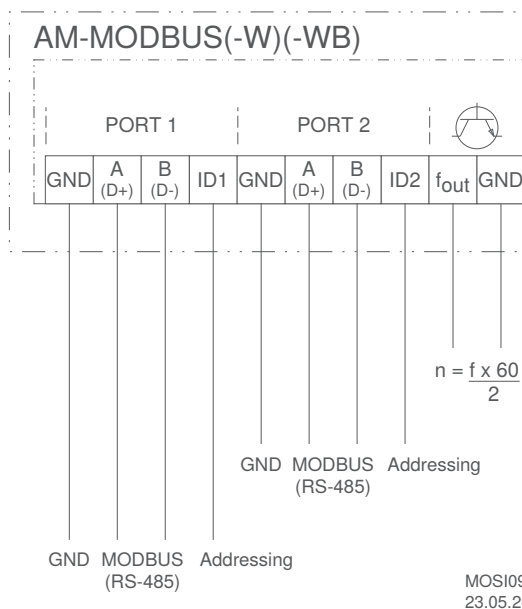
For this purpose, the ZIEHL-ABEGG “ZAsset mobile” app for mobile terminals is available in the Android and IOS Store.

The devices can be integrated into MODBUS networks with the AM-MODBUS-WB add-on modules. Whole groups of frequency inverters or ECblue motors and fans, which are equipped with these AM-MODBUS-WB add-on modules, can be addressed quickly and automatically by means of a ZIEHL-ABEGG UNIcon control module with MODBUS master function. These devices are then controlled conveniently by the UNIcon “master” device.



Add-on module - AM-MODBUS-WB		
Type	Article no.	Weight
AM-MODBUS-WB	349077	kg 0.04

### Connection diagram



# Add-on modules

## AM-PREMIUM (-W) for Basic Frequency inverter and ECblue



Pluggable add-on modules for function extension of the "lcontrol Basic" and "Fcontrol Basic" frequency inverters without integrated display as well as ECblue motors and fans.

With the AM-PREMIUM/-W add-on modules, the devices can be functionally extended as a control unit. In addition, it is possible to link to MODBUS networks or connect operating terminals (A-G-247NW / AXG-1A / AXG-1AE). Radio parameterization and data polling (with AM-PREMIUM-W) is also possible as an option.



### Input for sensors or speed settings through



Setting of the desired speed through device or by external default, e.g. 0...10 V



Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0...30 bar, 0...50 bar



Connection of thermistors, e.g. sensors type TF.. e.g. active sensor type MTG..



Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0...6000 Pa, acquisition of volume flows up to 65000 m³/h

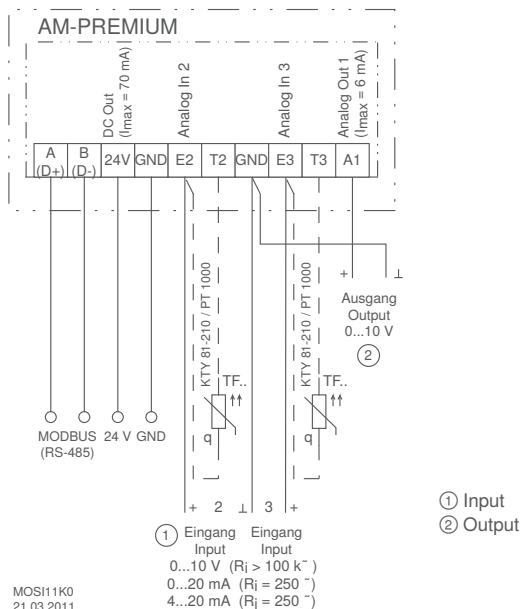


Connecting air velocity sensors, e.g. type MAL.. sensors, measuring range 0...1 m/s, 0...10 m/s



Connecting additional sensors, e.g. combination sensors, CO<sub>2</sub>, sensor signal 0...10 V / 0...20 mA / 4...20 mA

### Connection diagram



## Equipment/properties

### Simple start-up by operating modes:

When an operating terminal is connected to the AM-PREMIUM add-on module plugged into the frequency inverter (for AM-PREMIUM-W via radio), typical operating modes, e.g. for air conditioning, refrigerant or ventilation technology can be selected.

### 2 analog inputs for sensors or setting signals:

analog input E2 and E3: Setting by operating modes or manually programmable, e.g. 0-10 V, 0,20 mA, 4-20 mA

analog input E3: Programmable, e.g. comparison with sensor E2, difference to sensor E2, average value formation, setpoint setting, setpoint adaptation (e.g. outdoor temperature-dependent) connection of passive thermistors: On E2 and T2, E3 and T3.

### 1 analog output A1:

Setting by operating modes or manually programmable, e.g. output signal proportional to modulation, output signal proportional to input signal, invertible, 10 V constant voltage, group control.

### Functional extension: Digital input D1 in the basic device:

programmable, e.g. enable, switch over setpoint 1 or 2, switch over control or manual mode, switch over E1 or E3, control function inversion, output limitation, external fault, reset, reversal of direction of rotation.

### Functional extension: Digital output K1 in the basic device:

setting by operating modes or manually programmable, e.g. operating indication, fault indication, limits, external fault at digital input, activation of external devices, e.g. heating, shutters, group control fans, etc.

### 1 x interface RS485:

For linking to a MODBUS RTU network (MODBUS Slave). Manual addressing of the devices in the network

Add-on module AM-PREMIUM (-W)		
Type	Article no.	Weight kg
AM-PREMIUM	349046	0.03
AM-PREMIUM-W	349051	0.04

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# Add-on modules

## AM-AMPsignal for Basic Frequency inverter and ECblue fans



Pluggable add-on modules for function extension of the "Icontrol Basic" and "Fcontrol Basic" frequency inverters without integrated display as well as ECblue motors and fans.

The add-on module AM-AMPsignal transforms a current signal (0-20 mA, 4-20 mA) into a voltage signal (0-10 V). Several basic frequency inverters or ECblue fans can then be controlled by one current signal.

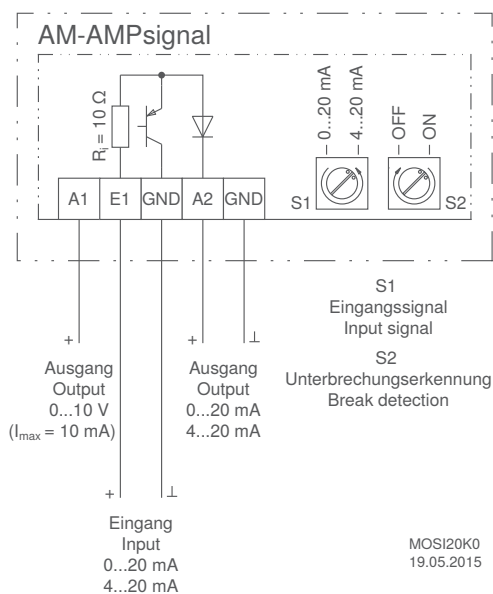
### Equipment/properties

#### 2 integrated rotary switches

Setting input signal (4-20mA, 0-20mA) by rotary switch "S1".  
Setting fractured wire detection (detection active, not active) by rotary switch "S2".

Add-on module AM-AMPsignal		
Type	Article no.	Weight kg
AM-AMPsignal	349065	0.03

### Connection diagram





# Add-on modules

## AM-ETHERCAT for Basic Frequency inverter and ECblue



Pluggable add-on modules for function extension of the “Icontrol Basic” and “Fcontrol Basic” frequency inverters without integrated display as well as ECblue motors and fans.  
With the AM-ETHERCAT add-on modules the frequency inverters or ECblue fans can be integrated into EtherCat networks.

A device master data filed (ESI file) is required for integration of the device into an EtherCat network. If there is any doubt about the use or procurement of the ESI file for this add-on module, our Control Technology Support Department will be very glad to help.

### Equipment/properties

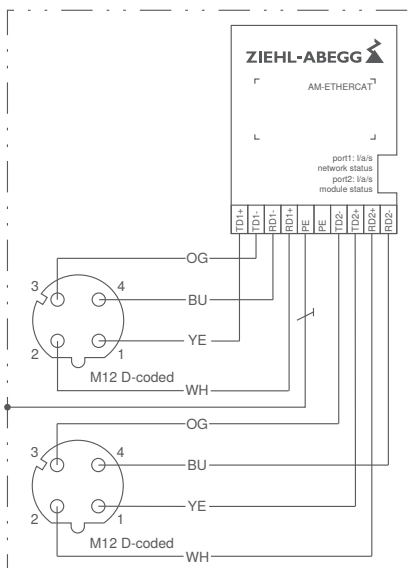
#### 4 integrated LED

For status display and error message:  
Network status, status module, status port 1 / port 2.

### Add-on module AM-ETHERCAT

Type	Article no.	Weight kg
AM-ETHERCAT	349071	0.03

### Connection diagram



KT00048C  
12.08.2015



# Add-on modules

## AM-CAN-OPEN for Basic Frequency inverter and ECblue



Pluggable add-on modules for a function extension of the "Iconrol Basic" and "Fcontrol Basic" frequency inverters without integrated display as well as ECblue motors and fans.  
With the AM-CAN-OPEN add-on modules the devices can be integrated into CANopen networks.

An Electronic Datasheet (EDS file) is required for a device integration into the CANopen network.  
This file is provided free of charge by our Control Engineering Support Department.



### Equipment/properties

#### 3 integrated LEDs

For status display and error message.

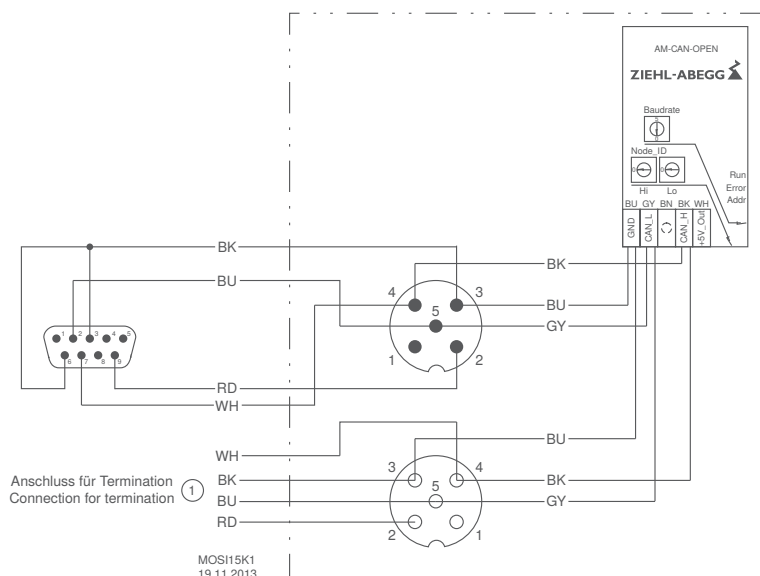
#### 3 integrated rotary switches

2 rotary switches for manual address setting.  
1 rotary switch for setting the baud rate

### Add-on module - AM-CAN-OPEN

Type	Article no.	Weight kg
AM-CAN-OPEN	349064	0.03

### Connection diagram



# Add-on modules

## AM-LON for Basic Frequency inverter and ECblue

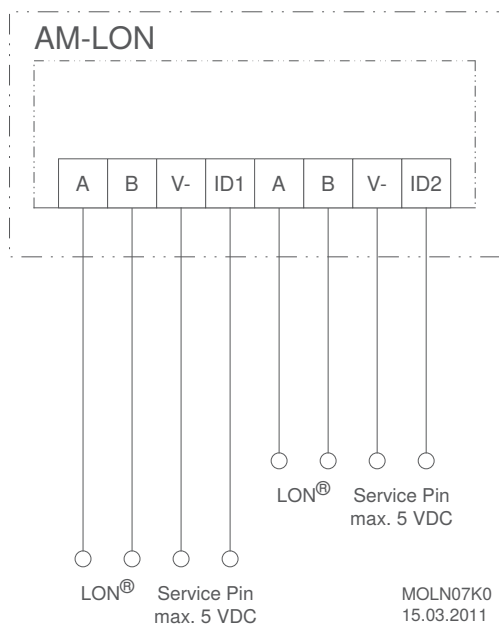


Pluggable add-on modules for function extension of the "Icontrol Basic" and "Fcontrol Basic" frequency inverters without integrated display as well as ECblue motors and fans. With AM-LON add-on modules the devices can be integrated into LON networks.

### Add-on module - AM-LON

Type	Article no.	Weight kg
AM-LON	349049	0.03

### Connection diagram



# Add-on modules

## AM-PROFIBUS for Basic Frequency inverter and ECblue



Pluggable add-on modules for function extension of the "lcontrol Basic" and "Fcontrol Basic" without integrated display as well as ECblue motors and fans.  
With the AM-PROFIBUS add-on modules the devices can be integrated into PROFIBUS networks.  
A device master data file (GSD file) is required for integration of the device into the PROFIBUS network. This is provided free by our Control Engineering Support Department.



### Equipment/properties

**3 integrated LEDs**  
For status display and error message.

**2 integrated rotary switches**  
For manual address setting.

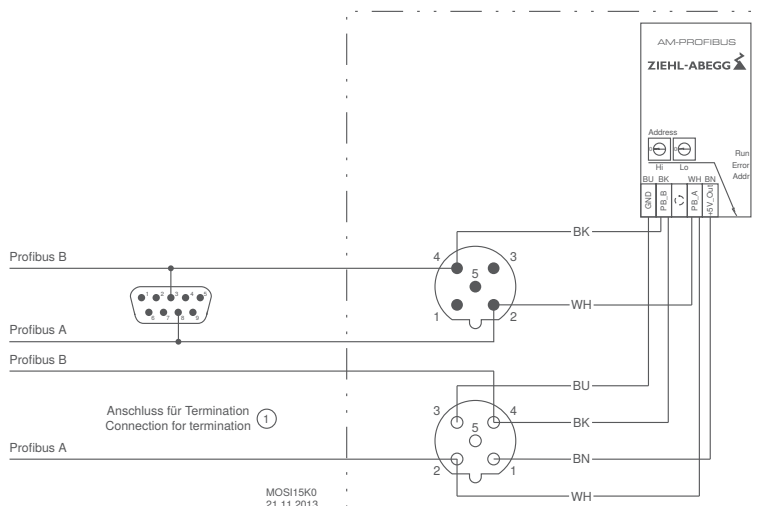
### Automatic baud rate detection

**Optionally available connectors**  
Plug with connecting wires 80 mm:  
5-pole, M12, wall installation M16, Article No. 00161258  
5-pole, M12, wall installation M20, Article No. 00161263  
Socket with connecting wires 80 mm:  
5-pole, M12, wall installation M16, Article No. 00161259  
5-pole, M12, wall installation M20, Article No. 00161264

### Add-on module AM-PROFIBUS

Type	Article no.	Weight kg
AM-PROFIBUS	349063	0.03

### Connection diagram



MOSI15K0  
21.11.2013

# Add-on modules

## AM-PROFINET for Basic Frequency inverter and ECblue fans



Pluggable add-on modules for function extension of the “Icontrol Basic” and “Fcontrol” and “Fcontrol Basic” without integrated display (also for functional extension of ECblue fans). With the AM-PROFINET add-on modules the frequency inverters or ECblue fans can be integrated into PROFINET networks.

A device master data file (GSD file) is required for integration of the device into the PROFINET network. If there is any doubt about the use or procurement of the GSD file for this add-on module, our Control Engineering Support Department will be very glad to help.

### Equipment/properties

#### 4 integrated LED

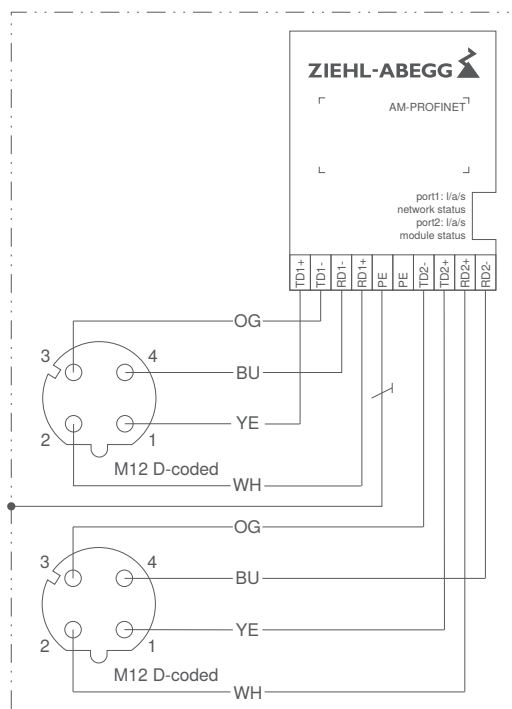
For status display and error message:

Network status, status module, status port 1 / port 2.

### Add-on module AM-PROFINET

Type	Article no.	Weight kg
AM-PROFINET	349072	0.03

### Connection diagram



KT00048D  
09.12.2015

# Add-on modules

## AM-BACNET for Basic frequency inverters and ECblue fans



Pluggable add-on modules for function extension of the "lcontrol Basic" and "Fcontrol Basic" frequency inverters without integrated display (also for functional extension of ECblue fans). With AM-BACNET add-on modules the frequency inverters or ECblue fans can be integrated into BACNET networks.

### Equipment/properties

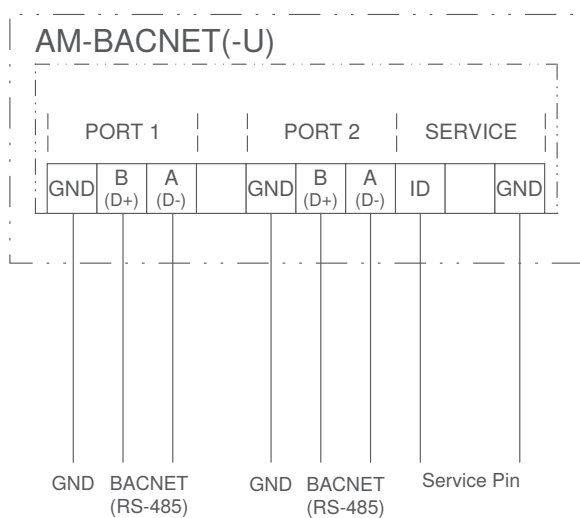
#### 4 integrated LEDs

For status display and error message.



Add-on module AM-BACNET		
Type	Article no.	Weight kg
AM-BACNET	349084	0.03

### Connection diagram



MOSI24K0  
17.10.2018



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ZBluefin-  
ECblue

Cpro-ECblue

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ZAvblue-  
ECblue

Vpro-ECblue

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# Display and operating terminal

## For frequency inverter without integrated display and ECblue



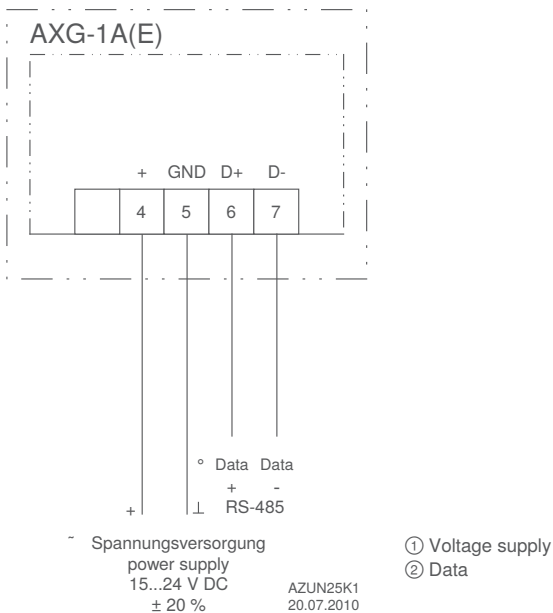
Display and operating terminal for parameterization and operation of the basic frequency inverters "Icontrol Basic" and "Fcontrol Basic" as well as ECblue motors and fans.

The basic frequency inverters without integrated display and ECblue motors have a slot for the AM-PREMIUM add-on modules. By plugging the add-on modules, the AXG-1A(E) operator terminal or the A-G-247NW hand held terminal can be connected.

The display and operator terminal AXG-1A can be installed flexibly in plants or machines in the IP54 housing. Alternatively, a unit for control panel integration is available (AXG-1AE).

The + 24 V voltage supply comes from the frequency inverter, a separate mains supply is not required.

### Connection diagram





## Technical data

- Voltage supply: 15-24 VDC ( $I_{max}$  24 V: 50 mA / 14 V: 80mA)
- Maximum ambient temperature: + 40 °C

## Equipment/properties

### LC multi-function display with plain text display:

Different menu languages can be selected. Display of the connected frequency inverter menu.

### 1 interface RS485:

for connection to an AM-PREMIUM add-on module. Frequency inverters as well as ECblue motors and fans can be parameterized and operated with this.

Display and operating terminals					
24VDC					
Type	Article no.	Mounting type	Protection class	Weight	Dimensions (W x H x D)
				kg	mm
<b>AXG-1A</b>	<b>349034</b>	Wall mounting	IP54	0.60	166 x 160 x 87
<b>AXG-1AE</b>	<b>349008</b>	Panel mounting	IP54	0.55	166 x 106 x 57 mm / mounting depth: max. 75

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# Hand held terminal

## Parameterization of the basic frequency inverters and ECblue



Hand held terminal for parameterization and operation of the "Icontrol Basic" and "Fcontrol Basic" frequency inverters as well as ECblue motors and fans.

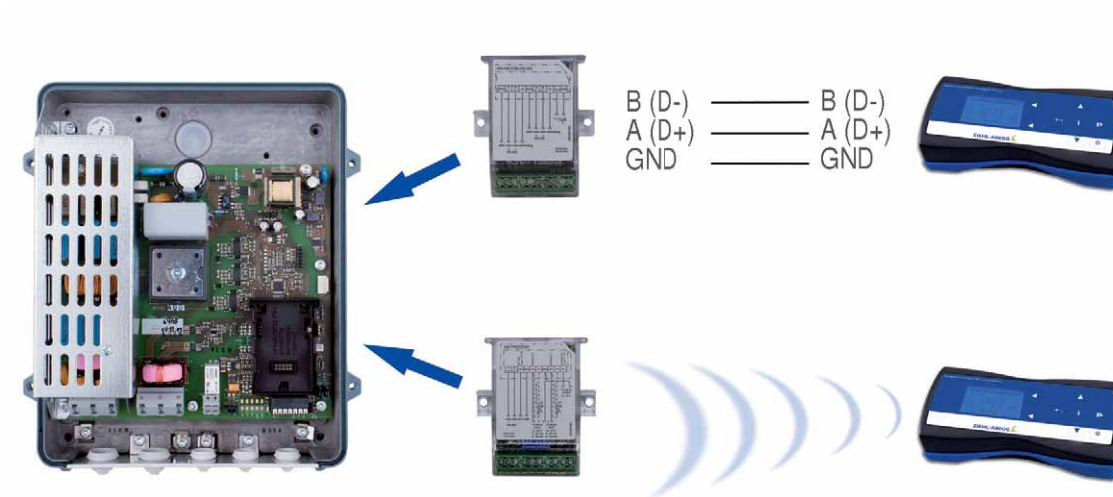
The basic frequency inverters without integrated display and ECblue motors can be extended with AM-MODBUS or AM-PREMIUM add-on modules. The A-G-247NW operating terminal can be connected to this by plugging add-on modules.

When using the AM-MODBUS-W or AM-PREMIUM-W add-on modules, communication with this operator terminal can take place without cables, wirelessly, by radio.

The hand held terminal enables storing of data records and transmission of these to other devices.

### Application example

Optional connection of the hand held terminal by cable (connection by interface RS485, MODBUS RTU) or radio communication.



## Technical data

- External voltage supply:  
by plug power pack (1~ 230 V, 50/60 Hz)
- Internal voltage supply:  
3 x Mignon rechargeable batteries (NiMH 1.2 V)

## Equipment/properties

**LC multi-function display with plain text display:**  
Different menu languages can be selected

**1 x Mini USB interface:**  
voltage supply / data transfer with a PC

**1 x interface RS485:**  
for connection to an AM-MODBUS or AM-Premium add-on module.  
Frequency inverters, ECblue motors and fans can be parameterized and operated with this. It is possible to save data records and transfer them to these devices.

**Data transmission by radio:**  
for communication with AM-MODBUS-W or AM-Premium-W add-on module.

Hand held terminal		
Type	Article no.	Weight kg
A-G-247NW	380090	0.42

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# Potentiometer 5-step



Potentiometer with 5 steps for activating EC fans and controllers. The potentiometer is supplied with a supply voltage of (10 V) from the EC fan or the controller producing a control voltage of 0-10 V depending on the switch position.

The operating status can be displayed via an integrated LED.

## Equipment/characteristics:

### 5-step switch

For setting five output voltages. Factory settable: Step 0/1/2/3/4/5 = 0/2/4/6/8/10 V

### Internal potentiometer offset

Control voltage reduction option. The max. control voltage of 10 V is factory set. It can be selected to only move down the control voltage of steps 1 - 4, or to move down step 5, too.

### Activation options via LED

Internal activation: LED lights up in position 1 - 5.

External activation: By means of a potential-free contact or via an open collector output, the status of an external device can be displayed via the LED.

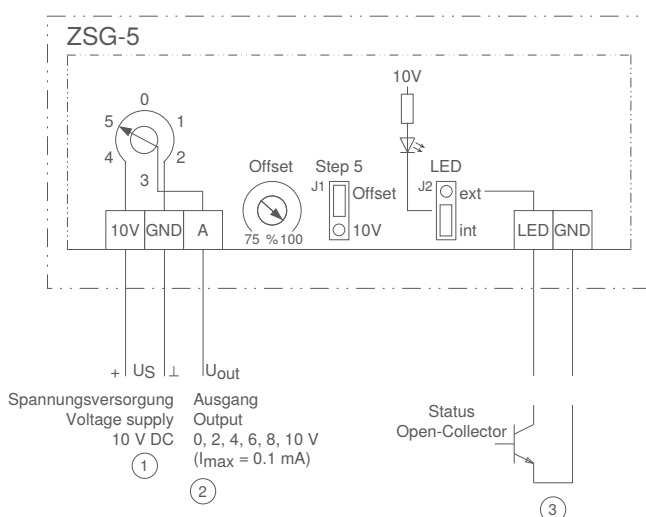
## Standard conformity

Interference emission according to EN 61000-6-3 (domestic)  
Interference immunity according to EN 61000-6-2 (industrial)

## Potentiometers

Type	Article no.	Mounting type	Protection class	Weight kg	Dimensions (W x H x D) mm
ZSG-5	349073	Wall mounting	IP54	0.20	106.3 x 137 x 72.5

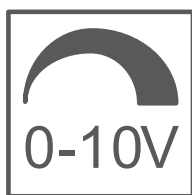
## Connection diagram



SGSW04K0  
05.02.2016



# Potentiometer



Infinitely variable potentiometers for activating EC fans and controllers. The potentiometers are supplied with a supply voltage (10 V) from the EC fan or controller with a control voltage output of 0 - 10 V depending on the rotary knob setting. Alternatively, the control voltage can be preset as a nominal value setting (external setpoint for the control) 0 - 10 V.

## Equipment/Characteristics:

### Rackmount version:

e.g. for installation in control cabinet doors  
Axis length 50 mm, Ø 6 mm  
Included front plate: 40 x 40 mm  
Included rotary knob

### Design version in housing:

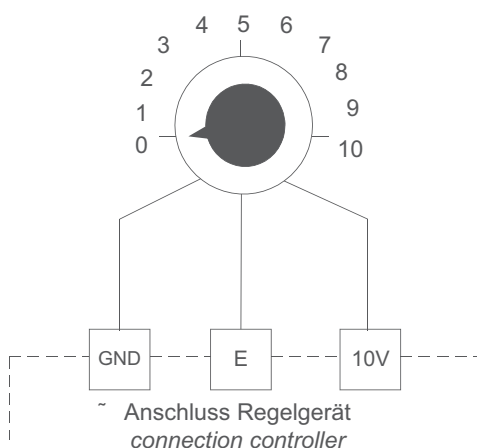
Surface mounting or mounting in existing flush receptacles. Device with additional switch contact.

### Simple control via rotary knob

Set the desired resistance

Potentiometers						
Type	Article no.	Mounting type	Setpoint range	Protection class	Weight	Dimensions (W x H x D)
					kg	mm
Potentiometer 1K	00153986	Panel mounting	0...1kOhm	IP00	0.04	Shaft d 6 x 50
Potentiometer 10K	00153989	Panel mounting	0...10kOhm	IP00	0.04	Shaft d 6 x 50
Potentiometer 10K (IP54)	380058	Wall mounting	0...10kOhm	IP54	0.15	82 x 82 x 65

## Connections



① Connection control unit

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# Explanation of technical details

## Symbols. Units of measure

Symbol	Unit	Description
$P_{is}$	Pa	Static pressure increase
$P_{fd}$	Pa	Dynamic pressure
$q_{V1}$	m <sup>3</sup> /h	Air flow
$n_N$	min <sup>-1</sup>	Rated speed
$P_e$	kW	Input power
$P_{ed}$	kW	Input power system (including controller)
$U_N$	V	Rated voltage
$f_N$	Hz	Rated frequency
$I_N$	A	Rated current
$I_A$	A	Starting current
$\Delta I$	%	Percentage increase of current based on rated current for speed control by voltage reduction
$C_{400V}$	$\mu$ F	Capacity
$t_{amb (min)}$	°C	Minimum permitted ambient temperature
$t_{amb (max)}$	°C	Maximum permitted ambient temperature
$L_{WA5}$	dB(A)	A-rated suction-side sound power level
$\eta_{statA}$	%	Overall efficiency, static according to measurement category A at optimum duty point without losses of electronic speed control according to calculation method ErP-commission regulation No. 327/2011 annex II
$N_{actual}$	-	Actual efficiency grade of the fan based on an electrical input power of 10 kW at its point of optimum energy efficiency
$N_{target}$	-	Target efficiency grade at motor input power 10 kW
$L_{pA}$	dB(A)	A-weighted suction-side or pressure-side acoustic pressure level related to a certain measurement distance
$P_{spez}$	Wh/1000m <sup>3</sup>	Specific power

## Conversion factors

### Pressure

		SI-unit	Additional units		
		Pa (N/m <sup>2</sup> )	mbar	in.wg	psi (lbf./in <sup>2</sup> )
SI-unit	Pa (N/m <sup>2</sup> )	1	0.01	0.004015	0.000145
Additional units	mbar	100	1	0.401463	0.014504
	in.wg	249.10	2.49	1	0.036127
	psi (lbf./in <sup>2</sup> )	6894.76	68.95	27.68	1

### Air flow

		SI-unit	Additional units		
		m <sup>3</sup> /s	m <sup>3</sup> /h	l/s	cfm
SI-unit	m <sup>3</sup> /s	1	3600	1000	2118.9
Additional units	m <sup>3</sup> /h	0.000278	1	0.277778	0.588578
	l/s	0.001	3.6	1	2.1189
	cfm	0.000472	1.699011	0.471947	1

### Temperature

		°C	°F
SI-unit	°C	1	(°C × 1.8) + 32
Additional units	°F	(°F – 32) / 1.8	1





## Dynamic pressure

Calculation of the dynamic pressure:

$$p_{fd} = k_{fd} \cdot q_{v1}^2$$

- $p_{fd}$  Dynamic pressure at fan outlet in Pa
- $k_{fd}$  Constant factor for calculation of the dynamic pressure
- $q_{v1}$  Air flow in m<sup>3</sup>/h

### k-factors for calculation of the dynamic pressure

ZABluefin		Cpro/ZAcube		C		ZAVblue		Vpro	
Size	$k_{fd}$	Size	$k_{fd}$	Size	$k_{fd}$	Size	$k_{fd}$	Size	$k_{fd}$
				22C.1R	$1.85 \cdot 10^{-5}$				
25I.CR	$5.59 \cdot 10^{-6}$	25C.CR	$9.66 \cdot 10^{-6}$	25C.1R	$1.14 \cdot 10^{-5}$	25V.VR	$1.29 \cdot 10^{-5}$		
28I.CR	$3.56 \cdot 10^{-6}$	28C.CR	$6.26 \cdot 10^{-6}$	28C.1R	$7.44 \cdot 10^{-6}$	28V.VR	$8.27 \cdot 10^{-6}$	28V.1R	$8.60 \cdot 10^{-6}$
31I.CR	$2.22 \cdot 10^{-6}$	31C.CR	$4.01 \cdot 10^{-6}$	31C.1R	$4.78 \cdot 10^{-6}$	31V.VR	$5.12 \cdot 10^{-6}$	31V.1R	$5.32 \cdot 10^{-6}$
35I.CR	$1.39 \cdot 10^{-6}$	35C.CR	$2.53 \cdot 10^{-6}$	35C.1R	$2.96 \cdot 10^{-6}$	35V.VR	$3.29 \cdot 10^{-6}$	35V.1R	$3.37 \cdot 10^{-6}$
40I.CR	$8.62 \cdot 10^{-7}$	40C.CR	$1.61 \cdot 10^{-6}$	40C.1R	$1.82 \cdot 10^{-6}$	40V.VR	$1.87 \cdot 10^{-6}$	40V.1R	$2.13 \cdot 10^{-6}$
45I.CR	$5.39 \cdot 10^{-7}$	45C.CR	$1.00 \cdot 10^{-6}$	45C.1R	$1.13 \cdot 10^{-6}$	45V.VR	$1.22 \cdot 10^{-6}$	45V.1R	$1.36 \cdot 10^{-6}$
50I.CR	$3.54 \cdot 10^{-7}$	50C.CR	$6.22 \cdot 10^{-7}$	50C.1R	$7.14 \cdot 10^{-7}$	50V.VR	$8.12 \cdot 10^{-7}$	50V.1R	$8.82 \cdot 10^{-7}$
56I.CR	$2.25 \cdot 10^{-7}$	56C.CR	$4.06 \cdot 10^{-7}$	56C.1R	$4.65 \cdot 10^{-7}$	56V.VR	$5.27 \cdot 10^{-7}$	56V.1R	$5.37 \cdot 10^{-7}$
		63C.CR	$2.58 \cdot 10^{-7}$	63C.1R	$2.98 \cdot 10^{-7}$	63V.VR	$3.45 \cdot 10^{-7}$	63V.1R	$3.36 \cdot 10^{-7}$
				71C.1R	$1.86 \cdot 10^{-7}$				
				80C.1R	$1.15 \cdot 10^{-7}$				

Example:

Type RH45C-ZID.GG.CR, article no. 114613

Size	Constant
RH25C.CR	60
RH28C.CR	75
RH31C.CR	95
RH35C.CR	121
RH40C.CR	154
<b>RH45C.CR</b>	<b>197</b>
RH50C.CR	252
RH56C.CR	308
RH63C.CR	381

$p_{fd} = 197 \cdot q_{v1}^2$

# Aerodynamics and acoustics

## Measurement method

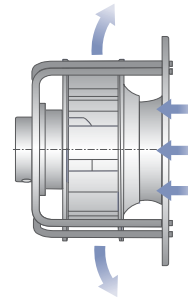
The characteristic curve diagram shows the pressure increase  $\Delta p_{fs}$  in Pa as a function of the air flow rate  $q_{v1}$  in  $m^3/h$ .

### Technical conditions of supply

The specified performance data meet the respective requirements for accuracy

- AN2 for impellers without motor
- AN3 for fans with standard motors
- AN2 for impellers with ECblue motors (except EC055)
- AN3 for impellers with EC motor EC055 (see type key)
- AN4 for fans with AC external rotor motors

in line with **ISO 13348** and apply to the rated data and air performance curves at the rated voltage. The continuous line in the characteristic curve represents the optimum reliable operating range for fans.



L-KL-3679-1

### Fan test bench

The fan characteristic curves are determined on a combined air performance and acoustic test bench.

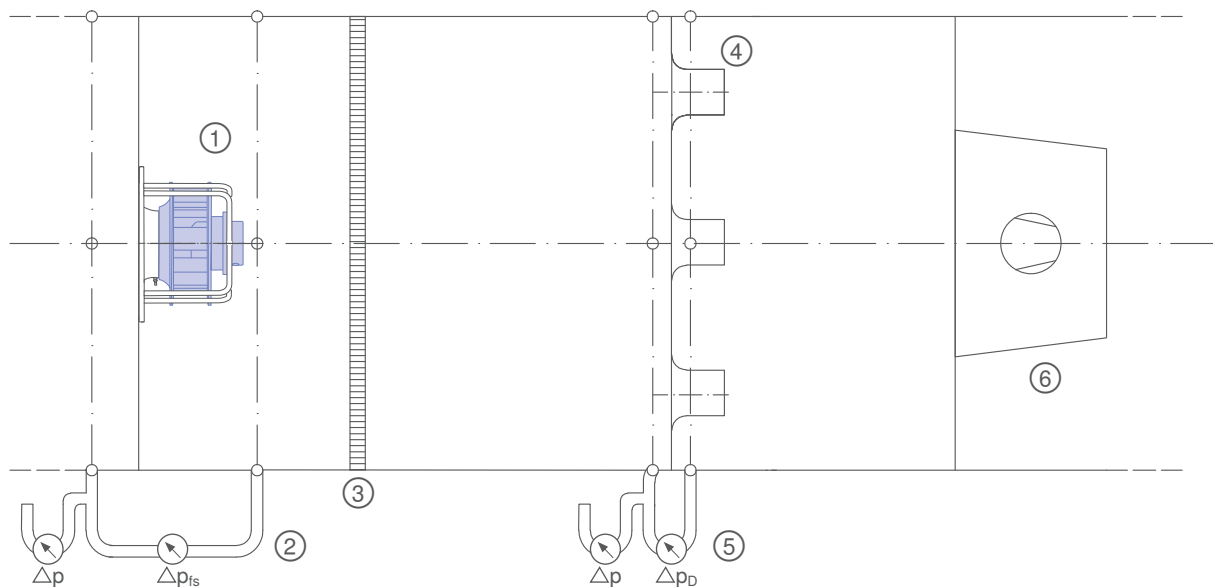
The fan characteristic curves are measured in compliance to **DIN EN ISO 5801**, respectively **AMCA 210-99**. The sound power levels are measured in compliance with **DIN EN ISO 3745** and **ISO 13347-3** using the enveloping surface measuring method.

The figure below shows an example of the measuring setup. The fan intake is installed in the measuring chamber at free inlet and free exhaust (installation type A as per **DIN EN ISO 5801** respectively **AMCA 210-99**).



### Air density

The air temperature and humidity are conditioned during the measurement using heat exchangers and kept largely constant. The characteristic curves shown refer to the measuring density. The mean measuring density is  $1.16 \text{ kg/m}^3$ .



- ① Test fan
- ②  $p_{fs}$  static pressure increase
- ③ Flow straightener
- ④ Nozzles
- ⑤  $\Delta p_D$  Differential pressure measuring nozzle
- ⑥ Auxiliary fan



# Aerodynamics and acoustics

## Noise level data

Unless otherwise indicated, this catalogue specifies the suction side, A-evaluated sound power levels  $L_{WA5}$ . The sound power levels are determined by using the enveloping surface method in compliance with ISO 13347-3, accuracy class 1 and/or DIN EN ISO 3745.

This is done by measuring the sound pressure level  $L_p$  of the individual third-octave bands at 12 points on the enveloping surface (Fig. 1a). The measured sound pressure levels for the third-octave bands are initially used to calculate the sound power level for the third-octave bands and then the suction side sound power level  $LW_5$ . To do this, the fans are installed with a free inlet (from the measuring chamber) and free exhaust (into the surrounding area). The standard measurements are carried out without the need for additional parts, e.g. guard grille. The measuring equipment used complies with DIN EN 61672.

Because of the different weighting of the third-octave sound power level, the A-evaluation, which is typically carried out, takes into account the subjective nature of human sound perception. The A-tested sound power level is the standard variable used to assess the sound characteristics of technical equipment.

### Calculation of pressure side sound power level and total sound power level

For axial fans, the pressure side sound power level is approximately equal to the suction side level. The total sound power level is calculated by adding up the power from the sound power levels of both the suction and the pressure side (see DIN 45 635 Part 1, Appendix F, DIN EN ISO 3745). Thus, it is approximately 3 dB higher than the suction side sound power level specified in the catalogue.

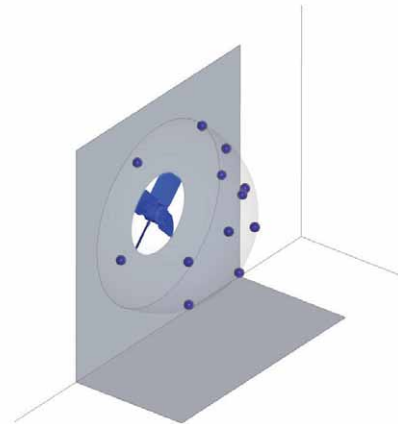


Fig. 1a: Position of microphones



Fig. 1b: Fan test-bench

# Aerodynamics and Acoustics

## Noise level data

### Determination of total sound power level during the interaction of several sound sources

The total sound power level of several individual sound sources operating concurrently is calculated by adding the power of the individual levels in compliance with DIN EN ISO 3745. This equation is the basis for the diagrams in Fig. II and III.

To add up several sound sources with the same level, please see diagram (Fig. II) for complete level information; e.g. 6 identical sound sources operating concurrently results in a total level that is approx. 8 dB higher.

The total sound power level of two sound sources with different levels can be seen in diagram Fig. III. For example, two sound sources whose sound power levels differ by 4 dB produce a total sound power level that is around 1.5 dB higher than that of the louder sound source.

### Determination of sound pressure level

The A-tested sound pressure level  $L_{pA}$  for rooms with average absorption capacity for a distance of 1m from the fan axle is calculated by subtracting 7 dB from the A sound power level  $L_{WA5}$ . In most cases, this assumption is correct and provides a sufficient level of accuracy. However, the sound characteristics can be hugely influenced by the individual installation situation. Absorption of the sound pressure level, depending on the distance with partial reflection, is shown in Fig. IV.

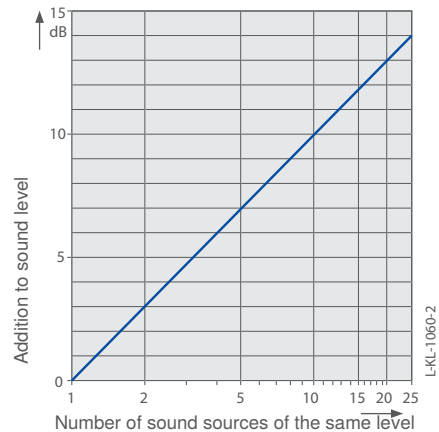


Fig. II: Addition of several sound sources

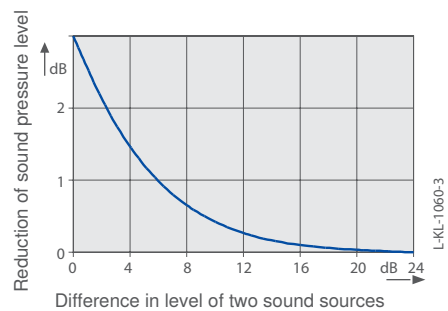


Fig. III: Sound sources of different levels

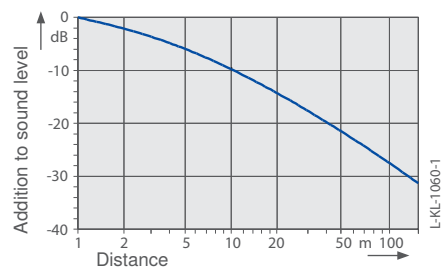


Fig. IV: Reduction of sound pressure level



# Electrical connection and motor

## Fan drive

The three phase (3~) or single phase (1~) external motor integrated into the fan hub meets the requirements for circulating electric machines set forth in **DIN EN 60 034-1** (VDE 0530 Part 1).

AC technology:

The rated voltage for three phase alternating current motors is 400 V, for single phase alternating current motors it is 230 V.

EC technology:

The centrifugal fans with ECblue technology are powered by a highly efficient EC-motor with integrated commutation technology. Depending on the version, the ECblue motors have a broad voltage range.

1~ 200-240 V, 50/60 Hz

1~ 200-277 V, 50/60 Hz

3~ 380-480 V, 50/60 Hz

## Electrical connection

### Voltage

The three phase or single phase alternating current motors are suitable for 400 V  $\pm$  10 % or 230 V  $\pm$  10 % and for 50/60 Hz. For details please refer to data sheet.

### Motor connection

Mains connection via terminal box or outgoing connection cable as shown in dimension drawings. Cable length tolerance  $\pm$  3 cm.

### Terminal box

The terminal boxes are made of shock-proof, weather-resistant plastic or die-cast aluminium.

All terminal boxes have two cable inlet openings.

### Connecting cables

Heat and UV-resistant, halogen-free hoses, identified by a colour code or connection designations are used.

Temperature resistance -50 to +150 °C.

The connection ends are stripped 10 cm and fitted with wire end sleeves.

### Operating capacitor

See chapter System components.

## Conditions for use and lifetime

### Operating mode

Continuous operation with occasional starts (S1) according to

**DIN EN 60034-1:2011-02**. If the defined temperature  $t_{(R(\min))}$  of the product is less than -25 °C an occasional starting between -25 °C and the defined minimum temperature is permissible. Continuous operation below -25 °C only with special bearings for refrigeration applications on request.

### Permissible minimum and maximum ambient temperature for operation

Please refer to the technical documentation of the product for the minimum and maximum ambient temperature valid for the respective fan. Operation below -25 °C as well as partial load operation for refrigeration applications is only possible with special bearings for refrigeration applications on request. If special bearings for refrigeration applications are installed in the fan, please observe the permissible maximum temperatures in the technical documentation of the product.

### Ball-bearing service life

The according to standard calculation methods determined bearing service life expectation of the motor-integrated ball bearings is mainly determined by the grease service life F10h and amounts for standard application to approx. 30.000 – 40.000 operating hours. The fan is maintenance-free due to the use of ball bearings with „lifetime lubrication“. Once the grease operating life F10h has been reached, it may be necessary to replace the bearing. The bearing service life expectation may change compared to the specified value, if operating conditions such as increased vibrations or shocks, increased or too low temperatures, humidity, dirt in the ball bearing or unfavourable control modes are present. A service life calculation for special applications can be provided on request.

## Operation on the frequency inverter

**ZIEHL-ABEGG centrifugal fans are suitable for operation with frequency inverters, however, the following has to be observed:**

All-pole active sinefilters between the inverter and the motor (sinusoidal output voltage! must be installed phase to phase, phase to PE conductor) as supplied by some inverter manufacturers. For more details please request our technical information sheet L-TI-0510.

du/dt filters (also known as motor or attenuation filters) may not be used instead of sinefilters.

When using sinefilters, it may no longer be necessary to use screened motor power cables, metal terminal boxes, or a second earth connection on the motor (please consult your sinefilter supplier).

# Connection diagrams

## Allocation

Allocation of EC connection diagrams			
Motor		Connection diagram	ZAbluefi
Z8	EC055	1360-404 / 1360-407	
ZC	EC055	1360-404 / 1360-407	
0A	EC072	1360-404 / 1360-407	
0F	EC072	1360-404 / 1360-407	
BA	EC090	1360-384	
BD	EC090	1360-384	
DC	EC116	1360-403	AP00001A / AP00001C
DG	EC116	1360-403	AP00001A / AP00001C
GG	EC152	1360-403	AP00001A / AP00001C
GL	EC152	1360-403	AP00001A / AP00001C
GQ	EC152	1360-403	AP00001A / AP00001C

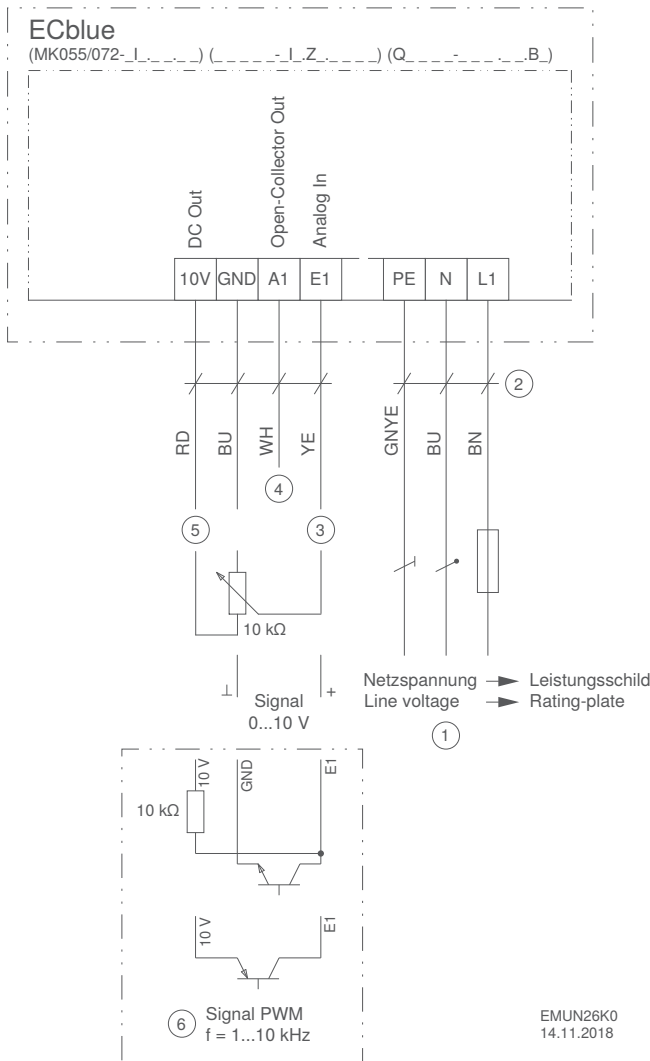
Allocation of AC connection diagrams					
Motor		Type of current	Speed	Special features	Connection diagram
W6	68	1~		with capacitor and thermostat	1360-177X
WA	68	1~		with capacitor and thermostat	
WC	68	1~		with capacitor and thermostat	
WD	68	1~		with capacitor and thermostat	
0C	74	1~	1		1360-104XA
		3~	1		1360-106XA
0F	74	1~	1		1360-104XA
		3~	1		1360-106XA
2A	85	1~	1		1360-104XA
		3~	1		1360-106XA
		3~	2	Δ/Y switchable	1360-108XA
2C	85	1~	1		1360-104XA
		3~	1		1360-106XA
		3~	2	Δ/Y switchable	1360-108XA
2F	85	1~	1		1360-104XA
		3~	1		1360-106XA
4A	106	3~	1		1360-106XA
		3~	2	Δ/Y switchable	1360-108XA
4C	106	1~	1		1360-104XA
		3~	1		1360-106XA
		3~	2	Δ/Y switchable	1360-108XA
4F	106	1~	1		1360-104XA
		3~	1		1360-106XA
		3~	2	Δ/Y switchable	1360-117XA
4I	106	1~	1		1360-104XA
		3~	1		1360-106XA
6F	137	1~	1		1360-104XA
		3~	1		1360-106XA
6K	137	1~	1		1360-104XA
		3~	1		1360-106XA
6N	137	1~	1		1360-104XA
7Q	165	3~	2	Δ/Y switchable	1360-108XA



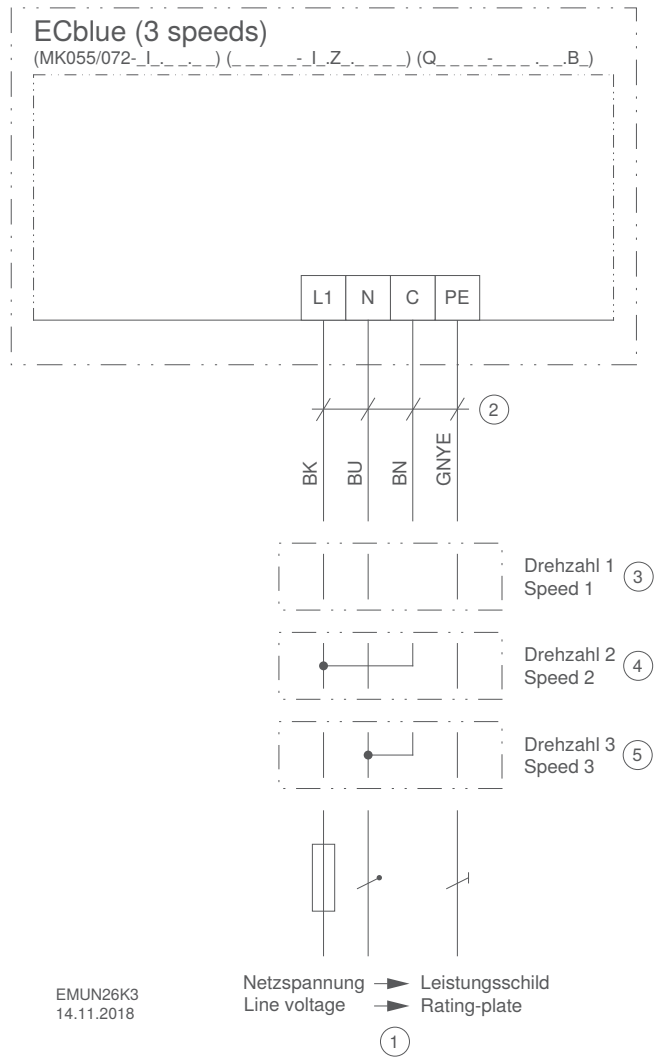
# Connection diagrams

1360-404 (EC055 / EC072)

1360-407 (EC055 / EC072)



- ① Mains voltage, see rating plate
- ② Version with connection cables
- ③ Input for speed setting via 0...10 V signal / potentiometer ( $R_1 > 150 \text{ k}\Omega$ )
- ④ Tachometer output, open collector ( $I_{\text{max}} 10\text{mA}$ )
- ⑤ Voltage supply 10 V DC ( $I_{\text{max}} 10 \text{mA}$ )
- ⑥ Speed setting via PWM signal ( $f = 1 \dots 10 \text{kHz}$ )

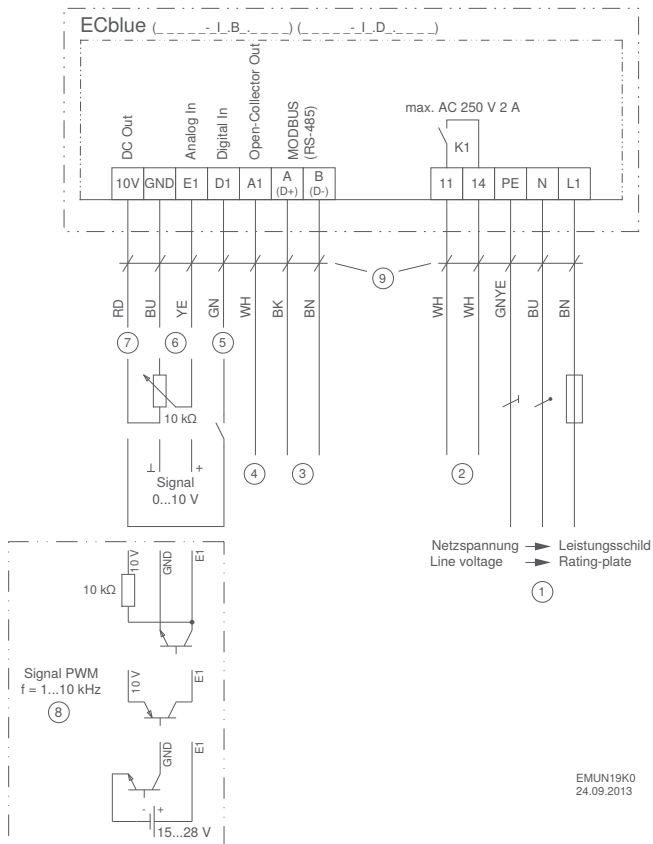


- ① Mains voltage, see rating plate
- ② Version with connected cables
- ③ Speed 1 = brown not connected
- ④ Speed 2 = brown and black connected
- ⑤ Speed 3 = brown and blue connected

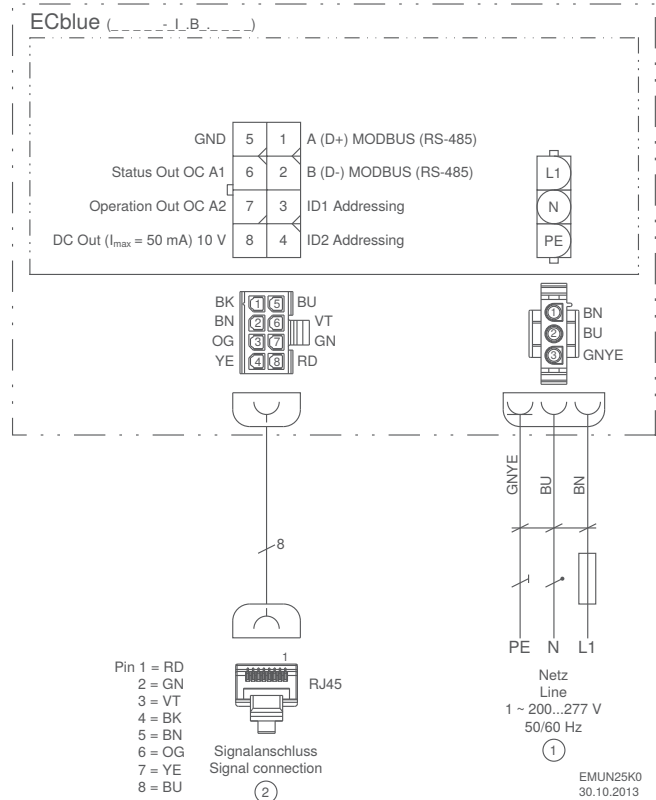
# Connection diagrams

1360-384 (EC090 IP54)

(EC090/EC116 IP20)



- ① Line voltage see rating-plate
- ② Relay output for fault indication (max. contact rating AC 250 V 2 A)
- ③ MODBUS (RS-485) interface
- ④ Open-Collector output status / tachometer
- ⑤ Digital input for enable
- ⑥ Input for setting speed by 0...10 V signal / potentiometer ( $R_1 > 100 \text{ k}\Omega$ )
- ⑦ Voltage supply 10 V DC ( $I_{\text{max}} 50 \text{ mA}$ )
- ⑧ Setting speed by PWM signal ( $f = 1 \dots 10 \text{ kHz}$ )
- ⑨ Version with connection cables



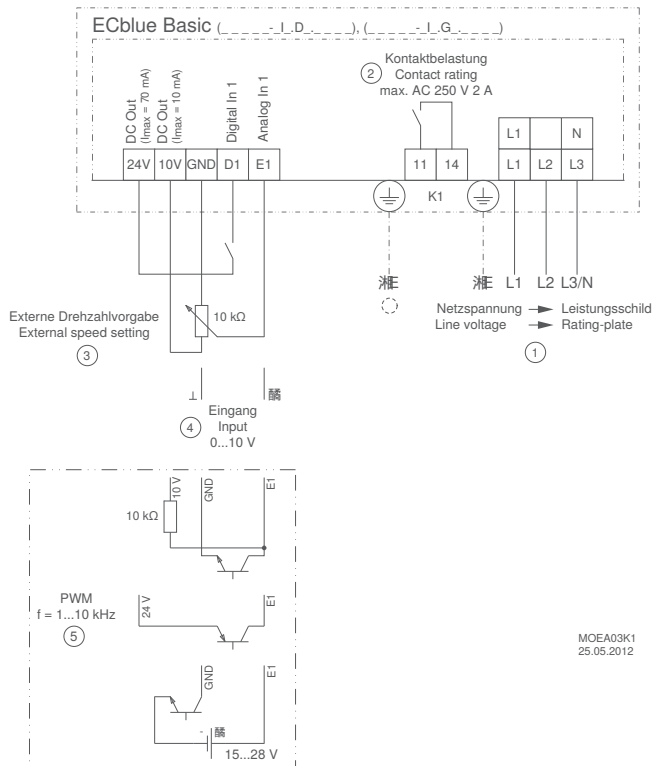
- ① Mains voltage 1~ 200...277 V, 50/60 Hz
- ② Signal connection





# Connection diagrams

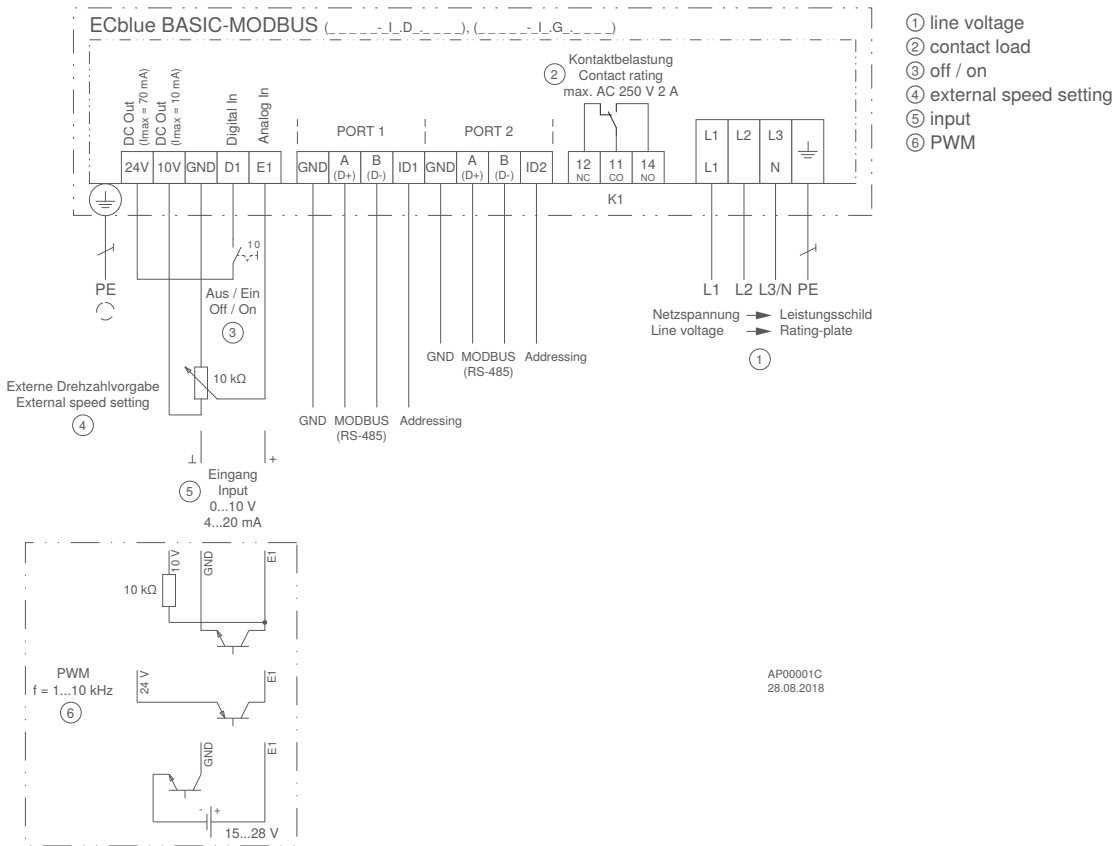
## 1360-403 (EC116 / EC152)



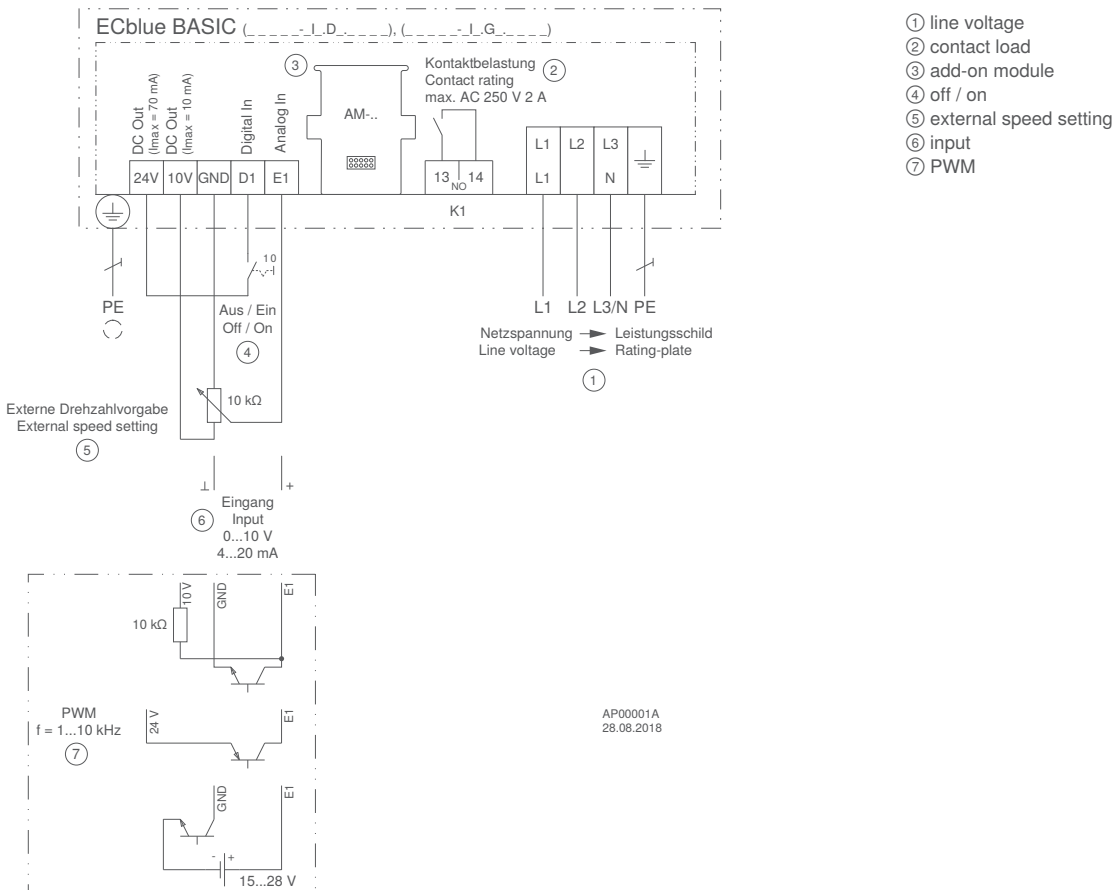
- ① line voltage
- ② contact load
- ③ external speed setting
- ④ input
- ⑤ PWM

# Connection diagrams

## AP00001C (EC116 / EC152 2nd generation ECblue)



## AP00001A (EC116 / EC152 2nd generation ECblue)



# Connection diagrams

## AC-Technology

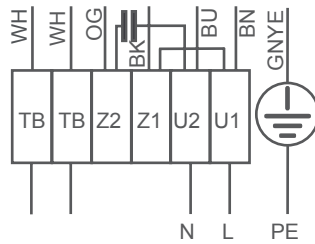
### 104XA

For 1~motor with capacitor and thermostatic switch (if built in).

**Airflow direction** V

**Direction of rotation:** clockwise

Please keep the wiring diagram in the terminal box.



**Cable colours:**

BN brown  
BU blue  
BK black  
OG orange  
WH white  
GNYE green-yellow

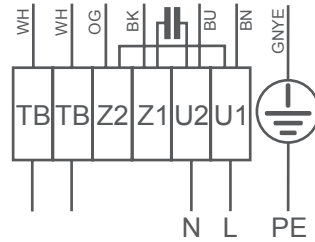
### 104XB

For 1~motor with capacitor and thermostatic switch (if built in).

**Airflow direction** A

**Direction of rotation:** counter clockwise

Please keep the wiring diagram in the terminal box.



**Cable colours:**

BN brown  
BU blue  
BK black  
OG orange  
WH white  
GNYE green-yellow

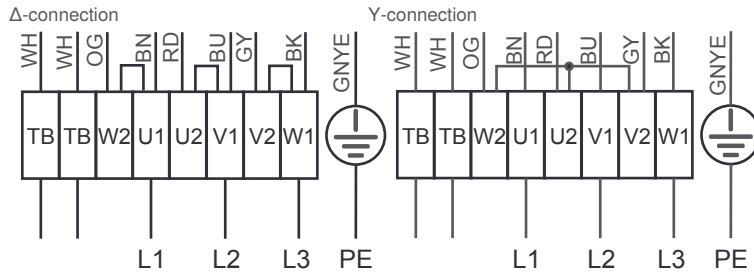
### 106XA

For 3~motor with one speed and thermostatic switch (if built in).

**Airflow direction** V

**Direction of rotation:** clockwise

Please keep the wiring diagram in the terminal box.



**Cable colours:**

BN brown  
BU blue  
BK black  
RD red  
GY grey  
OG orange  
WH white  
GNYE green-yellow

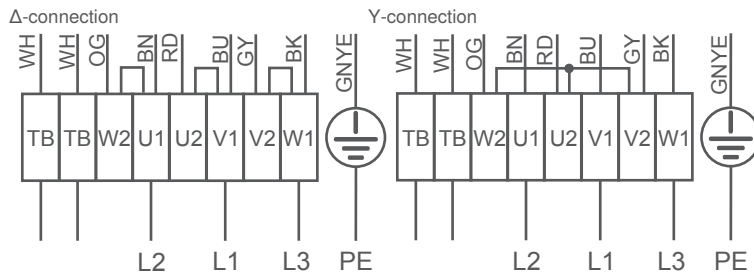
### 106XB

For 3~motor with one speed and thermostatic switch (if built in).

**Airflow direction** V

**Direction of rotation:** clockwise

Please keep the wiring diagram in the terminal box.



**Cable colours:**

BN brown  
BU blue  
BK black  
RD red  
GY grey  
OG orange  
WH white  
GNYE green-yellow

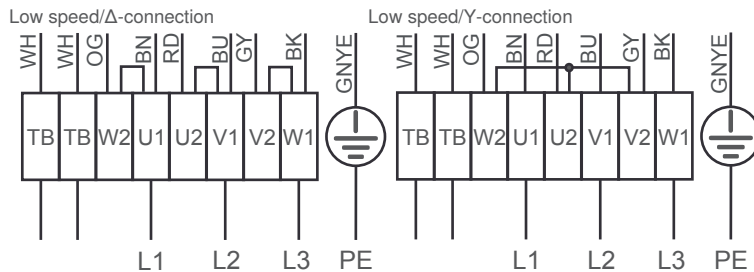
### 108XA

For 3~Motor with 2 speeds ( $\Delta$ -Y switch over) and thermostatic switch (if built in). Without bridge when using speed change-over switch.

**Direction of air flow** V

**Direction of rotation:** Counter clockwise

Keep wiring diagram in terminal box.



**Cable colours:**

BN brown  
BU blue  
BK black  
RD red  
GY grey  
OG orange  
WH white  
GNYE green-yellow

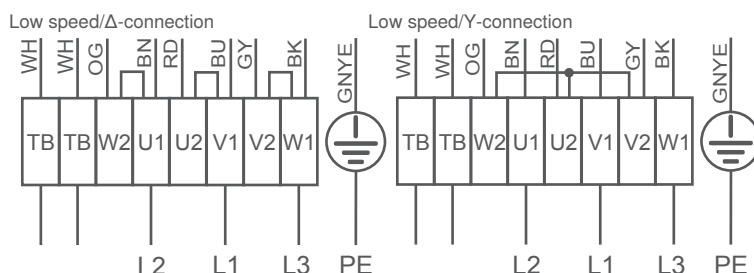
### 108XB

For 3~ motor with 2 speeds ( $\Delta$ -Y switch over) and thermostatic switch (if built in). Without bridge when using speed change-over switch.

**Direction of airflow** A

**Direction of rotation:** Counter clockwise

Keep wiring diagram in terminal box.



**Cable colours:**

BN brown  
BU blue  
BK black  
RD red  
GY grey  
OG orange  
WH white  
GNYE green-yellow

# Installation and usage information

## Measuring device for determining air volume

The active pressure process compares the static pressure before the inlet nozzle with the static pressure in the inlet nozzle at the place of greatest constriction (lowest free nozzle cross sectional area). Using the energy conservation principle, the active pressure (differential pressure of the static pressures) can be assigned to the air flow as follows:

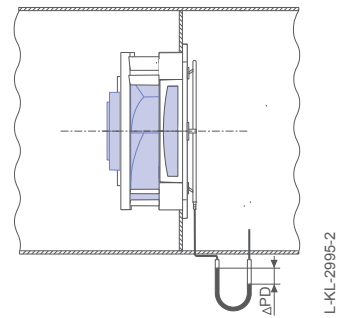
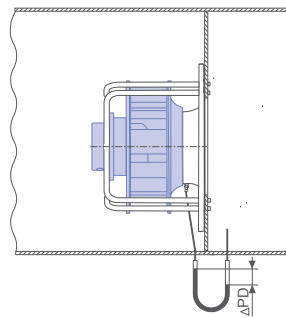
Under normal conditions at 20 °C:

$$q_{V1} = k \sqrt{\Delta p_D}$$

- $q_{V1}$  Air flow in m<sup>3</sup>/h
- $\Delta p_D$  Differential pressure of the static pressures in Pa
- $k$  Coefficient for specific nozzle properties, nozzle factor
- $\rho_N$  Standard air density with 1.2 kg/m<sup>3</sup>
- $\rho_N$  Air density at current operating point in kg/m<sup>3</sup>

Under fluctuating air conditions:

$$q_{V1} = \sqrt{\frac{\rho_N}{\rho_D}} \cdot k_{20} \cdot \sqrt{\Delta p_D}$$



### Nozzle coefficients

Size	ZAbbluefin		Cpro		C		ZAvblue	ZAvblue with EC055	ZApilot	Vpro
	Standard k	With guard grille $k_g$	Standard k	With guard grille $k_g$	Standard k	With guard grille $k_g$	Standard k	Standard k	Standard k	Standard k
175								38	38	
190								38	38	
200								38	38	
220								71	71	
225					47	46		75	71	50
250	67	63	60	58	60	58	80	112	90	63
280	85	80	75	72	75	72	95			86
315	106	100	95	91	95	91	120			112
355	140	130	121	116	121	116	150			144
400	180	170	154	148	154	148	200			180
450	220	210	197	189	197	189	240			220
500	280	265	252	242	252	242	320			291
560	355	335	308	295	308	295	400			360
630			381	365	381	365	480			445
710					490	470				
800					620	594				

$\rho = 1.20 \text{ kg/m}^3$

#### Example:

If an active pressure of 700 Pa is measured for size GR631, the air flow can be calculated as follows, using this simplified formula:

$$q_{V1} = k \cdot \sqrt{\Delta p_D} = 381 \cdot \sqrt{700} = 10080 \text{ m}^3/\text{h}$$

The corresponding active pressure / air flow characteristic curves can be downloaded from our website in the Download section under Product Information.

The nozzle coefficients (k factors) were determined under laboratory conditions and with an undisturbed supply. If inlet guard grilles are used (fitted in front of the inlet nozzle), these nozzle factors cannot be used for air flow determination because of a change in the supply flow and other static pressures.

#### Notes pertaining to the measuring method

The measured values, which were determined using the active pressure method, are subject to a tolerance of +/- 8.0% as they pertain to the airflow result. This tolerance is reached above a minimum air velocity of approx. 29.53 ft/s at the place of greatest constriction.

The tolerances cannot be clearly quantified below this minimum air velocity.

This air flow measuring method is only suitable for acceptance measurements on site.

For a more accurate air flow determination in the existing installation setup, a counter calibration of the air flow has to be carried out on site to measure the active pressure. The nozzle factors determined during this process apply exclusively to this installation setup.

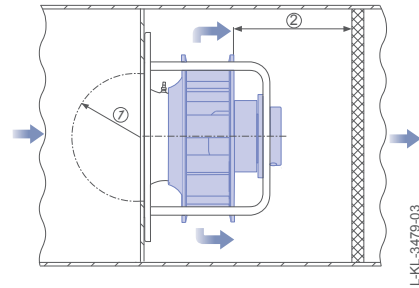


# Installation and usage information

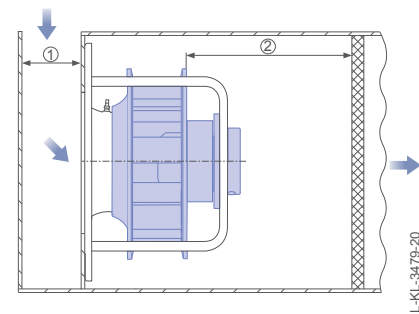
## Installation instructions ventilation unit GR

The following installation instructions are based on experience from applications and measurements on our test benches. These are general guidelines, as variations may occur in your device due to differences in its construction. The respective DSA dimension can be found in the chapter "Impellers with hub".

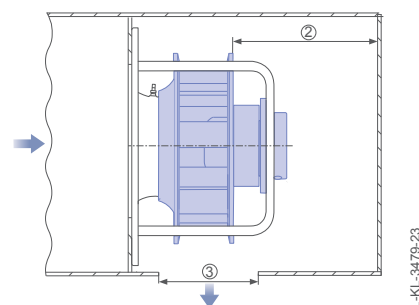
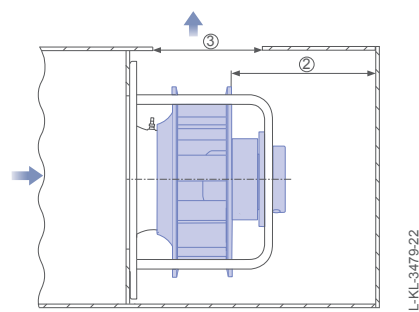
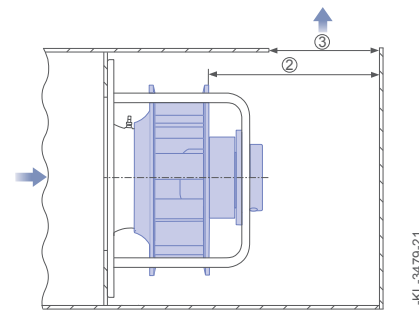
- The performance depends on the distance to components on the intake ① and pressure side ②
- Intake side ①  $\geq 0.5 \times \text{DSA}$
- Optimum on pressure side for series ZBluefin ②  $\geq 0.8 \times \text{DSA}$ , absolute minimum ②  $\geq 0.6 \times \text{DSA}$  for other series ②  $\geq 1.0 \times \text{DSA}$ , absolute minimum ②  $\geq 0.7 \times \text{DSA}$  (exception: cooling battery or humidifier after the fan)



- Changes to the flow direction before the fan create significant turbulence in the intake area
- Intake side ①  $\geq 1.0 \times \text{DSA}$ , with guide blades this can be reduced to ①  $0.7 \times \text{DSA}$ , otherwise there are increased acoustics and power loss



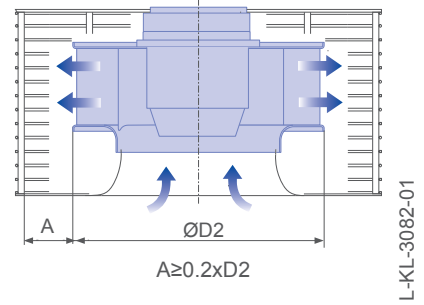
- The position of the opening can be above or below the fan, size ③  $\geq 0.8 \times \text{DSA}$
- Ideal design if the opening extends over the entire width of the device



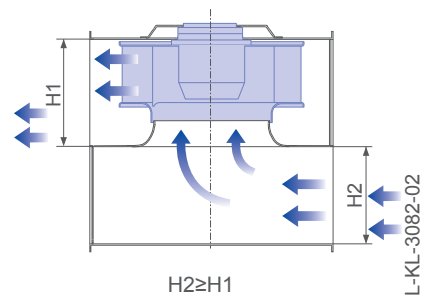
# Installation and safety instructions

## Installation instructions free-running impeller RH

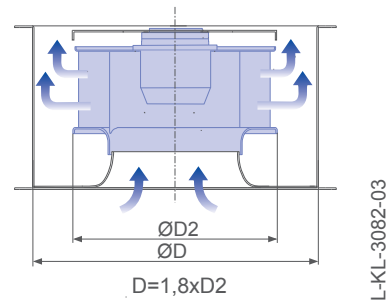
The fans in this catalogue are not ready-for-use products and must only be operated after they have been installed in machines, ventilation technology devices or plants and their safety has been secured through safeguards as per DIN EN 13857 resp. ISO 13852 by the manufacturer of the machine, the ventilation-technology device or the plant.



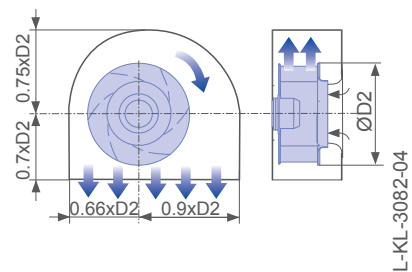
Switch cabinet ventilation



Duct fan



Pipe fan



Centrifugal fan RH with semi-scroll housing

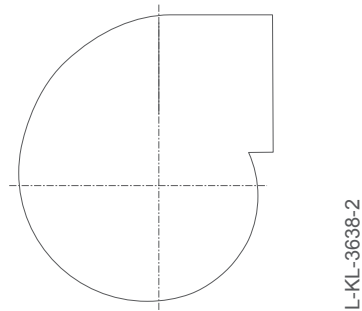


# Installation and usage information

## Information on EC centrifugal fan with constant air flow

The constant air flow control can only achieve the catalogue specifications if the supply is undisturbed. An irregular or blocked supply (e.g. due to the installation situation in the device) has significant effects on the characteristics and can produce large deviations from the values specified in the catalogue.

Using the motor fan impeller unit without the spiral geometry of ZIEHL-ABEGG can produce significant deviations from the catalogue data.



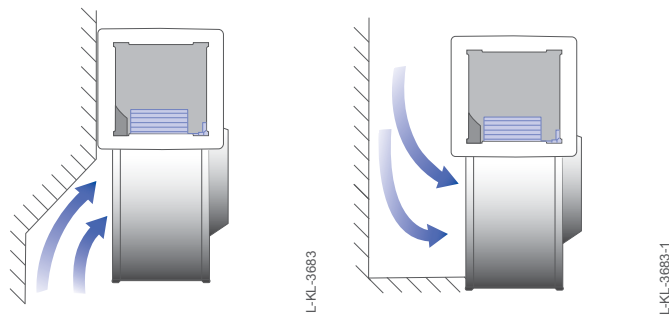
ZIEHL-ABEGG spiral geometry without dimensions - for dimensions, please see product page

### Installation information for a constant, unobstructed supply:

- There should be a distance of at least 25% of the impeller diameter between the fan suction area and adjacent add-on parts.
- A homogeneous supply should be implemented.
- In order to achieve a constant supply, suction side resistors (e.g. guard grilles or filters) can be used.

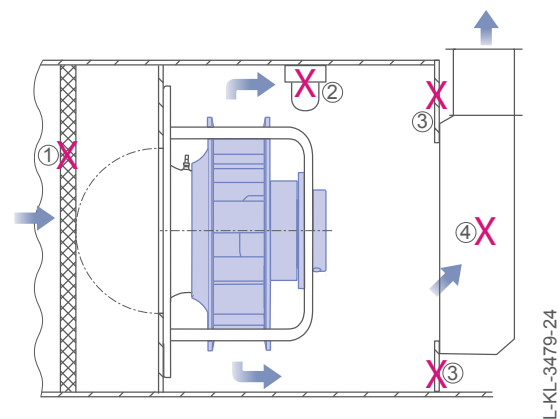
Upon request we offer dimensioned fan variants which are adapted to the customer-specific installation situation.

### Examples of irregular and blocked supply:



### Possible sources of faults during installation

- 90° change in flow direction and reduction in cross-section ④
- Obstructions on the pressure side (long lamp, fluorescent lamp) ②
- Interference on the intake side (battery too close) ①
- Constriction at outlet ③

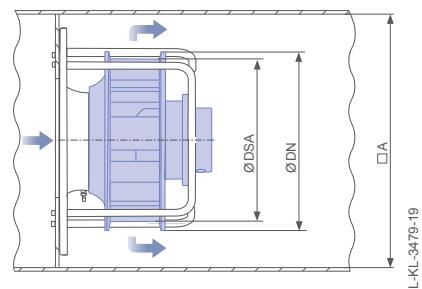
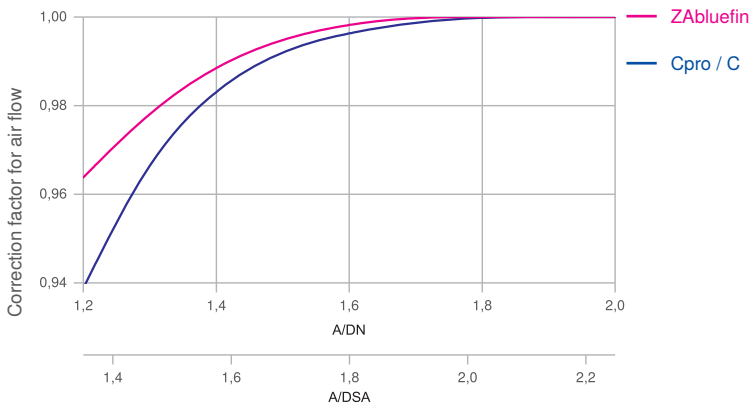


# Installation and usage information

## Impact of installation in the air handling units

The characteristic curve of the fan and the acoustic power as compared with the characteristic-curve information are influenced by installation of the fan in an air handling unit. Likewise, using a guard grille also influences the characteristic curve and the acoustics. ZIEHL-ABEGG analysed this influence on the behaviour of centrifugal fans in experiments. These influences can be calculated in the FANselect selection program. The diagram is merely intended to display a qualitative tendency of the empirically ascertained correction factors.

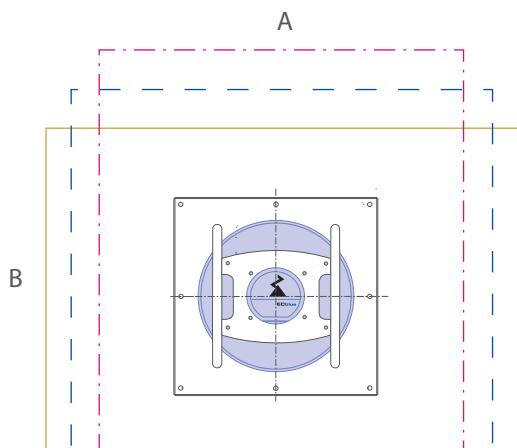
The installation losses when installed in a device housing can largely be ignored if the housing side A has a length of 1.8 x DSA (effective blade diameter).



L-KL-3479-19

## Approximate calculation of influence of an air conditioning cabinet

When installed in a rectangular device housing, the ratio of the housing sides can be calculated using the following formula:



$$\frac{A+B}{2} = 1.8 \times \text{DSA}$$

$$\frac{1.8+1.8}{2} = 1.8 \times \text{DSA}$$

$$\frac{2.0+1.6}{2} = 1.8 \times \text{DSA}$$

$$\frac{2.2+1.4}{2} = 1.8 \times \text{DSA}$$

L-KL-3479-18



## General notes

The information and data contained in this catalogue were composed to the best of our best ability and do not absolve the user from its duty to check the suitability of the products with respect to its intended application.

The customer is obligated to inform the supplier about general information concerning the intended use, the type of installation, the operating conditions and any other conditions that need to be taken into consideration if the order is not based on catalogue information.

ZIEHL-ABEGG SE reserves the right to make design changes, which are used for continuous technical improvement.

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