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komfovent

PPU

PACKAGE UNIT DESCRIPTION



EN

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This symbol indicates that this product is not to be disposed of with your household waste, according to the WEEE Directive (2002/96/EC) and your national law. This product should be handed over to a designated collection point, or to an authorised collection site for recycling waste electrical and electronic equipment (EEE). Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, approved WEEE scheme or your household waste disposal service.

DESCRIPTION OF PIPEWORK PACKAGE UNIT

Pipework Package Unit PPU is used for the adjustment of thermal power of water heaters, i. e. for the adjustment of thermal medium debit via the heater and support the temperature of supplied air.

Pipework Package Unit PPU must be used in a dry room where the temperature from +5 °C to +50 °C is maintained.

In order to install PPU unit outdoors, it must be additionally protected against freezing (e.g. by placing the unit in a thermally insulated cabinet or box) and ensuring constant circulation of hot water or using an antifreeze mixture of water and glycol.

The adjusted thermal medium must be free of dry solids (sand, dirt) or chemical substances as they may harm the mixing unit. No modifications of Pipework Package Unit are allowed because in such case the warranty shall be cancelled.

Prior the installation, the Pipework Package Unit PPU should be transported and stored in original packing. During the transportation, packing protects the Pipework Package Unit against dirt. During the transportation, the product should be protected against mechanical damage, for instance, against impact, falling or vibration. In case of damage due to improper transportation or storage, the warranty shall not apply.

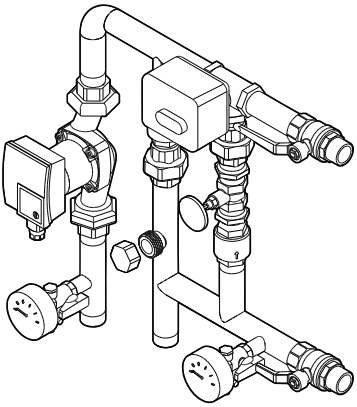
Pipework Package Unit PPU should be installed in a easy accessible location for service and maintenance. Electric wires should not come in contact with the surface of the mixing unit. Pipework Package Unit should be connected to the equipment ensuring its control. The pump rotation can be chosen of three levels. They are adjusted with a switch on the pump body.

PPU – hydraulic tests were not performed with Pipework Package Units!

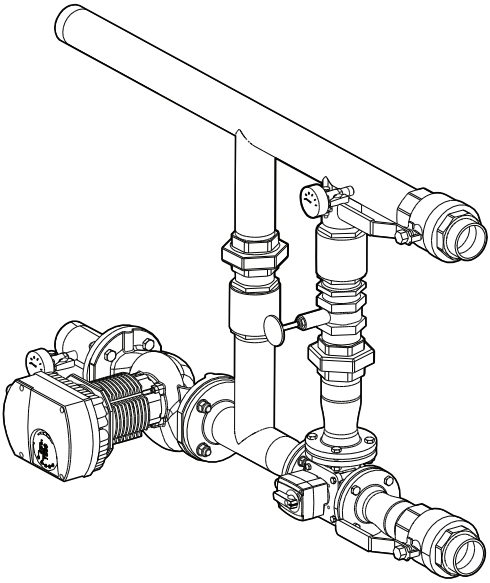
EN

General view

General view of pipework package unit:



Type A
Kvs ≤ 40



Type B
Kvs > 40

Decoding of marking:

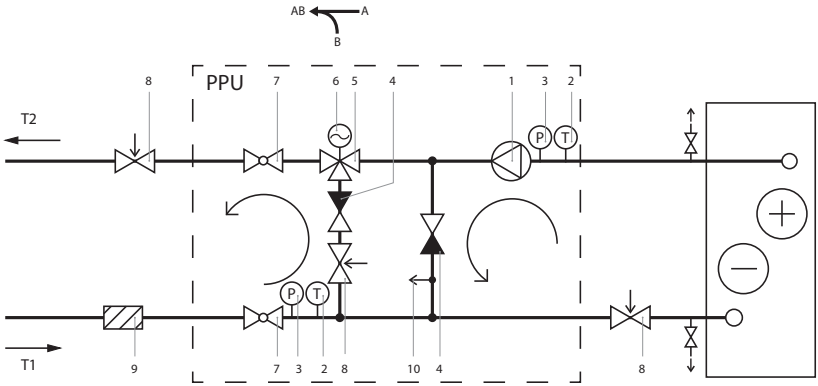
PPU	-	HW	-	3R	-	50	-	40	-	W8
1		2		3		4		5		6

1. PPU – Pipework package unit
2. HW – used for heating
   CW – used for cooling
3. 3 – three-way mixing valve
   R – heating/cooling medium connection from the right
   L – heating/cooling medium connection from the left
4. Nominal piping diameter DN, mm
5. Amount of flow (Kvs) through the mixing valve, m^3/h
6. Circulation pump type

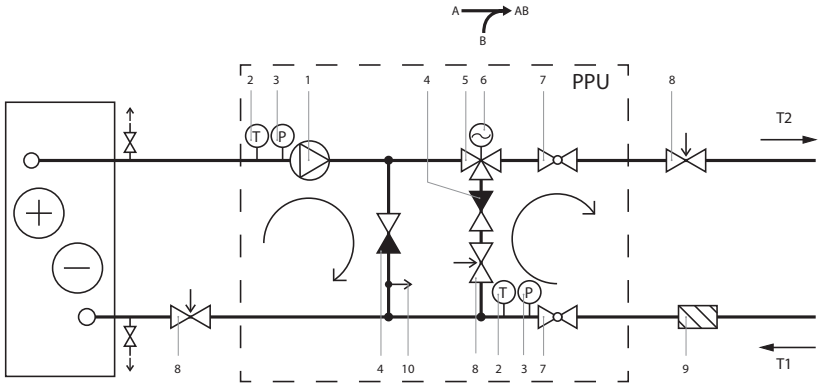
Installation diagram

The installation diagrams are presented below.

"Left-side" installation
A type Kvs ≤ 40



"Right-side" installation
A type Kvs ≤ 40

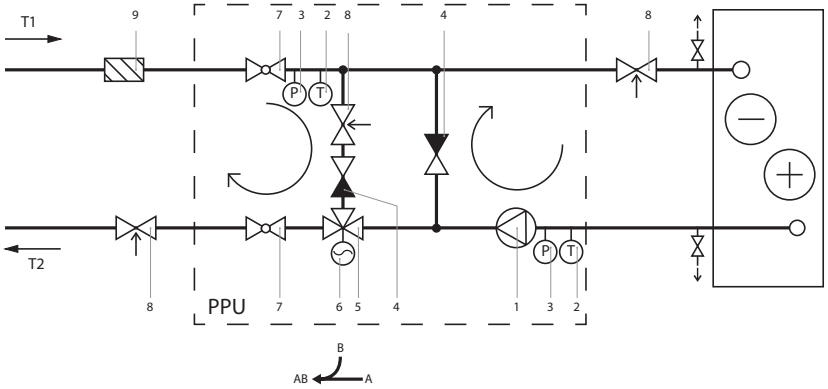


1. Circulation pump
2. Thermometer
3. Manometer
4. One-way valve
5. Three-way valve
6. Actuator
7. Ball valve
8. Balancing valve
9. Filter
10. Connection for flow sensor

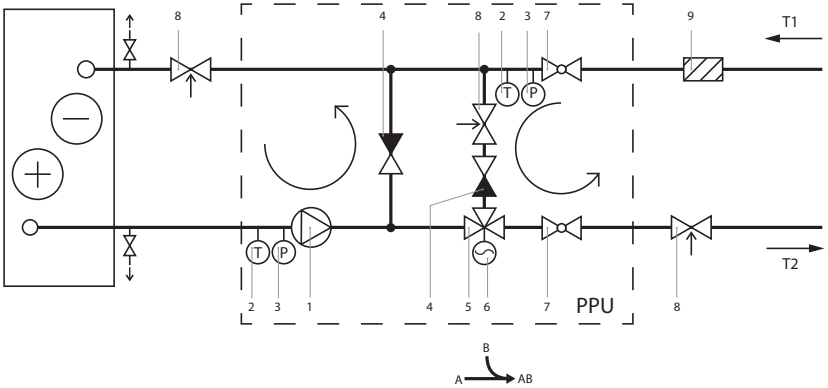
RECOMMENDATION: It is recommended to use dismantle joints during installation of Pipework Package Unit in case of emergency disassemble.

EN

"Left-side" installation
B type Kvs > 40



"Right-side" installation
B type Kvs > 40



1. Circulation pump
2. Thermometer
3. Manometer
4. One-way valve
5. Three-way valve
6. Actuator
7. Ball valve
8. Balancing valve
9. Filter

RECOMMENDATION: It is recommended to use dismantle joints during installation of Pipework Package Unit in case of emergency disassemble.

DANFOSS AMB 162, AMB 182 ELECTRICAL ACTUATORS

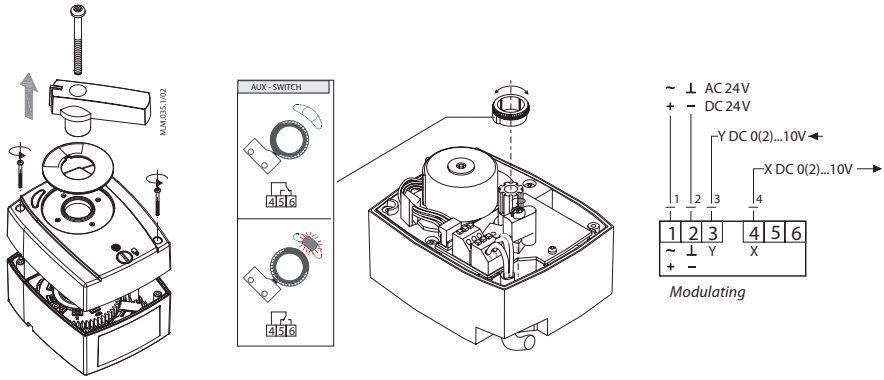
Description, main data



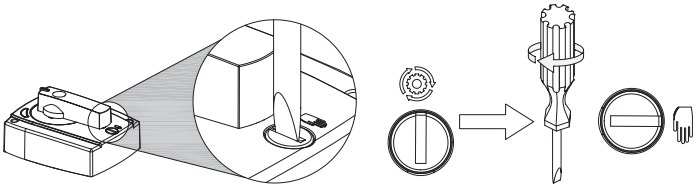
AMB 162, AMB 182 actuators is used for temperature control in central heating systems together with 3-way and 4-way rotary valves.

Main data:
- Supply voltage 24 V a.c.
- voltage signal of 0-10 V or 2-10 V.
- Opportunity to control manually.
- With electrical actuator limit of 90°.

Electrical wiring



The actuator is wired as the example above depending on actuator type.

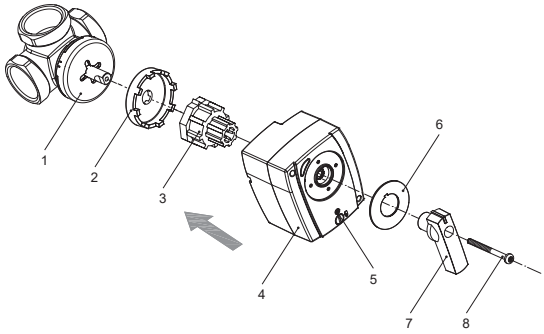


The actuator is switched to automatic mode, controlled by electrical signal, if manual mode was switched on. When automatic mode is switched on, the handle should not be turned by hand. This may damage the actuator.

EN

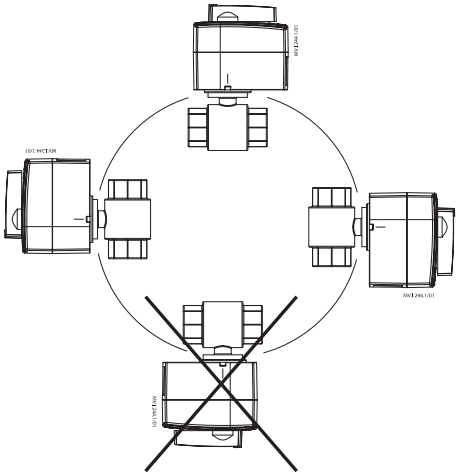
The installation of electrical actuator

Actuator should be assembled as shown in a picture below.



1. Rotary valve
2. Anti-rotation spacer
3. Valve adapter
4. Actuator
5. Manual operating clutch
6. Position indicator
7. Handle
8. Fixing screw

The actuator cannot be mounted upside-down (look at the picture below).

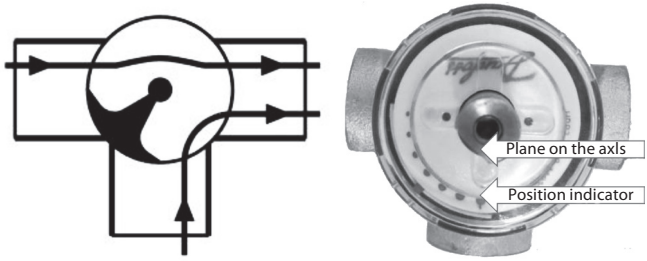


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„Right-side“ working mode

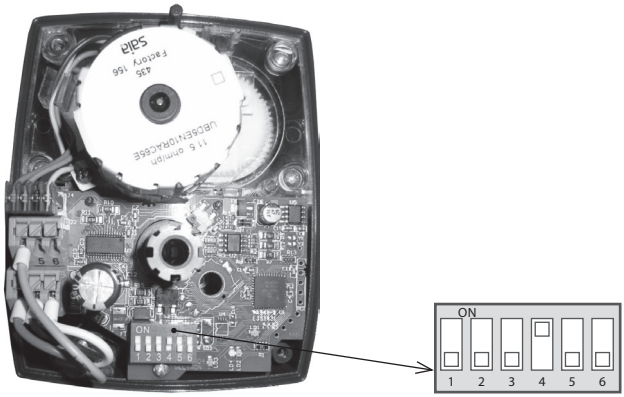
The position of axle before installation

Make sure that valve is in correct position before installation. The valve should be in transitional position. The plane on the axis indicates the position of valve. Position indicator should be also mounted in correct position as shown in the picture.



DIP switch setting

DIP switch should be seen when the cover of actuator is removed. Make sure the switch No. 4 is in ON position.



Mounting the handle

Actuator is finished assembling by putting the handle in position as shown in the picture.

The electrical actuator is ready for use.

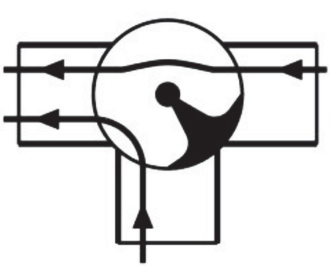


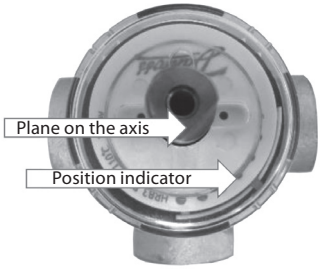
EN

„Left-side“ working mode

The position of axle before installation

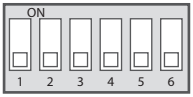
Make sure that valve is in correct position before installation. The valve should be in transitional position. The plane on the axis indicates the position of valve. Position indicator should be also mounted in correct position as shown in the picture.





DIP switch setting

DIP switch should be seen when the cover of actuator is removed. Make sure the switch No. 4 is in OFF position.



Mounting the handle

Actuator is finished assembling by putting the handle in position as shown in the picture.

The electrical actuator is ready for use.

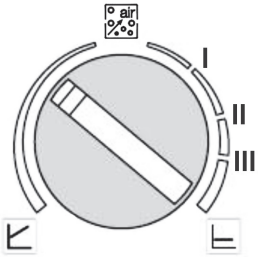


ELECTRICAL WATER PUMP[1]

High-efficiency circulation pump for hot water heating systems with integrated differential pressure control. Control mode and differential pressure (delivery head) are adjustable. The differential pressure is controlled via the pump speed.

Operating knob

- Select control mode.
- Set differential pressure setpoint H.
- Activate the venting function.





The venting function vents the pump automatically.
The heating system is not vented.

Operating button[2]

Select control mode or speed by pressing operating button. Indication light will appear near selected mode.

Press and hold for 3 seconds to activate pump venting function.



[1] This description/instructions is not valid if a pump of an alternative supplier is chosen for manufactured PPU unit. The pump instructions is included in the kit.

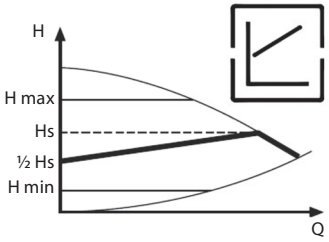
[2] Only for Wilo-Strata series pumps.

Control modes

Variable differential pressure (Δp-v)

The differential pressure setpoint H is increased linearly from ½ H to H across the volume flow range. The differential pressure generated by the pump is adjusted to the corresponding differential pressure setpoint.

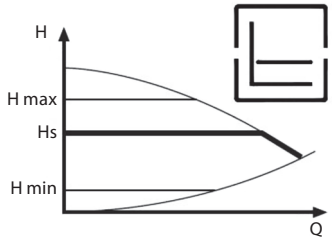
Note: *Recommended for heating systems with radiators to reduce the flow noises at the thermostatic valves.*



Constant differential pressure (Δp-c)

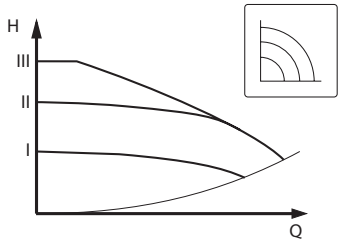
The differential pressure is kept constant at the differential pressure setpoint H.

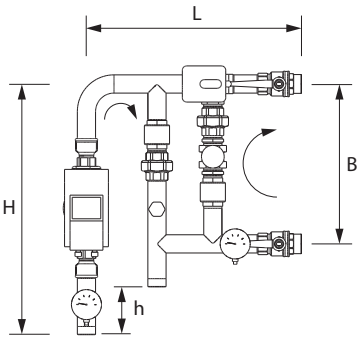
Note: *Recommended for underfloor heating, large-sized pipes as well as all applications without changeable pipe system curve (e.g. storage charge pumps).*



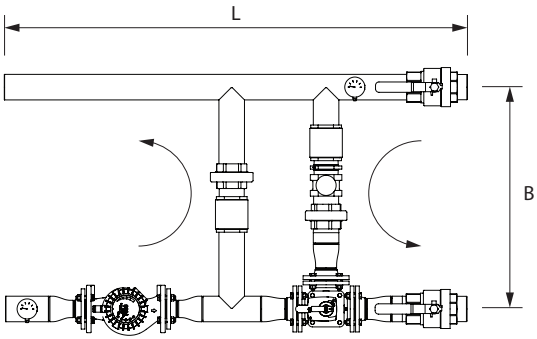
Constant pump speed[1]

Recommended for systems with fixed system resistance requiring a constant volume flow.
The pump runs in three prescribed fixed speed stages (I, II, III).





Type A
Kvs ≤ 40



Type B
Kvs > 40

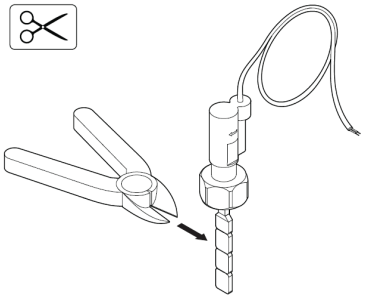
[1] Only for Wilo-Strata series pumps.

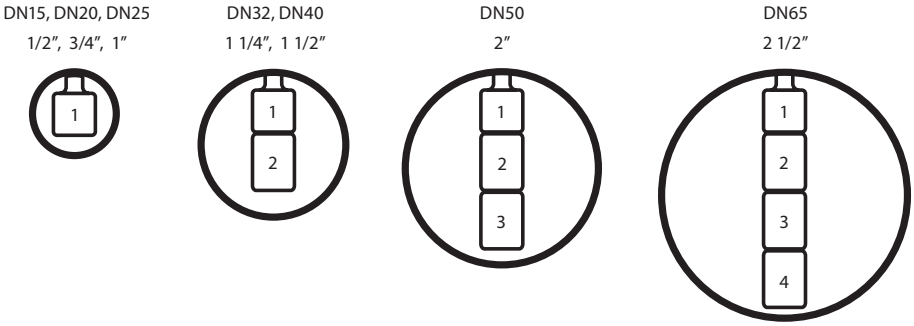
EN

Flow switch[1] installation

A flow switch monitors water movement inside the pipe and will trigger an alarm if water flow is drastically decreased or stopped. Water flow may stop due to a broken water pump, stuck regulation valve, or water absence in the system. In negative air temperatures, stopped water flow may lead to a frozen and damaged water coil or pump.

When mounting the flow switch it is important to adjust it according to size of the mounting pipe (where the sensor to be installed. The sensor baffle consists of four segments, which can be cleaved using wire cutters according to the pipe diameter:

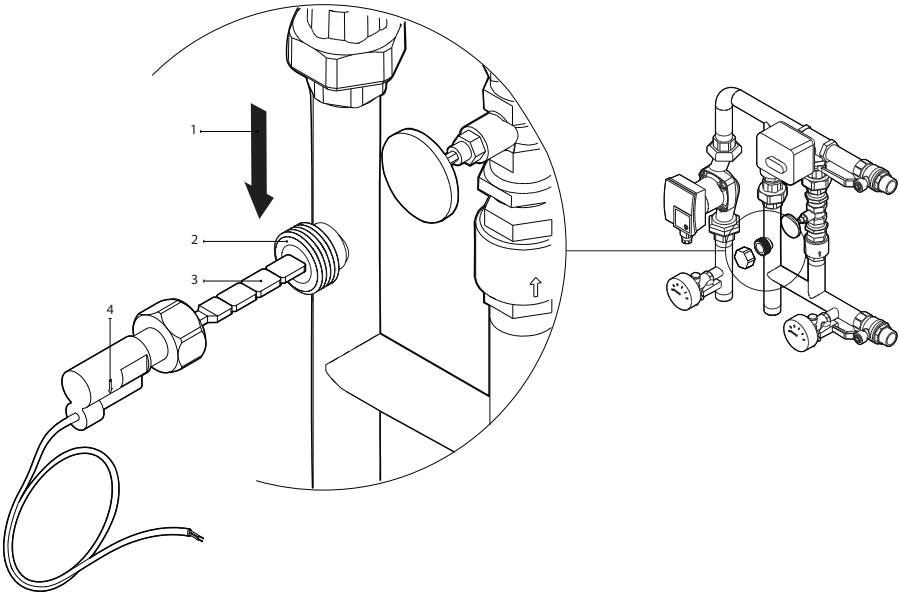




The flow switch must be installed in a way, that the arrow on its casing is parallel to the water flow and pointing in the same direction as water flows. The sensor baffle must be perpendicular to the water flow.

[1] Ordered separately.

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1 – water flow direction, 2 – connection on the pipe, 3 – sensor baffle, 4 – mounting position arrow

EN

Technical specification

DN, mm	Kvs, m³/h	Pump type	Current, A	Power, W	Voltage, V	Construction type	B, mm	H, mm	L, mm	h, mm	Connection type
15 (1/2")	0,4	W2	0,22	50	1x230	A	322	426	439	4	Thread
15 (1/2")	0,4	W3	0,5	57	1x230	A	322	498	439	76	Thread
15 (1/2")	0,63	W2	0,22	50	1x230	A	322	426	439	4	Thread
15 (1/2")	1,0	W3	0,5	57	1x230	A	322	498	439	76	Thread
15 (1/2")	1,0	W2	0,22	50	1x230	A	322	426	439	4	Thread
15 (1/2")	1,6	W2	0,22	50	1x230	A	322	426	439	4	Thread
15 (1/2")	1,6	W3	0,5	57	1x230	A	322	498	439	76	Thread
15 (1/2")	2,5	W2	0,22	50	1x230	A	322	426	439	4	Thread
15 (1/2")	2,5	W3	0,5	57	1x230	A	322	498	439	76	Thread
20 (3/4")	4,0	W2	0,22	50	1x230	A	312	500	457	88	Thread
20 (3/4")	4,0	W3	0,5	57	1x230	A	312	510	457	98	Thread
20 (3/4")	4,0	W4	0,55	120	1x230	A	312	510	457	98	Thread
20 (3/4")	4,0	W5	1,5	190	1x230	A	312	510	457	98	Thread
25 (1")	6,3	W2	0,22	50	1x230	A	376	523	490	48	Thread
25 (1")	6,3	W3	0,5	57	1x230	A	376	485	490	10	Thread
25 (1")	6,3	W4	0,55	120	1x230	A	376	485	490	10	Thread
25 (1")	6,3	W5	1,5	190	1x230	A	376	485	490	10	Thread
25 (1")	10,0	W3	0,5	57	1x230	A	376	485	490	10	Thread
25 (1")	10,0	W5	1,5	190	1x230	A	376	485	490	10	Thread
25 (1")	10,0	W6	1,33	305	1x230	A	376	527	490	52	Thread
32 (1 1/4")	16,0	W3	0,5	57	1x230	A	372	580	503	107	Thread
32 (1 1/4")	16,0	W5	1,5	190	1x230	A	372	584	503	111	Thread
32 (1 1/4")	16,0	W6	1,33	305	1x230	A	372	504	503	32	Thread
32 (1 1/4")	16,0	W7	1,33	305	1x230	A	372	564	503	92	Thread
40 (1 1/2")	25,0	W3	0,5	57	1x230	A	403	594	530	92	Thread
40 (1 1/2")	25,0	W5	1,5	190	1x230	A	403	594	530	92	Thread
40 (1 1/2")	25,0	W7	1,33	305	1x230	A	403	537	530	35	Thread
40 (1 1/2")	25,0	W8	2,4	550	1x230	A	403	570	530	68	Thread
50 (2")	40,0	W7	1,33	305	1x230	A	429	653	557	123	Thread
50 (2")	40,0	W8	2,4	550	1x230	A	429	683	557	153	Thread
50 (2")	40,0	W9	2,5	560	1x230	A	429	616	557	87	Thread
50 (2")	44,0	W14	1,8	380	1x230	B	577	-	1370	-	Thread
50 (2")	44,0	W15	1,8	380	1x230	B	577	-	1380	-	Thread
65 (2 1/2")	60,0	W14	1,8	380	1x230	B	660	-	1500	-	Thread
65 (2 1/2")	60,0	W16	2,2	480	1x230	B	660	-	1505	-	Thread
65 (2 1/2")	60,0	W17	1,7	370	1x230	B	660	-	1565	-	Thread
65 (2 1/2")	60,0	W9	2,5	560	1x230	B	660	-	1565	-	Thread
80 (3")	90,0	W17	1,7	370	1x230	B	772	-	1610	-	Thread
80 (3")	90,0	W9	2,5	560	1x230	B	772	-	1610	-	Thread
80 (3")	90,0	W19	2,5	560	1x230	B	772	-	1670	-	Thread

DN, mm	Kvs, m^3/h	Pump type	Current, A	Power, W	Voltage, V	Construction type	B, mm	H, mm	L, mm	h, mm	Connection type
80 (3“)	90,0	W20	3,5	810	1x230	B	772	-	1670	-	Thread
80 (3“)	90,0	W22	6	1400	1x230	B	772	-	1520	-	Thread
100/114.3 PN6	150,0	W20	3,5	810	1x230	B	937	-	1965	-	Flange
100/114.3 PN6	150,0	W21	3,5	800	1x230	B	937	-	1995	-	Flange
100/114.3 PN6	150,0	W22	6	1400	1x230	B	937	-	1995	-	Flange

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PL	Ventia Sp. z o.o.	www.ventia.pl
SE	Nordisk Ventilator AB	www.nordiskventilator.se
SI	Agregat d.o.o	www.agregat.si
SK	TZB produkt, s.r.o.	www.tzbprodukt.sk
UA	TD VECON LLC	www.vecon.ua