

SysAer

SR55 / SR65 / SR80 / SR95 / SR105 / SR120 / SR140
SR160 / SR190 / SR210

Roof-mounted air conditioning unit



R410A

49.6 → 217.3kW



49.2 → 216.2kW



7760 → 41 000m³/h



INSTALLATION INSTRUCTION

NOTICE D'INSTALLATION

INSTALLATIONSHANDBUCH

ISTRUZIONI INSTALLAZIONE

INSTRUCCIONES DE INSTALACIÓN

English

Français

Deutsch

Italiano

Español

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POWER SUPPLY MUST BE SWITCHED OFF BEFORE STARTING WORK IN THE ELECTRIC CONTROL BOX

1. GENERAL RECOMMENDATIONS

The purpose of this Manual is to provide users with instructions for installing, commissioning, using and maintaining the units.

It does not contain the complete description of all the maintenance operations guaranteeing the unit's long life and reliability. Only the services of a qualified technician can guarantee the unit's safe operation over a long service life.

Please read the following safety precautions very carefully before installing the unit.

1.1. SAFETY DIRECTIONS

Follow the safety rules in forces when you are working on your appliance.

The installation, commissioning, use and maintenance of these units should be performed by qualified personnel having a knowledge of standards and local regulations, as well as experience of this type of equipment.

This appliance has not been designed for use by persons (including children) with reduced physical, sensorial or mental faculties or by persons without any experience or knowledge of heating systems, unless they act under the safety and supervision of a responsible person or have received prior training concerning the use of the appliance.

The unit should be handled using lifting and handling equipment appropriate to the unit's size and weight.

Given the high refrigerant temperatures present at certain points in the cooling circuit, access to the area protected by the panels is strictly reserved for qualified personnel only. These panels are easily opened with a special tool. This tool should be kept by the installers or by the maintenance company.

Any wiring produced on site must comply with the corresponding national electrical regulations.

Make sure that the power supply and its frequency are adapted to the required electric current of operation, taking into account specific conditions of the location and the current required for any other appliance connected to the same circuit.

The unit must be EARTHED to avoid any risks caused by insulation defects.

It is forbidden to start any work on the electrical components if water or high humidity is present on the installation site.

1.2. WARNING

Cutoff power supply before starting to work on the appliance.

When making the hydraulic connections, ensure that no impurities are introduced into the pipe work.

The manufacturer declines any responsibility and the warranty becomes void if these instructions are not respected.

If you meet a problem, please call the Technical Department of your geographical area.

If possible, assemble the compulsory or optional accessories before placing the appliance on its final location. (see instructions provided with each accessory).

In order to become fully familiar with the appliance, we suggest to read also our Technical Instructions.

The information contained in these Instructions are subject to modification without advance notice.

1.3. EQUIPMENT SAFETY DATA

Safety Data	R410A
Toxicity	Low
In contact with skin	Skin contact with the rapidly evaporating liquid may cause tissue chilblains. In case of skin contact with the liquid, warm the frozen tissue with water and call a doctor. Remove contaminated clothing and footwear. Wash the clothing prior to re-use.
In contact with eyes	Vapours have no effect. Liquid splashes or sprays may cause freeze burns. In these cases rinse your eyes with running water or with a solution for eye lavages for at least 10 minutes. Immediately contact a doctor.
Ingestion	In this case, burns may result. Do not attempt to make the patient vomit. If the patient is conscious, rinse the mouth with water. Call a doctor immediately.
Inhalation	In case of inhalation, move the patient to an area with fresh air and provide oxygen if necessary. Perform artificial respiration if the patient has stopped breathing or lacks air. In case of cardiac arrest, perform external cardiac massage. Call a doctor immediately.
Further Medical Advice	Exposure to high concentrations can be dangerous for individuals with cardiac problems, as the presence of catecholamines such as adrenalin in the bloodstream may lead to increased arrhythmia and possible cardiac arrest.
Occupational exposure limits	R410A: Recommended limits: 1,000 ppm v/v 8 hours TWA.
Stability	Stable product
Conditions to avoid	Increased pressure due to high temperatures may cause the container to explode. Keep out of the sun and do not expose to a temperature >50°C.
Hazardous reactions	Possibility of dangerous reactions in case of fire due to the presence of F and/or Cl radicals
General precautions	Avoid the inhalation of high concentrations of vapours. The concentration in the atmosphere shall be kept at the minimum value and anyway below the occupational limits. Since vapours are heavier than air and they tend to stagnate and to build up in closed areas, any opening for ventilation shall be made at the lowest level.
Breathing protection	In case of doubt about the actual concentration, wear breathing apparatus. It should be self-contained and approved by the bodies for safety protection.
Storage Preservation	Refrigerant containers shall be stored in a cool place, away from fire risk, direct sunlight and all heat sources, such as radiators. The maximum temperature shall never exceed 50°C in the storage place.
Protection clothes	Wear boots, safety gloves and glasses or masks for facial protection.
Behaviour in case of leaks or escapes	Never forget to wear protection clothes and breathing apparatus. Isolate the source of the leakage, provided that this operation may be performed in safety conditions. Any small quantity of refrigerant which may have escaped in its liquid state may evaporate provided that the room is well ventilated. In case of a large leakage, ventilate the room immediately. Stop the leakage with sand, earth or any suitable absorbing material. Prevent the liquid refrigerant from flowing into drains, sewers, foundations or absorbing wells since its vapours may create an asphyxiating atmosphere.
Disposal	The best procedure involves recovery and recycle. If this is not possible, the refrigerant shall be given to a plant which is well equipped to destroy and neutralise any acid and toxic by-product which may derive from its disposal.
Combustibility features	R410A: Non-inflammable at ambient temperatures and atmospheric pressures.
Containers	If they are exposed to the fire, they shall be constantly cooled down by water sprays. Containers may explode if they are overheated.
Behaviour in case of fire	In case of fire wear protection clothes and self-contained breathing apparatus.

2. INSPECTION AND STORAGE

At the time of receiving the equipment carefully cross check all the elements against the shipping documents in order to ensure that all the crates and boxes have been received. Inspect all the units for any visible or hidden damage.

Confirmation of the type of unit ordered can be obtained by reading the maker's plate (capacity, type and air blowing configuration).

In the event of shipping damage, write precise details of the damage on the shipper's delivery note and send immediately a registered letter to the shipper within 48 hours, clearly stating the damage caused. Forward a copy of this letter to the manufacturer or his representative.

Never store or transport the unit upside down. Protect unit at the job side from damages made by others. When unit is stored on the ground, avoid mud store unit leveled.

3. WARRANTY

The appliances are delivered fully assembled, factory tested and ready to operate.

Any modification to the units without the manufacturer's prior approval, shall automatically render the warranty null and void.

The following conditions must be respected in order to maintain the validity of the warranty:

- Commissioning shall be performed by specialised technicians from technical services approved by the manufacturer.
- Maintenance shall be performed by technicians trained for this purpose.
- Only Original Equipment spare parts shall be used.
- All the operations listed in the present manual shall be performed within the required time limits.

INSTRUCTIONS FOR FILLING IN THE "1st START-UP FORM"

(SEE APPENDIX)

It is the responsibility of the OWNER to make sure that the "1st Start-up Form" is fully filled in by the authorized Service Centre and sent by registered mail - notified in advance by fax - to the After-Sales Service of the constructor within 8 days of the initial start-up.

Failure to receive the form on the part of the constructor will render the guarantee null and void.



THE WARRANTY SHALL BE NULL AND VOID IN THE EVENT OF NON-COMPLIANCE WITH ANY OF THE ABOVE CONDITIONS.

4. PRESENTATION

All the models in the **SysAer** are produced to state-of-the-art design and manufacturing standards. In this way, they offer guarantees of high performance and reliability as well as the capability of adapting to all types of air conditioning installations. The unit has been designed for an outdoor mounted application, ensuring perfectly weatherproof circulation of the air within the compartments. It is not adapted for any use other than those specified in the present manual..

Improper usage of the unit or a use for purposes other than those originally intended, without the prior approval by the manufacturer or its agents, could result in the unit functioning outside its safe operating limits and could present risks to both personnel and property.

The **SysAer** is design very compact and it has an optimal foot print/weight ratio. Numerous accessoires and options can be added to the basic version to adapt it perfectly to the client's specific requirements.

The **SysAer** units are designed to safeguard to environment and reduce building energy consumption by the use of R410A as a refrigerant and double skin 25 mm panels for greater thermal insulation.

After the units are assembled, the refrigerating and electrical circuits are tested at the factory in order to guarantee correct operation.

The are filled with an operational refrigerant fluid charge and are subjected to pressure tightness tests.

5. CONTENTS OF PACKAGE

1 SysAer

1 Installation and maintenance manual

1 Control manual

1 siphon

5.1. OPTIONAL ACCESSORIES

Anti-vibration rubber pads

Duct connection frame

On opening the carton, check that all the accessories required for installation are present.

6. DIMENSIONS

SEE APPENDIX

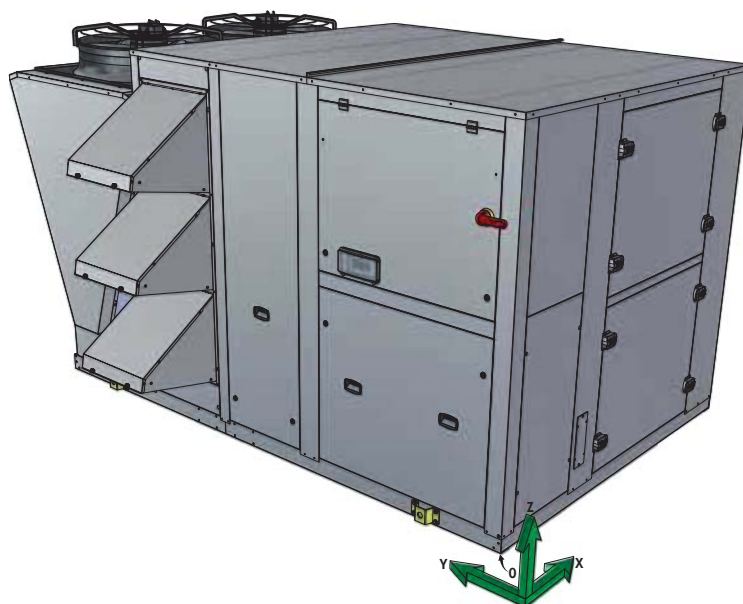
7. HANDLING

7.1. NET WEIGHT

		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
basic	kg	1 085	1 155	1 225	1 470	1 685	1 805	1 855	2 350	2 555	2 705
Filter	G4	Kg	30	30	30	45	45	45	45	45	45
	G4+F7	kg	40	40	40	65	65	65	65	65	65
	G4+F9	kg	40	40	40	65	65	65	65	65	65
2 dampers	Kg	95	95	95	115	115	115	115	165	165	165
3 dampers RECO	Kg	375	385	415	430	430	450	450	515	515	515
TRECO	Kg	125	125	125	165	165	165	165	215	215	215
FRECO	kg	25	25	25	30	30	30	30	30	30	30
Electric heating	Kg	25	25	25	30	30	30	30	50	50	50
Warm water coil	Kg	25	25	25	30	30	30	30	30	30	30
Gas burner	Kg	65	80	80	105	105	105	105	460	460	460

7.2. GRAVITY CENTER POSITION

	Xg	Yg	Zg
	mm	mm	mm
SR55	870	1 400	740
SR65	870	1 350	740
SR80	860	1 300	740
SR95	1 070	1 600	900
SR105	1 050	1 530	900
SR120	1 000	1 450	900
SR140	970	1 400	900
SR160	1 050	2 250	930
SR190	1 050	2 250	930
SR210	1 050	2 120	930



7.3. MANUTENTION GENERALITES

The good method of handling depends on the model of **SysAer** and its final destination.

- Take care to avoid any rough handling or impacts when unloading and moving the appliance.
- Before hoisting into position, test lift to insure stability and balance. Avoid twisting or uneven lifting of the units.
- The units shall be carefully inspected before unit installation to make sure this has not happened.
- If these sections have been inspected before leaving the factory. It is important to insure that no bolts, screws or other fixing system are loosened or missing before the commissioning.

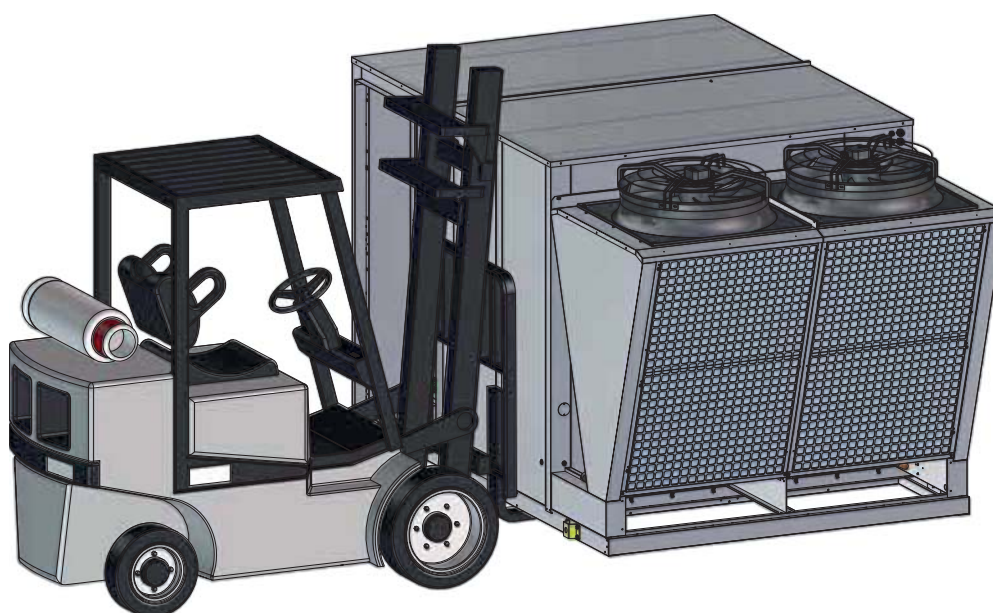


Caution

Never submit the metal work (panels, posts) of the **SysAer** to handling constraints, as only its base is designed for that purpose.

7.3.1. HANDLING WITH A FORKLIFT

When a forklift is used to handle the **SysAer** SR55/SR65/SR80/SR95/SR105/SR120/SR140 units, lift them only along their width.



Place a safety wedge between the unit base and the fork lift truck to avoid damaging the unit's structure and casing.



Caution

The forklift must be fitted with forks with a minimum length of 2.5m.

7.3.2. HANDLING BY SLINGING

Lifting is also possible by slinging in four or six sling.

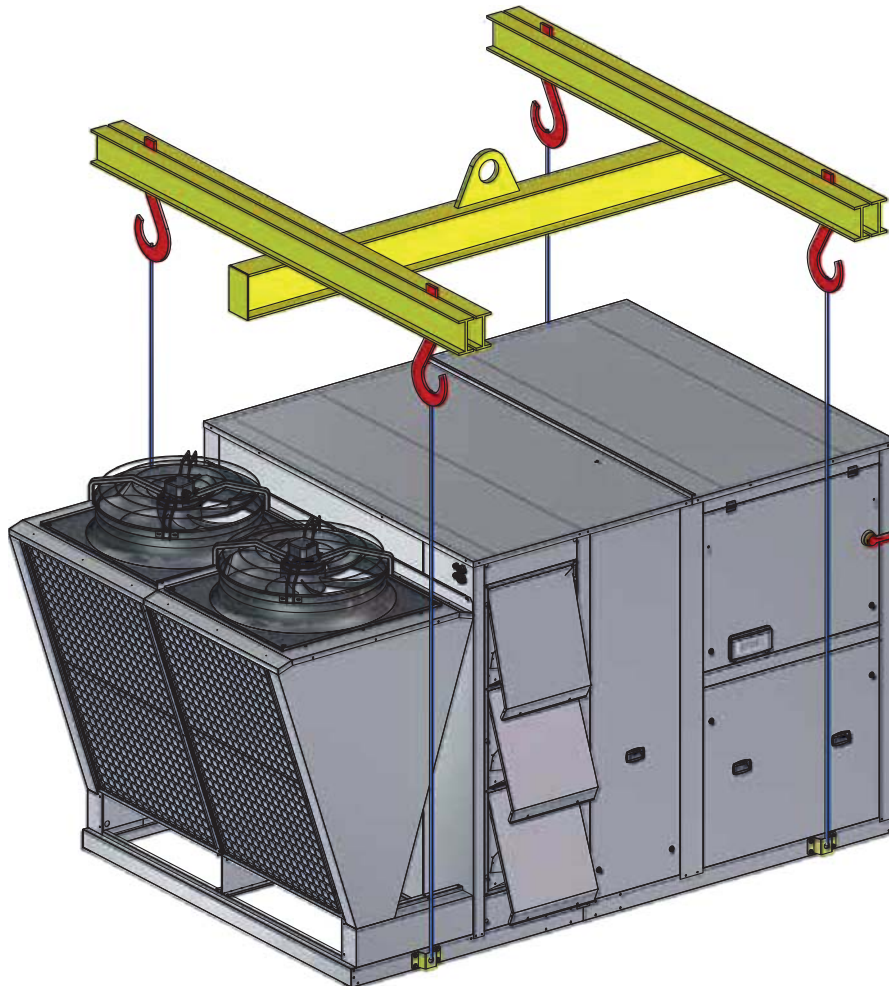
Rings attached rigidly to the unit structure are intended for completely safe handling.

It is essential to use a spreader or spacer so as not to damage the panels and the structure of the machine.



Caution

Slings must never touch the unit casing of **SysAer**.



Caution

The lifting point must suit the unit's centre of gravity.

8. TECHNICAL SPECIFICATIONS

8.1. PHYSICAL CHARACTERISTICS

	SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210		
Supply voltage	400V / 3~ +N / 50Hz											
Number of refrigerant circuit	2	2	2	2	2	2	2	2	2	2		
REFRIGERANT												
Type	R410A											
Factory charge	SEE NAME PLATE											
COMPRESSORS												
Type	Scroll											
Number	2	2	2	2	2	2	2	4	4	4		
Part load steps	%	0/50/100	0/50/100	0/50/100	0/50/100	0/50/100	0/50/100	0/25/50 75/100	0/25/50 75/100	0/25/50 75/100		
Crankcase heater	W	2 x 70	2 x 70	2 x 70	2 x 70	2 x 70	2 x 70	2 x 120	4 x 70	4 x 70	2 x 70 2 x 120	
INDOOR COILS												
Type	Tubes copper & fins aluminum											
Number of rows	3	3	4	3	4	4	4	4	6	6		
Frontal surface	m ²	1.50	1.80	2.25	2.25	3.24	3.24	3.24	3.24	3.24		
INDOOR FAN												
Type	Plug Fan											
Number	1	1	1	1	1	2	2	2	2	2		
Air flow rate	Minimum	m ³ /h	7 760	9 200	11 440	14 000	15 600	17 200	20 400	24 000	26 000	28 000
	Nominal	m ³ /h	9 700	11 500	14 300	17 500	19 500	21 500	25 500	28 000	30 000	32 000
	Maximum	m ³ /h	11 640	13 800	17 160	21 000	23 400	25 800	30 600	36 000	39 000	41 000
Power input	kW	3.5	5.7	5.8	7.0	7.0	11.4	11.4	13.5	13.5	13.5	
OUTDOOR COILS												
Type	Tubes copper & fins aluminum											
Number of rows	2	2	3	2	3	3	3	2	3	3		
Frontal surface	m ²	0.76	1.01	1.01	1.50	1.50	1.50	1.50	2.70	2.70	2.70	
OUTDOOR FAN												
Type	Axial											
Number	2	2	2	2	2	2	2	4	4	4		
Diameter	mm	630	710	710	800	800	800	800	800	800	800	
Air flow rate	Nominal	m ³ /h	9 800	13 000	13 000	20 000	20 000	20 000	20 000	15 500	15 500	20 500
Power input	kW	0.62	0.94	0.94	1.65	1.65	1.65	1.65	0.84	0.84	1.65	

8.2. REFRIGERATION SPECIFICATIONS

8.2.1. REFRIGERANT CIRCUIT DIAGRAM

SEE APPENDIX

8.2.2. REFRIGERANT CHARGE



Caution

This equipment contains fluorinated gas with greenhouse gas effects covered by the Kyoto agreement.

The type and quantity of refrigerating fluid per circuit are indicated on the product plate.

The installer and end user will get informed on local environmental regulations for the installation, operation and disposal of the equipment ; more particularly, for the collection of substances hazardous for the environment (refrigerating fluid, oil, antifreeze, etc.). A refrigerating fluid, whatever it is, must not be vented. Refrigerating fluids must be handled by skilled personnel.



Caution

SysAer units use the R410A fluoro-carbonated fluid, belonging to group 2 as defined in directive 2014/68/UE. Considering the maximum operating pressure of these units (42 bar g), they integrate category 2 (or lower) components as defined in directive 2014/68/UE.

8.2.3. FLUOROCARBON GAS REGULATIONS

The EC No. 517/2014 regulation covering fluorinated greenhouse gases requires of refrigeration equipment operators to comply with the following five obligations:

1. Installation, servicing, maintenance as well as checking the sealing must be carried out by qualified personnel.
2. The fluorinated gas must be recovered during servicing and maintenance as well as the end of the installation.
3. All the necessary measures must be taken to prevent the leakage of fluorinated gases and any leaks must be repaired as rapidly as possible.
4. Regular checks on any leaks must be performed according to the following conditions:
 - ✓ for equipment containing fluorinated greenhouse gases in quantities greater than or equal to the equivalent of 5 tonnes of CO₂ but less than the equivalent of 50 tonnes of CO₂: at least every twelve months or, if a leak detection system is installed, at least every twenty-four months
 - ✓ for equipment containing fluorinated greenhouse gases in quantities greater than or equal to the equivalent of 50 tonnes of CO₂ but less than the equivalent of 500 tonnes of CO₂: at least every six months or, if a leak detection system is installed, at least every twelve months
 - ✓ for equipment containing fluorinated greenhouse gases in quantities greater than or equal to the equivalent of 500 tonnes of CO₂: at least every three months or, if a leak detection system is installed, at least every six months.
5. A document grouping a description of all the operations carried out on the cooling circuit must be drafted and conserved.



Caution

Non-compliance with one of these obligations constitutes an offense and can result in financial penalties.

Furthermore, compliance of the equipment with the fluorinated gases regulation must be proven to the insurance company.

8.2.3.1. GREENHOUSE GASES CALCULATION

$$\text{Greenhouse quantity gases (kg of CO}_2\text{)} = \text{Quantity of gas (kg) x GWP of the gas}$$

Greenhouse gas quantity expressed in weight (kg) and in equivalent of CO₂

GWP (Global Warming Potential) some gas contained in the machine (see product plate)

Gas quantity : Gas quantity contained in the machine in kg (see product plate)

➤ **GWP for R410A = 2088**

➤ **GWP for R407C = 1774**

8.3. ELECTRIC SPECIFICATIONS

The maximum intensity absorbed by the **SysAer** as well as the total start-up intensity are calculated by adding the basic values provided for the SysAer with the additional options.

8.3.1. SYSAER BASIC

		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
Supply voltage		400V / 3~ +N / 50Hz									
Maximum intensity	A	40.9	48.6	65.4	73.0	79.0	85.0	105.0	137.2	141.2	158.0
Total start intensity (without soft starter)	A	150.7	166.0	175.4	215.0	266.0	272.0	329.0	246.2	283.2	345.0
Total start intensity (with soft starter)	A	64.6	76.7	104.4	114.6	128.4	134.4	167.4	177.5	182.8	207.4

8.3.2. IFAN - BLAST FAN

		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210	
Maximum intensity		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210	
AC Motor	LPF	A	8.1	8.1	10.7	14.3	14.3	14.3	20.7	21.4	29.0	29.0
	HPF	A	8.1	10.7	14.3	14.3	20.7	20.7	27.7	29.0	29.0	29.0
EC Motor	LPF	A	5.4	9.0	9.2	10.8	10.8	18.0	18.0	20.6	20.6	20.6
	HPF	A	9.0	9.0	10.8	18.0	18.0	18.0	18.0	34.0	34.0	34.0

8.3.3. IFAN - RETURN FAN

		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
Maximum intensity		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
EC Motor	LPF	A	5.4	5.4	9.2	9.2	10.8	10.8	18	20.6	20.6
	HPF	A	5.4	9	9.2	10.8	10.8	18	18	20.6	20.6

8.3.4. ELECTRIC HEATING COIL

		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
Power	kW	36	36	36	60	60	60	48	96	96	96
Maximum intensity	A	57.2	57.2	57.2	95.3	95.3	95.3	76.2	152.4	152.4	152.4

8.3.5. TRECO - THERMODYNAMIC RECOVERY

		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
Maximum intensity	A	13.0	13.0	13.0	21.6	21.6	21.6	21.6	32.0	32.0	32.0

IMPORTANT

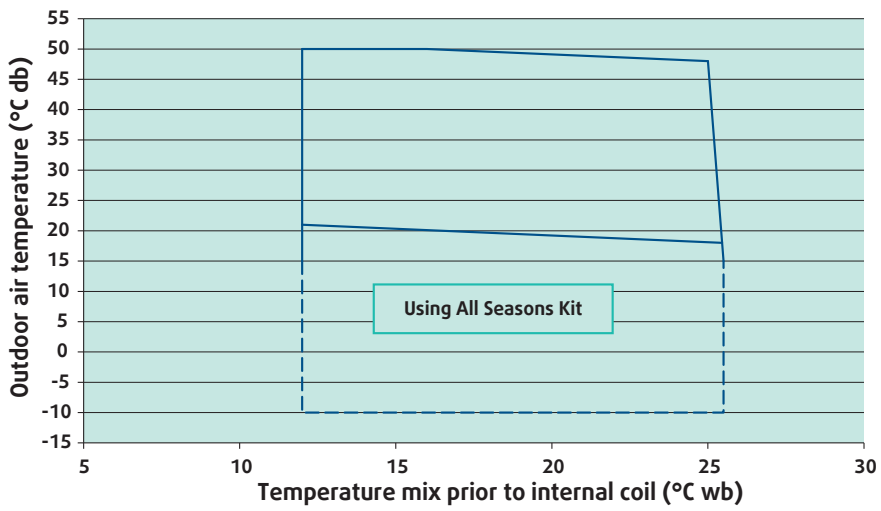
These datas are given for guidance only. They must be checked at commissioning according to prevailing standards. They depend on the installation and the cables used.

A main fuse must mandatorily be provided on the power supply.

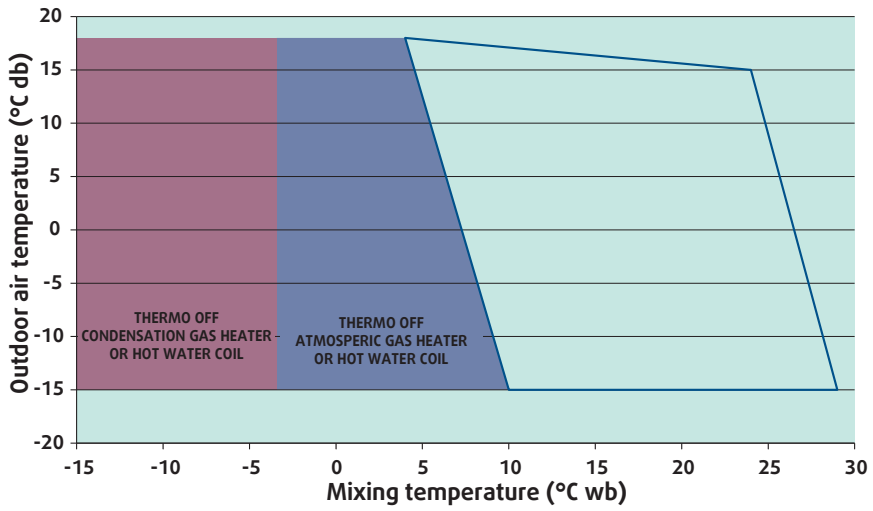
- Fuses not supplied
- Cables not supplied

8.4. OPERATING LIMITS

8.4.1. SYSAERL/SYSAERH COOLING MODE



8.4.2. SYSAERH HEATING MODE



9. CONFIGURATION OF THE UNIT

9.1. GENERALITIES

The unit is designed to be connected to a duct work. The duct network pressure loss must be related to available outdoor pressure of **SysAer**.

4 discharges and 3 intakes air configurations are available.

For each configuration, note the dimensions of the discharge air duct to be provided before the unit arrives on site. Make sure that it is fireproof and that it does produce toxic smoke in the event of a fire in the building. The interior surfaces must be smooth and cleanable to avoid contamination of the circulated air.

To ensure itself of a good air tightness and to water enters the machine and the air duct.



Caution

Never drill any holes in the air treatment zone of the unit. the manufacturer's warranty WILL be CANCELLED in the event of any water leaks resulting from the drilling of holes in the casing.

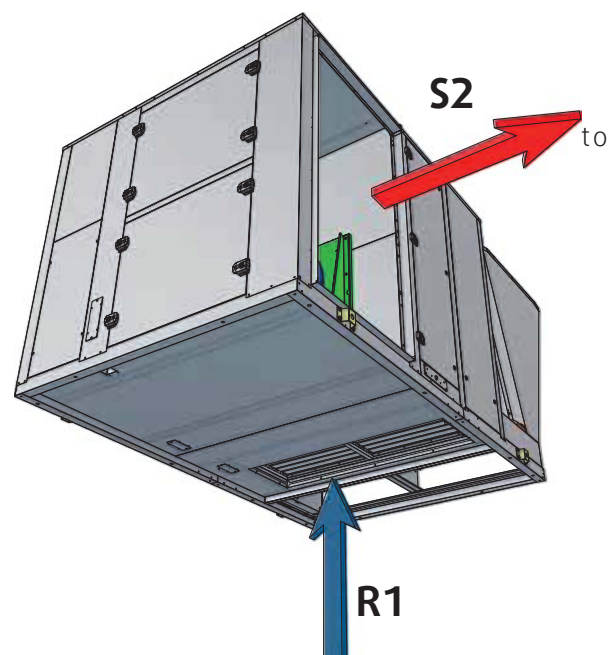
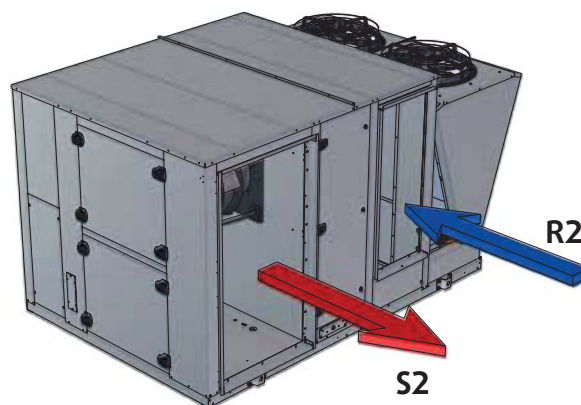
9.2. SUPPLY AIR

- Downward discharge: **S1**
- Sideway discharge: **S2**
- Discharge from the rear: **S3**
- Top discharge: **S4**

9.3. AIR INTAKE

- Return air from below: **R1**
- Return air from the side: **R2**
- Return air from the top: **R4**

Lower blowing (S1) or lower air intake (R1) require the presence of a roof curb. For other versions, given the unit's weight, analyse the installation avoid any risk of damage to the bracket on which the unit will be placed.



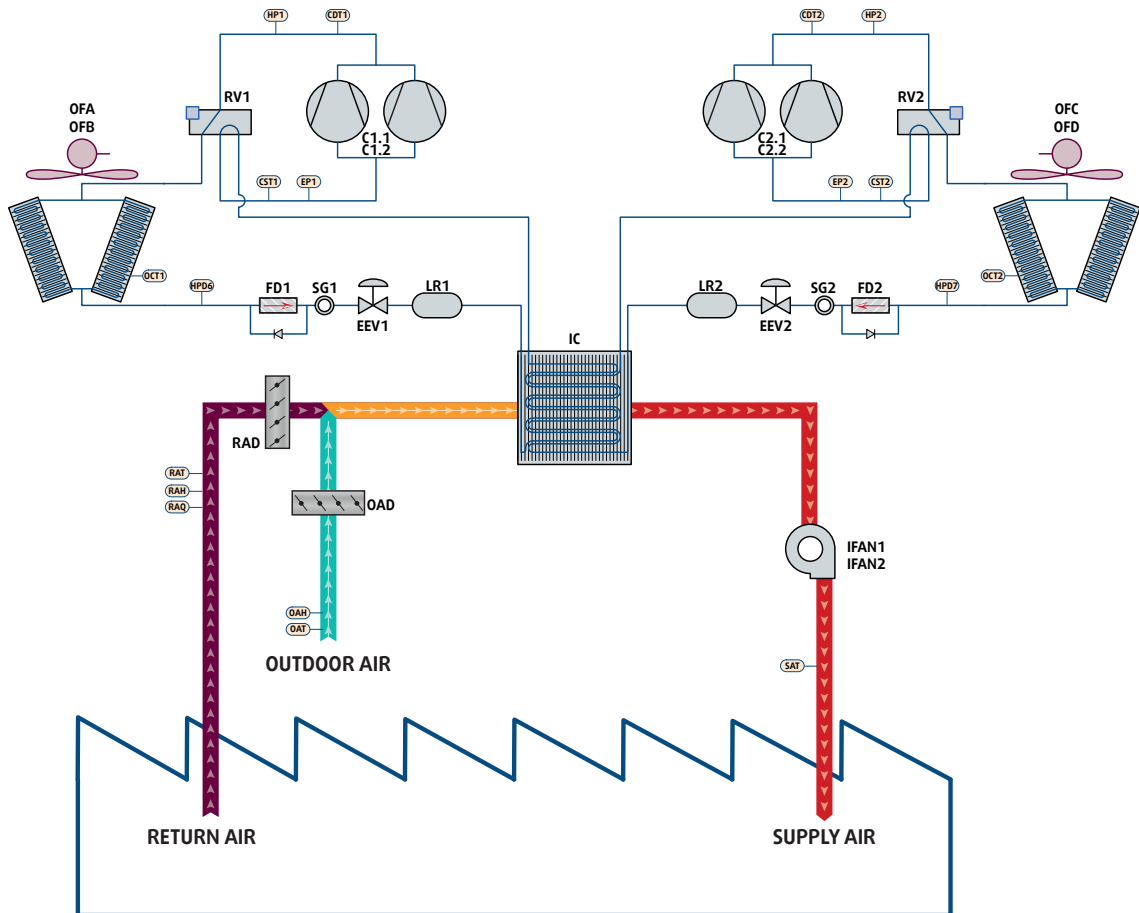
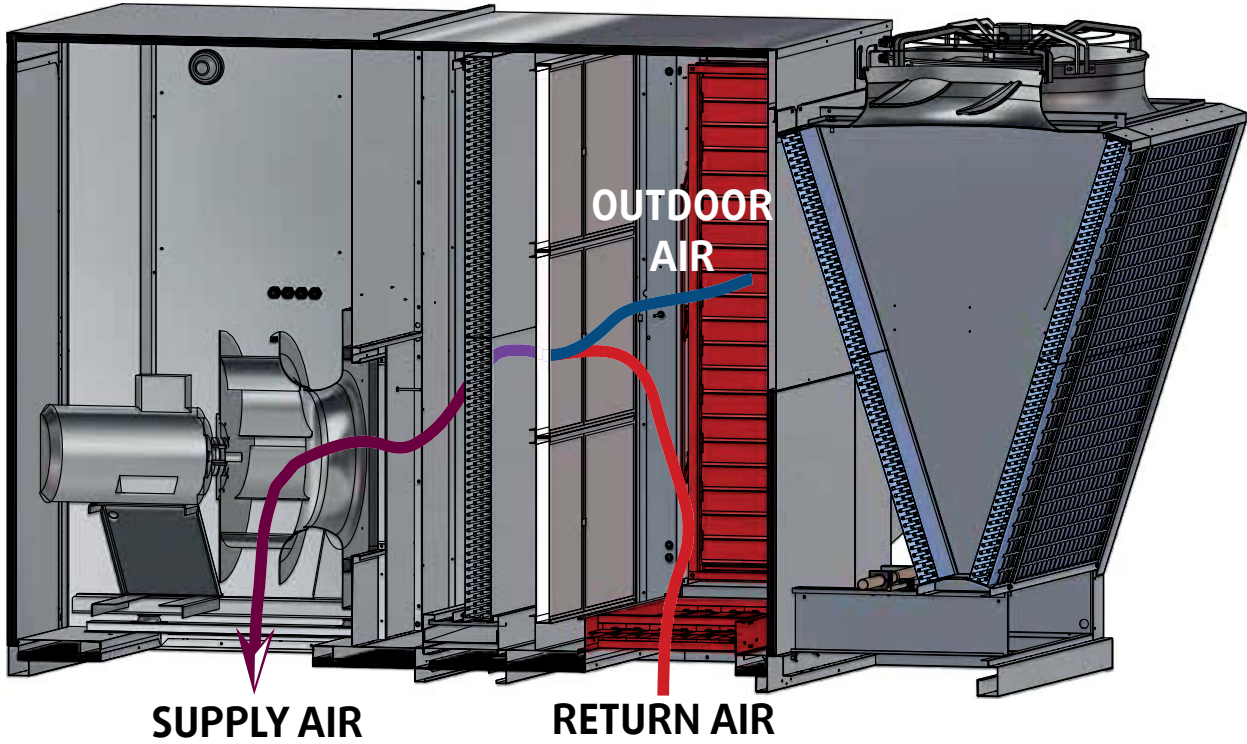
9.4. DUCT OUTLET DIMENSIONS

SEE APPENDIX

9.5. ECONOMISER

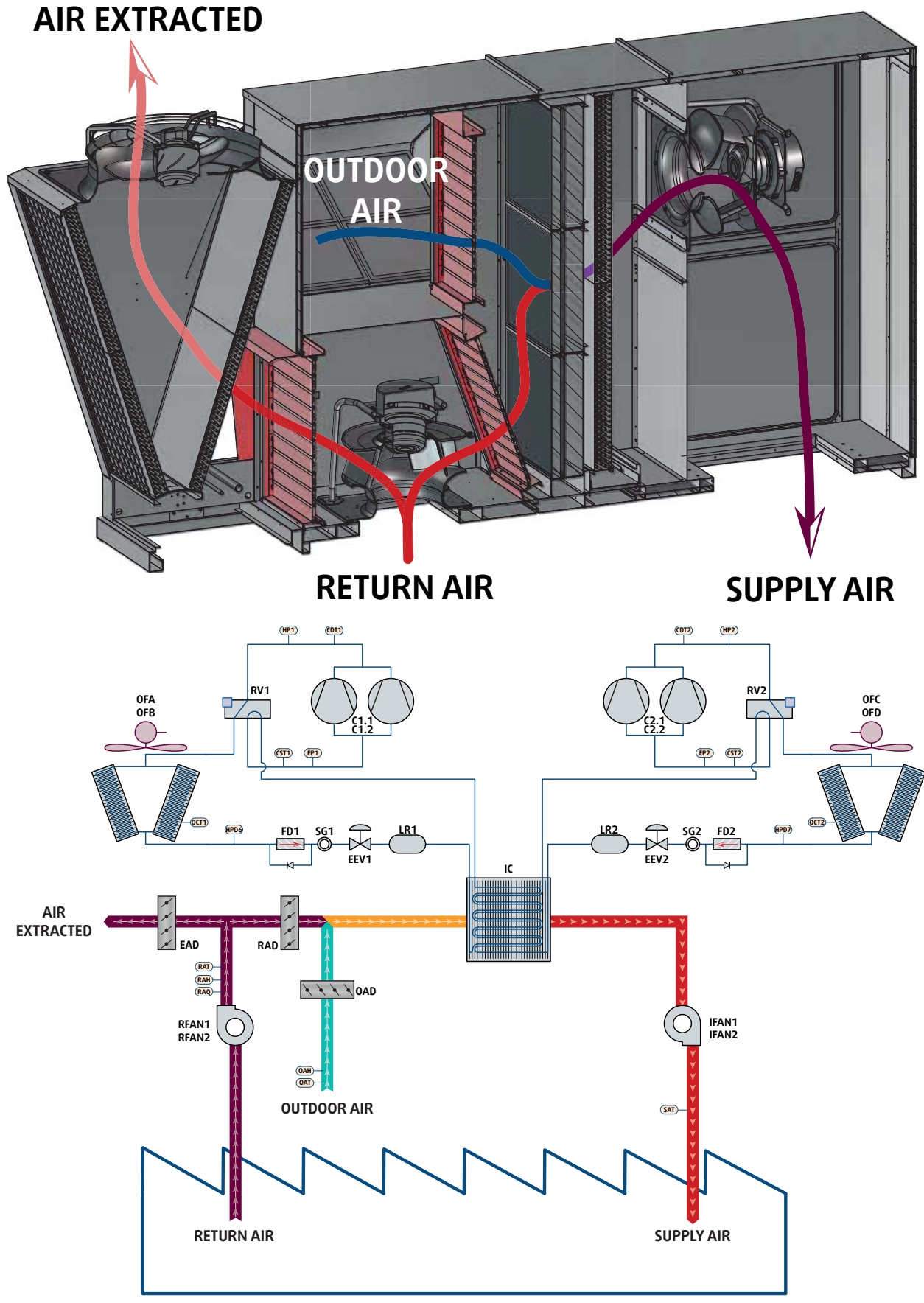
9.5.1. ECONOMISER - 2 DAMPERS

The economiser is an assembly with two dampers connected to servomotors. The quantity of air entering the building varies depending on the given setpoint and enables energy savings in both modes. The economiser is used to ensure modulation of fresh air and recycled air flows in the building.



9.5.2. ECONOMISER - 3 DAMPERS

It comprises of a set of 3 dampers with an intake fan that enables on the one hand, to combat the pressure loss from the return ducts and on the other hand, to extract vitiated air from the building in order to avoid excessive pressure build ups.



10. INSTALLATION



Caution

The unit is not designed to withstand weights or stresses from adjacent equipment, pipe work or constructions. Any foreign weight or stress on the unit structure could lead to a malfunction or a collapse with dangerous consequences for personnel and property. In such an event, the warranty shall be null and void.



Caution

The unit base shall be arranged as indicated in the manual. There could be a risk of personal injury or damage to property in the event of the unit being incorrectly supported.

10.1. SITING THE INSTALLATION

The **SysAer** must be installed outdoors with sufficient surrounding clearance to enable unobstructed air circulation through the appliance and access for maintenance work.

- The building structure must be capable of carrying the weight of the unit during operation.
- The place of installation must not be subject to flooding.
- The **SysAer** should be installed on a flat, clean surface without any obstacles. The surface area must be sufficient to spread the weight of the unit over the building structure.
- It must be high enough to permit good drainage of defrost water with siphon
- Keep duct connections to a minimum to reduce pressure drop.
- Ensure that the recommended free clearances around the unit are maintained to avoid any risk of malfunctions.
- The installer is responsible for providing the waterproof seal between the building and the **SysAer**. The installer must be fully versed in the practice of roof mounted equipments and must comply with the recommendations and rules detailed in the Technical Directives.
- In order to avoid risk of condensation and energy losses, all outdoor ducting and piping must be insulated.
- The unit's tightness must not be deteriorated by power supply connections.



Caution

Do not expose the **SysAer** to rejections from chimneys or vents. Fumes charged with soot or grease as well as acid rejections are likely to clog or damage the condenser irreversibly. This would cancel the warranty.

10.1.1. PREVAILING WIND

In the case of the unit being sited in areas exposed to high winds, you must avoid the wind hitting the fan blowing surface areas directly to avoid any risk of recycling cooled air. Exchanger fan operation can be disrupted by strong winds, which can cause de-icing problems and fan malfunctions.

10.1.2. CONDENSATE WATER MANAGEMENT IN HEATING MODE

Depending on temperature and outdoor air humidity conditions, water vapour contained in the air can condense on the finned heat exchanger and even form ice under low outdoor temperature conditions (around $< 5^{\circ}\text{C}$). This condensate water and defrosted water runs off via outlets provided under the exchanger. To aid water run-off and avoid frozen water remaining in the appliance in winter, we recommend that it is mounted at a height of around 10cm off the ground. In this way, condensate and defrosted water can run off freely and be absorbed into the ground or channelled to a basin built under the appliance in order to protect the environment.

In areas where outdoor temperatures fall below 1°C , the system can be equipped with a condensate anti-freeze protection system (e.g. a heated pipe sheath, Not supplied).

10.1.3. HOW TO REDUCE NOISE POLLUTION

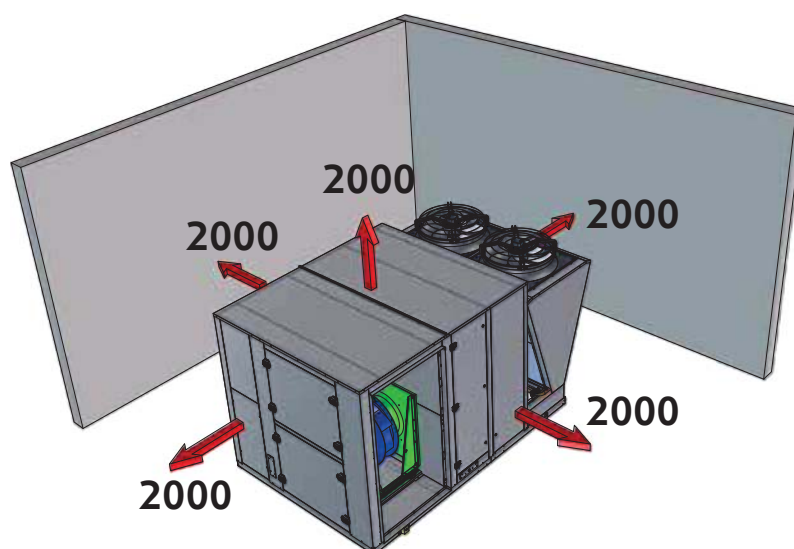
In order to contain noise levels, we equip our appliances with quiet fans and encase the technical compartment in sound-proofed panels. However, noise levels can be reduced even further by following a few installation precautions:

- Do not install the appliance near a window.
- Do not install the unit in enclosed or confined yards, narrow locations where noise may be reflected on walls
- Avoid locating the appliance in a corner (increased reverberated noise).
- Install the rubber pads supplied or anti-vibration pads (available as an option) under the appliance.
- Do not join the concrete slab supporting the appliance to the structure of the dwelling (structure-borne noise transmission).
- Electrical and hydraulic connections to the unit must be flexible to avoid transmitting vibrations.

10.2. CLEARANCE

When choosing the location for the **SysAer**, take care to leave sufficient free clearance on all sides to ensure easy access for maintenance work.

The minimum free clearance dimensions indicated must be observed to ensure both proper system operation and allow access for maintenance and cleaning.

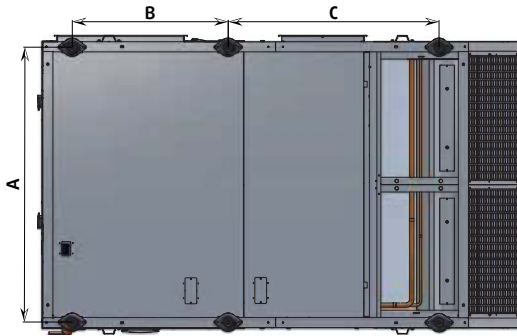


Caution

When several **SysAer** units are installed, ensure proper clearance is implemented around the condensers specific to each machine.

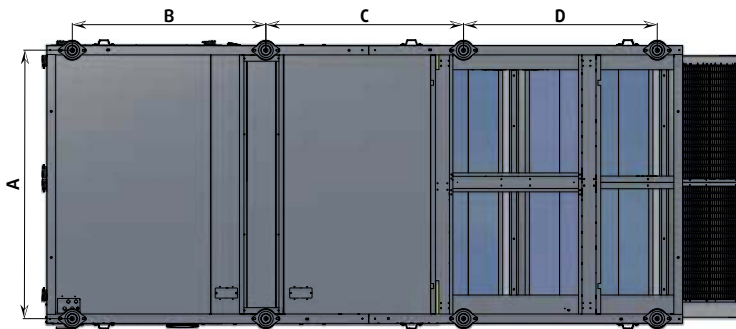
10.3. ATTACHMENT TO THE GROUND

The surface of the floor or structure located under the **SysAer** must be flat, and with sufficient strength to withstand the unit's weight, and occasional presence of maintenance equipment.



The **SysAer** does not require anchoring on the foundations, except in regions exposed to a high earthquake risk or if the device is installed on a high level on a steel frame.

For normal applications, rigidity of the **SysAer** and the positions of supports allow for an installation minimizing vibrations. However, the installers can use anti-vibration rubber pads (supplied in option).



	A	B	C	D
	mm	mm	mm	mm
SR55	1 868.5	1 060	1 433	/
SR65	1 868.5	1 060	1 433	/
SR80	1 868.5	1 060	1 433	/
SR95	2 120	1 330	1 567	/
SR105	2 120	1 330	1 567	/
SR120	2 120	1 330	1 567	/
SR140	2 120	1 330	1 567	/
SR160	2 120	1 530	1 561	1 530
SR190	2 120	1 530	1 561	1 530
SR210	2 120	1 530	1 561	1 530

When fitting anti-vibration pads, refer to the manual supplied with the kit.

10.4. ROOF CURB

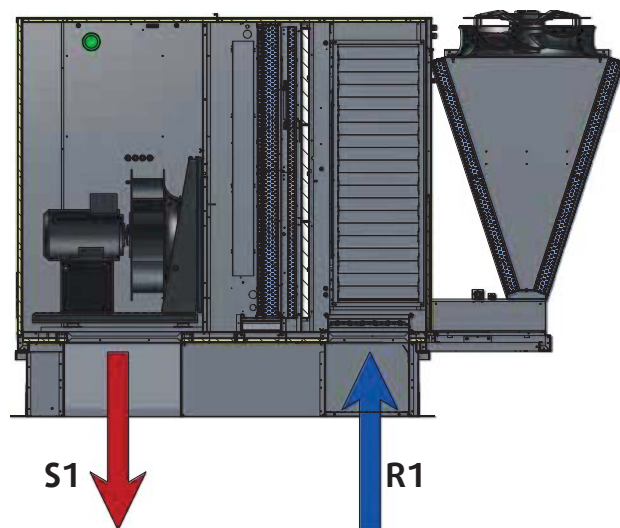
The main purpose of the roof curb is to provide weatherproof passage, supply and return air down to the building from the **SysAer**.

All connections (air, electricity) will be protected against adverse weather. Thanks to the roof curb, the sealing and thermal insulation achieved by the installer and the distribution of weight are perfect between the **SysAer** and the roof.

The roof curb should be used for a downward configuration at supply and return air. The roof curb guarantees the perfect weathertight sealing between the building structure and the appliance.

Two versions are available:

- Assembled and non-adjustable version



Caution

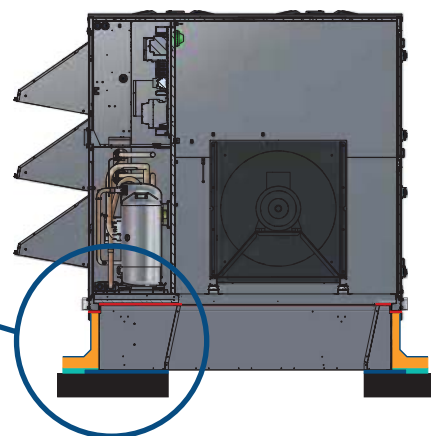
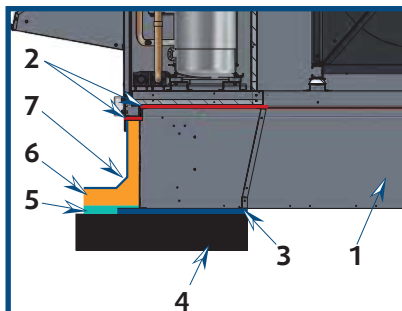
The frame of the curb receiving the unit must be leveled. The unit must slot perfectly into the roof curb.

10.4.1. DIMENSIONS

SEE APPENDIX

Positioning of the roof curb on the roof (cutaway view)

1. Roof curb
2. Rubber seal (supplied with the roof curb)
3. Hard vibration-absorbent rubber (option)
4. Concrete beam or slab
5. Vapour sealing film (supplied by the roofer)
6. Roof insulation (supplied by the roofer)
7. Sealant roofskin (supplied by the roofer)



Caution

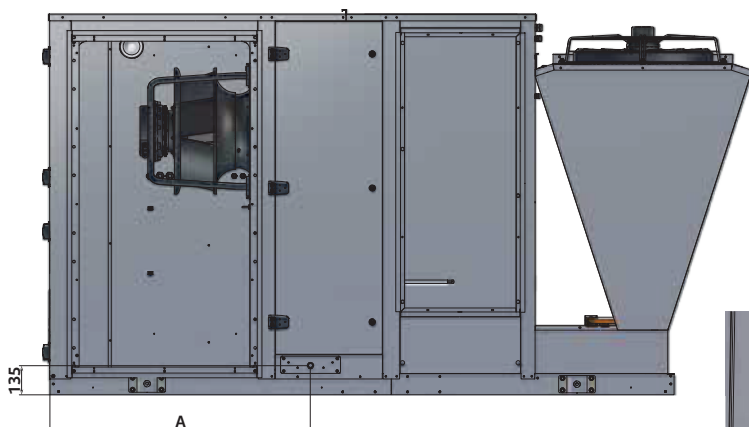
In order to break a thermal bridge between the roof curb and the unit, a seal (N°2) (50 X 5 mm) is supplied with the roof curb. This seal must be glued by the installer on the roof curb to avoid metal to metal contact and reduce eventual vibration transfer..

Once installed and fastened to the roof structure, the outside wall of the curb must be fully integrated in the roof insulation.

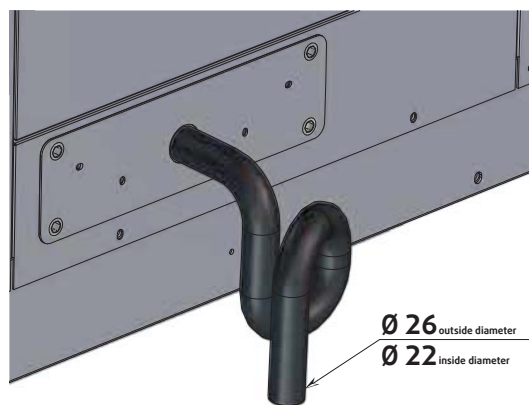
The minimum insulation thickness required is 25 mm and the surface must be protected by a bituminous coating (or any other equivalent material) to ensure a perfect weatherproof seal.

11. HYDRAULIC LINKS

11.1. CONDENSATE DRAIN LINE



The installer must imperatively supply a siphon.



A	mm	SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160		SR190		SR210	
									without gas burner	with gas burner	without gas burner	with gas burner	without gas burner	with gas burner
		1 205	1 205	1 205	1 506	1 506	1 506	1 506	1 695			1 695		1 695



Caution

If the outdoor temperature is likely to fall below +1°C, provide a system to prevent the condensates from freezing (e.g. heating cord).

11.2. WARM WATER COIL

Hydraulic connections must be made in accordance with the standards and regulations applicable at the installation sites.

No mechanical constraints must be placed on the coil collectors. Hydraulic pipework must be supported independently of the coils.

It is strongly recommended to implement flexible sleeves on the inlets and outlets.

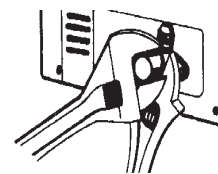
Hydraulic pipework must have an air bleed valve located at the highest point of the installation.

It is recommended to install manual isolation valves on the inlets and outlets of coils with drainage orifices at the lower part of the installation. It is also recommended to ensure that the casings are level, to allow the complete draining of the coil and the condensate tray.



Caution

To avoid damaging the coil, tighten the water pipe connectors on each header using a counter-wrench.



Caution

THE WARRANTY DOES NOT COVER DAMAGE DUE TO CORROSION RESULTING FROM ELECTROLYTIC PHENOMENA.

11.3. FROST PROTECTION

11.3.1. WATER LOOP GLYCOLING



Caution

THE USE OF A GLYCOL-BASED SOLUTION IS THE ONLY EFFECTIVE FROST-PROTECTION MEANS

The glycol-based water solution must be sufficiently concentrated to ensure appropriate protection and prevent ice from forming. Take precautions when using non inert MEG antifreeze solutions (Mono Ethylene Glycol) or MPG (Mono Propylene Glycol). With this type of antifreeze solution, corrosion may occur in the presence of oxygen.

Contact glycol resellers to ensure that its characteristics are compatible with environmental directive applicable on site (this is not under manufacturer responsibility).

Glycoling the water loop worsens slightly the performances, in particular the pressure drops. The hereunder table gives corrective factors with respect of type and concentration of the glycol. For instance, the 20% MEG glycoling will :

- Increase the pressure drops : with glycol = 1.129 x without glycol
- Increase the flowrate : with glycol = 1.040 x without glycol
- Decrease the capacity : with glycol = 0.982 x without glycol

Concentration		%	10		20		30	
Glycol			MEG	MPG	MEG	MPG	MEG	MPG
Correction factor	pressure drops		1.070	1.068	1.129	1.147	1.181	1.248
	water flow		1.013	1.010	1.040	1.028	1.074	1.050
	thermodynamic power		0.991	0.987	0.982	0.975	0.972	0.962

Draining the water circuit is not recommended for frost protection, for the following reasons:

- The water circuit will rust, which will shorten its lifetime.
- Water will remain at the bottom of the plate exchangers and freezing may cause damage.

11.4. WATER QUALITY

The water must be analyzed; the hydraulic network system installed must include all elements necessary for water treatment: filters, additives, intermediate exchangers, drain valves, vents, check valves, etc., according to the results of the analysis.

Using improperly treated or non treated water may cause scaling, erosion, corrosion or algae or sludge deposits in the exchangers. Refer to a specialist skilled in water treatment to determine any treatment to apply. The manufacturer will not be held liable for damages caused when non treated or improperly treated water.

Apply the following guidelines :

- No NH_4^+ ammonium ions in the water, highly detrimental to copper. <10mg/l
- Cl^- chloride ions are detrimental to copper with a risk of puncture by picking corrosion. <10mg/l.
- SO_4^{2-} sulphate ions may cause perforating corrosion. < 30mg/l.
- No fluoride ions (<0.1 mg/l)
- No Fe^{2+} and Fe^{3+} ions, particularly in case of dissolved oxygen. Fe < 5mg/l with dissolved oxygen < 5mg/l. The presence of these ions with dissolved oxygen indicates corrosion of steel parts, likely to generate corrosion of copper parts under Fe deposits, particularly in the case of multitubular exchangers.
- Dissolved silica: silica is an acid element of water and may also cause corrosion. Content < 1mg/l.
- Water hardness: TH > 2.8K. Values between 10 and 25 may be recommended. This facilitates scaling deposits likely to limit copper corrosion. Excess TH values may lead to clogging the pipes.
- TAC < 100
- Dissolved oxygen: Prevent any sudden change in the water's oxygenation conditions. Also, avoid deoxygenating water by sparging inert gas as well as overoxygenating it by pure oxygen sparging. Disturbing oxygenation conditions destabilizes copper hydroxides and particle salting-out.
- Electrical Resistivity - Conductivity: The higher the resistivity, the slower the corrosion. Values above 3000 ohm/cm are preferred. A neutral environment favours maximum resistivity. For electrical conductivity, values around 200-600 S/cm can be recommended.
- pH: neutral pH at 20°C (7 < pH < 8)



Caution

If the water circuit is to be drained for a time exceeding one month, the circuit must be fully charged with nitrogen to prevent any risk of corrosion.



Caution

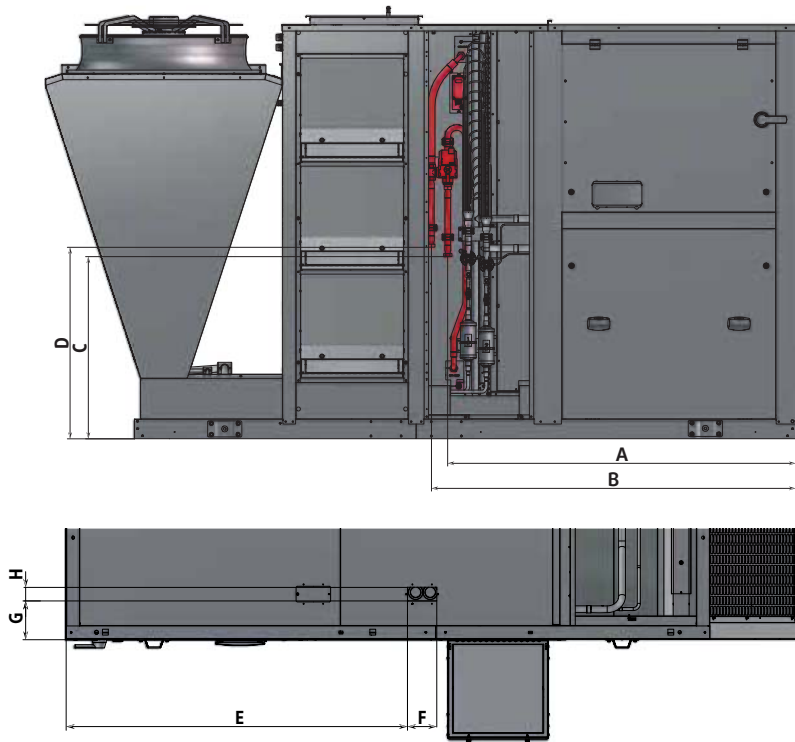
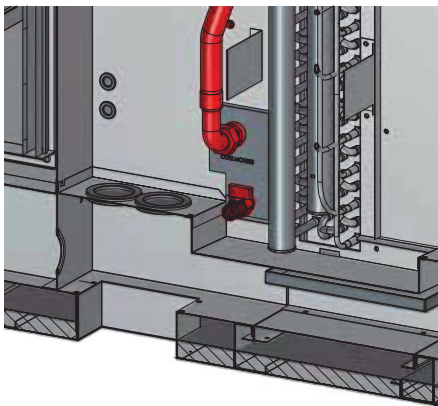
The manufacturer is not liable for recommendations in terms of water treatment (call a specialized company).

However, this matter has a critical nature, and particular care must be given to ensure that the type of treatment applied is effective.

The liability of the manufacturer or its representative will not be sought when non treated water or non compliant quality water is used.

11.5. TECHNICAL SPECIFICATIONS OF THE FRECO COIL

		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160		SR190		SR210	
									sans brûleur gaz	avec brûleur gaz	sans brûleur gaz	avec brûleur gaz	sans brûleur gaz	avec brûleur gaz
Type of connection		Female threaded pipe connection												
Ø connection		1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Volume	L	62	62	62	87	87	87	87	87	87	87	87	87	87
A	mm	1 430	1 430	1 430	1 735	1 735	1 735	1 735	1 945	2 449	1 945	2 449	1 945	2 449
B	mm	1 510	1 510	1 510	1 816	1 816	1 816	1 816	2 040	2 544	2 040	2 544	2 040	2 544
C	mm	620	620	620	918	918	918	918	920	920	920	920	920	920
D	mm	670	670	670	965	965	965	965	965	965	965	965	965	965
E	mm	1 516	1 516	1 516	1 748	1 748	1 748	1 748	1 930	2 434	1 930	2 434	1 930	2 434
F	mm	70	70	70	150	150	150	150	150	150	150	150	150	150
G	mm	177	177	177	195	195	195	195	205	205	205	205	205	205
H	mm	150	150	150	70	70	70	70	70	70	70	70	70	70

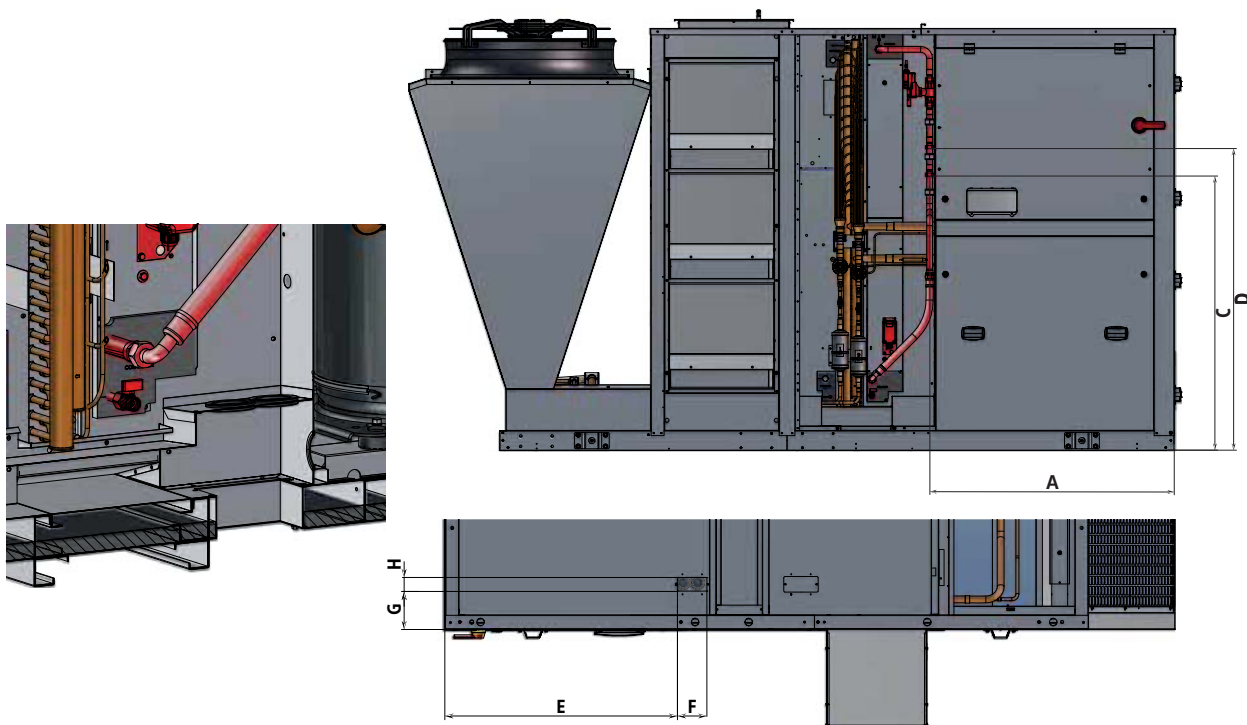


Maximum operating temperature: 90°C

Maximum operating pressure: 4 bar

11.6. TECHNICAL SPECIFICATIONS OF THE HWC COIL

		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160		SR190		SR210	
									sans brûleur gaz	avec brûleur gaz	sans brûleur gaz	avec brûleur gaz	sans brûleur gaz	avec brûleur gaz
Type of connection		Female threaded pipe connection												
Ø connection		1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Volume	L	35	35	35	50	50	50	50	50	50	50	50	50	50
A	mm	965	965	965	1 195	1 195	1 195	1 195	1 312	1 816	1 312	1 816	1 312	1 816
C	mm	1 198	1 198	1 198	1 486	1 486	1 486	1 486	1 495	1 495	1 495	1 495	1 495	1 495
D	mm	1 018	1 018	1 018	1 352	1 352	1 352	1 352	1 361	1 361	1 361	1 361	1 361	1 361
E	mm	971	971	971	1 190	1 190	1 190	1 190	1 342	1 846	1 342	1 846	1 342	1 846
F	mm	70	70	70	150	150	150	150	150	150	150	150	150	150
G	mm	175	175	175	195	195	195	195	205	205	205	205	205	205
H	mm	150	150	150	70	70	70	70	70	70	70	70	70	70



Maximum operating temperature: 90°C

Maximum operating pressure: 4 bar

12. WIRING DIAGRAM AND LEGEND

12.1. WIRING DIAGRAM

SEE APPENDIX

12.2. LEGEND

N 819

SE4659	models SR55 to SR140	Power	400V / 3~ +N / 50Hz ± 10%
SE4660	models SR55 to SR140	Power	400V / 3~ +N / 50Hz ± 10%
SE4661	models SR55 to SR140	Power	400V / 3~ +N / 50Hz ± 10%
SE4662	models SR55 to SR140	Power	400V / 3~ +N / 50Hz ± 10%
SE4663	models SR55 to SR140	Control	230V / 50Hz ± 10%
SE4664	models SR55 to SR140	Control	230V 50Hz ± 10%
SE4696	models SR55 to SR140	TRECO option	400V / 3~ +N / 50Hz ± 10%
SE4683	models SR160 to SR210	Power	400V / 3~ +N / 50Hz ± 10%
SE4684	models SR160 to SR210	Power	400V / 3~ +N / 50Hz ± 10%
SE4685	models SR160 to SR210	Power	400V / 3~ +N / 50Hz ± 10%
SE4686	models SR160 to SR210	Power	400V / 3~ +N / 50Hz ± 10%
SE4687	models SR160 to SR210	Control	230V 50Hz ± 10%
SE4688	models SR160 to SR210	Control	230V 50Hz ± 10%
SE4689	models SR160 to SR210	TRECO option	400V / 3~ +N / 50Hz ± 10%

12.2.1. POWER SUPPLY

Power cable must be connected to the main power supply switch QG (Copper cable is recommended).

The supply is protected at the head by an FFG main fuse holder supplied by the installer. It must be fitted next to the unit. Refer to the § **ELECTRIC SPECIFICATIONS**, page 11

The electrical installation and wiring of this unit must comply with local electrical installation standards.

- Three phase 400 V~ 50Hz + Neutral + Ground :
 - On the L1, L2, L3, N terminals of the QG section switch
 - On the ground screw of the earth cable.

12.2.2. WIRING DIAGRAM KEY DESCRIPTIONS

SEE APPENDIX

12.2.3. RANGE AND SETTINGS OF THERMAL PROTECTION / NOMINAL INTENSITY OF THE CONTACTORS (CLASSE AC3)

12.2.3.1. SYSAER WITH STANDARD FAN

MODELS		SR55	SR65	SR80	SR95	SR105	SR120	SR140
FT1	Range	17-23A	17-25A	23-32A	30-40A	30-40A	30-40A	37-50A
	Adjustment	18.5A	22A	30A	32A	38A	38A	48A
FT2	Range	17-23A	17-25A	23-32A	30-40A	30-40A	30-40A	37-50A
	Adjustment	18.5A	22A	30A	32A	32A	38A	48A
FT5	AC motor	10A	10A	14A	18A	18A	14A	25A
	EC motor	6.3A	10A	10A	14A	14A	18A	18A
FT6	Range	1.0-1.6A	1.6-2.5A	1.6-2.5A	2.5-4A	2.5-4A	2.5-4A	2.5-4A
FT7	Adjustment	1.25A	1.7A	1.7A	3.5A	3.5A	3.5A	3.5A
FT8 EC motor		6.3A	6.3A	10A	10A	14A	14A	14A
FTC		2A	2A	2A	2A	2A	2A	2A
FFT		1A	1A	1A	1A	1A	1A	1A
Contactors								
K1		25A	25A	32A	40A	40A	40A	50A
K2		25A	25A	32A	40A	40A	40A	50A
K6/7		6A	6A	6A	6A	6A	6A	6A

MODELS		SR160	SR190	SR210
FT1	Range	30-40A	30-40A	30-40A
	Adjustment	31A	32A	38A
FT2	Range	30-40A	30-40A	30-40A
	Adjustment	31A	32A	32A
FT3	Range	30-40A	30-40A	30-40A
	Adjustment	31A	32A	38A
FT4	Range	30-40A	30-40A	30-40A
	Adjustment	31A	32A	32A
FT5	AC motor	25A	32A	32A
	EC motor	25A	25A	25A
FT6	Range	4-6.3A	4-6.3A	6-10A
FT7	Adjustment	4.6A	4.6A	7A
FT8 EC motor		18A	25A	25A
FTC		4A	4A	4A
FFT1		1A	1A	1A
FFT2		0.5A	0.5A	0.5A
FFT3		0.5A	0.5A	0.5A
Contactors				
K1		40A	40A	40A
K2		40A	40A	40A
K3		40A	40A	40A
K4		40A	40A	40A
K6/7		6A	6A	9A

12.2.3.2. SYSAER WITH HIGH-PRESSURE FAN

MODELS		SR55	SR65	SR80	SR95	SR105	SR120	SR140
FT1	Range	17-23A	17-25A	23-32A	30-40A	30-40A	30-40A	37-50A
	Adjustment	18.5A	22A	30A	32A	38A	38A	48A
FT2	Range	17-23A	17-25A	23-32A	30-40A	30-40A	30-40A	37-50A
	Adjustment	18.5A	22A	30A	32A	32A	38A	48A
FT5	AC motor	10A	14A	18A	18A	25A	25A	25A
	EC motor	10A	10A	14A	18A	18A	18A	18A
FT6	Range	1.0-1.6A	1.6-2.5A	1.6-2.5A	2.5-4A	2.5-4A	2.5-4A	2.5-4A
FT7	Adjustment	1.25A	2.3A	2.3A	3.5A	3.5A	3.5A	3.5A
FT8 EC motor		6.3A	10A	10A	14A	14A	18A	18A
FTC		2A	2A	2A	2A	2A	2A	2A
FFT		1A	1A	1A	1A	1A	1A	1A
Contactors								
K1		25A	25A	32A	40A	40A	40A	50A
K2		25A	25A	32A	40A	40A	40A	50A
K6/7		6A	6A	6A	6A	6A	6A	6A

MODELS		SR160	SR190	SR210
FT1	Range	30-40A	30-40A	30-40A
	Adjustment	31A	32A	38A
FT2	Range	30-40A	30-40A	30-40A
	Adjustment	31A	32A	32A
FT3	Range	30-40A	30-40A	30-40A
	Adjustment	31A	32A	38A
FT4	Range	30-40A	30-40A	30-40A
	Adjustment	31A	32A	32A
FT5	AC motor	32A	32A	32A
	EC motor	40A	40A	40A
FT6	Range	4-6.3A	4-6.3A	6-10A
FT7	Adjustment	4.6A	4.6A	7A
FT8 EC motor		25A	25A	25A
FTC		4A	4A	4A
FFT1		1A	1A	1A
FFT2		0.5A	0.5A	0.5A
FFT2		0.5A	0.5A	0.5A
Contactors				
K1		40A	40A	40A
K2		40A	40A	40A
K3		40A	40A	40A
K4		40A	40A	40A
K6/7		6A	6A	9A

13. ELECTRICAL CONNECTIONS



WARNING

Before carrying out any work on the equipment, make sure that the electrical power supply is disconnected and that there is no possibility of the unit being started inadvertently.

Non-compliance with the above instructions can lead to injury or death by electrocution.

The electrical installation must be performed by a fully qualified electrician, and in accordance with local electrical standards and the wiring diagram corresponding to the unit model.

Any modification performed without our prior authorisation may result in the unit's warranty being declared null and void.

The power supply cable section must be sufficient to provide the appropriate voltage to the unit's power supply terminals, both at start-up and under full load operating conditions.

The power supply cable shall be selected in accordance with the following criteria:

1. Length and material of supply cables
2. Maximum intensity - the cables must support a suitable amperage under the unit's functioning conditions.
3. Power supply cables' installation mode.

Short circuit protection shall be provided. This protection shall comprise fuses or circuit breakers with high breaking capacity, mounted on the distribution board.

If the local control includes an remote ambient temperature sensor and/or a set temperature adjustment module, these shall be connected with shielded cable and shall not pass through the same conduits as the power supply cables as the voltages induced may create reliability faults in the unit's operation.

VERY IMPORTANT:

3N~400V-50HZ

The **SysAer** is equipped as standard with a phase sequence and cut-out controller located in the electrical box.

THE LED'S INDICATE THE FOLLOWING CONDITIONS:

Green LED = 1

Yellow LED =1

Power ON

The compressor rotation direction is correct.

Green LED = 1

Yellow LED =0

Phase inversion or phase absent (L1)

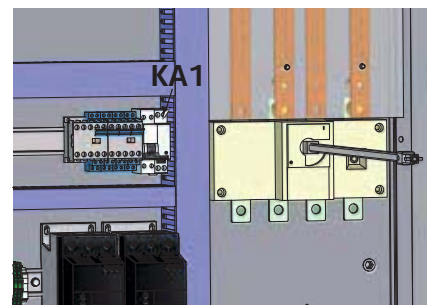
The compressor and the fans do not start.

Green LED = 0

Yellow LED =0

Phase absent (L2 or L3)

The compressor and the fans do not start.



Caution

Before connecting the supply lines, check that the voltage available is within the limits specified (Refer to the § ELECTRIC SPECIFICATIONS, page 11).

Voltage differences between each phase do not have to exceed 2 %.

If the unbalance is unacceptable, call the distribution company to have this anomaly corrected.



Caution

Supplying the unit with a line with an unbalance exceeding the acceptable value results in cancelling the warranty.



Caution

Correction of the excessive centralized power factor (>0.95) may generate transient phenomena dangerous for the motors and contactors of the unit during the start and stop phases. Check instant voltages during these phases.

The electric connection of range RT is done in a single point on the level of the principal circuit breaker.

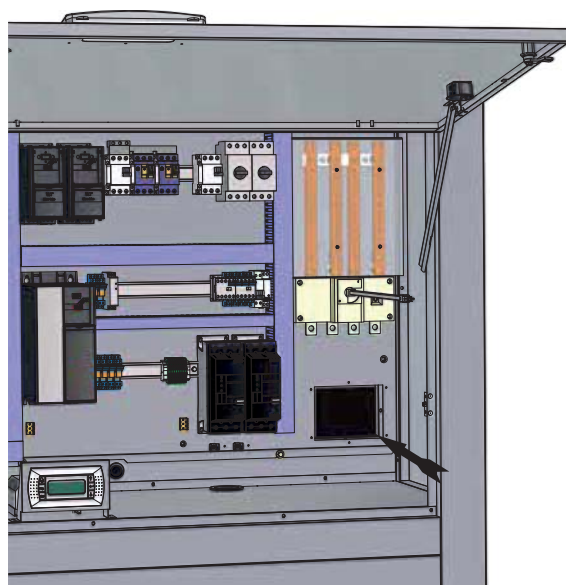
Electrical power supply cable should be inserted by the base or on the side of the unit.

Cable holes need to be drilled in the panel in relation to the thickness of the power cables.



Caution

The installer is responsible for ensuring that the cable hole in the panel is sealed properly.

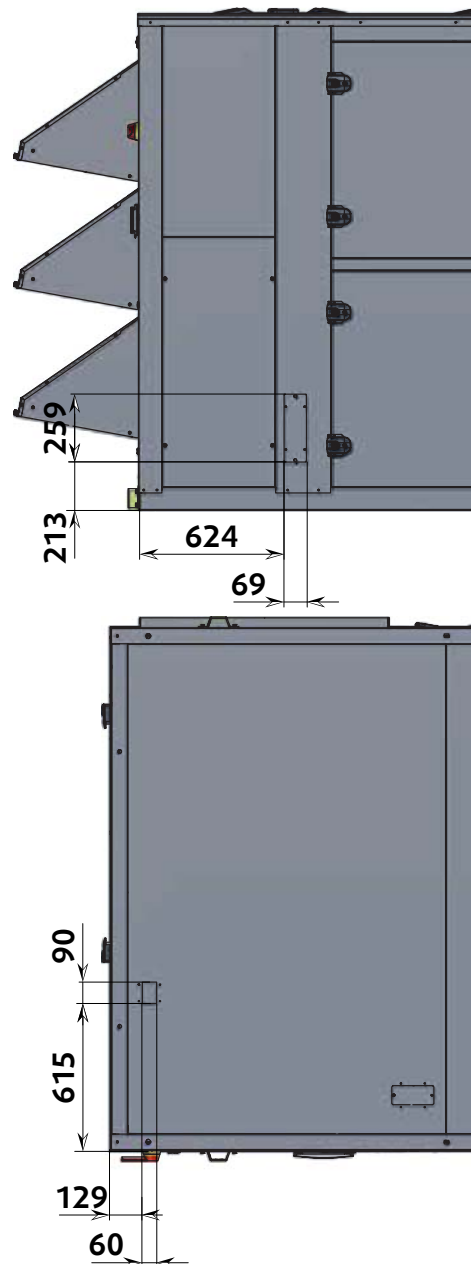


These units are equipped with a local switch used as general terminal board.

The switch can be padlocked.

A circuit breaker or fuse holder (not supplied) must be installed on the main power supply of the unit in accordance with the circuit diagram.

To ensure proper contact, fit the end pieces adapted to the cross-section of the connecting cable.



14. COMMISSIONING



Caution

When performing startup and service, thorough safety precautions shall always be taken.

Only qualified individuals should perform these functions.

14.1. PRE-START CHECK LIST

Before commissioning the system, you must carry out a certain number of installation checks to ensure that the appliance will operate in the best possible conditions. The following list of checks is not exhaustive and only serves as a minimum reference guide.

1. Check that the equipment installed matches the order
2. Check that the oil heating resistances have been energised for at least 12 hours.

14.1.1. VISUAL CHECK

1. Ensure that no debris, cartons or accessories remain in the unit.
2. Check free clearances around the unit :
 - ✓ exchanger air intake
 - ✓ exchanger air outlet
 - ✓ access or maintenance work.
3. Unit mounted as specified.
4. Check that the unit is level and that condensates drain freely away from the unit.
5. Check that there is no possibility of blown air being recycled through the fans due to wind exposure.
6. In arduous climates (sub-zero temperature, snow, high humidity), check that the appliance is raised 10 cm off ground.
7. For loose or missing bolts or screws.
8. For refrigerant leaks in connections and components.
9. Check that filters are present and correctly installed.

14.1.2. ELECTRICAL CHECK

1. Electrical installation has been carried out according to unit wiring diagram and the Supply Authority Regulations in effect.
2. Size fuses or circuit breaker has been installed at the main switchboard.
3. Supply voltages as specified on unit wiring diagram.
4. **Check that all of the appliance's electrical connections have been tightened.**
5. Check that the electric motors are planned for the network supply voltage.
6. the cables and wires are clear of or protected from pipework and sharp edges.
7. Check the electrical grounding of the appliance.

14.1.3. FANS AND DUCTS

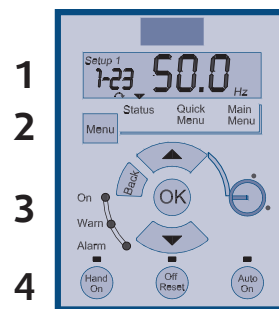
1. Check that duct connections are as required on the **SysAer**.
2. Check suitable tightening of freewheels on plug fans on motorshafts, as well as the correct alignment in relation to the eye of the turbine.
3. Ensure that the fan turbine can turn freely and that no foreign body can be found inside.

14.1.3.1. AC FAN CONFIGURATION

The air flow rate of **SysAer** needs to be configured with the speed switch controlling the blast fans. By default, the configuration of the control is set to the fan nominal rate.

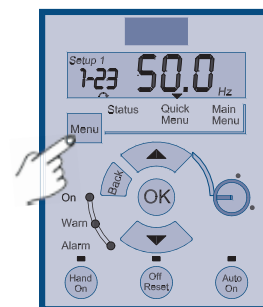
The speed control user interface is divided into four functional groups:

1. Numeric display.
2. Menu button.
3. Navigation buttons.
4. Action buttons and lights (LED).

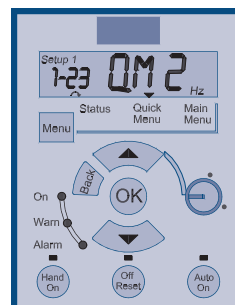


14.1.3.1.1. CONSTANT FLOW CONFIGURATION

1. To enter the quick menu, press the **Menu** button until the indicator on the screen appears below Quick Menu.



2. Use to select QM2, then press .



3. Use to select setting group 3, then press .

4. Use to select setting 10, then press .

5. Press to select value set No.0 (active).

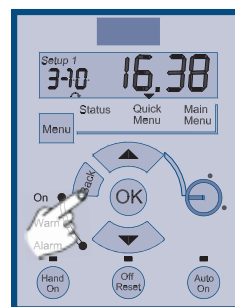
6. Press to be able to modify the setting value.



7. Use to adjust setting **3.10** for the % value corresponding to the desired speed rate (Refer to the § **AERAILIC ADJUSTMENT (WITHOUT OPTION)**, page XL)

8. Press to accept the modification.

9. Press to return to status.



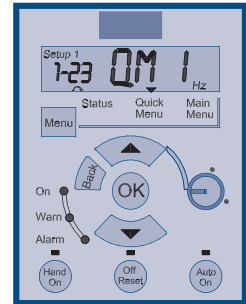
Select the variation percentage corresponding to the desired speed rate in the installation using the tables in annex (Refer to the § **AERAILIC ADJUSTMENT (WITHOUT OPTION)**, page XL)

14.1.3.1.2. STARTUP RAMP TIME CONFIGURATION

1. To enter the quick menu, press the **Menu** button until the indicator on the screen appears below Quick Menu.





2. Use   to select QM1, then press **OK**.




3. Use   to select setting group 3, then press **OK**.

4. Use   to select setting 41, then press **OK**.

5. Press **OK** to be able to modify the setting value.

6. Use   to adjust setting **3.41** for the duration (in seconds) of the fan's startup ramp time.

7. Press **OK** to accept the modification.

8. Press  to return to status.



14.2. OPERATING CHECK LIST

14.2.1. GENERAL

Check for any unusual noises or vibration in the running components, particularly the indoor fan drive system.

14.2.2. PHASE ROTATION PROTECTION

If the phase of the power supply are not correct, the phase rotation protection device will prevent the machine from starting.

14.2.3. ELECTRICAL

14.2.3.1. SET POINTS

1. Compressors circuit breaker settings.
2. Fan Circuit breaker settings.

NOTE : The indoor or outdoor fan motor is equipped with an internal safety device with automatic reset.

14.2.3.2. OPERATING VOLTAGE:

Recheck voltage at unit supply terminals.

14.2.3.3. CONTROL

1. Operate system and thermostat switches.
2. Check unit is wired for correct control of unit fan, cooling and heating modes.
3. Verify all sensor inputs, using the controller display.

14.2.4. COMPRESSORS AND REFRIGERATION SYSTEM

1. Running check: Start the compressors. Check for any unusual noise or vibration.
 2. Operating Pressures: Operate the unit for at least 20 minutes and ensure that the refrigerant pressures are stabilised, and check that they are within the normal operating ranges.
 3. Operating Temperature: Check discharge, suction and liquid temperatures.
 4. The backflow temperature in the cold cycle should not normally exceed 125°C.
 5. Suction superheat should be 8K \pm 2K.
-

14.2.5. FINAL CHECK

1. All panels and fan guards are in place and secured.
2. Unit clean and free of remainder installation material.

15. FINAL TASKS

Place the plugs back on the valves and check that they are properly tightened.

If needed, fix the cables and the pipes on the wall with clamping collars.

16. IN CASE OF WARRANTY - MATERIAL RETURN PROCEDURE

Material must not be returned without permission of our After Sales Department.

To return the material, contact your nearest sales office and ask for a "return form". The return form shall be sent with the returned material and shall contain all necessary information concerning the problem encountered.

The return of the part is not an order for replacement. Therefore, a purchase order must be entered through your nearest distributor or regional sales office. The order should include part name, part number, model number and serial number of the unit involved.

Following our personal inspection of the returned part, and if it is determined that the failure is due to faulty material or workmanship, and in warranty, credit will be issued on customer's purchase order. All parts shall be returned to our factory, **transportation charges prepaid**.

17. ORDERING SERVICE AND SPARE PARTS ORDER

The part number, the order confirmation and the unit serial number indicated on the name plate must be provided whenever service works or spare parts are ordered.

For any spare part order, indicate the date of unit installation and date of failure. Use the part number provided by our service spare parts, if it not available, provide full description of the part required.

18. MAINTENANCE



Caution

The user is responsible for ensuring that the unit is in perfect working order and that the technical installation and **minimum periodic maintenance** operations have been performed by a qualified technician in accordance with the procedures described in the present manual.

Depending on actual operational constraints and regulatory changes, the installer might recommend increased maintenance operations and more frequent inspections.

Simple preventive maintenance ensures longevity of your **SysAer** :

- Better refrigeration performance
- Reduced power consumption
- Accidental component breakage prevention
- Prevention of heavy, late, and expensive interventions
- Environment protection



Caution

All refrigerating fluid charging, sampling and draining operations must be performed by a skilled technician using equipment adapted to the unit, in agreement with authority regulation in effect on site.

Any inappropriate handling may cause uncontrolled fluid venting into the atmosphere.



Warning

- Isolate unit from power supply before working on unit.



Warning

- Opening the refrigeration circuit then involves vacuum drawing, checking the circuit sealing and recharging refrigerating fluid. For any intervention on the refrigerating fluid circuit, first drain the unit's charge using a refrigerating fluid collection station.

18.1. WEEKLY CHECK

Inspect the entire running installation, while paying particular attention to :

- any damage on the **SysAer** housing
- any traces of oil (sign of refrigerating fluid leak)
- any water leak
- the presence of removed protections, doors or lids improperly closed
- the coil's cleanliness.

Check:

- the oil level of the compressors (use sight glass on the oil equalization pipe of compressor tandems)
- the humidity rate of the refrigerating fluid using the fluid indicator
- the operating pressure of the installation

When the **SysAer** is running, perform a sound check of the compressors and fans. Also check that no vibration can cause breakage or wear by vibrating contact.

It is essential to keep an up to date maintenance booklet recording readings for temperatures, pressures and all checks performed on the **SysAer** system.

18.2. PERIODIC TABLE OF SERVICE AND MAINTENANCE

TASKS PER COMPONENTS	ACTIONS	1 month	3 months	6 months	12 months	24 months	
		Recommended inspection and maintenance interval					
1 - Casing							
1.1	Control possible contaminations, damage and/or corrosion.	Clean and repair if required.				X	
1.2	Check the possible presence of water (condensates, leakages,...).	Clean and look for the cause, then repair.				X	
1.3	Check the condensate recovery tray	Check that the drainage orifices, conduits and siphon are not blocked. Eliminate all accumulated dirt.				X	
1.4	Verify thermal insulation aspect	Replace if required.				X	
1.5	Check the state of the anti-vibration pads	Replace if required.				X	
1.6	Check the condition of door gasket.	Replace if required.			At each inspection		
2 - REFRIGERANT CIRCUIT							
2.1	Verify oil compressor level when compressors are off		X				
2.2	Check the lack of gas bubbles in the fluid line		X				
2.3	Check the lack of humidity in the refrigerating fluid		X				
2.4	Check the pipes or capillaries do not rub and vibrate.			X			
2.5	Check the compressors do not emit abnormal noise or vibration.		X				
2.6	Check the backflow temperature.	X					
2.7	Record the operating pressure	Check it is above or below those recorded when the unit was started up.			X		
2.8	Check the compressor fastening screws are tight.			X			
2.9	Check the crankcase heater are powered on during the stop cycle.	X					
2.10	Check the cleanliness of the coil.	Clean if required.			X		
2.11	Test the oil for contamination.	Change the oil if required.				X	
2.12	Check the filter drier clogging.	Replace if required			X		
2.13	Check the operation of the high pressure switch.	Replace if required			X		
2.14	Check the lack of refrigerating fluid leak (visuel + détecteur si nécessaire)	Repair				X	
2.15	Check the cycle reversal valve			X			
2.16	Check the condition of the anti-vibration studs	Replace if required				X	
3 - FILTERS							
3.1	Check the absence of contamination, damage (air leakage) or odour.	The air filters must have a basic efficiency appropriate to the desired filter class for their complete lifetime. The filter must be replaced when contaminants or leakages would have been noticed. Replace affected air filter(s) if the previous control dates less than 6 months, the totality of the filtering bank in the contrary case.				X	
3.2	Check filter air pressure drops.	Replace filters from filtering bank if the maximum air pressure drop accepted by filters is exceeded.			X		
3.3	Check the non-cleanable filters changed most recently.					X	
3.4	Inspection of cleanness condition of filter section.	Clean the frame and the casing. Interval in conformity with VDI6022 recommendations of RLT Hygiene standard. Even if the casing seems clean, fungus or germs invisible to the naked eye can multiply.				X	
3.5	Inspection of cleanness condition of metallic filters.	Rinse filtering cells in an anti-fungicide and anti-bacterial disinfecting cleaning bath.				X	

TASKS PER COMPONENTS		ACTIONS	1	3	6	12	24
			month	months	months	months	months
Recommended inspection and maintenance interval							
4 - ELECTRIC CIRCUIT							
4.1	Check the electrical voltage applied to the unit, which must remain stable within the tolerances specified in the information plates.			X			
4.2	Check that the main supply cable is void of alterations likely to impact the insulation.	Replace if required.		X			
4.3	Check the grounding of the metallic structure	Repair if required.	X				
4.4	Inspect the contacts.	Replace if required.	X				
4.5	Check that all electrical connections of the device are tight	Tighten if required.	X			X	
4.6	Check the thermal protection relays of the motors	Replace if required.	X				
4.7	Check the nominal intensity and condition of the fuses.		X				
4.8	Check the condition of the condensers.		X				
4.9	Clean the compressed air electrical unit to remove any dust or other contaminants building up.			X		X	
4.10	Check the motor windings are insulated.			X			
5 - FAN(S)							
5.1	Check the lack of contamination, corrosion or damage.	Clean if required			X		
5.2	Check proper fastening of the fan.	Tighten if required.			X		
5.3	Check the vanes to guarantee balancing.	Clean if required.				X	
5.4	Check the bearings for noise.	Repair if required.	X				
5.5	Check the condition of the fan motor.			X			
6 - REGULATION							
6.1	Check the condition of the alarms	Acknowledge them after taking them into consideration	X				
6.2	Check the setting points		X				
6.3	Check the operation of all probes		X				
6.4	Check and clean the smoke detector	Remove any dust that has accumulated on the fins of the sensor head, using a vacuum cleaner or an anti-static cloth. Clean the sensor assembly with a sponge or a slightly damp cloth.				X	

TASKS PER COMPONENTS	ACTIONS	1	3	6	12	24
		month	months	months	months	months
7 - HEATING COILS						
7.1	Check the state of the function, check there is no damage nor corrosion.		X			
7.2	Check the condition of the exchanger, in terms of corrosion and functionality.			X		
7.3	Check the tightening of the pipe connections and fastening				X	
7.4	Verify the pressure value of the hydraulic circuit				X	
7.5	Bleed the air.				X	
7.6	Run the isolation valves					
7.7	Check there is no ice set.				X	
7.8	Check the state of the piping thermal insulation.					
7.9	Check the frost protection devices (glycol-based water, thermostat, ...).					
	Repair and replace if required. When air temperatures are wintery, and after general stoppage of the installation, the water contained in the exchanger may freeze. To prevent such problems, fully drain the unused plate exchanger or protect it by pouring an antifreeze solution into the hydraulic circuit or other devices. ⚠ The manufacturer waives any liability for damage to the exchanger caused by water freezing inside the unit.					
	Whenever there is a risk of freezing					
7.10	Check filter cleanliness.	X				
7.11	Check that the hydraulic circuit is filled properly	X				

18.3. MAINTENANCE PROCEDURES

18.3.1. REFRIGERANT CIRCUIT

This equipment must be submitted to sealing checks **minimum once per year, by a professional authorized to perform such an operation**. Refer to national requirements for the frequency of these checks.



Caution

Never use the compressor as a vacuum pump to drain the installation.

18.3.1.1. REFRIGERATING FLUID CHARGE

Run the unit in refrigerating mode to determine whether the group's charge is correct by checking actual sub-refrigeration.

18.3.1.2. COMPRESSOR OIL

Oil for refrigeration equipment is light and transparent. It maintains its colour for a long operating period.

As a refrigeration system designed and installed properly will run without problem, the compressor oil does not require replacement, even after a long operating period.

Blackened oil has been exposed to impurities in the refrigeration piping system, or excess temperatures on the compressor backflow side, which inevitably degrades oil quality. Blackening oil or degradation of its qualities may also be caused by humidity in the system. Change the oil when its colour changes or when it is degraded.

In this case, before restarting the unit, the refrigeration circuit must be emptied.



Caution

Compressors use polyester oil. During maintenance interventions on the compressor, or if the refrigeration circuit has to be opened in any point, do not forget that this type of oil is highly hygroscopic, and avoid exposing it to the atmosphere during long periods, which would require to change the oil.



Warning

Protect the **SysAer** frame so as to get back oil that could flow out accidentally.

18.3.1.3. FILTER DRIER

Refrigeration circuits are fitted with filters drier.

The fluid indicator is used to check the refrigeration flow and humidity rate of the refrigerating fluid. The presence of bubbles indicates that the filter drier is clogged or the charge insufficient.

In this event, even after cleaning the cartridge, the air bubbles remain, which means that the system has lost part of its refrigerating fluid in one or several points, which must be detected and repaired.

The glass window contains a colour indicator. Comparing the indicator colour with the scale present on the glass window allows to calculate the humidity rate of the refrigerating fluid. If excessive, change the filter cartridge, run the system for one day, then check the humidity rate again.

A humidity rate within the preset limits requires no further intervention. If the humidity rate remains too high, change the filter drier again, start the unit, and run it for another day.

18.3.1.4. AIR COOLED CONDENSER

**Caution**

Fin edges are sharp and can cause injury hazard. Avoid contact with them.

Condenser coils are composed of copper tubes and aluminium fins. In case of leaks due to damage or shock, the coils must be repaired by one of the authorized Support Centres. To guarantee the best possible operation of the condenser bank, the condenser surface must be maintained as clean as possible, and it must be void of foreign materials (leaves, wires, insects, slag, etc.). A dirty coil will see its absorbed electrical power increase. In addition, condensation pressure could increase and trigger a high pressure alarm.

Clean the air exchanger using a special product for aluminium-copper coils and rinse with water. Do not use hot water nor steam, as these may increase the refrigerating fluid's pressure.

**Caution**

Avoid damaging the aluminium fins during cleaning. Never use pressurized water without a wide diffuser. Concentrated and/or rotating water jets are strictly forbidden.

**CAUTION**

BEFORE CARRYING OUT ANY OPERATION ON THE EQUIPMENT, CHECK THAT THE ELECTRICAL POWER SUPPLY IS SWITCHED OFF AND THAT IT CANNOT BE SWITCHED ON INADVERTENTLY.

IT IS RECOMMENDED THAT THE DISCONNECT SWITCH BE PADLOCKED

19. TROUBLE SHOOTING

Problem	Probable cause	Solution
Unit operates continuously but without generating cooling	Insufficient refrigerant fluid charge.	Top up the refrigerant fluid charge.
	Clogged dehumidification filter.	Replace the dehumidification filter.
	Reduced output from one or both circuits	Check the compressor valves and change them if necessary.
Frozen intake line	The overheating setting on the thermostatic pressure relief valve is too low.	Increase the setting.
		Check the refrigerant fluid charge
Excessive noise	Vibrating pipe work	Attach the pipe work correctly.
		Check the pipe work attachments.
	Whistling noise from the thermostatic pressure relief valve	Top up the refrigerant fluid charge.
		Check and replace the dehumidification filter if necessary.
Noisy compressor	Check the condition of the valves.	
	Seized bearings. Replace the compressor	
Low oil level in the compressor	Check the tightness of the compressor attachment nuts.	
	Presence of one or several oil or gas leaks in the circuit	Locate and repair the leaks
	Mechanical compressor damage.	Contact an approved Service Centre.
	Sump oil heater resistance fault.	Check the electrical circuit and the condition of the resistance. Replace defective parts if necessary.
One or both compressors do not operate.	Electrical circuit cut.	Check the electrical circuit and seek out any grounding and/or short-circuits. Check the fuses.
	High pressure pressostat activated.	Reset the pressostat from the control panel and restart the unit. Identify and eliminate the causes of this activation.
	Circuit breaker open	Check the control circuit and seek out any grounding and/or short-circuits. Reset the circuit breaker.
	Connection problem	Check the tightness of all the electrical connection terminals.
	Electrical circuits thermal protection cuts in.	Check the operation of the control and safety devices. Identify and eliminate the cause of the activation.
	Incorrect wiring.	Check the wiring of the control and safety devices.
	Mains voltage too low.	Check the power line. Eliminate any possible problems associated with the system. If the problem is due to the network, inform the Electricity Company.
	Compressor motor short-circuited.	Check the continuity of the motor winding.
Compressor seized	Replace the compressor.	
Circuit stoppage further to the low pressure thermostat being activated.	Presence of a leak.	Identify and repair the leak.
	Insufficient refrigerant fluid charge.	Top up the refrigerant fluid charge.
	Pressostat operating fault.	Replace the pressostat.

Problem	Probable cause	Solution
Circuit stoppage further to the high pressure thermostat being activated.	Incorrect operation of the high pressure pressostat.	Check the operation of the pressostat. Replace it if required.
	Outlet valve partially closed.	Open the valve. Replace it if required.
	Non-condensable particles in the circuit.	Bleed the circuit
	Condenser fan(s) not operating.	Check the wiring and the motors. Repair and replace if required.
Liquid line too hot	Insufficient refrigerant fluid charge.	Locate and eliminate the causes of charge losses and top up the refrigerant fluid charge.
Liquid line frozen	Liquid line valve partially closed.	Checking the opening of all the valves.
	Clogged dehumidification filter.	Replace the filter cartridge.
Fans do not operate.	Electrical circuit problems.	Check the connections.
	Internal circuit thermal cut-out activated.	Contact an approved Service Centre.
Reduced output in both Heating and Cooling mode	Compressor operating fault	Contact an approved Service Centre.
	Dirt in the evaporator water circuit.	Chemical cleaning of the evaporator water circuit.
	Condenser battery blocked.	Clean the condenser battery.
	Insufficient refrigerant fluid charge.	Top up the refrigerant fluid charge.
Evaporator heater is not operating.	No power supply.	Check the main fuse and the auxiliary fuses.
	Heater circuit open	Check the heater and replace if required.
No/ little control over water temperature.	Incorrect thermostat setting.	Check the temperature setting on the control panel.
	Incorrect temperature differential between evaporator inlet and outlet.	Check the water flow and the quantity of liquid in the water circuit.
	Electronic control system malfunction.	Contact an approved Service Centre.
Insufficient water circulation.	Air in the circuit	Bleed the air via the safety valve.
	Deposits or impurities in the evaporator.	Wash out the evaporator by back-flushing.
Unit not operating, no alarm activation	Water circulation fault	Check the pump.
	Flow controller inoperable.	Check the flow controller.
	Differential pressostat inoperable.	Check the differential pressostat.

APPENDIX
ANNEXE
ANLAGE
ALLEGATO
ANEXO

APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

APPENDIX

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ANNEXE

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S2	XVII
S3	XVII
S4	XVII
R1	XVII
R2	XVII
R4	XVII
SCHEMAS ELECTRIQUES	XIX
S1	XIX
S2	XIX
S3	XIX
S4	XIX
R1	XIX
R2	XIX
R4	XIX
CARACTERISTIQUES AERAUQUES (SANS OPTION)	XL
S1	XL
S2	XL
S3	XL
S4	XL
R1	XL
R2	XL
R4	XL

ANLAGE

ABMESSUNGEN	III
S1	III
S2	III
S3	III
S4	III
R1	III
R2	III
R4	III
ABMESSUNGEN DER KANALABGÄNGE	XII
S1	XII
S2	XII
S3	XII
S4	XII
R1	XII
R2	XII
R4	XII

BASISMODUL ODER 2 LUFTKLAPPEN.....	..XVI
KÄLTEKREISLAUFDIAGRAMM	XVII
S1	XVII
S2	XVII
S3	XVII
S4	XVII
R1	XVII
R2	XVII
R4	XVII
STROMLAUFPANS	XIX
S1	XIX
S2	XIX
S3	XIX
S4	XIX
R1	XIX
R2	XIX
R4	XIX
REGELUNG DES LÜFTERSYSTEMS (OHNE OPTION)	XL
S1	XL
S2	XL
S3	XL
S4	XL
R1	XL
R2	XL
R4	XL

ALLEGATO

DIMENSIONI	III
S1	III
S2	III
S3	III
S4	III
R1	III
R2	III
R4	III
DIMENSIONI TELLE USCITE DI CONDOTTA	XII
S1	XII
S2	XII
S3	XII
S4	XII
R1	XII
R2	XII
R4	XII

MODULO VILE O 2 REGISTRI.....	..XVI
SCHEMA DEL CIRCUITO REFRIGERANTE	XVII
S1	XVII
S2	XVII
S3	XVII
S4	XVII
R1	XVII
R2	XVII
R4	XVII
SCHEMA ELETTRICO	XIX
S1	XIX
S2	XIX
S3	XIX
S4	XIX
R1	XIX
R2	XIX
R4	XIX
REGOLAZIONE DEL SISTEMA DI TRATTAMENTO DELL'ARIA (SENZA OPZIONE)	XL
S1	XL
S2	XL
S3	XL
S4	XL
R1	XL
R2	XL
R4	XL

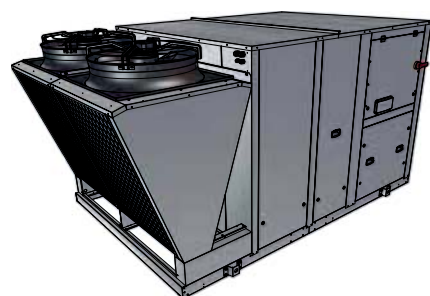
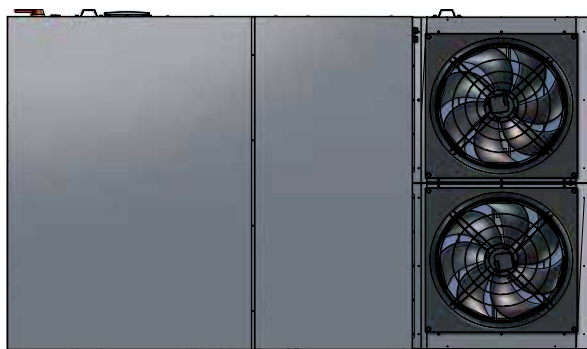
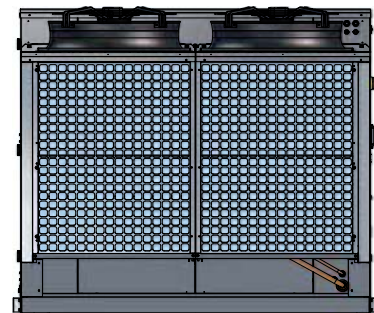
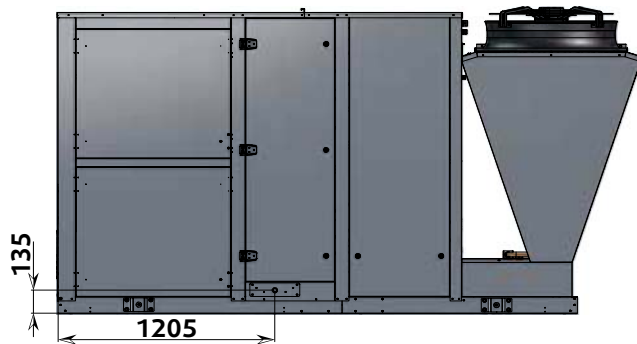
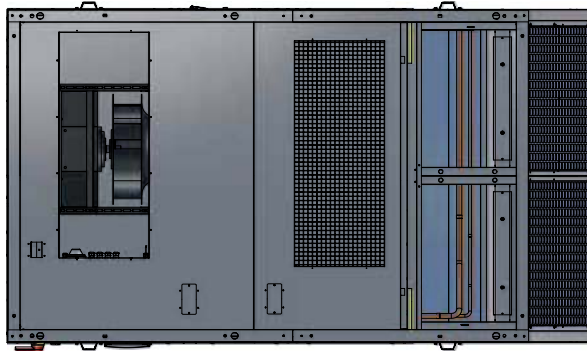
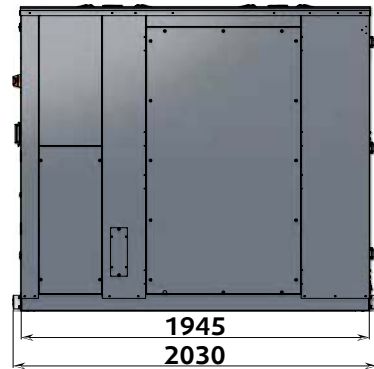
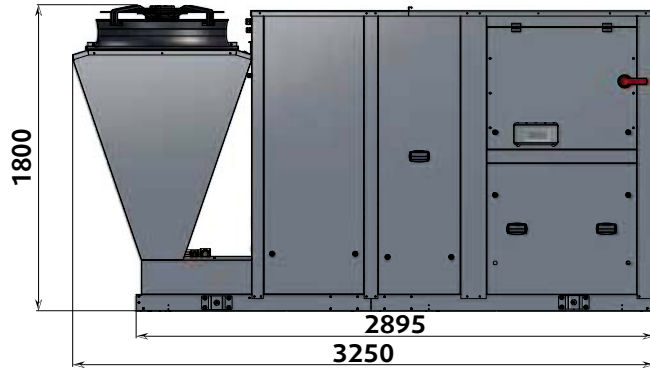
ANEXO

DIMENSIONES	III
S1	III
S2	III
S3	III
S4	III
R1	III
R2	III
R4	III
DIMENSIONES DE LAS SALIDAS DE CONDUCTOS	XII
S1	XII
S2	XII
S3	XII
S4	XII
R1	XII
R2	XII
R4	XII

MODULO BAJO O 2 COMPUERTAS.....	..XVI
ESQUEMA DEL CIRCUITO FRIGORIFICO	XVII
S1	XVII
S2	XVII
S3	XVII
S4	XVII
R1	XVII
R2	XVII
R4	XVII
ESQUEMA ELECTRICO	XIX
S1	XIX
S2	XIX
S3	XIX
S4	XIX
R1	XIX
R2	XIX
R4	XIX
AJUSTE DEL SISTEMA AEROLICO (SIN OPCION)	XL
S1	XL
S2	XL
S3	XL
S4	XL
R1	XL
R2	XL
R4	XL

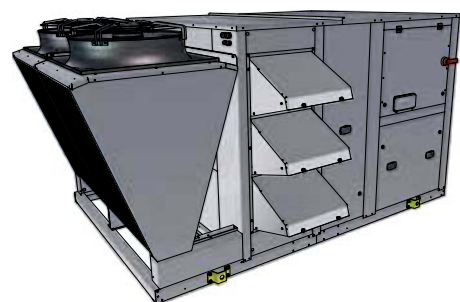
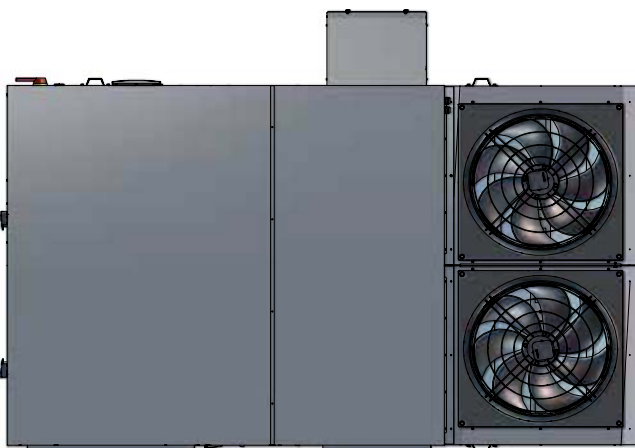
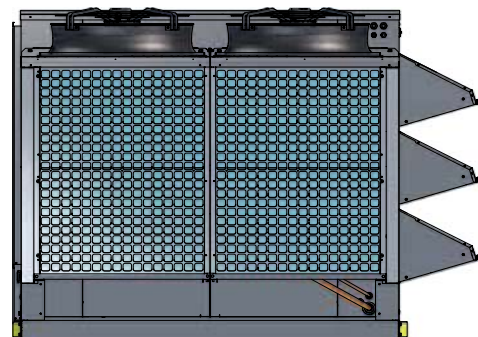
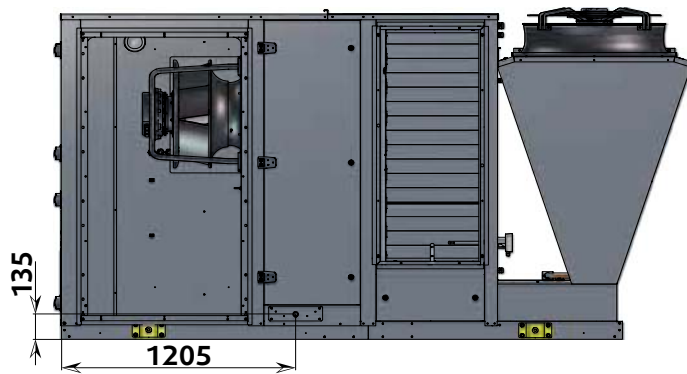
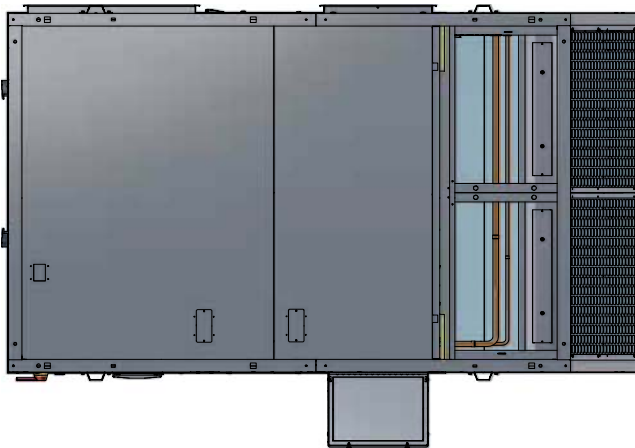
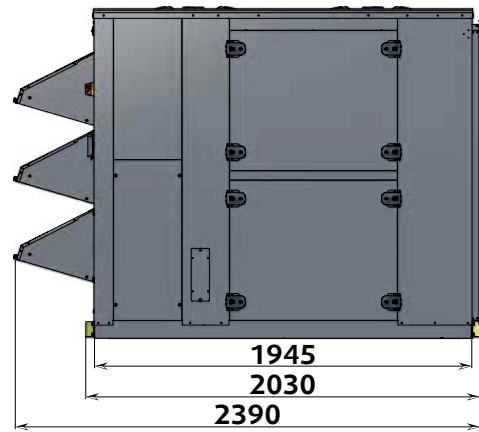
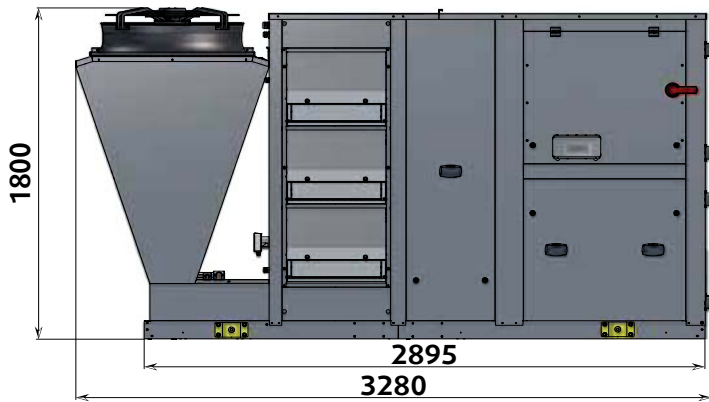
**DIMENSIONS
DIMENSIONS
ABMESSUNGEN
DIMENSIONI
DIMENSIONES**

**SYSAER SR55 - SR65 - SR80
BASE MODULE**

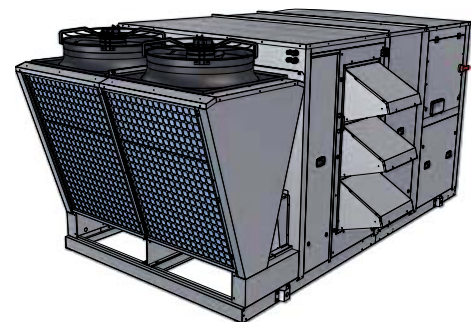
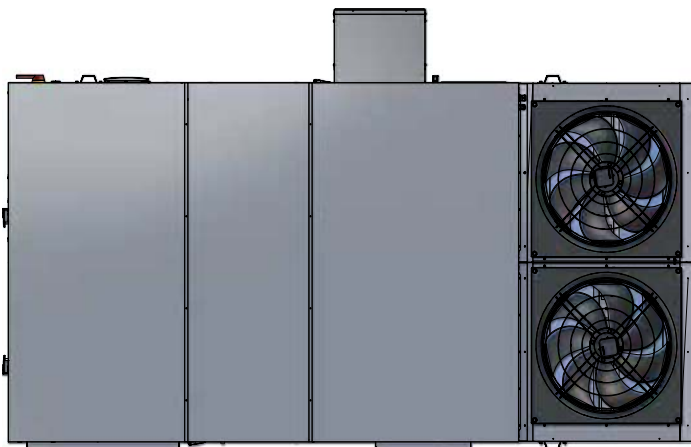
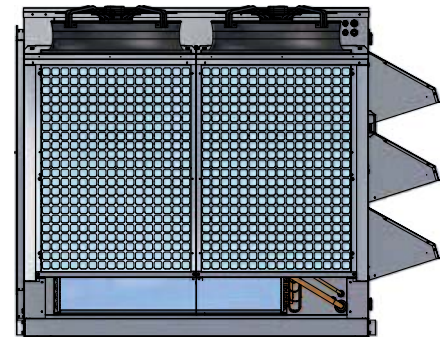
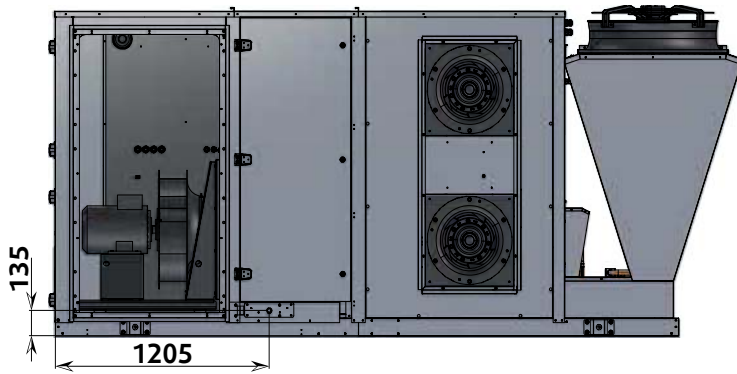
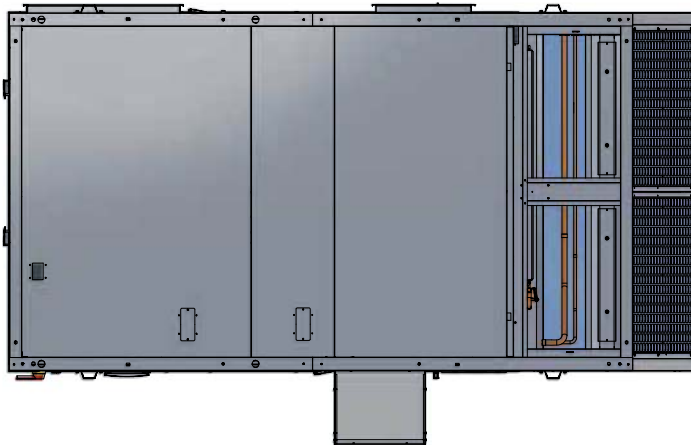
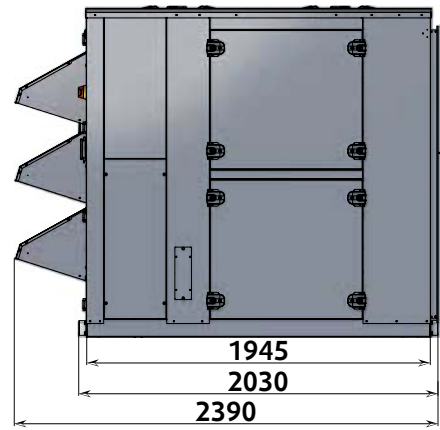
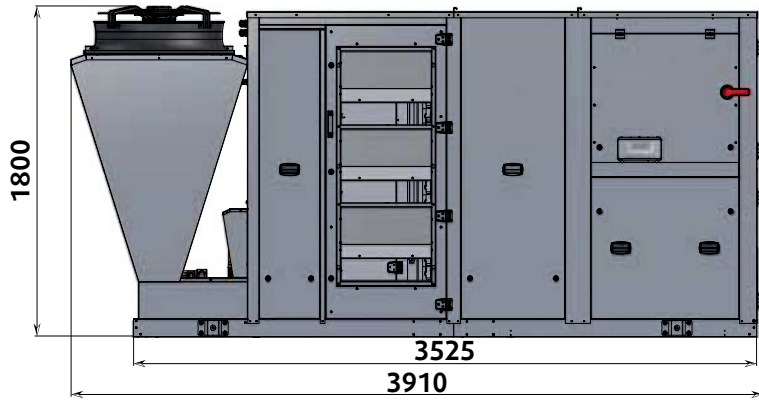


APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

BASE MODULE WITH 2 DAMPERS



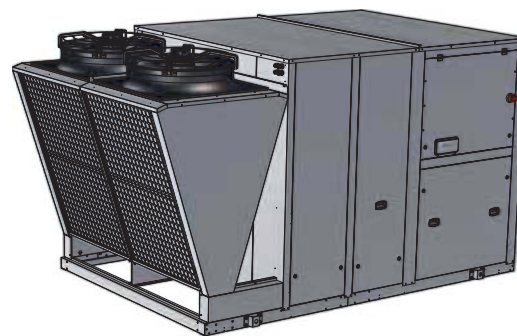
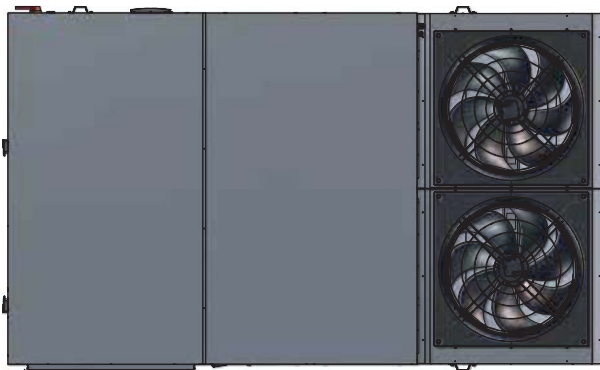
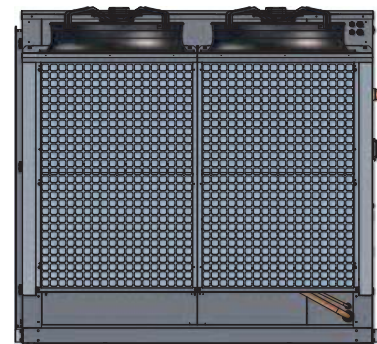
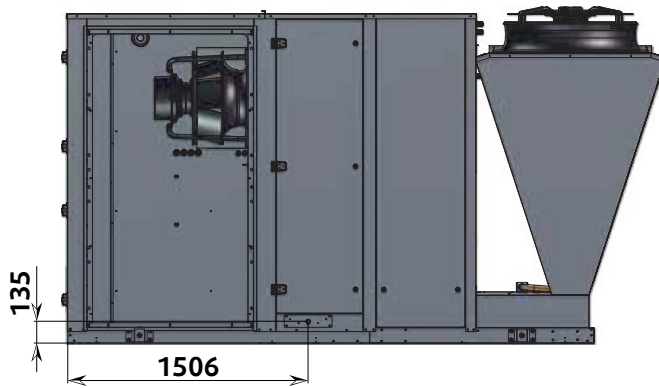
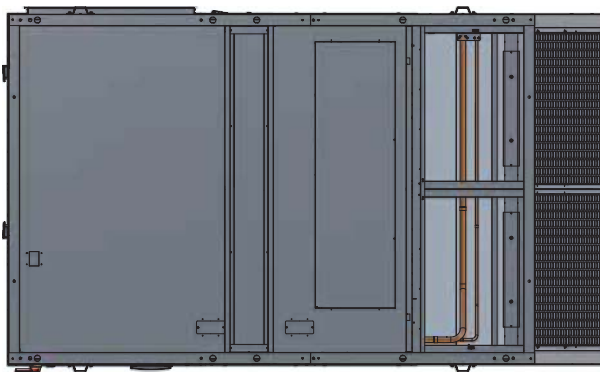
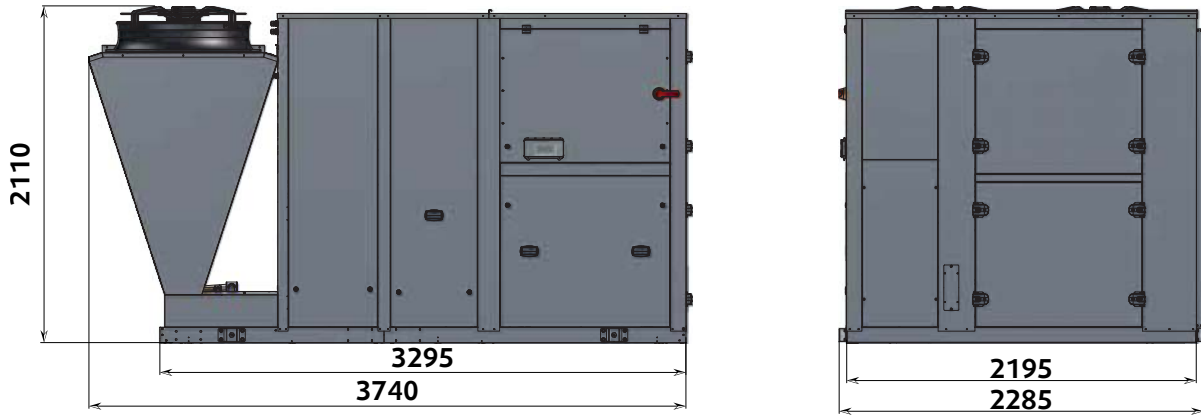
BASE MODULE R2 WITH 3 DAMPERS



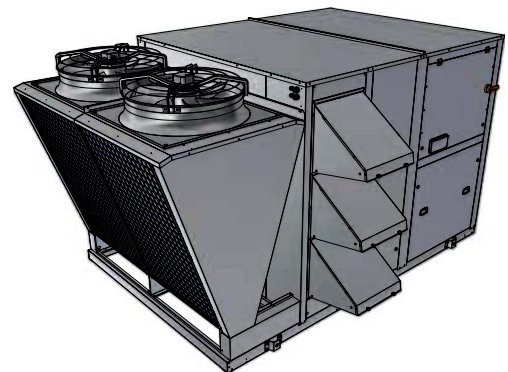
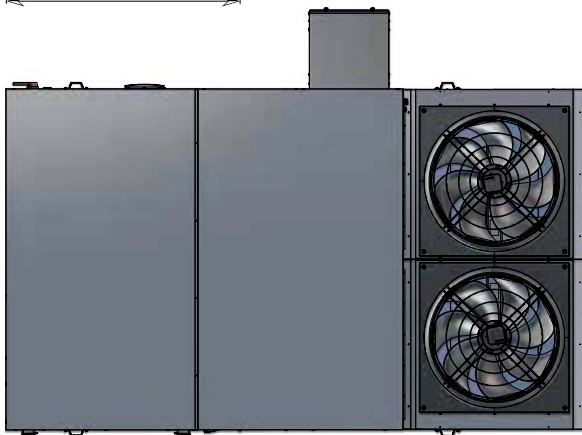
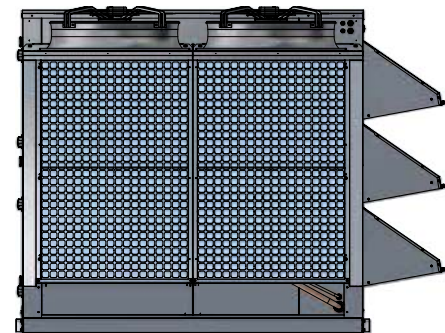
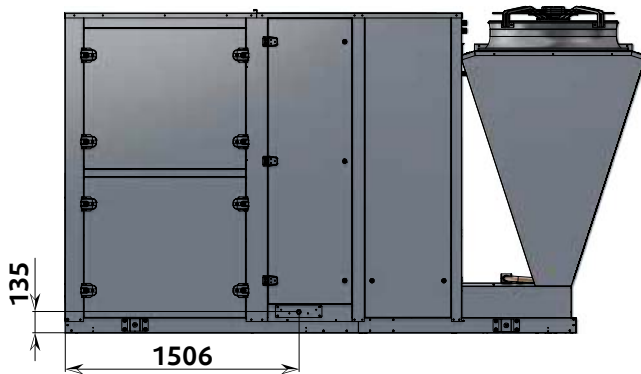
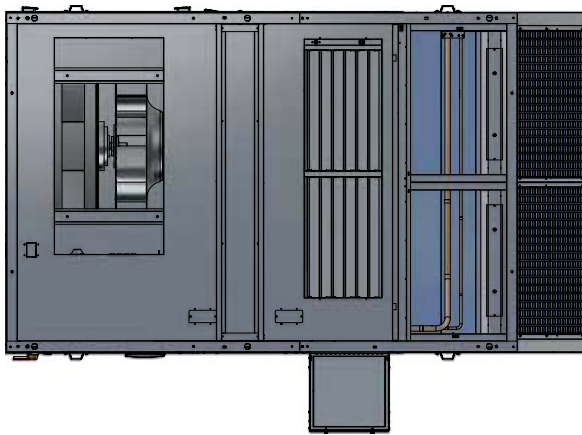
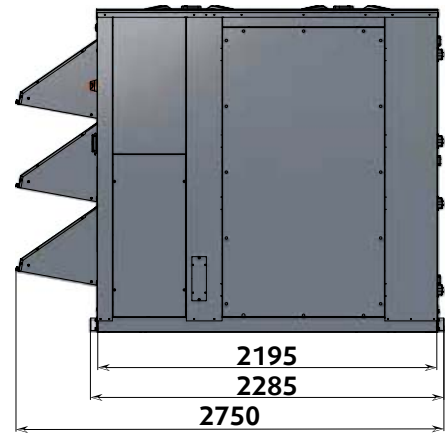
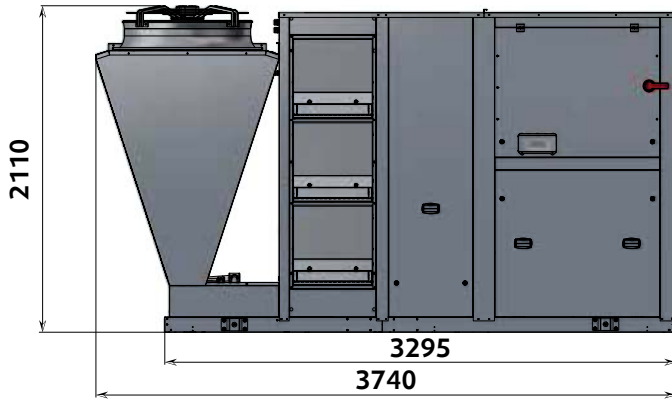
APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

SYSAER SR95 - SR105 - SR120 - SR140

BASE MODULE

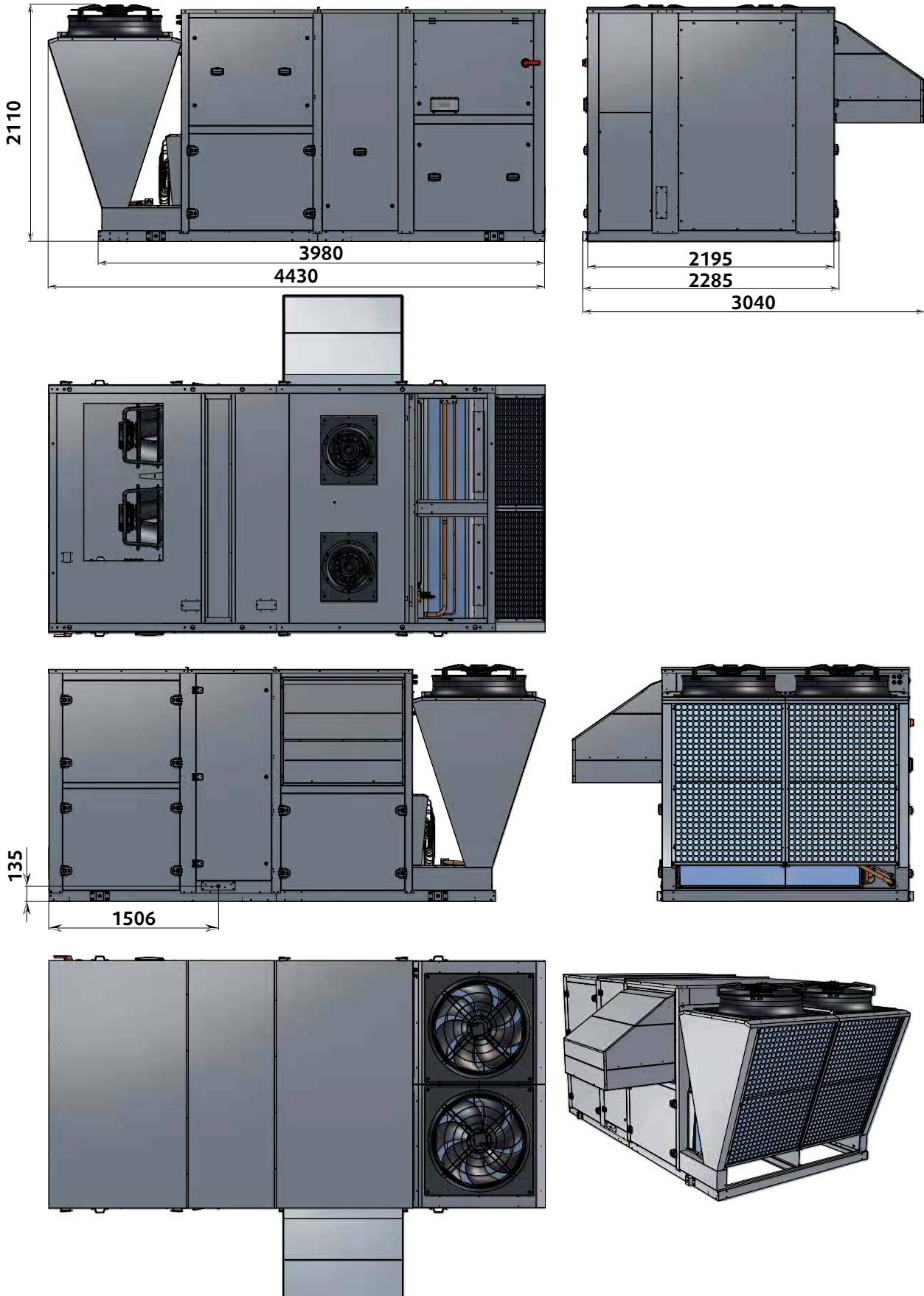


BASE MODULE WITH 2 DAMPERS

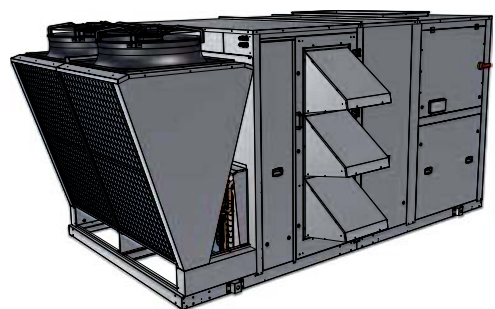
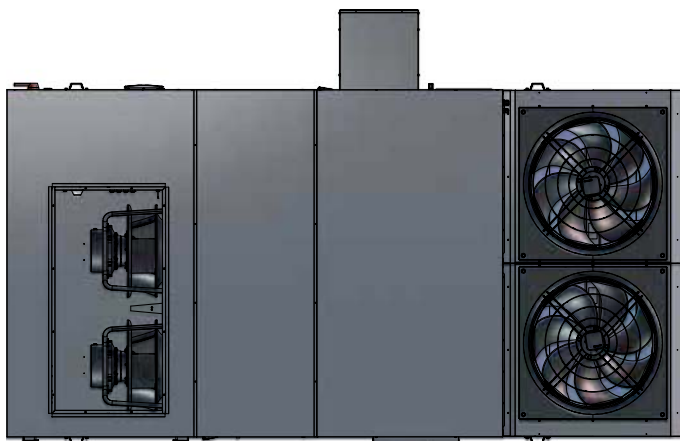
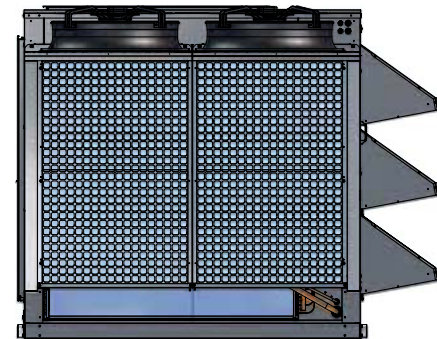
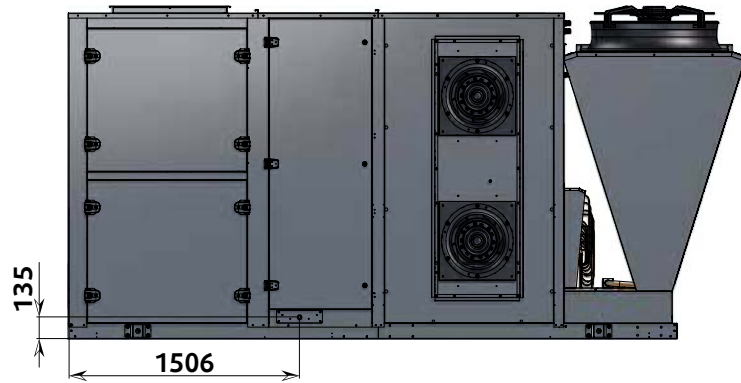
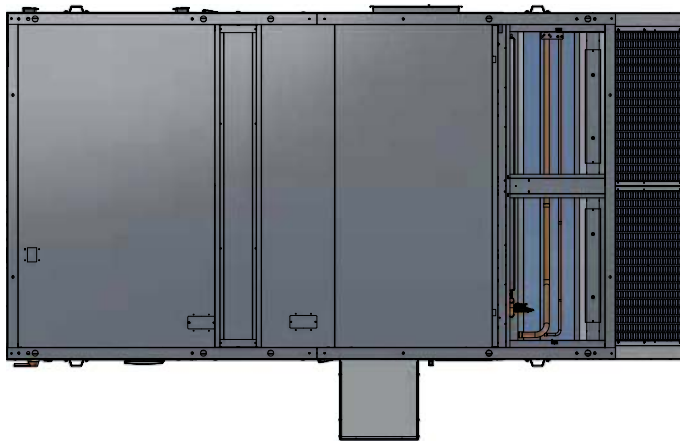
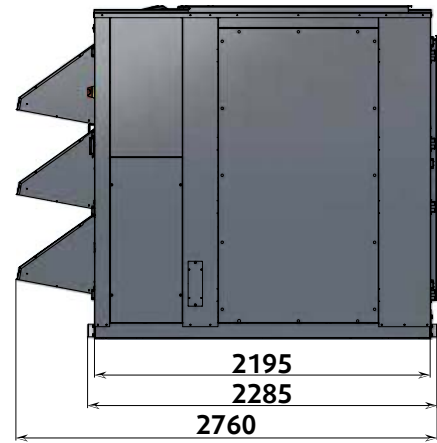
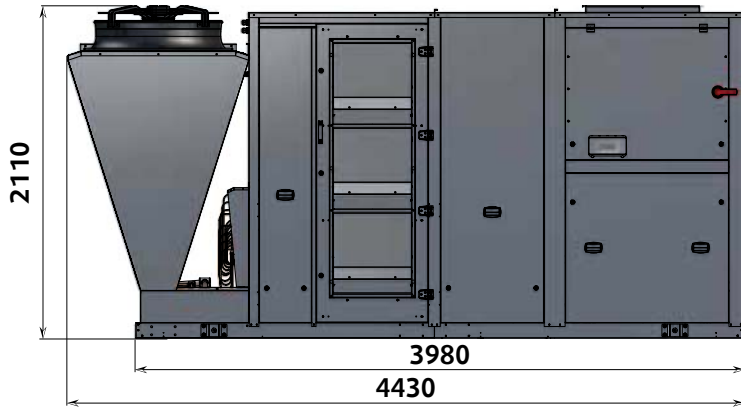


APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

BASE MODULE R1 WITH 3 DAMPERS



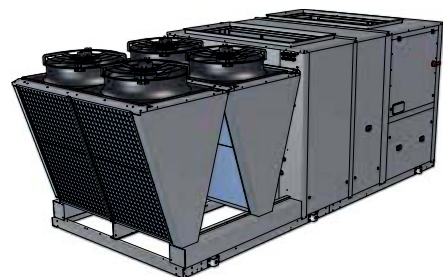
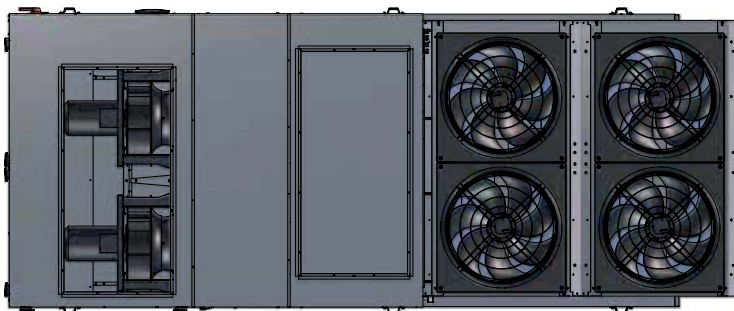
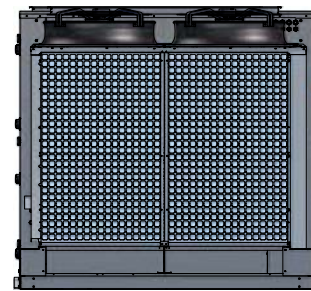
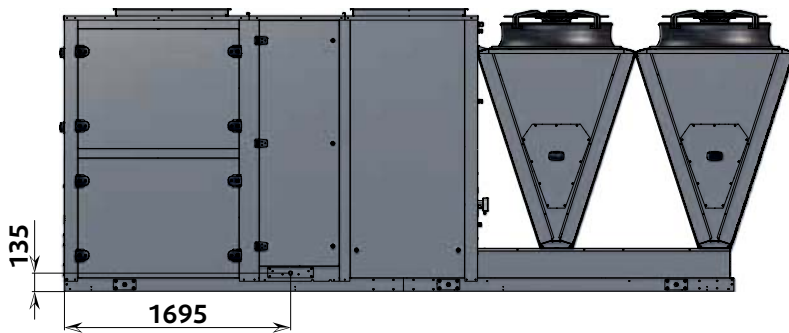
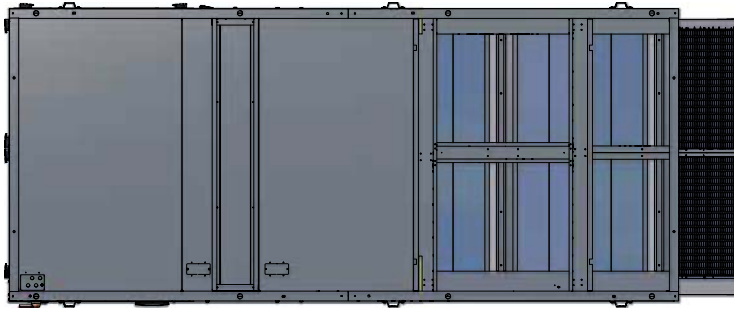
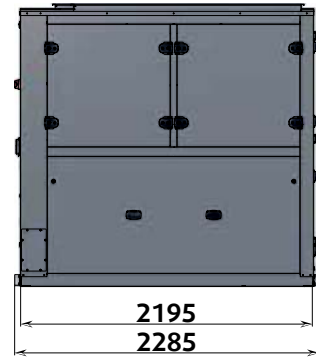
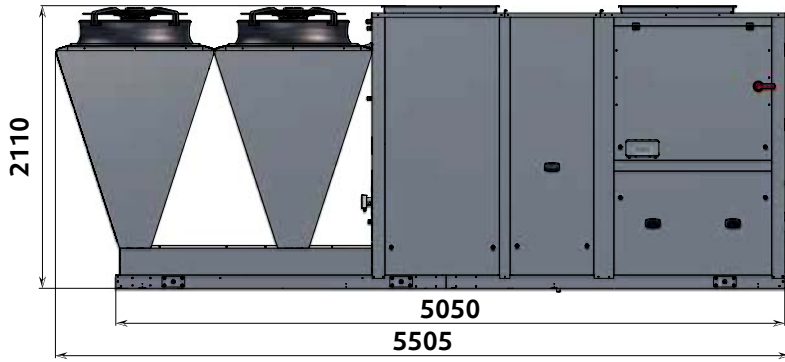
BASE MODULE R2 WITH 3 DAMPERS



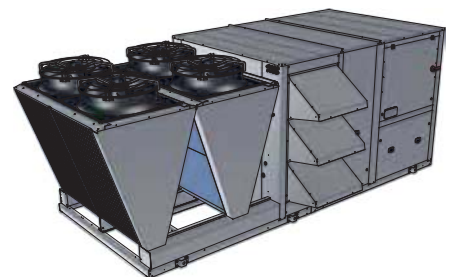
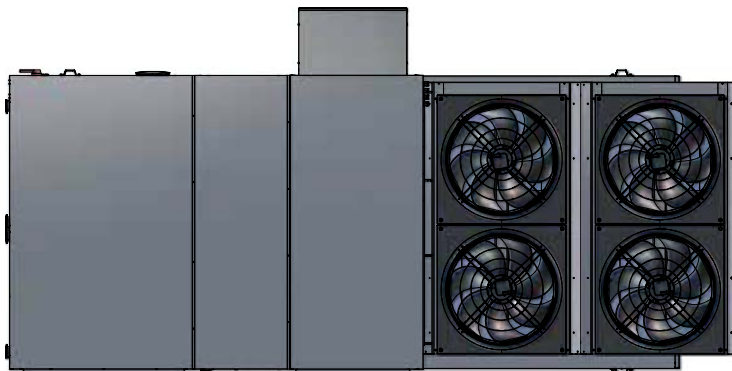
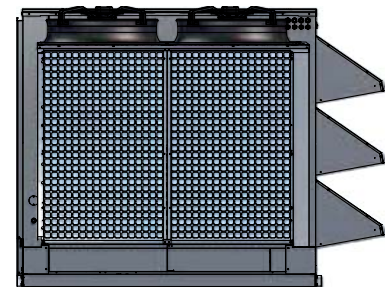
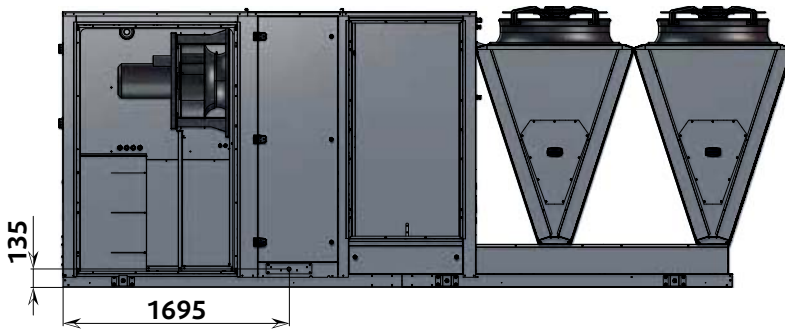
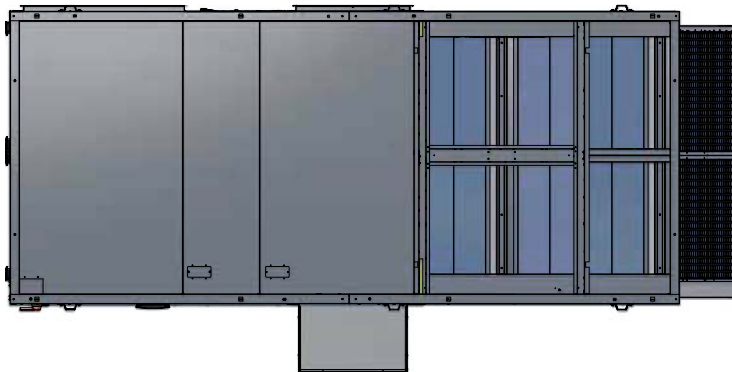
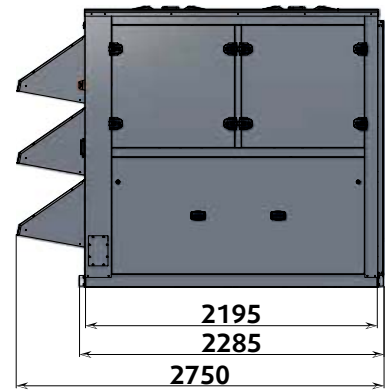
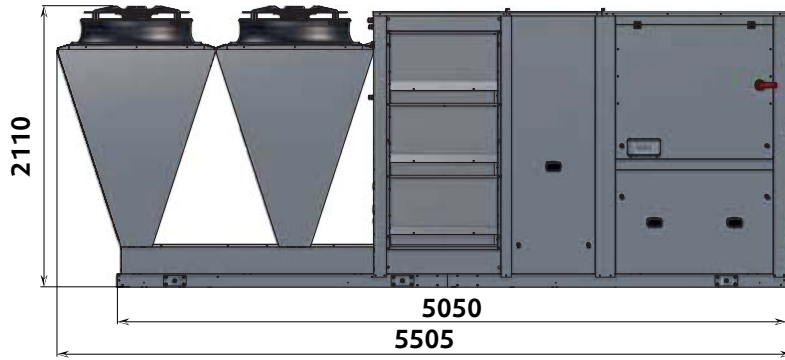
APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

SYSAER SR160 - SR190 - SR210

BASE MODULE



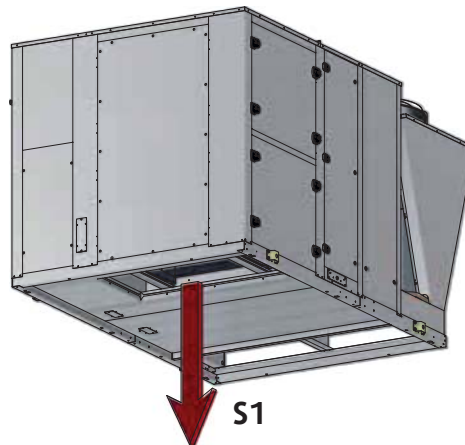
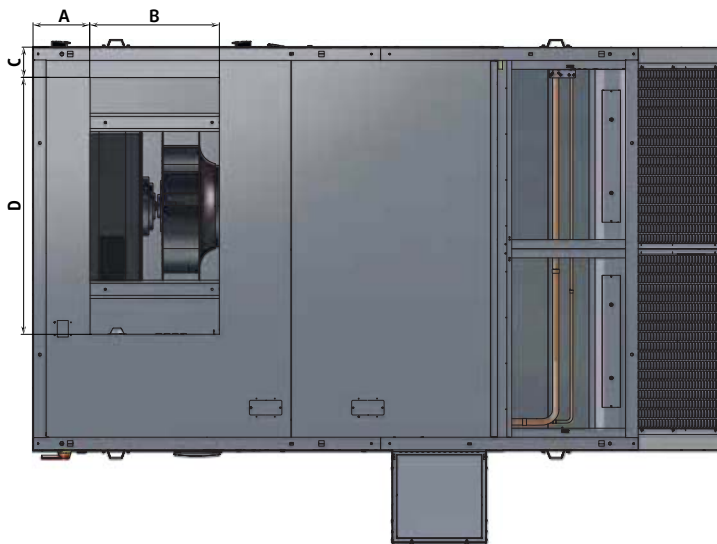
BASE MODULE WITH 2 DAMPERS



DUCT OUTLET DIMENSIONS
DIMENSIONS DEPART DE GAINES
ABMESSUNGEN DER KANALABGÄNGE
DIMENSIONI TELLE USCITE DI CONDOTTA
DIMENSIONES DE LAS SALIDAS DE CONDUCTOS

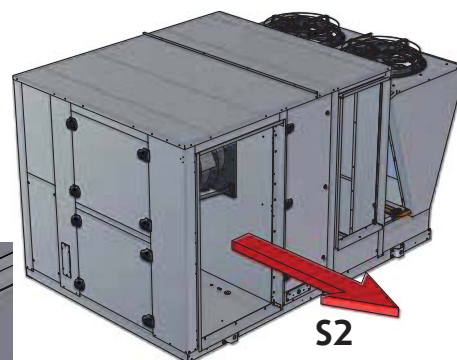
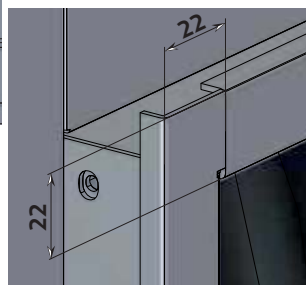
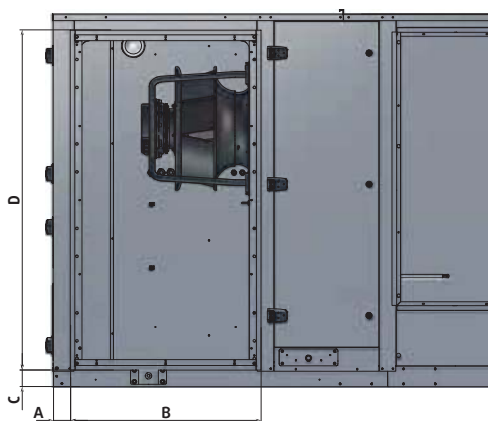
S1

WITHOUT GAS BURNER



		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
A	mm	286	286	286	310	310	310	310	655	655	655
B	mm	500	500	500	705	705	705	705	600	600	600
C	mm	134	134	134	164	164	164	164	185	185	185
D	mm	1 320	1 320	1 320	1 400	1 400	1 400	1 400	1 520	1 520	1 520

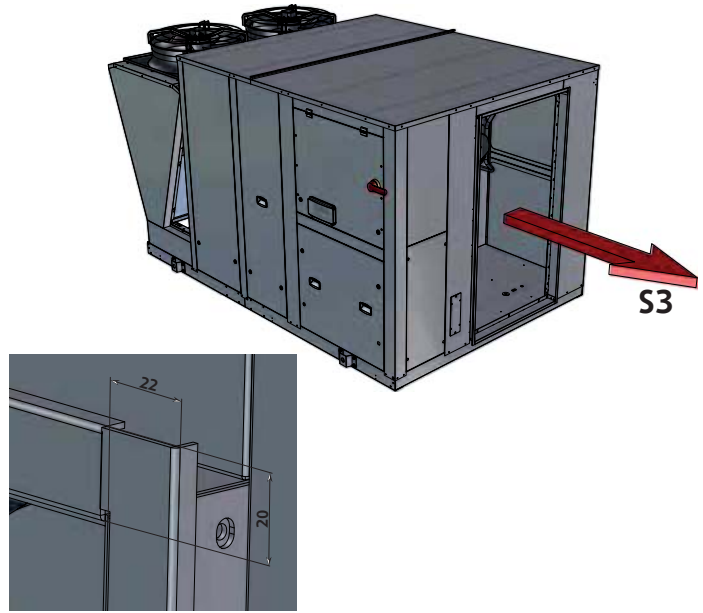
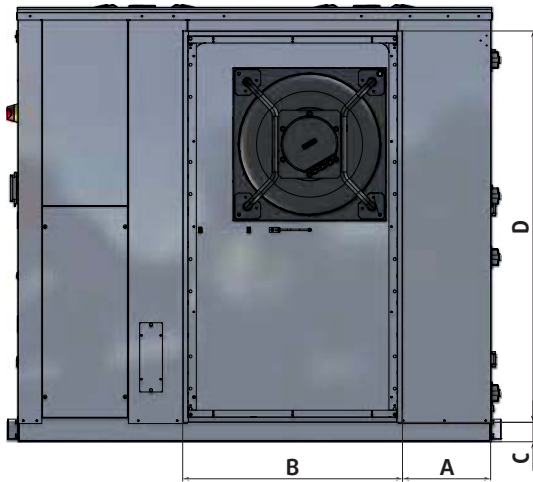
S2



		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
A	mm	80	80	80	100	100	100	100	80	80	80
B	mm	905	905	905	1 087	1 087	1 087	1 087	1 250	1 250	1 250
C	mm	78	78	78	78	78	78	78	80	80	80
D	mm	1 610	1 610	1 610	1 910	1 910	1 910	1 910	1 910	1 910	1 910

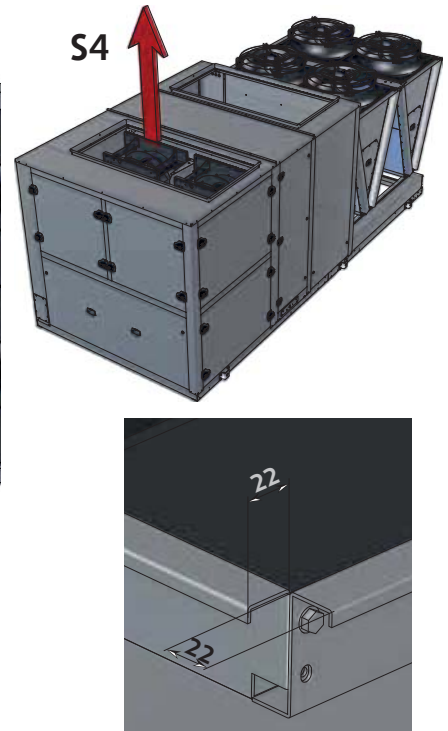
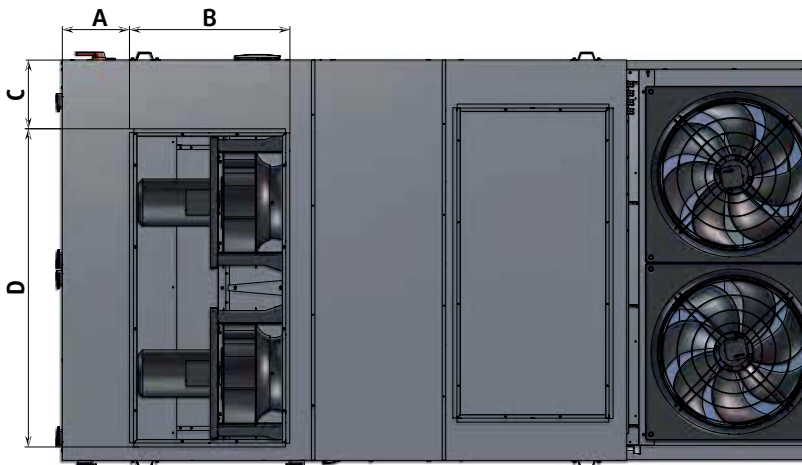
S3

WITHOUT GAS BURNER



		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
A	mm	363	363	363	320	320	320	320	80	80	80
B	mm	903	903	903	1 086	1 086	1 086	1 086	1 825	1 825	1 825
C	mm	77	77	77	77	77	77	77	1 026	1 026	1 026
D	mm	1 607	1 607	1 607	1 911	1 911	1 911	1 911	960	960	960

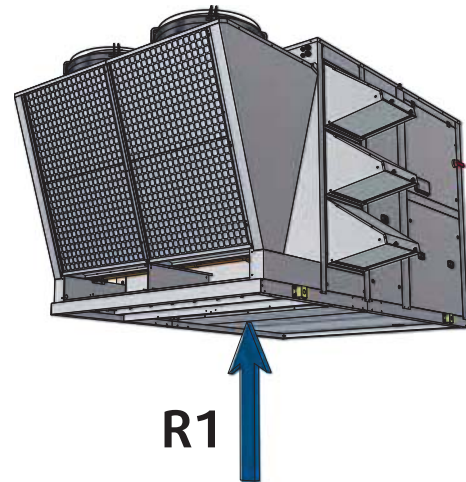
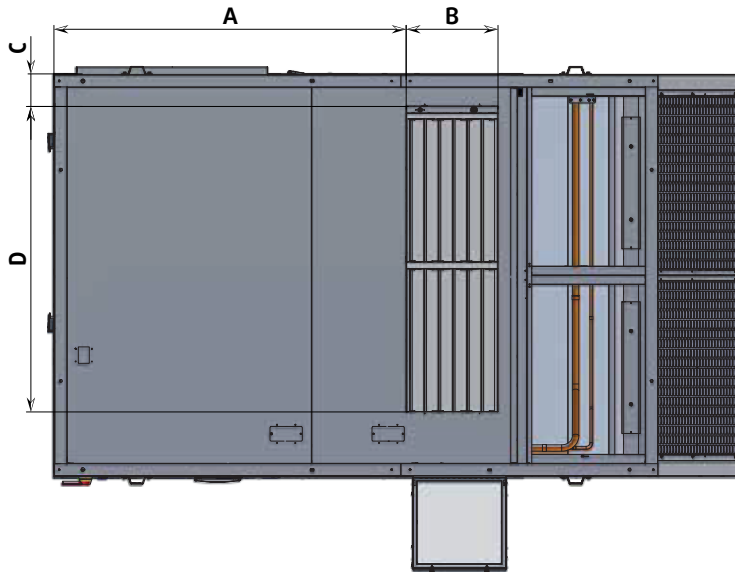
S4



		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
A	mm	252	252	252	272	272	272	272	370	370	370
B	mm	582	582	582	786	786	786	786	881	881	881
C	mm	446	446	446	595	595	595	595	380	380	380
D	mm	1 401	1 401	1 401	1 481	1 481	1 481	1 481	1 750	1 750	1 750

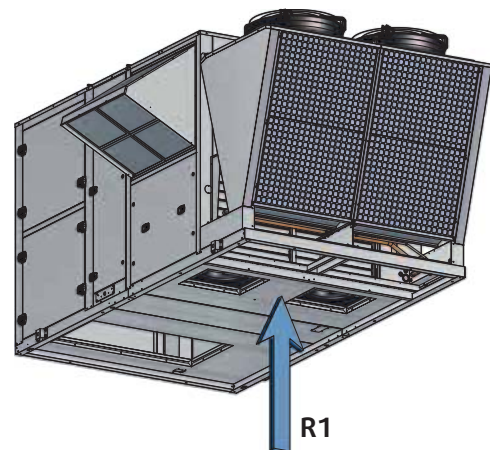
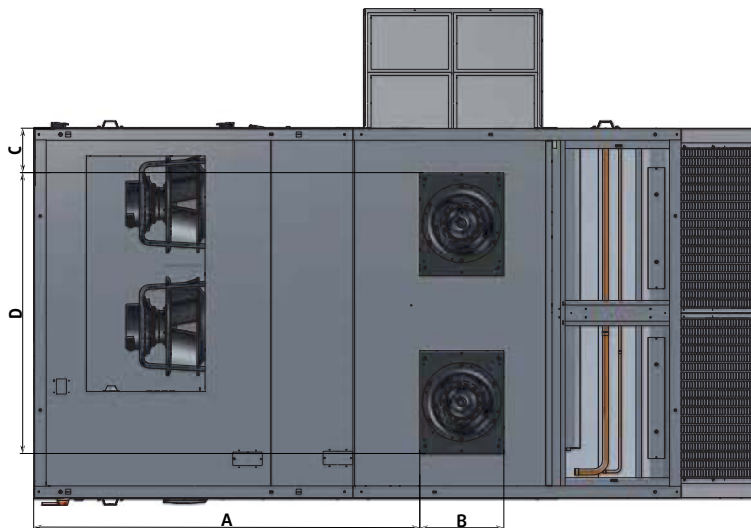
R1

BASE MODULE OR 2 DAMPERS



		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
A	mm	1 594	1 594	1 594	1 924	1 924	1 924	1 924	2 143	2 143	2 143
B	mm	500	500	500	500	500	500	500	800	800	800
C	mm	183	183	183	173	173	173	173	185	185	185
D	mm	1 320	1 320	1 320	1 669	1 669	1 669	1 669	1 667	1 667	1 667

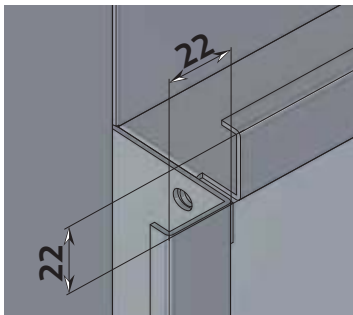
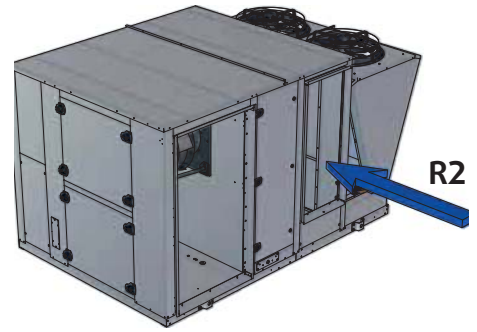
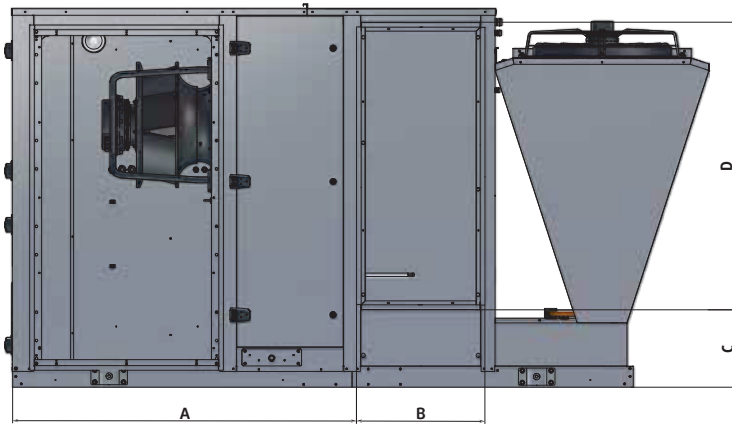
3 DAMPERS



		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
A	mm	NC	NC	NC	2 420	2 420	2 420	2 420	NC	NC	NC
B	mm	NC	NC	NC	500	500	500	500	NC	NC	NC
C	mm	NC	NC	NC	271	271	271	271	NC	NC	NC
D	mm	NC	NC	NC	1 651	1 651	1 651	1 651	NC	NC	NC

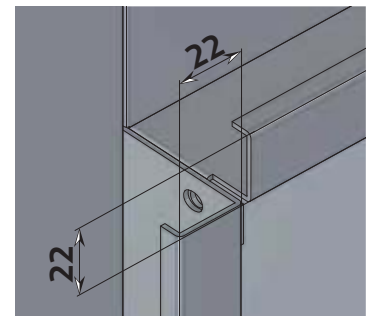
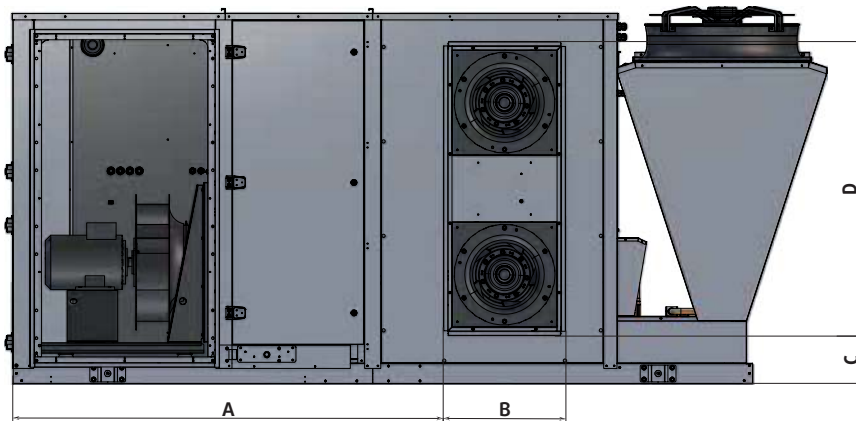
R2

BASE MODULE OR 2 DAMPERS



		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
A	mm	1 604	1 604	1 604	1 915	1 915	1 915	1 915	2 124	2 124	2 124
B	mm	600	600	600	599	599	599	599	900	900	900
C	mm	382	382	382	341	341	341	341	342	342	342
D	mm	1 339	1 339	1 339	1 680	1 680	1 680	1 680	1 680	1 680	1 680

3 DAMPERS

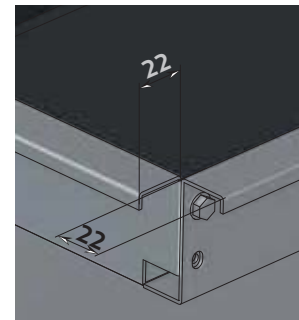
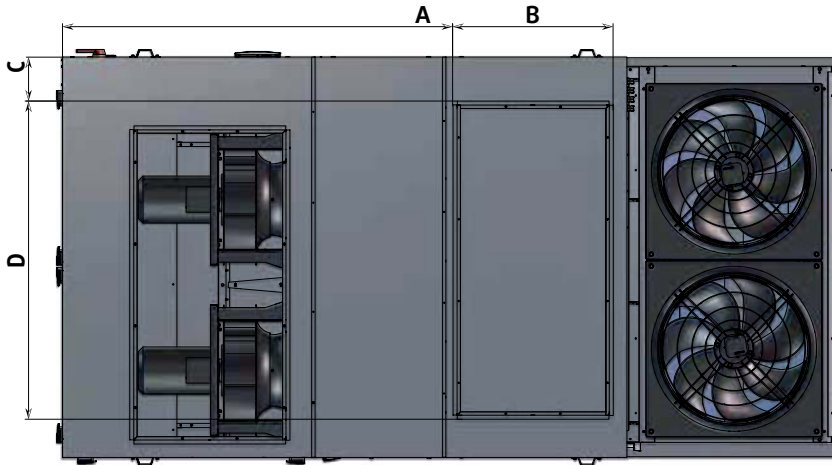


		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
A	mm	2 050	2 050	2 050	2 370	2 370	2 370	2 370	2 604	2 604	2 604
B	mm	581	581	581	599	599	599	599	720	720	720
C	mm	230	230	230	240	240	240	240	228	228	228
D	mm	1 401	1 401	1 401	1 680	1 680	1 680	1 680	1 706	1 706	1 706

APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

R4

BASE MODULE OR 2 DAMPERS



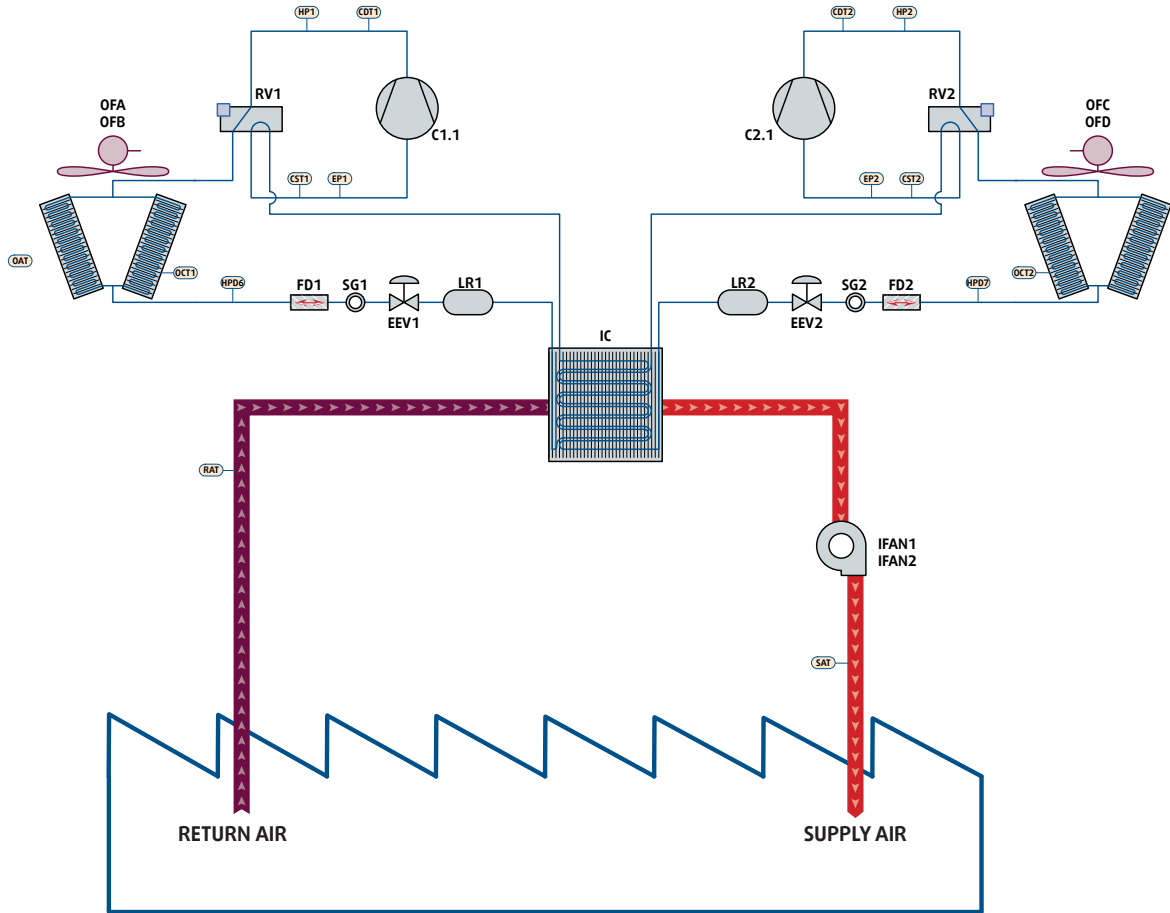
		SR55	SR65	SR80	SR95	SR105	SR120	SR140	SR160	SR190	SR210
A	mm	1 553	1 553	1 553	1 864	1 864	1 864	1 864	2 170	2 170	2 170
B	mm	581	581	581	581	581	581	581	881	881	881
C	mm	405	405	405	315	315	315	315	242	242	242
D	mm	1 400	1 400	1 400	1 750	1 750	1 750	1 750	1 750	1 750	1 750

REFRIGERANT CIRCUIT DIAGRAM
 SCHEMA DU CIRCUIT FRIGORIFIQUE
 KÄLTEKREISLAUFDIAGRAMM
 SCHEMA DEL CIRCUITO REFRIGERANTE
 ESQUEMA DEL CIRCUITO FRIGORIFÍCO

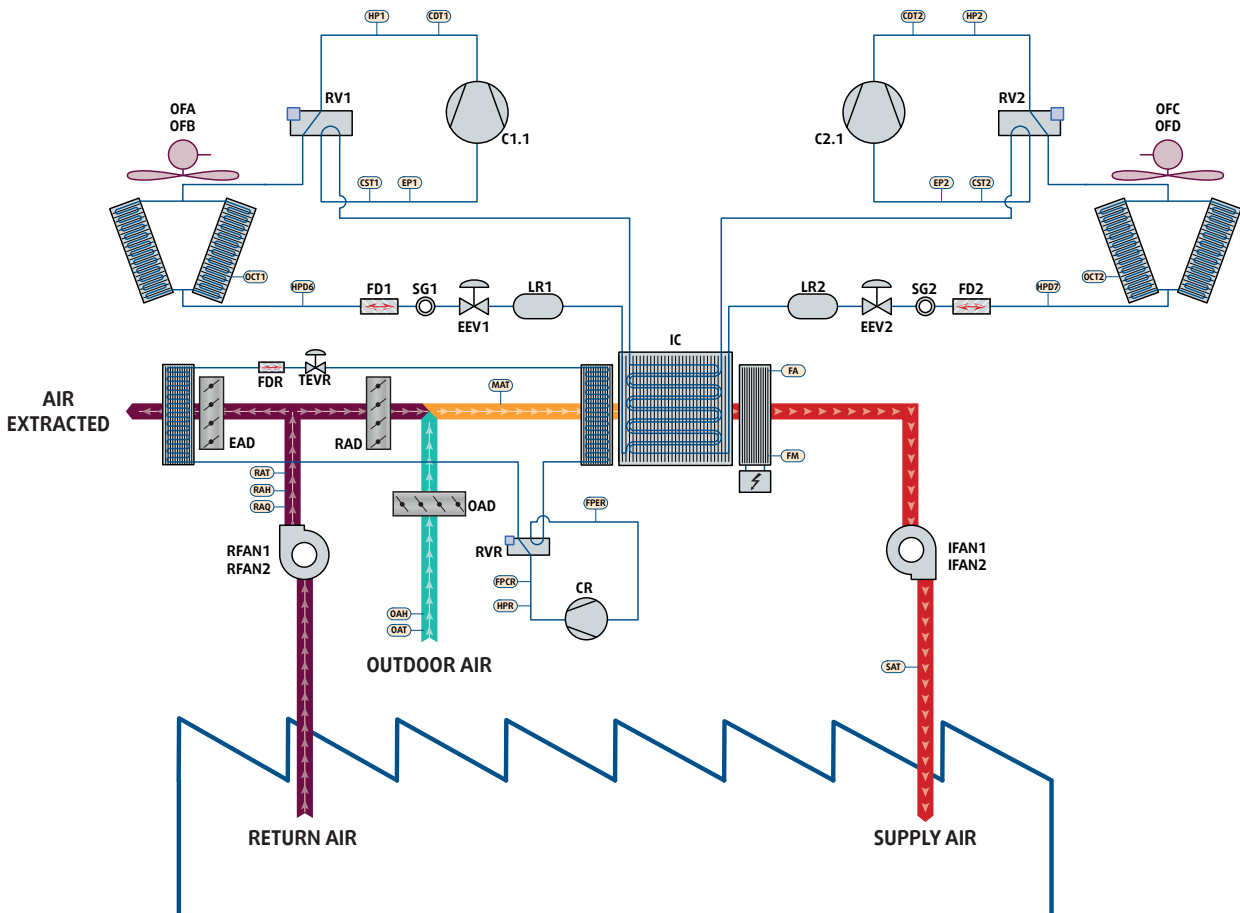
	English	Français	Deutsch	Italiano	Español
REPERE	DESCRIPTION	DESIGNATION	BEZEICHNUNG	DENOMINAZIONE	DESIGNACIÓN
C1.1 / C1.2 C2.1 / C2.2	Compressor	Compresseur	Verdichter	Compressore	Compresor
RV1 / RV2	Cycle reversal valve	Vanne d'inversion de cycle	Zyklusumschaltventil	Valvola inversione di ciclo	Válvula de inversión del ciclo
OFA / OFB OFC / OFD	Outside fans	Ventilateurs extérieurs	Außenventilatoren	Ventilatori esterni	Ventiladores exteriores
FD1 / FD2	Dehydrating filter	Filtre déshydrateur	Filtertrockner	Filtro essiccatore	Filtro deshidratador
SG1 / SG2	Liquid light	Voyant liquide	Kontrollleuchte Flüssigkeit	Spia del liquido	Indicador de líquido
EEV1 / EEV2	Electronic pressure reducing valve	Détendeur électronique	Elektronisches Expansionsventil	Riduttore di pressione elettronico	Válvula de expansión electrónica
LR1 / LR2	Liquid accumulation bottle	Bouteille accumulation liquide	Auffanggefäß Flüssigkeit	Bottiglia di accumulo liquido	Botella de acumulación de líquido
IC	Internal coil (evaporator)	Batterie interne (evaporateur)	Internes Heizregister (Verdampfer)	Batteria interna (evaporatore)	Batería interna (evaporador)
CDT1 / CDT2	Backflow temperature	Température de reflux	Rücklauftemperatur	Temperatura di mandata	Temperatura de retorno
HP1 / HP2	High pressure switch	Pressostat haute pression	Hochdruckregler	Pressostato di alta pressione	Presostato de alta presión
OCT1 / OCT2	Condenser temperature	Température condenseur	Kondensatortemperatur	Temperatura condensatore	Temperatura del condensador
HPD6 / HPD7	De-frosting pressure switch	Pressostat de dégivrage	Abtaupressostat	Pressostato di sbrinamento	Presostato de descongelación
CST1 / CST2	Intake temperature sensor	Sonde de température d'aspiration	Lufteintrittstemperaturfühler	Sonda temperatura di aspirazione	Sonda de temperatura de aspiración
EP1 / EP2	Low pressure sensor	Capteur basse pression	Niederdrucksensor	Sensore bassa pressione	Sensor de baja presión
IFAN1 / IFAN2	Blast fans	Ventilateurs de soufflage	Strahlventilatoren	Ventilatori a getto	Ventiladores de soplado
RFAN1 / RFAN2	Extraction fans	Ventilateurs d'extraction	Abluftventilatoren	Ventilatori aspiranti	Ventiladores de extracción
RAD	Air return damper	Registre air repris	Rückluftklappe	Registro aria di recupero	Registro de aire de retorno
OAD	Fresh air damper	Registre air neuf	Frischluftklappe	Registro aria fresca	Registro de aire nuevo
EAD	Extracted air damper	Registre air extrait	Abluftklappe	Registro aria estratta	Registro de aire extraído
RAT	Air return temperature	Température air repris	Rücklufttemperatur	Temperatura aria di recupero	Temperatura del aire de retorno
RAH	Air return hygrometry	Hygrométrie air repris	Rückluftfeuchtigkeit	Igrometria aria di recupero	Humedad del aire de retorno
RAQ	Air return quality	Qualité air repris	Rückluftqualität	Qualità aria di recupero	Calidad del aire de retorno
OAH	Outside air hygrometry	Hygrométrie air extérieur	Außenluftfeuchtigkeit	Igrometria aria esterna	Humedad del aire exterior
OAT	Outside air temperature	Température air extérieur	Außentemperatur	Temperatura aria esterna	Temperatura del aire exterior
MAT	Temperature of air mix before coil	Température de mélange d'air avant batterie	Mischlufttemperatur vor dem Heizregister	Temperatura della miscela d'aria prima della batteria	Temperatura de la mezcla de aire antes de la batería
SAT	Blast air temperature	Température air de soufflage	Strahllufttemperatur	Temperatura aria di ventilazione forzata	Temperatura del aire de soplado
ERV	Valve modulating FRECO coil	Vanne modulante batterie FRECO	Modulierendes Ventil FRECO-Register	Valvola modulatrice batteria FRECO	Válvula modulante de batería FRECO
ERC	Anti-freeze alarm, FRECO coil	Alarme anti-gel batterie FRECO	Frostschutzalarm FRECO-Register	Allarme antigelo batteria FRECO	Alarma anticongelación de batería FRECO
HWV	Valve modulating warm water coil	Vanne modulante batterie eau chaude	Modulierendes Ventil WW-Register	Valvola modulatrice batteria acqua calda	Válvula modulante de batería de agua caliente
HWC	Anti-freeze alarm, warm water coil	Alarme anti-gel batterie eau chaude	Frostschutzalarm, WW-Register	Allarme antigelo batteria acqua calda	Alarma anticongelación de batería de agua caliente
FA	Automatic reset heating safety thermostat	Thermostat chauffage réarmement automatique	Heizthermostat mit automatischer Wiedereinschaltvorrichtung	Termostato riscaldamento a ripristino automatico	Termostato de calefacción con restablecimiento automático
FM	Manual reset heating safety thermostat	Thermostat chauffage réarmement manuel	Heizthermostat mit manueller Wiedereinschaltvorrichtung	Termostato riscaldamento a ripristino manuale	Termostato de calefacción con restablecimiento manual
CR	TRECO compressor	Compresseur TRECO	TRECO-Verdichter	Compressore TRECO	Compresor TRECO
RVR	TRECO cycle reversal valves	Vannes d'inversion de cycle TRECO	TRECO-Zyklusumschaltventil	Valvola inversione di ciclo TRECO	Válvulas de inversión del ciclo TRECO
FDR	TRECO dehydrating filter	Filtre déshydrateur TRECO	TRECO-Filtertrockner	Filtro essiccatore TRECO	Filtro deshidratador TRECO
TEVR	TRECO pressure reducing valve	Détendeur TRECO	TRECO-Druckregler	Valvola riduttrice di pressione	Válvula de expansión TRECO
FPER	TRECO low pressure transducer	Transducteur de pression (basse pression) TRECO	TRECO-Druckwandler (Niederdruck)	Trasduttore di pressione (bassa pressione) TRECO	Transductor de presión (baja presión) TRECO
HPR	TRECO automatic reset high pressure switch	Pressostat haute pression à réarmement automatique TRECO	TRECO-Hochdruckregler mit automatischer Wiedereinschaltvorrichtung	Pressostato alta pressione a ripristino automatico TRECO	Presostato de alta presión con restablecimiento automático TRECO
FPCR	TRECO high pressure transducer	Transducteur de pression (haute pression) TRECO	TRECO-Druckwandler (Hochdruck)	Trasduttore di pressione (alta pressione) TRECO	Transductor de presión (alta presión) TRECO

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SR55 - SR65 - SR80 - SR95 - SR105 - SR120 - SR140



SR160 - SR190 - SR210



WIRING DIAGRAM SCHEMAS ELECTRIQUES STROMLAUFPLANS SCHEMA ELETRICO ESQUEMA ELECTRICO

TAKE CARE!

These wiring diagrams are correct at the time of publication. Manufacturing changes can lead to modifications. Always refer to the diagram supplied with the product.

ATTENTION

Ces schémas sont corrects au moment de la publication. Les variantes en fabrication peuvent entraîner des modifications. Reportez-vous toujours au schéma livré avec le produit.

ACHTUNG!

Diese Stromlaufplans sind zum Zeitpunkt der Veröffentlichung gültig. In Herstellung befindliche Varianten können Änderungen mit sich bringen. In jedem Fall den mit dem Produkt gelieferten Stromlaufplan hinzuziehen.

ATTENZIONE !

Questi schemi sono corretti al momento della pubblicazione. Le varianti apportate nel corso della fabbricazione possono comportare modifiche. Far sempre riferimento allo schema fornito con il prodotto.

ATENCIÓN !

Esto esquemas son correctos en el momento de la publicación. Pero las variantes en la fabricación pueden ser motivo de modificaciones. Remítase siempre al esquema entregado con el producto.



POWER SUPPLY MUST BE SWITCHED OFF BEFORE STARTING TO WORK IN THE ELECTRIC CONTROL BOXES!

MISE HORS TENSION OBLIGATOIRE AVANT TOUTE INTERVENTION DANS LES BOITIERS ELECTRIQUES.

VOR JEDEM EINGRIFF AN DEN ANSCHLUßKÄSTEN UNBEDINGT DAS GERÄT ABSCHALTEN!

PRIMA DI OGNI INTERVENTO SULLE CASSETTE ELETTRICHE ESCLUDERE TASSATIVAMENTE L'ALIMENTAZIONE !

PUESTA FUERA DE TNESIÓN OBLIGATORIA ANTES DE CUALQUIER INTERVENCIÓN EN LAS CAJAS ELÉCTRICAS!

APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

	English	Français	Deutsch	Italiano	Español
REPERE	DESCRIPTION	DESIGNATION	BEZEICHNUNG	DENOMINAZIONE	DESCRIPCIÓN
FFG	Protection fuses (not supplied)	Fusibles de protection (non fournis)	Sicherungen (nicht mitgeliefert)	Fusibili di protezione (non in dotazione)	Fusibles de protección (no suministrados)
X	Phase distributor	Répartiteur de phases	Phasenteiler	Ripartitore di potenza	Distribuidor de fases
QG	Main interrupter	Interrupteur principal	Hauptschalter	Interruttore principale	Interruptor principal
KA1	Tri-phase network control relay (order and shut-off of phases)	Relais de contrôle réseau triphasé (ordre et coupure de phases)	Steuerrelais Dreiphasennetz (Phasenanschnitt und Phasenabschnitt)	Relè di comando rete trifase (avvio e arresto potenza)	Relé de control de red trifásica (orden y apagado de fases)
FT1/2/3/4	Compressor thermal magnetic breakers	Dijoncteurs magnétothermiques des compresseurs	Thermomagnetische Schutzschalter der Verdichter	Interruttori magnetotermici dei compressori	Disyuntores magnetotérmicos de los compresores
K1/2/3/4	Compressor power contactors	Contacteurs de puissance des compresseurs	Leistungsschütze der Verdichter	Contattori di potenza dei compressori	Contactores de potencia de los compresores
C1.1/1.2	Compressors 1 and 2 of circuit 1	Compresseurs 1 et 2 du circuit 1	Verdichter 1 und 2 Kreislauf 1	Compressori 1 e 2 del circuito 1	Compresores 1 y 2 del circuito 1
C2.1/2.2	Compressors 1 and 2 of circuit 2	Compresseurs 1 et 2 du circuit 2	Verdichter 1 und 2 Kreislauf 2	Compressori 1 e 2 del circuito 2	Compresores 1 y 2 del circuito 2
R1/2/3/4	Compressor carter resistors	Résistances de carter des compresseurs	Kurbelgehäuseheizung Verdichter	Resistenze del carter dei compressori	Resistencias de cárter de los compresores
FTC	Control circuit magnetic breaker	Dijoncteur magnétique du circuit de commande	Magnetischer Schutzschalter Steuerkreis	Interruttore magnetico del circuito di comando	Disyuntor magnético del circuito de control
FFT1/2/3	Fuse terminal + fuse	Borne fusible + fusible	Sicherungsklemme + Sicherung	Morsetto fusibile + fusibile	Terminal del fusible + fusible
T1/2/3	230V/24VAC transformer	Transformateur 230V/24VAC	230 V/24 VAC-Stromwandler	Trasformatore 230V/24VAC	Transformador 230V/24VCA
FT5	Magnetic breaker for blast fans	Dijoncteur magnétique de la ventilation de soufflage	Magnetischer Schutzschalter Strahlventilator	Interruttore magnetico ventilazione forzata	Disyuntor magnético de ventiladores de soplado
FT6/7	Magnetic thermal breakers for outside fans	Dijoncteurs magnétothermiques des ventilations extérieures	Thermomagnetische Schutzschalter Außenventilatoren	Interruttori magnetotermici delle ventilazioni esterne	Disyuntores magnetotérmicos de los ventiladores exteriores
FT6/7	Magnetic breakers for outside fans (for all seasons)	Dijoncteurs magnétiques des ventilations extérieures (cas toutes saisons)	Magnetische Schutzschalter Außenventilatoren (ganzjährige Modelle)	Interruttori magnetici delle ventilazioni esterne (tutte le stagioni)	Disyuntores magnéticos de los ventiladores exteriores (todas las estaciones)
FT8	Magnetic breakers for return fans (option)	Dijoncteur magnétique des ventilations de reprise (option)	Magnetischer Schutzschalter Abluftventilatoren (Option)	Interruttore magnetico delle ventilazioni di recupero (optional)	Disyuntor magnético de los ventiladores de recirculación (opcional)
K5	Power relay for blast fan controller	Relais de marche du variateur de la ventilation de soufflage	Betriebsrelais des Strahlventilatorreglers	Relè di marcia del variatore della ventilazione forzata	Relé de potencia del variador de los ventiladores de soplado
KA5	Relay for sole blast fan, reduced speed.	Relais de la ventilation de soufflage seule, vitesse réduite.	Dediziertes Relais des Strahlventilators, reduzierte Drehzahl.	Relè solo della ventilazione forzata, velocità ridotta.	Relé de un ventilador de soplado, velocidad reducida.
K6/7	Outdoor fan power contactors	Contacteurs de puissance des ventilations extérieures	Leistungsschütze Außenventilatoren	Contattori di potenza delle ventilazioni esterne	Contactores de potencia de los ventiladores exteriores
KA6/7	Auxiliary relays for outdoor fans (all season/reversible mode)	Relais auxiliaires des ventilateurs extérieurs (option toutes saisons/ mode réversible)	Hilfsrelais der Außenventilatoren (Option ganzjährige/reversible Modelle)	Relè ausiliari dei ventilatori esterni (optional tutte le stagioni/modalità reversibile)	Relés auxiliares de los ventiladores exteriores (todas las estaciones/ modo reversible)
K8	Auxiliary relays for outdoor fans (all season/reversible mode)	Relais auxiliaires des ventilateurs extérieurs (option toutes saisons/ mode réversible)	Hilfsrelais der Außenventilatoren (Option ganzjährige/reversible Modelle)	Relè ausiliari dei ventilatori esterni (optional tutte le stagioni/modalità reversibile)	Relés auxiliares de los ventiladores exteriores (todas las estaciones/ modo reversible)
KA8	Return fan power relay (option)	Relais de marche de la ventilation de reprise (option)	Betriebsrelais der Abluftventilatoren (Option)	Relè di marcia della ventilazione di recupero (optional)	Relé de potencia de la ventilación de recirculación (opcional)

English		Français		Deutsch		Italiano		Español	
REPERE	DESCRIPTION	DESIGNATION	BEZEICHNUNG	DENOMINAZIONE	DESCRIPCIÓN				
KHP1/2	High pressure security relay	Relais de sécurité haute pression	Hochdruck-Sicherheitsrelais	Relè di sicurezza alta pressione	Relé de seguridad de alta presión				
IFAN/1/2	Blast fan motor	Moteur de la ventilation de soufflage	Motor des Strahlventilators	Motore della ventilazione forzata	Motor de la ventilación de soplado				
RFAN/1/2	Return fan motor (option)	Moteur de la ventilation de reprise (option)	Motor des Abluftventilators (Option)	Motore della ventilazione di recupero (optional)	Motor de la ventilación de recirculación (opcional)				
OFA/B/C/D	Outdoor fan motors	Moteurs des ventilations extérieures	Motor der Außenventilatoren	motori delle ventilazioni esterne	Motores de los ventiladores exteriores				
FD5	Blast fan speed controller	Variateur de fréquence de ventilation de soufflage	Frequenzregler Strahlventilator	Variatore di frequenza della ventilazione forzata	Variador de frecuencia de la ventilación de soplado				
FD6/7	Speed control for outdoor fans (all seasons option)	Variateur de fréquence des ventilations extérieures (option toutes saisons)	Frequenzregler Außenventilator (Option, ganzjährige Modelle)	Variatore di frequenza delle ventilazioni esterne (optional tutte le stagioni)	Variador de frecuencia de los ventiladores exteriores (opción de todas las estaciones)				
HP:IFAN	Blast fan condensation pressure sensor	Capteur de pression de condensation pour ventilateur de soufflage	Verflüssigungsdrucksensor für Strahlventilator	Trasduttore della pressione di condensazione per ventilatore a circolazione forzata	Sensor de presión de condensación para ventilador de soplado				
HP:RFAN	Return fan condensation pressure sensor (option)	Capteur de pression de condensation pour ventilateur de reprise (option)	Verflüssigungsdrucksensor für Abluftventilator (Option)	Trasduttore della pressione di condensazione per ventilatore di recupero (optional)	Sensor de presión de condensación para ventilador de recirculación (opcional)				
HP:FD6/7	FD6/FD7 controller condensation pressure sensor (all seasons option)	Capteur de pression de condensation pour variateur FD6/FD7 (option toutes saisons)	Verflüssigungsdrucksensor für Regler FD6/FD7 (Option, ganzjährige Modelle)	Trasduttore della pressione di condensazione per variatore FD6/FD7 (optional tutte le stagioni)	Sensor de presión de condensación para variador FD6/FD7 (opción de todas las estaciones)				
FT9/10/11/12	Magnetic breakers for heating elements (option)	Disjoncteurs magnétiques des éléments chauffants (option)	Magnetische Schutzschalter der Heizelemente (Option)	Interruttori magnetici degli elementi riscaldanti (optional)	Disyuntores magnéticos de los elementos calefactores (opcional)				
K9/10/11/12	Power contactors for heating elements (option)	Contacteurs de puissance des éléments chauffants (option)	Leistungsschütze Heizelemente (Option)	Contattori di potenza degli elementi riscaldanti (optional)	Contactores de potencia de los elementos calefactores (opcional)				
HP1/2	Circuit 1 and 2 auto reset high pressure pressure switch	Pressostats haute pression à réarmement automatique circuit 1 et 2	Hochdruckregler mit automatischer Wiedereinschaltvorrichtung, Kreislauf 1 und 2	Pressostati alta pressione a ripristino automatico circuito 1 e 2	Presostatos de alta presión con restablecimiento automático de los circuitos 1 y 2				
KIFAN1/2	Blast fan AC motor temperature sensor default relay	Relais défaut sonde de température moteur AC de la ventilation de soufflage	Störungsrelais, Temperaturfühler AC-Motor Strahlventilator	Relè di default della sonda di temperatura del motore CA della ventilazione forzata	Relé de fallo de la sonda de temperatura del motor de la ventilación de soplado				

APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

	English	Français	Deutsch	Italiano	Español
REPERE	DESCRIPTION	DESIGNATION	BEZEICHNUNG	DENOMINAZIONE	DESIGNACIÓN
pCO1	CAREL regulation	Régulation CAREL	CAREL-Regler	Regolazione CAREL	Regulación CAREL
pCOe	CAREL regulation extension	Extension régulation CAREL	Erweiterung CAREL-Regler	Estensione regolazione CAREL	Extensión de regulación CAREL
FT1/2/3/4	Compressor thermal magnetic breaker additional contacts	Contacts additionnels disjoncteur magnétothermique des compresseurs	Zusätzliche Kontakte, magnetischer Schutzschalter der Verdichter	Contatti aggiuntivi interruttore magnetotermico dei compressori	Contactos adicionales del disyuntor magnetotérmico de los compresores
FT5	Blast fan magnetic breaker additional contact	Contact additionnel disjoncteur magnétique de la ventilation de soufflage	Zusätzlicher Kontakt, magnetischer Schutzschalter des Strahlventilators	Contacto aggiuntivo interruttore magnetico della ventilazione forzata	Contacto adicional del disyuntor magnético de ventiladores de soplado
FT6/7	Outdoor fan breaker additional contacts	Contacts additionnels disjoncteurs des ventilations extérieures	Zusätzlicher Kontakte, Schutzschalter Außenventilatoren	Contatti aggiuntivi interruttori delle ventilazioni esterne	Contactos adicionales de los disyuntores de los ventiladores exteriores
FT8	Return fan magnetic breaker additional contact (option)	Contact additionnel disjoncteur magnétique des ventilations de reprise (option)	Zusätzlicher Kontakt, magnetischer Schutzschalter der Abluftventilatoren (Option)	Contacto aggiuntivo interruttore magnetico delle ventilazioni di recupero (optional)	Contacto adicional del disyuntor magnético de los ventiladores de recirculación (opcional)
FT9/10/11/12	Heating element magnetic breaker additional contacts (option)	Contacts additionnels disjoncteurs magnétiques des éléments chauffants (option)	Zusätzliche Kontakte, magnetische Schutzschalter der Heizelemente (Option)	Contatti aggiuntivi interruttori magnetici degli elementi riscaldanti (optional)	Contactos adicionales de los disyuntores magnéticos de los elementos calefactores (opcional)
KIFAN1/2	Blast fan AC motor temperature sensor default relay contact	Contact relais défaut sonde de température moteur AC de la ventilation de soufflage	Kontakt Störungsrelais Temperaturfühler AC-Motor Strahlventilator	Contacto relé di default della sonda di temperatura del motore CA della ventilazione forzata	Contacto del relé de fallo de la sonda de temperatura del motor de la ventilación de soplado
FD5	Blast fan speed controller default contact	Contact de défaut variateur de fréquence de ventilation de soufflage	Störungskontakt Frequenzregler Strahlventilator	Contacto di default variatore di frequenza della ventilazione forzata	Contacto de fallo del variador de frecuencia de la ventilación de soplado
IFAN/1/2	Blast fan speed EC motor default contact (option)	Contact de défaut des moteurs EC de ventilation de soufflage (option)	Störungskontakt EC-Motoren Strahlventilator	Contacto di default dei motori EC della ventilazione forzata (optional)	Contacto de fallo de los motores EC de la ventilación de soplado (opcional)
RFAN/1/2	Return fan speed EC motor default contact (option)	Contact de défaut des moteurs EC des ventilations de reprise (option)	Störungskontakt EC-Motoren Abluftventilatoren (Option)	Contacto di default dei motori EC delle ventilazioni di recupero (optional)	Contacto de fallo de los motores EC de la ventilación de recirculación (opcional)
S1	Internal safety compressor C1.1 (SR105/SR120/SR140) compressor C1.1 (SR210)	Sécurité interne compresseur C1.1 (SR105/SR120/SR140) compresseur C1.1 (SR210)	Interne Sicherheit Verdichter C1.1 (SR105/SR120/SR140) Verdichter C1.1 (SR210)	Sicurezza interna compressore C1.1 (SR105/SR120/SR140) compressore C1.1 (SR210)	Seguridad interna del compresor C1.1 (SR105/SR120/SR140) compresor C1.1 (SR210)
S2	Internal safety compressor C1.2 (SR120/SR140)	Sécurité interne compresseur C1.2 (SR120/SR140)	Interne Sicherheit Verdichter C1.2 (SR120/SR140)	Sicurezza interna compressore C1.2 (SR120/SR140)	Seguridad interna del compresor C1.2 (SR120/SR140)
S3	Internal safety compressor C2.1 (SR210)	Sécurité interne compresseur C2.1 (SR210)	Interne Sicherheit Verdichter C2.1 (SR210)	Sicurezza interna compressore C2.1 (SR210)	Seguridad interna del compresor C2.1 (SR210)
OFA/B/C/D	Internal safety for motors OFA/B/C/D	Sécurité internes des moteurs OFA/B/C/D	Interne Sicherheiten der Motoren OFA/B/C/D	Sicurezze interne dei motori OFA/B/C/D	Seguridades internas de los motores OFA/B/C/D
FM	Manual reset heating safety thermostat (option)	Thermostat de sécurité chauffage à réarmement manuel (option)	Sicherheitsthermostat Heizung, manuelle Rückstellvorrichtung (Option)	Termostato di sicurezza riscaldamento a ripristino manuale (optional)	Termostato de seguridad de calefacción con restablecimiento manual (opcional)
FA	Automatic reset heating safety thermostat (option)	Thermostat de sécurité chauffage à réarmement automatique (option)	Sicherheitsthermostat Heizung Wiedereinschaltvorrichtung (Option)	Termostato di sicurezza riscaldamento automatico (optional)	Termostato de seguridad de calefacción con restablecimiento automático (opcional)
KA1	Tri-phase network control relay contact (phase order and shut-off)	Contact du relais de contrôle réseau triphasé (ordre et coupure de phases)	Kontakt Steuerrelais Dreiphasennetz Phasenabschnitt	Contacto del relé di comando rete trifase (avvio e arresto potenza)	Contacto del relé de control de red trifásica (orden y apagado de fases)
KHP1/2	Circuit 1 and 2 high pressure safety relay contact	Contact du relais de sécurité haute pression circuit 1 et 2	Kontakt Sicherheitsrelais, Hochdruckkreislauf 1 und 2	Contacto del relé di sicurezza alta pressione circuito 1 e 2	Contacto del relé de seguridad de alta presión de los circuitos 1 y 2

	English	Français	Deutsch	Italiano	Español
REPERE	DESCRIPTION	DESIGNATION	BEZEICHNUNG	DENOMINAZIONE	DESIGNACIÓN
EP1/2	Circuit 1 and 2 low pressure sensors	Capteurs basse pression des circuits 1 et 2	Niederdrucksensoren Kreislauf 1 und 2	Sensori di bassa pressione dei circuiti 1 e 2	Sensores de baja presión de los circuitos 1 y 2
CP1/2	Circuit 1 and 2 high pressure sensors	Capteurs haute pression des circuits 1 et 2	Hochdrucksensoren Kreislauf 1 und 2	Sensori di alta pressione dei circuiti 1 e 2	Sensores de alta presión de los circuitos 1 y 2
OCT1/2	Circuit 1 and 2 condenser temperature sensor	Sonde de température condenseur circuits 1 et 2	Temperaturfühler Kondensator Kreislauf 1 und 2	Sonda di temperatura condensatore circuiti 1 e 2	Sonda de temperatura del condensador de los circuitos 1 y 2
RAT	return air temperature sensor	sonde de température air repris	Rücklufttemperaturfühler	sonda di temperatura aria di recupero	sonda de temperatura del aire de retorno
OAT	Temperature sensor, outdoor air	Sonde de température, air extérieur	Temperaturfühler, Außenluft	Sonda di temperatura, aria esterna	Sonda de temperatura, aire exterior
SAT	Temperature sensor, blast air (option)	Sonde de température, air de soufflage (option)	Temperaturfühler, Strahlluft (Option)	Sonda di temperatura, aria forzata (optional)	Sonda de temperatura, aire de soplado (opcional)
RAH	Hygrometry sensor, returned air (option)	Sonde d'hygrométrie, air repris (option)	Feuchtigkeitssensor, Rückluft (Option)	Sonda igrometrica, aria di recupero (optional)	Sonda de humedad, aire de retorno (opcional)
RAQ	Air quality sensor, returned air (option)	Sonde de qualité de l'air, air repris (option)	Luftqualitätsmesser, Rückluft (Option)	Sonda della qualità dell'aria, aria di recupero (optional)	Sonda de calidad del aire, aire de retorno (opcional)
OAH	Hygrometry sensor, outdoor air (option)	Sonde d'hygrométrie, air extérieur (option)	Feuchtigkeitssensor, Außenluft (Option)	Sonda igrometrica, aria esterna (optional)	Sonda de humedad, aire exterior (opcional)
CST1/2	Circuit 1 and 2 intake temperature sensor	Sonde de température d'aspiration des circuits 1 et 2	Temperaturfühler Ansaugluft Kreislauf 1 und 2	Sonda di temperatura di aspirazione dei circuiti 1 e 2	Sonda de temperatura de aspiración de los circuitos 1 y 2
EEV1/2	Circuit 1 and 2 high electronic pressure reducing valve	Détendeur électronique des circuits 1 et 2	Elektronisches Expansionsventil Kreislauf 1 und 2	Valvola riduttrice di pressione elettronica dei circuiti 1 e 2	Válvula de expansión electrónica de los circuitos 1 y 2
SD	Smoke detector (option)	Détecteur de fumée (option)	Rauchmelder (Option)	Rilevatore di fumo (optional)	Detector de humo (opcional)
RAD/OAD/EAD	Motor for return / fresh air / extracted air dampers (option)	Moteur des registres reprise / air neuf / air extrait (option)	Motoren der Lüftungsklappen Rückluft/Frischluf/Abluft (Option)	Motore dei registri aria di recupero/aria fresca/aria estratta (optional)	Motor de registros de aire de retorno / aire nuevo / aire extraído (opcional)
HWV	Valve modulating warm water coil (option)	Vanne modulante batterie eau chaude (option)	Modulierendes Ventil WW-Heizregister (Option)	Valvola modulatrice batteria acqua calda (optional)	Válvula modulante de batería de agua caliente (opcional)
HWC	Anti-freeze alarm, warm water coil (option)	Alarme anti-gel, batterie eau chaude (option)	Frostschutzalarm, WW-Heizregister (Option)	Allarme antigelo batteria acqua calda (optional)	Alarma anticongelación de batería de agua caliente (opcional)
ERV	Valve modulating recovery coil (option)	Vanne modulante batterie de récupération (option)	Modulierendes Ventil Energierückgewinnungsregister (Option)	Valvola modulatrice batteria di recupero (optional)	Válvula modulante de batería de recuperación (opcional)
ERC	Anti-freeze alarm, recovery coil (option)	Alarme anti-gel, batterie de récupération (option)	Frostschutzalarm, Energierückgewinnungsregister (Option)	Allarme antigelo batteria di recupero (optional)	Alarma anticongelación, batería de recuperación (opcional)
CDT1/2	Backflow temperature sensor	Sonde de température de refluxement	Rücklauftemperaturfühler	Sonda temperatura di mandata	Sonda de temperatura de retorno
FD6/7	Outdoor fan speed controller default contact (all seasons option)	Contact de défaut variateur de fréquence des ventilations extérieures (option toutes saisons)	Standardkontakt Frequenzregler Außenventilatoren (Option, ganzjährige Modelle)	Contacto di default variatore di frequenza delle ventilazioni esterne (optional tutte le stagioni)	Contacto de fallo del variador de frecuencia de los ventiladores exteriores (opción de todas las estaciones)
DFA1/2	Clogged filter alarm (option)	Alarme filtre encrassé (option)	Alarm, verstopfter Filter (Option)	Allarme filtro intasato (optional)	Alarma de filtro sucio (opcional)
ON/OFF	On/off switch (not supplied)	Interrupteur marche/arrêt (non fourni)	Ein/Aus-Schalter (nicht mitgeliefert)	Interruttore on/off (non in dotazione)	Interruptor de encendido/apagado (no suministrado)

APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

	English	Français	Deutsch	Italiano	Español
REPERE	DESCRIPTION	DESIGNATION	BEZEICHNUNG	DENOMINAZIONE	DESIGNACIÓN
SWS	Summer/winter switch (not supplied)	Interrupteur hiver/été (non-fourni)	Winter/Sommer-Schalter (nicht mitgeliefert)	Interruttore estate/inverno (non in dotazione)	Interruptor de invierno/verano (no suministrado)
K1/2/3/4	Compressor power contactors	Contacteurs de puissance des compresseurs	Leistungsschütze der Verdichter	Contattori di potenza dei compressori	Contactores de potencia de los compresores
K5	Power relay for blast fan controller	Relais de marche du variateur de la ventilation de soufflage	Betriebsrelais des Strahlventilatorreglers	Relè di marcia del variatore della ventilazione forzata	Relé de potencia del variador de los ventiladores de soplado
KA5	Sole blast fan relay, reduced speed.	Relais du ventilateur de soufflage seul, vitesse réduite.	Relais des Strahlventilators alleine, reduzierte Drehzahl	Relè solo del ventilatore a circolazione forzata, velocità ridotta.	Relé de un ventilador de soplado, velocidad reducida.
K6/7	Outdoor fan power contactors	Contacteurs de puissance des ventilations extérieures	Leistungsschütze Außenventilatoren	Contattori di potenza delle ventilazioni esterne	Contactores de potencia de los ventiladores exteriores
KA6/7	Auxiliary relays for outdoor fans (all season/reversible mode)	Relais auxiliaires des ventilateurs extérieurs (option toutes saisons/ mode réversible)	Hilfsrelais der Außenventilatoren (Option ganzjährige/reversible Modelle)	Relè ausiliari dei ventilatori esterni (optional tutte le stagioni/modalità reversibile)	Relés auxiliares de los ventiladores exteriores (todas las estaciones/ modo reversible)
K8	Return fan power relay (option)	Relais de marche de la ventilation de reprise (option)	Betriebsrelais der Abluftventilator (Option)	Relè di marcia della ventilazione di recupero (optional)	Relé de potencia de la ventilación de recirculación (opcional)
KA8	Sole extraction fan relay, reduced speed (option)	Relais du ventilateur d'extraction seul, vitesse réduite (option)	Relais Abluftventilator alleine, reduzierte Drehzahl (Option)	Relè solo del ventilatore di estrazione, velocità ridotta (optional)	Relé de un ventilador de extracción, velocidad reducida (opcional)
K9/10/11/12	Power contactors for heating elements (option)	Contacteurs de puissance des éléments chauffants (option)	Leistungsschütze Heizelemente (Option)	Contattori di potenza degli elementi riscaldanti (optional)	Contactores de potencia de los elementos calefactores (opcional)
RV1/2	Cycle reversal valves, circuits 1 and 2 (option)	Vannes d'inversion de cycle, circuits 1 et 2 (option)	Zyklusumschaltventil Kreislauf 1 und 2 (Option)	Valvole di inversione ciclo, circuito 1 e circuito 2 (optional)	Válvulas de inversión del ciclo, circuitos 1 y 2 (opcional)
HPD/6/7	De-frosting pressure switch	Pressostat de dégivrage	Abtaupressostat	Pressostato di sbrinamento	Presostato de descongelación
CONV1/2	Circuit 1 and 2 electronic pressure reducing valve converters	Convertisseurs des détendeurs électroniques circuits 1 et 2	Umrichter der elektronischen Expansionsventile, Kreislauf 1 und 2	Convertitori delle valvole riduttrici di pressione elettroniche circuiti 1 e 2	Transformadores de las válvulas de expansión electrónica de los circuitos 1 y 2
CONV3	0-10V control converter for the hot water coil valve (option)	Convertisseur de commande 0-10V de la vanne batterie eau chaude (option)	Steuerumrichter 0-10V Ventil WW-Heizregister (Option)	Convertitore di comando 0-10V della valvola batteria acqua calda (optional)	Transformador de control 0-10V de la válvula de la batería de agua caliente (opcional)
CONV4	0-10V control converter for dampers (option)	convertisseur de commande 0-10V des registres (option)	Steuerumrichter 0-10V Lüftungsklappen (Option)	convertitore di comando 0-10V dei registri (optional)	Transformador de control 0-10V de los registros (opcional)

	English	Français	Deutsch	Italiano	Español
REPERE	DESCRIPTION	DESIGNATION	BEZEICHNUNG	DENOMINAZIONE	DESIGNACIÓN
FT13	Compressor thermal magnetic breaker	Disjoncteur magnétothermique du compresseur	Thermomagnetischer Schutzschalter des Verdichters	Interruttore magnetotermico del compressore	Disyuntor magnetotérmico del compresor
K13	Compressor power contactors	Contacteur de puissance du compresseur	Leistungsschutzschalter des Verdichters	Contactore di potenza del compressore	Contacto de potencia del compresor
CR	Compressor	Compresseur	Verdichter	Compressore	Compresor
R	Compressor casing resistor	Résistance de carter du compresseur	Kurbelgehäuseheizung des Verdichters	Resistenza del carter del compressore	Resistencia del cárter del compresor
FTCR	Control circuit magnetic breaker	Disjoncteur magnétique du circuit de commande	Magnetischer Schutzschalter Steuerkreis	Interruttore magnetico del circuito di comando	Disyuntor magnético del circuito de control
T4	230V/24VAC transformer	Transformateur 230V/24VAC	230 V/24 VAC-Stromwandler	Trasformatore 230V/24VAC	Transformador 230V/24VCA
FFT4	Fuse terminal + fuse (1A)	Borne fusible + fusible (1A)	Sicherungsklemme + Sicherung (1A)	Morsetto fusibile + fusibile (1A)	Terminal del fusible + fusible (1A)
RVR	Cycle reversal valves	Vannes d'inversion de cycle	Umschaltventile	Valvole inversione di ciclo	Válvulas de inversión del ciclo
HPR	Automatic reset high-pressure pressure switch	Pressostat haute pression à réarmement automatique	Hochdruckregler mit automatischer Wiedereinschaltvorrichtung	Pressostato alta pressione a ripristino automatico	Presostato de alta presión con restablecimiento automático
FPER	Low-pressure transducer	Transducteur de pression (basse pression)	Druckwandler (Niederdruck)	Trasduttore di pressione (bassa pressione)	Transductor de presión (baja presión)
FPCR	High-pressure transducer	Transducteur de pression (haute pression)	Druckwandler (Hochdruck)	Trasduttore di pressione (alta pressione)	Transductor de presión (alta presión)
OAT	Temperature sensor, outdoor air	Sonde de température, air extérieur	Temperaturfühler, Außenluft	Sonda di temperatura, aria esterna	Sonda de temperatura, aire exterior
MAT	Temperature sensor, mixing chamber air	Sonde de température, air compartiment de mélange	Temperaturfühler, Luftmischraum	Sonda di temperatura, aria comparto miscela	Sonda de temperatura, aire del compartimento de mezcla

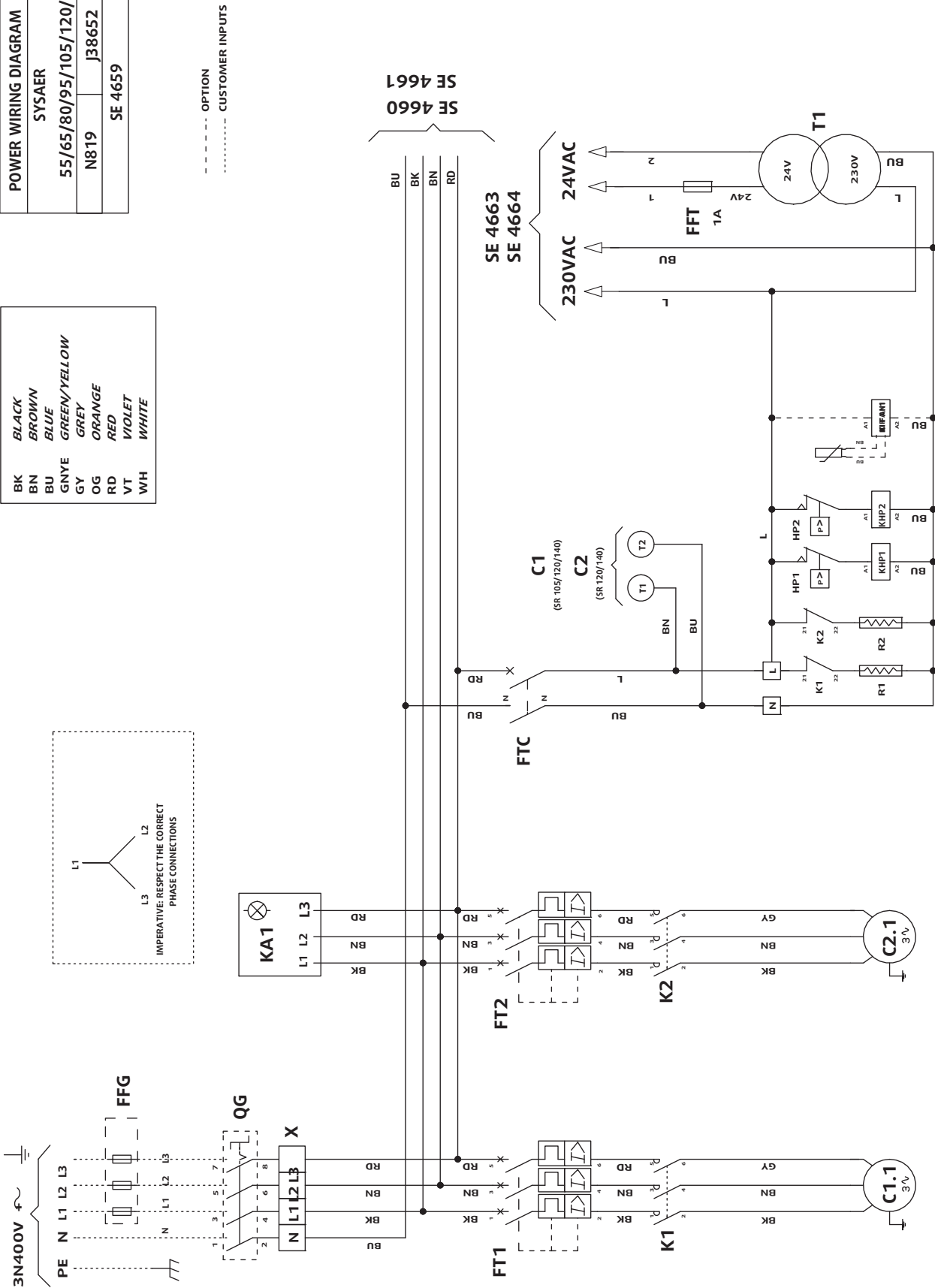
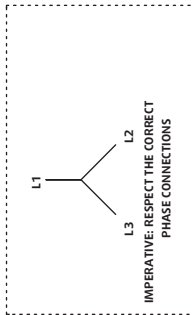
APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

SR55 - SR65 - SR80 - SR95 - SR105 - SR120 - SR140

POWER

POWER WIRING DIAGRAM	
SYSAER	
55/65/80/95/105/120/140	J38652
N819	SE 4659

BK	BLACK
BN	BROWN
BU	BLUE
GNYE	GREEN/YELLOW
GY	GREY
OG	ORANGE
RD	RED
VT	VIOLET
WH	WHITE

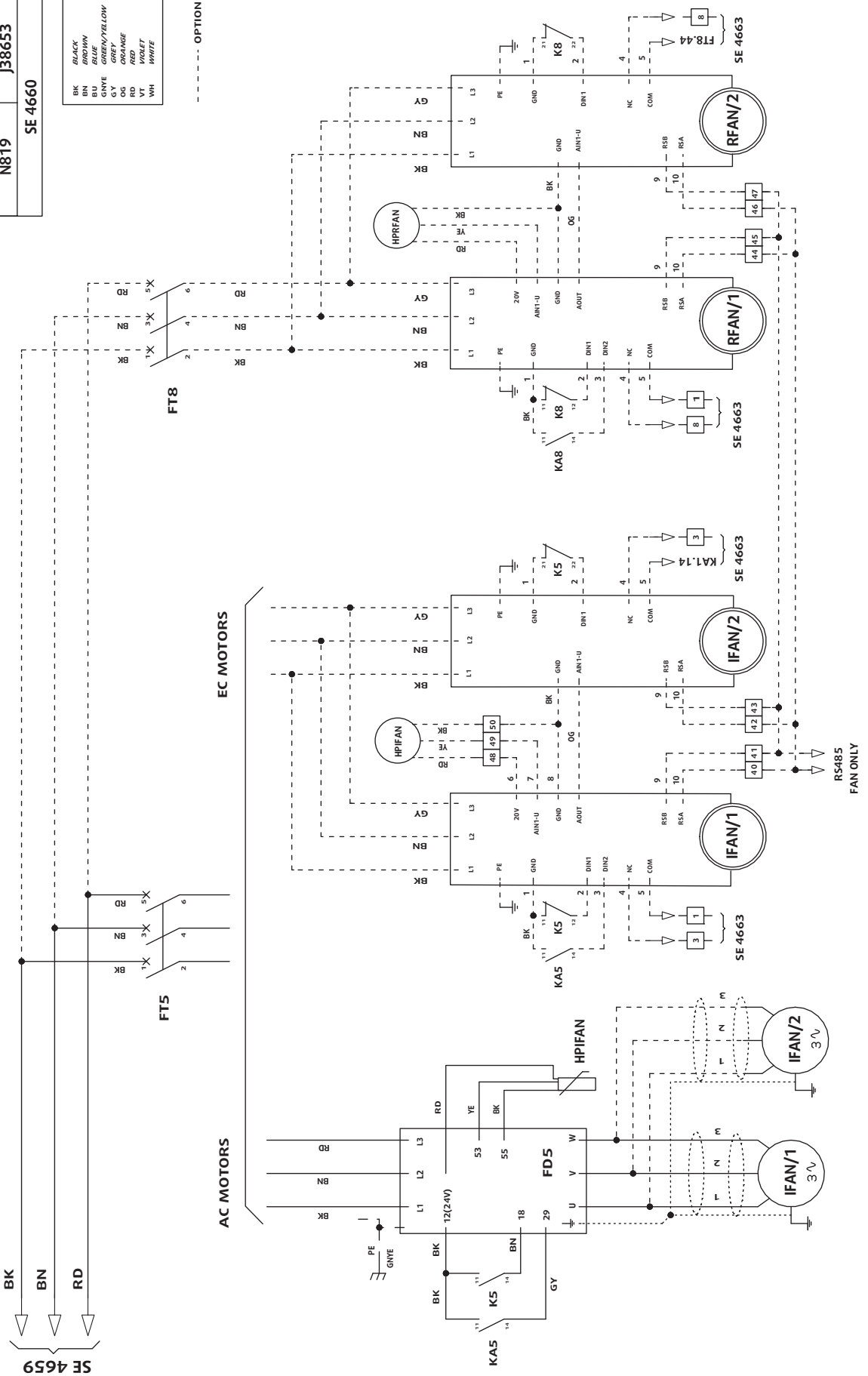


----- OPTION
 - - - - - CUSTOMER INPUTS

POWER WIRING DIAGRAM	
SYSAER	
55/65/80/95/105/120/140	
N819	J38653
SE 4660	

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BU	BLUE
GNVE	GREEN/YELLOW
OC	ORANGE
RD	RED
VT	VIOLET
WH	WHITE

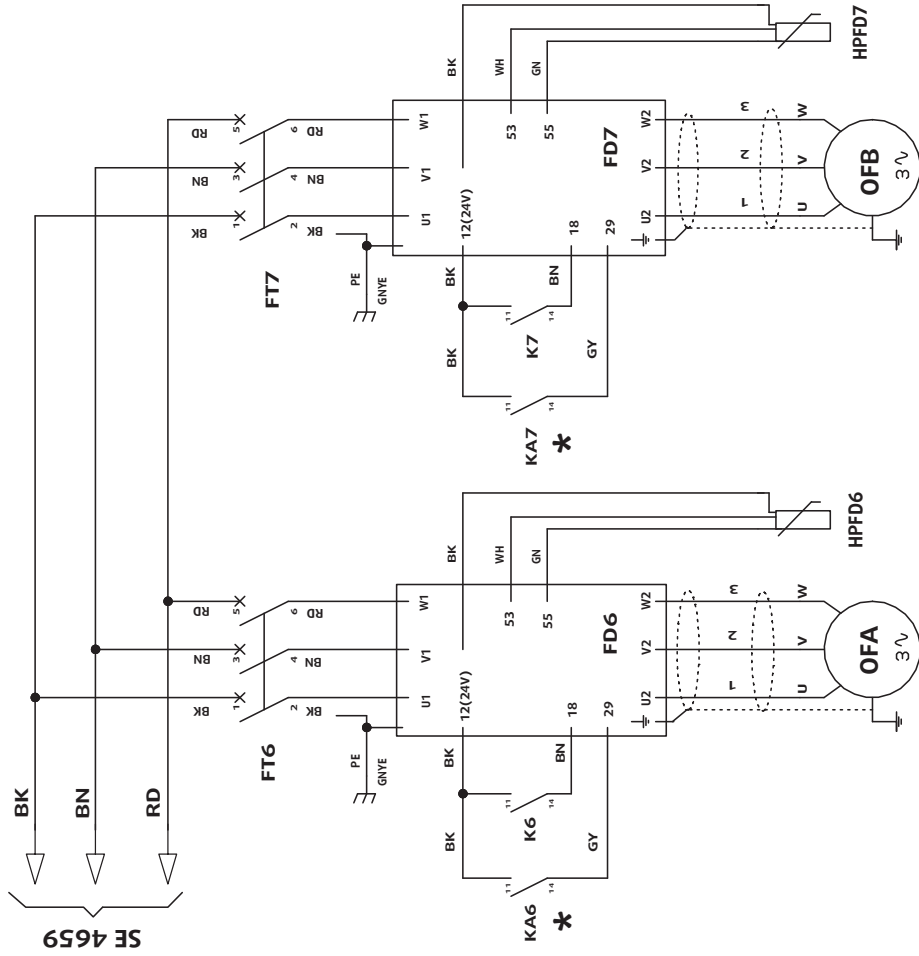
----- OPTION



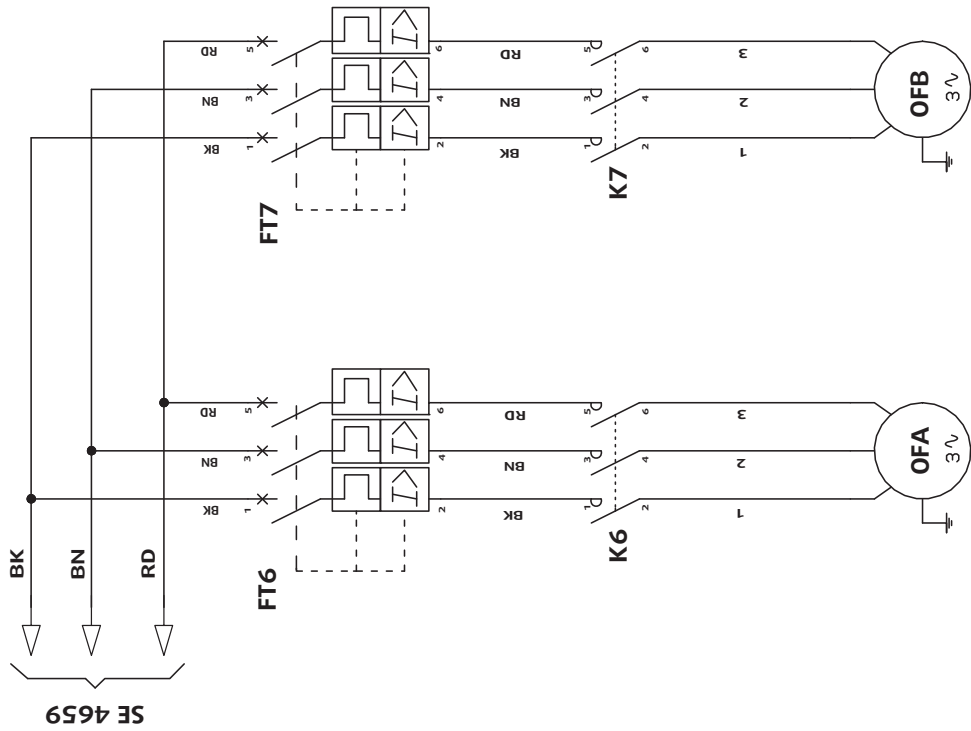
ALL SEASONS OPTION

* HEATPUMP MODEL ONLY

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BN	BROWN
BU	BLUE
GNVE	GREEN/YELLOW
GY	GREY
OC	ORANGE
VT	VIOLET
WH	WHITE



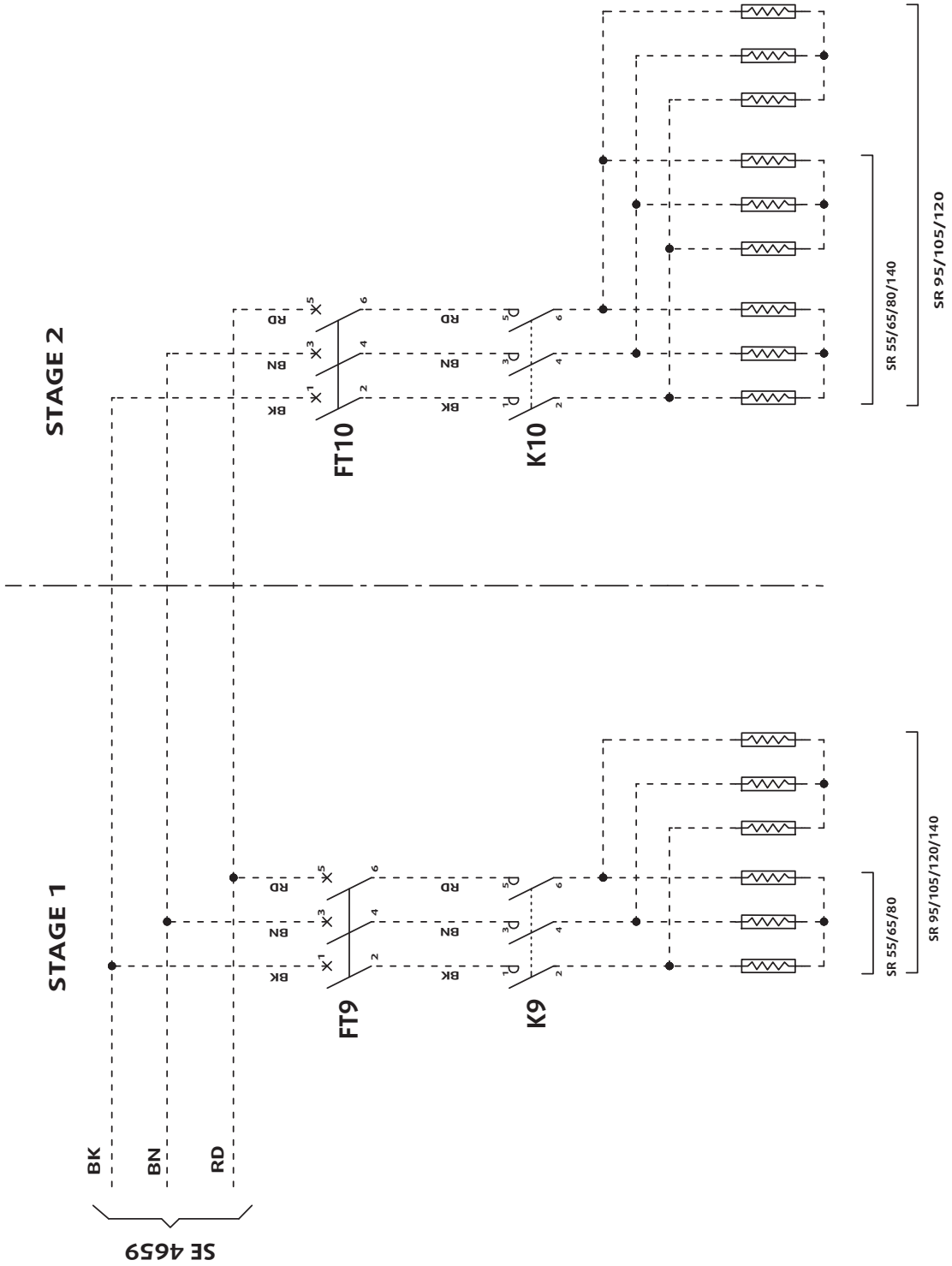
POWER WIRING DIAGRAM	
SYSAER	
55/65/80/95/105/120/140	
N819	J38654
SE 4661	



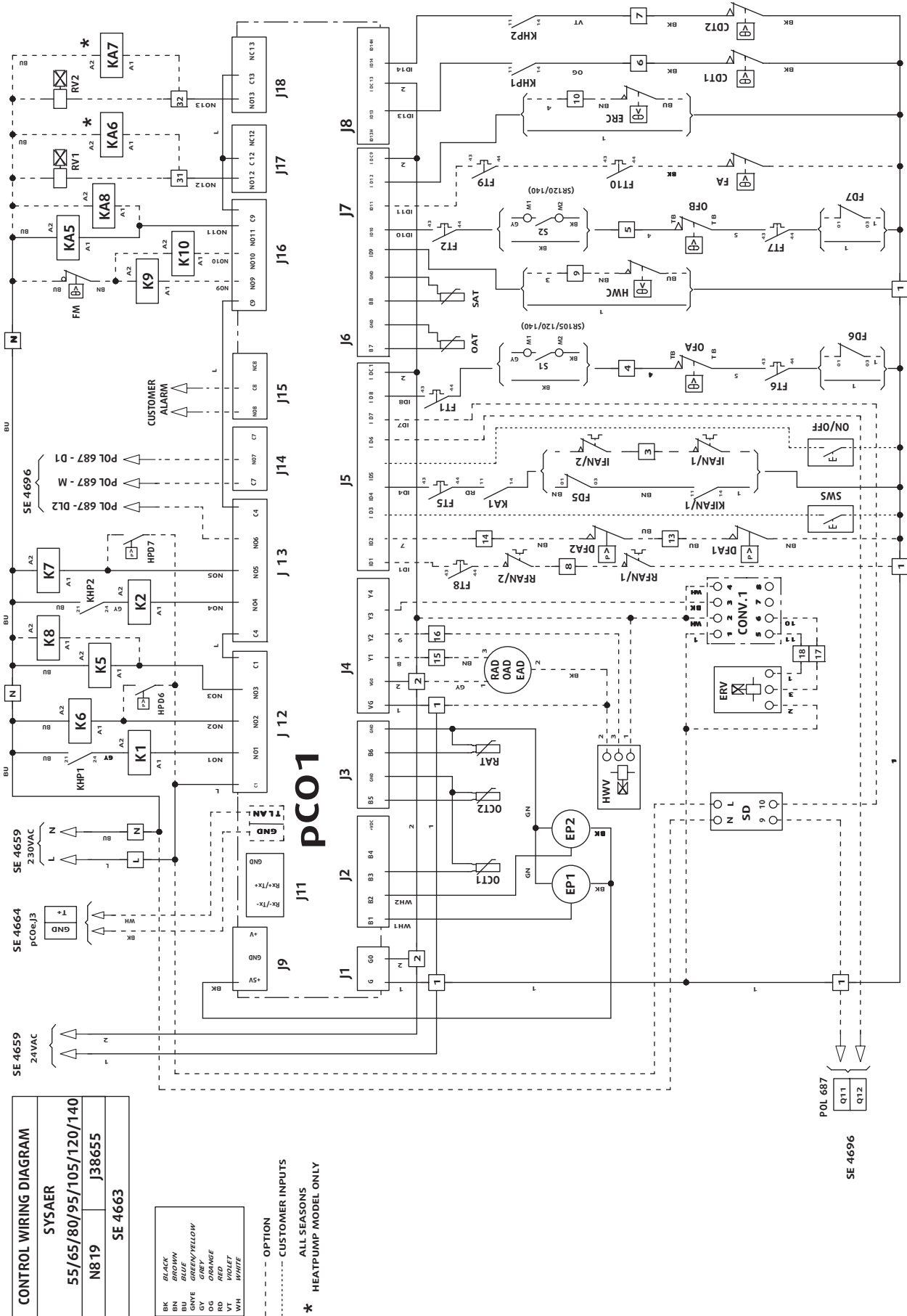
POWER WIRING DIAGRAM	
SYSÄER	
55/65/80/95/105/120/140	
N819	J38748
SE 4662	

BK	BLACK
BN	BROWN
BU	BLUE
GN	GREEN/YELLOW
GY	GREY
OG	ORANGE
RD	RED
VT	VIOLET
WH	WHITE

----- OPTION



CONTROL



CONTROL WIRING DIAGRAM	
SYSAER	
55/65/80/95/105/120/140	J38655
N819	J18655
SE 4663	

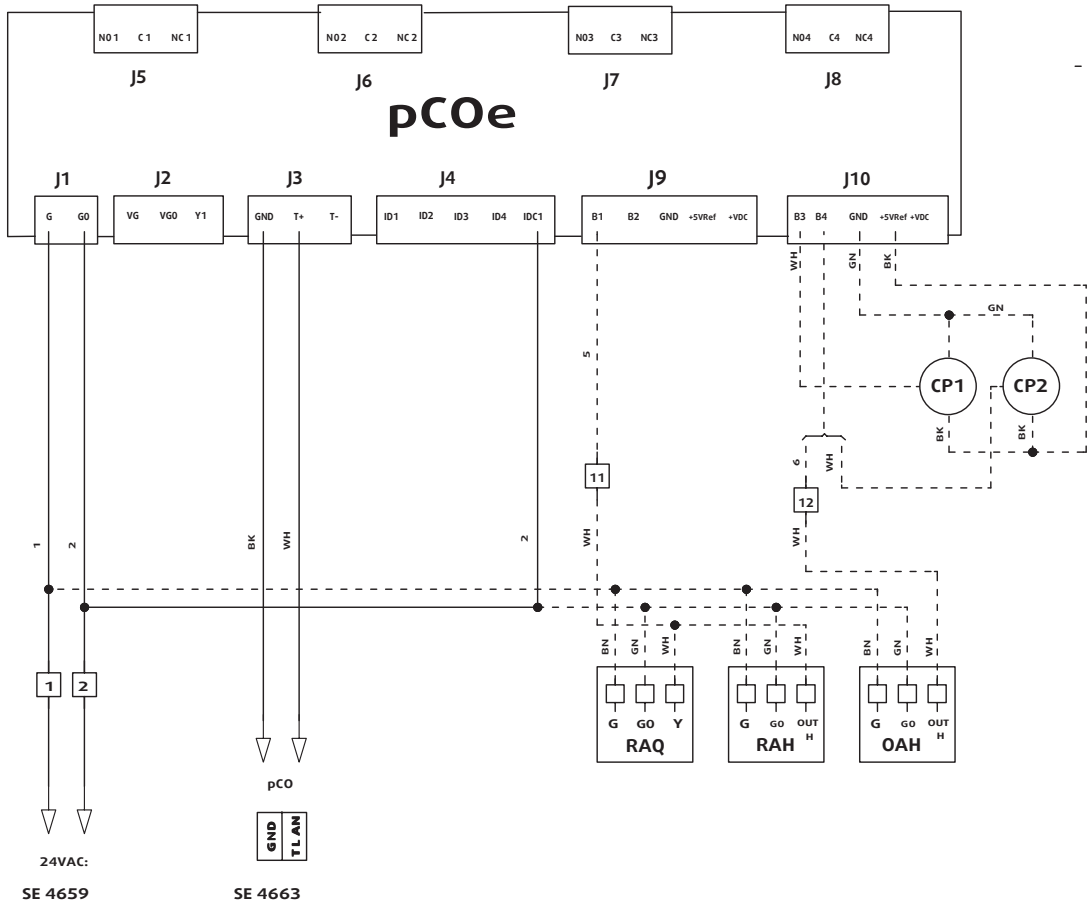
- BK BLACK
- BN BROWN
- BL BLUE
- GR GREY
- OG ORANGE
- RD RED
- V VIOLET
- WH WHITE

OPTION
 ----- CUSTOMER INPUTS
 ALL SEASONS
 * HEATPUMP MODEL ONLY

CONTROL WIRING DIAGRAM	
SYSAER	
55/65/80/95/105/120/140	
N819	J38749
SE 4664	

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GNYE	GREEN/YELLOW
GY	GREY
OG	ORANGE
RD	RED
VT	VIOLET
WH	WHITE

----- OPTION

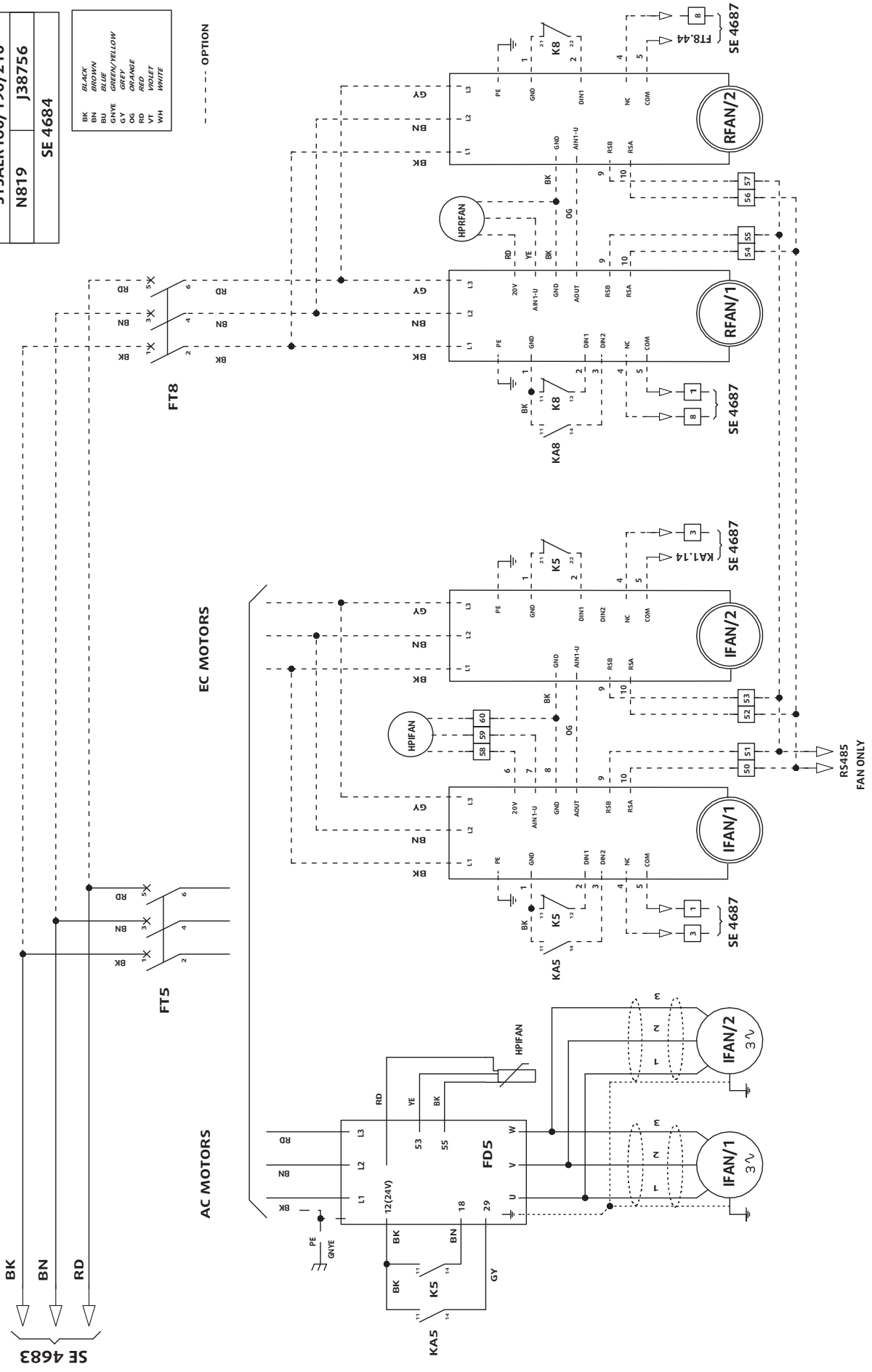


APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

POWER WIRING DIAGRAM	
SYSAER160/190/210	
N819	J38756
SE 4684	

BK	BLACK
BLU	BLUE
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GNVE	GREEN/YELLOW
GY	GREY
OG	ORANGE
RD	RED
RD	RED
WH	WHITE

----- OPTION

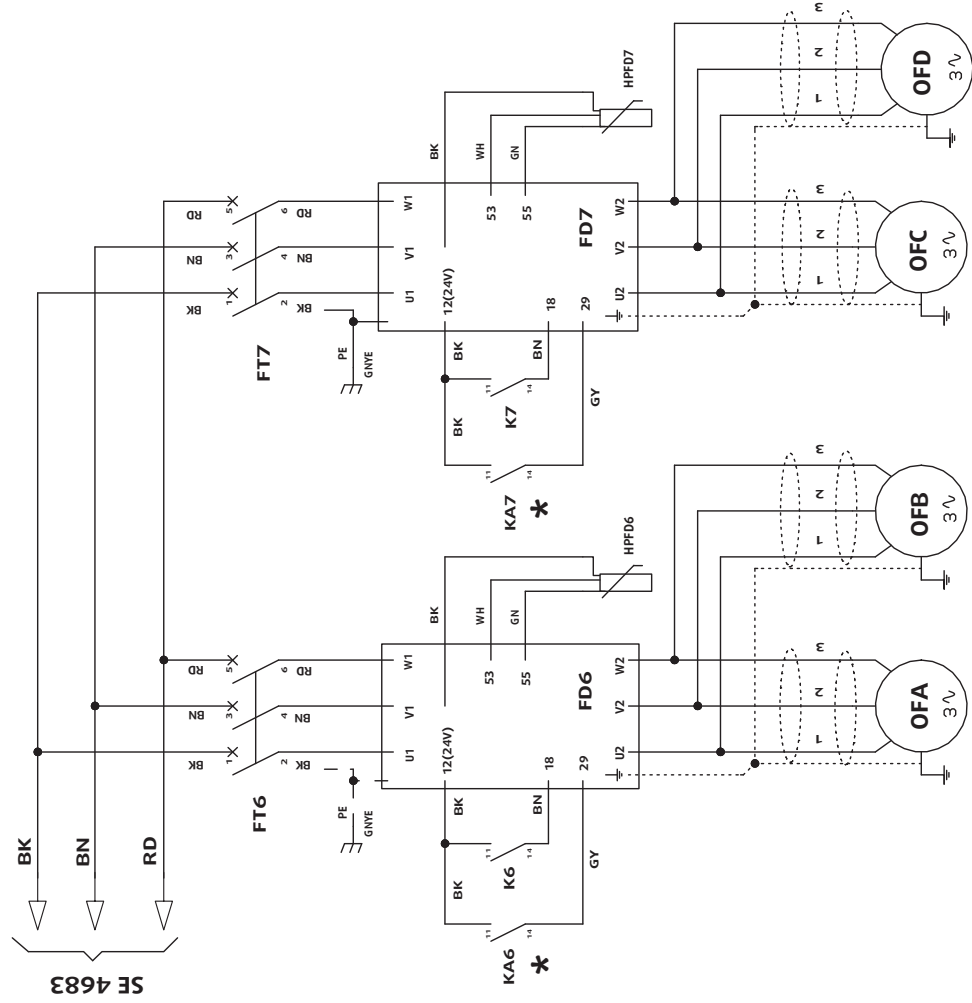
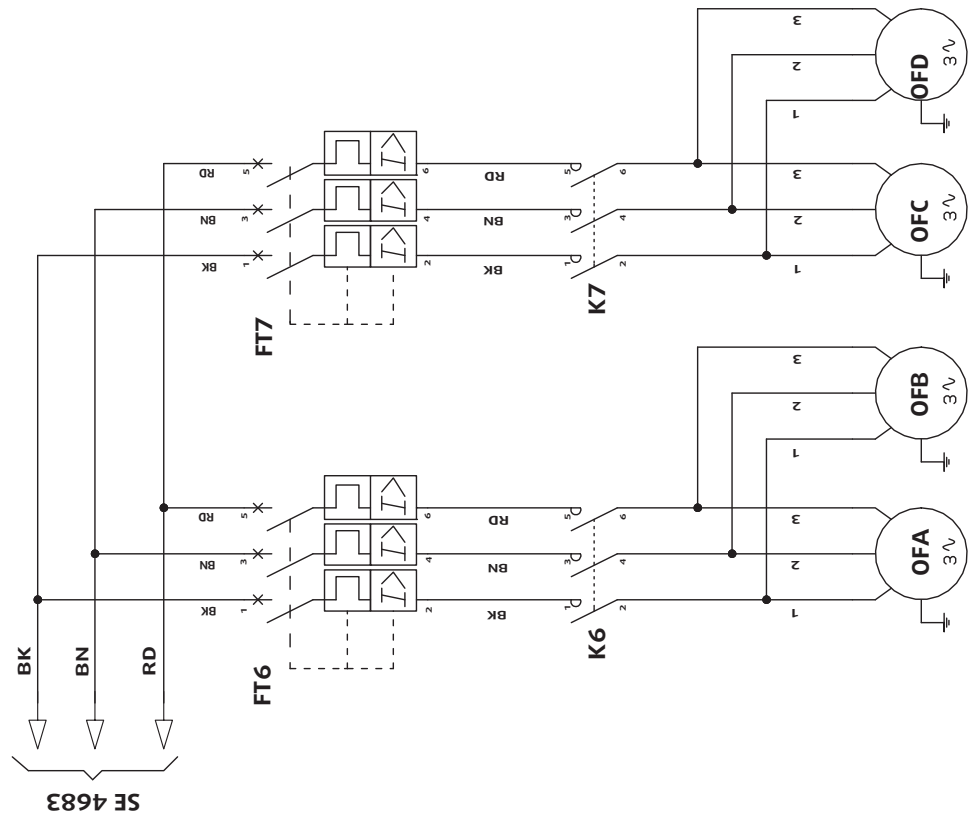


POWER WIRING DIAGRAM	
SYSAER160/180/200	
N819	J38757
SE 4685	

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GY	GREY
GG	GREEN/BLUE
RD	RED
VT	VIOLET
WH	WHITE

ALL SEASONS OPTION

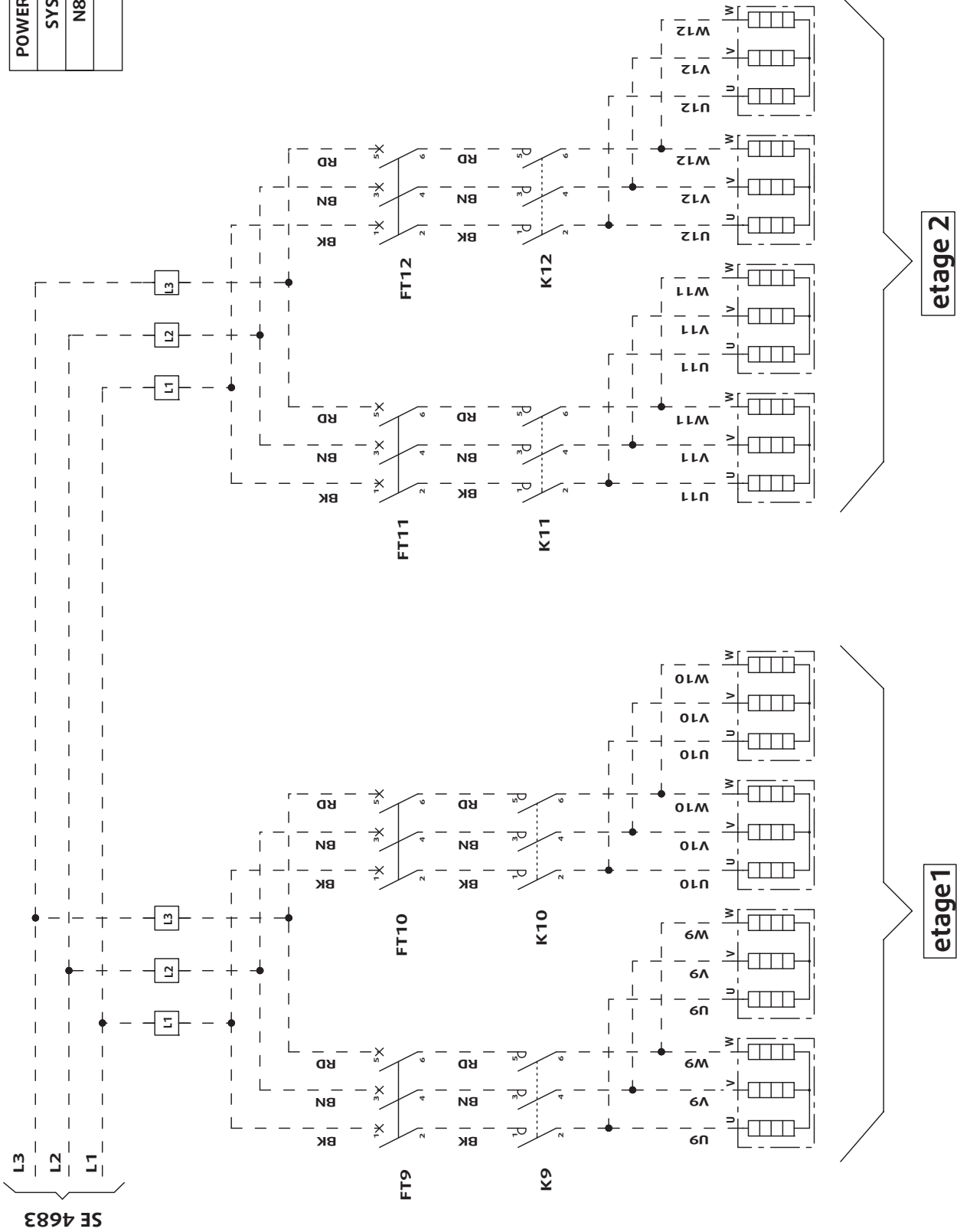
* HEATPUMP MODEL ONLY



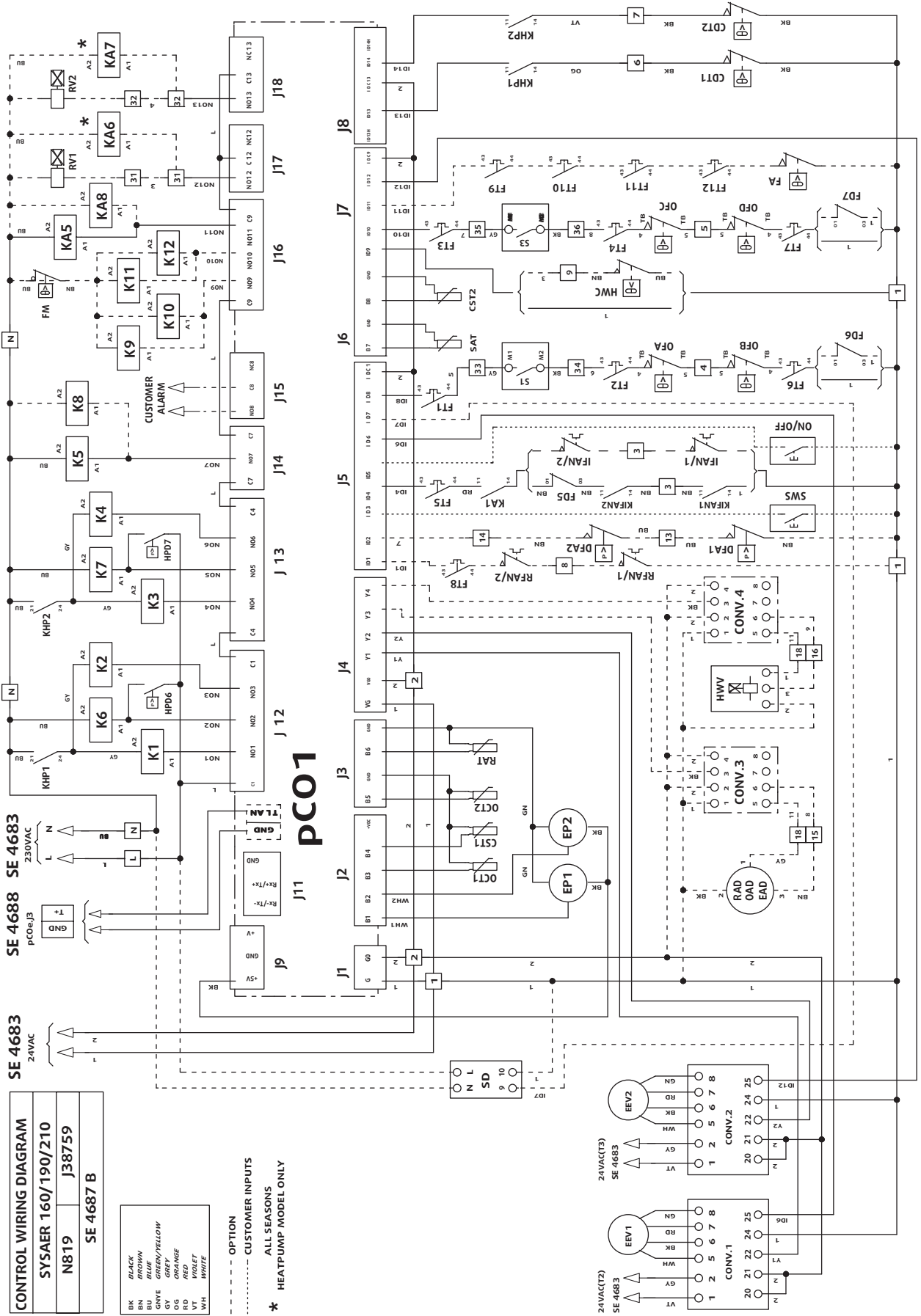
POWER WIRING DIAGRAM	
SYSAER 160/190/210	
N819	J38758
SE 4686	

BK	BLACK
BN	BROWN
BU	BLUE
GNVE	GREEN/YELLOW
GY	GREY
OG	ORANGE
RD	RED
VI	VIOLET
WH	WHITE

--- OPTIONS



CONTROL



CONTROL WIRING DIAGRAM	
SYSAER 160/190/210	
N819	J38759
SE 4687 B	

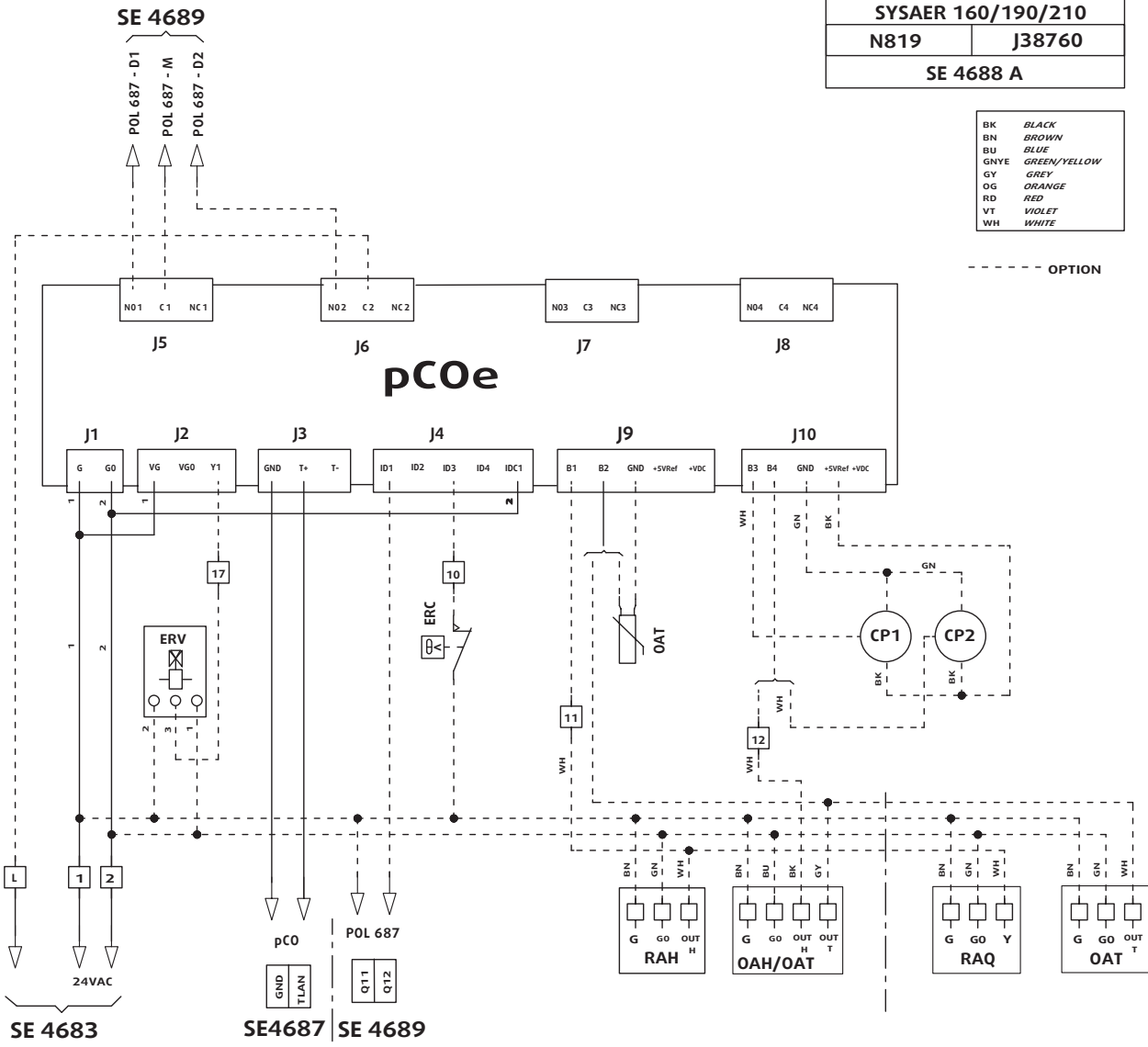
BK	BLACK
BN	BROWN
BU	BLUE
GNVE	GREEN/YELLOW
GY	GREY
OR	ORANGE
RD	RED
VT	VIOLET
WH	WHITE

OPTION
 CUSTOMER INPUTS
 ALL SEASONS
 * HEATPUMP MODEL ONLY

CONTROL WIRING DIAGRAM	
SYSAER 160/190/210	
N819	J38760
SE 4688 A	

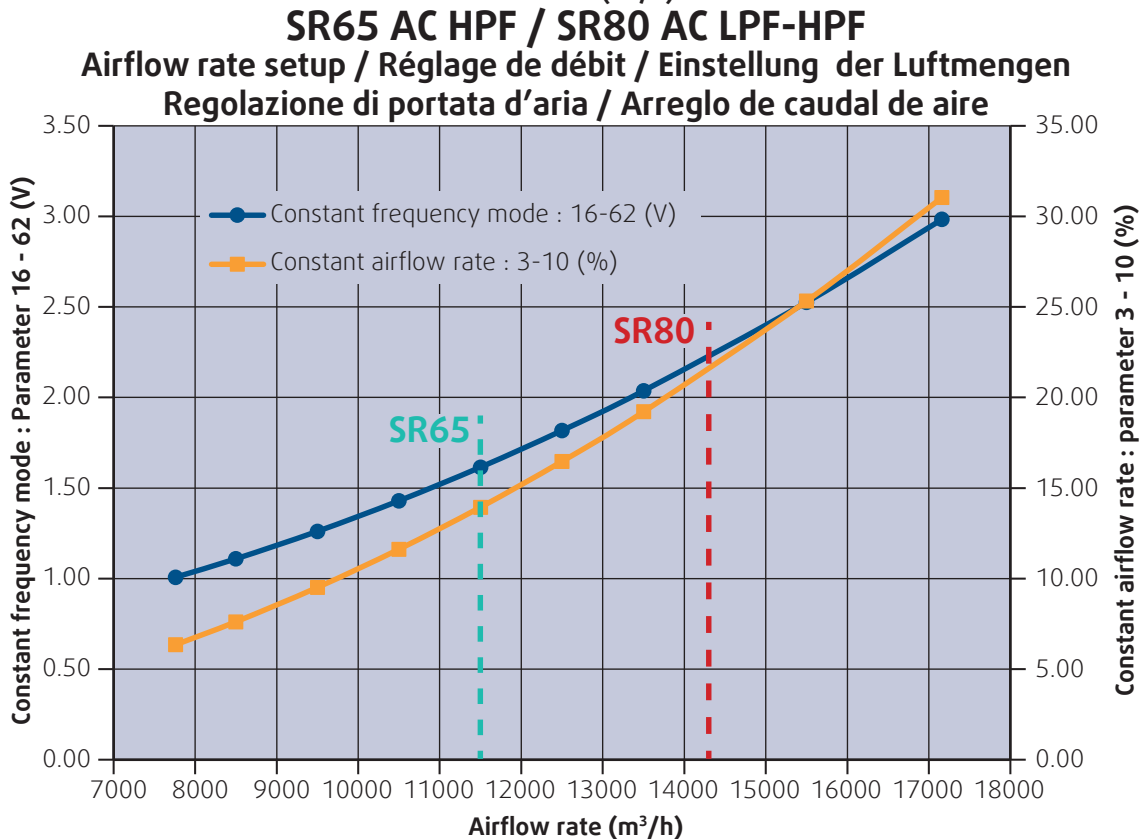
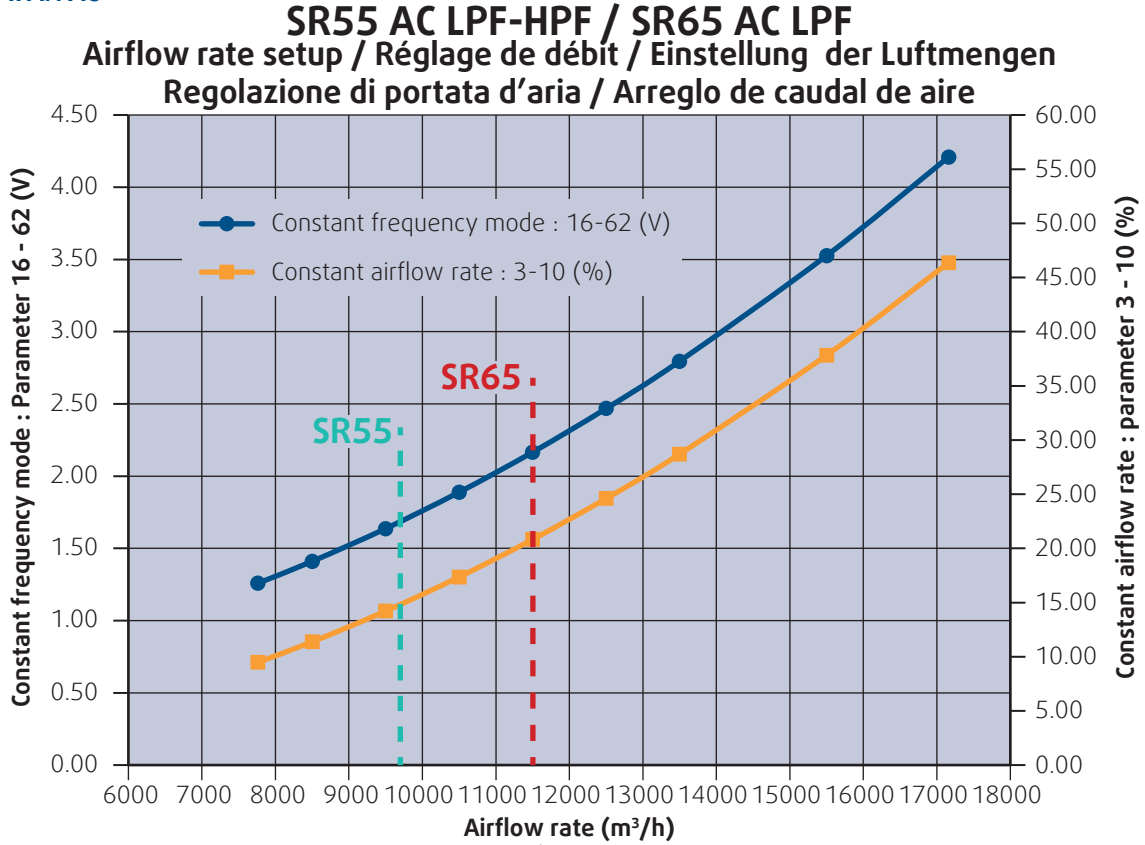
BK	BLACK
BN	BROWN
BU	BLUE
GNYE	GREEN/YELLOW
GY	GRAY
OG	ORANGE
RD	RED
VT	VIOLET
WH	WHITE

----- OPTION



AERAILIC ADJUSTMENT (WITHOUT OPTION)
 CARACTERISTIQUES AERAILIQUES (SANS OPTION)
 REGELUNG DES LÜFTERSYSTEMS (OHNE OPTION)
 REGOLAZIONE DEL SISTEMA DI TRATTAMENTO DELL'ARIA (SENZA OPZIONE)
 AJUSTE DEL ISTEMA AEROLICO (SIN OPCIÓN)

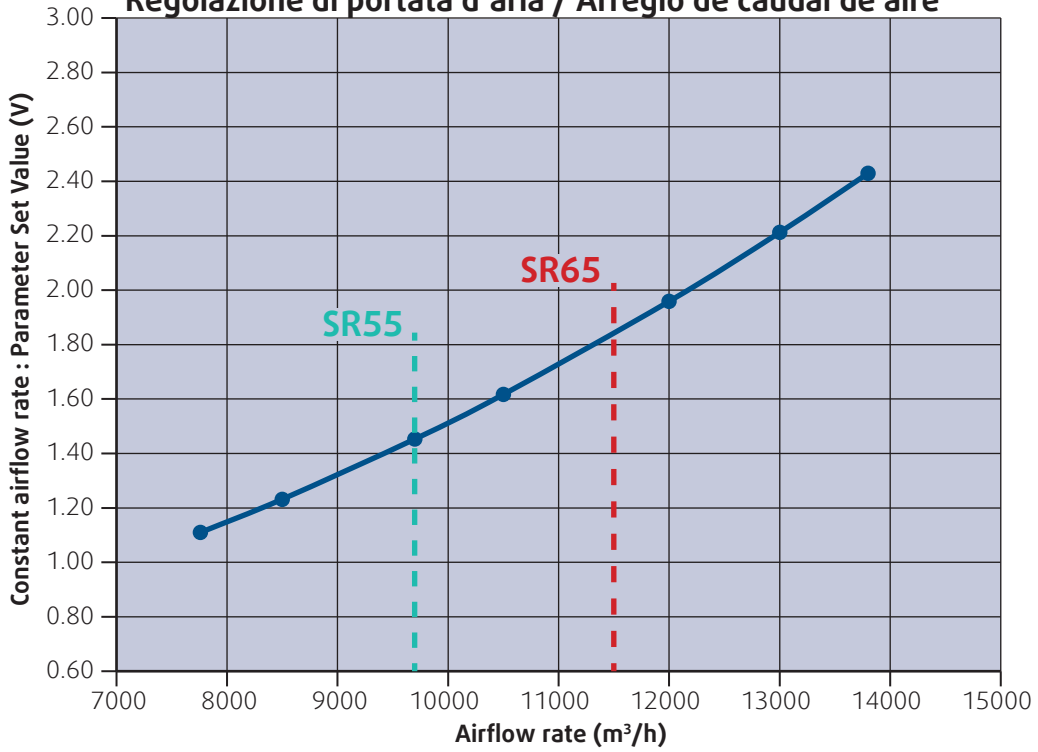
SYSAER SR55 - SR65 - SR80
 IFAN AC



IFAN EC

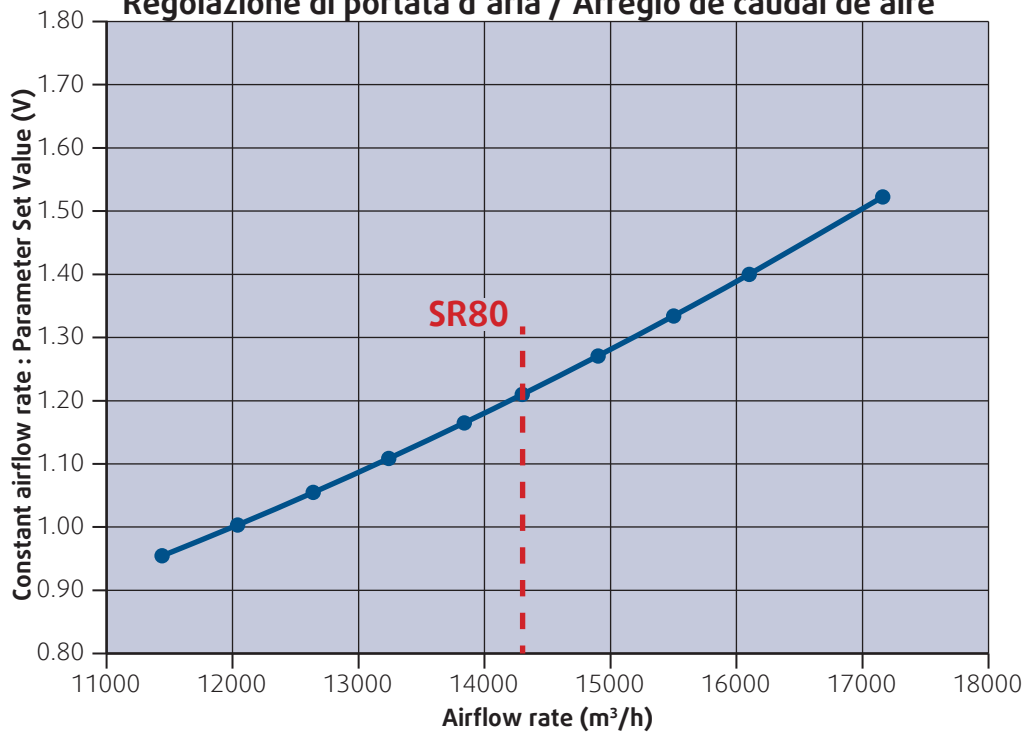
SR55 EC LPF-HPF / SR65 EC LPF-HPF

Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
 Regolazione di portata d'aria / Arreglo de caudal de aire



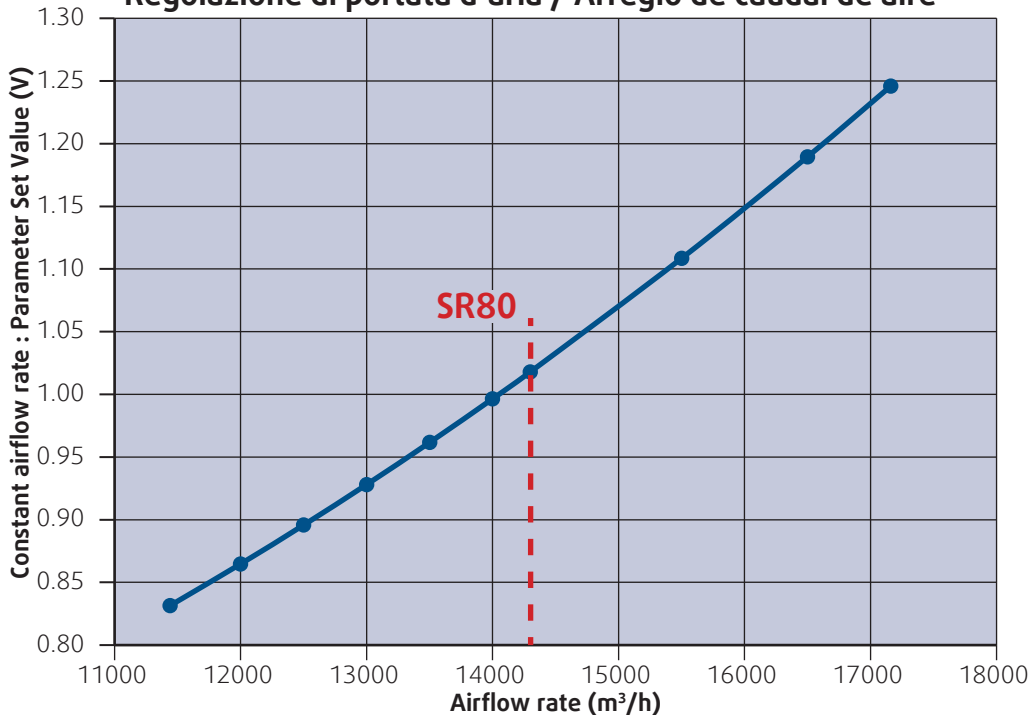
SR80 EC LPF

Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
 Regolazione di portata d'aria / Arreglo de caudal de aire



SR80 EC HPF

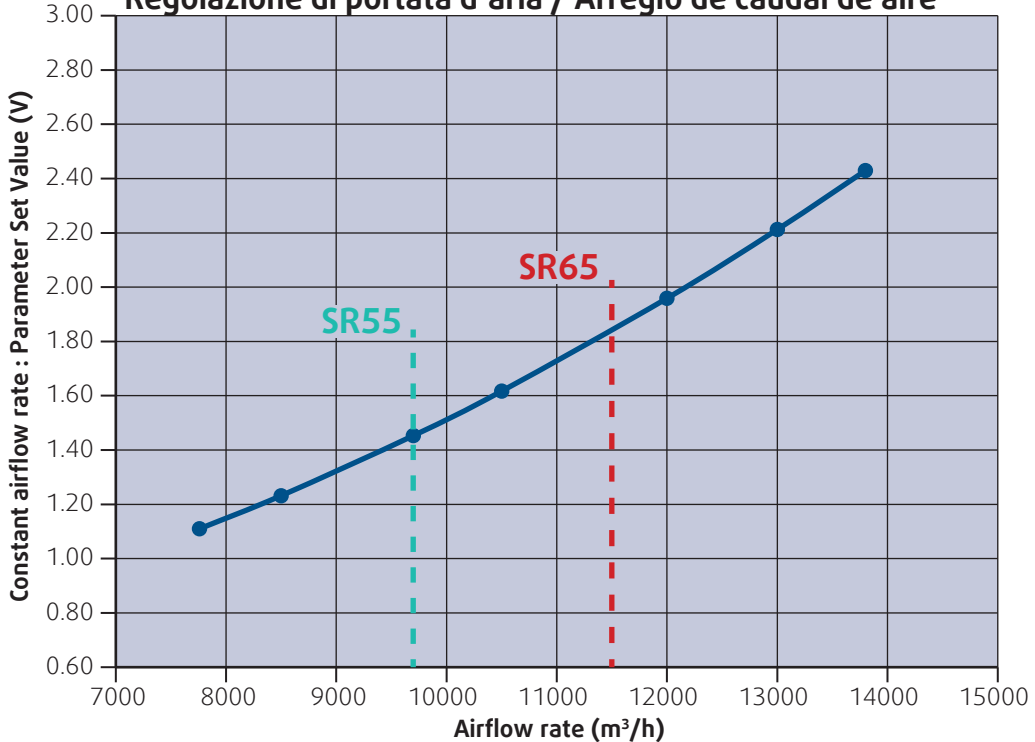
Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
 Regolazione di portata d'aria / Arreglo de caudal de aire



RFAN EC

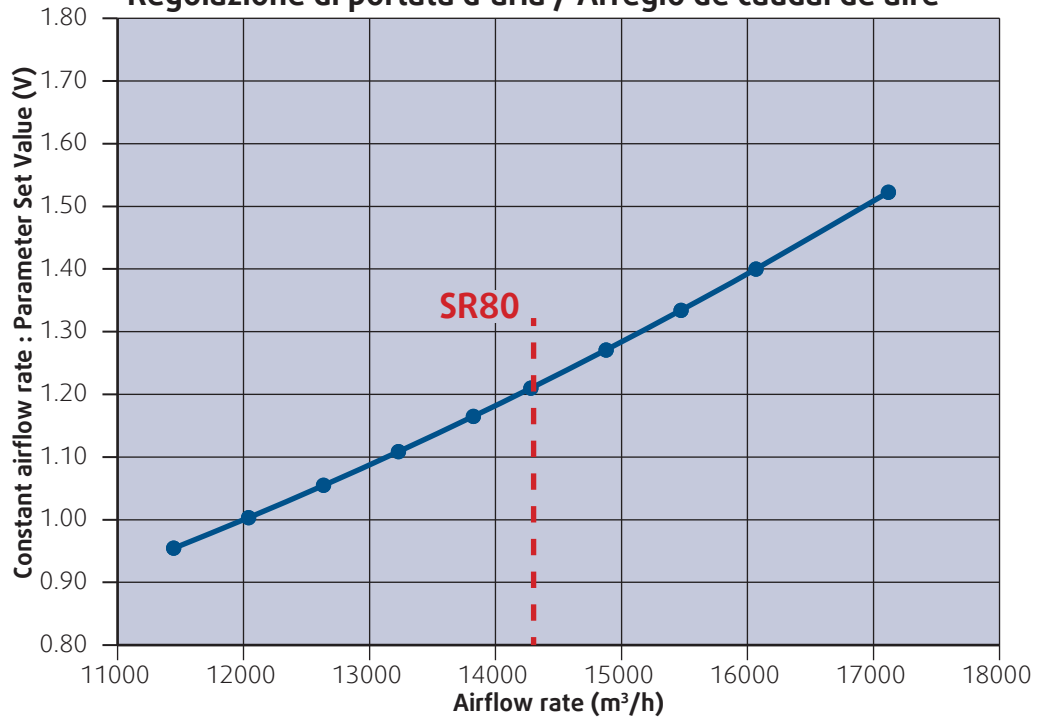
SR55 EC LPF-HPF / SR65 EC LPF-HPF

Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
 Regolazione di portata d'aria / Arreglo de caudal de aire



SR80 EC LPF-HPF / SR95 EC LPF

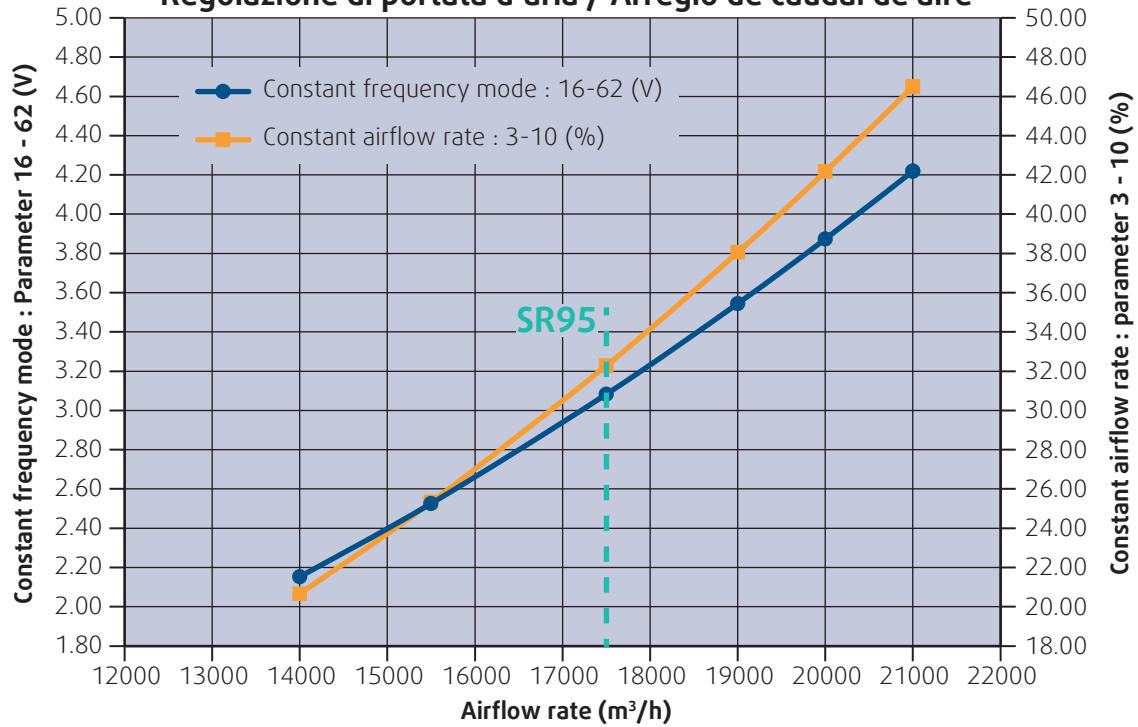
**Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
Regolazione di portata d'aria / Arreglo de caudal de aire**



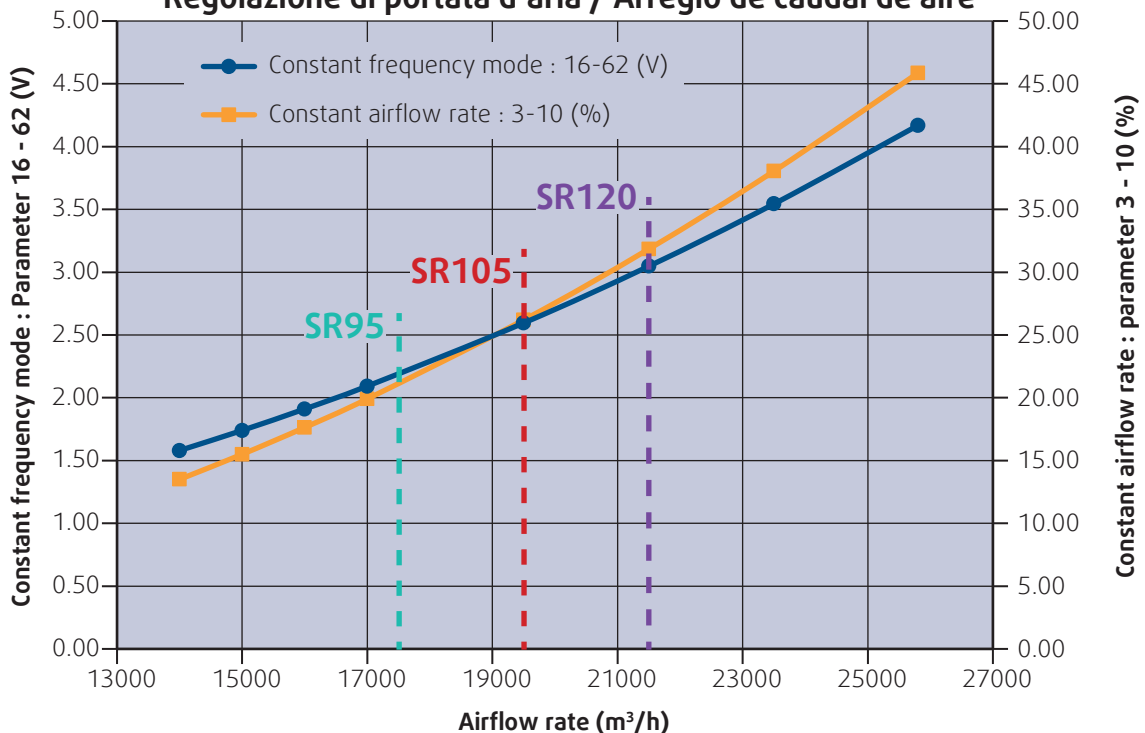
SYSAER SR95 - SR105 - SR120
IFAN AC

SR95 AC LPF

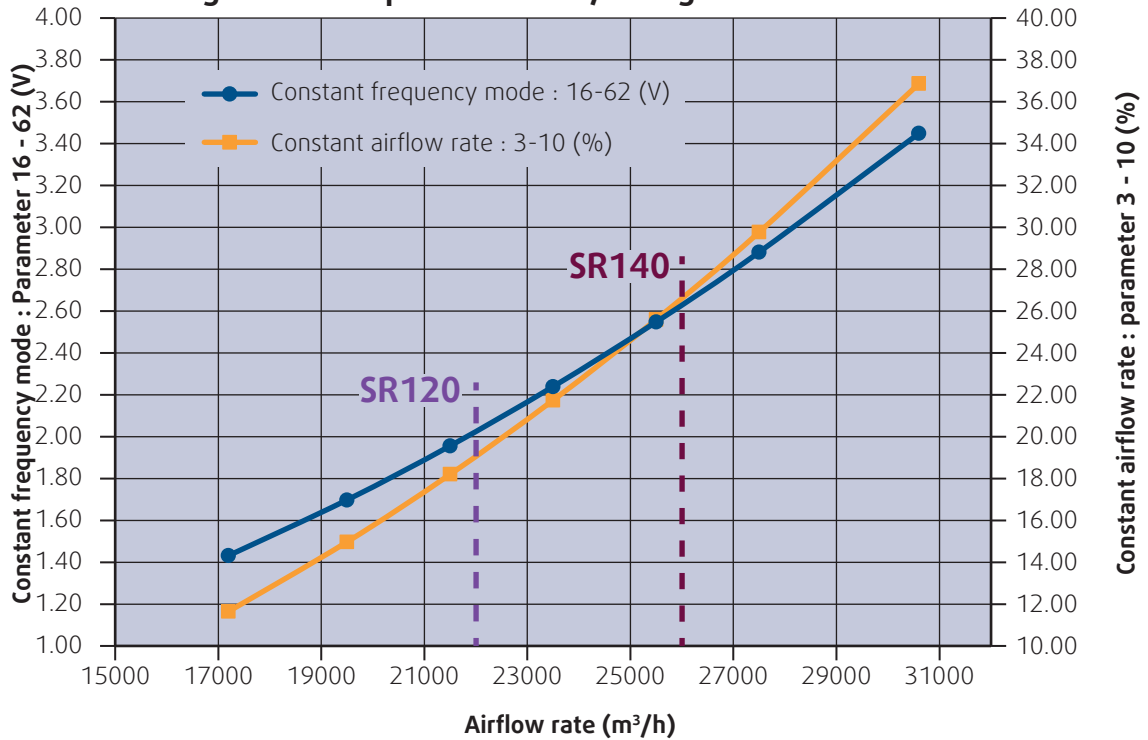
Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
Regolazione di portata d'aria / Arreglo de caudal de aire



SR95 AC HPF / SR105 AC LPF-HPF / SR120 AC HPF
Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
Regolazione di portata d'aria / Arreglo de caudal de aire

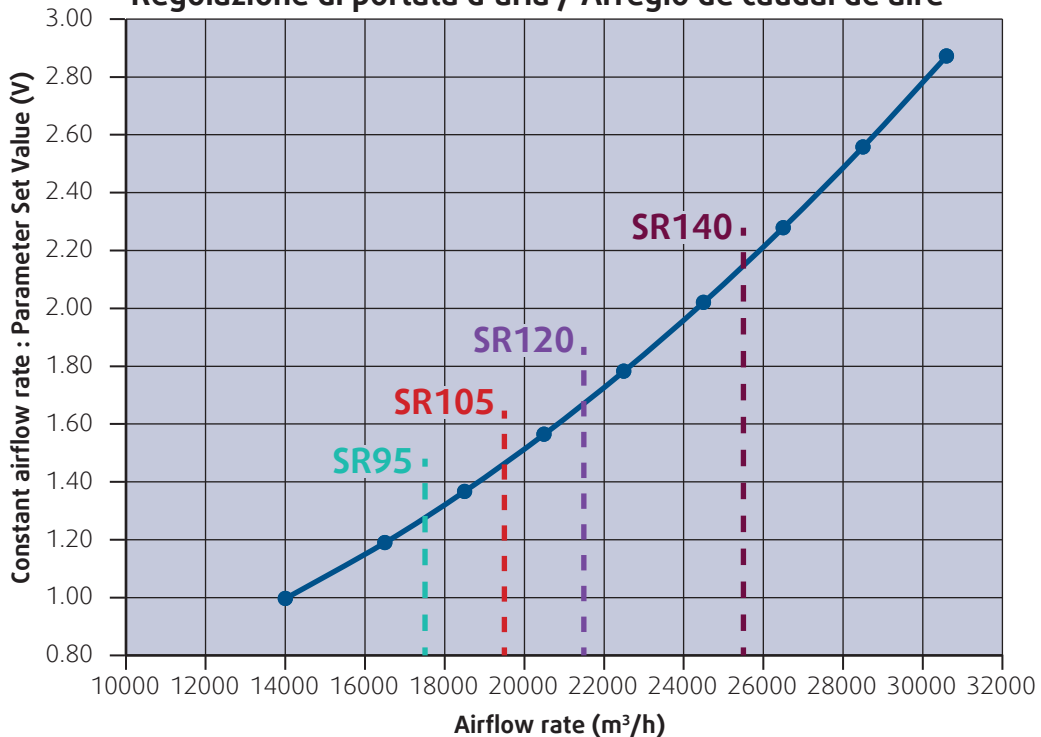


SR120 AC LPF / SR140 AC LPF-HPF
 Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
 Regolazione di portata d'aria / Arreglo de caudal de aire

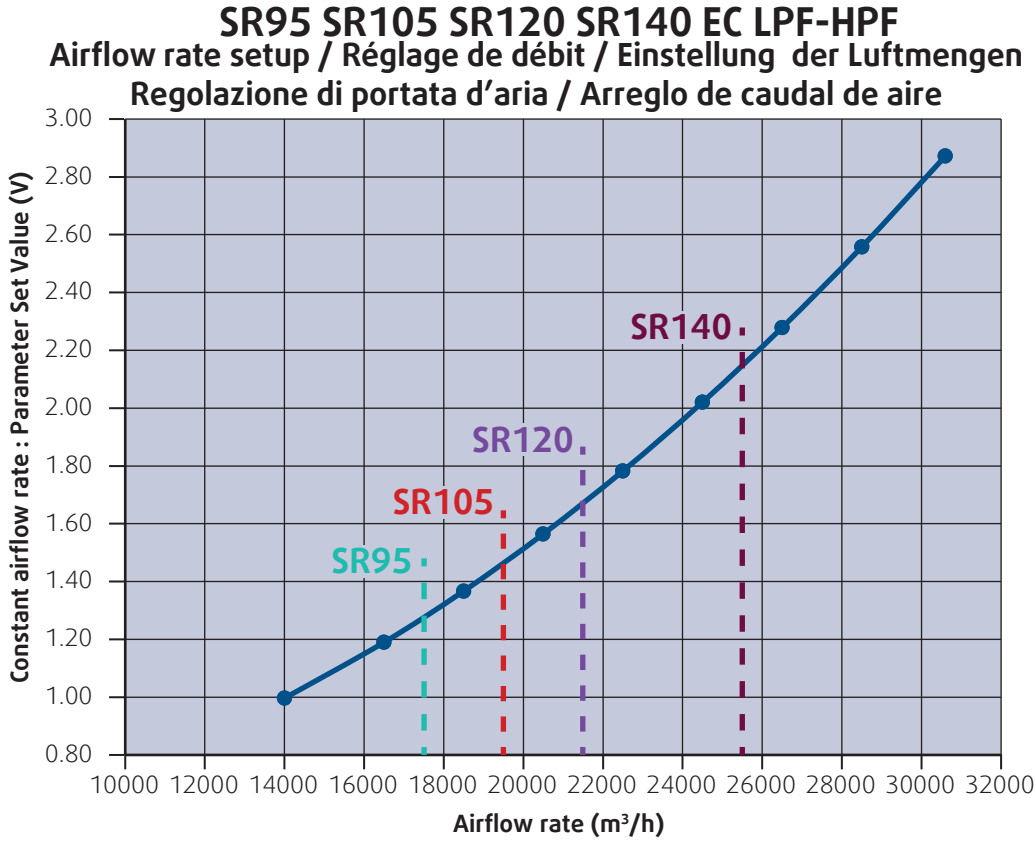


IFAN EC

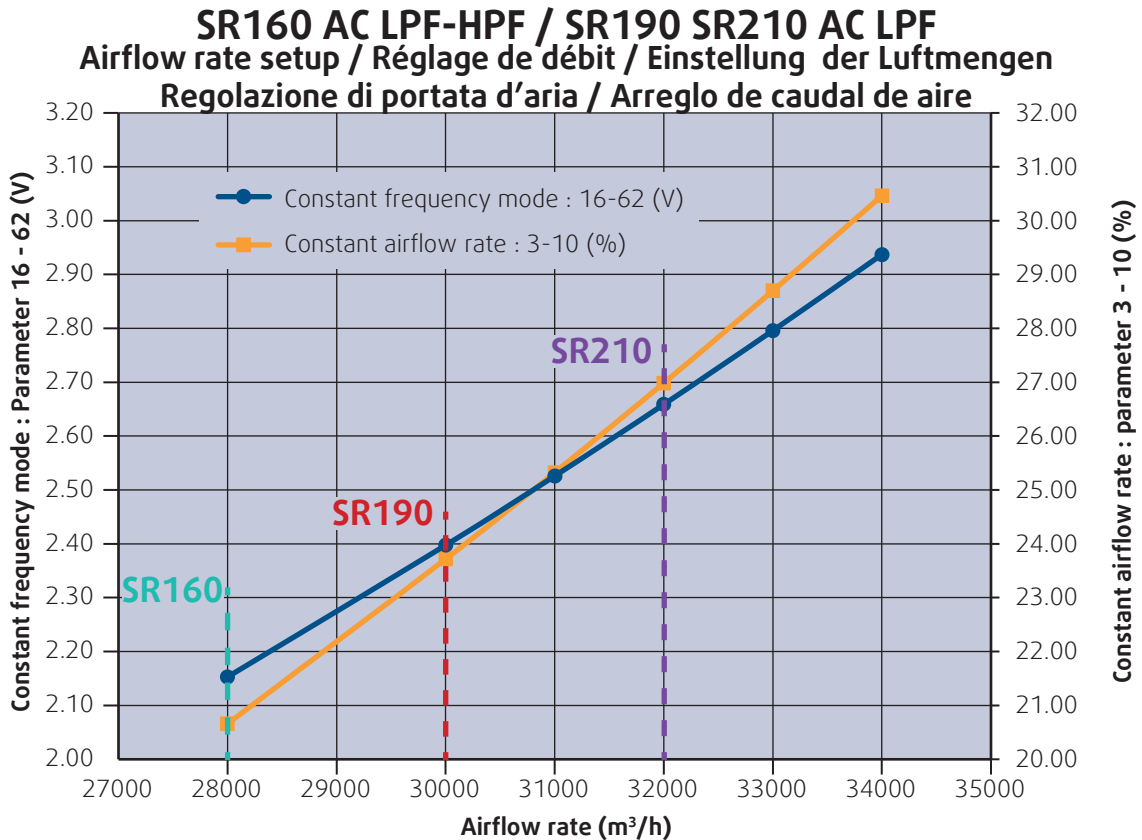
SR95 SR105 SR120 SR140 EC LPF-HPF
 Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
 Regolazione di portata d'aria / Arreglo de caudal de aire

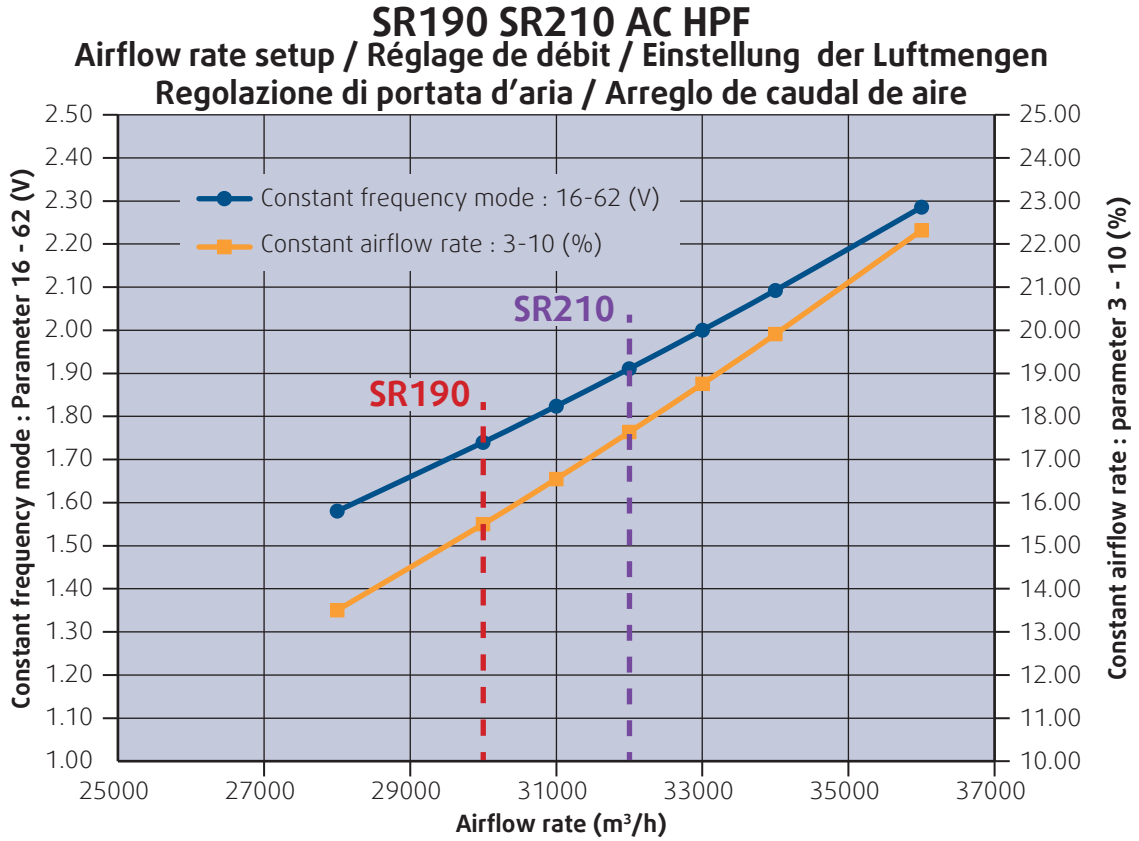


RFAN EC

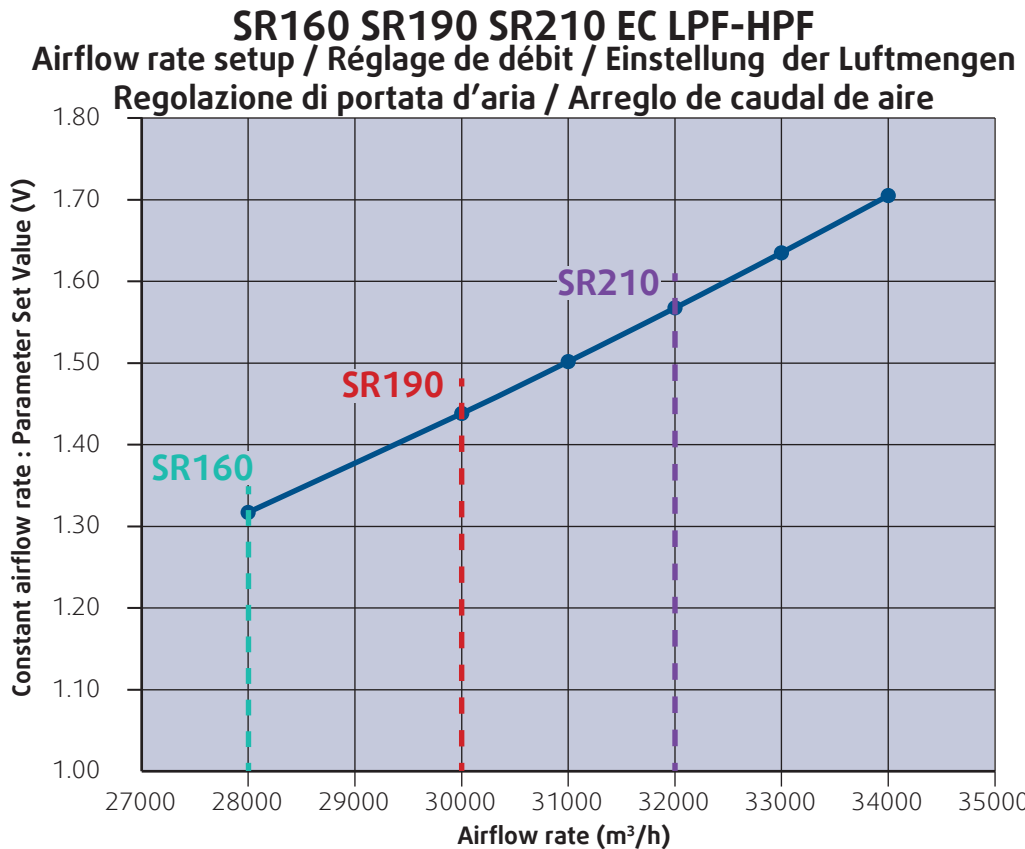


SYSAER SR160 - SR190 - SR210
 IFAN AC



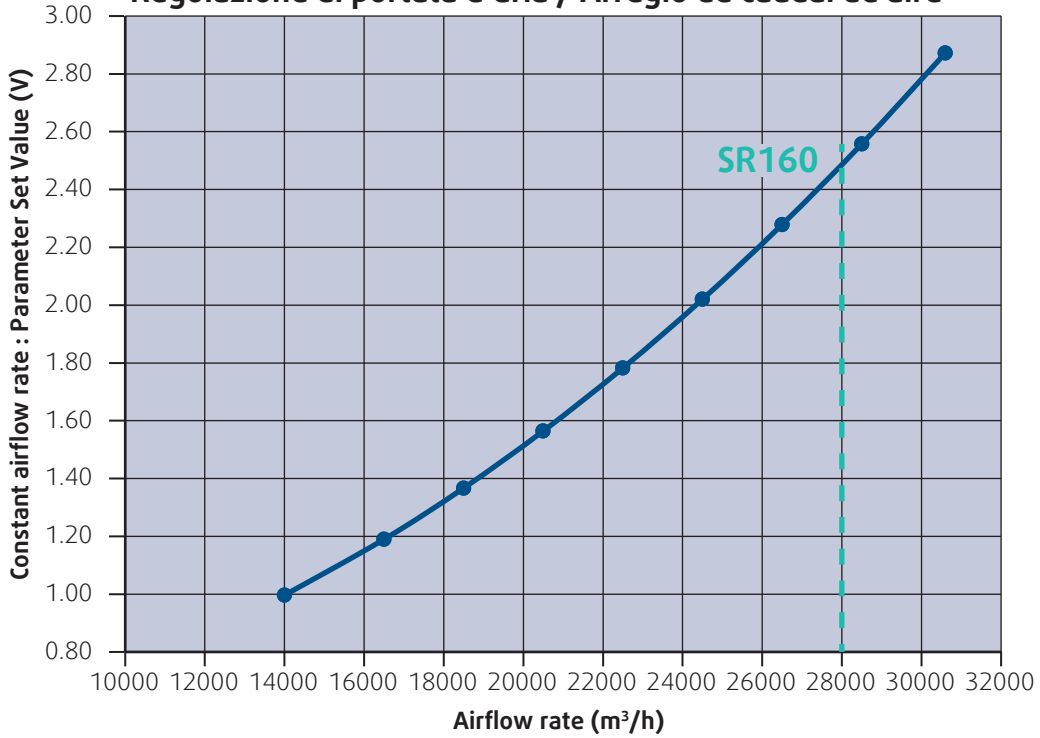


IFAN EC



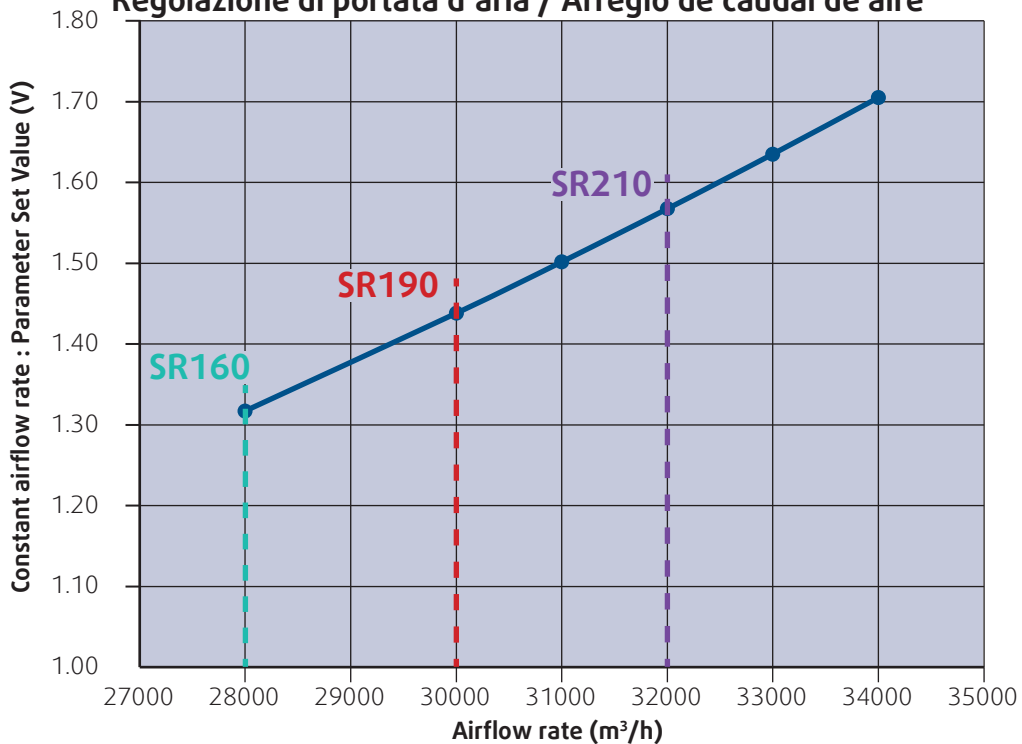
SR160 EC LPF

Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
 Regolazione di portata d'aria / Arreglo de caudal de aire



SR160 EC HPF / SR190 SR210 EC LPF-HPF

Airflow rate setup / Réglage de débit / Einstellung der Luftmengen
 Regolazione di portata d'aria / Arreglo de caudal de aire



As part of our ongoing product improvement programme, our products are subject to change without prior notice. Non contractual photos.

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Supersedes : **IOM AER 01-N-1GB**