
DVN/DVNI High Temperature Roof fan AC/EC
DVS/DVSI Roof fan AC
DVC-P/DVCI-P Roof fan EC
DVC-POC/DVCI-POC Roof fan EC
DHS Roof fan AC

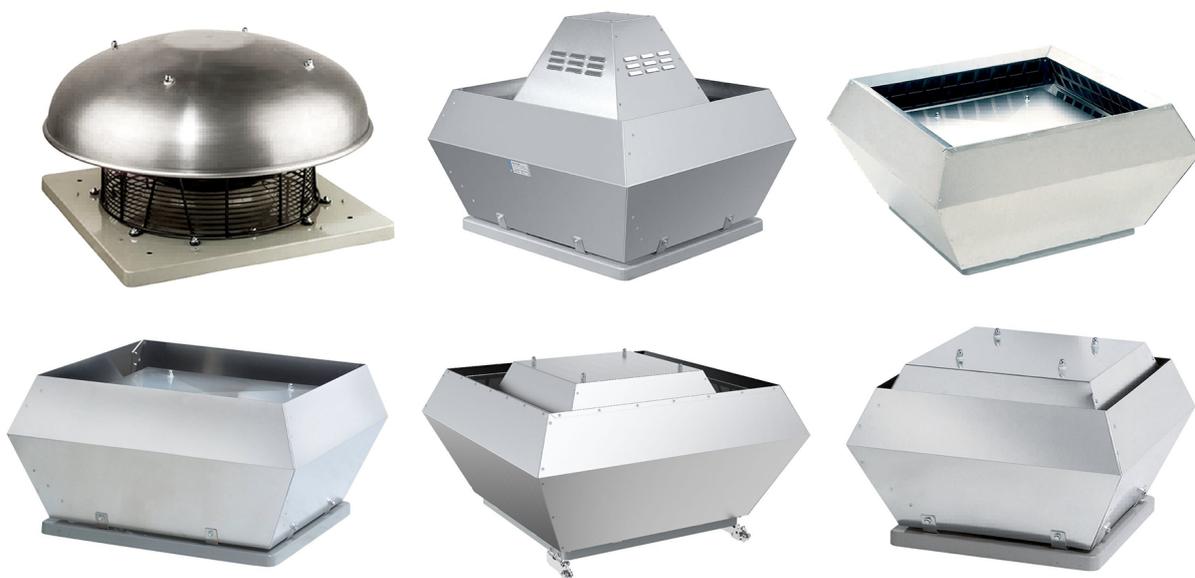


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1 Introduction

1.1 Product description

The product is a roof fan with an EC or AC motor and a casing made from seawater resistant aluminium.

The DVN fan is a high temperature roof fan with vertical airflow discharge. The product has an AC motor with an integrated bird protection grille.

The DVNI fan is a high temperature roof fan with vertical airflow discharge. The product has an AC motor with an integrated bird protection grille. The casing has a 50 mm wool insulation.

The DVN EC fan is a high temperature roof fan with vertical airflow discharge. The product has an EC motor with an integrated bird protection grille.

The DVNI EC fan is a high temperature roof fan with vertical airflow discharge. The product has an EC motor with an integrated potentiometer for speed control, and an integrated bird protection grille. The casing has a 50 mm wool insulation.

The DVC-S EC fan has a vertical airflow discharge and an EC motor with an integrated potentiometer for speed control.

The DVCI-S EC fan has a vertical airflow discharge, an EC motor with an integrated potentiometer for speed control. The casing has a 50 mm wool insulation.

The DVC-POC EC fan and DVCI-POC EC fan have an EC motor and are supplied with a pressure control device for constant pressure control. External temperature compensation control is optional.

The DVC-P fan has an EC motor and an integrated pressure control device for constant pressure control.

The DVCI-P fan has an EC motor and an integrated pressure control device for constant pressure control. The casing has a 50 mm wool insulation.

The DHS fan has a horizontal discharge, an AC motor and an integrated bird protection grille. The DHS fan is available with a square cap or with a circular cap.

The DVS fan has a vertical discharge, an AC motor and an integrated bird protection grille.

The DVSI fan has a vertical discharge, an AC motor and an integrated bird protection grille. The casing has a 50 mm wool insulation.

The product is not supplied with an external speed control or installation equipment, these parts are available and recommended as accessories.

1.2 Intended use

The product is intended for transportation of clean air with a maximum temperature of 45-60 °C depending on product model. For information about temperature ranges, refer to www.systemair.com.

The product is used for ventilation of small areas, for example apartments, storages and offices.

The product is not applicable for transportation of air that contains explosive, flammable, or aggressive media. The product is not applicable for locations where there is a risk of explosion.

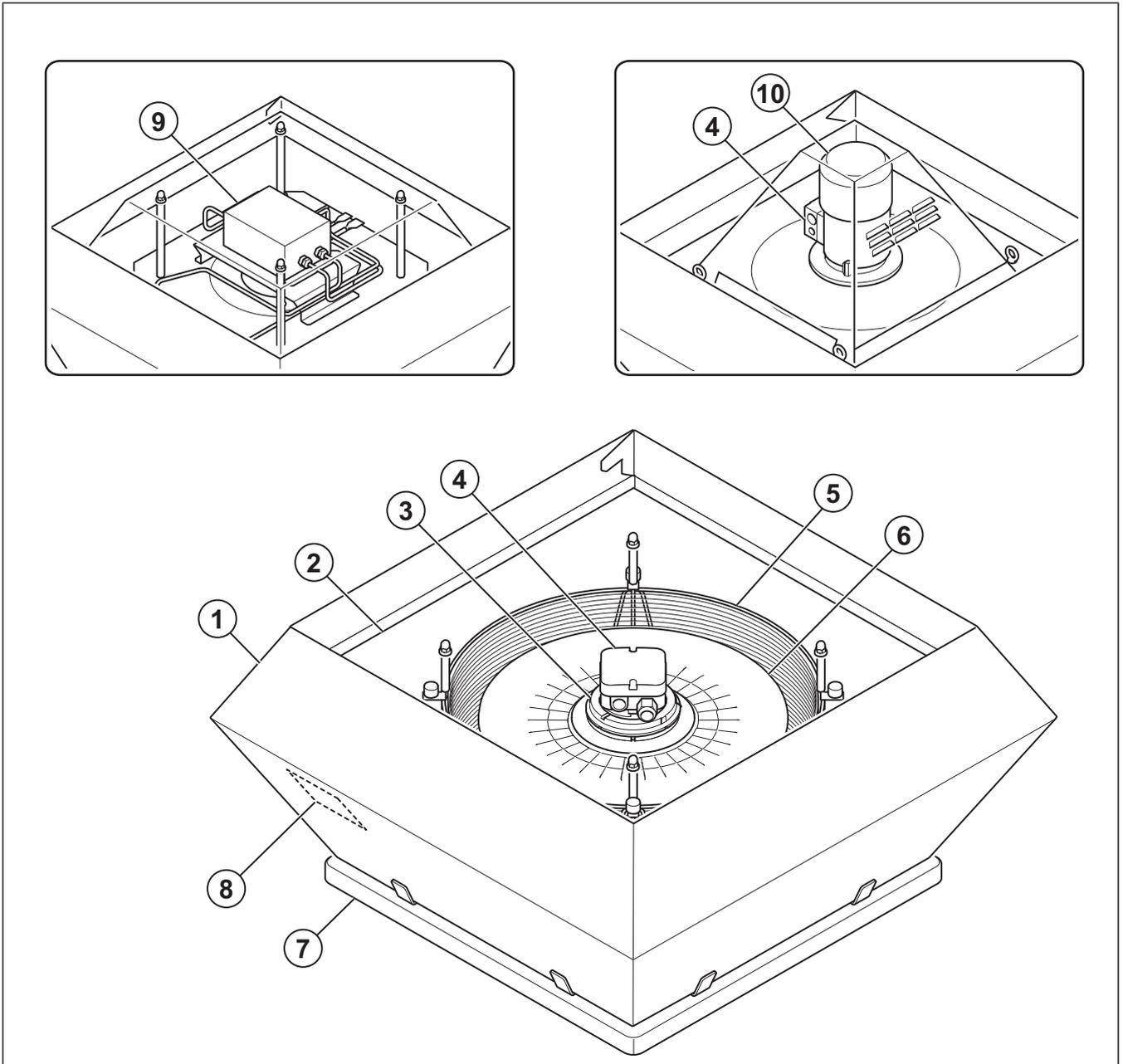
1.3 Document description

This document contains instructions for installation, operation and maintenance of the product. The procedures must be done by approved personnel only.

Speak to Systemair for more information on how to install the product in different installation locations.

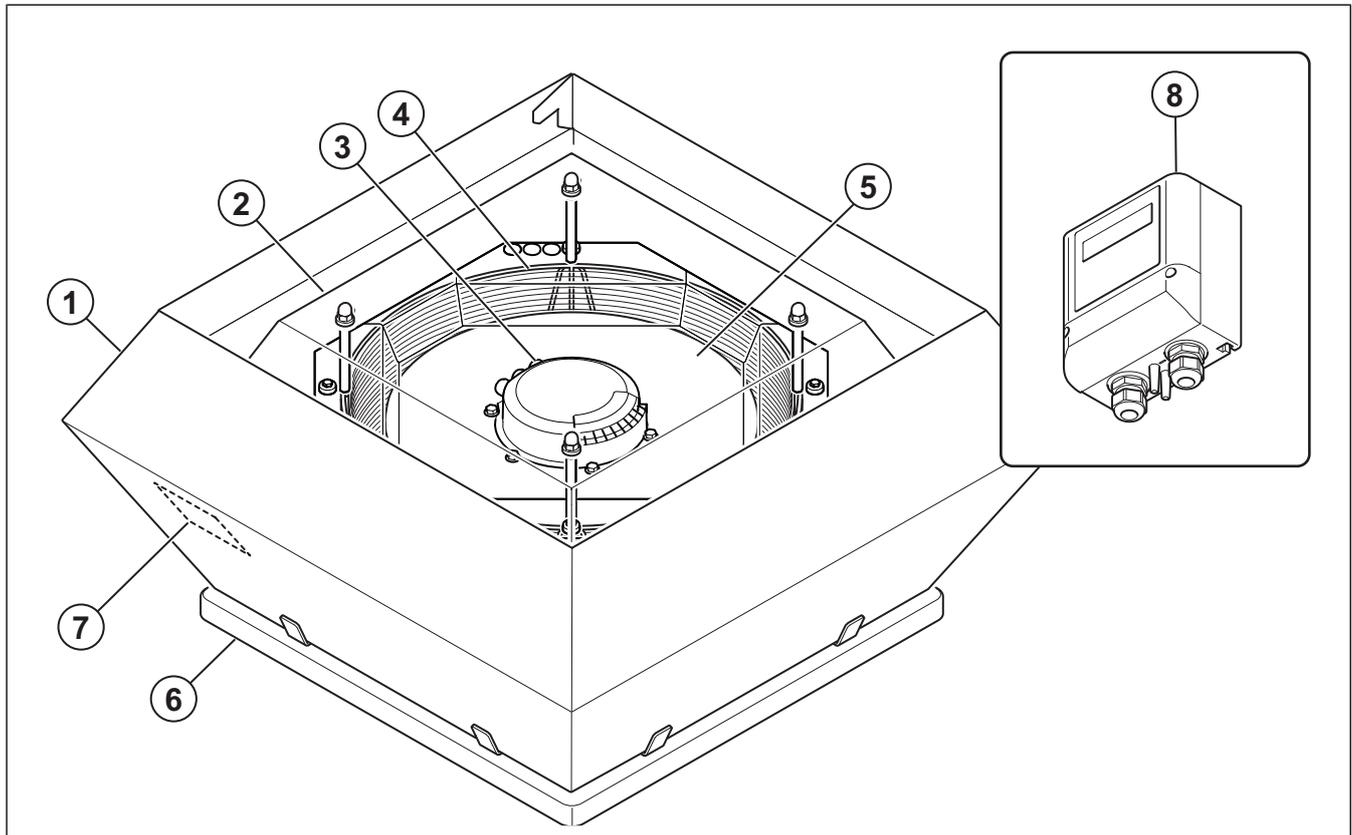
1.4 Product overview

1.4.1 Product overview DVN, DVNI, DVS, DVSI, DVC-S, DVCI-S, DVC-POC and DVCI-POC



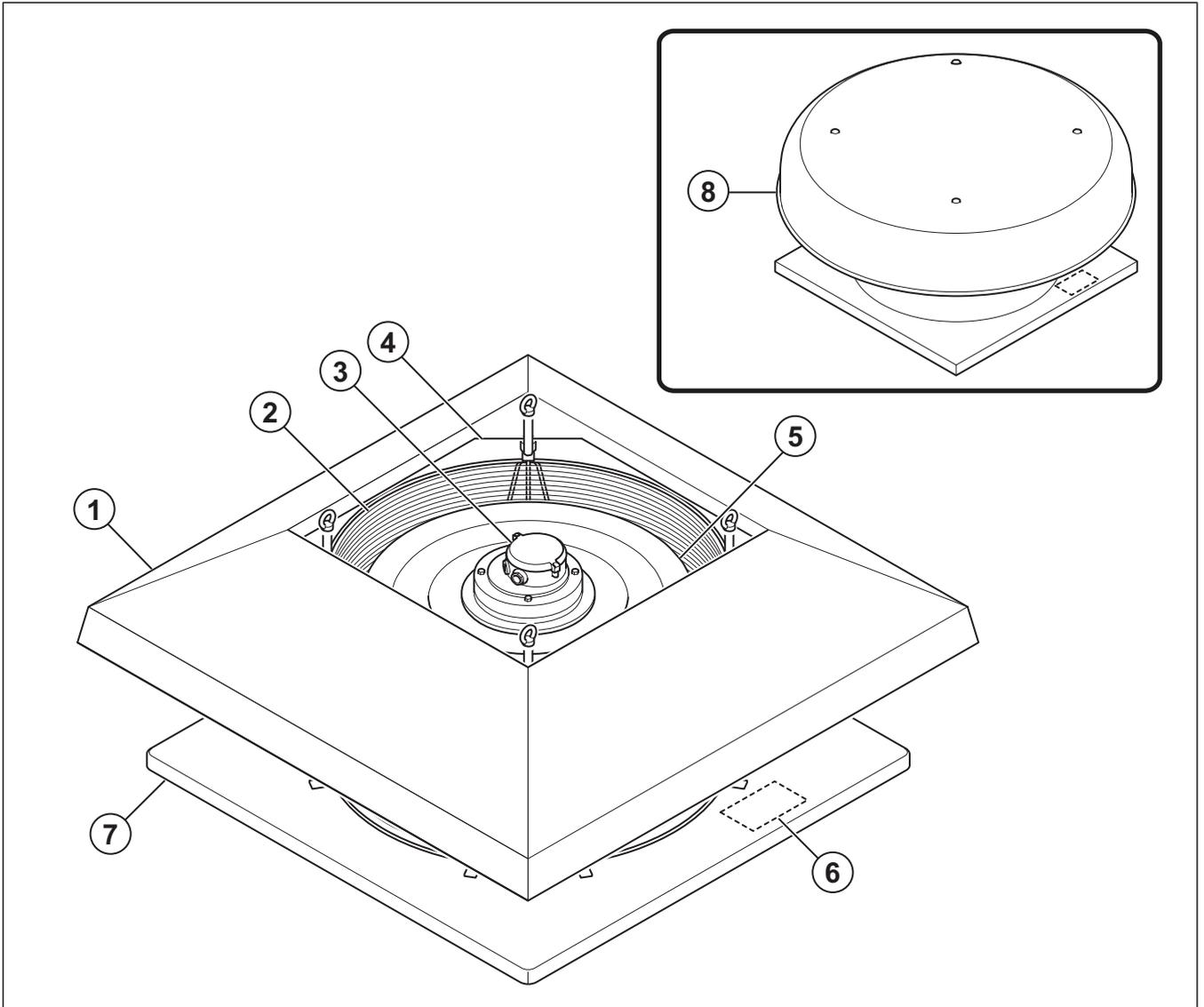
- | | |
|----------------------------------|---|
| 1. Casing | 7. Base plate |
| 2. Top lid | 8. Name plate with airflow direction arrow |
| 3. Motor (for DVS and DVSI fans) | 9. Integrated pressure controller (DVC-POC and DVCI-POC fans) |
| 4. Connection box | 10. Motor (for DVC-S, DVCI-S, DVC-POC and DVCI-POC fans) |
| 5. Bird protection grille | |
| 6. Fan impeller | |

1.4.2 Product overview DVC-P and DVCI-P



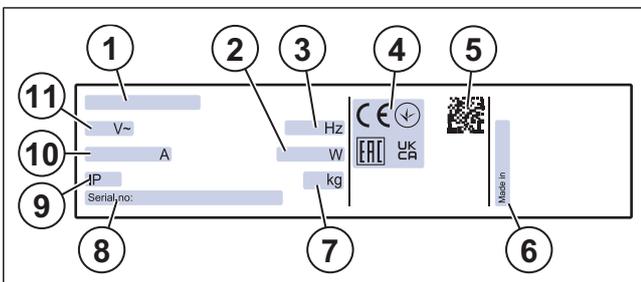
1. Casing
2. Top lid
3. Motor
4. Bird protection grille
5. Fan impeller
6. Base plate
7. Name plate with airflow direction arrow
8. Pressure controller (P-models have the controller outside of the casing)

1.4.3 Product overview DHS



- | | |
|---------------------------|--|
| 1. Square cap | 5. Fan impeller |
| 2. Bird protection grille | 6. Name plate with airflow direction arrow |
| 3. Motor | 7. Base plate |
| 4. Top lid | 8. Circular cap |

1.5 Name plate



1. Type designation: Product name, dimension and motor type. Refer to [1.5.1 Type designation page 5](#)
2. Input power, W
3. Frequency, Hz
4. Certifications
5. Scannable code¹
6. Country of production
7. Weight, kg
8. Serial number: part number/production number/production date
9. IP class, enclosure class
10. Current, A
11. Voltage, V

1. Use a mobile device to scan the scannable code and go to the Systemair documentation portal for more documentation and document translations.

Note:

The data on the name plate applies to “standard air” that is specified in the standard ISO5801.

1.5.1 Type designation

Product name	DVN/DVNI	DVS/DVSI	DVC-S/ DVCI-S	DVC-P/ DVCI-P	DVC-POC/ DVCI-POC	DVN EC/ DVNI EC	DHS		
Dimension	355	190	315	315	315	355	190		
	400	225	355	355	355	400	225		
	450	310	400	400	400	450	310		
	500	311	450	450	450	500	311		
	560	315	500	500	500	560	315		
	630	355	710	560	710		355		
	710	400		630			400		
	800	450		710			450		
	900	500							
		560							
630									
710									
Motor type	DV: 4-pole, AC motor, 3-phase, 230 V	EZ: 2-pole, AC motor, 1-phase, 230 V	EC: Electronically commutated EC motor, 1/3-phase, 230 V	EC: Electronically commutated EC motor, 1/3-phase, 230 V	EC: Electronically commutated EC motor, 1/3-phase, 230 V	EC: Electronically commutated EC motor, 1/3-phase, 230 V	EZ: 4-pole, AC motor, 1-phase, 230 V		
	D6: 6-pole, AC motor, 3-phase, 400 V	EV: 4-pole, AC motor, 1-phase, 230 V					EC-K: Electronically commutated EC motor, 1-phase, 230 V, normal power	EV: 4-pole, AC motor, 1-phase, 230 V	
	D4: 4-pole, AC motor, 3-phase, 400 V	DV: 4-pole, AC motor, 3-phase, 400 V						DV: 4-pole, AC motor, 3-phase, 400 V	
	EV: 4-pole, AC motor, 1-phase, 230 V	DV: 4-pole, AC motor, 3-phase, 400 V						E4: 4-pole, AC motor, 1-phase, 230 V	
	D6-L: 6-pole, AC motor, 3-phase, 400 V, high power	ES: 6-pole, AC motor, 1-phase, 230 V						E4: 6-pole, AC motor, 1-phase, 230 V	
	E4: 4-pole, AC motor, 1-phase, 230 V	E4: 4-pole, AC motor, 1-phase, 230 V						E4: 6-pole, AC motor, 1-phase, 230 V	E4: 6-pole, AC motor, 1-phase, 230 V
		E4: 6-pole, AC motor, 1-phase, 230 V							

1.6 Product liability

Systemair is not liable for damages that the product causes in these conditions:

- The product is incorrectly installed, operated or maintained.
- The product is repaired with parts that are not original spare parts from Systemair.
- The product is used together with accessories that are not original accessories from Systemair.
- The product is used without motor protection.

2 Safety

2.1 Safety definitions

Warnings, cautions and notes are used to point out specially important parts of the manual.



Warning

If you do not obey these instructions, there is a risk of death or injury.



Caution

If you do not obey these instructions, there is a risk of damage to the product, other materials or the adjacent area.

Note:

Information that is necessary in a given situation.

2.2 Safety instructions



Warning

Read the warning instructions that follow before you do work on the product.

- Read this manual and make sure that you understand the instructions before you do work on the product.
- Obey local conditions and laws.
- The ventilation contractor and the operator are responsible for correct installation and intended use.
- Keep this manual at the location of the product.
- Do not install or operate the product if it is defective.
- Do not remove or disconnect safety devices.
- Make sure that you can read all warning signs and labels on the product when it is installed. Replace labels that have damage.
- Only permit approved personnel to work on the product and to be in the adjacent area during all work on the product.
- Make sure that you know how to stop the product quickly in an emergency.
- Use applicable safety devices and personal protective equipment during all work on the product.
- Before you do work on the product, stop the product and wait until the fan impeller stops. Make sure that there is no voltage on the motor terminals.
- If the maintenance is not correctly and regularly done, there is risk of injury and damage to the product.
- Only do the maintenance as given in this manual. Speak to Systemair technical support if other servicing is necessary.
- Always use spare parts from Systemair.
- Sound levels exceeding 70 dB(A) may occur depending on model and size. Visit www.systemair.com for more detailed information about your product.
- The product is not to be used by persons, including children, with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Do not allow children to play with the device.

2.3 Personal protective equipment

Use personal protective equipment during all work on the product.

- Approved eye protection
- Approved protective helmet
- Approved hearing protection
- Approved protective gloves
- Approved protective shoes
- Approved work clothing

3 Transportation and storage



Warning

Make sure that the product does not become damaged or wet during transportation. A damaged or wet product can cause fire or electric shock.

- Before you move the product to the installation location, examine the packaging for damages.
- Do not move the product by the cables, terminal box, fan impeller, protection grille, inlet cone or silencer.
- If lifting equipment is used, make sure that the lifting equipment can hold the weight of the product. Refer to the name plate for information. Do not lift the product by the packaging.



Warning

Do not walk below a lifted product.

- Keep the correct side of the packaging up during transportation. Refer to the arrows on the packaging.
- Load and unload the product carefully.
- Keep the product in a dry and clean location during storage. Make sure that the ambient temperature during storage is between -10 and $+30$ °C. A stable ambient temperature prevents damage from condensation.
- Keep the product in storage for maximum 1 year.

4 Installation

4.1 To do before the installation of the product

- Make sure that you have the necessary installation accessories:
 - Refer to [13 Accessory overview page 43](#) for an overview of the accessories.
 - If you install the product outdoors, it is necessary to install a weather protection roof.
 - To decrease vibrations transmitted from the product to the duct system, Systemair recommends to install vibration dampers, fast clamps or flexible connections.
 - If you install the product with free suction or free discharge, it is necessary to install a protection grille. Make sure that the safety distance agrees with the standard DIN EN ISO 13857 and the standard DIN 24167-1.
- Use installation material with fire resistance rating for the installation location.
- Examine the packaging for transportation damage and remove the packaging from the product carefully.
- Examine the product and all components for damage.
- Make sure that the motor effect and the fan performance agrees with the expectations at the installation location.
- Make sure that the information on the name plate and the motor name plate agrees with the operation conditions.
- Install the product in a location where there is space for commissioning, troubleshooting and maintenance.
- Make sure that the installation location is clean and dry, for full safety during electrical work.
- Make sure that the installation surface has sufficient capacity to hold the weight of the product.
- Refer to the airflow direction arrows on the name plate or on the product to install the product in the correct position.
- Make sure that all cable glands are tight against the cables to prevent leaks.

4.2 To install the product

4.2.1 To install the roof fans

Note:

Make sure that the installation location has space for maintenance, and that the roof joints can hold the weight of the product.

Note:

The product must be installed horizontally.

- 1 Systemair recommends that the product is installed together with an FTG tilting device. If an FTG tilting device is used, do these steps:

- a. Drill holes in the base plate of the fan.



Warning

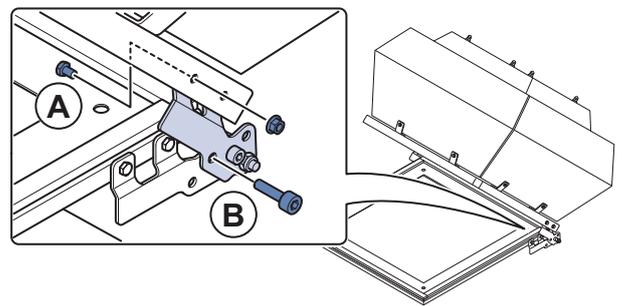
Keep fingers away from the back of the hinge. The back of the hinge is a potential pinch point.

- b. Install the FTG tilting device with the supplied screws in the drilled holes (A) on the fan base plate.



Warning

The FTG tilting device can accidentally close and cause injury. Open the FTG tilting device and insert the screws in the intended holes to secure the tilting device in an opening state (B).



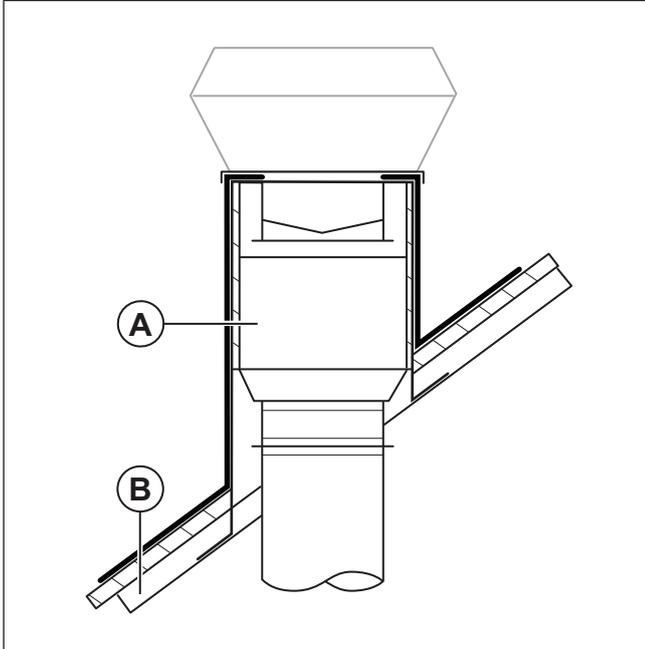
Note:

The FTG tilting device can be installed with any product in this manual.

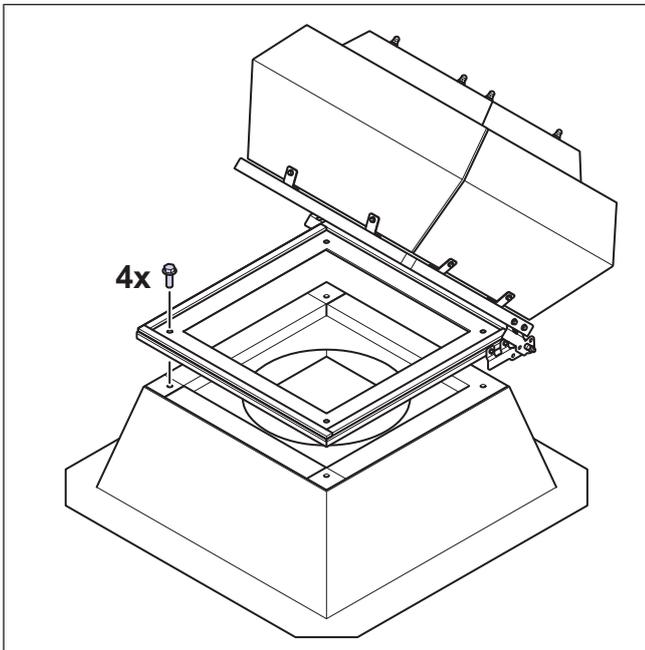
- 2 Systemair recommends that the product is installed together with a roof curb (A). Roof curbs are available as an accessory. If a roof curb is used, do these steps:
 - a. Install the roof curb on the roof (B).
 - b. Make sure that the installation is weatherproof, and that all installation surfaces are sealed.
 - c. Install the fan on the roof curb.

Note:

Obey local laws and regulations for installation of the roof curb on the roof.



- 3 Install the duct and attach the product, with the installed FTG tilting device, on the top of the roof curb.



- 4 Tighten the fast clamps around the duct connections and the product with the supplied screws.
- 5 Examine if the fan and accessories make a thermal bridge. If they do, use vinyl rubber as an insulation of the fan and accessories. Make sure that the vinyl rubber, for example Armaflex, is sufficiently thick to prevent condensation.

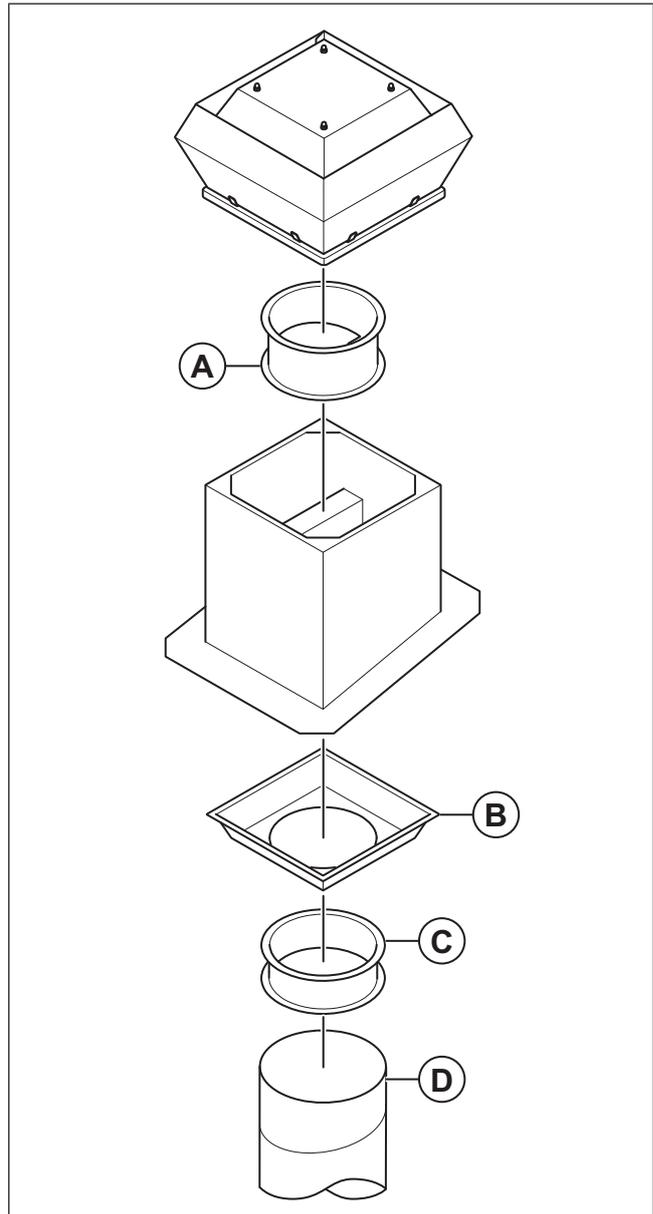
Note:

Install the product so that unwanted vibrations are not transmitted to duct systems or roof beams.

Note:

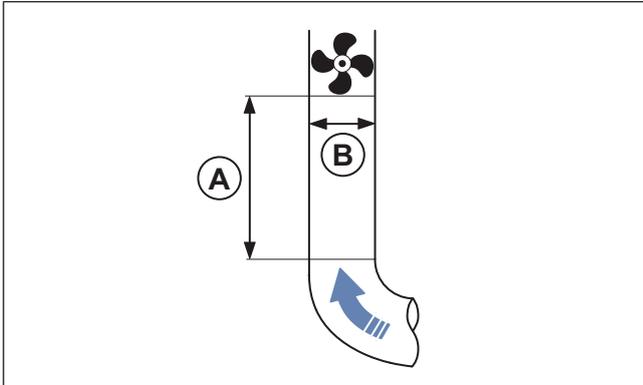
When the product is installed together with installation accessories, make sure that all mounting surfaces are sealed air tight.

4.2.2 To connect the product to the ventilation system



- 1 Systemair recommends to connect the duct (D) to a flexible connection (C), an inflow box (B) and a back draft damper (A).

- 2 If you install the product near a duct bend, do these steps to prevent vibrations, unwanted noise and decreased air pressure:
- Measure the distance (A) between the product and the duct bend.
 - Make sure that the distance (A) is a minimum 2.5 x the diameter (B) of the duct system. For a circular ducts, (B) is the nominal diameter. For rectangular ducts, (B) is the hydraulic diameter.



4.2.3 Pressure controller

The DVC-POC EC fan and DVCI-POC EC fan have a pressure controller for constant pressure control and optional external temperature compensation.

The DVC-P fan and the DVCI-P fan have an integrated pressure controller for constant pressure control.

The products that are delivered with a pressure controller are also delivered with a separate instruction manual for the pressure controller.

5 Electrical connection

5.1 To do before the electrical connection

- Make sure that the electrical connection agrees with the product specification on the motor name plate.
- Make sure that the environment for electrical connection is clean and dry.
- Make sure that the wiring diagram that is included with the supply of the product agrees with the terminals in the connection box.

5.2 To connect the product to the power supply

- Complete the electrical connection for the motor. Refer to the motor wiring diagram that is included with the product.
- Make sure that the cross section of the protective earthing is equal to or larger than the cross section of the phase conductor.
- Install a circuit breaker in the permanent electrical installation, with a contact opening of a minimum 3 mm at each pole.
- If a residual current device (RCD) is installed, make sure that it is an all-current sensitive RCD. Consider if the product has a frequency converter, uninterruptible power supply (UPS), or an EC motor. EC motors have a leakage current to earth that is ≤ 3.5 mA.

5.3 Speed controller for AC motors

Note:

The speed controller alternatives are different for different motor types. Make sure that your motor is compatible with the speed controller type before you use it.

The speed can be controlled by voltage reduction using a transformer. It is also possible to control the fan speed with frequency converter if the installed frequency converter has built in all-pole sine filter and shielded cables are not needed.

5.4 To install motor protection for AC motors

- If the product has an built in motor protection, reset by disconnecting the product from power for 60 seconds.
- If the motor has temperature monitors such as thermal contacts (TK) or thermistors lead out into the terminal box, these must always be connected in the control circuit using appropriate motor protection.
- Make sure that an overheated motor cannot start again automatically when it becomes cool.
- Install the motor cables and the temperature monitor apart.
- If the motor does not have temperature monitors, install a motor protection switch.

5.5 Speed controller for EC motors

- EC motors are controlled through a stepless 0–10 V signal.
- Do not use power supply for the speed controller.
- Refer to [12.3 Wiring diagrams page 25](#) and the instruction manual for the external speed controller.

5.6 Motor protection for EC motors

EC motors have an integrated motor protection. Reset the motor protection by disconnecting the fan from power supply for 60 seconds.

6 Commissioning



Caution

- If strong vibrations occur during commissioning, immediately increase or decrease the fan speed until the vibrations are decreased. Continuous strong vibrations can cause damage to components.
- Do not increase the fan speed to a higher rpm value than the maximum value that is given on the name plate.

The commissioning report is found at www.systemair.com.

6.1 To do before the commissioning

- Make sure that the installation and electrical connection are correctly done.
- Visually examine the product and accessories for damage.
- Make sure that the safety devices are correctly installed.
- Make sure that there are no blockages in the air inlet and the air outlet.
- Make sure that installation material and unwanted objects are removed from the product and the ducts.

6.2 To do the commissioning

- 1 Set the installed safety switch in the OFF position.
- 2 If it is possible to get access to the fan impeller, do the steps that follows:
 - a. If it is necessary, remove parts of the installation.
 - b. Turn the fan impeller by hand and make sure that it turn easily.
 - c. Record the result in the commissioning report.
- 3 Make sure to turn the product in a direction that agrees with the related arrow on the product.
 - a. Record the result in the commissioning report.
- 4 If you removed parts of the installation to get access to the fan impeller, install the removed parts again.
- 5 Set the installed safety switch in the ON position.
- 6 Start the product.
- 7 Set the minimum operation speed.
- 8 Increase the operation speed gradually to the maximum operation speed.
 - a. Examine the vibrations in the casing and the bearing areas at all speed levels.
 - b. Make sure that the vibrations agree with the specifications in DIN ISO 14694.
 - c. Make sure that none of the speed levels cause unwanted noise in the product.
 - d. Record the result in the commissioning report.
- 9 Record the necessary data in the commissioning report.

7 Operation



Caution

EC motors must be set to ON/OFF via the control input. To stop the product via mains supply decreases the life time of the motor. Systemair recommends to install external speed controller for easy access to control the input signal.

7.1 To start a product with an AC motor

- 1 Set the installed safety switch in the ON position.
- 2 Install the external speed controller. Refer to the instruction manual for the installed speed controller.

7.2 To start a product with an EC motor

- 1 Make sure that the 0–10 V signal is set to “0” with the speed controller.
- 2 Set the installed safety switch in the ON position and wait 5 seconds.
- 3 Adjust the fan speed with the 0–10 V signal speed controller. If an external speed controller is not installed, adjust the fan speed directly with the integrated potentiometer.

7.3 To stop the product

- 1 Set the installed speed controller in the OFF position. Refer to the instruction manual for the installed speed controller.
- 2 Set the installed safety switch in the OFF position.

7.3.1 To stop the product in an emergency

- Set the installed safety switch in the OFF position.

8 Maintenance



Warning

Set the installed safety switch in the OFF position before you do the maintenance unless the instructions tell you differently. Make sure that the safety switch is not accidentally set in the ON position.

8.1 Maintenance schedule

The intervals are calculated from continuous operation of the product.

Maintenance task	Usual operation conditions		Unusual operation conditions. ¹		
	Each 6 months	Each year	Each 3 months	Each 6 months	Each year
Visually examine the product and its components for damage, corrosion and dirt.		X		X	
Examine the fan impeller for damage and imbalance.		X		X	
Clean the product and the ventilation system.	X		X		
Do a check of all fasteners and make sure that they are fully tightened.		X			X
Make sure that the product and its components are correctly operated.	X			X	
Measure the power consumption and compare the result with the information on the name plate.		X		X	
If vibration dampers are installed, make sure that they operate correctly and examine them for damage and corrosion.		X			X
Make sure that the electrical protective equipment and the mechanical protective equipment operates correctly.		X			X
Make sure that you can read the name plates of the product.		X		X	
Examine all cable connections for damage. Make sure that the cable glands are tight against the cables.		X			X
If flexible connections are installed, examine them for damage.	X			X	

1. The unusual operation conditions are classified as follows: If a stable ambient temperature is higher than 30 °C or lower than -10° C, if the temperature changes are large or if very contaminated air is transported.

8.2 To clean the product



Caution

- Do not clean the product with a high-pressure washer.
- Do not clean the product with steel brushes or sharp objects.
- Do not bend the fan impeller blades.
- Be careful not to move the balance weights on the fan impeller.

- Remove dirt from the fan and the duct.
- If access to the fan impeller is possible, clean the fan impeller with a moist cloth or soft brush.

8.3 Spare parts

- For information about spare parts, send an e-mail to support@systemair.com.
- For more information about spare parts, contact Systemair support.
- Always use spare parts from Systemair.
- When you send an order for spare parts, include the serial number of the product. The serial number is found on the name plate.

9 Troubleshooting

Note:

If you cannot find a solution to your problem in this section, speak to Systemair technical support.

Problem	Cause	Solution
The product does not operate smoothly.	The fan impeller is not correctly balanced.	Speak to Systemair technical support.
	There is dirt on the fan impeller.	Clean the fan impeller carefully. Refer to 8.2 To clean the product page 13 .
	The fan impeller has damages or deformations because the transported air contains aggressive media.	Speak to Systemair technical support.
	The fan impeller does not turn in the correct direction.	Make sure that the electrical connection is correctly done.
	The fan impeller has deformations because of too high temperatures.	<ul style="list-style-type: none"> • Replace the fan impeller. • Make sure that the temperature of the transported air is not higher than the value on the name plate.
	There are unusually strong vibrations in the product or the duct system.	Make sure that the product is correctly installed. Do a check of the duct system.
	The product is operated in a resonant frequency range.	Increase or decrease the fan speed until the product operates smoothly. Refer to 6 Commissioning page 11 .
The air output is not sufficient.	The fan impeller does not turn in the correct direction.	Make sure that the electrical connection is correctly done.
	The electrical connection is not correctly done.	Make sure that the electrical connection agrees with the wiring diagrams.
	The air pressure is too low because of incorrect installation.	Do the necessary changes in the duct system and installed components to increase the air pressure. Refer to 6 Commissioning page 11 .
	The airflow shutters are closed or not fully open.	Adjust the airflow shutters.
	There is blockage in the air inlet or the duct system.	Remove the blockage.
	The product is not applicable for the installation location.	Make sure that the product is applicable for the installation location.
	The motor power is decreased because of too high temperature in the motor.	<ul style="list-style-type: none"> • Do a check of the ambient temperature. • Make sure that the space around the motor is sufficient to keep the temperature down.
There is unusual noise when the product starts or operates.	There is strain in the connections of the duct system.	Loosen the connections, align the parts of the duct system correctly and tighten the connections.

Problem	Cause	Solution
Thermal contacts, PTC or resistors are released.	The fan impeller does not turn in the correct direction.	Make sure that the electrical connection is correctly done.
	A phase loss occurred.	If the motor is a 3-phase motor, make sure that no phase is missing. Note: This is not applicable for EC motors.
	The motor is overheated.	<ul style="list-style-type: none"> Do a check of the motor cooling impeller. If it is possible, measure the resistance to do a check of the motor winding.
	The capacitor is not connected or not correctly connected. Note: This is not applicable for EC motors or 3-phase AC motors.	Connect the capacitor correctly. Refer to the included motor wiring diagram.
	There is blockage in the motor.	Speak to Systemair technical support.
The fan speed does not get the nominal value.	Defective motor winding.	If it is possible, measure the resistance to do a check of the motor winding.
	The speed control is not correctly set.	Set the speed control correctly.
	The fan impeller cannot turn freely because of mechanical blockage.	Remove the blockage.
	Phase loss occurs.	If the motor is a 3-phase motor, make sure that no phase is missing.
The motor does not rotate.	A component in the power supply is defective.	Do a check of the power supply. Replace defective components and connect the power supply again.
	The electrical connection is not correctly done.	Make sure that the electrical connection agrees with the wiring diagrams.
	The motor protection is released because the motor is overheated.	Let the motor become cool. Reset the motor protection. Find the cause of the overheated motor.
	A phase loss occurred.	If the motor is a 3-phase motor, make sure that no phase is missing.
The electronic components or the motor is overheated.	The motor is overloaded or the ambient temperature is too high.	Let the motor become cool. Reset the motor protection. Find the cause of the overheated motor.
	The motor is overloaded.	Make sure that the product is applicable for the installation location.
	The ambient temperature is too high.	Make sure that the product is applicable for the installation location.
	The cooling of the product is not sufficient.	Make sure that the space around the motor is sufficient to keep the temperature down.

10 Disposal

The product follows the WEEE directive. This symbol on the product or the packaging of the product shows that this product is not domestic waste. The product must be recycled at an approved disposal location for electrical and electronic equipment.



10.1 To disassemble and discard the parts of the product

- 1 Disconnect and disassemble the product in the opposite sequence of electrical connection and installation.
- 2 Recycle the product parts and the packaging at an applicable disposal location.
- 3 Obey the local and national requirements for disposal.

11 Warranty

For warranty claims, send a written maintenance plan and the commissioning report to Systemair. The warranty is only applicable for these conditions:

- The product is correctly installed and operated.
- Motor protection is used.
- The instructions in the data sheets are obeyed.
- Maintenance instructions are obeyed.
- A product that is not operated continuously is operated for a minimum of 1 hour each month.

12 Technical data

12.1 Technical data overview

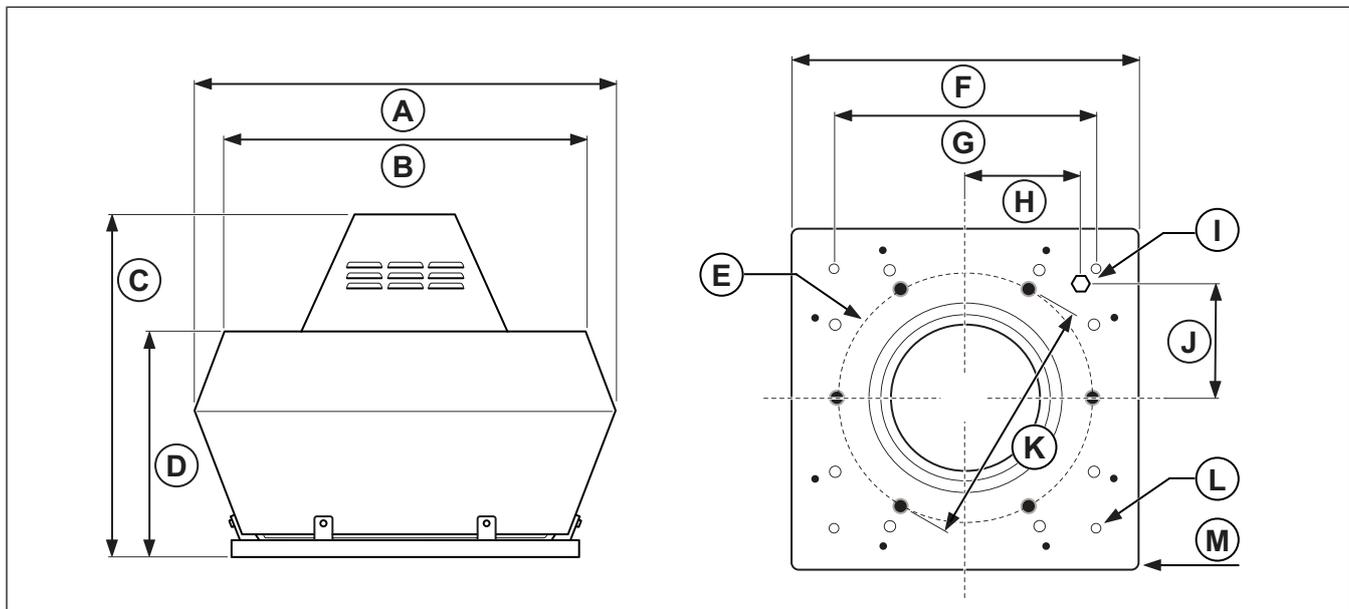
Max. temperature of transported air, °C	Refer to the data sheet in the online catalogue at www.systemair.com .
Max. ambient temperature, °C	
Sound pressure, dB	
IP class	
Voltage, current, frequency, enclosure class, weight	Refer to the name plate. Refer to 1.5 Name plate page 4 for more information.
Motor data	Refer to the motor name plate or the technical documentation from the motor manufacturer.

12.2 Product dimensions

12.2.1 Product dimensions DVN fans and DVNI fans

Note:

If the unit of measure is not specified, the dimensions are given in millimetres.



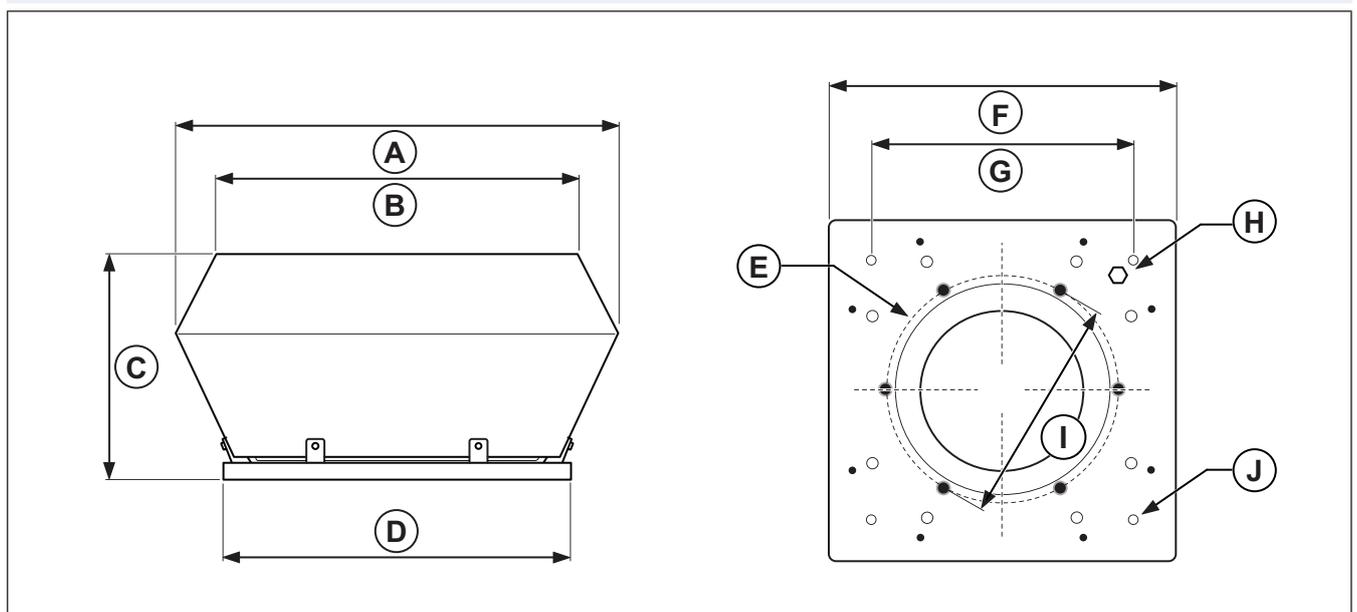
	A	B	C	D	E	F	G	H	I	J	ØK	ØL (4x)	M
DVN 355	720	618	600	390	M8 (6x)	438	450	200	M20- x1.5	200	438	12 (4x)	18.5
DVN 400	720	618	600	390	M8 (6x)	438	450	200	M20- x1.5	200	438	12 (4x)	18.5
DVN 450	900	730	675	465	M8 (6x)	438	535	273	M20- x1.5	273	438	12 (4x)	18.5
DVN 500	900	730	675	465	M8 (6x)	438	535	273	M20- x1.5	273	438	12 (4x)	18.5
DVN 560	1150	955	900	560	M8 (8x)	605	750	293	M20- x1.5	293	605	14 (4x)	20
DVN 630	1150	955	900	560	M8 (8x)	605	750	293	M20- x1.5	293	605	14 (4x)	20

	A	B	C	D	E	F	G	H	I	J	ØK	ØL (4x)	M
DVN 710	1350	1178	936	650	M8 (8x)	674	840	320	M20-x1.5	320	674	14 (4x)	0
DVN 800	1690	1460	1180	830	M8 (8x)	872	1050	433	M20-x1.5	433	872	14 (4x)	0
DVN 900	1690	1460	1180	830	M8 (8x)	872	1050	433	M20-x1.5	433	872	14 (4x)	0
DVNI 355	874	648	600	439	M8 (6x)	438	450	200	M20-x1.5	200	438	12 (4x)	18.5
DVNI 400	874	648	600	439	M8 (6x)	438	450	200	M20-x1.5	200	438	12 (4x)	18.5
DVNI 450	970	730	675	479	M8 (6x)	438	535	237	M20-x1.5	237	438	12 (4x)	18.5
DVNI 500	970	730	675	479	M8 (6x)	438	535	237	M20-x1.5	237	438	12 (4x)	18.5
DVNI 560	1315	1035	900	600	M8 (8x)	605	750	293	M20-x1.5	293	605	14 (4x)	20
DVNI 630	1315	1035	900	600	M8 (8x)	605	750	293	M20-x1.5	293	605	14 (4x)	20
DVNI 710	1483	1165	936	729	M8 (8x)	674	840	320	M20-x1.5	320	674	14 (4x)	0
DVNI 800	1590	1460	1180	830	M8 (8x)	782	1050	433	M20-x1.5	433	782	14 (4x)	0
DVNI 900	1590	1460	1180	830	M8 (8x)	782	1050	433	M20-x1.5	433	782	14 (4x)	0

12.2.2 Product dimensions DVS fans and DVSI fans

Note:

If the unit of measure is not specified, the dimensions are given in millimetres.

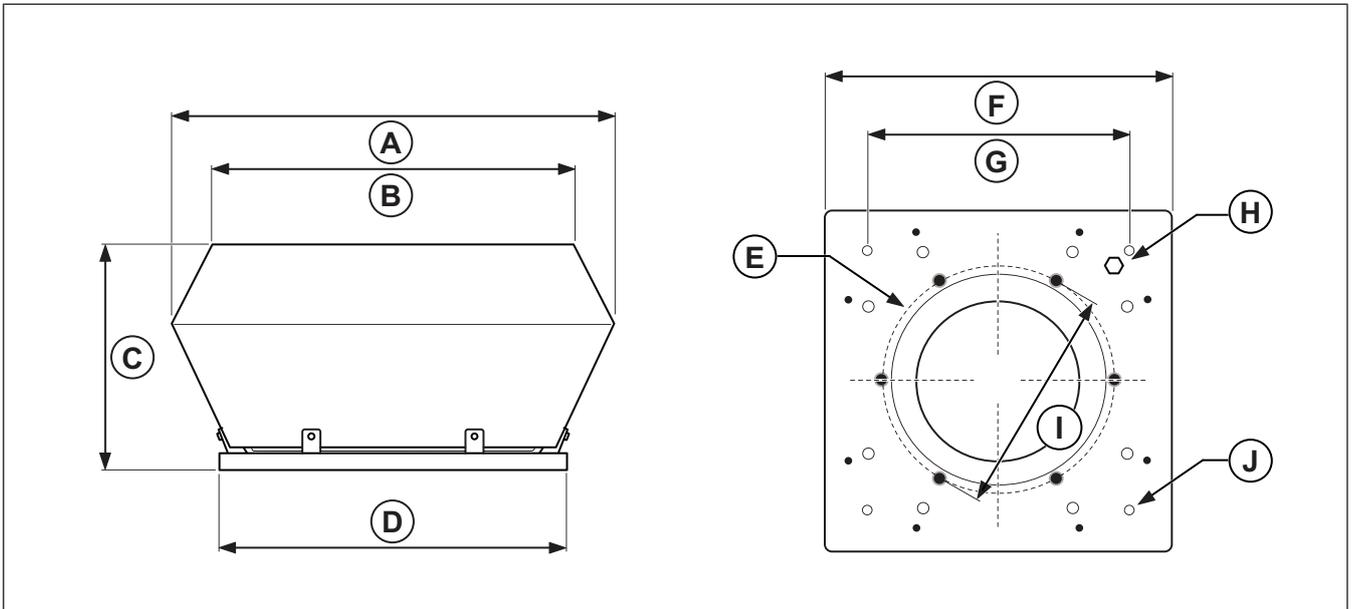


	A	B	C	D	E	F	G	H	ØI	ØJ
DVS 190	370	320	175	335	6xM6	335	245	M20x1.5	213	10(4x)
DVS 225	370	320	175	335	6xM6	335	245	M20x1.5	213	10(4x)
DVS 310	560	470	330	435	6xM6	435	330	M20x1.5	285	10(4x)
DVS 311	560	470	330	435	6xM8	435	330	M20x1.5	285	10(4x)
DVS 315	560	470	330	435	6xM8	435	330	M20x1.5	285	10(4x)
DVS 355	720	618	390	595	6xM8	595	450	M20x1.5	438	12(4x)
DVS 400	720	618	390	595	6xM8	595	450	M20x1.5	438	12(4x)
DVS 450	900	730	465	665	6xM8	665	535	M20x1.5	438	12(4x)
DVS 500	900	730	465	665	6xM8	665	535	M20x1.5	438	12(4x)
DVS 560	1150	960	565	939	6xM8	939	750	M20x1.5	605	14(4x)
DVS 630	1150	960	565	939	6xM8	939	750	M20x1.5	605	14(4x)
DVS 710	1350	1185	660	1035	6xM8	1035	840	M20x1.5	674	14(4x)
DVSI 190	498	438	210	335	6xM6	335	245	M20x1.5	213	10(4x)
DVSI 225	498	438	210	335	6xM6	335	245	M20x1.5	213	10(4x)
DVSI 310	695	584	370	435	6xM8	435	330	M20x1.5	285	10(4x)
DVSI 311	695	584	370	435	6xM8	435	330	M20x1.5	285	10(4x)
DVSI 355	877	745	440	595	6xM8	595	450	M20x1.5	438	12(4x)
DVSI 400	877	745	440	595	676	595	450	M20x1.5	438	12(4x)
DVSI 450	970	825	479	665	676	665	535	M20x1.5	438	12(4x)
DVSI 500	970	825	479	665	676	665	535	M20x1.5	438	12(4x)
DVSI 560	1315	1130	600	939	676	939	750	M20x1.5	605	14(4x)
DVSI 630	1315	1130	600	939	676	939	750	M20x1.5	605	14(4x)
DVSI 710	1483	1185	729	1035	676	1035	840	M20x1.5	674	14(4x)

12.2.3 Product dimensions DVC-S fans and DVCI-S fans

Note:

If the unit of measure is not specified, the dimensions are given in millimetres.

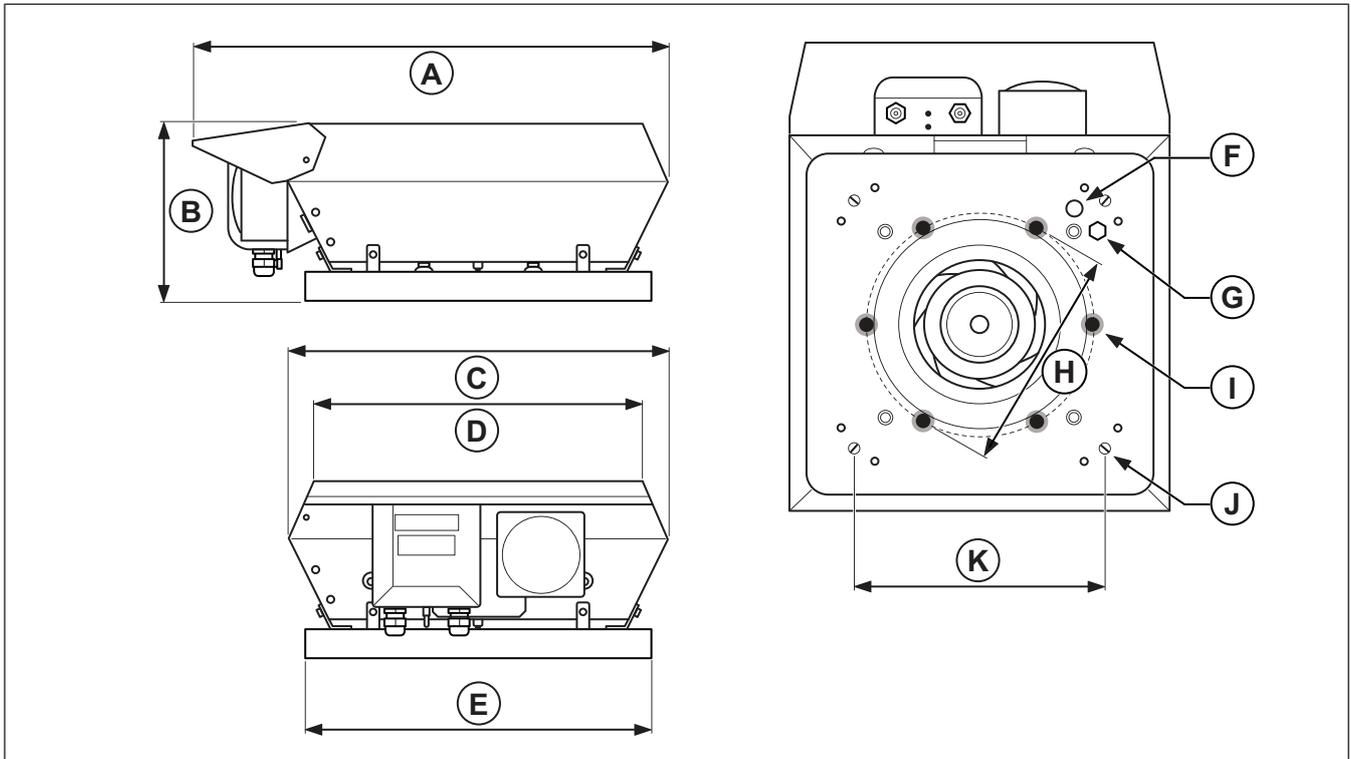


	A	B	C	D	E	F	G	H	ØI	ØJ
DVC-S 190	370	320	175	335	6xM6	335	245	M20x1.5	213	10(4x)
DVC-S 225	370	320	175	335	6xM6	335	245	M20x1.5	213	10(4x)
DVC-S 315	560	470	330	435	6xM6	435	330	M20x1.5	285	10(4x)
DVC-S 355	720	618	390	595	6xM6	595	450	M20x1.5	438	12(4x)
DVC-S 400	720	618	390	595	6xM6	595	450	M20x1.5	438	12(4x)
DVC-S 450	900	730	465	665	6xM6	665	535	M20x1.5	438	12(4x)
DVC-S 500	900	730	465	665	6xM6	665	535	M20x1.5	438	12(4x)
DVC-S 560	1150	960	565	939	8xM6	939	750	M20x1.5	800	14(4x)
DVC-S 630	1150	960	565	939	8xM6	939	750	M20x1.5	605	14(4x)
DVCI-S 190	498	438	210	335	6xM6	335	245	M20x1.5	605	10(4x)
DVCI-S 225	498	438	210	335	6xM6	335	245	M20x1.5	213	10(4x)
DVC-S 315	695	485	370	435	6xM6	435	330	M20x1.5	213	10(4x)
DVCI-S 355	877	745	440	595	6xM6	595	450	M20x1.5	285	12(4x)
DVC-S 400	877	745	440	595	6xM6	595	450	M20x1.5	438	12(4x)
DVCI-S 450	970	825	479	665	6xM6	665	535	M20x1.5	438	12(4x)
DVCI-S 500	970	825	479	665	6xM6	665	535	M20x1.5	438	12(4x)
DVCI-S 560	1315	1130	600	939	8xM6	939	750	M20x1.5	605	14(4x)
DVCI-S 630	1315	1130	600	939	8xM6	939	750	M20x1.5	605	14(4x)

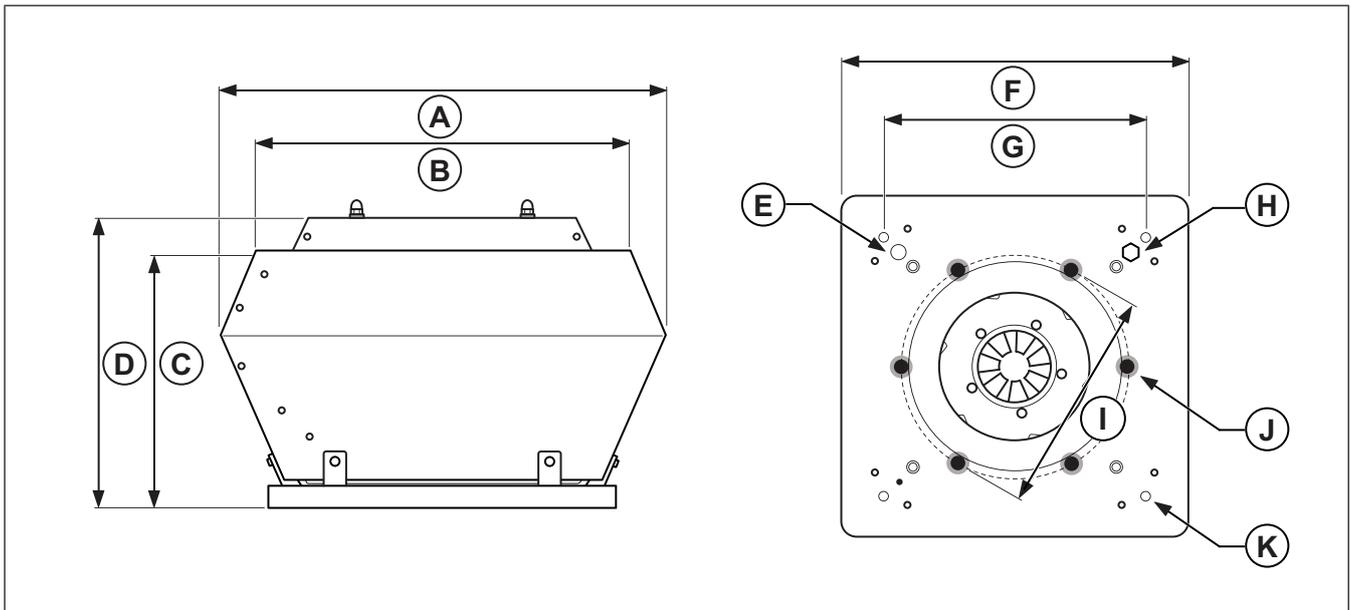
12.2.4 Product dimensions DVC-P fans and DVCI-P fans

Note:

If the unit of measure is not specified, the dimensions are given in millimetres.



	A	B	C	D	E	F	G	ØH	I	ØJ	K
DVC-P 190	464	176	370	322	336	M16-x1.5	M16-x1.5	213	6xM6	10(4x)	245
DVC-P 225	464	176	370	322	336	M16-x1.5	M16-x1.5	213	6xM6	10(4x)	245
DVCI-P 190	580	210	498	441	336	M16-x1.5	M16-x1.5	213	6xM6	10(4x)	245
DVCI-P 225	589	210	498	441	336	M16-x1.5	M16-x1.5	213	6xM6	10(4x)	245



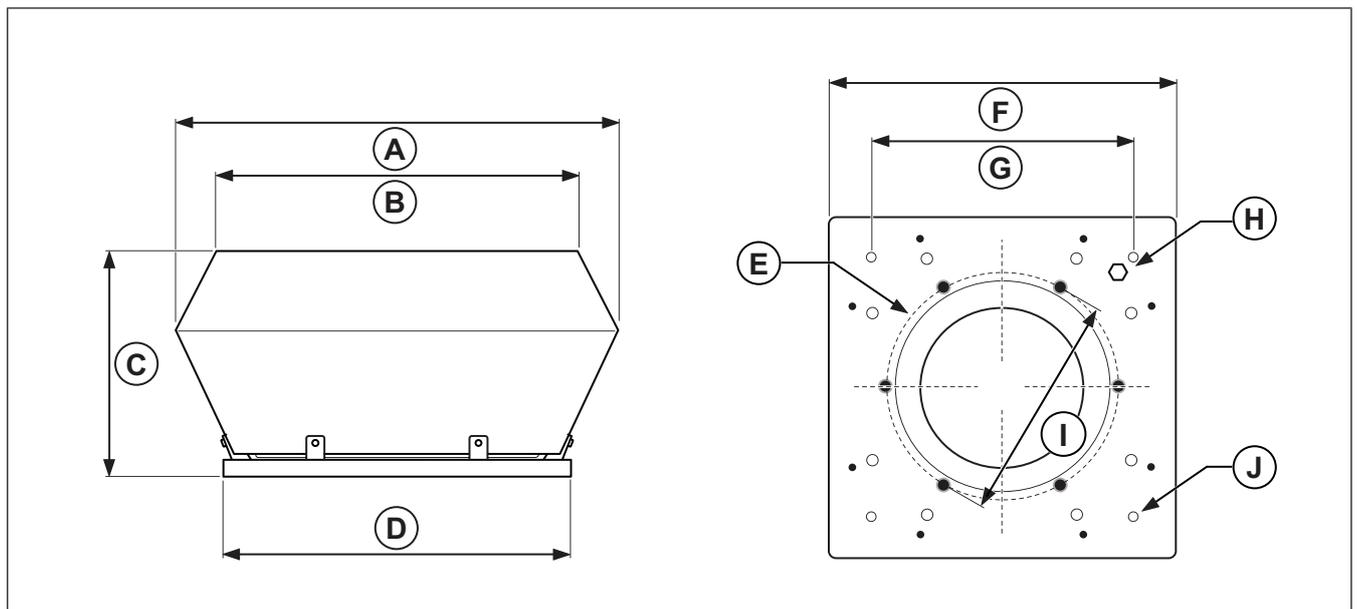
	A	B	C	D	E	F	G	H	ØI	J	ØK
DVC-P 315	560	470	330	378	M20-x1.5	435	330	M20-x1.5	285	6xM8	10(4x)
DVC-P 355	723	623	330	438	M20-x1.5	595	450	M20-x1.5	438	6xM8	12(4x)

	A	B	C	D	E	F	G	H	ØI	J	ØK
DVC-P 400	723	623	390	454	M20-x1.5	595	450	M20-x1.5	438	6xM8	12(4x)
DVC-P 450	903	730	467	516	M20-x1.5	665	535	M20-x1.5	438	6xM8	12(4x)
DVC-P 500	903	730	467	516	M20-x1.5	665	535	M20-x1.5	438	6xM8	12(4x)
DVC-P 560	1150	960	565	565	M20-x1.5	939	750	M20-x1.5	605	8xM8	14(4x)
DVC-P 630	1150	960	565	565	M20-x1.5	939	750	M20-x1.5	605	8xM8	14(4x)
DVC-P 710	1350	1185	660	660	M20-x1.5	1035	840	M20-x1.5	674	8xM8	14(4x)
DVCI-P 315	695	584	370	378	M20-x1.5	435	330	M20-x1.5	285	6xM8	10(4x)
DVCI-P 355	877	745	440	439	M20-x1.5	595	450	M20-x1.5	438	6xM8	12(4x)
DVCI-P 400	877	745	440	454	M20-x1.5	595	450	M20-x1.5	438	6xM8	12(4x)
DVCI-P 450	970	825	479	516	M20-x1.5	665	535	M20-x1.5	438	6xM8	12(4x)
DVCI-P 500	970	825	479	516	M20-x1.5	665	535	M20-x1.5	438	6xM8	12(4x)
DVCI-P 560	1315	1130	600	600	M20-x1.5	939	750	M20-x1.5	605	8xM8	14(4x)
DVCI-P 630	1315	1130	600	600	M20-x1.5	939	750	M20-x1.5	605	8xM8	14(4x)
DVCI-P 710	1483	1261	730	730	M20-x1.5	1035	840	M20-x1.5	674	8xM8	14(4x)

12.2.5 Product dimensions DVC-POC fans and DVCI-POC fans

Note:

If the unit of measure is not specified, the dimensions are given in millimetres.

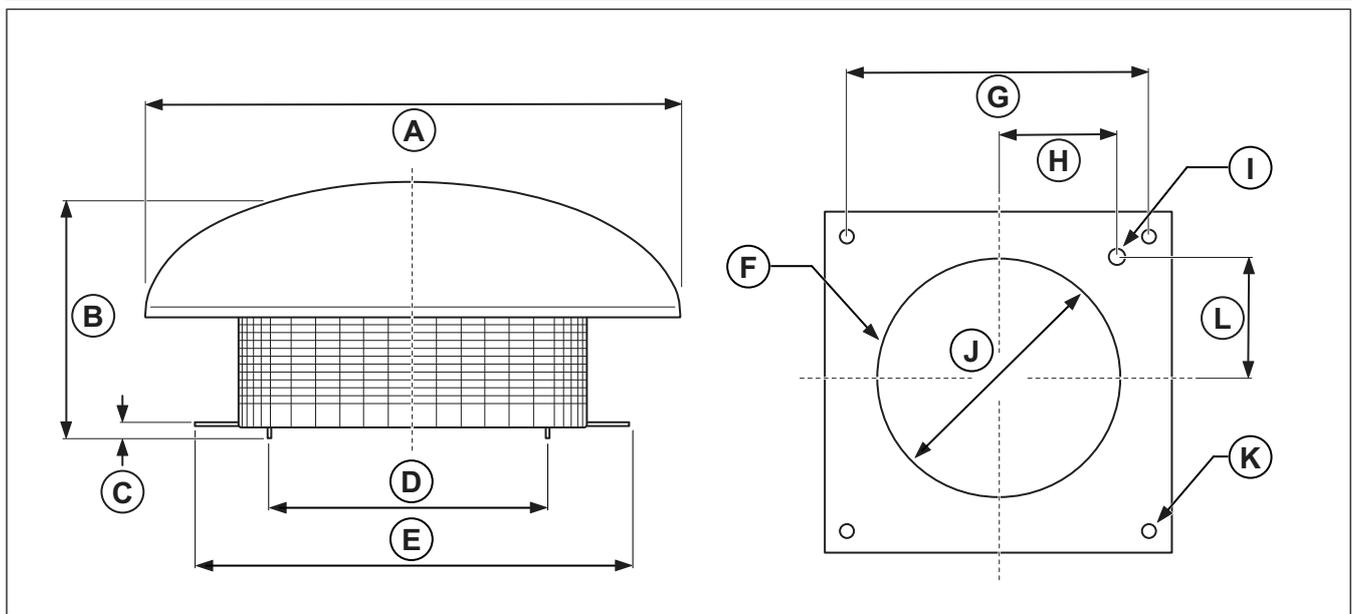


	A	B	C	D	E	F	G	H	ØI	ØJ
DVC-POC 315	560	470	406	435	6xM8	435	330	M20-x1.5	285	10(4x)
DVC-POC 355	723	623	454	595	6xM8	595	450	M20-x1.5	438	12(4x)
DVC-POC 400	723	623	454	595	6xM8	595	450	M20-x1.5	438	12(4x)
DVC-POC 450	900	730	530	665	6xM8	665	535	M20-x1.5	438	12(4x)
DVC-POC 500	900	730	465	665	6xM8	665	535	M20-x1.5	438	12(4x)
DVC-POC 710	1350	1185	660	1035	8xM8	1035	840	M20-x1.5	674	14(4x)
DVCI-POC 315	695	585	393	435	6xM8	435	330	M20-x1.5	285	10(4x)
DVCI-POC 355	877	745	454	595	6xM8	595	450	M20-x1.5	438	12(4x)
DVCI-POC 400	877	745	454	595	6xM8	595	450	M20-x1.5	438	12(4x)
DVCI-POC 450	970	825	530	665	6xM8	665	535	M20-x1.5	438	12(4x)
DVCI-POC 500	970	825	530	665	6xM8	665	535	M20-x1.5	438	12(4x)
DVCI-POC 710	1483	1231	730	1035	8xM8	1035	840	M20-x1.5	674	14(4x)

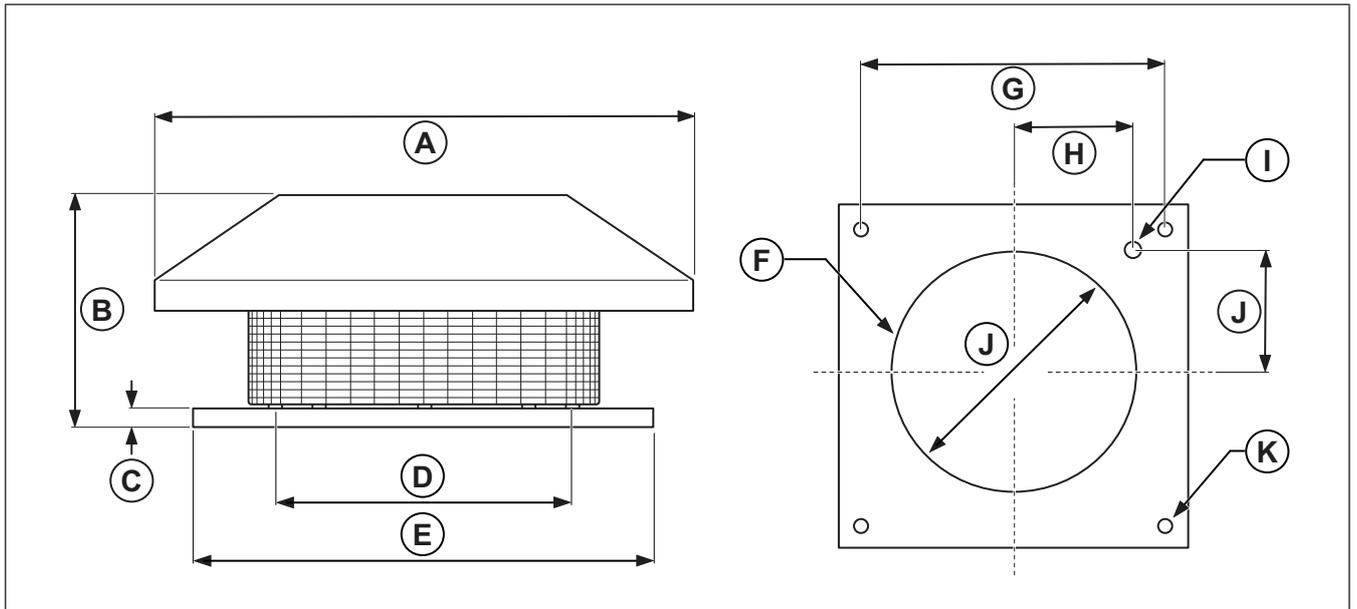
12.2.6 Product dimensions DHS fans

Note:

If the unit of measure is not specified, the dimensions are given in millimetres.



	ØA	B	C	ØD	E	F	G	H	I	ØJ	ØK (4x)	L
DHS 190	417	150	30	213	355	6xM6	245	105	M20-x1.5	213	10	105
DHS 225	417	150	30	213	355	6xM6	245	105	M20-x1.5	213	10	105
DHS 310	540	250	30	285	435	6xM6	330	146	M20-x1.5	285	10	146
DHS 311	540	250	30	285	435	6xM6	330	146	M20-x1.5	285	10	146
DHS 315	540	250	30	285	435	6xM6	330	146	M20-x1.5	285	10	146
DHS 355	720	330	30	438	595	6xM8	450	200	M20-x1.5	438	12	200
DHS 400	720	330	30	438	595	6xM8	450	200	M20-x1.5	438	12	200
DHS 450	830	490	30	438	665	6xM8	535	327	M20-x1.5	438	12	237
DHS 500	830	490	30	438	665	6xM8	535	327	M20-x1.5	438	12	237



	ØA	B	C	ØD	E	F	G	H	I	ØJ	ØK (4x)	L
DHS 560	1100	535	30	605	939	8xM8	750	605	M20-x1.5	213	14	293
DHS 630	1100	535	30	605	939	8xM8	750	605	M20-x1.5	213	14	293
DHS 710	1282	580	30	674	1035	8xM8	840	674	M20-x1.5	285	14	320

12.3 Wiring diagrams

Abbreviation in wiring diagram	Cable colour
RD	Red
YE	Yellow
BU	Blue
WH	White
GN	Green
BN	Brown
BK	Black
GR	Grey
GY	Green/Yellow

12.3.1 Wiring diagrams for DVN fans and DVNI fans AC

DVN fans	DVNI fans	1-phase 230 V
DVN 355 E4	DVNI 355 E4	<p>Motor turns clockwise</p> <p>Motor turns counterclockwise</p>
DVN 355 EV SA	DVNI 355 EV SA	
DVN 400 E4	DVNI 400 E4	
DVN 450 E4	DVNI 450 E4	

DVN fans	DVNI fans	3-phase 230 V	3-phase 400 V
DVN 355 D4	DVNI 355 D4	<p>Delta connection</p>	<p>Star connection</p>
DVN 355 D6	DVNI 355 D6		
DVN 355 DV SA	DVNI 355 DV SA		
DVN 400 D4	DVNI 400 D4		
DVN 400 D4	DVNI 400 D4		
DVN 400 D4 SA	DVNI 400 D4 SA		
DVN 450 D4	DVNI 450 D4		
DVN 450 D4 SA	DVNI 450 D4 SA		
DVN 500 D4	DVNI 500 D4		
DVN 500 D6	DVNI 500 D6		
DVN 560 D4 SA	DVNI 560 D4 SA		
DVN 560 D6	DVNI 560 D6		
DVN 560 D4	DVNI 560 D4		

12.3.2 Wiring diagrams for DVS fans, DVSI fans and DHS fans AC

DVS fans	DVSI fans	DHS fans	1-phase 230 V
DVS 190 EZ	DVSI 190 EZ	DHS 190 EZ	
DVS 225 EV**1	DVSI 225 EV**1	DHS 225 EV**1	
DVS 225 EZ	DVSI 225 EZ	DHS 225 EZ	
DVS 310 EV	DVSI 310 EZ	DHS 310 EV	
DVS 311 ES	DVSI 311 ES	DHS 311 EV	
DVS 311 EV	DVSI 311 EV	DHS 311 E4 SA	
DVS 315 E4 SA	DVSI 315 E4 SA		

1. ** after the product name means that the product is sold outside EU.

DVS fans	DVSI fans	1-phase 230 V
DVS 355 E4	DVSI 355 E4	
DVS 355 E4 SA	DVSI 355 E4 SA	

DVS fans	DVSI fans	DHS fans	1-phase 230 V
DVS 400 E4	DVSI 400 E4	DHS 400 E4	
DVS 450 E4 SA	DVSI 450 E4 SA	DHS 400 E4 SA	
DVS 450 E4	DVSI 450 E4	DHS 450 E6	
DVS 450 E6	DVSI 450 E6	DHS 450 EV	
DVS 450 EV	DVSI 450 EV		

DVS fans	DVSI fans	DHS fans	1-phase 230 V
DVS 400 E6	DVSI 400 E6	DHS 400 E6	
DVS 500 E4	DVSI 500 E4		
DVS 500 E6	DVSI 500 E6		

DVS fans	DVSI fans	DHS fans	3-phase 400 V
DVS 311 DV	DVSI 311 DV	DHS 311 DV	<p>Delta connection</p> <p>Star connection</p>
DVS 355 DV	DVSI 355 DV	DHS 400 DS	
DVS 400 DS	DVSI 400 DS	DHS 400 DV	
DVS 400 DV	DVSI 400 DV	DHS 450 DV	
DVS 450 DV	DVSI 450 DZ	DHS 500 DS	
DVS 500 D4 SA	DVSI 500 D4 SA		
DVS 500 DS	DVSI 500 DS		
DVS 500 DV	DVSI 500 DV		
DVS 560 DS	DVSI 560 DS		
DVS 560 DV	DVSI 560 DV		
DVS 630 DS	DVSI 630 DS		
DVS 630 DV	DVSI 630 DV		
DVS 710 DS	DVSI 710 DS		
DVS 710 DV	DVSI 710 DV		

DVS fans	DVSI fans	3-phase 380 V
DVS 400 D4	DVSI 400 D4	<p>Star connection</p>
DVS 450 D4	DVSI 450 D4	

12.3.3 Wiring diagrams for DVN fans and DVNI fans EC

Note:

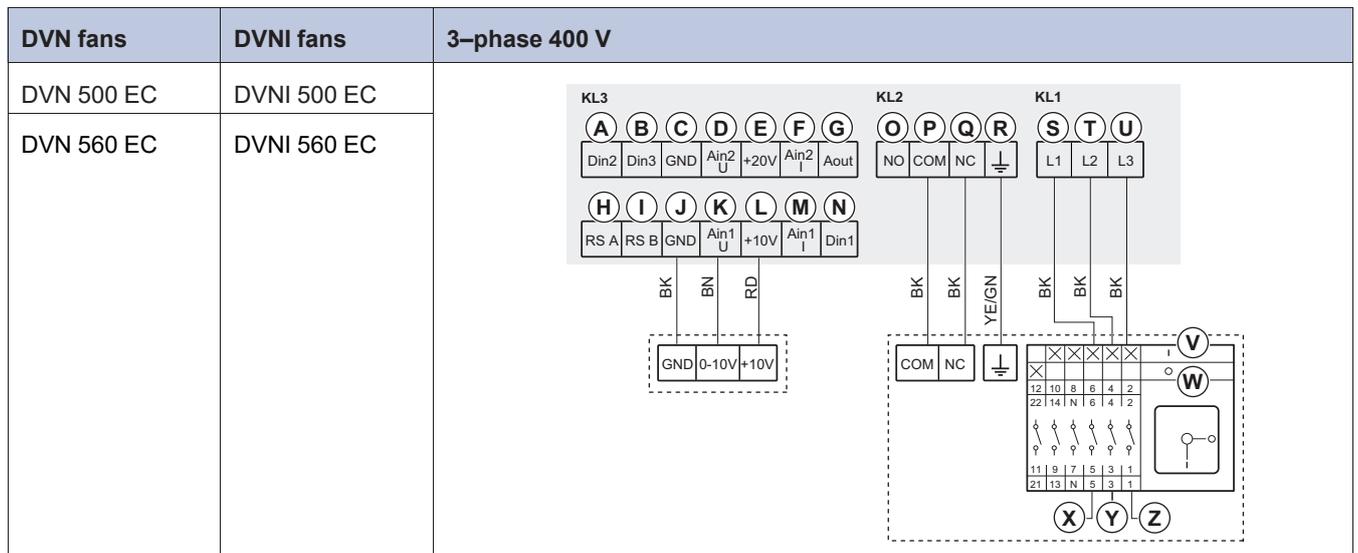
The wiring diagrams show connection possibilities for different speed control options. The available speed control options are explained in the list that follows each wiring diagram.

DVN fans	DVNI fans	1-phase 230 V
DVN 355 EC	DVNI 355 EC	
DVN 400 EC	DVNI 400 EC	

- A. Mains supply, phase (Section 1)
- B. Neutral (Section 1)
- C. Earth (Section 1)
- D. Alarm relay, COMMON (Section 1)
- E. Alarm relay, brake for failure (Section 1)
- F. Voltage output +10 V max. 1.1 mA (Section 2)
- G. Control output (impedance 100 k Ω) (Section 2)
- H. Ground (Section 2)
- I. Netz Line 1~230 V, 50/60 Hz (1), (Section 1)
- J. Netz Line 1~230 V, 50/60 Hz (3) (Section 1)
- K. Off (Section 1)
- L. On (Section 1)

DVN fans	DVNI fans	1-phase 230 V
DVN 450EC-K	DVNI 450EC-K	

- A. RS485 interface for ebmBUS; RS A (KL3)
- B. RS485 interface for ebmBUS; RS B (KL3)
- C. RS485 interface for ebmBUS; RS A (KL3)
- D. RS485 interface for ebmBUS; RS B (KL3)
- E. Ground (KL3)
- F. Control/actual value input (KL3)
- G. Control/actual value input (KL3)
- H. Supply for external sensor, 20 VDC ($\pm 20\%$) max. 50 mA (KL3)
- I. Supply for external potentiometer, 10 VDC (+10%) max. 10 mA (KL3)
- J. Control/actual value input (impedance 100 k Ω) (KL3)
- K. Ground (KL3)
- L. Master output 0–10 V max. 3 mA (KL3)
- M. Alarm relay, make for failure (KL2)
- N. Alarm relay, COMMON (2A, 250 VAC, AC1) (KL2)
- O. Alarm relay, break for failure (KL2)
- P. Mains supply phase L1 (KL1)
- Q. Mains supply phase L2 (KL1)
- R. Mains supply phase L3 (KL1)
- S. Earth (KL1)
- T. On (KL1)
- U. Off (KL1)
- V. Netz Line 3~400 V, 50/60 Hz (1) (KL1)
- W. Netz Line 3~400 V, 50/60 Hz (3) (KL1)
- X. Netz Line 3~400 V, 50/60 Hz (5) (KL1)



- A. Digital input 2 (switch day/night). The preset set of parameters can be selected via BUS or via digital. (KL3)
 - Day: Pin open or applied voltage 5...50 VDC
 - Night: Bridge to GND or applied voltage <1 VDC
- B. Digital input 3 (switch normal/inverse). The preset effective direction of the integrated controller can be selected via BUS or via digital input Normal/Inverse. (KL3)
 - Normal: Pin open or applied voltage 5...50 VDC
 - Inverse: Bridge to GND or applied voltage <1 VDC
- C. Ground (KL3)
- D. Analogue actual value input, 0–10 V (impedance 100Ω). Only to be used as alternative to terminal Ain2 I. (KL3)
- E. Supply for external sensor, 20 VDC (+25%/-10%) max. 50 mA (KL3)
- F. Analogue actual value input, 4–20 mA (impedance 100 Ω). Only to be used as alternative to terminal Ain2 U. (KL3)
- G. Analogue output 0–10 V max. 5 mA, regarding of current motor speed/current motor control factor (KL3)
- H. RS485 interface for MOBUS RTU; RS A (KL3)
- I. RS485 interface for MOBUS RTU; RS B (KL3)
- J. Ground (KL3)
- K. Analogue set value input, 0–10 V (impedance 100 Ω). Only to be used as alternative to terminal Ain1 I. (KL3)
- L. Supply for external potentiometer, 10 VDC (±3%) max. 10 mA (KL3)
- M. Analogue set value input, 4–20 V (impedance 100 Ω). Only to be used as alternative to terminal Ain1 U. (KL3)
- N. Digital input 1 (on/off of electronics) (KL3)
 - On: Pin open or applied voltage 5...50 VDC
 - Off: Bridge to GND or applied voltage <1 VDC
- O. Alarm relay, make for failure (KL2)
- P. Alarm relay, COMMON (2A, 250 VAC, AC1) (KL2)
- Q. Alarm relay, break for failure (KL2)
- R. Earth (KL2)
- S. Mains supply phase L1 (KL1)
- T. Mains supply phase L2 (KL1)
- U. Mains supply phase L3 (KL1)
- V. On (KL1)
- W. Off (KL1)
- X. Netz Line 3~400 V, 50/60 Hz (5) (KL1)
- Y. Netz Line 3~400 V, 50/60 Hz (3) (KL1)
- Z. Netz Line 3~400 V, 50/60 Hz (1) (KL1)

12.3.4 Wiring diagrams for DVC-S fans and DVCI-S fans EC

Note:

The wiring diagrams show connection possibilities for different speed control options. The available speed control options are explained in the list that follows each wiring diagram.

DVC-S fans	DVCI-S fans	1-phase 230 V
DVC 190E-S EC	DVCI 190E-S EC	
DVC 225E-S EC	DVCI 225E-S EC	
DVC 315E-S EC	DVCI 315E-S EC	

- A. Connection for maximum speed
- B. Connection for adjustable speed using an external potentiometer:
- 10 V > n = maximum
 - 1 V > n = minimum
 - <1 V > "n = fan stops
- C. Connection for adjustable speed via PWM (pulse with modulation) (1–10 kHz):
- 100% PWM > n*maximum
 - 10% PWM > n*minimum
 - <10% PWM > n = 0
- D. I_{max} (maximum current) = 10 mA
- E. Connection if using internal potentiometer (B)

DVC-S fans	DVCI-S	1-phase 230 V
DVC 355E-S EC	DVCI 355E-S EC	
DVC 400E-S EC	DVCI 400E-S EC	
DVC 450E-SK EC	DVCI 450E-SK EC	

- A. Error signal relay/alarm
- B. 0-10 V potentiometer, pre-wired:
- 10 V > n = maximum
 - 1 V > n = minimum
 - <1 V > "n = fan stops
- C. Optional external 0-10 V speed control

DVC-S fans	DVCI-S	3-phase 380–480 V
DVC 450D–S EC	DVCI 450D–S EC	
DVC 500D–S EC	DVCI 500D–S EC	

- A. Error signal relay/alarm
- B. 0-10 V potentiometer, pre-wired:
 - 10 V > n = maximum
 - 1 V > n = minimum
 - <1 V > "n = fan stops
- C. Optional external 0-10 V speed control

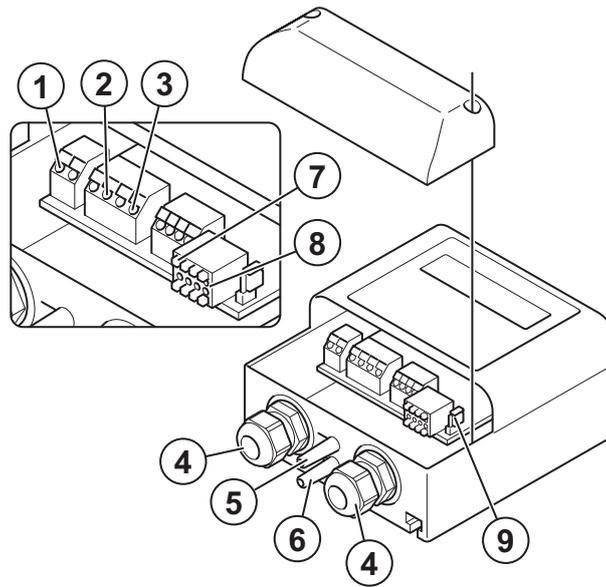
DVC-S fans	DVCI-S	3-phase 400 V
DVC 560D–S EC	DVCI 560D–S EC	
DVC 630D–S EC	DVCI 630D–S EC	

- A. Terminal box with connected potentiometer

12.3.5 Wiring diagrams for fans with pressure controller

DVC-P fans	DVCI-P fans	DVC-POC fans	DVCI-POC fans	
DVC D-P	DVCI D-P	DVC-POC	DVCI-POC	Refer to the separate instruction manual for wiring diagrams and controller instructions that are included in the delivery of fans that are delivered with a pressure controller.
DVC E-PK	DVCI E-PK			
DVC E-P	DVCI E-P			

Pressure controller overview



1. Signal relay (terminals: 13, 14)
2. Supply voltage (terminals: U_s , GND)
3. Output signal 0...10 V (terminals: A, GND)
4. Cable gland M16
5. "Minus" — connection in areas with lower pressure
6. "Plus" + connection in areas with higher pressure
7. Digital input D1 (terminals: 1, 2)
8. Input outdoor temperature sensor (terminals: TF, TF)
9. MODBUS interface (terminals: GND, A, B, ID1, ID2 and jumper J1)

12.3.6 Wiring diagrams for speed controller for AC motors

Note:

The selection of electrical accessories must be done in line with the technical parameters of the product.

RE	
Manual 5-step transformer.	<div style="text-align: center;"> <p>RE 1,5 RE 3 RE 5 RE 7</p> </div>

- A. Relay connection. There is always 230 V between ~ and N when the transformer knob is in one of the positions 1–5.
- B. Mains supply
- C. Earth
- D. Fan

REE — Thyristor	
REE 1 and REE 2 - Surface mounting or with flush mounting casing included.	
REE 4 - Surface mounting.	
Note:	
Starting currents must be considered when you select the speed controller type. Products that are used with this speed controller must have a built-in overheating protection and must be designed for thyristor speed control.	

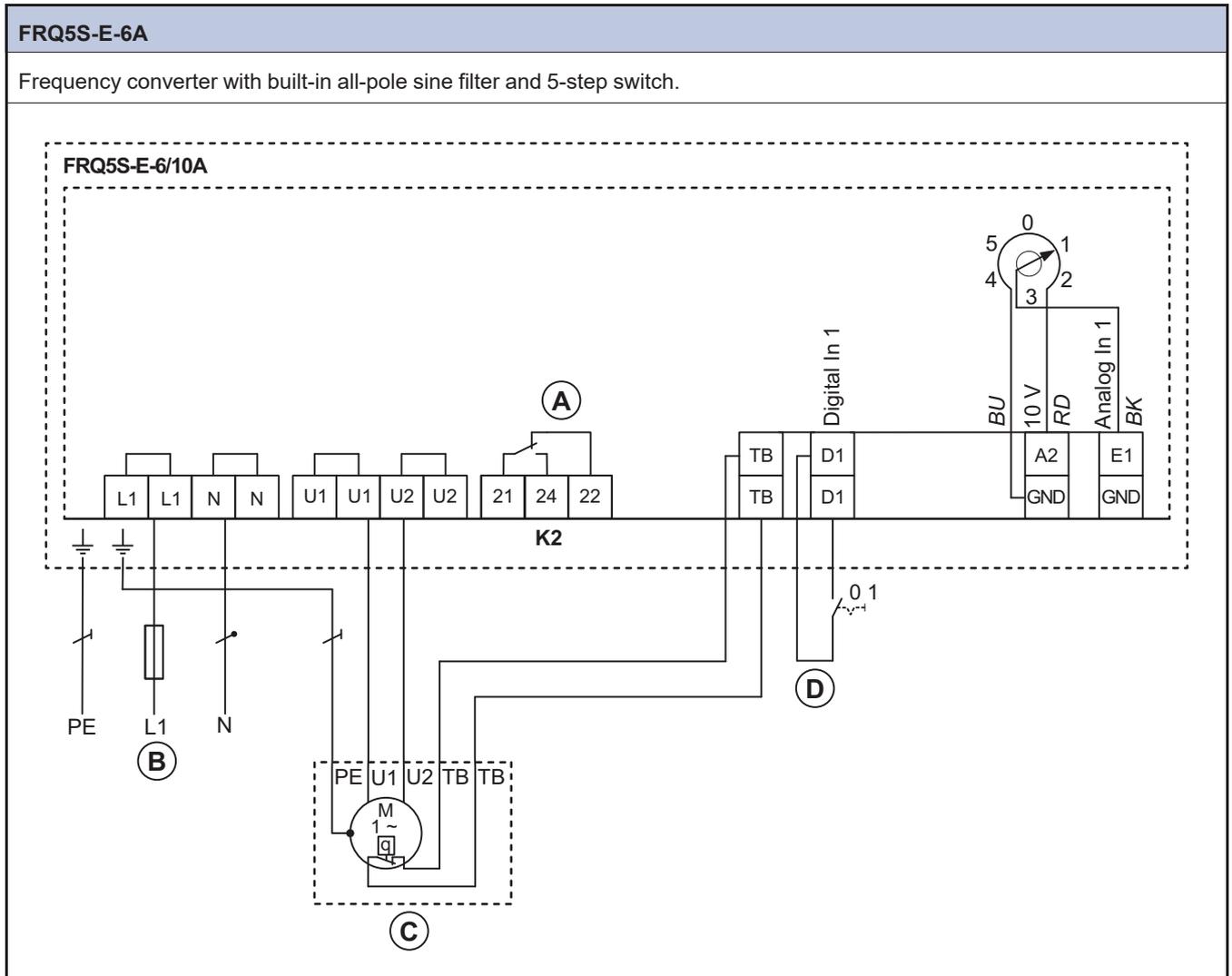
- L: the connection with cutting function on the speed control.
- (L): the connection without cutting function.

REU	
Manual 5-step transformer for high/low speed operation. Used together with a change-over contact, for example a timer or a thermostat.	

1. External change-over contact
 2. Left selector switch
 3. Right selector switch
- A. Fan
B. Earth
C. Mains supply

RTRE	
Manual 5-step transformer with motor protection.	

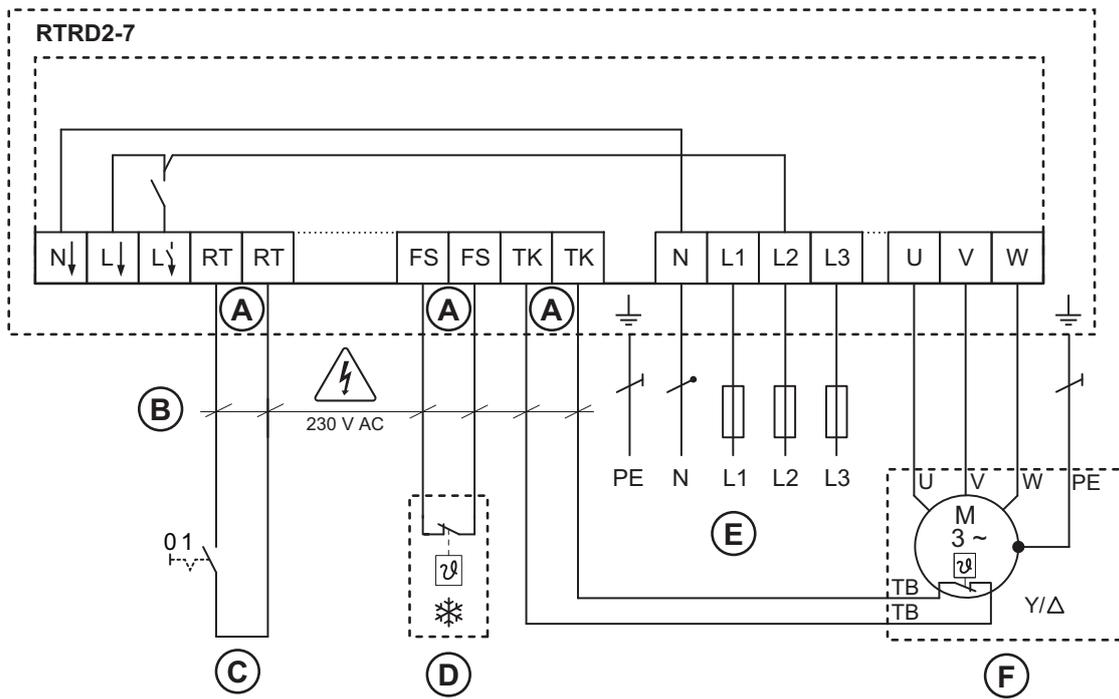
- A. Relay connection. There is always 230 V between ~ and N when the transformer knob is in one of the positions 1–5.
- B. Mains supply
- C. Earth
- D. Fan
- E. Thermostat
- F. Motor protection. If the motor protection is not in use, Tk must be looped together.



- A. Contact rating, maximum AC 250 V/2 A
- B. Mains supply, 1-phase 208...277 V, 50/60 Hz
- C. Motor with internal thermal contacts
- D. OFF/ON

RTRD

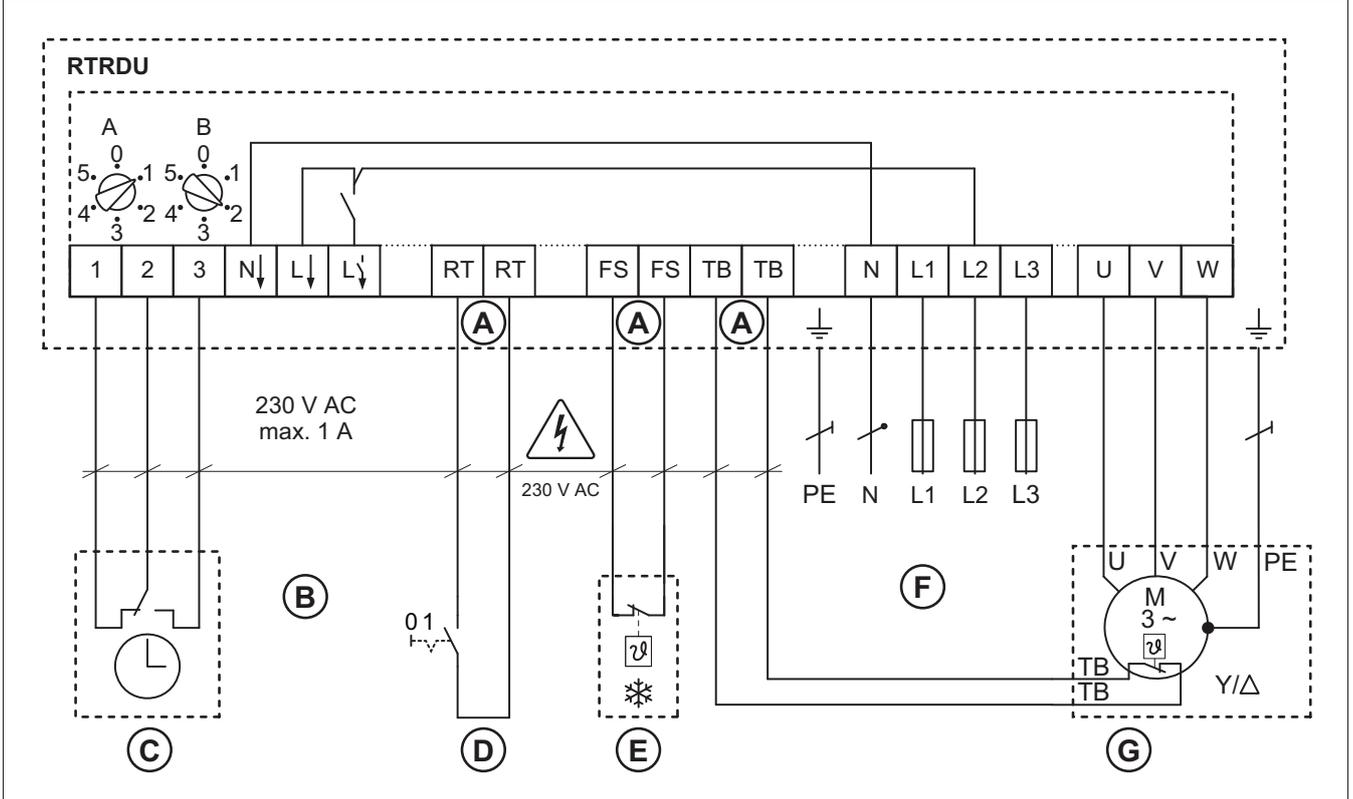
A 3-phase transformer that controls the fan speed by altering the supply voltage in five fixed steps. The steps are adjusted by using the control knob on the front of the unit.



- A. If the function is not necessary, the terminals must be bridged
- B. Contact rating, 230 V AC/maximum 1 A
- C. OFF/ON
- D. OFF/ON (only by reset)
- E. Mains supply, 3-phase 400 V 50/60 Hz
- F. 3-phase motor with internal thermal contacts

RTRDU

Manual 5-step transformer with motor protection — a 3-phase transformer that controls the fan speed by altering the supply voltage in five fixed steps. The steps are adjusted by using the control knob on the front of the unit.

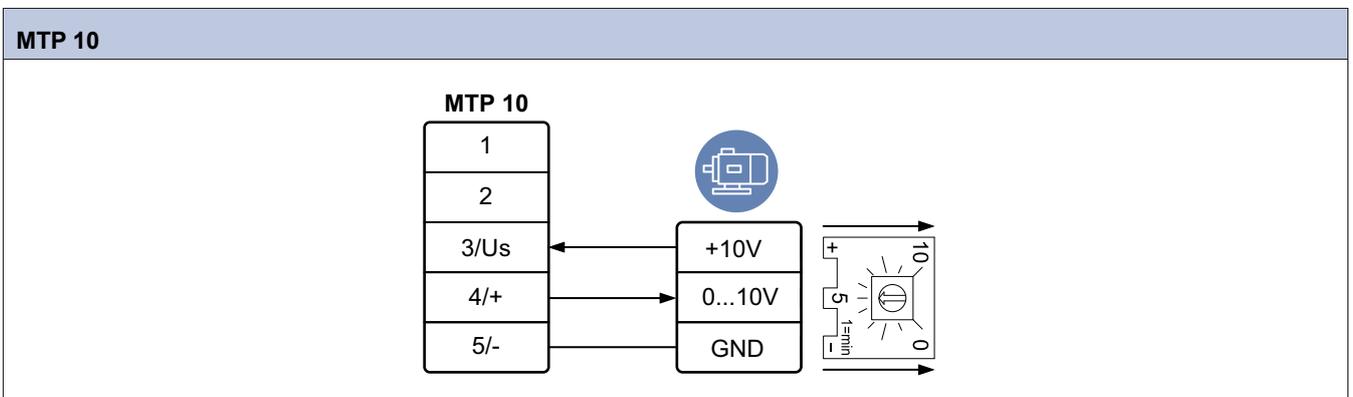


- A. If the function is not necessary, the terminals must be bridged
- B. Contact rating, 230 V AC/maximum 1 A
- C. Time switch
- D. OFF/ON
- E. OFF/ON (only by reset)
- F. Mains supply, 3-phase 400 V 50/60 Hz
- G. 3-phase motor with internal thermal contacts

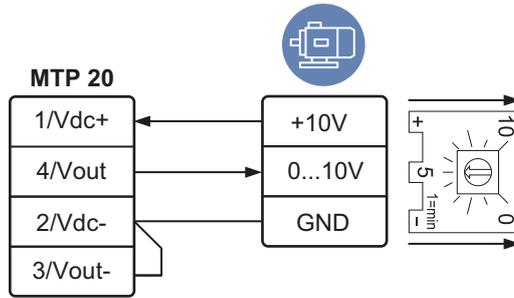
12.3.7 Wiring diagrams for speed controllers for EC motors

Note:

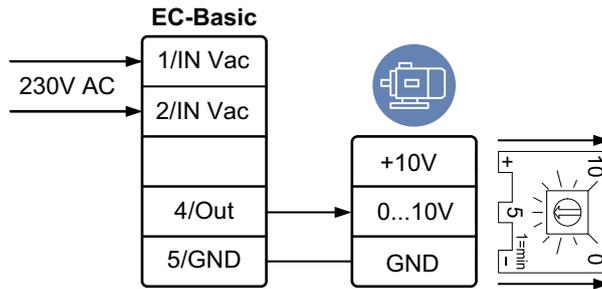
An internal potentiometer is installed on the terminal block from the factory. Remove the internal potentiometer when you use an external speed controller for the EC fan.



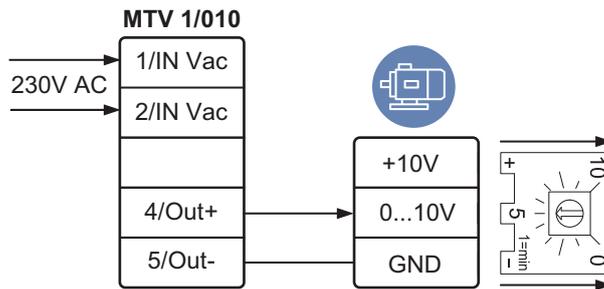
MTP 20



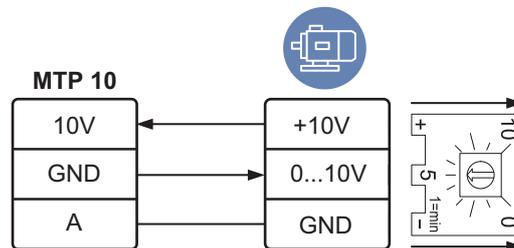
EC-Basic



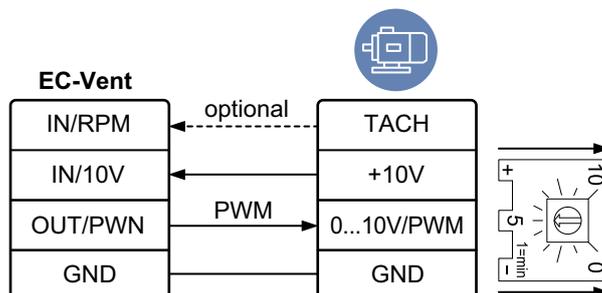
MTV-1/10



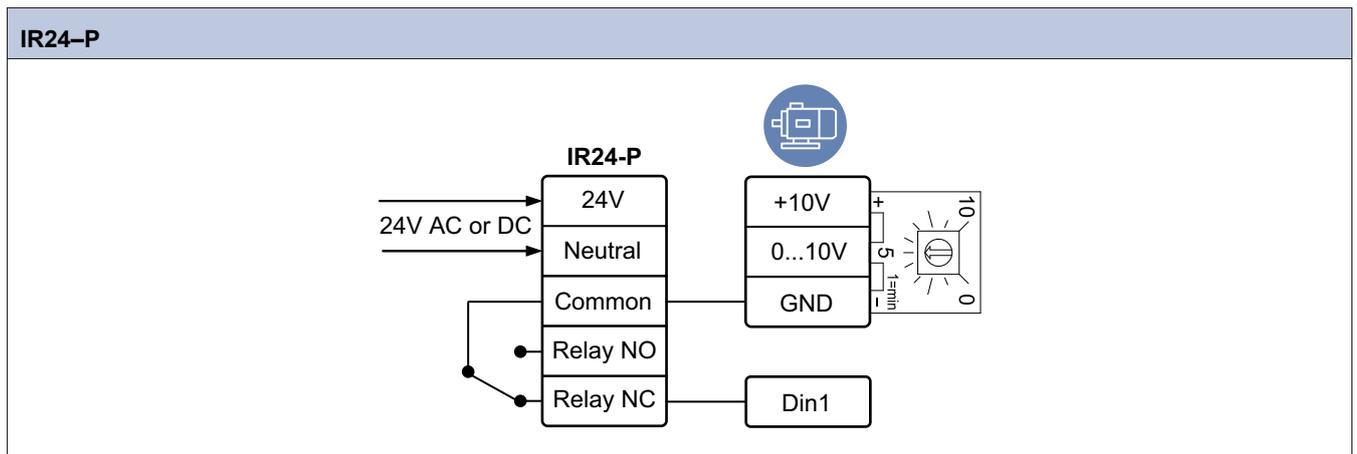
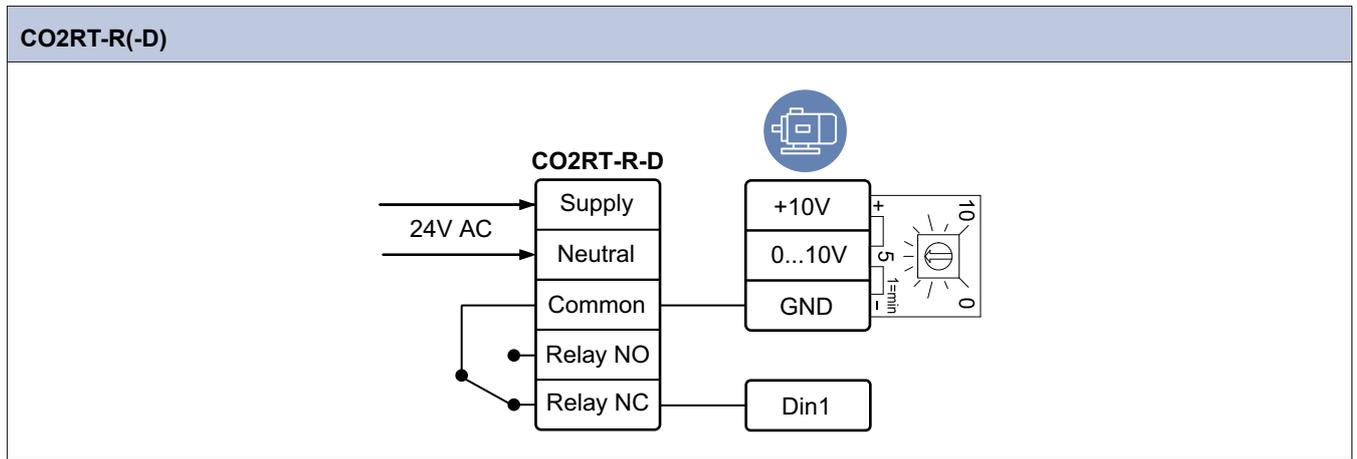
S-5EC/FRQ



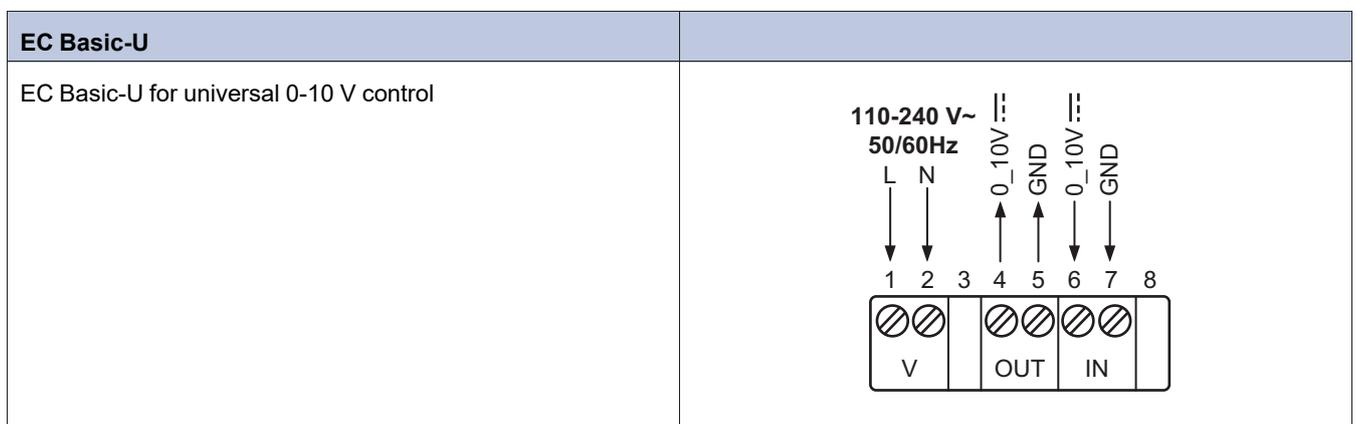
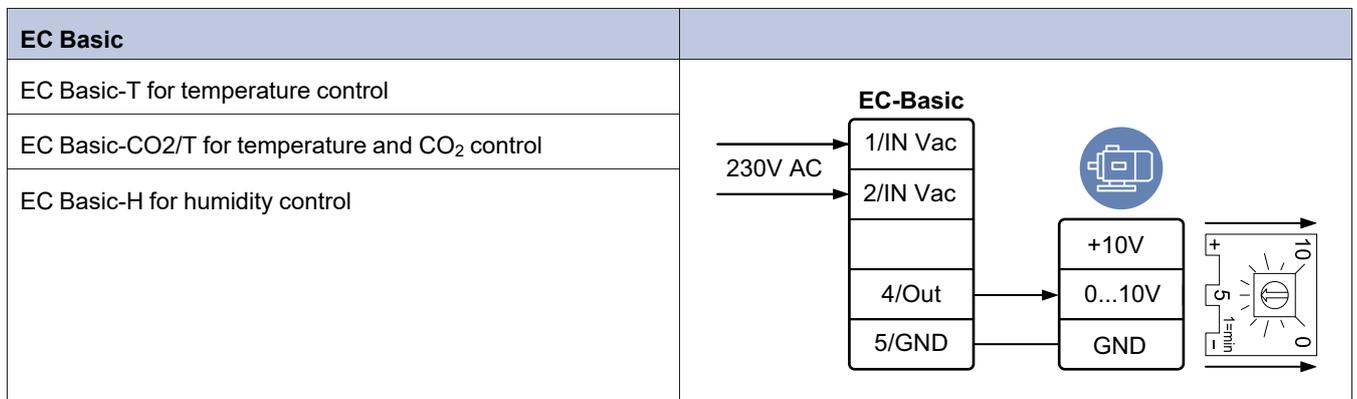
EC-Vent



12.3.8 Wiring diagrams for ON/OFF controls for EC motors



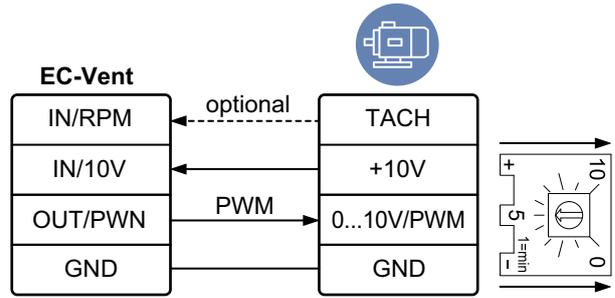
12.3.9 Wiring diagrams for demand control for EC motors



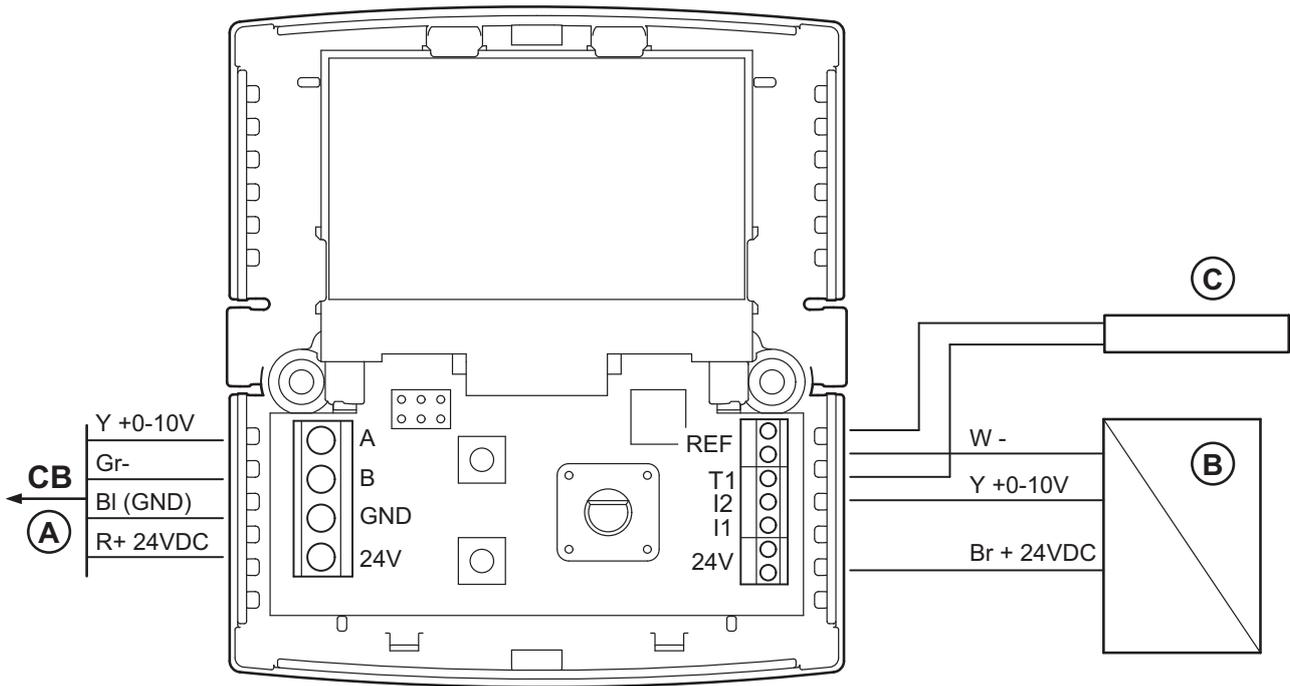
EC-Vent

Demand control for up to 5 external sensors, 2 fans, dampers, heaters and coolers.

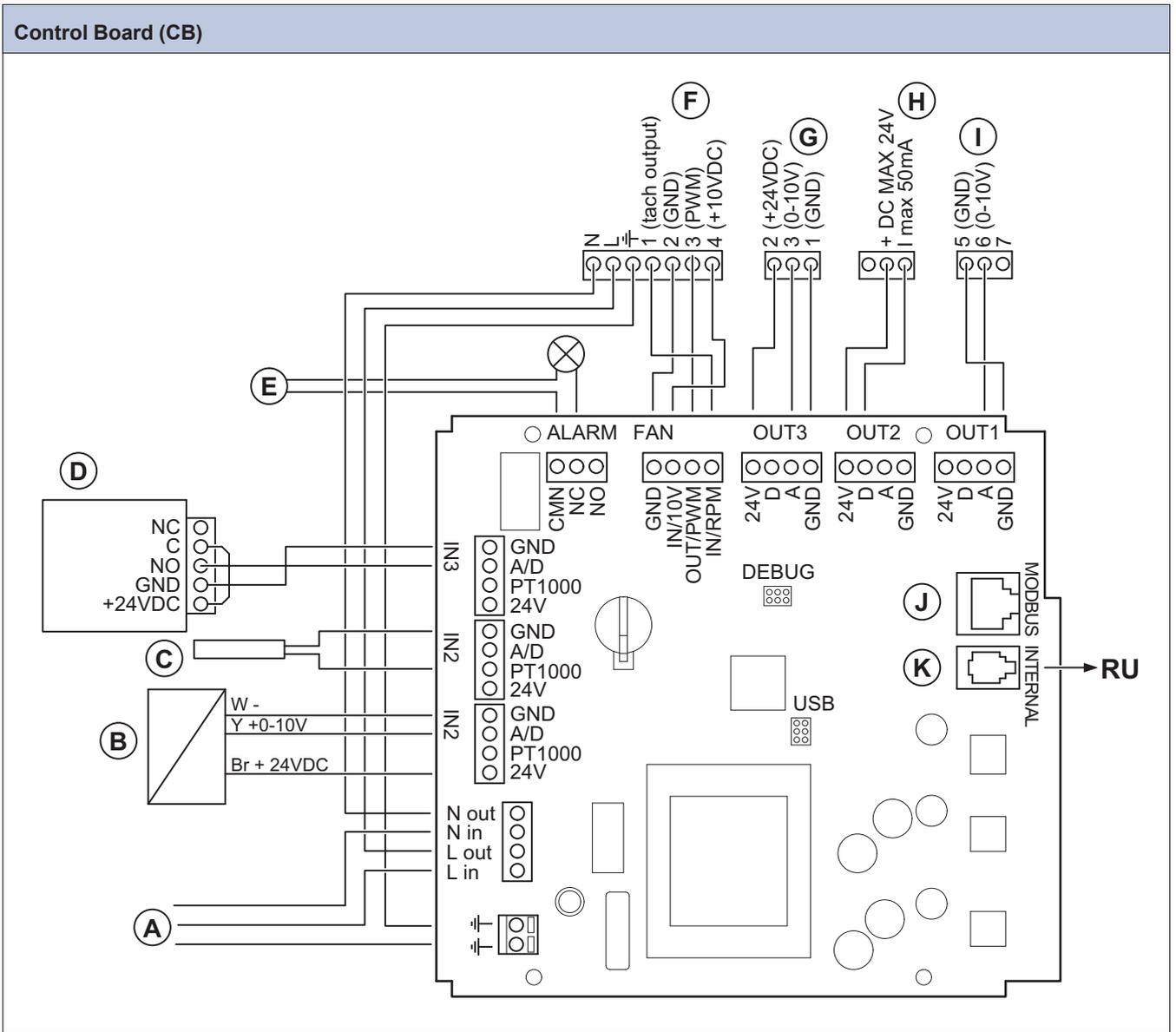
The EC vent system has 2 units. The control board (CB) and the room unit (RU). Connect the fan to the control board and remove the internal potentiometer.



Room Unit (RU)



Control Board (CB)



- A. Mains supply, 230 V 1~AC (10 A)
- B. Analogue sensor (for example, pressure sensor)
- C. Analogue sensor (for example, pressure sensor type PT1000)
- D. Digital sensor (for example, IR presence detector)
- E. Alarm output (maximum 24 V AC/DC, maximum 500 mA $\text{Cos}\phi > 0.95$)
- F. Output to EC fan
- G. Output to analogue actuator with 24 V DC supply
- H. Output to digital signal (DC, maximum 24 V, 1 maximum 50 mA)
- I. Output to analogue actuator (for example, heat regulator)
- J. Connection to Modbus
- K. Connection to room unit (RU)

MM6-24/D output signal selector

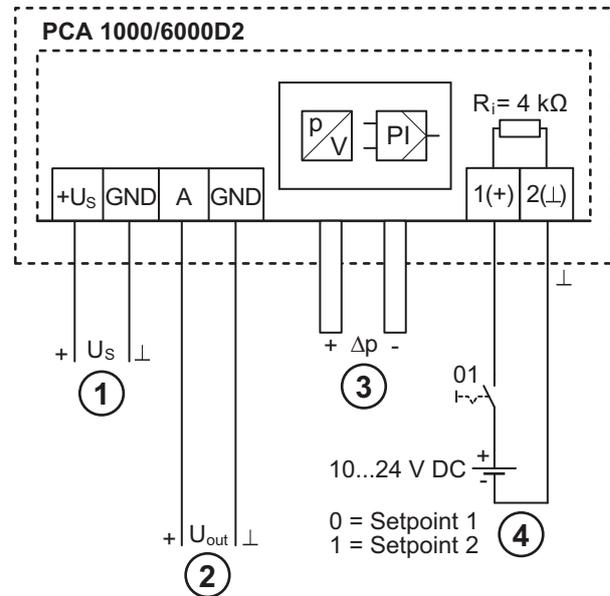
Compares signals from connected inputs and transfers the signal to the control output.

1	Input 1	0...10 V
2	Input 2	0...10 V
3	Input 3	0...10 V
4	Input 4	0...10 V
5	Input 5	0...10 V
6	Input 6	0...10 V

7	System neutral	Mains supply
8	24 V AC	
9	Signal neutral	
10	Signal neutral	
11	Output minimum	0...10V
12	Output maximum	0...10V

PCA 1000D2 Pressure controller

For constant air volume control (CAV) or variable air volume control (VAV).

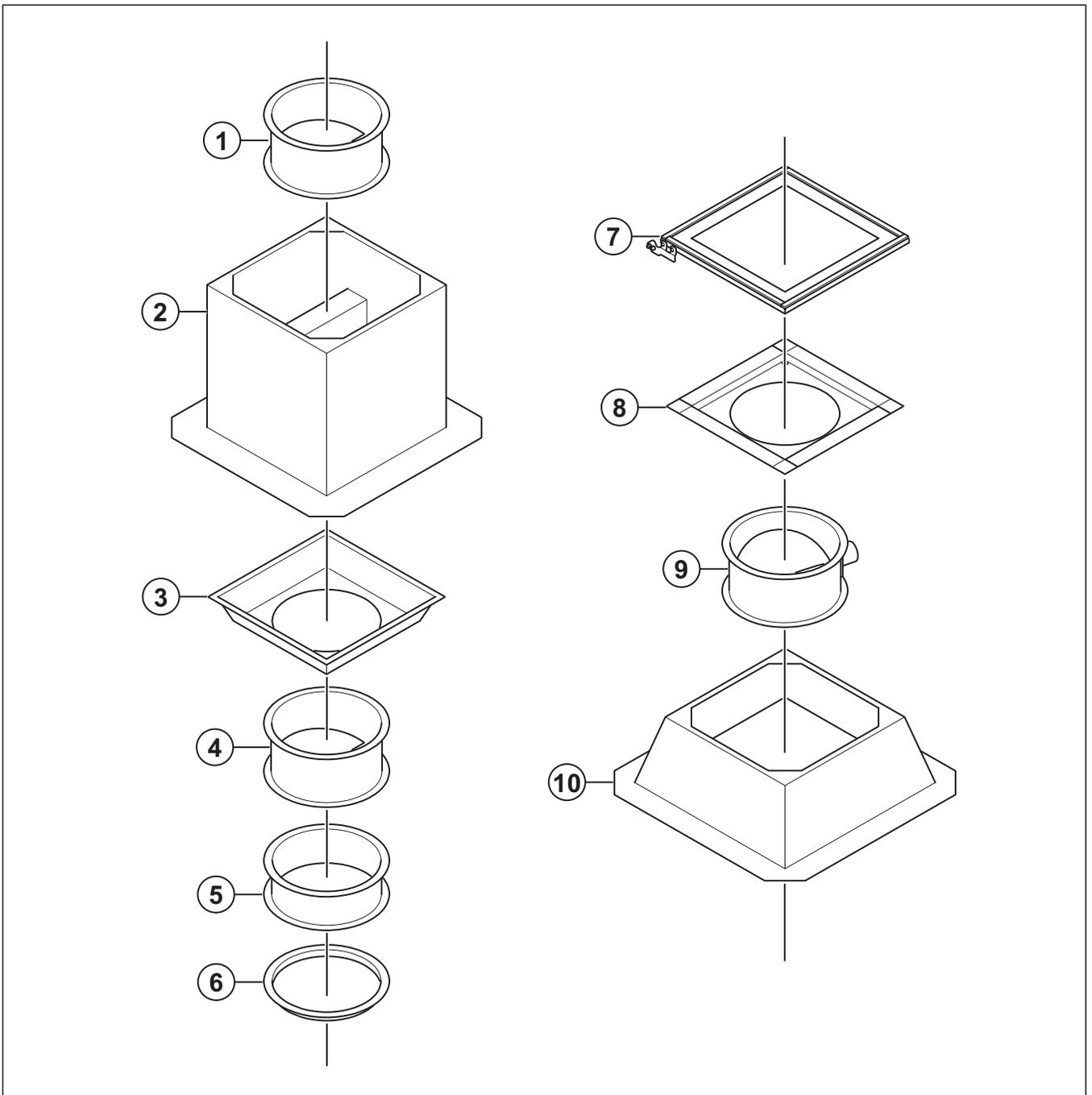


1. Mains supply 10....24 V DC
2. Output 0....10 V
3. Pressure connections
4. Voltage input for switch on Setpoint 1/Setpoint 2

13 Accessory overview

Note:

For more information about accessories, refer to www.systemair.com or speak to Systemair technical support.



- 1. VKS: Back draft damper
- 2. SSD: Roof curb
- 3. ASK: Inflow box SSD
- 4. VKS: Back draft damper
- 5. ASS: Flexible connection

- 6. ASF: Inlet flange
- 7. FTG: Tilting device
- 8. TDA: Adapter framework
- 9. VKM: Back draft damper (motor operated)
- 10. FDS: Flat roof curb

14 EU Declaration of Conformity-Roof fans

We, the manufacturer

Company	Systemair GmbH
Address	Seehöfer Straße 45 97944 Boxberg Germany

declare under our sole responsibility that the product

Product designation	Roof fans
Type/Model	DVS 190–710; DVSI 190–710; DHS 190–710; DVC 190–710; DVCI 190–710; DVP 200–400
Identification	Serial numbers dating from 2021 and onwards

fulfils all relevant provisions of the

Machinery directive	<p>2006/42/EC</p> <p>DIN EN ISO 12100:2013 Safety of machinery - General principles for design Riskassessment and risk reduction</p> <p>DIN EN 60204-1:2019-06 Safety of machinery - Electrical equipment of machines - Part 1: General requirements</p>
Directive electromagnetic compatibility (EMC)	<p>2014/30/EU</p> <p>DIN EN IEC 61000-6-1:2019-11 Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments</p> <p>DIN EN IEC 61000-6-4:2020-09 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments</p>
RoHS directive	<p>2011/65/EU</p> <p>IEC 63000:2016 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances</p>
ErP guidelines	<p>2009/125/EC</p> <p>1253/2014 Only for ventilation units above 30W</p>

Person authorized to compile the technical file:



Matthias Hennegriff
Technical Director

This declaration relates exclusively to the machinery in the state in which it was placed on the market and excludes components which are added and/or operations carried out subsequently by the final user. Boxberg, Germany 2022–04–06



Stefan Fischer
Managing Director

15 EU Declaration of Conformity-Thermo fans

We, the manufacturer

Company	Systemair GmbH
Address	Seehöfer Straße 45 97944 Boxberg Germany

declare under our sole responsibility that the product

Product designation	Thermo fans
Type/Model	AxZent; KBR; MUB/T; MUB/T-S; DVN; DVNI
Identification	Serial numbers dating from 2022 and onwards

fulfils all relevant provisions of the

Machinery directive	2006/42/EC DIN EN ISO 12100:2013 Safety of machinery - General principles for design Riskassessment and risk reduction DIN EN 60204-1:2019-06 Safety of machinery - Electrical equipment of machines - Part 1: General requirements
Directive electromagnetic compatibility (EMC)	2014/30/EU DIN EN IEC 61000-6-1:2019-11 Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments DIN EN IEC 61000-6-4:2020-09 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments
RoHS directive	2011/65/EU IEC 63000:2016 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Person authorized to compile the technical file:



Matthias Hennegriff
Technical Director

This declaration relates exclusively to the machinery in the state in which it was placed on the market and excludes components which are added and/or operations carried out subsequently by the final user. Boxberg, Germany 2022-03-29



Stefan Fischer
Managing Director

16 UKCA Declaration of Conformity-Roof fans

We, the manufacturer

Company	Systemair GmbH
Address	Seehöfer Straße 45 97944 Boxberg Germany

declare under our sole responsibility that the product

Product designation	Roof fans
Type/Model	DVS 190–710; DVSI 190–710; DHS 190–710; DVP 200–400; DVC 190–710; DVCI 190–710
Identification	Serial numbers dating from 2022 and onwards

fulfils all relevant provisions of the

Supply of Machinery (Safety) Regulations 2008	2006/42/EC DIN EN ISO 12100:2013 Safety of machinery - General principles for design Riskassessment and risk reduction DIN EN 60204-1:2019-06 Safety of machinery - Electrical equipment of machines - Part 1: General requirements
Electromagnetic Compatibility Regulations 2016	2014/30/EU DIN EN IEC 61000-6-1:2019-11 Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments DIN EN IEC 61000-6-4:2020-09 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012	2011/65/EU IEC 63000:2016 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
The Ecodesign for Energy Related Products Regulations 2010	2009/125/EC only for ventilation units above 30W

Person authorized to compile the technical file:



Matthias Hennegriff
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Stefan Fischer
Managing Director

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We, the manufacturer

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Address	Seehöfer Straße 45 97944 Boxberg Germany

declare under our sole responsibility that the product

Product designation	Thermo fans
Type/Model	AxZent; KBR; MUB/T; MUB/T-S; DVN; DVNI
Identification	Serial numbers dating from 2022 and onwards

fulfils all relevant provisions of the

Supply of Machinery (Safety) Regulations 2008	<p>2006/42/EC</p> <p>DIN EN ISO 12100:2013 Safety of machinery - General principles for design Riskassessment and risk reduction</p> <p>DIN EN 60204-1:2019-06 Safety of machinery - Electrical equipment of machines - Part 1: General requirements</p>
Electromagnetic Compatibility Regulations 2016	<p>2014/30/EU</p> <p>DIN EN IEC 61000-6-1:2019-11 Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments</p> <p>DIN EN IEC 61000-6-4:2020-09 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments</p>
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