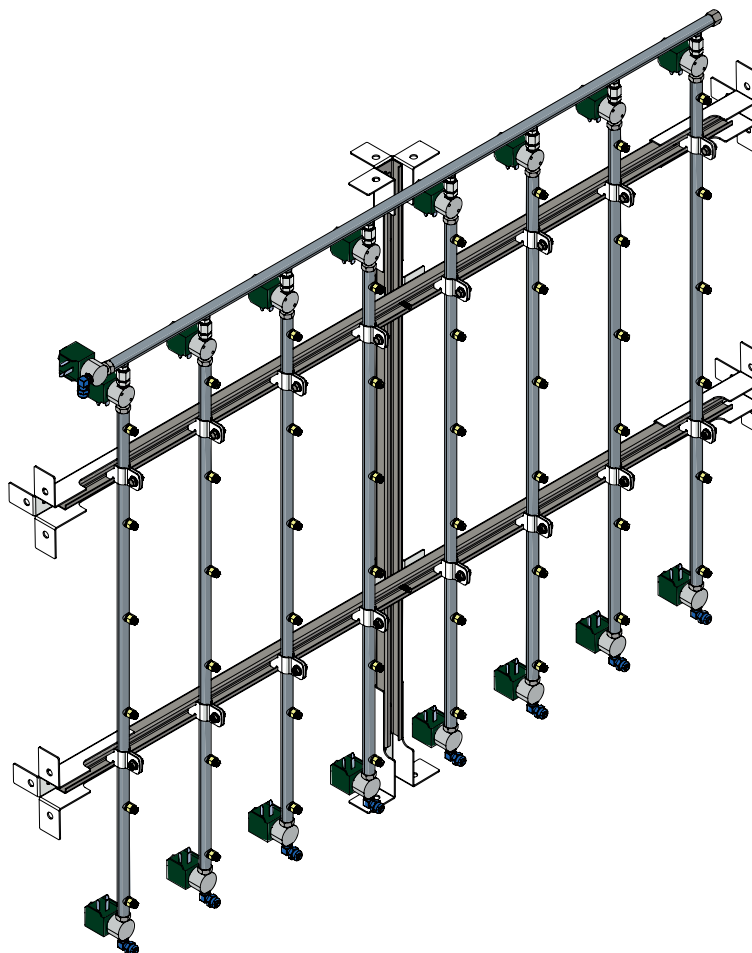




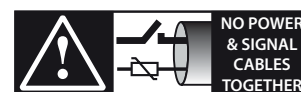
humiFog

Montaggio e installazione Rack /
Rack assembly and installation



MANUALE D'USO *USER MANUAL*

→ **LEGGI E CONSERVA
QUESTE ISTRUZIONI** ←
**READ AND SAVE
THESE INSTRUCTIONS**



**NO POWER
& SIGNAL
CABLES
TOGETHER**

READ CAREFULLY IN THE TEXT!

humiFog

+0300110IE

Up to date version available on

www.carel.com

GENERAL WARNINGS



FAILURE TO CAREFULLY HEED THE WARNINGS SHOWN IN THIS MANUAL COULD LEAD TO FIRE OR EXPLOSION AND CONSEQUENT DAMAGE TO PROPERTY, INJURY OR DEATH.

- **Do not store or use petrol or other flammable vapours and liquids in the vicinity of this or other appliances.**

IF YOU SMELL GAS:

1. **Do not attempt to switch on any appliance;**
2. **Do not touch any electrical switches; do not use telephones in the building;**
3. **Call the gas supplier immediately from a neighbour's phone. Follow the instructions given by the gas supplier;**
4. **If you cannot contact the gas supplier, call the fire brigade;**
 - **Installation and maintenance must be performed by a qualified installer, service centre or gas supplier.**

CAREL Industries humidifiers are advanced products, whose operation is specified in the technical documentation supplied with the product or can be downloaded, even prior to purchase, from the website www.carel.com. Each CAREL product, in relation to its advanced level of technology, requires setup/configuration/programming to be able to operate in the best possible way for the specific application. Failure to complete such operations, which are required/indicated in the user manual, may cause the final product to malfunction; CAREL accepts no liability in such cases. The customer (manufacturer, developer or installer of the final equipment) accepts all liability and risk relating to the configuration of the product in order to reach the expected results in relation to the specific final installation and/or equipment. CAREL may, based on specific agreements, act as a consultant for the installation/commissioning/use of the unit, however in no case does it accept liability for the correct operation of the humidifier and the final installation if the warnings or suggestions provided in this manual or in other product technical documents are not heeded. In particular, as well as observing the above warnings and suggestions, the following warnings must be observed for correct use of the product:

ELECTRIC SHOCK HAZARD: the humidifier contains live electrical components. Disconnect the mains power supply before accessing inside parts or during maintenance and installation.

WATER LEAK HAZARD: the humidifier automatically and constantly fills/drain certain quantities of water. Malfunctions in the connections or in the humidifier may cause leaks.

BURN HAZARD: the humidifier contains high temperature components and delivers steam a 100°C/ 212°F.

In the event where there is no demand for steam production for a period exceeding 24 hours, the unit will automatically empty the boiler, so as to avoid stagnation of the water inside. Environmental conditions, fuel and power supply voltage must all comply with the specified values. All other uses and modifications made to the appliance that are not authorised by the manufacturer are considered incorrect. Liability for injury or damage caused by the incorrect use of the appliance lies exclusively with the user. Please note that the appliance is connected to the gas mains, contains live electrical devices and hot surfaces. All service and/or maintenance operations must be performed by specialist and qualified personnel who are aware of the necessary precautions and are capable of performing the operations correctly and in accordance with the safety standards and legislation in force, with specific reference to:

1. Italian law no. 1083/71: "Safety standards relating to the use of gaseous fuel";
2. Italian law no. 46/90: "Safety standards relating to systems in buildings";
3. Italian Presidential Decree no. 447 of 6 December 1991: "Regulations for the enforcement of law no. 46, dated March 5, 1990, on safety relating to systems in buildings";
4. Italian law no. 10/91: "Regulations for the enforcement of the national plan for energy savings and the development of renewable sources of energy"

Adjustment of all units (covered by UL-998) from operation on natural gas (factory setting) to LPG must only be carried out by Carel personnel or Carel service.

CAUTION

The installation of the product must include an earth connection, using the special yellow-green terminal available in the humidifier.

Caution:

- Disconnect the appliance from the mains power supply before accessing any internal parts.
- Environmental and power supply conditions must conform to the values specified on the product rating labels.
- The product is designed exclusively to humidify rooms either directly or through distribution systems (ducts).
- Only qualified personnel who are aware of the necessary precautions and able to perform the required operations correctly may install, operate or carry out technical service on the product.
- Only water with the characteristics indicated in this manual must be used for steam production.
- Only water with the characteristics indicated in this manual must be used to produce the spray.
- All operations on the product must be carried out according to the instructions provided in this manual and on the labels applied to the product. Any uses or modifications that are not authorised by the manufacturer are considered improper. CAREL declines all liability for any such unauthorised use.
- Do not attempt to open the appliance in any way other than described in the manual.
- Observe the standards in force in the place where the humidifier is installed.
- The appliance is not intended for use 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 concerning use of the appliance by a person responsible for their safety.
- Do not install and use the product near objects that may be damaged when in contact with water (or condensate). CAREL declines all liability for direct or indirect damage following water leaks from the humidifier.
- Do not use corrosive chemicals, solvents or aggressive detergents to clean the inside and outside parts of the humidifier, unless specifically indicated in the user manual.
- Do not drop, hit or shake the humidifier, as the inside parts and the linings may be irreparably damaged,

CAREL adopts a policy of continual development. Consequently, CAREL reserves the right to make changes and improvements to any product described in this document without prior warning. The technical specifications shown in the manual may be changed without prior warning. The liability of CAREL in relation to its products is specified in the CAREL general contract conditions, published on the website www.carel.com and/or by specific agreements with customers; specifically, to the extent where allowed by applicable legislation, in no case will CAREL, its employees or subsidiaries/affiliates be liable for any lost earnings or sales, losses of data and information, costs of replacement goods or services, damage to things or people, downtime or any direct, indirect, incidental, actual, punitive, exemplary, special or consequential damage of any kind whatsoever, whether contractual, extra-contractual or due to negligence, or any other liabilities deriving from the installation or use of the product, even if CAREL or its subsidiaries/affiliates are warned of the possibility of such damage.

DISPOSAL

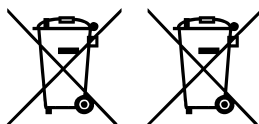


Fig. 1

Fig. 2

PLEASE READ AND KEEP.

WITH REFERENCE TO EUROPEAN UNION DIRECTIVE 2012/19/EU ISSUED ON 4 JULY 2012 AND RELATED NATIONAL LEGISLATION, PLEASE NOTE THAT:

- Waste Electrical and Electronic Equipment (WEEE) cannot be disposed of as municipal waste but must be collected separately so as to allow subsequent recycling, treatment or disposal, as required by law;
- users are required to take Electrical and Electronic Equipment (EEE) at end-of-life, complete with all essential components, to the WEEE collection centres identified by local authorities. The directive also provides for the possibility to return the equipment to the distributor or retailer at end-of-life if purchasing equivalent new equipment, on a one-to-one basis, or one-to-zero for equipment less than 25 cm on their longest side;
- the equipment may contain hazardous substances: the improper use or incorrect disposal of such may have negative effects on human health and on the environment;
- the symbol (crossed-out wheeled bin, see Figure 1), if shown on the product or on the packaging, indicates that the equipment must be disposed of separately at end-of-life;
- if at end-of-life the EEE contains a battery (Figure 2), this must be removed following the instructions provided in the user manual before disposing of the equipment. Used batteries must be taken to appropriate waste collection centres as required by local regulations;
- in the event of illegal disposal of electrical and electronic waste, the penalties are specified by local waste disposal legislation.

Warranty on materials: 2 years (from production date, excluding consumables).

Approval: the quality and safety of CAREL products are guaranteed by the ISO 9001 certified design and production system, as well as the



Index

- 1. PURPOSE OF THE MANUAL 7**
- 2. HOW TO READ THE MANUAL 7**
- 3. General safety information and instruction 8**
 - 2.1 Uso previsto 8
 - 2.2 Istruzioni generali di sicurezza 8
 - 2.3 Dispositivi di protezione individuale 9
- 4. Assembly 10**
 - 4.1 Packaging contents 10
 - 4.2 Installing the assembled rack in a duct 12
 - 4.3 Installing the semi-assembled rack in a duct 16
 - 4.4 Checklist for mounting/installation rack 21
- 5. SPARE PARTS 22**
 - 5.1 Spare parts 22

1. PURPOSE OF THE MANUAL

This manual contains instructions for the installation, use and maintenance of the models of chillBooster unit referred to in paragraph 4.4. The manufacturer of the unit is:

CAREL INDUSTRIES
Via dell'Industria, 11, 35020
Brugine - Padova (Italy)
Tel. (+39) 049.9716611 - Fax (+39) 049.9716600
e-mail: carel@carel.com - www.carel.com

2. HOW TO READ THE MANUAL

The manual is divided into chapters and paragraphs. Each paragraph is a sub-level of the corresponding chapter. References to headings or paragraphs are indicated by the abbreviation "Chap." or "Par." followed by the number.

Example: "Chap. 2" or "Par. 2.1".

The figures in this manual are numbered consecutively according to the corresponding chapter, for example Figure 1.c is the third figure in chapter one. References to the figures are indicated by the abbreviation "fig." followed by the number. Example: "Fig. 1.c".

The components shown in the figures are marked with numbers. A reference to component 1 in figure 2, chapter 3 will be indicated as follows: "See 1 - Fig. 3.b" or simply "(1 - Fig. 3.b)".



IMPORTANT

The figures shown in this manual are purely indicative. The actual components may vary from those illustrated. If in doubt, contact an authorised service centre.

In addition to the instructions for installation, use and maintenance, this manual contains safety information that requires special attention. This information is denoted by the symbols described below:



DANGER

Failure to comply with this warning will lead to an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Failure to comply with this warning will lead to a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Failure to comply with this warning will lead to a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



IMPORTANT

Failure to comply with this warning will lead to a potentially hazardous situation which, if not avoided, could cause minor damage to the unit.



Notice: provides supplementary information to the above safety instructions.

3. GENERAL SAFETY INFORMATION AND INSTRUCTION

3.1 Intended use

The humidifier is designed and built exclusively to humidify rooms through distribution systems (ducts). Any other use may be a source of danger that is not contemplated in this manual and is therefore considered improper and therefore is prohibited by the manufacturer, which declines all liability in such cases.

3.2 General safety instructions

Bear in mind that using products that involve electricity and high pressure water calls for some basic rules to be observed, such as:

- Use of the equipment is forbidden for children, people with reduced physical, sensorial, or mental capacity, people who have no experience or do not have the necessary knowledge, and people who are not familiar enough with the instructions.
- Use of the pumping station is forbidden for unqualified persons without specific skills.
- Making contact with the equipment with bare hands or wet parts of the body is forbidden.
- No technical task or cleaning may be carried out before the equipment has been disconnected from the electricity supply, by switching the plant's main switch to "off", and the equipment's main switch to "OFF".
- Modifying the safety or regulating devices without the Manufacturer's authorisation is forbidden.
- Removing the pictograms and labels applied to the pumping station is forbidden. These must be observed and kept legible. Should they no longer be legible, they must be replaced using equivalent safety pictograms or stickers.
- Slackening hydraulic pipe fittings while the system is running is forbidden. Pipes fixed inappropriately may suddenly come apart, posing a danger of injury.
- Preventing or obstructing the discharging of water is forbidden.
- Pulling, disconnecting, or twisting electric cables that come out of the equipment are forbidden, even if it is disconnected from the electricity supply.
- Exposing the equipment to the weather is forbidden. It is designed to be used indoors, in closed spaces.
- Disposing of packaging material in the environment or leaving it within reach of children are forbidden. This material must therefore be disposed of as laid down by current legislation.
- Starting the pumping station without an adequate water supply is forbidden.
- The Client is responsible for making sure that the humidifying system conforms to the local authorities' health and safety guidelines, as well as those for controlling proliferation of bacteria.
- Should water come out, disconnect the pumping station from the electricity supply, shut off the water supply, and notify CAREL's Technical Assistance Department or professionally qualified personnel, as soon as possible.
- Periodically check that the water system's working pressure exceeds 1 bar and is below the maximum limit set for the equipment. If this is not the case, contact CAREL's Technical Assistance Department or professionally qualified personnel.
- If the pumping station is not to be used for a long period of time, the following tasks must be carried out:
 - Switch the equipment's main switch to "OFF"
 - Switch the plant's main switch to "off"
 - Shut off the valves for the water supply to the plant
 - Empty the plant if there is a danger of freezing.
- This instruction manual is an integral part of the equipment and so it must be kept carefully and must ALWAYS stay with the pumping station, even if it is sold to another owner, or transferred to another plant. Should the manual be lost or damaged, ask for another copy from your local CAREL Technical Assistance Department.
- This manual must be read carefully in order to facilitate appropriate and safe installation, operation, and maintenance of the equipment. The Owner must be adequately informed about and trained on how to use the equipment. Make sure you are familiar with all the information required for the system to operate safely.
- Before being connected to the water and electricity supplies, the pumping station can be exposed to temperatures between -10°C and 40°C. Once it has been started up, it can be exposed to temperatures between 5°C and 40°C.
- Periodically check that the water outlets are free of any obstruction.

3.3 Personal protective equipment



DANGER Strictly follow the instructions provided in the manual.

Personal protective equipment (PPE) means any equipment intended to be worn and kept by workers in order to protect themselves against one or more risks likely to threaten their health or safety during work, as well as any device or accessory intended for this purpose.

All PPE described in this manual are intended to protect personnel from health and safety risks.

Below is a list of personal protective equipment to be used and the procedures to be adopted to protect workers from the residual risks that exist during the various phases of the humidifier's life cycle.



GLOVES TO PROTECT AGAINST PHYSICAL ELEMENTS:

these must protect the person's hands against cuts, abrasion and heat.

NON-SLIP SAFETY FOOTWEAR: these must prevent falls on slippery surfaces and protect the person's feet from impact, crushing and puncture wounds.

SAFETY HARD HAT: this must protect the person's head against bumps or material accidentally falling from above.

SAFETY GLASSES: these must protect the person's eyes from all risks due to contact with hazardous substances or materials.

PROTECTIVE MASK: this protects the wearer's respiratory tract against all risks associated with the inhalation of dangerous substances.

PROTECTIVE CLOTHING: this guarantees the body adequate protection against thermal and chemical agents.

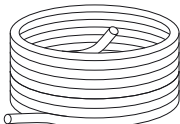

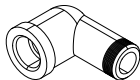
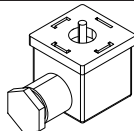

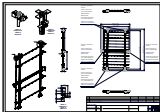
EARMUFFS: these must attenuate noises that would otherwise be harmful to the person's hearing.

INSTRUCTION MANUAL: this must be referred to whenever necessary, in order to avoid adopting unsafe procedures.

4. ASSEMBLY

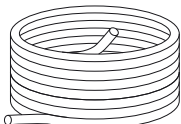

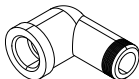
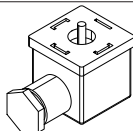


4.1 Packaging contents

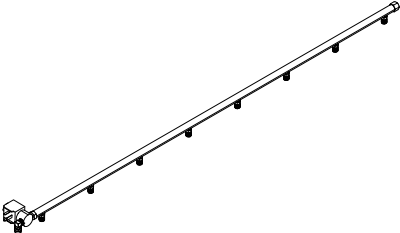

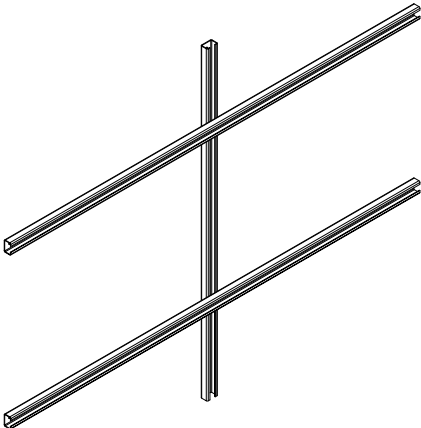
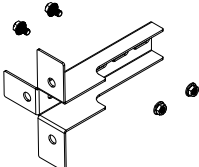

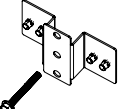
Assembled rack RHM*****

Description		Quantity
	Water drain hose for solenoid valves	See "RACK DRAWING"
	Adapter coupling	1
	1/4"G MF elbow for rack water inlet	1
	Solenoid valve connector	There is 1 connector for each solenoid valve on the rack
	Manual	1
	Rack drawing	1

Tab. 4.a

Semi-assembled rack RHS*****

Description		Quantity
	Water drain hose for solenoid valves	See "RACK DRAWING"
	Adapter coupling	1
	1/4"G MF elbow for rack water inlet	1
	Solenoid valve connector	There is 1 connector for each solenoid valve on the rack
	Manual	1
	Rack drawing	1

Description		Quantity
	Distributor assembled with solenoid valves and M12X1.5 fittings (or plugs)	1
	Manifolds complete with solenoid valves, barbed fitting and drain connector	See "RACK DRAWING"
	Guides with crossbars	See "RACK DRAWING"
	Mounting brackets with screw kit	There are 2 mounting brackets for each guide or crossbar
	Manifold fixing brackets with screw kit	See "RACK DRAWING"
	Crossbar fixing bracket with screw kit	See "RACK DRAWING"

Tab. 4.b

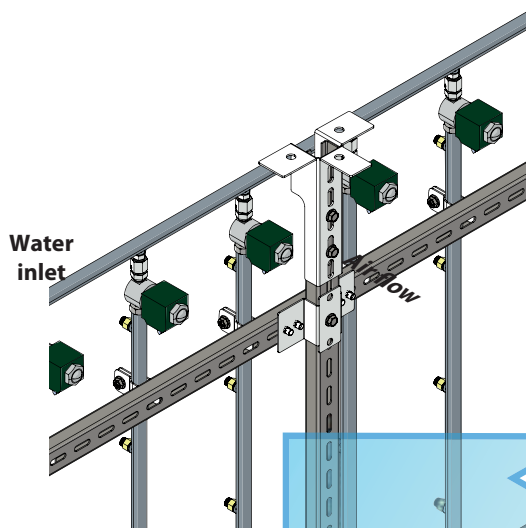
4.2 Installing the assembled rack in a duct



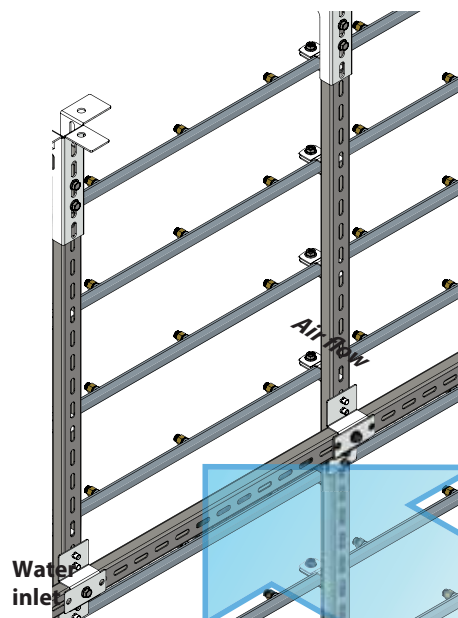
The figures are purely for illustrative purposes; before starting assembly, check the configuration of the product (see the "RACK DRAWING" supplied in the packaging).

4.2.1 Possible configurations

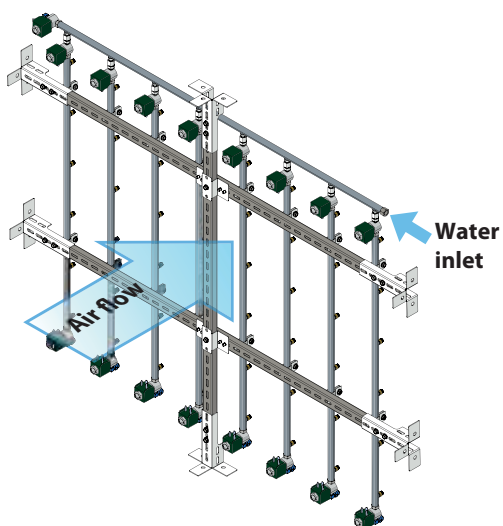
Configuration with manifolds mounted vertically and water inlet on the left



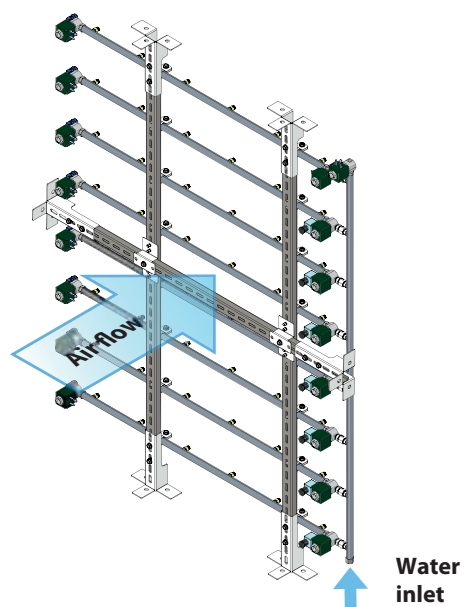
Configuration with manifolds mounted horizontally and water inlet on the left



Configuration with manifolds mounted vertically and water inlet on the right



Configuration with manifolds mounted horizontally and water inlet on the right



⚠ The ventilation solenoid valve must ALWAYS be positioned at the top.

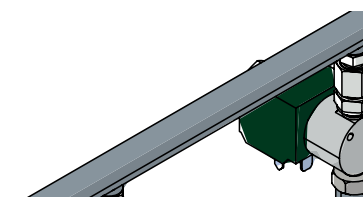


Fig. 4.a

4.4.1 Procedure for installing the assembled rack in a duct

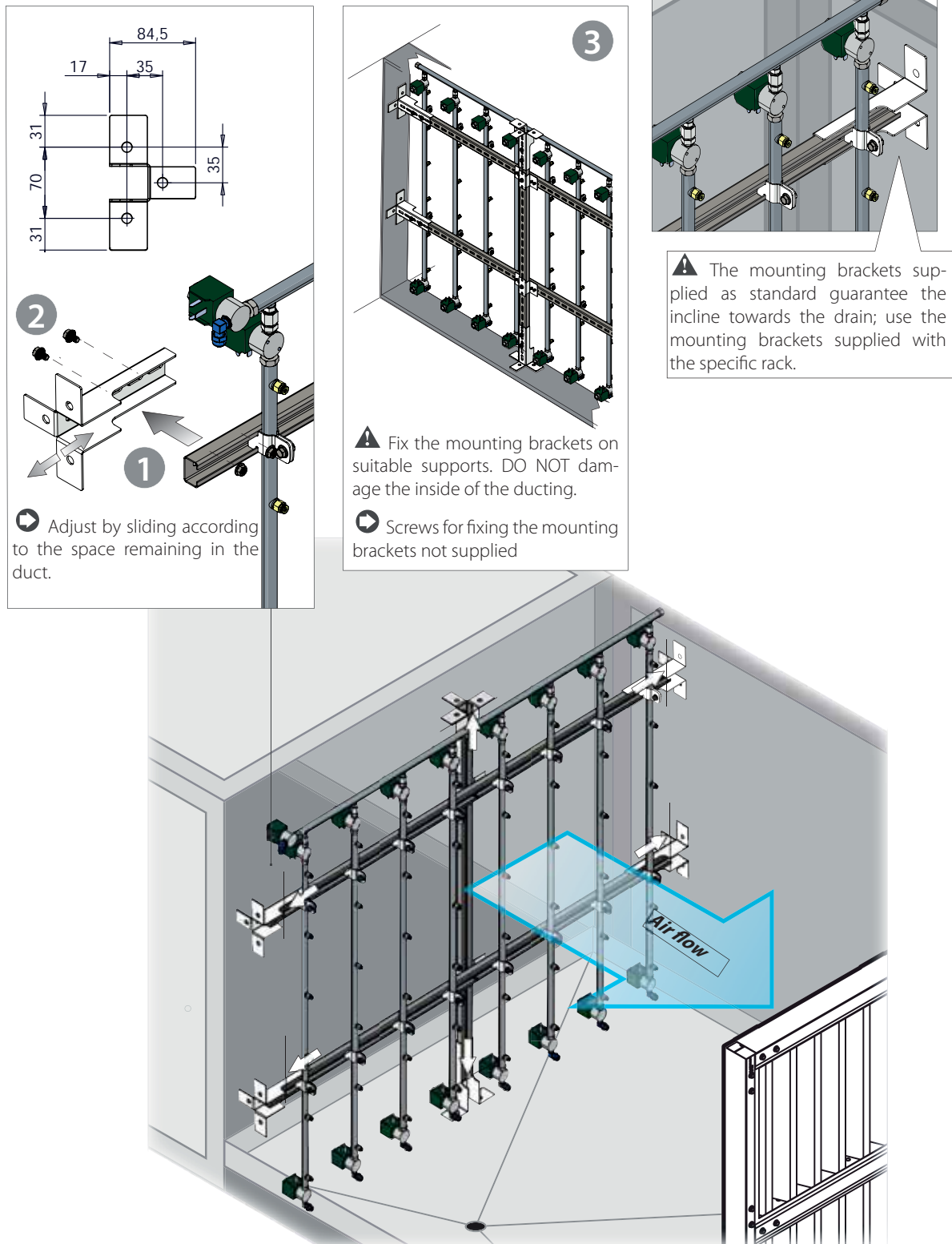


Fig. 4.b

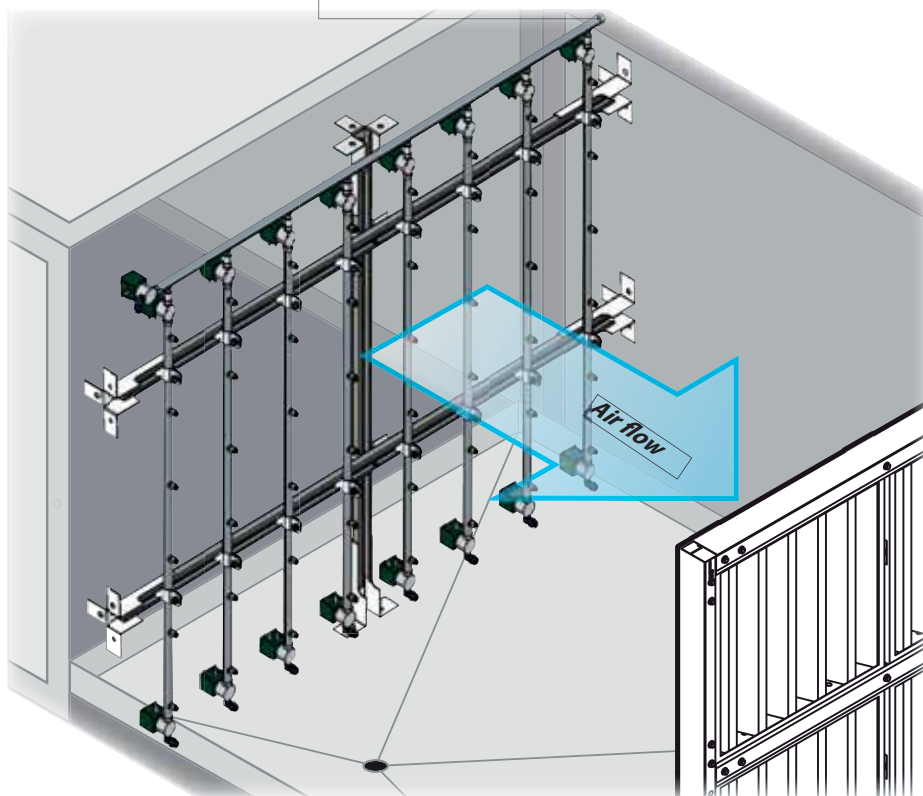
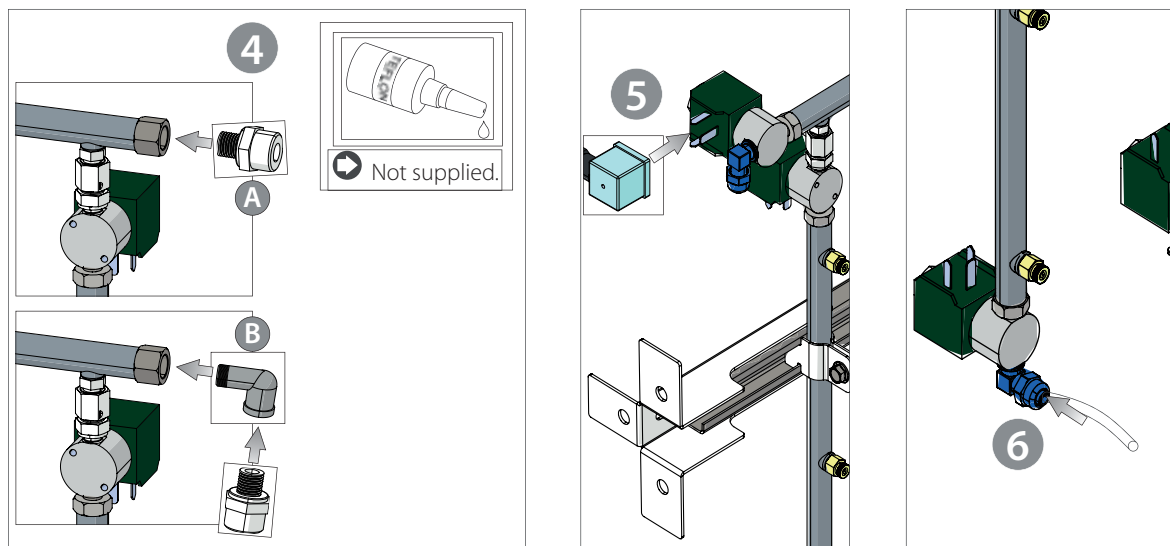


Fig. 4.a

- ➡ After installation, complete the electrical wiring between the rack and the junction box (if featured), or between the rack and the pumping station or zone panel.
- ➡ After installation, complete the water connections between the rack and the humiFog pumping station.

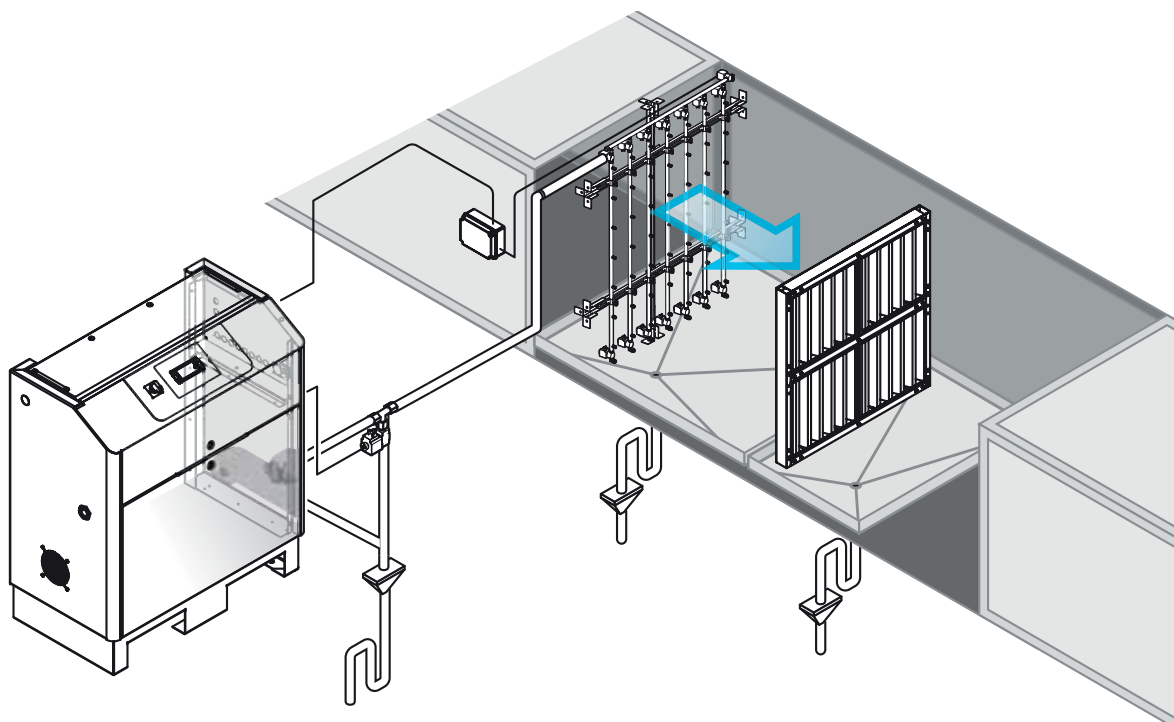


Fig. 4.c

4.3 Installing the semi-assembled rack in a duct



The figures are purely for illustrative purposes; before starting assembly, check the configuration of the product (see the "RACK DRAWING" supplied in the packaging)

4.3.2 Procedure for installing the semi-assembled rack in a duct



The figures are purely for illustrative purposes; before starting assembly, check the configuration of the product (see the "RACK DRAWING" supplied in the packaging).

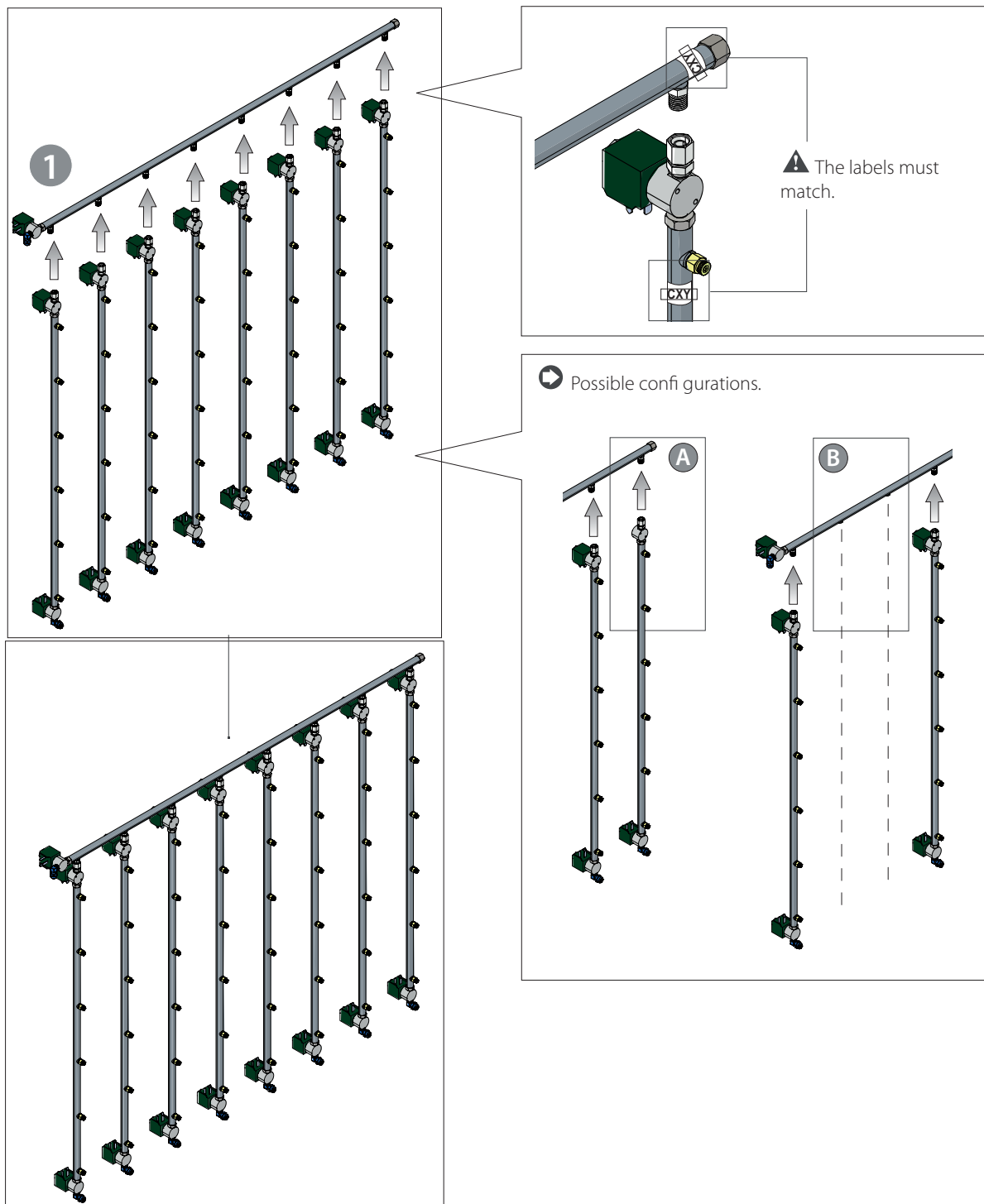


Fig. 4.d

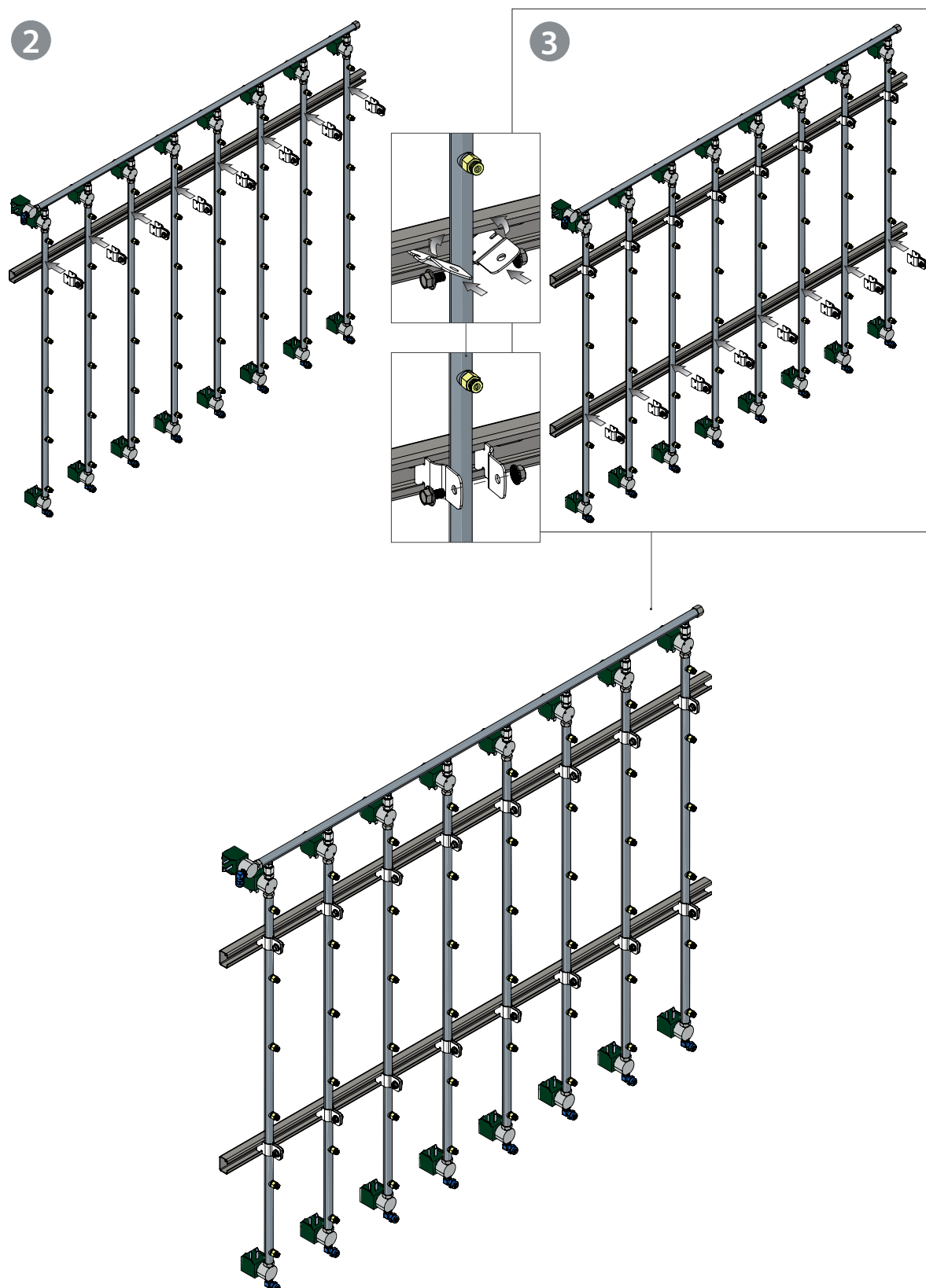


Fig. 4.e

Assembling the crossbar (if featured)

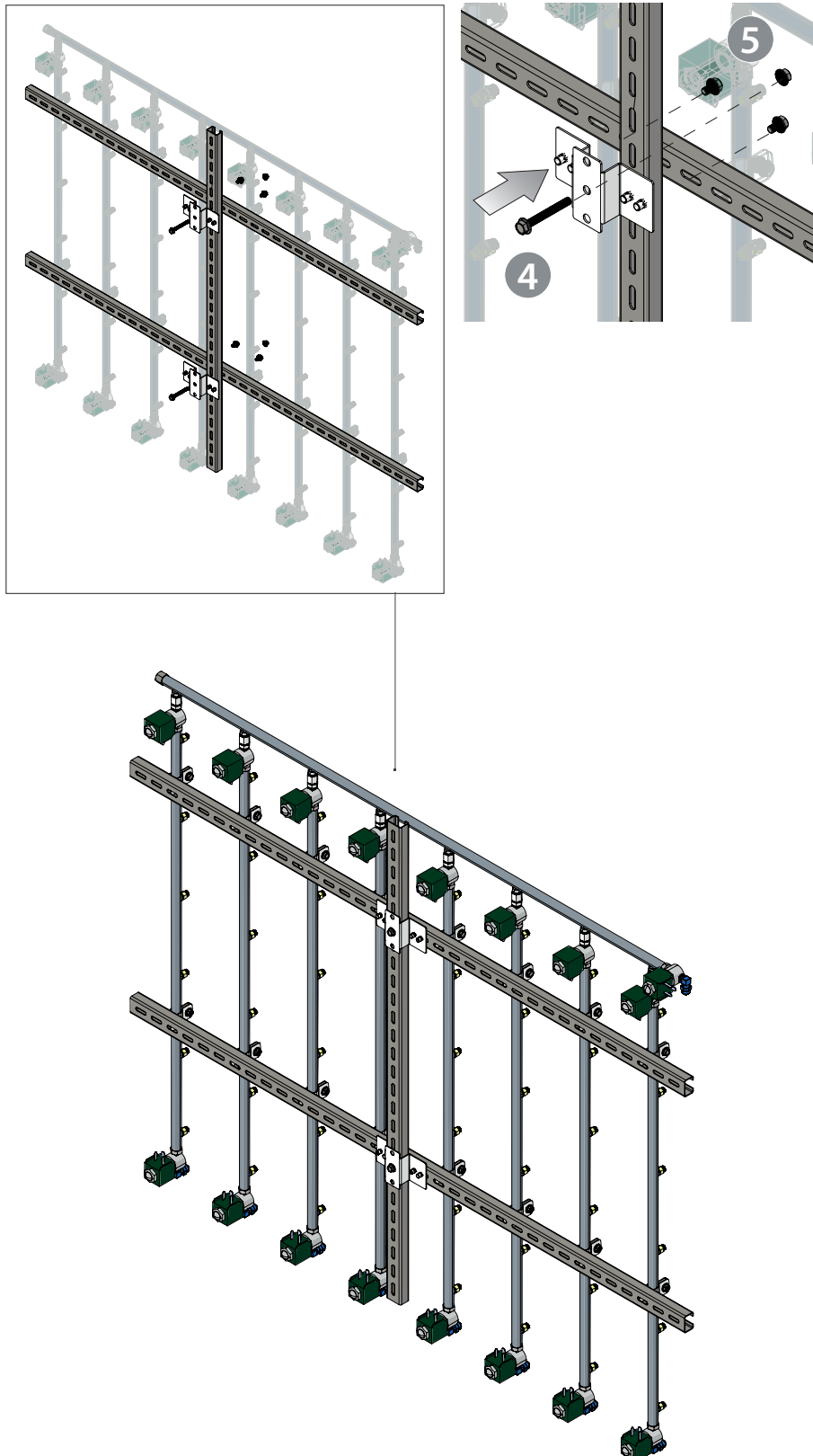


Fig. 4.f

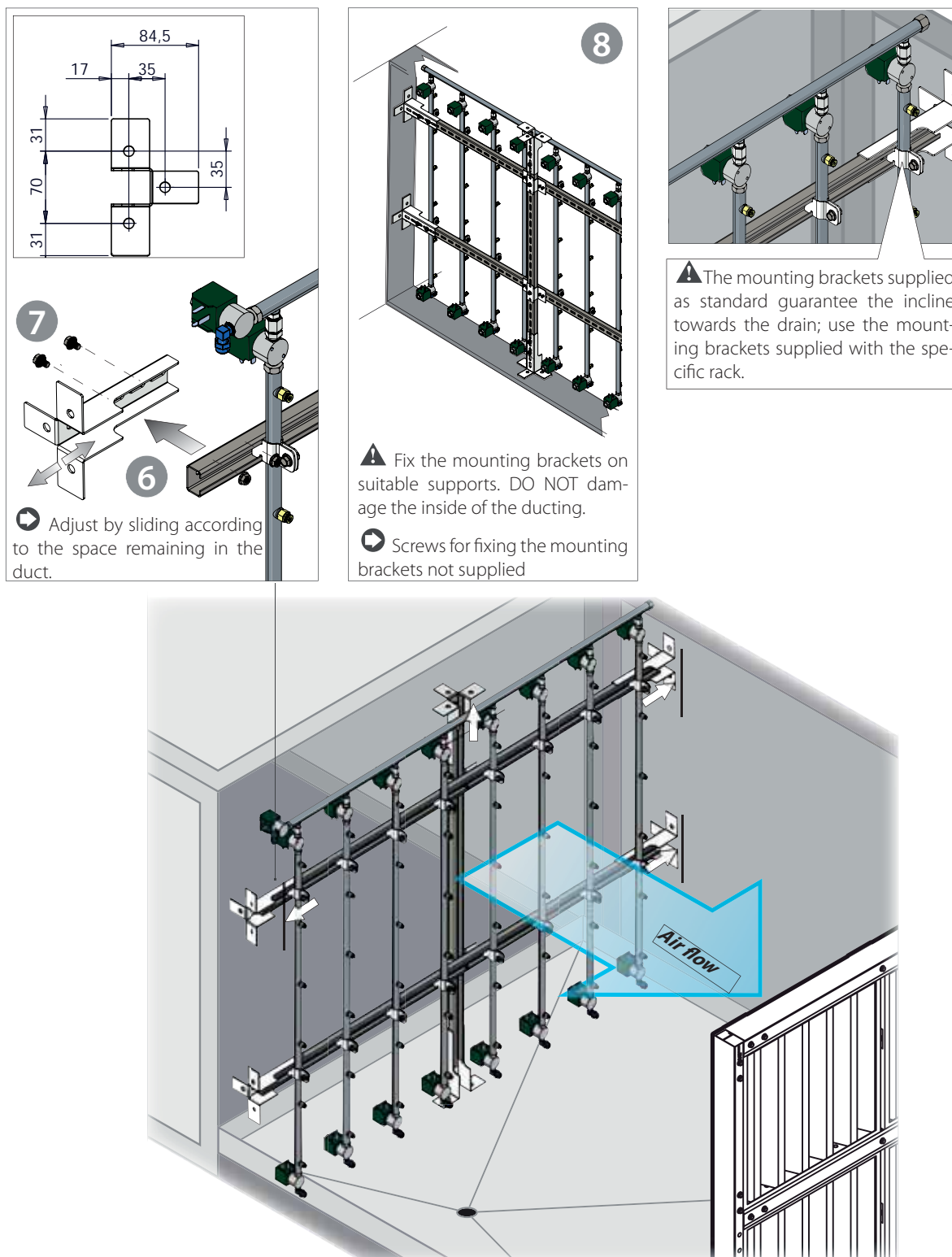


Fig. 4.g

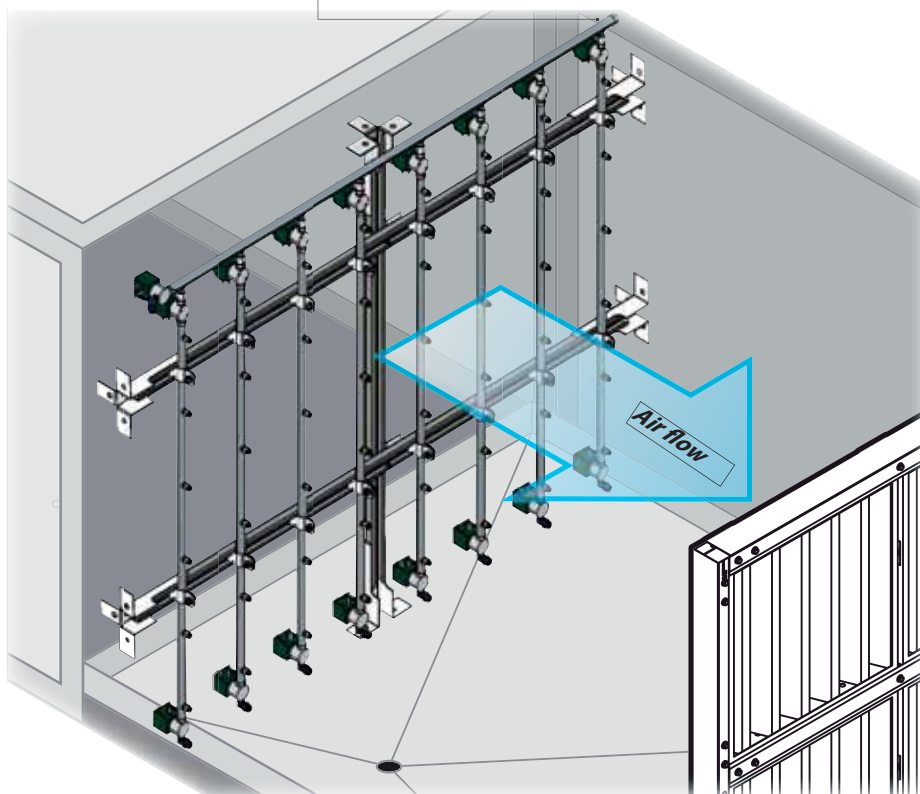
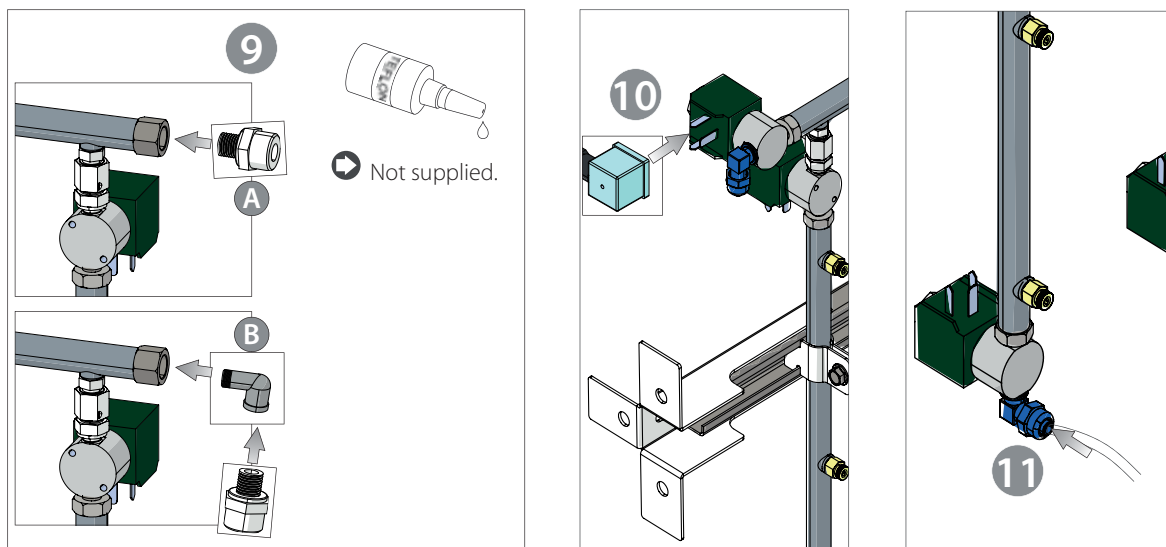


Fig. 4.h

- ➡ After installation, complete the electrical wiring between the rack and the junction box (if featured), or between the rack and the pumping station or zone panel.
- ➡ After installation, complete the water connections between the rack and the humiFog pumping station.

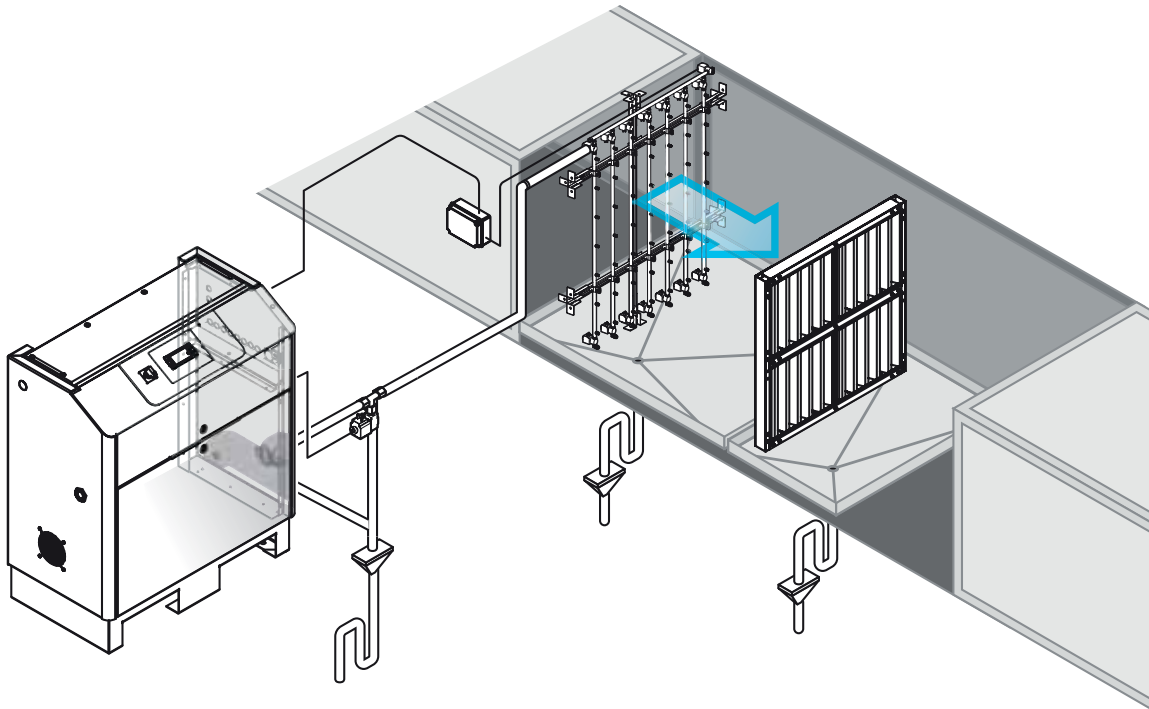


Fig. 4.i

4.4 Checklist for mounting/installation rack

Humifog SYSTEM NAME: _____

√	Description	Notes
	The rack has been assembled with the water inlet on the right/left side as shown on the "rack drawing"	
	The manifolds are connected to the distributor in the positions shown on the "rack drawing"	
	The labels on the manifold match the labels on the distributor	
	The distributor water inlet fittings have been assembled	
	The manifolds have been fixed to the support guides	
	The rack has been positioned inside the unit with the manifolds mounted vertically/horizontally as shown on the "rack drawing"	
	The ventilation solenoid valve has been positioned at the top	
	The rack has been fixed to the duct using the mounting brackets	
	The drain hoses have been connected to the drain solenoid valves	
	The electrical connectors have been positioned and the wiring has been prepared as shown on the "rack drawing"	
	The droplet separator has been installed at the end of the humidification section	
	There are water collection and drain containers between the rack and the droplet separator and downstream of the droplet separator	
	The distance between the rack and the droplet separator complies with the design data	

Date: _____

Signature: _____

5. SPARE PARTS

5.1 Spare parts

Pos. (see Fig. 4.a)	P/N	Description
1	UAKNO05C00SP	NO solenoid valve for RH* rack manifold, 50-60 Hz
2	UAKNC05C00SP	NC solenoid valve for RH* rack manifold, 50 Hz
3	UAKNC06C00SP	NC solenoid valve for RH* rack manifold, 60 Hz
4	UAKNN00000SP	Fitting for manifold without NC fill solenoid valve
5	UAKINR0000SP	Rack water inlet fittings
6	UAKINV0000SP	NC solenoid valve inlet fittings, 3 pieces
7	UAKPT10000SP	Type 1 mounting brackets for RH racks*, 2 pieces
8	UAKPT20000SP	Type 2 mounting brackets for RH racks*, 2 pieces
9	UAKCNL0000SP	LED connectors for solenoid valve wiring, 5 pieces
10	UAKCN0000SP	Connectors for solenoid valve wiring, 5 pieces
11	UAKCLP0000SP	Clips for fixing RH* rack manifolds, 3 pieces
12	KERRAIL200	"C" guide L = 2007 mm
13	UAKG200000SP	"C" guide L = 3092 mm
14	UAKCRO0000SP	"C" guide fixing bracket
15	UAKMTP0000	MTP0 atomizing nozzles, flow-rate 1.45 l/h, 1 piece
16	UAKMTP1000	MTP1 atomizing nozzles, flow-rate 2.8 l/h, 1 piece
17	UAKMTP2000	MTP2 atomizing nozzles, flow-rate 4.0 l/h, 1 piece
18	UAKMTP00MPSP	MTP0 atomizing nozzles, flow-rate 1.45 l/h, 10 pieces
19	UAKMTP10MPSP	MTP1 atomizing nozzles, flow-rate 2.8 l/h, 10 pieces
20	UAKMTP20MPSP	MTP2 atomizing nozzles, flow-rate 4.0 l/h, 10 pieces

Tab. 5.a

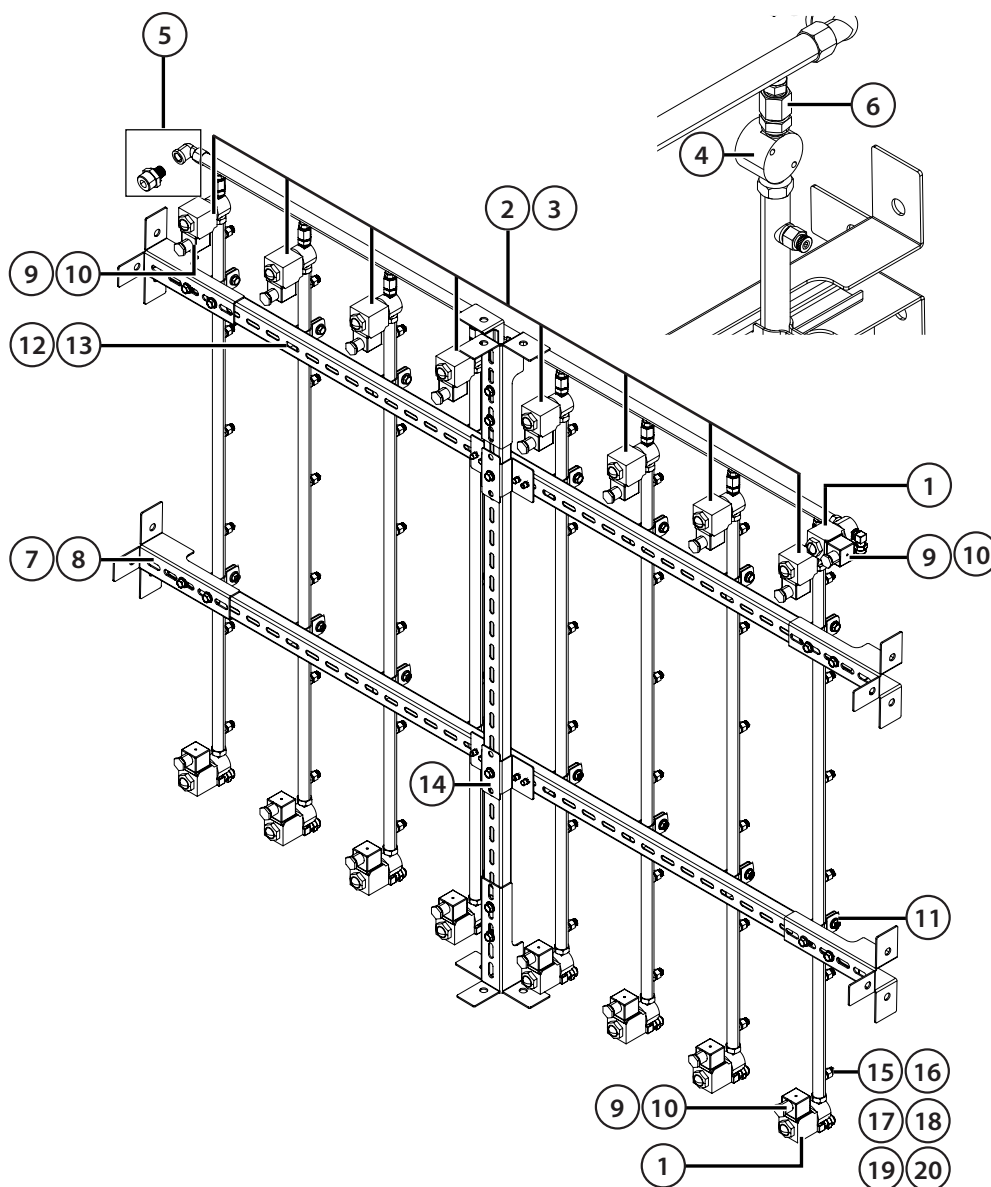


Fig. 5.a

CAREL

CAREL INDUSTRIES - Headquarters

Via dell'Industria, 11 - 35020 Brugine - Padova (Italy)
Tel. (+39) 049.9716611 - Fax (+39) 049.9716600
e-mail: carel@carel.com - www.carel.com

humifogRack+0300110IErel.1.1-20.12.2021