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FLOWAY

Instruction manual

CIAT

EN

CONTENTS

Note to reader: This document is provided for guidance only. Certain modifications may apply.
CIAT shall not be held liable for potential errors or omissions in these instructions.

For your safety, we recommend the use of PPE (Personal Protective Equipment)

1-DELIVERY

Each unit has a data plate with an identification number. This number must be quoted in all correspondence.

The installation and maintenance operations must be performed by qualified and experienced personnel. Follow the operating precautions to the letter when working on the unit. Labels have been placed on the unit to remind you of the safety instructions.
As a general rule, follow all applicable safety regulations and standards.
Damage to the Floway dual-flow air handling unit will be disregarded in case of failure to follow the instructions in this document.

In accordance with Article 133-3 of the French Code of Commerce, the recipient is entirely responsible for checking the condition of the goods received. In the event of missing items, the customer must provide the exact number of parcels delivered. Any damaged or missing items must be specified on the delivery note in the presence of the driver before signing the delivery note. This information must be confirmed to the carrier by registered letter within three business days. The comments "conditional" and "pending unwrapping" shall have no value. The client must unwrap the goods in the presence of the driver. Claims must be made at the time of delivery and be described in detail.

The unit must be stored in its packaging and sheltered from weather.

Floway “Classic”, “Classic RHE” and “Vertical”

• The 3 sizes of the "vertical" model and the 1000 size of the "Classic" and "Classic RHE" models are packaged units, delivered mounted on feet.
• Sizes > 1000 m³/h for the "Classic" and "Classic RHE" models are multi-block units, delivered assembled. The blocks can be split in order to facilitate their passage through doorways (see splitting procedure in the HANDLING part).

Floway "Ceiling-mounted version"

The ceiling-mounted model is a packaged unit delivered on a pallet.

2-HANDLING

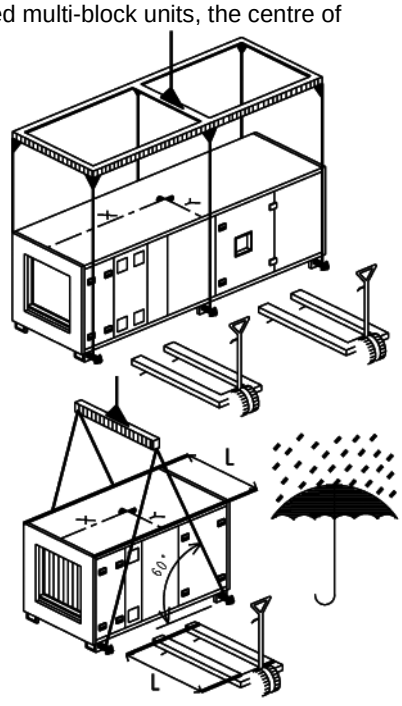
The unit can be handled by slings, lifting beam or stacker.
In all cases, the lifting point has to be at the base of the unit. For mono-block or assembled multi-block units, the centre of gravity is at the centre of the unit.

This operation will be performed by qualified personnel.

The unit must be handled with care, and only in the horizontal position. If the unit is handled by a lifting beam + slings, tubes need to be placed in the holes provided in the support feet.

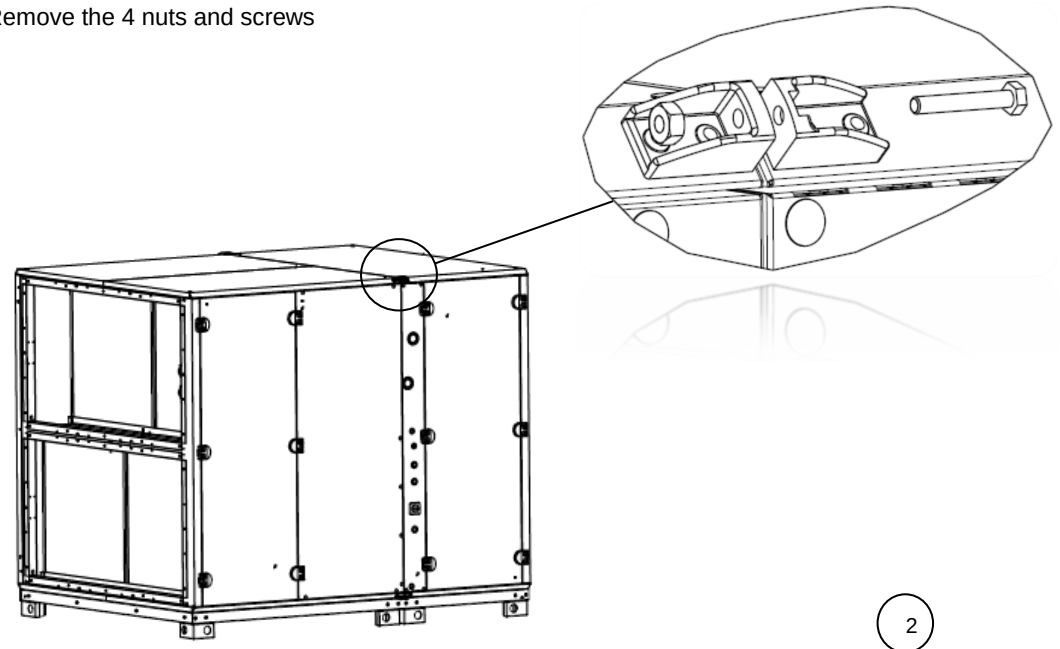
Ensure that the crane hook adapter is large enough to prevent the belts applying any pressure to the AHU casing. Furthermore, ensure that the steel tubes are secured to prevent any movement.

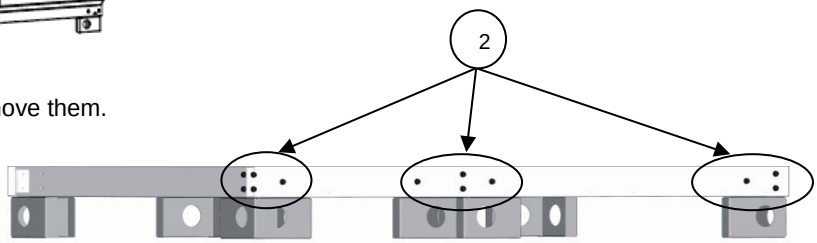
If the above-mentioned lifting methods cannot be used, the unit may be lifted using a forklift truck, taking great care not to dent the lower panel (use forks of a sufficient length).
Follow the applicable handling rules.



Floway multiblock block splitting procedure

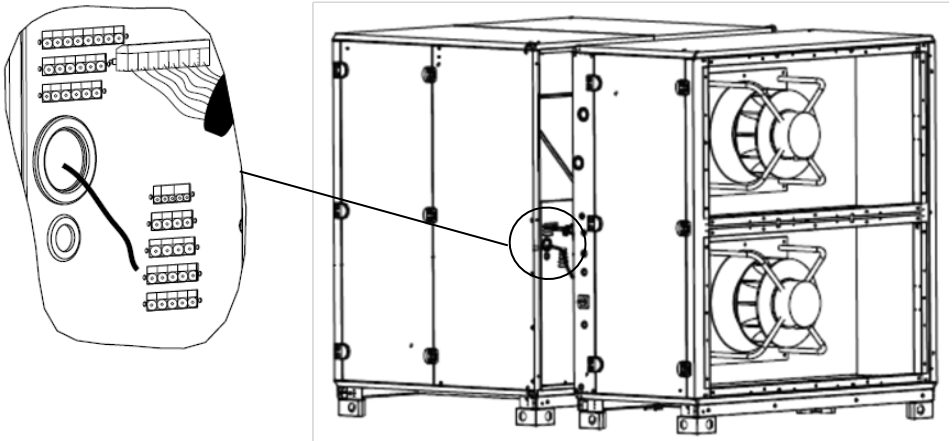
1.Remove the 4 nuts and screws





2. Undo the screws on each beam and remove them.

3. Disconnect the electrical connectors on the control and disconnect switch



4. You can now separate the blocks.

Note: Follow the procedure in reverse to re-couple the blocks.

When uncoupling the blocks, ensure that the 18X10 PVC gasket located between the blocks remains correctly in place to guarantee a perfect seal. If necessary, fit one.

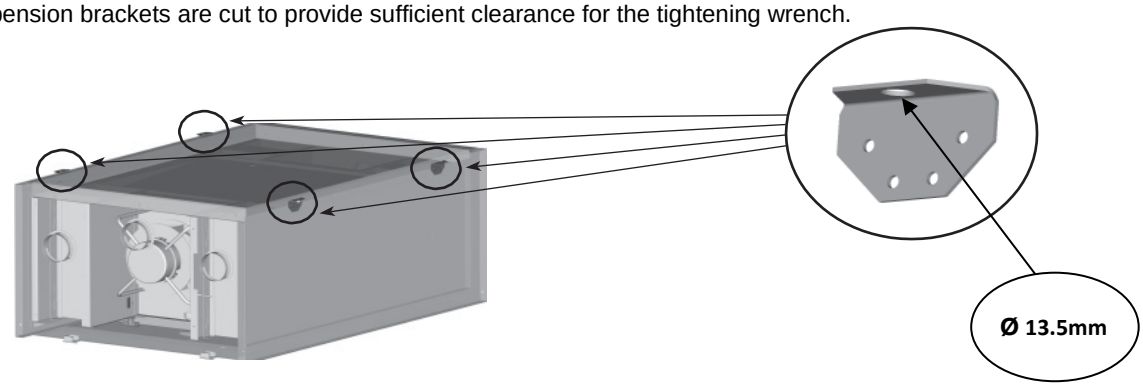
NB: if there is a roof, remove it first in accordance with the instructions given on the roof fitting plan (see technical specifications).

“Classic”, “Classic RHE” and "Vertical" models

These models are placed directly on a flat, smooth floor. The flatness value must be the best possible, around one per thousand. Under normal conditions of use, there is no need to fix the unit to the floor.
The unit's support feet must be standing fully on their contact surface. It is important to allow sufficient service space to facilitate maintenance operations.

“Ceiling-mounted” model

This model has suspension brackets to allow easy ceiling mounting.
These suspension brackets are cut to provide sufficient clearance for the tightening wrench.



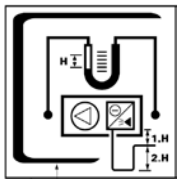
3-DESCRIPTION OF THE UNIT & TECHNICAL SPECIFICATIONS

DESCRIPTION OF THE UNIT

Firm data plate

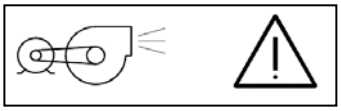
This is fixed on the unit and shows the unit's specifications as well as the order number and code.

Pictograms



Condensate drain siphon

Monitor the cleanliness of the filters



Danger: fan

Grounding compulsory

Danger: electrics box

Weights and dimensions tables

Floway “Classic RHE”

Size	Dimensions (mm)			Block 1 weight (kg) +/- 10%	Block 2 weight (kg) +/- 10%	Total weight* (kg) +/- 10%
	Height	Length	Width			
1000	958	1360	810	-	-	201
2000	1158	557 + 847	1010	169	140	309
3000	1359	800 + 800	1210	246	186	432
4000	1659	800 + 800	1510	327	231	558
5000	1659	800 + 800	1510	369	235	604
6000	1959	800 + 800	1810	427	275	702
7500	1959	800 + 800	1810	473	278	751
10 000	2090	1100 + 1100	1920	505	450	955
15 000	2340	1100 + 1200	2192	650	600	1250

Floway "Classic"

Size	Dimensions (mm)			Block 1 weight (kg) +/- 10%	Block 2 weight (kg) +/- 10%	Total weight* (kg) +/- 10%
	Height	Length	Width			
1000	958	1674	810	-	-	200
2000	1158	1197 + 847	1010	200	150	350
3000	1359	1264 + 800	1210	275	190	465
4000	1659	1264 + 800	1510	350	230	580
6000	1959	1407 + 850	1810	460	305	765

Floway "Ceiling-mounted version"

Size	Dimensions (mm)			Weight (kg) +/- 10%
	Height	Length	Width	
700	584	1453	896	161
1200	584	1592	1174	206
1600	584	1856	1456	279

Floway “Vertical

Size	Dimensions (mm)			Weight (kg) +/- 10%
	Height	Length	width	
700	1385	1313	730	202
1500	1758	1593	832	330
2000	1901	1735	832	389

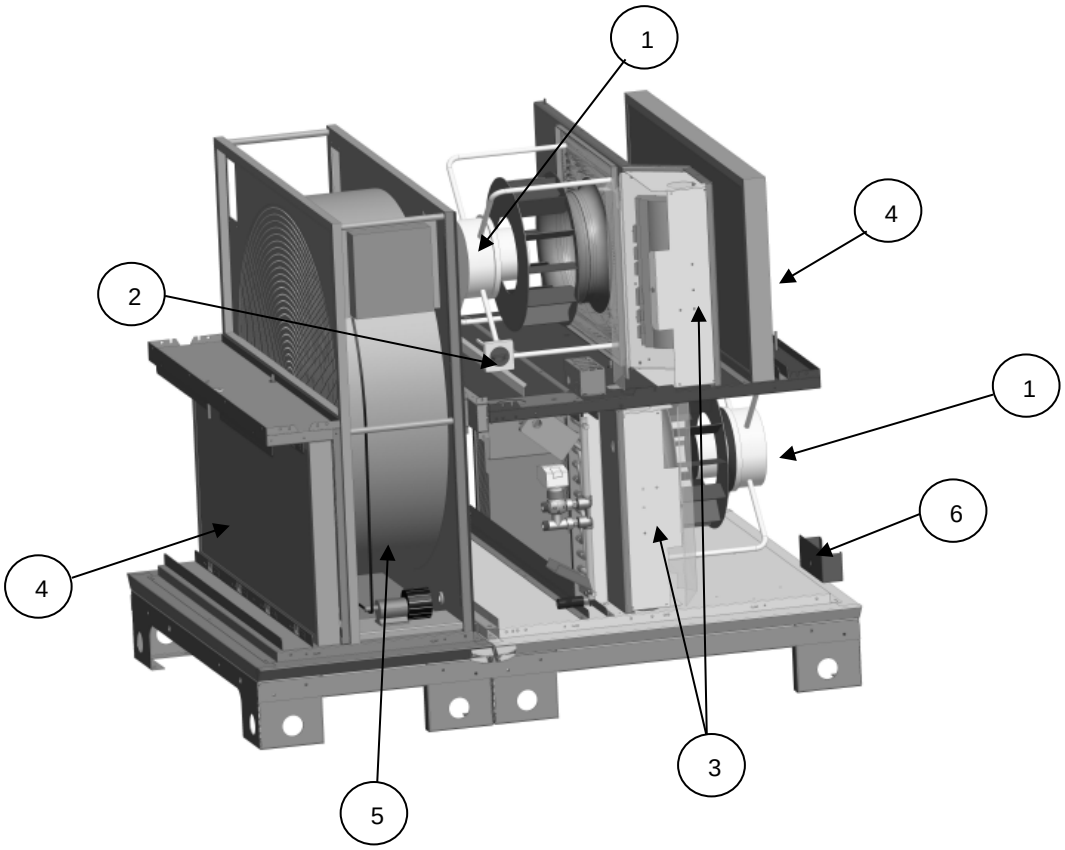
Additional box

Additional box size (CIAT)	Correspondence with FLOWAY model	Additional box casing dimensions	Additional box weight (kg) +/- 10%
1	Classic 1000 Vertical 700 Ceiling-mounted 700	542x496x810	49
2	Classic 2000 Vertical 1500 & 2000 Ceiling-mounted 1200 & 1600	642x496x1010	62
3	Classic 3000	759x400x1210	68
4	Classic 4000 & 5000	909x400x1510	88
5	Classic 6000 & 7500	1059x400x1810	112

The dimensions in the tables above include all the components attached to the casing (hinges, collars, feet,

LOCATION OF COMPONENTS

Floway “Classic RHE”



1 – Fan motor assembly

2 – General switch (on outer casing)

3 – Controller electrics box

3 – Power electrics box

Depending on the unit configuration

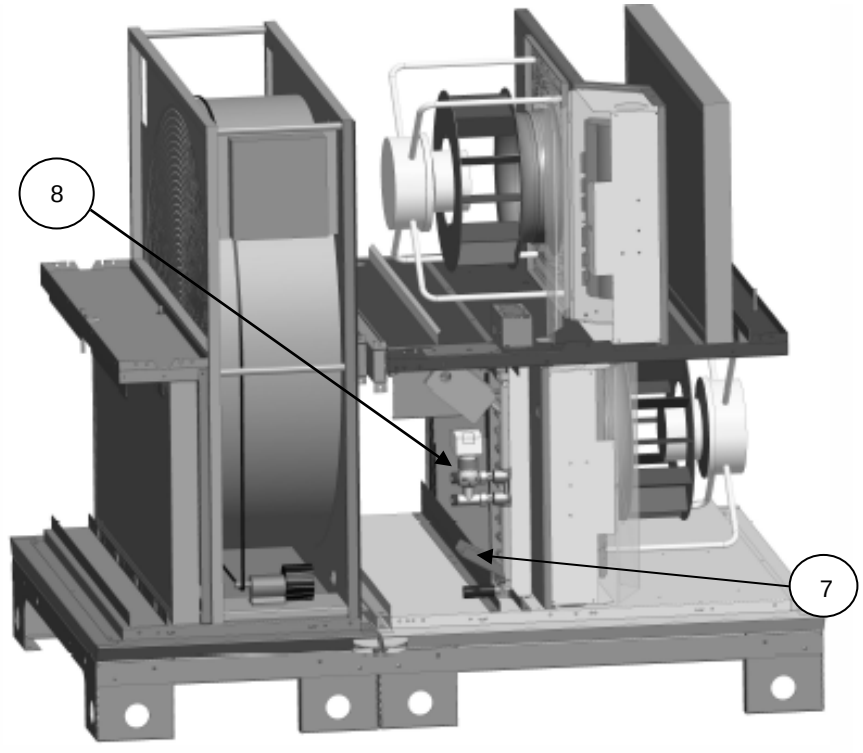
4 – Filter

5 – Rotary heat exchanger

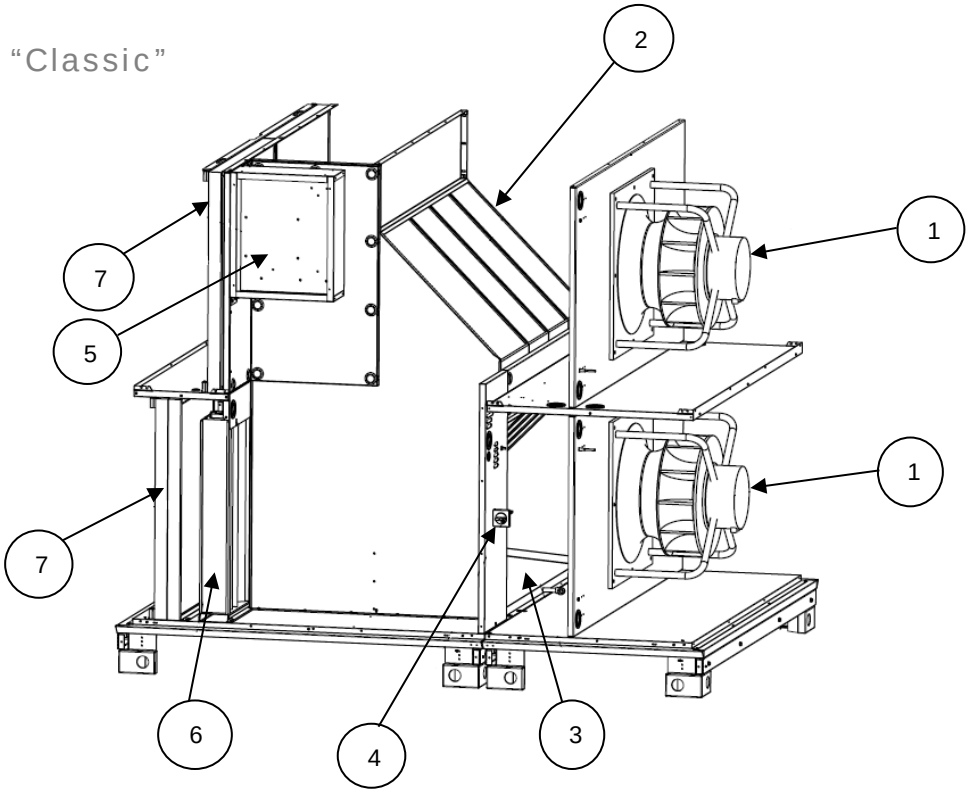
6 – "Floway Control" display

7 – Internal coil + valve mounting

8 – Mixing option (damper + servomotor)



Floway “Classic”



1 – Fan motor assembly

2 – Plate recovery unit

3 – Drain pan

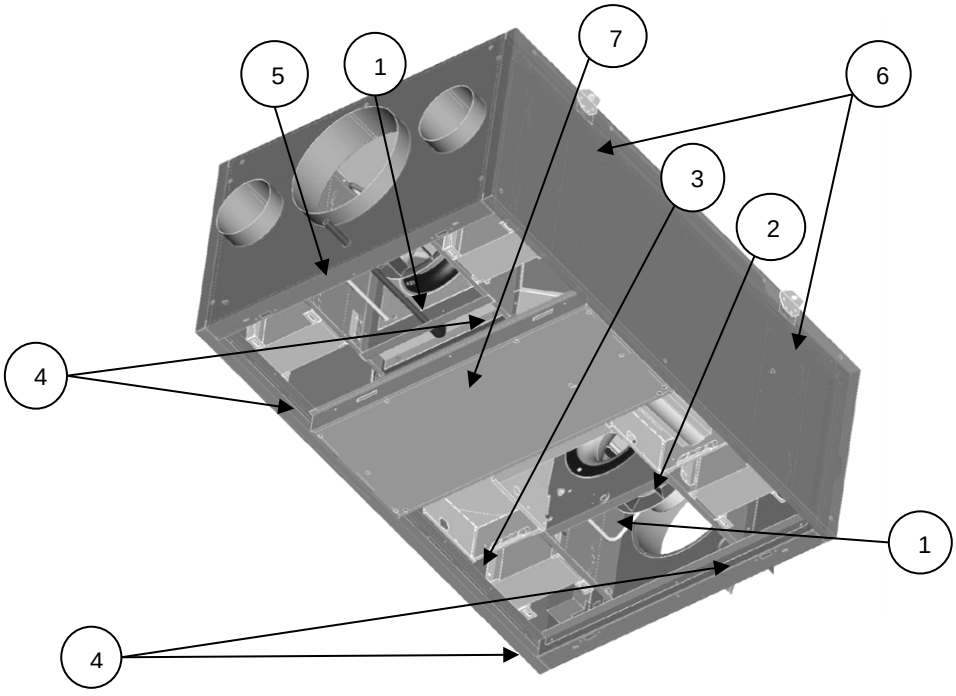
4 – General switch (on outer casing)

5 – Electrics box (control and power)

6 – Damper

7 – Filters

Floway "Ceiling-mounted version"



1 – Fan motor assembly

2 – Electrical control box

3 – Power electrics box

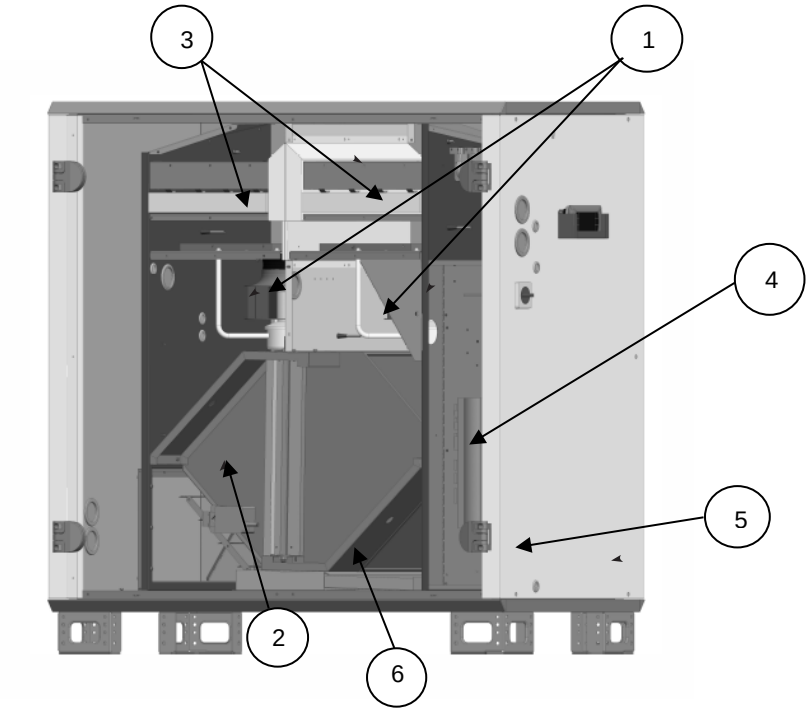
4 – Filters

5 – Condensate drain

6 – Suspension brackets

7 – Condensate drain pan

Floway “Vertical”



1 – Fan motor assemblies

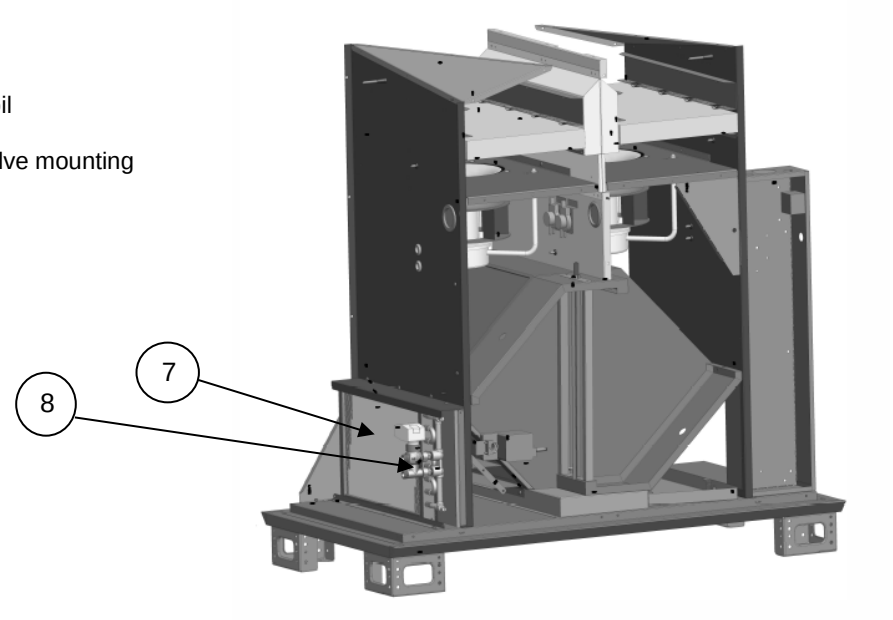
2 – Plate heat exchanger

3 – Filters

4 – Control and power electrics box

5 – Condensate drain

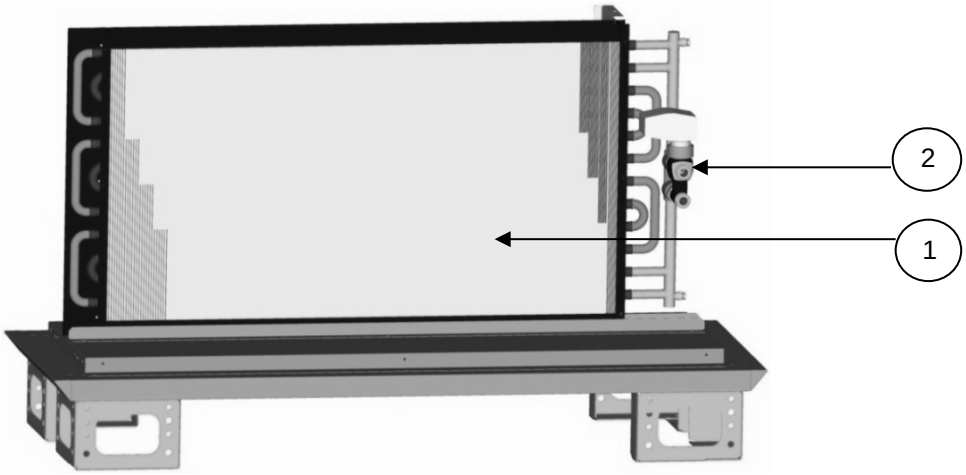
6 – Condensate drain pan



7 - Coil

8 – Valve mounting

additional coil casing



1 – Coil

2 – Valve mounting

TECHNICAL DATA

Air flow rates

Floway “Classic”

Size	"Classic"		
	Minimum flow rate (m^3/h)	Nominal Flow Rate m^3/h	Maximum flow rate m^3/h
1000	300	1000	1200
2000	500	2000	2200
3000	700	3000	3700
4000	900	4500	5100
6000	1400	6000	6600

Operating limit temperature: -20°C/+ 60°C with preheating coil

Floway "Classic RHE"

Size	"Classic RHE"			
	Minimum flow rate (m^3/h)	Nominal Flow Rate m^3/h	Maximum flow rate m^3/h	Maximum flow rate without cooling coil m^3/h
1000	300	1000	1200	1450
2000	500	2000	2500	2800
3000	700	3000	3700	4500
4000	900	4500	5700	5700
5000	900	5000	5700	7000
6000	1400	6000	8500	8500
7500	1400	7500	8500	11000
10 000	2500	10 000	14 000	14000
15 000	3000	15 000	18 000	18000

Operating limit temperature: -30°C/+ 60°C

Floway "Ceiling-mounted version"

Size	Minimum flow rate (m^3/h)	Nominal Flow Rate m^3/h	Maximum flow rate m^3/h
700	300	700	1000
1200	500	1200	1400
1600	600	1600	1900

Operating limit temperature: -20°C/+ 60°C with preheating coil

Floway “Vertical”

Size	Minimum flow rate (m^3/h)	Nominal Flow Rate m^3/h	Maximum flow rate m^3/h
700	300	700	1200
1500	700	1500	2000
2000	700	2000	2600

Operating limit temperature: -20°C/+ 60°C with preheating coil

Filters

M5 HEE filter:

Thickness: 48 or 98 mm
Efficiency: 40%< opacimetric > 60%
Fire rating: M1

F7 HEE filter:

Thickness: 48 or 98 mm
Efficiency: 80%< opacimetric > 90%
Fire rating: M1

F9 HEE filter:
(Only Classic, Classic RHE and Vertical)

Thickness: 48 or 98 mm
Efficiency: 90%< opacimetric > 95%
Fire rating: M1

Floway "Classic" and "Classic RHE" filters

	Sizes						
	1000	2000	3000	4000	5000 *	6000	7500 *
Filter Dimensions x Number of cells/air flow	(704x327x48) x1	(452x435x48) x2	(552x535x48) x2	(466x685x48) x3	(466x685x48) x3	(566x835x48) x3	(566x835x48) x3

*(The 5000 and 7500 sizes concern the "Classic RHE" model)

		Sizes	
		10 000 *	15 000*
Universal dimensions	592 x 592 x 48	3	3
	287 x 592 x 48	3	4

*(The 10,000 and 15,000 sizes concern the "Classic RHE" model)

Floway "Ceiling-mounted" filters

	Size		
	700	1200	1600
Filter Dimensions	449x189x**98**	449x279x**98**	449x343x**98**
Thickness (mm)	98	98	98
Number of cells/air flow	2	2	2

Floway "Vertical" filters

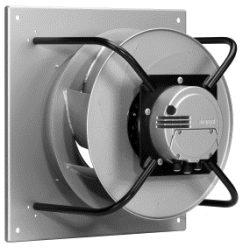
	Sizes		
	700	1500	2000
Filter Dimensions x Number of cells/air flow	(330x597x48) x1	(471x697x48) x1	(541x697x48) x1

Dual filtration

When dual-stage filtration is installed, the two stages of cells are installed on the same runner. This assembly is available on "Classic", "Classic RHE" and "Vertical" models.

Fan motor assembly

EC motor



This fan motor assembly is a direct coupling "Plug fan" with rotation speed adjustment via the portable micro-terminal, or by automatic adaptation to a given setpoint.
The Floway is equipped with 2 fan motor assemblies: 1 at the inlet and 1 at the exhaust. It is also equipped with 4
fan motor assemblies for the 10,000 and 15,000 sizes of the "Classic RHE" model

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Floway “Classic” and "Classic RHE"

	SIZE						
	1000	2000	3000	4000 & 5000	6000 & 7500	10 000	15 000
Fan motor assembly Ø	250	280	355	400	450	450	500
Quantity	2	2	2	2	2	2 x 2	2 x 2
Max. power (W)	2x448	2x1000	2x1700	2x1850	2x2730	2x2x2730	2x2x3510
Max. current (A)	2x2.8	2x1.6	2x2.6	2x2.9	2x4.2	2x2x4.2	2x2x5.4

Floway "Ceiling-mounted version"

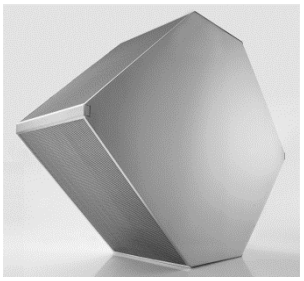
	SIZE		
	700	1200	1600
Fan motor assembly Ø	250	250	280
Quantity	2	2	2
Max. power (W)	2 x 448	2 x 448	2 x 1000
Max. current (A)	2 x 2.8	2 x 2.8	2 x 1.6

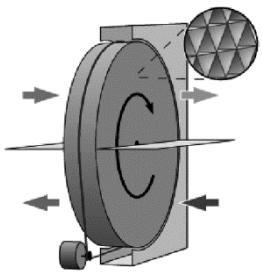
Floway “Vertical”

	SIZE		
	700	1500	2000
Fan motor assembly Ø	250	280	280
Quantity	2	2	2
Max. power (W)	2 x 448	2 x 1000	2 x 1000
Max. current (A)	2 x 2.8	2 x 1.6	2 x 1.6

Heat recovery unit

"Counter Flow" plate heat recovery unit (for "Ceiling-mounted" and "Vertical" models) equipped with a condensate drain pan, a motorised bypass and controlled by "Floway Control".



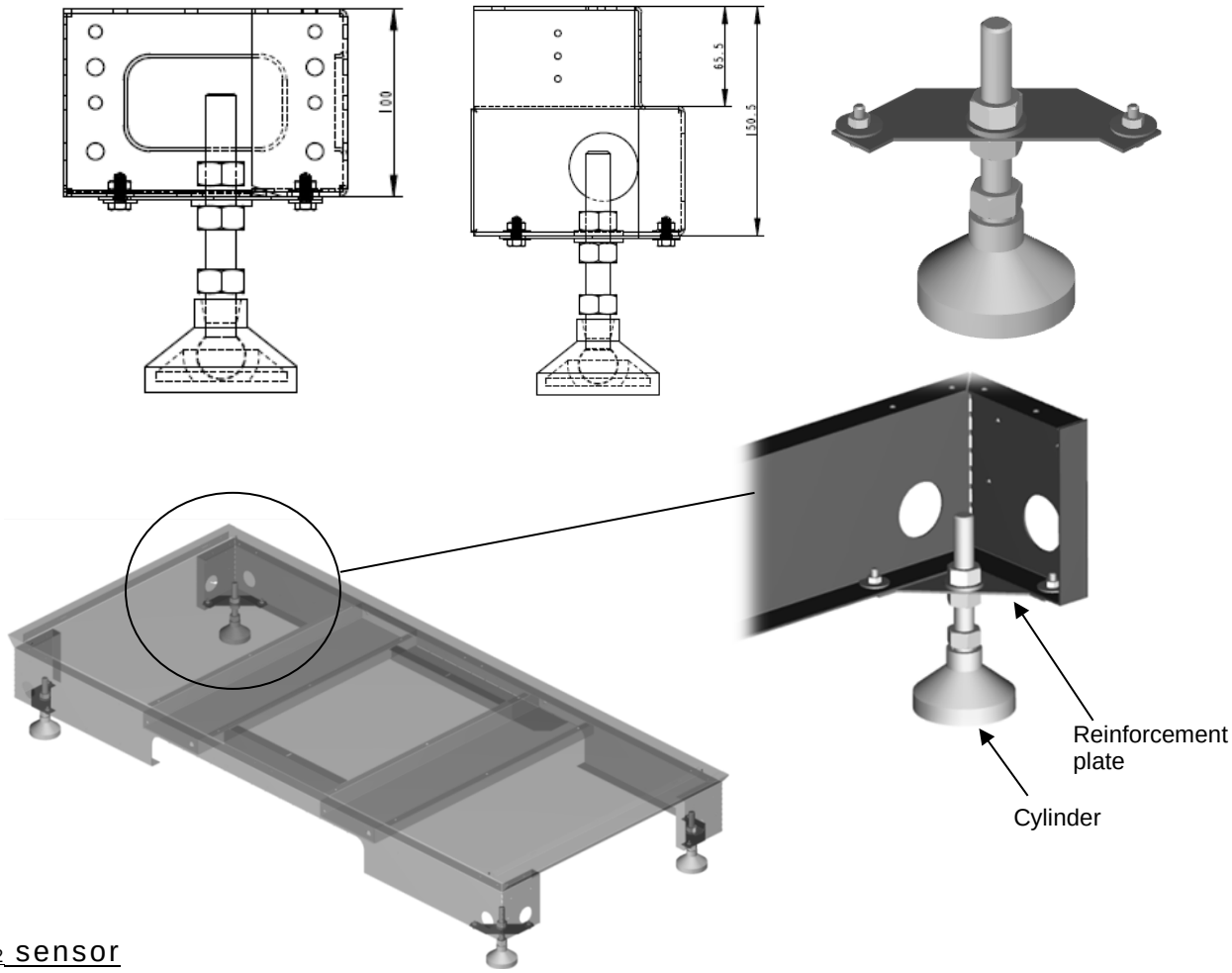


Variable speed rotary heat exchanger ("Classic" model), controlled by "Floway Control".

Options and accessories

Support feet and accessories (Floway "Vertical" and "Classic" only)

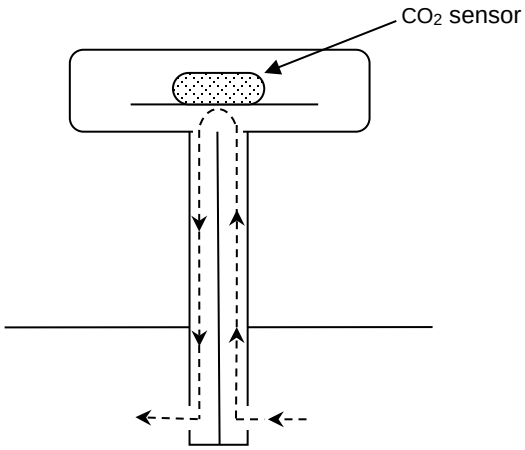
To obtain a greater clearance height, fit the adjustable feet (30 to 100 mm) underneath the standard feet.



CO_2 sensor

The CO_2 sensor must be positioned on the return air duct, so that it can measure the CO_2 level emitted from the part(s) treated.
This sensor is supplied as a spare part and the manual for this is included in its packaging.

Operating principle



To configure the CO_2 level activation threshold, refer to the information on air quality for the town/city in which the AHU is installed.

CO_2 concentration scale and the effects on humans:
(Our CO_2 sensor has an operating range of 0 to 2000 ppm)

CO_2 concentration	Effect on humans
380 - 480 ppm	Normal atmospheric level
600 - 800 ppm	Correct level for enclosed spaces
1000 - 1100 ppm	Tolerable level for enclosed spaces
5000 ppm	Upper limit for 8 hours of exposure

*CO2 sensor (sensor in duct): refer to the attached supplier manual

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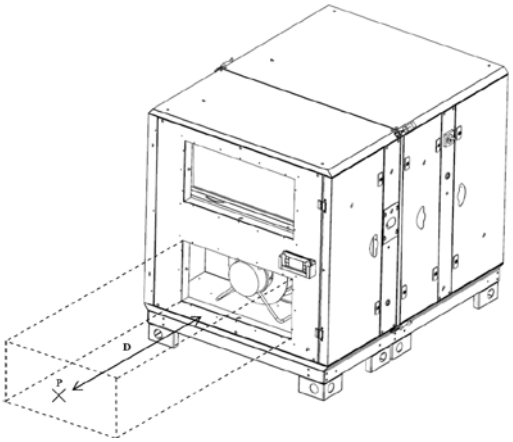
Constant pressure sensor

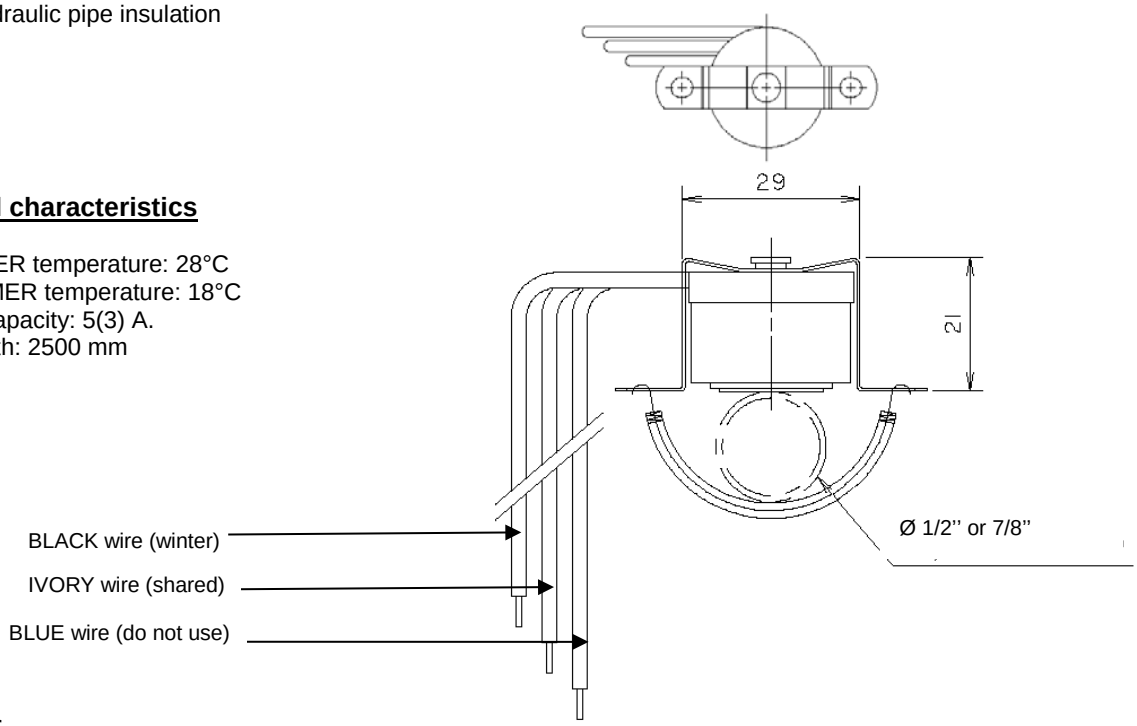
The constant pressure is only controlled for the flow of fresh supply air (if optional constant pressure kit sold).
The fresh air fan is controlled by the signal from this pressure sensor in the duct.
The exhaust air flow is controlled by the flow rate signal read off the flow of fresh air, and may vary according to a factor M (0.5 – 1.5).
Two pressure values can be configured: Nominal pressure and Reduced pressure.
The duct pressure sensor must be positioned on the supply air inlet duct at a distance:
D = 2 Dh *(hydraulic Ø)*

- If the duct is circular, Dh = Ø of the duct
- If the duct is rectangular $Dh = \frac{2 \times L \times l}{L + l}$



Changeover thermostat for mixed coil

Installation on the hydraulic network is the responsibility of the customer.
The Changeover thermostat installed on the pipe must be integrated into the hydraulic pipe insulation



Technical characteristics

Min. WINTER temperature: 28°C
Min. SUMMER temperature: 18°C
Breaking capacity: 5(3) A.
Cable length: 2500 mm

Damper

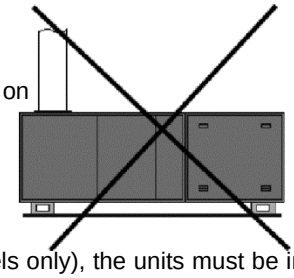
The damper is not protected against the weather if the canopy option has not been selected.

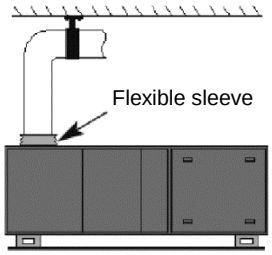
4 – INSTALLATION AND CONNECTIONS INSTALLATION

The installation of the equipment must comply with the regulations and standards of the recipient country.

The additional box must be positioned in the duct so that the temperature sensor is on the downstream side (air supply)

Special recommendations:





•Connections must not place mechanical stresses on the unit.

•Keep all inspection doors closed while the unit is operating

•If fitted outdoors (Classic and Classic RHE models only), the units must be installed so as to withstand the climatic conditions in the installation location (risk of snow: height from ground/risk of wind: suitable mountings, swan-neck type electrical connection to the unit etc.).

Ensure all electrical components are earthed.

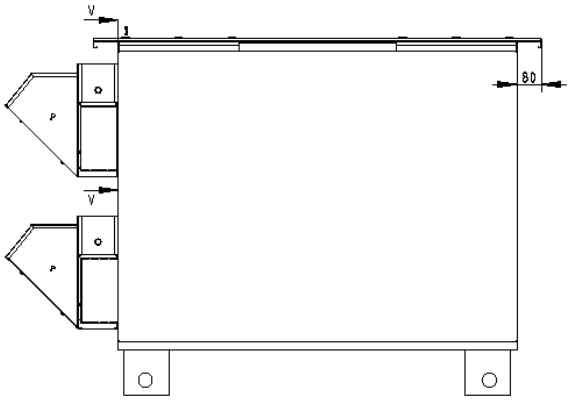
OUTDOOR INSTALLATION **("Classic" and "Classic RHE" model only)**

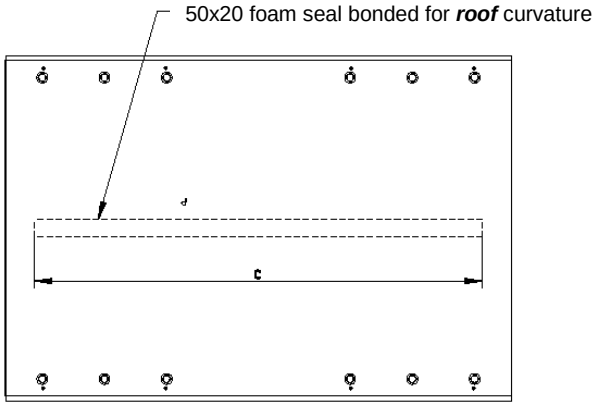
The installation of a "Floway" dual-flow unit outdoors requires a roof and a canopy to be fitted; these are usually supplied mounted* and adapted to suit each configuration.
(* Supplied in kit form if delivery of the elements assembled is not possible)

Fitting the roofs:

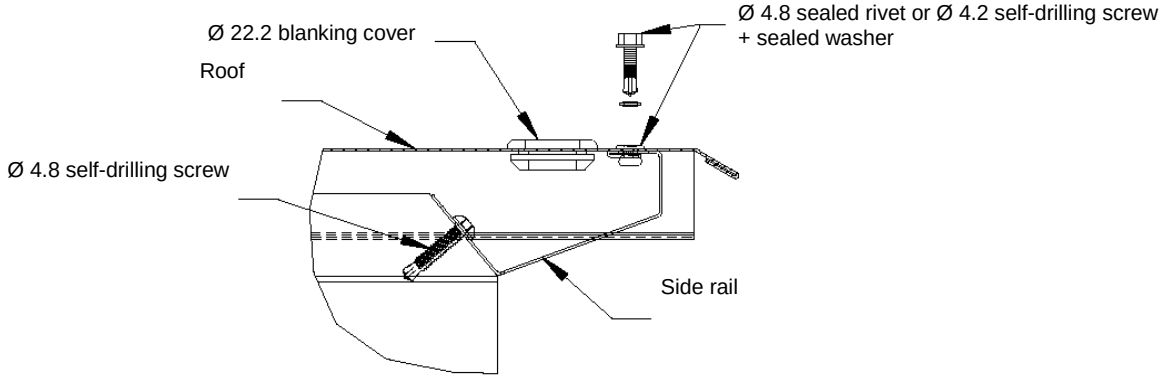
The roofs for Floway units are designed to provide sufficient protection against adverse weather conditions, as they overlap the edge of the unit by 80 mm.
Fitting procedure:

1. Fix the foam seal along the length of the unit. (50 x 20 foam seal).
2. Fix the roof panel(s) along the entire length of the unit.



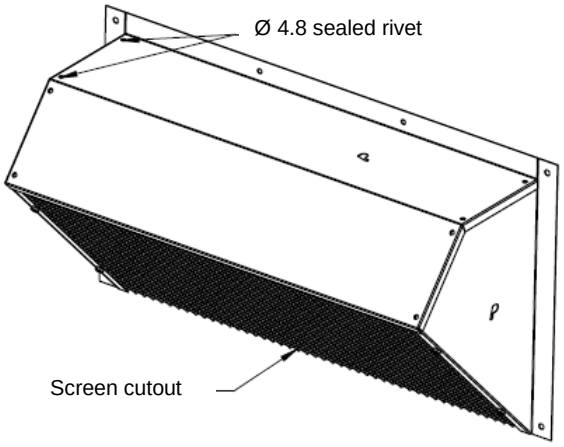


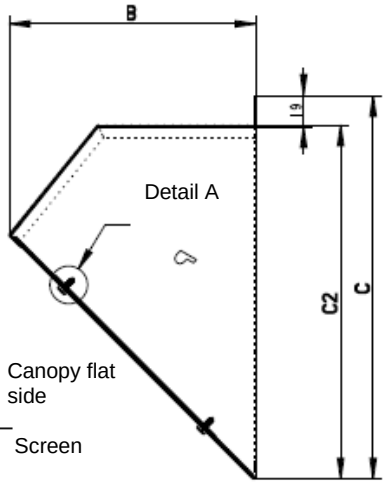
3. Assemble the roof on the unit as per the following diagram

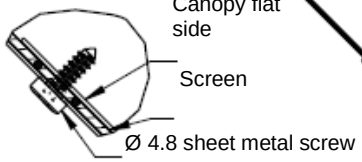


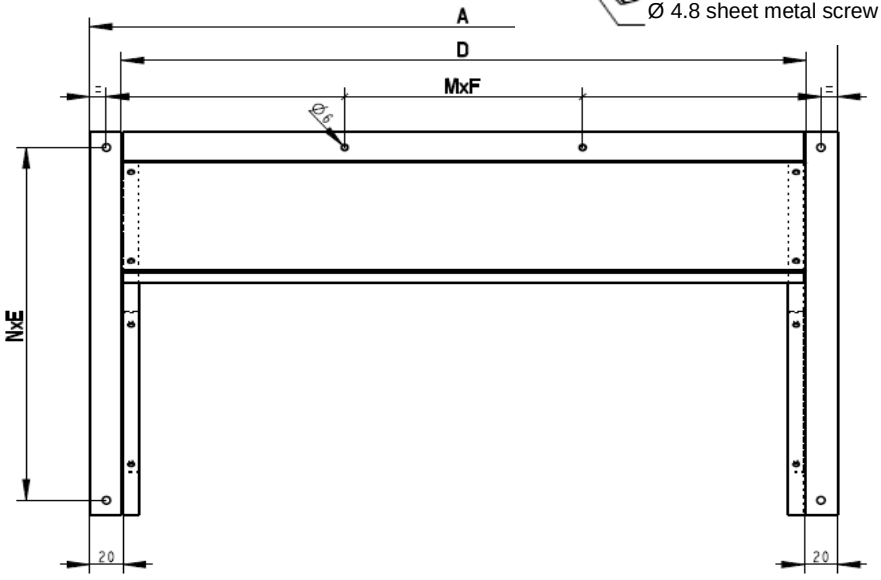
Fitting the Canopy without damper:

The upper panel will be assembled on the two side panels using screws, washers and nuts or sealed rivets. Also fit the protective screen during installation.
Fix a sealing gasket around the edge of the canopy which will be in contact with the unit and apply mastic if necessary









CLASSIC	A	B	C	C2	D	N x E	M x F	Weight (kg)	OPENINGS
1000	350	205	355	336	310	2x170	2x170	1,780	Circular
2000	450	268	455	436	410	2X220	2X220	2,875	

CLASSIC RHE	A	B	C	C2	D	N x E	M x F	Weight (kg)	OPENINGS
1000	637	274	394	376	598.5	2x190	2x313	2,5	Rectangular
2000	737	304	494	476	698,5	2x240	2x363	3,4	
3000	1188,5	358	579	560	1150	2x265	3x340	5,3	
4000/5000	1488,5	390	669	650	1149	2x310	6x220	6,7	
6000/7500	1788,5	528	869	841	1750	2x405	5x324	12,2	
10 000	1788,5	524	881	861	1750	3x275	5x324	15.3	
15 000	2050	422	870	851	2011	3x275	6x324	16.2	

CONNECTIONS

DIMENSIONS OF AIR FLOW CIRCUITS

Floway “Classic” and "Classic RHE"

	SIZE						
	1000	2000	3000	4000 / 5000	6000 / 7500	10 000	15 000
Connections (mm) air intake and discharge	Ø 250	Ø 355	458x984	608x1284	758x1584	797x1577	807x1907

*Internal dimensions

Floway "Ceiling-mounted version"

		SIZE		
		700	1200	1600
Ø Connections (mm)	Air inlet	2x160	2x250	2x250
	Air discharge	315	355	400

*Internal dimensions

Air duct network and pressure drop to be balanced on the two inlets of each air flow

Floway “Vertical”

		SIZE		
		700	1500	2000
Ø Connections (mm)	Air inlet	250	355	355
	Air discharge	250	355	355

*Internal dimensions

Additional box

		SIZE				
		1	2	3	4	5
Connections (mm)	Air inlet	Ø 250	Ø 355	458x984	608x1284	758x1584
	Air discharge	Ø 250	Ø 355	458x984	608x1284	758x1584

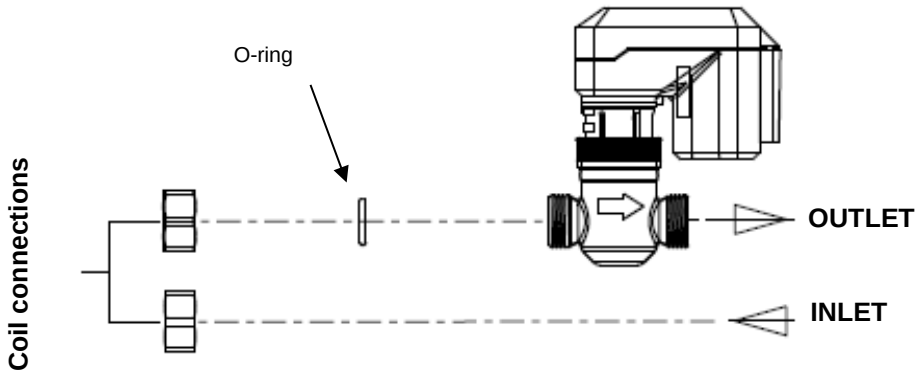
*Internal dimensions

DIMENSION OF HYDRAULIC CIRCUITS (**Internal hydraulic coil and additional box)**

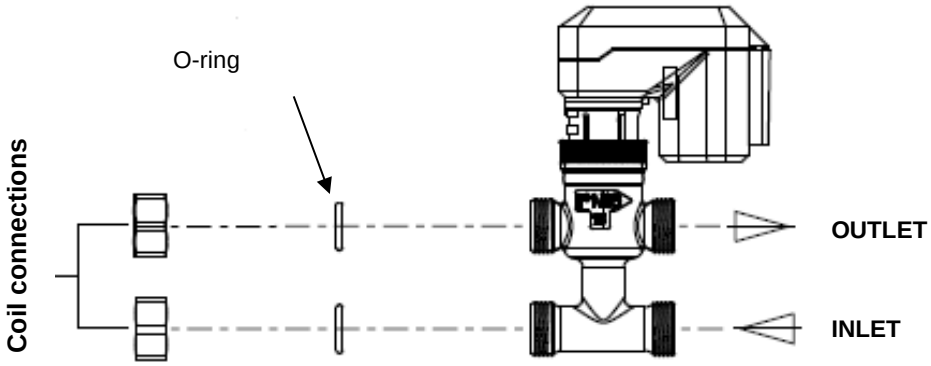
Valve connection

Heating/cooling assembly

2-WAY VALVE



4-WAY VALVE



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The diameter of the condensate tube on all the pans is 16 mm

Floway “Classic” and "Classic RHE"

		SIZE								
		1000	2000	3000	4000	5000	6000	7500	10 000 2 rows	15 000 2 rows
Ø Connections (mm) 4-way valve	Valve inlet	1/2" GAS	1/2" GAS	3/4" GAS	3/4" GAS	3/4" GAS	1" GAS	1" GAS	G2"	G2"
	Valve outlet	1/2" GAS	1/2" GAS	3/4" GAS	3/4" GAS	3/4" GAS	G 1"1/2	G 1"1/2	G2"	G2"

		SIZE	
		10 000 4 rows	15 000 4 rows
Ø Connections (mm) 3-way valve	Valve inlet	G2"1/4	G2"1/4
	Valve outlet	G2"1/4	G2"1/4

Floway "Ceiling-mounted version"

		SIZE		
		700	1200	1600
Ø Connections (mm) 4-way valve	Valve inlet	1/2" GAS	1/2" GAS	1/2" GAS
	Valve outlet	1/2" GAS	1/2" GAS	1/2" GAS

Floway “Vertical”

		SIZE		
		700	1500	2000
Ø Connections (mm) 4-way valve	Valve inlet	1/2" GAS	1/2" GAS	1/2" GAS
	Valve outlet	1/2" GAS	1/2" GAS	1/2" GAS

ELECTRICAL CONNECTIONS

Floway “Classic” and "Classic RHE"

	SIZE								
	1000	2000	3000	4000	5000	6000	7500	10 000	15 000
Voltage (V)	230 V 1-Ph	400 V 3-Ph							
Current (A) without electric heater	6.2	3.6	5.5	6.1	6.1	8.7	8.7	17.1	21.9
Current (A) with internal electric heater	26.6	19.7	24.2	31	35.4	42.5	54.7	89.3	115.7

Floway "Ceiling-mounted version"

	SIZE		
	1000	1200	1600
Voltage (V)	230 V 1-Ph		400 V 3-Ph
Current (A)	6.2	6.2	3.6

Floway “Vertical”

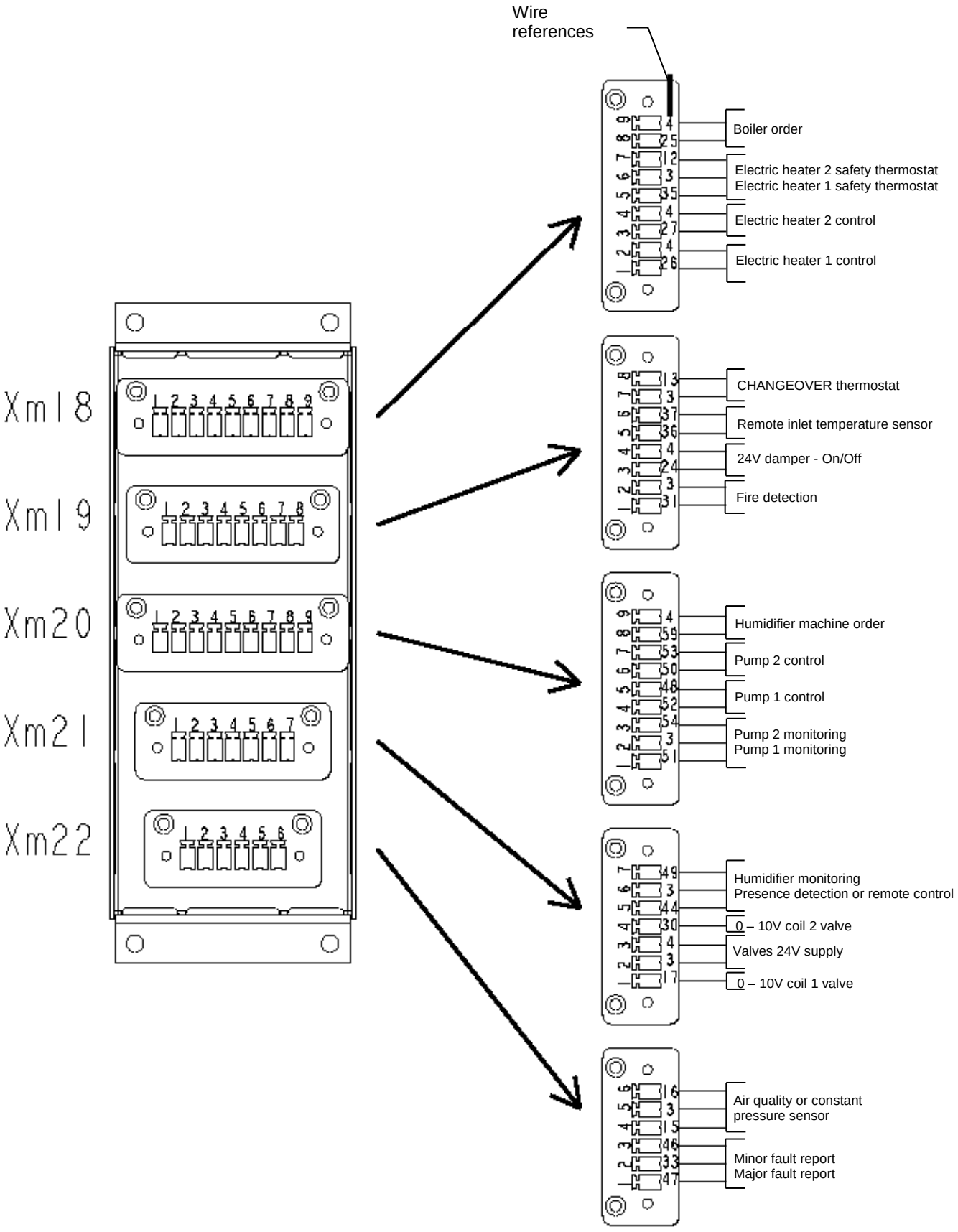
	SIZE		
	700	1500	2000
Voltage (V)	230 V 1-Ph	400 V 3-Ph	
Current (A) without electric heater	6.2	3.6	3.6
Current (A) with internal electric heater	26.6	16.2	20.2

Additional box

	Size									
	1	2	2	2	3	3	4	4	5	5
Associated model	Classic 1000 Vertical 700 & 1000 Ceiling-mounted 700	Ceiling-mounted 1200	Classic 1500 Vertical 1500 Ceiling-mounted 1600	Classic 2000 Vertical 2000	Classic 2500	Classic 3000	Classic 4000	Classic 5000	Classic 6000	Classic 7500
Voltage	230 V 1-Ph		400 V 3-Ph							
Current	20		11	16	16	19	25	29	34	46

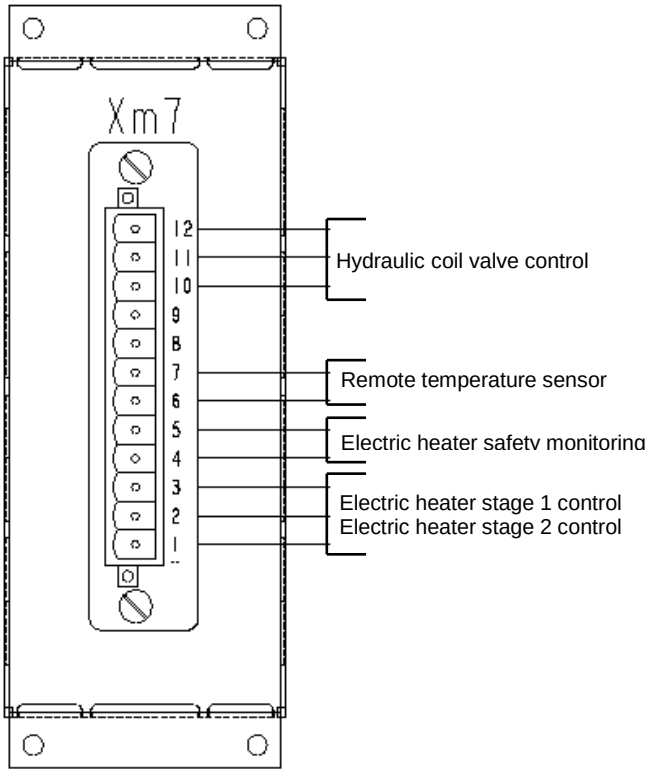
Connect the unit's electrics to the power network as per the tables above.
Connection to the machine's general switch located inside it (Ø 22.2 blanking cover provided).
If there is an electric heater in the additional box, make provision for the electrical connections.

Machine/customer terminal block references



NB: the maximum cross-section of the stripped wire is Ø 1.5 mm and Ø 0.5 mm for wire with an end-piece.

Additional box terminal block references



Electric heaters

- *Pre-heats 1 stage: 4 wires*

Machine terminal block	Additional box connector	Notes	Inlet/Outlet
Xm 18 _ b-1	Xm 7 _ b-1	On/off control 24 VAC	Digital outputs
Xm 18 _ b-2	Xm 7 _ b-2		
Xm 18 _ b-5	Xm 7 _ b-5	Electric heater safety thermostat return Dry contact	Digital inputs
Xm 18 _ b-6	Xm 7 _ b-4		

Remote temperature sensor not connected if there is a pre-heating coil

- *Pre-heats 2 stages: 6 wires*

Machine terminal block	Additional box connector	Notes	Inlet/Outlet
Xm 18 _ b-1	Xm 7 _ b-1	On/off control stage 1 24 VAC	Digital outputs
Xm 18 _ b-2	Xm 7 _ b-2		
Xm 18 _ b-3	Xm 7 _ b-3	On/off control stage 2 24 VAC	
Xm 18 _ b-4	Xm 7 _ b-2		
Xm 18 _ b-5	Xm 7 _ b-5	Electric heater safety thermostat return Dry contact	Digital inputs
Xm 18 _ b-6	Xm 7 _ b-4		

The remote temperature sensor is not connected if there is a pre-heating coil

➢ *Pre-heats 1 stage + Post-heats 1 stage: 4 + 6 wires*

Machine terminal block	Additional box connector. Pre-heats	Additional box connector. Post-heats	Notes	Inlet/Outlet
Xm 18 _ b-1	Xm 7 _ b-3		On/off control pre-heats 24V AC	Digital outputs
Xm 18 _ b-2	Xm 7 _ b-2			
Xm 18 _ b-3		Xm 7 _ b-3	On/off control post-heats 24V AC	
Xm 18 _ b-4		Xm 7 _ b-2		
Xm 18 _ b-5	Xm 7 _ b-5		Electric heater safety thermostat return Dry contact	Digital inputs
Xm 18 _ b-6	Xm 7 _ b-4	Xm 7 _ b-4		
Xm 18 _ b-7		Xm 7 _ b-5		
Xm 19 _ b-5		Xm 7 _ b-6	Remote temperature sensor measurement. Resistivity-response curve	Analogue inputs
Xm 19 _ b-6		Xm 7 _ b-7		

➢ *Post-heats 1 stage: 6 wires*

Machine terminal block	Additional box connector	Notes	Inlet/Outlet
Xm 18 _ b-1	Xm 7 _ b-3	On/off control 24 VAC	Digital outputs
Xm 18 _ b-2	Xm 7 _ b-2		
Xm 18 _ b-5	Xm 7 _ b-5	Electric heater safety thermostat return Dry contact	Digital inputs
Xm 18 _ b-6	Xm 7 _ b-4		
Xm 19 _ b-5	Xm 7 _ b-6	Remote temperature sensor measurement. Resistivity-response curve	Analogue inputs
Xm 19 _ b-6	Xm 7 _ b-7		

➢ *Post chauffe 2 étages : 8 fils*

Machine terminal block	Additional box connector	Notes	Inlet/Outlet
Xm 18 _ b-1	Xm 7 _ b-3	On/off control stage1 24 VAC	Digital outputs
Xm 18 _ b-2	Xm 7 _ b-2		
Xm 18 _ b-3	Xm 7 _ b-1	On/off control stage2 24 VAC	
Xm 18 _ b-4	Xm 7 _ b-2		
Xm 18 _ b-5	Xm 7 _ b-5	Electric heater safety thermostat return	Digital inputs
Xm 18 _ b-6	Xm 7 _ b-4		
Xm 19 _ b-5	Xm 7 _ b-6	Remote temperature sensor measurement. Resistivity-response curve	Analogue inputs
Xm 19 _ b-6	Xm 7 _ b-7		

Hydraulic coil

➢ *Hydraulic 1: 5 wires*

Machine terminal block	Additional box connector	Notes	Inlet/Outlet
Xm 19 _ b-5	Xm 7 _ b-6	Remote temperature sensor measurement. Resistivity-response curve	Analogue inputs
Xm 19 _ b-6	Xm 7 _ b-7		
Xm 21 _ b-2	Xm 7 _ b-10	24V supply	
Xm 21 _ b-3	Xm 7 _ b-11		
Xm 21 _ b-1	Xm 7 _ b-12	0 -10V coil valve control	Analogue output

➢ *Hydraulic 2: 5 wires*

Machine terminal block	Additional box connector	Notes	Inlet/Outlet
Xm 19 _ b-5	Xm 7 _ b-6	Remote temperature sensor measurement. Resistivity-response curve	Analogue inputs
Xm 19 _ b-6	Xm 7 _ b-7		
Xm 21 _ b-2	Xm 7 _ b-10	24V supply	
Xm 21 _ b-3	Xm 7 _ b-11		
Xm 21 _ b-4	Xm 7 _ b-12	0 -10V coil valve control	Analogue output

If there are several coils in the additional box, only connect the "last" temperature sensor to the air supply.

- *Changeover battery present: 2 wires*

Machine terminal block	Notes	Inlet/Outlet
Xm 19 _ b-7	Black wire of C/O thermostat	Digital inputs
Xm 19 _ b-8	White wire of C/O thermostat	

The changeover thermostat must be positioned on the "customer" side of the hydraulic duct, the "fluid into the coil" side (so that it is in the insulation).
Contact open: normal operation in cooling mode
Contact closed: operation in heating mode (contact closed from 28°C)
If the unit is equipped with an internal hydraulic coil, coil no. 2 in the additional box must be connected to the fast-on connectors provided for this purpose. (see additional box terminal block references)

- *Boiler order: 2 wires (Selection: boiler, heat pump in heating mode, heat pump in cooling mode)*

Machine terminal block	Notes	Inlet/Outlet
Xm 18 _ b-8	On/off control 24 VAC	Digital outputs
Xm 18 _ b-9		

The ON command is given when the heating/cooling demand is true

- *Damper control: 2 wires*

Machine terminal block	Notes	Inlet/Outlet
Xm 19 _ b-3	Damper opening/closing control 24 VAC	Digital outputs
Xm 19 _ b-4		

Relay closed = Damper open (relay normally closed)
Relay opened = Damper closed

- *Fire detection: 2 wires*

Machine terminal block	Notes	Inlet/Outlet
Xm 19 _ b-1	Fire detection activation Dry contact	Digital inputs
Xm 19 _ b-2		

Contact normally closed

- *Humidifier: 4 wires*

Machine terminal block	Notes	Inlet/Outlet
Xm 20 _ b-9	Humidifier activation Dry contact	Digital outputs
Xm 20 _ b-8		
Xm 21 _ b-7	Humidifier fault monitoring Dry contact (shared b-6)	Digital inputs
Xm 21 _ b-6		

Humidifier ON command if air flow detected

- *Pump 1 monitoring: 4 wires*

Machine terminal block	Notes	Inlet/Outlet
Xm 20 _ b-4	ON command Pump 1 Dry contact	Digital outputs
Xm 20 _ b-5		
Xm 20 _ b-1	Pump 1 fault monitoring Dry contact (shared b-2)	Digital inputs
Xm 20 _ b-2		

Pump 1 ON command if Hydraulic coil 1 operating order

- *Pump 2 monitoring: 4 wires*

Machine terminal block	Notes	Inlet/Outlet
Xm 20 _ b-6	ON command Pump 2 Dry contact	Digital outputs
Xm 20 _ b-7		
Xm 20 _ b-3	Pump 2 fault monitoring Dry contact (shared b-2)	Digital inputs
Xm 20 _ b-2		

Pump 2 ON command if Hydraulic coil 2 operating order

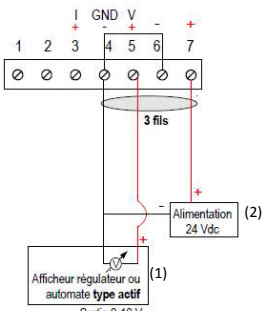
➢ *Presence detector or remote command: 2 wires*

Machine terminal block	Notes	Inlet/Outlet
Xm 21 _ b-5	Unit ON/OFF monitoring Dry contact (shared b-6)	Digital inputs
Xm 21 _ b-6		

➢ *IAQ monitoring sensor: 3 wires*

Machine terminal block	Notes	Inlet/Outlet
Xm 22 _ b-4	Ground	
Xm 22 _ b-5	Sensor 24V supply	
Xm 22 _ b-6	CO_2 sensor/transmitter 0-10 V active rear sensor	Analogue input

CO112-ANA



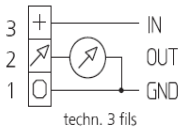
(1) Controller display or **active** controller 0-10 V output
(2) 24 V DC supply

➢ *Fault feedback: 3 wires*

Machine terminal block	Notes	Inlet/Outlet
Xm 22 _ b-1	"Danger" fault monitoring Dry contact (shared b-2)	Digital outputs
Xm 22 _ b-2	Shared	
Xm 22 _ b-3	"Maintenance" fault monitoring Dry contact (shared b-2)	

➢ *Constant intake duct pressure sensor: 3 wires*

Machine terminal block	Notes	Inlet/Outlet
Xm 22 _ b-4	Ground	
Xm 22 _ b-5	(IN) sensor 24V supply	
Xm 22 _ b-6	(OUT) pressure monitoring signal 0-10 V	Analogue input



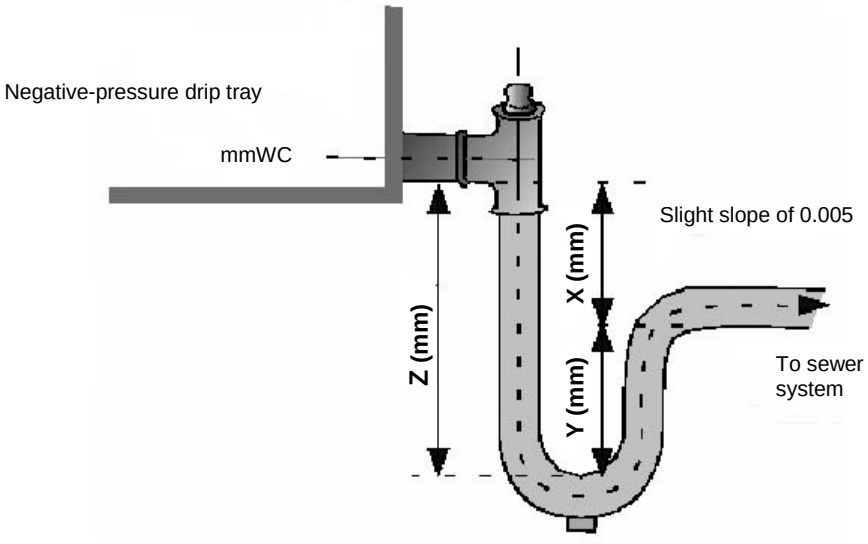
SIPHON INSTALLATION ("Vertical", "Ceiling-mounted" and "Classic" models equipped with a cooling or mixed coil)

It is important to ensure the siphon is correctly fitted, as per the diagram below. For a depression H in the condensate drain, the sizing of the siphon must incorporate dimensions of 2H

Schematic diagram of siphon

Assembly with depression :

Z: X+Y+tubing diameter + insulation thickness
Y: Y = 0.5 * X
X: X = 25 mm for each 250 Pa of negative static pressure + 25 mm



Assembly with pressure:

X = 12 mm
Y = 12 mm + total static pressure (1 mm for 10 Pa)

NB: the condensate pan on the heat recovery unit is pressurised on the “VERTICAL" model, and is also pressurised if there is a cooling or mixed coil in the additional casing.

5 - COMMISSIONING

Commissioning must be performed by qualified personnel, trained in air handling technology. Keep all inspection doors closed while the unit is operating.

Once the electrical and hydraulic connections have been carried out, proceed with the commissioning of the unit, checking the steps below:

• Check the tightness of all connections,

• Make sure that the unit is clean internally, and that there are no foreign bodies inside it,

• Check the wiring

• Check the power supply voltage and overload protection calibration in accordance with the current ratings of the various components,

• To configure the setpoints, refer to the corresponding manual ,

• Simulate activation of the various electric components, controlled components and alarms,

• Check the currents:
- Temperature alarm,
- Air flow alarm,
- Fan motor assembly

• Check the air flow rates

• After a few hours' operation, check the filter fouling condition.

REGULATION: FLOWAY CONTROL

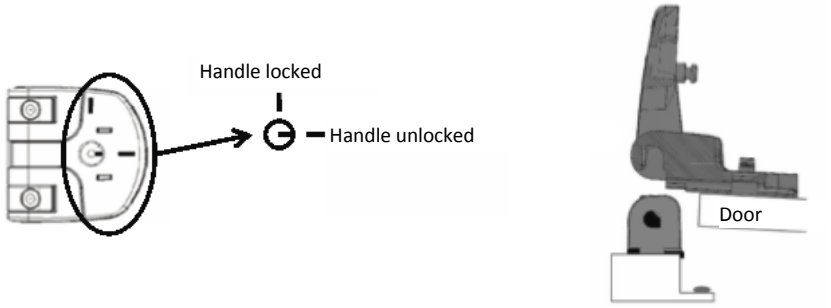
To set and configure the "Floway Control" regulation, refer to the corresponding manual (N09.61).

6 - MAINTENANCE/SERVICE INTERVALS

Switch off the electrical supply to the air handling unit before carrying out any work

Details of hinges/handles: Allen key locks, size 4

When they are unlocked, the handles are in "hinge" mode. It is possible to unlock a single row of handles to open like a conventional door. If all of the handles are unlocked, the door can be removed



FILTERS

After commissioning, the speed of filter fouling will depend on the care taken when cleaning the air flow circuits. Hence the frequency of filter checks should be increased during this period.

Maintenance intervals

The filter life depends essentially on the amount of dust in the air and the efficiency of the filtration system. The filtration quality cannot be maintained if the filter medium has been damaged during maintenance. We recommend that the filters be replaced once every two years, even in the case of moderate use

Filter replacement method

During filter maintenance operations, it is important not to spread the dust that has accumulated in the filters.

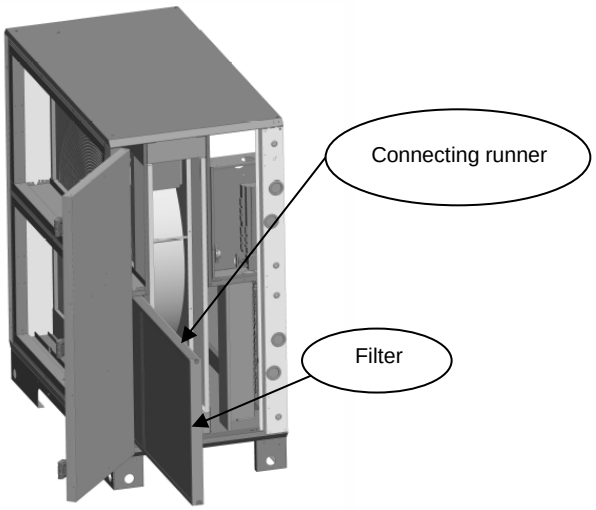
Shut down the unit,

Access the filters by opening the door panels,

Simply pull on the filters

Pull the connecting runner (on Floway Classic and RHE ≥ 3000 m^3/h models), then you can remove the filters. For the other models, simply pull directly on the filters.

Example: Floway "Classic"



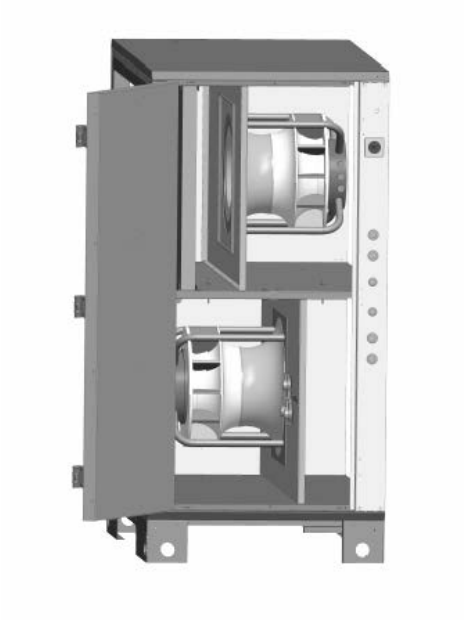
FAN MOTOR ASSEMBLY

Check and retighten the electrical connections once a year.

FMA removal method

Open the door as explained above,
Unlock the 4 x M8 screws using the ratchet wrench and its extension,
Disconnect the motor's electrical connections,
Take out the FMA via the access door.

Example: Floway “Classic”

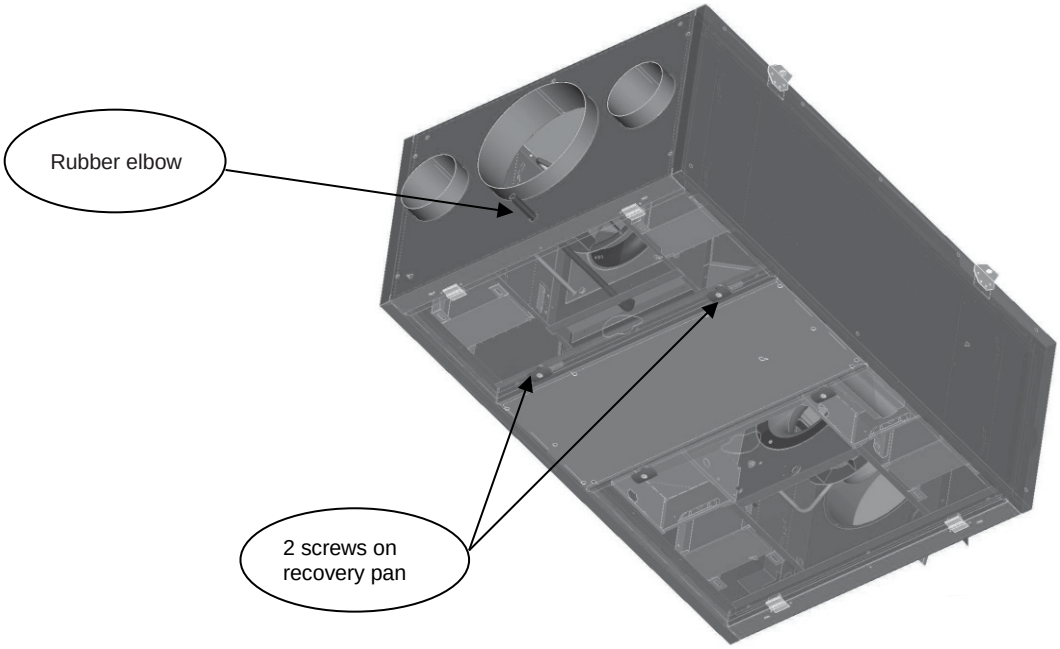


HEAT EXCHANGER

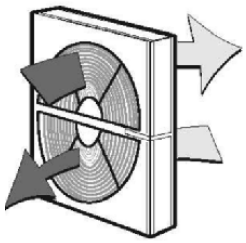
Plate heat exchanger ("Ceiling", "Vertical" and "Classic" models)

Schedule annual dust removal / degreasing and maintenance of the bypass damper.
It is important to remember to clean and degrease the condensate drain pan using water and non-abrasive detergents:
The heat recovery unit on the "vertical" model is accessible via the door and can be removed by the sliding runner.
The pan on the "Ceiling-mounted" model can be removed as follows:

- Uncouple the condensate drain pipe elbow,
- Remove the 2 condensate drain pan retaining screws: the pan can now be removed.



Rotary heat exchangers (“Classic RHE” model)



Check the maximum and minimum rotation speeds once a year.
When stationary, the rotary heat exchangers accumulate dust and moisture at their lowest point.
Schedule cleaning during prolonged stoppages.
Check the permanently lubricated bearings once a year.

Wheel consumption

		SIZE								
		1000	*2000*	*3000*	*4000*	*5000*	*6000*	*7500*	*10 000*	*15 000*
Variable speed	*Power (W)*	25	25	40	40	90	90	180	180	180
	Voltage (V)	1 x 230 V								

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ELECTRICS BOX

Retighten the connections twice a year.
Visually inspect the components, wires and cables.

ELECTRIC HEATERS

The electric heater requires very little maintenance. However, the following checks are necessary:
Visually inspect the heating elements, wires and connection cables after every 1500 hours of operation.

Check and retighten the connections once or twice a year.

HYDRAULIC COIL

The hydraulic coil requires very little maintenance as it is protected by the filter.

SERVICE INTERVALS

Regular maintenance will keep the unit running at optimum performance. The values given in the table below are provided for guidance only. They do not take into account individual factors that can lengthen or shorten the unit's service life.

7 – PROBLEMS/CAUSES/SOLUTIONS

Refer to the "Floway Control" control manual N09.61.

Components	*At commissioning*	*2 to 3 months*	*12 months*	*Operating readings*
Filters		Check the fouling level and replace if necessary	Replace	
Fans	Check the connections		Retighten the connections	
Electrics box	Check the connections	Operating check	Retighten the electrical connections Check the components Operating check	
Pressure/temperature sensor	Check correct operation and setpoint adjustment	Check correct operation and setpoint adjustment	Check correct operation and setpoint adjustment	
Condensate pan		Clean with water and a **non-abrasive** detergent	Clean with water and a **non-abrasive** detergent	

8 – TESTS AND GUARANTEES

To guarantee the product's quality, each Floway air handling unit undergoes a variety of tests: EMC (electromagnetic compatibility) test, component functional tests (fan motor assembly, heat recovery unit, sensor, etc.).
However, our units are guaranteed for a period of 12 months from the commissioning date, when this date occurs within three months of the invoice date.
It is effective for a period of 15 months from the unit invoice date in all other cases.

CIAT's guarantee on motors is limited to the terms of guarantee extended by its supplier.
Under no circumstances must the fitter carry out work on the motor. This will invalidate any future claims on the guarantee.

NB: for more information, refer to the application of the CIAT guarantee.

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