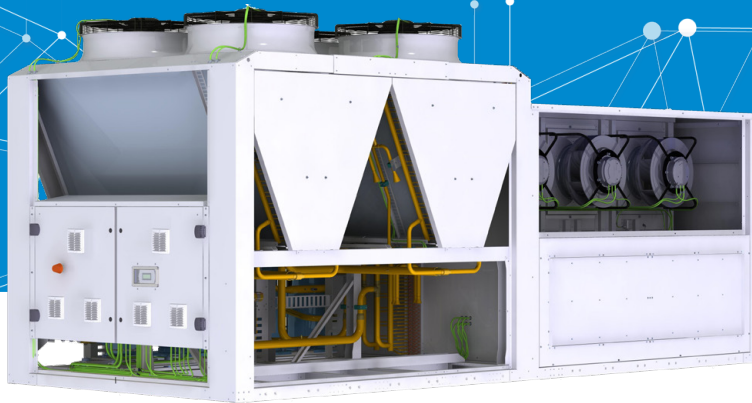


PACKAGED ROOFTOP UNITS



High efficiency
Superior reliability
Compact system
Low sound level
Energy recovery
Variable speed EC fans

50FC 100 - 280

Nominal cooling capacity 100,0 - 279,9 kW
Nominal heating capacity 100,2 - 308,4 kW

The **50FC** packaged rooftop range consists of autonomous compact air-air units of horizontal design, rooftop type.

■ **50FC series, models 100 to 280:** for reversible heat pump operation.

The range of available capacities in the series allows for the air conditioning of medium and large surface areas which are common in shopping malls, food retail, logistics and many other commercial and industrial applications.

50FC units are designed for optimized part-load management in achieving the highest levels of seasonal efficiency, exceeding the limits set by regulation.

With its mono-block lightweight construction, the units feature a self-supporting frame, designed to ease the installation and maintenance works.

The units integrate the latest technological innovations:

- Multi-scroll compressors in tandem.
- Electronic expansion valves.
- Variable speed EC fans.
- Auto-adaptative microprocessor control.

For maximum adaptability, a number of options is available to meet any operating requirement:

- Exhaust air energy recovery.
- Economizer.
- Indoor air quality management.
- Available static pressure up to 80 mm.w.c.
- Zoning with variation of airflow.
- Installation roofcurbs.
- Auxiliary heating modules.
- Extended operation limits.



CARRIER participates in the ECP programme for RT
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FEATURES AND ADVANTAGES

Carrier's range of packaged rooftop air conditioning units 50FC has been designed to set high standards in performance. The series offers design flexibility, ease of installation, quality and superior reliability thanks to the number of technological improvements and the available options that allow for seamless integration in the building.

Designed to withstand outdoors installation, it can operate all-year-round performing at the highest levels of seasonal efficiency thanks to the management of the new control inside.

The high efficiency cooling circuits have been developed as to eliminate any leaks caused by any vibration modes and designed with state-of-the-art components including electronic expansion valves in all the circuits. The refrigerant circuits come fitted with pressure transducers and temperature sensors which allow for accurate control on the operation conditions together with the management of the fans speed.

The chassis has been designed and tested for the most demanding conditions. With aluminium panels as standard, the self-supporting structure has been conceived also to reduce weight and to optimize transportation capabilities. All the sheet metal work comes in powder-coated finishes outdoors and indoors.

Ease of maintenance is also granted thanks to the great accessibility to components through removable side panels, access doors fitted with dual hinges with locking functions.

Additional energy savings are possible thanks to multiple options such as economizers, exhaust air energy recovery or indoor air quality sensors.

This can also be combined with scheduling functions or BMS integration through many standardized protocols.



Design flexibility

The design of these units allows the airflow direction (lateral and lower) to be converted on-site. Being able to convert the unit airflow makes it easy to overcome job site complications.

- Vertical supply/return units are ideal for new construction or retrofit to existing installations. The low unit profile is maintained when the unit is installed on the accessory roofcurb.

The ducts can be attached directly to the roofcurb to allow all ductwork to be completed before the unit is positioned.

- Horizontal units are ideal for replacement or applications such as through-the-wall where sound must be attenuated before the duct penetrates the roof. Ducts connect directly to the unit. Horizontal units may be curb or slab mounted.

Easy and fast installation

The unit is connected directly to an air distribution ductwork without additional elements or equipment, pipes, cables, etc. taking no floor space at all. This design reduces the cost of installation, facilitates a quick connection and ensures reliable operation.

A vast number of options integrated in the unit meet many operating requirements.

Superior reliability

- Excellent full and part load efficiencies are achieved by using tandem scroll compressors. The compressors are equipped with crankcase heaters and protected by electronic sensors and logic to control minimum on and off times and reverse rotation.
- All units are tested at various stages on the production line for circuit leakage, electrical compliance and refrigerant pressures.

Advanced technology and performance

In tertiary sector installation, a high percentage of the annual air conditioning energy consumption comes from the use of fans for transporting air. Using fans which are more efficient has a direct impact on reducing consumption.

- Electronic plug-fans in the indoor circuit with direct drive and variable speed offer the following advantages:
 - Elimination of friction losses during transmission thanks to the direct drive.
 - Greater aerodynamic efficiency of the rotor (reactive blades with an optimized profile), running at very high operating pressures.
 - Greatly increased motor efficiency. Permanent magnets DC motors activated using electronic switching integrated into the motor itself.
 - Variable speed to ensure a constant supply air flow rate, independent of the filters clogging level.
 - Measuring the flow rate through a calibrated section at the fan intake and a differential pressure sensor allows the control to handle the flow rate reliably and precisely in both on CAV and VAV systems.
- Electronic axial fans in the outdoor circuit which adapt the rotation speed to the installation's requirements, reducing electricity consumption, the sound level at part load and improving the unit's average seasonal efficiency.

Environmental care

- Making an environmentally responsible decision is possible when using R-410A refrigerant.

This refrigerant is an HFC refrigerant that does not contain chlorine that is damaging to the ozone layer, and unaffected by the Montreal Protocol. R-410A refrigerant is a safe, non-toxic, efficient and environmentally balanced for the future.

- Also, to reduce the environmental impact, this new series is not requiring any wooden pallets for handling, thus eliminating not only the waste disposal but avoiding the cut of trees.

KEY FOR CONFIGURATION

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
50FC	100	A	4	A	B1	LL	000	S	N	A	H	S	000	0000	0000	0	0	AA00	00	A00	000	AA00	0000	0000

A: Unit type

50FC: air/air heat pump

B: Unit model

2 circuits: 100 / 110 / 120 / 130 / 145 / 160 / 170 / 180 / 200 / 220 / 250 / 280

C: Version of the series

A: Current version

D: Electrical power

4: 400V / 3ph + N / 50Hz
5: 400V / 3ph / 50Hz

E: Type of refrigerant

A: R410A

F: Airflow + Assembly

B1: Standard
B2: Economizer, 2 dampers
BP: Plug-fan in return section
BA: Cooling recovery circuit with plug-fan in return section
BT: Return top box with plug-fan or centrifugal fan
BB: Cooling recovery circuit with plug-fan or centrifugal fan in return top box
BW: Heat recovery wheel module

G: Coil coating : Indoor - Outdoor

LL: Aluminium - Aluminium
LP: Aluminium - Polyurethane
LN: Polyurethane - Inera®
PP: Polyurethane - Polyurethane
PN: Polyurethane - Inera®
NN: Inera® - Inera®

H: Heating

000: Without auxiliary heating
BAx: Gas burner, 2 power outputs:
x = M (Nominal) / S (High)
RAX: Electrical heaters, 3 power outputs:
x = F (Low) / M (Nominal) / S (High)
HAX: Hot water coil:
x = S (Standard)

I: Protection for low outdoor temperature

S: Without protection
A: Freeze protection OAT lower than -10°C

J: Supply fan

F: Low available pressure (aluminium)
N: Nominal available pressure (polypropylene)
M: Nominal available pressure (aluminium)
S: High available pressure (aluminium)

K: Air filtration + droplet eliminator

A: G4
B: G4+ droplet eliminator
C: G4 low pressure drop
D: G4 low pressure drop + droplet eliminator
G: G4 + F7
H: G4 + F7 + droplet eliminator
K: G4 low pressure drop + F7
L: G4 low pressure drop + F7 + droplet eliminator
O: M6 + F7
P: M6 + F7 + droplet eliminator
S: F7 + F9
T: F7 + F9 + droplet eliminator

L: Outdoor fan

L: AC (2-speed)
H: EC (electronic)

M: Insulation

S: Standard insulation
M: Insulation M0 with double wall (50mm)

N: Indoor unit

000 - Without optional accessories
A: Condensate drain pan in stainless steel
A: Unused
A: Filter fouling detector

O: Outdoor unit

0000 - Without optional accessories
A: Fresh air safety grid
A: Outdoor coil protection grid
A: Antivibration mounts
A: Droplet eliminator at the fresh air intake

P: Heat recovery wheel

0000 - Without optional accessories
4: Wheel diameter: 1500 mm
5: Wheel diameter: 1800 mm
6: Wheel diameter: 2000 mm
7: Wheel diameter: 2200 mm
A: Wheel speed with on/off control
B: Wheel speed with variable control
A: Channel cross section of 2,0 mm
B: Channel cross section of 2,5 mm
A: Material : Aluminium
C: Material : Hybrid wheel

Q: Extra heating

0: Without extra heating
B: Heat recovery coil

R: Special applications

0: Without special applications
C: Air zoning
D: Low return temperature application
I: Low T application + Air zoning

S: Sensors

0000 - Without optional accessories
A: Smoke detection control unit
A: CO₂ sensor environment installation
B: CO₂ sensor ducted installation
C: CO₂ sensor on the pLAN network
A: 1 sensor RS485
B: 2 sensors RS485
C: 3 sensors RS485
D: 4 sensors RS485
E: 1 sensor NTC
A: Ambient temperature sensor
B: Dual ambient temp. +humidity sensor
C: Ambient sensor on the pLAN network

T: Economizer management + Outdoor hum.

00 - Without economizer + without sensor
A: Outdoor humidity sensor on the unit
B: Outdoor hum. sensor on pLAN network
A: Thermal management
B: Thermoenthalpic management
C: Enthalpic management

U: Terminal + Unit communication

000 - Without terminal + stand-alone unit + without communication card
A: Card RS485 Modbus/Carel
B: Card Ethernet PCoWeb
C: Card RS485 LonWorks®
D: Card Ethernet BACnet™
E: Card RS485 BACnet™
F: Card RS485 Konnex
0: Stand-alone unit
A: Master unit
B: Slave unit
A: Graphic terminal in electrical cabinet
B: User terminal in electrical cabinet
C: Graphic terminal in the cabinet + User terminal remote up to 100 m
D: User terminal in the cabinet + Graphic terminal remote up to 200 m
E: Graphic terminal in the cabinet + Graphic terminal remote up to 200 m
F: Touch panel in electrical cabinet
G: Touch panel in the cabinet + Graphic terminal remote up to 200 m
H: Touch panel in the cabinet + User terminal remote up to 100 m

V: Miscellaneous item 1

000 - Without optional accessories
A: On-off control of an humidifier
B: Proportional control of an humidifier
A: Electrical energy meter
B: Cooling capacity & elec. energy meter
A: Refrigerant leak detector

W: Miscellaneous item 2

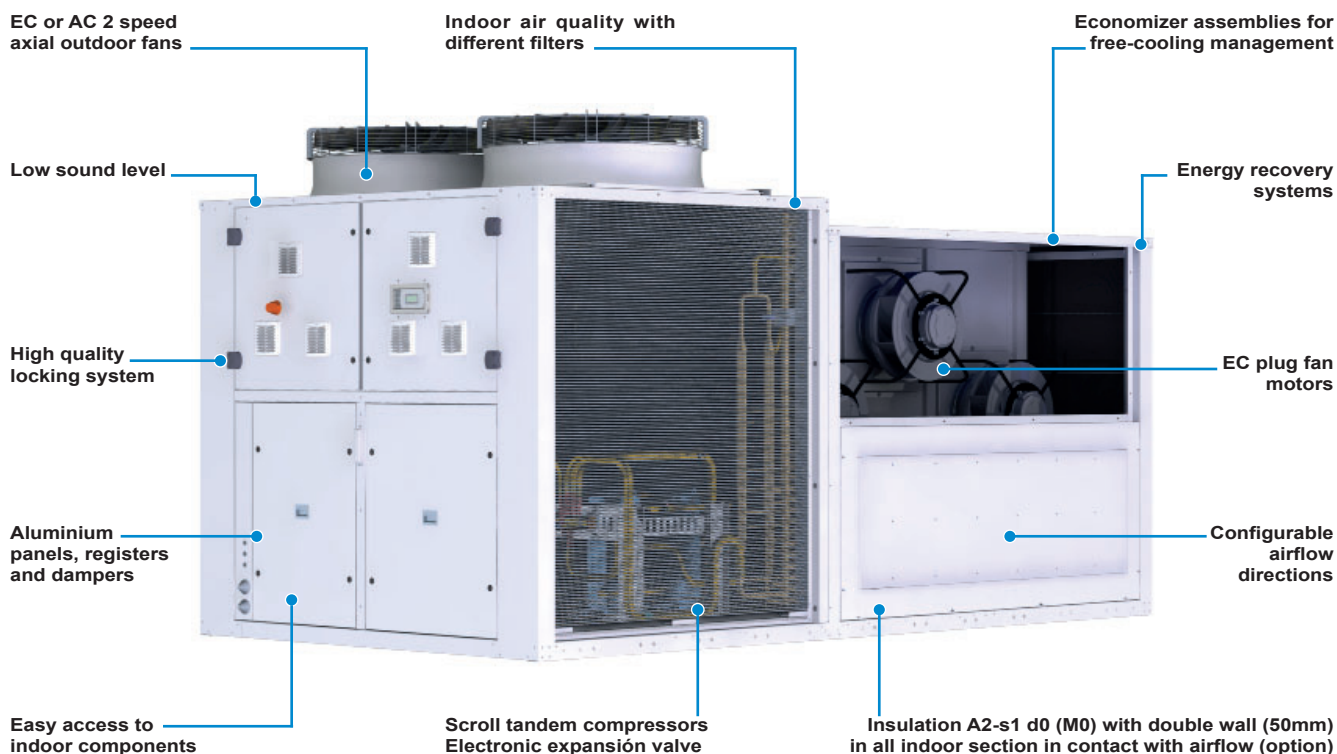
AA00 - Without optional accessories
Unused
A: Varnish protection
Unused
Unused

X: Return fan

0000 - Without return fan
A: Centrifugal, low airflow
C: Centrifugal, nominal airflow
E: Centrifugal, high airflow
N: Plug-fan, nominal pressure (polyprop.)
M: Plug-fan, nominal pressure (aluminium)
S: Plug-fan, high pressure (aluminium)
Unused

Y: Indoor airflow direction

0000 - Lower direction
0: Lower supply and lower return (B1, B2, BP, BA and BW assemblies)
1: Lateral supply and lower return (montajes B1, B2, BP, BA and BW)
2: Lower supply and lateral return (montajes B1, B2, BT and BB)
3: Lateral supply and lateral return (montajes B1, B2, BT and BB)
4: Upper supply and lower return (montajes B1 and B2)
5: Lateral supply and upper return (montajes B1 and B2)
6: Upper supply and lateral return (montajes B1 and B2)
7: Lower supply and upper return (montajes B1 and B2)
8: Upper supply and upper return (montajes B1 and B2)
Unused



UNIT COMPONENTS

Casing

- Structure made of galvanised steel metal. Panels and registers in aluminium. Finished with polyester paint, white colour RAL 7035.
- Removable panels for easy access to all components: electrical cabinet, compressors, fans, filters, etc.
- Skids for easy transport in a container. The dimensions of this range allow all models and assemblies to be transported in a container, so that the special SEI4C maritime packaging is not necessary under any circumstances.

Outdoor unit

- Coils with copper pipes and aluminium fins.
- EC electronic axial fans which adapt the rotation speed to the installation's requirements, thereby reducing electricity consumption, the sound level at partial charge and improving the unit's average seasonal efficiency. IP55 protection.

Indoor unit

- Thermal and acoustic insulation in panels and registers with M1 fire classification.
- Coils with copper pipes and aluminium fins.
- EC electronic supply plug-fans with variable control speed and flow rate controller.
- Reusable gravimetric air filters G4, mounted on a frame. Dual locking system mounted on the access panel to filters.
- Isolated pan of condensates drainage sloping down towards the drain. This pan is removable for easy cleaning in models 100 to 170.

Cooling circuit

- Hermetic scroll-type compressors in tandem design that

improves the management of stages and the part load efficiencies, assembled over antivibration mounts. Relay for phase-sequence monitoring and phase loss protection.

- Crankcase heater.
- Electronic expansion valves.
- Four-way cycle reversing valves.
- Acid-resistant filters dryer.
- Cooling design in 2-air volumes.

Protections

- High pressure pressostats.
- High and low pressure transducers.
- Refrigerant leak control (by low-pressure alarm).
- Compressor discharge temperature control.
- Main door switch.
- Protection for power lines of compressors with manual motor starters and power lines of fan motors with magnetothermic switches. These devices provide protection against overload, short circuit, phase failure and undervoltage.
- Automatic switch in the control circuit.

Electrical cabinet

- Complete and fully wired electrical cabinet. Insulated access door to prevent condensation. Forced ventilation of the electrical cabinet. Protection IP54.
- Numeration of wired and identification of components in the electrical cabinet. It permits easy tracing and diagnostics.
- Hinges + quarter-turn latches on the removable access doors.
- Electrical power supply with neutral.
- Main ground connection.
- Compressor and fan motor contacts.

CONTROLS

“50FC” control

Factory-installed “50FC” control provide the capability for free standing operation or may be linked with a more extensive system. Factory-installed and programmed Modbus communication capability provides simple integration with the building BMS system.

The 50FF/FC range may also be configured to communicate via LonWorks®, BACnet™ MSTP, Konnex, Modbus TCP/IP, BACnet™ Ethernet, TCP/IP, SNMP V1-2-3, FTP and HTTP protocols, if required by the application.

The “50FC” control also have the capability to communicate with our supervision solutions: **pCO Web** (1 unit), **PlantWatchPRO3** (30 units), **BOSS mini** (50 units) and **BOSS** (300 units).

This communication flexibility allows simple system integration, as well as data collection, trending, monitoring and alarm displays. The control provides unparalleled service diagnostic information.

With this control it is also possible to connect to a local pLAN (Local Area Network) for a maximum of 15 units, with one unit configured as “Master” and the others as “Slaves”. This network allows the exchange of data and information between the units, and depending on the conditions of the installation, share the reading of some probes installed on the unit configured as “Master”, temperature setpoints and operating mode. It is also possible to configure one unit as “Back-up” just in case for failure of the another unit on the pLAN network.

The “50FC” control are your link to a world of simple and easy-to-use rooftop units that offer outstanding performance and value. With the sensors, it maintains control over all the components of the unit and helps optimise the performance of the refrigeration circuits as conditions change, resulting in the following features:

- Higher part load efficiency.
- Better control of temperature.
- Superior reliability.
- High ambient cooling operation at 48°C.
- Low ambient cooling operation at -15°C WB.

The main functions of this control are:

- Selection of setpoint and operating mode: HEATING / COOLING / AUTO / VENTILATION.
- Continuous control of the operating parameters.
- Display of the values measured by the sensors.
- Compressors cycles.
- Defrosting management.
- Control of the supply air temperature.
- All-seasons operation via the condensation and evaporation pressure control.

The management of the unit in cooling mode is based on the principle of a high floating pressure. The condensation pressure setpoint is continually calculated depending on the outdoor temperature. This pressure is regulated by adjusting the air flow on the outdoor fans.

- Setpoint compensation based on the outdoor temperature.

- Hourly and weekly schedule.
- Fire protection.
- Diagnosis of faults and general alarm.
- Management of all the optional components available for the unit: economizer, back-up heating, CO₂ air quality sensor, energy recovery,...

User interfaces

Graphic terminal

This terminal, fitted as standard on the electrical cabinet, is very easy to use. It provides detailed explanations of control in easy to understand English. No decoding is required.



Only 6, large, easy-to-use buttons are required to maneuver through the entire menus.

- This terminal is used to:
 - Carry out initial programming of the unit.
 - Modify operating parameters.
 - Switch the unit ON / OFF.
 - Select the operating mode and adjust the setpoints.
 - Display the variables controlled and sensor values measured.
 - Display the current alarms and their historical record.

User terminal (optional)

This terminal can be installed on the electrical cabinet, instead of the graphic terminal. In this case, the remote connection of the graphic terminal is possible.



- This terminal is used to:
 - Switch the unit ON / OFF.
 - Select the operating mode and adjust the setpoints.
 - Display the installation's temperatures and humidity, outdoor temperature, supply air temperature, CO₂ sensor and opening of the outdoor damper.
 - Display alarms codes.

Touch panel (optional)

With the same functions as the graphic terminal, the 4.3 inch touchscreen panel makes interaction between the user and the unit much easier by simplifying navigation between the various screens.



OPERATING LIMITS

Inlet air conditions		Cooling
Indoor coil	Minimum temperature	9,7°C WB
	Maximum temperature	24°C WB
Outdoor coil	Minimum temperature	12°C (1)
	Maximum temperature	48°C

Inlet air conditions		Heating
Indoor coil	Minimum temperature	10°C
	Maximum temperature	27°C
Outdoor coil	Minimum temperature	-15°C WB (2)
	Maximum temperature	15°C WB

(1) With a condensation pressure control operating down to -10°C.

(2) When the outdoor temperature is usually below 5°C WB, the installation of a support element is recommended.

PHYSICAL DATA (EN-14511-2018)

50FC		100	110	120	130	145	160	170	180	200	220	250	280	
Cooling capacities														
Cooling capacity (1)	kW	100,00	109,76	119,14	129,34	144,21	158,58	166,76	179,73	199,99	219,85	252,94	279,91	
Power input (3)	kW	31,58	35,88	39,53	42,08	47,92	54,98	59,36	56,46	66,47	77,57	83,02	96,62	
EER performance		3,17	3,06	3,01	3,07	3,01	2,88	2,81	3,18	3,01	2,83	3,05	2,90	
SEER		4,75	4,65	4,56	4,75	4,62	4,56	4,57	4,85	4,70	4,69	4,59	4,54	
η_s		187%	183%	179%	187%	182%	180%	180%	191%	185%	184%	181%	179%	
Heating capacities														
Heating capacity (2)	kW	100,20	109,97	121,14	131,24	148,31	162,78	170,96	189,73	209,99	234,84	280,12	308,40	
Power input (3)	kW	27,69	31,07	35,22	36,33	41,86	47,28	50,15	50,69	58,44	67,23	78,11	89,48	
COP performance		3,62	3,54	3,44	3,61	3,54	3,44	3,41	3,74	3,59	3,49	3,59	3,45	
SCOP		3,44	3,45	3,42	3,42	3,42	3,34	3,37	3,38	3,38	3,38	3,38	3,37	
η_s		135%	135%	134%	134%	134%	131%	132%	132%	132%	132%	132%	132%	
Outdoor circuit fan														
Electronic axial fan														
Nominal air flow	m ³ /h	44.000	44.000	44.000	58.000	58.000	64.000	64.000	80.000	86.000	86.000	120.000	120.000	
Available static pressure	mm.w.c	5												
Number / Diameter	mm	2 / 800			2 / 910				4 / 800			4 / 910		
Maximum speed	r.p.m.	1.100			1.070				1.100			1.070		
Motor output	kW	2 x 3,0			2 x 3,3				4 x 3,0			4 x 3,3		
Maximum absorbed current	A	2 x 4,6			2 x 5,0				4 x 4,6			4 x 5,0		
Indoor circuit supply fan														
Electronic plug-fan (Polypropylene)														
Nominal air flow	m ³ /h	18.000	19.800	21.600	23.400	26.100	28.800	30.600	32.400	36.000	39.000	40.500	45.000	
Nominal avail. static pressure	mm.w.c	25	25	25	30	35	35	35	35	35	35	35	35	
Minimum air flow	m ³ /h	10.800			14.040				19.440			24.300		
Maximum air flow	m ³ /h	25.920			36.720				46.800			54.000		
Number / Diameter	mm	3 / 500				4 / 500			5 / 500			6 / 500		
Speed	r.p.m.	1.700			1.700				1.700			1.700		
Motor output	kW	3 x 2,6			4 x 2,6				5 x 2,6			6 x 2,6		
Maximum absorbed current	A	3 x 4,0			4 x 4,0				5 x 4,0			6 x 4,0		
Compressor														
Scroll														
No. compressors / stages / circuits		4 / 4 / 2												
Oil type		Copeland 3MAF 32cST, Danfoss POE 160SZ, ICI Emkarate RL 32CF, Mobil EAL Artic 22CC												
Volume of oil	l	4 x 3,0	2 x 3,0 + 2 x 3,3	4 x 3,3	4 x 3,3	4 x 3,3	4 x 3,3	4 x 3,3	2 x 3,3 + 2 x 3,6	2 x 3,3 + 2 x 3,6	3 x 3,6 + 1 x 6,1	1 x 3,6 + 3 x 6,1	4 x 6,1	4 x 6,1
Electrical characteristics														
Mains voltage		400 V / III ph / 50 Hz ($\pm 10\%$)												
Power supply		3 Wires + Ground + Neutral												
Maximum absorbed current	A	85,6	90,9	99,4	107,4	120,0	129,9	137,5	149,9	166,7	185,3	207,7	230,3	
Refrigerant														
R-410A														
Global warming potential (4)	GWP	2.088												
Charge	kg	34,0	34,0	34,0	37,0	37,0	37,5	38,0	54,0	56,0	56,0	67,0	68,0	
Environment impact	tCO ₂ eq	71,0	71,0	71,0	77,3	77,3	78,3	79,3	112,8	116,9	116,9	139,9	142,0	
Weight														
B1 assembly	kg	1.420	1.435	1.450	1.630	1.665	1.670	1.675	2.255	2.355	2.455	2.785	2.845	

- (1) Cooling capacity calculated in accordance with the EN-14511-2018 standard given for indoor temperature conditions 27°C, 19°C WB and 35°C outdoor temperature.
(2) Heating capacity calculated in accordance with the EN-14511-2018 standard given for indoor temperature conditions 20°C and 6°C WB outdoor temperature.
(3) Total power input by compressors and motorised fans under nominal conditions, calculated in accordance with the EN-14511-2018 standard.
(4) Climatic warming potential of a kilogram of fluorinated greenhouse gas in relation to a kilogram of carbon dioxide over a period of 100 years.

Compliance

- Machinery Directive 2006/42/EC (MD)
- Electromagnetic Compatibility Directive 2014/30/EU (EMC)
- Low Voltage Directive 2014/35/EU (LVD)
- Pressure Equipment Directive 2014/68/EU (Category 2) (PED)
- RoHS Directive 2011/65/EU (RoHS)
- Eco-design Directive 2009/125/EC (ECO-DESIGN)
- Energy Labelling Directive 2017/1369/EU (ECO-LABELLING)
- Harmonised Standard: EN 378-2:2012 (Refrigerating systems and heat pumps - Safety and environmental requirements).



Eurovent
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values

FACTORY OPTIONS AND ACCESSORIES

Category	Description	Upon request	Factory installed option	Field installed accessory
Electrical power	400 V / 3 ph / 50 (without neutral)		X	
Airflow + Assembly	B2: Economizer, 2 dampers		X	
	BP: Plug-fan in return section		X	
	BA: Cooling recovery circuit with plug-fan in return section		X	
	BT: Return top box with plug-fan or centrifugal fan		X	
	BB: Cooling recovery circuit with plug-fan or centrifugal fan in return top box		X	
	BW: Heat recovery wheel module		X	(*)
Coil coating	B3: Economizer, 3 dampers	X	X	
	BL: Return top box with plug-fan or centrifugal fan with heat recovery wheel module	X	X	(*)
	INERA® coils with aluminium alloy fins and copper pipes		X	
Heating	Coils with polyurethane pre-coated aluminium fins and copper pipes		X	
	Coils with copper-made pipes and fins	X	X	
	Blygold® coating	X	X	
	Auxiliary hot water coil: «Standard»		X	
Protection low temperature	Auxiliary hot water coil: «Very low outdoor temperature»	X	X	
	Auxiliary hot water coil		X	
	Warm air heater module with gas burner (supplied installed inside a pre-assembly roofcurb)			X
	Freeze protection OAT lower than -10°C		X	
Supply fan	Freeze protection OAT lower than -14°C	X	X	
	Freeze protection OAT lower than -10°C + spring shut-off dampers	X	X	
	Freeze protection OAT lower than -14°C + spring shut-off dampers	X	X	
	Indoor plug-fan with nominal available pressure (Aluminum), low pressure (Aluminum) or high pressure (Aluminum)		X	
Air filtration + droplet eliminator	Droplet eliminator after the indoor air coil		X	X
	Filters G4 low pressure drop		X	X
	Filters G4 + folded filters F7		X	X
	Filters G4 low pressure drop + folded filters F7		X	X
	Double stage of folded filters: M6+F7, F7+F9		X	X
Outdoor fan	Two-speed direct-driven axial fans		X	
Insulation	Thermal and acoustic insulation, Euroclass A2-s1, d0 (M0), with double wall (50mm)		X	
Indoor unit	Condensates drain pan in stainless steel		X	X
	Room overpressure management	X	X	
	Filter fouling detection with differential pressure switch		X	
Outdoor unit	Fresh air safety grid		X	X
	Outdoor coil protection grid		X	X
	Droplet eliminator at the fresh air intake		X	X
	Antivibration mounts made of rubber		X	X
Heat recovery wheel	Selection of the heat recovery wheel (BW assembly): diameter, channel cross section, wheel material and type of speed control		X	
Extra heating	Heat recovery coil		X	
Special applications	Air zoning		X	(*)
	Low return temperature application		X	
	Low return temperature application + Air zoning		X	
Sensors	NTC ambient temperature sensor on the control board or 1 to 4 sensors with RS485 comm.		X	X
	Dual ambient temperature-humidity sensor with RS485 communication. Up to four sensors		X	X
	CO2 sensor: environment or ducted installation or installed on a pLAN network		X	X
	Smoke detection control unit in accordance with the NF S 61-961 standard		X	X
Economizer + Outd. humidity	Economizer management: thermal, enthalpic or thermoenthalpic		X	X
	Outdoor air humidity sensor: supplied with the unit or installed on a pLAN network		X	X
Terminal + Unit communication	Graphic terminal installed in the electrical cabinet + User terminal remote up to 100 m		X	X
	Graphic terminal installed in the electrical cabinet + Graphic terminal remote up to 200 m		X	X
	User terminal installed in the electrical cabinet		X	X
	User terminal installed in the electrical cabinet + Graphic terminal remote up to 200 m		X	X
	Touch panel in the electrical cabinet		X	X
	Touch panel in the cabinet + Graphic terminal remote up to 200 m		X	X
	Touch panel in the cabinet + User terminal remote up to 100 m		X	X
	Unit configuration: stand-alone, master or slave		X	X
	Communication cards: RS485 Modbus/Carel; Ethernet PCoWeb; RS485 LonWorks®; Ethernet BACnet™; RS485 BACnet™; RS485 Konnex		X	X
Miscellaneous item 1	Management of an humidifier with on-off or proportional control		X	
	Electrical energy meter		X	
	Cooling capacity and electrical energy meter		X	
	Refrigerant leak detector		X	
Miscellaneous item 2	Varnish protection for components on the electrical cabinet: control board, cards and terminals		X	
	High performance phase sequence relay	X	X	
Return fan	Centrifugal return fan: 3 airflow options: low, nominal and high		X	
	Return plug-fan: 3 available pressure options: nominal pressure (Polypropylene), nominal pressure (Aluminium) or high pressure (Aluminium)			
Airflow direction	There are 9 combinations in the direction of airflow with: - Supply: lower, lateral and upper - Return: lower, lateral and upper		X	
Roofcurb	Pre-assembly roofcurbs with adjustable height			X
	Adaptation roofcurbs for replacing units on site	X		X

(*) The rotary heat exchanger (BW and BL assemblies) and part of the air zoning option are supplied disassembled with the unit, for installation on site.

FACTORY OPTIONS AND ACCESSORIES (CONT.)

Assembly + Indoor air flow direction

B1 assembly

Standard

BW assembly

Plug-fan in return section + Heat recovery wheel module (passive recovery)

B2 assembly

Economizer, 2 dampers: fresh air damper interlocked with return damper

BT assembly

Return top box with plug-fan or centrifugal fan

BP assembly

Plug-fan in return section

BB assembly

Return top box with plug-fan or centrifugal fan + Cooling recovery circuit (active recovery)

BA assembly

Plug-fan in return section + Cooling recovery circuit (active recovery)

BL assembly (upon request)

Return top box with plug-fan or centrifugal fan + Heat recovery wheel module (passive recovery)

B3 assembly (upon request)

Economizer, 3 dampers: fresh air damper and exhaust air damper

Legend

S Lower air supply	R Lower air return
S' Lateral air supply	R' Lateral air return
S'' Upper air supply	R'' Upper air return
F Fresh air intake	E Exhaust air outlet

Note: only one of the three possible options (lower, lateral or upper) can be selected for both, supply and return.

The airflow direction selected for supply and return (lower or lateral) is easily interchangeable on site.

Indoor airflow direction

0 Lower supply and lower return	3 Lateral supply and lateral return	6 Upper supply and lateral return
1 Lateral supply and lower return	4 Upper supply and lower return	7 Lower supply and upper return
2 Lower supply and lateral return	5 Lateral supply and upper return	8 Upper supply and upper return

FACTORY OPTIONS AND ACCESSORIES (CONT.)

Electrical power

- These units can be supplied for the following power supply voltages:
 - 400 V / 3 ph + N / 50 Hz (standard)
 - 400 V / 3 ph / 50 Hz (optional)

Coils coating

- INERA® coils with aluminium alloy fins of high performance and great resistance to the corrosion, and copper pipes.
- Coils with polyurethane precoated aluminium fins and copper pipes.
- Coil with copper-made pipes and fins (**upon request**).
- Blygold® coating (**upon request**).

Note: These coating can be applied to various coils (outdoor, indoor and hot water coil) according to the combinations available in the "Selection Software".

Heating

The unit only can incorporate one of these heating elements:

- **Auxiliary hot water coil**, with three-way valve and proportional control, for assembly inside the unit.

The unit incorporates a freeze protection thermostat.

- Optional «Very low outdoor temperature» (**upon request**): Additional freeze protection technology based on the water temperature. This protection is made up of a circulation pump as well as two sensors inserted in the input and the output of the coil.

Important: this option is mandatory for an outdoor temperature lower than -20°C WB. Consult for percentages of glycol water above 20%.

- **Auxiliary electrical heaters**, with two power stages and on/off control, for assembly and connection inside the unit. Up to 3 values of total power available for each model:

50FC	RAF (Low)	RAM (Nominal)	RAS (High)
100 to 120	27 kW	36 kW	54 kW
130 to 170	36 kW	54 kW	72 kW
180 to 220	45 kW	72 kW	90 kW
250 to 280	54 kW	72 kW	108 kW

- **Warm air heater module with gas burner** with modulating actuator, in accordance with the Gas Directive 2009/142/EC, installed inside a pre-assembly roofcurb.

The 50FC unit with lower air supply will be placed on this roofcurb.

Two values of power available for each model:

50FC	100 to 120	130 to 170	170 to 280
BAM (Nominal)	PCH080	PCH130	PCH160
BAS (High)	PCH130	PCH160	PCH210

Note: It's recommended to use the filter fouling detector (optional) in units with gas burner.



Protection for low outdoor temperature

- Freeze protection OAT lower than -10°C. Mandatory for an outdoor temperature lower than -10°C WB.
 - Electrical heater for protection of the components of the electrical cabinet.
 - Compressor with protection for low temperature.
- Freeze protection OAT lower than -14°C (**upon request**). Mandatory for an outdoor temperature lower than -14°C WB. In addition to the options of -10°C, this includes:
 - Reinforced electrical heater for protection of the components of the electrical cabinet.
 - Electrical heater for anti-freeze protection of dampers of the economizer (if applicable).
 - Protective kit of the gas burner for low temperature (if applicable).
- Freeze protection OAT lower than -10°C + spring shut-off dampers in case of a power failure (**upon request**).
- Freeze protection OAT lower than -14°C + spring shut-off dampers in case of a power failure (**upon request**).

Supply fan

- By default, these units are fitted with plug-fans for a nominal available pressure (N), in Polypropylene.

The following fans can optionally be supplied:

- F: Low available pressure (Aluminium)
- M: Nominal available pressure (Aluminium)
- S: High available pressure (Aluminium)

FACTORY OPTIONS AND ACCESSORIES (CONT.)

Note: Aluminium fans are rated A2-s1, d0 (M0) and comply with regulations for public promises in France.

Important: the "Selection Software" will choose the supply fan with lower consumption for the available pressure required.

Air filtration + Droplet eliminator

Options to improve indoor air quality:

- Different combinations of filters are available:
 - Gravimetric filters G4 with low pressure drop.
 - Gravimetric filters G4 of standard type + folded opacimetric filters F7.
 - Gravimetric filters G4 with low pressure drop + folded opacimetric filters F7.
 - Double-stage of folded opacimetric filters: M6+F7 or F7+F9.

Classification of these filters according to the new **ISO 16890 Standard**:

- G4 → ISO Coarse 60%
- M6 → ISO ePM2.5 50%
- F7 → ISO ePM1 60%
- F9 → ISO ePM1 90%

- Droplet eliminator after the indoor air coil. Recommended in cases where a high moisture content in the air is foreseen or when the air flow is high.

Note: with hot water coil it is not possible to assemble the droplet eliminator.

Outdoor fan

- Two-speed direct-driven axial fan(s). Watertight motor class F, IP54 and internal thermal protection. Dynamically balanced propellers and outdoor protective grille.

Insulation

- Thermal and acoustic insulation A2-s1,d0 (M0) with sandwich panels with double wall, 50 mm thick, in all indoor section in contact with airflow.



Standard insulation



M0 insulation

Indoor unit

- Condensate drain pan in stainless steel for corrosion protection.
- Filter fouling detection with differential pressure switch.
- Room overpressure management. Assemblies that include a return fan allow the management of airflow differences between supply air and return air of up to 10%, setting up flow setpoints.

Optionally, **upon request**, the fresh air damper and the exhaust damper can be managed independently for greater airflow differences. This option may be necessary to prevent the entry of outside air or to eliminate odours from inside (BP, BT and BW assemblies).

Note: This option is not available on BA and BB assemblies because this type of control of the dampers penalizes cooling recovery.

Outdoor unit

- Fresh air safety grid (9x9mm).
- Outdoor coil protection grid.
- Antivibration mounts made of rubber.
- Droplet eliminator at the fresh air intake. This one and the thermoenthalpic free-cooling are necessary in cases where a high moisture content in the air is foreseen.

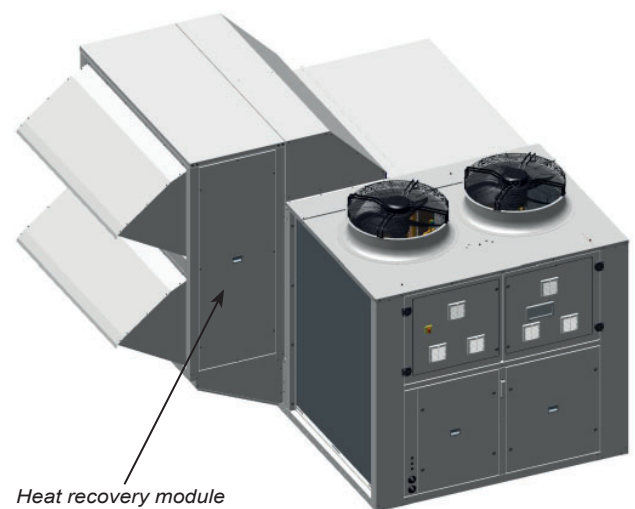
Heat recovery wheel

- The heat recovery wheel is fitted into a module placed on one side of the unit. This module is supplied disassembled with the unit, for installation on site.

Available with BW assembly, and upon request, with BL assembly.

This rotary recovery unit is used to transfer the sensible and latent heat from the air-conditioned room's return air to the fresh air used for ventilation, before it's discharged outdoors. This option reduces the compressors runtime, ensuring energy saving and benefiting the environment.

The efficiency of energy recovery depend on the wheel selected: material, wheel diameters, channel cross section and type of speed control.



Heat recovery module

Extra heating

- Heat recovery coil (HRC). The coil function is to pre-heat the air that will pass through the main indoor coil. For this, it uses the temperature of an outdoor water installation.

The coil is supplied with a 3-way valve for installation outside the unit but manages by the electronic control.

This option is compatible with B1, B2, BT and BB assemblies.

FACTORY OPTIONS AND ACCESSORIES (CONT.)

Special applications

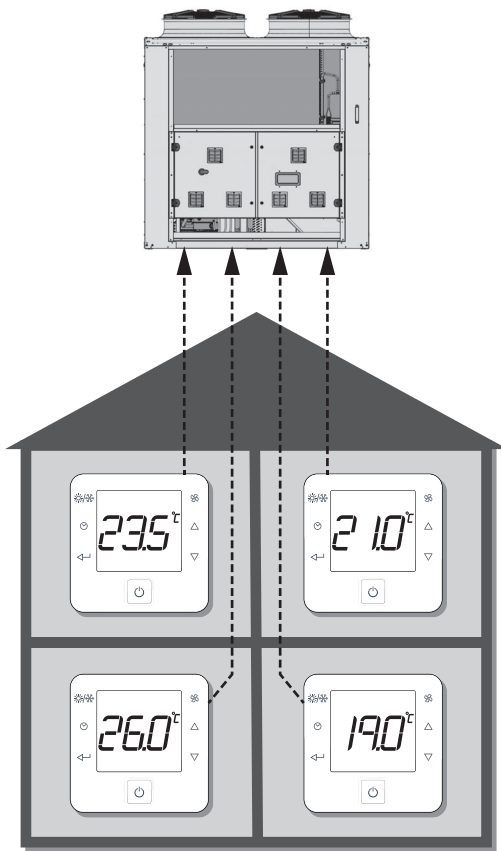
- **Low return temperature application.** This option is mainly focused to food storage, and can be applied to large warehouses installations.

With this option, the unit adapts all its devices to manage low return temperature (15°C) in cooling mode. This is possible due to some changes in the control operation parameters.

The "Selection Software" includes the option as mandatory when return temperature is lower than 20°C (with 15°C as the minimum allowed value).

- **Zoning of the air flow up to 4 different zones.**

This option allows the management of the air flow of the unit to condition up to 4 different zones with a minimum air flow of 35% (all of them in same operating mode: heating or cooling). This function allows to adapt the indoor air flow to the installation requirements.



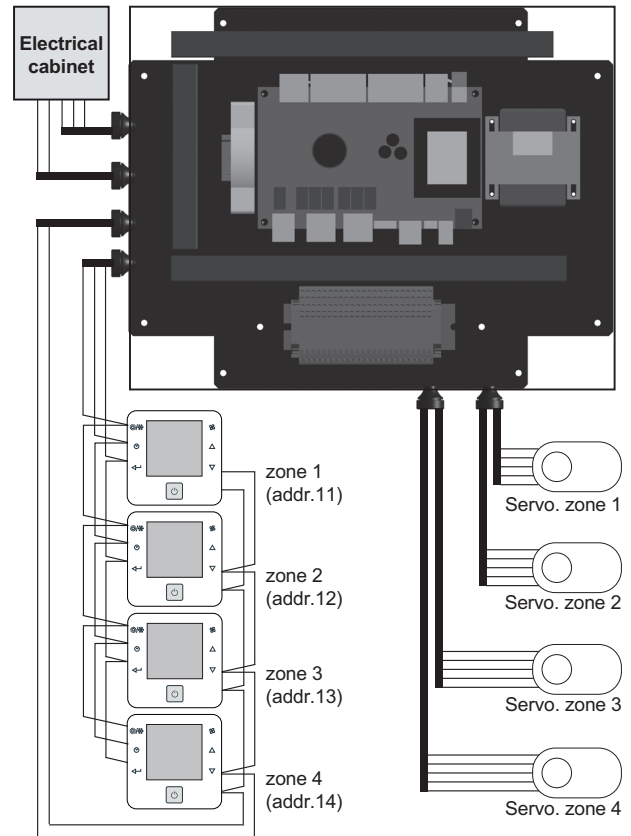
Regulation gives the control signal to the dampers installed in each zone (dampers and servomotors for those dampers not supplied). The unit modifies the air flow and capacity depending on information coming from sensors in each zone and considering active zones in each moment.

The option includes 4 zone terminals (one for each zone), the additional control board supplied in an independent box to be connected with the 4 terminals, the unit board and also to the servomotors that control dampers in each zone (dampers and servos not supplied).

The temperature information for each zone is coming from temperature sensor integrated inside each zone terminal. It is not needed to install any extra ambient sensor.

Note: In case the unit includes an economizer for enthalpic or thermoenthalpic free cooling (T+H control) an extra return T+H sensor in the offer is required. If the unit additionally includes CO₂ probe, it must be a return probe and not an ambient probe.

In following picture, electronic PCB and 4 zone terminals are detailed. Connections can be found in the "50FC" control manual.



Sensors

- **Ambient temperature sensor(s).** There are 3 options:
 - One NTC sensor connected to the control board.
Note: An ambient sensor with RS485 communication is required for installation at more than 30 meters.
 - Up to four sensors with RS485 communication.
 - Sensor(s) installed on the master unit of the local network (pLAN).
- **Dual ambient temperature-humidity sensor(s).** Up to four sensors with RS485 communication or installed on the pLAN network. This sensor is compulsory in units with enthalpic or thermoenthalpic free-cooling (optional). In this case, the outdoor air humidity sensor is also added.
- **CO₂ sensor for air quality control.** There are 3 options:
 - Ambient air quality sensor,
 - Return air quality sensor (duct-mounted),
 - Sensor installed on the master unit of the local network (pLAN).
- **Smoke detection control unit** in accordance with the NF S 61-961 standard, that uses a LED to indicate the installation status, and if the probe detects the presence of smoke in the installation, it stops the operation of the unit and gives the order to open or close the outdoor damper (configured by parameter).

To ensure compliance with the French regulations on Fire safety (ERP), it's possible to select the opening of the fresh air damper and the exhaust air damper to 100% (return air damper closed).

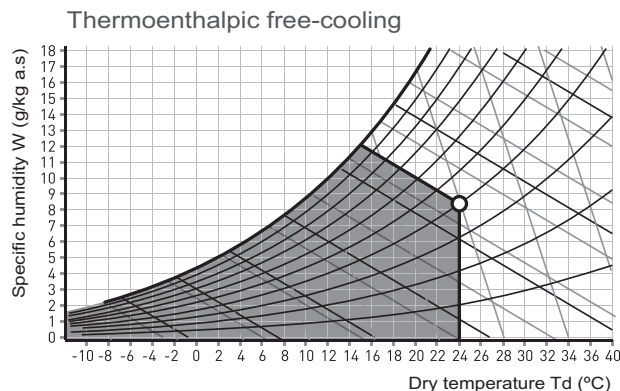
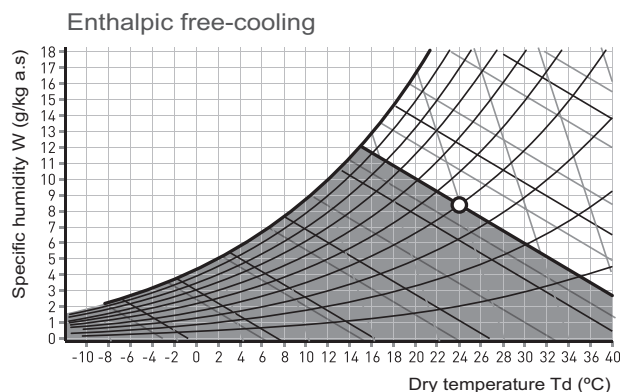
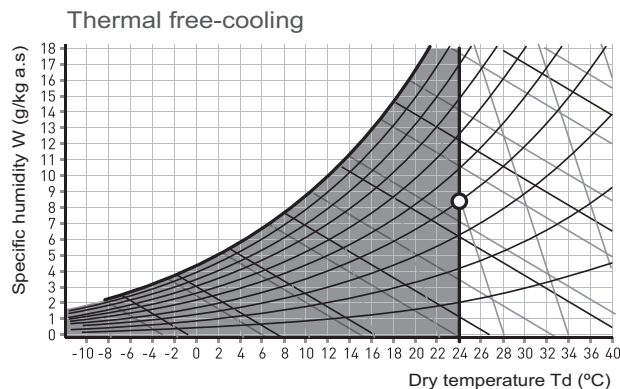
FACTORY OPTIONS AND ACCESSORIES (CONT.)

Economizer management + outdoor humidity

■ Managing free-cooling with an **economizer** allows to make best use of outdoor air conditions when these are more favourable than the return air conditions. This allows the cooling capacity to be reduced. The percentage of outdoor air can vary between 0% and 100%.

The economizer management can be:

- Thermal, by comparing the temperatures.
- Enthalpic, by comparing the enthalpies. Recommended in cases where a high moisture content in the air is foreseen.
- Thermoenthalpic, by comparing the enthalpies and correcting for temperature. This is the optimum solution as it takes the variability of the climate into account.



One function that helps improve energy management is **nocturnal free-cooling**. This feature allows the compressors to be disabled in summer with programming, the unit works providing free-cooling at night, when the outdoor conditions are favourable. This allows the cooling demand to decrease significantly early in the day.

■ **Outdoor air humidity** sensor (compulsory in units with optional enthalpic or thermoenthalpic free-cooling).

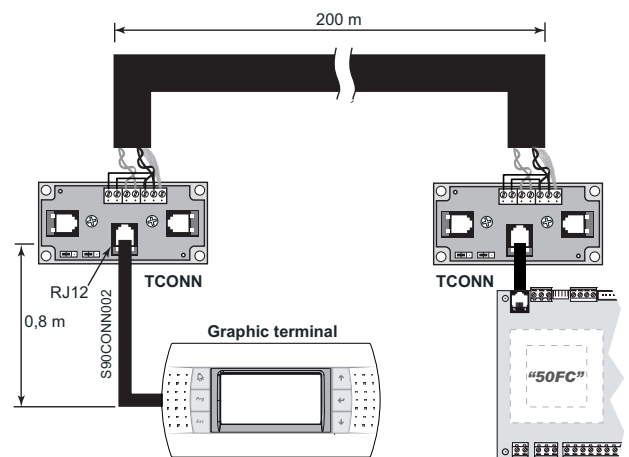
There are 2 options:

- Sensor supplied with the unit.
- Sensor installed on another unit of the local network (pLAN).

Terminal + unit communication

■ By default, the electronic control is supplied with a graphic terminal installed in the electrical cabinet of the unit, but these other configurations also are available:

- Graphic terminal installed in the electrical cabinet and User terminal remote up to 100 meters.
- Graphic terminal installed in the electrical cabinet and Graphic terminal remote up to 200 meters (two TCONN bypass cards must be used from 50 to 200 meters).
- User terminal installed in the electrical cabinet, instead of the graphic terminal.
- User terminal installed in the electrical cabinet and Graphic terminal remote up to 200 meters (two TCONN bypass cards must be used from 50 to 200 meters).



- Touch panel installed in the electrical cabinet, instead of the graphic terminal.
- Touch panel installed in the electrical cabinet and Graphic terminal remote up to 200 meters (two TCONN bypass cards must be used from 50 to 200 meters).
- Touch panel installed in the electrical cabinet and User terminal remote up to 100 meters.



Graphic terminal



Touch panel



User terminal

FACTORY OPTIONS AND ACCESSORIES (CONT.)

- Control without terminal (for units with shared terminal in a pLAN network).

- By default, the electronic control is configured for a stand-alone unit, but it is also possible to place it in a pLAN network (Local Area Network) as Master, Slave or Back-up. The maximum number of units that can be configured on a Master/Slave pLAN network is 15, and in case of Back-up units is 2.

Important: to use any of the following functionalities it is necessary to configure in the "Selection software" one unit as Master and the others as Slaves (including the back-up unit). The specific functionality will be configured on site (according to the "50FC control manual").

The pLAN network allows to have the following functionalities depending on the parameterized configuration:

- Master/Slave:

It allows to share the VetricGD terminal, as well as some of the probes installed in the master unit: ambient temperature or ambient temperature + humidity, outdoor temperature, outdoor humidity and CO₂ air quality.

- Extended Master/Slave:

It includes "Master/Slave" functionalities and the master unit provides ambient temperature setpoints to the other units.

- Master/Slave with the same operating mode:

It includes the "Extended Master/Slave" functionalities and the master unit also provides the status (Cooling-Heating - Ventilation) to the other units.

- Back-up in case of alarm:

One unit is configured as a backup unit, in case of malfunction of the other pLAN network unit.

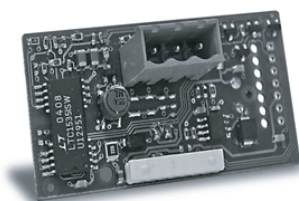
- Extended Back-up:

It includes the "Back-up in case of alarm" functionalities and also, the control manages the automatic switching between the two units weekly, to compensate the operation times of both units.

Note: In the case of installations with Back-up units, it is not possible to share the probes, nor the terminal, since both units must be fully autonomous in their operation. If both units are connected to the same supply duct network, it is imperative that the installation consists of non-return dampers (installer responsibility).

- This control allows the connection to a centralised technical management system by using a specific BMS card for some of the following communication protocols:

- RS485 serial cards for network communication with protocols: Carel, Modbus, LonWorks®, BACnet™ MSTP, Konnex.
- Ethernet pCO Web card for network communication with protocols: Modbus TCP/IP, BACnet™ Ethernet, TCP/IP, SNMP V1-2-3, FTP and HTTP.



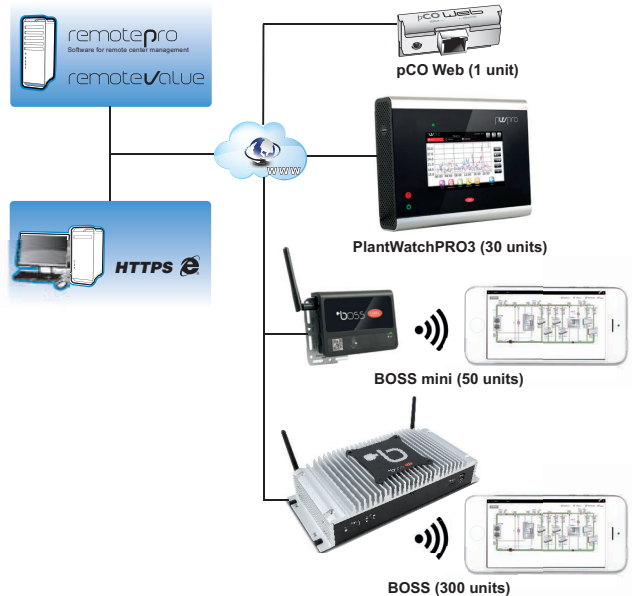
RS485 Carel/Modbus card



Ethernet pCO Web card

Supervision solutions

Different solutions of supervision are available bases on the dimensions of the installation for unit fitted with Ethernet pCO Web and RS485 Carel / Modbus cards.



- pCO Web:

It is the solution for the management and supervision of a single unit if this incorporates the Ethernet pCO Web card.

- PlantWatchPRO3:

This is a solution designed for the monitoring of small and medium-size installations, capable of manage up to 30 units. Suitable for technical environments, no parts are in movement.

It's available in two versions: panel and wall.

Includes: 7 " touch display, buzzer for notifications, 1 USB port and 1 SD card slot for downloading reports, charge devices models and applying service packs.

For this option, each unit needs one RS485 Carel / Modbus board.

- BOSS:

This is the solution for the management and supervision of air-conditioning installations with up to 300 units.

Its main advantages are:

- Integrated WIFI Hotspot for direct access without any extra infrastructure.
- Smartphone compatibility.
- Secure supervisor control from remote through a simple browser.

It offers advanced monitoring and maintenance functions and allows zones and groups to be created to simplify the management of the installation. It also allows energy meters to be integrated to monitor the installation electricity consumption.

BOSS is available in two versions:

- CPU device.
- CPU device, monitor, keyboard and screen.

For this option, each unit needs one RS485 Carel / Modbus board.

FACTORY OPTIONS AND ACCESSORIES (CONT.)

- BOSS mini (New)

This is the solution for the management and supervision of air-conditioning installations with up to 10 units with 50 variables per unit or 50 units with 10 variables maximum per unit, but with the same features as BOSS.

BOSS mini is available in two versions:

- CPU device, mouse and keyboard.
- CPU device, monitor, mouse and keyboard.

These systems are used to manage the installation remotely. All the information on the system can be accessed via a simple Internet connection. The online interface, the same one used by the local user, enables monitoring and complete configuration of the installation: from the office or anywhere else the user happens to be.

To control multiple sites remotely, there are special tools dedicated to centralized management, such as **RemotePRO** and **RemoteValue**.

Miscellaneous item 1

- Management of an humidifier with on-off or proportional control.
- Electrical energy meter for monitoring of the power consumption of the installation.
- Cooling capacity and electrical energy meter. In addition to the energy meter, the unit incorporates mixing and supply enthalpic sensors with RS485 communication that enable cooling and heating capacities to be calculated.
- Refrigerant leak detector (in ppm). This allows prompt identification of gas leaks, guaranteeing the safety of any people in the vicinity. This detector allows the number of periodic revisions to the unit to be reduced.

Miscellaneous item 2

- Varnish protection for the components on the electrical cabinet: control board, cards and terminals.
- High performance phase monitoring relay (**upon request**). In addition to the phase-sequence monitoring and phase loss protection, performed by the built-in relay as standard in these units, the high performance relay allows control of under and overvoltage as well as phase imbalance.

Highly recommended for installations with power system voltage instability, high level of electromagnetic disturbances EMC, etc.

Return fan

- Centrifugal return fan, coupled by pulleys and belts. Electric motor with tensioner, class F, IP55 and internal thermal protection. Turbine with an impeller of front-curved blades. Greased spherical bearings, with no maintenance required. Available in BB and BT assemblies.

There are 3 fan options depending on the airflow: low, nominal and high.

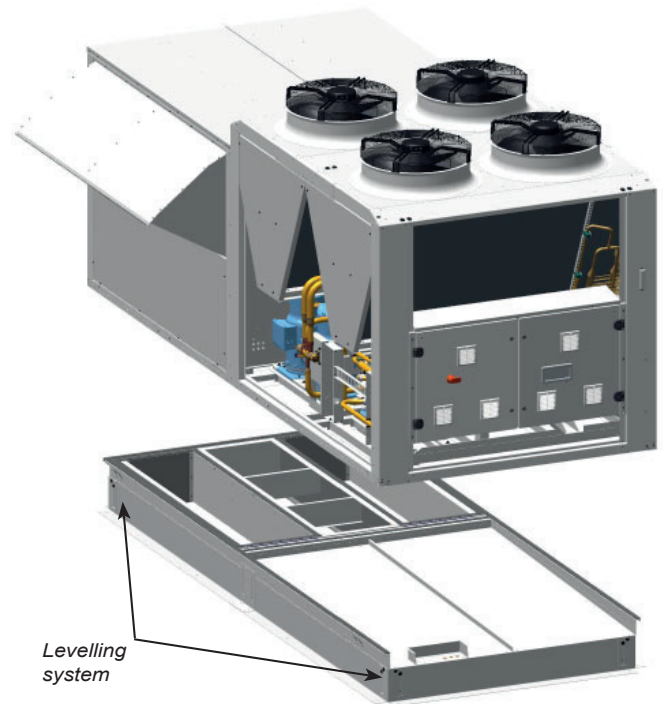
- Return plug-fan. There are 3 fan options depending on the available pressure:
 - N: Nominal available pressure (Polypropylene).
 - M: Nominal available pressure (Aluminium).
 - S: High available pressure (Aluminium).

Important: the "Selection Software" will choose the fan with lower consumption for the available pressure required.

Pre-assembly roofcurbs

- The units can rest on standardised pre-assembly roofcurbs with adjustable height, built in galvanised steel panelling with polyester paint and thermal insulation.

The levelling system uses angle pieces that allow adjustments in the X and Y axes.



- Adaptation roofcurbs ready for direct replacement on site of units from different manufacturers (**upon request**).

SOUND LEVELS dB(A)

Sound power level (LW)

50FC	100	110	120	130	145	160	170	180	200	220	250	280
63 Hz	64,6	65,1	65,6	66,1	66,6	66,9	67,1	67,1	67,9	69,1	70,6	71,6
125 Hz	71,4	71,9	72,4	72,9	73,4	73,7	73,9	73,9	74,7	75,9	77,4	78,4
250 Hz	77,9	78,4	78,9	79,4	79,9	80,2	80,4	80,4	81,2	82,4	83,9	84,9
500 Hz	80,2	80,7	81,2	81,7	82,2	82,5	82,7	82,7	83,5	84,7	86,2	87,2
1000 Hz	80,6	81,1	81,6	82,1	82,6	82,9	83,1	83,1	83,9	85,1	86,6	87,6
2000 Hz	78,1	78,6	79,1	79,6	80,1	80,4	80,6	80,6	81,4	82,6	84,1	85,1
4000 Hz	74,2	74,7	75,2	75,7	76,2	76,5	76,7	76,7	77,5	78,7	80,2	81,2
8000 Hz	69,4	69,9	70,4	70,9	71,4	71,7	71,9	71,9	72,7	73,9	75,4	76,4
Total dB(A)	86,0	86,5	87,0	87,5	88,0	88,3	88,5	88,5	89,3	90,5	92,0	93,0

Sound pressure level (LP)

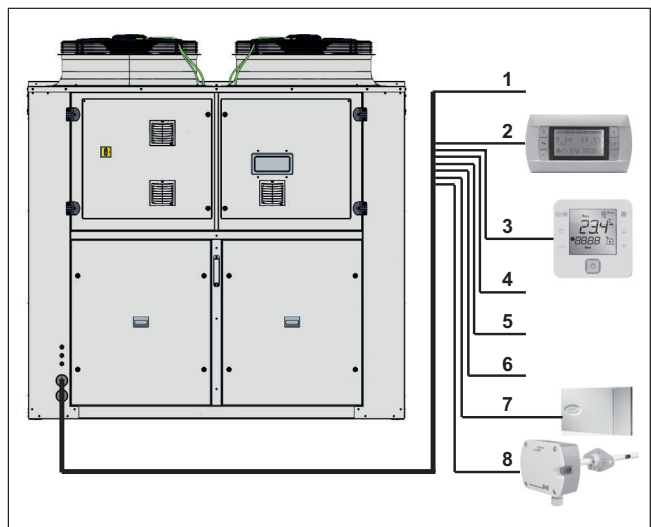
Measurement conditions: in a clear field, measured at a distance of 5 metres, directivity 2 and at 1,5 metres from the ground.

50FC	100	110	120	130	145	160	170	180	200	220	250	280
Total dB(A)	58,6	59,1	59,6	60,0	60,5	60,8	61,0	60,7	61,5	62,7	64,0	65,0

Note: The sound pressure level depends on the installation conditions and, as such, it only indicated as a guide. Values obtained according to the ISO 3744 standard.

ELECTRICAL CONNECTIONS

No.	50FC		100 to 280
1	Main power supply	400 III ($\pm 10\%$)	3 Wires + Ground + Neutral
2	Remote connection of graphic terminal (by default installed on the electrical cabinet) (1)		Telephone cable 6 wires standard (RJ12 connector)
3	Connection of user terminal (optional) (2)		2 wires for power supply 230V + 1 shielded cable for communication type AGW20 / 22 (1 braided pair + drainwire + shielding)
4	Remote off/on (optional)		2 wires
5	General fault signal (opt.) (3)		2 wires
6	Remote Cooling/Heating (opt.)		2 wires
7	Circulation pump signal for HWC (antifreeze safety) (optional)		1 wire
8	Ambient sensor	NTC	2 wires
		RS485	5 wires (4)
9	CO ₂ sensor (optional)		3 wires



- (1) In this case, it's possible to install the user terminal on the electrical cabinet.
- (2) It's necessary that the terminal uses the same power supply that the control board.
- (3) The output for general alarm signal is not compatible with the following options: hot water coil, heat recovery coil, rotary heat exchanger and on/off signal for external humidifier. With these options, possibility of general alarm upon request.
- (4) Up to four RS485 ambient sensors can be connected in series on the field-bus of the control board.

WEIGHT OVERVIEW

Weight overview of the various assemblies (kg)

50FC		100	110	120	130	145	160	170	180	200	220	250	280	
Standard insulation	B1 assembly	1.420	1.435	1.450	1.630	1.665	1.670	1.675	2.255	2.355	2.455	2.785	2.845	
	B2 assembly	1.465	1.480	1.495	1.670	1.705	1.710	1.715	2.355	2.425	2.525	2.895	2.955	
	BP assembly	1.669	1.684	1.699	1.935	1.970	1.975	1.980	2.745	2.815	2.915	3.235	3.295	
	BA assembly	1.780	1.795	1.810	2.085	2.120	2.125	2.130	2.935	3.005	3.105	3.435	3.495	
	BT assembly	1.765	1.780	1.795	2.025	2.030	2.035	2.040	2.855	2.925	3.025	3.285	3.345	
	BB assembly	1.875	1.890	1.905	2.175	2.180	2.185	2.190	3.005	3.075	3.175	3.485	3.545	
	BW assembly	Machine	1.610	1.625	1.640	1.795	1.830	1.835	1.840	2.725	2.795	2.895	3.145	3.205
		Wheel module (smaller diam.)	560	560	560	650	650	650	650	685	685	685	705	705
		Total weight	2.170	2.185	2.200	2.445	2.480	2.485	2.490	3.410	3.480	3.580	3.850	3.910
M0 insulation	B1 assembly	1.540	1.555	1.570	1.725	1.760	1.765	1.770	2.405	2.505	2.605	2.985	3.045	
	B2 assembly	1.590	1.605	1.620	1.765	1.800	1.805	1.810	2.505	2.575	2.675	3.095	3.155	
	BP assembly	1.790	1.805	1.820	2.050	2.085	2.090	2.095	2.940	3.010	3.110	3.460	3.520	
	BA assembly	1.905	1.920	1.935	2.220	2.255	2.260	2.265	3.130	3.200	3.300	3.660	3.720	
	BT assembly	1.875	1.890	1.905	2.150	2.185	2.190	2.195	3.050	3.120	3.220	3.510	3.570	
	BB assembly	2.005	2.020	2.035	2.320	2.355	2.360	2.365	3.200	3.270	3.370	3.710	3.770	
	BW assembly	Machine	1.720	1.735	1.750	2.040	2.075	2.080	2.085	2.920	2.990	3.090	3.370	3.430
		Wheel module (smaller diam.)	590	590	590	685	685	685	685	725	725	725	745	745
		Total weight	2.310	2.325	2.340	2.725	2.760	2.765	2.770	3.645	3.715	3.815	4.115	4.175

Weight supplement from the main options (kg)

50FC		100	110	120	130	145	160	170	180	200	220	250	280
Larger diameter wheel (recovery module)		10	10	10	20	20	20	20	10	10	10	10	10
Pre-assembly roofcurb (without gas burner)		374	374	374	402	402	402	402	467	467	467	534	534
Pre-assembly roofcurb (with gas burner)	BAM (Nominal)	804	804	804	925	925	925	925	1.084	1.084	1.084	1.204	1.204
	BAS (High)	867	867	867	974	974	974	974	1.127	1.127	1.127	1.250	1.250
Electrical heaters	RAF (Low)	29	29	29	34	34	34	34	40	40	40	45	45
	RAM (Nominal)	32	32	32	41	41	41	41	57	57	57	58	58
	RAS (High)	39	39	39	55	55	55	55	64	64	64	73	73
Hot water coil (HWC)	Empty	94	94	94	102	102	102	102	113	113	113	128	128
	Service	143	143	143	155	155	155	155	181	181	181	201	201
Heat recovery coil (HRC)	Empty	77	77	77	84	84	84	84	90	90	90	109	109
	Service	123	123	123	132	132	132	132	153	153	153	181	181
Supply fan	Low pressure, aluminium (F)	-28	-28	-28	7	-25	-25	-25	-32	-32	-32	-21	-21
	Nominal pressure, aluminium (M)	7	7	7	41	9	9	9	11	11	11	14	14
	High pressure, aluminium (S)	65	65	65	65	33	86	86	108	108	108	129	129
Droplet eliminator	Indoor coil	67	67	67	78	78	78	78	84	84	84	97	97
	Fresh air intake: B2, BW assemblies	23	23	23	26	26	26	26	29	29	29	33	33
	Fresh air intake: BP, BA, BT, BB assemblies	18	18	18	21	21	21	21	23	23	23	26	26
Centrifugal return fan (BT and BB assemblies)	Low airflow	45	33	41	78	50	46	29	58	62	3	58	69
	Nominal airflow	102	102	102	61	37	47	48	132	126	83	83	167
	High airflow	102	84	97	70	48	48	111	132	--	--	168	188
Return plug-fan (BP, BA, BT, BB and BW assemblies)	Nominal pressure, aluminium (M)	4	4	4	43	10	6	6	9	0	0	0	0
	High pressure, aluminium (S)	43	43	43	97	65	65	65	65	59	0	78	78

OPTIONS FOR THE OUTDOOR UNIT

Axial 2-speed outdoor fan

50FC		100	110	120	130	145	160	170	180	200	220	250	280
Cooling mode	SEER	4,07	4,07	3,99	4,10	4,07	3,85	3,85	4,21	4,09	4,12	4,00	3,86
	ηs	160%	160%	157%	161%	160%	151%	151%	166%	161%	162%	157%	151%
Heating mode	SCOP	3,27	3,27	3,26	3,29	3,28	3,21	3,22	3,29	3,21	3,23	3,23	3,21
	ηs	128%	128%	128%	128%	128%	126%	126%	128%	125%	126%	126%	126%
Nominal air flow	(m³/h)	44.000	44.000	44.000	58.000	58.000	64.000	64.000	80.000	86.000	86.000	120.000	120.000
Available static pressure	(mm.w.c.)	4											
Number / Diameter	(mm)	2 / 800			2 / 910			4 / 800			4 / 910		
Maximum speed	(r.p.m.)	880 / 670			885 / 685			880 / 670			885 / 685		
Output	(kW)	2 x (1,9 / 1,2)			2 x (2,5 / 1,6)			4 x (1,9 / 1,2)			4 x (2,5 / 1,6)		
Max. absorbed current	(A)	2 x 3,9			2 x 5,2			4 x 3,9			4 x 5,2		

OPTIONS FOR THE INDOOR UNIT

Supply plug-fan with different available pressure options

50FC		100	110	120	130	145	160	170	180	200	220	250	280	
Nominal air flow		(m³/h)	18.000	19.800	21.600	23.400	26.100	28.800	30.600	32.400	36.000	39.000	40.500	45.000
Nominal pressure (Aluminium) (M)	Number / Diameter	(mm)	3 / 500		3 / 500		4 / 500		5 / 500		6 / 500			
	Speed	(r.p.m.)	1.750		1.750		1.750		1.750		1.750			
	Output	(kW)	3 x 2,6		3 x 2,6		4 x 2,6		5 x 2,6		6 x 2,6			
	Max. absorbed current	(A)	3 x 4,0		3 x 4,0		4 x 4,0		5 x 4,0		6 x 4,0			
Low pressure (Aluminium) (F)	Number / Diameter	(mm)	2 / 500		3 / 500		3 / 500		4 / 500		5 / 500			
	Speed	(r.p.m.)	1.750		1.700		1.750		1.750		1.750			
	Output	(kW)	2 x 2,6		3 x 2,6		3 x 2,6		4 x 2,6		5 x 2,6			
	Max. absorbed current	(A)	2 x 4,0		3 x 4,0		3 x 4,0		4 x 4,0		5 x 4,0			
High pressure (Aluminium) (S)	Number / Diameter	(mm)	3 / 500		3 / 500		4 / 500		5 / 500		6 / 500			
	Speed	(r.p.m.)	2.100		2.100		2.100		2.100		2.100			
	Output	(kW)	3 x 4,6		3 x 4,6		4 x 4,6		5 x 4,6		6 x 4,6			
	Max. absorbed current	(A)	3 x 7,2		3 x 7,2		4 x 7,2		5 x 7,2		6 x 7,2			

Note: the value of power input according to the selected flow can be found at the "Selection Software".

Return plug-fan (BP / BA / BT / BB / BW assemblies)

50FC		100	110	120	130	145	160	170	180	200	220	250	280	
Nominal air flow		(m³/h)	18.000	19.800	21.600	23.400	26.100	28.800	30.600	32.400	36.000	39.000	40.500	45.000
Nominal pressure (Polypropyl.) (N)	Number / Diameter	(mm)	2 / 500			3 / 500			3 / 500		3 / 500		4 / 500	
	Speed	(r.p.m.)	1.700			1.700			1.750		2.100		1.700	
	Output	(kW)	2 x 2,6			3 x 2,6			3 x 2,6		3 x 4,6		4 x 2,6	
	Max. absorbed current	(A)	2 x 4,0			3 x 4,0			3 x 4,0		3 x 7,2		4 x 4,0	
Nominal pressure (Aluminium) (M)	Number / Diameter	(mm)	2 / 500		2 / 500		3 / 500		3 / 500		3 / 500		4 / 500	
	Speed	(r.p.m.)	1.750		2.100		1.750		1.750		2.100		1.750	
	Output	(kW)	2 x 2,6		2 x 4,6		3 x 2,6		3 x 2,6		3 x 4,6		4 x 2,6	
	Max. absorbed current	(A)	2 x 4,0		2 x 7,2		3 x 4,0		3 x 4,0		3 x 7,2		4 x 4,0	
High pressure (Aluminium) (S)	Number / Diameter	(mm)	2 / 500		3 / 500		3 / 500		3 / 500		3 / 500		4 / 500	
	Speed	(r.p.m.)	2.100		2.100		2.100		2.100		2.100		2.100	
	Output	(kW)	2 x 4,6		3 x 4,6		3 x 4,6		3 x 4,6		3 x 4,6		4 x 4,6	
	Max. absorbed current	(A)	2 x 7,2		3 x 7,2		3 x 7,2		3 x 7,2		3 x 7,2		4 x 7,2	

Note: the value of power input according to the selected flow can be found at the "Selection Software".

OPTIONS FOR THE INDOOR UNIT (CONT.)

Heat recovery wheel module (BW assembly)

This heat recovery wheel is used to transfer the sensible and latent heat from the air-conditioned room's return air to the fresh air used for ventilation, before it's discharged outdoors.

The return air circulates in half of the heat recovery unit and the ventilation air circulates in the other half, in the opposite direction. As the rotor rotates, very fine channels of air which form the matrix come into contact with the fresh air and the return air in turn, thereby transferring heat and humidity from one to the other.

The efficiency of the recovery depends on the following factors:

■ Wheel diameters:

- Models 100 to 120: 1500 mm and 1800 mm
- Models 130 to 170: 1800 mm and 2000 mm
- Models 180 to 280: 2000 mm and 2200 mm

■ Matrix materials:

- Aluminium: sensible heat recovery.
- Hybrid wheel: enthalpic recovery.
- Epoxy coated aluminium (**upon request**): sensible heat recovery in aggressive environments.
- Silicagel coated aluminium (**upon request**): enthalpic recovery with high efficiency in the recovery of latent heat.

■ Channel cross section:

The wheel is formed of two panels of aluminium, one smooth and one fluted. The fluted panel can be provided in two different configurations:

- 2.0 mm cross section: the commonly-used cross section due to its high efficiency and moderate pressure drops.
- 2.5 mm cross section: low pressure drop. Designed for

high frontal speeds with low pressure drops.

The heat recovery wheel is fitted into a module placed on one side of the unit.

This module features gravimetric filters G4 with low pressure drop both on the fresh air intake and on the exhaust air outlet.

This assembly can be supplied, in option, with a speed drive for the wheel which avoids the risk of ice forming on the wheel during the defrost operation.



Important: the calculations for the selection of a rotary heat exchanger according to the parameters described above should be done using the "Selection Software".

Centrifugal return fan (BT / BB assemblies)

50FC		100	110	120	130	145	160	170	180	200	220	250	280
Option A: Low airflow	Air flow (m ³ /h)	14.400	15.840	17.280	18.720	20.880	23.040	25.920	25.920	28.800	31.200	32.400	36.000
	Available pressure (mm.w.c.)	15	15	15	15	15	15	15	15	15	15	15	15
	Motor output (kW)	2 x 1,5	2 x 1,1	2 x 1,5	3 x 1,5	3 x 1,5	3 x 1,5	3 x 1,1	3 x 1,5	3 x 2,2	3 x 2,2	4 x 1,1	4 x 1,5
	Power input (kW)	2 x 0,78	2 x 0,98	2 x 1,25	3 x 0,56	3 x 0,72	3 x 0,92	3 x 1,07	3 x 1,25	3 x 1,65	3 x 2,12	4 x 1,05	4 x 1,39
	Max. absorbed current (A)	2 x 3,6	2 x 2,7	2 x 3,6	3 x 3,6	3 x 3,6	3 x 3,6	3 x 2,7	3 x 3,6	3 x 5,0	3 x 5,0	4 x 2,7	4 x 3,6
	Speed (r.p.m.)	490	490	548	439	459	490	516	584	610	490	514	581
	OPK code	2 x OPK0719	2 x OPK0721	2 x OPK0722	3 x OPK0720	3 x OPK0724	3 x OPK0719	3 x OPK0725	3 x OPK0723	3 x OPK0726	3 x OPK0727	4 x OPK0725	4 x OPK0723
Option C: Nominal airflow	Air flow (m ³ /h)	18.000	19.800	21.600	23.400	26.100	28.800	30.600	32.400	36.000	39.000	40.500	45.000
	Available pressure (mm.w.c.)	15	15	15	15	15	15	15	15	15	15	15	15
	Motor output (kW)	3 x 1,5	3 x 1,5	3 x 1,5	3 x 1,1	3 x 1,5	3 x 2,2	3 x 2,2	3 x 3,0	3 x 3,0	3 x 3,0	4 x 2,2	4 x 3,0
	Power input (kW)	3 x 0,51	3 x 0,64	3 x 0,78	3 x 0,94	3 x 1,27	3 x 1,65	3 x 1,99	3 x 2,33	3 x 2,98	3 x 2,98	4 x 1,95	4 x 2,60
	Max. absorbed current (A)	3 x 3,6	3 x 3,6	3 x 3,6	3 x 2,7	3 x 3,6	3 x 5,0	3 x 5,0	3 x 6,9	3 x 6,9	3 x 6,9	4 x 5,0	4 x 6,9
	Speed (r.p.m.)	439	439	490	490	581	623	659	718	757	769	659	718
	OPK code	3 x OPK0720	3 x OPK0720	3 x OPK0719	3 x OPK0721	3 x OPK0723	3 x OPK0726	3 x OPK0727	3 x OPK0729	3 x OPK0728	3 x OPK0730	4 x OPK0727	4 x OPK0729
Option E: High airflow	Air flow (m ³ /h)	21.600	23.760	25.920	28.080	30.015	31.640	35.190	35.640	--	--	48.600	49.500
	Available pressure (mm.w.c.)	15	15	15	15	15	15	15	15	--	--	15	15
	Motor output (kW)	3 x 1,5	3 x 1,1	3 x 1,5	3 x 1,5	3 x 2,2	3 x 2,2	3 x 3,0	3 x 3,0	--	--	4 x 3,0	4 x 3,0
	Power input (kW)	3 x 0,78	3 x 0,98	3 x 1,25	3 x 1,47	3 x 1,88	3 x 2,2	3 x 2,96	3 x 2,98	--	--	4 x 2,98	4 x 2,98
	Max. absorbed current (A)	3 x 3,6	3 x 2,7	3 x 3,6	3 x 3,6	3 x 5,0	3 x 5,0	3 x 6,9	3 x 6,9	--	--	4 x 6,9	4 x 6,9
	Speed (r.p.m.)	490	490	548	581	659	659	757	757	--	--	376	769
	OPK code	3 x OPK0719	3 x OPK0721	3 x OPK0722	3 x OPK0723	3 x OPK0727	3 x OPK0727	3 x OPK0728	3 x OPK0728	--	--	4 x OPK0728	4 x OPK0730

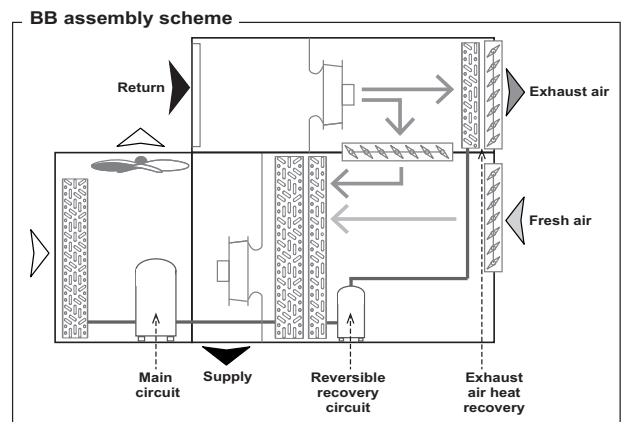
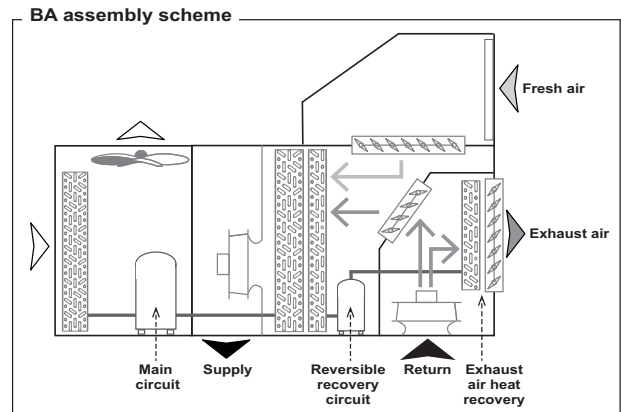
OPTIONS FOR THE INDOOR UNIT (CONT.)

Cooling recovery circuit (BA / BB assemblies)

Thermodynamic circuit dedicated to the recovery of the extracted air energy, with independent and proportional control, adapted to the air renewal requirements in order to raise the COP, EER and seasonal efficiency of the unit set.

- The circuit is composed of:
 - EC plug-fan in return section.
 - Air circuit comprised of coils with copper pipes and aluminium fins.
 - Electronic expansion valve.
 - Hermetic scroll-type compressor with sound insulation, assembled over antivibration mounts.
 - Crankcase heater.
 - Four-way cycle reversing valve.
 - Anti-acid dehydrator filter.
 - High and low pressure transducers.
 - Condensates drain pan.

50FC	100 to 120	130 to 145	160 to 170	180 to 220	250 to 280
Compressor type	Scroll				
No. of compressors / circuits	1 / 1				
Max. absorbed current (A)	13,7	18,7	21,7	24,0	27,5
Oil type	Copeland 3MAF 32cST, Danfoss POE 160SZ, ICI Emkarate RL 32CF, Mobil EAL Artic 22CC				
Volume of oil (l)	3,0	3,3	3,3	3,3	3,6
Charge of R-410A (kg)	5,3	6,4	6,4	7,6	11,9
Environment impact (tCO ₂ eq)	11,1	13,4	13,4	15,9	24,8



Heat recovery coil

The function of the heat recovery coil is to pre-heat the air that will pass through the main indoor coil. For this, it uses the temperature of an outdoor water installation. This function is managed by the unit's electronic control.

The coil is supplied with a 3-way valve for installation outside the unit but manages by the unit's electronic control.

This option is compatible with B1, B2, BT and BB assemblies.

50FC		100	110	120	130	145	160	170	180	200	220	250	280
Air pressure drop	(mm.w.c.)	2,3	2,7	3,1	2,9	3,6	4,2	4,6	4,6	5,5	6,2	5,8	6,0
Water 35/30°C (30% MEG) and inlet air 20°C	Heating capacity	39,4	41,9	44,3	49,9	53,4	56,9	59,0	58,5	62,6	64,8	81,6	82,8
	Water flow	7,3	7,8	8,2	9,3	9,9	10,5	10,9	10,9	11,6	12,1	15,2	15,4
	Water pressure drop (1)	3,1	3,2	3,3	5,1	5,3	5,6	5,7	4,4	4,5	4,5	7,0	7,0

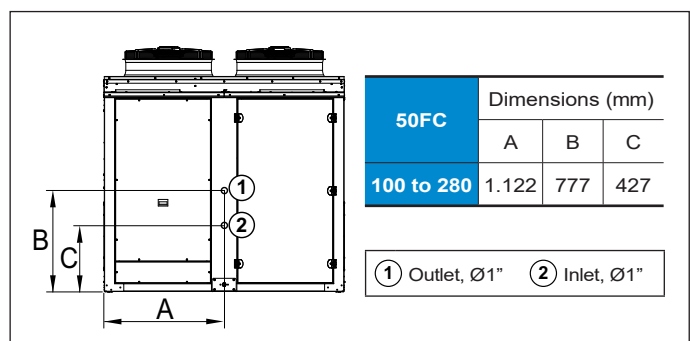
(1) Pressure drop in the coil and in the internal circuit of the unit.

Note: the heat recovery coil is not compatible with the hot water coil or the gas burner.

Correction coefficients

Water (inlet air 20°C)	30/35°C	*/40°C	*/45°C
Correction coefficients	1,00	1,35	1,70
% of MEG	10%	20%	30%
Correction coefficients	1,06	1,03	1,00

Position of the hydraulic connections



OPTIONS FOR THE INDOOR UNIT (CONT.)

Droplet eliminator after the indoor air coil

Air flow at which it is recommended to install a droplet eliminator after the indoor coil.

50FC	100	110	120	130	145	160	170	180	200	220	250	280
Air flow (m ³ /h)	25.920	25.920	25.920	34.700	34.700	34.700	34.700	39.658	39.658	39.658	46.675	46.675

Note: for operating conditions with high dehumidification in the indoor coil (e.g. in installations close to the coast) it may be necessary to install a separator even if the flow is less than the previous one.

Note: the droplet eliminator after the indoor coil is not compatible with the hot water coil.

Auxiliary electrical heaters

Auxiliary electrical heaters, with two power stages and on/off control, for assembly and connection inside the unit.

■ Up to 3 values of total power available for each model:

50FC	RAF (Low)	RAM (Nominal)	RAS (High)
100 to 120	27 kW	36 kW	54 kW
130 to 170	36 kW	54 kW	72 kW
180 to 220	45 kW	72 kW	90 kW
250 to 280	54 kW	72 kW	108 kW

■ Characteristics:

Total power (kW)	27	36	45	54	72	90	108
Stages power (kW)	9	18	18	27	36	45	54
	+ 18	+ 18	+ 27	+ 27	+ 36	+ 45	+ 54
Current (A)	39,0	52,0	65,0	78,0	104,0	130,0	156,0
Power supply	400 V / III ph						

Auxiliary hot water coil

Auxiliary hot water coil, with three-way valve and proportional control, for assembly and connection inside the unit. This option always incorporates a freeze protection thermostat.

50FC	100	110	120	130	145	160	170	180	200	220	250	280	
Air pressure drop (mm.w.c.)	2,2	2,6	3,0	2,9	3,5	4,1	4,5	3,9	4,7	5,4	4,2	5,0	
Water 80/60°C and inlet air 20°C	Heating capacity (kW)	181,0	192,4	203,2	226,4	242,3	257,3	266,8	278,2	295,8	309,5	336,8	358,5
	Water flow (m ³ /h)	8,0	8,5	9,0	10,0	10,7	11,4	11,8	12,3	13,1	13,7	14,9	15,9
	Water pressure drop (m.w.c.)	3,3	3,4	3,5	4,0	4,2	4,3	4,4	4,3	4,3	4,3	5,9	6,0
Water 90/70°C and inlet air 20°C	Heating capacity (kW)	222,5	236,6	250,0	278,1	297,9	316,6	328,3	346,2	368,2	385,7	416,9	443,9
	Water flow (m ³ /h)	9,9	10,5	11,1	12,4	13,3	14,1	14,6	15,4	16,4	17,1	18,5	19,7
	Water pressure drop (m.w.c.)	3,6	3,7	3,8	4,5	4,6	4,8	5,0	4,4	4,4	4,5	6,1	6,2

Note: Maximum water inlet temperature 95°C, maximum pressure 4 bar.

Note: The hot water coil is not compatible with the droplet eliminator after the indoor air coil or the heat recovery coil.

Position of the hydraulic connections of the hot water coil

The inlet/outlet connections of the hot water coil are located inside the unit and the connection is made via the side panel.

It can also be made via the base of the unit using flexible piping (for installation with pre-assembly roofcurb).

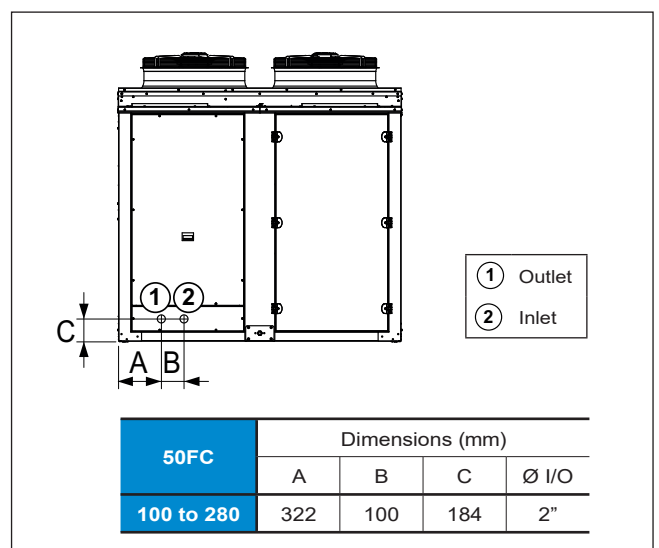
The position of the sheet metal precuts on the side panel are shown in the following diagrams.

“Very low outdoor temperature” option (upon request)

■ This anti-freeze safety incorporates:

- Circulation pump.
- Water temperature sensors located in the inlet and the outlet of the coil.

Important: this option is mandatory for an outdoor temperature lower than -20°C WB. Consult for percentages of glycol water above 20%.



OPTIONS FOR THE INDOOR UNIT (CONT.)

Warm air heater module with gas burner

Warm air heater module with gas burner with modulating actuator, in accordance with the Gas Directive 2009/142/EC, installed inside a pre-assembly roofcurb. The 50FC unit with lower air supply will be placed on this roofcurb.

EC certification: 0476CQ0451.

■ Two values of power available for each model:

50FC	100 to 120	130 to 170	170 to 280
BAM (Nominal)	PCH080	PCH130	PCH160
BAS (High)	PCH130	PCH160	PCH210

Note: the gas burner is not compatible with the heat recovery coil.

■ The key features of the boiler are:

- Natural or propane gas burner.
- Condensation boiler with premixing and modulation technology that allows outputs close to 109% (Hi performance).
- The premixed burner, in combination with the air/gas valve, ensures a “clean” combustion. Low NOx emissions < 70 mg/kWh HCV (class 5, according to standard EN 297).

Note: Burners must not exceed NOx:70mg/kWh HCV emission values from January 1st, 2021 (according to European Regulations 2016/2281).

- The combustion chamber and the burner are entirely made of stainless steel.
- Electronic controller with microprocessor and multifunction LCD display, located inside the burner, for burner’s control, configuration and diagnostics.

- The electronic control of the unit will only manage the burner connection as heating support depending on the ambient conditions.



Note: It’s recommended to use the clogged filter pressostat (optional) in units with gas burner.

Modelo		PCH080	PCH105 (2 x PCH065)		PCH105 (2 x PCH065)		PCH105 (2 x PCH065)			
Type of equipment		B23P - B53P - C13 - C43 - C53 - C63 - C83								
EC certification	PIN.	0476CQ0451								
NOx Class	Val	5								
Heater performance	Range	Min.	Max	Min.	Max	Min.	Max	Min.	Max	
	Thermal output (Hi)	kW	16,40	82,00	12,40	130,00	16,40	164,00	21,00	200,00
	Useful thermal output	kW	17,77	80,03	13,40	125,86	17,77	160,06	22,77	194,30
	Hi performance (L.C.V.)	%	108,35	97,60	108,06	96,82	108,35	97,60	108,40	97,15
	Hs performance (H.C.V.)	%	97,62	87,93	97,36	87,22	97,62	87,93	97,68	87,52
	Flue losses with burner on (Hi)	%	0,3	2,4	0,2	3,2	0,3	2,4	0,2	2,8
	Flue losses with burner off (Hi)	%	<0,1							
	Losses in enclosure (1)		0%							
Max. condensation (2)	l/h	3,3		4,2		6,6		5,4		
Exhaust gases - Polluting emissions	Carbon monoxide - B1 - (0% of O ₂) (3)	ppm	< 5							
	Nitrogen oxides - NOx - (0% of O ₂) (Hi) (4)		41 mg/kWh - 23 ppm		39 mg/kWh - 22 ppm		41 mg/kWh - 23 ppm		39 mg/kWh - 22 ppm	
	Nitrogen oxides - NOx - (0% of O ₂) (Hs) (5)		37 mg/kWh - 21 ppm		35 mg/kWh - 20 ppm		37 mg/kWh - 21 ppm		35 mg/kWh - 20 ppm	
	Available pressure at flue	Pa	120							
Electrical data	Power supply	230 Vac - 50 Hz single-phase								
	Power input	20	123	30	194	40	246	40	260	
	Power input in stand-by	<5								
	Ingress protection rating	IP X5D								
	Operating temperatures	from -15°C to +40°C								
Connections	Ø gas connection	GAS	3/4" M		1 1/2" M					
	Ø intake/exhaust pipes	mm	80/80		2 x 80/80					

(1) Enclosure losses match those of the machine housing the PCH.

(2) Max. condensation produced acquired from testing 30%Qn.

(3) Value referenced to cat. H (G20)

(4) Weighted value to EN1020:2009 ref. to class H (G20), referred to Hi (L.C.V.).

(5) Weighted value to EN1020:2009 ref. to class H (G20), referred to Hs (H.C.V.).

OPTIONS FOR THE INDOOR UNIT (CONT.)

■ Gas settings:

Gas type	Gas settings	PCH080		PCH105 (2 x PCH065)		PCH105 (2 x PCH065)		PCH105 (2 x PCH065)		
		min.	max.	min.	max.	min.	max.	min.	max.	
G20 Cat. E-H	Air supply pressure	mbar 20 [min 17-max 25]								
	Ø pilot nozzle	mm 0,7								
	Gas consumption (15°C-1013mbar)	m3/h 1,74	8,68	2 x 1,31	2 x 6,88	2 x 1,74	2 x 8,68	2 x 2,22	2 x 10,58	
	Carbon dioxide - CO ₂ content	% 8,7	9,1	8,7	9,1	8,7	9,1	8,5	9,1	
	Fumes temperature	°C 26,5	70	31	86	26,5	70	28	80	
	Fume mass flow rate (max.)	kg/h 135	2 x 107		2 x 135		2 x 165			
	Gas butterfly valve	mm 12,2	11,0		12,2		15,8			
G25 Cat. L-LL	Air supply pressure	mbar 25 [min 17-max 30] (20 for Germany)								
	Ø pilot nozzle	mm 0,7 (0,75 for Germany)								
	Gas consumption (15°C-1013mbar)	m3/h 2,02	10,1	2 x 1,53	2 x 8,00	2 x 2,02	2 x 10,1	2 x 2,21	2 x 12,30	
	Carbon dioxide - CO ₂ content	% 8,6	8,9	8,8	9,2	8,6	8,9	8,8	9,0	
	Fumes temperature	°C 26	70	31	86	26	70	28	80	
	Fume mass flow rate (max.)	kg/h	--							
	Gas butterfly valve	mm	Not necessary							
G30 Cat. 3B-P	Air supply pressure	mbar 30 [min 25-max 35] - 50 [min 42,5-max 57,5]								
	Ø pilot nozzle	mm 0,51								
	Gas consumption (15°C-1013mbar)	m3/h 1,49	6,80	2 x 1,03	2 x 5,39	2 x 1,49	2 x 6,80	2 x 1,70	2 x 8,30	
	Carbon dioxide - CO ₂ content	% 10,1	10,3	10,7	11,3	10,1	10,3	10,4	10,6	
	Fumes temperature	°C 26,5	70	31	86	26,5	70	28	80	
	Fume mass flow rate (max.)	kg/h	--							
	Gas butterfly valve	mm 7,0	6,5		7,0		9,3			
G31 Cat. 3P	Air supply pressure	mbar 30 [min 25-max 35] - 37 [min 25-max 45] - 50 [min 42,5-max 57,5]								
	Ø pilot nozzle	mm 0,51								
	Gas consumption (15°C-1013mbar)	m3/h 1,34	6,70	2 x 1,01	2 x 5,31	2 x 1,34	2 x 6,70	2 x 1,47	2 x 8,18	
	Carbon dioxide - CO ₂ content	% 9,3	9,6	9,4	9,6	9,3	9,6	9,5	9,8	
	Fumes temperature	°C 26,5	70	31	86	26,5	70	28	80	
	Fume mass flow rate (max.)	kg/h 107	2 x 84		2 x 107		2 x 130			
	Gas butterfly valve	mm 7,0	6,5		7,0		9,3			

■ Type of gas used depending on the destination country:

Country	Category	Gas	Pressure (mbar)	Gas	Pressure (mbar)
Austria, Switzerland	I12H3B/P	G20	20	G30/G31	50
Belgium < 70kW	I2E(S)B,I3P	G20/G25	20/25	G31	37
Belgium > 70kW	I2E(R)B,I3P	G20/G25	20/25	G31	37
Germany	I12ELL3B/P	G20/G25	20	G30/G31	50
Denmark, Finland, Greece, Sweden, Norway, Italy, Czech Republic, Estonia, Lithuania, Slovenia, Albania, Macedonia, Bulgaria, Romania, Croatia, Turkey, Azerbaijan	I12H3B/P	G20	20	G30/G31	30
Spain, United Kingdom, Ireland, Portugal, Slovakia	I12H3P	G20	20	G31	37
France	I12Esi3P	G20/G25	20/25	G31	37
Luxembourg	I12E3P	G20/G25	20	G31	37/50
Netherlands	I12EK3B/P	G20/G25.3	20/25	G30/G31	30
Hungary	I12HS3B/P	G20/G25.1	25	G30/G31	30
Cyprus, Malta	I3B/P	--	--	G30/G31	30
Latvia	I2H	G20	20		
Iceland	I3P	--	--	G31	37
Poland	I12ELwLs-3B/P	G20/G27/G2.350 (*)	20/13	G30/G31	37
Russia	I12H3B/P	G20	20	G30/G31	30

(*) Consult the available burners with G2.350.

PRESSURE DROPS DUE TO THE INDOOR UNIT OPTIONS

50FC	Flow (m ³ /h)	Pressure drops (mm.w.c)														
		Filters (1)					Droplet eliminator		HWC	EH	HRC	Adjustable roofcurb	Gas burner			
		G4 lpd	G4 + F7	G4 lpd + F7	M6 + F7	F7 + F9	Ind. coil	Air intake (2)					PCH -020	PCH -034	PCH -045	PCH -105
100	10.800	-0,6	3,5	3,0	4,2	6,5	1,0	0,6	0,6	1,0	0,7	1,4	2,8	1,2	--	--
	14.400	-0,7	5,0	4,2	5,8	9,1	1,4	0,8	1,4	1,7	1,5	2,5	4,9	2,2	--	--
	18.000	-0,9	6,5	5,6	7,4	11,8	1,8	1,1	2,2	2,7	2,3	3,9	7,7	3,4	--	--
	25.920	-1,2	10,4	9,2	11,3	18,5	3,0	1,6	4,0	5,6	4,1	8,1	16	7,0	--	--
110	10.800	-0,6	3,5	3,0	4,2	6,5	1,0	0,6	0,6	1,0	0,7	1,4	2,8	1,2	--	--
	14.400	-0,7	5,0	4,2	5,8	9,1	1,4	0,8	1,4	1,7	1,5	2,5	4,9	2,2	--	--
	19.800	-1,0	7,3	6,3	8,3	13,3	2,1	1,2	2,6	3,3	2,7	4,7	9,3	4,1	--	--
	25.920	-1,2	10,4	9,2	11,3	18,5	3,0	1,6	4,0	5,6	4,1	8,1	16	7,0	--	--
120	10.800	-0,6	3,5	3,0	4,2	6,5	1,0	0,6	0,6	1,0	0,7	1,4	2,8	1,2	--	--
	14.400	-0,7	5,0	4,2	5,8	9,1	1,4	0,8	1,4	1,7	1,5	2,5	4,9	2,2	--	--
	21.600	-1,0	8,2	7,1	9,1	14,8	2,3	1,3	3,0	3,9	3,1	5,6	11,1	4,9	--	--
	25.920	-1,2	10,4	9,2	11,3	18,5	3,0	1,6	4,0	5,6	4,1	8,1	16,0	7,0	--	--
130	14.040	-0,7	4,3	3,6	5,0	7,9	1,2	0,7	1,6	1,2	0,8	2,4	--	1,2	1,3	--
	18.720	-0,9	6,0	5,2	6,9	11,0	1,7	0,9	2,2	2,0	1,9	4,2	--	2,1	2,3	--
	23.400	-1,0	8,0	6,9	8,9	14,4	2,3	1,2	2,9	3,2	2,9	6,6	--	3,2	3,7	--
	36.720	-1,4	14,5	13,1	15,2	25,5	4,2	2,1	6,4	7,9	6,0	16,2	--	8,0	9,0	--
145	14.040	-0,7	4,3	3,6	5,0	7,9	1,2	0,7	1,6	1,2	0,8	2,4	--	1,2	1,3	--
	18.720	-0,9	6,0	5,2	6,9	11,0	1,7	0,9	2,2	2,0	1,9	4,2	--	2,1	2,3	--
	26.100	-1,1	9,2	8,0	10,1	16,5	2,6	1,4	3,5	4,0	3,6	8,2	--	4,0	4,5	--
	36.720	-1,4	14,5	13,1	15,2	25,5	4,2	2,1	6,4	7,9	6,0	16,2	--	8,0	9,0	--
160	14.040	-0,7	4,3	3,6	5,0	7,9	1,2	0,7	1,6	1,2	0,8	2,4	--	1,2	1,3	--
	18.720	-0,9	6,0	5,2	6,9	11,0	1,7	0,9	2,2	2,0	1,9	4,2	--	2,1	2,3	--
	28.800	-1,2	10,4	9,2	11,4	18,7	3,0	1,5	4,1	4,8	4,2	10,0	--	4,9	5,5	--
	36.720	-1,4	14,5	13,1	15,2	25,5	4,2	2,1	6,4	7,9	6,0	16,2	--	8,0	9,0	--
170	14.040	-0,7	4,3	3,6	5,0	7,9	1,2	0,7	1,6	1,2	0,8	2,4	--	1,2	1,3	--
	18.720	-0,9	6,0	5,2	6,9	11,0	1,7	0,9	2,2	2,0	1,9	4,2	--	2,1	2,3	--
	30.600	-1,2	11,3	10,1	12,2	20,1	3,2	1,6	4,5	5,5	4,6	11,2	--	5,6	6,3	--
	36.720	-1,4	14,5	13,1	15,2	25,5	4,2	2,1	6,4	7,9	6,0	16,2	--	8,0	9,0	--
180	19.440	-0,8	5,4	4,6	6,2	9,8	1,5	0,9	1,5	1,5	1,5	3,5	--	--	2,1	2,4
	25.920	-1,0	7,7	6,6	8,6	13,9	2,2	1,2	2,7	2,7	3,1	6,1	--	--	3,7	4,3
	32.400	-1,2	10,2	9,0	11,2	18,3	2,9	1,6	3,9	4,2	4,6	9,6	--	--	5,8	6,7
	46.800	-1,4	16,9	15,5	17,4	29,5	4,9	2,5	7,2	8,8	8,1	20,0	--	--	12,0	14,0
200	19.440	-0,8	5,4	4,6	6,2	9,8	1,5	0,9	1,5	1,5	1,5	3,5	--	--	2,1	2,4
	25.920	-1,0	7,7	6,6	8,6	13,9	2,2	1,2	2,7	2,7	3,1	6,1	--	--	3,7	4,3
	36.000	-1,3	11,8	10,5	12,6	20,9	3,4	1,8	4,7	5,2	5,5	11,8	--	--	7,1	8,3
	46.800	-1,4	16,9	15,5	17,4	29,5	4,9	2,5	7,2	8,8	8,1	20,0	--	--	12,0	14,0
220	19.440	-0,8	5,4	4,6	6,2	9,8	1,5	0,9	1,5	1,5	1,5	3,5	--	--	2,1	2,4
	25.920	-1,0	7,7	6,6	8,6	13,9	2,2	1,2	2,7	2,7	3,1	6,1	--	--	3,7	4,3
	39.000	-1,3	13,1	11,8	13,9	23,2	3,8	2,0	5,4	6,1	6,2	13,9	--	--	8,3	9,7
	46.800	-1,4	16,9	15,5	17,4	29,5	4,9	2,5	7,2	8,8	8,1	20,0	--	--	12,0	14,0
250	24.300	-0,8	5,8	4,9	6,6	10,5	1,6	0,9	1,5	1,8	5,1	5,4	--	--	2,0	2,4
	32.400	-1,1	8,3	7,2	9,2	14,9	2,4	1,3	2,8	3,1	5,4	9,6	--	--	3,6	4,3
	40.500	-1,2	11,1	9,8	12,0	19,7	3,2	1,7	4,2	4,9	5,8	15,0	--	--	5,6	6,8
	54.000	-1,4	16,4	15,0	17,0	28,7	4,8	2,4	6,5	8,7	6,4	26,7	--	--	10,0	12,0
280	24.300	-0,8	5,8	4,9	6,6	10,5	1,6	0,9	1,5	1,8	5,1	5,4	--	--	2,0	2,4
	32.400	-1,1	8,3	7,2	9,2	14,9	2,4	1,3	2,8	3,1	5,4	9,6	--	--	3,6	4,3
	45.000	-1,3	12,8	11,5	13,6	22,6	3,7	1,9	5,0	6,0	6,0	18,5	--	--	6,9	8,3
	54.000	-1,4	16,4	15,0	17,0	28,7	4,8	2,4	6,5	8,7	6,4	26,7	--	--	10,0	12,0

(1) The pressure drops in the filters are based on clean filters. Data refer to the difference with regard to the standard G4 pressure drops, considered as part of the machine pressure drops.

(2) The pressure drops in the stop-drops of the fresh air intake are based on 20% of flow.

Abbreviations:

lpd = low pressure drop

HWC = hot water coil

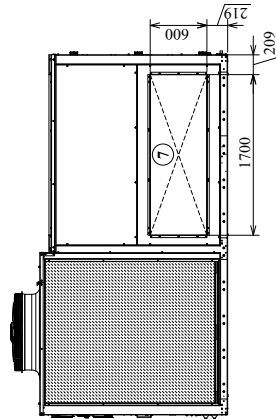
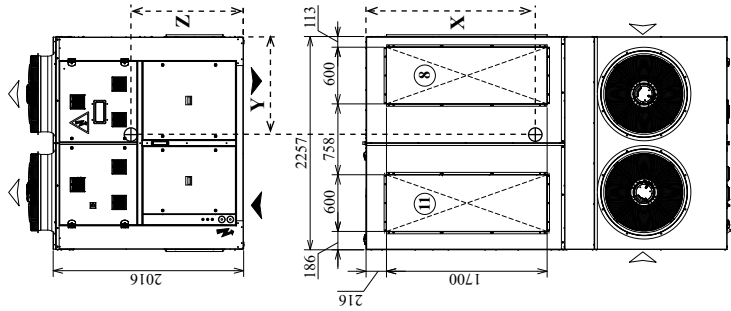
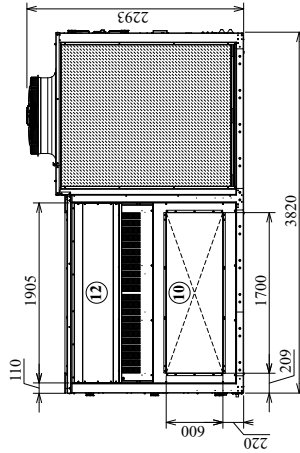
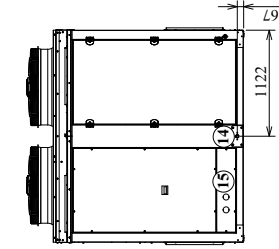
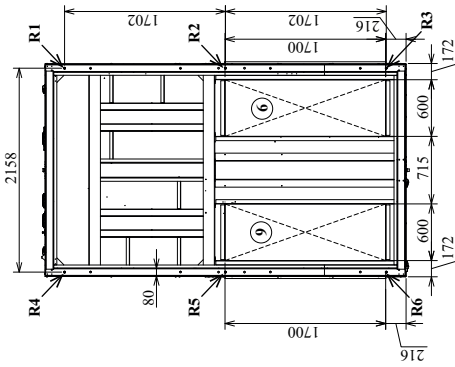
EH = electrical heaters

HRC = heat recovery coil

DIMENSIONAL DRAWINGS

50FC 100-110-120, B1 assembly

50FC Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
	X	Y	Z		R1	R2	R3	R4	R5	R6
100	1566	1046	845	1420	272	361	125	240	324	98
110	1566	1046	845	1435	274	365	126	243	328	99
120	1566	1046	845	1450	277	369	127	245	331	101



Legend

All dimensions are given in mm.

- Outdoor air circulation
- Standard indoor air circulation
- Electrical cabinet
- Electric power supply
- Door switch
- Lower air supply
- Lateral air supply
- Upper air supply
- Lower air return
- Lateral air return
- Upper air return
- Condensate outlet 3/4"™
- HWC connections (option)

Anti-vibration anchoring: rivet nut M12

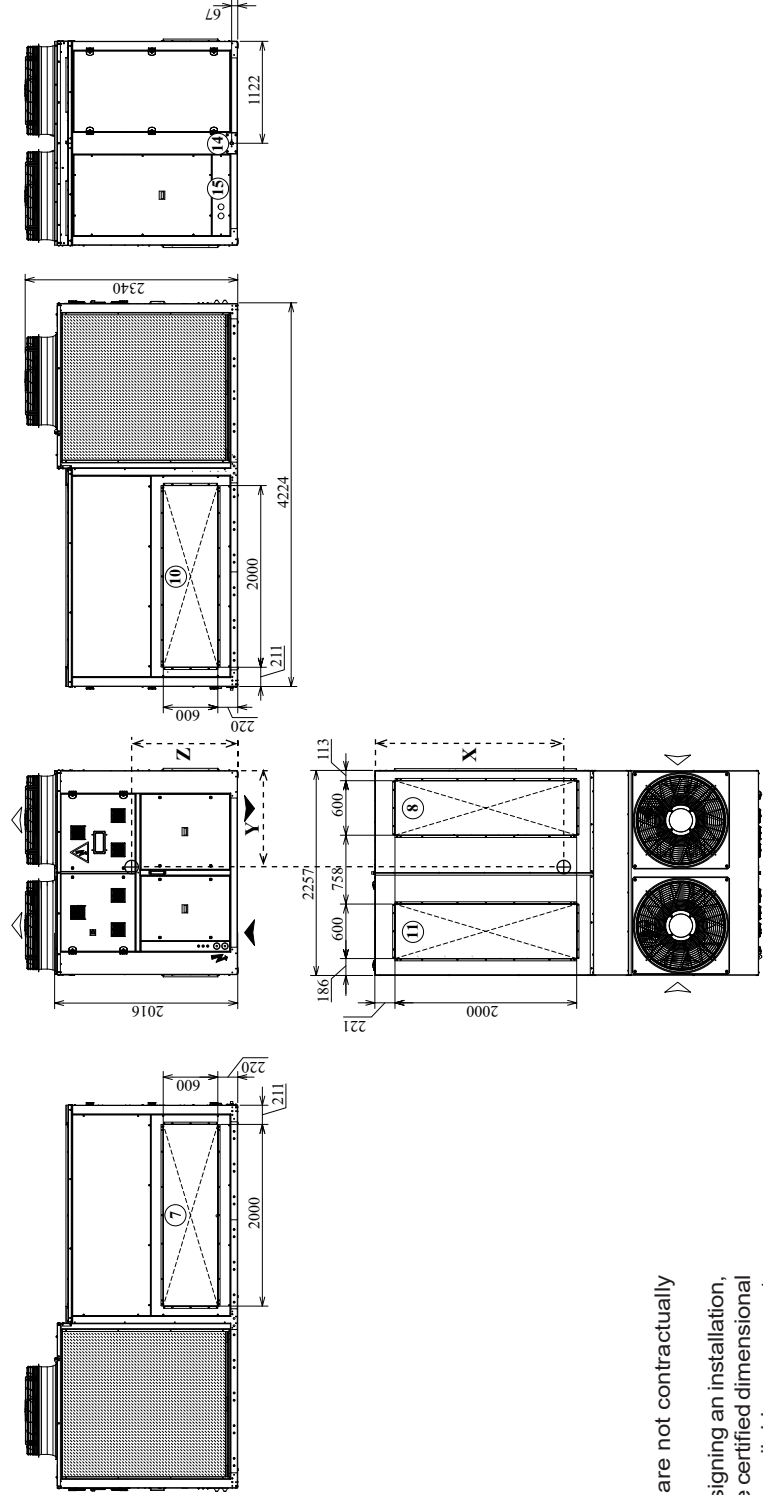
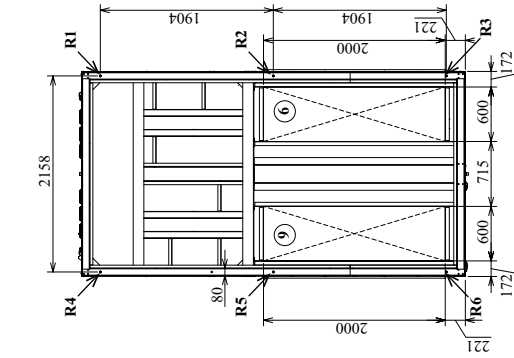
NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 130-145-160-170, B1 assembly

50FC Assembly	Centre of gravity (mm)			Weight (kg)		Reactions in the supports (kg)					
	X	Y	Z	R1	R2	R3	R4	R5	R6		
130	1840	1042	855	1630	276	428	165	243	381	137	
145	1840	1042	855	1665	281	437	169	249	389	140	
160	1840	1042	855	1670	282	438	169	249	391	140	
170	1840	1042	855	1675	283	440	170	250	392	141	



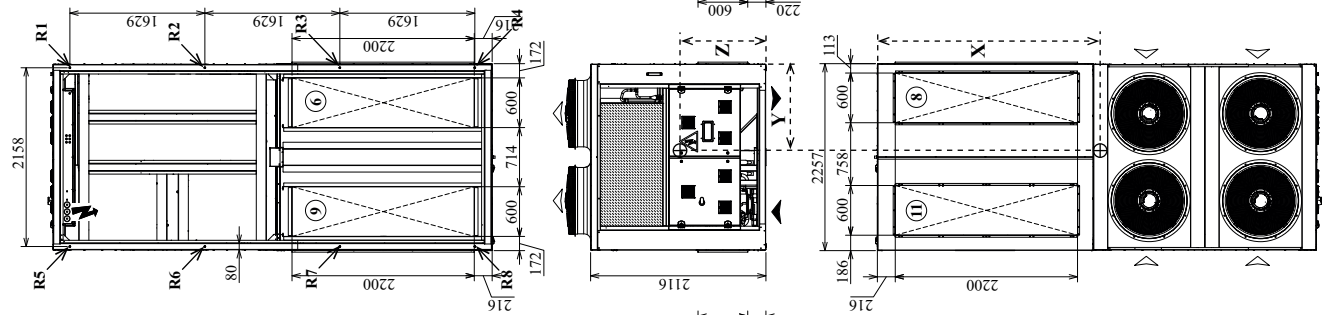
- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Upper air supply
 - Lower air return
 - Lateral air return
 - Upper air return
 -
 - HWC connections (option)
 - Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

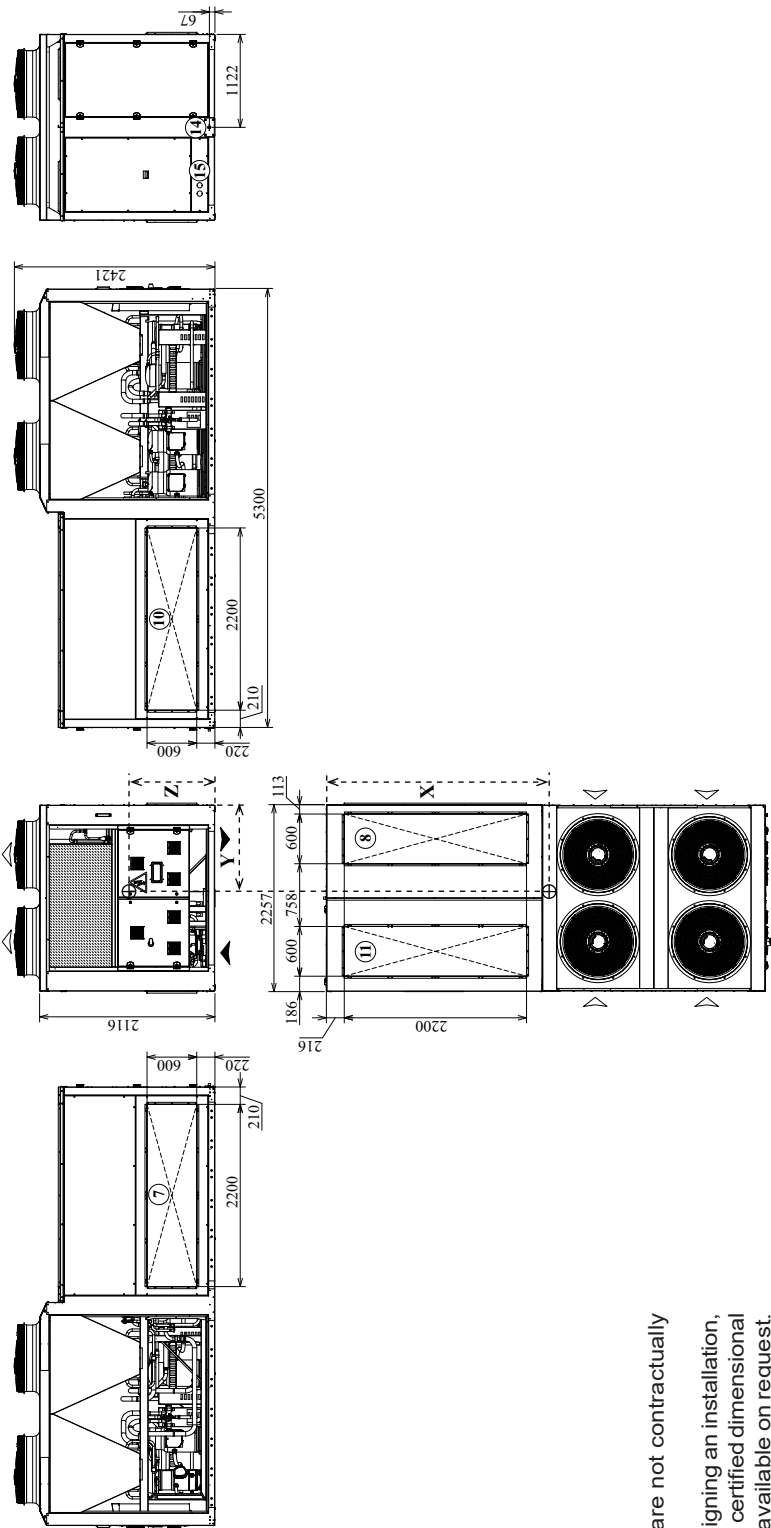
DIMENSIONAL DRAWINGS

50FC 180-200-220, B1 assembly

50FC Assembly	Centre of gravity (mm)			Reactions in the supports (kg)							
	X	Y	Z	R1	R2	R3	R4	R5	R6	R7	R8
180	2356	1121	965	257	410	264	190	267	435	252	181
200	2338	1135	947	269	423	271	193	289	453	270	188
220	2304	1165	919	282	434	270	185	314	487	288	195



- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Upper air supply
 - Lower air return
 - Lateral air return
 - Upper air return
 - Condensate outlet 3/4"™
 - HWC connections (option)
- Anti-vibration anchoring: rivet nut M12

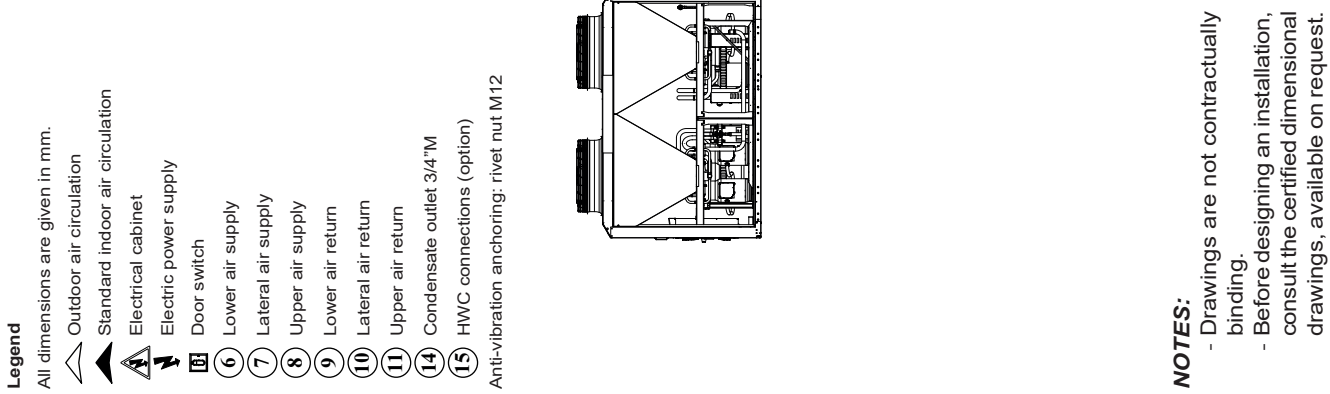
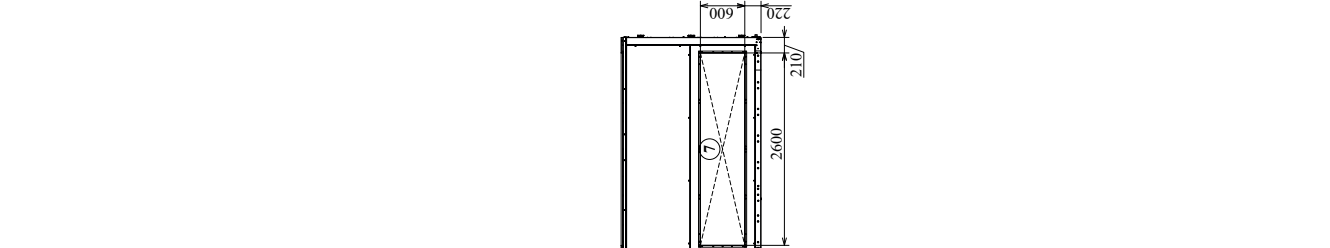
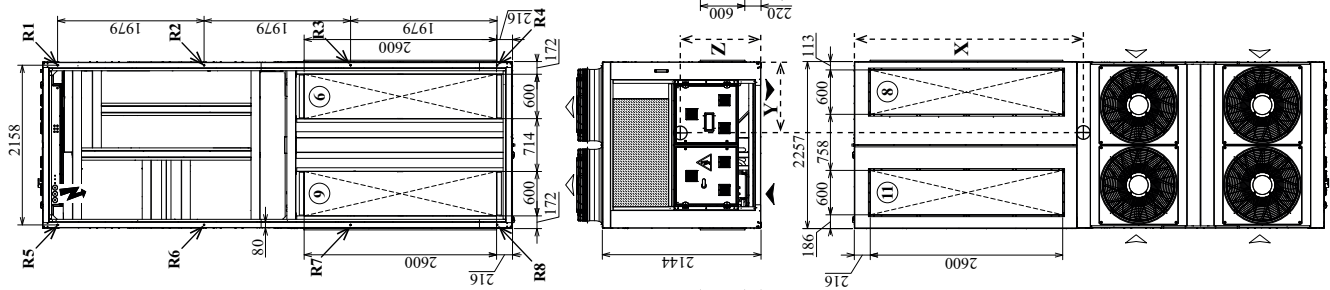


- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 250-280, B1 assembly

50FC Assembly	Centre of gravity (mm)			Reactions in the supports (kg)							
	X	Y	Z	R1	R2	R3	R4	R5	R6	R7	R8
250	2718	1158	979	306	539	296	203	349	581	305	206
280	2718	1158	979	313	552	302	207	356	595	311	210



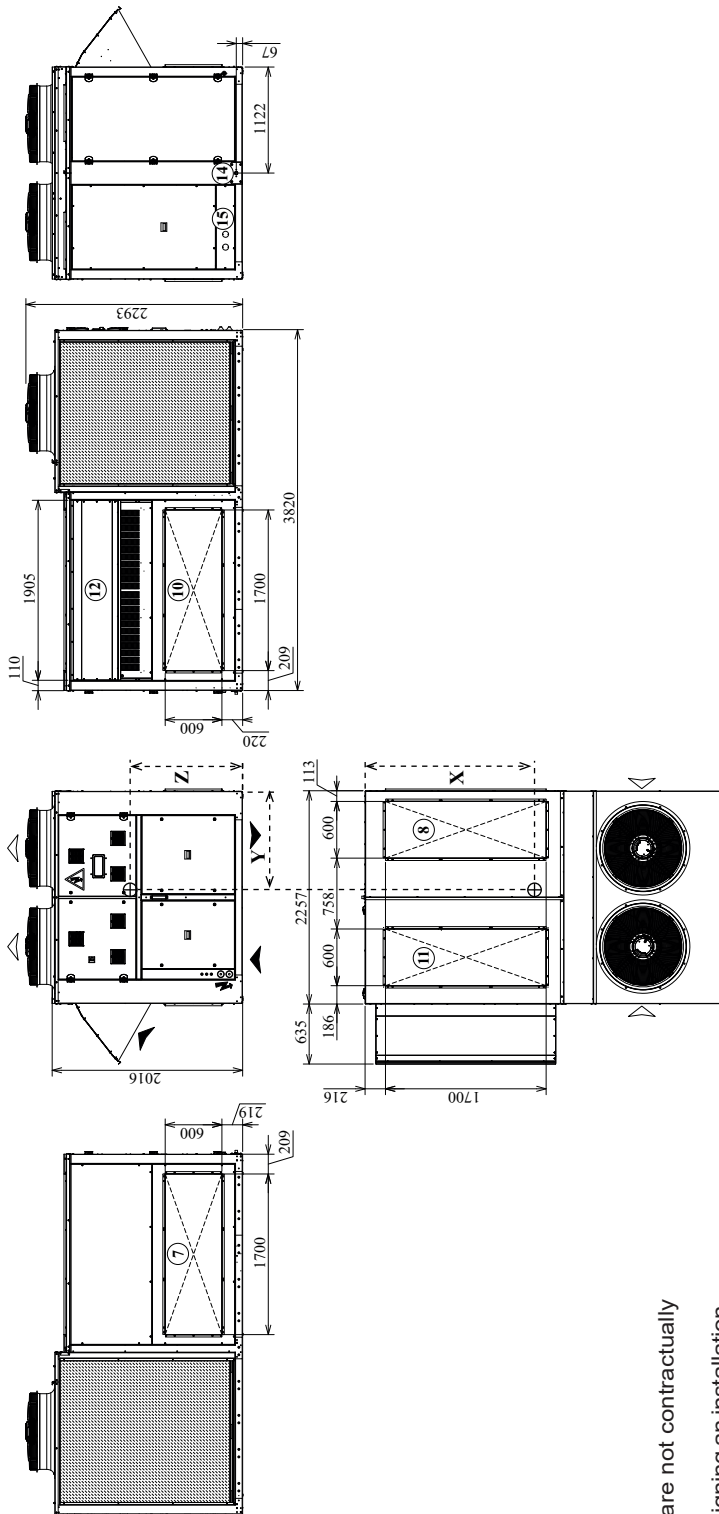
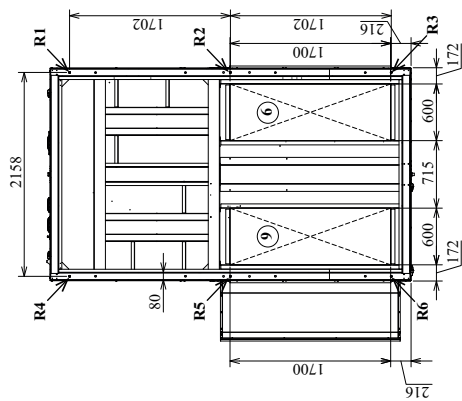
Legend
 All dimensions are given in mm.
 ◁ Outdoor air circulation
 ▷ Standard indoor air circulation
 ⚡ Electrical cabinet
 ⚡ Electric power supply
 ⚡ Door switch
 ⑥ Lower air supply
 ⑦ Lateral air supply
 ⑧ Upper air supply
 ⑨ Lower air return
 ⑩ Lateral air return
 ⑪ Upper air return
 ⑭ Condensate outlet 3/4"™
 ⑮ HWC connections (option)
 Anti-vibration anchoring: rivet nut M12

NOTES:
 - Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 100-110-120, B2 assembly

50FC Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)						
	X	Y	Z		R1	R2	R3	R4	R5	R6	
100	B2	1595	1074	849	1465	269	362	131	246	342	114
110	B2	1595	1074	849	1480	272	366	132	249	346	115
120	B2	1595	1074	849	1495	274	370	134	251	349	117



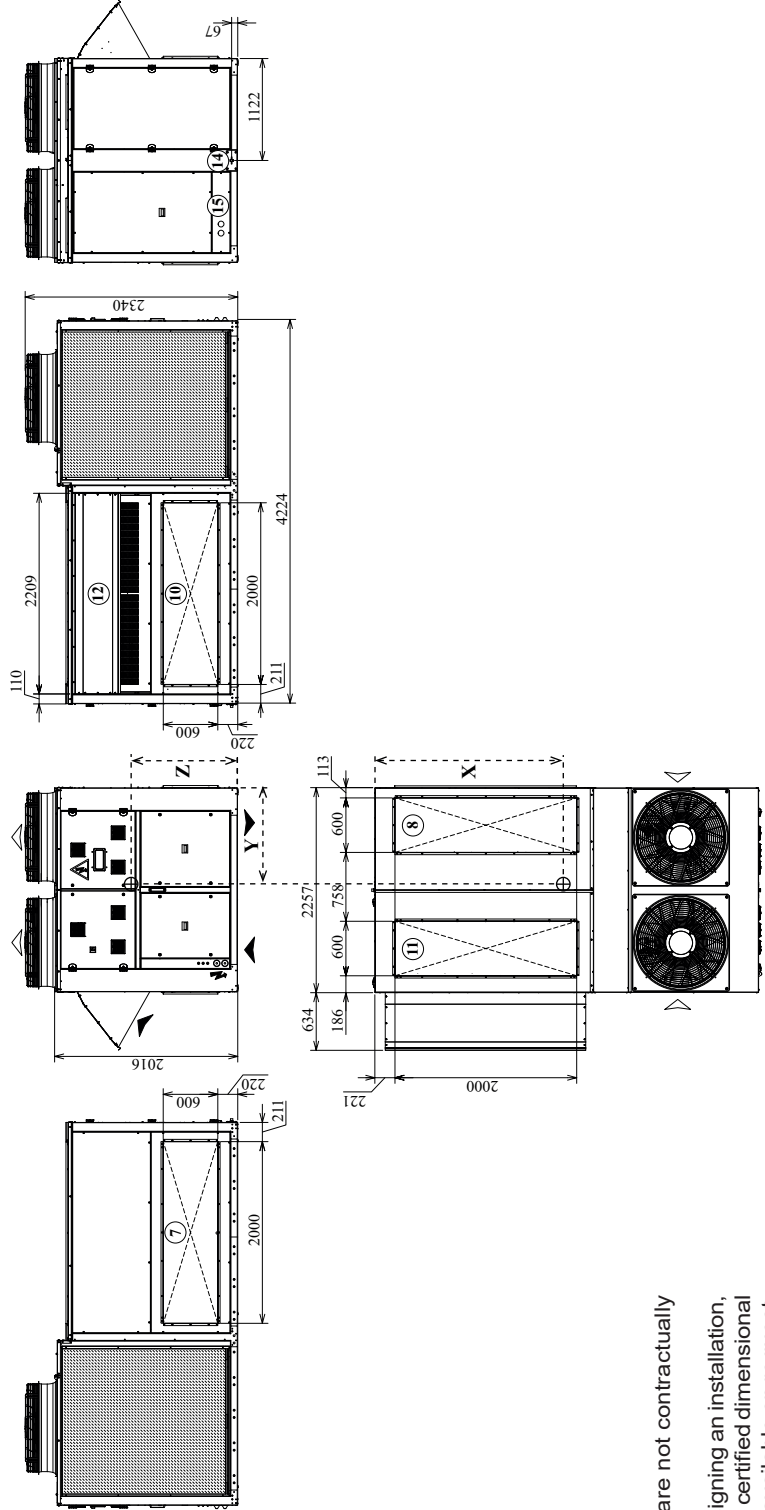
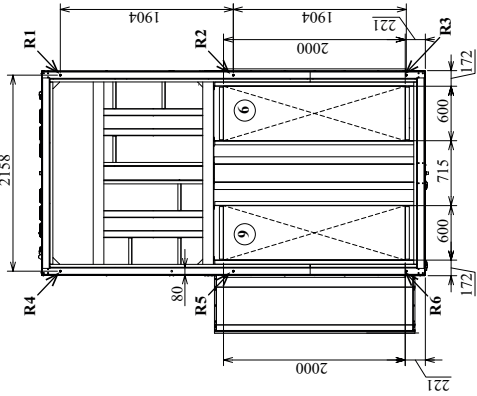
- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Upper air supply
 - Lower air return
 - Lateral air return
 - Upper air return
 - Fresh air intake
 - Condensate outlet 3/4"™
 - HWC connections (option)
- Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 130-145-160-170, B2 assembly

50FC Assembly	Centre of gravity (mm)			Weight (kg)		Reactions in the supports (kg)					
	X	Y	Z	R1	R2	R3	R4	R5	R6		
130	1866	1066	857	1670	272	437	163	244	399	153	
145	1866	1066	857	1705	278	446	167	250	408	157	
160	1866	1066	857	1710	279	447	167	250	409	157	
170	1866	1066	857	1715	280	449	168	251	410	158	



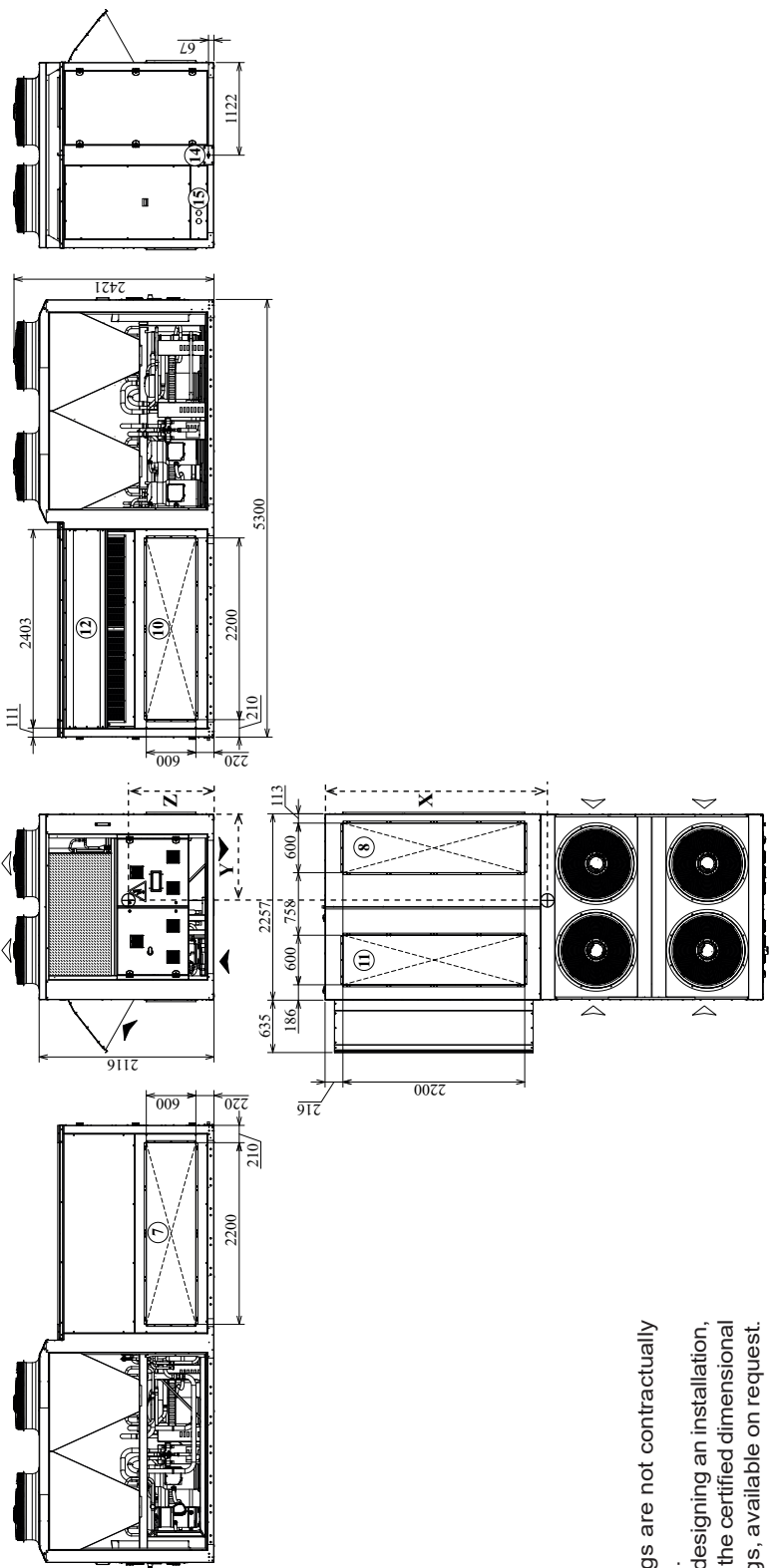
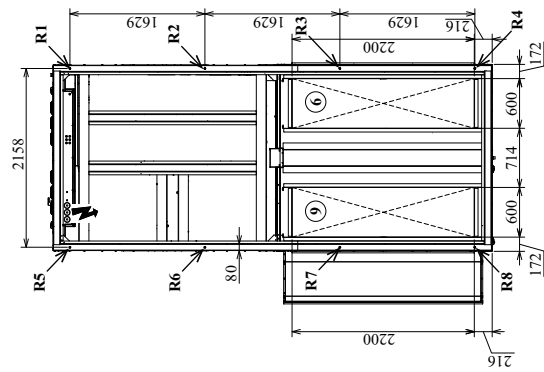
- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Upper air supply
 - Lower air return
 - Lateral air return
 - Upper air return
 - Fresh air intake
 -
 - HWC connections (option)
 - Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 180-200-220, B2 assembly

50FC Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)							
	X	Y	Z				R1	R2	R3	R4	R5	R6	R7	R8
180	2387	1140	966	2355	257	420	261	183	289	474	279	193		
200	2367	1155	949	2425	268	425	275	201	295	468	286	206		
220	2333	1183	921	2525	281	436	275	194	320	502	304	213		



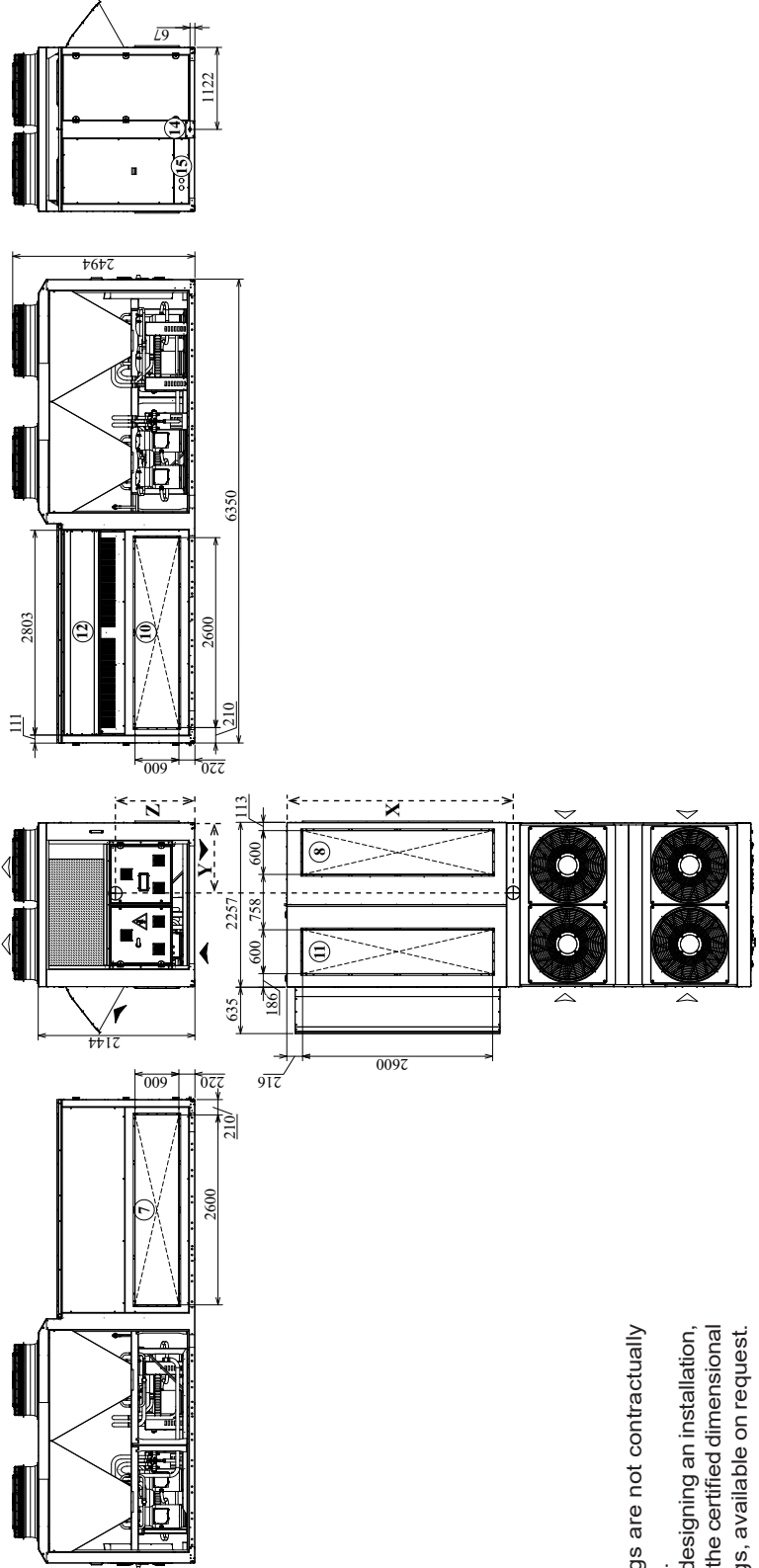
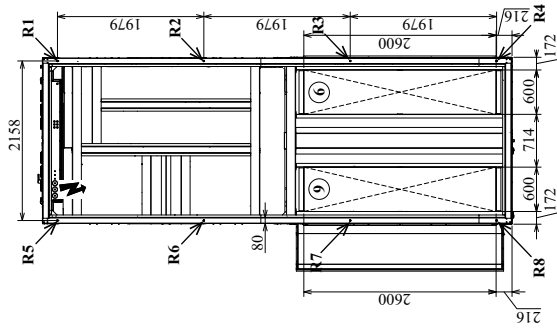
- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Upper air supply
 - Lower air return
 - Lateral air return
 - Upper air return
 - Fresh air intake
 - Condensate outlet 3/4" M
 - HWC connections (option)
- Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 250-280, B2 assembly

50FC Assembly	Centre of gravity (mm)			Reactions in the supports (kg)								
	X	Y	Z	R1	R2	R3	R4	R5	R6	R7	R8	
250	2740	1168	977	2895	313	550	307	216	360	600	323	225
280	2740	1168	977	2955	319	562	313	220	368	614	330	229



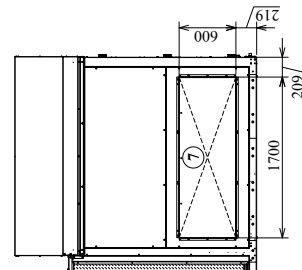
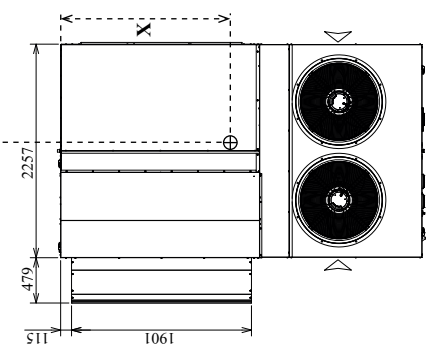
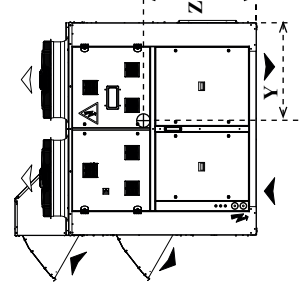
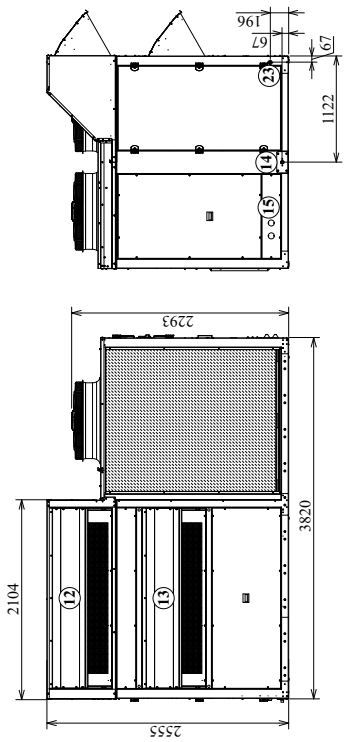
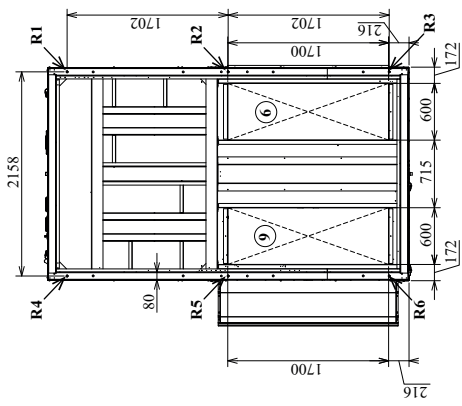
- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Upper air supply
 - Lower air return
 - Lateral air return
 - Upper air return
 - Fresh air intake
 -
 - HWC connections (option)
 - Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 100-110-120, BP and BA assemblies

50FC	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
100	BP	1743	1167	868	1669	263	384	179	275	423	200
	BA	1723	1210	853	1780	276	361	178	312	434	218
110	BP	1743	1167	868	1684	256	378	171	268	418	193
	BA	1723	1210	853	1795	279	364	179	315	438	220
120	BP	1743	1167	868	1699	258	381	173	270	422	194
	BA	1723	1210	853	1810	281	367	181	317	442	222



Legend

All dimensions are given in mm.

- Outdoor air circulation
- Standard indoor air circulation
- Electrical cabinet
- Electric power supply
- Door switch
- Lower air supply
- Lateral air supply
- Lower air return
- Fresh air intake
- Exhaust air outlet
- Condensate outlet 3/4" M
- HWC connections (option)
- Recovery circuit condensate outlet 1/2" M (BA assembly)
- Anti-vibration anchoring: rivet nut M12

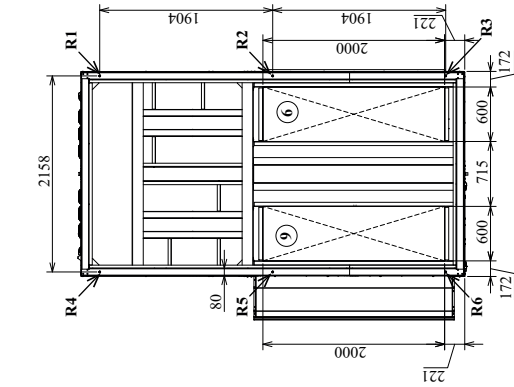
NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

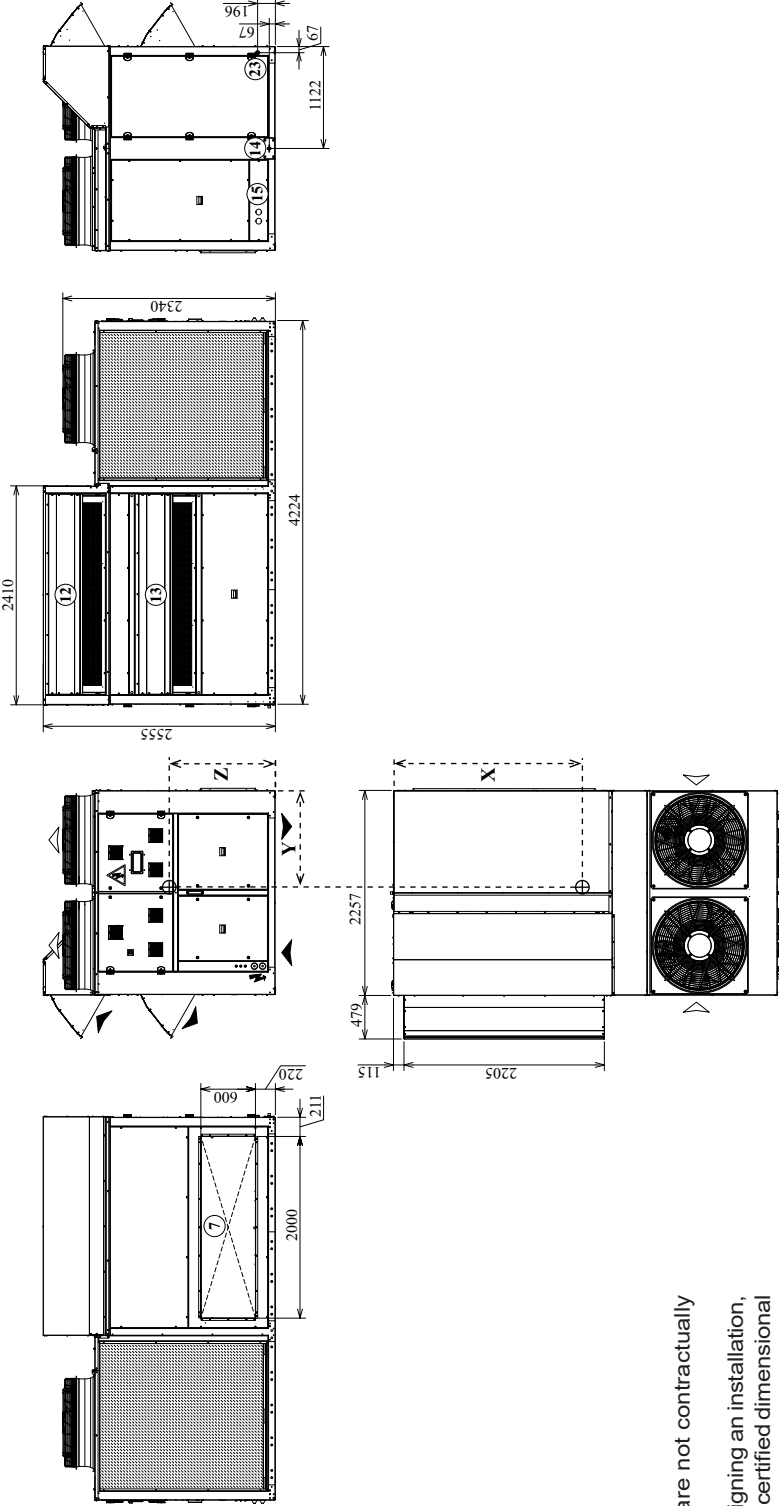
DIMENSIONAL DRAWINGS

50FC 130-145-160-170, BP and BA assemblies

50FC Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
	X	Y	Z		R1	R2	R3	R4	R5	R6
BP	2018	1168	847	1935	262	450	215	273	499	236
BA	1989	1204	835	2085	291	448	228	323	528	266
BP	2018	1168	847	1970	267	460	218	278	508	241
BA	1989	1204	835	2120	295	457	230	328	540	270
BP	2018	1168	847	1975	267	460	219	279	509	241
BA	1989	1204	835	2125	296	458	231	329	541	270
BP	2018	1168	847	1980	268	461	220	280	510	242
BA	1989	1204	835	2130	296	459	231	330	542	271



- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lower air return
 - Fresh air intake
 - Exhaust air outlet
 - Condensate outlet 3/4"™
 - HWC connections (option)
 - Recovery circuit condensate outlet 1/2"™ (BA assembly)
- Anti-vibration anchoring: rivet nut M12

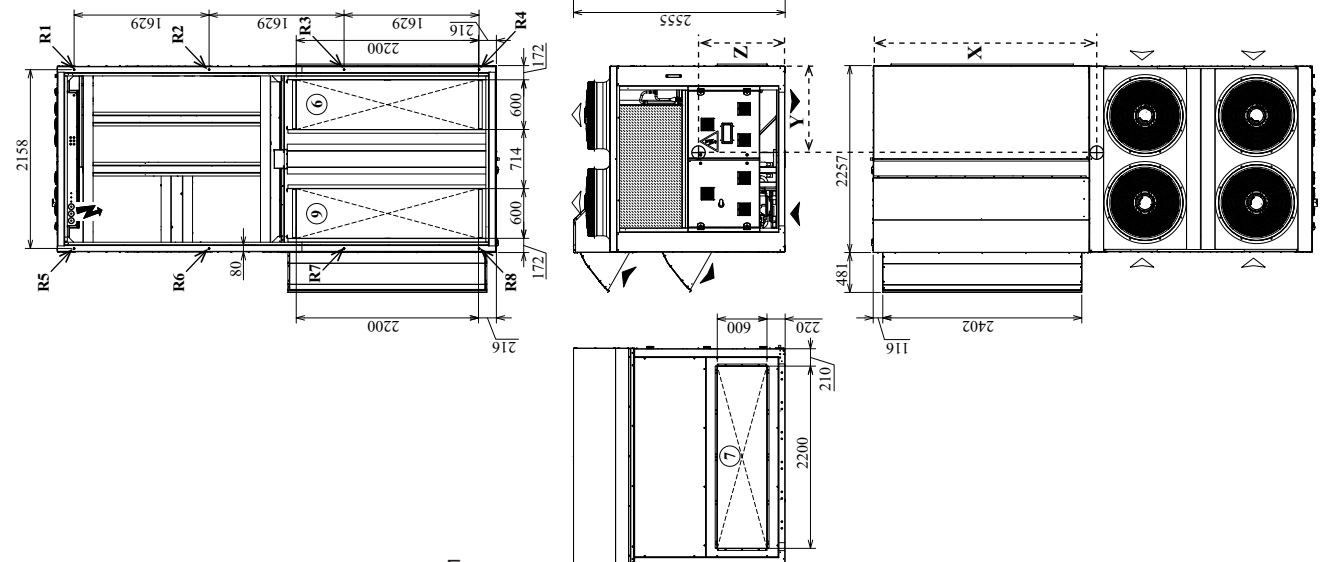


- NOTES:**
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 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 180-200-220, BP and BA assemblies

50FC Assembly	Centre of gravity (mm)			Reactions in the supports (kg)								
	X	Y	Z	R1	R2	R3	R4	R5	R6	R7	R8	
180	2563	1213	979	2745	249	439	307	258	295	538	358	301
200	2561	1200	960	2935	270	475	333	280	313	569	378	317
	2543	1226	964	2815	256	447	310	257	314	553	374	304
	2543	1211	946	3005	277	483	336	279	332	584	394	321
	2504	1247	937	2915	266	460	309	249	331	608	386	306
	2537	1246	920	3105	276	485	332	275	342	642	413	335



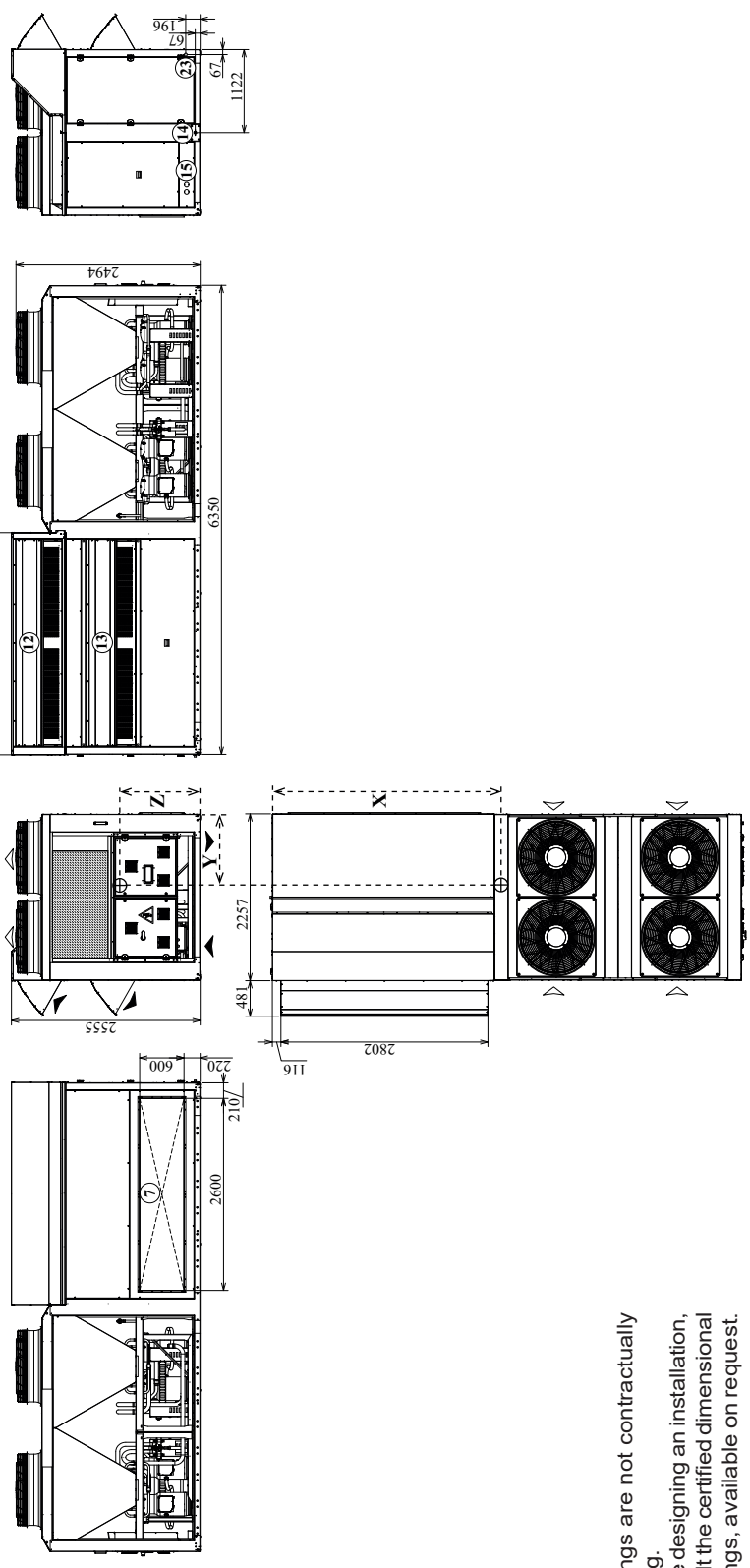
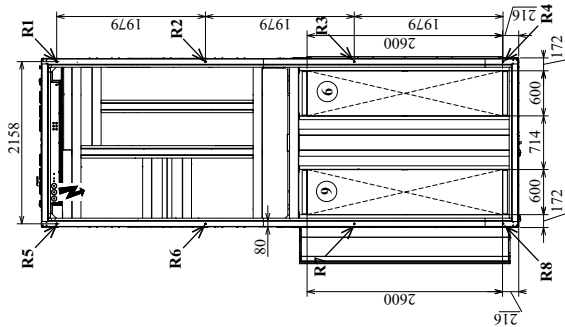
- Legend**
- All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lower air return
 - Fresh air intake
 - Exhaust air outlet
 - Condensate outlet 3/4" M
 - HWC connections (option)
 - Recovery circuit condensate outlet 1/2" M (BA assembly)
 - Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 250-280, BP and BA assemblies

50FC Assembley	Centre of gravity (mm)			Reactions in the supports (kg)								
	X	Y	Z	R1	R2	R3	R4	R5	R6	R7	R8	
250	2947	1233	983	286	564	336	264	372	685	410	317	
BA	2968	1225	969	302	600	363	289	388	720	435	340	
BP	2947	1233	983	3295	291	575	342	269	379	699	418	323
BA	2968	1225	969	3495	307	610	369	294	394	733	442	346



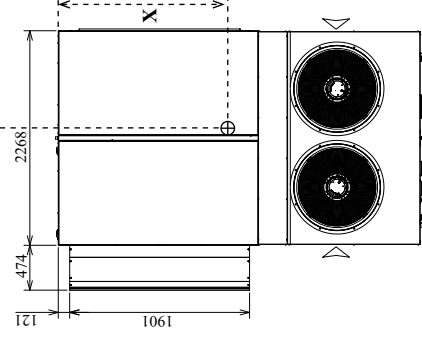
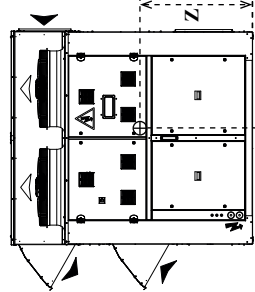
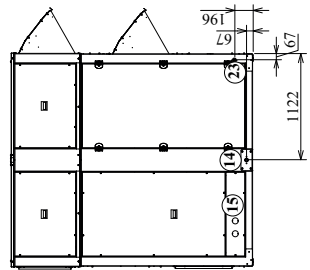
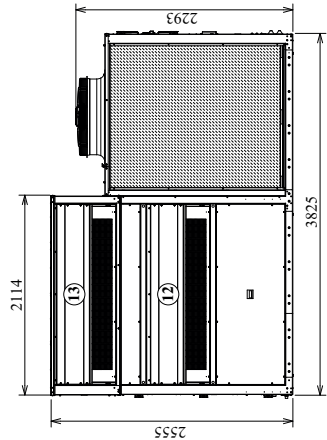
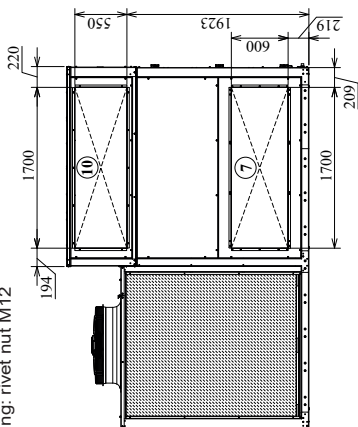
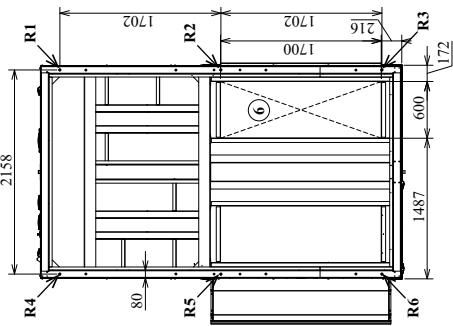
- Legend**
All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lower air return
 - Fresh air intake
 - Exhaust air outlet
 - Condensate outlet 3/4"™
 - HWC connections (option)
 - Recovery circuit condensate outlet 1/2"™
 - (BA assembly)
- Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 100-110-120, BT and BB assemblies

50FC Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
	X	Y	Z		R1	R2	R3	R4	R5	R6
100	1775	1055	1071	1765	283	435	215	252	392	189
110	1752	1102	1057	1875	309	420	222	295	412	216
120	1775	1055	1071	1780	285	439	217	254	396	190
	1752	1102	1057	1890	312	424	224	298	416	217
	1775	1055	1071	1795	286	441	217	254	397	190
	1752	1102	1057	1905	314	427	226	300	419	219



Legend

All dimensions are given in mm.

- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lateral air return
 - Fresh air intake
 - Exhaust air outlet
 - Condensate outlet 3/4" M
 - HWC connections (option)
 - Recovery circuit condensate outlet 1/2" M (BB assembly)
- Anti-vibration anchoring: rivet nut M12

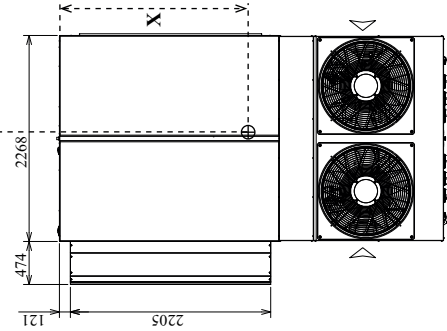
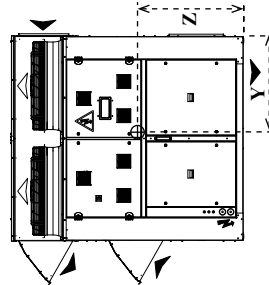
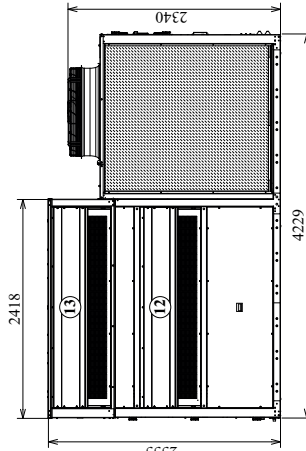
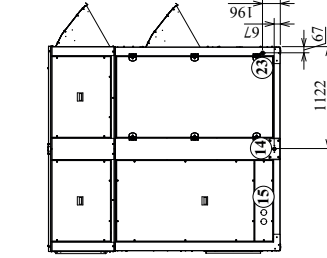
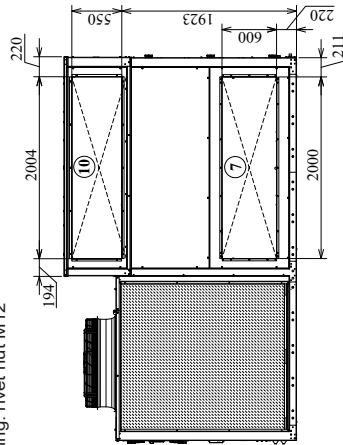
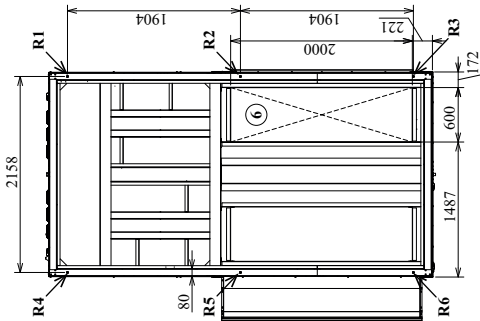
NOTES:

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- Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 130-145-160-170, BT and BB assemblies

50FC Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
	X	Y	Z		R1	R2	R3	R4	R5	R6
BT	2024	1053	1038	2025	297	515	256	264	467	226
BB	1996	1095	1030	2175	331	515	269	311	502	257
BT	2024	1053	1038	2030	297	522	254	262	473	223
BB	1996	1095	1030	2180	329	519	265	309	505	253
BT	2024	1053	1038	2035	298	523	254	263	474	224
BB	1996	1095	1030	2185	329	520	265	310	507	254
BT	2024	1053	1038	2040	298	525	255	263	475	224
BB	1996	1095	1030	2190	330	522	266	310	508	254



Legend

All dimensions are given in mm.

- Outdoor air circulation
- Standard indoor air circulation
- Electrical cabinet
- Electric power supply
- Door switch
- Lower air supply
- Lateral air supply
- Lateral air return
- Fresh air intake
- Exhaust air outlet
- Condensate outlet 3/4"™
- HWC connections (option)
- Recovery circuit condensate outlet 1/2"™
- (BB assembly)
- Anti-vibration anchoring: rivet nut M12

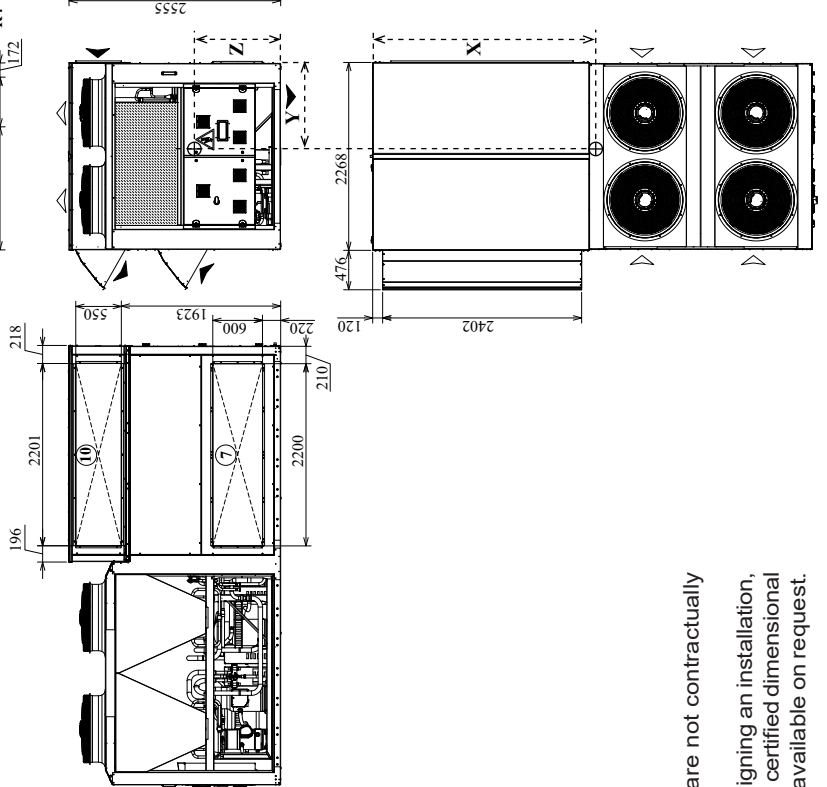
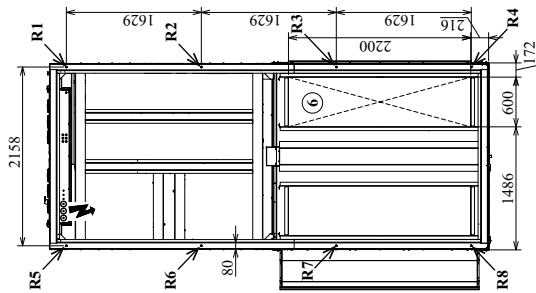
NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 180-200-220, BT and BB assemblies

50FC Assembly	Centre of gravity (mm)			Reactions in the supports (kg)								
	X	Y	Z	R1	R2	R3	R4	R5	R6	R7	R8	
180	2585	1112	1128	2855	275	489	356	303	281	511	339	290
200	2583	1105	1114	3005	293	521	379	322	295	539	355	302
220	2565	1127	1110	2925	284	498	360	304	301	527	356	295
	2564	1119	1098	3075	300	529	381	320	314	554	371	306
	2558	1147	1103	3025	288	510	365	306	309	575	369	304
	2557	1138	1092	3175	303	541	386	323	321	602	384	315



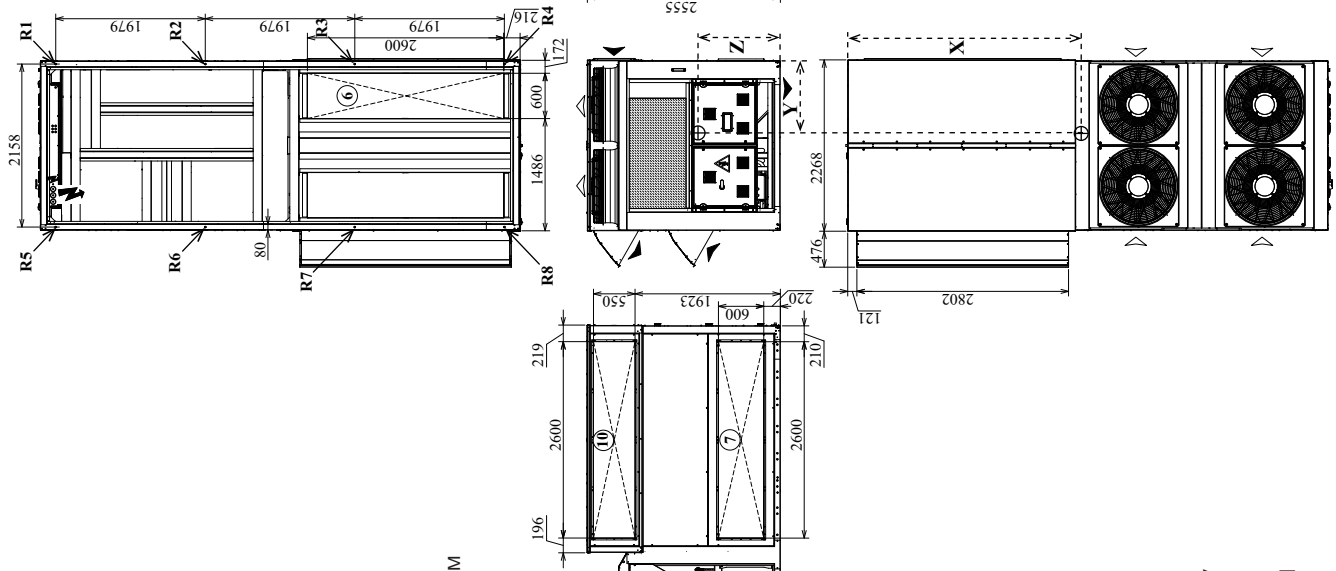
- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lateral air return
 - Fresh air intake
 - Exhaust air outlet
 - Condensate outlet 3/4" M
 - HWC connections (option)
 - Recovery circuit condensate outlet 1/2" M (BB assembly)
- Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 250-280, BT and BB assemblies

50FC Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)							
	X	Y	Z		R1	R2	R3	R4	R5	R6	R7	R8
250	2963	1142	1127	3285	312	614	381	302	350	649	381	297
BB	2983	1138	1110	3485	328	651	408	327	365	682	405	319
BT	2963	1142	1127	3345	317	626	387	307	356	661	388	302
BB	2983	1138	1110	3545	333	662	415	332	372	695	412	324



- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lateral air return
 - Fresh air intake
 - Exhaust air outlet
 - Condensate outlet 3/4"™
 - HWC connections (option)
 - Recovery circuit condensate outlet 1/2"™ (BB assembly)
- Anti-vibration anchoring: rivet nut M12















- NOTES:**
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 - Before designing an installation, consult the certified dimensional drawings, available on request.

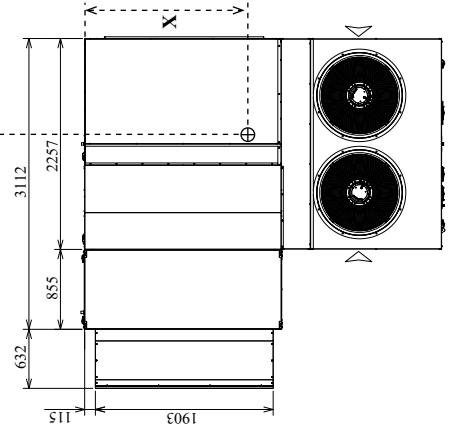
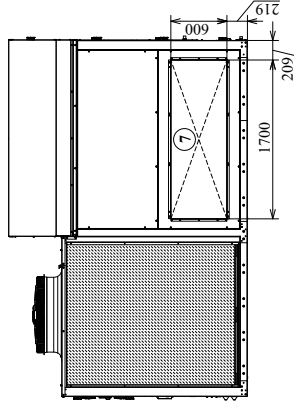
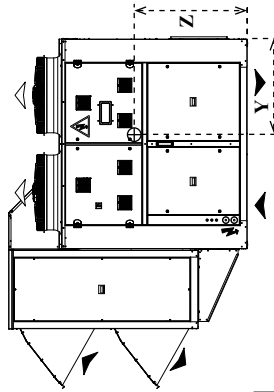
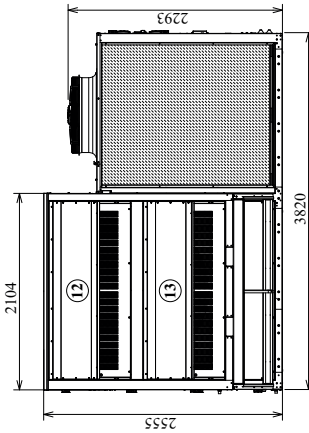
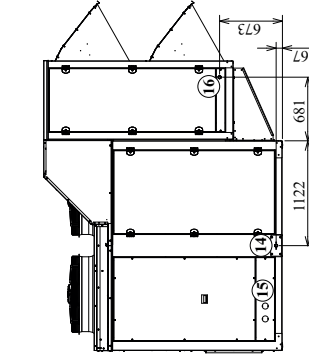
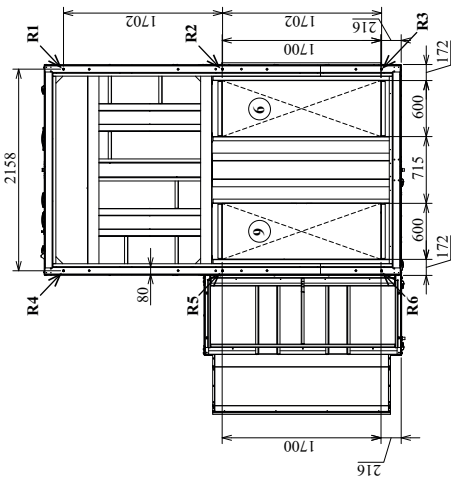
DIMENSIONAL DRAWINGS

50FC 100-110-120, BW assembly

50FC Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (smaller diameter wheel) (kg)					
	X	Y	Z		R1	R2	R3	R4	R5	R6
100	1979	1539	983	2170	168	311	202	363	702	425
110	1979	1539	983	2185	164	308	199	361	702	423
120	1979	1539	983	2200	165	310	200	363	707	426

Legend

- All dimensions are given in mm.
-  Outdoor air circulation
 -  Standard indoor air circulation
 -  Electrical cabinet
 -  Electric power supply
 -  Door switch
 -  Lower air supply
 -  Lateral air supply
 -  Lower air return
 -  Fresh air intake
 -  Exhaust air outlet
 -  Condensate outlet 3/4" M
 -  HWC connections (option)
 -  Wheel condensate outlet 3/4" M
 -  Anti-vibration anchoring: rivet nut M12



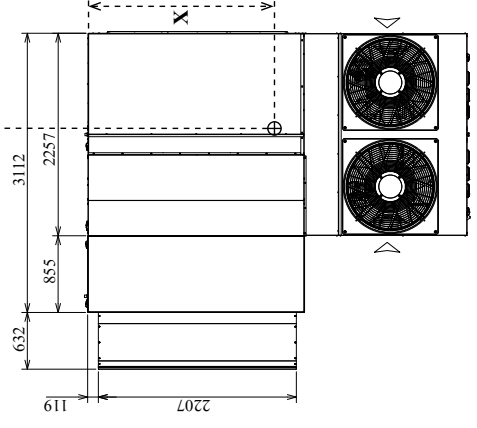
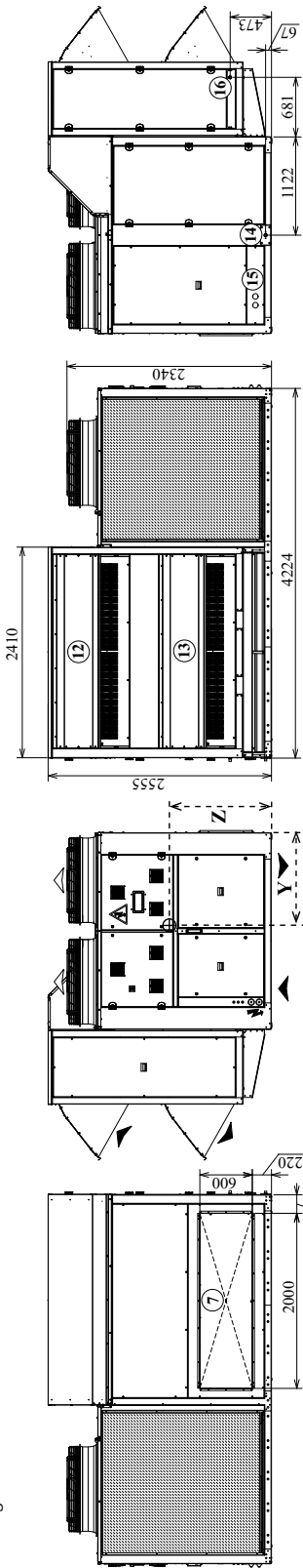
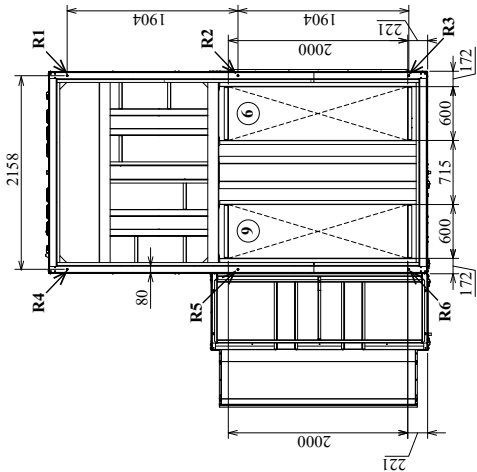
NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 130-145-160-170, BW assembly

50FC Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (smaller diameter wheel) (kg)					
	X	Y	Z		R1	R2	R3	R4	R5	R6
130	2227	1503	937	2445	182	387	247	368	799	461
145	2227	1503	937	2480	178	393	249	374	817	469
160	2227	1503	937	2485	178	394	250	375	818	470
170	2227	1503	937	2490	180	397	252	378	822	473



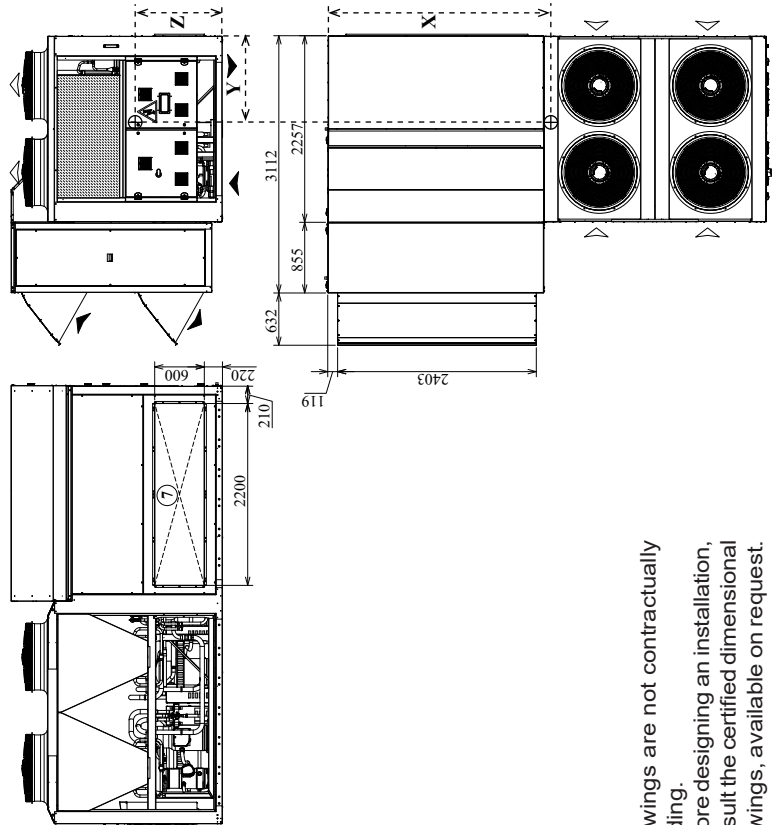
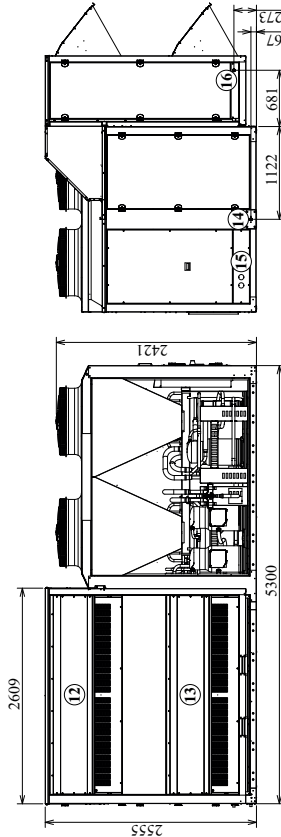
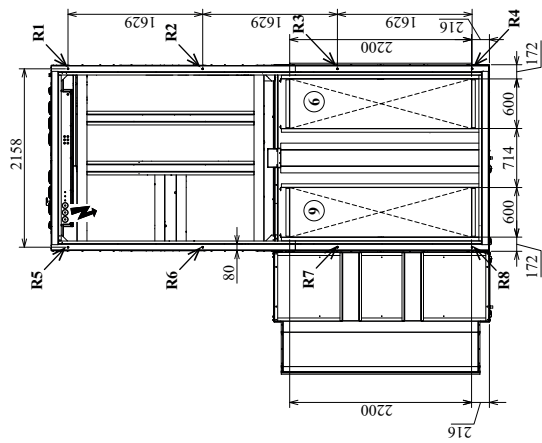
- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lower air return
 - Fresh air intake
 - Exhaust air outlet
 - Condensate outlet 3/4" M
 - HWC connections (option)
 - Wheel condensate outlet 3/4" M
- Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 180-200-220, BW assembly

50FC Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (smaller diameter wheel) (kg)							
	X	Y	Z		R1	R2	R3	R4	R5	R6	R7	R8
180 BW	2793	1473	1001	3410	191	396	301	307	365	745	575	530
200 BW	2772	1477	987	3480	198	403	304	307	384	760	591	534
220 BW	2756	1493	1493	3580	196	407	302	305	393	823	607	547



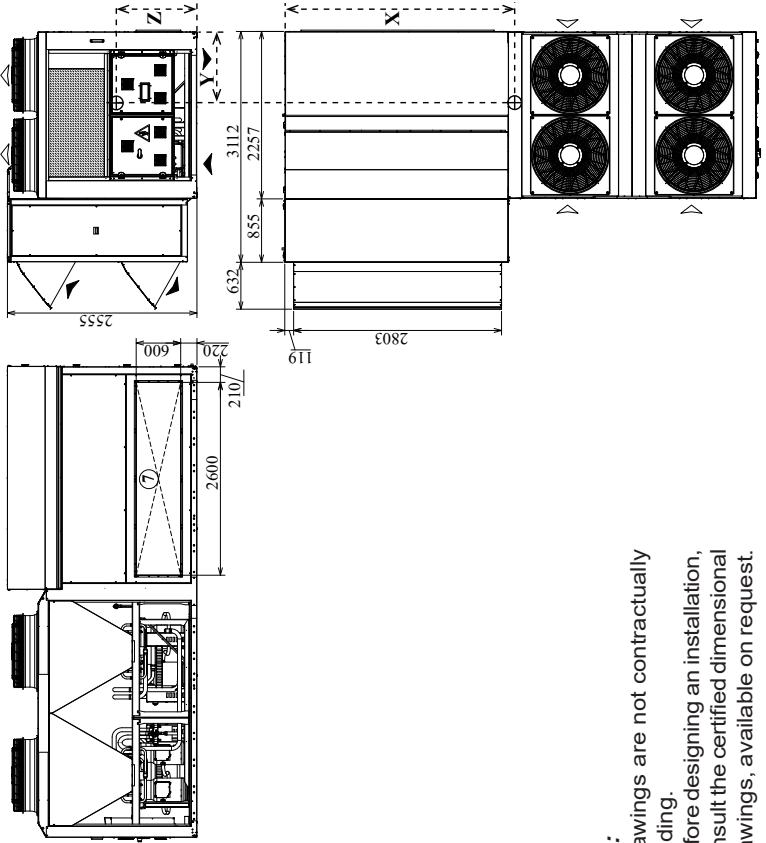
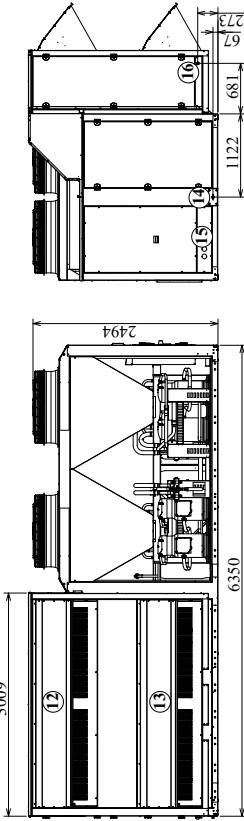
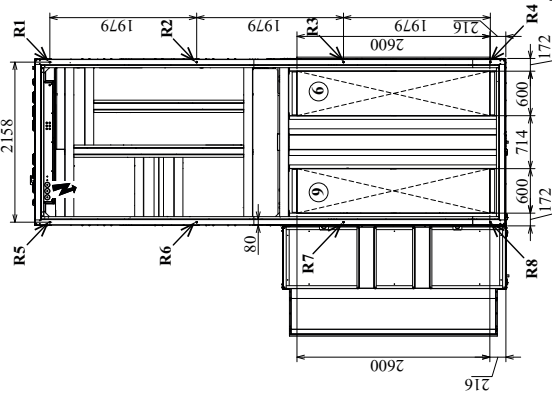
- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lower air return
 - Fresh air intake
 - Exhaust air outlet
 - Condensate outlet 3/4" M
 - HWC connections (option)
 - Wheel condensate outlet 3/4" M
- Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 250-280, BW assembly

50FC Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (smaller diameter wheel) (kg)							
	X	Y	Z		R1	R2	R3	R4	R5	R6	R7	R8
250	3195	1439	1010	3850	221	514	335	313	439	883	616	528
280	3195	1439	1010	3910	224	522	340	317	446	897	626	537



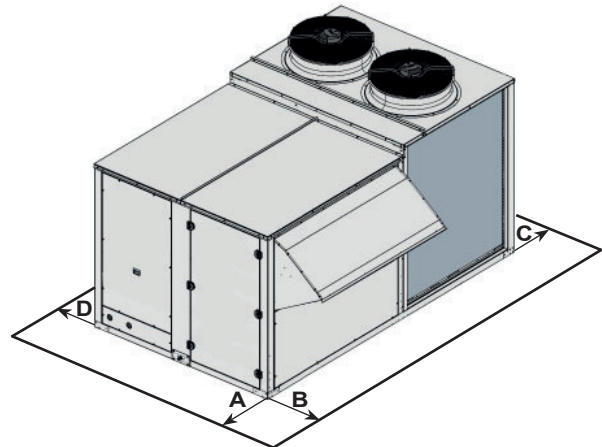
- Legend**
 All dimensions are given in mm.
- ◁ Outdoor air circulation
 - ◁ Standard indoor air circulation
 - ⚡ Electrical cabinet
 - ⚡ Electric power supply
 - Ⓚ Door switch
 - ⑥ Lower air supply
 - ⑦ Lateral air supply
 - ⑨ Lower air return
 - ⑫ Fresh air intake
 - ⑬ Exhaust air outlet
 - ⑭ Condensate outlet 3/4"™
 - ⑮ HWC connections (option)
 - ⑩ Wheel condensate outlet 3/4"™
- Anti-vibration anchoring: rivet nut M12

- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

RECOMMENDED SERVICE CLEARANCE

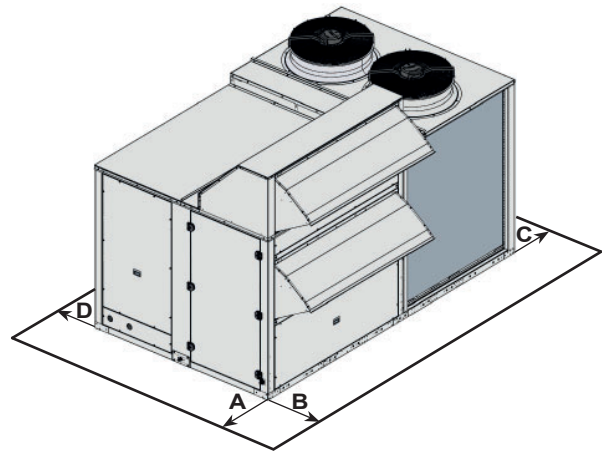
50FC 100 to 170: B1 and B2 assemblies

50FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
100 to 120	3.820	2.257	2.293	2.200	1.000	1.200	1.000
130 to 170	4.224	2.257	2.340	2.400	1.000	1.200	1.000



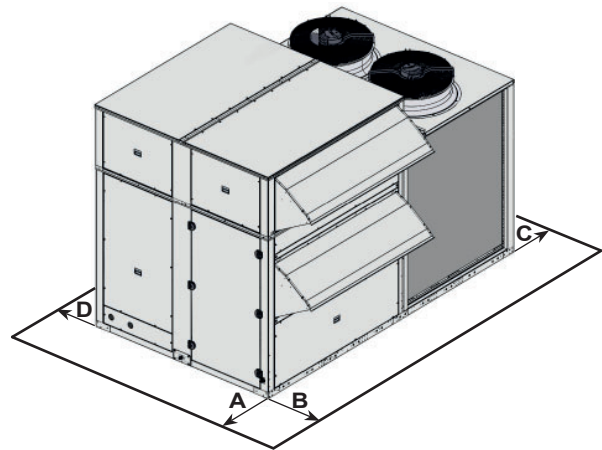
50FC 100 to 170: BP and BA assemblies

50FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
100 to 120	3.820	2.257	2.555	2.200	1.000	1.200	1.000
130 to 170	4.224	2.257	2.555	2.400	1.000	1.200	1.000



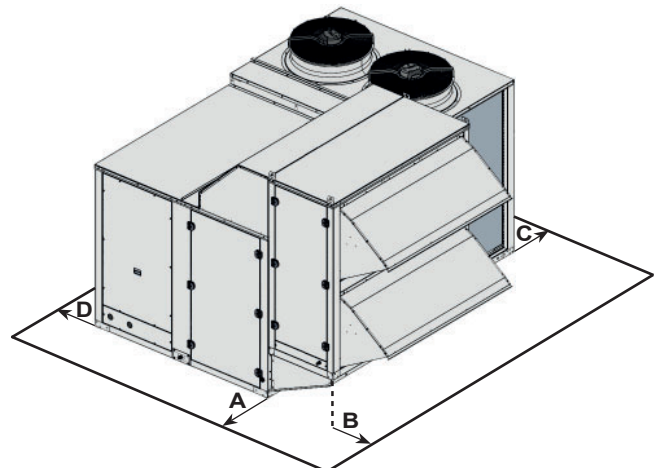
50FC 100 to 170: BT and BB assemblies

50FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
100 to 120	3.825	2.268	2.555	2.200	1.000	1.200	1.000
130 to 170	4.229	2.268	2.555	2.400	1.000	1.200	1.000



50FC 100 to 170: BW assembly

50FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
100 to 120	3.820	3.112	2.255	2.200	1.000	1.200	1.000
130 to 170	4.224	3.112	2.555	2.400	1.000	1.200	1.000



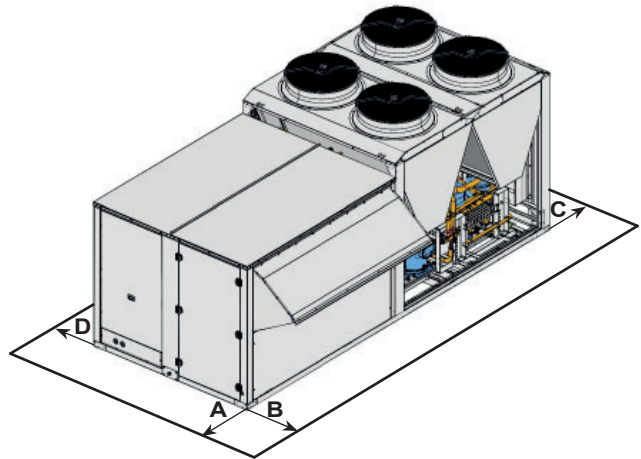
NOTE:

- Unit not designed to have overhead obstruction.

RECOMMENDED SERVICE CLEARANCE

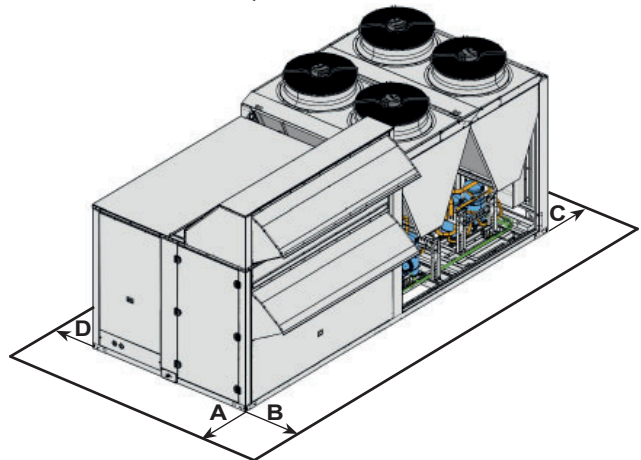
50FC 180 to 280: B1 and B2 assemblies

50FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
180 to 220	5.300	2.257	2.421	2.600	2.500	1.200	1.000
250 to 280	6.350	2.257	2.494	3.000	2.500	1.200	1.000



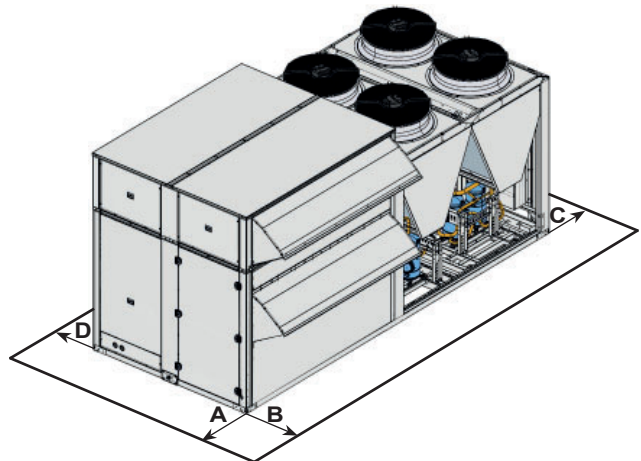
50FC 180 to 280: BP and BA assemblies

50FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
180 to 220	5.300	2.257	2.555	2.600	2.500	1.200	1.000
250 to 280	6.350	2.257	2.555	3.000	2.500	1.200	1.000



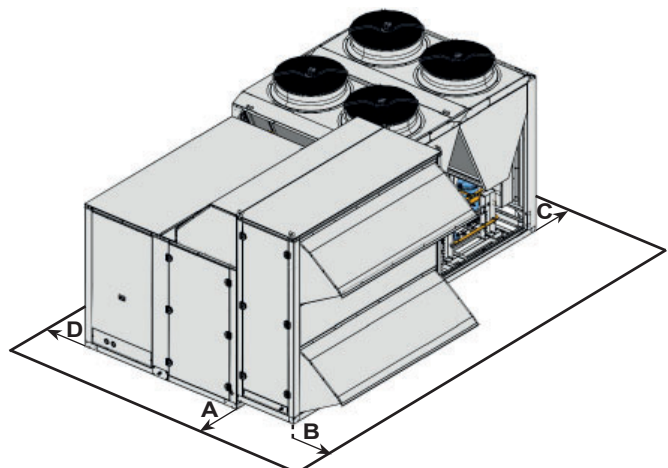
50FC 180 to 280: BT and BB assemblies

50FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
180 to 220	5.306	2.268	2.555	2.600	2.500	1.200	1.000
250 to 280	6.356	2.268	2.555	3.000	2.500	1.200	1.000



50FC 180 to 280: BW assembly

50FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
180 to 220	5.300	3.112	2.555	2.600	1.700	1.200	1.000
250 to 280	6.350	3.112	2.555	3.000	2.500	1.200	1.000



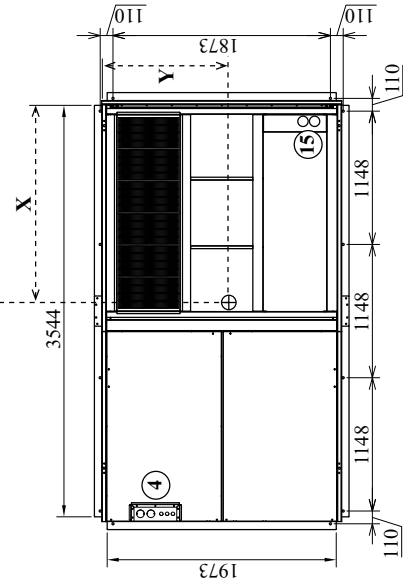
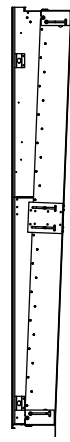
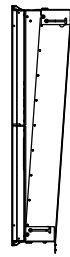
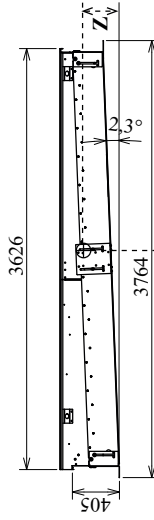
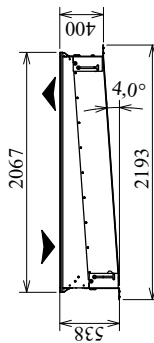
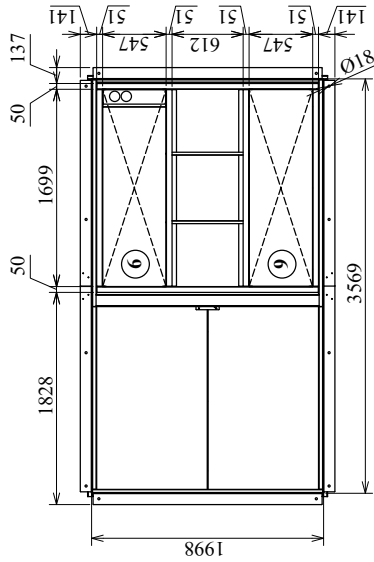
NOTE:

- Unit not designed to have overhead obstruction.

ROOFCURBS DRAWINGS

Adjustable roofcurb for 50FC 100-110-120

50FC 100 to 120	Weight (kg)		Centre of gravity (mm)			Maximum slope	
			X	Y	Z	R1	R2
	374		1665	994	181	4,0° (7,0%)	2,3° (4,0%)



Legend

All dimensions are given in mm.

- ◀ Lower air circulation
- ④ Precuts for the passage of electric power supply
- ⑥ Lower air supply
- ⑨ Lower air return
- ⑮ Area of passage for the hydraulic connections of the hot water coil (optional) if the unit incorporates a hot water coil (optional), the length of the supply duct is reduced by 153 mm

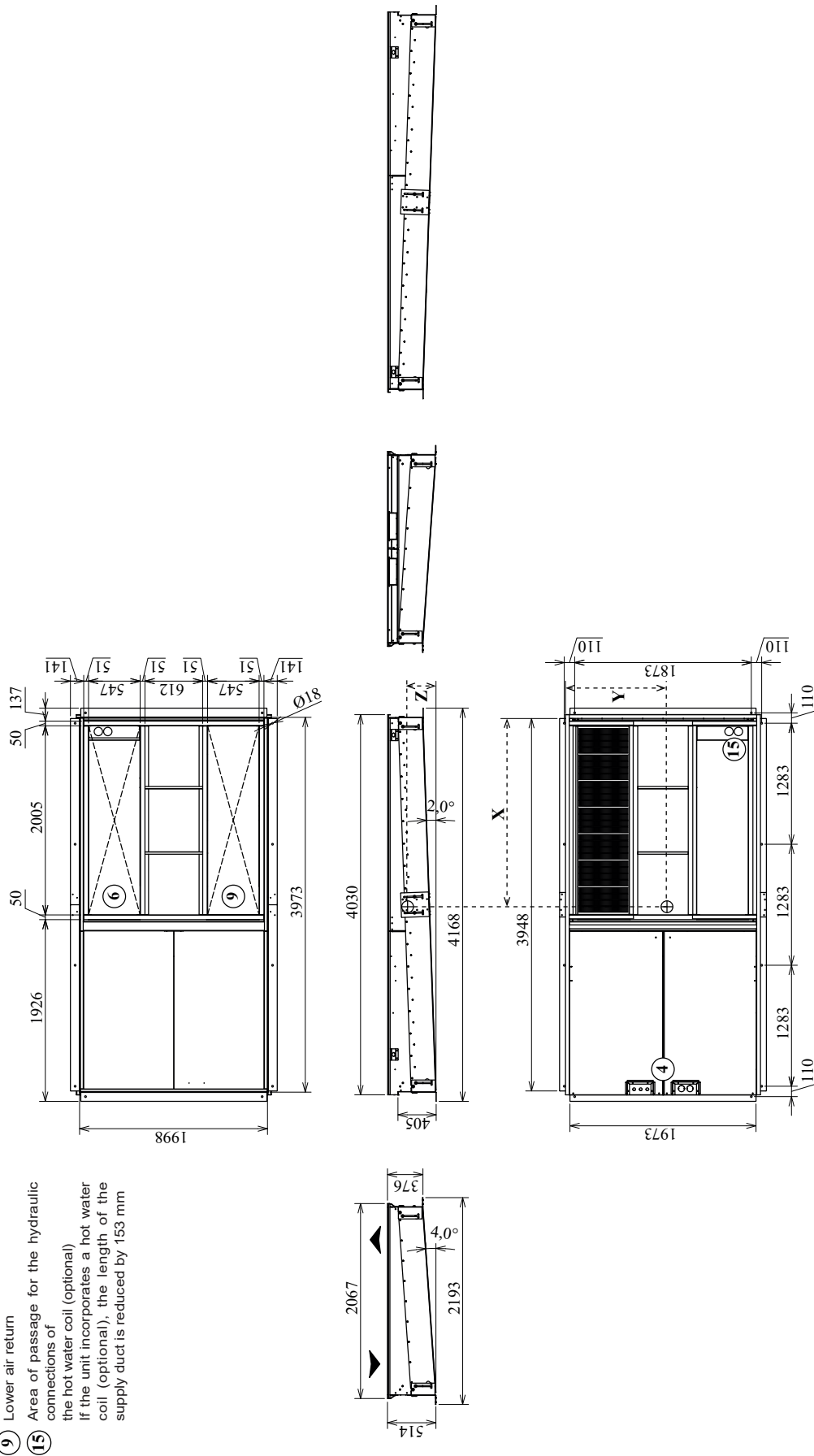
NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

ROOFCURBS DRAWINGS

Adjustable roofcurb for 50FC 130-145-160-170

50FC 130 to 170	Weight (kg)	Centre of gravity (mm)			Maximum slope	
		X	Y	Z	R1	R2
	402	1866	993	185	4,0° (7,0%)	2,0° (3,5%)



Legend

All dimensions are given in mm.

- ◀ Lower air circulation
- ④ Precuts for the passage of electric power supply
- ⑥ Lower air supply
- ⑨ Lower air return
- ⑮ Area of passage for the hydraulic connections of the hot water coil (optional) if the unit incorporates a hot water coil (optional), the length of the supply duct is reduced by 153 mm

NOTES:
 - Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

ROOFCURBS DRAWINGS

Adjustable roofcurb for 50FC 180-200-220

50FC 180 to 220	Weight (kg)	Centre of gravity (mm)			Maximum slope	
		X	Y	Z	R1	R2
	467	2338	995	187	4,0° (7,0%)	2,0° (3,5%)

Legend

All dimensions are given in mm.

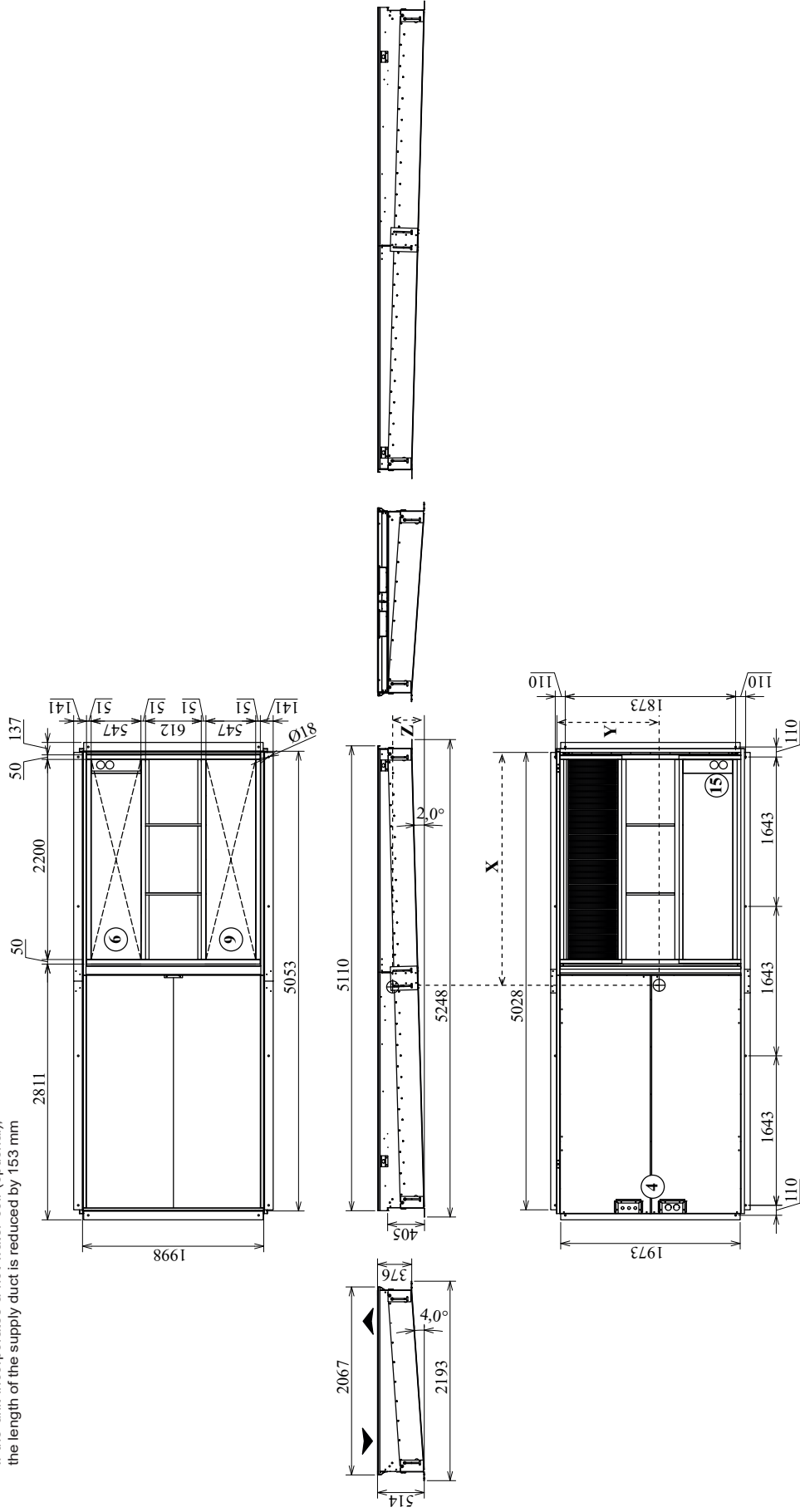
▲ Lower air circulation

④ Precuts for the passage of electric power supply

⑥ Lower air supply

⑨ Lower air return

⑮ Area of passage for the hydraulic connections of the hot water coil (optional), if the unit incorporates a hot water coil (optional), the length of the supply duct is reduced by 153 mm



NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

ROOFCURBS DRAWINGS

Adjustable roofcurb for 50FC 250-280

50FC 250 to 280	Weight (kg) 534	Centre of gravity (mm)			Maximum slope	
		X 2828	Y 997	Z 189	R1 4,0° (7,0%)	R2 2,0° (3,5%)

Legend

All dimensions are given in mm.

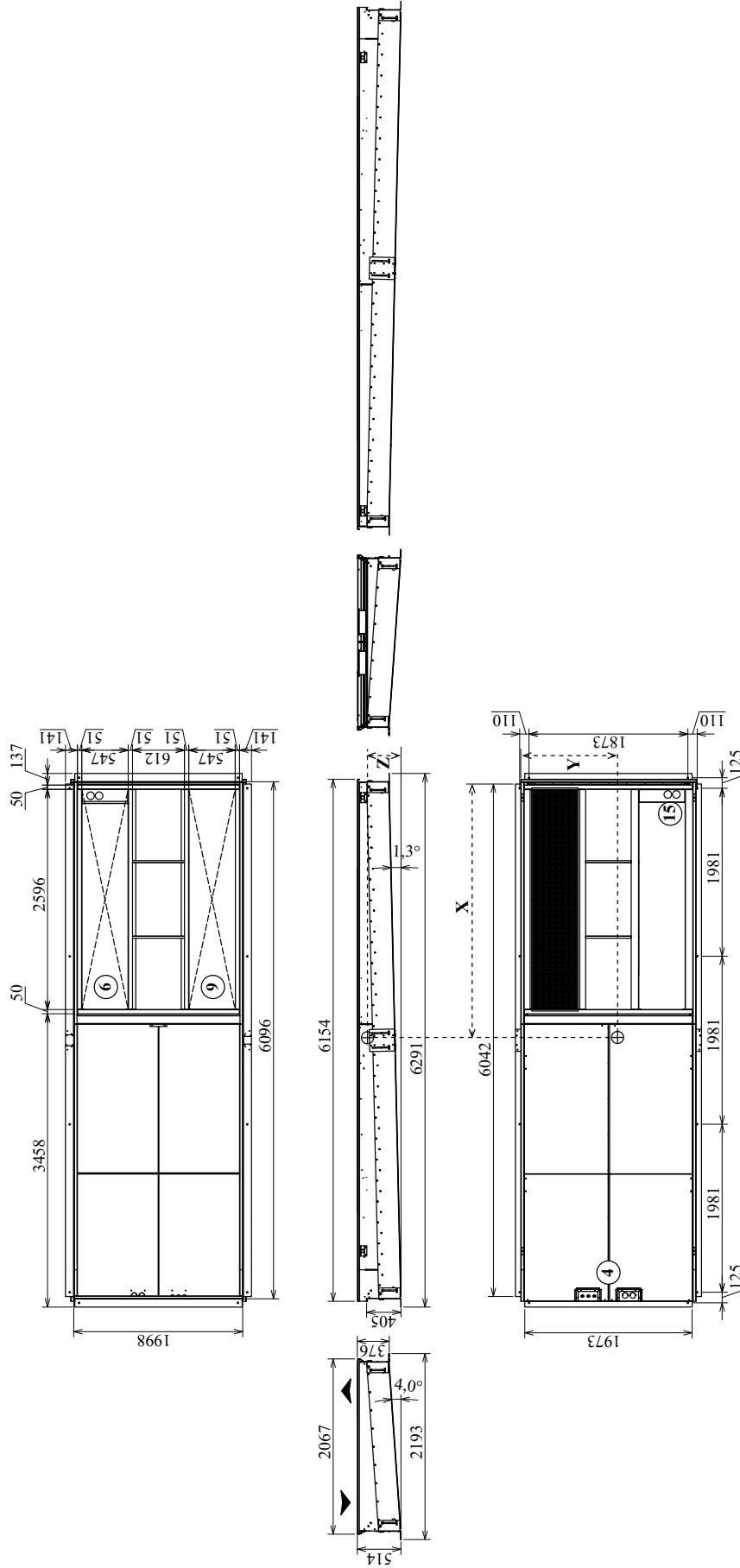
◀ Lower air circulation

④ Precuts for the passage of electric power supply

⑥ Lower air supply

⑨ Lower air return

⑮ Area of passage for the hydraulic connections of the hot water coil (optional). If the unit incorporates a hot water coil (optional), the length of the supply duct is reduced by 153 mm



NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

ROOFCURBS DRAWINGS

Adjustable roofcurb with gas burner (PCH080) for 50FC 100-110-120

50FC	Burner	Weight (kg)	Centre of gravity (mm)			Maximum slope	
			X	Y	Z	R1	R2
100 to 120	PCH080	804	1518	1064	522	4,0° (7,0%)	2,3° (4,0%)

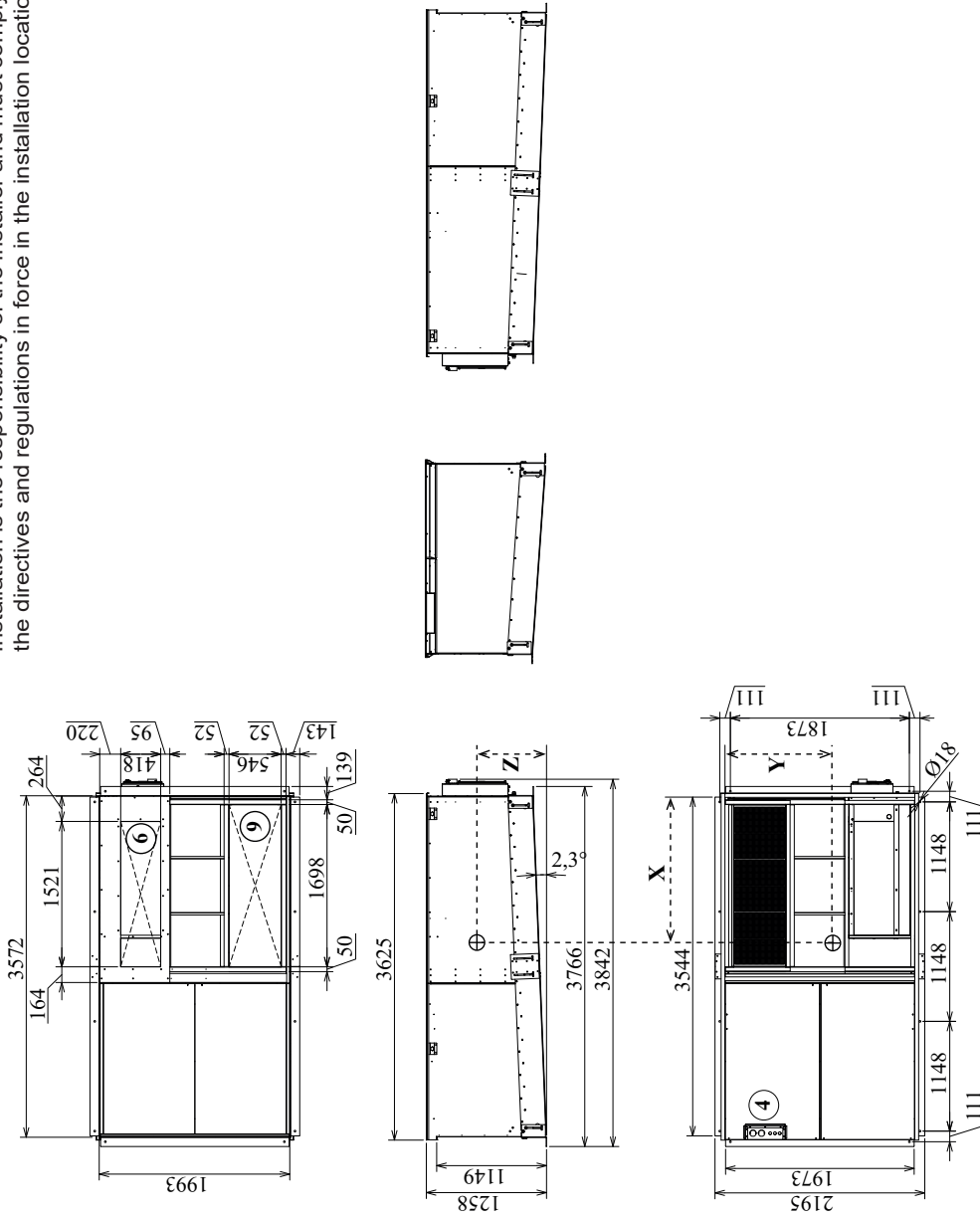
IMPORTANT:

- The flue of the gas burner is not supplied with the unit. Its design and installation is the responsibility of the installer and must comply with all the directives and regulations in force in the installation location.

Legend

All dimensions are given in mm.

- ▲ Lower air circulation
- ④ Precuts for the passage of electric power supply
- ⑥ Lower air supply
- ⑨ Lower air return
- ⑰ Burner drainage 1/2"™
- ⑱ Gas supply 3/4"™
- ⑲ Flue outlet, internal Ø 80mm (Flue connection)



NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

ROOFCURBS DRAWINGS

Adjustable roofcurb with gas burner (PCH130) for 50FC 100-110-120

50FC	Burner	Weight (kg)	Centre of gravity (mm)			Maximum slope	
			X	Y	Z	R1	R2
100 to 120	PCH130	964	1490	1054	482	4,0° (7,0%)	2,3° (4,0%)

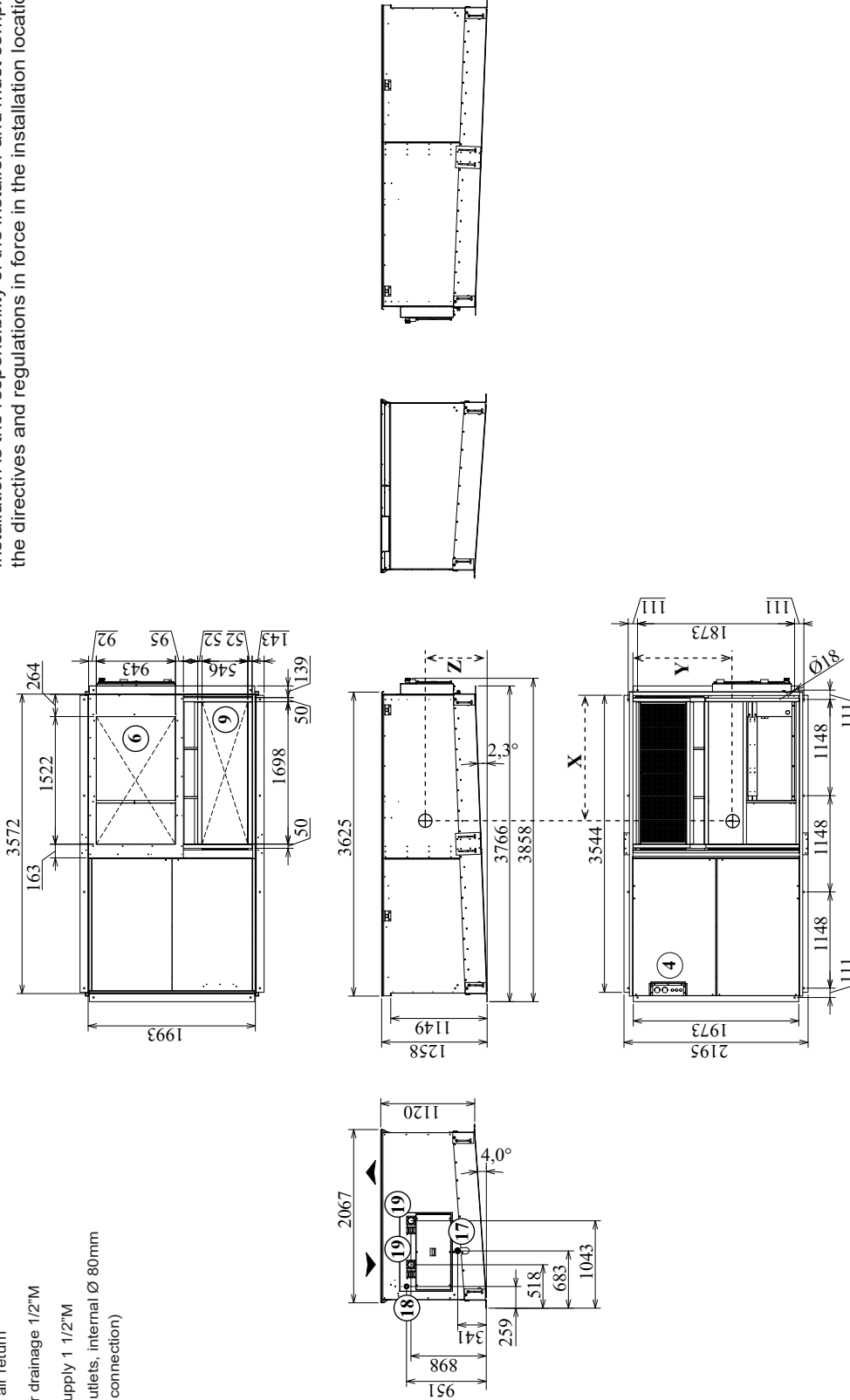
IMPORTANT:

- The flue of the gas burner is not supplied with the unit. Its design and installation is the responsibility of the installer and must comply with all the directives and regulations in force in the installation location.

Legend

All dimensions are given in mm.

- ◀ Lower air circulation
- ④ Precuts for the passage of electric power supply
- ⑥ Lower air supply
- ⑨ Lower air return
- ⑰ Burner drainage 1/2"™
- ⑱ Gas supply 1 1/2"™
- ⑲ Flue outlets, internal Ø 80mm (Flue connection)



NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

ROOFCURBS DRAWINGS

Adjustable roofcurb with gas burner (PCH130 and PCH160) for 50FC 130-145-160-170

50FC 130 to 170	Burner	Weight (kg)			Centre of gravity (mm)			Maximum slope	
		X	Y	Z	R1	R2			
	PCH130	1606	1053	510	4,0° (7,0%)	2,0° (3,5%)			
	PCH160	1581	1070	520	4,0° (7,0%)	2,0° (3,5%)			

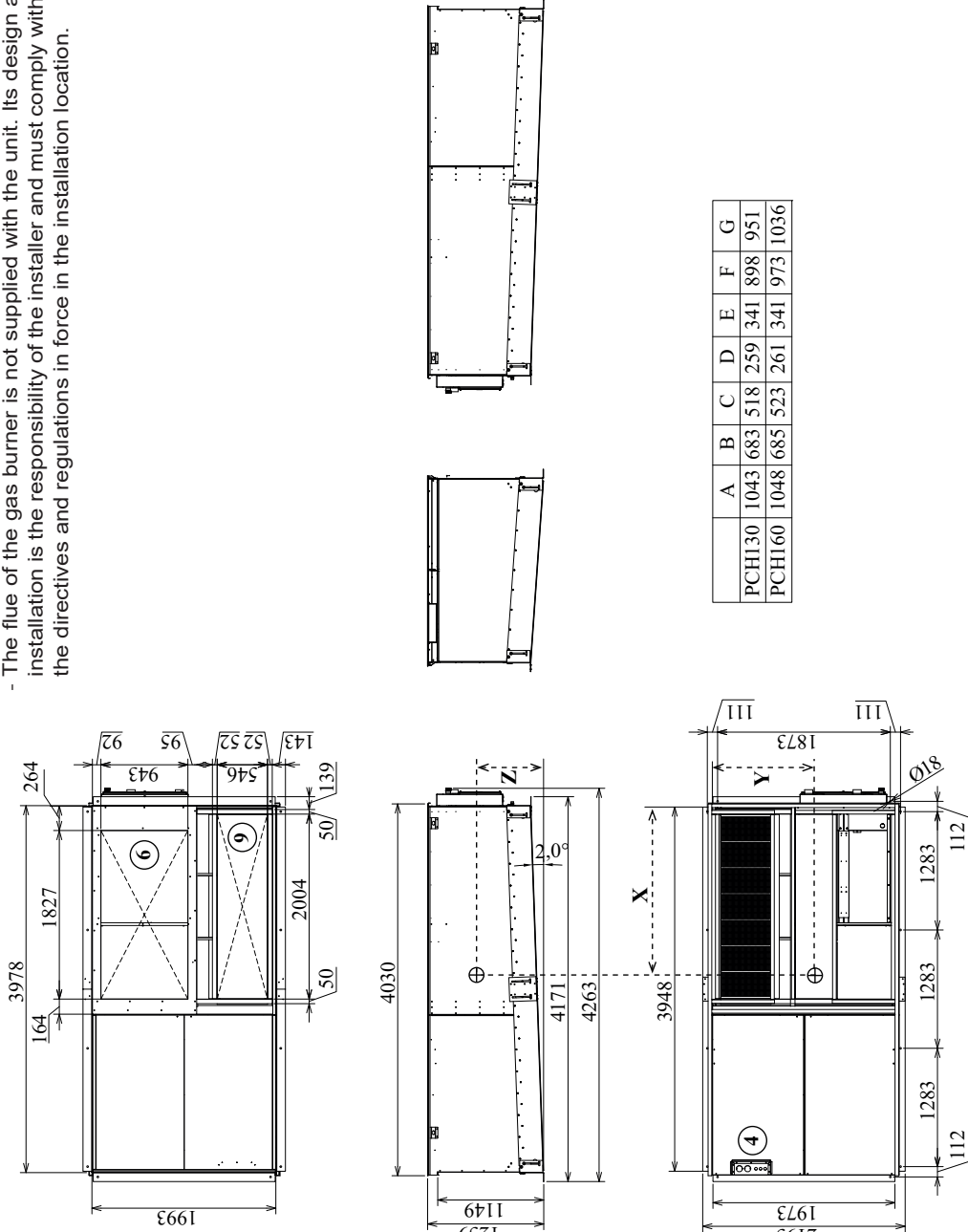
IMPORTANT:

- The flue of the gas burner is not supplied with the unit. Its design and installation is the responsibility of the installer and must comply with all the directives and regulations in force in the installation location.

Legend

All dimensions are given in mm.

- ▲ Lower air circulation
- ④ Precuts for the passage of electric power supply
- ⑥ Lower air supply
- ⑨ Lower air return
- ⑬ Burner drainage 1/2" M
- ⑱ Gas supply 1 1/2" M
- ⑲ Flue outlets, internal Ø 80mm (Flue connection)



	A	B	C	D	E	F	G
PCH130	1043	683	518	259	341	898	951
PCH160	1048	685	523	261	341	973	1036

NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

ROOFCURBS DRAWINGS

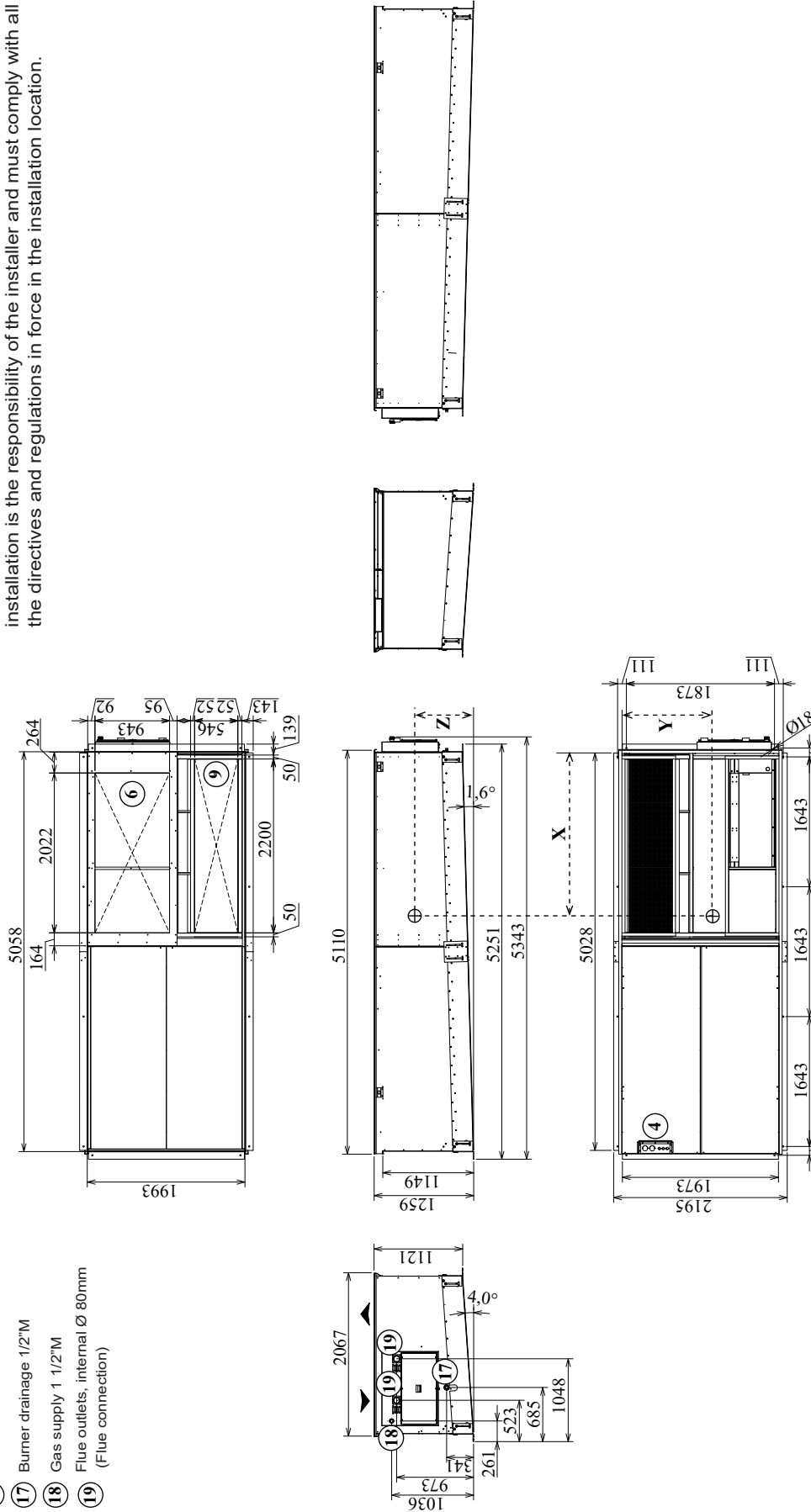
Adjustable roofcurb with gas burner (PCH160 and PCH210) for 50FC 180-200-220

50FC	Burner	Centre of gravity (mm)			Maximum slope		
		Weight (kg)	X	Y	Z	R1	R2
180 to 220	PCH160	1085	1949	1063	533	4,0° (7,0%)	1,6° (2,8%)
	PCH210	1128	1930	1076	535	4,0° (7,0%)	1,6° (2,8%)

IMPORTANT:

- The flue of the gas burner is not supplied with the unit. Its design and installation is the responsibility of the installer and must comply with all the directives and regulations in force in the installation location.

- Legend**
 All dimensions are given in mm.
- ◀ Lower air circulation
 - ④ Precuts for the passage of electric power supply
 - ⑥ Lower air supply
 - ⑨ Lower air return
 - ⑰ Burner drainage 1/2" M
 - ⑱ Gas supply 1 1/2" M
 - ⑲ Flue outlets, internal Ø 80mm (Flue connection)



- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

ROOFCURBS DRAWINGS

Adjustable roofcurb with gas burner (PCH160 and PCH210) for 50FC 250-280

50FC 250 to 280	Burner	Weight (kg)	Centre of gravity (mm)			Maximum slope	
			X	Y	Z	R1	R2
	PCH160	1207	2359	1054	535	4,0° (7,0%)	1,3° (2,3%)
	PCH210	1250	2328	1066	535	4,0° (7,0%)	1,3° (2,3%)

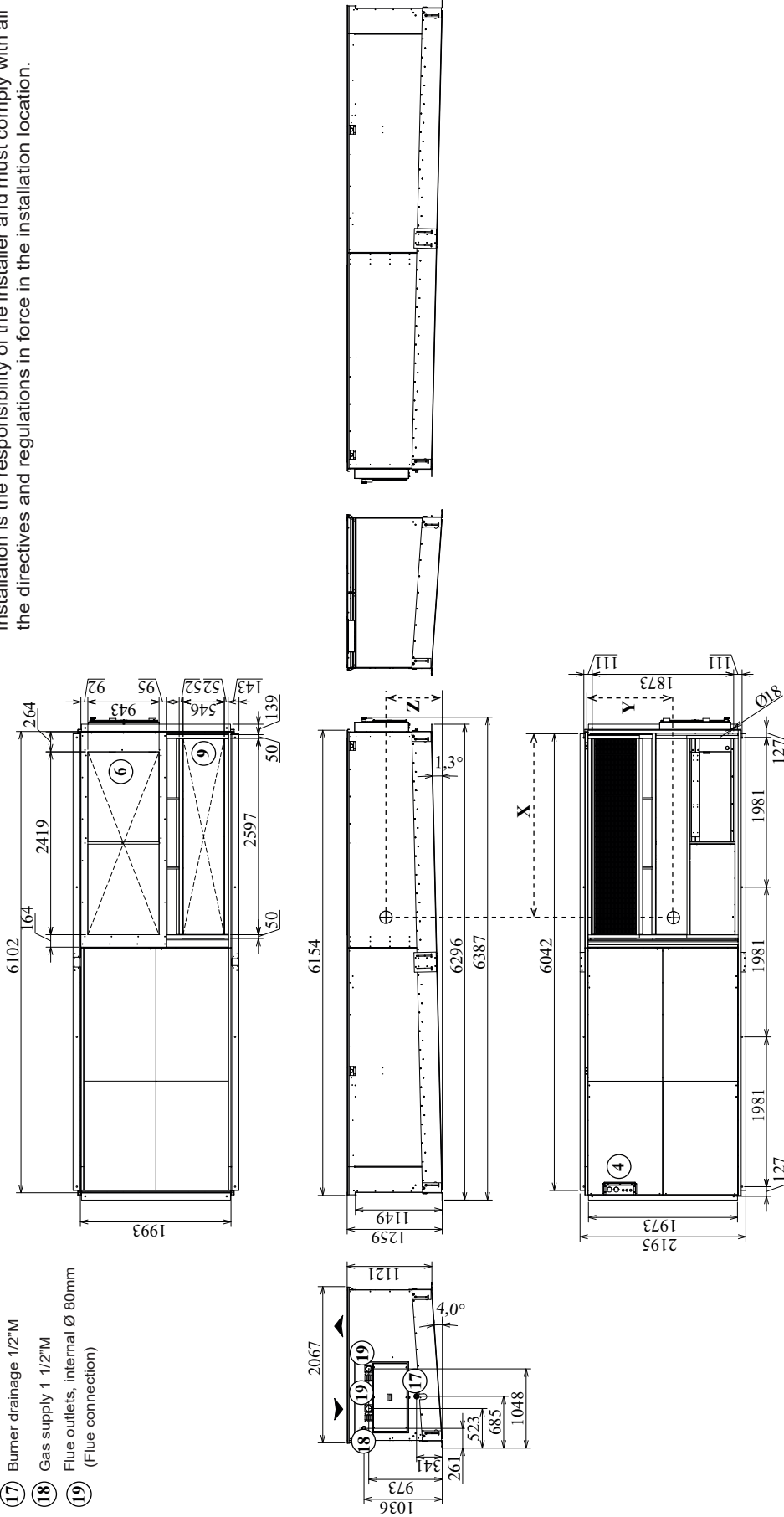
IMPORTANT:

- The flue of the gas burner is not supplied with the unit. Its design and installation is the responsibility of the installer and must comply with all the directives and regulations in force in the installation location.

Legend

All dimensions are given in mm.

- 4 Lower air circulation
- 6 Precuts for the passage of electric power supply
- 9 Lower air supply
- 10 Lower air return
- 17 Burner drainage 1/2"™
- 18 Gas supply 1 1/2"™
- 19 Flue outlets, internal Ø 80mm (Flue connection)



NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.



Order No.: 10577, 10.2020. Supersedes order No.: New.

Manufacturer reserves the right to change any product specifications without notice.

The illustrations in this document are for illustrative purposes only and not part of any offer for sale or contract. The manufacturer reserves the right to change the design at any time without notice.

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