

PACKAGED ROOFTOP UNITS AND SEPARATED GAS MODULE OPTION



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

50FF/FC 020 - 093

Nominal cooling capacity 22.3 - 90.2 kW
Nominal heating capacity 21.9 - 89.7 kW

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

■ **50FF series:** for **cooling-only** operation.

■ **50FC series:** 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.

50FF/FC 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.
- 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.
- Installation roofcurbs.
- Auxiliary heating modules.
- Extended operation limits.



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FEATURES AND ADVANTAGES

Carrier's new range of packaged rooftop air conditioning units 50FF/FC 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 cabinet has been designed and tested for the most demanding conditions. With double skin insulated side panels as standard, all the sheet metal work comes in powder-coated finishes outdoors and indoors. The self-supporting structure has been conceived also to reduce weight and to optimize transportation capabilities. Thorough transportation tests have been also conducted as to validate the two-height stackable feature.

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 or removable outdoor fans covers. The condensates drain pan is now removable for easy cleansing.

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

All 50FF/FC units are field-convertible to horizontal air flow. Being able to convert a unit from vertical airflow to horizontal 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	020	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

50FF: air/air cooling-only
50FC: air/air heat pump

B: Unit model

1 circuit: 020 / 028 / 037 / 040 / 045 / 047
2 circuits: 052 / 058 / 062 / 070 / 074 / 086 / 093

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: Flow + Assembly

B1: Standard.
B2: Standard. Economizer, 2 dampers
B3: Standard. Economizer, 3 dampers
BX: Standard. Axial fan in return section
BP: Standard. EC plug-fan in return section
BA: Standard. Cooling recovery circuit with EC plug-fan in return section
BT: Standard. Return top box with EC plug-fan or centrifugal fan
BB: Standard. Cooling recovery circuit with EC plug-fan or centrifugal fan in return top box
BW: Standard. Heat recovery wheel module
R1: In-line.
R2: In-line. Economizer, 2 dampers
RP: In-line. EC plug-fan in return section
RW: In-line. Heat recovery wheel module

G: Coil coating : Outdoor - Indoor

LL – Outdoor coil	Indoor coil
L: Aluminium	L: Aluminium
P: Polyurethane	P: Polyurethane
N: Inera®	N: Inera®
C: Copper	C: Copper
Y: Blygold®	Y: Blygold®

H: Heating

000: Without auxiliary heating
BAX: Gas burner, 3 power outputs:
x = F (Low) / M (Nominal) / S (High)
BBx: Boiler with hot water coil, 3 power outputs:
x = F (Low) / M (Nominal) / S (High)
RAX: Electrical heaters, 3 power outputs:
x = F (Low) / M (Nominal) / S (High)
HAX: Hot water coil, 2 options:
x = S (Standard) / F (Very low outdoor temperature)

I: Protection for low outdoor temperature

S: Without protection
A: Freeze protection OAT lower than -10°C
B: Freeze protection OAT lower than -14°C
C: Freeze protection OAT lower than -10°C + spring shut-off dampers
D: Freeze protection OAT lower than -14°C + spring shut-off dampers

J: Supply fan

N: 3 available pressures
F (Low) / N (Nominal) / S (High)

K: Air filtration + droplet eliminator

A: G4
B: G4+ droplet eliminator
C: G4 low pressure drop

D: G4 low pressure drop + droplet eliminator
E: G4 + M6
F: G4 + M6 + droplet eliminator
G: G4 + F7
H: G4 + F7 + droplet eliminator
I: G4 + F9
J: G4 + F9 + droplet eliminator
K: G4 l.p.d. + F7
L: G4 l.p.d. + F7 + droplet eliminator
M: G4 l.p.d. + F9
N: G4 l.p.d. + F9 + droplet eliminator
O: M6 + F7
P: M6 + F7 + droplet eliminator
Q: M6 + F9
R: M6 + F9 + droplet eliminator
S: F7 + F9
T: F7 + F9 + droplet eliminator
U: F9 + F9
V: F9 + F9 + droplet eliminator

L: Outdoor fan

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

M: Insulation

S: Standard insulation
M: Euroclass A2-s1, d0 (M0) insulation

N: Indoor unit

000 – Without optional accessories
A: Condensate drain pan in stainless steel
A: Room overpressure management
A: Filter fouling detector

O: Outdoor unit

0000 – Without optional accessories
A: Unused
A: Outdoor coil protection grid
A: Antivibration mounts
A: Droplet eliminator at the fresh air intake

P: Heat recovery wheel

0000 – Without optional accessories
A: Filters G4
B: Filters G4 low pressure drop
C: Filters G4 + M6
A: Wheel speed with on/off control
B: Wheel speed with variable control
A: Channel spacing of 2,0 mm
B: Channel spacing of 2,5 mm
A: Material: Aluminium
B: Material: Aluminium with epoxy
C: Material: Hybrid wheel
D: Material: aluminium with silicagel

Q: Extra heating

0: Without extra heating
1: Heat recovery coil

R: Special applications

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

S: Sensors

0000 – Without options
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 options
A: On-off control of an humidifier
B: Proportional control of an humidifier
A: Electrical energy meter
B: Cooling capacity & elec. energy meter
A: Unused

W: Miscellaneous item 2

AA00 – Switching devices + std phase relay
A: Compressor soft starter
A: Varnish protection
B: High performance phase sequence relay
B: High grade switching devices

X: Centrifugal return fan

0000 – Without centrifugal return fan
A: Low flow and nominal pressure
B: Low flow and high pressure
C: Nominal flow and nominal pressure
D: Nominal flow and high pressure
E: High flow and nominal pressure
F: High flow and high pressure
Unused

Y: Indoor air direction (coming soon)

0000 – Lower direction
0: Lower supply and lower return
1: Lateral supply and lower return
2: Lower supply and lateral return
3: Lateral supply and lateral return
Unused

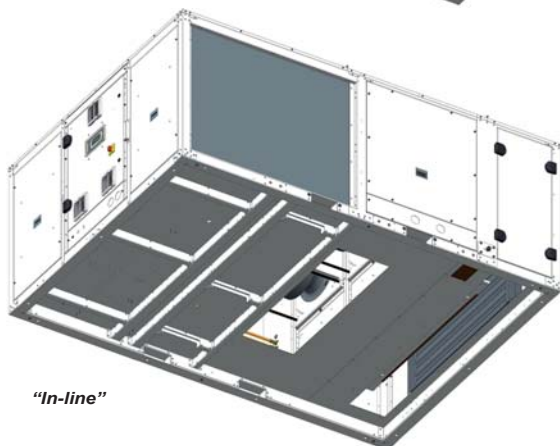
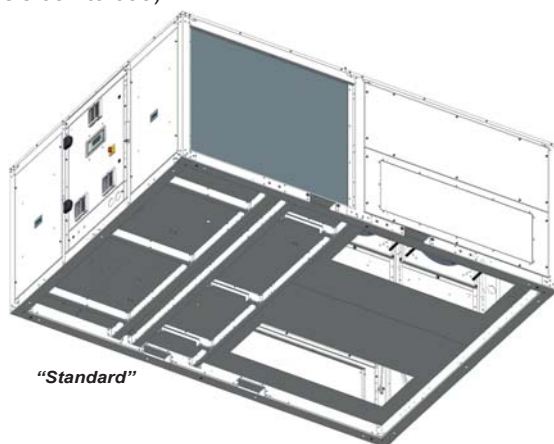
UNIT COMPONENTS

Casing

- Casing made of galvanised steel metal with polyester paint, white colour RAL 7035.
- New self-supporting frame that allow the transport of two stacked units and without the need for a wooden pallet.
- Removable panels for easy access to all components: electrical cabinet, compressors, fans, filters, etc.

Indoor unit

- Two configurations are available, depending on the indoor air flow direction: "Standard" (all models) and "In-line" (models 052 to 093).



- Thermal and acoustic insulation, in double wall panels and registers, with Euroclass A2-s1, d0 (M0) fire classification.
- Coil with copper pipes and aluminium fins.
- EC electronic supply plug-fans directly coupled 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.

- Removable and isolated condensates drain pan for easy cleaning.

Outdoor unit

- Coil with copper pipes and aluminium fins.
- EC electronic axial fan(s) 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.
- The cover with the motor fan(s) may be lifted to access the inside of the outdoor unit.

Cooling circuit

- Hermetic scroll-type compressors in tandem design that improves the management of stages and the part load efficiencies. Sound insulation, assembled over antivibration mounts. Control of phase equilibrium and the direction of rotation.
- Crankcase heater.
- Electronic expansion valve(s).
- Four-way cycle reversing valve(s) (heat pump units).
- Acid-resistant filter(s) dryer.
- Cooling design with:
 - 1-air volume: models 50FC 020 to 047 and models 50FF.
 - 2-air volumes: models 50FC 052 to 093.

Protections

- High pressure pressostat(s).
- High and low pressure transducers.
- Compressor discharge temperature control.
- Main door switch.
- Magnetothermic protection switches for the power line of compressors and fan motors.
- 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 door.
- Electrical power supply with neutral.
- Main ground connection.
- Compressor and fan motor contacts.

OPERATING LIMITS

Inlet air conditions		Cooling	
		50FF	50FC
Indoor coil	Minimum temperature	13°C WB	
	Maximum temperature	24°C WB	
Outdoor coil	Minimum temperature	12°C (1)	
	Maximum temperature	52°C	48°C

Inlet air conditions		Heating	
		50FC	
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.

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™ and Konnex protocols, if required by the application.

The “50FC” control also have the capability to communicate with our supervision solutions: **pCO Web**, **PlantWatchPRO3** and **BOSS**.

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

This control also manages a local connection between units through a pLAN network (Local Area Network), allowing data and information to be exchanged between units, for a maximum of 15 units.

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.



Supervision solutions

Different solutions of supervision are available bases on the dimensions of the installation for unit fitted with A BMS card (Ethernet pCO Web or RS485 Carel / Modbus).

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. Integrated Hotspot Wi-Fi.

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.

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**.

PHYSICAL DATA (EN-14511-2018)

50FF		020	028	037	040	045	047	052	058	062	070	074	086	093
Cooling capacities														
Cooling capacity (1)	kW	22,88	28,86	34,80	38,76	43,36	44,98	49,85	54,22	59,89	68,70	72,77	80,84	90,39
Power input (2)	kW	7,13	9,30	10,62	12,10	14,10	14,87	15,58	17,27	19,92	21,48	22,89	26,34	30,06
EER performance		3,21	3,10	3,28	3,20	3,07	3,02	3,20	3,14	3,01	3,20	3,18	3,07	3,01
SEER		4,89	4,84	4,59	4,44	4,33	4,32	4,63	4,55	4,49	4,49	4,49	4,31	4,25
ηs		193%	191%	181%	175%	170%	170%	182%	179%	177%	176%	177%	170%	167%
Outdoor circuit fan		Electronic axial fan												
Nominal air flow	m³/h	9.000	14.500	17.000	17.000	17.000	17.750	31.000	31.000	31.000	33.000	33.000	34.500	35.000
Available static pressure	mm.w.c	5												
Number / Diameter	mm	1 / 630	1 / 800					2 / 800						
Motor output	kW	0,9	2,6					2 x 2,6						
Maximum speed	r.p.m.	1.140	1.020					1.020						
Maximum absorbed current	A	1,6	3,9					7,8						
Indoor circuit supply fan		Electronic plug-fan												
Nominal air flow	m³/h	5.100	6.500	8.500	8.750	9.000	9.000	12.000	12.500	12.500	15.500	15.500	16.000	16.000
Available static pressure	mm.w.c	12	12	12	15	15	15	20	20	20	20	20	20	25
Number / Diameter	mm	1 / 500		1 / 500				2 / 500					2 / 500	
Motor output	kW	1 x 2,65		1 x 2,83				2 x 2,65					2 x 2,83	
Power input	kW	0,62	1,01	1,79	1,90	2,00	2,04	2,04	2,20	2,20	3,53	3,53	3,42	3,75
Speed	r.p.m.	1.700												
Maximum absorbed current	A	4,2		4,3				8,4					8,6	
Compressor		Scroll												
No. compressors / stages / circuits		2 / 2 / 1												
Oil type		Copeland 3MAF 32cST, Danfoss POE 160SZ, ICI Emkarate RL 32CF, Mobil EAL Artic 22CC												
Volume of oil	l	2,5	2,5	3,3	3,5	3,5	3,5	3,6	5,0	5,0	5,0	6,5	6,8	6,8
Electrical characteristics														
Mains voltage		400 V / III ph / 50 Hz (±10%)												
Power supply		3 Wires + Ground + Neutral												
Maximum absorbed current	A	18,9	26,5	26,4	29,9	33,6	34,0	42,6	49,0	53,5	54,6	55,7	61,3	74,3
Refrigerant		R-410A												
Global warming potential (3)	GWP	2.088												
Charge	kg	8,0	8,3	11,0	11,0	11,3	11,6	9,7	9,7	10,0	17,0	17,5	17,5	18,0
Environment impact	tCO2eq	16,7	17,3	23,0	23,0	23,6	24,2	20,3	20,3	20,9	27,1	28,2	28,2	29,2
Weight														
B1 assembly	kg	594	617	699	698	704	701	914	929	936	1.035	1.059	1.057	1.078

(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) Total power input by compressors and motorised fans under nominal conditions, calculated in accordance with the EN-14511-2018 standard.

(3) 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).

PHYSICAL DATA (EN-14511-2018)

50FC		020	028	037	040	045	047	052	058	062	070	074	086	093
Cooling capacities														
Cooling capacity (1)	kW	22,31	27,78	33,44	36,90	41,50	43,92	53,22	57,80	60,39	68,26	72,22	80,66	90,18
Power input (3)	kW	7,00	8,98	10,25	11,79	13,40	14,26	16,53	18,38	19,38	21,27	22,89	25,77	28,94
EER performance		3,19	3,09	3,26	3,13	3,10	3,08	3,22	3,14	3,12	3,21	3,15	3,13	3,12
SEER		4,82	4,83	4,57	4,44	4,34	4,35	4,82	4,82	4,85	4,62	4,56	4,44	4,45
ηs		190%	190%	180%	175%	171%	171%	190%	190%	191%	182%	179%	175%	175%
Heating capacities														
Heating capacity (2)	kW	21,88	27,72	33,05	36,61	41,82	44,56	50,71	55,79	58,57	67,68	71,77	80,38	89,66
Power input (3)	kW	5,82	7,99	9,09	10,21	12,00	12,95	14,43	16,01	16,89	18,97	20,27	22,91	25,90
COP performance		3,76	3,47	3,64	3,59	3,49	3,44	3,51	3,48	3,47	3,57	3,54	3,51	3,46
SCOP		3,47	3,43	3,45	3,45	3,46	3,44	3,57	3,59	3,50	3,49	3,55	3,59	3,58
ηs		136%	134%	135%	135%	135%	135%	140%	141%	137%	137%	139%	141%	140%
Outdoor circuit fan		Electronic axial fan												
Nominal air flow	m³/h	9.000	14.500	17.000	17.000	17.000	17.750	31.000	31.000	31.000	33.000	33.000	34.500	35.000
Available static pressure	mm.w.c	5												
Number / Diameter	mm	1 / 630	1 / 800					2 / 800						
Motor output	kW	0,9	2,6					2 x 2,6						
Maximum speed	r.p.m.	1.140	1.020					1.020						
Maximum absorbed current	A	1,6	3,9					7,8						
Indoor circuit supply fan		Electronic plug-fan												
Nominal air flow	m³/h	5.100	6.500	8.500	8.750	9.000	9.000	12.000	12.500	12.500	15.500	15.500	16.000	16.000
Available static pressure	mm.w.c	12	12	12	15	15	15	20	20	20	20	20	20	25
Number / Diameter	mm	1 / 500		1 / 500				2 / 500					2 / 500	
Motor output	kW	1 x 2,65		1 x 2,83				2 x 2,65					2 x 2,83	
Power input	kW	0,62	1,01	1,79	1,90	2,00	2,04	2,04	2,20	2,20	3,53	3,53	3,42	3,75
Speed	r.p.m.	1.700												
Maximum absorbed current	A	4,2		4,3				8,4					8,6	
Compressor		Scroll												
No. compressors / stages / circuits		2 / 2 / 1						4 / 4 / 2						
Oil type		Copeland 3MAF 32cST, Danfoss POE 160SZ, ICI Emkarate RL 32CF, Mobil EAL Artic 22CC												
Volume of oil	l	2,5	2,5	3,3	3,5	3,5	3,5	5,0	5,0	5,8	6,6	6,9	7,1	7,1
Electrical characteristics														
Mains voltage		400 V / III ph / 50 Hz (±10%)												
Power supply		3 Wires + Ground + Neutral												
Maximum absorbed current	A	18,9	26,5	26,4	29,9	33,6	34,0	48,1	53,5	53,2	56,3	60,2	68,8	73,8
Refrigerant		R-410A												
Global warming potential (4)	GWP	2.088												
Charge	kg	8,0	8,3	11,0	11,0	11,3	11,6	12,5	12,8	13,0	20,0	20,3	20,3	20,5
Environment impact	tCO2eq	16,7	17,3	23,0	23,0	23,6	24,2	26,1	26,7	27,1	41,8	42,4	42,4	42,8
Weight														
B1 assembly	kg	585	610	675	680	685	690	990	995	1.040	1.155	1.160	1.165	1.170

- (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).

COOLING CAPACITY (KW)

Outdoor temperature 35°C

50FF	Flow (m³/h)	Indoor air temperature																							
		15°C / 50% RH			20°C / 50% RH			23°C / 50% RH			25°C / 50% RH			27°C / 50% RH			29°C / 50% RH			31°C / 50% RH					
		Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa
020	4.080	16,3	15,0	5,8	18,9	15,9	6,0	20,4	16,4	6,1	21,4	16,7	6,1	22,5	17,1	6,2	23,6	17,4	6,3	24,8	17,6	6,4			
	5.100	16,9	16,7	5,9	19,5	17,8	6,0	21,0	18,4	6,1	22,1	18,9	6,2	23,2	19,3	6,3	24,3	19,6	6,3	25,5	19,9	6,4			
	6.120	17,4	18,2	5,9	20,0	19,5	6,1	21,5	20,3	6,2	22,6	20,8	6,2	23,7	21,3	6,3	24,8	21,7	6,4	26,0	22,2	6,5			
028	5.200	20,9	19,2	7,2	24,1	20,3	7,4	26,0	21,0	7,5	27,3	21,4	7,6	28,6	21,8	7,6	30,0	22,1	7,7	31,4	22,4	7,7			
	6.500	21,6	21,3	7,3	24,9	22,7	7,4	26,8	23,5	7,5	28,1	24,0	7,6	29,5	24,5	7,7	30,9	24,9	7,7	32,3	25,3	7,8			
	7.800	22,2	23,2	7,3	25,5	24,8	7,5	27,4	25,8	7,6	28,7	26,5	7,6	30,1	27,0	7,7	31,5	27,6	7,8	32,9	28,1	7,8			
037	6.800	25,0	23,7	8,3	29,2	25,2	8,3	31,5	26,1	8,3	33,2	26,7	8,3	34,9	27,2	8,3	36,7	27,7	8,3	38,6	28,1	8,3			
	8.500	26,0	26,3	8,3	30,1	28,1	8,3	32,5	29,3	8,3	34,2	30,0	8,3	36,0	30,7	8,3	37,8	31,3	8,3	39,8	31,9	8,3			
	10.200	26,7	28,0	8,3	30,9	30,4	8,3	33,3	32,0	8,3	35,0	32,9	8,3	36,8	33,8	8,3	38,6	34,7	8,3	40,6	35,4	8,3			
040	7.000	28,2	25,8	9,1	32,7	27,2	9,3	35,2	28,1	9,4	37,0	28,7	9,5	38,8	29,2	9,6	40,8	29,6	9,7	42,7	30,1	9,8			
	8.750	29,3	28,5	9,1	33,7	30,3	9,4	36,3	31,4	9,5	38,2	32,1	9,6	40,0	32,8	9,7	42,0	33,4	9,8	44,0	34,0	9,9			
	10.500	30,1	30,9	9,2	34,6	33,1	9,4	37,2	34,4	9,5	39,0	35,3	9,6	40,9	36,1	9,7	42,9	36,9	9,8	44,9	37,6	10,0			
045	7.200	31,4	28,0	10,3	36,4	29,4	10,7	39,2	30,3	10,9	41,2	30,9	11,0	43,3	31,4	11,2	45,4	31,9	11,4	47,8	32,4	11,5			
	9.000	32,6	30,8	10,4	37,6	32,7	10,8	40,6	33,8	11,0	42,6	34,5	11,1	44,7	35,2	11,3	46,9	35,9	11,5	49,2	36,4	11,7			
	10.800	33,5	33,5	10,4	38,6	35,7	10,8	41,6	37,1	11,1	43,6	37,8	11,2	45,8	38,7	11,4	48,0	39,5	11,6	50,4	40,2	11,8			
047	7.200	32,7	28,5	10,9	37,8	29,9	11,3	40,8	30,8	11,5	42,8	31,4	11,6	44,9	31,8	11,7	47,1	32,3	11,9	49,3	32,7	12,0			
	9.000	34,1	31,5	11,0	39,2	33,2	11,4	42,2	34,3	11,6	44,2	35,0	11,7	46,4	35,6	11,8	48,6	36,2	12,0	50,9	36,7	12,1			
	10.800	35,1	34,2	11,1	40,3	36,3	11,5	43,3	37,5	11,6	45,4	38,3	11,8	47,5	39,1	11,9	49,8	39,8	12,1	52,1	40,5	12,2			
052	9.600	35,5	32,9	11,3	41,2	34,9	11,6	44,4	36,2	11,8	46,7	37,0	11,9	49,1	37,8	12,0	51,5	38,5	12,1	54,1	39,2	12,2			
	12.000	36,8	36,2	11,4	42,6	38,8	11,7	45,9	40,5	11,8	48,3	41,5	12,0	50,7	42,6	12,1	53,2	43,5	12,2	55,8	44,4	12,3			
	14.400	37,9	38,9	11,4	43,7	42,2	11,7	47,1	44,3	11,9	49,4	45,6	12,0	51,9	46,8	12,2	54,4	47,9	12,3	57,0	49,0	12,4			
058	10.000	38,6	34,8	12,6	44,7	36,8	13,0	48,2	38,1	13,2	50,7	38,9	13,4	53,3	39,7	13,5	56,0	40,5	13,7	58,8	41,1	13,9			
	12.500	40,2	38,5	12,7	46,5	41,0	13,1	50,1	42,6	13,3	52,6	43,7	13,5	55,2	44,6	13,7	57,9	45,4	13,8	60,8	46,3	14,0			
	15.000	41,3	41,5	12,8	47,6	44,6	13,2	51,3	46,6	13,4	53,9	47,8	13,6	56,5	49,0	13,7	59,3	50,2	13,9	62,2	51,3	14,1			
062	10.000	42,6	37,2	14,7	49,3	39,2	15,2	53,1	40,5	15,5	55,8	41,3	15,7	58,6	42,0	15,9	61,6	42,7	16,2	64,6	43,3	16,4			
	12.500	44,6	41,0	14,8	51,4	43,5	15,4	55,3	45,1	15,7	58,0	46,0	15,9	60,9	47,0	16,1	63,9	47,8	16,4	67,0	48,6	16,6			
	15.000	45,9	44,5	15,0	52,8	47,5	15,5	56,7	49,3	15,8	59,6	50,6	16,0	62,5	51,6	16,2	65,5	52,7	16,5	68,7	53,7	16,8			
070	12.400	50,0	46,2	15,4	57,8	48,8	15,9	62,3	50,4	16,1	65,4	51,4	16,3	68,7	52,4	16,5	72,0	53,2	16,7	75,6	54,1	17,0			
	15.500	51,8	51,1	15,5	59,7	54,3	16,0	64,3	56,4	16,2	67,5	57,6	16,4	70,7	58,7	16,6	74,2	59,9	16,9	77,8	61,0	17,1			
	18.600	53,3	55,2	15,6	61,2	59,2	16,1	65,8	61,8	16,3	68,9	63,3	16,5	72,2	64,8	16,7	75,7	66,2	17,0	79,4	67,3	17,2			
074	12.400	52,9	47,7	16,7	61,0	50,2	17,2	65,7	51,8	17,5	69,0	52,8	17,7	72,4	53,7	17,9	76,0	54,5	18,1	79,8	55,4	18,4			
	15.500	54,8	52,5	16,8	63,2	55,7	17,3	67,9	57,8	17,6	71,3	59,0	17,8	74,8	60,1	18,1	78,5	61,3	18,3	82,2	62,3	18,5			
	18.600	56,3	56,9	16,9	64,7	60,8	17,4	69,6	63,1	17,7	72,9	64,8	17,9	76,5	66,2	18,2	80,2	67,7	18,4	84,2	69,0	18,7			
086	12.800	58,8	51,7	19,1	67,7	54,2	19,9	72,7	55,8	20,3	76,4	56,8	20,6	80,1	57,8	20,9	83,9	58,6	21,1	87,9	59,3	21,5			
	16.000	61,2	57,0	19,4	70,2	60,1	20,1	75,4	62,1	20,5	79,0	63,4	20,8	82,7	64,4	21,0	86,8	65,6	21,4	90,9	66,6	21,7			
	19.200	62,8	61,7	19,5	72,0	65,5	20,2	77,3	67,9	20,6	81,0	69,4	20,9	84,8	70,8	21,2	88,7	72,1	21,5	92,9	73,4	21,9			
093	12.800	65,4	55,7	22,5	75,2	58,1	23,4	80,7	59,6	23,9	84,6	60,6	24,2	88,8	61,5	24,5	93,0	62,3	24,9	97,6	63,0	25,3			
	16.000	68,0	61,0	22,8	78,1	64,1	23,6	83,9	66,1	24,1	87,9	67,2	24,5	92,2	68,4	24,8	96,5	69,4	25,2	101,1	70,4	25,6			
	19.200	70,3	66,1	23,0	80,4	69,8	23,8	86,3	72,1	24,3	90,3	73,5	24,7	94,6	74,9	25,1	98,9	76,1	25,4	103,6	77,4	25,8			

Pft: Total gross cooling capacity in kW

Pfs: Sensitive cooling capacity in kW

Pa: Compressor power input in kW

Correction coefficients: variation of outdoor temperature and humidity

Outdoor temp.	20°C	25°C	30°C	35°C	40°C	45°C	48°C	50°C	52°C	Relative hum.	40%	50%	60%	70%	80%	90%	Correction
Coefficient K1	1,161	1,111	1,045	1,000	0,939	0,874	0,845	0,815	0,797	Coefficient K4	0,962	1,000	1,045	1,089	1,133	1,176	PFT = Pft x K1 x K4
Coefficient K2	1,085	1,058	1,030	1,000	0,968	0,934	0,910	0,909	0,894	Coefficient K5	1,108	1,000	0,929	0,760	0,684	0,532	PFS = Pfs x K2 x K5
Coefficient K3	0,711	0,797	0,893	1,000	1,119	1,249	1,332	1,393	1,415	Coefficient K6	0,992	1,000	1,010	1,020	1,031	1,040	PA = Pa x K3 x K6

COOLING CAPACITY (KW)

Outdoor temperature 35°C

50FC	Flow (m³/h)	Indoor air temperature																				
		15°C / 50% RH			20°C / 50% RH			23°C / 50% RH			25°C / 50% RH			27°C / 50% RH			29°C / 50% RH			31°C / 50% RH		
		Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa
020	4.080	15,7	14,6	5,7	18,3	15,7	5,9	19,9	16,3	6,0	20,9	16,8	6,0	22,0	17,2	6,1	23,1	17,5	6,2	24,2	17,9	6,2
	5.100	16,4	16,3	5,7	19,0	17,6	5,9	20,5	18,4	6,0	21,6	18,9	6,1	22,7	19,4	6,1	23,8	19,8	6,2	24,9	20,3	6,3
	6.120	16,9	17,6	5,8	19,5	19,2	5,9	21,0	20,2	6,0	22,0	20,9	6,1	23,1	21,5	6,2	24,2	22,0	6,2	25,3	22,5	6,3
028	5.200	20,3	19,4	7,0	23,4	20,2	7,1	25,2	20,8	7,2	26,4	21,2	7,3	27,6	21,5	7,3	28,9	21,8	7,4	30,2	21,9	7,4
	6.500	21,1	21,5	7,0	24,1	22,6	7,2	25,9	23,3	7,2	27,2	23,8	7,3	28,4	24,2	7,3	29,7	24,6	7,4	31,0	24,8	7,5
	7.800	21,6	23,1	7,0	24,7	24,6	7,2	26,5	25,7	7,3	27,8	26,2	7,3	29,0	26,7	7,4	30,3	27,2	7,4	31,6	27,5	7,5
037	6.800	24,1	23,7	7,7	28,1	25,1	7,8	30,4	25,9	7,8	32,0	26,5	7,9	33,6	27,0	7,9	35,3	27,4	7,9	37,0	27,7	8,0
	8.500	25,1	26,3	7,7	29,1	28,0	7,8	31,3	29,1	7,9	33,0	29,8	7,9	34,6	30,4	7,9	36,4	31,0	8,0	38,1	31,4	8,0
	10.200	26,0	27,4	7,8	29,9	30,0	7,9	32,2	31,5	7,9	33,7	32,7	8,0	35,4	33,5	8,0	37,1	34,3	8,0	38,9	34,8	8,1
040	7.000	27,2	25,8	8,9	31,3	27,0	9,1	33,7	27,7	9,2	35,3	28,2	9,2	37,1	28,6	9,3	38,9	29,0	9,4	40,7	29,3	9,5
	8.750	28,1	28,4	8,9	32,3	30,0	9,1	34,7	31,1	9,2	36,4	31,7	9,3	38,2	32,2	9,4	40,0	32,8	9,5	41,8	33,2	9,6
	10.500	28,9	30,4	8,9	33,1	32,6	9,1	35,6	34,0	9,3	37,2	34,8	9,3	39,0	35,6	9,4	40,8	36,2	9,5	42,6	36,7	9,6
045	7.200	30,4	28,0	9,8	35,1	29,2	10,1	37,8	30,1	10,3	39,6	30,5	10,4	41,6	31,0	10,5	43,6	31,4	10,7	45,6	31,6	10,8
	9.000	31,5	31,0	9,8	36,3	32,6	10,2	39,0	33,6	10,3	40,9	34,2	10,5	42,9	34,8	10,6	44,9	35,3	10,8	47,0	35,7	10,9
	10.800	32,4	33,5	9,9	37,2	35,5	10,2	39,9	36,8	10,4	41,9	37,6	10,5	43,9	38,3	10,7	45,9	39,0	10,9	48,0	39,4	11,0
047	7.200	32,3	29,1	10,5	37,1	30,3	10,8	39,9	31,0	10,9	41,8	31,5	11,1	43,9	31,9	11,2	46,0	32,3	11,3	48,0	32,5	11,4
	9.000	33,6	32,1	10,5	38,5	33,6	10,8	41,3	34,6	11,0	43,2	35,2	11,1	45,3	35,7	11,3	47,4	36,2	11,4	49,4	36,5	11,5
	10.800	34,5	34,7	10,6	39,4	36,6	10,9	42,3	37,9	11,1	44,3	38,6	11,2	46,4	39,3	11,3	48,4	39,9	11,5	50,6	40,2	11,6
052	9.600	38,4	36,6	12,7	44,3	38,4	12,9	47,7	39,6	13,0	50,1	40,3	13,1	52,5	40,9	13,2	55,1	41,5	13,3	57,6	41,8	13,4
	12.000	39,7	40,5	12,8	45,7	42,8	13,0	49,2	44,4	13,1	51,6	45,2	13,2	54,1	46,0	13,3	56,7	46,8	13,4	59,1	47,2	13,5
	14.400	41,1	43,0	12,8	47,0	46,3	13,0	50,4	48,5	13,1	52,8	49,7	13,2	55,3	50,8	13,3	57,8	51,8	13,4	60,2	52,4	13,6
058	10.000	42,0	39,3	14,3	48,3	41,1	14,6	51,9	42,2	14,7	54,5	42,9	14,8	57,1	43,6	14,9	59,8	44,1	15,1	62,5	44,4	15,2
	12.500	43,5	43,5	14,4	49,9	45,8	14,7	53,6	47,2	14,8	56,2	48,1	14,9	58,8	49,0	15,0	61,6	49,6	15,1	64,2	50,2	15,2
	15.000	44,7	47,2	14,4	51,1	50,0	14,7	54,8	51,9	14,8	57,4	53,0	15,0	60,1	53,9	15,1	62,8	55,0	15,2	65,5	55,6	15,3
062	10.000	43,5	40,2	15,4	50,2	42,0	15,7	54,0	43,3	15,8	56,7	43,9	15,9	59,5	44,6	16,0	62,3	45,2	16,0	65,2	45,5	16,1
	12.500	45,2	44,6	15,5	51,9	46,8	15,7	55,9	48,3	15,8	58,6	49,2	15,9	61,4	50,0	16,0	64,3	50,8	16,1	67,2	51,3	16,2
	15.000	46,3	48,4	15,5	53,2	51,2	15,8	57,2	53,0	15,9	59,9	54,1	16,0	62,8	55,1	16,1	65,7	56,1	16,2	68,6	56,7	16,2
070	12.400	48,2	44,9	15,7	56,5	48,2	15,9	61,3	50,3	16,0	64,7	51,6	16,0	68,2	52,8	16,1	71,8	54,1	16,2	75,6	55,2	16,3
	15.500	49,9	49,5	15,8	58,4	53,7	16,0	63,3	56,4	16,1	66,8	58,0	16,1	70,3	59,6	16,2	74,1	61,1	16,3	77,9	62,5	16,4
	18.600	51,3	53,0	15,9	59,9	58,3	16,0	64,9	61,8	16,1	68,3	63,8	16,2	71,9	65,7	16,3	75,6	67,6	16,4	79,5	69,3	16,4
074	12.400	51,4	46,7	17,2	59,9	50,0	17,4	64,9	52,1	17,5	68,4	53,4	17,6	72,0	54,6	17,8	75,8	55,8	17,8	79,7	56,9	17,9
	15.500	53,2	51,6	17,3	62,0	55,6	17,5	67,1	58,3	17,6	70,6	59,9	17,7	74,3	61,3	17,8	78,1	62,8	17,9	82,1	64,2	18,0
	18.600	54,7	55,6	17,3	63,6	60,6	17,5	68,7	63,9	17,6	72,3	65,8	17,7	76,0	67,6	17,9	79,8	69,4	17,9	83,8	71,2	18,1
086	12.800	58,4	52,9	19,0	67,3	55,2	19,5	72,5	56,8	19,8	76,2	57,6	20,0	79,9	58,5	20,2	83,8	59,2	20,5	87,7	59,6	20,7
	16.000	60,6	58,5	19,1	69,8	61,4	19,6	75,1	63,3	19,9	78,8	64,4	20,1	82,6	65,5	20,4	86,6	66,4	20,6	90,5	67,0	20,9
	19.200	62,3	63,3	19,2	71,6	66,9	19,7	77,0	69,3	20,0	80,7	70,7	20,3	84,6	72,0	20,5	88,6	73,2	20,8	92,6	74,1	21,0
093	12.800	64,1	54,8	21,8	74,4	58,0	22,5	80,4	60,1	22,9	84,5	61,3	23,1	88,8	62,4	23,4	93,3	63,6	23,7	97,9	64,6	24,0
	16.000	66,9	60,1	22,0	77,3	64,1	22,6	83,5	66,7	23,0	87,6	68,2	23,3	92,0	69,7	23,6	96,5	71,0	23,9	101,2	72,4	24,2
	19.200	69,0	65,2	22,1	79,5	69,9	22,8	85,7	72,9	23,2	90,0	74,7	23,5	94,4	76,4	23,7	98,9	78,1	24,0	103,6	79,7	24,3

Pft: Total gross cooling capacity in kW

Pfs: Sensitive cooling capacity in kW

Pa: Compressor power input in kW

Correction coefficients: variation of outdoor temperature and humidity

Outdoor temp.	20°C	25°C	30°C	35°C	40°C	45°C	48°C	Relative humidity	40%	50%	60%	70%	80%	90%	Correction
Coefficient K1	1,161	1,111	1,045	1,000	0,939	0,874	0,845	Coefficient K4	0,962	1,000	1,045	1,089	1,133	1,176	PFT = Pft x K1 x K4
Coefficient K2	1,085	1,058	1,030	1,000	0,968	0,934	0,910	Coefficient K5	1,108	1,000	0,929	0,760	0,684	0,532	PFS = Pfs x K2 x K5
Coefficient K3	0,711	0,797	0,893	1,000	1,119	1,249	1,332	Coefficient K6	0,992	1,000	1,010	1,020	1,031	1,040	PA = Pa x K3 x K6

HEATING CAPACITY (KW)

Indoor temperature 20°C

50FC	Flow (m³/h)	Outdoor air temperature																	
		-15°C WB		-10°C WB		-5°C WB		-3°C WB		0°C WB		3°C WB		6°C WB		10°C WB		15°C WB	
		Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa
020	4.080	11,5	4,4	13,3	4,5	15,5	4,7	16,5	4,7	18,0	4,9	19,5	5,0	21,1	5,1	23,3	5,3	26,4	5,7
	5.100	11,9	4,2	13,6	4,3	15,6	4,4	16,7	4,5	18,2	4,6	19,7	4,7	21,4	4,8	23,7	5,0	26,9	5,2
	6.120	12,0	4,1	13,7	4,2	15,7	4,3	16,9	4,3	18,4	4,4	19,9	4,5	21,7	4,6	23,9	4,7	27,3	4,9
028	5.200	14,4	5,5	16,7	5,7	19,2	5,9	21,0	6,0	22,8	6,2	24,6	6,4	26,6	6,5	29,2	6,8	32,9	7,2
	6.500	14,5	4,2	16,8	5,4	19,3	5,6	21,1	5,7	23,1	5,8	24,8	5,9	26,9	6,1	29,7	6,3	33,5	6,5
	7.800	14,6	5,1	16,9	5,2	19,4	5,4	21,2	5,5	23,1	5,6	25,0	5,7	27,2	5,8	29,9	5,9	34,0	6,2
037	6.800	18,2	6,5	20,4	6,6	23,2	6,8	24,6	6,9	26,8	7,1	28,9	7,2	31,3	7,3	34,3	7,5	38,9	7,8
	8.500	18,3	6,3	20,6	6,4	23,4	6,5	24,8	6,6	27,0	6,7	29,2	6,8	31,7	6,9	34,9	7,1	39,6	7,3
	10.200	18,5	6,1	20,8	6,2	23,6	6,3	24,9	6,4	27,2	6,5	29,4	6,6	32,0	6,6	35,2	6,7	40,1	6,9
040	7.000	19,6	7,0	22,5	7,3	26,0	7,5	27,5	7,7	29,8	7,9	32,0	8,2	34,7	8,5	38,1	8,9	43,0	9,5
	8.750	19,6	6,7	22,7	6,9	26,2	7,1	27,7	7,3	30,0	7,5	32,4	7,7	35,2	8,0	38,6	8,3	43,8	8,8
	10.500	19,8	6,5	22,9	6,7	26,3	6,9	27,8	7,0	30,2	7,2	32,7	7,4	35,5	7,6	39,1	7,9	44,4	8,3
045	7.200	22,4	7,9	25,9	8,3	29,7	8,6	31,4	8,9	34,0	9,2	36,7	9,6	39,7	10,0	43,6	10,5	49,1	11,3
	9.000	22,5	7,4	26,1	7,8	30,0	8,2	31,6	8,3	34,4	8,6	37,2	9,0	40,2	9,3	44,3	9,7	50,1	10,4
	10.800	22,6	7,2	26,2	7,5	30,1	7,8	31,8	8,0	34,6	8,2	37,5	8,5	40,6	8,8	44,8	9,2	50,8	9,8
047	7.200	24,1	8,8	27,7	9,0	31,8	9,3	33,5	9,7	36,3	10,0	39,2	10,4	42,3	10,8	46,5	11,4	52,1	12,2
	9.000	24,2	8,2	27,9	8,6	32,0	9,0	33,8	9,2	36,7	9,5	39,7	9,8	43,0	10,1	47,1	10,6	53,2	11,3
	10.800	24,3	8,0	28,0	8,3	32,2	8,6	34,0	8,8	37,0	9,1	40,0	9,3	43,4	9,6	47,7	10,0	54,0	10,6
052	9.600	26,4	9,8	30,6	10,1	35,9	10,6	38,1	10,8	41,6	11,1	44,9	11,4	48,9	11,7	53,7	12,2	60,6	12,9
	12.000	26,4	9,4	30,8	9,7	36,2	10,0	38,4	10,1	42,0	10,4	45,5	10,6	49,5	10,9	54,5	11,2	61,8	11,8
	14.400	26,7	9,0	31,0	9,3	36,3	9,6	38,6	9,8	42,3	9,9	45,9	10,1	50,0	10,4	55,1	10,6	62,7	11,1
058	10.000	29,8	11,1	34,7	11,5	40,1	12,0	42,4	12,3	46,1	12,6	49,7	13,0	53,8	13,4	58,9	13,9	66,3	14,7
	12.500	30,0	10,6	34,9	11,0	40,4	11,4	42,8	11,5	46,5	11,8	50,2	12,1	54,5	12,4	59,9	12,8	67,6	13,4
	15.000	30,0	10,2	35,1	10,5	40,6	10,9	43,0	11,0	46,8	11,3	50,6	11,5	55,0	11,7	60,5	12,1	68,6	12,6
062	10.000	31,6	12,1	36,7	12,5	42,3	13,0	44,7	13,2	48,4	13,5	52,2	13,9	56,4	14,3	61,7	14,8	69,4	15,5
	12.500	31,6	11,5	36,9	11,9	42,6	12,2	45,1	12,4	49,0	12,7	52,8	12,9	57,3	13,3	62,8	13,6	70,9	14,2
	15.000	32,0	11,2	37,1	11,4	42,9	11,8	45,4	11,9	49,3	12,1	53,3	12,3	57,8	12,6	63,5	12,9	71,9	13,4
070	12.400	34,8	13,7	41,3	14,1	47,9	14,5	50,6	14,6	55,1	14,9	59,4	15,2	64,4	15,6	70,6	15,9	79,9	16,5
	15.500	35,1	13,2	41,6	13,5	48,3	13,8	51,1	13,9	55,6	14,1	60,1	14,3	65,3	14,6	71,8	14,9	81,6	15,3
	18.600	35,4	12,6	41,9	12,8	48,5	13,3	51,4	13,4	56,0	13,5	60,6	13,7	65,9	13,9	72,6	14,2	82,7	14,5
074	12.400	38,5	14,3	44,4	14,8	51,1	15,4	54,0	15,6	58,5	16,1	63,1	16,5	68,4	17,0	74,9	17,7	84,6	18,7
	15.500	38,8	13,7	44,6	14,1	51,5	14,6	54,5	14,8	59,2	15,1	63,9	15,5	69,4	15,9	76,2	16,4	86,4	17,2
	18.600	39,1	13,1	44,9	13,5	51,8	14,0	54,8	14,2	59,6	14,5	64,5	14,8	70,1	15,1	77,1	15,6	87,7	16,2
086	12.800	43,4	15,9	50,2	16,6	57,8	17,3	60,9	17,7	66,0	18,4	71,1	19,1	76,9	19,9	84,2	20,9	95,0	22,5
	16.000	43,9	15,0	50,7	15,6	58,2	16,3	61,5	16,6	66,7	17,2	72,0	17,8	78,1	18,4	85,8	19,3	97,1	20,7
	19.200	44,4	14,0	51,1	14,8	58,5	15,6	61,9	15,9	67,3	16,4	72,7	16,9	78,9	17,4	86,8	18,2	98,7	19,4
093	12.800	49,2	18,1	56,6	19,0	64,7	20,0	68,2	20,6	74,0	21,4	79,6	22,1	86,0	23,1	94,1	24,3	105,6	26,2
	16.000	49,4	17,3	56,9	18,0	65,3	18,9	68,9	19,4	74,8	20,0	80,7	20,7	87,4	21,5	95,8	22,5	108,1	24,1
	19.200	49,8	16,6	57,3	17,3	65,8	18,2	69,4	18,5	75,5	19,1	81,6	19,7	88,5	20,3	97,2	21,2	110,1	22,6

Pc: Total gross heating capacity in kW

Pa: Compressor power input in kW

Correction coefficients: variation of indoor temperature

Indoor temperature	10°C	12°C	14°C	16°C	18°C	20°C	21°C	22°C	23°C	24°C	25°C	26°C	27°C	Correction
Coefficient K1	1,042	1,033	1,026	1,017	1,009	1,000	0,995	0,991	0,986	0,982	0,977	0,972	0,969	PC = Pc x K1
Coefficient K2	0,790	0,836	0,869	0,911	0,954	1,000	1,024	1,047	1,072	1,098	1,123	1,150	1,178	PA = Pa x K2

FACTORY OPTIONS AND ACCESSORIES

Summary table

Category	Description	Factory installed option	Field installed accessory	Models
Electrical power	400 V / 3 ph / 50 (without neutral)	X		All
Flow + Assembly	B2: Standard. Economizer, 2 dampers	X		All
	B3: Standard. Economizer, 3 dampers	X		All
	BX: Standard. Axial fan in return section	X		All
	BP: Standard. EC plug-fan in return section	X		All
	BA: Standard. Cooling recovery circuit with EC plug-fan in return section	X		All
	BT: Standard. Return top box with EC plug-fan or centrifugal fan	X		All
	BB: Standard. Cooling recovery circuit with EC plug-fan or centrifugal fan in return top box	X		All
	BW: Standard. Heat recovery wheel module	X		All
	R2: In-line. Economizer, 2 dampers	X		052 to 093
	RP: In-line. EC plug-fan in return section	X		052 to 093
	RW: In-line. Heat recovery wheel module	X		052 to 093
Coil coating	Coils with copper-made pipes and fins	X		All
	INERA® coils with aluminium alloy fins and copper pipes	X		All
	Coils with polyurethane precoated aluminium fins and copper pipes	X		All
	Blygold® coating	X		All
Heating	Auxiliary hot water coil : Standard or Very low outdoor temperature	X		All
	Auxiliary electrical heaters	X		All
	Warm air heater module with gas burner (supplied installed inside a pre-assembly roofcurb)		X	All
	Gas-fired condensing boiler with hot water coil	X (*)		All
Protection low temperature	Freeze protection OAT lower than -10°C	X		All
	Freeze protection OAT lower than -14°C	X		All
	Freeze protection OAT lower than -10°C + spring shut-off dampers	X		All
	Freeze protection OAT lower than -14°C + spring shut-off dampers	X		All
Supply fan	High available pressure of the supply fan	X		All
	Low available pressure of the supply fan	X		All
Air filtration + droplet eliminator	Droplet eliminator after the indoor air coil	X	X	All
	Low pressure drop G4 filters	X	X	All
	G4 filters + M6, F7 or F9 folded filters	X	X	All
	Low pressure drop G4 filters + F7 or F9 folded filters	X	X	All
	Double stage of folded filters: M6+F7, M6+F9, F7+F9 or F9+F9	X	X	All
Outdoor fan	Two-speed direct-driven axial fans	X		All
Insulation	Thermal and acoustic insulation, Euroclass A2-s1, d0 (M0), in ceramic fibre	X		All
Indoor unit	Condensates drain pan in stainless steel	X	X	All
	Room overpressure management	X		All
	Filter fouling detection with differential pressure switch	X		All
Outdoor unit	Outdoor coil protection grid	X	X	All
	Droplet eliminator at the fresh air intake	X	X	All
	Antivibration mounts made of rubber	X	X	All
Heat recovery wheel	Selection of the heat recovery wheel (BW and RW assemblies): wheel materials, channel cross section, air filtration and type of speed control	X		All
Extra heating	Heat recovery coil	X		All
Special applications	Air zoning	X		All
	Low return temperature application	X		All
	Air zoning + Low return temperature application	X		All
Sensors	NTC ambient temperature sensor connected to the control board or up to four sensors with RS485 communication	X	X	All
	Dual ambient temperature-humidity sensor with RS485 communication. Up to four sensors	X	X	All
	CO2 sensor: environment or ducted installation or installed on a pLAN network	X	X	All
	Smoke detection control unit in accordance with the NF S 61-961 standard	X	X	All
Economizer management + Outd. humidity	Economizer management: thermal, enthalpic or thermoenthalpic	X	X	All
Terminal + Unit communication	Outdoor air humidity sensor: supplied with the unit or installed on a pLAN network	X	X	All
	Graphic terminal installed in the electrical cabinet + User terminal remote up to 100 m	X	X	All
	Graphic terminal installed in the electrical cabinet + Graphic terminal remote up to 200 m	X	X	All
	User terminal installed in the electrical cabinet	X	X	All
	User terminal installed in the electrical cabinet + Graphic terminal remote up to 200 m	X	X	All
	Touch panel in the electrical cabinet	X	X	All
	Touch panel in the cabinet + Graphic terminal remote up to 200 m	X	X	All
	Touch panel in the cabinet + User terminal remote up to 100 m	X	X	All
	Unit configuration: stand-alone, master or slave	X	X	All
	Communication cards: RS485 Modbus/Carel; Ethernet PCoWeb; RS485 LonWorks®; Ethernet BACnet™; RS485 BACnet™; RS485 Konnex	X	X	All
Miscellaneous item 1	Management of an humidifier with on-off or proportional control	X		All
	Electrical energy meter	X		All
	Cooling capacity and electrical energy meter	X		All
Miscellaneous item 2	Compressor soft-starter	X		All
	Varnish protection for components on the electrical cabinet: control board, cards and terminals	X		All
	High performance phase sequence relay	X		All
	High grade switching devices	X		All
Return fan	Centrifugal return fan (BB and BT assemblies). 6 combinations of air flow and available pressure	X		All
Air direction (coming soon)	0: Lower supply and lower return; 1: Lateral supply and lower return 2: Lower supply and lateral return; 3: Lateral supply and lateral return	X		All
Roofcurb	Pre-assembly roofcurbs with adjustable height		X	"Standard"
	Adaptation roofcurbs for replacing units on renovation		X	"In-line"

(*) Part of this option must be installed on-site.

FACTORY OPTIONS AND ACCESSORIES (CONT.)

Assembly + Indoor air flow direction (B: "Standard")

Assembly	Description	Models	Indoor air direction			
			0 Lower supply Lower return	1 Lateral supply Lower return	2 Lower supply Lateral return	3 Lateral supply Lateral return
B1	"Standard"	All				
B2	"Standard" Economizer, 2 dampers	All				
B3	"Standard" Economizer, 3 dampers	All			×	×
BX	"Standard" Axial fan in return section	All			×	×
BP	"Standard" EC plug-fan in return section	All			×	×
BA	"Standard" Cooling recovery circuit with EC plug-fan in return section	All			×	×
BT	"Standard" Return top box with EC plug-fan or centrifugal fan	All	×	×		
BB	"Standard" Cooling recovery circuit with EC plug-fan in return top box or centrifugal fan	All	×	×		
BW	"Standard" Heat recovery wheel module	All			×	×

S: air supply

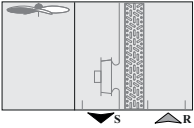
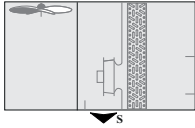
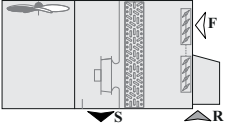
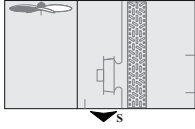
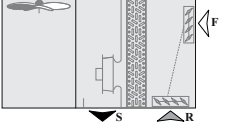
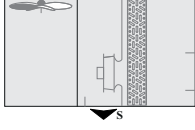
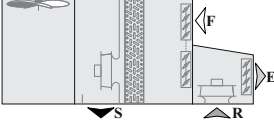
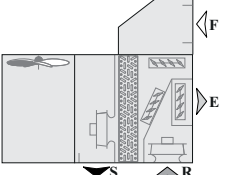
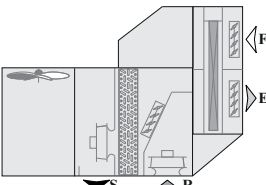
R: air return

F: fresh air intake

E: air exhaust

FACTORY OPTIONS AND ACCESSORIES (CONT.)

Assembly + Indoor air flow direction (R: "In-line")

Assembly	Description	Models	Indoor air direction	
			0 Lower supply Lower return	2 Lower supply Lateral return
R1	"In-line"	052 to 093		
R2	"In-line" Economizer, 2 dampers	052 to 062		
		070 to 093		
RP	"In-line" EC plug-fan in return section	052 to 062		×
		070 to 093		×
RW	"In-line" Heat recovery wheel module	052 to 093		×

S: air supply

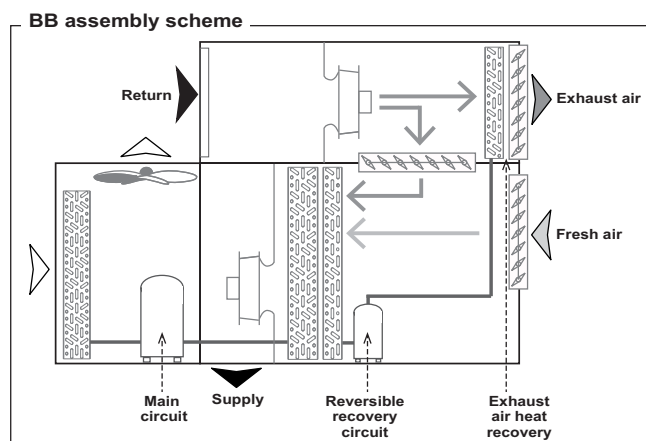
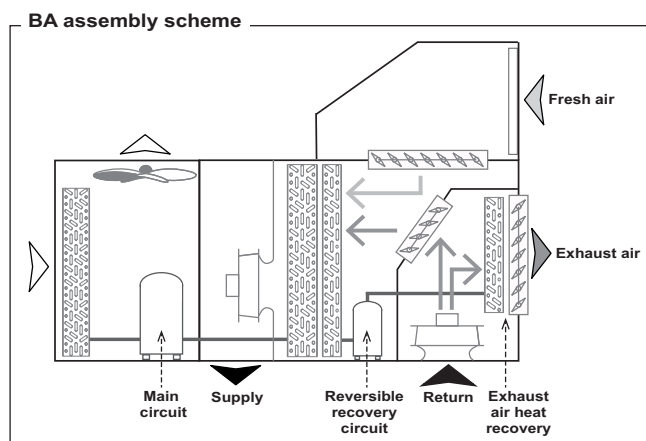
R: air return

F: fresh air intake

E: air exhaust

Active recovery (BA and BB assemblies)

The unit is fitted with a 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.



FACTORY OPTIONS AND ACCESSORIES (CONT.)

Passive recovery (BW and RW assemblies)

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

The heat recovery wheel is fitted into a module placed on one side of the unit (assemblies BW and RW). This module is supplied disassembled with the unit, for installation on site.

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

- Coil with copper-made pipes and fins. Upon request.
- 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.
- Blygold® coating.

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

Heating

The unit only can incorporate one of these heating elements:

- **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:

50FF/FC	020 to 047	052 to 062	070 to 093
RAF (Low)	12 kW	12 kW	18 kW
RAM (Nominal)	18 kW	18 kW	27 kW
RAS (High)	unavailable	27 kW	36 kW

- **Auxiliary hot water coil**, with three-way valve and proportional control, for assembly inside the unit.
 - The unit incorporates a freeze protection thermostat.
 - There are two configuration types available:
 - Standard (HAS), the only safety system is the freeze protection thermostat.
 - Very low outdoor temperature (HAF), with 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.

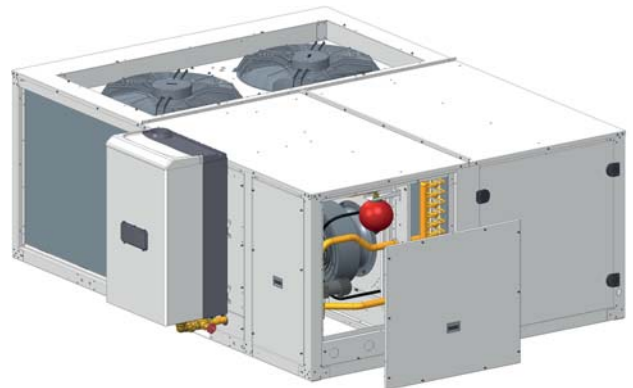
Important: this option is mandatory for an outdoor temperature lower than -20°C WB. Consult for percentages of glycol water above 20%.

Note: on units with this option, air supply only may be lateral (factory-configured).

- **Gas-fired condensing boiler with hot water coil.** Natural or propane gas boiler with modulating actuator, in accordance with the Gas Directive 2009/142/EC, mounted on the side of the unit.

- The boiler is connected to the water circuit of the auxiliary coil.
- Up to 3 values of total power available for each model:

50FF/FC	020 to 047	052 to 062	070 to 093
BBF (Low)	unavailable	Condexa PRO 50 (coming soon)	Condexa PRO 50 (coming soon)
BBM (Nominal)	Condexa PRO 40 (coming soon)	Condexa PRO 70	Condexa PRO 70
BBS (High)	Condexa PRO 70	Condexa PRO 100	Condexa PRO 100

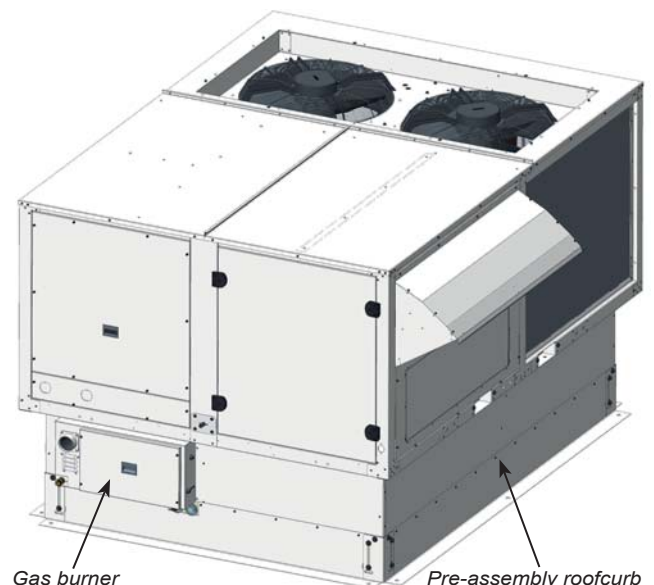


- **Warm air heater module with gas burner** with modulating actuator, in accordance with the Gas Directive 2009/142/EC, installed inside a pre-assembly roofcurb.

- Condensation boiler with premixing and modulation technology that allows outputs close to 109% with regard to the lower heating value (LCV).
- Up to 3 values of total power available for each model:

50FF/FC	020 to 047	052 to 062	070 to 093
BAF (Low)	PCH020	unavailable	unavailable
BAM (Nominal)	PCH034	PCH065	PCH080
BAS (High)	PCH045	PCH080	PCH105

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



FACTORY OPTIONS AND ACCESSORIES (CONT.)

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. 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.
- Freeze protection OAT lower than -14°C + spring shut-off dampers in case of a power failure.

Supply fan

- There are 3 optional fans depending on the available pressure:
 - Low pressure (F): all models except for 070 and 074.
 - Nominal pressure (N): all models.
 - High pressure (S): models 052 to 093.

Important: our "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:
 - G4 gravimetric filters with low pressure drop.
 - G4 gravimetric filters + M6, F7 or F9 folded opacimetric filters.
 - G4 gravimetric filters with low pressure drop + F7 or F9 folded opacimetric filters.
 - Double-stage of folded opacimetric filters (M6+F7, M6+F9, F7+F9 or F9+F9).

Classification of our 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 in ceramic fibre, Euroclass A2-s1, d0 (M0) fire classification.

Note: panels and registers of the indoor unit always include thermal and acoustic insulation, with Euroclass A2-s1, d0 (M0) fire classification.

Indoor unit

- Condensate drain pan in stainless steel for corrosion protection.
- Room overpressure management (available in BP, BT, BW, RP and RW assemblies). In installations with different air flow in supply and return, to prevent the entry of outdoor air or to eliminate odours from inside, the fresh air damper and the exhaust damper will be managed independently.
- Filter fouling detection with differential pressure switch.

Outdoor unit

- Outdoor coil protection grid.
- 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.
- Antivibration mounts made of rubber.

Heat recovery wheel

- The heat recovery wheel is fitted into a module placed on one side of the unit (BW and RW assemblies).

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

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.

This option is compatible with B1, B2, BT, BB, R1 and R2 assemblies.

Special applications

- Zoning of the air flow up to 4 different zones with a minimum air flow of 35 %. This function allows to adapt the indoor air flow to the requirements of the installation.
- Low return temperature application. This function allows to blow air with low temperature attending to the demands of the installation.

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:
 - Sensor for installation in the environment.
 - Sensor for ducted installation.
 - Sensor installed on the master unit of the local network (pLAN).
- Smoke detection control unit in accordance with the NF S 61-961 standard.

FACTORY OPTIONS AND ACCESSORIES (CONT.)

Economizer management + outdoor humidity

- The 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.
- 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.



- 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 or Slave.
- 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.

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.

Miscellaneous item 2

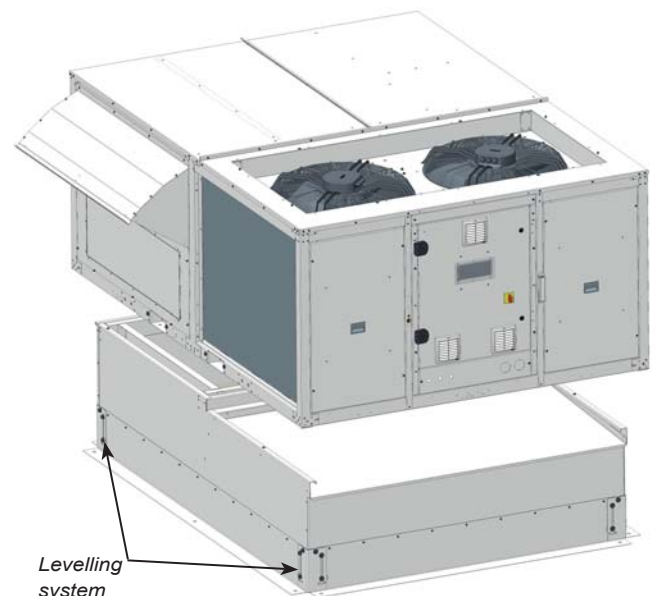
- Compressor soft starter.
- High performance phase sequence relay, which allows the protection settings to be adjusted (highly recommended for installations with power system voltage instability, lag between current and voltage, high level of electromagnetic disturbances EMC, etc.
- High grade switching devices.
- Varnish protection for the components on the electrical cabinet: control board, cards and terminals.

Centrifugal 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 6 fan options depending on the air flow and the available pressure.

Pre-assembly roofcurbs

- "Standard" assemblies can rest on 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.



- "In-line" assemblies have a wide range of adaptation roofcurbs which are ready for replacing units on renovation from different manufacturers (upon request).

SOUND LEVELS dB(A)

Sound power level (LW)

50FF/FC	020	028	037	040	045	047	052	058	062	070	074	086	093
63 Hz	55,2	60,8	61,4	60,9	61,3	63,1	64,3	64,5	64,9	64,8	64,6	64,6	65,3
125 Hz	64,2	66,7	68,9	66,1	70,0	71,1	69,6	69,9	71,5	72,4	71,3	71,4	74,0
250 Hz	71,8	74,8	76,1	72,9	76,3	76,4	77,0	77,7	78,9	79,7	78,4	77,9	79,3
500 Hz	70,2	76,7	76,4	76,8	77,1	78,3	79,5	80,1	80,4	79,9	80,1	80,2	80,9
1000 Hz	72,0	76,2	76,3	77,5	77,3	78,2	79,4	79,9	80,2	79,8	80,4	80,6	80,7
2000 Hz	69,7	73,5	74,3	75,3	74,1	75,5	77,0	77,4	77,8	77,7	78,3	78,1	77,7
4000 Hz	62,6	69,2	70,3	70,6	70,4	72,2	73,1	73,4	73,7	73,8	73,9	74,2	74,4
8000 Hz	59,0	63,7	65,5	65,8	65,6	67,5	67,9	68,2	68,6	68,9	69,1	69,4	69,6
Total dB(A)	77,5	82,0	82,5	82,5	83,0	84,0	85,0	85,5	86,0	86,0	86,0	86,0	86,5

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.

50FF/FC	020	028	037	040	045	047	052	058	062	070	074	086	093
Total dB(A)	51,0	55,5	56,0	56,0	56,5	57,5	58,3	58,8	59,3	59,3	59,1	59,1	59,6

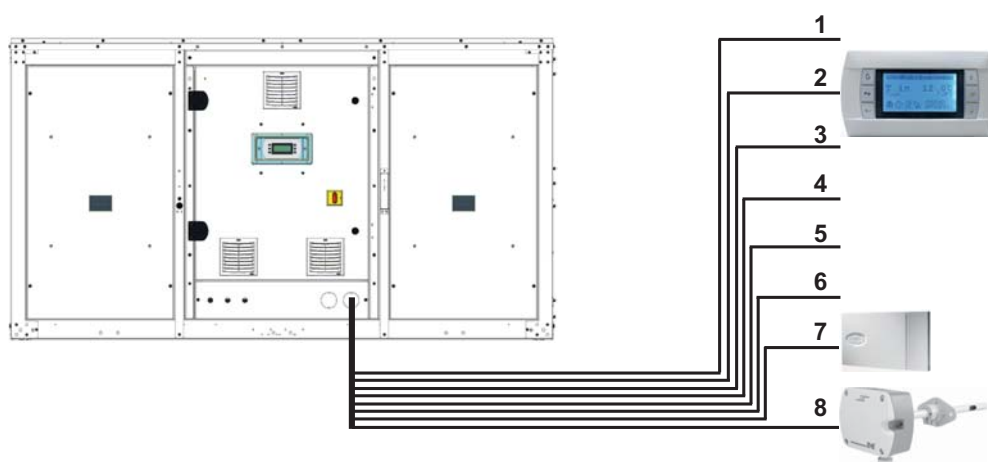
Note: The sound pressure level depends on the installation conditions and, as such, it only indicated as a guide. Values obtained according to the ISO 3744 standard.

ELECTRICAL CONNECTIONS

No.	50FF/FC	020 to 093
1	Main power supply	400 III ($\pm 10\%$)
2	Remote connection of graphic terminal (by default installed on the electrical cabinet) (1)	Telephone cable 6 wires standard (RJ12 connector)
4	Remote off/on (optional)	2 wires
5	General fault signal (optional)	2 wires
6	Circulation pump signal for HWC (antifreeze safety) (optional)	1 wire
7	Ambient sensor	NTC
8		RS485
9	CO2 sensor (optional)	3 wires

(1) In this case, it's possible to install the user terminal on the electrical cabinet.

(2) 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

50FF		020	028	037	040	045	047	052	058	062	070	074	086	093
B1 assembly		594	617	699	698	704	701	914	929	936	1.035	1.059	1.057	1.078
B2 assembly		609	632	718	718	718	720	946	967	969	1.070	1.094	1.112	1.113
B3 assembly		682	705	796	796	796	798	1.047	1.062	1.070	1.197	1.221	1.230	1.231
BX assembly		713	736	815	815	815	817	1.090	1.111	1.112	1.248	1.272	1.290	1.291
BP assembly		723	746	831	831	828	833	1.120	1.141	1.142	1.276	1.300	1.309	1.310
BA assembly		781	804	900	900	897	902	1.211	1.232	1.233	1.379	1.403	1.412	1.413
BT assembly		774	797	882	882	882	884	1.213	1.228	1.236	1.371	1.395	1.413	1.414
BB assembly		832	855	951	951	951	953	1.304	1.319	1.327	1.474	1.498	1.516	1.517
BW assembly	Machine	722	745	834	834	834	837	1.122	1.143	1.145	1.206	1.230	1.248	1.249
	Recovery module	254	254	254	254	254	254	348	348	348	454	454	454	454
	Total weight	976	999	1.088	1.088	1.088	1.091	1.470	1.491	1.493	1.660	1.684	1.702	1.703
R1 assembly		--	--	--	--	--	--	972	993	994	1.068	1.092	1.111	1.111
R2 assembly		--	--	--	--	--	--	1.010	1.031	1.033	1.105	1.129	1.147	1.148
RP assembly		--	--	--	--	--	--	1.180	1.201	1.202	1.294	1.318	1.336	1.337
RW assembly	Machine	--	--	--	--	--	--	957	978	980	1.247	1.271	1.289	1.290
	Recovery module	--	--	--	--	--	--	719	719	719	454	454	454	454
	Total weight	--	--	--	--	--	--	1.676	1.697	1.699	1.701	1.725	1.743	1.744

50FC		020	028	037	040	045	047	052	058	062	070	074	086	093
B1 assembly		594	617	699	698	704	701	986	986	1.004	1.146	1.146	1.135	1.160
B2 assembly		609	632	718	718	718	720	1.018	1.024	1.037	1.181	1.181	1.190	1.195
B3 assembly		682	705	796	796	796	798	1.119	1.119	1.138	1.308	1.308	1.308	1.313
BX assembly		713	736	815	815	815	817	1.162	1.168	1.180	1.359	1.359	1.368	1.373
BP assembly		723	746	831	831	828	833	1.192	1.198	1.210	1.387	1.387	1.387	1.392
BA assembly		781	804	900	900	897	902	1.283	1.289	1.301	1.490	1.490	1.490	1.495
BT assembly		774	797	882	882	882	884	1.285	1.285	1.304	1.482	1.482	1.491	1.496
BB assembly		832	855	951	951	951	953	1.376	1.376	1.395	1.585	1.585	1.594	1.599
BW assembly	Machine	722	745	834	834	834	837	1.194	1.200	1.213	1.317	1.317	1.326	1.331
	Recovery module	254	254	254	254	254	254	348	348	348	454	454	454	454
	Total weight	976	999	1.088	1.088	1.088	1.091	1.542	1.548	1.561	1.771	1.771	1.780	1.785
R1 assembly		--	--	--	--	--	--	1.044	1.050	1.062	1.179	1.179	1.189	1.193
R2 assembly		--	--	--	--	--	--	1.082	1.088	1.101	1.216	1.216	1.225	1.230
RP assembly		--	--	--	--	--	--	1.252	1.258	1.270	1.405	1.405	1.414	1.419
RW assembly	Machine	--	--	--	--	--	--	1029	1035	1048	1358	1358	1367	1372
	Recovery module	--	--	--	--	--	--	719	719	719	454	454	454	454
	Total weight	--	--	--	--	--	--	1.749	1.755	1.767	1.812	1.812	1.822	1.826

WEIGHT OVERVIEW (CONT.)

Weight supplement from the main options (kg)

50FF/FC			020	028	037	040	045	047	052	058	062	070	074	086	093
Pre-assembly roofcurb (without gas burner)			145	145	145	145	145	145	205	205	205	237	237	237	237
Pre-assembly roofcurb (with gas burner)	BAF (Low)		265	265	265	265	265	265	--	--	--	--	--	--	--
	BAM (Nominal)		274	274	274	274	274	274	385	385	385	463	463	463	463
	BAS (High)		284	284	284	284	284	284	411	411	411	483	483	483	483
Electrical heaters	RAF (Low)		20	20	20	20	20	20	17	17	17	17	17	17	17
	RAM (Nominal)		17	17	17	17	17	17	21	21	21	21	21	21	21
	RAS (High)		--	--	21	21	21	21	25	25	25	25	25	25	25
Hot water coil	Standard	Empty	33	33	37	37	37	37	51	51	51	58	58	58	58
		Service	40	40	46	46	46	46	67	67	67	78	78	78	78
	Very low outdoor T	Empty	41	41	45	45	45	45	71	71	71	78	78	78	78
		Service	49	49	55	55	55	55	89	89	89	100	100	100	100
Boiler + Hot water coil	Boiler		69	69	69	69	69	69	69	69	69	69	69	69	69
	Water circuit	Empty	47	47	52	52	52	52	79	79	79	87	87	87	87
		Service	55	55	62	62	62	62	98	98	98	109	109	109	109
	Total service weight		124	124	131	131	131	131	167	167	167	178	178	178	178
Heat recovery coil (HRC)	Empty		22	22	21	21	21	21	30	30	30	36	36	36	36
	Service		31	31	31	31	31	31	44	44	44	53	53	53	53
Supply fan	Low pressure (F)		-7	-7	--	--	--	--	-21	-21	-21	-9	-9	-9	-9
	High pressure (S)		--	--	28	28	28	28	38	38	38	29	29	29	29
Droplet eliminator	Indoor coil		24	24	25	25	25	25	34	34	34	43	43	43	43
	Fresh air intake		8	8	8	8	8	8	11	11	11	14	14	14	14
Centrifugal return fan (BT and BB assemblies)	A: Low flow + nominal pressure		-8	-7	7	10	10	10	-21	-21	-21	20	20	20	20
	B: Low flow + high pressure		-1	3	31	31	31	31	0	10	10	30	30	30	30
	C: Nominal flow + nominal pressure		-7	7	13	17	17	17	-1	-1	-1	47	47	47	47
	D: Nominal flow + high pressure		3	9	38	38	38	38	26	26	26	145	145	145	145
	E: High flow + nominal pressure		0	13	17	36	36	36	20	27	27	60	60	60	60
	F: High flow + high pressure		9	15	48	63	48	48	44	44	44	145	145	185	185

OPTIONS FOR THE OUTDOOR UNIT

Axial 2-speed outdoor fan

50FF/FC		020	028	037	040	045	047	052	058	062	070	074	086	093
Nominal air flow	(m³/h)	9.000	14.500	17.000	17.000	17.000	17.750	31.000	31.000	31.000	33.000	33.000	34.500	35.000
Available static pressure	(mm.w.c.)	4												
Number	(mm)	1	1					2						
Diameter	(mm)	630	800					800						
Output	(kW)	0,4 / 0,6	1,2 / 1,9					2 x (1,2 / 1,9)						
Maximum speed	(r.p.m.)	690 / 840	670 / 880					670 / 880						
Max. absorbed current	(A)	1,2	3,9					2 x 3,9						

OPTIONS FOR THE INDOOR UNIT

Droplet eliminator after the indoor air coil

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

50FF/FC	020	028	037	040	045	047	052	058	062	070	074	086	093
Air flow (m ³ /h)	7.776	7.776	10.206	10.206	10.206	10.206	14.580	14.580	14.580	14.580	18.468	18.468	18.468

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

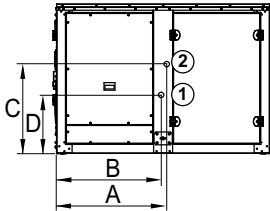
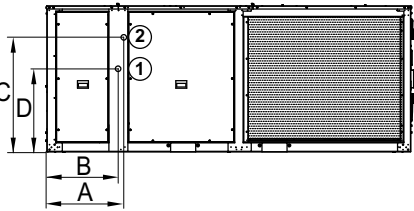
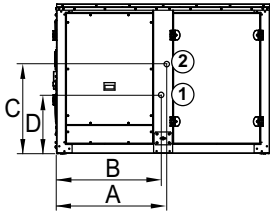
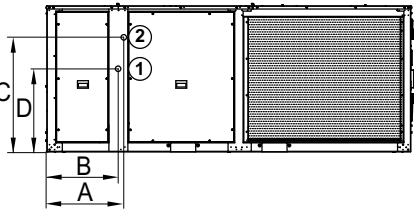
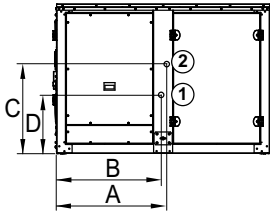
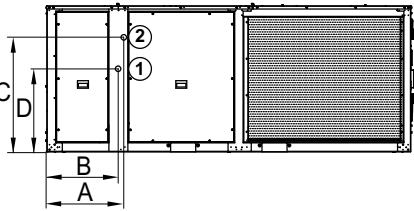
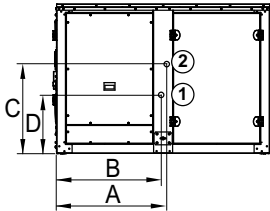
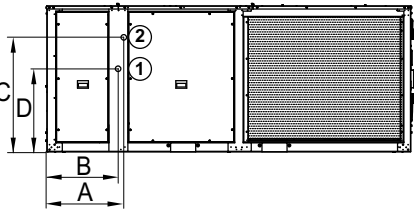
Heat recovery coil

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. Unit's control doesn't manage this function.

This option is compatible with B1, B2, BT, BB, R1 and R2 assemblies.

50FF/FC	020	028	037	040	045	047	052	058	062	070	074	086	093
Air pressure drop (mm.w.c.)	2,6	3,9	5,0	5,5	5,7	5,7	4,3	4,6	4,6	4,5	4,5	4,7	4,7
Water 35/30°C (30% MEG) and inlet air 20°C	Heating capacity (kW)	11,2	13,0	17,0	17,5	17,8	17,8	23,7	24,6	24,6	32,8	32,8	33,4
	Water flow (m ³ /h)	2,1	2,4	3,2	3,3	3,3	3,3	4,4	4,6	4,6	6,1	6,1	6,2
	Water pressure drop (m.w.c)	1,2	1,6	2,9	3,0	3,1	3,1	1,9	2,0	2,0	4,0	4,0	4,1

Position of the hydraulic connections of the heat recovery coil

"Standard" assemblies		"In-line" assemblies	
	50FF/FC		Dimensions (mm)
	A		A
	B		B
	C		C
	020 to 037		Dimensions (mm)
	A		A
	B		B
	C		C
	052 to 062		Dimensions (mm)
	A		A
	B		B
	C		C
	070 to 093		Dimensions (mm)
	A		A
	B		B
	C		C

Supply plug-fan EC with high (S) or low (F) available pressure

50FF/FC	020	028	037	040	045	047	052	058	062	070	074	086	093
Nominal air flow (m ³ /h)	5.100	6.500	8.500	8.750	9.000	9.000	12.000	12.500	12.500	15.500	15.500	16.000	16.000
Nominal available static pressure (mm.w.c.)	12	12	12	15	15	15	20	20	20	20	20	25	25
Low pressure (F)	Number / Diameter (mm)	1 / 500	--				--				2 / 500		
	Output (kW)	1,3	--				5,6				2 x 2,6		
	Speed (r.p.m.)	1.350	--				2.200				1.700		
	Max. absorbed current (A)	2,1	--				8,9				2 x 4,0		
High pressure (S)	Number / Diameter (mm)	--	2 / 500				2 / 500				2 / 500		
	Output (kW)	--	2 x 2,6				2 x 5,6				2 x 5,6		
	Speed (r.p.m.)	--	1.700				2.200				2.200		
	Max. absorbed current (A)	--	2 x 4,2				2 x 8,4				2 x 8,4		

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

OPTIONS FOR THE INDOOR UNIT (CONT.)

Axial fan in return section (BX assembly)

50FF/FC	020	028	037	040	045	047	052	058	062	070	074	086	093
Maximum air flow (m³/h)	5.100	6.500	8.500	8.750	9.000	9.000	12.000	12.500	12.500	15.500	15.500	16.000	16.000
Available static pressure (mm.w.c.)	5												
Number / Diameter (mm)	1 / 500		2 / 450				2 / 500			3 / 500			
Output (kW)	0,7		2 x 0.5				2 x 0.7			3 x 0.7			
Speed (r.p.m.)	1.390		1.360				1.390			1.390			
Maximum absorbed current (A)	1,4		2 x 1,0				2 x 1,4			3 x 1,4			

Centrifugal return fan (BT / BB assemblies)

50FF/FC	020	028	037	040	045	047	052	058	062	070	074	086	093
Option A: Low flow + nominal pressure	Available pressure (mm.w.c.)	20											
	Air flow (m³/h)	4.080	5.200	6.960	7.400	7.560	7.560	9.600	10.000	10.000	12.800	12.800	13.200
	Motor output (kW)	0,75	1,10	1,50	2,20	2,20	2,20	2,20	2,20	2,20	2 x 1,50	2 x 1,50	2 x 1,50
	Power input (kW)	0,73	1,20	1,46	1,65	1,73	1,73	1,88	2,06	2,06	2 x 1,22	2 x 1,22	2 x 1,30
	Max. abs. current (A)	2,10	3,20	4,10	6,90	6,90	6,90	6,90	6,90	6,90	2 x 4,10	2 x 4,10	2 x 4,10
	Speed (r.p.m.)	888	976	806	830	839	839	683	696	696	779	779	788
	OPK code	0671	0673	0677	0684	0684	0684	0682	0682	0682	2 x 0677	2 x 0677	2 x 0677
Option B: Low flow + high pressure	Available pressure (mm.w.c.)	50											
	Air flow (m³/h)	4.080	5.200	6.960	7.400	7.560	7.560	9.600	10.000	10.000	12.800	12.800	13.200
	Motor output (kW)	1,50	2,20	3,00	3,00	3,00	3,00	3,00	4,00	4,00	2 x 2,20	2 x 2,20	2 x 2,20
	Power input (kW)	1,26	1,78	2,26	2,50	2,59	2,59	2,96	3,12	3,12	2 x 2,02	2 x 2,02	2 x 2,11
	Max. abs. current (A)	4,10	6,90	7,20	7,20	7,20	7,20	7,20	9,00	9,00	2 x 6,90	2 x 6,90	2 x 6,90
	Speed (r.p.m.)	1.326	1.341	1.133	1.139	1.142	1.142	954	958	958	1.130	1.130	1.131
	OPK code	0672	0674	0680	0680	0680	0680	0681	0683	0683	2 x 0676	2 x 0676	2 x 0676
Option C: Nominal flow + nominal pressure	Available pressure (mm.w.c.)	20											
	Air flow (m³/h)	5.100	6.500	8.700	9.250	9.450	9.450	12.000	12.500	12.500	16.000	16.000	16.500
	Motor output (kW)	1,10	1,50	1,50	2,20	2,20	2,20	2,20	2,20	2,20	2 x 1,50	2 x 1,50	2 x 1,50
	Power input (kW)	1,15	1,26	1,55	1,73	1,81	1,81	2,00	2,18	2,18	2 x 1,30	2 x 1,30	2 x 1,38
	Max. abs. current (A)	3,20	4,10	4,10	6,90	6,90	6,90	6,90	6,90	6,90	2 x 4,10	2 x 4,10	2 x 4,10
	Speed (r.p.m.)	967	783	656	672	679	679	545	553	553	637	637	644
	OPK code	0673	0677	0678	0682	0682	0682	0685	0685	0685	2 x 0678	2 x 0678	2 x 0678
Option D: Nominal flow + high pressure	Available pressure (mm.w.c.)	50											
	Air flow (m³/h)	5.100	6.500	8.700	9.250	9.450	9.450	12.000	12.500	12.500	16.000	16.000	16.500
	Motor output (kW)	2,20	2,20	3,00	3,00	3,00	3,00	4,00	4,00	4,00	2 x 3,00	2 x 3,00	2 x 3,00
	Power input (kW)	1,72	2,07	2,56	2,79	2,88	2,88	3,46	3,67	3,67	2 x 2,30	2 x 2,30	2 x 2,39
	Max. abs. current (A)	6,90	6,90	7,20	7,20	7,20	7,20	9,00	9,00	9,00	2 x 7,20	2 x 7,20	2 x 7,20
	Speed (r.p.m.)	1.338	1.130	949	951	953	953	797	799	799	949	949	949
	OPK code	0674	0676	0681	0681	0681	0681	0686	0686	0686	2 x 0681	2 x 0681	2 x 0681
Option E: High flow + nominal pressure	Available pressure (mm.w.c.)	20											
	Air flow (m³/h)	6.120	7.800	10.440	11.100	11.340	11.340	14.400	15.000	15.000	19.200	19.200	19.800
	Motor output (kW)	1,10	1,50	2,20	2,20	2,20	2,20	3,00	4,00	4,00	2 x 2,20	2 x 2,20	2 x 2,20
	Power input (kW)	1,13	1,24	2,28	1,72	1,79	1,79	2,90	3,14	3,14	2 x 1,88	2 x 1,88	2 x 2,01
	Max. abs. current (A)	3,20	4,10	6,90	6,90	6,90	6,90	7,20	9,00	9,00	2 x 6,90	2 x 6,90	2 x 6,90
	Speed (r.p.m.)	766	633	711	533	536	536	585	597	597	683	683	693
	OPK code	0675	0678	0682	0685	0685	0685	0687	0689	0689	2 x 0682	2 x 0682	2 x 0682
Option F: High flow + high pressure	Available pressure (mm.w.c.)	50											
	Air flow (m³/h)	6.120	7.800	10.440	11.100	11.340	11.340	14.400	15.000	15.000	19.200	19.200	19.800
	Motor output (kW)	2,20	2,20	4,00	4,00	4,00	4,00	5,50	5,50	5,50	2 x 3,00	2 x 3,00	2 x 4,00
	Power input (kW)	1,90	2,26	3,35	3,12	3,21	3,21	4,51	4,83	4,83	2 x 2,96	2 x 2,96	2 x 3,07
	Max. abs. current (A)	6,90	6,90	9,00	9,00	9,00	9,00	11,60	11,60	11,60	2 x 7,20	2 x 7,20	2 x 9,00
	Speed (r.p.m.)	1.131	950	964	796	796	796	809	814	814	954	954	957
	OPK code	0676	0679	0683	0686	0683	0683	0688	0688	0688	2 x 0681	2 x 0681	2 x 0683

OPTIONS FOR THE INDOOR UNIT (CONT.)

EC plug-fan in return section (BP / BA / BT / BB / RP assemblies)

50FF/FC	020	028	037	040	045	047	052	058	062	070	074	086	093
Nominal air flow (m³/h)	5.100	6.500	8.500	8.750	9.000	9.000	12.000	12.500	12.500	15.500	15.500	16.000	16.000
Nominal available static pressure (mm.w.c.)	12	12	12	15	15	15	20	20	20	20	20	25	25
Number / Diameter (mm)	1 / 500						2 / 500						
Output (kW)	2,6						2 x 2,6						
Speed (r.p.m.)	1.700						1.700						
Maximum absorbed current (A)	4,0						2 x 4,0						

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

EC plug-fan in return section (BW / RW assemblies)

50FF/FC	020	028	037	040	045	047	052	058	062	070	074	086	093
Nominal air flow (m³/h)	5.100	6.500	8.500	8.750	9.000	9.000	12.000	12.500	12.500	15.500	15.500	16.000	16.000
Nominal available static pressure (mm.w.c.)	12	12	12	15	15	15	20	20	20	20	20	25	25
Nominal pressure (N)	Number / Diameter (mm)	1 / 500						2 / 500					
	Output (kW)	2,6						2 x 2,6					
	Speed (r.p.m.)	1.700						1.700					
	Max. absorbed current (A)	4,0						2 x 4,0					
High pressure (H)	Number / Diameter (mm)	--	1 / 500						--	2 / 500			
	Output (kW)	--	2,8						--	2 x 2,8			
	Speed (r.p.m.)	--	1700						--	1.700			
	Max. absorbed current (A)	--	4,3						--	2 x 4,3			

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

Heat recovery wheel module (BW / RW assemblies)

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:

- 800 mm: models 020 to 047
- 1200 mm: models 052 to 062
- 1500 mm: models 070 to 093

■ Matrix materials:

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

■ Channel cross section:

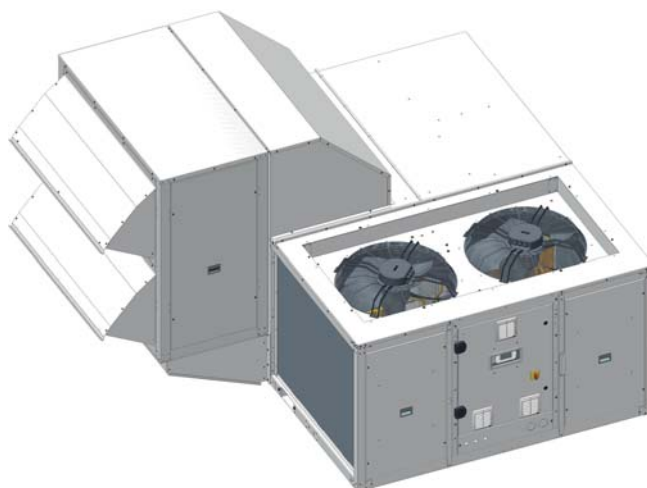
The wheel is formed of two panels of aluminium, one smooth and one fluted. The fluted panel can be provided in two different configurations:

- 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 filters on the fresh air intake and the exhaust air outlet: gravimetric filters G4 (default option), G4 with low pressure drop or G4 + M6 (optional).

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. The speed drive is compulsory with output temperatures on both sides of the wheel lower than 1°C or an average temperature on the wheel lower than 3°C.



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

OPTIONS FOR THE INDOOR UNIT (CONT.)

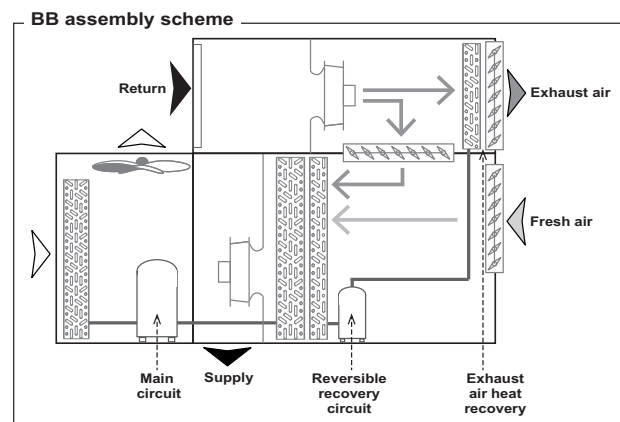
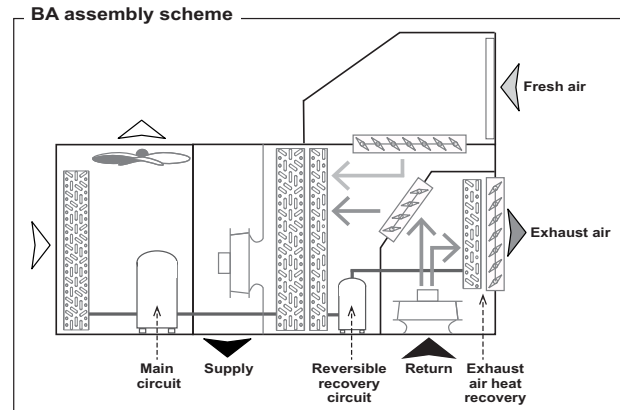
Cooling recovery circuit (BA / BB assemblies)

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.

50FF/FC	020 to 028	037 to 047	052 to 062	070 to 093
Compressor type	Scroll			
No. of compressors / circuits	1 / 1			
Max. absorbed current (A)	5,4	7,2	10,1	12,1
Oil type	Copeland 3MAF 32cST, Danfoss POE 160SZ, ICI Emkarate RL 32CF, Mobil EAL Artic 22CC			
Volume of oil (l)	0,7	1,2	1,7	1,8
Charge of R-410A (kg)	1,7	2,5	3,0	3,4
Environment impact (tCO ₂ eq)	3,5	5,2	6,3	7,1



Total cooling capacity with recovery circuit

50FF/FC			020	028	037	040	045	047	052	058	062	070	074	086	093
Nominal air flow			(m ³ /h)	5.100	6.500	8.500	8.750	9.000	9.000	12.000	12.500	12.500	15.500	15.500	16.000
Outdoor temperature 35°C / 40% RH Indoor temperature 27°C / 50% RH	20% fresh air	Pft (kW)		29,6	36,2	45,7	49,4	54,2	56,5	70,4	75,4	77,8	90,6	94,5	103,2
		Pfs (kW)		23,7	29,6	38,1	40,2	42,4	43,3	55,9	59,0	59,9	72,1	73,6	81,6
		Pa (kW)		8,5	9,6	11,5	12,8	14,0	14,7	17,8	19,5	20,5	21,7	23,3	25,8
	40% fresh air	Pft (kW)		31,3	37,9	48,2	52,0	56,8	59,3	73,8	78,8	81,4	95,1	99,2	107,9
		Pfs (kW)		25,1	31,2	39,7	41,8	44,2	45,2	58,8	62,0	62,9	76,0	77,4	85,5
		Pa (kW)		8,1	9,3	10,9	12,3	13,5	14,2	17,1	18,9	19,9	20,9	22,5	25,1
	80% fresh air	Pft (kW)		33,7	40,3	51,9	55,7	60,7	63,2	78,8	84,1	86,8	102,3	106,3	115,0
		Pfs (kW)		27,5	33,7	42,4	44,4	47,0	47,8	62,4	65,8	66,9	82,3	84,0	87,9
		Pa (kW)		7,9	9,1	10,6	12,1	13,4	14,0	16,8	18,5	19,6	20,6	22,2	24,9

Pft: Total gross cooling capacity (sum of the power of the main circuit and the recovery circuit)

Total heating capacity with recovery circuit

50FF/FC			020	028	037	040	045	047	052	058	062	070	074	086	093
Nominal air flow			(m ³ /h)	5.100	6.500	8.500	8.750	9.000	9.000	12.000	12.500	12.500	15.500	15.500	16.000
Outdoor temperature 6°C BH Indoor temperature 20°C	20% fresh air	Pct (kW)		29,7	35,8	44,3	47,9	53,0	55,7	68,3	73,5	76,2	87,8	91,9	100,9
		Pa (kW)		6,7	7,9	9,3	10,3	11,6	12,4	14,7	16,2	17,1	18,8	20,1	22,6
	40% fresh air	Pct (kW)		31,1	37,1	46,2	49,8	55,0	64,4	71,0	76,2	79,0	91,1	95,2	104,2
		Pa (kW)		6,4	7,5	8,9	9,9	11,1	11,9	14,1	15,5	16,4	18,0	19,3	21,7
	80% fresh air	Pct (kW)		32,8	39,0	47,8	52,3	57,7	60,4	74,8	80,1	83,0	95,6	99,8	108,9
		Pa (kW)		5,9	6,8	8,1	9,0	10,1	10,9	12,9	14,1	14,9	16,5	17,6	19,8

Pct: Total gross heating capacity (sum of the power of the main circuit and the recovery circuit)

OPTIONS FOR THE INDOOR UNIT (CONT.)

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:

50FF/FC	020 to 047	052 to 062	070 to 093
RAF (Low)	12 kW	12 kW	18 kW
RAM (Nominal)	18 kW	18 kW	27 kW
RAS (High)	unavailable	27 kW	36 kW

■ Characteristics:

Total power (kW)	12	18	27	36
Stages power (kW)	6 + 6	9 + 9	9 + 18	18 + 18
Current (400 V / III ph) (A)	17,3	26,0	39,0	52,0
Power supply	400 V / III ph			

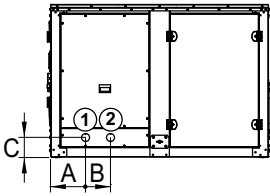
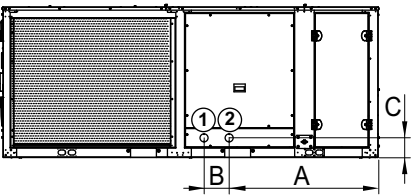
Auxiliary hot water coil

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.

50FF/FC		020	028	037	040	045	047	052	058	062	070	074	086	093
Air pressure drop (mm.w.c.)		2,4	3,5	3,5	3,6	4,3	4,3	3,4	3,6	3,6	3,5	3,7	3,7	3,7
Water 80/60°C and inlet air 20°C	Heating capacity (kW)	27,6	32,0	47,6	48,4	49,2	49,2	95,8	98,3	98,3	129,0	129,0	131,5	131,5
	Water flow (m³/h)	1,4	1,6	2,1	2,1	2,1	2,1	2,7	2,8	2,8	3,6	3,6	3,7	3,7
	Water pressure drop (m.w.c.)	0,2	0,3	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,9	0,9	1,0	0,9
Water 90/70°C and inlet air 20°C	Heating capacity (kW)	34,2	39,8	58,7	59,8	90,8	90,8	118,5	121,5	121,5	158,7	158,7	161,9	161,9
	Water flow (m³/h)	1,7	2,0	2,6	2,6	2,6	2,6	3,4	3,4	3,4	4,5	4,5	4,6	4,6
	Water pressure drop (m.w.c.)	0,3	0,4	0,7	0,7	0,8	0,8	0,7	0,7	0,7	1,3	1,4	1,4	1,4

Note: With droplet eliminator after the indoor air coil it is not possible to assemble the hot water coil.

Position of the hydraulic connections of the hot water coil

"Standard" assemblies		"In-line" assemblies	
	50FF/FC		Dimensions (mm)
			A B C Ø
	020 to 037		142 160 158 1 ¼"
	052 to 093		159 245 158 2"
① Outlet ② Inlet		① Outlet ② Inlet	

Note: The Input / Output connections of the coil are located inside the unit. The connection can be established via the unit base using flexible tubing or via the side panel. In the above diagrams, the position of the sheet metal precuts is shown on the side panel.

"Very low outdoor temperature" option (HAF)

Note: on units with the "Very low outdoor temperature" option, air supply only may be lateral (factory-configured).

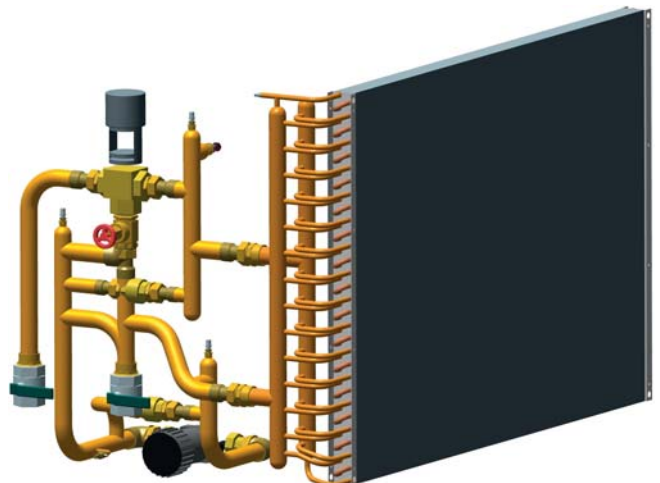
■ This anti-freeze safety incorporates:

- 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%.

■ Characteristics of the water circuit:

50FF/FC		020 to 047	052 to 093
Circulation pump	Motor output (W)	90	140
	Max. absorbed current (A)	0,75	1,15

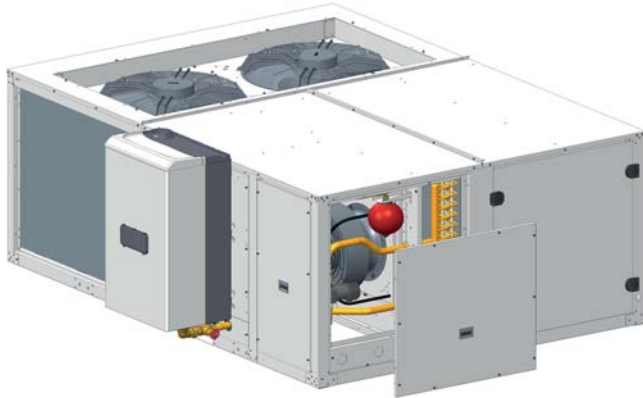


OPTIONS FOR THE INDOOR UNIT (CONT.)

Gas-fired condensing boiler with hot water coil

Gas-fired condensing boiler with modulating actuator, in accordance with the Gas Directive 2009/142/EC, mounted on the side of the unit.

EC certification: 0085CP0214.



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

50FF/FC	020 to 047	052 to 062	070 to 093
BBF (Low)	unavailable	Condexa PRO 50 (coming soon)	Condexa PRO 50 (coming soon)
BBM (Nominal)	Condexa PRO 40 (coming soon)	Condexa PRO 70	Condexa PRO 70
BBS (High)	Condexa PRO 70	Condexa PRO 100	Condexa PRO 100

■ The key features of the boiler are:

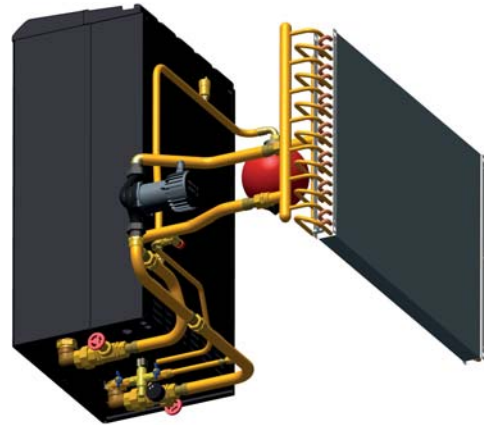
- Natural or propane gas boiler.
- Burner with premixing and modulation technology that allows outputs close to 109% (Hi performance).
- Heat exchanger made of stainless steel with a low carbon content.
- Proportional air / gas valve. Low NOx emissions (class 5, according to standard EN 297).
- Condensate drain with siphon.
- Forced draught.
- Electronic ignition.
- Safety devices: safety thermostat, low water pressure safety switch, flowmeter, Delta-T control, smoke temperature sensor.
- NTC sensor for boiler water temperature regulation.
- Working temperature of water from -7°C to 100°C. Consult for percentages of glycol water above 20%.
- Electronic controller with microprocessor and Multifunction LCD display for boiler's control, configuration and diagnostics. Possibility of ModBus communication.
- The electronic control of the unit will only manage the boiler connection as heating support depending on the ambient conditions.

■ The boiler is connected to the hydraulic circuit of the auxiliary hot water coil. The water circuit, installed inside the unit, is composed of:

- Water coil.
- Circulation pump.
- Expansion vessel.
- Gate valves.
- Safety valve with a tare value of 4 bar.
- Automatic air bleeder valve.

■ Characteristics of the water circuit:

	50FF/FC	020 to 047	052 to 093
Expansion vessel	Volume (l)	5	5
	Filling pressure (kg/cm ²)	1,5	1,5
Circulation pump	Motor output (W)	90	140
	Max. absorbed current (A)	0,75	1,15



■ Type of gas used depending on the destination country:

Country	Category	Gas	Pressure (mbar)	Gas	Pressure (mbar)
Italy, Ireland, Great Britain, Portugal, Slovenia, Slovakia, Greece	II2H3+	G20	20	G30/G31	28-30/37
Spain	II2H3+	G20	18	G30/G31	28-30/37
Romania, Bulgaria, Turkey, Denmark, Estonia, Sweden, Norway, Latvia, Lithuania, Finland, Russia	II2H3B/P	G20	20	G30	30
Hungary	II2H3B/P	G20	25	G30	30
Poland	II2H3B/P	G20	25	G30	37
Croatia	II2H3B/P	G20	20	G30/G31	30
Holland	II2H3B/P	G25	25	G30	30
Czech Rep., Austria, Switzerland	II2H3B/P	G20	20	G30	50
Luxembourg	II2H3B/P	G20	20	G30	50
	II2E3P	G20	20	G31	37
Belgium	I2E(S)	G20/G25	20/25	--	--
	I3+	--	--	G30/G31	28-30/37
France	II2E+3+	G20/G25	20/25	G30/G31	28-30/37
Malta, Cyprus, Iceland	I3B/P	--	--	G30	30
Germany	II2ELL3B/P	G20/G25	25	G30	50

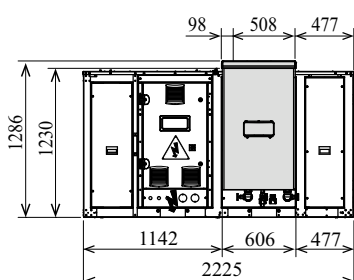
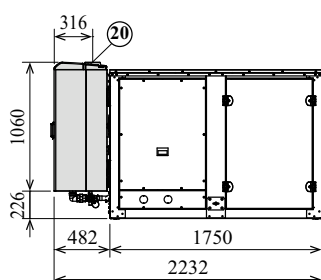
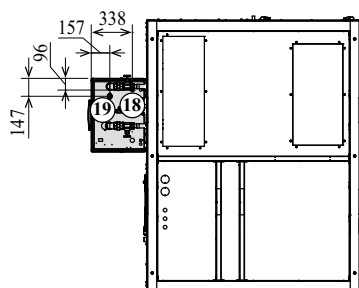
OPTIONS FOR THE INDOOR UNIT (CONT.)

■ Technical characteristics of the boiler:

Model			Condexa PRO 40 (coming soon)	Condexa PRO 50 (coming soon)	Condexa PRO 70	Condexa PRO 100
Type of equipment			B23 - B53 - B53P			
NOx Class (according to standard EN 297)			5			
Boiler performance	Total thermal power (Hs)	kW			76/15	108/21,6
	Total thermal power (Hi)	kW			68/14	97/19,4
	Nominal power supplied to the water 100% (80°C - 60°C)	kW			66,7	95,2
	Nominal power supplied to the water 100% (50°C - 30°C)	kW			73,5	105
	Nominal power supplied to the water 100% (60°C - 40°C)	kW			71	101
	Condensate hourly production 100% (50°C - 30°C) with G20	kg/h			8,5	12,3
	Performance with nominal power (80°C - 60°C)	%			98,1	98,1
	Performance with nominal power (50°C - 30°C)	%			108,1	108,2
	Performance with nominal power T _m = 50°C (60°C - 40°C)	%			104,4	104,1
	Performance with reduced load 30% (80°C - 60°C)	%			98,5	98,3
	Performance with reduced load 30% (50°C - 30°C)	%			109	109
	Performance with reduced load 30% T _m = 50°C (60°C - 40°C)	%			105,3	105
	Losses in enclosure (T _m = 70°C)	%	0,1			
	Energy efficiency marking (Directive 92/42 EC)		★★★★			
Energy efficiency	Seasonal energy efficiency class in heating				A	A
	Seasonal energy efficiency in heating	%			92,7	92,7
Gas supply	Gas category		II2H3+			
	Natural Gas consumption (G20) (nominal / minimum)	m ³ /h			7,2/1,4	10,3/2,1
Electrical data	Power supply		230 Vac - 50 Hz			
	Power input at 100%	W			77	203
	Power input at 30%	W			30	31
	Power input in stand-by	W			13	6
	Ingress protection rating		IP X5D			
	Operating temperatures		from -15°C to +70°C			
Connections	Ø Gas supply				G1"	G1"
	Ø Flue outlet	mm			DN80	DN110
	Ø Condensate drain	mm			25	25
Heating circuit	Control of heating temperature (min. / max.)	°C	20 / 80			
	Working pressure (max. / min.)	bar	6 / 0,7			

Location of the gas burner

50FF/FC 020-028-037-040-045-047



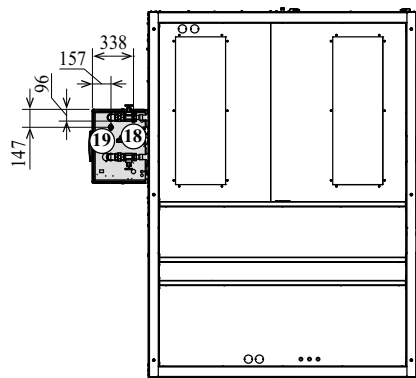
Legend

All dimensions are given in mm.

- 18 Boiler drainage Ø 25mm
Important: Siphon minimum height 300mm
- 19 Gas supply 1" M
- 20 Flue outlet (flue connection):
Condexa PRO 40 / 50 / 70: Ø 80mm

OPTIONS FOR THE INDOOR UNIT (CONT.)

50FF/FC 052-058-062-070-074-086-093, "Standard"

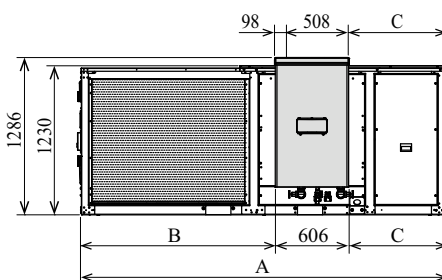
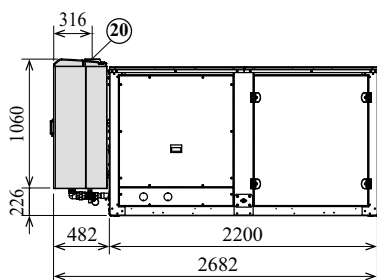


50FF/FC	Dimensions (mm)		
	A	B	C
052 to 062	3.000	1.588	806
070 to 093	3.650	1.858	1.186

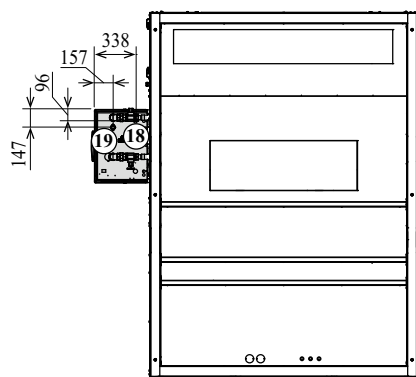
Legend

All dimensions are given in mm.

- ⑱ Boiler drainage Ø 25mm
Important: Siphon minimum height 300mm
- ⑲ Gas supply 1" M
- ⑳ Flue outlet (flue connection):
Condexa PRO 50 / 70: Ø 80mm
Condexa PRO 100: Ø 110 mm



50FF/FC 052-058-062-070-074-086-093, "In-line"

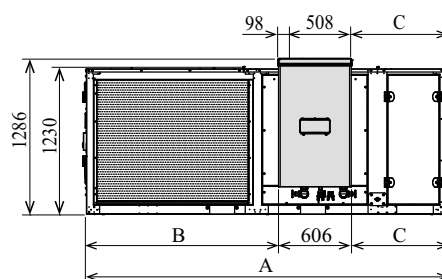
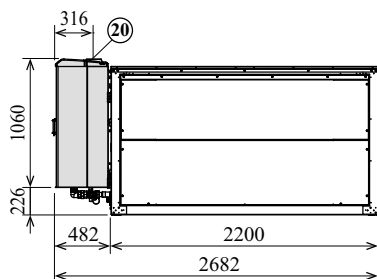


50FF/FC	Dimensions (mm)		
	A	B	C
052 to 062	3.000	1.588	806
070 to 093	3.650	1.860	1.184

Legend

All dimensions are given in mm.

- ⑱ Boiler drainage Ø 25mm
Important: Siphon minimum height 300mm
- ⑲ Gas supply 1" M
- ⑳ Flue outlet (flue connection):
Condexa PRO 50 / 70: Ø 80mm
Condexa PRO 100: Ø 110 mm



NOTES:

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

IMPORTANT:

- The flue of the gas boiler 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.

OPTIONS FOR THE INDOOR UNIT (CONT.)

Warm air heater module with gas burner

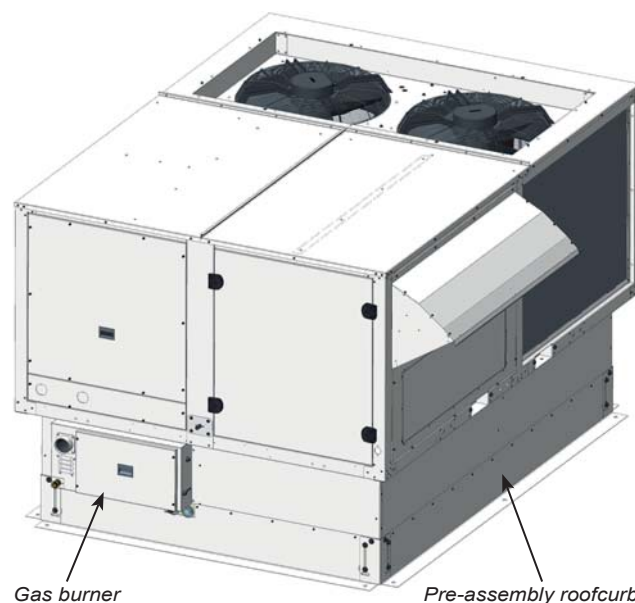
Warm air heater module with gas burner with modulating actuator, in accordance with the Gas Directive 2009/142/EC, installed inside a pre-assembly roofcurb.

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

50FF/FC	020 to 047	052 to 062	070 to 093
BAF (Low)	PCH020	unavailable	unavailable
BAM (Nominal)	PCH034	PCH065	PCH080
BAS (High)	PCH045	PCH080	PCH105

■ 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 (class 5, according to standard EN 297).
- 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.

Note: Drawings of roofcurb with gas burner can be consulted on pages 93 to 95.

Model		PCH020	PCH034	PCH045	PCH065	PCH080	PCH105							
Type of equipment		B23P - B53P - C13 - C43 - C53 - C63 - C83												
EC certification		PIN.	0694CP1457											
NOx Class		Val	5											
Heater performance	Range	Min.	Max	Min.	Max	Min.	Max	Min.	Max	Min.	Max	Min.	Max	
	Thermal output (Hi)	kW	4,75	19,00	7,60	34,85	8,50	44,00	12,40	65,00	16,40	82,00	18,00	100,00
	Useful thermal output	kW	4,97	18,18	8,13	33,56	9,00	42,40	13,40	62,93	17,77	80,03	19,63	97,15
	Hi performance (L.C.V.)	%	104,63	95,68	106,97	96,30	105,88	96,37	108,06	96,82	108,35	97,60	109,06	97,15
	Hs performance (H.C.V.)	%	94,26	86,20	96,37	86,76	95,39	87,36	97,36	87,22	97,62	87,93	98,25	87,52
	Flue losses with burner off (Hi)	%	0,4	4,3	0,6	3,7	0,5	3,7	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)		I/h	0,4		0,9		1,1		2,1		3,3		2,7	
Exhaust gases - Polluting emissions	Carbon monoxide - B1 - (0% of O2) (3)	ppm	< 5											
	Nitrogen oxides - NOx - (0% of O2) (4)		40 mg/kWh - 22,28 ppm		41 mg/kWh - 23,24 ppm		35 mg/kWh - 19,84 ppm		40 mg/kWh - 22,68 ppm		34 mg/kWh - 19,27 ppm		45 mg/kWh - 25,51 ppm	
	Available pressure at flue	Pa	80		90		100		120					
Electrical data	Power supply		230 Vac - 50 Hz single-phase											
	Power input		12	45	11	74	24	82	15	97	40	123	20	130
	Power input in stand-by		<5											
	Ingress protection rating		IP X5D											
	Operating Temperatures		from -15°C to +40°C											
Connections	Ø gas connection	GAS	UNI/ISO 7/1- 3/4"											
	Ø intake/exhaust pipes	mm	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 ref. to class H (G20), referred to Hi (L.C.V.).

OPTIONS FOR THE INDOOR UNIT (CONT.)

■ Gas setting:

Gas type	Gas settings		PCH020		PCH034		PCH045		PCH065		PCH080		PCH105	
			min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
G20	Air supply pressure	mbar	20 [min 17-max 25]											
	Ø pilot nozzle	mm	0,7											
	Gas consumption (15°C-1013mbar)	m3/h	0,51	2,01	0,80	3,69	0,90	4,66	1,31	6,88	1,74	8,68	1,90	10,58
	Carbon dioxide - CO ₂ content	%	8,8	9,1	8,7	9,1	8,7	9,1	8,7	9,1	8,7	9,1	8,5	9,1
	Fumes temperature	°C	39	113	31	94	30	94	31	86	26,5	70	28	80
	Fume mass flow rate (max.)	kg/h	31		57		72		107		135		165	
	Gas butterfly valve	mm	5,8		7,4		7,5		11,0		12,2		15,8	
G25	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	0,59	2,34	0,93	4,29	1,05	5,41	1,53	8,00	2,02	10,1	2,21	12,30
	Carbon dioxide - CO ₂ content	%	8,8	9,0	8,6	9,0	8,8	8,9	8,8	9,2	8,6	8,9	8,8	9,0
	Fumes temperature	°C	39	113	31	94	30	94	31	86	26,5	70	28	80
	Fume mass flow rate (max.)	kg/h	--											
	Gas butterfly valve	mm	Not necessary											
G30	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	0,40	1,58	0,63	2,90	0,71	3,65	1,03	5,39	1,36	6,80	1,49	8,30
	Carbon dioxide - CO ₂ content	%	10,8	11,4	10,8	11,5	10,8	10,9	10,7	11,3	11,2	11,6	10,9	11,2
	Fumes temperature	°C	39	113	31	94	30	94	31	86	26,5	70	28	80
	Fume mass flow rate (max.)	kg/h	--											
	Gas butterfly valve	mm	3,7		5,0		5,2		6,5		7,0		9,3	
G31	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	0,39	1,55	0,62	2,85	0,70	3,60	1,01	5,31	1,34	6,70	1,47	8,18
	Carbon dioxide - CO ₂ content	%	9,3	9,8	9,2	9,7	9,3	9,4	9,4	9,6	9,3	9,6	9,1	9,6
	Fumes temperature	°C	39	113	31	94	30	94	31	86	26,5	70	28	80
	Fume mass flow rate (max.)	kg/h	24		45		58		84		107		130	
	Gas butterfly valve	mm	3,7		5,0		5,2		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	II2H3B/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	II2ELL3B/P	G20	20	G30/G31	50
Denmark, Finland, Greece, Sweden, Norway, Italy, Czech Republic, Estonia, Lithuania, Slovenia, Albania, Macedonia, Bulgaria, Romania, Croatia, Turkey, Azerbaijan	II2H3B/P	G20	20	G30/G31	30
Spain, United Kingdom, Ireland, Portugal, Slovakia	II2H3P	G20	20	G31	37
France	II2Esi3P	G20/G25	20/25	G31	37
Luxembourg	II2E3P	G20/G25	20	G31	37/50
Netherlands	II2L3B/P	G25	25	G30/G31	50
Hungary	II2HS3B/P	G20/G25.1	25	G30/G31	30
Cyprus, Malta	I3B/P	--	--	G30/G31	30
Latvia	I2H	G20	20		
Iceland	I3P	--	--	G31	37
Poland	II2E3B/P	G20/G2.350	20/13	G30/G31	37
Russia	II2H3B/P	G20	20	G30/G31	30

PRESSURE DROPS DUE TO THE INDOOR UNIT OPTIONS

50FF/ FC	Flow (m³/h)	Pressure drops (mm.w.c)																			
		Filters (1)										Droplet eliminator		H.W.C	E.H.	Gas burner					
		G4 l.p.d	G4 + M6	G4 + F7	G4 + F9	G4 l.p.d + F7	G4 l.p.d + F9	M6 + F7	M6 + F9	F7 + F9	F9 + F9	Ind. coil	Air intake (2)			PCH- 020	PCH- 034	PCH- 045	PCH- 065	PCH- 080	PCH- 105
020	4.080	-1,8	3,2	4,7	11,0	2,9	9,2	4,0	10,3	11,8	18,1	1,9	0,7	1,7	2,0	2,6	2,8	2,1	--	--	--
	5.100	-1,7	4,4	6,2	14,1	4,5	12,3	5,1	13,0	14,8	22,6	2,6	1,0	2,4	3,1	4,0	4,4	3,3	--	--	--
	6.120	-2,1	5,8	7,9	17,4	5,8	15,3	6,2	15,7	17,7	27,2	3,4	1,4	3,2	4,4	5,8	6,3	4,8	--	--	--
028	5.200	-1,8	4,6	6,4	14,4	4,6	12,6	5,2	13,3	15,0	23,1	2,6	1,1	2,5	3,2	4,0	3,9	3,2	--	--	--
	6.500	-2,3	6,4	8,6	18,6	6,3	16,4	6,6	16,7	18,8	28,9	3,7	1,5	3,5	5,0	6,3	6,1	5,0	--	--	--
	7.800	-3,3	8,6	11,0	23,2	7,7	19,8	8,0	20,1	22,6	34,7	5,1	2,0	4,7	7,2	9,0	8,8	7,2	--	--	--
037	6.800	-1,8	4,5	6,3	14,3	4,6	12,6	5,2	13,2	15,0	23,0	2,6	1,7	2,5	2,6	6,6	6,8	5,6	--	--	--
	8.500	-2,2	6,4	8,5	18,6	6,3	16,3	6,6	16,6	18,8	28,8	3,7	2,4	3,6	4,0	10,3	10,6	8,7	--	--	--
	10.200	-3,3	8,5	11,0	23,1	7,7	19,8	7,9	20,0	22,5	34,6	5,0	3,2	4,8	5,8	14,8	15,2	12,5	--	--	--
040	7.000	-1,8	4,7	6,6	14,8	4,8	13,0	5,4	13,6	15,4	23,7	2,7	1,8	2,8	2,7	7,8	7,6	6,3	--	--	--
	8.750	-2,4	6,7	8,9	19,2	6,5	16,8	6,8	17,1	19,3	29,6	3,9	2,6	4,0	4,3	12,2	11,8	9,9	--	--	--
	10.500	-3,5	8,9	11,4	23,9	7,9	20,3	8,2	20,6	23,1	35,6	5,3	3,5	5,3	6,2	17,5	17,0	14,2	--	--	--
045	7.200	-1,8	5,0	6,8	15,3	5,0	13,5	5,5	14,0	15,9	24,4	2,9	1,9	2,9	2,9	8,0	7,8	6,8	--	--	--
	9.000	-2,5	7,0	9,2	19,9	6,7	17,4	7,0	17,6	19,9	30,5	4,1	2,7	4,1	4,5	12,5	12,2	10,6	--	--	--
	10.800	-3,8	9,3	11,9	24,7	8,1	20,9	8,4	21,2	23,8	36,7	5,5	3,6	5,5	6,5	18,0	17,5	15,2	--	--	--
047	7.200	-1,8	5,0	6,8	15,3	5,0	13,5	5,5	14,0	15,9	24,4	2,9	1,9	2,9	2,9	8,0	7,8	6,8	--	--	--
	9.000	-2,5	7,0	9,2	19,9	6,7	17,4	7,0	17,6	19,9	30,5	4,1	2,7	4,1	4,5	12,5	12,2	10,6	--	--	--
	10.800	-3,8	9,3	11,9	24,7	8,1	20,9	8,4	21,2	23,8	36,7	5,5	3,6	5,5	6,5	18,0	17,5	15,2	--	--	--
052	9.600	-1,7	4,5	6,2	14,1	4,5	12,4	5,1	13,0	14,8	22,7	2,6	1,2	2,4	3,1	--	--	--	6,4	6,2	--
	12.000	-2,2	6,3	8,4	18,3	6,2	16,1	6,5	16,4	18,5	28,4	3,7	1,6	3,4	4,8	--	--	--	10,1	9,7	--
	14.400	-3,2	8,3	10,8	22,7	7,6	19,5	7,8	19,8	22,2	34,2	4,9	2,2	4,6	6,9	--	--	--	14,5	13,9	--
058	10.000	-1,8	4,7	6,6	14,8	4,8	13,0	5,4	13,6	15,4	23,7	2,7	1,2	2,5	3,3	--	--	--	7,1	6,4	--
	12.500	-2,4	6,7	8,9	19,2	6,5	16,8	6,8	17,1	19,3	29,6	3,9	1,7	3,6	5,2	--	--	--	11,1	10,1	--
	15.000	-3,5	8,9	11,4	23,9	7,9	20,3	8,2	20,6	23,1	35,6	5,3	2,3	4,9	7,5	--	--	--	16,0	14,5	--
062	10.000	-1,8	4,7	6,6	14,8	4,8	13,0	5,4	13,6	15,4	23,7	2,7	1,2	2,5	3,3	--	--	--	7,1	6,4	--
	12.500	-2,4	6,7	8,9	19,2	6,5	16,8	6,8	17,1	19,3	29,6	3,9	1,7	3,6	5,2	--	--	--	11,1	10,1	--
	15.000	-3,5	8,9	11,4	23,9	7,9	20,3	8,2	20,6	23,1	35,6	5,3	2,3	4,9	7,5	--	--	--	16,0	14,5	--
070	12.400	-1,8	4,6	6,4	14,5	4,6	12,7	5,3	13,3	15,1	23,2	2,7	1,2	2,6	3,1	--	--	--	--	4,6	6,7
	15.500	-2,3	6,5	8,6	18,7	6,3	16,5	6,6	16,7	18,9	29,0	3,8	1,7	3,7	4,9	--	--	--	--	7,2	10,5
	18.600	-3,4	8,6	11,1	23,3	7,7	19,9	8,0	20,2	22,7	34,9	5,1	2,3	5,0	7,0	--	--	--	--	10,4	15,1
074	12.400	-1,8	4,6	6,4	14,5	4,6	12,7	5,3	13,3	15,1	23,2	2,7	1,2	2,6	3,1	--	--	--	--	4,6	6,7
	15.500	-2,3	6,5	8,6	18,7	6,3	16,5	6,6	16,7	18,9	29,0	3,8	1,7	3,7	4,9	--	--	--	--	7,2	10,5
	18.600	-3,4	8,6	11,1	23,3	7,7	19,9	8,0	20,2	22,7	34,9	5,1	2,3	5,0	7,0	--	--	--	--	10,4	15,1
086	12.800	-1,8	4,8	6,7	15,0	4,9	13,2	5,4	13,7	15,6	23,9	2,8	1,3	2,7	3,3	--	--	--	--	4,9	7,1
	16.000	-2,4	6,8	9,0	19,4	6,6	17,0	6,9	17,3	19,5	30,0	4,0	1,8	3,9	5,2	--	--	--	--	7,6	11,1
	19.200	-3,6	9,1	11,6	24,2	7,9	20,6	8,2	20,9	23,4	36,0	5,4	2,4	5,2	7,5	--	--	--	--	11,0	15,9
093	12.800	-1,8	4,8	6,7	15,0	4,9	13,2	5,4	13,7	15,6	23,9	2,8	1,3	3,0	3,3	--	--	--	--	4,9	7,1
	16.000	-2,4	6,8	9,0	19,4	6,6	17,0	6,9	17,3	19,5	30,0	4,0	1,8	4,3	5,2	--	--	--	--	7,6	11,1
	19.200	-3,6	9,1	11,6	24,2	7,9	20,6	8,2	20,9	23,4	36,0	5,4	2,4	5,8	7,5	--	--	--	--	11,0	15,9

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

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

Abbreviations:

l.p.d. = low pressure drop

H.W.C. = hot water coil

E.H. = electrical heaters

DIMENSIONAL DRAWINGS

50FF 020-028, B1 assembly

50FF	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
020	B1	1.083	971	554	594	93	154	84	70	131	61
028	B1	1.066	959	567	617	98	158	83	77	137	62

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

Lateral air return

Condensate outlet 1/2"

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

50FF 037-040-045-047, B1 assembly

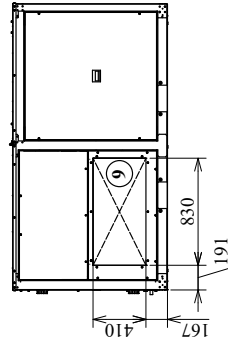
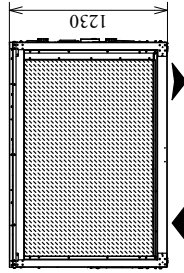
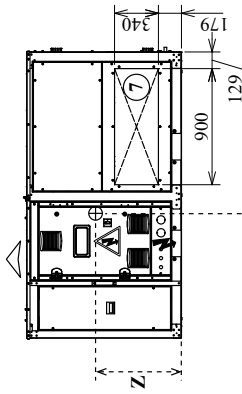
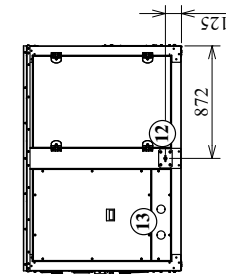
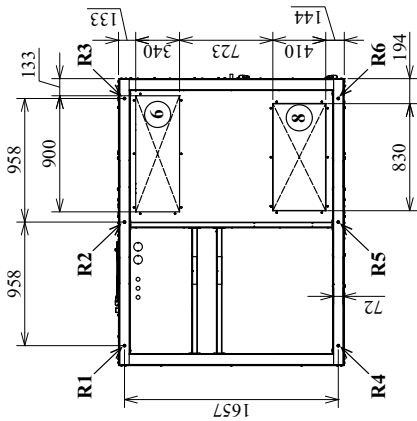
50FF	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
037	B1	1.048	989	572	699	119	183	95	87	151	63
040	B1	1.050	988	572	698	118	183	95	86	151	64
045	B1	1.049	987	579	704	119	185	96	87	153	64
047	B1	1.049	989	576	701	119	184	96	87	152	64

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
-  Lateral air return
-  Condensate outlet 1/2"
-  HWC connections (option)

Anti-vibration anchoring: rivet nut M12



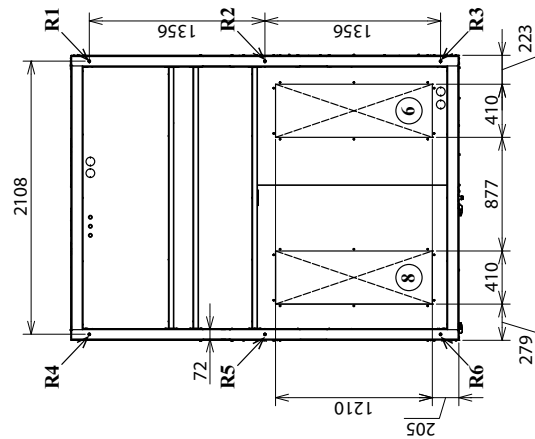
NOTES:

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

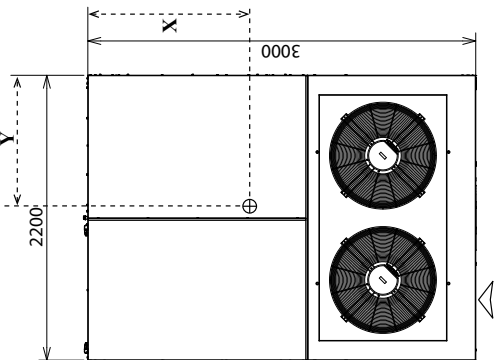
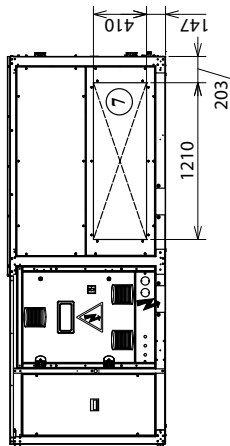
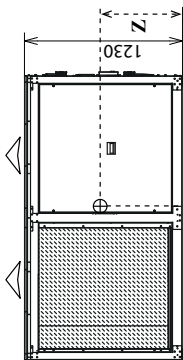
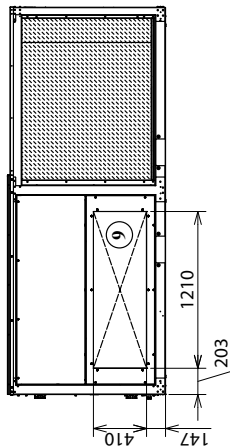
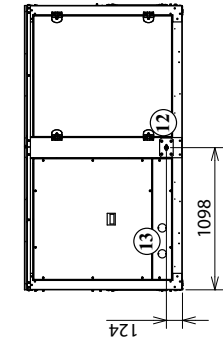
DIMENSIONAL DRAWINGS

50FF 052-058-062, B1 assembly

50FF	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
052	B1	1.623	1.046	564	147	227	106	132	211	91
058	B1	1.623	1.046	564	150	230	108	134	215	92
062	B1	1.631	1.040	563	154	233	108	136	215	90



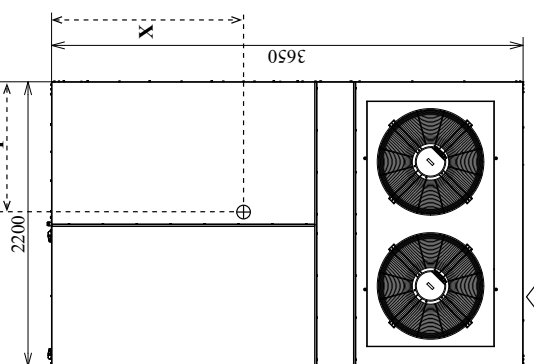
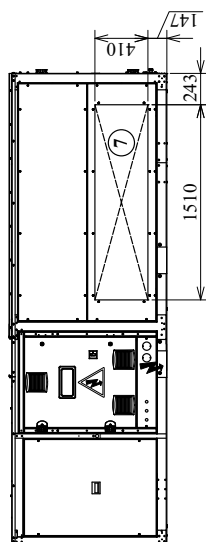
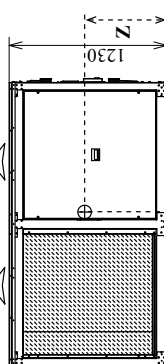
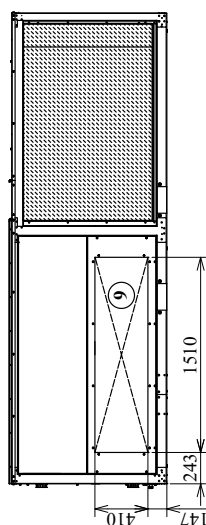
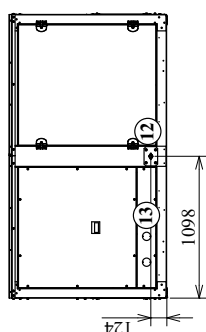
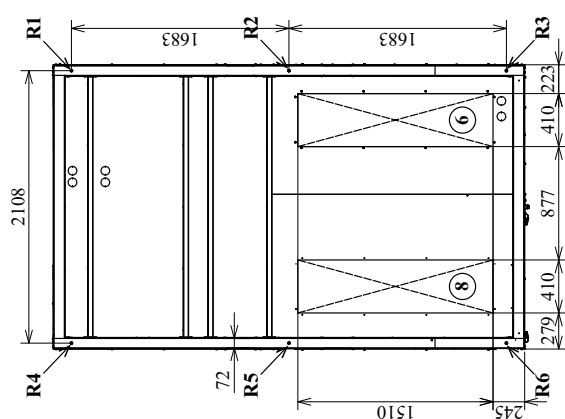
- Legend**
All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lower air return
 - Lateral air return
 - Condensate outlet 1/2" M
 - HWC connections (option)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



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

50FF 070-074-086-093, B1 assembly

50FF	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
070	B1	2.022	1.054	564	1.035	173	256	112	158	241	97
074	B1	2.022	1.054	564	1.059	176	261	115	161	246	99
086	B1	2.006	1.055	572	1.057	174	261	117	158	246	102
093	B1	2.016	1.048	569	1.078	180	267	119	162	249	101



All dimensions are given in mm.

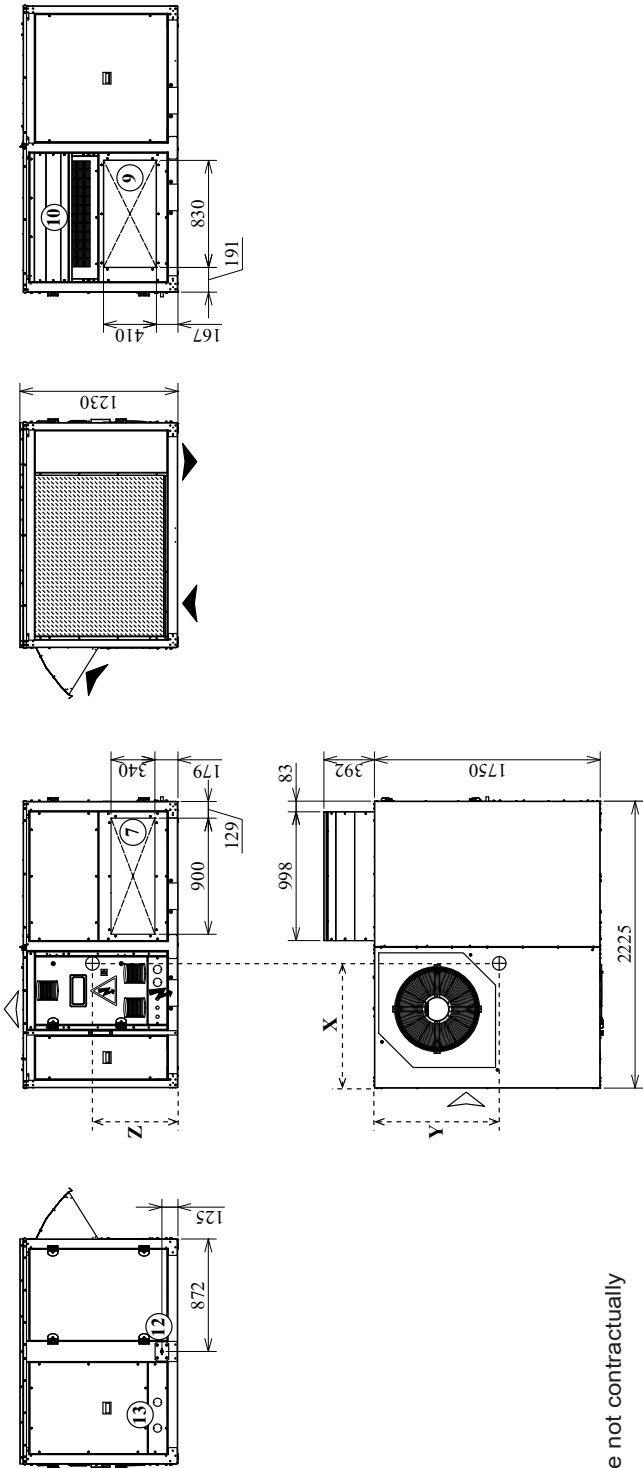
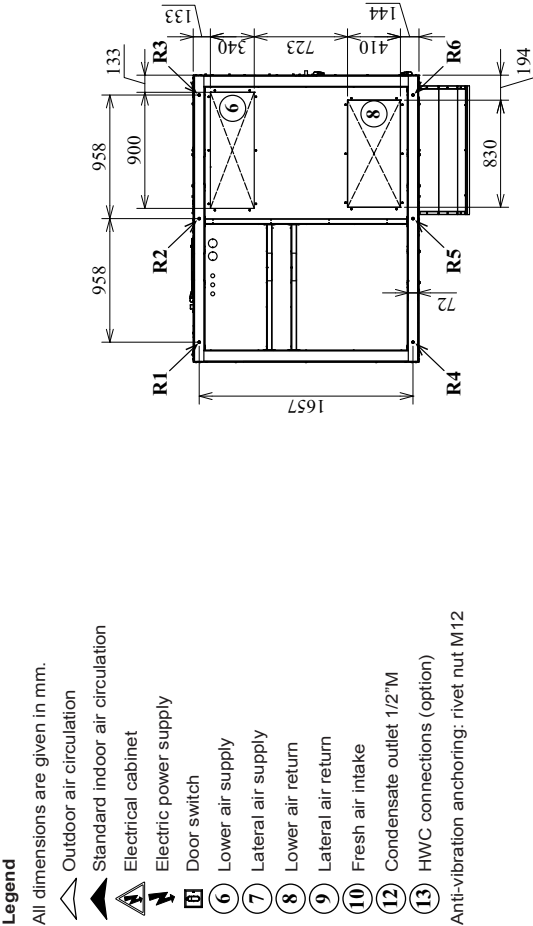
-  Outdoor air circulation
 -  Standard indoor air circulation
 -  Electrical cabinet
 -  Electric power supply
 -  Door switch
 -  6 Lower air supply
 -  7 Lateral air supply
 -  8 Lower air return
 -  9 Lateral air return
 -  12 Condensate outlet 1/2"M
 -  13 HWC connections (option)
- Anti-vibration anchoring: rivet nut M12

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

DIMENSIONAL DRAWINGS

50FF 020-028, B2 assembly

50FF	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
020	B2	1.104	947	558	609	90	155	87	72	137	69
028	B2	1.087	936	570	632	94	159	86	79	144	70



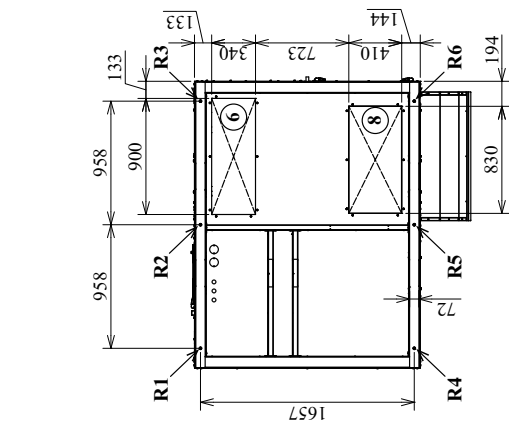
NOTES:

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

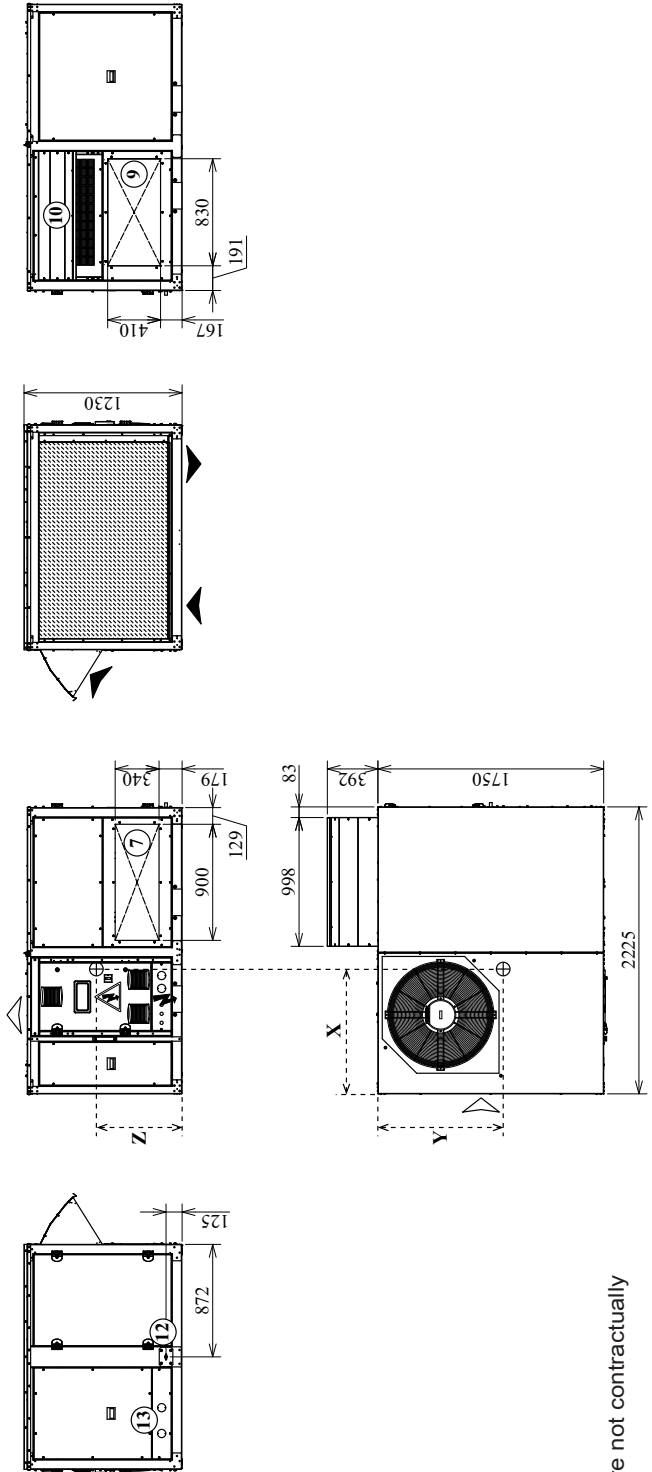
DIMENSIONAL DRAWINGS

50FF 037-040-045-047, B2 assembly

50FF	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
037	B2	1.065	967	571	718	116	185	98	89	159	71
040	B2	1.065	967	571	718	116	185	98	89	159	71
045	B2	1.064	966	581	718	116	185	98	89	159	71
047	B2	1.064	968	575	720	116	186	98	89	159	71



- 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
 - Lateral air return
 - Fresh air intake
 - Condensate outlet 1/2\"M
 - HWC connections (option)
 - Anti-vibration anchoring: rivet nut M12

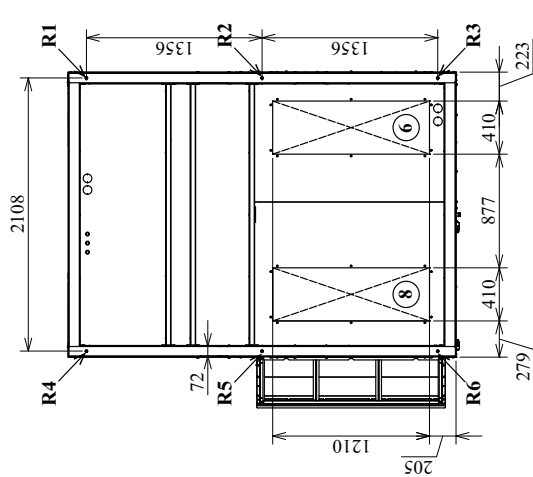


- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

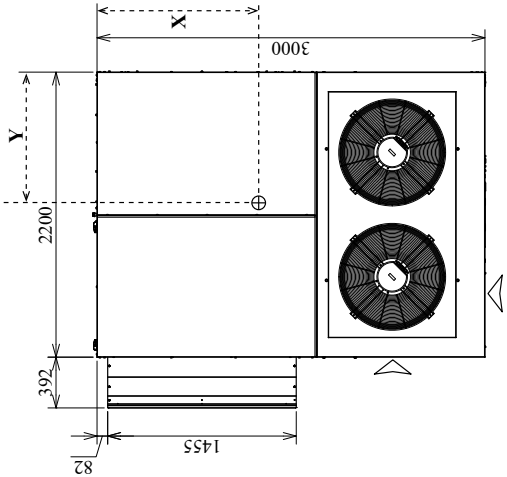
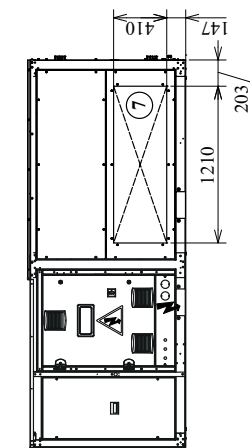
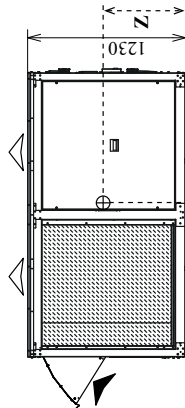
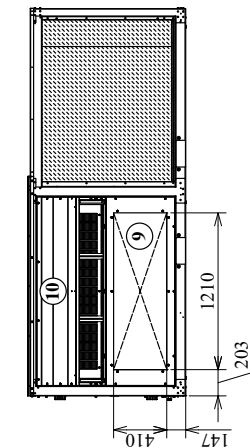
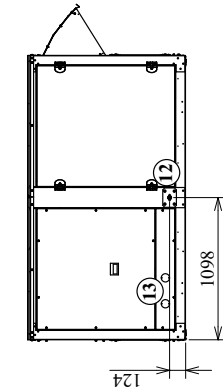
DIMENSIONAL DRAWINGS

50FF 052-058-062, B2 assembly

50FF	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z	X	Y	Z	R1	R2	R3	R4	R5	R6
052	B2	1.604	1.067	562	946	110	136	222	100	102	101	101	101
058	B2	1.607	1.070	561	967	111	140	227	102	102	102	102	102
062	B2	1.613	1.066	561	969	111	141	227	101	101	101	101	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
 - Lower air return
 - Lateral air return
 - Fresh air intake
 - Condensate outlet 1/2" M
 - HWC connections (option)
 - Anti-vibration anchoring: rivet nut M12

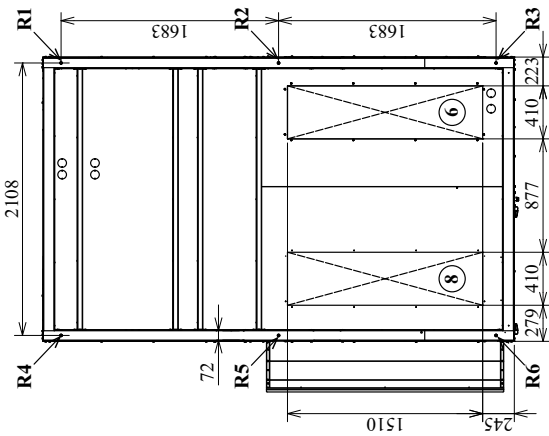


- NOTES:**
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 - Before designing an installation, consult the certified dimensional drawings, available on request.

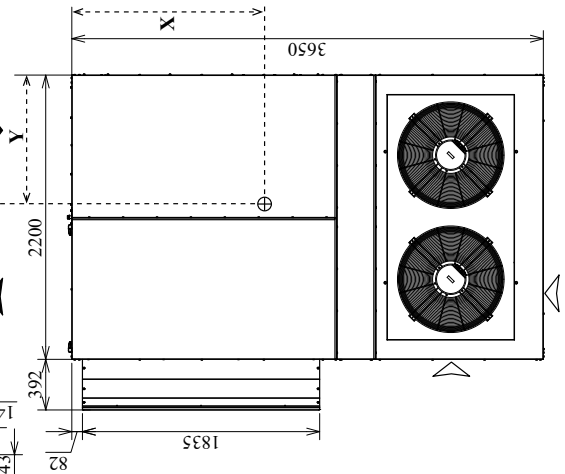
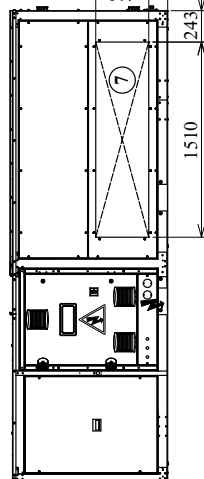
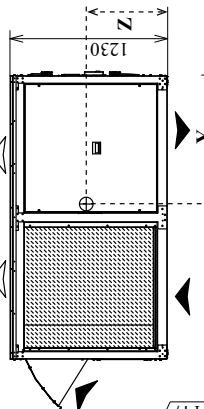
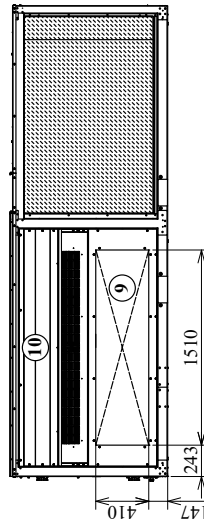
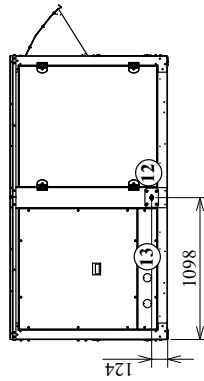
DIMENSIONAL DRAWINGS

50FF 070-074-086-093, B2 assembly

50FF	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6			
070	B2	1.991	1.080	563	169	260	116	162	253	110			
074	B2	1.991	1.080	563	173	265	119	166	259	112			
086	B2	1.983	1.074	569	176	271	123	166	262	114			
093	B2	1.986	1.074	568	176	271	123	167	262	114			



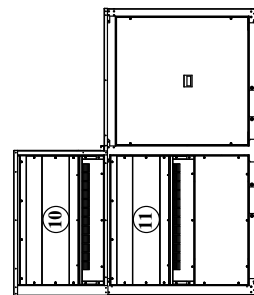
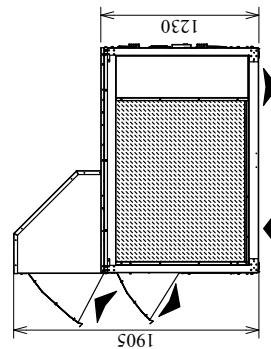
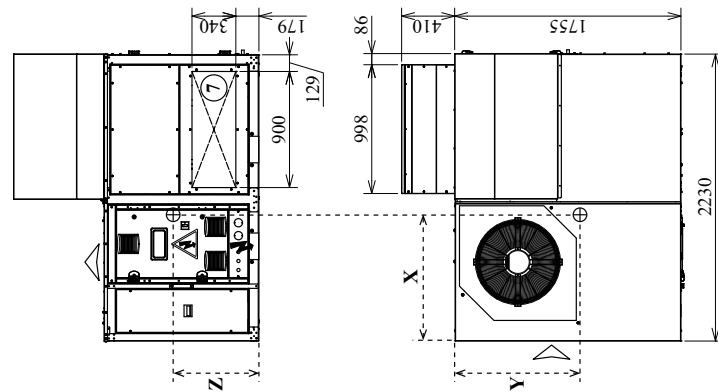
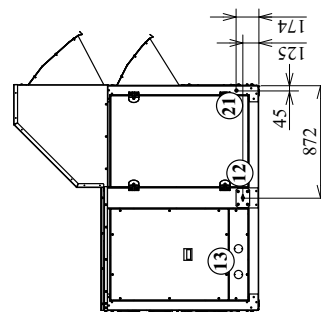
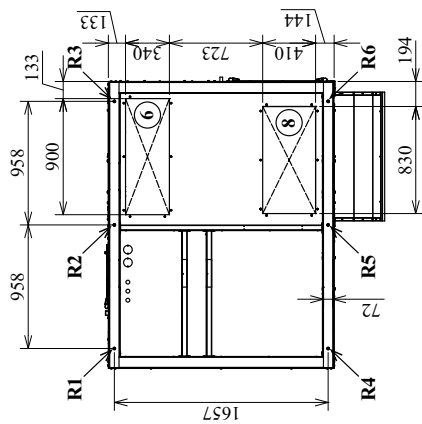
- Legend**
 All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lower air return
 - Lateral air return
 - Fresh air intake
 - Condensate outlet 1/2" M
 - 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.

50FF 020-028, B3, BX, BP and BA assemblies

50FF	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
020	B3	1.162	882	629	682	82	165	99	79	162	96
	BX	1.183	860	615	713	79	169	104	82	173	107
	BP	1.187	853	617	723	78	170	105	83	176	110
	BA	1163	816	613	781	83	178	103	101	196	120
028	B3	1.145	874	638	705	87	169	98	86	169	97
	BX	1.165	854	624	736	83	174	103	89	179	108
	BP	1.170	847	626	746	83	175	104	90	182	112
	BA	1148	811	620	804	88	183	102	108	203	121



Legend

All dimensions are given in mm.

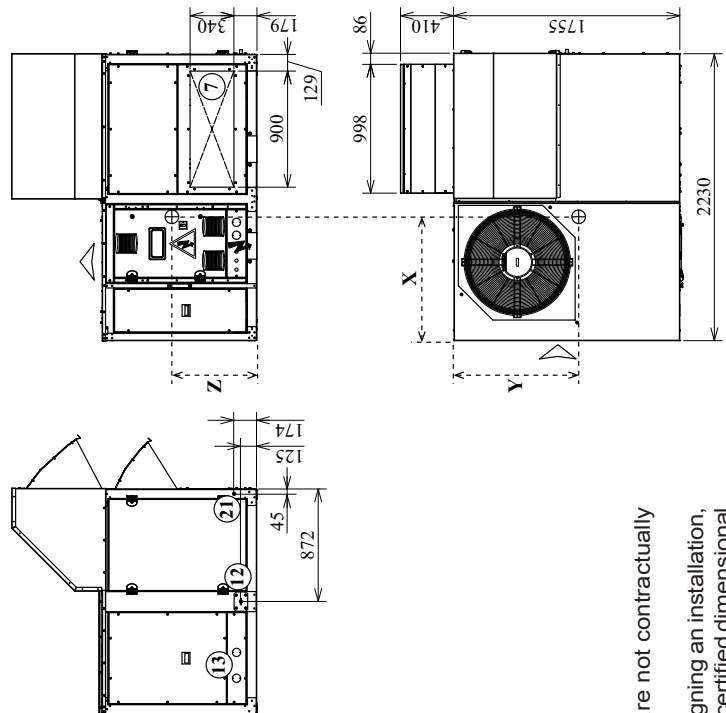
- △ Outdoor air circulation
- ▲ Standard indoor air circulation
- ▲ Electrical cabinet
- ⚡ Electric power supply
- ⏻ Door switch
- ⑥ Lower air supply
- ⑦ Lateral air supply
- ⑧ Lower air return
- ⑩ Fresh air intake
- ⑪ Exhaust air outlet
- ⑫ Condensate outlet 1/2" M
- ⑬ HWC connections (option)
- ⑰ Recovery 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.

50FF 037-040-045-047, B3, BX, BP and BA assemblies



All dimensions are given in mm.

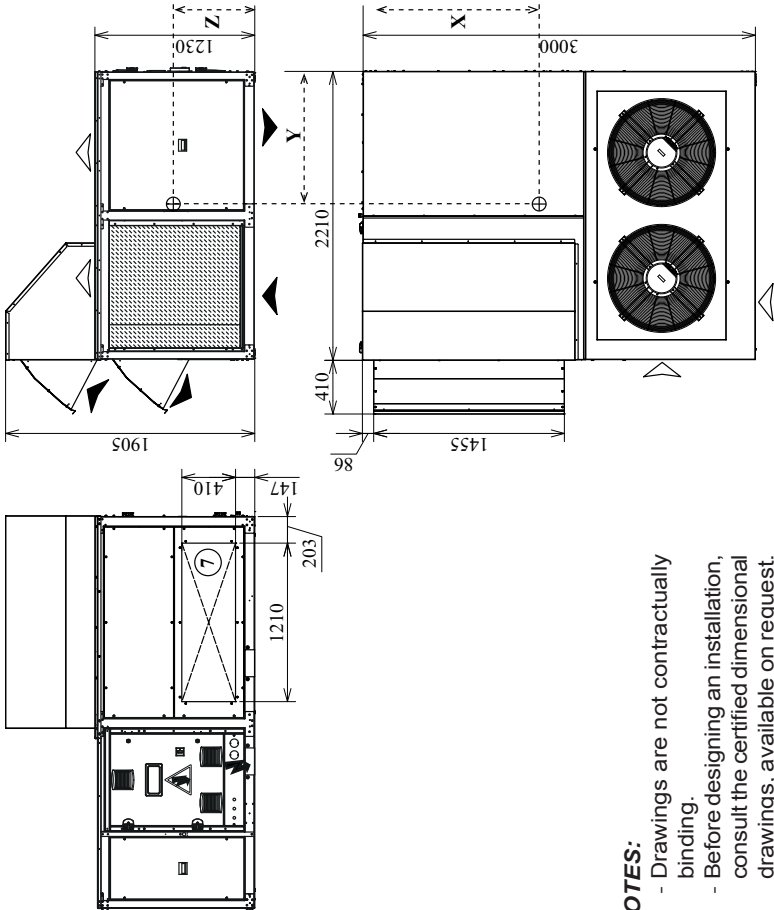
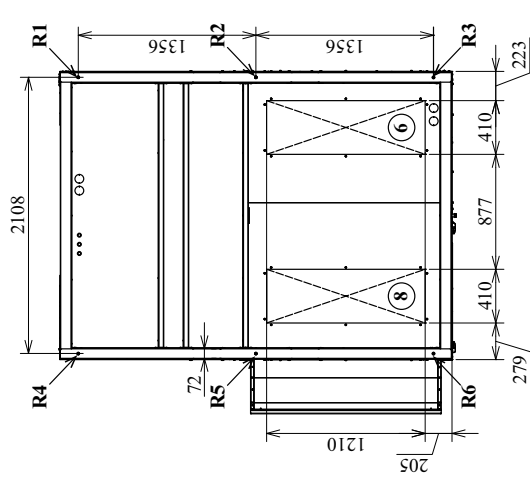
- Outdoor air circulation
- Standard indoor air circulation
- Electrical cabinet
- Electric power supply
- Door switch
- Lower air supply
- Lateral air supply
- Lower air return
- Fresh air intake
- Exhaust air outlet
- Condensate outlet 1/2" M
- HWC connections (option)
- Recovery circuit condensate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

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

DIMENSIONAL DRAWINGS

50FF 052-058-062, B3, BX, BP and BA assemblies

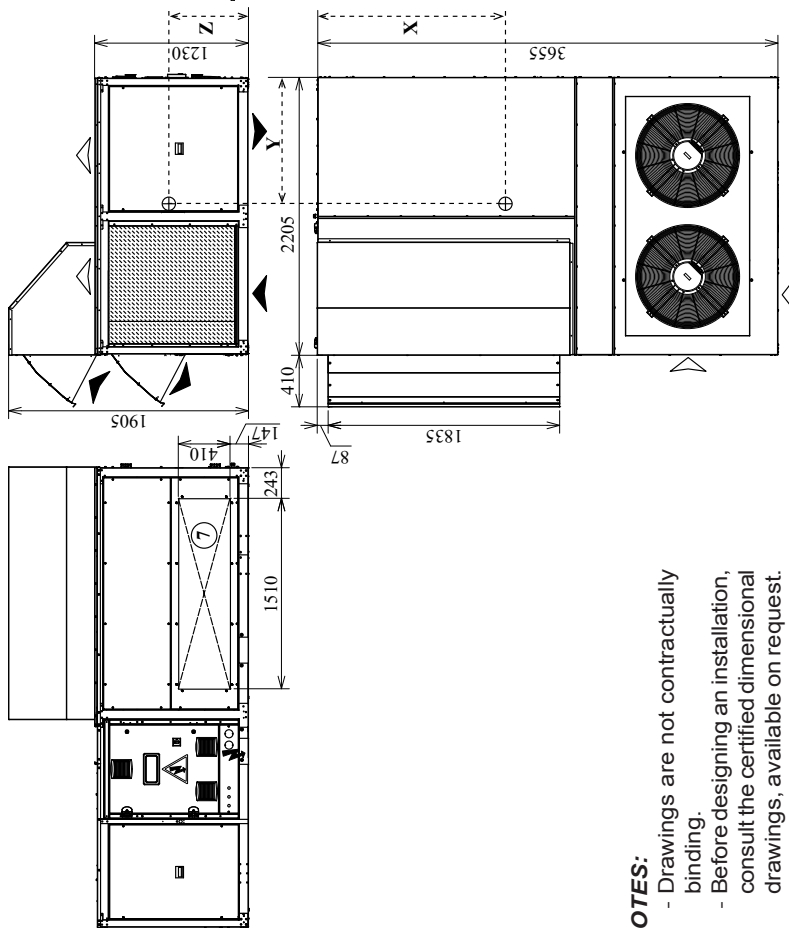
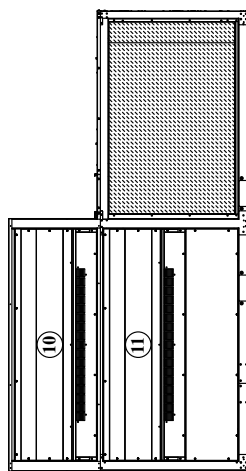
50FF	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
052	B3	1.524	1.138	622	135	245	126	147	257	138
	BX	1.506	1.153	608	135	253	132	152	270	149
	BP	1.488	1.167	609	132	257	137	155	280	160
058	BA	1.513	1.204	607	141	271	135	180	310	174
	B3	1.524	1.138	622	137	248	128	149	260	140
	BX	1.509	1.155	607	137	257	133	156	275	152
062	BP	1.491	1.170	608	135	261	138	159	285	163
	BA	1.516	1.206	606	144	275	137	184	315	177
	B3	1.533	1.131	620	141	252	128	151	261	138
	BX	1.515	1.151	606	140	258	133	156	275	150
	BP	1.497	1.165	607	137	262	138	159	285	161
	BA	1.521	1.201	605	146	276	137	185	315	175



- 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 1/2" 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.

50FF 070-074-086-093, B3, BX, BP and BA assemblies



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

DIMENSIONAL DRAWINGS

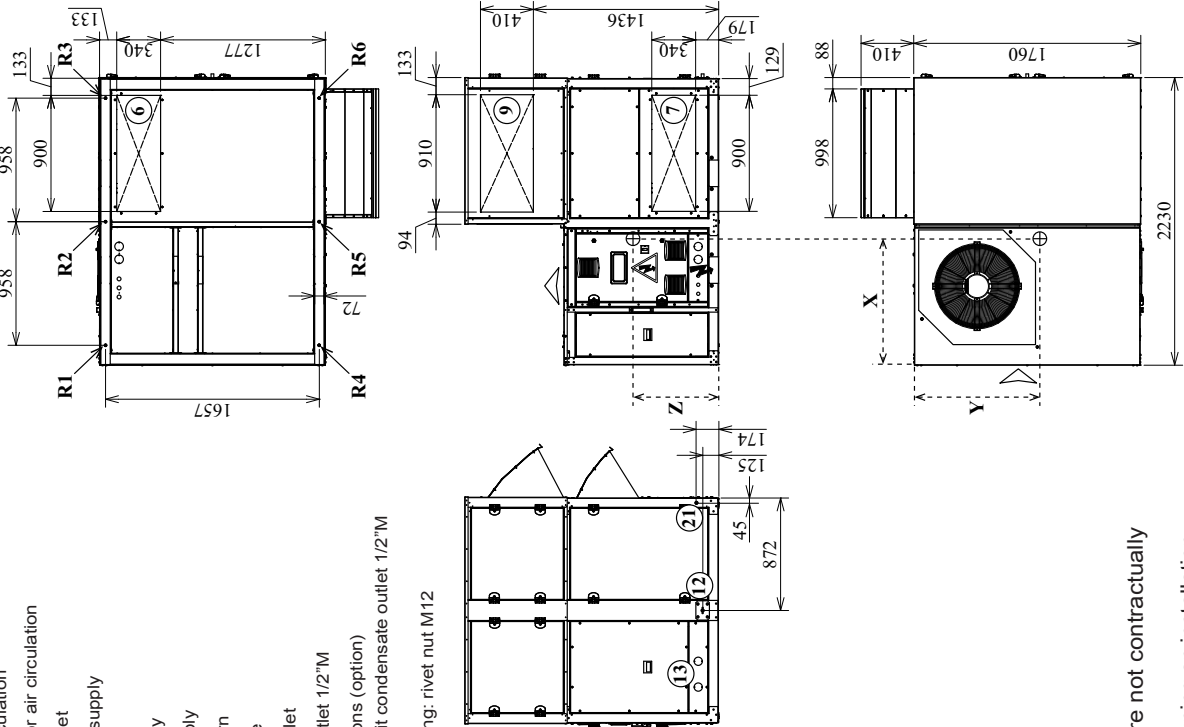
50FF 020-028, BT and BB assemblies

50FF	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z				R1	R2	R3	R4	R5	R6
020	BT	1.222	946	796	774	774	774	91	197	134	67	174	111
	BB	1.200	900	780	832	832	832	98	206	132	84	193	119
028	BT	1.205	937	800	797	797	797	96	202	133	74	180	112
	BB	1.184	893	782	855	855	855	103	211	131	91	199	120

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 1/2" M
- HWC connections (option)
- Recovery circuit condensate outlet 1/2" M
- (BB assembly)
- Anti-vibration anchoring: rivet nut M12



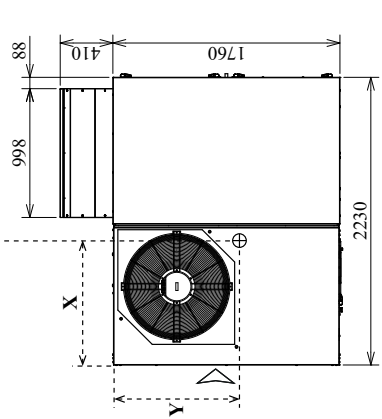
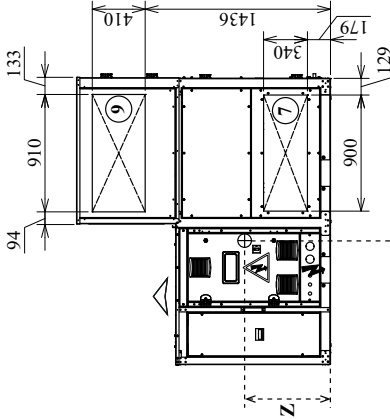
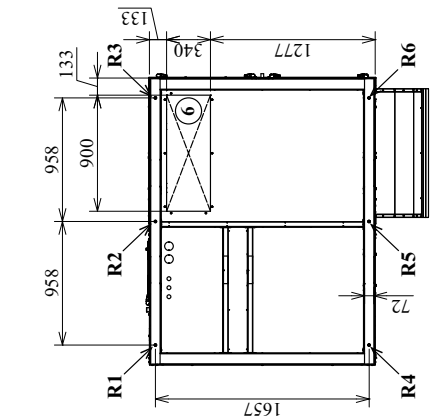
NOTES:

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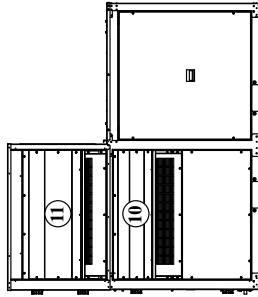
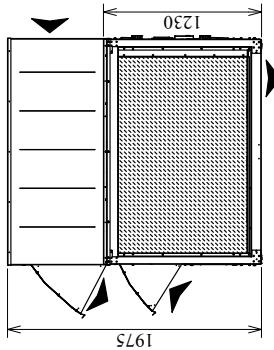
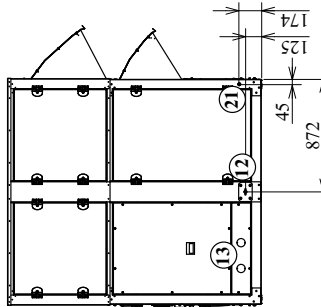
DIMENSIONAL DRAWINGS

50FF 037-040-045-047, BT and BB assemblies

50FF	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6			
037	BT	1.177	963	779	882	117	228	145	84	195	113		
	BB	1.138	901	764	951	124	234	135	112	222	123		
040	BT	1.177	963	779	882	117	228	145	84	195	113		
	BB	1.138	901	764	951	124	234	135	112	222	123		
045	BT	1.176	962	787	882	117	228	145	84	195	113		
	BB	1.138	900	772	951	124	234	135	113	222	123		
047	BT	1.176	963	782	884	118	228	146	85	195	113		
	BB	1.137	902	767	953	125	234	135	113	222	123		



- 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 1/2" M
 - HWC connections (option)
 - Recovery circuit condensate outlet 1/2" M (BB assembly)
 - Anti-vibration anchoring: rivet nut M12

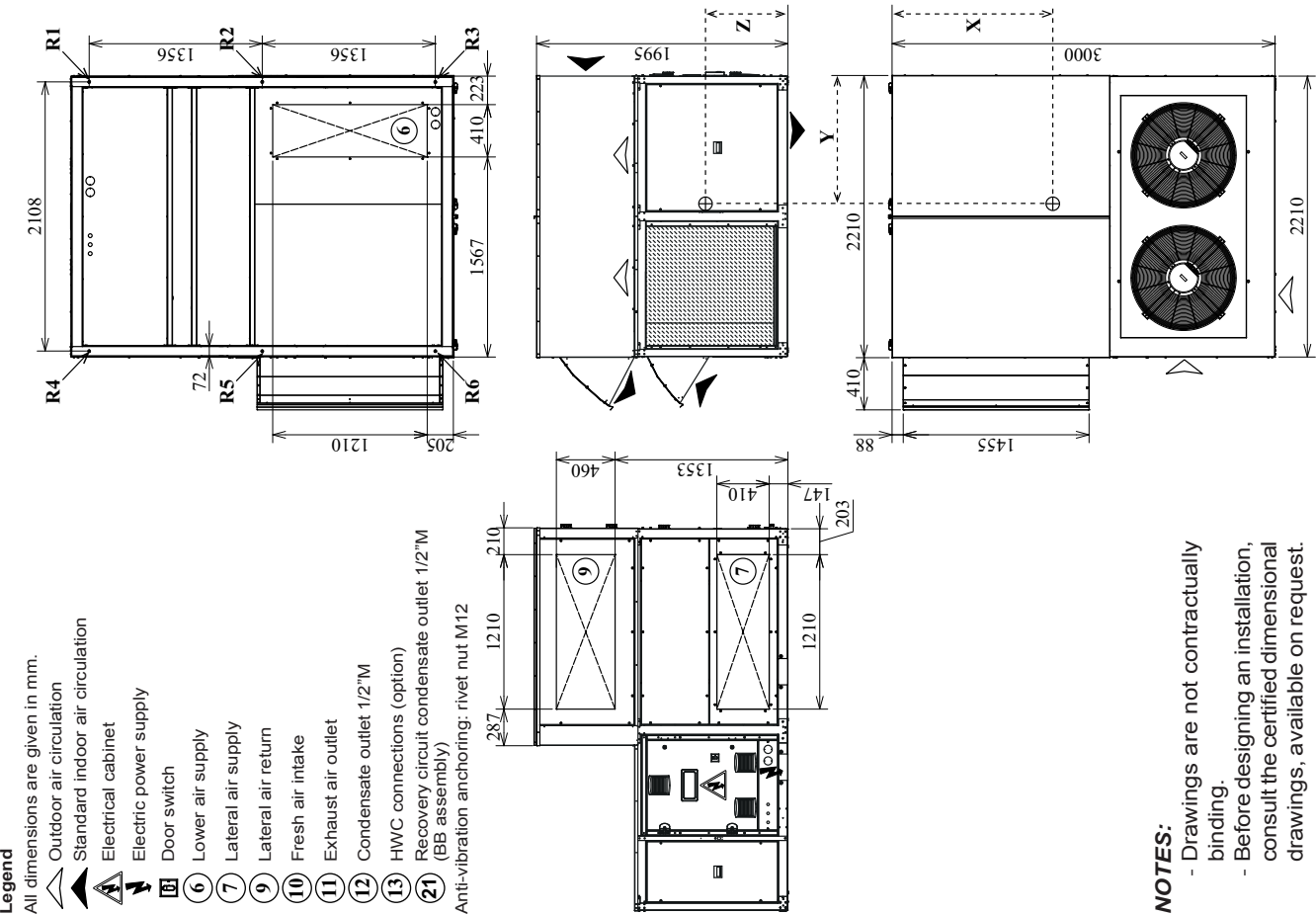


- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FF 052-058-062, BT and BB assemblies

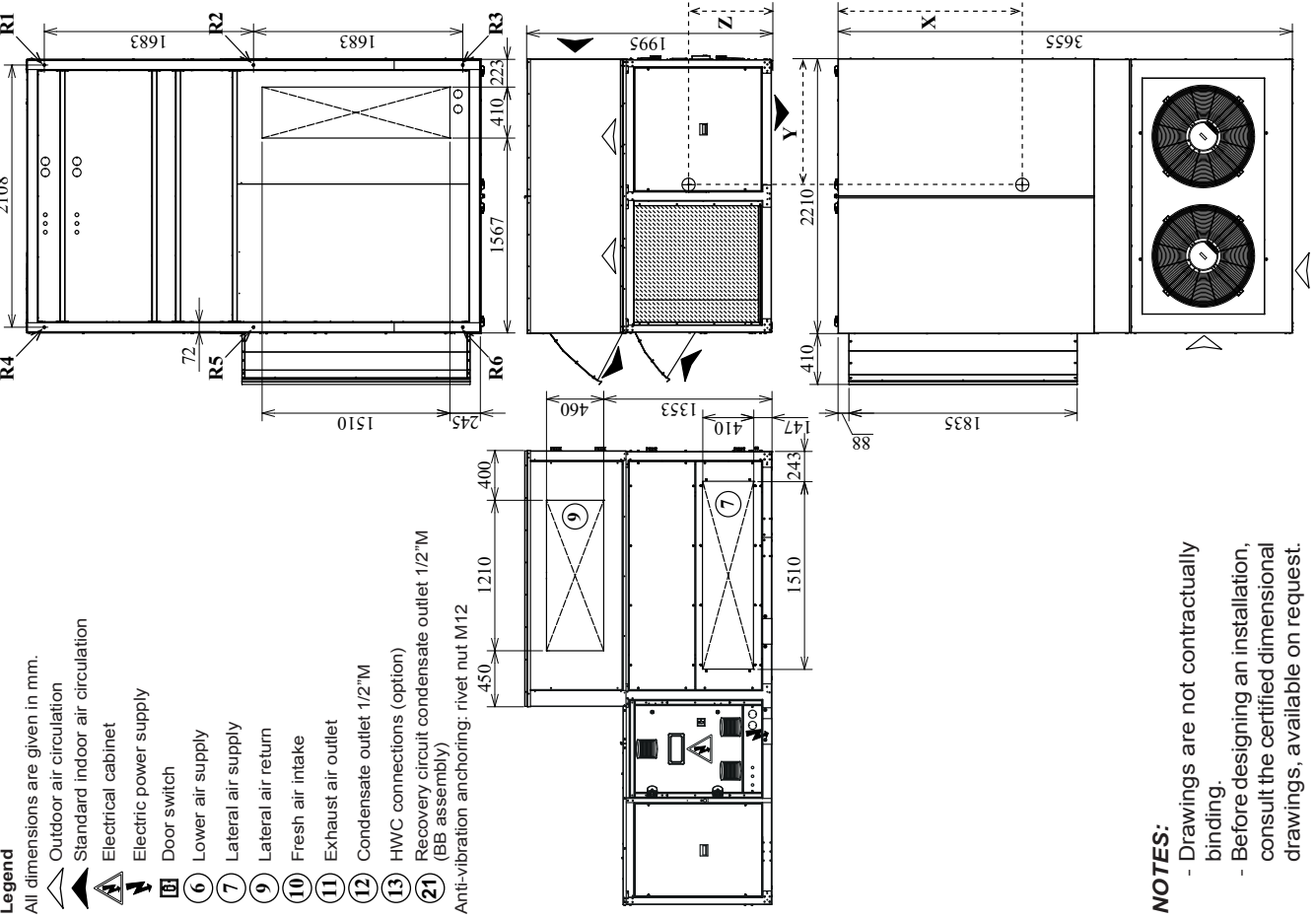
50FF	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z	X	Y	Z	R1	R2	R3	R4	R5	R6
052	BT	1.435	1.047	796	1.213	1.435	796	154	302	184	132	280	162
	BB	1.477	1.068	789	1.304	1.477	789	172	320	183	157	305	168
058	BT	1.435	1.047	796	1.228	1.435	796	156	305	186	134	283	163
	BB	1.480	1.070	787	1.319	1.480	787	174	323	184	160	309	169
062	BT	1.444	1.042	792	1.236	1.444	792	161	309	186	136	284	161
	BB	1.486	1.067	785	1.327	1.486	785	177	326	184	162	310	168



DIMENSIONAL DRAWINGS

50FF 070-074-086-093, BT and BB assemblies

50FF	Assembly	Centre of gravity (mm)			Weight (kg)		Reactions in the supports (kg)					
		X	Y	Z			R1	R2	R3	R4	R5	R6
070	BT	1.798	1.058	787	1.371		184	339	194	163	318	173
	BB	1.819	1.090	771	1.474		195	357	196	188	350	189
074	BT	1.798	1.058	787	1.395		187	345	197	166	324	176
	BB	1.819	1.090	771	1.498		198	362	199	191	355	192
086	BT	1.793	1.053	791	1.413		189	350	202	166	327	179
	BB	1.814	1.085	775	1.516		200	368	204	191	359	195
093	BT	1.795	1.053	789	1.414		190	350	201	167	327	178
	BB	1.817	1.085	774	1.517		201	368	204	191	359	194



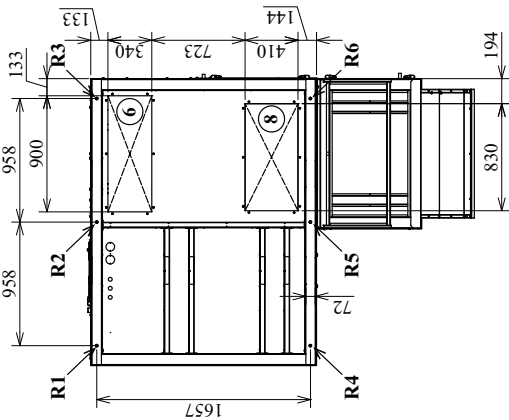
NOTES:

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

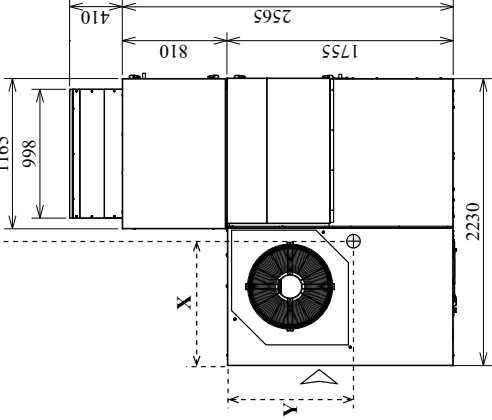
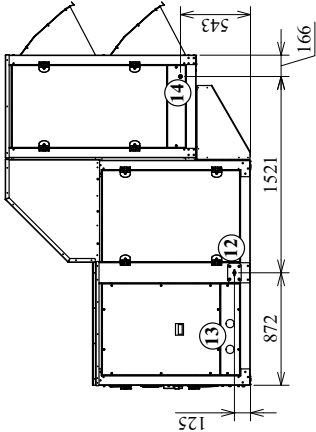
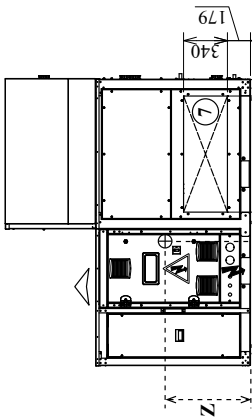
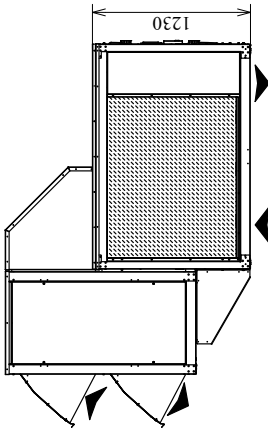
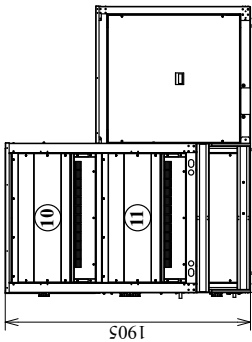
DIMENSIONAL DRAWINGS

50FF 020-028, BW assembly

50FF	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z				R1	R2	R3	R4	R5	R6
020	BW	1.301	507	719	976	87	242	182	72	226	167		
028	BW	1.286	510	724	999	94	248	183	77	231	166		



- 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 1/2" M
 - HWC connections (option)
 - Wheel condensate outlet 1/2" M
 - Anti-vibration anchoring: rivet nut M12

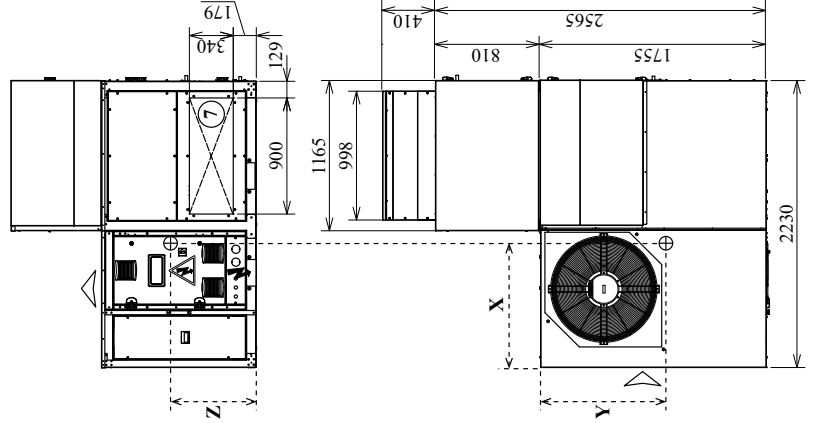
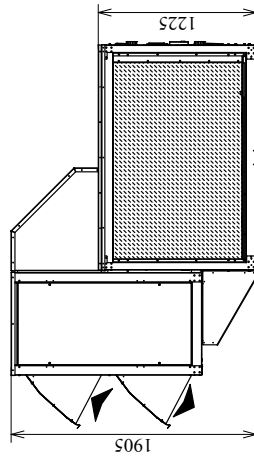
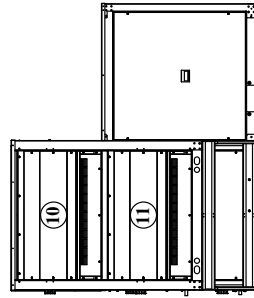
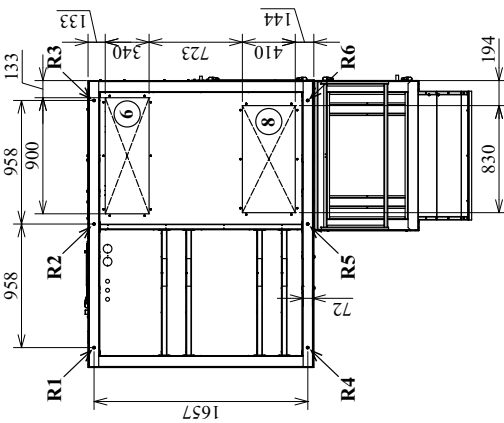


- NOTES:**
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 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FF 037-040-045-047, BW assembly

50FF	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
037	BW	1.258	562	713	122	281	203	81	240	162
040	BW	1.258	562	713	122	281	203	81	240	162
045	BW	1.257	561	719	122	281	203	81	240	161
047	BW	1.257	563	715	123	282	203	81	240	161

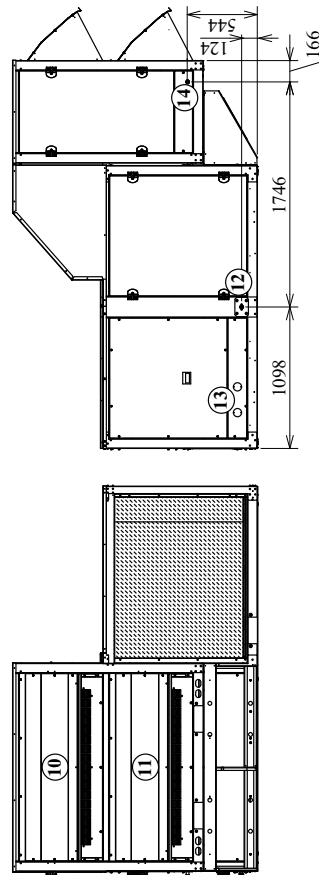
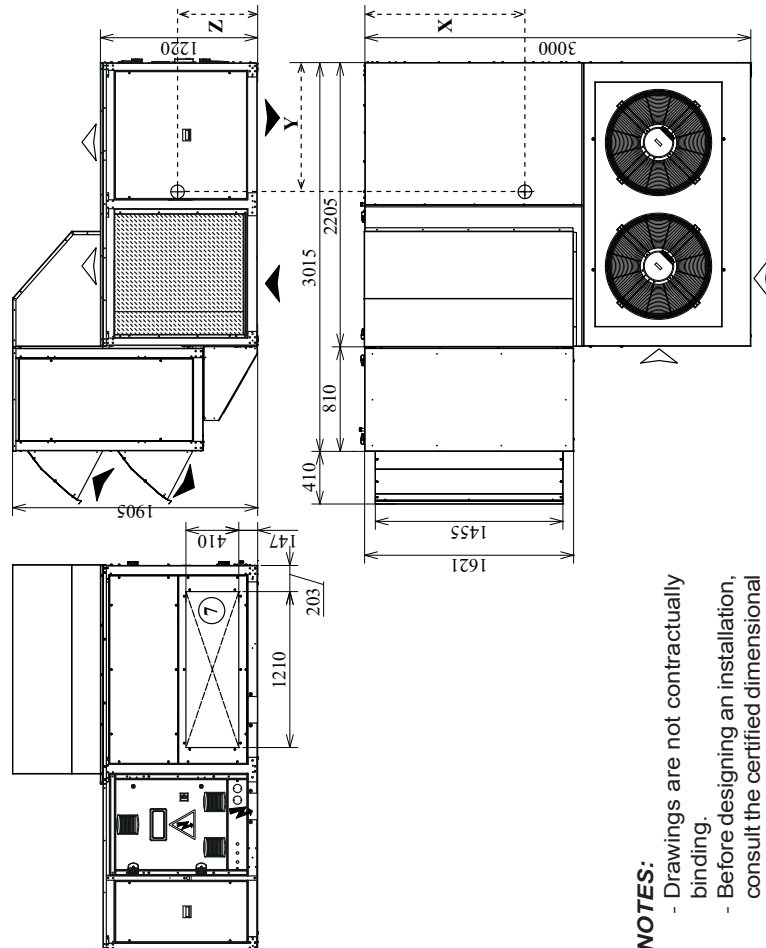
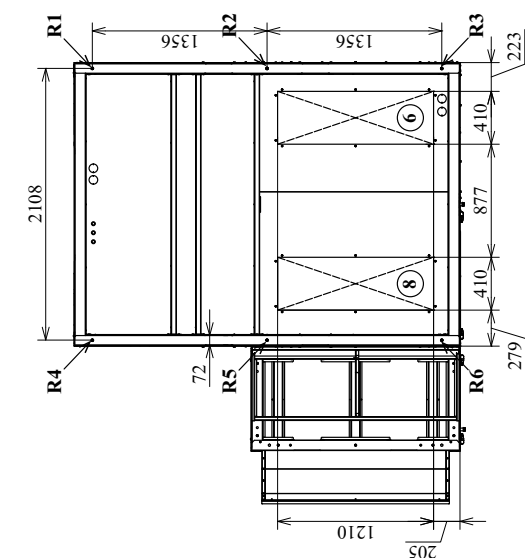


- Legend**
All dimensions are given in mm.
- △ Outdoor air circulation
 - △ Standard indoor air circulation
 - △ Electrical cabinet
 - △ Electric power supply
 - △ Door switch
 - △ Lower air supply
 - △ Lateral air supply
 - △ Lower air return
 - △ Fresh air intake
 - △ Exhaust air outlet
 - △ Condensate outlet 1/2" M
 - △ HWC connections (option)
 - △ Wheel condensate outlet 1/2" 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.

50FF 052-058-062, BW assembly

50FF	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
052	BW	1.339	1.515	696	1.470	146	350	233	150	354	237
058	BW	1.342	1.516	695	1.491	149	355	236	153	359	239
062	BW	1.348	1.509	694	1.493	152	357	236	153	358	237



All dimensions are given in mm.

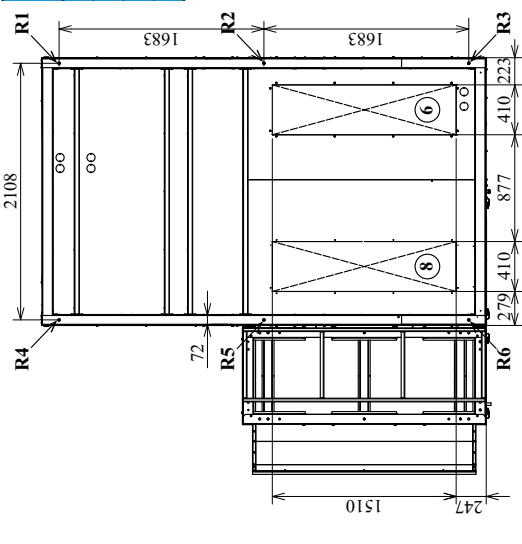
-  Outdoor air circulation
 -  Standard indoor air circulation
 -  Electrical cabinet
 -  Electric power supply
 -  Door switch
 -  6 Lower air supply
 -  7 Lateral air supply
 -  8 Lower air return
 -  10 Fresh air intake
 -  11 Exhaust air outlet
 -  12 Condensate outlet 1/2" M
 -  13 HWC connections (option)
 -  14 Wheel condensate outlet 1/2" M
- Anti-vibration anchoring: rivet nut M12

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

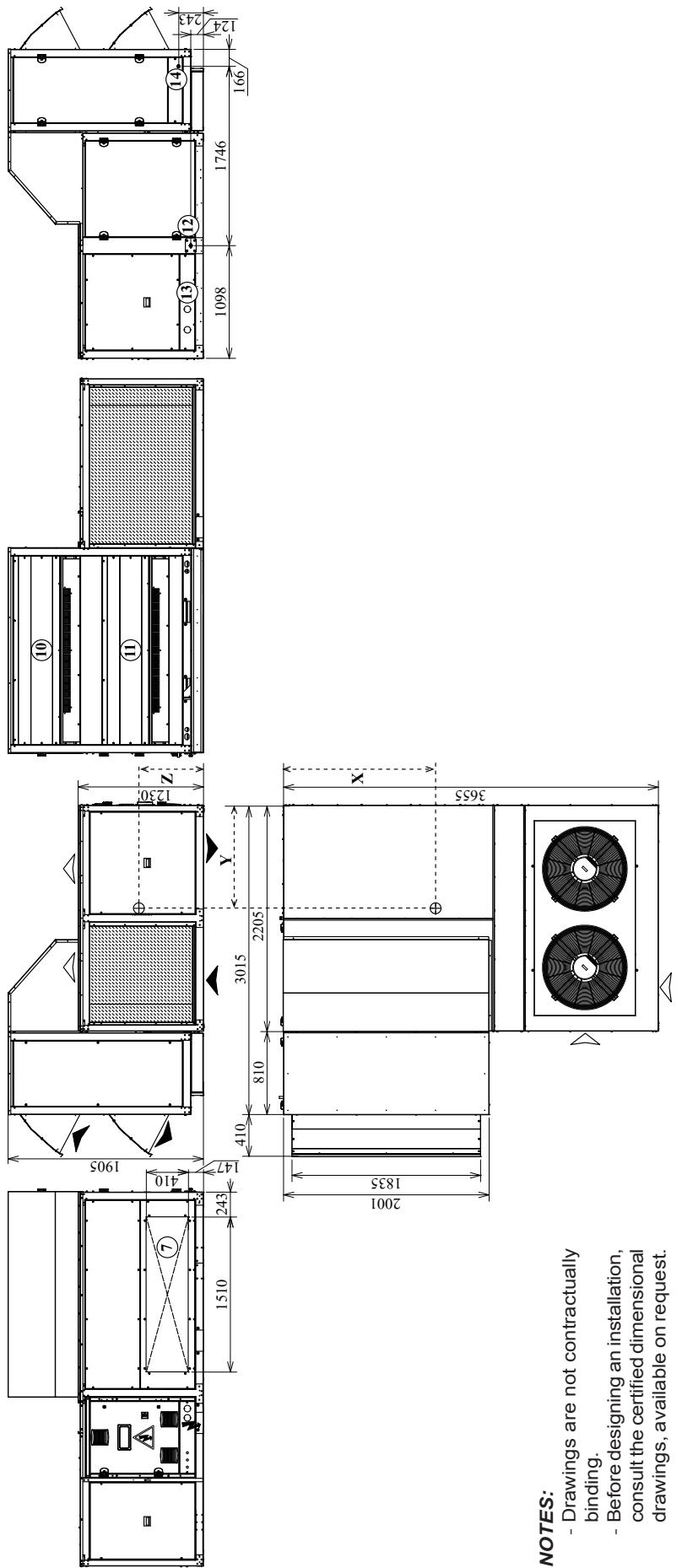
DIMENSIONAL DRAWINGS

50FF 070-074-086-093, BW assembly

	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z				R1	R2	R3	R4	R5	R6
50FF	BW	1.674	1.513	692	1.660	178	396	251	181	399	254		
070	BW	1.674	1.513	692	1.684	181	402	255	183	405	258		
074	BW	1.671	1.506	695	1.702	184	408	260	183	408	260		
086	BW	1.673	1.505	694	1.703	185	409	260	183	407	259		



- 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
 -
 - HWC connections (option)
 -
 - Anti-vibration anchoring: rivet nut M12

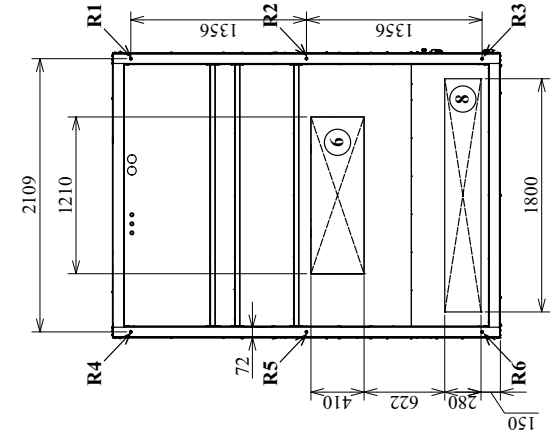


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DIMENSIONAL DRAWINGS

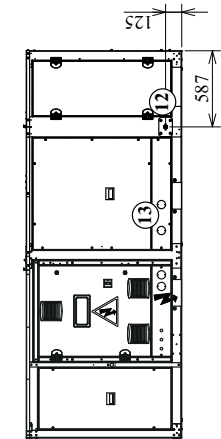
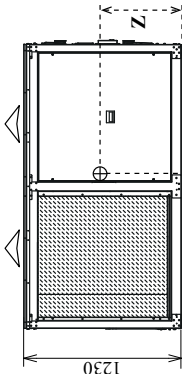
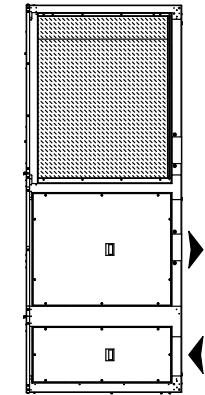
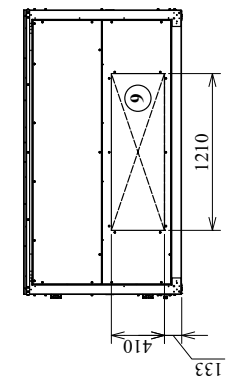
50FF 052-058-062, R1 assembly

50FF	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
052	R1	1.598	1.104	569	144	232	108	145	234	110
058	R1	1.601	1.107	568	147	237	110	149	239	112
062	R1	1.607	1.103	568	149	238	109	150	239	110



Legend
All dimensions are given in mm.

- Outdoor air circulation
- Standard indoor air circulation
- Electrical cabinet
- Electric power supply
- Door switch
- Lower air supply
- Lower air return
- Lateral air return
- Condensate outlet 1/2" M
- HWC connections (option)
- Anti-vibration anchoring: rivet nut M12



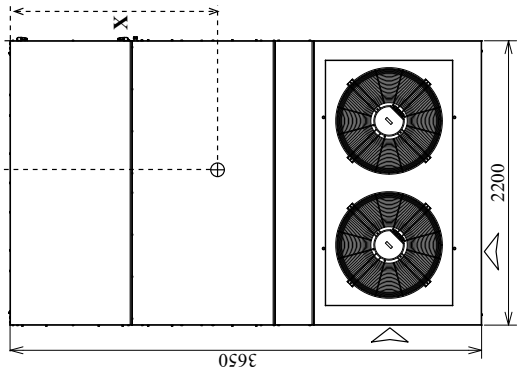
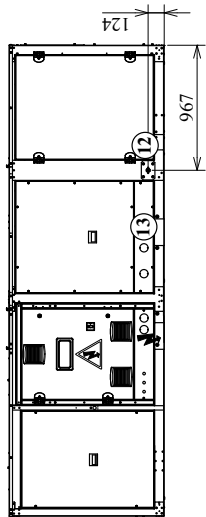
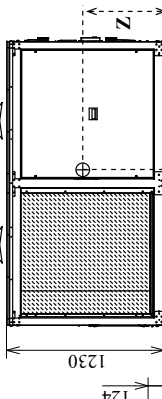
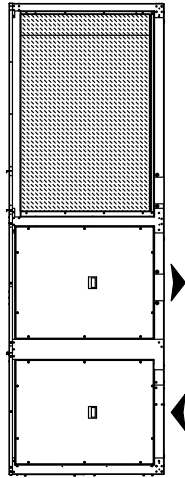
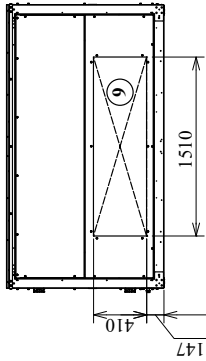
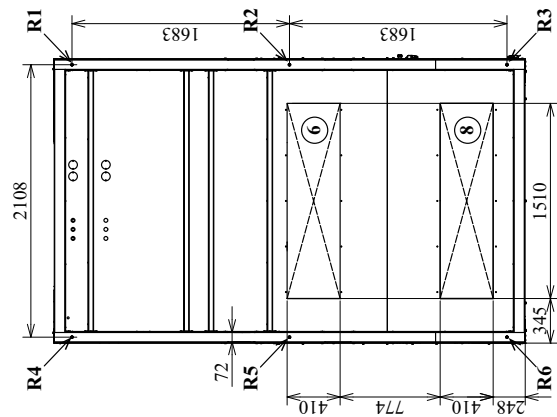
NOTES:

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DIMENSIONAL DRAWINGS

50FF 070-074-086-093, R1 assembly

50FF	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
070	R1	2.043	1.106	571	173	255	104	175	257	105
074	R1	2.043	1.106	571	177	261	106	179	263	108
086	R1	2.042	1.106	578	179	265	108	182	267	110
093	R1	2.044	1.106	577	180	265	107	182	267	110



Legend

All dimensions are given in mm.

- Outdoor air circulation
- Standard indoor air circulation
- Electrical cabinet
- Electric power supply
- Door switch
- Lower air supply
- Lower air return
- Lateral air return
- Condensate outlet 1/2" M
- HWC connections (option)
- Anti-vibration anchoring: rivet nut M12

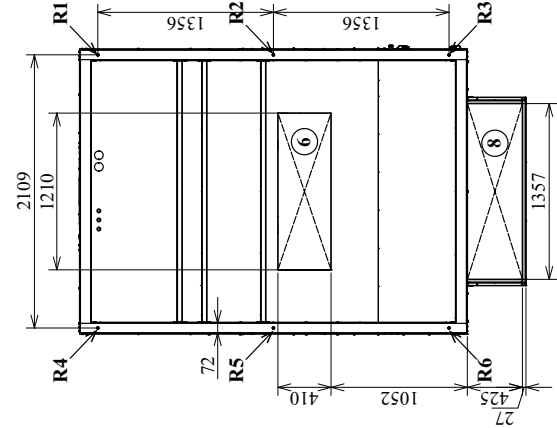
NOTES:

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DIMENSIONAL DRAWINGS

50FF 052-058-062, R2 assembly

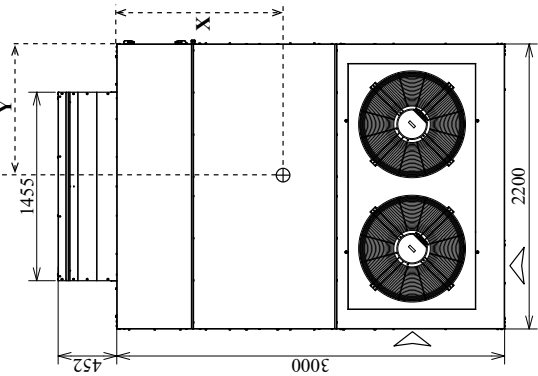
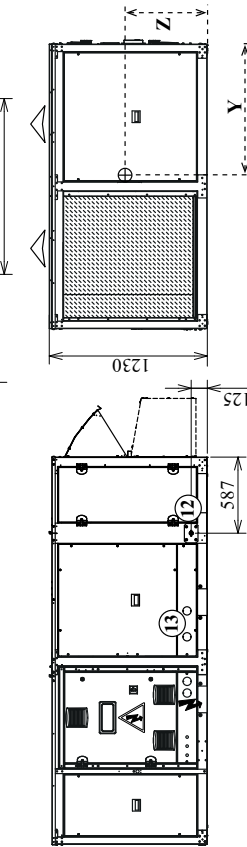
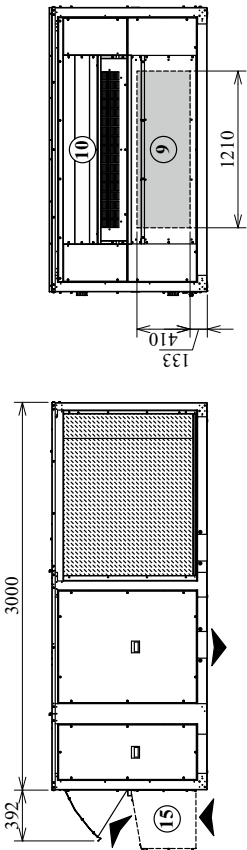
50FF	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
052	R2	1.539	1.103	570	138	242	124	139	243	125
058	R2	1.542	1.106	569	141	246	125	143	248	127
062	R2	1.548	1.102	569	144	247	125	144	248	126



Legend

All dimensions are given in mm.

- Outdoor air circulation
- Standard indoor air circulation
- Electrical cabinet
- Electric power supply
- Door switch
- Lower air supply
- Lower air return
- Lateral air return
- Fresh air intake
- Condensate outlet 1/2" M
- HWC connections (option)
- Enclosure with lower return (on-site configuration)
- Anti-vibration anchoring: rivet nut M12



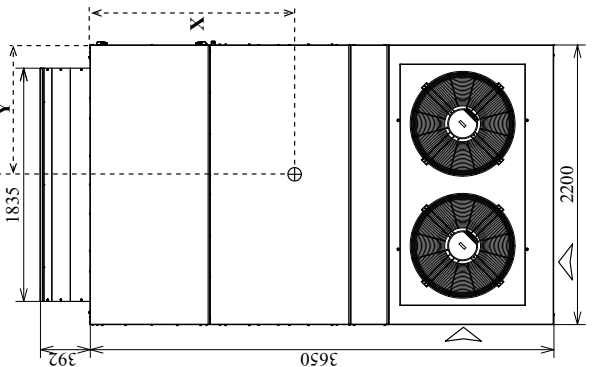
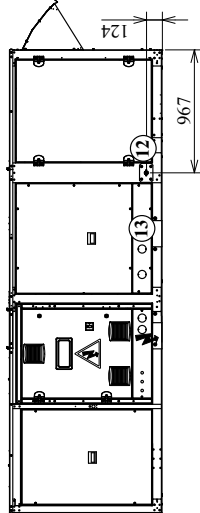
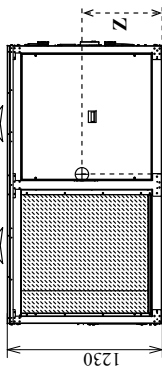
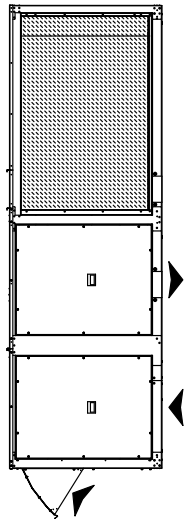
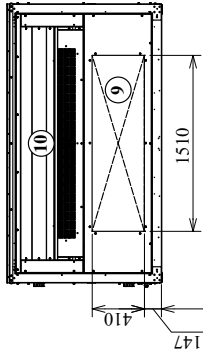
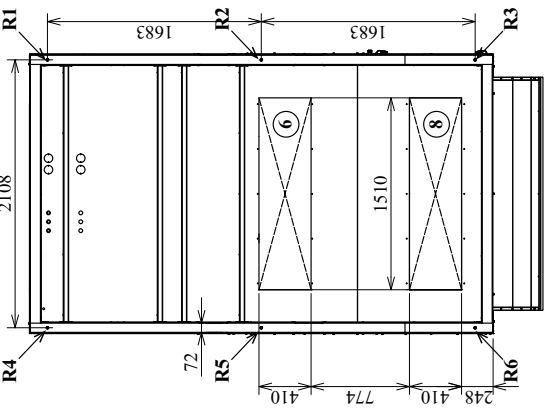
NOTES:

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

DIMENSIONAL DRAWINGS

50FF 070-074-086-093, R2 assembly

50FF	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
070	R2	1.992	1.104	571	171	264	116	172	266	117
074	R2	1.992	1.104	571	174	270	118	176	271	120
086	R2	1.991	1.105	577	177	274	120	178	276	122
093	R2	1.993	1.105	576	177	274	120	179	276	122



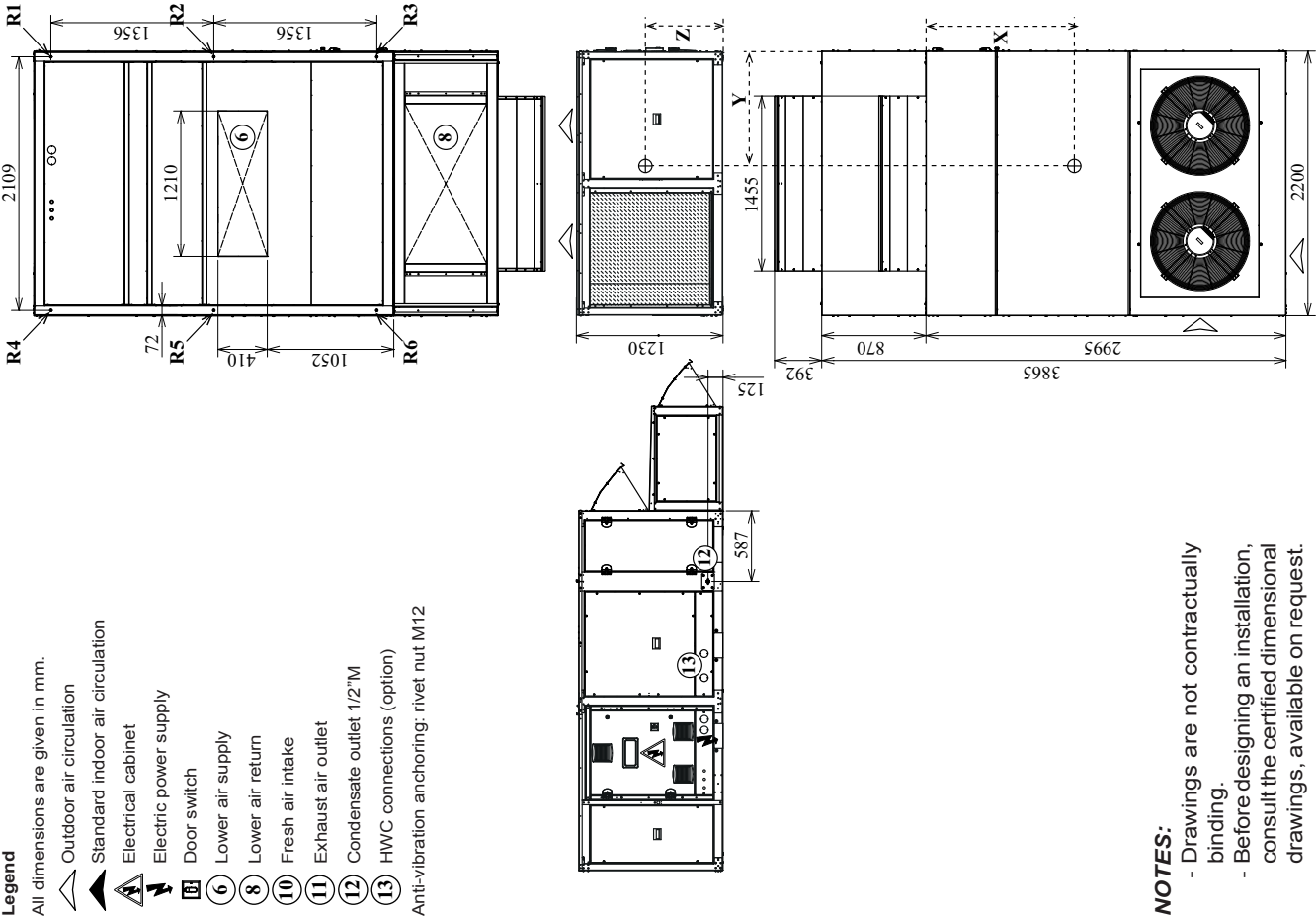
- Legend**
- All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lower air return
 - Lateral air return
 - Fresh air intake
 - Condensate outlet 1/2" M
 - HWC connections (option)
 - 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

50FF 052-058-062, RP assembly

50FF	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z				R1	R2	R3	R4	R5	R6
052	RP	1.268	1.103	535	1.180	197	282	110	198	283	111		
058	RP	1.272	1.105	534	1.201	201	287	110	203	289	112		
062	RP	1.280	1.101	535	1.202	203	288	109	204	288	110		



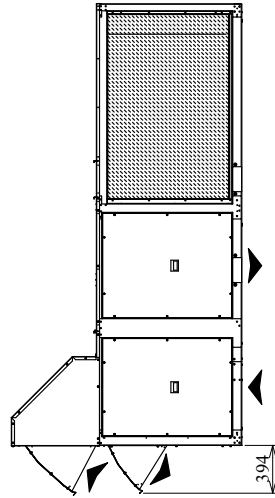
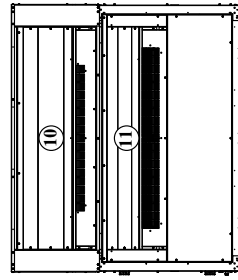
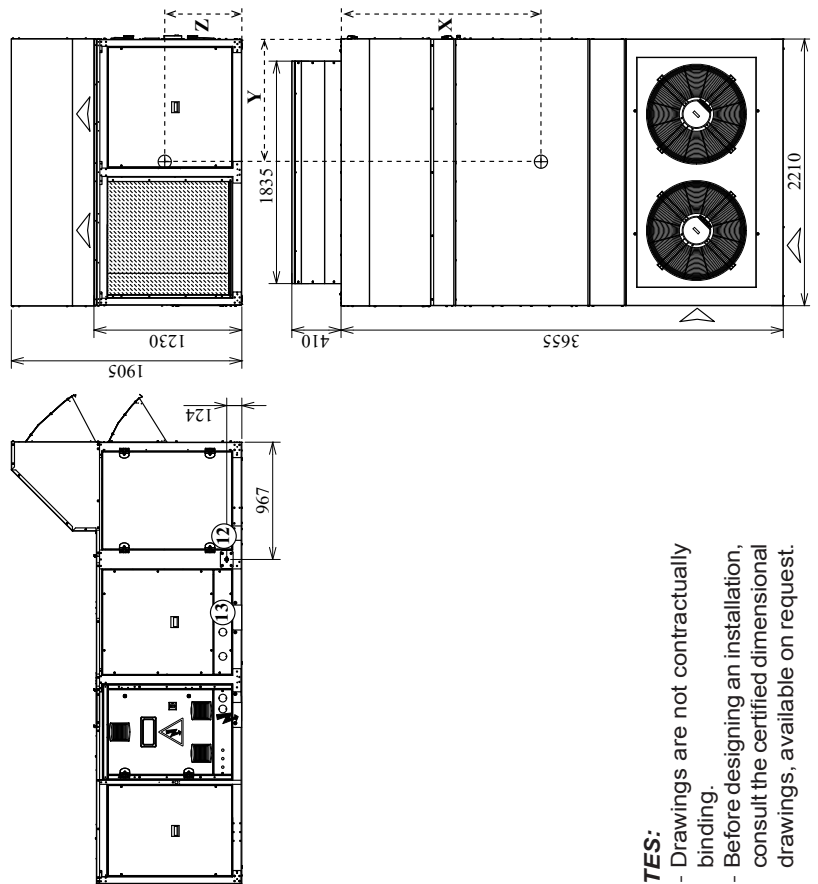
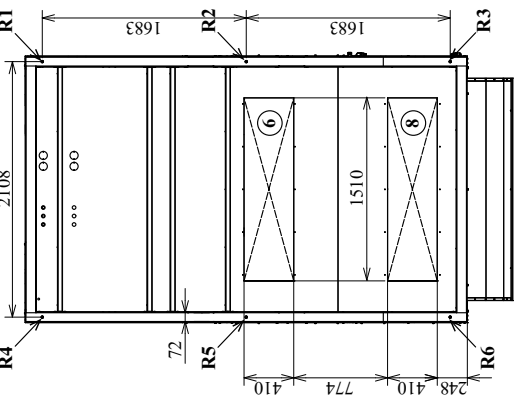
NOTES:

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

DIMENSIONAL DRAWINGS

50FF 070-074-086-093, RP assembly

50FF	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z	X	Y	Z	R1	R2	R3	R4	R5	R6
070	RP	1.784	1.103	615	1.294	1.103	615	161	310	176	161	310	176
074	RP	1.784	1.103	615	1.318	1.103	615	164	316	180	164	315	179
086	RP	1.784	1.104	620	1.336	1.104	620	167	320	182	166	320	181
093	RP	1.787	1.103	619	1.337	1.103	619	167	321	181	167	320	181



Legend

All dimensions are given in mm.

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

NOTES:

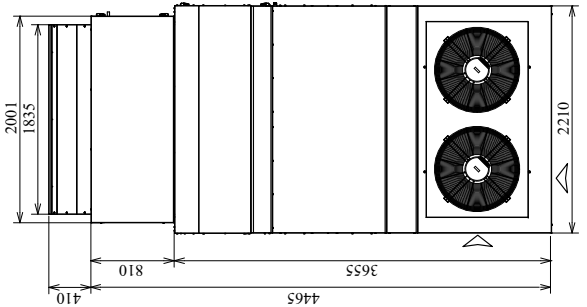
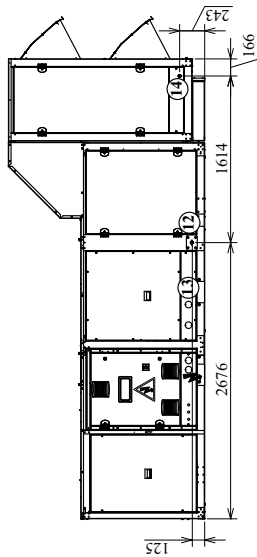
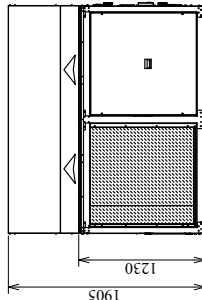
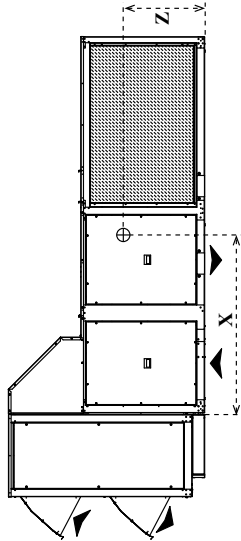
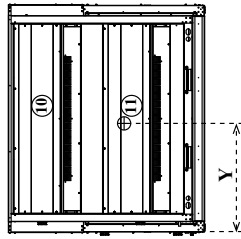
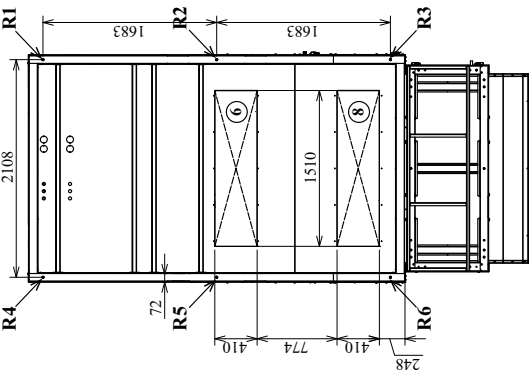
- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FF 070-074-086-093, RW assembly

50FF	Assembly	Centre of gravity (mm)			Machine weight (kg)	Module weight (kg)	Total weight (kg)
		X	Y	Z			
070	RW	1.286	1.102	693	1.247	454	1.701
074	RW	1.286	1.102	693	1.271	454	1.725
086	RW	1.288	1.103	697	1.289	454	1.743
093	RW	1.292	1.102	696	1.290	454	1.744

50FF	Assembly	Reactions in the supports (kg)					
		R1	R2	R3	R4	R5	R6
070	RW	189	408	256	187	407	254
074	RW	192	414	259	190	412	258
086	RW	194	418	261	193	417	260
093	RW	195	419	260	194	417	259



Legend

- All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lower air return
 - Fresh air intake
 - Exhaust air outlet
 - Condensate outlet 1/2" M
 - HWC connections (option)
 - Wheel condensate outlet 1/2" 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 020-028, B1 assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
020	B1	1.083	971	554	594	93	154	84	70	131	61
028	B1	1.066	959	567	617	98	158	83	77	137	62

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

Lateral air return

Condensate outlet 1/2"

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 037-040-045-047, B1 assembly

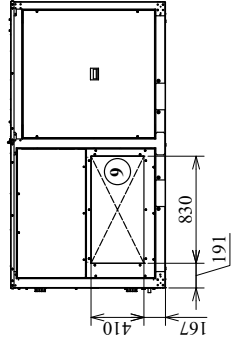
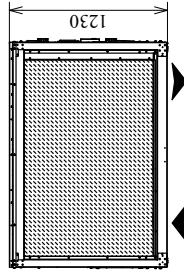
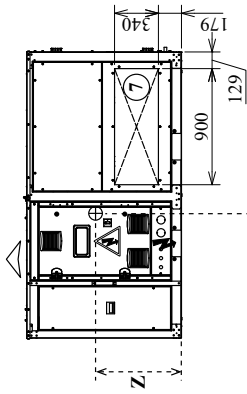
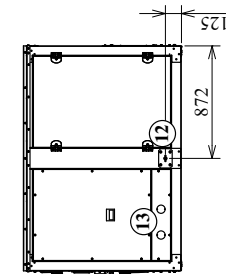
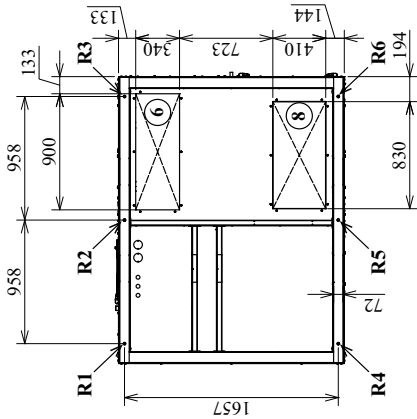
50FC	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
037	B1	1.048	989	572	699	119	183	95	87	151	63
040	B1	1.050	988	572	698	118	183	95	86	151	64
045	B1	1.049	987	579	704	119	185	96	87	153	64
047	B1	1.049	989	576	701	119	184	96	87	152	64

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
-  Lateral air return
- 
-  HWC connections (option)
-  Anti-vibration anchoring: rivet nut M12

Anti-vibration anchoring: rivet nut M12



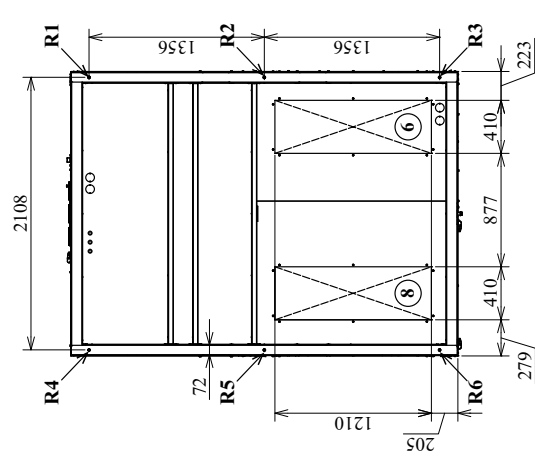
NOTES:

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

DIMENSIONAL DRAWINGS

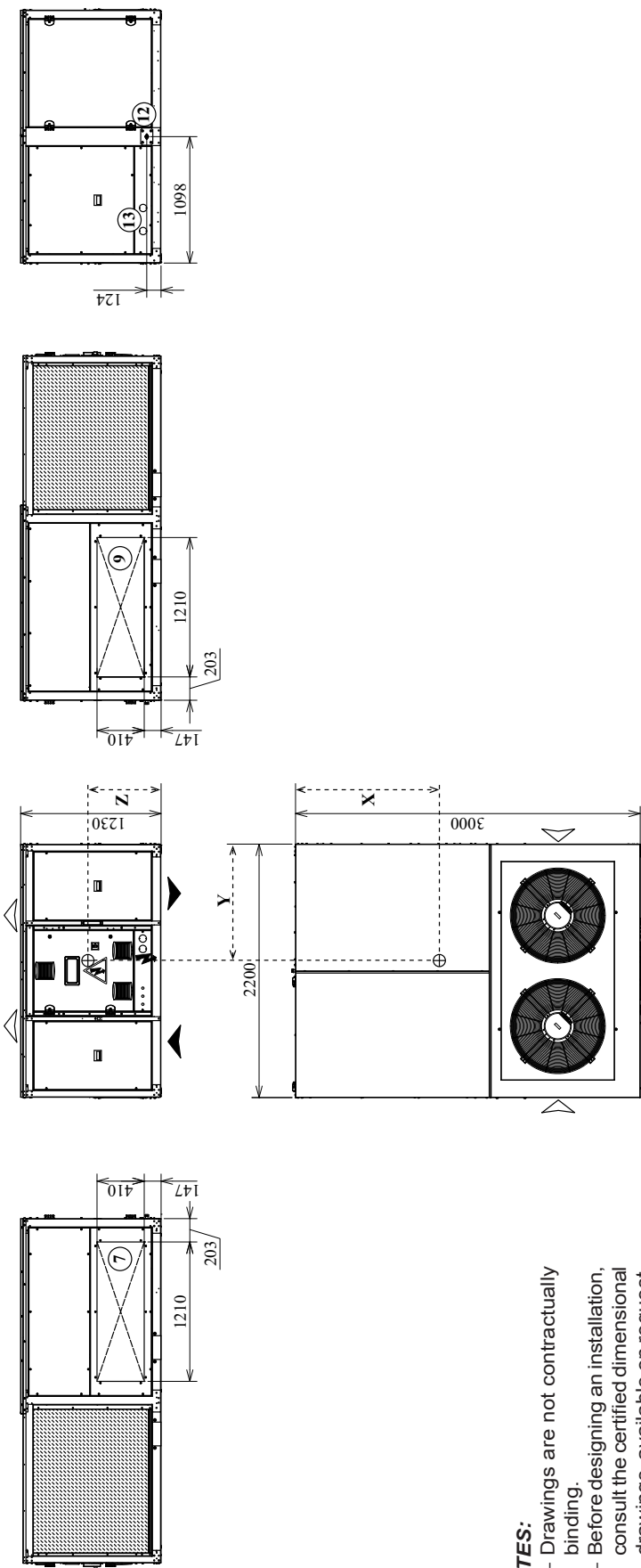
50FC 052-058-062, B1 assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z				R1	R2	R3	R4	R5	R6
052	B1	1.623	1.046	564	986	159	245	114	142	228	98		
058	B1	1.623	1.046	564	986	159	244	114	142	228	98		
062	B1	1.631	1.040	563	1.004	165	250	116	146	231	97		



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
- Lateral air return
- Condensate outlet 1/2" M
- HWC connections (option)
- Anti-vibration anchoring: rivet nut M12



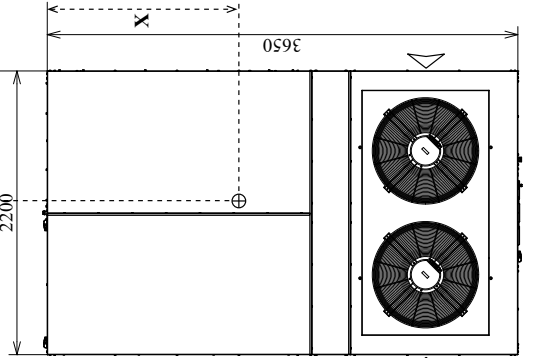
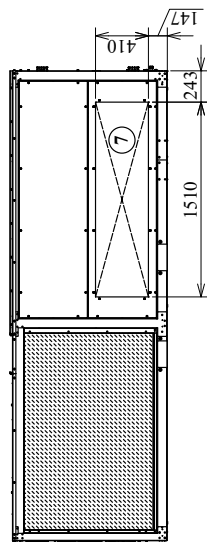
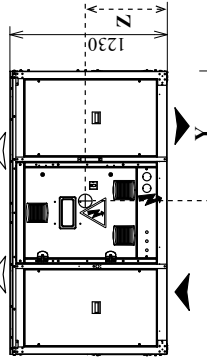
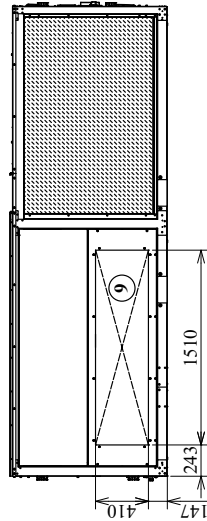
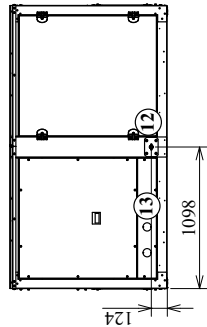
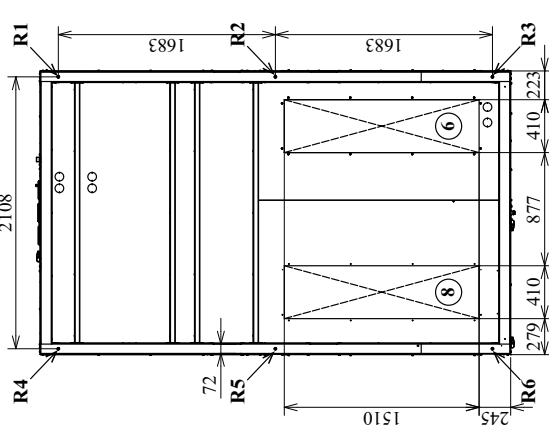
NOTES:

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

DIMENSIONAL DRAWINGS

50FC 070-074-086-093, B1 assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z	X	Y	Z	R1	R2	R3	R4	R5	R6
070	B1	2.022	1.054	564	1.146	1.146	1.146	191	283	124	174	266	107
074	B1	2.022	1.054	564	1.146	1.146	1.146	191	283	124	174	266	107
086	B1	2.006	1.055	572	1.135	1.135	1.135	186	280	125	170	264	109
093	B1	2.016	1.048	569	1.160	1.160	1.160	193	287	128	174	268	109



Legend

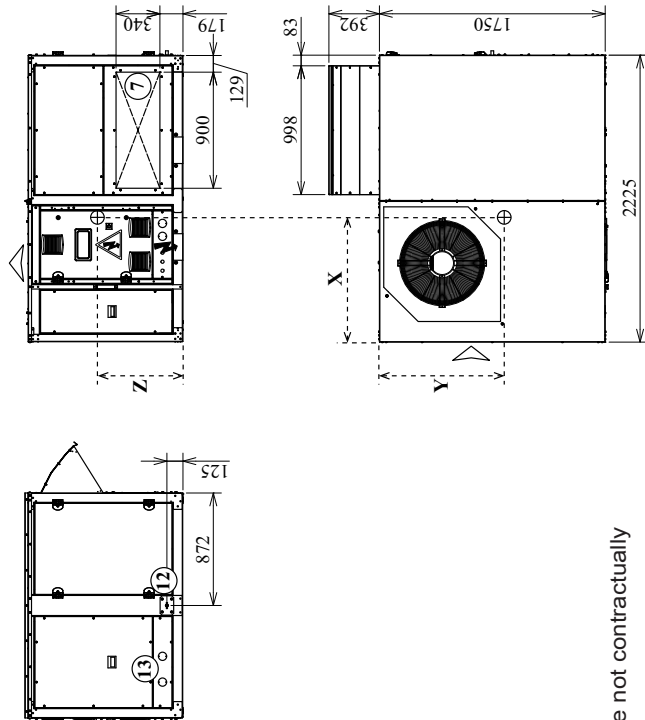
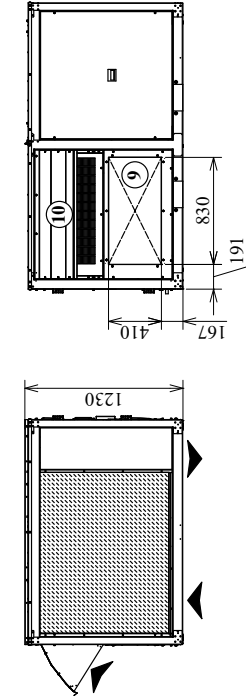
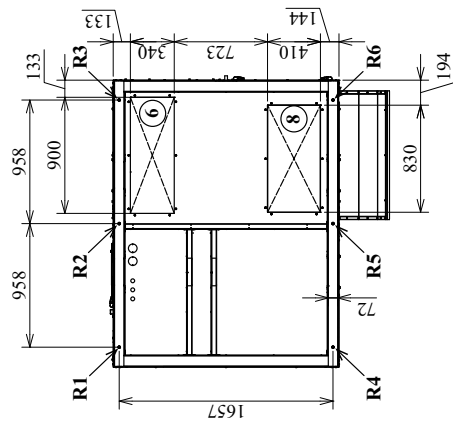
- All dimensions are given in mm.
- Outdoor air circulation
- Standard indoor air circulation
- Electrical cabinet
- Electric power supply
- Door switch
- Lower air supply
- Lateral air supply
- Lower air return
- Lateral air return
- Condensate outlet 1/2" M
- HWC connections (option)
- Anti-vibration 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 020-028, B2 assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
020	B2	1.104	947	558	609	90	155	87	72	137	69
028	B2	1.087	936	570	632	94	159	86	79	144	70



Legend

All dimensions are given in mm.



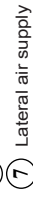
► Standard indoor air circulation



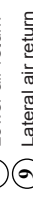
 Electric power supply



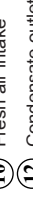
⑥ Lower air supply



⑧ Lower air return



10 Fresh air intake



12 Condensate outlet 1/2 M



Anti-vibration anchoring: rivet nut

NOTES:

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

DIMENSIONAL DRAWINGS

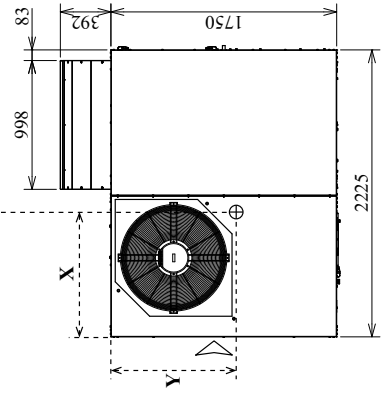
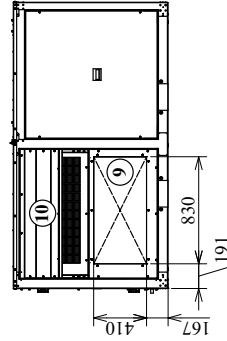
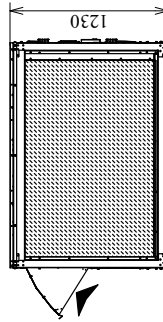
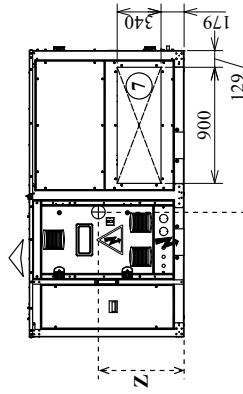
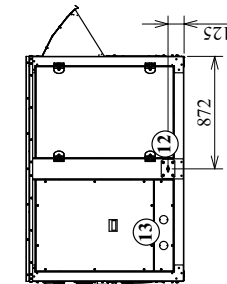
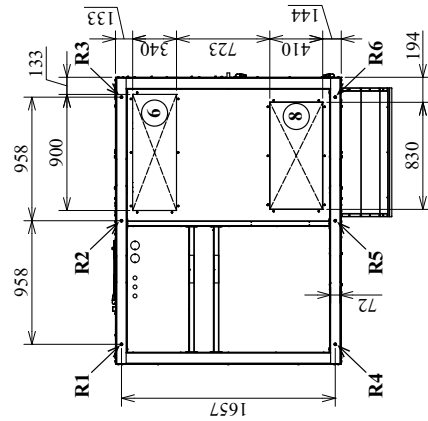
50FC 037-040-045-047, B2 assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
037	B2	1.065	967	571	718	116	185	98	89	159	71
040	B2	1.065	967	571	718	116	185	98	89	159	71
045	B2	1.064	966	581	718	116	185	98	89	159	71
047	B2	1.064	968	575	720	116	186	98	89	159	71

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
-  Lateral air return
-  Fresh air intake
-  Condensate outlet 1/2"
-  HWC connections (option)
-  Anti-vibration anchoring: rivet nut M12



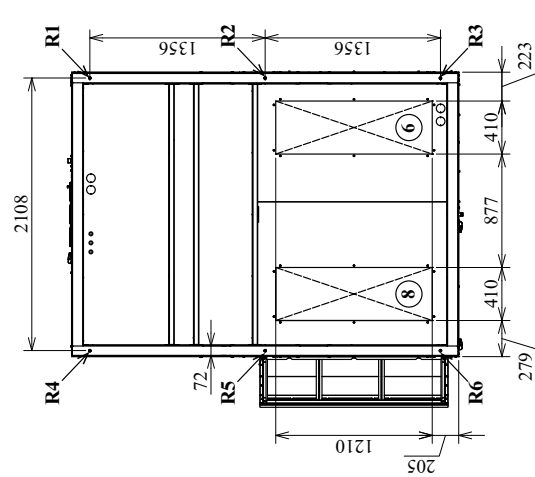
NOTES:

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

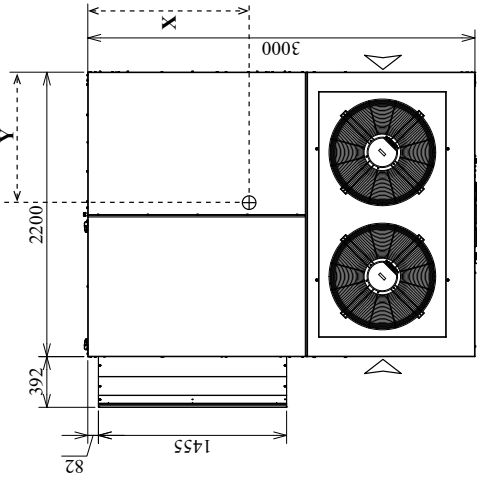
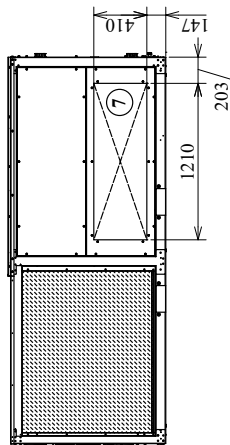
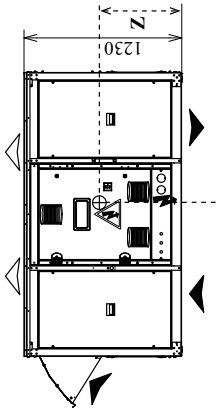
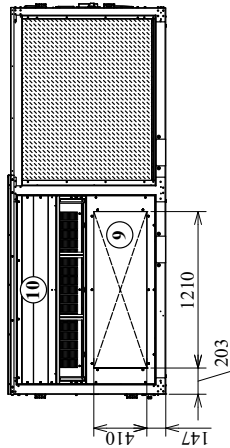
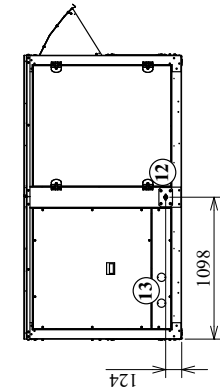
DIMENSIONAL DRAWINGS

50FC 052-058-062, B2 assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z	X	Y	Z	R1	R2	R3	R4	R5	R6
052	B2	1.604	1.067	562	1.018	157	249	118	147	239	108		
058	B2	1.607	1.070	561	1.024	158	250	118	149	241	108		
062	B2	1.613	1.066	561	1.037	162	254	119	151	243	108		



- 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
 - Lateral air return
 - Fresh air intake
 - Condensate outlet 1/2" M
 - HWC connections (option)
 - Anti-vibration anchoring: rivet nut M12

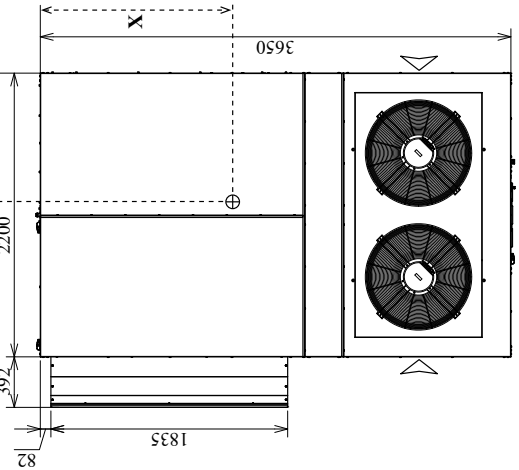
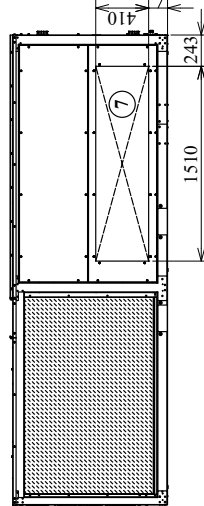
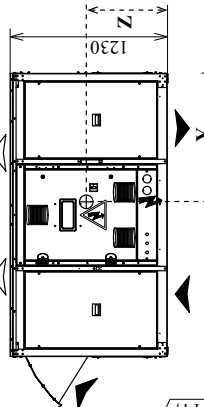
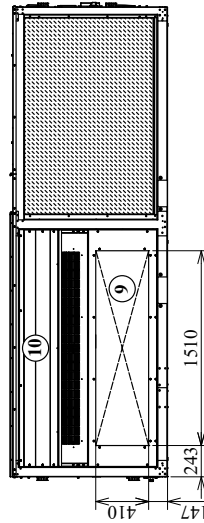
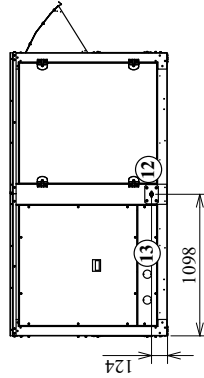
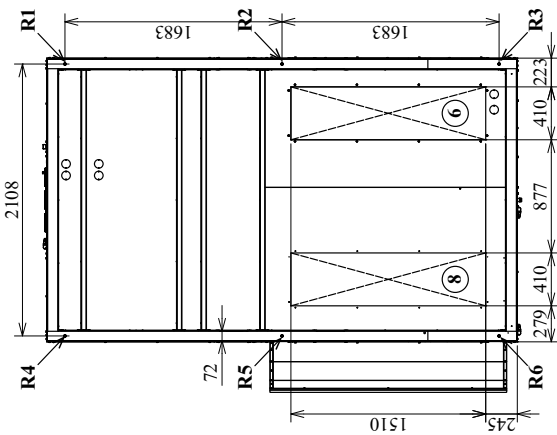


- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 070-074-086-093, B2 assembly

50FC	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
070	B2	1.991	1.080	563	187	287	128	179	279	121
074	B2	1.991	1.080	563	187	287	128	179	279	121
086	B2	1.983	1.074	569	188	290	132	178	280	122
093	B2	1.986	1.074	568	189	291	132	179	281	122



Legend

All dimensions are given in mm.

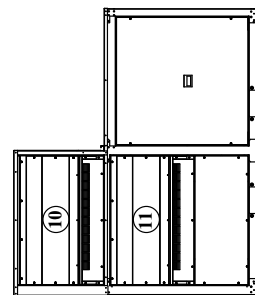
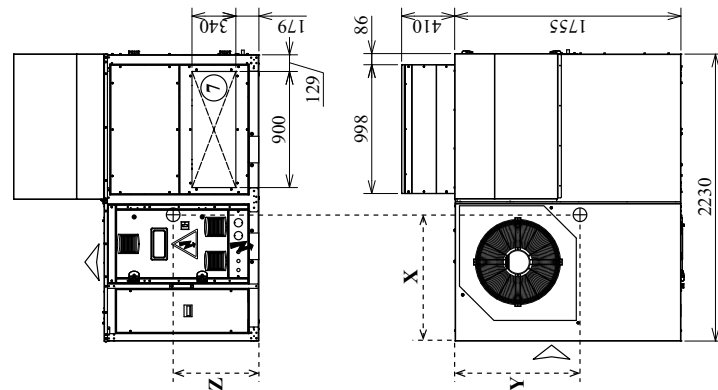
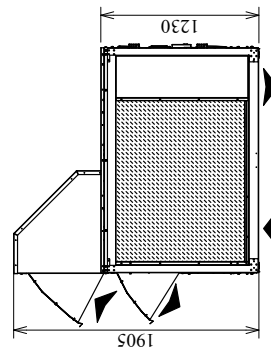
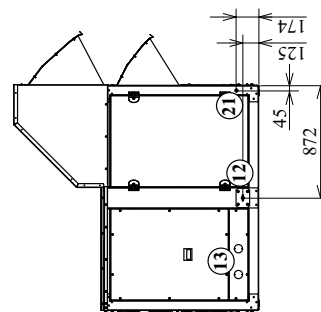
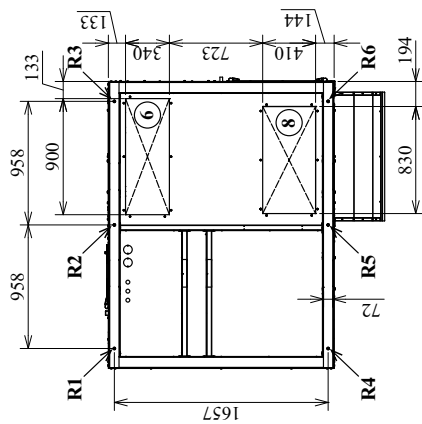
- Outdoor air circulation
- Standard indoor air circulation
- Electrical cabinet
- Electric power supply
- Door switch
- Lower air supply
- Lateral air supply
- Lower air return
- Lateral air return
- Fresh air intake
-
- HWC connections (option)
- Anti-vibration anchoring: rivet nut M12

NOTES:

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

50FC 020-028, B3, BX, 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
020	B3	1.162	882	629	682	82	165	99	79	162	96
	BX	1.183	860	615	713	79	169	104	82	173	107
	BP	1.187	853	617	723	78	170	105	83	176	110
	BA	1163	816	613	781	83	178	103	101	196	120
028	B3	1.145	874	638	705	87	169	98	86	169	97
	BX	1.165	854	624	736	83	174	103	89	179	108
	BP	1.170	847	626	746	83	175	104	90	182	112
	BA	1148	811	620	804	88	183	102	108	203	121



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 Lower air return
-  10 Fresh air intake
-  11 Exhaust air outlet
-  12 Condensate outlet 1/2" M
-  13 HWC connections (option)
-  21 Recovery circuit condensate outlet 1/2" M
(BA assembly)

Anti-vibration anchoring: rivet nut M12

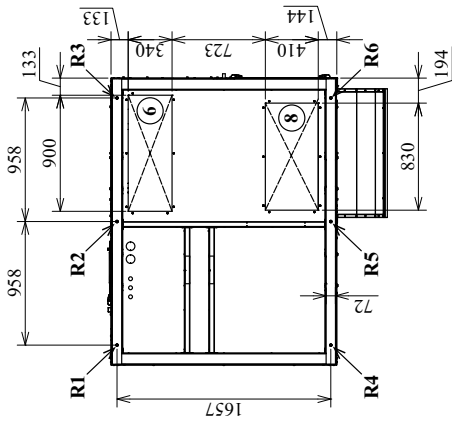
NOTES:

- Drawings are not contractually binding.
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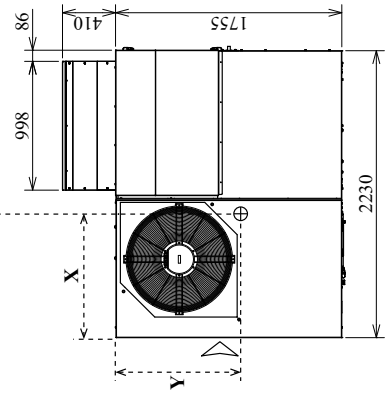
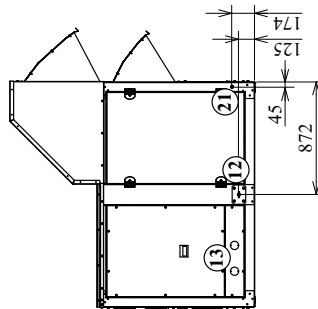
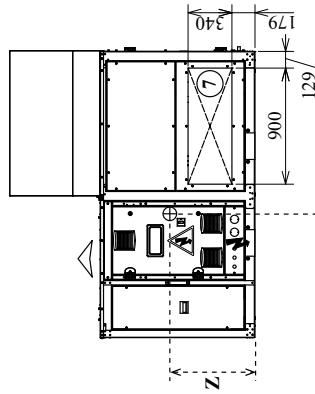
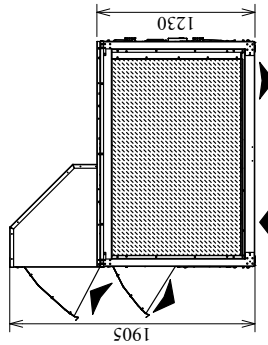
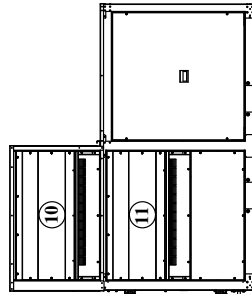
DIMENSIONAL DRAWINGS

50FC 037-040-045-047, B3, BX, 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
037	B3	1.120	909	631	796	108	197	111	97	185	99
	BX	1.134	893	621	815	105	199	114	99	192	107
	BP	1.144	887	621	831	104	202	117	100	197	112
	BA	1.102	824	614	900	112	207	106	129	224	123
040	B3	1.120	909	631	796	108	197	111	97	185	99
	BX	1.134	893	621	815	105	199	114	99	192	107
	BP	1.144	887	621	831	104	202	117	100	197	112
	BA	1.102	824	614	900	112	207	106	129	224	123
045	B3	1.119	909	640	796	109	196	110	97	185	99
	BX	1.133	893	630	815	105	198	113	99	192	107
	BP	1.138	888	631	828	105	201	115	100	196	110
	BA	1.101	823	622	897	111	206	105	129	223	122
047	B3	1.119	910	635	798	109	197	111	97	185	99
	BX	1.133	894	625	817	106	199	114	99	192	107
	BP	1.143	888	625	833	105	202	117	100	197	112
	BA	1.101	825	618	902	112	208	106	129	224	123



- 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 1/2" M
 - HWC connections (option)
 - Recovery circuit condensate outlet 1/2" M (BA assembly)
- Anti-vibration anchoring: rivet nut M12

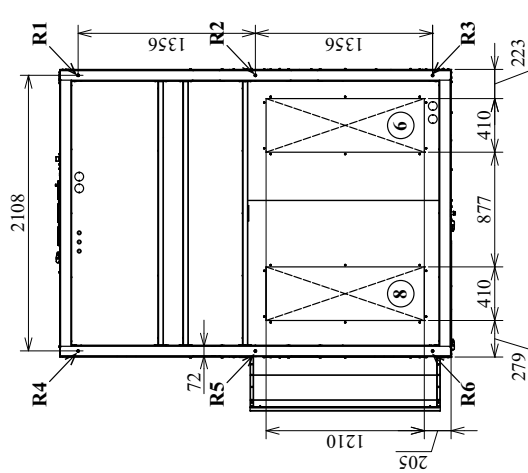


- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 052-058-062, B3, BX, BP and BA assemblies

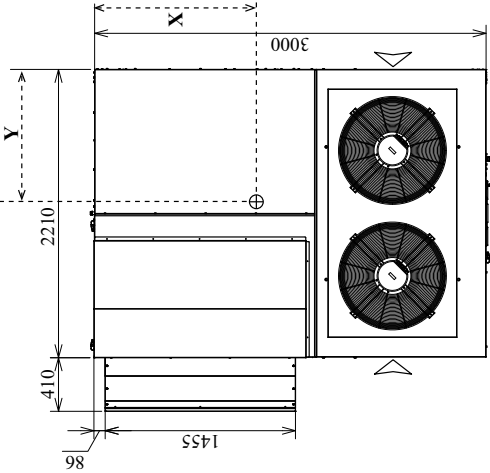
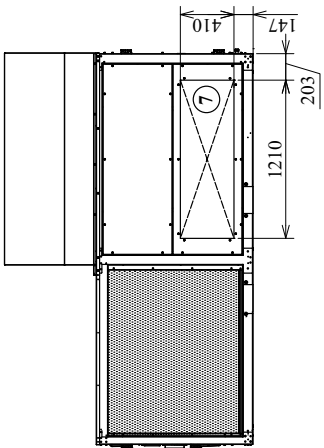
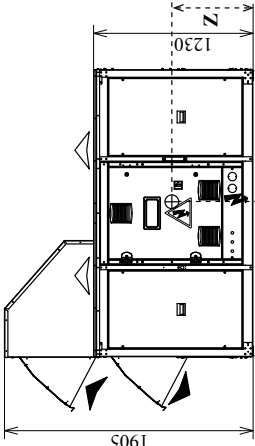
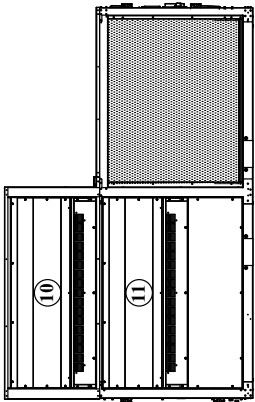
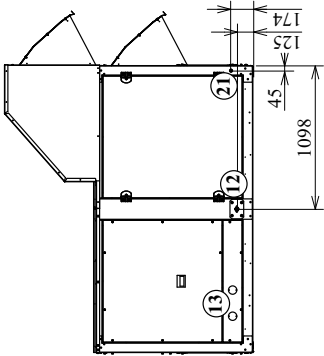
50FC	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
052	B3	1.524	1.138	622	144	262	134	157	274	147
	BX	1.506	1.153	608	143	269	141	162	288	159
	BP	1.488	1.167	609	140	273	146	165	298	170
	BA	1.513	1.204	607	149	287	143	191	328	185
058	B3	1.524	1.138	622	144	262	134	157	274	147
	BX	1.509	1.155	607	144	270	140	164	290	160
	BP	1.491	1.170	608	141	274	145	167	300	171
	BA	1.516	1.206	606	150	288	143	193	330	185
062	B3	1.533	1.131	620	138	267	136	160	278	146
	BX	1.515	1.151	606	148	274	141	166	292	159
	BP	1.497	1.165	607	145	278	146	169	302	170
	BA	1.521	1.201	605	154	291	144	195	332	185



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 1/2" M
- HWC connections (option)
- Recovery circuit condensate outlet 1/2" M (BA assembly)
- Anti-vibration anchoring: rivet nut M12



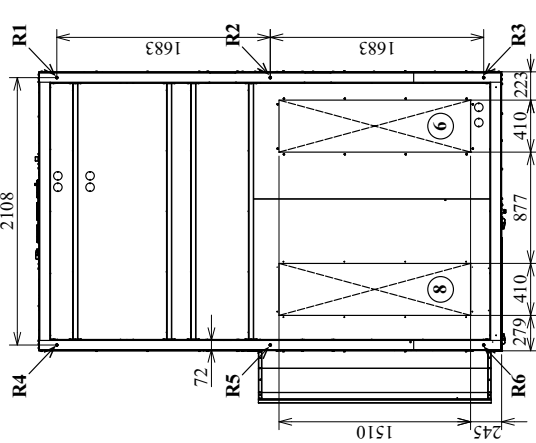
NOTES:

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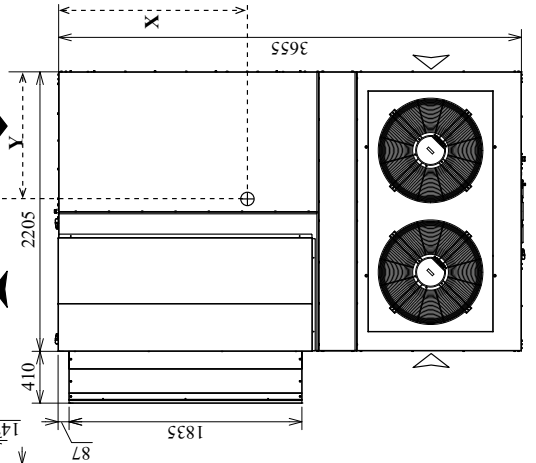
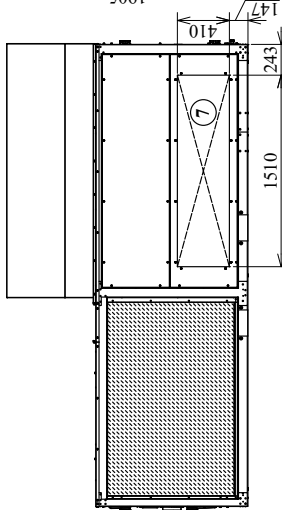
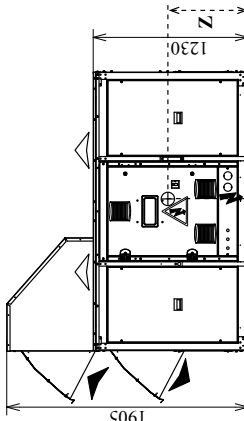
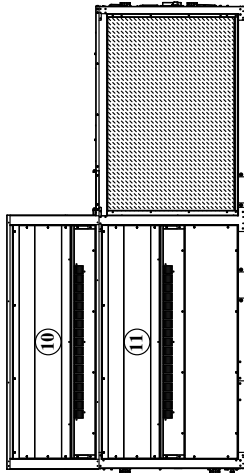
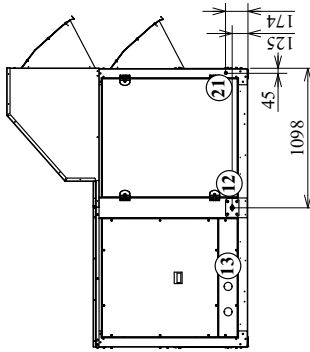
DIMENSIONAL DRAWINGS

50FC 070-074-086-093, B3, BX, 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
070	B3	1.901	1.139	624	1.308	178	306	148	193	321	163
	BX	1.866	1.168	608	1.359	172	312	154	200	340	182
	BP	1.852	1.171	611	1.387	172	317	159	202	347	190
	BA	1.869	1.208	611	1.490	180	333	160	228	381	208
074	B3	1.901	1.139	624	1.308	178	306	148	193	321	163
	BX	1.866	1.168	608	1.359	172	312	154	200	340	182
	BP	1.852	1.171	611	1.387	172	317	159	202	347	190
	BA	1.869	1.208	611	1.490	180	333	160	228	381	208
086	B3	1.900	1.139	629	1.308	178	306	148	193	321	163
	BX	1.860	1.162	613	1.368	173	315	158	199	341	183
	BP	1.852	1.172	616	1.387	172	317	159	202	348	190
	BA	1.864	1.202	615	1.490	180	334	162	226	380	208
093	B3	1.903	1.139	629	1.313	179	307	148	194	322	163
	BX	1.863	1.161	612	1.373	174	316	158	200	342	183
	BP	1.855	1.171	615	1.392	173	318	159	203	349	190
	BA	1.866	1.201	615	1.495	181	335	162	227	381	208



- 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
 -
 - HWC connections (option)
 -
 - (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

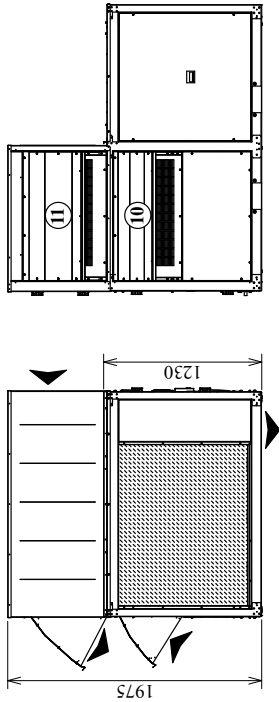
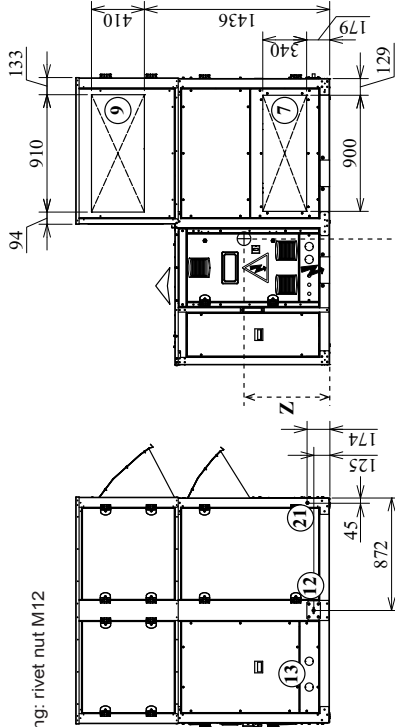
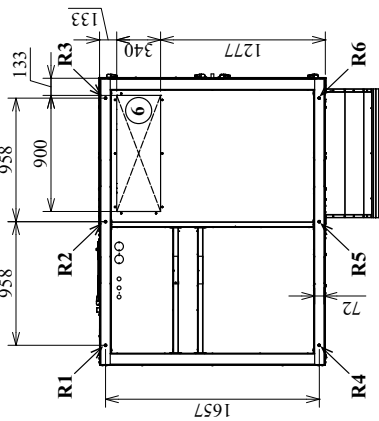
50FC 020-028, BT and BB assemblies

50FC	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z				R1	R2	R3	R4	R5	R6
020	BT	1.222	946	796	774	774	774	91	197	134	67	174	111
	BB	1.200	900	780	832	832	832	98	206	132	84	193	119
028	BT	1.205	937	800	797	797	797	96	202	133	74	180	112
	BB	1.184	893	782	855	855	855	103	211	131	91	199	120

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 1/2" M
- HWC connections (option)
- Recovery circuit condensate outlet 1/2" M
- (BB assembly)
- Anti-vibration anchoring: rivet nut M12



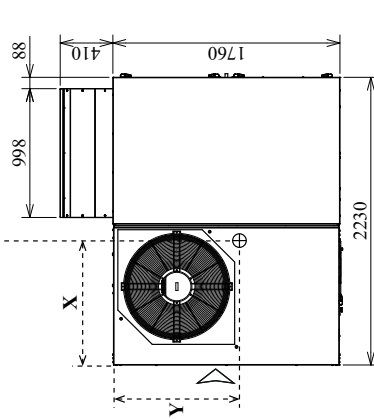
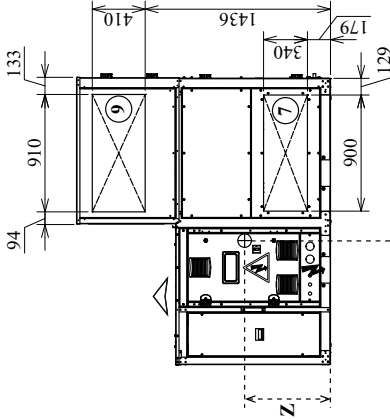
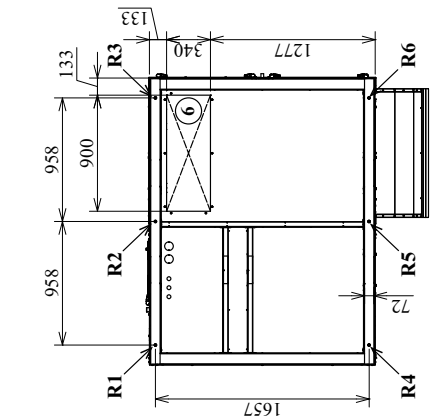
NOTES:

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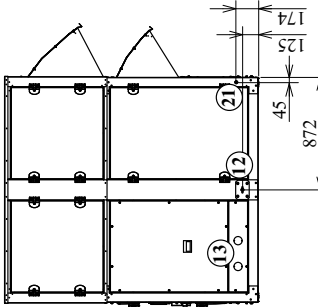
DIMENSIONAL DRAWINGS

50FC 037-040-045-047, 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
037	BT	1.177	963	779	882	117	228	145	84	195	113		
	BB	1.138	901	764	951	124	234	135	112	222	123		
040	BT	1.177	963	779	882	117	228	145	84	195	113		
	BB	1.138	901	764	951	124	234	135	112	222	123		
045	BT	1.176	962	787	882	117	228	145	84	195	113		
	BB	1.138	900	772	951	124	234	135	113	222	123		
047	BT	1.176	963	782	884	118	228	146	85	195	113		
	BB	1.137	902	767	953	125	234	135	113	222	123		



- 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 1/2" M
 - HWC connections (option)
 - Recovery circuit condensate outlet 1/2" M
 - (BB assembly)
 - Anti-vibration anchoring: rivet nut M12

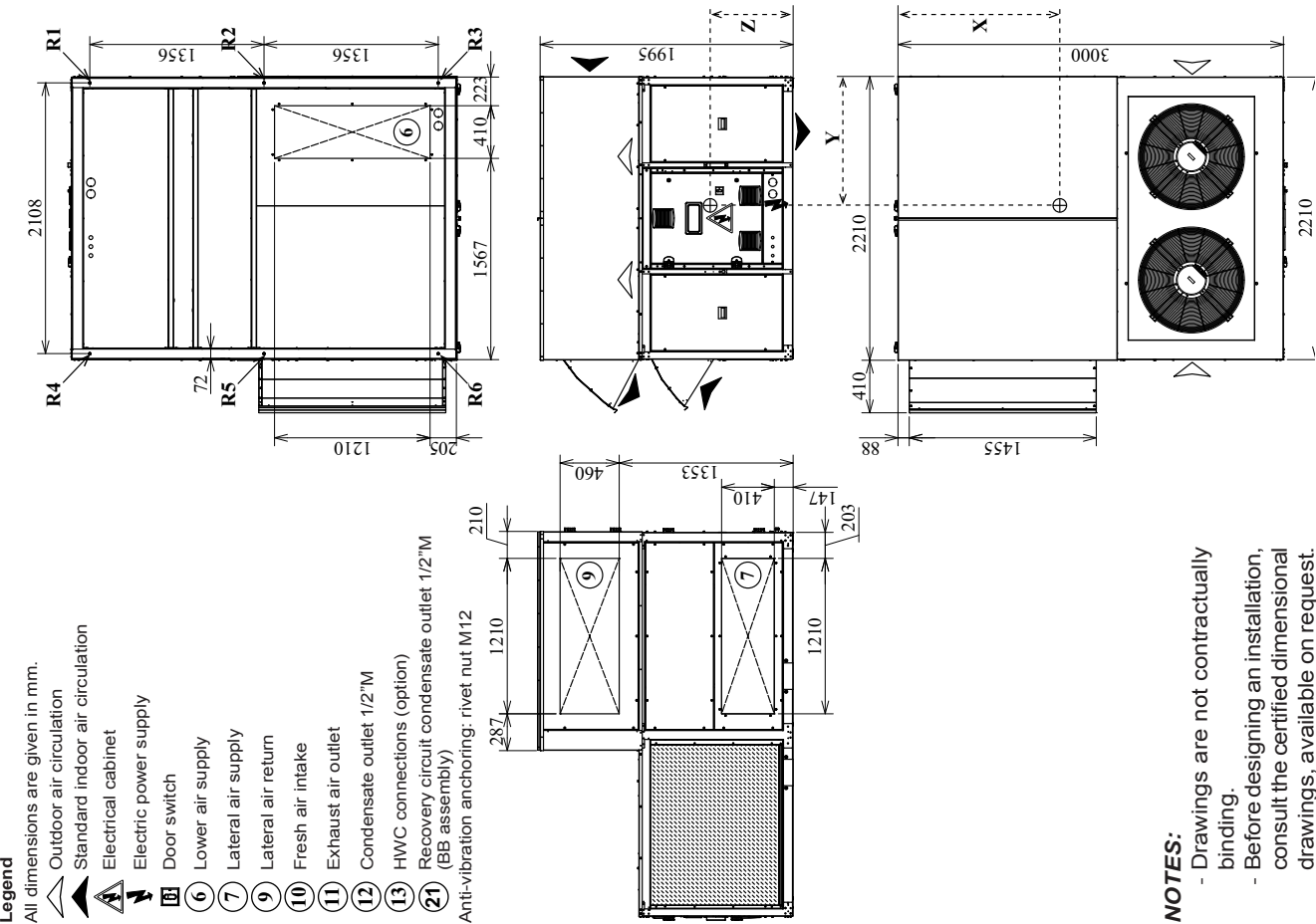


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DIMENSIONAL DRAWINGS

50FC 052-058-062, BT and BB assemblies

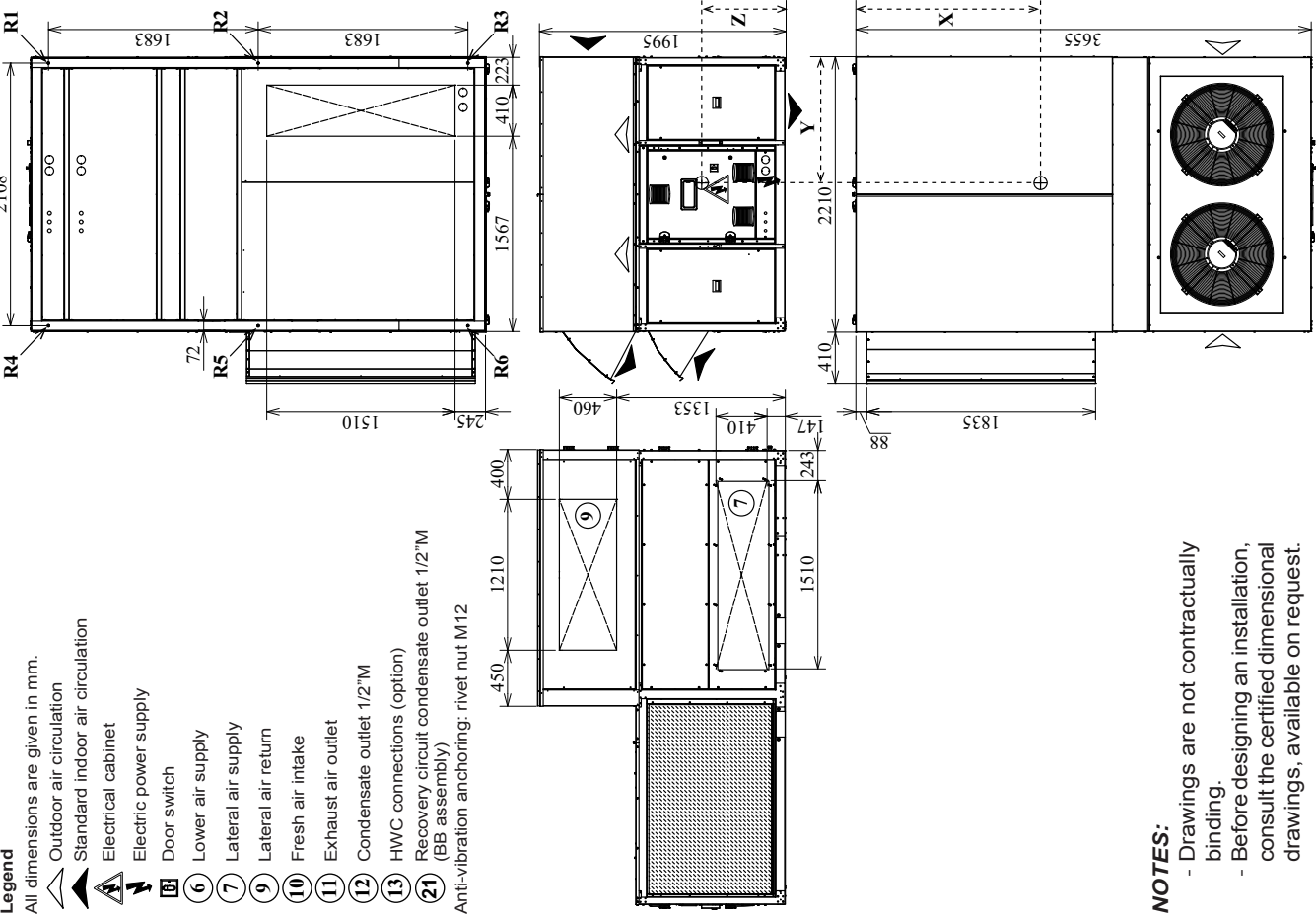
50FC	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z	(kg)			R1	R2	R3	R4	R5	R6
052	BT	1.435	1.047	796	1.285			164	320	195	140	296	171
	BB	1.477	1.068	789	1.376			182	338	193	166	322	177
058	BT	1.435	1.047	796	1.285			164	320	195	140	296	171
	BB	1.480	1.070	787	1.376			182	337	192	167	322	177
062	BT	1.444	1.042	792	1.304			169	325	196	143	299	170
	BB	1.486	1.067	785	1.395			186	343	194	170	326	177



DIMENSIONAL DRAWINGS

50FC 070-074-086-093, 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		
070	BT	1.798	1.058	787	1.482	1.482	199	366	210	177	344	187		
	BB	1.819	1.090	771	1.585	1.585	209	384	211	202	376	203		
074	BT	1.798	1.058	787	1.482	1.482	199	366	210	177	344	187		
	BB	1.819	1.090	771	1.585	1.585	209	384	211	202	376	203		
086	BT	1.793	1.053	791	1.491	1.491	200	370	213	175	345	189		
	BB	1.814	1.085	775	1.594	1.594	211	387	214	201	377	205		
093	BT	1.795	1.053	789	1.496	1.496	201	371	213	176	346	188		
	BB	1.817	1.085	774	1.599	1.599	212	388	215	202	378	205		

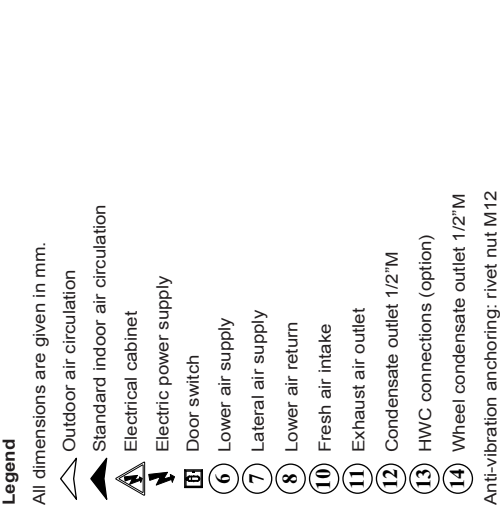
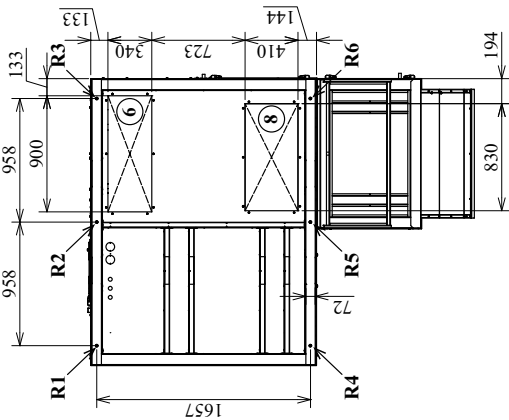


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DIMENSIONAL DRAWINGS

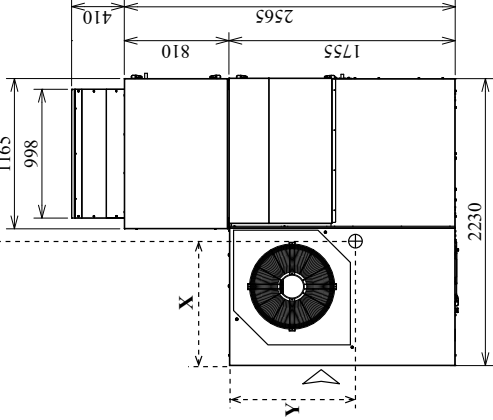
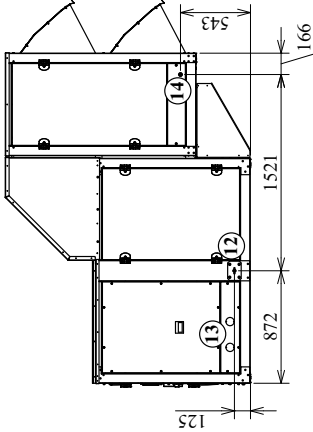
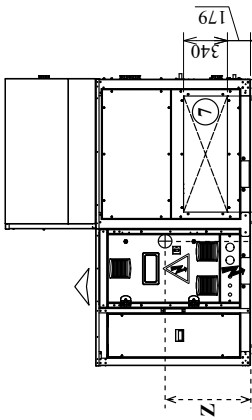
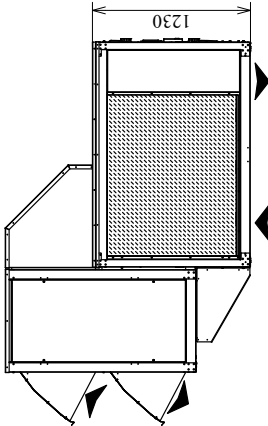
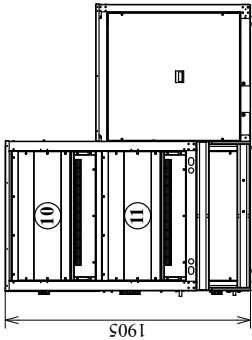
50FC 020-028, BW assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z				R1	R2	R3	R4	R5	R6
020	BW	1.301	507	719	976	724	999	87	242	182	72	226	167
028	BW	1.286	510	724	999	724	999	94	248	183	77	231	166



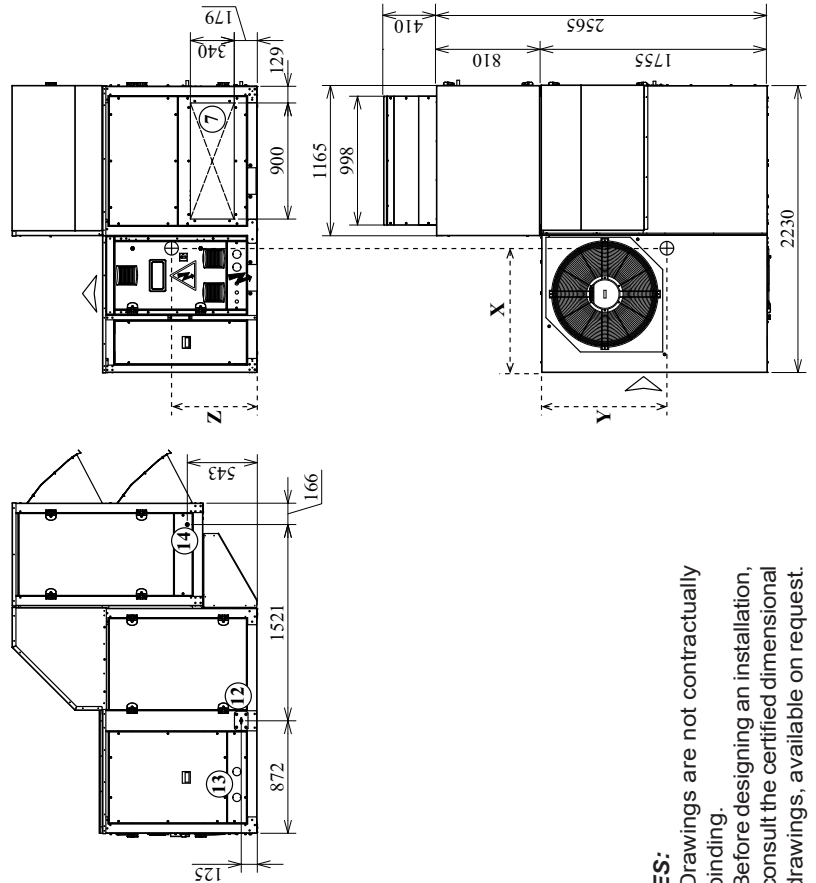
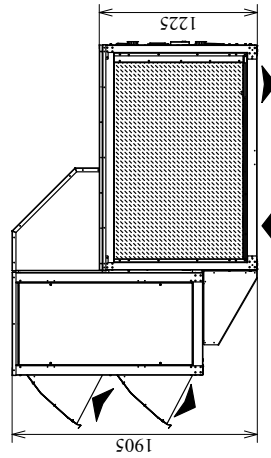
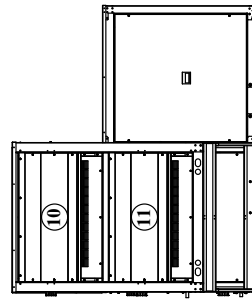
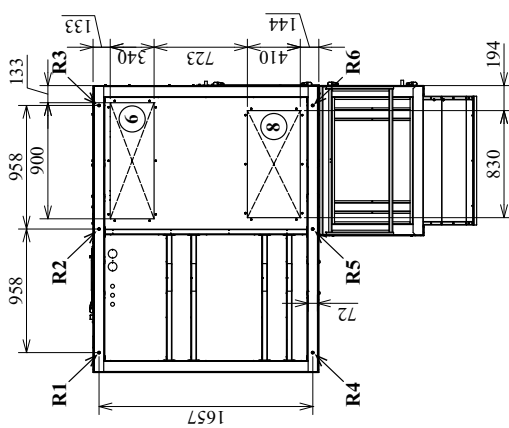
Legend

- 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 1/2" M
 - HWC connections (option)
 - Wheel condensate outlet 1/2" 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.

50FC	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
037	BW	1.258	562	713	1.088	130	249	211	89	240	170
040	BW	1.258	562	713	1.088	130	249	211	89	240	170
045	BW	1.257	561	719	1.088	130	249	211	89	240	170
047	BW	1.257	563	715	1.091	131	250	211	89	240	170



Legend

All dimensions are given in mm.

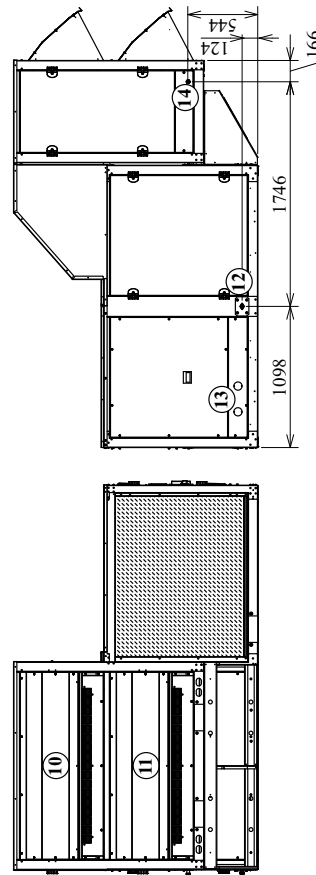
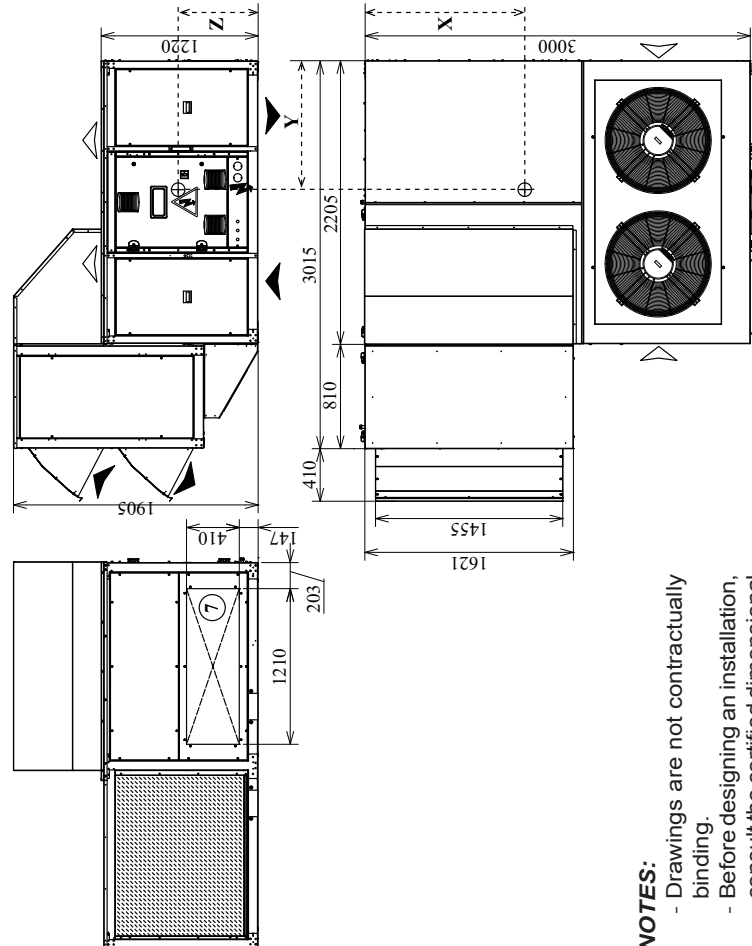
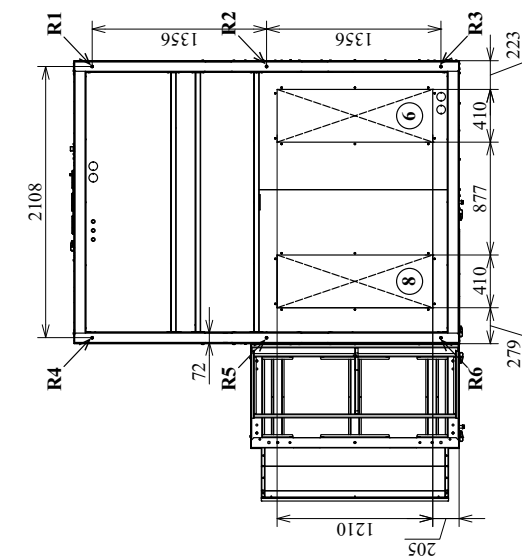
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lateral air supply
 - Lower air return
 - Fresh air intake
 - Exhaust air outlet
 - Condensate outlet 1/2" M
 - HWC connections (option)
 - Wheel condensate outlet 1/2" 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.

50FC 052-058-062, BW assembly

50FC	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)						
		X	Y	Z	Weight (kg)	R1	R2	R3	R4	R5	R6
052	BW	1.339	1.515	696	1.542	153	368	245	157	371	248
058	BW	1.342	1.516	695	1.548	155	369	245	158	373	249
062	BW	1.348	1.509	694	1.561	159	374	247	160	374	247



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 Lower air return
 -  10 Fresh air intake
 -  11 Exhaust air outlet
 -  12 Condensate outlet 1/2" M
 -  13 HWC connections (option)
 -  14 Wheel condensate outlet 1/2" M
- Anti-vibration anchoring: rivet nut M12

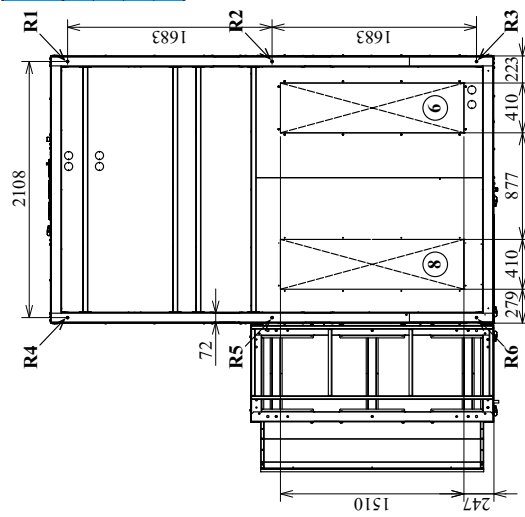
Anti-vibration anchoring: rivet nut M12

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

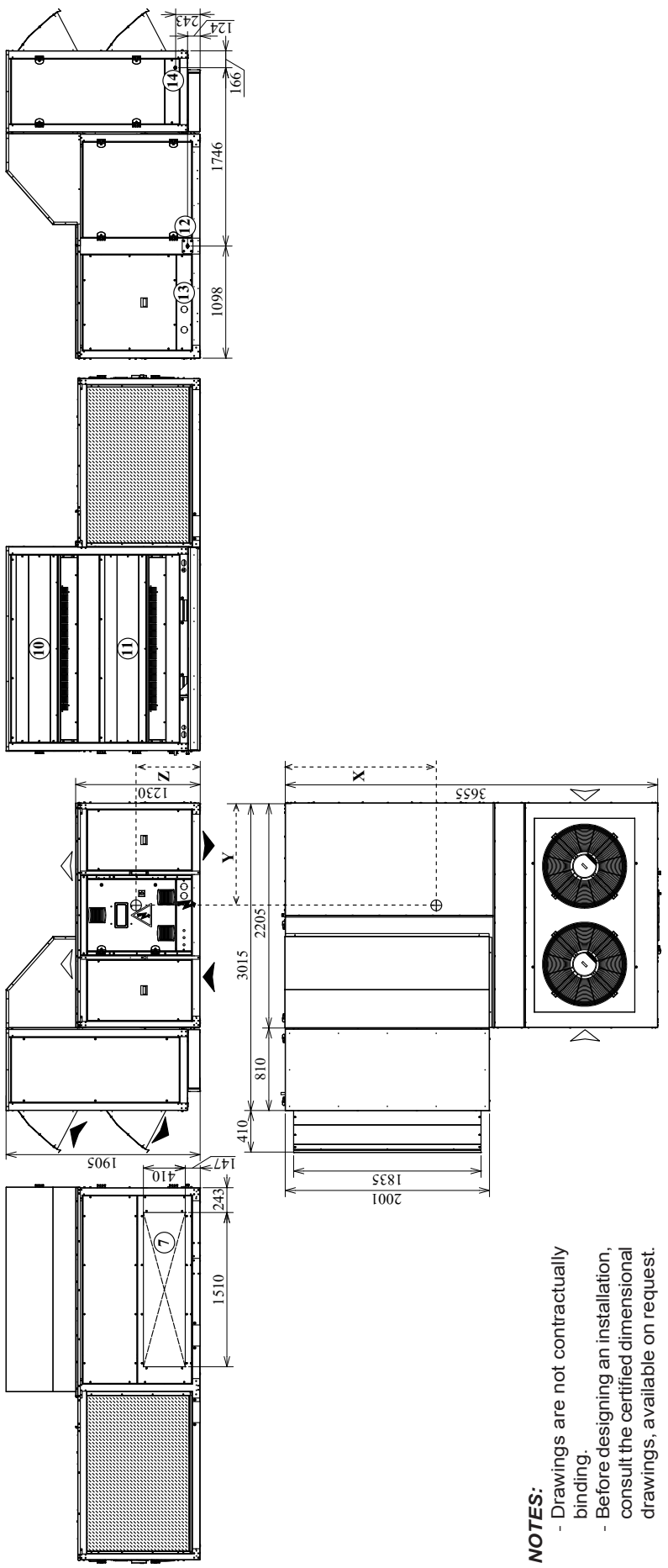
DIMENSIONAL DRAWINGS

50FC 070-074-086-093, BW assembly

50FC	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
070	BW	1.674	1.513	692	190	423	268	193	426	271
074	BW	1.674	1.513	692	190	423	268	193	426	271
086	BW	1.671	1.506	695	192	427	272	191	426	272
093	BW	1.673	1.505	694	194	428	273	192	427	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 1/2" M
 - HWC connections (option)
 - Wheel condensate outlet 1/2" M
 - Anti-vibration anchoring: rivet nut M12

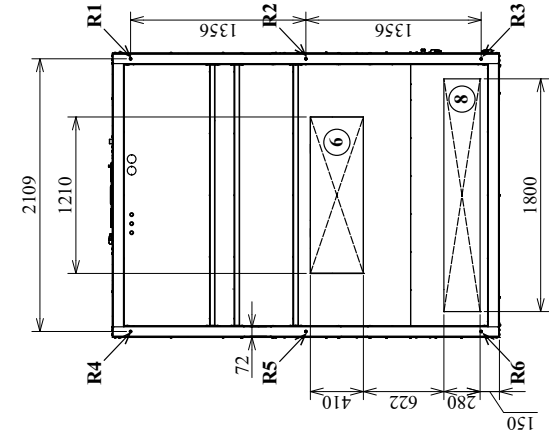


- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

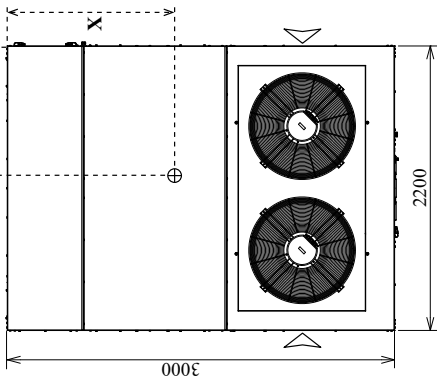
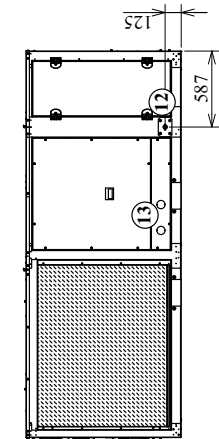
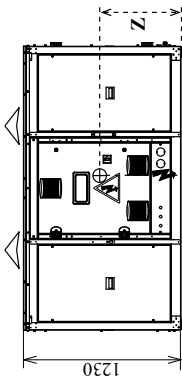
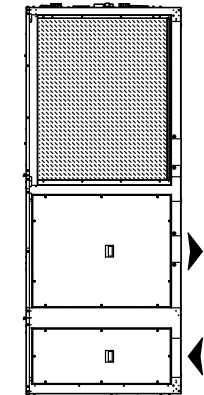
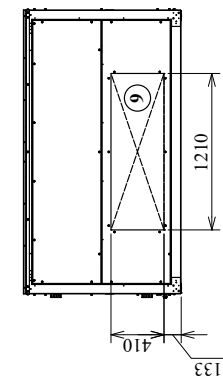
DIMENSIONAL DRAWINGS

50FC 052-058-062, R1 assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)						Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6						
052	R1	1.598	1.104	569	1.044	154	249	116	156	251	118	118	118	118	118	118
058	R1	1.601	1.107	568	1.050	155	250	116	158	253	118	118	118	118	118	118
062	R1	1.607	1.103	568	1.062	159	254	117	160	255	118	118	118	118	118	118



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

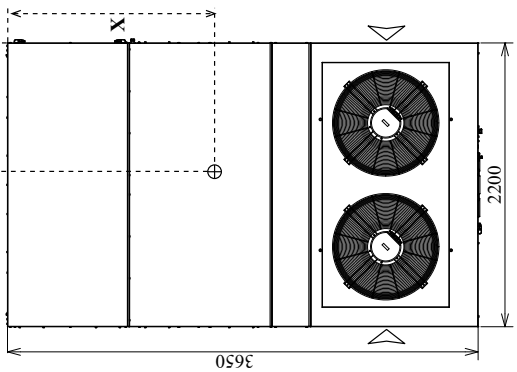
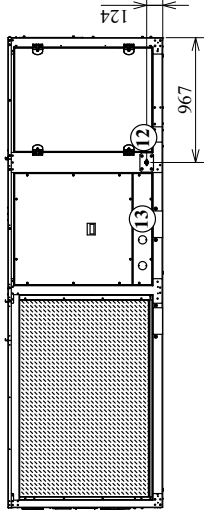
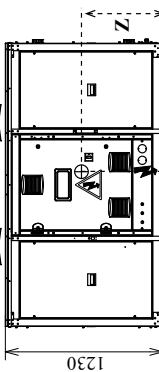
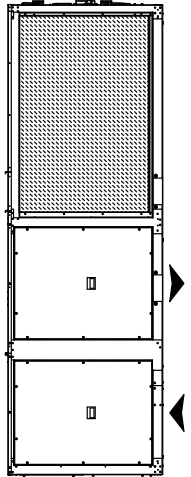
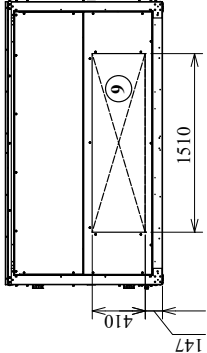
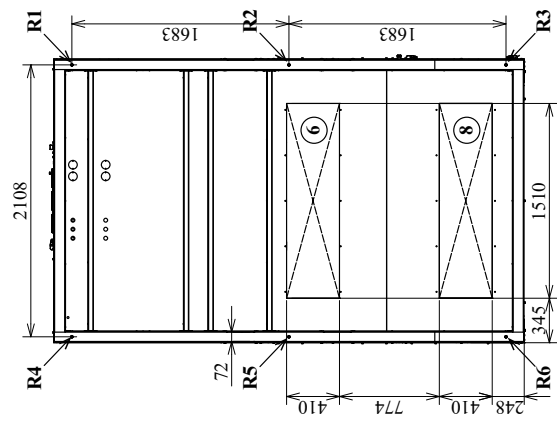


- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 070-074-086-093, R1 assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z	X	Y	Z	R1	R2	R3	R4	R5	R6
070	R1	2.043	1.106	571	1.179	1.106	571	191	282	114	193	284	116
074	R1	2.043	1.106	571	1.179	1.106	571	191	282	114	193	284	116
086	R1	2.042	1.106	578	1.189	1.106	578	192	284	115	194	286	118
093	R1	2.044	1.106	577	1.193	1.106	577	193	285	115	195	287	118



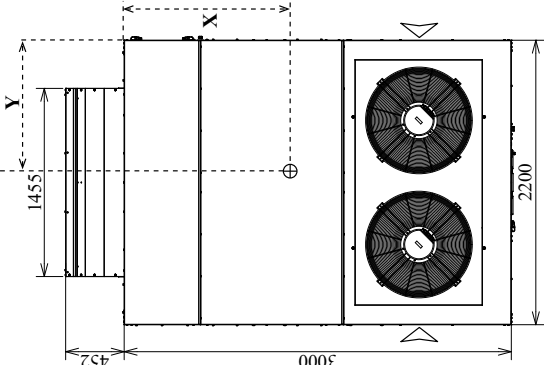
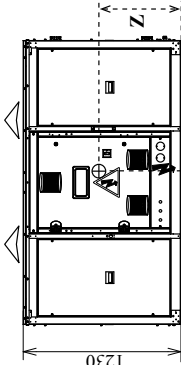
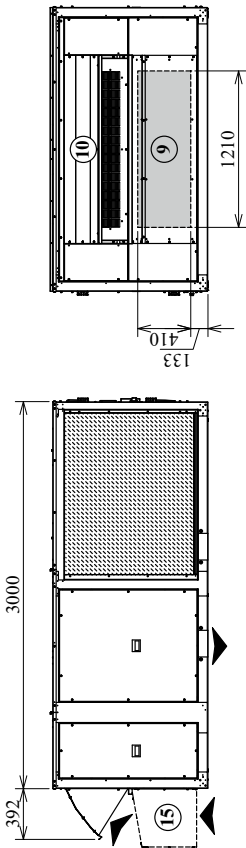
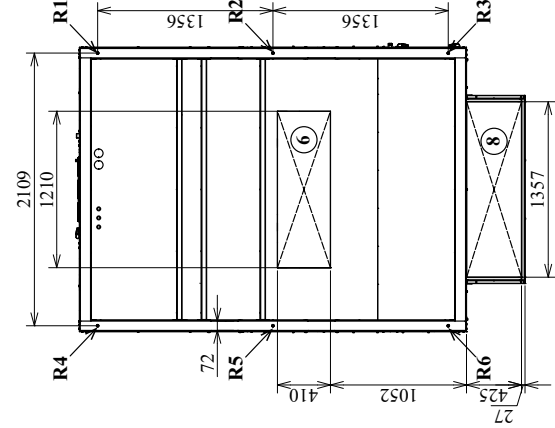
- Legend**
- All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lower air return
 - Lateral air return
 - Condensate outlet 1/2" M
 - HWC connections (option)
 - Anti-vibration 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 052-058-062, R2 assembly

50FC	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
052	R2	1.539	1.103	570	148	259	133	149	260	134
058	R2	1.542	1.106	569	149	260	132	151	262	134
062	R2	1.548	1.102	569	153	263	133	153	264	134



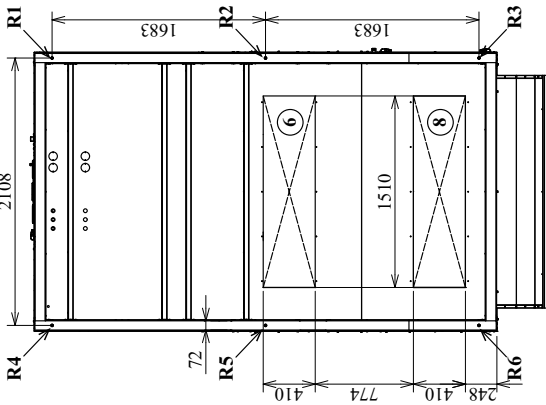
- Legend**
- All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lower air return
 - Lateral air return
 - Fresh air intake
 - Condensate outlet 1/2" M
 - HWC connections (option)
 - Enclosure with lower return (on-site configuration)
 - Anti-vibration anchoring: rivet nut M12

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

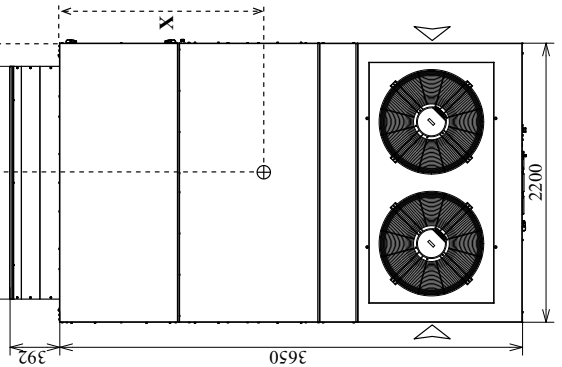
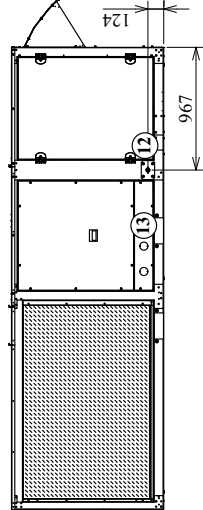
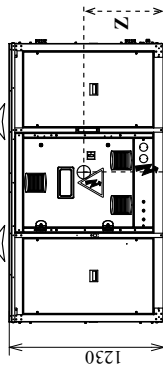
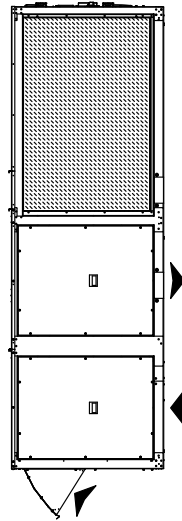
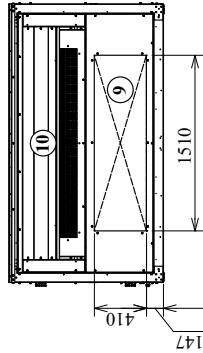
DIMENSIONAL DRAWINGS

50FC 070-074-086-093, R2 assembly

50FC	Assembly	Centre of gravity (mm)			Reactions in the supports (kg)					
		X	Y	Z	R1	R2	R3	R4	R5	R6
070	R2	1.992	1.104	571	188	291	127	189	292	129
074	R2	1.992	1.104	571	188	291	127	189	292	129
086	R2	1.991	1.105	577	189	293	128	191	295	130
093	R2	1.993	1.105	576	190	294	129	192	296	130



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

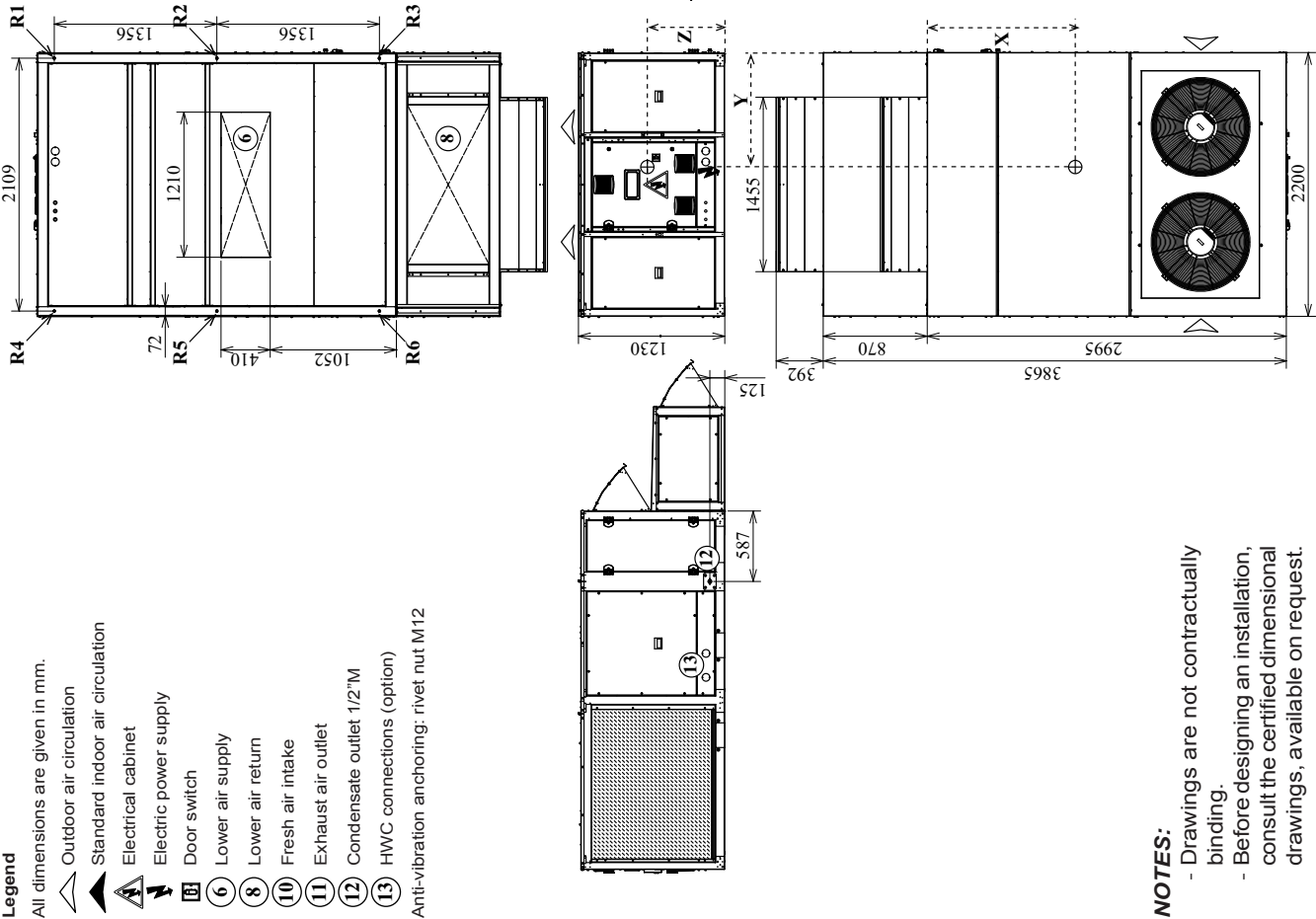


- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 052-058-062, RP assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)	Reactions in the supports (kg)					
		X	Y	Z		R1	R2	R3	R4	R5	R6
052	RP	1.268	1.103	535	1.252	209	299	116	210	300	117
058	RP	1.272	1.105	534	1.258	210	300	115	212	302	117
062	RP	1.280	1.101	535	1.270	215	304	115	215	305	116



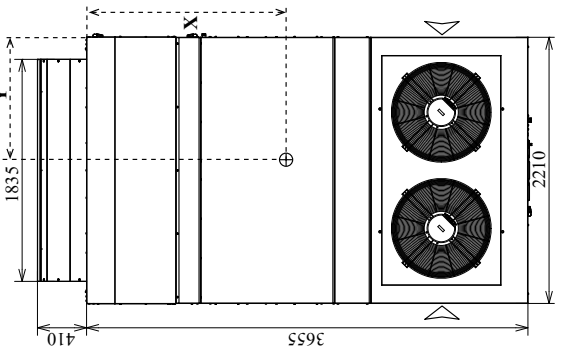
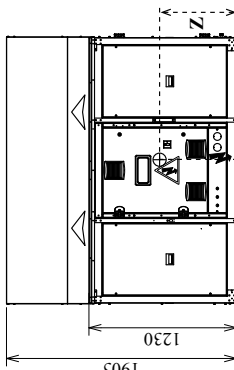
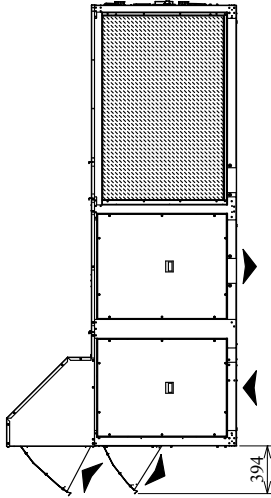
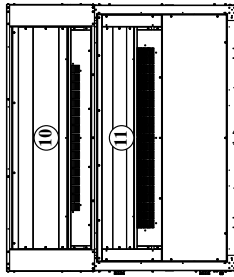
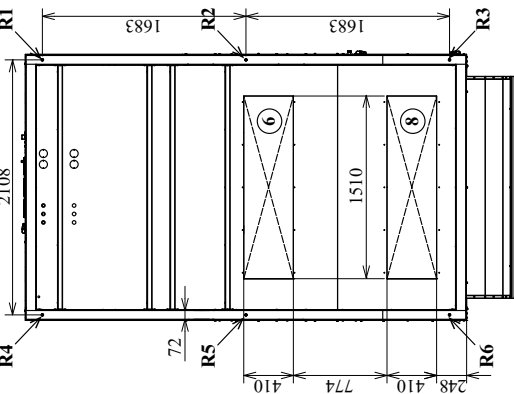
NOTES:

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

DIMENSIONAL DRAWINGS

50FC 070-074-086-093, RP assembly

50FC	Assembly	Centre of gravity (mm)			Weight (kg)			Reactions in the supports (kg)					
		X	Y	Z	X	Y	Z	R1	R2	R3	R4	R5	R6
070	RP	1.784	1.103	615	1.405	1.405	1.405	175	337	191	175	336	191
074	RP	1.784	1.103	615	1.405	1.405	1.405	175	337	191	175	336	191
086	RP	1.784	1.104	620	1.414	1.414	1.414	176	339	192	176	339	192
093	RP	1.787	1.103	619	1.419	1.419	1.419	178	340	193	177	340	192



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

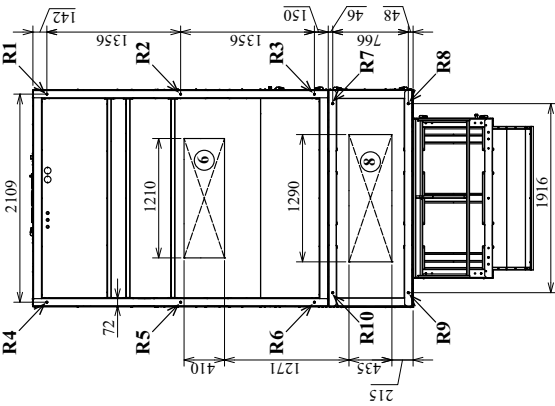
- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

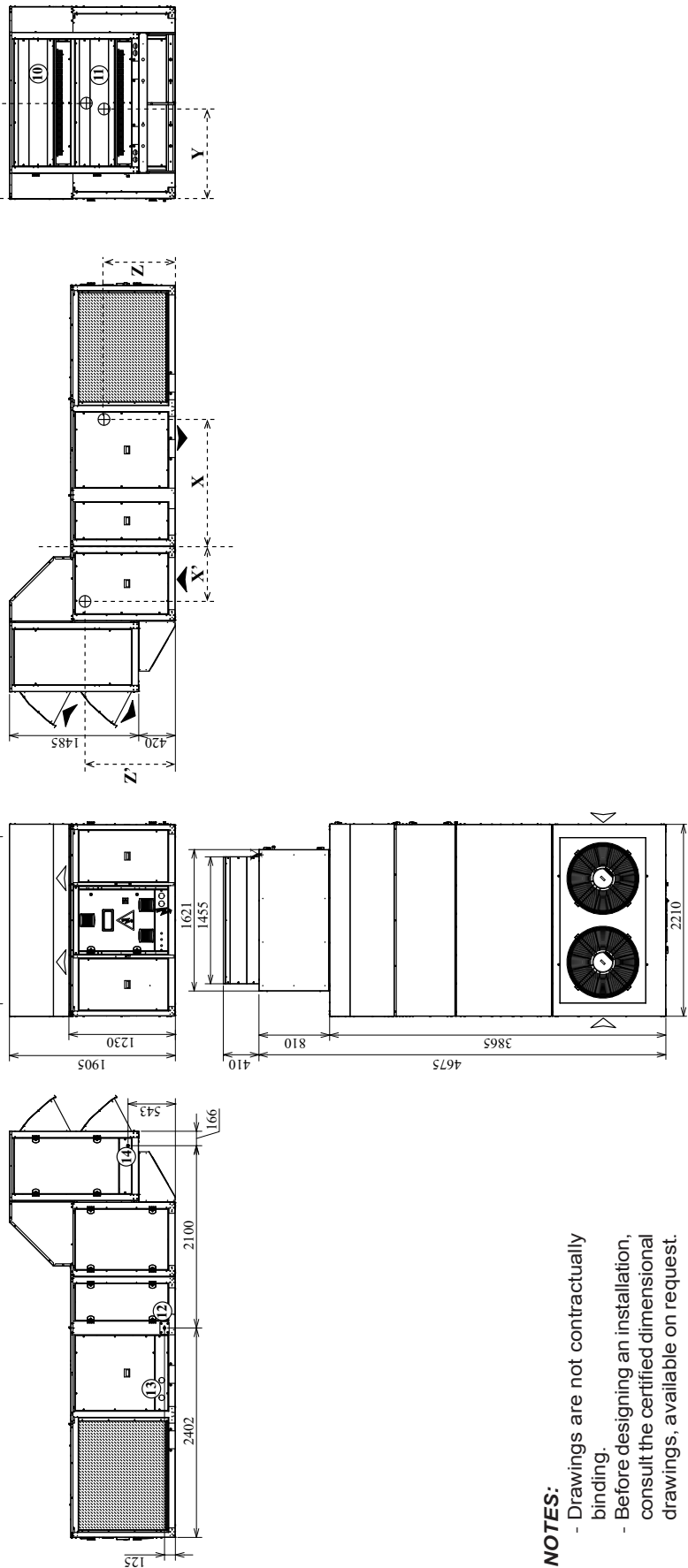
50FC 052-058-062, RW assembly

50FC	Assembly	Machine centre of gravity (mm)			Module centre of gravity (mm)			Machine weight (kg)	Module weight (kg)	Total weight (kg)
		X	Y	Z	X'	Y'	Z'			
052	RW	1.655	1.103	535	905	1.093	864	1.029	719	1.748
058	RW	1.658	1.105	534	905	1.093	864	1.035	719	1.754
062	RW	1.663	1.101	535	905	1.093	864	1.048	719	1.767

50FC	Assembly	Reactions in the supports (kg)									
		R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
052	RW	142	247	127	141	246	126	150	214	209	146
058	RW	143	248	127	143	248	127	150	214	209	146
062	RW	146	252	128	145	250	127	150	214	209	146



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



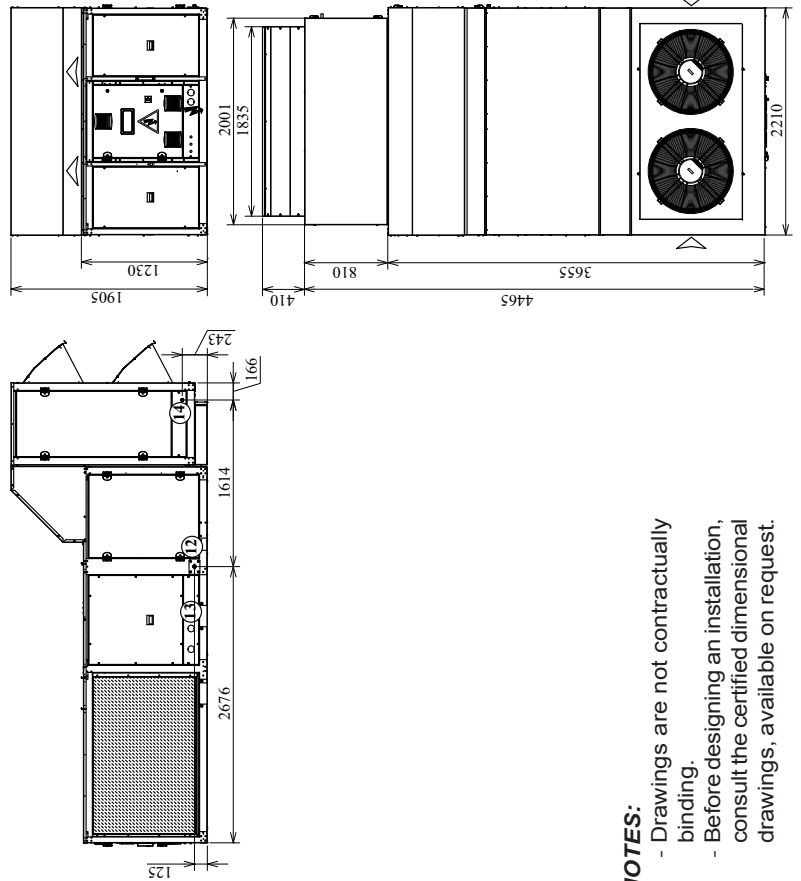
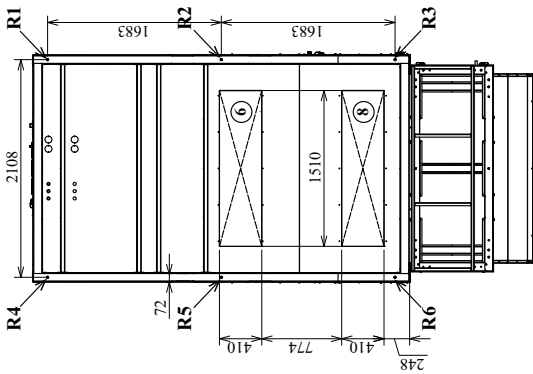
- NOTES:**
- Drawings are not contractually binding.
 - Before designing an installation, consult the certified dimensional drawings, available on request.

DIMENSIONAL DRAWINGS

50FC 070-074-086-093, RW assembly

50FC	Assembly	Centre of gravity (mm)			Machine weight (kg)	Module weight (kg)	Total weight (kg)
		X	Y	Z			
070	RW	1.286	1.102	693	1.358	454	1.812
074	RW	1.286	1.102	693	1.358	454	1.812
086	RW	1.288	1.103	697	1.367	454	1.822
093	RW	1.292	1.102	696	1.372	454	1.826

50FC	Assembly	Reactions in the supports (kg)					
		R1	R2	R3	R4	R5	R6
070	RW	201	435	272	200	433	271
074	RW	201	435	272	200	433	271
086	RW	203	437	273	202	436	271
093	RW	204	438	273	203	437	271



Legend

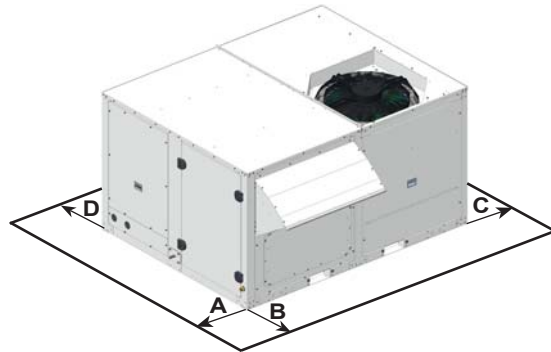
- All dimensions are given in mm.
- Outdoor air circulation
 - Standard indoor air circulation
 - Electrical cabinet
 - Electric power supply
 - Door switch
 - Lower air supply
 - Lower air return
 - Fresh air intake
 - Exhaust air outlet
 -
 - HWC connections (option)
 -
 - Anti-vibration anchoring: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

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

RECOMMENDED SERVICE CLEARANCE

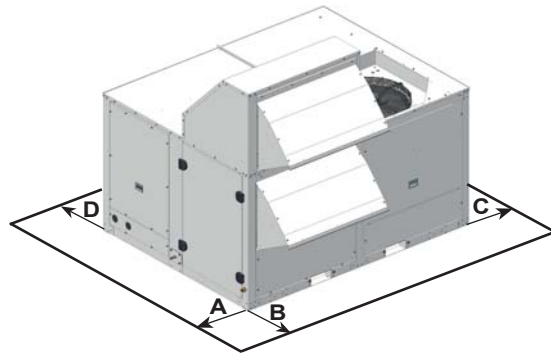
50FF/FC 020-028-037-040-045-047: B1 and B2 assemblies

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
020 to 047	2.225	1.750	1.230	1.200	1.000	1.000	1.600



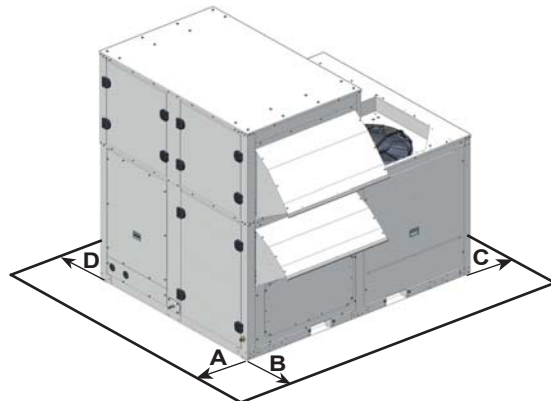
50FF/FC 020-028-037-040-045-047: B3, BX, BP and BA assemblies

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
020 to 047	2.230	1.755	1.905	1.200	1.000	1.000	1.600



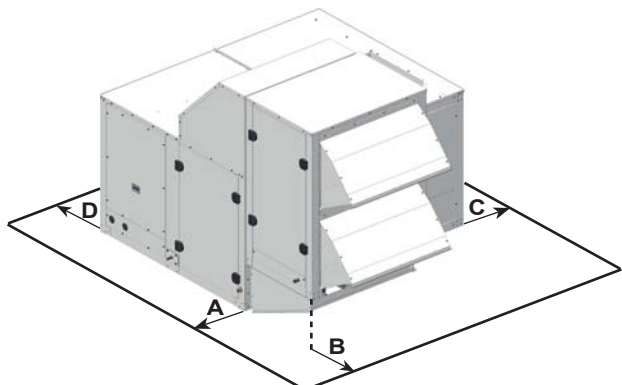
50FF/FC 020-028-037-040-045-047: BT and BB assemblies

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
020 to 047	2.230	1.760	1.975	1.200	1.000	1.000	1.600



50FF/FC 020-028-037-040-045-047: BW assembly

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
020 to 047	2.230	2.565	1.905	1.200	1.000	1.000	1.600



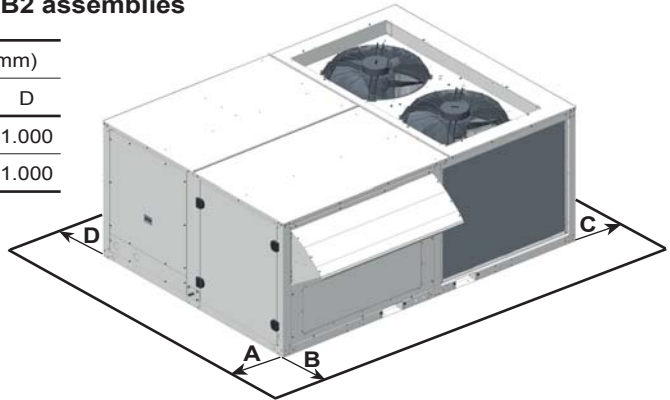
NOTE:

- Unit not designed to have overhead obstruction.

RECOMMENDED SERVICE CLEARANCE

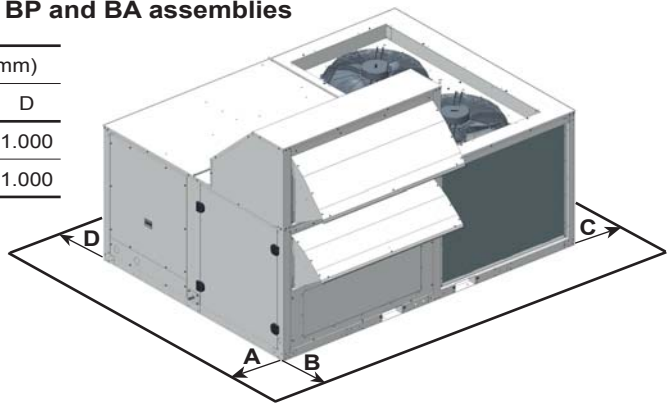
50FF/FC 052-058-062-070-074-086-093: B1 and B2 assemblies

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
052 to 062	3.000	2.200	1.230	1.600	1.000	1.000	1.000
070 to 093	3.650	2.200	1.230	2.000	1.000	1.000	1.000



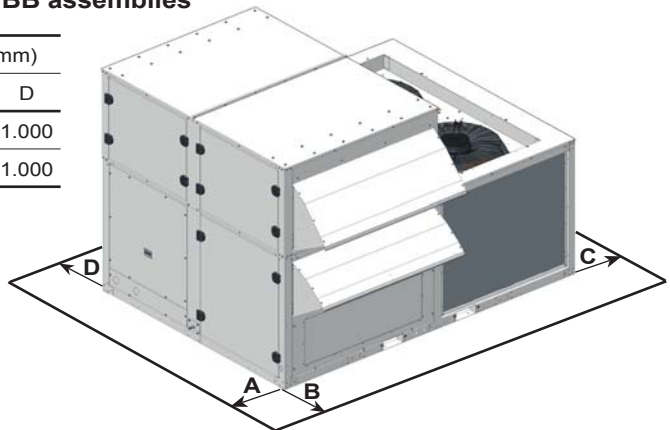
50FF/FC 052-058-062-070-074-086-093: B3, BX, BP and BA assemblies

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
052 to 062	3.000	2.205	1.905	1.600	1.000	1.000	1.000
070 to 093	3.655	2.205	1.905	2.000	1.000	1.000	1.000



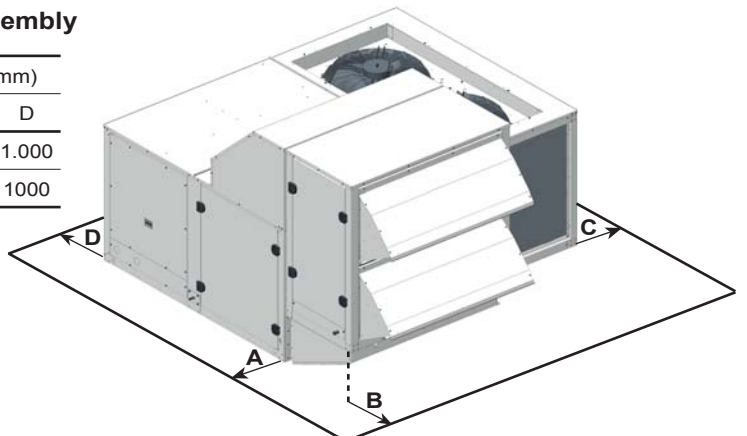
50FF/FC 052-058-062-070-074-086-093: BT and BB assemblies

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
052 to 062	3.000	2.210	1.995	1.600	1.000	1.000	1.000
070 to 093	3.655	2.210	1.995	2.000	1.000	1.000	1.000



50FF/FC 052-058-062-070-074-086-093: BW assembly

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
052 to 062	3.000	3.015	1.905	1.600	1.000	1.000	1.000
070 to 093	3.655	3.015	1.905	2.000	1.000	1.000	1.000



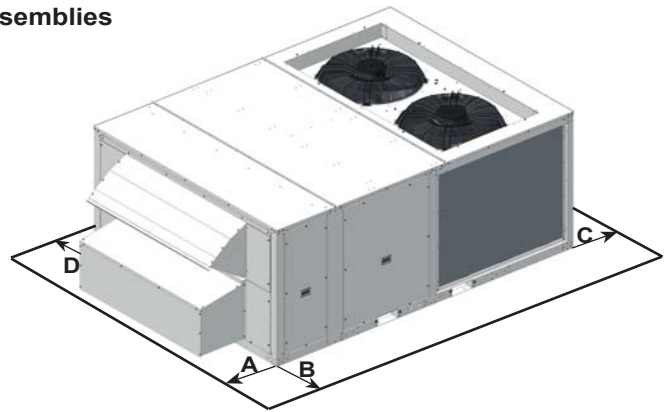
NOTE:

- Unit not designed to have overhead obstruction.

RECOMMENDED SERVICE CLEARANCE

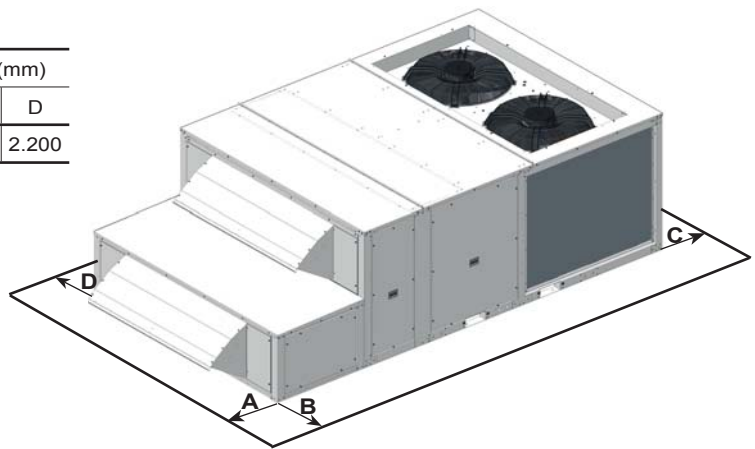
50FF/FC 052-058-062-070-074-086-093: R1 and R2 assemblies

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
052 to 062	3.000	2.200	1.230	1.000	1.000	1.300	2.200
070 to 093	3.650	2.200	1.230	1.000	1.000	1.600	2.200



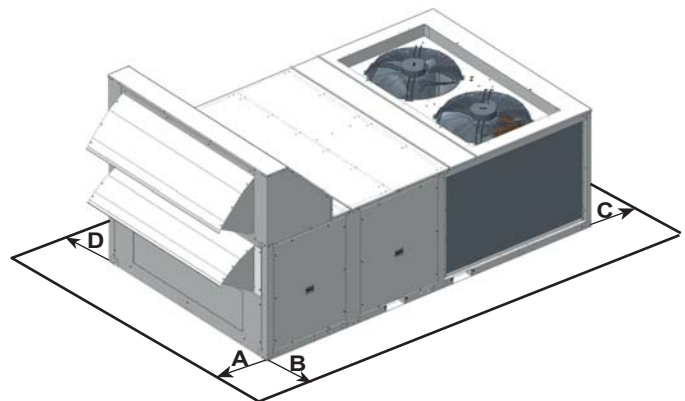
50FF/FC 052-058-062: RP assembly

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
052 to 062	3.865	2.200	1.230	1.000	1.000	1.300	2.200



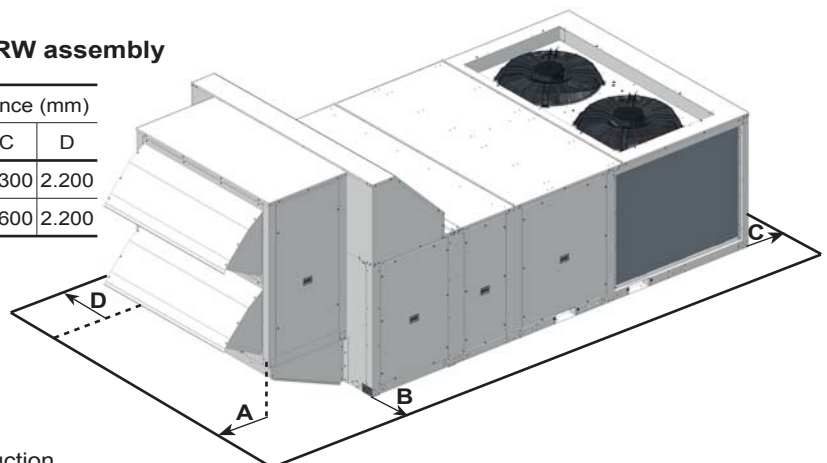
50FF/FC 070-074-086-093: RP assembly

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
070 to 093	3.655	2.210	1.905	1.000	1.000	1.600	2.200



50FF/FC 052-058-062-070-074-086-093: RW assembly

50FF/FC	Overall dimension (mm)			Service clearance (mm)			
	Length	Width	Height	A	B	C	D
052 to 062	4.675	2.210	1.905	1.000	1.000	1.300	2.200
070 to 093	4.465	2.210	1.905	1.000	1.000	1.600	2.200



NOTE:

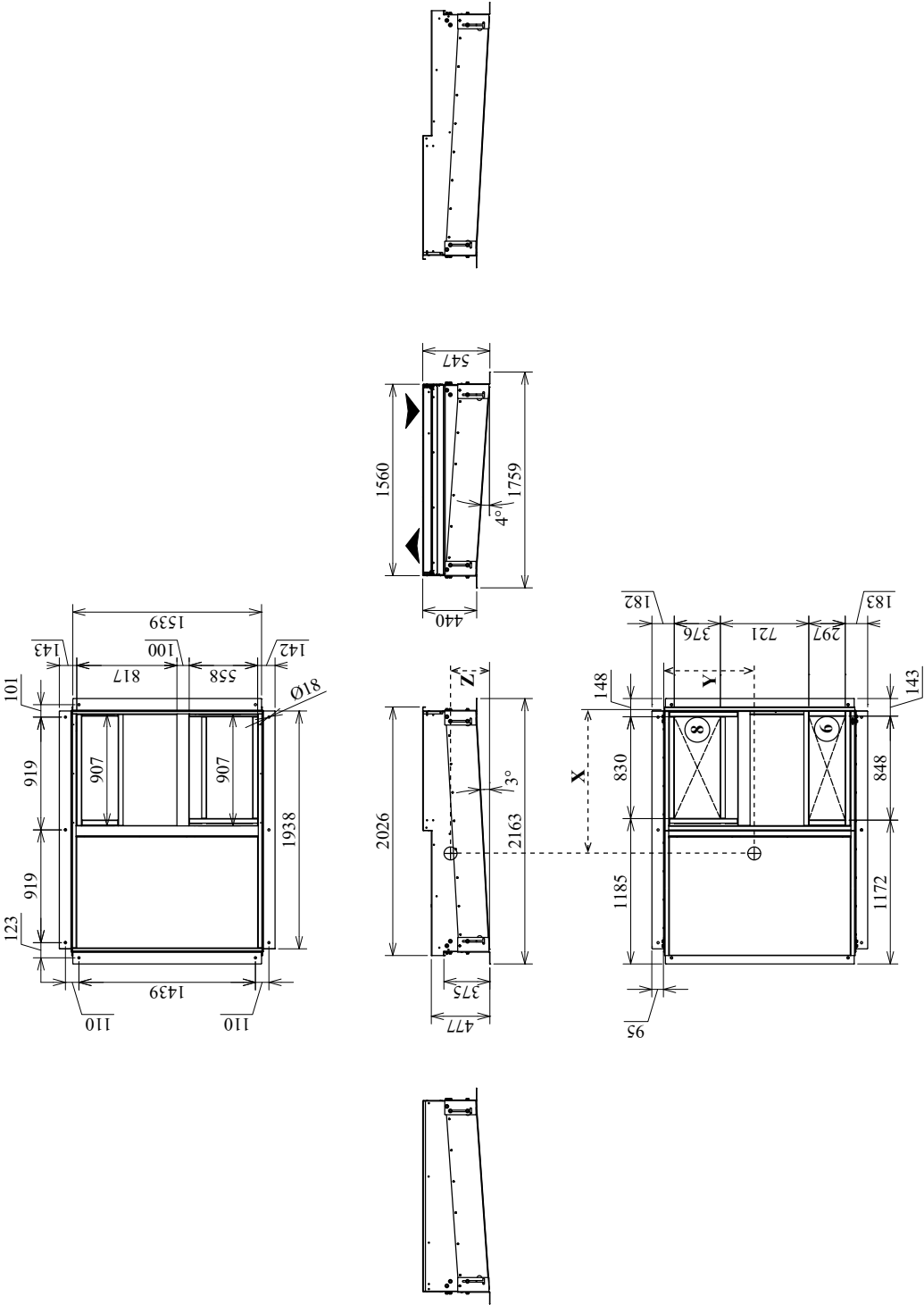
- Unit not designed to have overhead obstruction.

ROOFCURBS DRAWINGS (FOR “STANDARD” ASSEMBLIES)

Adjustable roofcurb for 50FF/FC 020-028-037-040-045-047

Weight (kg)	Centre of gravity (mm)			Maximum slope	
	X	Y	Z	R1	R2
145	864	870	194	4° (7,0%)	3° (5,1%)

Legend
 All dimensions are given in mm.
 Indoor air circulation
 Lower air supply
 Lower air return



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

ROOFCURBS DRAWINGS (FOR “STANDARD” ASSEMBLIES)

Adjustable roofcurb for 50FF/FC 052-058-062

Weight (kg)	Centre of gravity (mm)			Maximum slope	
	X	Y	Z	R1	R2
205	1.422	1.100	202	4° (7,0%)	3° (5,5%)

NOTES:

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

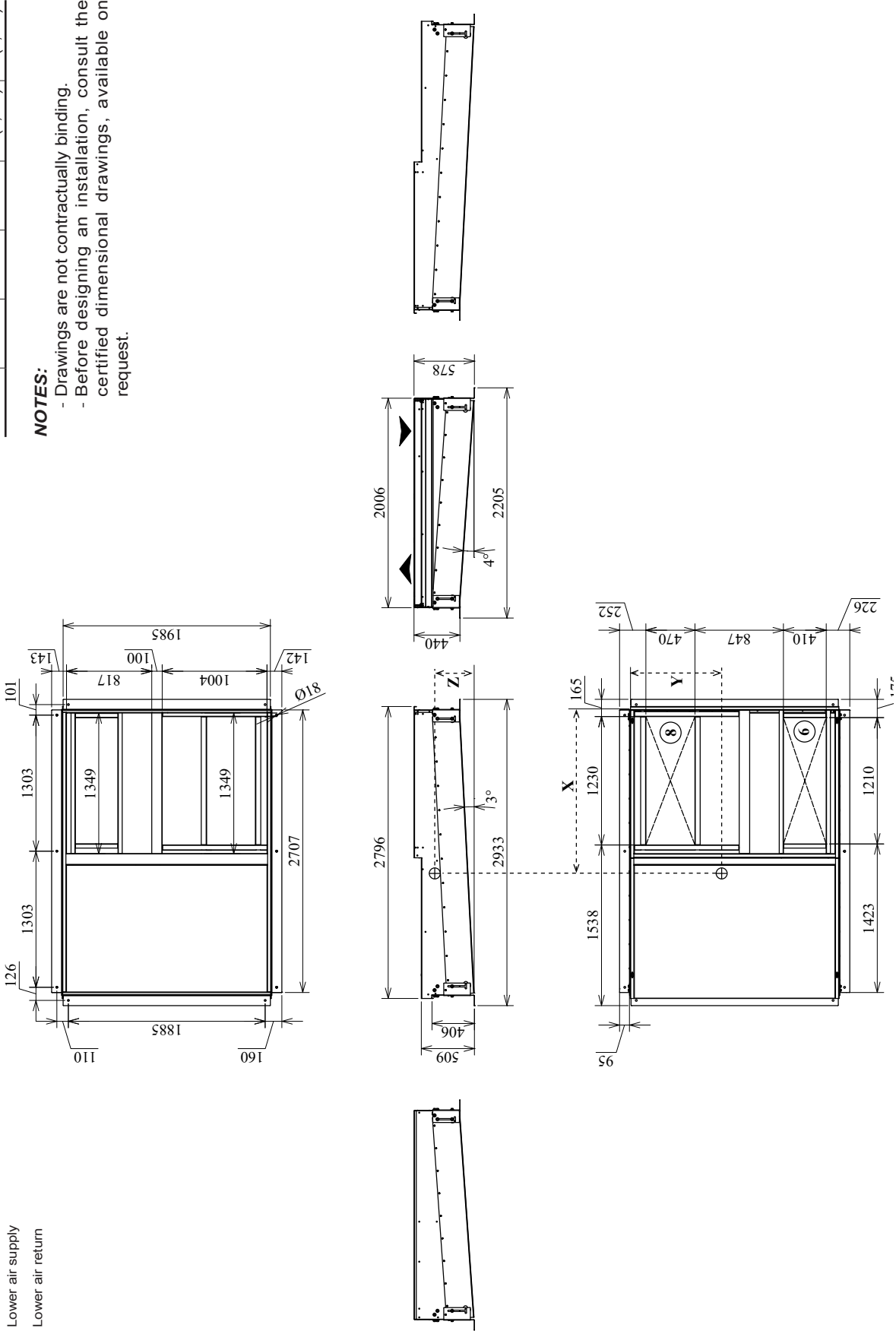
Legend

All dimensions are given in mm.

 Indoor air circulation

 Lower air supply

 Lower air return



ROOFCURBS DRAWINGS (FOR “STANDARD” ASSEMBLIES)

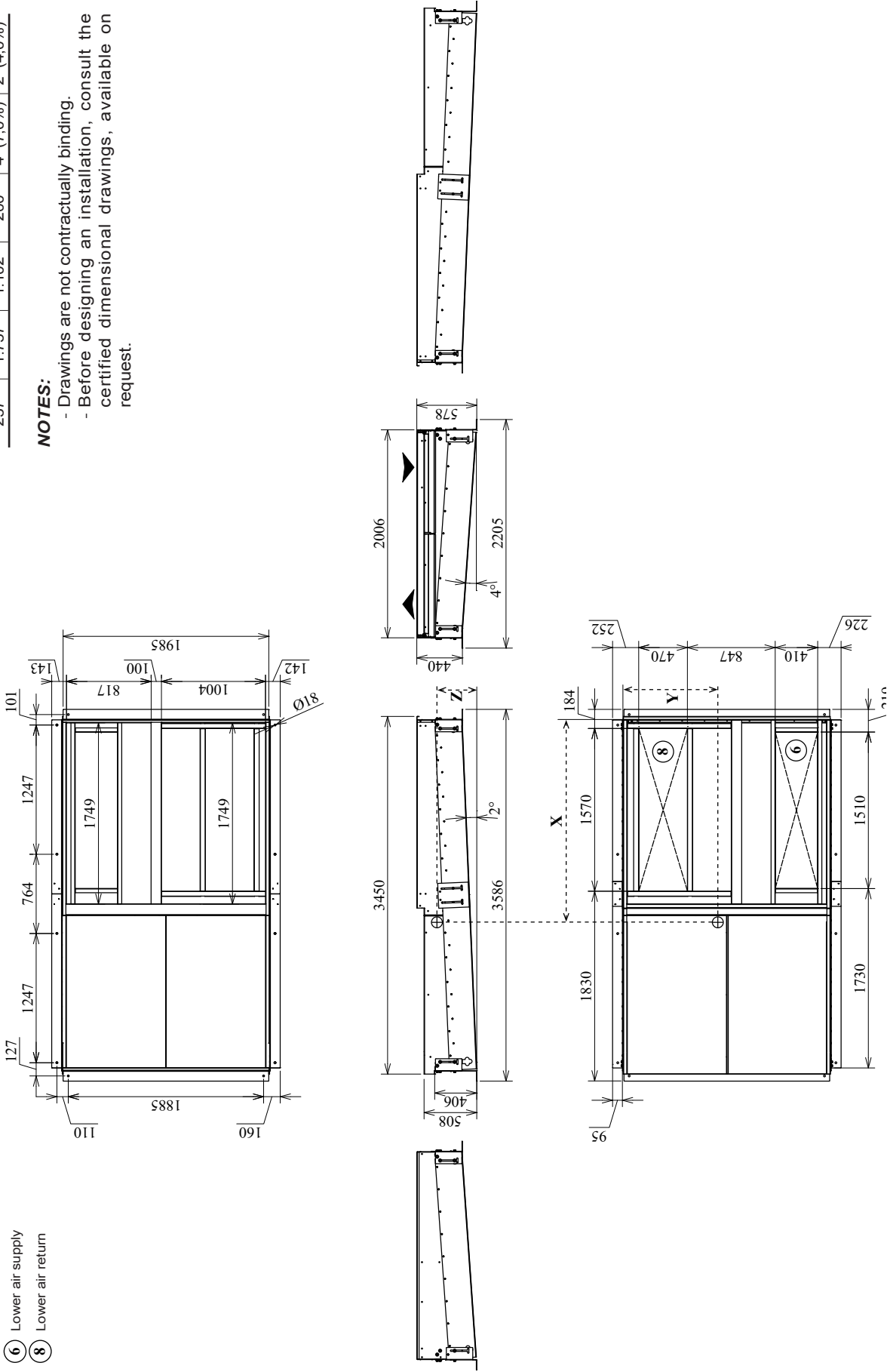
Adjustable roofcurb for 50FF/FC 070-074-086-093

Weight (kg)	Centre of gravity (mm)				Maximum slope	
	X	Y	Z		R1	R2
237	1.757	1.102	200		4° (7,0%)	2° (4,0%)

NOTES:

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

Legend
All dimensions are given in mm.
▲ Indoor air circulation
⑥ Lower air supply
⑧ Lower air return



ROOFCURBS DRAWINGS (FOR “STANDARD” ASSEMBLIES)

Adjustable roofcurb with gas burner for 50FF/FC 020-028-037-040-045-047

Weight (kg)	Centre of gravity (mm)			Maximum slope	
	X	Y	Z	R1	R2
284	885	881	338	4° (7,0%)	3° (5,1%)

NOTES:

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

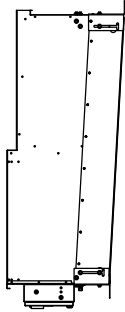
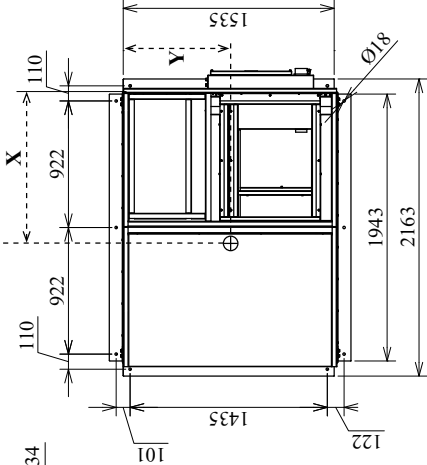
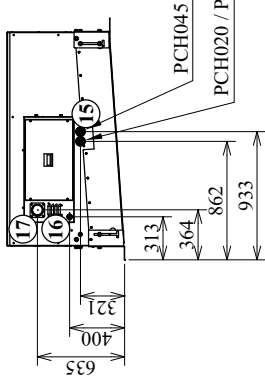
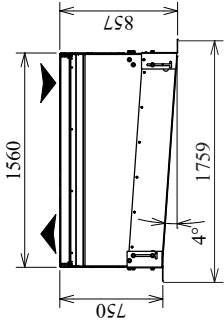
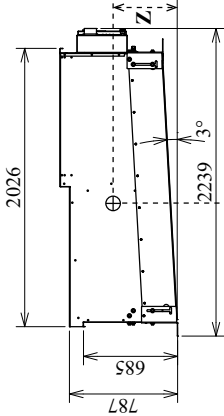
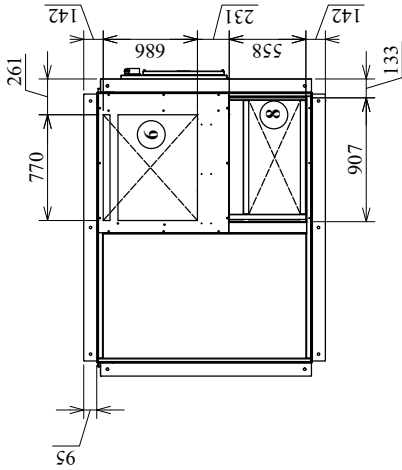
IMPORTANT:

- 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.

- Indoor air circulation
- Lower air supply
- Lower air return
- Burner drainage 1/2" M
- Gas supply 3/4" M
- Flue outlet, internal Ø 80mm (Flue connection)



ROOFCURBS DRAWINGS (FOR “STANDARD” ASSEMBLIES)

Adjustable roofcurb with gas burner for 50FF/FC 052-058-062

Weight (kg)	Centre of gravity (mm)				Maximum slope	
	X	Y	Z		R1	R2
411	1.214	1.277	344		4° (7,0%)	3° (5,5%)

NOTES:

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

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.

▲ Indoor air circulation

⑥ Lower air supply

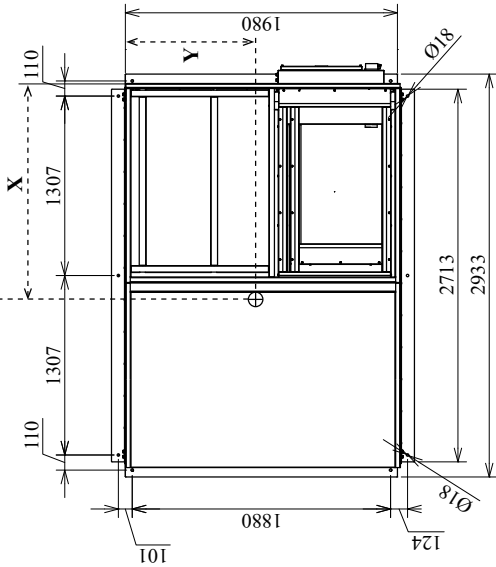
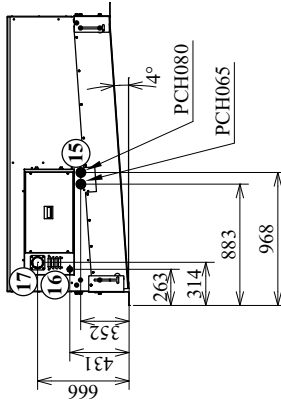
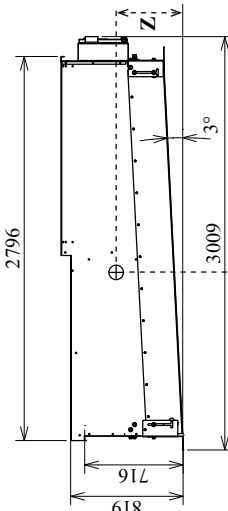
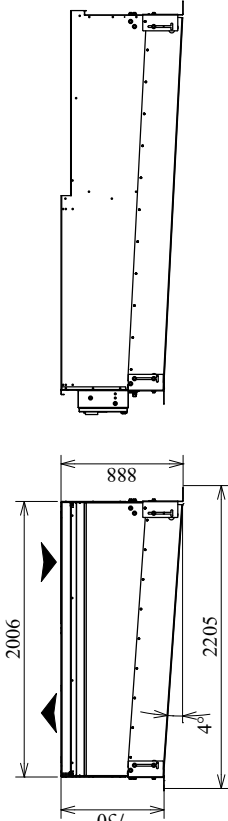
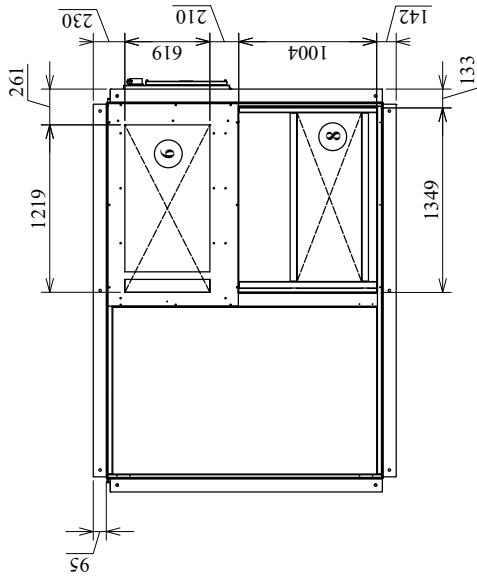
⑧ Lower air return

⑮ Burner drainage 1/2" M

⑯ Gas supply 3/4" M

⑰ Flue outlet, internal Ø 80mm

(Flue connection)



ROOFCURBS DRAWINGS (FOR “STANDARD” ASSEMBLIES)

Adjustable roofcurb with gas burner for 50FF/FC 070-074-086-093

Weight (kg)	Centre of gravity (mm)			Maximum slope	
	X	Y	Z	R1	R2
483	1.492	1.289	348	4° (7,0%)	2° (4,0%)

NOTES:

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

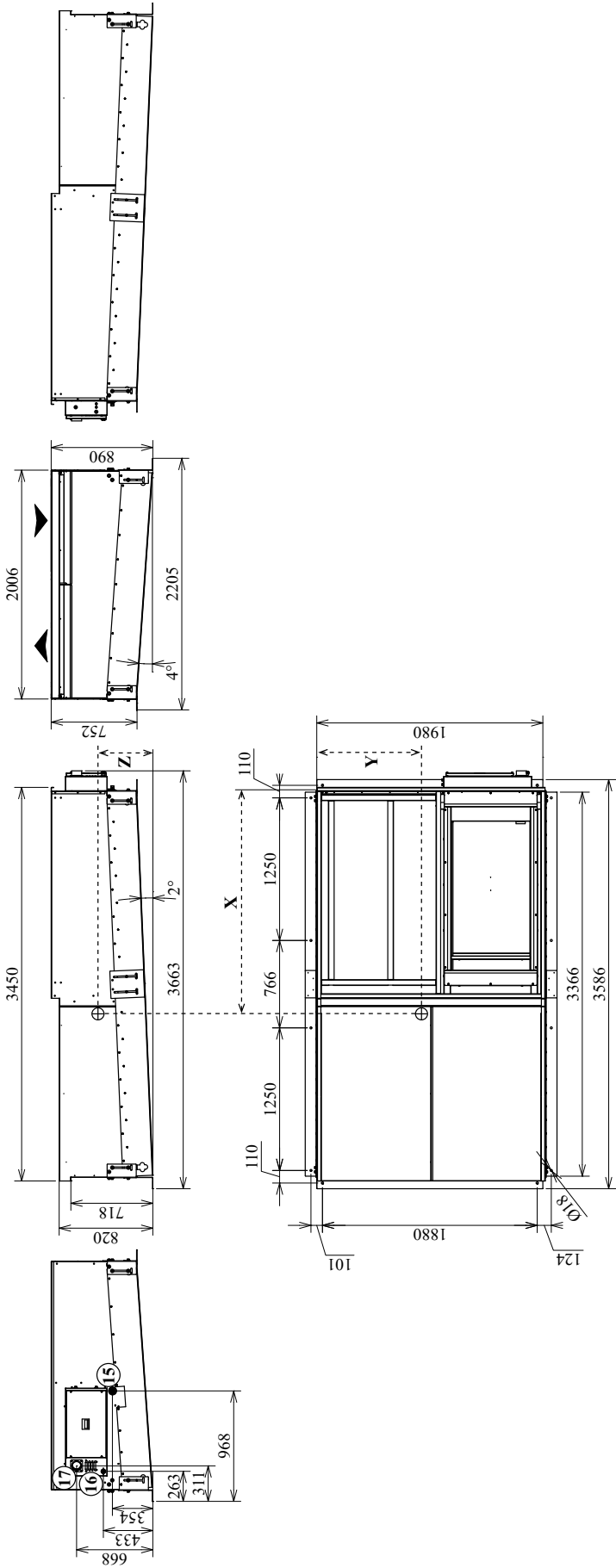
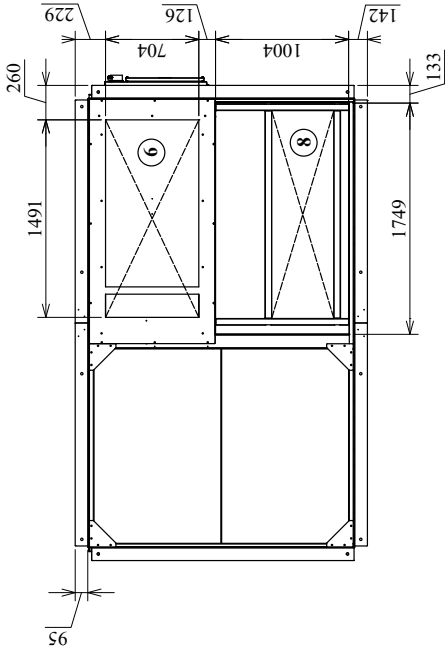
IMPORTANT:

- 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.

- Indoor air circulation
- Lower air supply
- Lower air return
- Burner drainage 1/2" M
- Gas supply 3/4" M
- Flue outlet, internal Ø 80mm (Flue connection)





Order No.: 10184, 07.2018. Supersedes order No.: 06.2018
Manufacturer reserves the right to change any product specifications without notice.



Manufactured for Carrier in Spain.
Printed in the European Union.