PRODUCT SELECTION DATA

MODULAR COMPACT HEAT PUMPS

R-410A refrigerant

Scroll compressor in tamdem

Flexibility of configuration

Outdoor plug-fan with EC HEE motor

50NI 240 - 485

Nominal cooling capacity 52,1-114,8 kW
Nominal heating capacity 57,5-119,8 kW

Air to air compact units with vertical construction for indoor use only.

- **50NI series**: Air-air reversible heat pump units. Six different models available: 240, 280, 320, 360, 420 and 485, all of these with 2 frigorific circuits and 4 compressors.

These units are equipped with hermetic scroll compressors and tandem configuration, as well as pluf-fan EC for indoor and outdoor circuits (optionally centrifugal fan with belts and pulleys for indoor module). This allows to get a high seasonal performance.

The units are supplied in 2 modules, **outdoor module** and **indoor module** for building work installation as compact version or split version, according to the choice.

A vast number of options meet numerous operating demands.

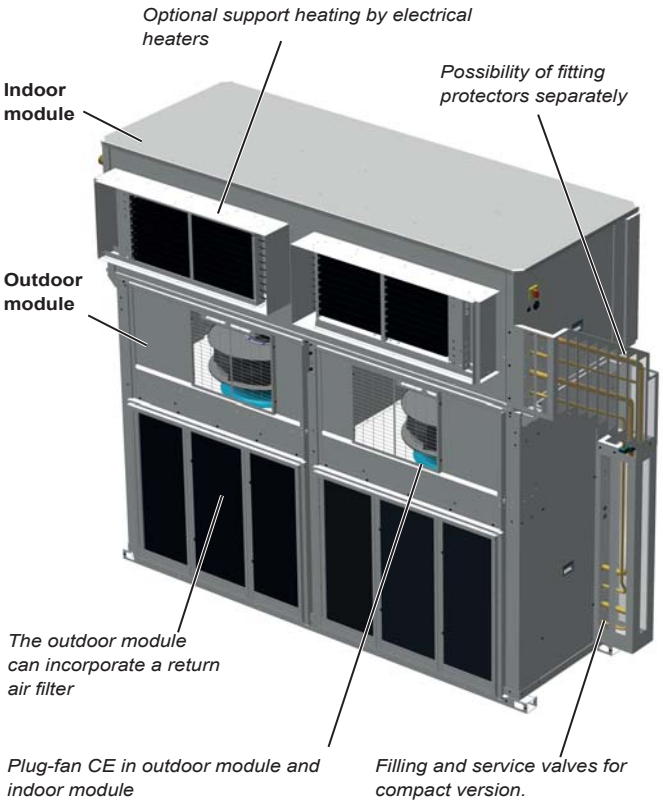
All of the units are tested and checked in the factory.

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 2010/30/EU (ECO-LABELLING)
- Harmonised Standard: EN 378-2:2012.

Translation of the original document 80292, 12.2017

UNIT COMPONENTS



Outdoor module

- Casing made of galvanised steel metal with polyester paint, white colour RAL 7035. Self-supporting frame.

Outdoor air circuit

- EC electronic supply plug-fans directly coupled with variable control speed and flow rate controller. 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. Plug-fans with direct drive and variable speed offer the following advantages:
  - Elimination of friction losses during transmission thanks to the direct drive.
  - Greater aeraulic 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 thought 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.
- Reusable air filters, assembled on a frame.
- Condensate drain pan.

Cooling circuit

- Hermetic scroll-type compressor(s), assembled over anti vibration mounts. Control of phase equilibrium and the direction of rotation.
- Crankcase heater.
- Thermostatic expansion valve with external equalisation (heat pump units).
- Four-way cycle reversing valves (heat pump units).
- Suction accumulator, anti-acid dehydrating filter(s), liquid receiver(s).
- Filling and service valves for compact version.
- Possibility of installation of modules separately, with filling and service valves.
- Cooling connections for welding.

Electric panel

- Complete and fully wired electric panel. Insulated panel cover to prevent condensation. Protection IP55.
- Transformer for power supply without neutral included in the electrical panel.
- Main ground connection.
- Compressor(s) and fan(s) motor contacts.

Protections

- High and low pressure pressostats.
- Compressor discharge temperature control.
- Non-return valve built into the compressor.
- Main door switch.
- Magnetothermic protection switches for the compressor(s) power line and fans motor.
- Automatic switch in the control circuit.

Indoor module

- Casing made of galvanised steel metal with polyester paint, white colour RAL 7035. Self-supporting frame.

Indoor air circuit

- Coil with copper pipes and fins of an aluminium alloy.
- EC electronic supply plug-fans directly coupled with variable control speed and flow rate controller. 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.
- Reusable air filters, assembled on a frame.
- Condensate drain pan.

Cooling circuit

- Thermostatic expansion valve(s) with external equalisation

Protections

- Main door switch

Electronic controls

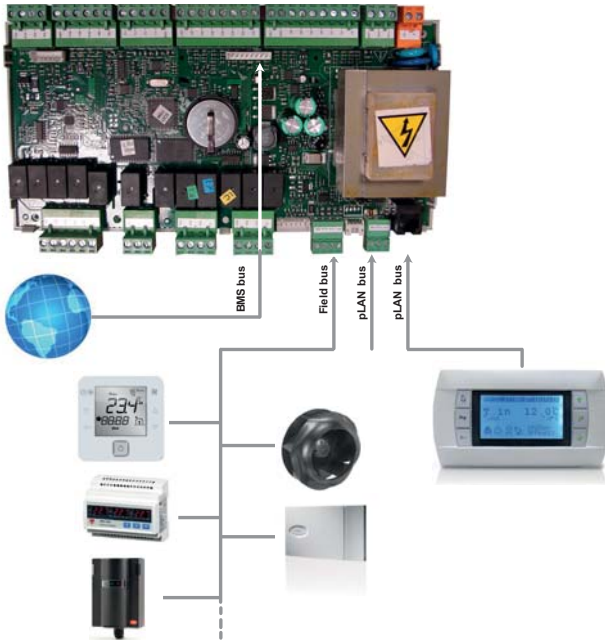
Electronic regulation CARRIERrtc

The **CARRIERrtc** control consist of a µPC MEDIUM control board, sensors, a pGD1 graphic terminal and a TCO user terminal (optional).

This system uses a RS485 field-bus to manage additional components.

A BMS card (optional) allows the control board to be connected to a centralised technical management system.

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



Main functions:

- 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 time delays.
- Defrosting management (in heat pump units).
- Control of the supply air temperature.
- All-seasons operation via the condensation and evaporation pressure control.
- Setpoint compensation based on the outdoor temperature.
- Hourly and weekly schedule.
- Fire protection.
- Diagnosis of faults and general alarm.

Optional function:

This control is used to manage addition components such as:

- External air damper for the renewal of fresh air, depending on the temperature of the mixed air or depending on the air quality sensor.
- Mixing box for thermal, enthalpic or thermoenthalpic free-cooling.
- Cooling recovery circuit for renewing the air.
- Rotary heat exchanger.
- Auxiliary electrical heaters: two-stage with on/off control or single-stage with proportional control.
- Hot water coil with 3-way valve, with proportional or on/off control.
- Gas burner with proportional control.
- Humidifier with proportional or on/off control.
- Air flow rate controller (with centrifugal fans).
- Clogged filter pressostat.
- Smoke detection station.
- Air quality sensor for measuring CO_2 and/or volatile compounds.
- Refrigerant leak detector.
- Energy meter and and calculation of the cooling and heating capacities.

Terminal pGD1:

This terminal, fitted on the electrical cabinet is used to:

- Carry out initial programming of the unit.
- Modify operating parameters.
- Switch the unit ON / OFF.
- Select the operating mode.
- Adjust the setpoints.
- Display the variables controlled and sensor values measured.
- Display the current alarms and their historical record.

TCO user terminal (optional):

This terminal can be installed on the electrical cabinet, instead of pGD1 terminal. In this case, the remote connection of the pGD1 terminal is posible. Please consult “Control options”.

TCO terminal is used to:

- Switch the unit ON / OFF.
- Select the operating mode.
- Adjust the setpoints.
- Display the installation’s temperatures and humidity, outdoor temperature, supply air temperature, CO_2 sensor and opening of the outdoor damper.
- Display alarms codes.

Electronic control CARRIERrtc medium (optional)

CARRIERrtc medium control is an electronic module with microprocessor comprised of a control board and a TCO.

Optionally, this control can have a terminal for pGD1 maintenance that facilitates the initial scheduling of the unit, the modification of the operating parameters and the description of the alarms produced.

Note: This control can not manage plug-fan EC.

OPTIONAL

Optional for the outdoor module

Outdoor environment

Corrosion

- Coil with copper pipes and copper fins.
- INERA® coil with copper pipes and fins of an aluminium alloy, of high performance and great resistance to the corrosion.
- Coil with copper pipes and aluminium fins with polyurethane and Blygold® coating.

Humidity

- Tropicalised electric panel.
- Tropicalised motors and fans (please consult).

Installation

- Antivibration mounts made of rubber.
- Service valves for cooling connections.
- Oil separator for cooling connections with maximum equivalent length of the cooling line greater than 50 metres, optional only available when the units are supplied in 2 modules, **outdoor module** and **indoor module** for building work installation as split version.
- Position of air supply of the outdoor unit:
  - Side: supply by default
  - Upper: only available when the units are supplied for building work installation as split version.
- Air coil protection grille (it's not compatible with the air filter).
- Gravimetric filters in the return air. The filters frame is removable, and upon request, it is possible to supply the frame separately with the unit SP, to be joined on site (width = 53 mm)

Acoustic

- Acoustic insulating cover for compressor

Electric panel

- Electrical power supply with neutral.
- Energy meter for monitoring of the power consumption of the installation (with CARRIERrtc control). Available if the unit does not incorporate electrical heaters. (Upon request)

Optional for the indoor module

Outdoor environment

Humidity

- Stop-drop in the indoor air coil. Recommended in cases where a high moisture content in the air is foreseen or when the air flow is high.
- Stop-drop in the outdoor air intake.

Corrosion

- Coil with copper pipes and copper fins.
- INERA® coil with copper pipes and fins of an aluminium alloy, of high performance and great resistance to the corrosion.
- Coil with copper pipes and aluminium fins with polyurethane and Blygold® coating (indoor unit and/or hot water coil).
- Condensates drain pan in stainless steel.

Comfort / heating options

- Hot water auxiliary coil, with three-way valve. Two options:
  - Nominal coil for heating in cooling-only units.
  - Auxiliary coil for heating in heat pump units.

  If the unit includes hot water coil and free-cooling, and works with negative temperatures of outdoor air, an anti-freeze thermostat as safety system is mandatory.
- Auxiliary electrical heaters. With this option, the air flow controller is included.

Comfort / indoor air quality options

- Filtration of the supply air:
  - Gravimetric filter G4.
  - Gravimetric filter G4 + creased opacimetric filters M6 to F9.
- Air quality probe for installation in the environment or in duct to enable measuring CO_2 and/or volatile compounds (with CARRIERrtc control).

Security

- Soft starter of the supply and/or return centrifugal fans which prolongs the set time mainly aimed at installations with cloth ducts. Compulsory for motors with an output of 15 kW and above.
- Differential pressostat for the detection of clogged filters.
- Differential pressostat for control of air flow.
- Smoke detecting station in accordance with the NF S 61-961 standard.
- Refrigerant leak detector (with CARRIERrtc control). This allows prompt identification of gas leaks, guaranteeing the safety of any people in the vicinity. Installation of the device ensures compliance with European standards F-GAS and EN378 as well as ASHRAE 15, EN378 and ASHRAE 15.

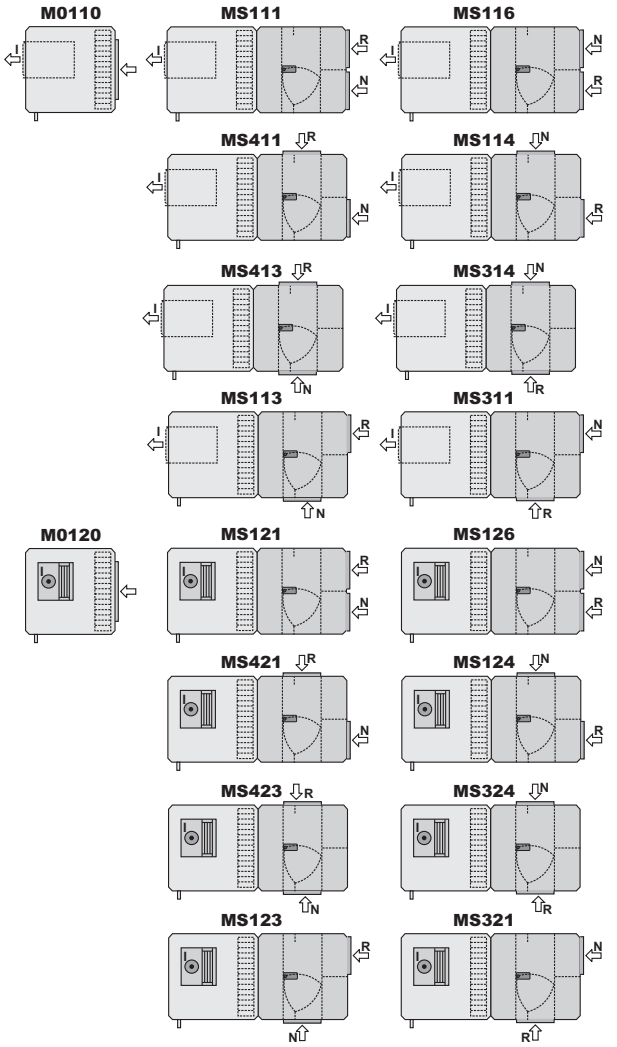
Installation

- Antivibration mounts made of rubber
- Centrifugal fan with belts and pulleys for indoor module (only for models 240 to 360).
- Position of supply and/or return of the indoor unit air.

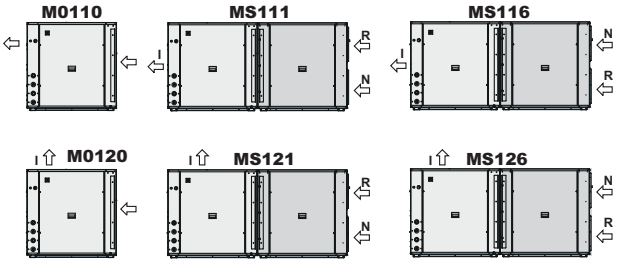
■ Assemblies **with mixing** box with 2 motorised damper for air renewal and free-cooling:

Assemblies with mixing box

Models 240 to 360 (plan view)



Models 420 and 485 (raised view)



Circulación de aire

I = Supply
R = Return
N = Fresh air inlet
E = Air extraction
Air inlet
Air outlet

Designation

Mwxyz

Assembly:	Return:	Supply:	Fresh air:
0 = Standard	1 = Rear	1 = Front	1,6 = Rear
S = Outdoor air intake with damper	2 = Top	2 = Top	3 = Right-hand side (*)
	3 = Right-hand side (*)		4 = Left-hand side (*)
	4 = Left-hand side (*)		

(*) Seen in the direction of airflow

Important: The attachment of mixing box as well as structural support in compact version is under the sole responsibility of installer.

Free-cooling

On units with mixing box, the free-cooling can be managed by the electronic control.

This function allows the outdoor air conditions to be taken advantage of when these are more favourable than those of the return (or ambient) air. As such, this allows the cooling capacity to be reduced under these circumstances.

Note: The free-cooling management is not compatible with activation of recovery circuit

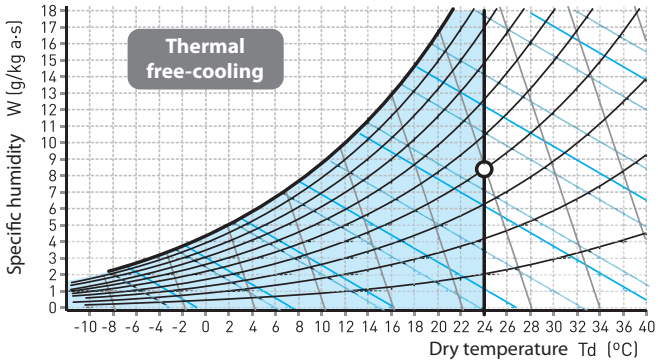
The percentage of air renewal will range from 0% to 100%.

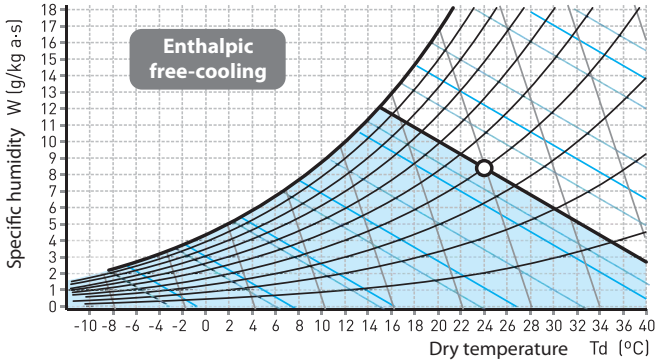
There are three options for the free-cooling management:

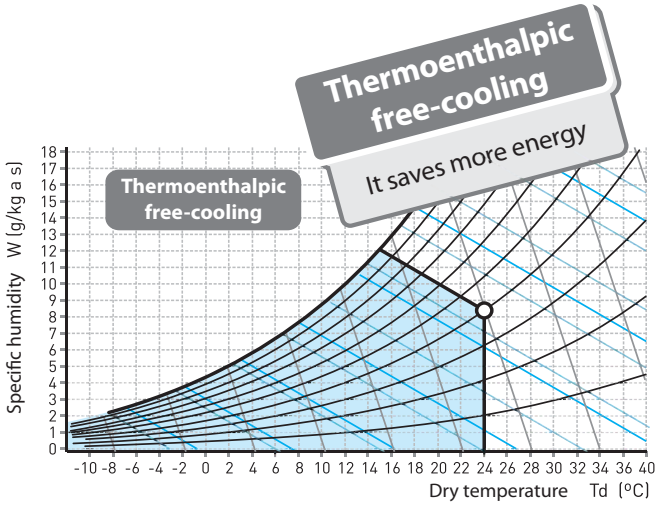
■ Thermal, with comparison of temperatures.

■ Enthalpic, with comparison of enthalpies.

■ Thermoenthalpic, with comparison of enthalpies and a correction for temperature.





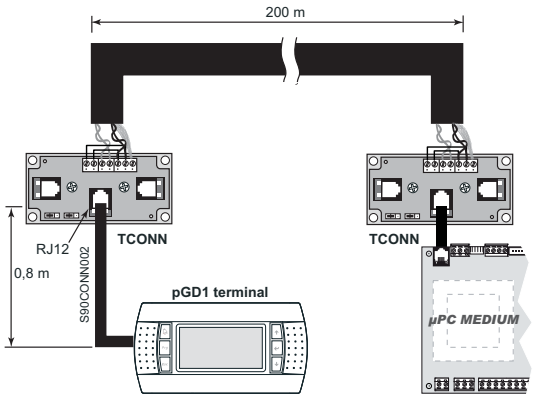


Optional for electronic controls

Communication options

With control CARRIERrtc (standar)

- TCO user terminal, for installation on the electric panel, instead of pGD1 terminal.
- Control without pGD1 terminal (for units with shared terminal).
- Kit remote control to 200 meters with pGD1 terminal (pGD1 terminal + 2 TCONN bypass cards). In this case it´s possible to install the TCO terminal on the electric panel.



- Ambient temperature probe with RS485 communication. By default the control incorporates a NTC probe.

  Note: An ambient probe with RS485 communication is required for installation to more than 30 m.
- Two to four ambient temperature probe with RS485 communication.
- Ambient T+RH probe with RS485 (compulsory in units with enthalpic or thermoenthalpic free-cooling as optional). In this case also added outdoor air humidity probe.
- Air quality probe for installation in the environment or in duct to enable measuring CO_2 and/or volatile compounds.
- Change to **CARRIERrtc medium** electronic control with TCO terminal as standard and pGD1 terminal as optional.

With control CARRIERrtc medium (optional)

- pGD1 terminal for maintenance of the unit.
- Kit remote control to 200 meters with pGD1 terminal (pGD1 terminal + 2 TCONN bypass cards).
- Return or ambient temperature probe connected to the board that replaces the ambient probe of the thermostat TCO. This probe is required for anti-fire safety.
- Mixing temperature probe: compulsory to manage of the free-cooling.

Communication

CARRIERrtc and **CARRIERrtc medium** controls allow 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.

Supervision solutions

Different solutions of supervision are available according to the dimensions of the installation.

- **pCO Web**

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

- **PlantWatchPRO3**

  It is a solution designed for the monitoring of installations of medium - small dimensions, with ability to manage up to 30 units. Suitable for technical environments, it has no parts in movement. It's available in two versions: panel and wall.

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

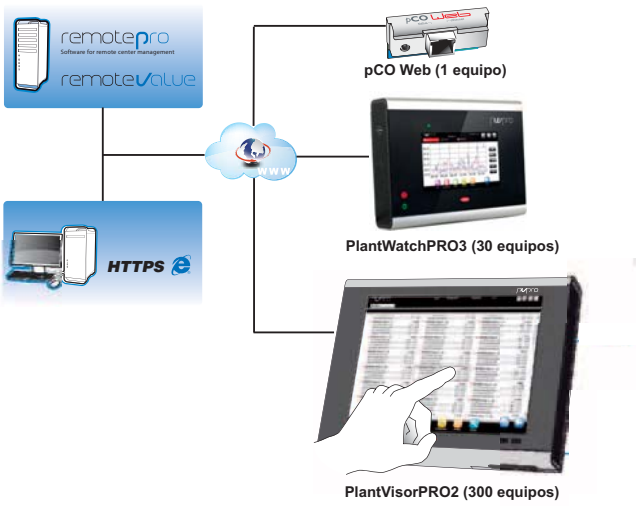
  In this case, each unit needs one RS485 Carel / Modbus board.

- **PlantVisorPRO2**

  This is the solution for the management and supervision of air-conditioning installations with up to 300 units. It performs advanced monitoring and maintenance functions and enables creating areas and groups which simplify the management of the installation. It also allows the integration of energy meters for monitoring the power consumption of the installation.

  PlantVisorPRO2 is available in two versions:
  - **Box:** comprised of CPU and, optionally, by monitor and keyboard.
  - **Touch:** this includes CPU and touchscreen in the one device.

  In this case, each unit needs one RS485 Carel / Modbus board.



These systems allow the installation in remote management. Through a single connection to the Internet is accessed the information system. The Web interface, which is available for the local user, allows the monitoring and the complete configuration of the installation: from the office or any other user's current location.

For remote control of multiple sites, there are dedicated tools for centralized management as **RemotePRO** and **RemoteValue**.

TECHNICAL CHARACTERISTICS (EN-14511-2018)

Outdoor module 50NI		240	280	320	360	420	485
Cooling capacities	Cooling capacity ① (kW)	52,1	60,6	69,6	81,5	105,5	114,8
	Power input ③ (kW)	18,7	22,0	25,9	32,3	41,4	45,14
	EER performance	2,78	2,75	2,68	2,53	2,55	2,54
	SEER	3,51	3,50	3,51	3,49	3,34	3,34
	ηs	140 %	139 %	139 %	139 %	131 %	131 %
Heating capacities	Heating capacity ② (kW)	57,5	64,6	74,1	84,7	108,6	119,8
	Power input ③ (kW)	17,8	20,1	23,7	29,4	35,3	40,0
	COP performance	3,23	3,22	3,12	2,88	3,08	3,00
	SCOP	3,10	3,06	3,10	3,07	2,99	3,00
	ηs	127 %	125 %	127 %	126 %	117 %	117 %
Outdoor fan	Nominal air flow (m^3/h)	23.000	23.000	24.400	24.400	30.000	35.000
	Available static pressure (mm.w.c)	20					
	Type	electronic Plug-fan					
	Number / Diameter (mm)	2 / 560	2 / 560	2 / 560	2 / 560	2 / 560	4 / 500
	Motor output (kW)	2 x 3	2 x 4,7	2 x 4,7	2 x 4,7	2 x 4,7	4 x 2,65
	Power input (kW)	2 x 2,06	2 x 2,2	2 x 2,5	2 x 2,5	2 x 3,48	4 x 1,92
	Speed (r.p.m.)	1.500	1.750	1.750	1.750	1.750	1.700
Compressor	Type	Scroll					
	No. compress. / circuits / stages	4 / 2 / 4					
	Oil type	Copeland 3MAF 32cST, Danfoss POE 160SZ, ICI Emkarate RL 32CF, Mobil EAL Artic 22CC					
	Volume of oil (l)	4,8	6,8	7,08	7,2	13,2	13,2
Cooling connections	Circuit 1: Liquid line	5/8”	5/8”	5/8”	5/8”	5/8”	5/8”
	Circuit 1: Gas line	1 1/8”	1 1/8”	1 1/8”	1 1/8”	1 3/8”	1 3/8”
	Circuit 2: Liquid line	5/8”	5/8”	5/8”	5/8”	5/8”	5/8”
	Circuit 2: Gas line	1 1/8”	1 1/8”	1 1/8”	1 1/8”	1 3/8”	1 3/8”
Refrigerant	Type	R-410A					
	Global warming potential (GWP) ④	2.088					
	Load up to 7,5 m (kg)	19,1	24,9	25,9	26,4	38,7	39,3
	Environment impact (tCO2 e)	39,9	52	54,1	55,1	80,8	113,6
Electrical features	Mains voltage	400 V / III ph / 50 Hz (±10%)					
	Power supply	3 wires + GND					
	Maximum absorbed current (A)	58,52	71,16	82,58	92,3	108,44	111,6
Dimensions	Length (mm)	2.746				3.484	
	Width (mm)	860					
	Height (mm)	1.717					
Weight	(kg)	760	775	788	798	992	1002

Indoor module 50NI		240	280	320	360	420	485
Indoor supply circuit fan	Nominal air flow (m^3/h)	10.300	12.500	14.000	15.500	21.000	21.000
	Available static pressure (mm.w.c)	20	20	20	20	20	20
	Type	electronic Plug-fan					
	Number / Diameter (mm)	2 / 500	2 / 500	2 / 500	2 / 500	3 / 500	3 / 500
	Motor output (kW)	2 x 2,65	2 x 2,65	2 x 2,65	2 x 2,65	3 x 2,65	3 x 2,65
	Power input (kW)	2 x 0,95	2 x 1,10	2 x 1,32	2 x 1,57	3 x 1,46	3 x 1,46
	Speed (r.p.m.)	1700	1700	1700	1700	1700	1700
Maximum absorbed current	Fan (A)	2 x 4	2 x 4	2 x 4	2 x 4	3 x 4	3 x 4
Dimensions	Length (mm)	1.820	2.804			2.974	
	Width (mm)	950	1.028			1.209	
	Height (mm)	732	800			1.091	
Weight	(kg)	262	365			646	

① Cooling capacity calculated in accordance with the EN-14511-2018 standard given for indoor temperature conditions 27ºC, (19ºC WB) and 35ºC outdoor temperature.
② Heating capacity calculated in accordance with the EN-14511-2018 standard given for indoor temperature conditions 20ºC and 6ºC WB outdoor temperature.
③ Total power input by compressors and motorised fans under nominal conditions, calculated in accordance with the EN-14511-2013 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.

SOUND LEVELS dB(A)

Sound power level 50NI compact version

50NI compact	240	280	320	360	420	485
63 Hz	62,1	62,1	58,8	68,5	68,2	68,5
125 Hz	71,6	71,6	73,5	72,2	74,5	74,6
250 Hz	78,5	78,1	75,8	77,4	82,4	85,2
500 Hz	82,8	83,7	82,3	82,4	84,5	87,4
1000 Hz	84,7	84,9	85,8	85,8	86,4	88,5
2000 Hz	82,3	82,5	83,8	83,7	84,2	85,8
4000 Hz	77,5	77,7	76,6	77,7	79,7	80,0
8000 Hz	71,5	71,8	69,0	73,1	72,2	73,0
Total dB(A)	89,1	89,4	89,5	89,8	91,1	93,3

Sound pressure level 50NI compact

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

50NI compact	240	280	320	360	420	485
Total dB(A)	62,2	62,5	62,6	62,8	63,9	66,1

Nota: 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.

Sound power level 50NI outdoor module

Outdoor module	240	280	320	360	420	485
63 Hz	59,1	59,1	55,8	65,5	65,2	65,5
125 Hz	68,6	68,6	70,5	69,2	71,5	71,6
250 Hz	75,5	75,1	72,8	74,4	79,4	82,2
500 Hz	79,8	80,7	79,3	79,4	81,5	84,4
1000 Hz	81,7	81,9	82,8	82,8	83,4	85,5
2000 Hz	79,3	79,5	80,8	80,7	81,2	82,8
4000 Hz	74,5	74,7	73,6	74,7	76,7	77,0
8000 Hz	68,5	68,8	66,0	70,1	69,2	70,0
Total dB(A)	86,1	86,4	86,5	86,8	88,1	90,3

Sound pressure level 50NI outdoor module

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

Outdoor module	240	280	320	360	420	485
Total dB(A)	59,5	59,8	60,0	60,2	61,4	63,5

Nota: 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.

Sound power level 50NI indoor module

Sound power level in the indoor fan supply to be taken into account for the silencer calculation:

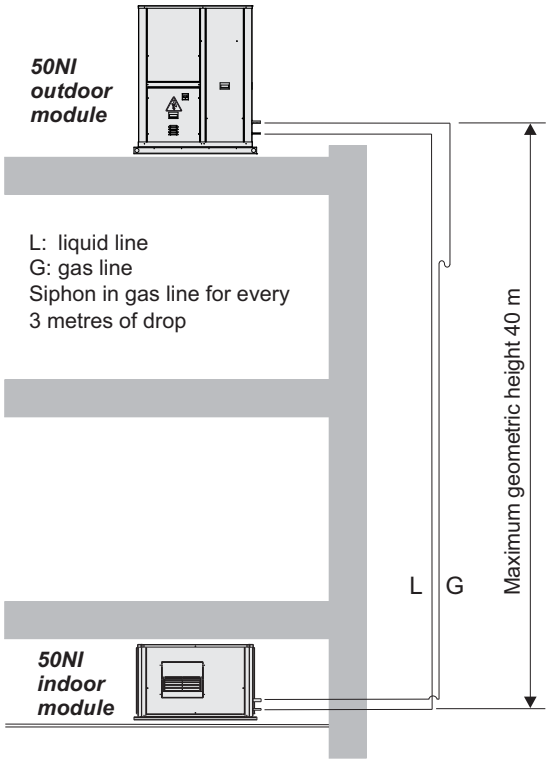
Indoor module	240	280	320	360	420	485
Total dB(A)	78,7	79,2	81,7	84,2	81,8	81,8

RECOMMENDATIONS FOR THE COOLING CONNECTION, FOR SPLIT VERSION

In split version, the outdoor module and indoor module must follow some recommendations

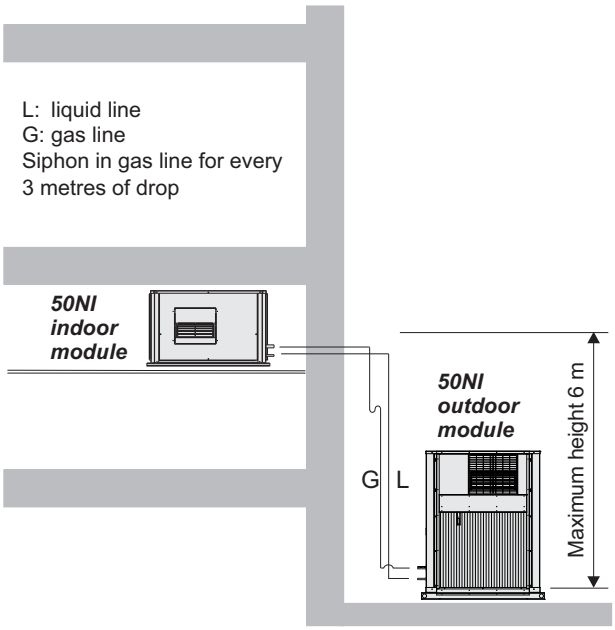
Outdoor unit top

Maximum equivalent length of the cooling line: 50 metres
For longer lenghts an oil separator must be user



Outdoor unit bottom

Maximum equivalent length of the cooling line: 30 metres



Note: when the unit is supplied for split version with the outdoor and indoor modules, can include optionally filling and service valves for the circuit connections and the charge of refrigerant until 7 m of distance.

ADDITIONAL LOAD OF R-410A REFRIGERANT

Additional load per linear metre of piping for equivalent maximum lengths exceeding 7 metres:

Nominal diameter (inches)	1/4”	3/8”	1/2”	5/8”	3/4”	7/8”	1”	1 1/8”
Interior section (cm^2)	0,149	0,444	0,900	1,505	2,282	3,120	4,290	5,346
Liquid line charge (g/m)	19,3	57,0	115,0	193,5	292,3	404,1	550,3	685,7
Gas line charge (g/m)	--	0,2	0,4	0,7	1,0	1,4	2,0	2,5

OPTIONAL FOR THE INDOOR MODULES

Centrifugal fan

Indoor module 50NI		240	280	320	360
Nominal air flow	(m^3/h)	10.300	12.500	14.000	15.500
Available static pressure	(mm.w.c.)	20	20	20	20
Number / turbines		2 / 2			
Motor output	(kW)	2 x 1,5	2 x 1,5	2 x 1,5	2 x 2,2
Power input	(kW)	2 x 0,94	2 x 1,18	2 x 1,15	2 x 1,39
Speed	(r.p.m.)	974	936	789	816
Maximum absorbed current	(A)	7,2	7,2	7,2	10,0

High pressure plug-fan

Indoor 50NI		420	485
Nominal air flow	(m^3/h)	18.000	18.200
Available static pressure	(mm.w.c.)	20	
Maximum vailable static pressure	(mm.w.c.)	60	
Number / Diameter	(mm)	2 x 560	
Motor output	(kW)	2 x 4,7	
Power input	(kW)	3,0	
Speed	(r.p.m.)	1.750	
Maximum absorbed current	(A)	2 x 7,3	

Electrical heaters

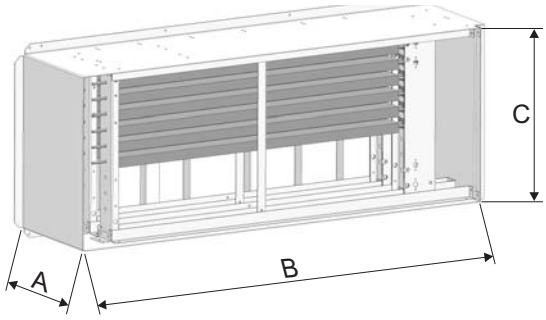
- Standard assembly in two stages (optional assembly in one stage with no over price)
- Important: with this option, the air flow controller is included.

Available capacities

Indoor modules 50NI	Total output (kW)	15	18	24	30	36	45	54
	Stage power (kW)	6 + 9	9 + 9	12 + 12	15 + 15	18 + 18	18 + 27	27 + 27
Current (A) (400V / IIIph / 50Hz)	240 / 280 / 320 / 360	21,7	26,0	34,6	53,4	52,0	--	--
	420 / 485	--	--	--	--	52,0	65,0	78,0

Frame for assembly of the auxiliary heater in the indoor supply fan:

Indoor module 50NI	Total output	Dimensions (mm)		
		A	B	C
240 (1 supply outlet)	15 / 18 kW (1 row)	189	1.142	443
	24 / 30 / 36 kW (2 row)	297	1.142	443
280 / 320 / 360 (2 supply outlets)	15 / 18 / 24 / 30 / 36 kW (1 row)	189	1.142	443
420 / 485 (2 supply outlet)	36 / 45 / 54 kW (1 row)	189	1.142	443



This frame is designed with side access for maintenance purposes.

In models with two supply fan outlets (two frames), the electrical heaters are distributed as symmetrically as possible between both frames.

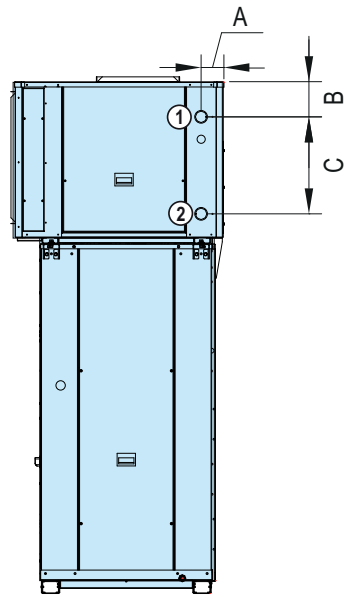
Auxiliary hot water coil

Hot water coil assembled inside the unit with a three-way valve managed by the unit control for back-up during heating in heat pump units. In this case the air inlet temperature matches the air supply temperature of the indoor coil..

Indoor module 50NI			240	280	320	360
Air pressure drop		(mm.w.c.)	4,0	5,5	6,6	7,8
Water 80/60ºC	Heating capacity	(kW)	33,6	38,6	40,9	43,7
	Water flow	(m^3/h)	1,5	1,7	1,8	1,9
	Water pressure drop	(m.w.c.)	0,5	0,7	0,8	0,9
Water 90/70ºC	Heating capacity	(kW)	46,5	53,1	56,3	60,1
	Water flow	(m^3/h)	2,0	2,3	2,5	2,6
	Water pressure drop	(m.w.c.)	1,0	1,2	1,4	1,6
Weight (empty)		(kg)	16,3	16,3	16,3	16,3
Diameter of hydraulic connections			1”			

Note: with stop-drop in the indoor air coil it is not possible to assemble the hot water coil.

Position of hydraulic conections for auxiliary hot water coil



1 Inlet 2 Outlet

Dimensions (mm)	A	B	C
240	112	140	413
280 to 360	112	173	476

Stop-drop in the indoor air coil

Air flow as from which it is recommended to install a stop-drop in the indoor coil.

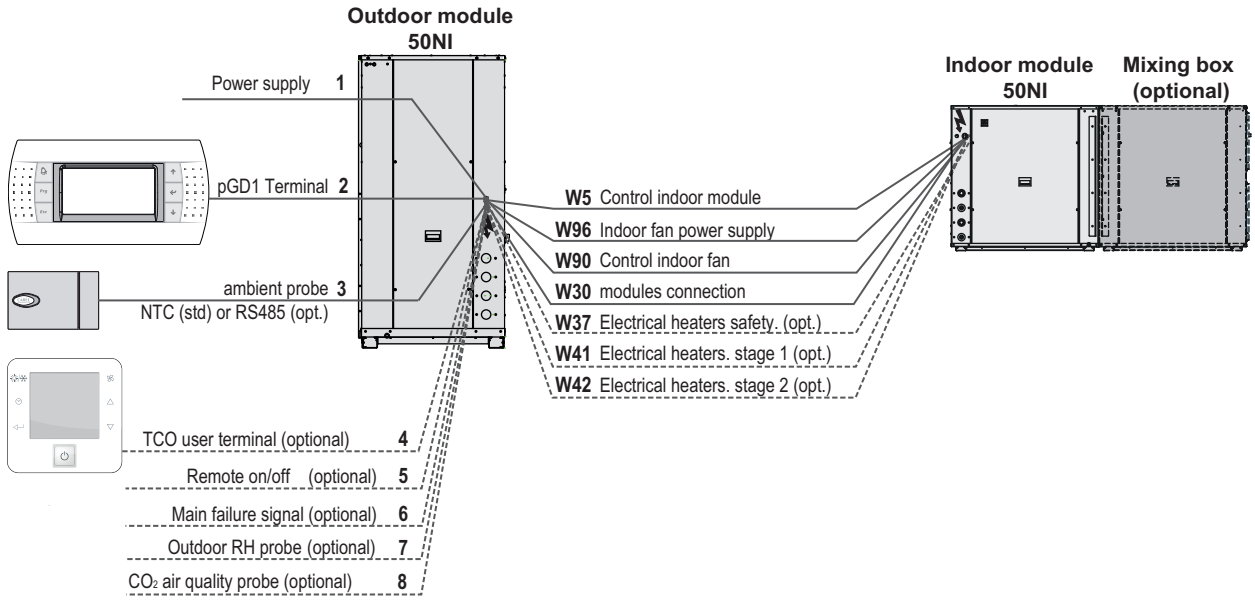
Indoor module 50NI		240	280	320	360	420	485
Air flow	(m^3/h)	11.110	16.566			16.949	

Note: for operating conditions with high dehumidification in the indoor coil (example. 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 stop-drop.

ELECTRICAL CONNECTIONS

Electronic control CARRIERrtc (standard)



Nº	50NI		240	280	320	360	420	485
1	Power supply	400 III (±10%)	3 + GND					
2	pGD1 terminal connection (standard in electrical panel)		Telephone cable 6 wires standard (RJ12 connector) (until 50 m)					
3	Ambient probe ①	NTC	2 wires					
		RS485 ②	5 wires					
4	TCO user terminal connection ③		2 wires for power supply 230V + 1 shielded cable for communication type AGW20 / 22 (1 braided pair + drainwire + shielding)					
5	Remote on/off (optional)		2 wires					
6	Main failure signal (optional)		2 wires					
7	Outdoor RH probe (optional) ①		3 wires					
8	CO_2 air quality probe (optional) ①		3 wires					
W5 ⑤	Control indoor module		5 wires					
W96 ⑤	Indoor fan power supply		4 wires					
W90 ⑤	Control indoor fan		7 wires					
W30 ⑤	Modules connection	without free-cooling (std)	2 wires					
		Free-cooling (opt.)	7 wires					
W37 ⑤	Safety thermistors of electrical heaters (optional)		2 wires					
W41 ⑤	Electrical heaters. stage 1 (optional) ④		4 wires					
W42 ⑤	Electrical heaters. stage 2 (optional) ④		4 wires					

① Connection of probes by client

② It is possible connect from 1 to 4 ambient probes RS485 in series in the Field-bus of the control board

③ If the unit is going to be installed in an industrial environment with a high level of electromagnetic interference, it is recommended to shield the cables of the thermostat control.

④ The power supply for the electrical heater must be protected by an automatic switch and/or fuses to be foreseen by the installer.

⑤ Connection hose to connect the modules supplied to work in compact version.

COOLING CAPACITY (kW)

Outdoor temperature 35ºC

50NI	Flow (m^3/h)	Indoor air temperature																	
		20 ºC / 50 % HR			23 ºC / 50 % HR			25 ºC / 50 % HR			27 ºC / 50 % HR			29ºC / 50 % HR			31ºC / 50 % HR		
		Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa	Pft	Pfs	Pa
240	8.240	43,4	37,1	15,0	46,7	38,3	15,4	49,0	39,0	15,5	51,4	39,6	15,7	53,9	40,1	16,0	56,6	40,7	16,3
	10.300	44,9	40,9	15,2	48,2	42,4	15,4	50,6	43,2	15,7	53,0	44,0	15,9	55,5	44,7	16,2	58,2	45,4	16,4
	12.360	46,1	44,8	15,3	49,5	46,5	15,5	51,8	47,6	15,8	54,2	48,5	16,1	56,9	49,4	16,3	59,5	50,4	16,5
280	10.000	50,6	44,1	17,9	54,4	45,4	18,3	57,0	46,2	18,5	59,6	46,9	18,7	62,3	47,5	19,2	65,5	48,2	19,4
	12.500	52,3	48,8	18,1	56,1	50,5	18,4	58,8	51,5	18,7	61,6	52,4	19,0	64,5	53,2	19,3	67,4	54,1	19,6
	15.000	53,5	53,3	18,2	57,5	55,2	18,5	60,2	56,4	18,8	63,0	57,6	19,1	65,9	58,8	19,4	68,9	59,8	19,7
320	11.200	58,1	48,9	20,7	62,5	52,3	21,1	65,6	52,3	21,4	68,8	53,1	21,7	72,0	53,8	22,2	75,5	54,6	22,4
	14.000	60,2	55,2	20,9	64,6	56,9	21,4	67,8	58,2	21,6	70,9	59,3	21,9	74,3	60,2	22,2	77,8	61,2	22,6
	16.800	61,6	60,1	21,1	66,1	62,3	21,5	69,2	63,8	21,8	72,6	65,1	22,1	75,9	66,3	22,4	79,5	67,4	22,8
360	12.400	68,2	56,7	26,3	73,4	58,6	26,9	77,0	59,6	27,1	80,5	60,4	27,6	84,6	61,3	27,8	88,6	62,2	28,3
	15.500	70,6	62,8	26,6	75,9	65,0	27,0	79,7	66,3	27,4	83,2	67,3	27,8	87,4	68,6	28,2	91,4	69,6	28,5
	18.600	72,3	68,3	26,7	77,9	70,9	27,2	81,5	72,5	27,6	85,3	73,9	28,0	89,4	75,3	28,4	93,5	76,5	28,7
420	16.800	88,0	73,6	33,4	94,6	75,9	34,1	99,4	77,3	34,4	104,2	78,7	34,9	109,2	79,8	35,4	114,6	81,1	36,0
	21.000	91,0	81,6	33,8	97,8	84,6	34,4	102,6	86,4	34,8	107,5	88,1	35,2	112,6	89,7	35,8	117,9	91,2	36,3
	23.100	92,3	85,5	34,0	99,2	88,8	34,5	104,1	90,9	35,0	109,0	92,7	35,4	114,2	94,5	36,0	119,3	96,1	36,3
485	16.800	95,1	78,3	36,8	102,4	80,3	37,5	107,5	81,6	37,9	112,7	82,7	38,4	118,4	83,7	38,9	124,1	84,7	39,5
	21.000	99,1	86,2	37,0	106,6	88,7	37,8	111,7	90,4	38,3	116,9	91,9	38,8	122,7	93,2	39,3	128,6	94,5	40,0
	23.100	101,9	93,7	37,4	109,5	96,9	38,0	114,8	98,8	38,6	120,4	100,7	39,1	126,0	102,2	39,6	131,8	103,8	40,2

Pft: Total cooling capacity in kW

Pfs: Sensitive cooling capacity in kW

Pa: Compressor power input in kW

Correction coefficients due to outdoor temperature variation

Outdoor temperature	12ºC	15ºC	20ºC	25ºC	30ºC	35ºC	40ºC	45ºC
Coefficient K1	1,231	1,204	1,141	1,109	1,057	1,000	0,941	0,880
Coefficient K2	1,126	1,109	1,082	1,058	1,030	1,000	0,969	0,937
Coefficient K3	0,648	0,687	0,755	0,830	0,920	1,000	1,095	1,195

Correction coefficients due to relative humidity variation

Relative humidity	40%	50%	60%	70%
Coefficient K4	0,953	1,000	1,048	1,095
Coefficient K5	1,127	1,000	0,874	0,754
Coefficient K6	0,983	1,000	1,024	1,031

PFT = Pft x K1 x K4

PFS = Pfs x K2 x K5

PA = Pa x K3 x K6

HEATING CAPACITY (kW)

Indoor temperature 20ºC

50NI	Flow (m^3/h)	Outdoor air temperature															
		-10 ºC BH		-5 ºC BH		-3 ºC BH		0 ºC BH		3 ºC BH		6 ºC BH		10 ºC BH		15 ºC BH	
		Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa	Pc	Pa
240	8.240	37,3	13,1	42,6	13,9	44,8	14,3	48,4	14,8	51,9	15,5	55,6	16,2	61,1	17,0	68,3	18,4
	10.300	37,5	12,4	42,9	13,1	45,2	13,3	48,9	13,9	52,6	14,4	56,6	14,9	62,3	15,8	70,1	16,9
	12.360	37,7	11,8	43,1	12,5	45,5	12,8	49,4	13,2	53,2	13,7	57,2	14,1	63,2	14,9	71,3	15,9
280	10.000	42,6	15,4	48,3	16,2	50,8	16,5	54,7	17,1	58,6	17,7	62,7	18,4	68,9	19,4	77,0	20,8
	12.500	42,7	14,5	48,7	15,3	51,2	15,5	55,2	16,0	59,3	16,5	63,6	17,1	70,1	18,0	78,8	19,1
	15.000	42,9	14,0	49,0	14,7	51,5	14,9	55,6	15,4	59,8	15,9	64,2	16,3	70,9	17,1	79,9	18,0
320	11.200	48,7	17,9	55,3	18,8	58,1	19,3	62,5	19,9	67,0	20,6	71,7	21,3	78,7	22,6	87,8	24,1
	14.000	48,9	16,8	55,5	17,6	58,5	18,0	63,2	18,5	67,8	19,1	72,8	19,7	80,1	20,7	90,0	22,0
	16.800	49,0	16,2	55,8	16,8	58,8	17,2	63,6	17,6	68,4	18,1	73,5	18,8	81,2	19,5	91,4	20,7
360	12.400	54,4	23,3	62,7	24,3	65,6	24,7	71,0	25,4	76,3	26,1	82,1	27,0	90,4	28,4	101,4	30,4
	15.500	54,6	22,0	62,9	22,8	66,0	23,1	71,7	23,7	77,2	24,3	83,1	25,0	91,9	26,1	103,8	27,8
	18.600	55,6	21,3	63,4	21,8	66,2	22,1	72,1	22,6	77,9	23,1	84,0	23,7	93,0	24,7	105,4	26,1
420	16.800	70,1	26,8	80,2	28,1	84,1	28,6	91,0	29,6	97,9	30,7	105,3	31,7	116,2	33,4	130,7	35,8
	21.000	70,2	25,2	80,7	26,3	85,1	26,8	92,0	27,6	99,1	28,3	106,8	29,2	118,4	30,6	133,8	32,5
	23.100	70,2	24,3	81,4	25,2	85,5	25,6	92,9	26,2	99,9	26,9	107,9	27,6	119,7	28,7	135,9	30,4
485	16.800	78,0	30,5	89,3	32,5	93,6	33,2	100,9	34,4	108,3	35,7	116,2	37,2	127,7	39,4	143,0	42,5
	21.000	78,7	28,6	89,6	30,0	94,2	30,6	101,9	31,6	109,7	32,7	118,0	33,8	130,4	35,6	146,8	38,1
	23.100	78,8	27,3	90,1	28,6	94,8	29,0	102,7	29,8	110,7	30,7	119,3	31,7	132,1	33,2	149,3	35,3

Pc: Total heating capacity in kW

Pa: Compressor power input in kW

Correction coefficients due to indoor temperature variation

Indoor temperature	17ºC	19ºC	20ºC	21ºC	23ºC	25ºC	27ºC
Coefficient K1	1,011	1,004	1,000	0,996	0,989	0,982	0,974
Coefficient K2	0,941	0,980	1,000	1,021	1,064	1,109	1,156

PC = Pc x K1

PA = Pa x K2

DIMENSIONS SCHEMES: 50NI COMPACT

50NI - 240 with upper supply (mm)

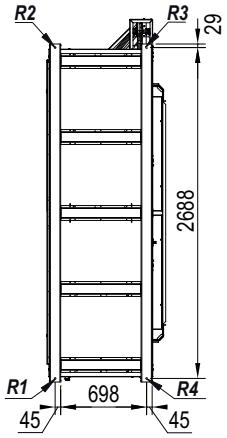
LEGEND

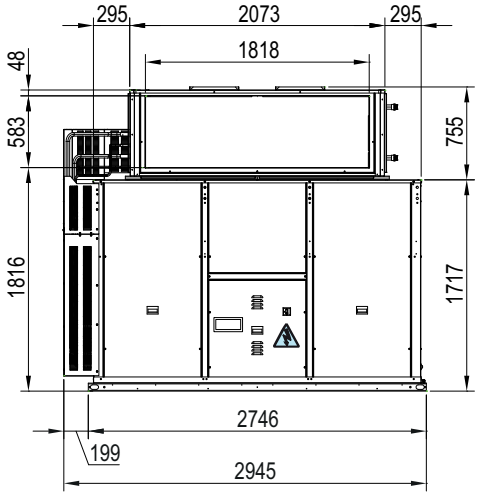
- Indoor module air circulation
- Outdoor module air circulation
- Electric panel
- Electric power supply
- Door switch
- ⑤ Outdoor condensate outlet: trunk 3/4" M
- ⑥ Indoor condensate outlet: trunk 3/4" M

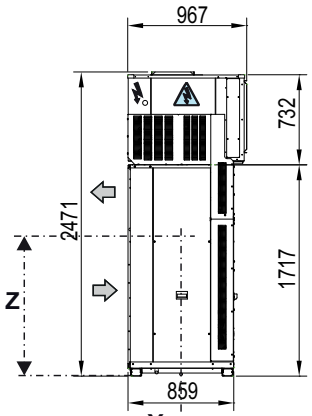
Intake profile: 20 mm

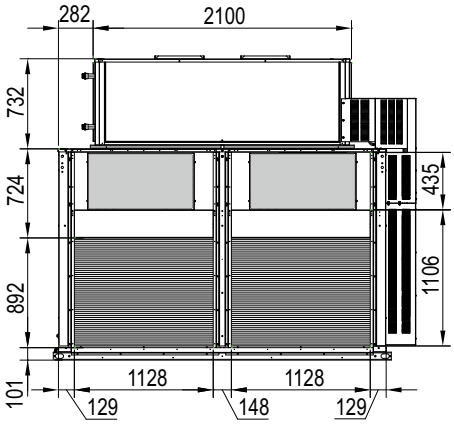
Antivibration anchoring: rivet nut M8

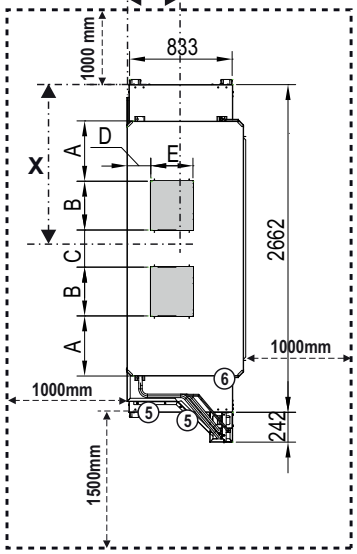
Clear space to be observed for maintenance operations and unit start-up











50NI	Centre of gravity (mm)		
	X	Y	Z
240	1366	468	1079

50NI	Reactions in the supports (kg)				
	Weight	R1	R2	R3	R4
240	1035	220	233	298	284

50NI	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
Centrifugal fan	490	396	300	172	343
Plug fan	490	1095	-	172	343

50NI - 240 with side supply (mm)

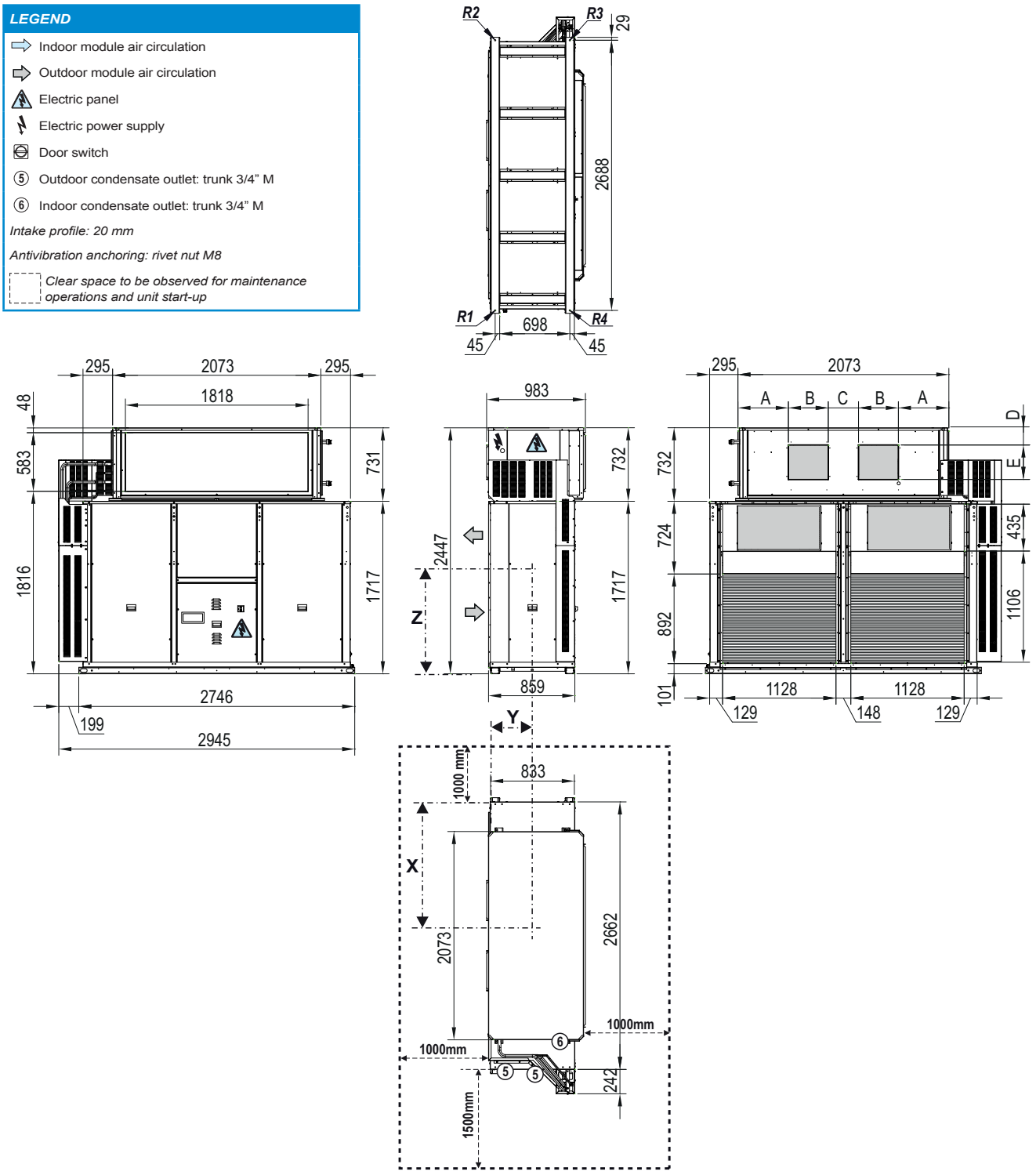
LEGEND

- Indoor module air circulation
- Outdoor module air circulation
- Electric panel
- Electric power supply
- Door switch
- ⑤ Outdoor condensate outlet: trunk 3/4" M
- ⑥ Indoor condensate outlet: trunk 3/4" M

Intake profile: 20 mm

Antivibration anchoring: rivet nut M8

Clear space to be observed for maintenance operations and unit start-up



50NI	Centre of gravity (mm)		
	X	Y	Z
240	1366	468	1079

50NI	Reactions in the supports (kg)				
	Weight	R1	R2	R3	R4
240	1035	220	233	298	284

50NI	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
Centrifugal fan	490	396	300	172	343
Plug fan	490	1095	-	172	343

50NI - 280, 320 and 360 with upper supply (mm)

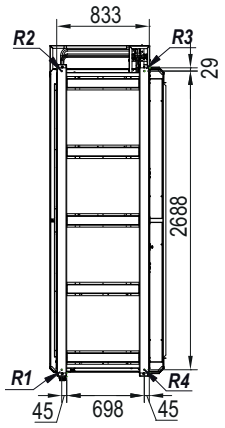
LEGEND

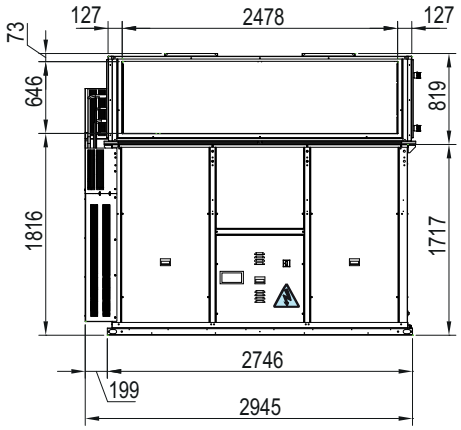
- Indoor module air circulation
- Outdoor module air circulation
- Electric panel
- Electric power supply
- Door switch
- ⑤ Outdoor condensate outlet: trunk 3/4" M
- ⑥ Indoor condensate outlet: trunk 3/4" M

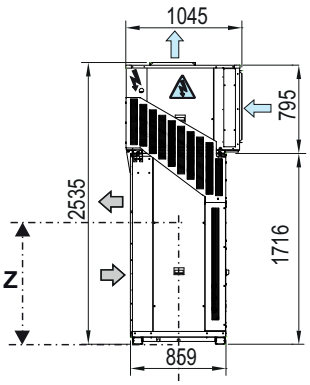
Intake profile: 20 mm

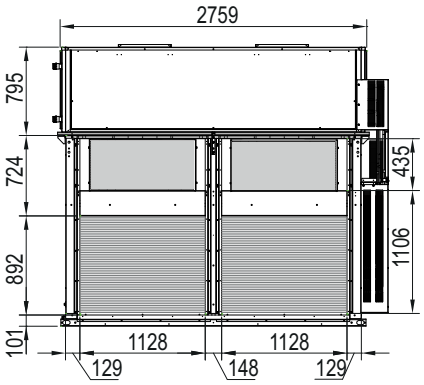
Antivibration anchoring: rivet nut M8

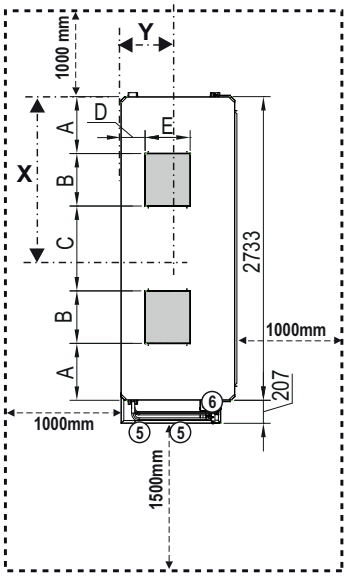
Clear space to be observed for maintenance operations and unit start-up











50NI	Centre of gravity (mm)		
	X	Y	Z
280	1397	546	1180
320	1396	545	1176
360	1396	545	1180

50NI	Reactions in the supports (kg)				
	Weight	R1	R2	R3	R4
280	1187	235	249	359	345
320	1195	238	252	360	346
360	1199	239	253	361	347

50NI	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
Centrifugal fan	512	472	764	219	405
Plug fan	485	792	180	146	339

50NI - 280, 320 and 360 with side supply (mm)

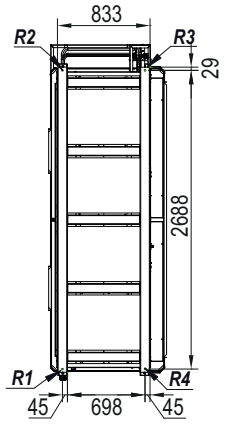
LEGEND

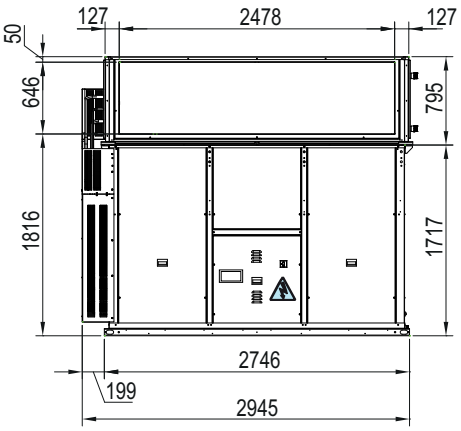
- Indoor module air circulation
- Outdoor module air circulation
- Electric panel
- Electric power supply
- Door switch
- ⑤ Outdoor condensate outlet: trunk 3/4" M
- ⑥ Indoor condensate outlet: trunk 3/4" M

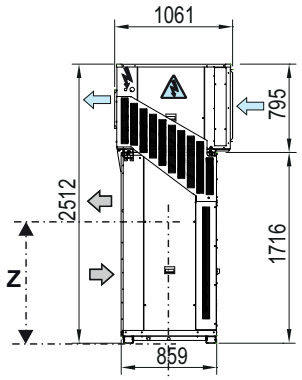
Intake profile: 20 mm

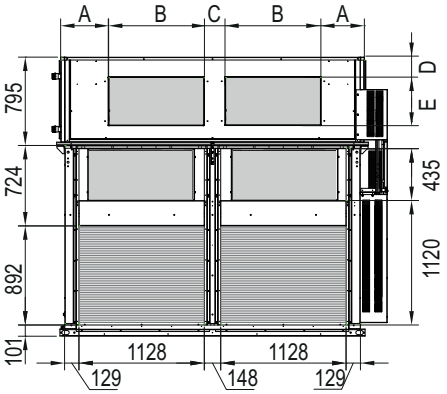
Antivibration anchoring: rivet nut M8

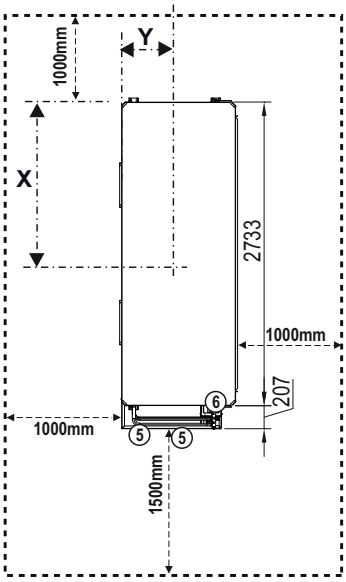
Clear space to be observed for maintenance operations and unit start-up









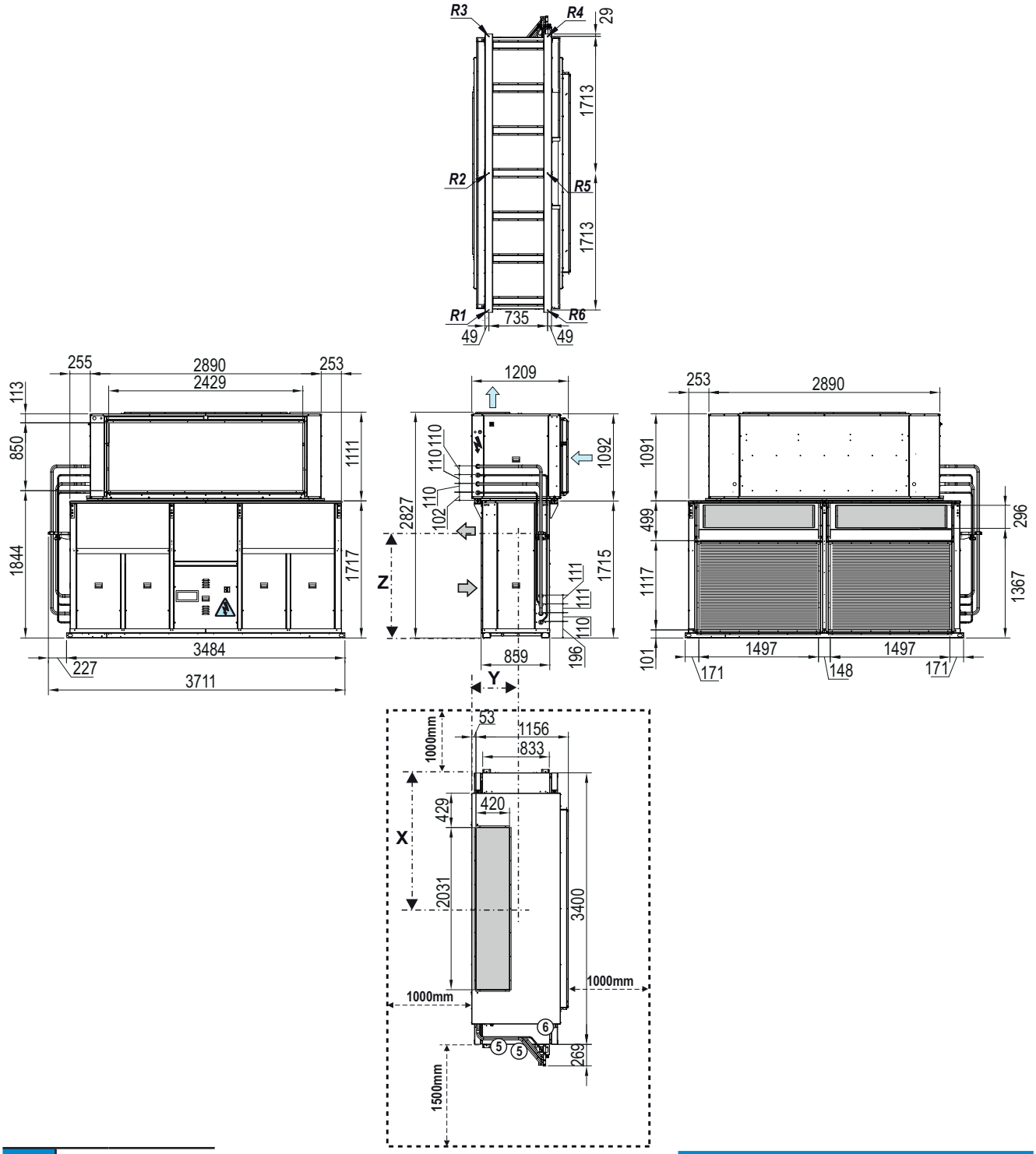


50NI	Centre of gravity (mm)		
	X	Y	Z
280	1397	546	1180
320	1396	545	1176
360	1396	545	1180

50NI	Reactions in the supports (kg)				
	Weight	R1	R2	R3	R4
280	1187	235	249	359	345
320	1195	238	252	360	346
360	1199	239	253	361	347

50NI	Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
280	Centrifugal fan	550	397	839	235	343
	Plug fan	512	775	161	136	440
320/360	Centrifugal fan	512	473	763	147	406
	Plug fan	512	775	161	136	440

50NI - 420 and 485 with upper supply (mm)



50NI	Centre of gravity (mm)		
	X	Y	Z
420	1657	833	1236
485	1657	843	1258

50NI	Reactions in the supports (kg)						
	Weight	R1	R2	R3	R4	R5	R6
420	1682	248	421	227	211	385	190
485	1690	242	416	221	220	394	198

LEGEND

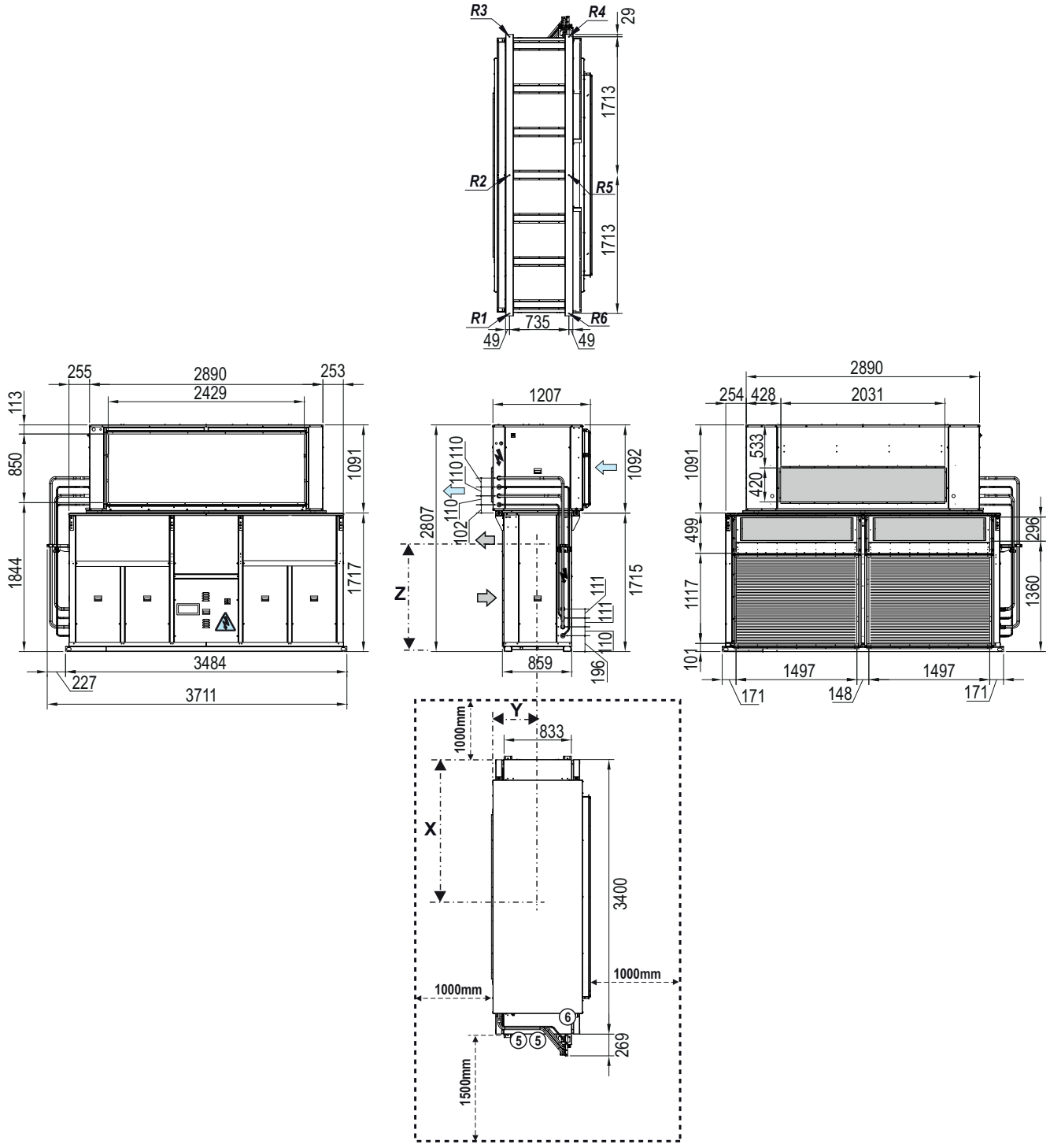
- Indoor module air circulation
- Outdoor module air circulation
- Electric panel
- Electric power supply
- Door switch
- (5) Outdoor condensate outlet: trunk 3/4" M
- (6) Indoor condensate outlet: trunk 3/4" M

Intake profile: 20 mm

Antivibration anchoring: rivet nut M8

Clear space to be observed for maintenance operations and unit start-up

50NI - 420 and 485 with side supply (mm)



50NI	Centre of gravity (mm)		
	X	Y	Z
420	1657	833	1236
485	1657	843	1258

50NI	Reactions in the supports (kg)						
	Weight	R1	R2	R3	R4	R5	R6
420	1682	248	421	227	211	385	190
485	1690	242	416	221	220	394	198

LEGEND

- Indoor module air circulation
- Outdoor module air circulation
- Electric panel
- Electric power supply
- Door switch
- (5) Outdoor condensate outlet: trunk 3/4" M
- (6) Indoor condensate outlet: trunk 3/4" M

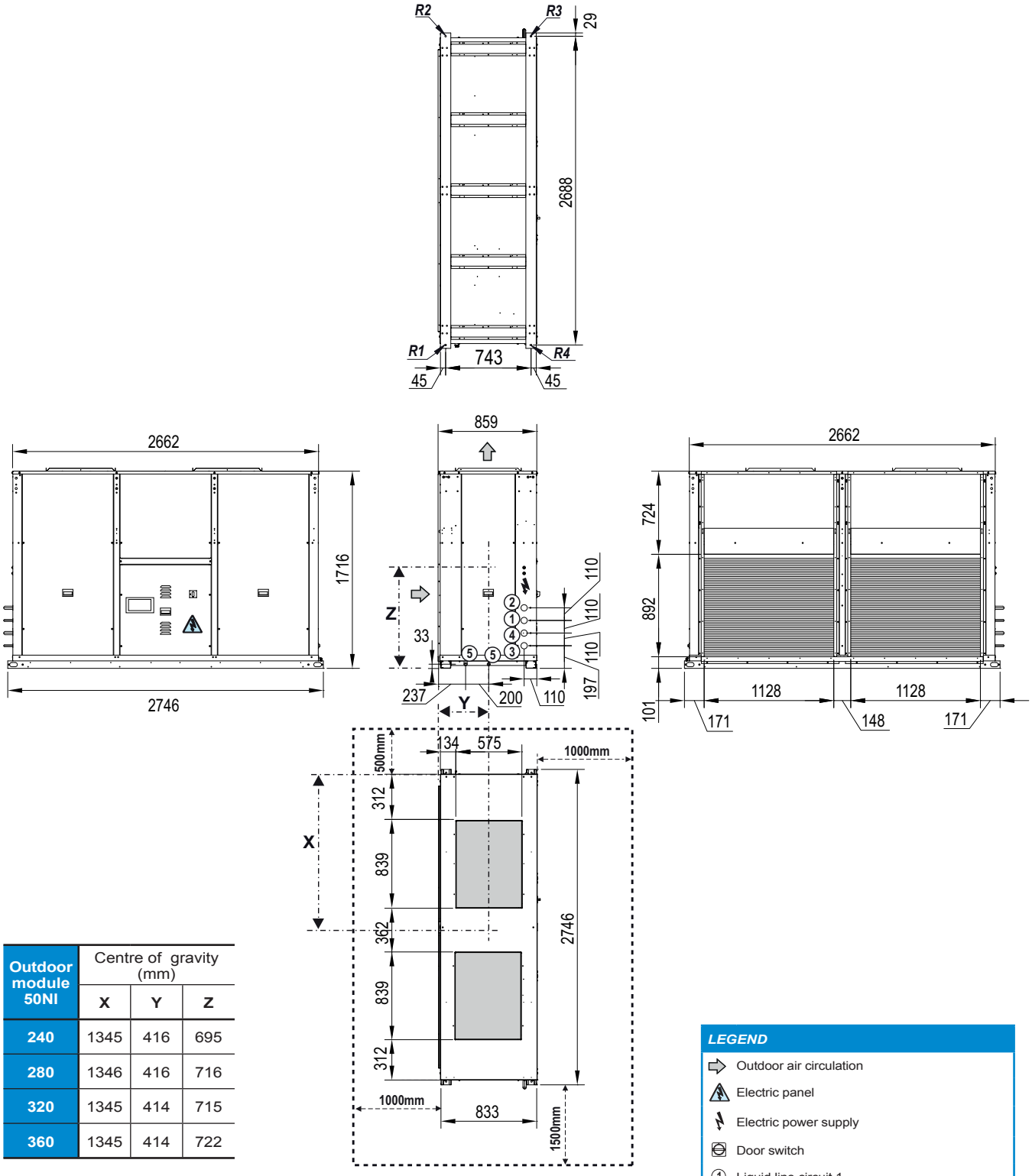
Intake profile: 20 mm

Antivibration anchoring: rivet nut M8

Clear space to be observed for maintenance operations and unit start-up

DIMENSIONS SCHEMES: OUTDOOR MODULE

Outdoor module 50NI - 240, 280, 320 and 360 with upper supply (mm)



Outdoor module 50NI	Centre of gravity (mm)		
	X	Y	Z
240	1345	416	695
280	1346	416	716
320	1345	414	715
360	1345	414	722

Outdoor module 50NI	Reactions in the supports (kg)				
	Weight	R1	R2	R3	R4
240	737	185	189	183	179
280	782	196	201	195	190
320	789	199	203	195	191
360	793	200	204	196	192

LEGEND

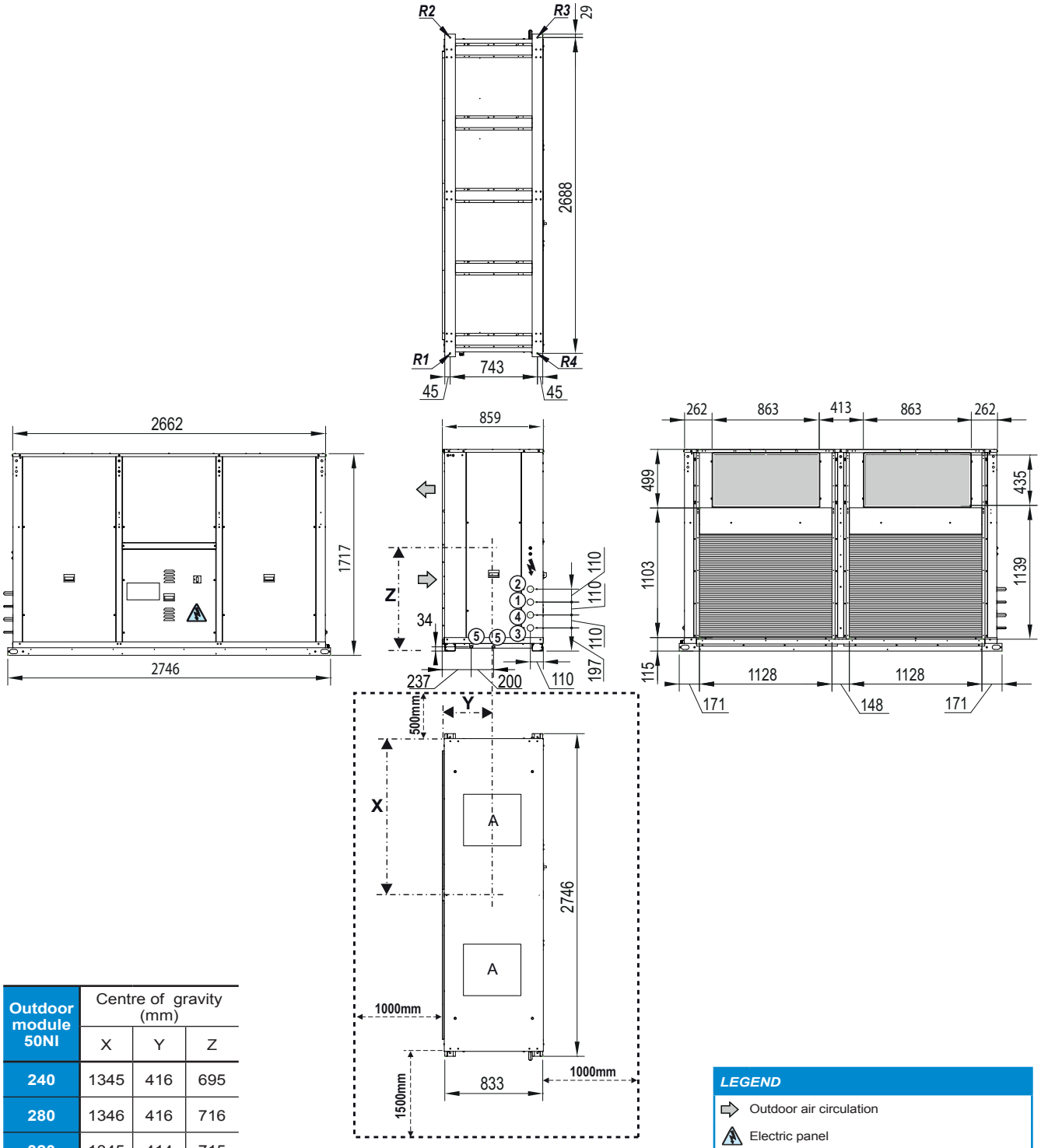
- Outdoor air circulation
- Electric panel
- Electric power supply
- Door switch
- ① Liquid line circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: trunk 3/4" M

Intake profile: 30 mm

Antivibration anchoring: rivet nut M10

Clear space to be observed for maintenance operations and unit start-up

Outdoor module 50NI - 240, 280, 320 and 360 with side supply (mm)



Outdoor module 50NI	Centre of gravity (mm)		
	X	Y	Z
240	1345	416	695
280	1346	416	716
320	1345	414	715
360	1345	414	722

Outdoor module 50NI	Reactions in the supports (kg)				
	Weight	R1	R2	R3	R4
240	737	185	189	183	179
280	782	196	201	195	190
320	789	199	203	195	191
360	793	200	204	196	192

LEGEND

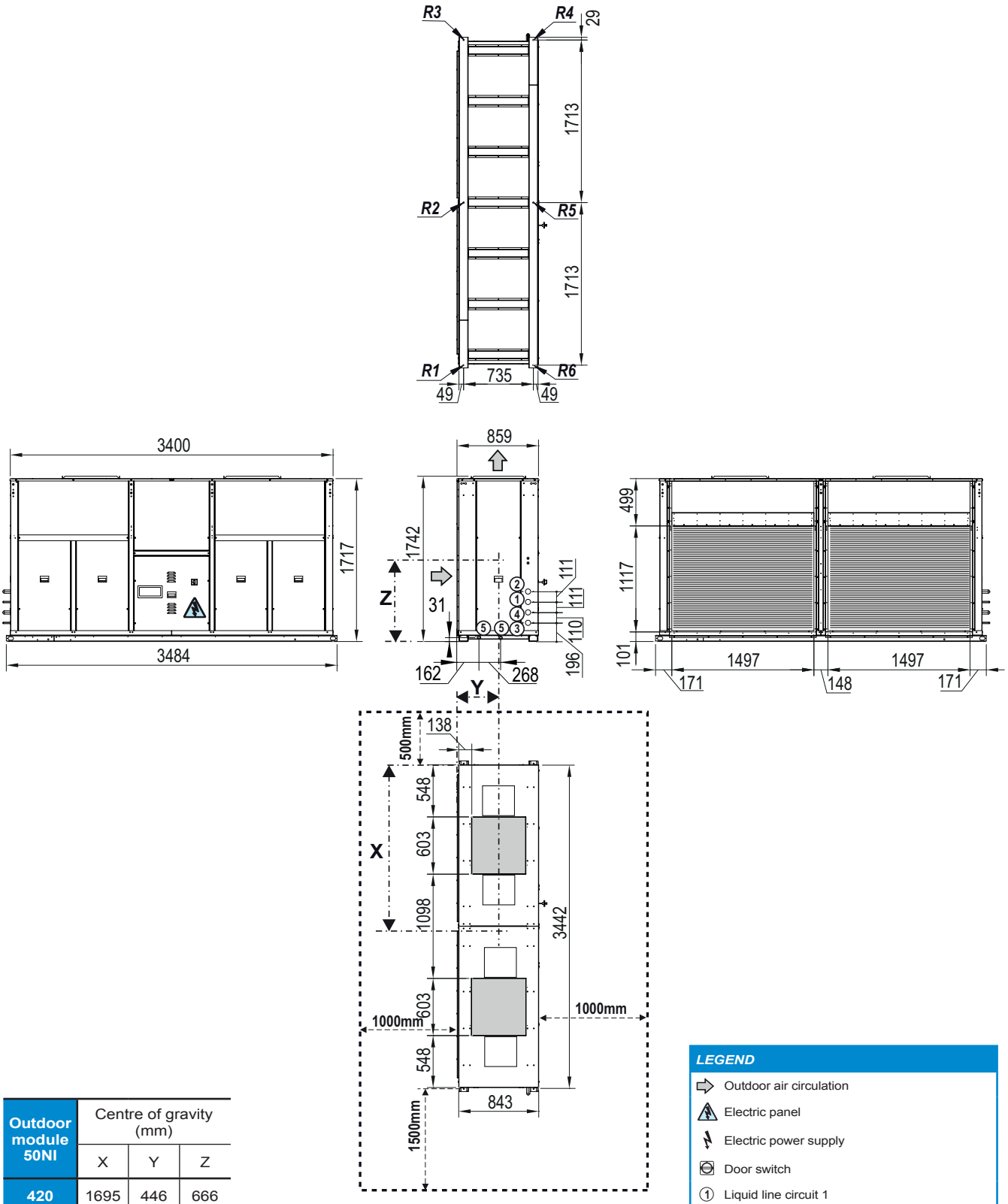
- Outdoor air circulation
- Electric panel
- Electric power supply
- Door switch
- ① Liquid line circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: trunk 3/4" M

Intake profile: 30 mm

Antivibration anchoring: rivet nut M10

Clear space to be observed for maintenance operations and unit start-up

Outdoor module 50NI - 420 and 485 with upper supply (mm)



Outdoor module 50NI	Centre of gravity (mm)		
	X	Y	Z
420	1695	446	666
485	1695	444	712

Outdoor module 50NI	Reacctions in the supports (kg)						
	Weight	R1	R2	R3	R4	R5	R6
420	1043	125	238	123	148	262	147
485	1052	127	241	126	149	263	147

LEGEND

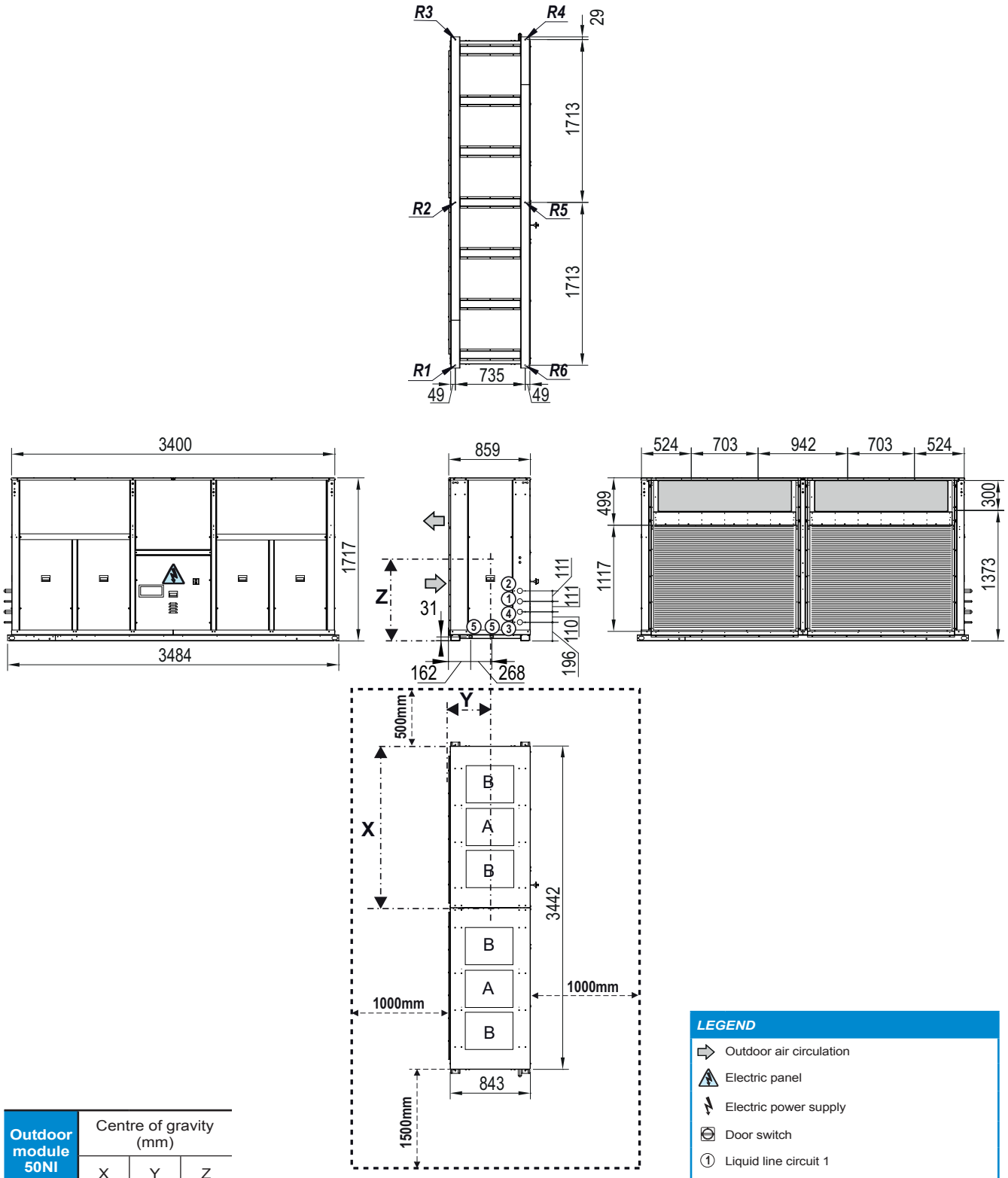
- Outdoor air circulation
- Electric panel
- Electric power supply
- Door switch
- ① Liquid line circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: trunk 3/4" M

Intake profile: 30 mm

Antivibration anchoring: rivet nut M10

Clear space to be observed for maintenance operations and unit start-up

Outdoor module 50NI - 420 and 485 with side supply (mm)



Outdoor module 50NI	Centre of gravity (mm)		
	X	Y	Z
420	1695	446	666
485	1695	444	712

Outdoor module 50NI	Reacctions in the supports (kg)						
	Weight	R1	R2	R3	R4	R5	R6
420	1043	125	238	123	148	262	147
485	1052	127	241	126	149	263	147

LEGEND

- Outdoor air circulation
- Electric panel
- Electric power supply
- Door switch
- ① Liquid line circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: trunk 3/4" M

Intake profile: 30 mm

A: Access fan panel model 420

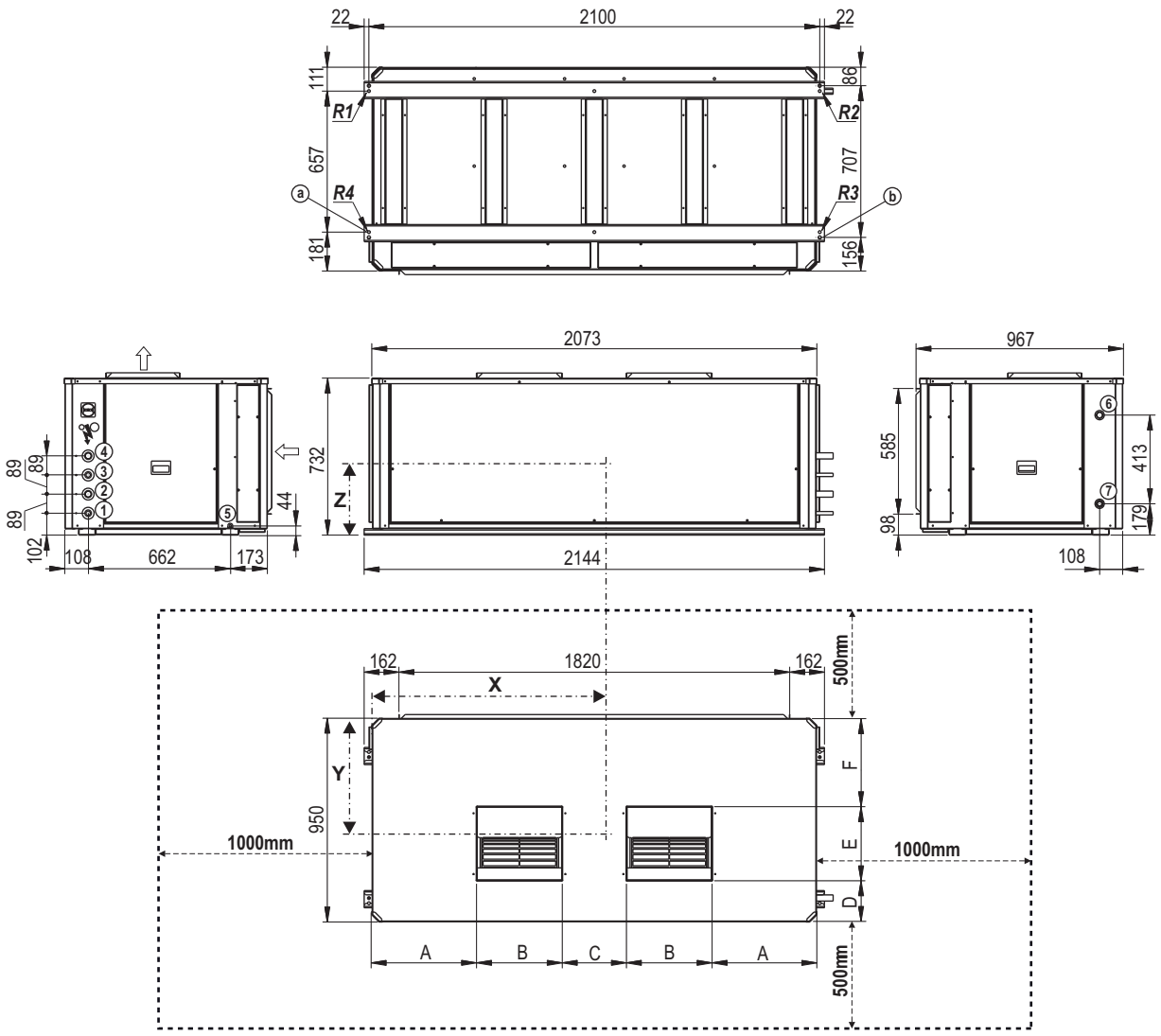
B: Access fan panel model 485

Antivibration anchoring: rivet nut M10

Clear space to be observed for maintenance operations and unit start-up

DIMENSIONS SCHEMES: INDOOR MODULE

Indoor module 50NI - 240 with upper supply (mm)



LEGEND

- Indoor air circulation
- Electric panel
- Door switch
- ① Liquid the circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Auxiliary coil water inlet (optional)
- ⑦ Auxiliary coil water outlet (optional)

Intake profile: 20mm

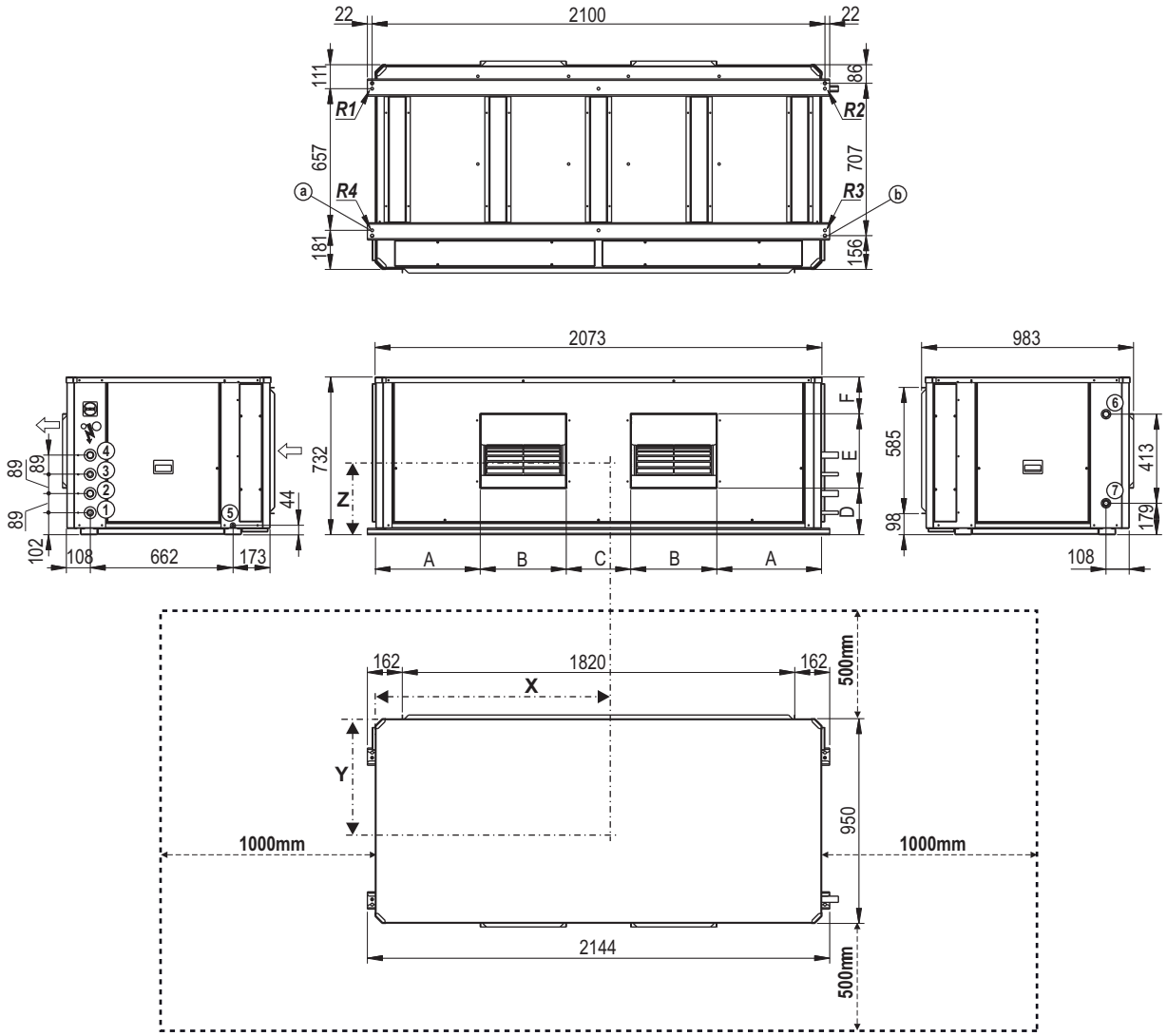
a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: Threaded rod ∅15mm

Clear space to be observed for maintenance operations and unit start-up

Indoor module 50NI	A	B	C	D	E	F
Centrifugal fan	488	399	299	139	345	411
Plug Fan	464	1144	-	103	364	480

Indoor module 50NI	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Peso	R1	R2	R3	R4
240	1048	333	390	262	36	38	95	93

Indoor module 50NI - 240 with side supply (mm)



LEGEND

- Indoor air circulation
- Electric panel
- Door switch
- ① Liquid the circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Auxiliary coil water inlet (optional)
- ⑦ Auxiliary coil water outlet (optional)

Intake profile: 20mm

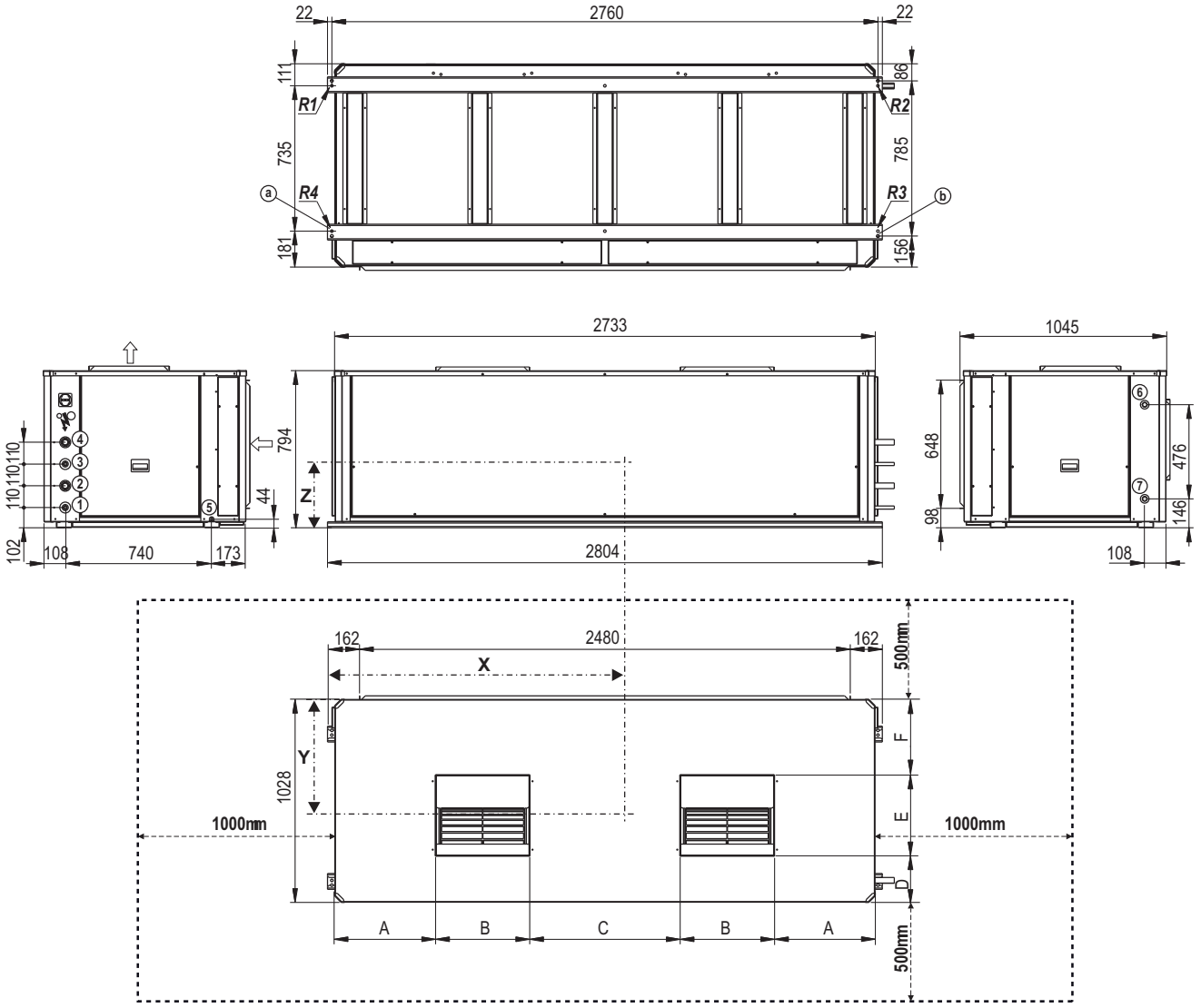
a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: Threaded rod ∅15mm

Clear space to be observed for maintenance operations and unit start-up

Indoor module 50NI	A	B	C	D	E	F
Centrifugal fan	490	396	300	217	343	172
Plug Fan	469	1134	-	131	439	162

Indoor module 50NI	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Peso	R1	R2	R3	R4
240	1048	333	390	262	36	38	95	93

Indoor module 50NI - 280 , 320 and 360 with upper supply (mm)



LEGEND

- Indoor air circulation
- Electric panel
- Door switch
- ① Liquid the circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Auxiliary coil water inlet (optional)
- ⑦ Auxiliary coil water outlet (optional)

Intake profile: 20mm

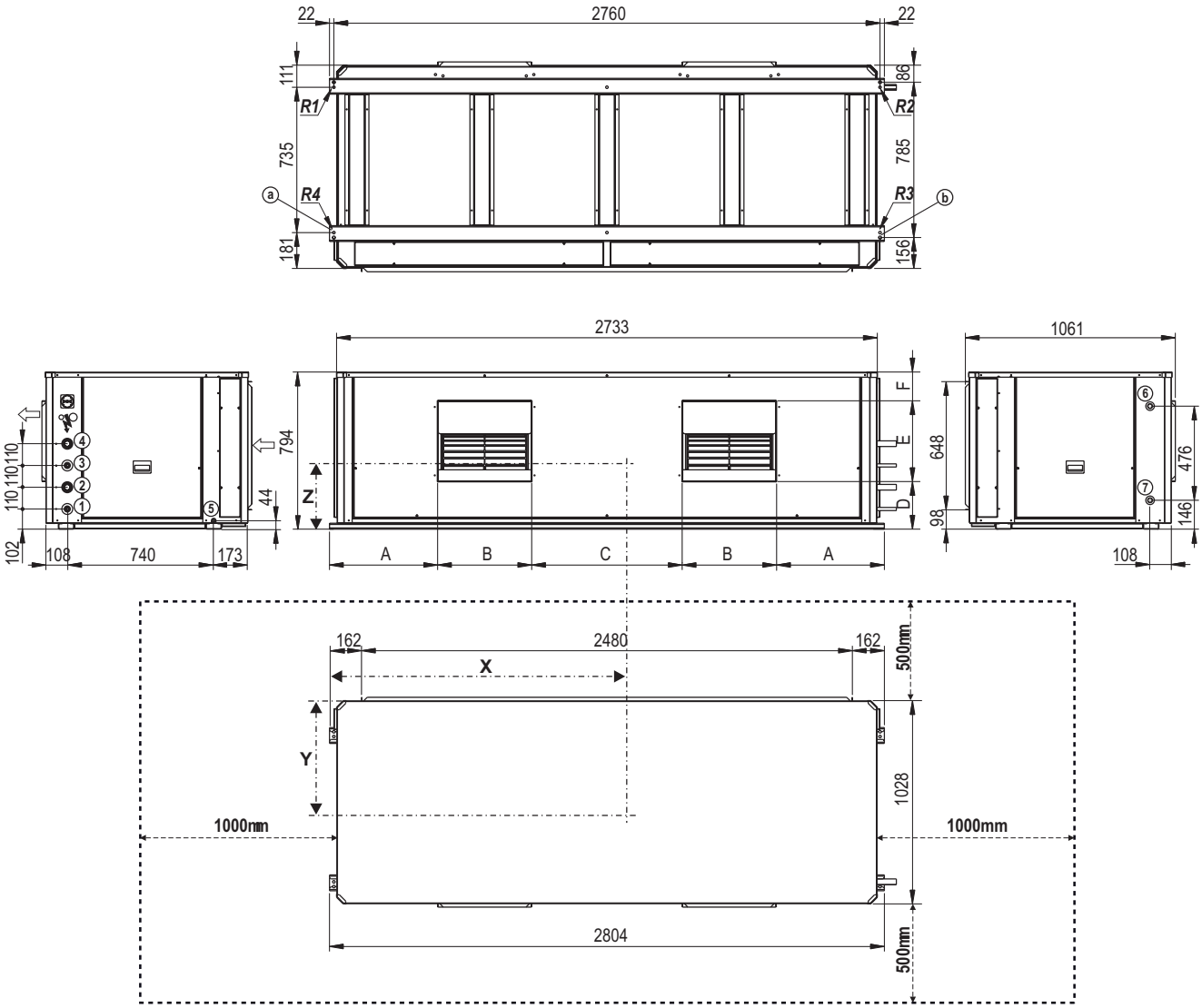
a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: Threaded rod ∅15mm

Clear space to be observed for maintenance operations and unit start-up

Indoor module 50NI	A	B	C	D	E	F
Centrifugal fan	511	475	761	217	408	402
Plug Fan	485	792	180	146	339	542

Indoor module 50NI	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
280 / 320 / 360	1384	330	416	365	44	47	138	136

Indoor module 50NI - 280 , 320 y 360 with side supply (mm)



LEGEND

- Indoor air circulation
- Electric panel
- Door switch
- ① Liquid the circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Auxiliary coil water inlet (optional)
- ⑦ Auxiliary coil water outlet (optional)

Intake profile: 20mm

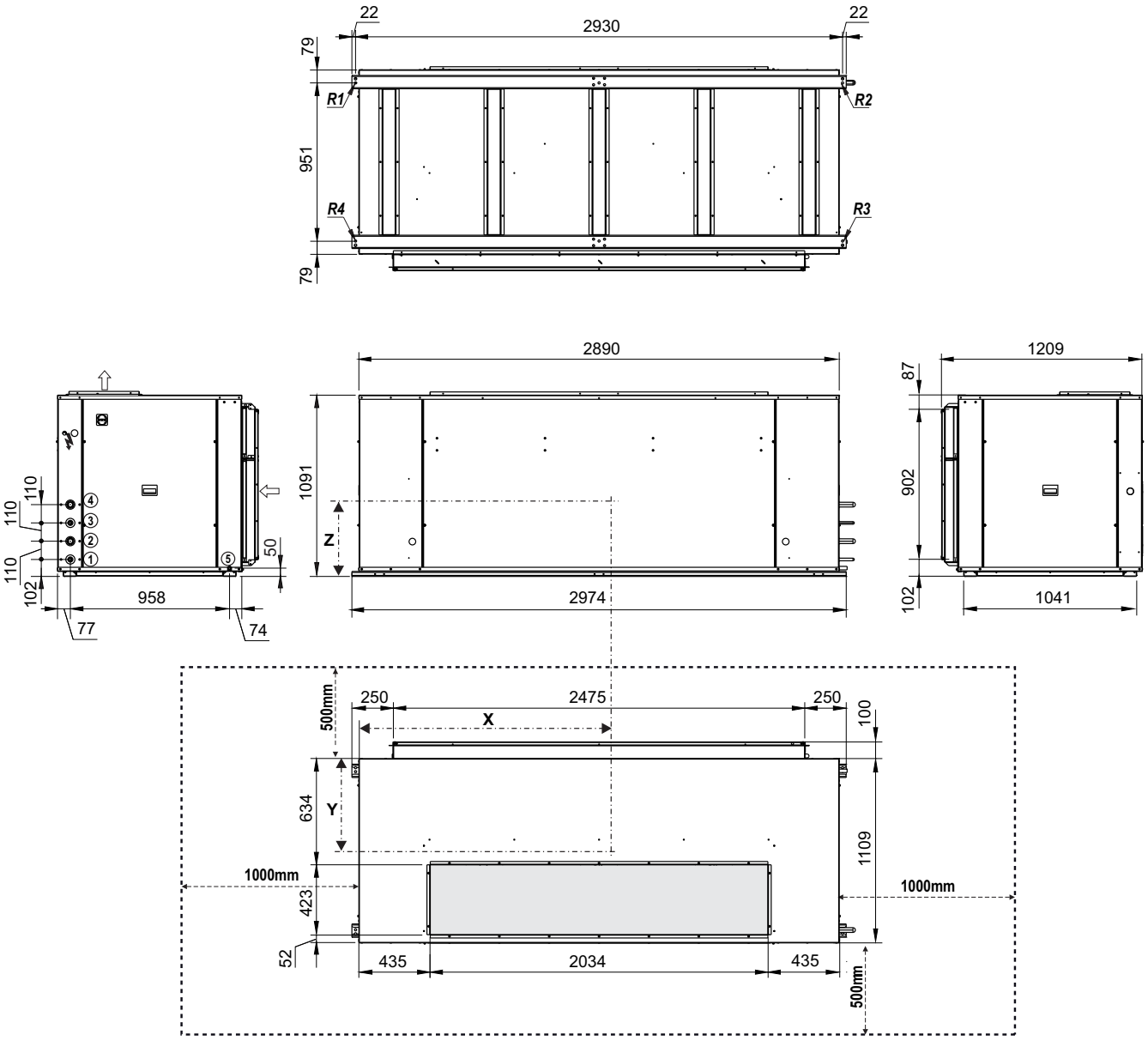
a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: Threaded rod ∅15mm

Clear space to be observed for maintenance operations and unit start-up

Indoor module 50NI	Fan	A	B	C	D	E	F
280 (mm)	Centrifugal fan	550	397	839	217	343	232
320 / 360 (mm)		512	473	763	241	406	145
280 / 320 / 360	Plug Fan	512	775	161	217	440	136

Indoor module 50NI	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
280 / 320 / 360	1384	330	416	365	44	47	138	136

Indoor module 50NI - 420 and 485 with upper supply (mm)



Indoor module 50NI	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
420 / 485	1525	423	558	646	131	139	192	184

LEGEND

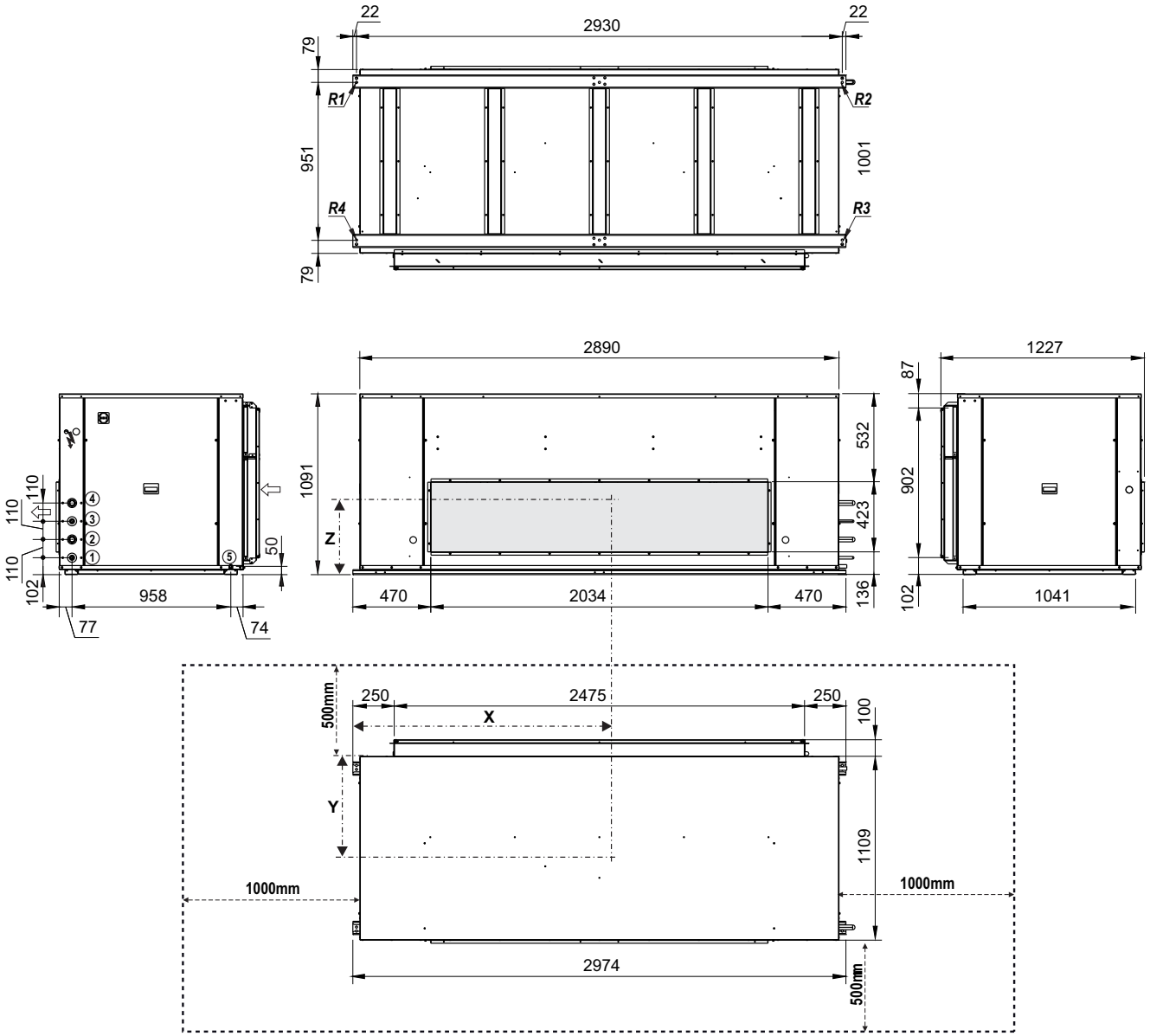
- Indoor air circulation
- Electric panel
- Door switch
- ① Liquid the circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Auxiliary coil water inlet (optional)
- ⑦ Auxiliary coil water outlet (optional)

Intake profile: 20mm

a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: Threaded rod ∅15mm

Clear space to be observed for maintenance operations and unit start-up

Indoor module 50NI - 420 and 485 with side supply (mm)



Indoor module 50NI	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
420 / 485	1525	423	558	646	131	139	192	184

LEGEND

- Indoor air circulation
- Electric panel
- Door switch
- ① Liquid the circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Auxiliary coil water inlet (optional)
- ⑦ Auxiliary coil water outlet (optional)

Intake profile: 20mm

a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: Threaded rod ∅15mm

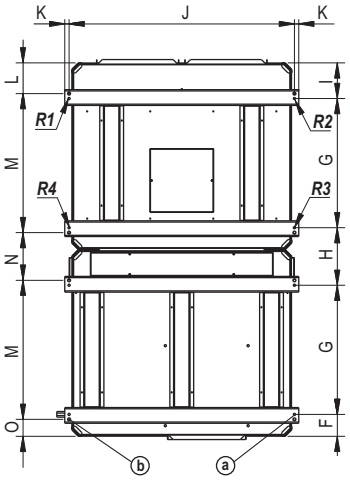
Clear space to be observed for maintenance operations and unit start-up

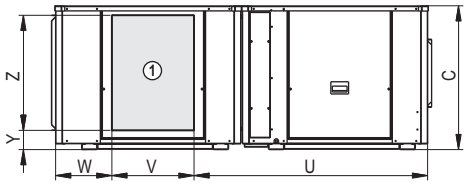
DIMENSIONS SCHEMES: ASSEMBLIES WITH MIXING BOX (OPTIONAL)

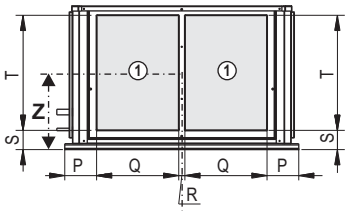
Indoor module 50NI - 240 to 360 with MS - 111, 116, 413, 314, 411, 114, 113, 311, 121, 126, 423, 324, 421, 124, 123, 321 (mm)

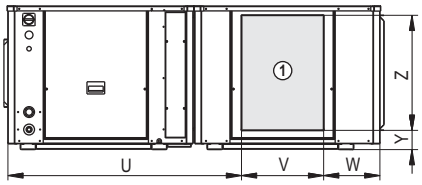
Mixing box	Centre of gravity (mm)			Weight (kg)
	X	Y	Z	
240	1030	436	327	152
280 / 320 / 360	1360	471	360	200

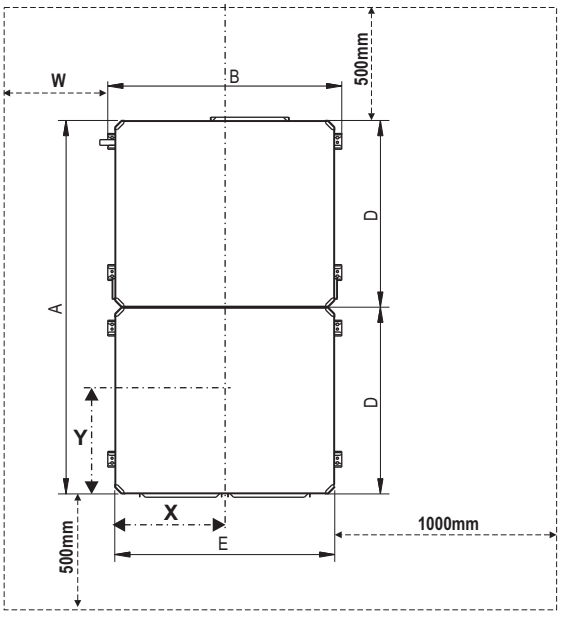
Mixing box	Mixing box (kg)			
	R1	R2	R3	R4
240	34	33	42	43
280 / 320 / 360	44	44	56	56











LEGEND

① New or return air inlet (depending on the assembly)

Intake profile: 20mm

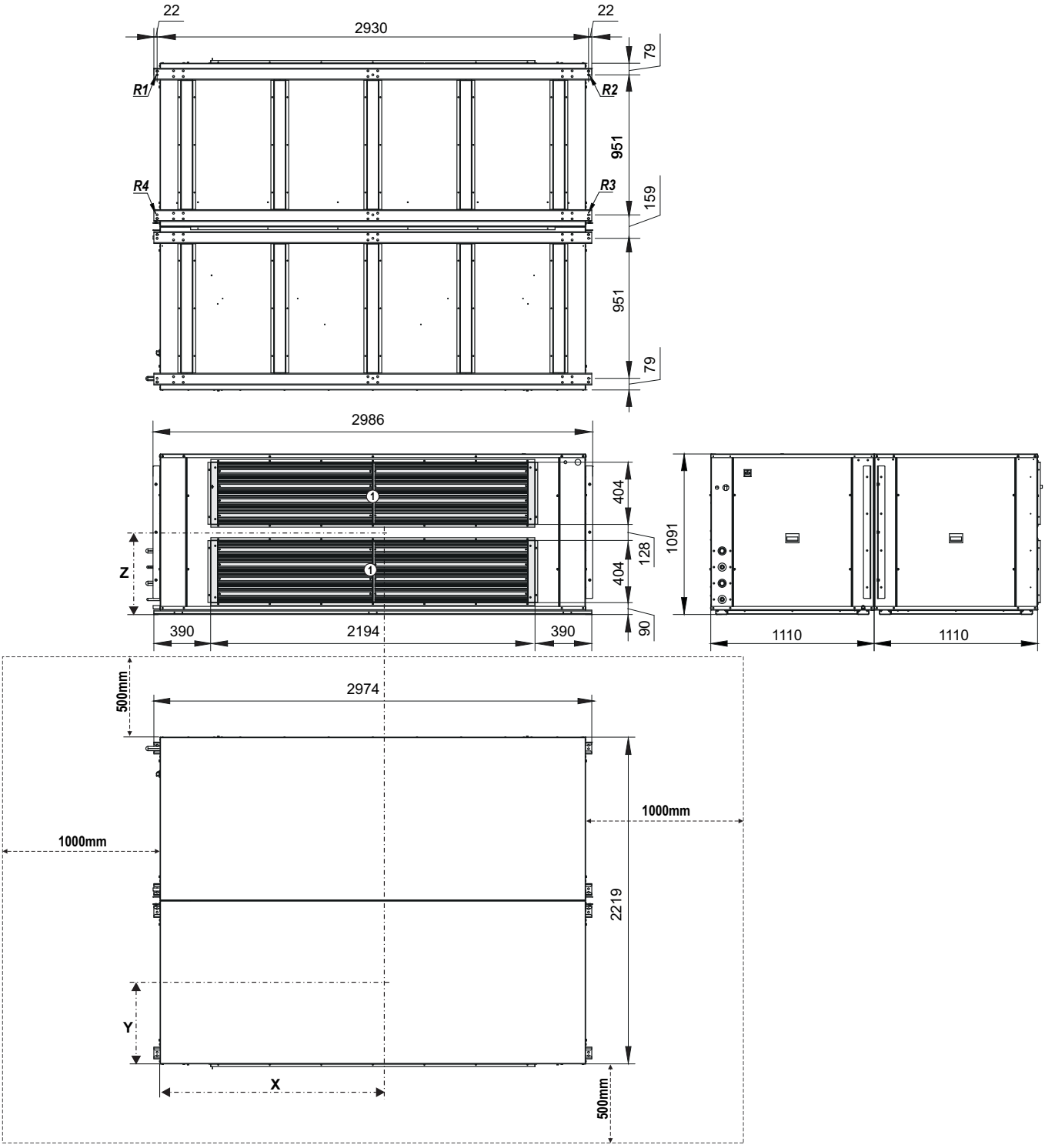
a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: threaded rod ∅15mm

Clear space to be observed for maintenance operations and unit start-up

Indoor module 50NI (mm)	W
240 to 360	1000

Indoor module 50NI	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	Y	Z
240	1900	2144	731	950	2073	111	657	293	181	2100	22	156	707	243	86	393	664	30	83	592	1196	418	286	98	585
280 / 320 / 360	2056	2804	794	1028	2733	111	735	293	181	2760	22	156	785	243	86	637	750	30	83	655	1311	418	277	98	648

Indoor module 50NI - 420 and 485 with MS - 111, 116, 121 and 126 (mm)



LEGEND

① New or return air inlet (depending on the assembly)

Intake profile: 20mm

a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: threaded rod ∅15mm

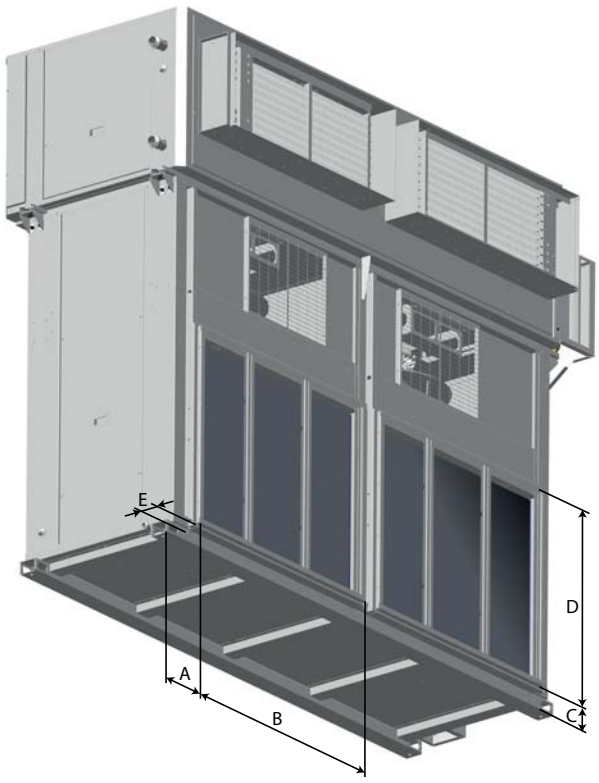
Clear space to be observed for maintenance operations and unit start-up

Mixing box	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
420 / 485	1446	693	505	383	68	68	124	123

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE OUTDOOR MODULE

Air filter for outdoor module (optional)

Outdoor module 50NI	Flow (m^3/h)	Pressure drops (mm.w.c)	nº of frames	Dimensions for frame (mm)				
				A	B	C	D	E
240	24.000	6,6	2	145	1181	76	945	66
	20.000	4,6						
	16.000	2,9						
280	29.280	9,8	2	145	1181	76	945	66
	24.400	6,8						
	19.520	4,4						
320	29.280	9,8	2	145	1181	76	945	66
	24.400	6,8						
	19.520	4,4						
360	29.280	9,8	2	145	1181	76	945	66
	24.400	6,8						
	19.520	4,4						
420	36.000	5,5	2	145	1550	76	1170	66
	30.000	3,8						
	24.000	2,4						
485	42.000	7,5	2	145	1550	76	1170	66
	35.000	5,2						
	28.000	3,3						



PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR MODULE

Indoor module 50NI	Flow (m^3/h)	Pressure drop in the supply (mm.w.c)									
		Air filters					Stop-drop		Hot water auxiliary coil	Electrical heaters	
		G4 ①	M6	F7	F8	F9	Indoor air coil	Outdoor air intake		(1 row)	(2 row)
240	12.360	7,7	16,9	19,2	22,6	23,7	4,19	5,9	2,59	13,68	19,01
	10.300	8,1	15,1	17,9	20,7	21,7	3,14	4,4	1,80	9,50	13,20
	8.240	8,2	14,3	16,5	18,8	19,7	2,23	3,1	1,15	6,08	8,45
280	15.000	8,1	15,9	17,7	20,5	21,5	3	3,8	3,89	11,52	-
	12.500	8,2	15,1	16,6	18,9	19,9	2,3	2,9	2,70	8,00	-
	10.000	8,1	14,3	15,6	17,4	18,3	1,6	2	1,73	5,12	-
320	16.800	7,9	16,4	18,5	21,6	22,6	3,61	4,6	4,90	12,96	-
	14.000	8,1	15,6	17,3	19,8	20,8	2,72	3,4	3,40	9	-
	11.200	8,1	14,7	16,1	18,1	19	1,94	2,4	2,18	5,76	-
360	18.600	7,7	17	19,2	22,7	23,8	4,25	5,4	4,90	17,28	-
	15.500	8,1	16	17,9	20,8	21,8	3,18	4	3,40	12	-
	12.400	8,2	15,1	16,6	18,9	19,8	2,26	2,8	2,18	7,68	-
420	14.400	8,1	16	17,8	20,7	21,7	3,1	4	-	4,16	-
	18.000	8,2	15,2	16,7	19,1	20,1	2,4	3	-	6,5	-
	21.600	8,1	14,4	15,6	17,5	18,4	1,7	2,1	-	9,36	-
485	14.560	8,1	16	17,9	20,8	21,8	3,2	4,1	-	4,16	-
	18.200	8,2	15,2	16,8	19,2	20,1	2,4	3	-	6,5	-
	21.840	8,1	14,4	15,7	17,6	18,5	1,7	2,2	-	9,36	-

① Diference with standard air filter

Notas:

Quality and Environment
Management Systems
Approval

Carrier
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