

Air-air units
outdoor unit with axial
fan and vertical discharge

TECHNICAL BROCHURE

NA 16.675 A 01 - 2016

AirDuo RSK Series

Air-air cooling units

AirDuo ISK Series

Air-air heat pump units

AirDuo Sk-CK



Split-system cooling units and heat pumps

AirDuo SK-CK

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Split-system cooling units and heat pumps

AirDuo SK-CK



Outdoor unit: SK



Indoor unit: CK



Cooling capacity: 20,6 to 134,8 kW

Heating capacity: 22,9 to 144,9 kW

Scroll compressors

R-410A refrigerant

Configuration **flexibility**

Silent operation

DESCRIPTION

The **AirDuo** cooling units and heat pumps are units which feature a split-system construction with components optimised for the R-410A refrigerant.

They are presented in two different elements:

- An outdoor unit (RSK/ISK series) equipped with an axial fan with free vertical supply, hermetic scroll-type compressor and electrical panel with electronic control.
- An indoor unit or air-conditioning unit (RCK/ICK series) equipped with centrifugal fan and expansion valve.

A vast number of options meet numerous operating demands.

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

SERIES

Outdoor unit

RSK series: Outdoor unit **cooling-only** air-condensed, designed for installation outdoors.

ISK series: Outdoor air-air reversible **heat pump** unit, designed for installation outdoors.

Indoor unit

RCK series: Indoor unit **cooling-only** with horizontal construction, designed for installation indoors, connected to a network of ducts.

ICK series: Indoor reversible **heat pump** unit with horizontal construction, designed for installation indoors, connected to a network of ducts.

RANGE

	1 cooling circuit 1 compressor						2 cooling circuits 2 compressors							
SK	90	100	120	160	180	182	200	240	320	360	420	485	540	600
CK	90	100	120	160	180	182	200	240	320	360	420	485	540	600
	-	-	-	-	-	-	2 x 100	2 x 120	2 x 160	2 x 180	-	-	-	-

OPERATING LIMITS

Inlet air conditions		Cooling	Heating
Indoor coil	Minimum	14 °C WB	10 °C
	Maximum	22 °C WB	27 °C
Outdoor coil	Minimum	12 °C ①	-10 °C WB
	Maximum	48 °C	15 °C WB

① With control of operation condensation pressure activated up to -10°C.



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UNIT COMPONENTS

Outdoor unit SK

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

Outdoor air circuit

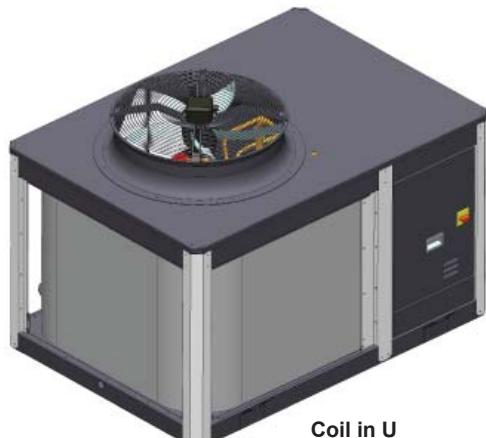
- Axial 2-speed fan(s) directly coupled to the motor (models 90 to 182 wired to high speed). Watertight motor class F, IP54 and internal thermal protection. Dynamically balanced propellers and outdoor protective grille.
- Coil(s) with copper pipes and aluminium fins. Two designs:
 - Models 90 to 320: Coil in U
 - Models 360 to 600: Coils in V
- Condensates drain pan (in models 360 to 600).

Cooling circuit

- Hermetic scroll-type compressor(s) with sound insulation, assembled over shock absorbers. Control of phase equilibrium and the direction of rotation.
- Crankcase heater.
- Thermostatic expansion valve(s) with external equalisation (heat pump units).
- Four-way cycle reversing valve(s) (heat pump units).
- Particle separator(s), anti-acid dehydrating filter(s) and liquid receiver(s).
- Cooling connections for welding.
- Maximum equivalent length of the cooling line 50 metres (for longer distances, it is necessary to use an oil separator).

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) and fan(s) motor power line.
- Automatic switch in the control circuit.



Coil in U

Electric panel

- Complete and fully wired electrical 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.

Indoor unit CK

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

Indoor air circuit

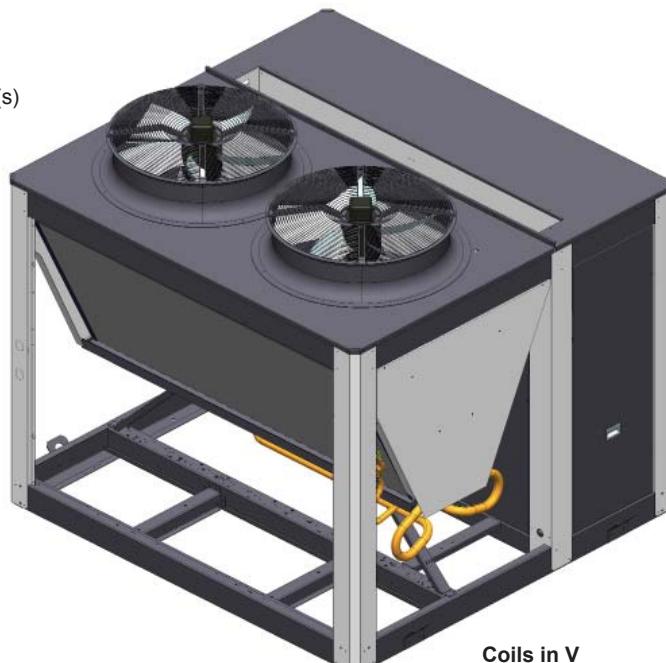
- Coil(s) with copper pipes and aluminium fins.
- Centrifugal fan(s) coupling by pulleys and belts. Electric motor(s) with tensioner, class F, IP55 and internal thermal protection. Double-intake turbines, with an impeller of front-curved blades. Greased spherical bearings, with no maintenance required.
- Reusable air filters, assembled on a frame.
- Condensate drain pan.

Cooling circuit

- Thermostatic expansion valve(s) with external equalisation (check valve in ICK series).

Protections

- Main door switch.



Coils in V



Split-system cooling units and heat pumps

Electronic controls

AVANT / AVANT+ electronic control (standard)

Available in two versions:

- AVANT : models 90 to 182
- AVANT+ : models 200 to 600

Note: Optionally, the models 90 to 182 can incorporate the AVANT+ version.

AVANT / AVANT+ control is an electronic module with microprocessor comprised of a control board and a TCO user terminal that ensures the following functions:

- Selection of the operating mode:
 - HEATING ☀
 - COOLING ❄
 - AUTO *Auto*
 - DEHUMIDIFICATION 💧
 - FAN (no icon).
- Modification of the setpoint.
- Permanent control of the operating parameters.
- View of the values measured by the sensors.
- View of the alarms produced by means of codes.
- Timing of the compressors.
- Control of the compressor discharge temperature by probe.
- Control of the ambient temperature thanks to the probe incorporated into TCO terminal. This probe can be replaced by an return or ambient probe that would be installed in the control board.
- Operation during all seasons via the condensation and evaporation pressure control.
- Control of the outlet temperature to improve thermal **comfort level** of the installation.
 - In cooling mode this control prevents excessively significant drops in the ambient temperature.
 - In heating mode, it prevent the stratification of the hot air masses.
- The following features improve the energy management of the installation:



Defrosting management (in heat pump units). Possibility of **intelligent defrosting** that reduces energy consumption of the heat pump, by adjusting the time between defrosting operations to the actual needs of the unit.



Compensation of the setpoint based on the outdoor temperature. This function prevents thermal "shock" between the inside and outside of the premises whilst at the same time provides significant energy savings



Time schedule that reduces energy consumption, adjusting the needs of air conditioning of the building throughout the day.

TCO terminal has a schedule programmer with an intuitive graphic interface that allows 6 time slots to be chosen for each day of the week. A change in the setpoint temperature or the disconnection of the unit can be scheduled in these time slots (according to the building occupancy).



Optional functions:

- Control of the auxiliary electrical heaters.
- Proportional control of a hot water auxiliary coil.
- Humidity control.
- Anti-fire safety.
- Control of the opening of the outdoor air damper.
- Management of thermal free-cooling.
- Detection of clogged filters and air flow control.
- Connection to a centralised technical management system (BMS) for supervision (please see "Optional" chapter).

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.



CIATrc electronic control (optional)

Electronic module with microprocessor comprised of a control board and a pGD1 graphic terminal installed over the unit electric panel and accessed using a polycarbonate collapsible window.

Optionally this terminal can be replaced by a TCO user terminal for installation inside of the premises. In this case the TCO terminal are not allowed to access parameters control and time schedule.

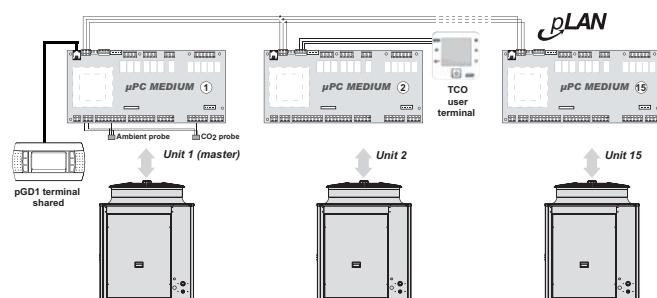
The management of the ambient temperature is controlled via a NTC ambient probe. This probe can be replaced by 1 or 2 RS485 probes.



In addition to the functions described in AVANT / AVANT+ control, this control allows controlling optional elements such as:

- Electronic plug-fans.
- Enthalpic or thermoenthalpic free-cooling.
- Smoke detecting station.
- Air quality probe for measuring CO₂ and/or volatile compounds..
- Energy meter.
- Refrigerant leak detector.

It also manages a local connection between units through a pLAN network (μ PC MEDIUM Local Area Network), thus allowing communication of data and information for a maximum of 15 units. This enables the reduction of the number of pGD1 terminals, since a single shared terminal can monitor all control boards. It also allows to share the reading of some probes.





Split-system cooling units and heat pumps

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OPTIONAL

Optional for the outdoor unit SK

Outdoor environment

Temperature

- Electrical heater for protection of the components of the electric panel. This is compulsory if the outdoor temperature is lower than -8°C WB. With an outdoor temperature over than -16°C WB will be compulsory a reinforced resistance.
- Compressor with protection for low temperature (supplementary crankcase heater). This is compulsory if the outdoor temperature is lower than -8°C WB.

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.
- Air coil protection grille (in models 90 to 320).



- Condensates drain pan (in models 90 to 320).

Electric panel

- Electrical power supply with neutral.
- Energy meter for monitoring of the power consumption of the installation (with CIATrc control).
 - Models 90 to 182: available if the unit does not incorporate electrical heaters.
 - Models 200 to 600: available with all optional.



Energy saving



Electronic EC axial fans that adjust their rotation speed to the installation requirements, thereby reducing electricity consumption, the sound level at partial charge and improving the average seasonal output of the unit.

Optional for the indoor unit CK

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 (indoor unit and/or hot water coil).
- Condensates drain pan in stainless steel.

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.

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 F6 to F9.
- Filtration of the return air (with centrifugal return fan):
 - Gravimetric filter G4.
 - Gravimetric filter G4 + creased opacimetric filters F6.
- Air quality probe for installation in the environment or in duct to enable measuring CO₂ and/or volatile compounds (with CIATrc control).





Split-system cooling units and heat pumps

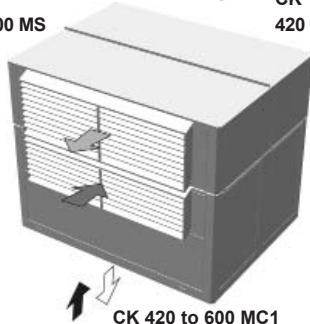
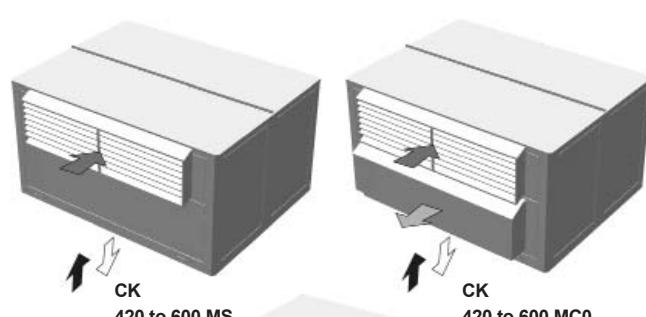
Installation

- Antivibration mounts made of rubber.
- Position of supply and/or return of the indoor unit air.
- Supply and/or return fan with high available pressure.
- Electronic plug-fan(s) in air supply (upon request).
- **Compatibility 2 x 1:** two indoor units: CK and one outdoor unit: SK (models 200 to 360) with a single terminal.
 - Two indoor units operate simultaneously.
 - This optional is not possible for indoor units with supply plug-fan or mixing box.

Compatibility 2 x 1		Models			
Outdoor unit: SK		200	240	320	360
Indoor unit: CK		2 x 100	2 x 120	2 x 160	2 x 180

- Assemblies with **mixing box** for air renewal and free-cooling:
 - 2 motorised dampers:
 - * MS assembly: outdoor air intake.
 - 3 motorised dampers:
 - * MC assembly: outdoor air intake, air extraction and centrifugal return (models 90 to 180 and 420 to 600) or plug-fan (models 420 to 600 with MC0 assembly).
- Note: Plug-fan in models 420 to 600 with MC0 assembly: upon request.

All the possible combinations of "Assemblies with mixing boxes" are represented on the following page.



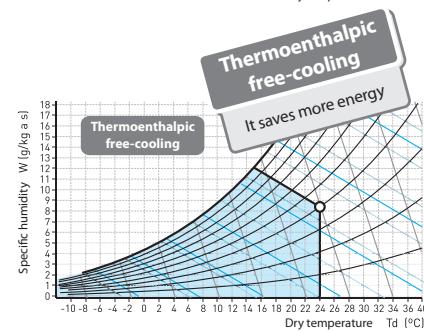
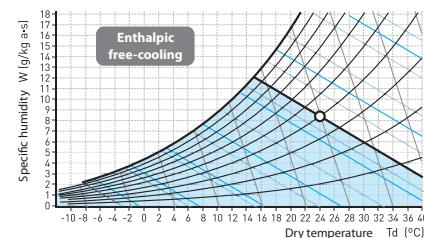
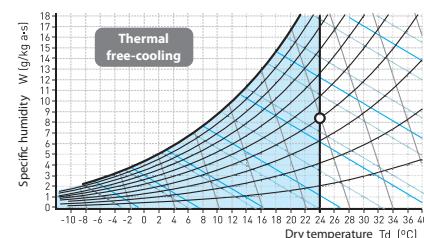
Free-cooling



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. 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.



Note: With enthalpic or thermoenthalpic free-cooling change to the CIATrc electronic control is obligatory

Safety

- 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 CIATrc 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.

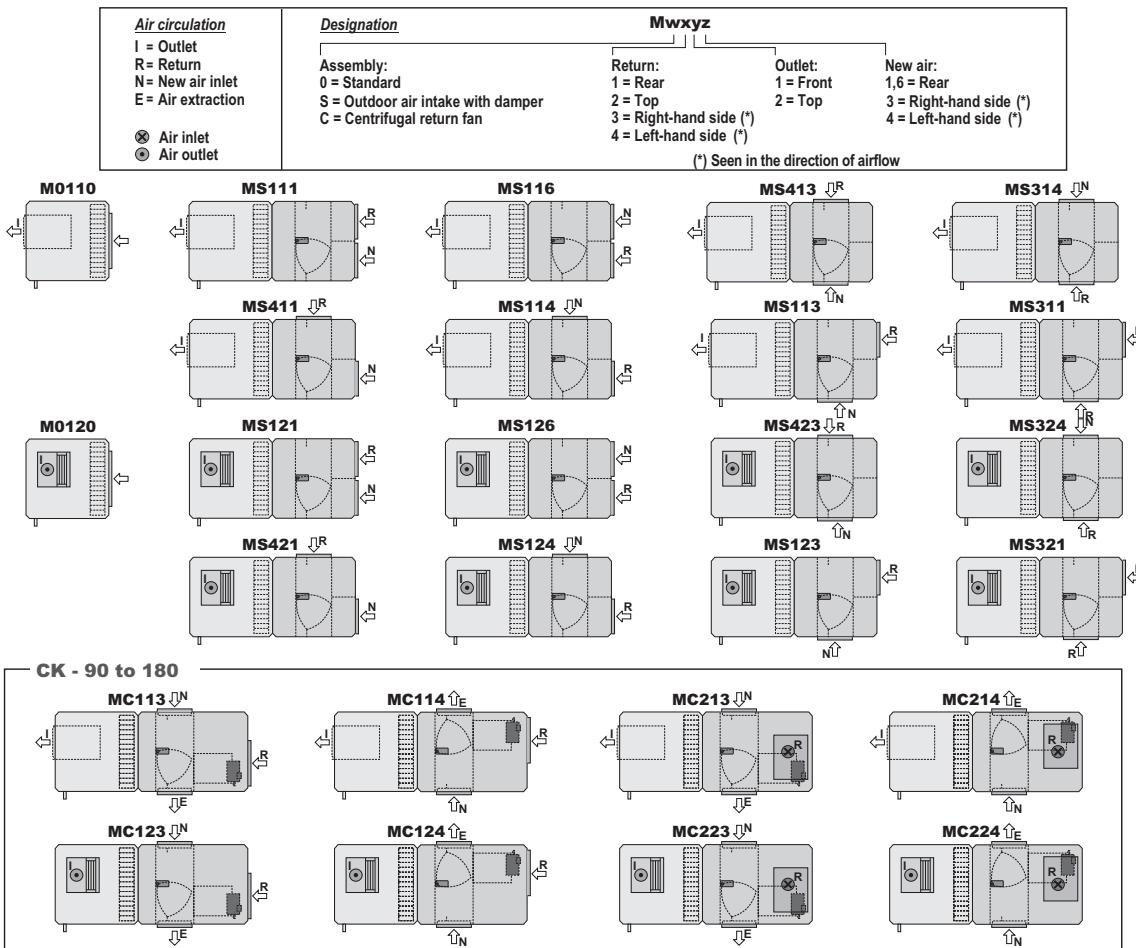




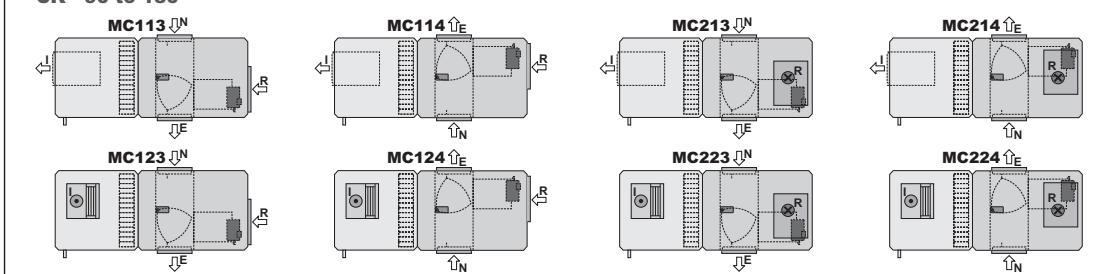
Split-system cooling units and heat pumps

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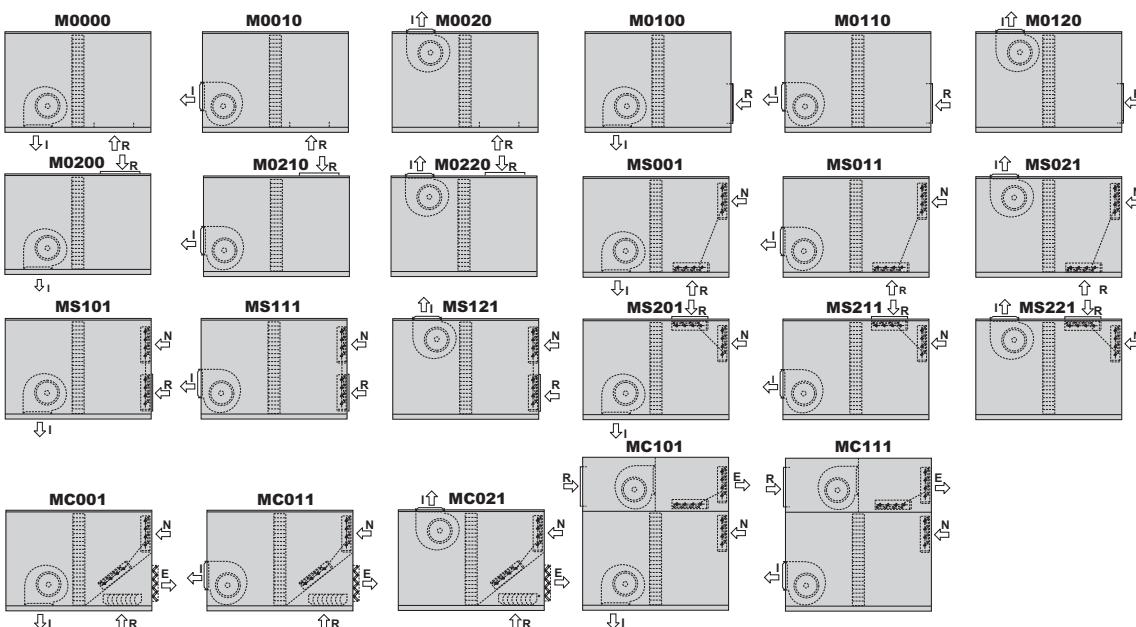
CK - 90 to 360: assemblies with mixing box (plan view)



CK - 90 to 180



CK - 420 to 600: assemblies with mixing box (raised view)



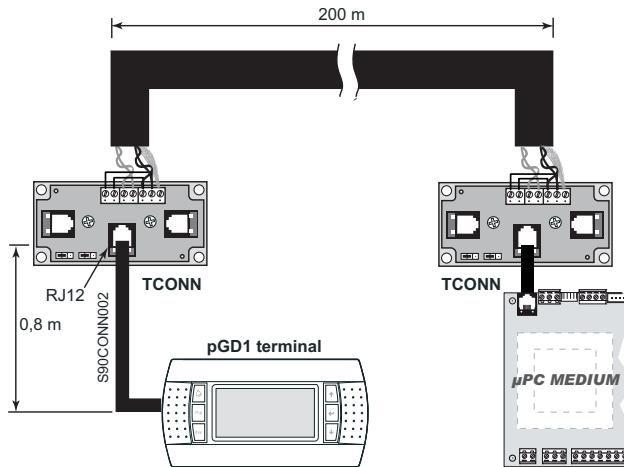
Air circulation		Designation		Mwxyz
I = Outlet R = Return N = New air inlet E = Air extraction		Assembly: 0 = Standard S = Outdoor air intake with damper C0 = Lower return plug-fan C1 = Centrifugal return fan in top box	Return: 0 = Bottom 1 = Side 2 = Top	Supply: 0 = Bottom 1 = Side 2 = Top
				New air: 0 = No inlet 1 = Side

Optional for electronic controls

Control

AVANT / AVANT+ (standard)

- 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. Return probe is required for anti-fire safety.
- Mixing temperature probe: compulsory to manage of the free-cooling.

CIATrc (optional)

- TCO user terminal, 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).
 - Ambient temperature probe with RS485 communication. By default the control incorporates a NTC probe.
- Note: An ambient probe probe with RS485 communication is required for installation to more than 30 m.
- Double 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 CO₂ and/or volatile compounds.

Communication

AVANT / AVANT+ and **CIATrc** 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 notifications, 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.

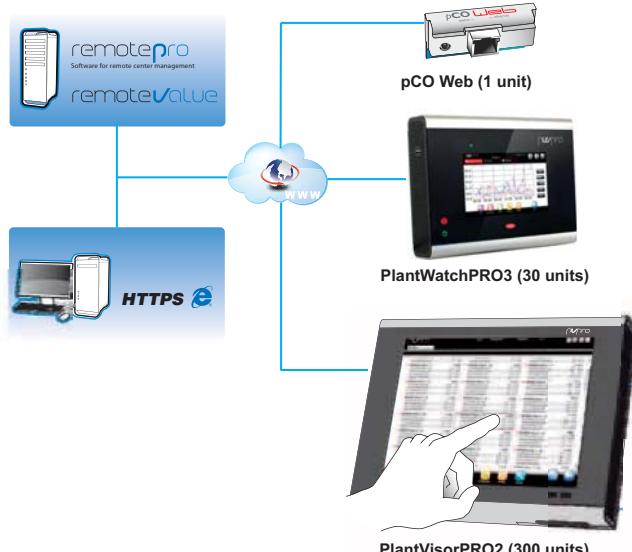
- **PlantVisorPRO2**

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 the CPU unit and, optionally, by monitor and keyboard.
- **Touch:** this includes the CPU and the 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**.



Split-system cooling units and heat pumps

AirDuo SK-CK

TECHNICAL CHARACTERISTICS (EN-14511-2013)

SK		90	100	120	160	180	182	200					
Cooling capacities	Cooling capacity ① (kW)	20,6	22,9	27,0	35,8	38,3	40,7	47,6					
	Power input ③ (kW)	7,2	8,3	9,5	14,0	15,5	14,6	17,5					
	EER performance	2,86	2,75	2,83	2,56	2,48	2,78	2,73					
Heating capacities	Heating capacity ② (kW)	22,9	25,8	31,2	41,0	44,7	46,8	55,2					
	Power input ③ (kW)	6,7	7,6	9,4	12,2	14,3	15,0	17,1					
	COP performance	3,42	3,38	3,30	3,37	3,12	3,13	3,23					
Outdoor circuit axial fan	Nominal air flow (m³/h)	10.000		14.200			20.000						
	Available static pressure (mm.w.c)	--											
	Number	1											
	Diameter (mm)	630		800									
	Output (kW)	0,7 / 0,4		0,8 / 0,5			2,0 / 1,3						
Compressor	Speed (r.p.m.)	875 / 650		680 / 540			895 / 705						
	Type	Scroll											
	No. compressors / No. circuits / No. stages	1 / 1 / 1					2 / 2 / 2						
	Oil type	Copeland 3MAF 32 cST, Danfoss POE 160 SZ, ICI Emkarate RL32 CF, Mobil EAL Artic 22 CC											
Cooling connections	Volume of oil (l)	3,0	3,3	3,3	3,3	6,2	6,2	2 x 3,3					
	Circuit 1: Liquid line	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	1/2"					
	Circuit 1: Gas line	7/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"					
	Circuit 2: Liquid line	--	--	--	--	--	--	1/2"					
	Circuit 2: Gas line	--	--	--	--	--	--	1 1/8"					
Refrigerant	Type	R-410A											
	Global warming potential (GWP) ④	2.088											
	Load up to 7,5 m (kg)	6,3	6,4	8,6	8,2	9,2	12,8	17,3					
	Environment impact (tCO2 e)	13,2	13,4	18,0	17,1	19,2	26,7	36,1					
Electrical features	Mains voltage	400 V / III ph / 50 Hz (±10%)											
	Power supply	3 Wires + Ground											
Maximum absorbed current	Compressor(s) (A)	15,3	18,5	20,1	25,1	29,1	29,1	37,0					
	Fan (A)	1,3	1,3	2,2	2,2	2,2	4,3	4,3					
	Control (A)	0,9	0,9	0,9	0,9	0,9	0,9	1,8					
	Total (A)	17,5	20,7	23,2	28,2	32,2	34,3	43,1					
Dimensions	Length (mm)	1.511		1.511				1.811					
	Width (mm)	1.066		1.066				1.066					
	Height (mm)	1.088		1.413				1.763					
Weight	(kg)	275	281	317	326	368	388	490					
CK		90	100	120	160	180	182	200					
Indoor circuit centrifugal fan	Nominal air flow (m³/h)	4.000	4.600	5.200	7.000	7.000	8.000	9.200					
	Available static pressure (mm.w.c)	15	15	15	15	15	15	20					
	Number / turbines	1 / 1					2 / 2						
	Motor output (kW)	1,1	1,1	1,1	1,5	1,5	2 x 0,75	2 x 1,1					
	Power input (kW)	0,61	0,83	0,88	1,08	1,08	2 x 0,59	2 x 0,91					
	Speed (r.p.m.)	985	1049	916	761	761	963	1126					
Max. absorbed current	Fan (A)	2,7	2,7	2,7	3,6	3,6	4,2	5,4					
Dimensions	Length (mm)	1.190			1.520			2.144					
	Width (mm)	950			1.028			950					
	Height (mm)	731			731			731					
Weight	(kg)	147	147	190	199	199	262	262					

① Cooling capacity calculated in accordance with the EN-14511-2013 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-14511-2013 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-14511-2013 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.



Split-system cooling units and heat pumps

TECHNICAL CHARACTERISTICS (EN-14511-2013)

SK		240	320	360	420	485	540	600								
Cooling capacities	Cooling capacity ① (kW)	52,8	71,2	82,5	100,9	108,7	122,9	134,8								
	Power input ③ (kW)	20,8	28,9	30,4	34,3	39,2	44,7	50,7								
	EER performance	2,55	2,46	2,72	2,94	2,77	2,75	2,66								
Heating capacities	Heating capacity ② (kW)	62,6	80,7	95,3	109,7	120,1	132,9	144,9								
	Power input ③ (kW)	20,4	25,7	32,2	34,5	39,8	42,9	47,3								
	COP performance	3,07	3,14	2,96	3,18	3,02	3,10	3,07								
Outdoor circuit axial fan	Nominal air flow (m³/h)	20.000		39.000		37.000										
	Available static pressure (mm.w.c)	--														
	Number	1		2												
	Diameter (mm)	800														
	Output (kW)	2,0 / 1,3														
Compressor	Speed (r.p.m.)	895 / 705														
	Type	Scroll														
	No. compressors / No. circuits / No. stages	2 / 2 / 2														
	Oil type	Copeland 3MAF 32 cST, Danfoss POE 160 SZ, ICI Emkarate RL32 CF, Mobil EAL Artic 22 CC														
Cooling connections	Volume of oil (l)	2 x 3,3	2 x 3,3	2 x 6,2	2 x 6,2	2 x 6,2	2 x 6,2	2 x 6,2								
	Circuit 1: Liquid line	5/8"	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"								
	Circuit 1: Gas line	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"								
	Circuit 2: Liquid line	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	7/8"								
Refrigerant	Circuit 2: Gas line	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"								
	Type	R-410A														
	Global warming potential (GWP) ④	1.720														
	Load up to 7,5 m (kg)	17,4	22,2	22,7	31,4	31,4	33,4	33,6								
Electrical features	Environment impact (tCO2 e)	36,3	46,4	47,4	65,6	65,6	69,7	70,2								
	Mains voltage	400 V / III ph / 50 Hz (±10%)														
	Power supply	3 Wires + Ground														
Maximum absorbed current	Compressor(s) (A)	40,2	50,2	58,2	68,9	79,6	91,1	102,6								
	Fan (A)	4,3	4,3	8,6	8,6	8,6	8,6	8,6								
	Control (A)	1,8	1,8	1,8	1,8	1,8	1,8	1,8								
	Total (A)	46,3	56,3	68,6	79,3	90,0	101,5	113,0								
Dimensions	Length (mm)	1.811	1.811	2.201												
	Width (mm)	1.066	1.066	2.069												
	Height (mm)	1.763	2.063	1.966												
Weight	(kg)	492	544	974	1.024	1.029	1.078	1.127								
CK		240	320	360	420	485	540	600								
Indoor circuit centrifugal fan	Nominal air flow (m³/h)	10.300	14.000	15.500	18.000	18.200	20.400	24.000								
	Available static pressure (mm.w.c)	20	20	20	20	20	20	20								
	Number / turbines	2 / 2		1 / 3												
	Motor output (kW)	2 x 1,5	2 x 1,5	2 x 2,2	4	4	4	5,5								
	Power input (kW)	2 x 0,94	2 x 1,15	2 x 1,39	2,52	2,82	2,96	3,40								
	Speed (r.p.m.)	974	789	816	677	677	643	681								
Max. absorbed current	Fan (A)	7,2	7,2	10,0	9,0	9,0	9,0	11,6								
Dimensions	Length (mm)	2.144	2.804		2.853											
	Width (mm)	950	1.028		2.160											
	Height (mm)	731	800		1.524											
Weight	(kg)	262	365	365	920	920	963	964								

① Cooling capacity calculated in accordance with the EN-14511-2013 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-14511-2013 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-14511-2013 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.



Split-system cooling units and heat pumps

AirDuo SK-CK

SOUND LEVELS dB(A)

Sound power level on the outdoor unit

SK	90	100	120	160	180	182	200	240	320	360	420	485	540	600
20 Hz	19,2	20,5	33,6	30,8	25,9	25,9	29,8	29,9	33,5	33,4	31,9	32,1	32,2	32,0
25 Hz	21,3	22,3	36,5	33,8	30,0	30,0	33,6	33,3	36,8	36,8	35,7	36,3	36,3	35,8
31,5 Hz	24,9	26,2	39,2	36,3	33,5	33,5	37,1	37,1	39,0	40,8	39,3	39,4	39,4	39,4
40 Hz	29,0	30,1	42,6	39,7	38,3	38,3	42,1	42,3	41,3	46,2	46,3	46,3	46,3	46,0
50 Hz	39,9	40,9	51,5	48,5	49,9	49,9	58,1	58,2	50,4	66,1	65,4	65,8	65,8	65,3
63 Hz	36,3	37,5	53,5	50,7	55,2	55,2	55,0	55,4	55,5	55,0	58,1	57,9	57,9	57,7
80 Hz	40,8	42,2	57,4	54,8	70,2	70,2	67,6	68,1	71,2	65,6	68,6	68,8	68,8	68,6
100 Hz	55,0	56,2	58,8	55,8	56,6	56,6	62,3	62,1	55,1	67,7	64,9	64,9	64,9	64,9
125 Hz	47,5	48,9	56,9	54,4	60,8	60,8	60,1	60,3	58,4	59,4	68,8	68,7	68,7	68,5
160 Hz	50,0	51,2	59,9	57,0	74,3	74,3	71,1	71,0	68,5	67,9	79,0	79,5	79,5	79,2
200 Hz	62,6	63,8	62,3	59,7	69,2	69,2	70,5	70,6	66,8	72,2	78,5	78,9	78,9	78,5
250 Hz	56,8	58,2	65,6	63,0	73,3	73,3	73,2	73,0	70,9	73,0	80,2	79,9	79,9	79,8
315 Hz	60,1	61,5	70,3	67,8	73,9	73,9	75,0	74,9	71,5	76,1	80,3	80,6	80,6	80,4
400 Hz	61,2	62,5	70,4	67,5	76,7	76,7	77,4	77,3	73,5	77,8	81,5	82,0	82,0	81,5
500 Hz	62,2	63,4	71,6	69,0	78,3	78,3	78,6	78,5	77,5	79,2	82,4	82,5	82,5	82,2
630 Hz	63,6	64,7	72,5	69,6	77,8	77,8	77,9	78,2	76,8	78,2	82,4	82,2	82,2	82,2
800 Hz	65,2	66,3	72,7	70,0	78,4	78,4	78,5	78,6	77,2	78,3	82,9	83,0	83,0	82,9
1000 Hz	65,6	67,0	73,4	70,8	80,1	80,1	79,7	79,8	80,0	79,6	83,8	83,8	83,8	83,6
1250 Hz	64,8	66,1	75,1	72,5	78,0	78,0	79,2	79,1	78,8	80,5	81,9	81,9	81,9	81,8
1600 Hz	63,1	64,2	71,3	68,6	74,9	74,9	75,4	75,5	75,2	76,5	79,5	79,7	79,7	79,4
2000 Hz	60,8	62,1	69,5	66,9	74,2	74,2	74,6	75,0	75,3	75,2	77,8	78,1	78,1	77,7
2500 Hz	57,5	58,6	70,1	67,5	71,9	71,9	72,9	72,6	71,6	73,6	75,8	76,1	76,1	75,8
3150 Hz	54,7	56,0	67,2	64,6	69,9	69,9	70,7	71,0	69,7	71,6	73,9	73,6	73,6	73,6
4000 Hz	53,3	54,7	63,3	60,5	68,1	68,1	68,9	69,1	66,8	69,9	70,9	70,8	70,8	70,7
5000 Hz	54,0	55,5	62,2	59,4	65,9	65,9	66,9	67,0	64,4	67,6	67,8	67,6	67,6	67,6
6300 Hz	51,9	53,1	58,5	55,8	62,7	62,7	64,9	64,9	61,8	66,8	66,6	66,6	66,6	66,2
8000 Hz	49,6	51,0	55,5	52,6	59,4	59,4	61,2	61,3	58,4	63,5	63,1	63,3	63,3	62,8
10000 Hz	45,4	46,7	51,3	48,6	56,3	56,3	59,1	59,0	54,7	62,0	58,3	58,5	58,5	58,0
12500 Hz	40,8	42,1	47,0	44,0	51,3	51,3	57,1	57,2	49,7	60,0	52,3	52,4	52,4	52,2
16000 Hz	34,9	36,3	41,4	38,5	45,4	45,4	54,9	54,9	44,7	59,0	46,4	46,5	46,5	46,5
20000 Hz	28,1	29,1	34,3	31,7	37,9	37,9	49,5	49,7	38,1	59,0	39,3	39,4	39,4	39,5
Total dB(A)	74	75	83	80	88	88	88	88	87	89	92	92	92	92

Sound pressure level on the outdoor unit

Measurement conditions: in free field, measured at a distance of 5 metres, directivity 2 and at 1.5 metres from the ground.

SK	90	100	120	160	180	182	200	240	320	360	420	485	540	600
Total dB(A)	48	49	56	54	62	62	62	62	60	62	65	66	66	65

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

Sound power level on the indoor unit

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

CK	90	100	120	160	180	182	200	240	320	360	420	485	540	600
Total dB(A)	79	82	80	80	80	82	85	82	83	85	86	87	89	92

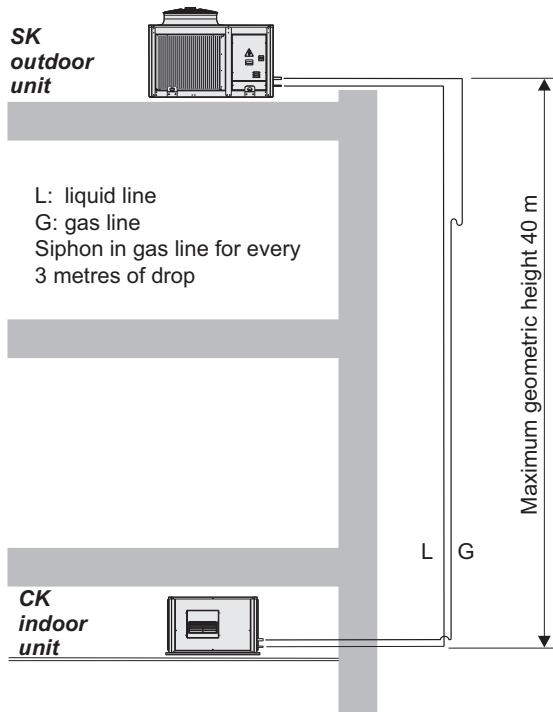


Split-system cooling units and heat pumps

RECOMMENDATIONS FOR THE COOLING CONNECTION

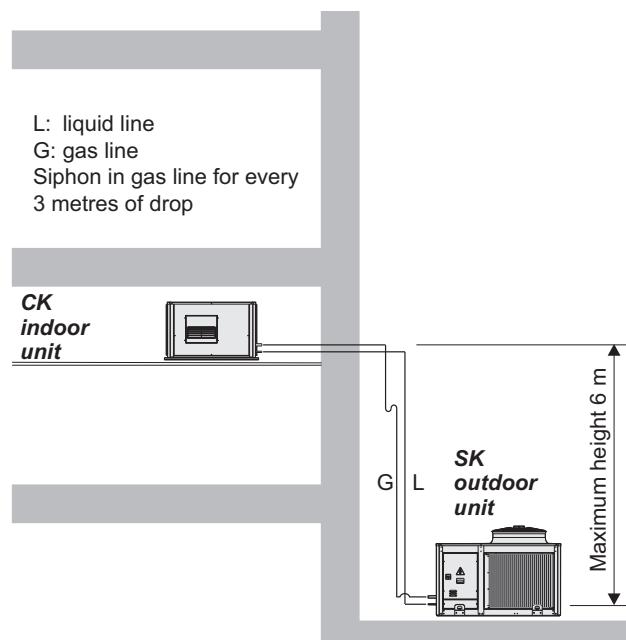
Outdoor unit top

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



Outdoor unit bottom

Maximum equivalent length of the cooling line: 7 metres



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 OUTDOOR UNITS: SK SERIES

Electronic axial fan

SK	90	100	120	160	180	182	200	240	320	360	420	485	540	600
Max. available static pressure (mm.w.c)	15													12,5
Number / diameter (mm)	1 / 630													2 / 800
Motor output (kW)	1 x 0,9													2 x 2,1
Maximum speed (r.p.m.)	1.000													1.100
Maximum absorbed current (A)	2,0													6,8



Split-system cooling units and heat pumps

AirDuo SK-CK

OPTIONAL FOR THE INDOOR UNITS: CK SERIES

Lower radial centrifugal return fan (MC0 assembly)

CK	420	485	540	600
Nominal air flow (m³/h)	18.000	18.200	20.400	24.000
Available static pressure (mm.w.c)	21	21	19	17
Number / diameter	4 / 500			
Motor output (kW)	2 x (2,7 + 1,4)			
Speed (r.p.m.)	2 x 1.700 / 2 x 1.375			
Maximum absorbed current (A)	14,6			

Centrifugal return fan (MC1 and MC2 assembly)

CK	90	100	120	160	180	420	485	540	600
Nominal air flow (m³/h)	4.000	4.600	5.200	7.000	7.000	18.000	18.200	20.400	24.000
Available static pressure (mm.w.c)	15	15	15	15	15	20	20	20	20
Number / turbines	1 / 1								1 / 2
Motor output (kW)	0,75	1,1	0,75	1,1	1,1	4	4	5,5	5,5
Power input (kW)	0,48	0,65	0,58	0,72	0,72	2,73	2,85	3,57	3,86
Speed (r.p.m.)	834	882	689	578	578	602	616	644	619
Maximum absorbed current (A)	2,1	2,7	2,1	2,7	2,7	9,0	9,0	11,6	11,6

Nominal hot water coil

Hot water coil assembled inside the unit with a three-way valve managed by the unit control for heating in cooling-only unit.

CK	90	100	120	160	180	182	200	240	320	360	420	485	540	600
Air pressure drop (mm.w.c)	3,0	3,8	4,7	4,4	4,4	2,8	3,5	4,1	3,6	4,2	2,0	2,1	2,5	3,2
Water 80/60°C and inlet air 20°C	Heating capacity (kW)	29,1	31,7	34,2	57,9	57,9	71,2	77,6	83,0	121,2	128,9	172,3	173,5	186,3
	Water flow (m³/h)	1,3	1,4	1,5	2,6	2,6	3,2	3,4	3,7	5,4	5,7	7,4	7,5	8,0
	Water pressure drop (m.w.c)	0,3	0,4	0,4	1,4	1,4	0,7	0,9	1,0	2,1	2,3	0,3	0,3	0,4
Water 90/70°C and inlet air 20°C	Heating capacity (kW)	36,2	39,5	42,7	71,4	71,4	87,8	95,9	102,6	148,9	158,4	212,9	214,5	230,5
	Water flow (m³/h)	1,6	1,8	1,9	3,2	3,2	3,9	4,3	4,6	6,6	7,0	9,2	9,9	11,0
	Water pressure drop (m.w.c)	0,5	0,6	0,6	2,1	2,1	1,1	1,2	1,4	3,0	3,3	0,4	0,4	0,4
Weight (empty) (kg)	10,4	10,4	10,4	16,3	16,3	23,4	23,4	34,4	34,4	62,5	62,5	62,5	62,5	62,5
Diameter of hydraulic connections	1"			1 1/4"					1 1/2"		2"			

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

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 outlet temperature of the indoor coil.

CK	90	100	120	160	180	182	200	240	320	360	420	485	540	600
Air pressure drop (mm.w.c)	2,9	3,6	4,5	4,2	4,2	2,7	3,4	4,0	6,6	7,8	1,9	2,0	2,4	3,2
Water 80/60°C	Heating capacity (kW)	12,9	13,7	14,9	23,0	23,0	30,2	31,6	33,6	40,9	43,7	66,1	60,8	63,6
	Water flow (m³/h)	0,6	0,6	0,7	1,0	1,0	1,3	1,4	1,5	1,8	1,9	2,9	2,7	2,8
	Water pressure drop (m.w.c)	0,1	0,1	0,2	0,5	0,5	0,4	0,5	0,5	0,8	0,9	0,6	0,5	0,6
Water 90/70°C	Heating capacity (kW)	17,9	19,2	20,8	31,5	31,5	41,2	43,5	46,5	56,3	60,1	90,1	85,0	89,8
	Water flow (m³/h)	0,8	0,9	0,9	1,4	1,4	1,8	1,9	2,0	2,5	2,6	4,0	3,8	3,9
	Water pressure drop (m.w.c)	0,2	0,3	0,3	0,8	0,8	0,8	0,9	1,0	1,4	1,6	1,1	1,0	1,1
Weight (empty) (kg)	7,8	7,8	7,8	11,0	11,0	16,3	16,3	16,3	16,3	16,3	38,4	38,4	38,4	38,4
Diameter of hydraulic connections	3/4"			1"										

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

Electrical heaters

- Important: with this option, the air flow controller is included.
- Standard assembly in two stages (optional assembly in one stage with no over price).
- In the case of two indoor units with the one outdoor unit the assembly of the support is not possible in two stages (each indoor unit is equivalent to 1 stage).

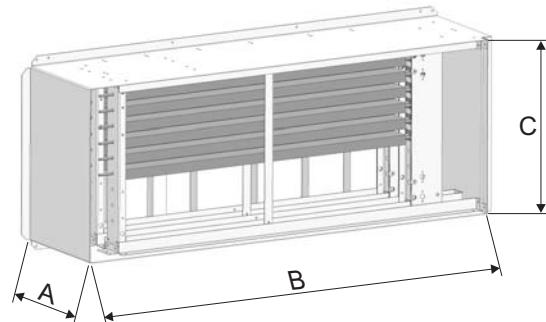
Models 90 to 360 (assembled in the fan outlet): available capacities

CK	Total output (kW)	6	9	12	15	18	24	30	36
	Stage power (kW)	3 + 3	3 + 6	6 + 6	6 + 9	9 + 9	12 + 12	15 + 15	18 + 18
Current (A) (400V / IIPh / 50Hz)	90 / 100 / 120	8,7	13,0	17,3					unavailable
	160 / 180		unavailable	17,3	21,7	26,0			unavailable
	182 / 200 / 240 / 320 / 360		unavailable		21,7	26,0	34,6	53,4	52,0

Note: in models with centrifugal return fan it is not possible to assemble electrical heaters with outputs of 30 and 36 kW.

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

CK	Total output (kW)	Dimensions (mm)		
		A	B	C
90 / 100 / 120 (1 supply outlet)	6 / 9 kW (1 row)	150	482	443
	12 kW (2 rows)	262	482	443
160 / 180 (1 supply outlet)	12 / 15 / 18 kW (1 row)	189	1.142	443
182 / 200 / 240 (2 supply outlets)	15 / 18 kW (1 row)	189	1.142	443
	24 / 30 / 36 kW (2 rows)	297	1.142	443
320 / 360 (2 supply outlets)	15 / 18 / 24 / 30 / 36 kW (1 row)	189	1.142	443



This frame is designed with side access for maintenance purposes.

In models 90 to 120 each of the rows of electrical heaters has an output of 1 kW. As from model 160, the output of each row will be 2 or 3 kW according to the total output.

In models with two supply fan outlets (two frames), as well as in the case of 1 supply outlet with 2 rails, the electrical heaters are distributed as symmetrically as possible between both frames.

Models 420 to 600 (assembled inside the unit): available capacities

CK	Total output (kW)	36	45	54	72
	Stage power (kW)	18 + 18	18 + 27	27 + 27	36 + 36
Current (A) (400V / IIPh / 50Hz)	420 / 485	52,0	65,0	78,0	unavailable
	540 / 600	unavailable	65,0	78,0	104,0

Stop-drop in the indoor air coil

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

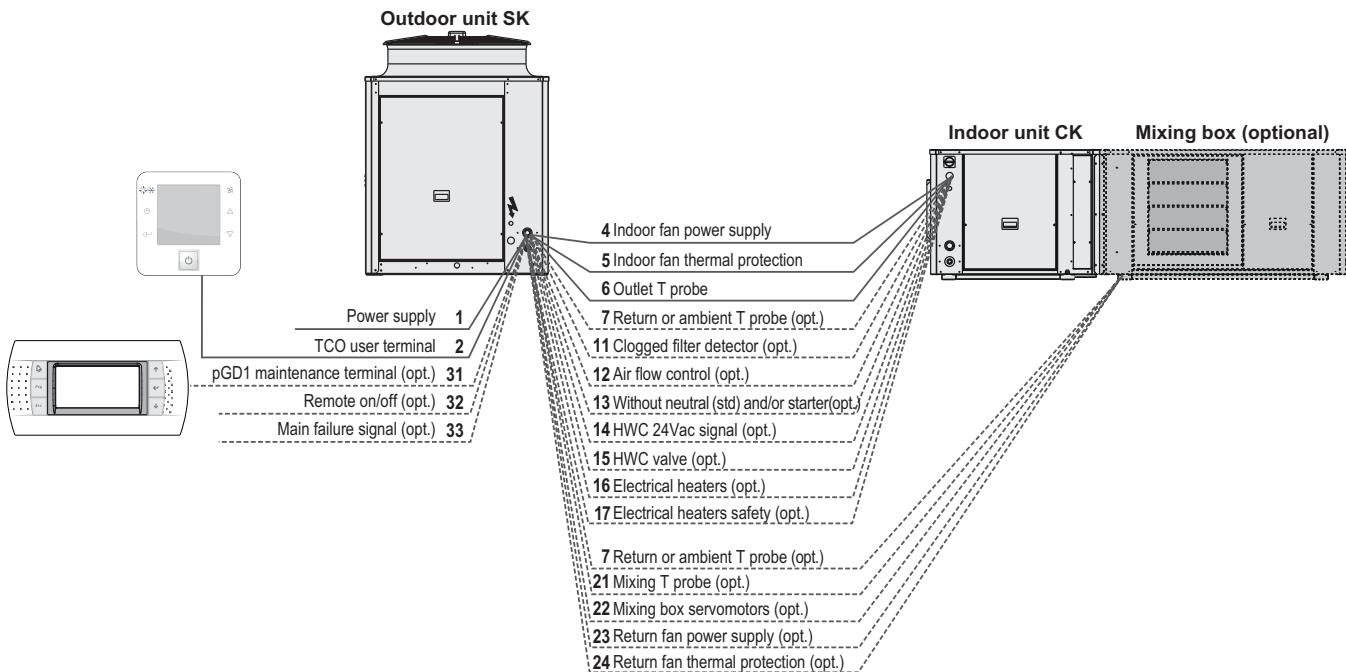
CK	90	100	120	160	180	182	200	240	320	630	420	485	540	600
Air flow (m³/h)	5.246													

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 (nominal or auxiliary) it is not possible to assemble the stop-drop.

ELECTRICAL CONNECTIONS

AVANT (1 stage) and AVANT+ (2 stages) electronic control



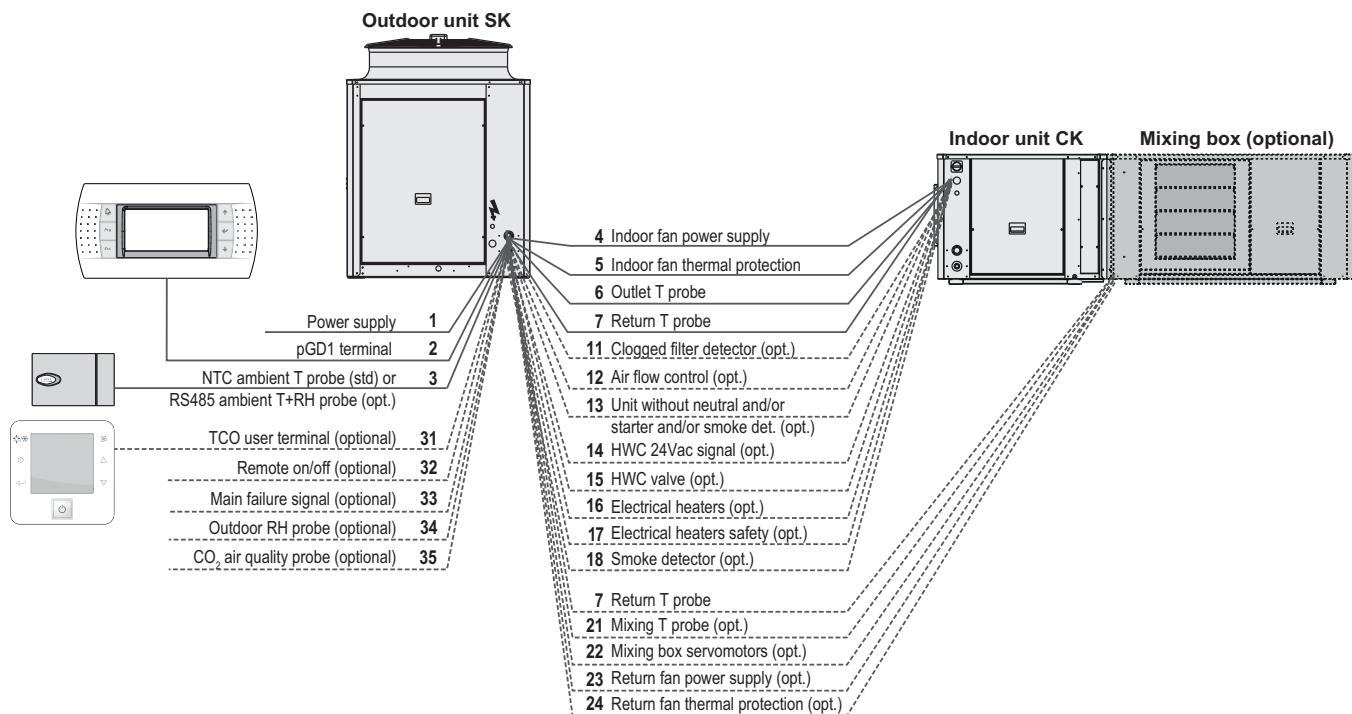
No	SK	90 100 120 160 180 182 200 240 320 360 420 485 540 600	
1	Power supply	400 III ($\pm 10\%$)	3 + GND
2	TCO user terminal connection ①	2 wires for power supply 230V + 1 shielded cable for communication type AGW20 / 22 (1 braided pair + drainwire + shielding)	
4	Indoor fan power supply	3 + GND	
5	Thermal relay signal of the indoor fan	2 wires	
6	Outlet temperature probe	2 wires	
7	Return or ambient temperature probe (optional) ②	2 wires	
11	Clogged filters detector (optional)	2 wires	
12	Air flow control (optional)	2 wires	
13	Unit without neutral (std) and/or soft starter (opt.)	1 wire	
14	HWC 24 Vac signal (optional)	2 wires	
15	HWC valve (optional)	1 wire	
16	Electrical heaters (optional) ③	3 wires (per stage) + GND	
17	Safety thermistors of electrical heaters (optional)	2 wires	
21	Mixing temperature probe (optional) ②	2 wires	
22	Mixing box servomotors power supply (optional) ②	3 wires	
23	Return fan power supply (optional) ②	3 + GND	
24	Thermal relay signal of the return fan (optional) ②	2 wires	
31	pGD1 maintenance terminal connection (optional)	telephone cable 6 wires standard (RJ12 connector)	
32	Remote on/off (optional)	2 wires	
33	Main failure signal (optional)	2 wires	

① 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.

② In indoor units with the optional mixing box, these connections are realized directly between the outdoor unit and the terminal board of the box mentioned

③ The power supply for the electrical heater must be protected by an automatic switch and/or fuses to be foreseen by the installer.

CIATrc electronic control (optional)



No	SK	90 100 120 160 180 182 200 240 320 360 420 485 540 600	
1	Power supply	400 III ($\pm 10\%$)	3 + GND
2	pGD1 terminal connection	telephone cable 6 wires standard (RJ12 connector)	
3	NTC ambient T probe (std) or RS485 ambient T+RH (opt.)	2 wires (std) / 5 wires (RS485)	
4	Indoor fan power supply	3 + GND	
5	Thermal relay signal of the indoor fan	2 wires	
6	Outlet temperature probe	2 wires	
7	Return or ambient temperature probe (optional) ②	2 wires	
11	Clogged filters detector (optional)	2 wires	
12	Air flow control (optional)	2 wires	
13	Unit without neutral (std), soft starter and/or smoke detector (opts)	1 wire	
14	HWC 24 Vac signal (optional)	2 wires	
15	HWC valve (optional)	1 wire	
16	Electrical heaters (optional) ③	3 wires (per stage) + GND	
17	Safety thermistors of electrical heaters (optional)	2 wires	
18	Smoke detector (optional)	2 wires	
21	Mixing temperature probe (optional) ②	2 wires	
22	Mixing box servomotors power supply (optional) ②	3 wires	
23	Return fan power supply (optional) ②	3 + GND	
24	Thermal relay signal of the return fan (optional) ②	2 wires	
31	TCO user terminal connection (optional) ①	2 wires for power supply 230V + 1 shielded cable for communication type AGW20 / 22 (1 braided pair + drainwire + shielding)	
32	Remote on/off (optional)	2 wires	
33	Main failure signal (optional)	2 wires	
34	Outdoor RH probe (optional)	3 wires	
35	CO ₂ air quality probe (optional)	3 wires	

- ① 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.
- ② In indoor units with the optional mixing box, these connections are realized directly between the outdoor unit and the terminal board of the box mentioned
- ③ The power supply for the electrical heater must be protected by an automatic switch and/or fuses to be foreseen by the installer.



Split-system cooling units and heat pumps

AirDuo SK-CK

HEATING CAPACITY (kW)

Indoor temperature 20°C

ISK	Flow (m³/h)	Outdoor air temperature															
		-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
90	3.200	15,0	5,2	16,8	5,4	17,7	5,5	19,1	5,7	20,6	5,9	22,1	6,1	24,3	6,4	27,2	6,9
	4.000	15,1	5,0	16,9	5,2	17,8	5,3	19,3	5,4	20,8	5,6	22,3	5,8	24,6	6,0	27,6	6,5
	4.800	15,1	4,8	17,6	5,0	17,9	5,1	19,4	5,2	20,9	5,4	22,5	5,5	24,8	5,8	28,0	6,1
100	3.680	16,8	5,9	18,8	6,1	19,8	6,2	21,4	6,4	23,0	6,7	24,8	6,9	27,2	7,2	30,5	7,8
	4.600	16,9	5,6	18,9	5,8	20,0	6,0	21,6	6,1	23,3	6,3	25,0	6,5	27,6	6,8	31,0	7,3
	5.520	17,0	5,5	19,7	5,7	20,1	5,8	21,7	5,9	23,4	6,1	25,2	6,2	27,9	6,5	31,4	6,9
120	4.160	20,6	7,2	23,0	7,5	24,2	7,6	26,2	7,9	28,2	8,1	30,3	8,4	33,3	8,9	37,3	9,5
	5.200	20,7	6,9	23,1	7,2	24,4	7,3	26,4	7,5	28,4	7,7	30,6	8,0	33,7	8,4	37,9	9,0
	6.240	20,7	6,7	24,1	6,9	24,5	7,0	26,6	7,2	28,6	7,4	30,8	7,6	34,0	8,0	38,4	8,5
160	5.600	26,8	9,5	30,0	9,9	31,6	10,1	34,2	10,4	36,7	10,8	39,5	11,1	43,4	11,7	48,6	12,6
	7.000	26,9	9,1	30,2	9,5	31,8	9,6	34,5	9,9	37,1	10,2	39,9	10,5	43,9	11,1	49,4	11,8
	8.400	27,0	8,8	31,4	9,2	32,0	9,3	34,7	9,6	37,3	9,8	40,2	10,1	44,4	10,5	50,0	11,2
180	5.600	29,6	11,4	33,1	11,9	34,9	12,1	37,7	12,5	40,5	13,0	43,5	13,4	47,9	14,1	53,6	15,2
	7.000	29,7	11,0	33,3	11,4	35,1	11,6	38,0	11,9	40,9	12,3	44,0	12,7	48,5	13,3	54,5	14,3
	8.400	29,8	10,7	34,6	11,0	35,3	11,2	38,2	11,5	41,2	11,8	44,3	12,2	49,0	12,7	55,2	13,5
182	6.400	30,9	11,1	34,6	11,6	36,5	11,8	39,4	12,2	42,4	12,6	45,5	13,1	50,1	13,8	56,1	14,8
	8.000	31,1	10,7	34,8	11,1	36,7	11,3	39,7	11,7	42,8	12,0	46,0	12,4	50,7	13,0	56,9	13,9
	9.600	31,2	10,4	36,2	10,8	36,9	10,9	40,0	11,2	43,1	11,5	46,4	11,9	51,2	12,4	57,7	13,2
200	7.360	36,3	12,7	40,6	13,2	42,8	13,5	46,3	13,9	49,8	14,4	53,5	14,9	58,8	15,7	65,9	16,8
	9.200	36,5	12,2	40,9	12,6	43,1	12,9	46,7	13,2	50,2	13,6	54,0	14,1	59,5	14,8	66,9	15,8
	11.040	36,6	11,8	42,5	12,2	43,3	12,4	46,9	12,8	50,6	13,1	54,4	13,5	60,2	14,1	67,8	15,0

Pc: Total heating capacity in kW

Pa: Compressor power input in kW

Correction coefficients due to indoor temperature variation

Indoor temperature	17°C	19°C	20°C	21°C	23°C	25°C	27°C
Coefficient K1	1,011	1,004	1,000	0,996	0,989	0,982	0,975
Coefficient K2	0,940	0,979	1,000	1,021	1,065	1,110	1,157

$$PC = Pc \times K1$$

$$PA = Pa \times K2$$



Split-system cooling units and heat pumps

AirDuo SK-CK

HEATING CAPACITY (kW)

Indoor temperature 20°C

ISK	Flow (m³/h)	Outdoor air temperature															
		-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
240	8.240	41,2	15,6	46,1	16,2	48,6	16,6	52,5	17,1	56,5	17,7	60,7	18,3	66,8	19,3	74,7	20,7
	10.300	41,4	15,0	46,4	15,6	48,9	15,8	53,0	16,3	57,0	16,8	61,3	17,3	67,5	18,2	75,9	19,5
	12.360	41,6	14,5	48,3	15,1	49,2	15,3	53,3	15,7	57,4	16,1	61,8	16,6	68,3	17,3	76,9	18,4
320	11.200	53,5	20,5	59,9	21,4	63,1	21,8	68,2	22,5	73,3	23,3	78,8	24,1	86,7	25,4	97,1	27,3
	14.000	53,8	19,8	60,2	20,5	63,5	20,8	68,8	21,5	74,0	22,1	79,6	22,8	87,7	23,9	98,6	25,6
	16.800	54,0	19,2	62,7	19,8	63,9	20,2	69,2	20,7	74,5	21,2	80,2	21,9	88,7	22,8	99,9	24,3
360	12.400	62,8	23,8	70,3	24,8	74,1	25,3	80,1	26,2	86,1	27,0	92,5	28,0	101,8	29,5	113,9	31,6
	15.500	63,1	22,9	70,7	23,8	74,6	24,2	80,7	24,9	86,9	25,7	93,4	26,5	103,0	27,8	115,7	29,8
	18.600	63,4	22,2	73,6	23,0	75,0	23,4	81,2	24,0	87,5	24,7	94,2	25,4	104,1	26,5	117,2	28,2
420	14.400	75,1	26,2	79,7	26,3	85,2	27,6	92,3	28,6	99,5	29,7	106,9	30,8	118,0	32,6	132,7	34,9
	18.000	75,4	24,9	80,0	25,6	85,9	26,3	93,0	27,2	100,3	28,1	108,0	29,0	119,6	30,5	135,0	32,4
	21.600	75,3	24,3	80,4	24,9	86,0	25,5	93,4	26,3	100,7	27,0	108,7	27,8	120,5	29,1	136,6	30,9
485	14.560	82,2	30,7	87,1	30,8	93,2	32,3	101,0	33,5	108,8	34,7	117,0	36,0	129,1	38,1	145,2	40,8
	18.200	82,5	29,2	87,5	29,9	93,9	30,8	101,8	31,8	109,8	32,8	118,2	33,9	130,8	35,6	147,7	37,9
	21.840	82,3	28,5	88,0	29,1	94,1	29,8	102,2	30,7	110,1	31,6	119,0	32,5	131,9	34,0	149,4	36,1
540	16.320	91,1	33,4	96,5	33,5	103,3	35,2	111,9	36,5	120,5	37,8	129,6	39,3	143,0	41,5	160,8	44,5
	20.400	91,3	31,8	96,9	32,6	104,1	33,5	112,7	34,7	121,6	35,8	130,9	37,0	144,9	38,8	163,6	41,3
	24.480	91,2	31,0	97,4	31,7	104,2	32,5	113,2	33,5	122,0	34,4	131,8	35,4	146,1	37,1	165,5	39,3
600	19.200	99,0	36,8	104,9	37,0	112,3	38,8	121,6	40,2	131,0	41,7	140,8	43,3	155,4	45,7	174,8	49,0
	24.000	99,3	35,0	105,3	36,0	113,1	37,0	122,5	38,2	132,1	39,4	142,3	40,7	157,5	42,8	177,8	45,6
	28.800	99,1	34,2	105,9	34,9	113,3	35,8	123,1	36,9	132,6	37,9	143,2	39,1	158,7	40,9	179,8	43,4

Pc: Total heating capacity in kW

Pa: Compressor power input in kW

Correction coefficients due to indoor temperature variation

Indoor temperature	17°C	19°C	20°C	21°C	23°C	25°C	27°C
Coefficient K1	1,011	1,004	1,000	0,996	0,989	0,982	0,975
Coefficient K2	0,940	0,979	1,000	1,021	1,065	1,110	1,157

$$PC = PC \times K1$$

$$PA = PA \times K2$$

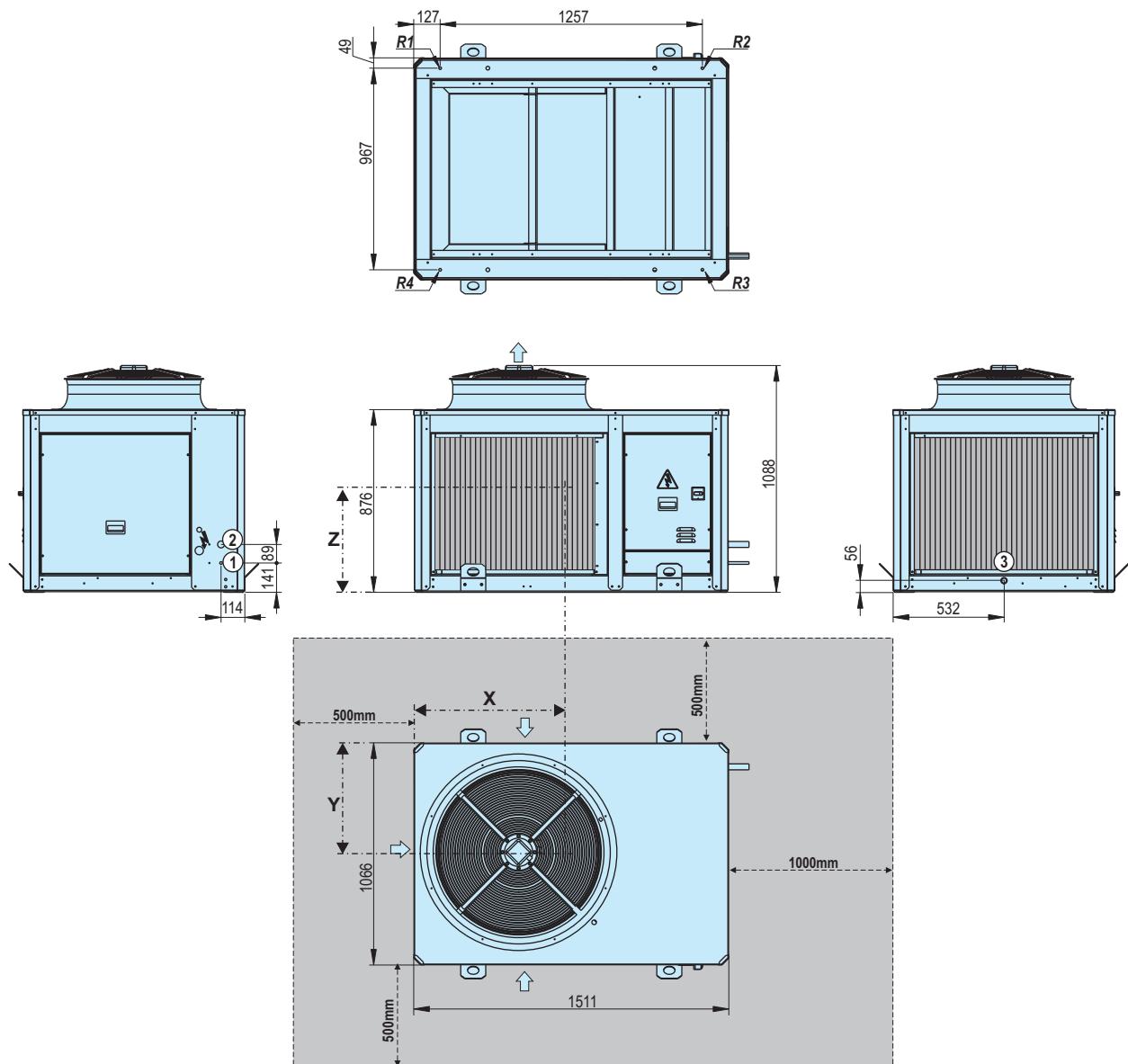


Split-system cooling units and heat pumps

AirDuo SK-CK

DIMENSIONS SCHEMES: OUTDOOR UNITS

SK - 90 and 100 (mm)



LEGEND

- ➡ Outdoor air circulation
- ⚠ Electric panel
- ⚡ Electric power supply
- ☒ Door switch
- ① Liquid line
- ② Gas line
- ③ Condensate outlet: pipe 22 mm (optional)
- Antivibration anchoring: rivet nut M10
- Clear space to be observed for maintenance operations and unit start-up

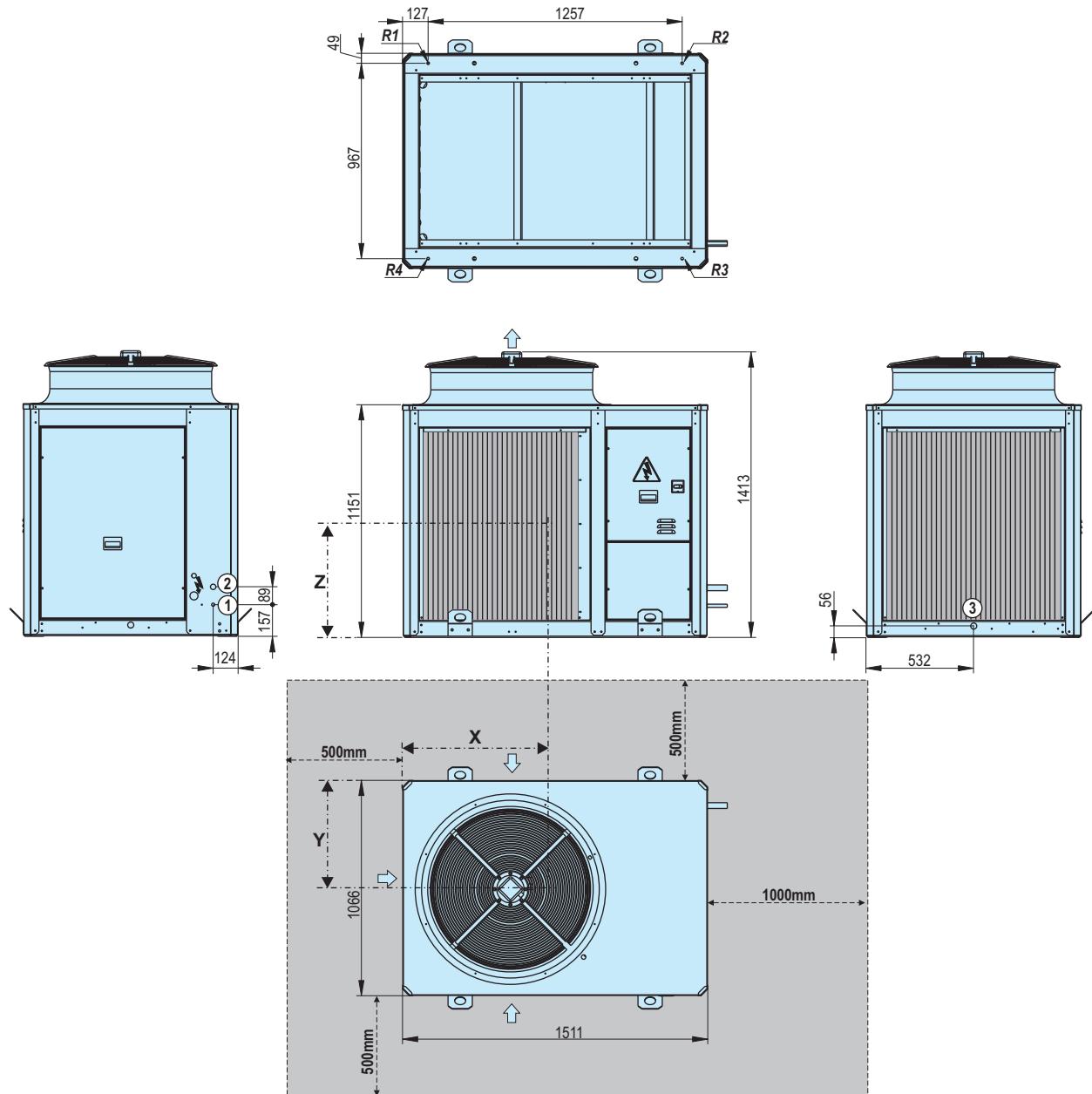
SK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
90	945	602	440	275	58	99	80	38
100	945	602	440	281	59	102	81	39



Split-system cooling units and heat pumps

SK - 120, 160, 180 and 182 (mm)

AirDuo SK-CK



LEGEND

- ➡ Outdoor air circulation
- ⚠ Electric panel
- ⚡ Electric power supply
- ☒ Door switch
- ① Liquid line
- ② Gas line
- ③ Condensate outlet: pipe 22 mm (optional)
- Antivibration anchoring: rivet nut M10
- Clear space to be observed for maintenance operations and unit start-up

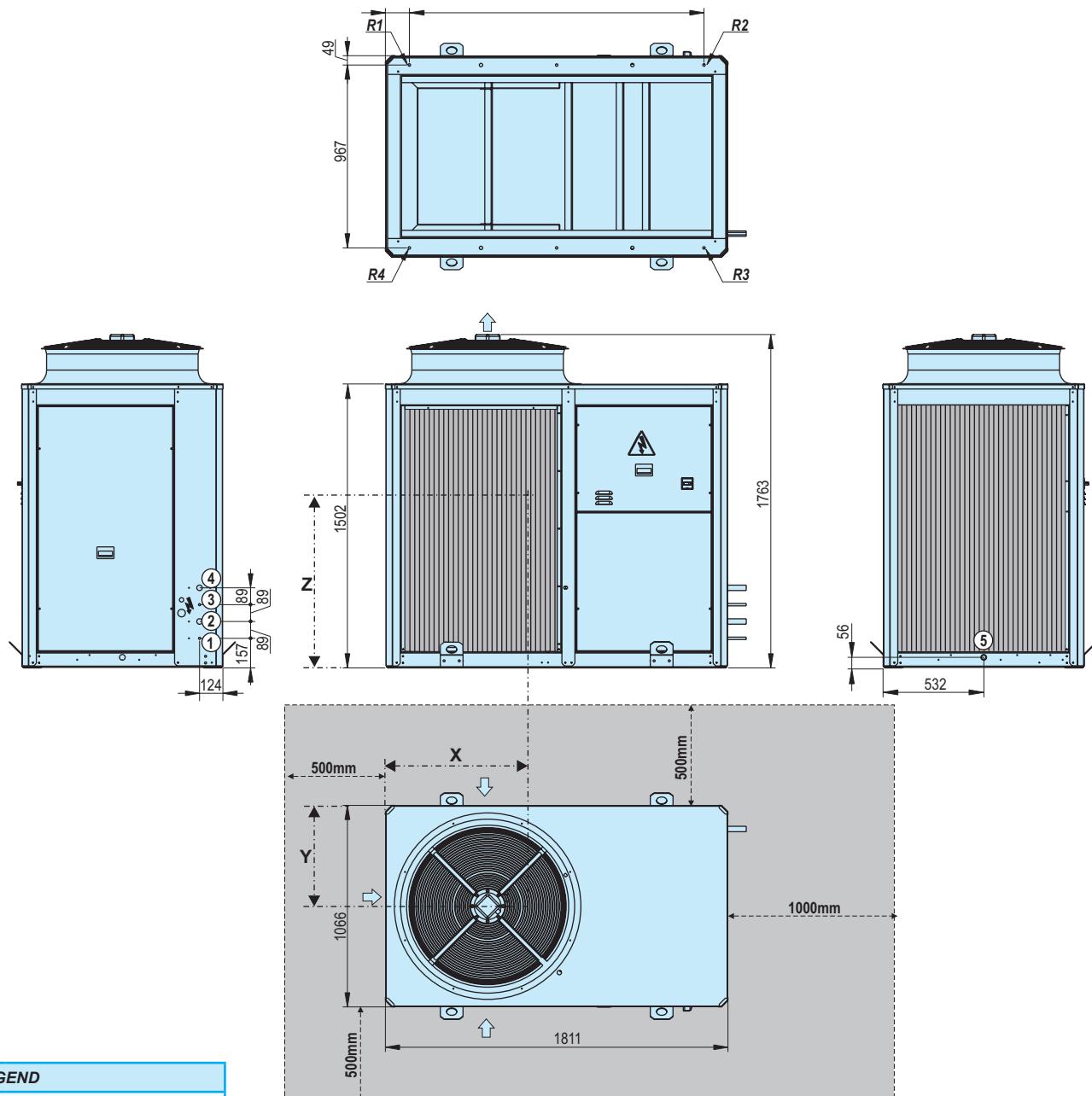
SK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
120	908	595	589	317	70	109	88	50
160	913	595	593	326	72	112	91	51
180	909	584	512	368	79	124	105	60
182	909	584	512	388	84	131	110	63



Split-system cooling units and heat pumps

AirDuo SK-CK

SK - 200 and 240 (mm)



LEGEND

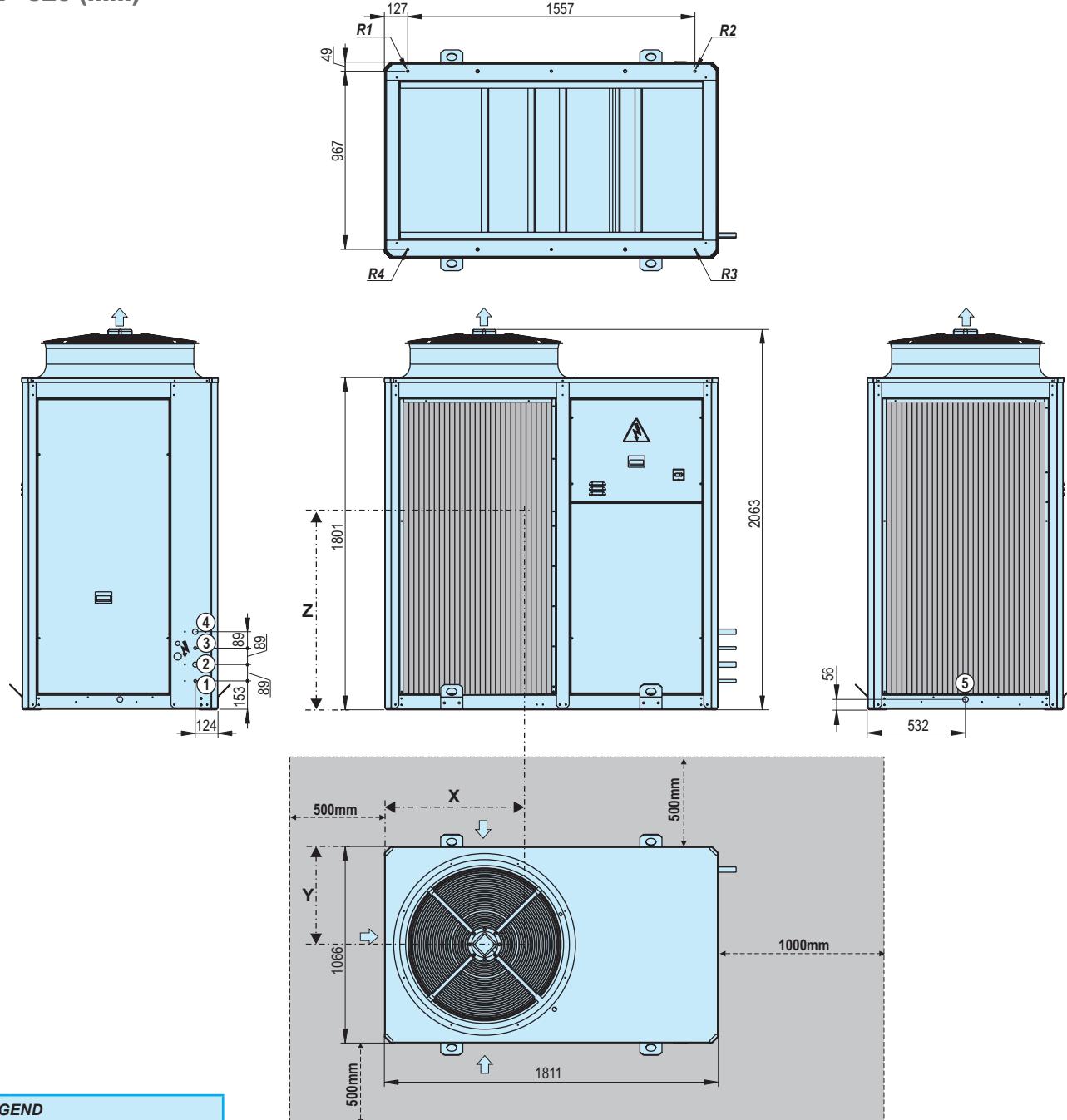
- Outdoor air circulation
- ⚠ Electric panel
- ⚡ Electric power supply
- ☒ Door switch
- ① Liquid line circuit 1
- ② Gas line circuit 1
- ③ Liquid line circuit 2
- ④ Gas line circuit 2
- ⑤ Condensate outlet: pipe 22 mm (optional)
- Antivibration anchoring: rivet nut M10
- Clear space to be observed for maintenance operations and unit start-up

SK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
200	1.029	610	658	490	118	166	127	79
240	1.030	609	657	492	123	162	123	84



Split-system cooling units and heat pumps

SK - 320 (mm)



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: pipe 22 mm (optional)

Antivibration anchoring: rivet nut M10

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

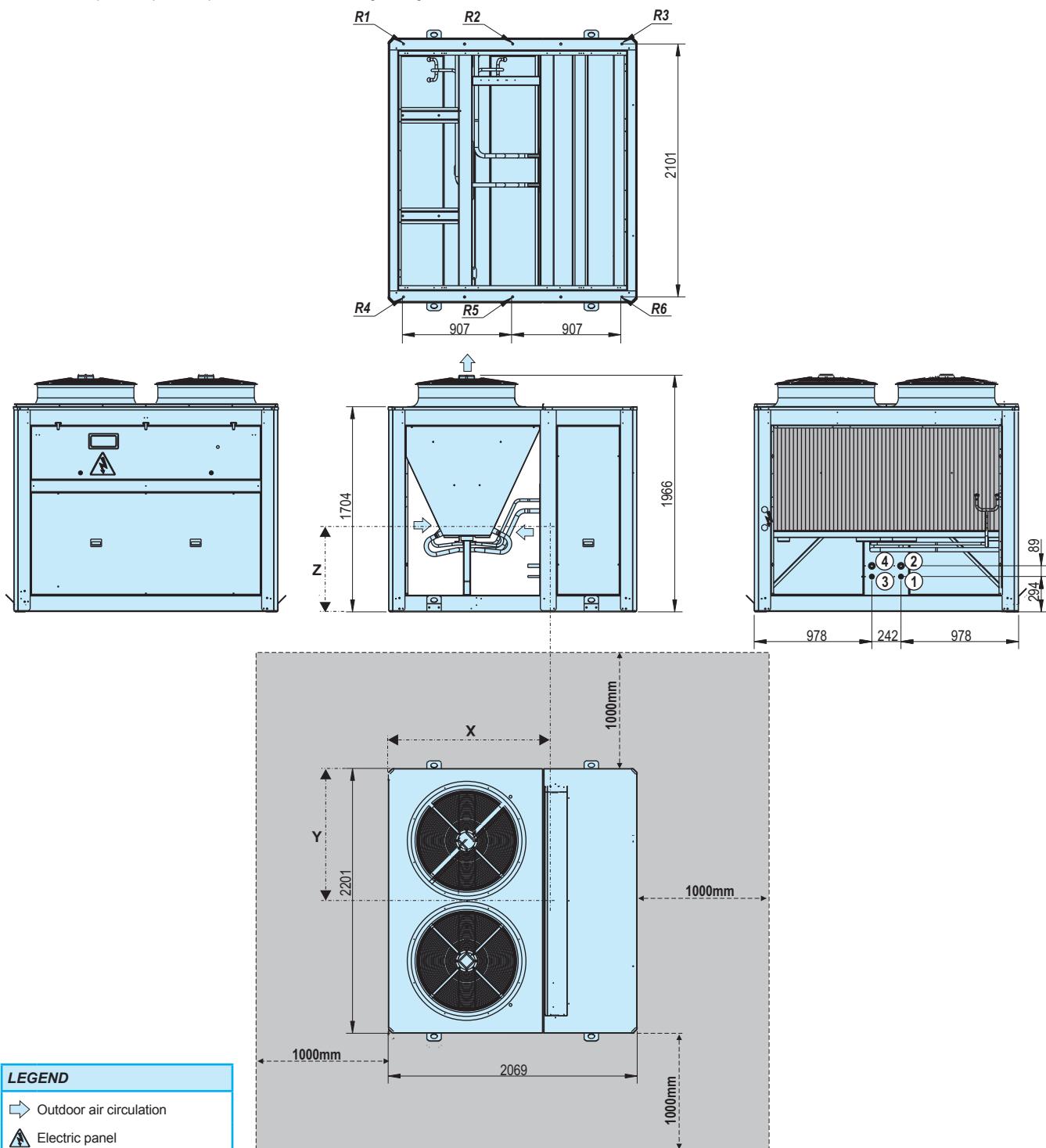
SK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
320	1.019	605	777	544	136	176	136	96



Split-system cooling units and heat pumps

AirDuo SK-CK

SK - 360, 420, 485, 540 and 600 (mm)



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
Antivibration anchoring: rivet nut M12	
	Clear space to be observed for maintenance operations and unit start-up

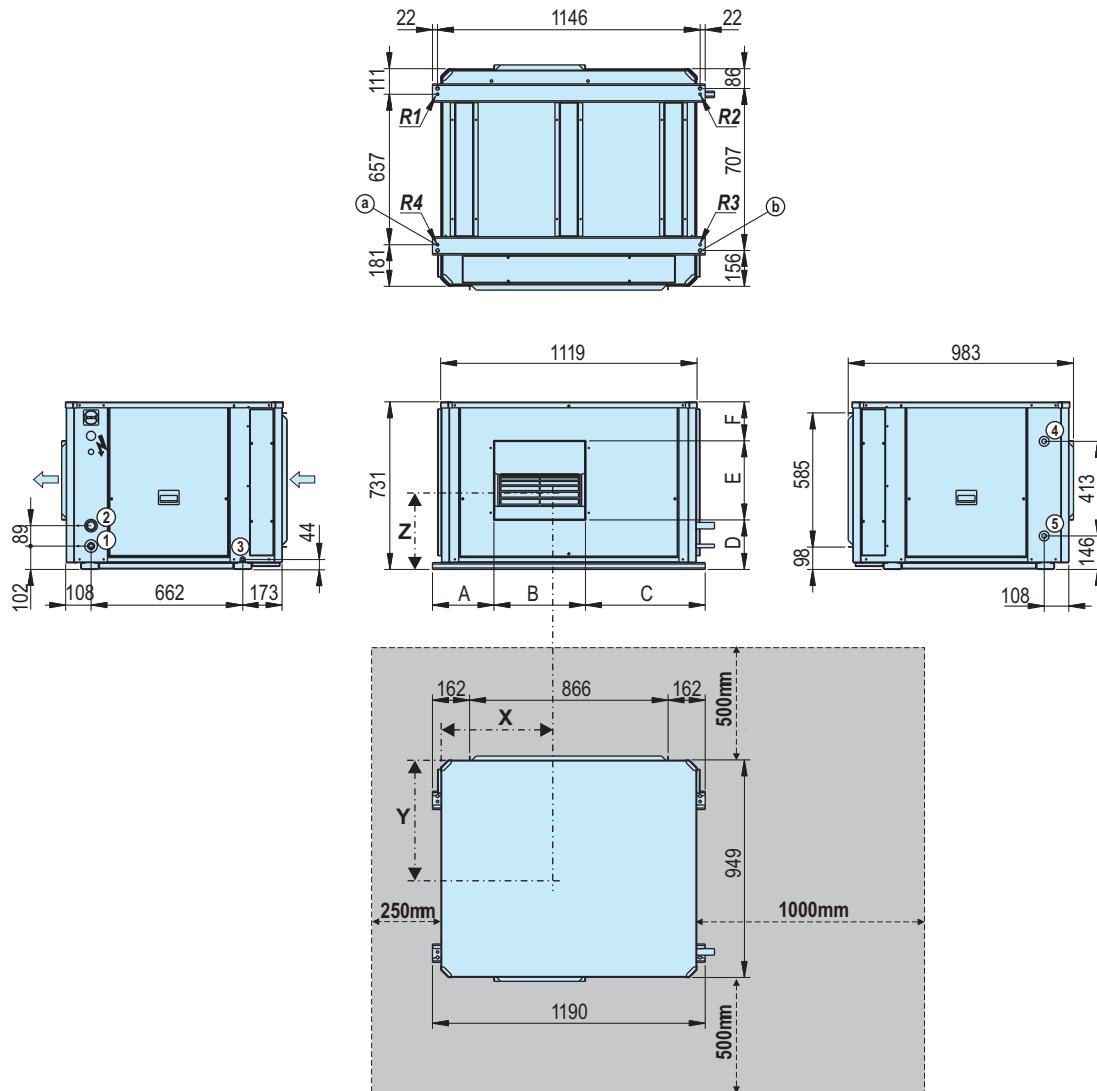
SK	Centre of gravity (mm)			Reactions in the supports (kg)						
	X	Y	Z	Weight	R1	R2	R3	R4	R5	R6
360	1.280	1.110	795	974	62	235	194	59	232	191
420	1.254	1.111	807	1.024	73	247	197	70	244	194
485	1.256	1.108	805	1.029	72	248	198	70	245	196
540	1.278	1.129	780	1.078	73	263	218	63	253	208
600	1.297	1.104	757	1.127	66	271	229	65	269	228



Split-system cooling units and heat pumps

DIMENSIONS SCHEMES: INDOOR UNITS

CK - 90, 100 y 120 with side supply (mm)



LEGEND

- ⇒ Indoor air circulation
- ⚡ Electric power supply
- ▣ Door switch
- ① Liquid line
- ② Gas line
- ③ Condensate outlet: trunk 3/4" M
- ④ Auxiliary coil water inlet (optional)
- ⑤ Auxiliary coil water outlet (optional)

Intake profile: 20mm

a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: threaded rod Ø15mm

[Grey box] Clear space to be observed for maintenance operations and unit start-up

CK	A	B	C	D	E	F
90 / 100 (mm)	301	334	555	190	285	256
120 (mm)	268	399	522	216	345	170

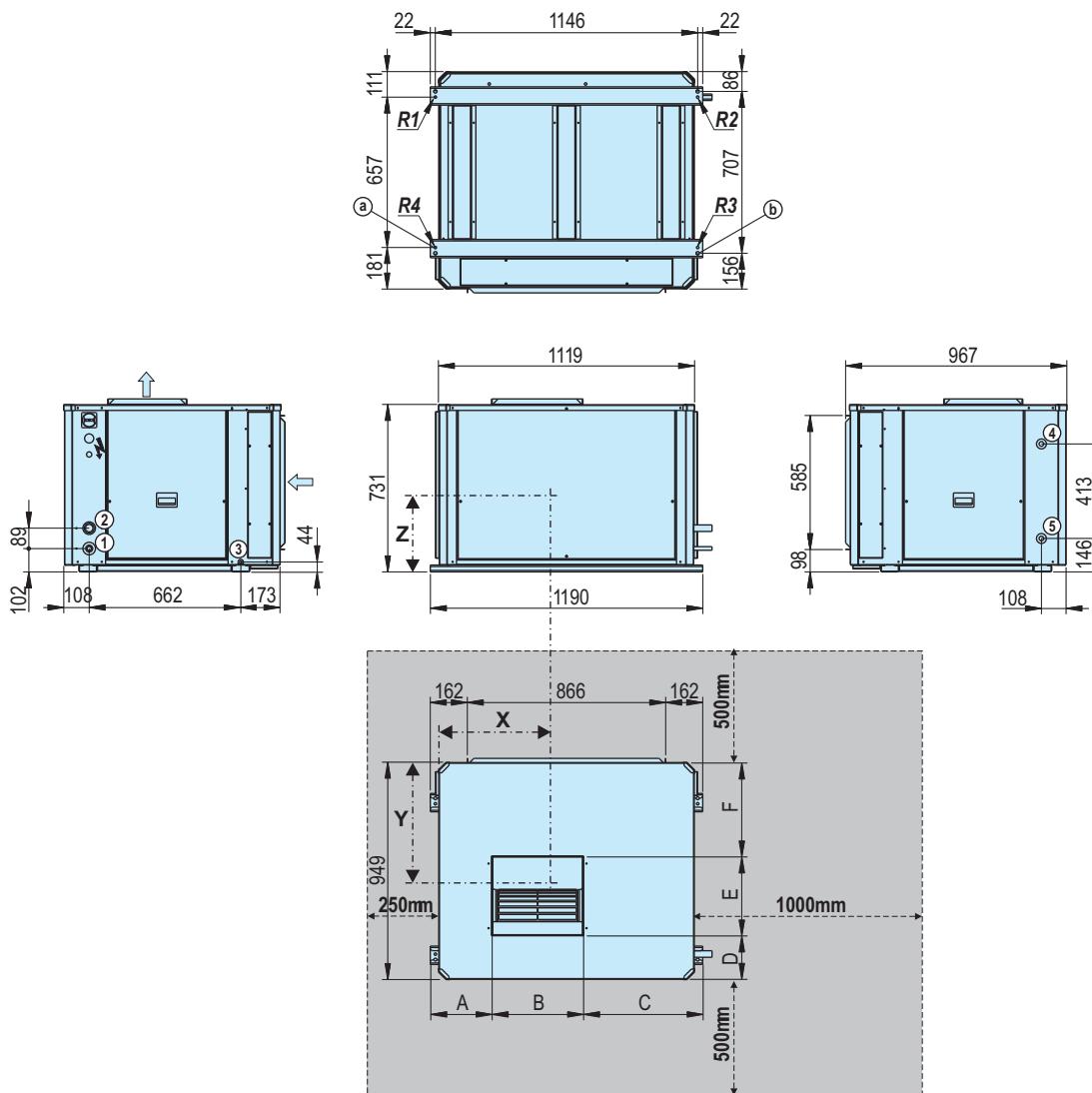
CK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
90 / 100	539	327	391	147	22	19	52	55
120	539	327	391	190	28	24	67	71



Split-system cooling units and heat pumps

AirDuo SK-CK

CK - 90, 100 and 120 with upper supply (mm)



LEGEND	
→	Indoor air circulation
⚡	Electric power supply
☒	Door switch
①	Liquid line
②	Gas line
③	Condensate outlet: trunk 3/4" M
④	Auxiliary coil water inlet (optional)
⑤	Auxiliary coil water outlet (optional)
<i>Intake profile: 20mm</i>	
a:	Antivibration anchoring: rivet nut M8
b:	Ceiling anchoring: threaded rod Ø15mm
Clear space to be observed for maintenance operations and unit start-up	

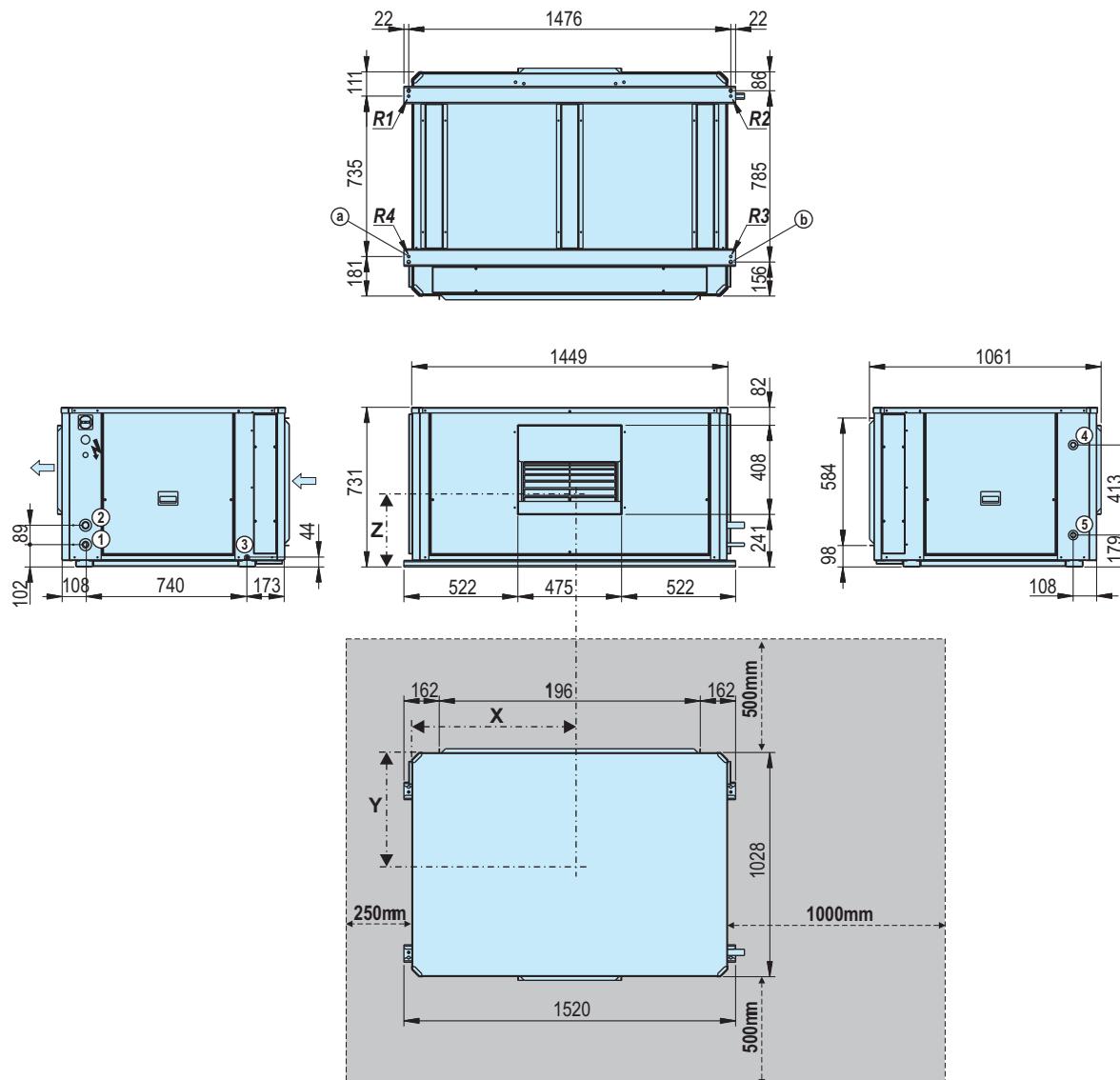
CK	A	B	C	D	E	F
90 / 100 (mm)	301	334	555	168	285	497
120 (mm)	268	399	522	193	345	411

CK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
90 / 100	539	327	391	147	22	19	52	55
120	539	327	391	190	28	24	67	71



Split-system cooling units and heat pumps

CK - 160 and 180 with side supply (mm)



LEGEND

- ⇒ Indoor air circulation
- ⚡ Electric power supply
- ▣ Door switch
- ① Liquid line
- ② Gas line
- ③ Condensate outlet: trunk 3/4" M
- ④ Auxiliary coil water inlet (optional)
- ⑤ Auxiliary coil water outlet (optional)

Intake profile: 20mm

a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: threaded rod Ø15mm

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

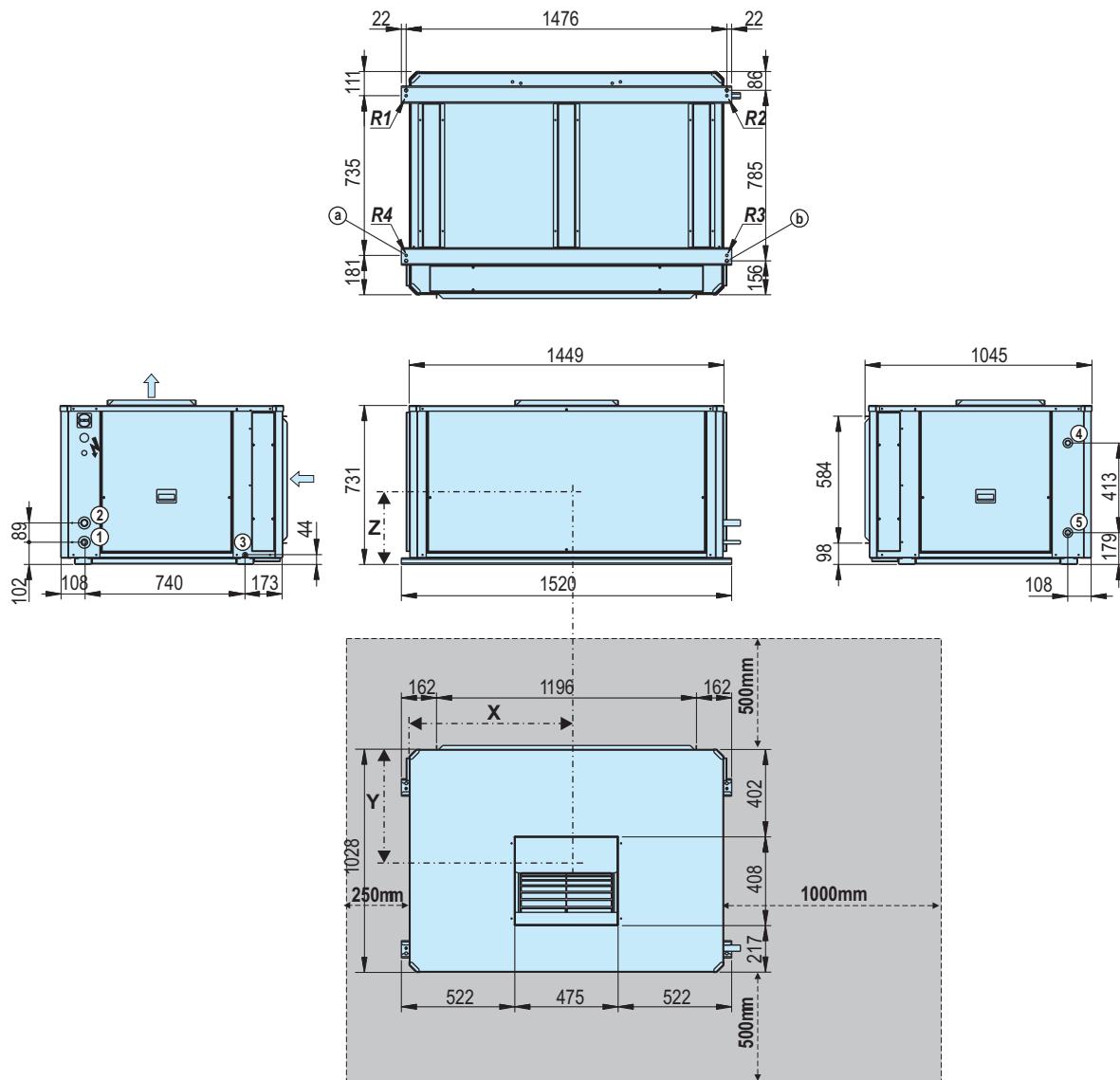
CK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
160 / 180	757	346	387	199	25	29	75	70



Split-system cooling units and heat pumps

AirDuo SK-CK

CK - 160 and 180 with upper supply (mm)



LEGEND

- Indoor air circulation
- Electric power supply
- Door switch
- Liquid line
- Gas line
- Condensate outlet: trunk 3/4" M
- Auxiliary coil water inlet (optional)
- Auxiliary coil water outlet (optional)

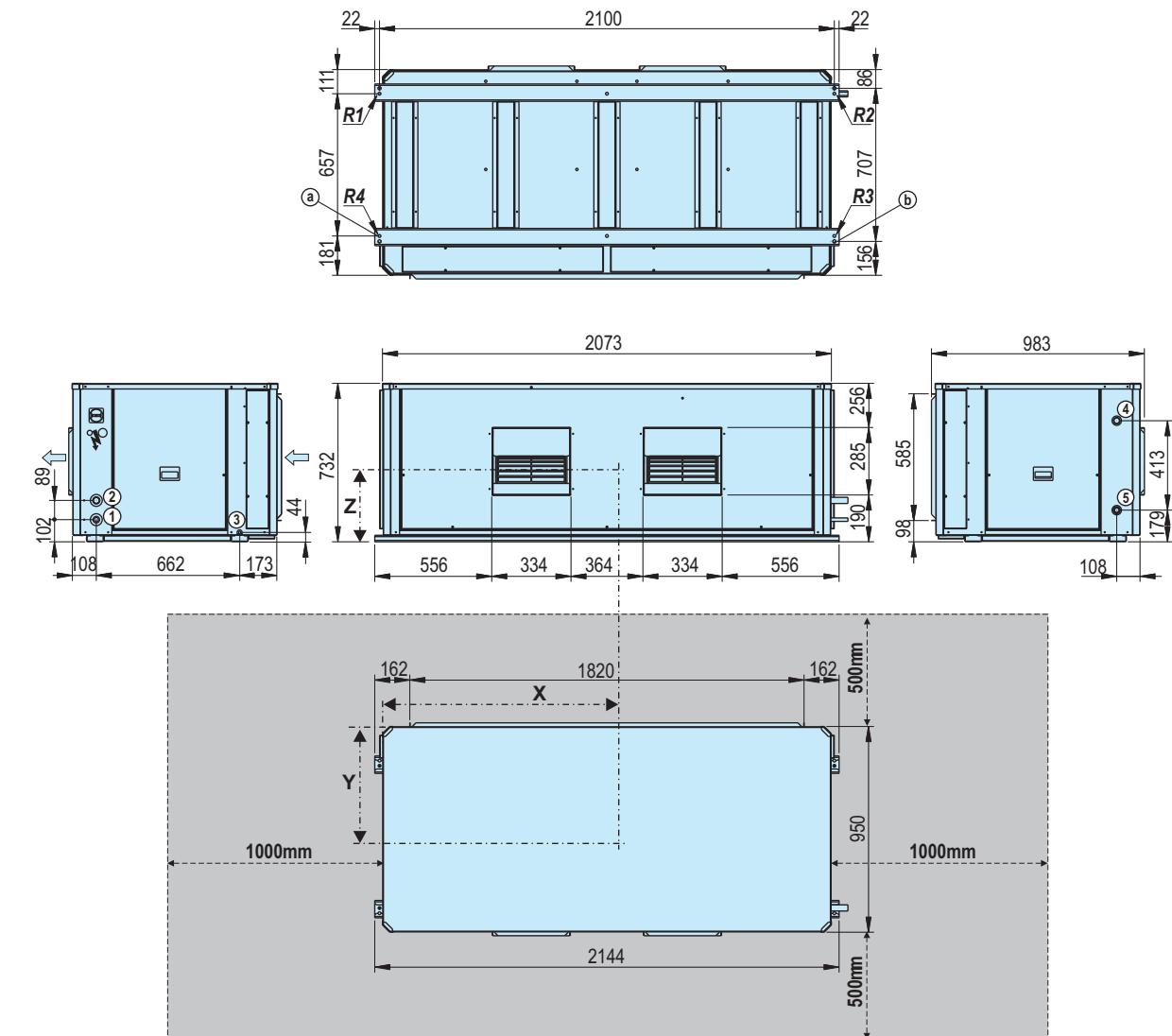
Intake profile: 20mm

a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: threaded rod Ø15mm

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

CK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
160 / 180	757	346	387	199	25	29	75	70

CK - 182 with side supply (mm)



LEGEND

- ⇒ Indoor air circulation
- ⚡ Electric power supply
- ▣ Door switch
- (1) Liquid line
- (2) Gas line
- (3) Condensate outlet: trunk 3/4" M
- (4) Auxiliary coil water inlet (optional)
- (5) Auxiliary coil water outlet (optional)

Intake profile: 20mm

a: Antivibration anchoring: rivet nut M8
b: Ceiling anchoring: threaded rod Ø15mm

[Grey Box] Clear space to be observed for maintenance operations and unit start-up

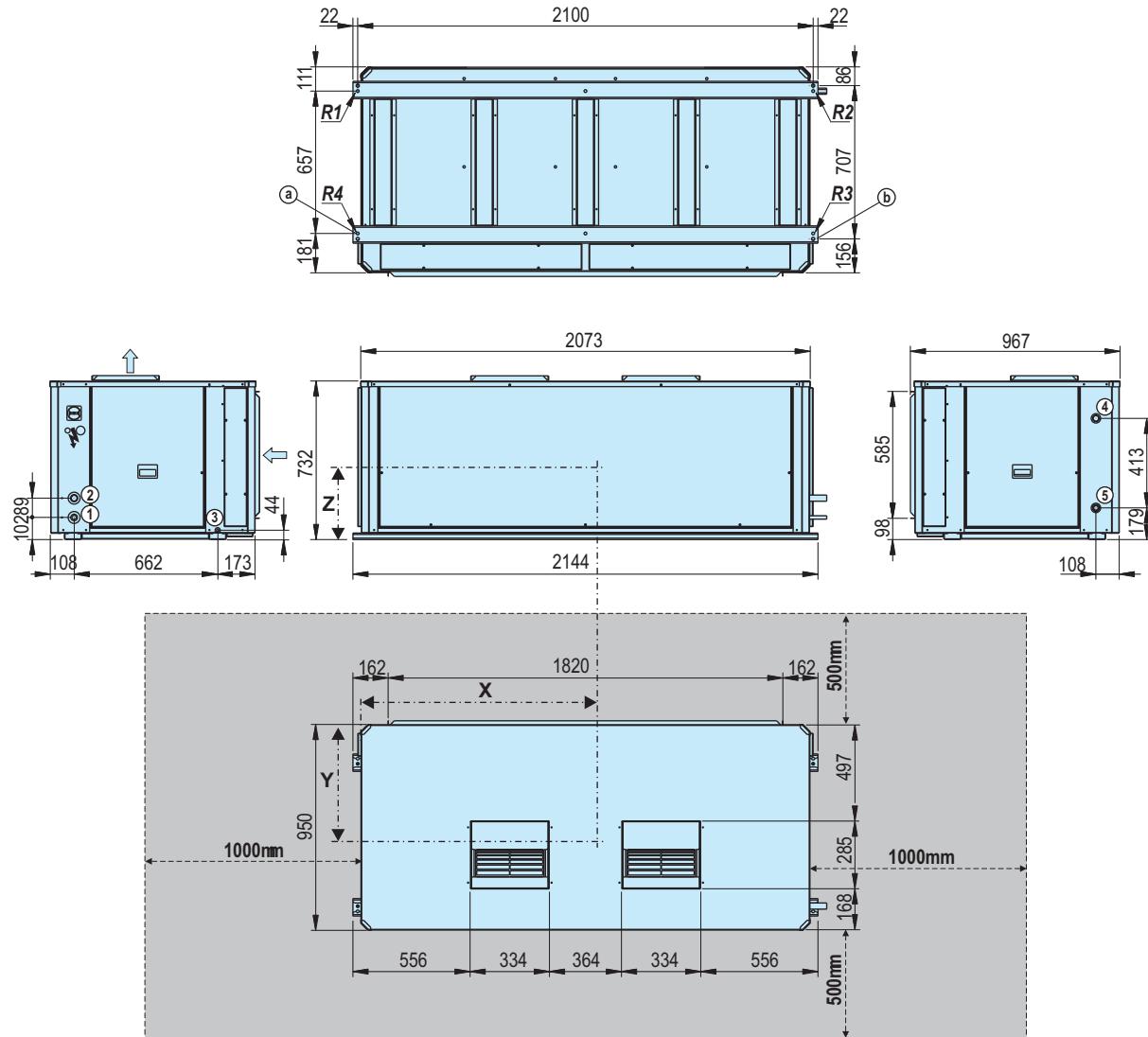
CK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
182	1.048	333	390	262	36	38	95	93



Split-system cooling units and heat pumps

AirDuo SK-CK

CK - 182 with upper supply (mm)



LEGEND

- Indoor air circulation
- Electric power supply
- Door switch
- Liquid line
- Gas line
- Condensate outlet: trunk 3/4" M
- Auxiliary coil water inlet (optional)
- Auxiliary coil water outlet (optional)

Intake profile: 20mm

a: Antivibration anchoring: rivet nut M8

b: Ceiling anchoring: threaded rod Ø15mm

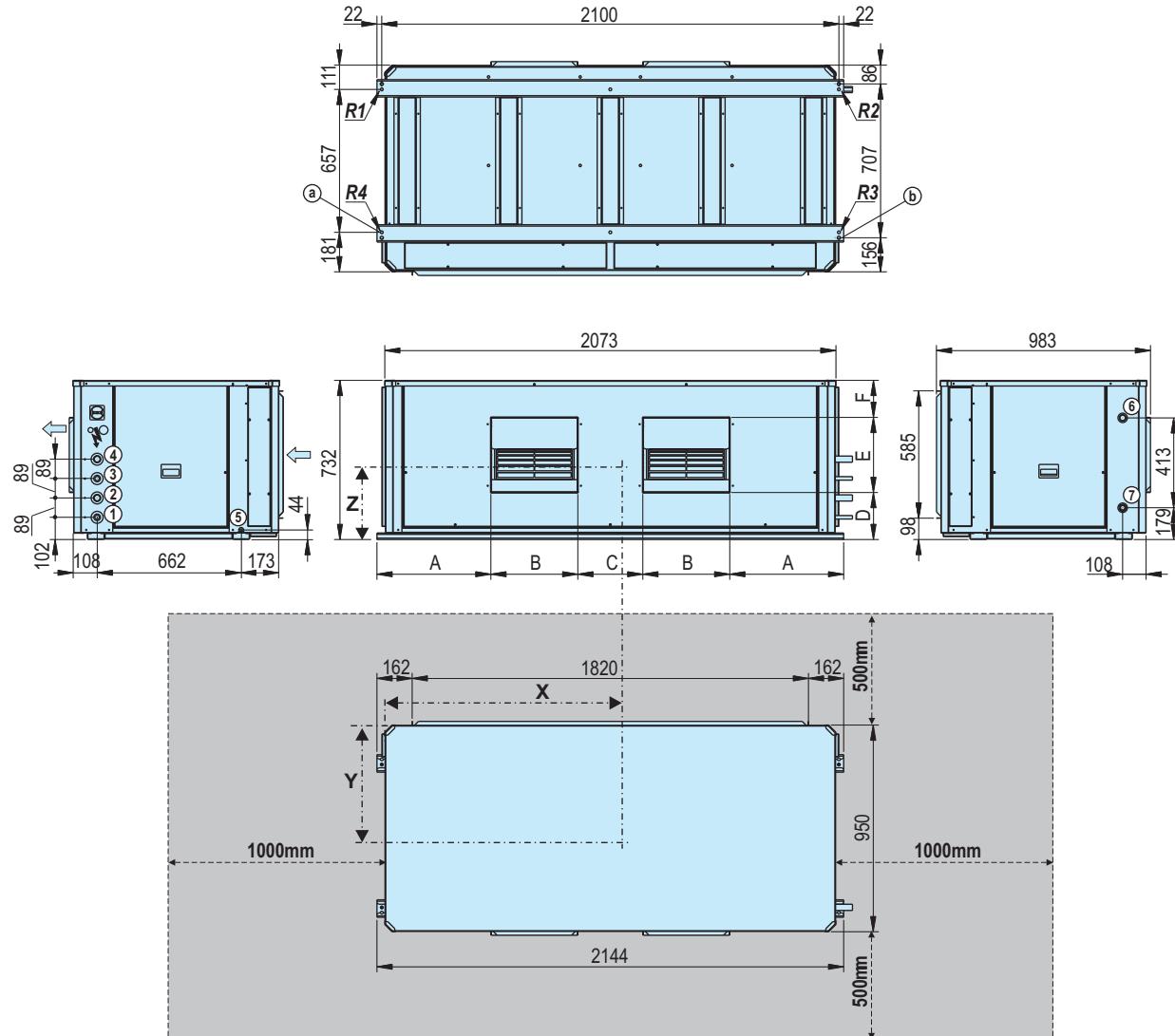
Clear space to be observed for maintenance operations and unit start-up

CK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
182	1.048	333	390	262	36	38	95	93



Split-system cooling units and heat pumps

CK - 200 and 240 with side supply (mm)



LEGEND

- ➡ Indoor air circulation
- ⚡ 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
- 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 Ø15mm

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

CK	A	B	C	D	E	F
200 (mm)	556	334	364	190	285	256
240 (mm)	523	399	299	216	345	170

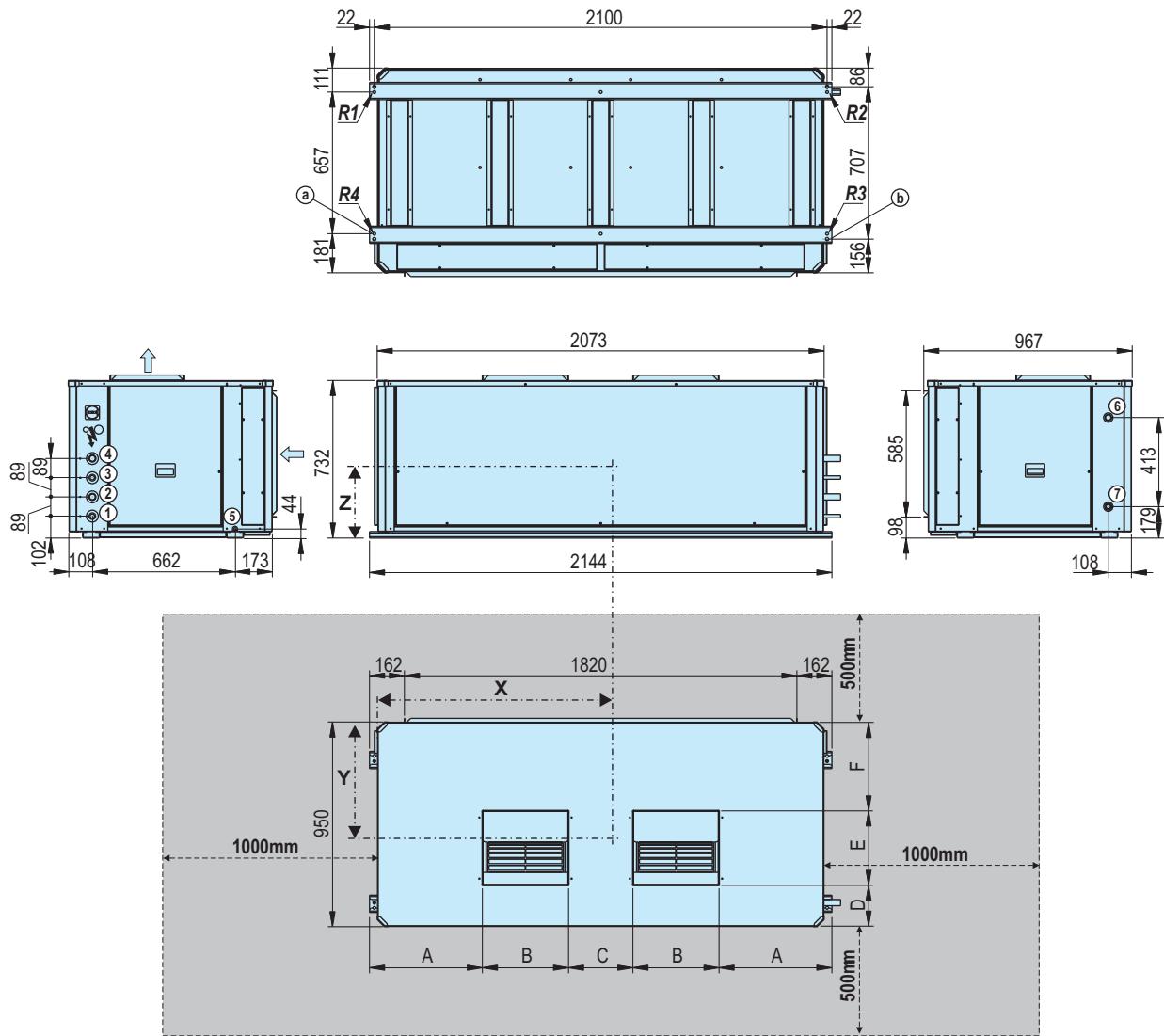
CK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
200 / 240	1.048	333	390	262	36	38	95	93



Split-system cooling units and heat pumps

AirDuo SK-CK

CK - 200 and 240 with upper supply (mm)



LEGEND	
⇒	Indoor air circulation
⚡	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
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 Ø15mm
Clear space to be observed for maintenance operations and unit start-up	

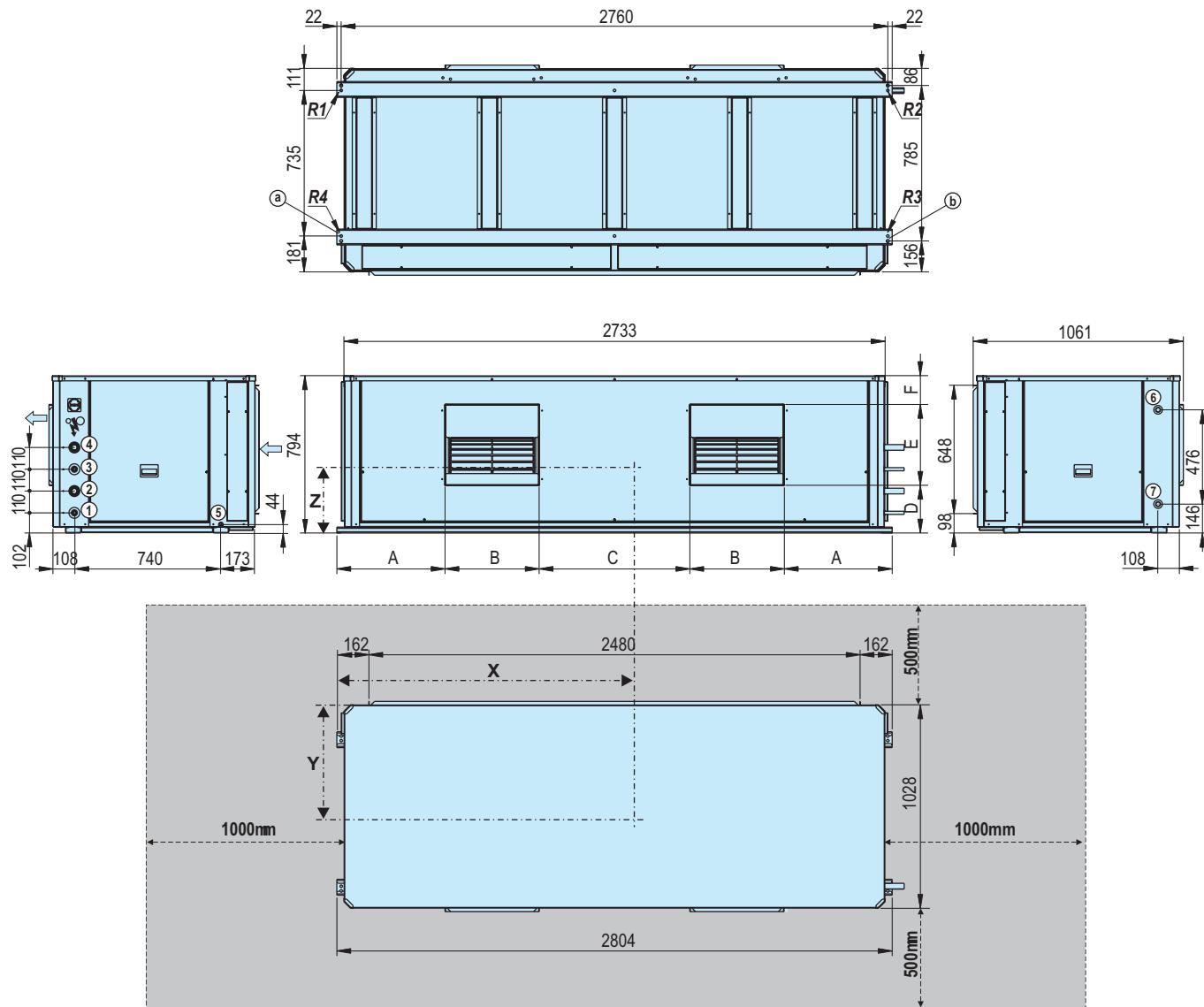
CK	A	B	C	D	E	F
200 (mm)	556	334	364	168	285	497
240 (mm)	523	399	299	139	345	411

CK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
200 / 240	1.048	333	390	262	36	38	95	93



Split-system cooling units and heat pumps

CK - 320 and 360 with side supply (mm)



LEGEND	
➡	Indoor air circulation
⚡	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
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 Ø15mm
[]	Clear space to be observed for maintenance operations and unit start-up

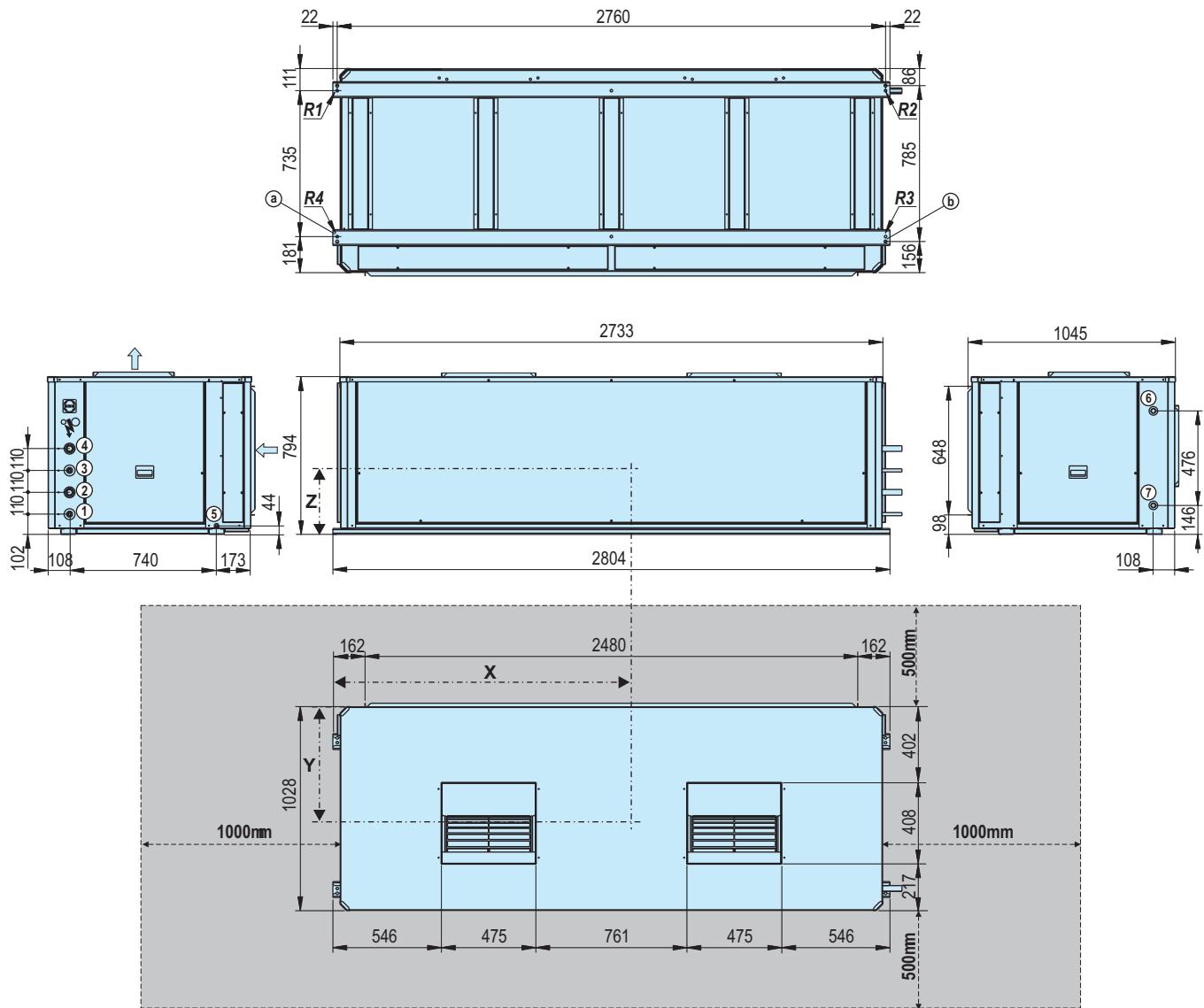
CK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
320 / 360	1.384	330	416	365	44	47	138	136



Split-system cooling units and heat pumps

AirDuo SK-CK

CK - 320 and 360 with upper supply (mm)



LEGEND

- ➡ Indoor air circulation
- ⚡ 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
- 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 Ø15mm

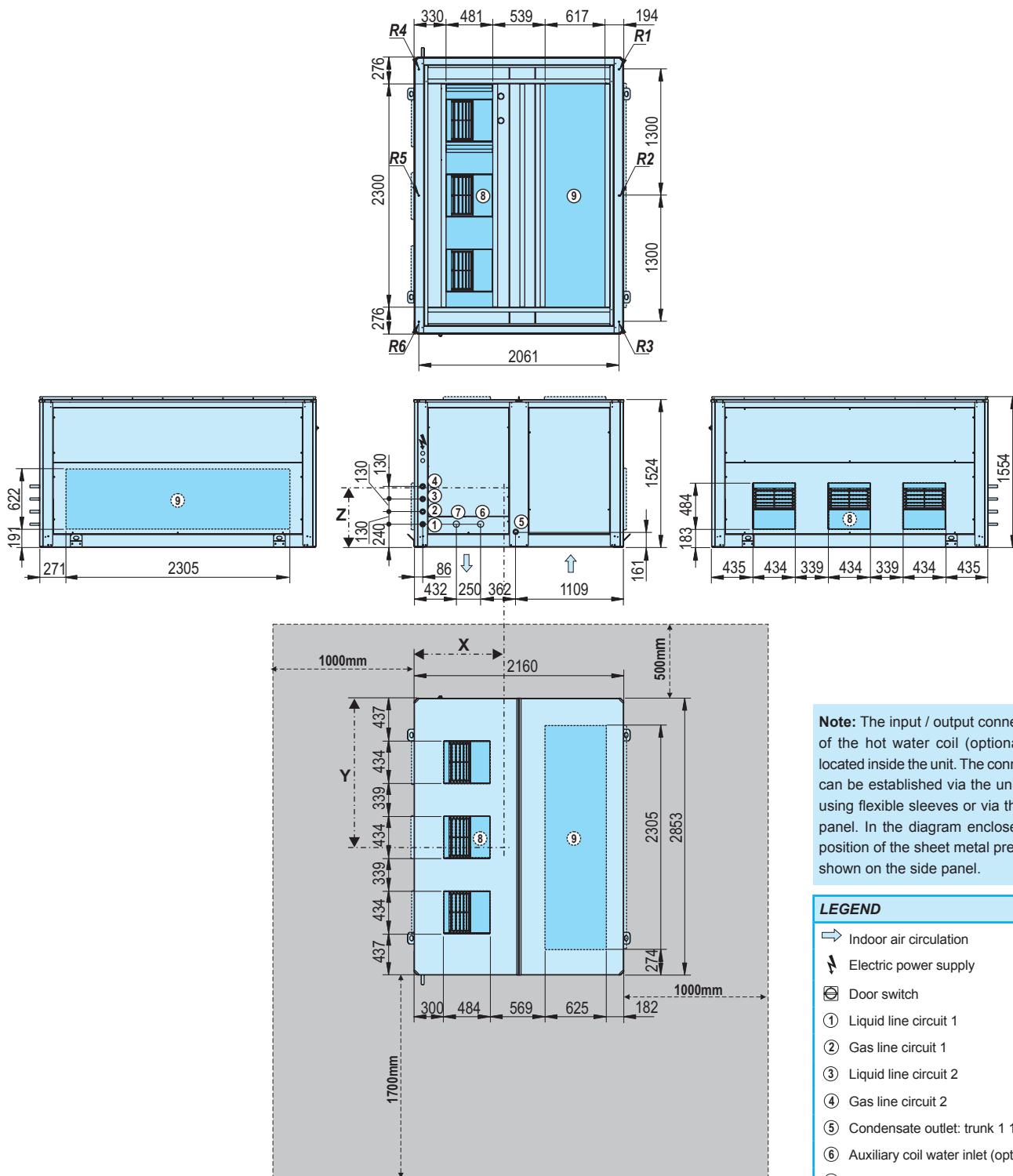
Clear space to be observed for maintenance operations and unit start-up

CK	Centre of gravity (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
320 / 360	1.384	330	416	365	44	47	138	136



Split-system cooling units and heat pumps

CK - 420, 485, 540 and 600: MO assembly (mm)



LEGEND

- Indoor air circulation
- ⚡ 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 1 1/4" M
- ⑥ Auxiliary coil water inlet (optional)
- ⑦ Auxiliary coil water outlet (optional)
- ⑧ Standard air outlet
- ⑨ Optional air outlet
- ⑩ Standard return air
- ⑪ Optional return air
- Intake profile: 25mm
- Antivibration anchoring: rivet nut M12
- Clear space to be observed for maintenance operations and unit start-up



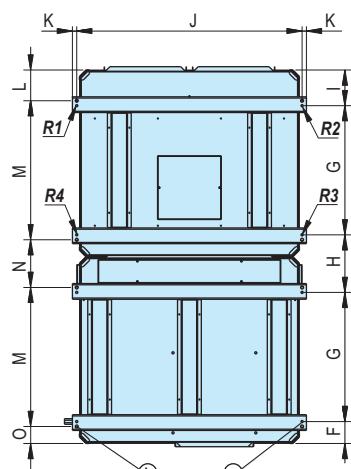
Split-system cooling units and heat pumps

AirDuo SK-CK

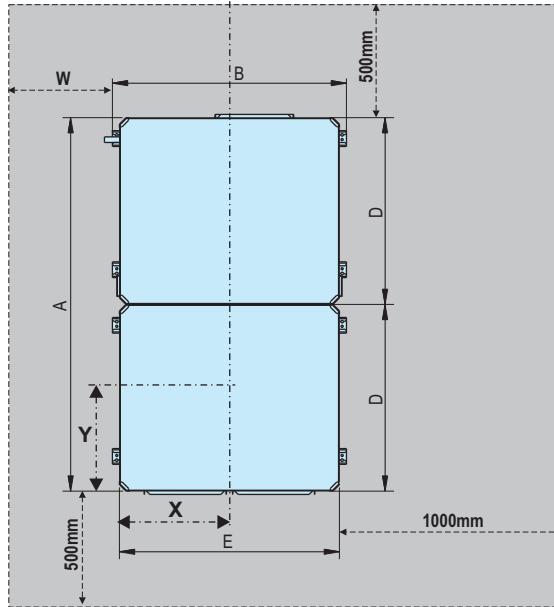
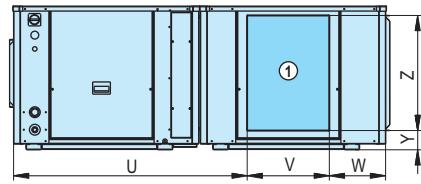
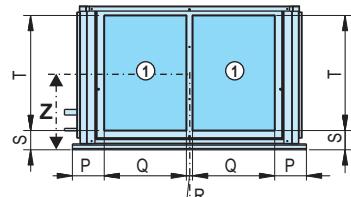
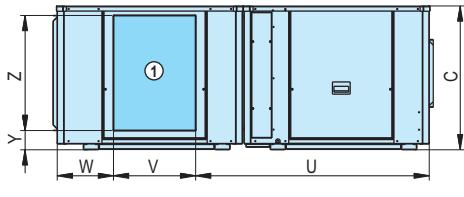
DIMENSIONS SCHEMES: ASSEMBLIES WITH MIXING BOXES (OPTIONAL)

CK - 90 to 360 with MS - 111, 116, 413, 314, 411, 114, 113, 311, 121, 126, 423, 324, 421, 124, 123, 321 assemblies (mm)

CK	Centre of gravity of the box (mm)			Weight (kg)
	X	Y	Z	
90 / 100 / 120	558	459	330	98
160 / 180	723	465	327	118
182 / 200 / 240	1.030	436	327	152
320 / 360	1.360	471	360	200



CK	Reactions in the supports of the box (kg)			
	R1	R2	R3	R4
90 / 100 / 120	23	23	26	26
160 / 180	26	26	33	33
182 / 200 / 240	34	33	42	43
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 Ø15mm

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

CK (mm)	W
90 to 180	250
182 to 360	1.000

CK (mm)	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
90 / 100 / 120	1.900	1.190	731	950	1.119	111	657	293	181	1.146	22	156	707	243	86	162	418	30	98	585	1.188	418	286	98	585
160 / 180	2.056	1.520	731	1.028	1.499	111	735	293	181	1.476	22	156	785	243	86	327	418	30	98	585	1.303	418	327	98	585
182 / 200 / 240	1.900	2.144	731	950	2.073	111	657	293	181	2.100	22	156	707	243	86	293	664	230	83	592	1.188	418	286	98	585
320 / 360	2.056	2.804	794	1.028	2.733	111	735	293	181	2.760	22	156	785	243	86	537	750	230	83	655	1.305	418	325	98	648

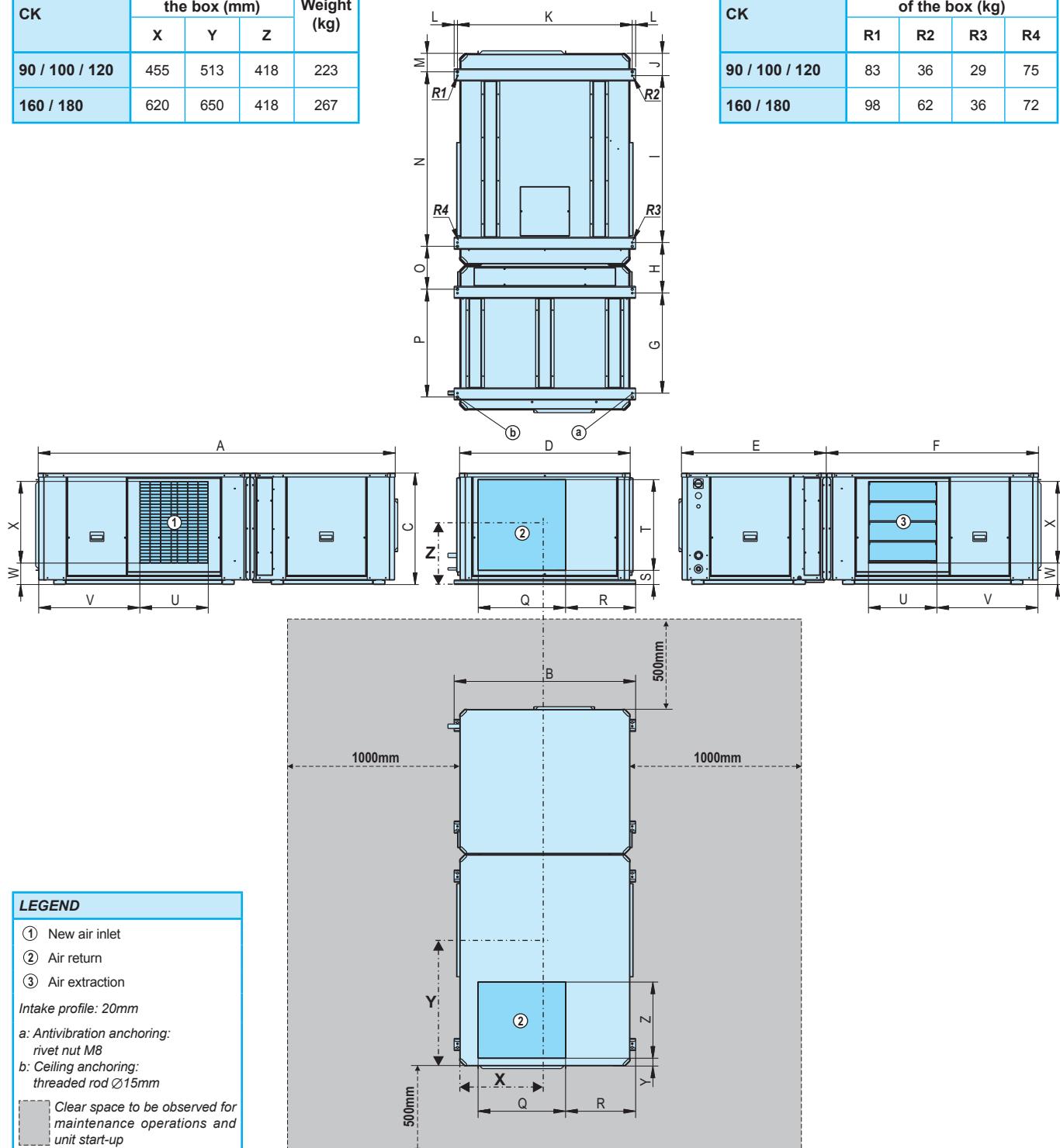


Split-system cooling units and heat pumps

CK - 90 to 180 with MC - 113, 114, 123, 124 assemblies (mm)

CK	Centre of gravity of the box (mm)			Weight (kg)
	X	Y	Z	
90 / 100 / 120	455	513	418	223
160 / 180	620	650	418	267

CK	Reactions in the supports of the box (kg)			
	R1	R2	R3	R4
90 / 100 / 120	83	36	29	75
160 / 180	98	62	36	72



CK (mm)	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	Z
90 / 100 / 120	2.338	1.190	731	1.119	950	1.392	657	328	1.095	146	1.146	22	121	1.145	278	707	573	459	93	595	350	663	141	536	51	500
160 / 180	2.731	1.520	731	1.499	1.028	1.635	735	328	1.338	146	1.476	22	121	1.388	278	785	905	459	93	595	452	813	141	536	51	578

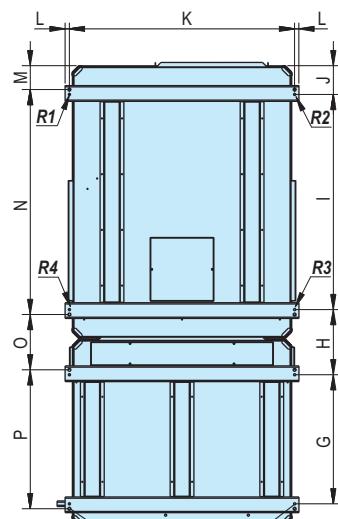


Split-system cooling units and heat pumps

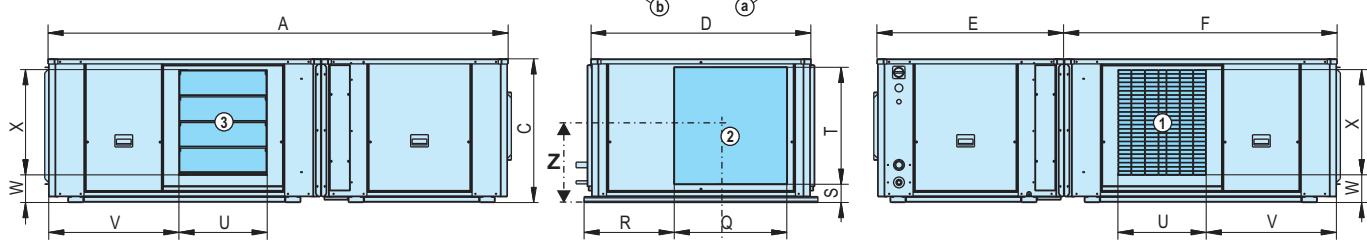
AirDuo SK-CK

CK - 90 to 180 with MC - 213, 214, 223, 224 assemblies (mm)

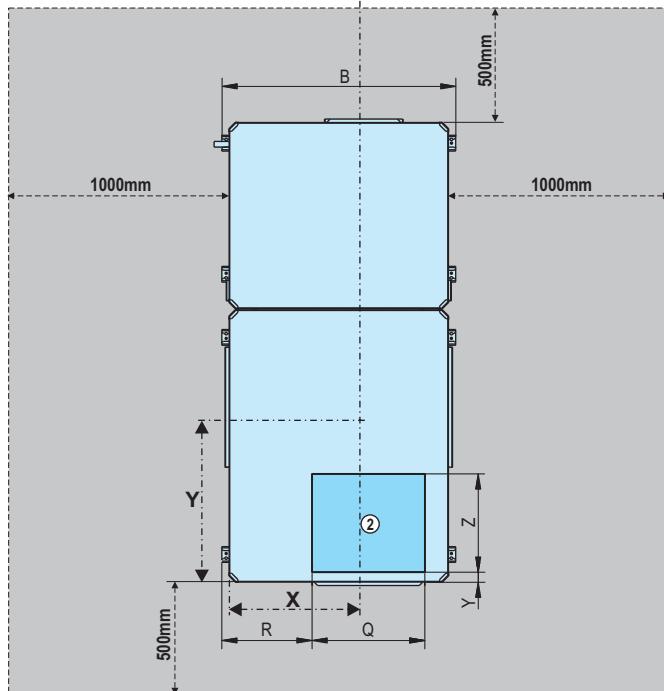
CK	Centre of gravity of the box (mm)			Weight (kg)
	X	Y	Z	
90 / 100 / 120	664	513	418	223
160 / 180	879	650	418	267



CK	Reactions in the supports of the box (kg)			
	R1	R2	R3	R4
90 / 100 / 120	36	83	75	29
160 / 180	62	98	72	36



LEGEND	
①	New air inlet
②	Air return
③	Air extraction
Intake profile: 20mm	
a:	Antivibration anchoring: rivet nut M8
b:	Ceiling anchoring: threaded rod Ø15mm
Clear space to be observed for maintenance operations and unit start-up	



CK (mm)	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	Z
90 / 100 / 120	2338	1190	731	1119	950	1392	657	328	1095	146	1146	22	121	1145	278	707	573	459	93	595	350	663	141	536	51	500
160 / 180	2731	1520	731	1499	1028	1635	735	328	1338	146	1476	22	121	1388	278	785	905	459	93	595	452	813	141	536	51	578

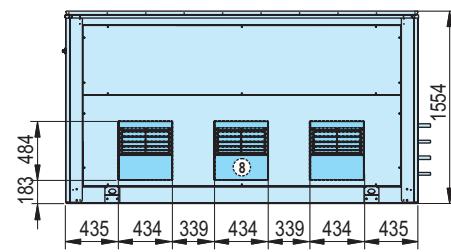
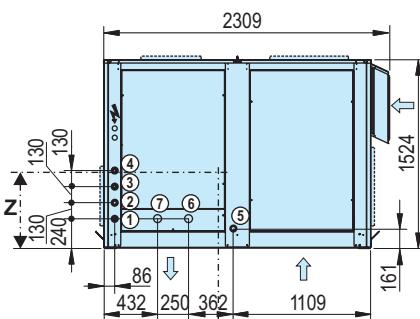
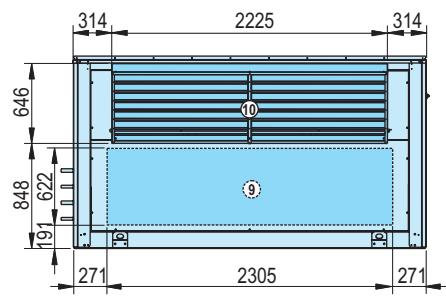


Split-system cooling units and heat pumps

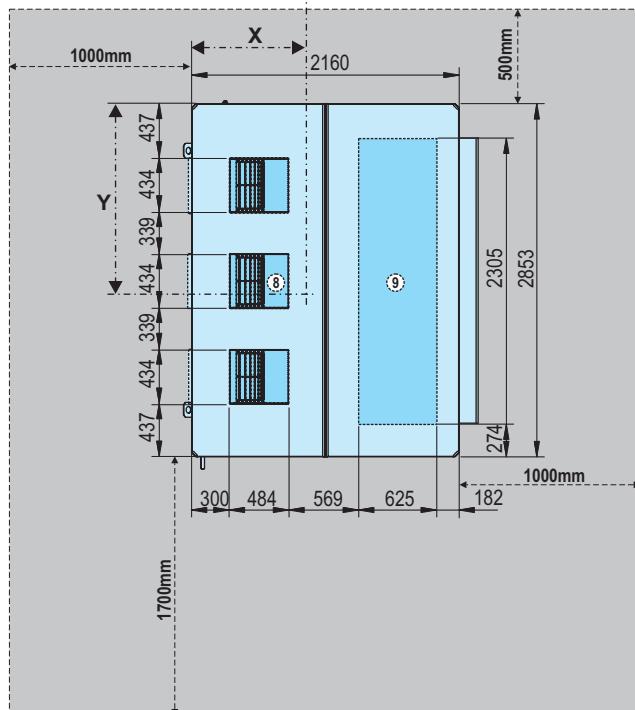
CK - 420, 485, 540 and 600: MS assemblies (mm)

CK	C.o.g. (mm)			Weight (kg)
	X	Y	Z	
420	1.104	1.346	699	1.000
485	1.106	1.346	699	1.000
540	1.107	1.348	705	1.043
600	1.107	1.350	705	1.044

CK	Reactions in the supports (kg)					
	R1	R2	R3	R4	R5	R6
420	113	227	122	139	253	148
485	112	227	122	138	253	148
540	117	237	128	144	263	154
600	118	237	128	143	263	154



LEGEND	
→	Indoor air circulation
⚡	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 1 1/4" M
⑥	Auxiliary coil water inlet (optional)
⑦	Auxiliary coil water outlet (optional)
⑧	Standard air outlet
⑨	Optional air outlet
⑩	Standard return air
⑪	Optional return air
⑫	New air inlet
Intake profile: 25mm	
Antivibration anchoring: rivet nut M12	
Clear space to be observed for maintenance operations and unit start-up	





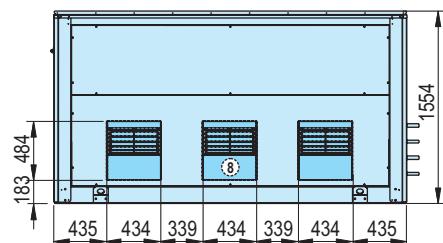
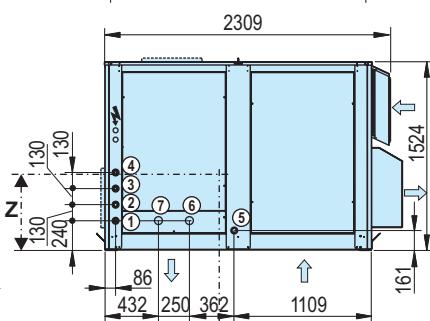
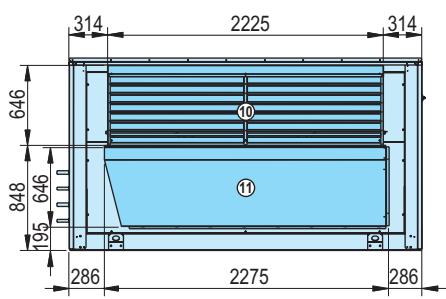
Split-system cooling units and heat pumps

AirDuo SK-CK

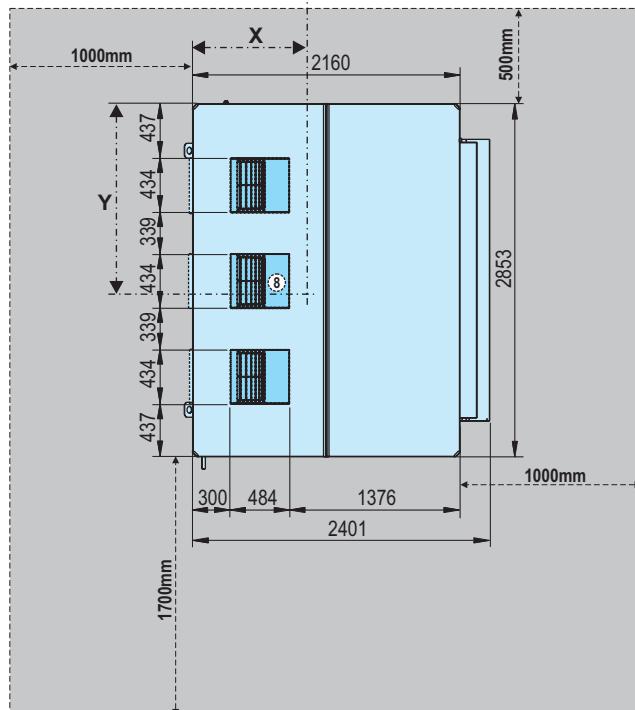
CK - 420, 485, 540 and 600: MC0 assemblies (mm)

CK	C.o.g. (mm)			Weight (kg)	
	X	Y	Z		
MC0	420	1.081	1.346	654	1.180
	485	1.085	1.346	654	1.180
	540	1.088	1.348	660	1.223
	600	1.088	1.350	660	1.224

CK	Reactions in the supports (kg)						
	R1	R2	R3	R4	R5	R6	
MC0	420	138	267	139	169	298	169
	485	137	267	139	168	298	170
	540	142	277	146	173	309	177
	600	142	278	146	173	308	176



LEGEND	
→	Indoor air circulation
⚡	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 1 1/4" M
⑥	Auxiliary coil water inlet (optional)
⑦	Auxiliary coil water outlet (optional)
⑧	Standard air outlet
⑨	Optional air outlet
⑩	Standard return air
⑪	Optional return air
⑫	New air inlet
Intake profile: 25mm	
Antivibration anchoring: rivet nut M12	
Clear space to be observed for maintenance operations and unit start-up	

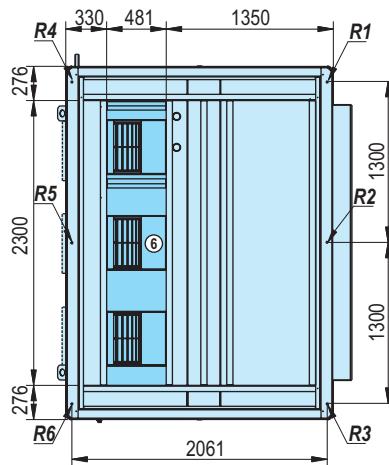




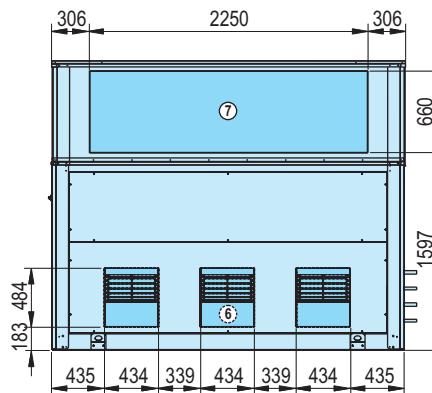
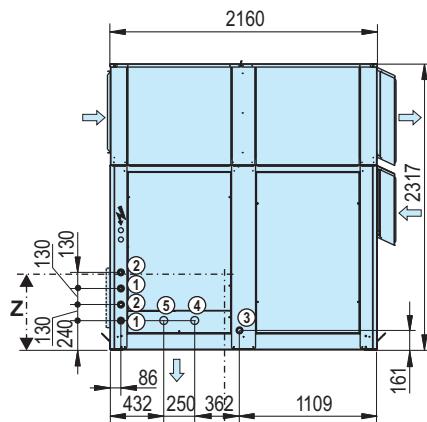
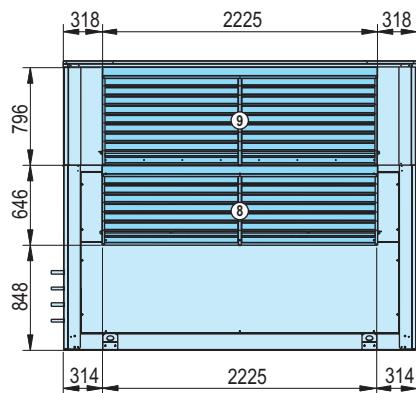
Split-system cooling units and heat pumps

CK - 420, 485, 540 and 600 with MC1 assemblies (mm)

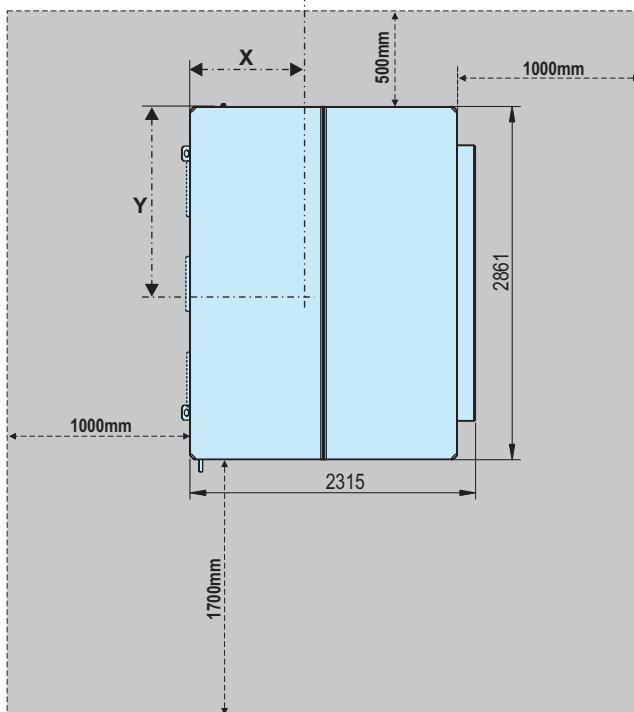
CK	C.o.g. (mm)			Weight (kg)	
	X	Y	Z		
MC1	420	1.156	1.346	933	1.626
	485	1.158	1.346	937	1.626
	540	1.158	1.348	938	1.669
	600	1.148	1.350	930	1.697



CK	Reactions in the supports (kg)						
	R1	R2	R3	R4	R5	R6	
MC1	420	167	368	214	209	411	257
	485	166	368	215	208	411	257
	540	171	379	221	213	421	264
	600	178	386	222	220	428	264

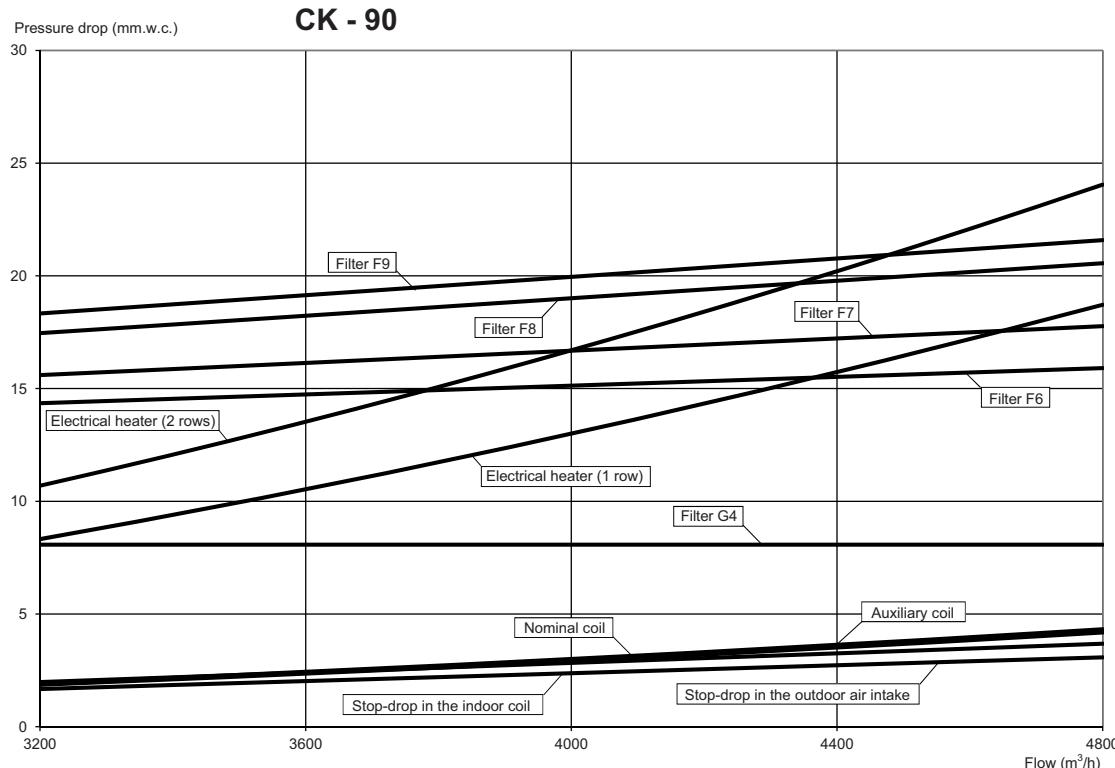


LEGEND	
→	Indoor air circulation
⚡	Electric power supply
☒	Door switch
①	Liquid line: circuit 1
②	Gas line: circuit 1
③	Liquid line: circuit 2
④	Gas line: circuit 2
⑤	Condensate outlet: trunk 1 1/4" M
⑥	Auxiliary coil water inlet (optional)
⑦	Auxiliary coil water outlet (optional)
⑧	Standard air outlet
⑨	Optional air outlet
⑩	Standard return air
⑪	Optional return air
⑫	New air inlet
Intake profile: 25mm	
Antivibration anchoring: rivet nut M12	
Clear space to be observed for maintenance operations and unit start-up	

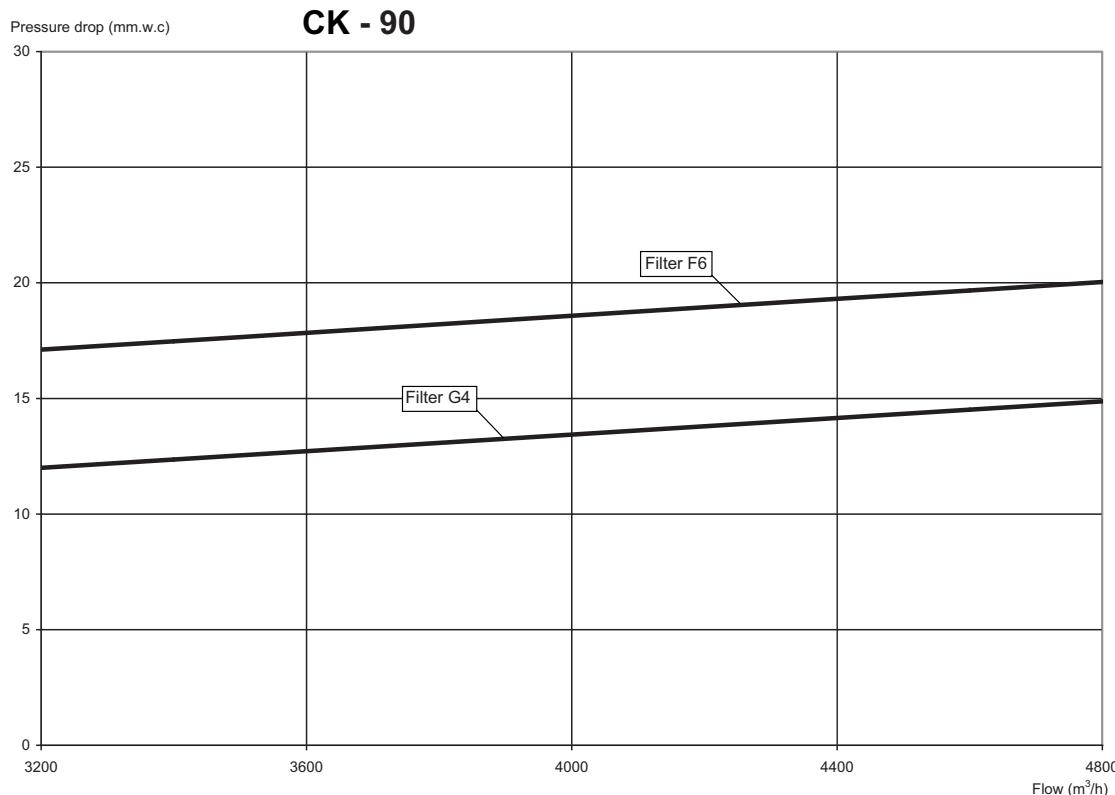


PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



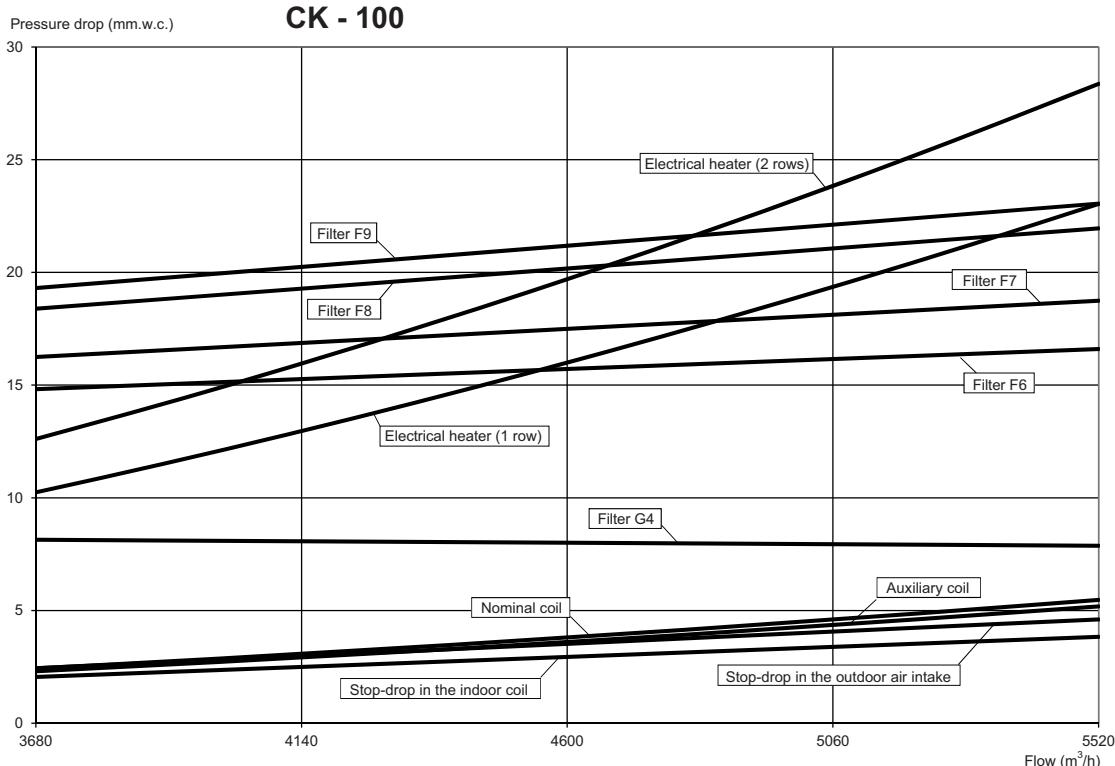
■ Return pressure drops



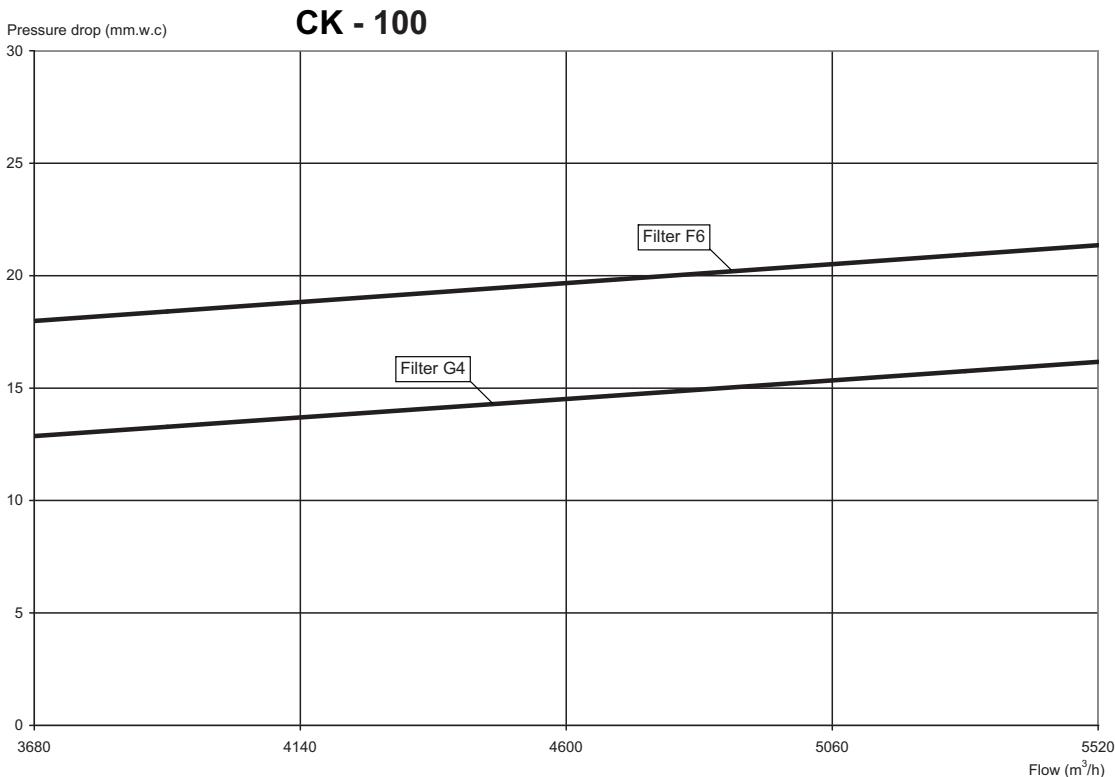
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



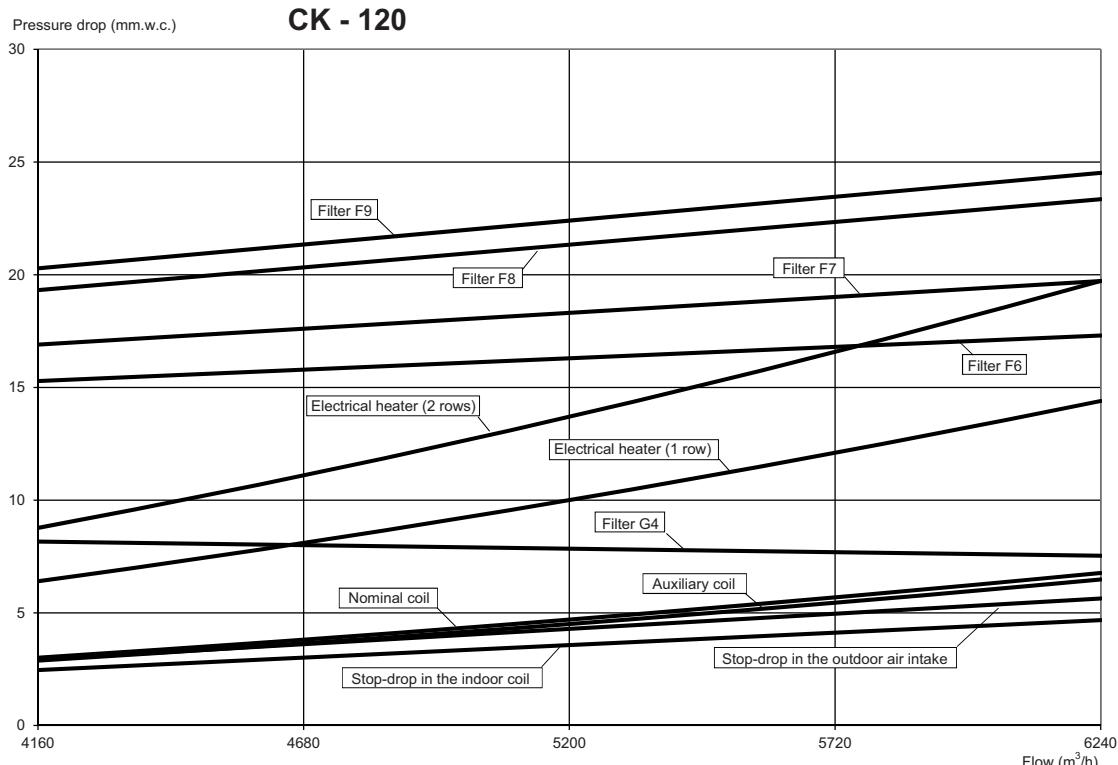
■ Return pressure drops



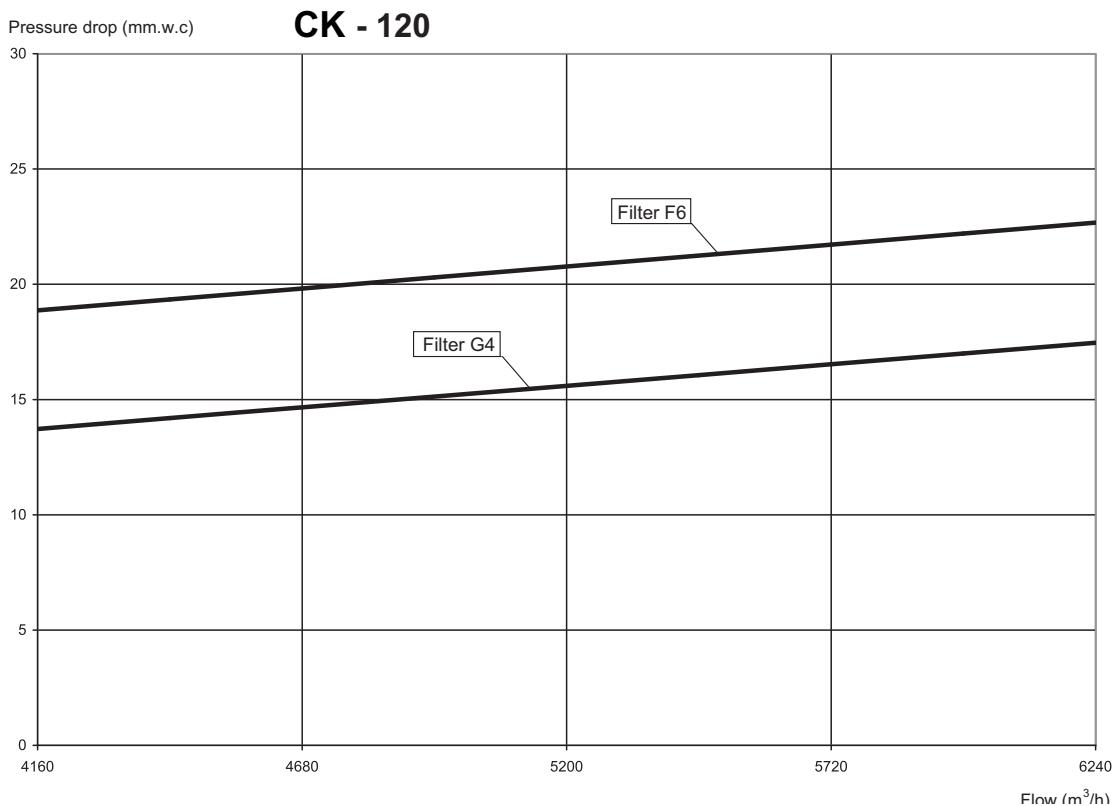
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



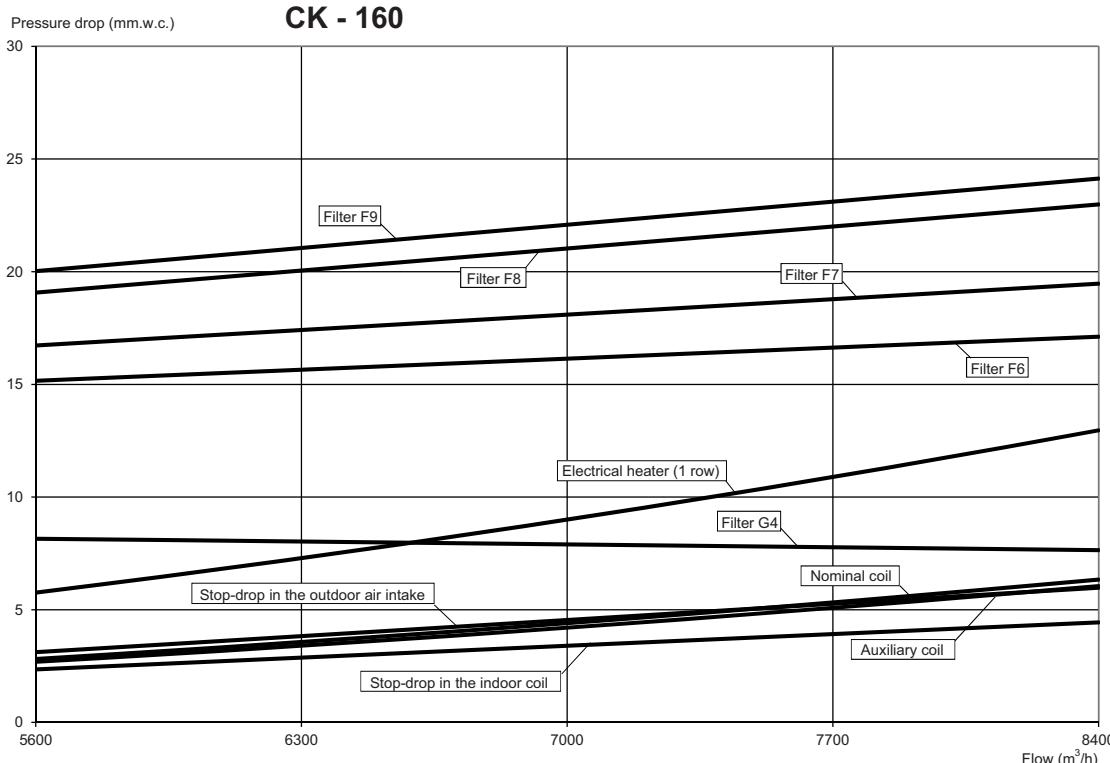
■ Return pressure drops



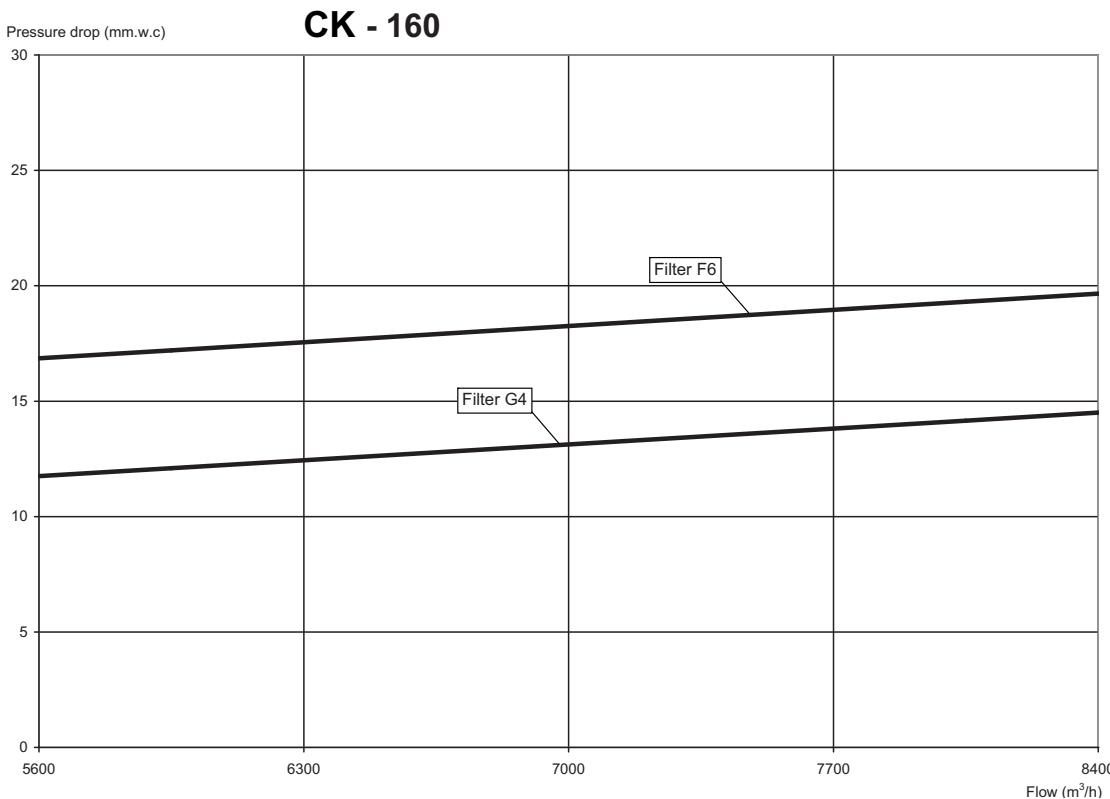
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



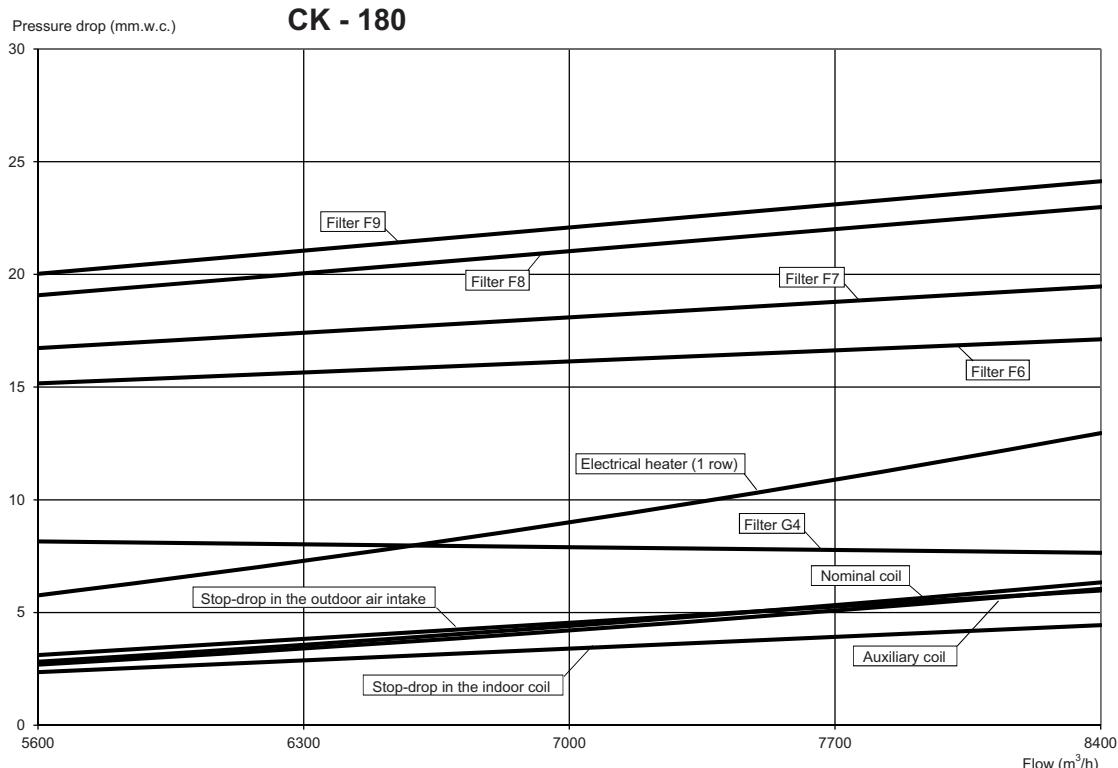
■ Return pressure drops



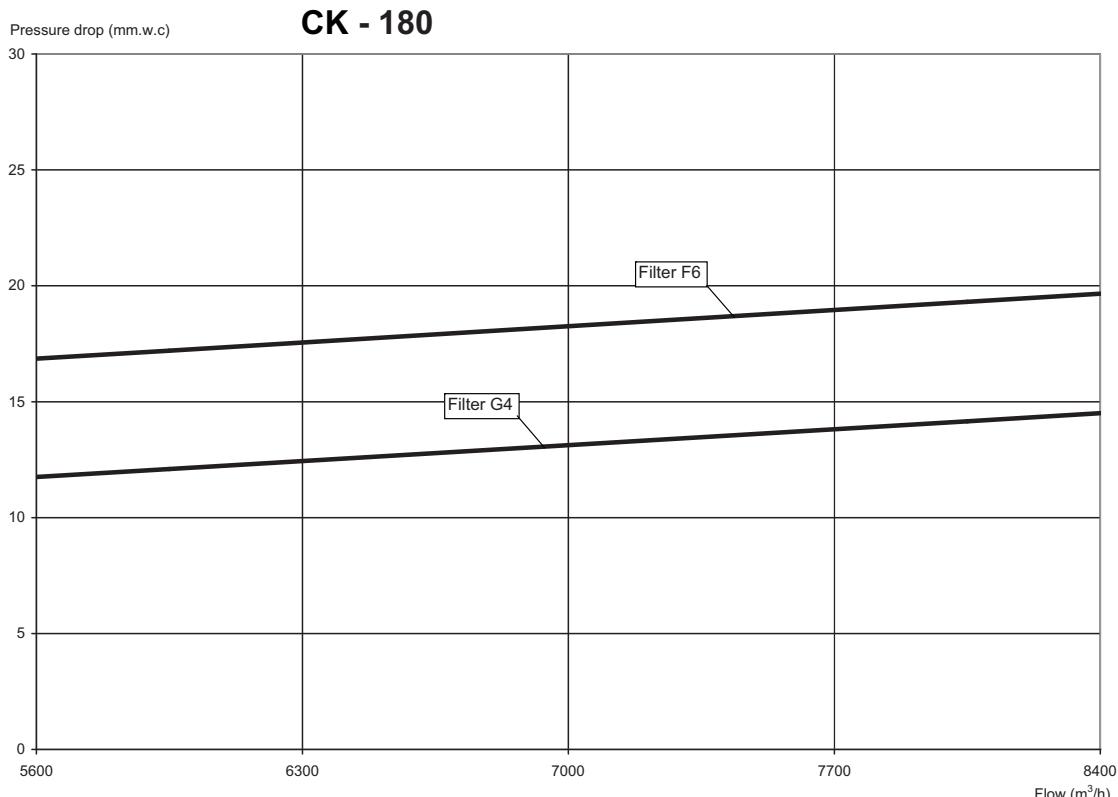
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



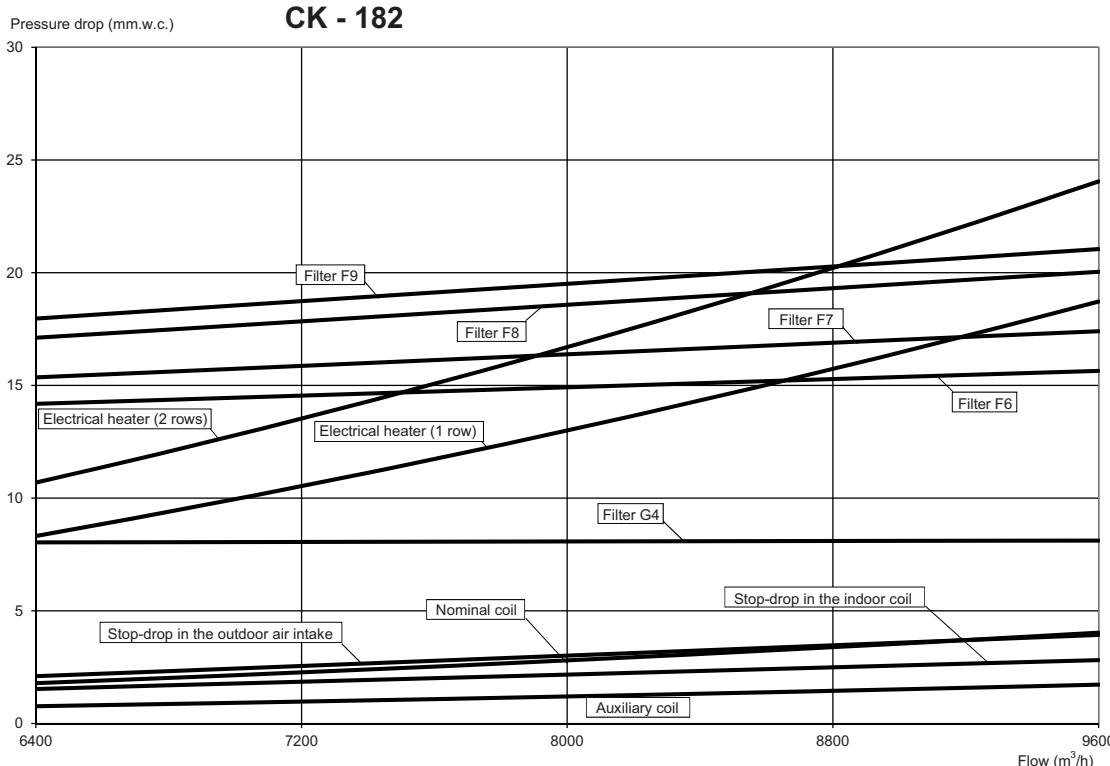
■ Return pressure drops



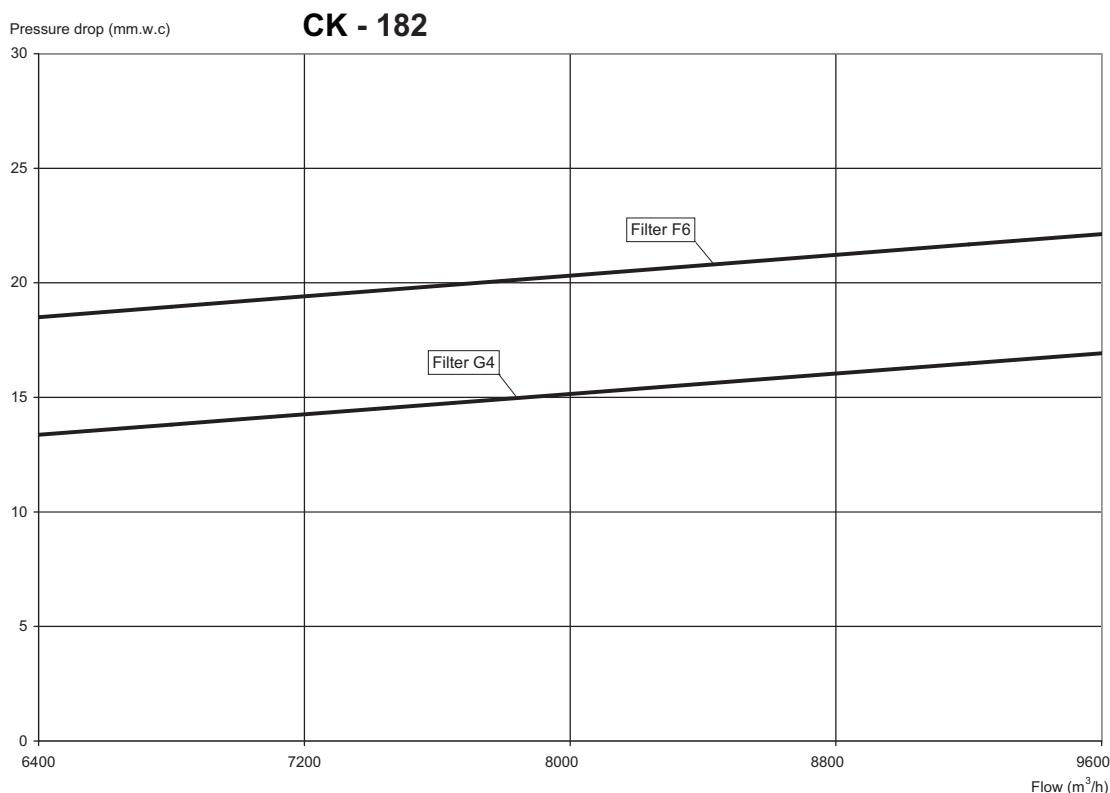
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



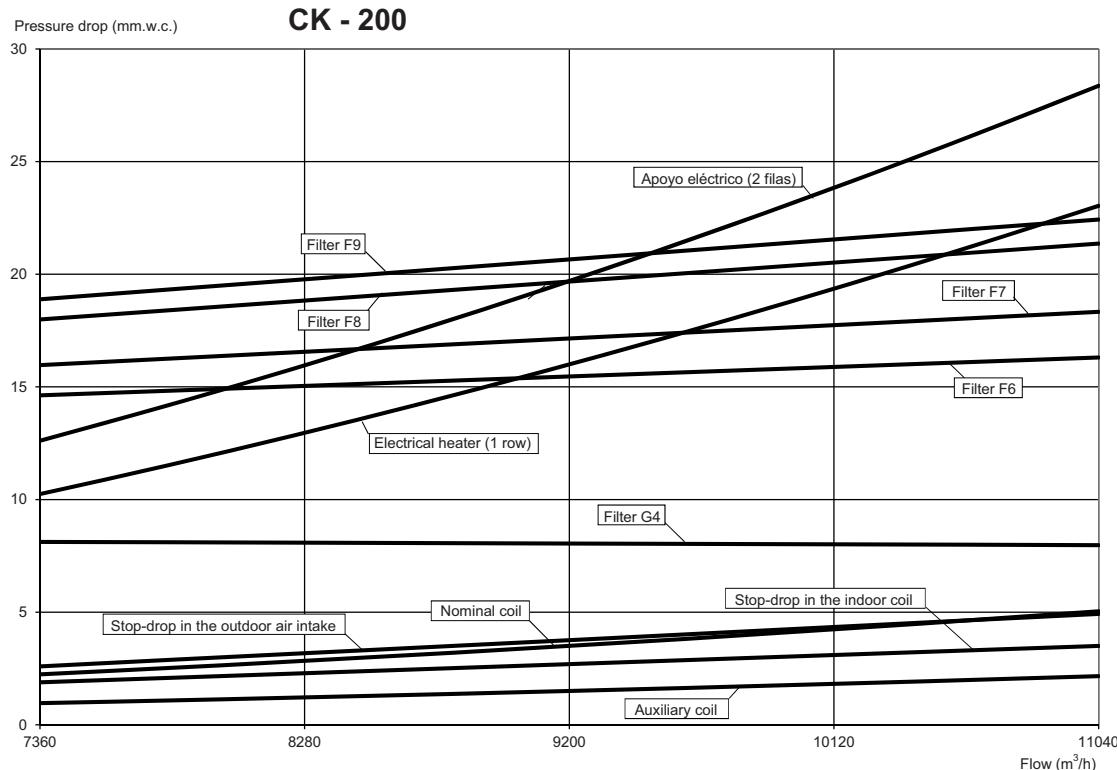
■ Return pressure drops



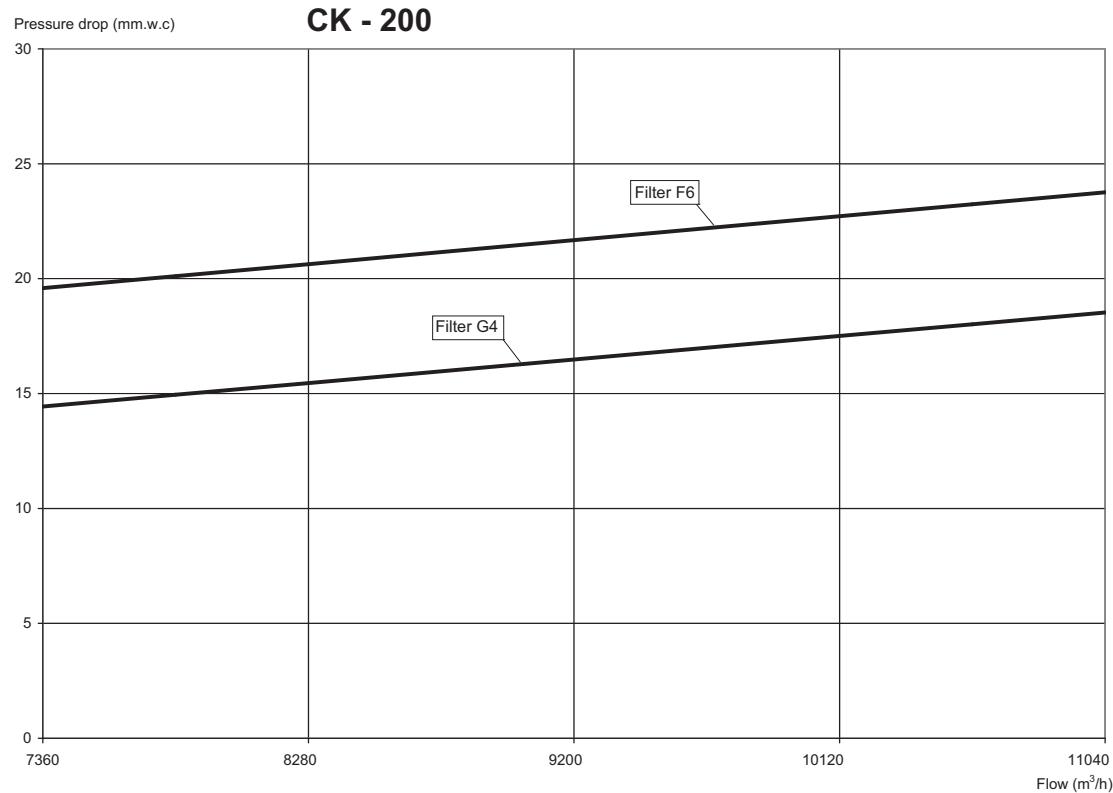
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



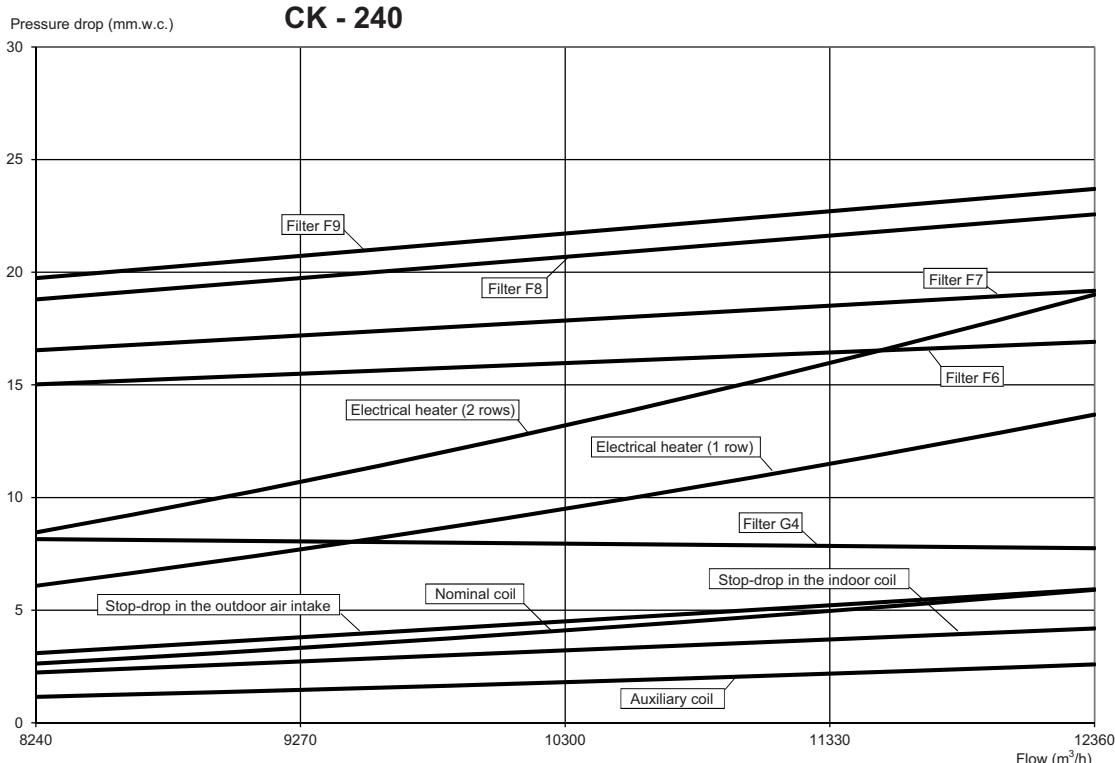
■ Return pressure drops



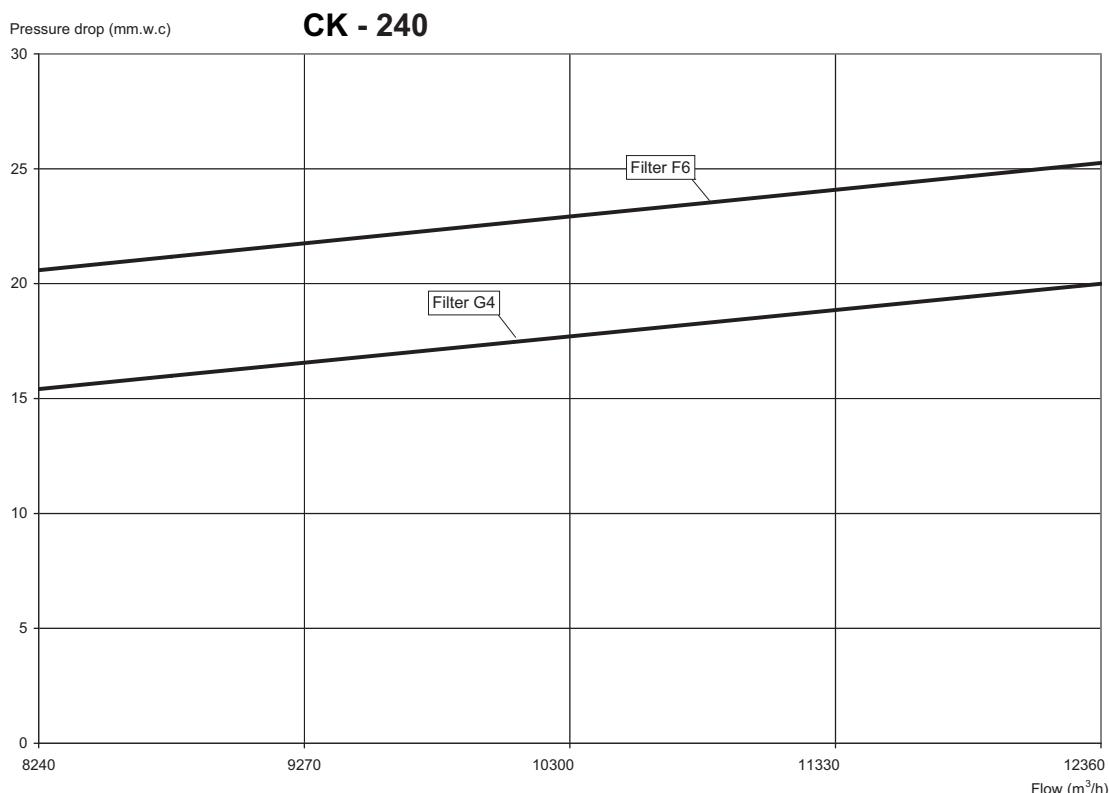
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



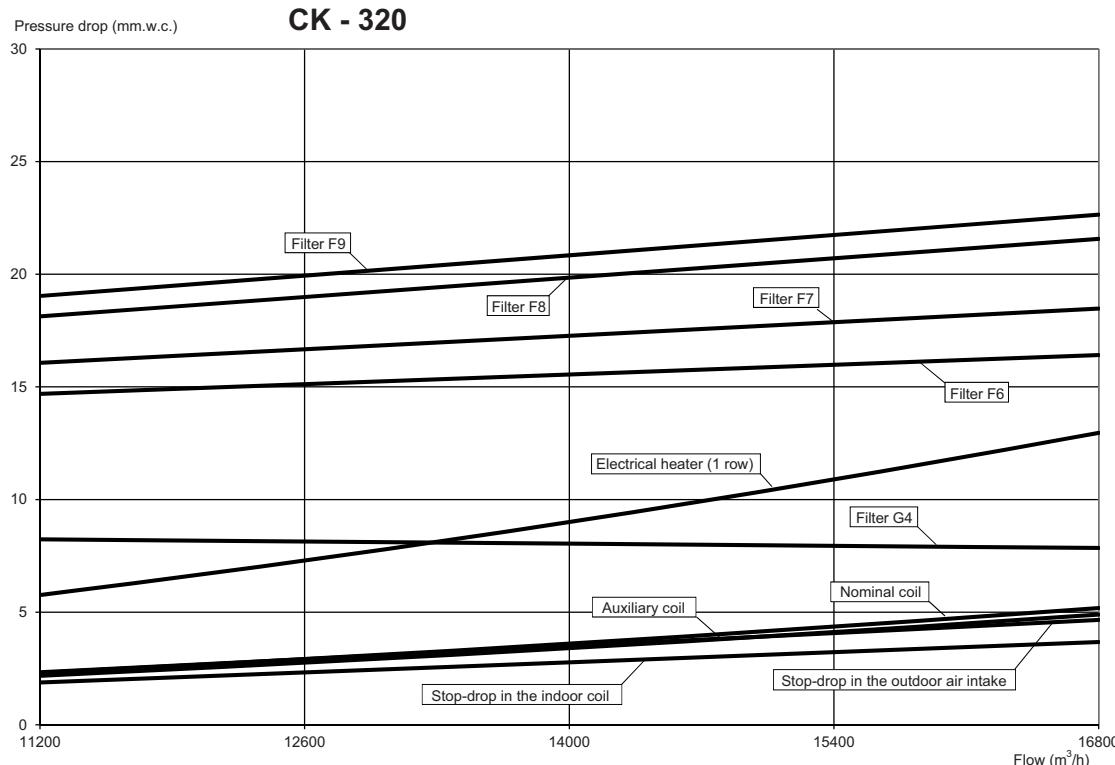
■ Return pressure drops



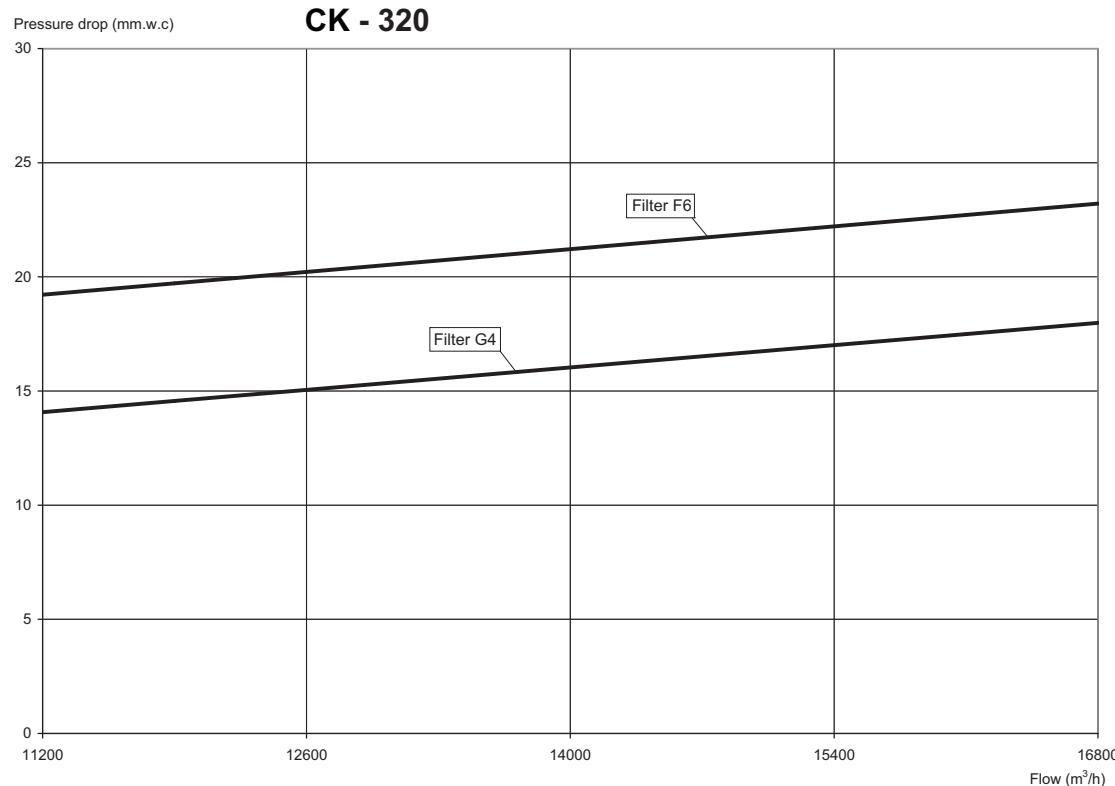
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



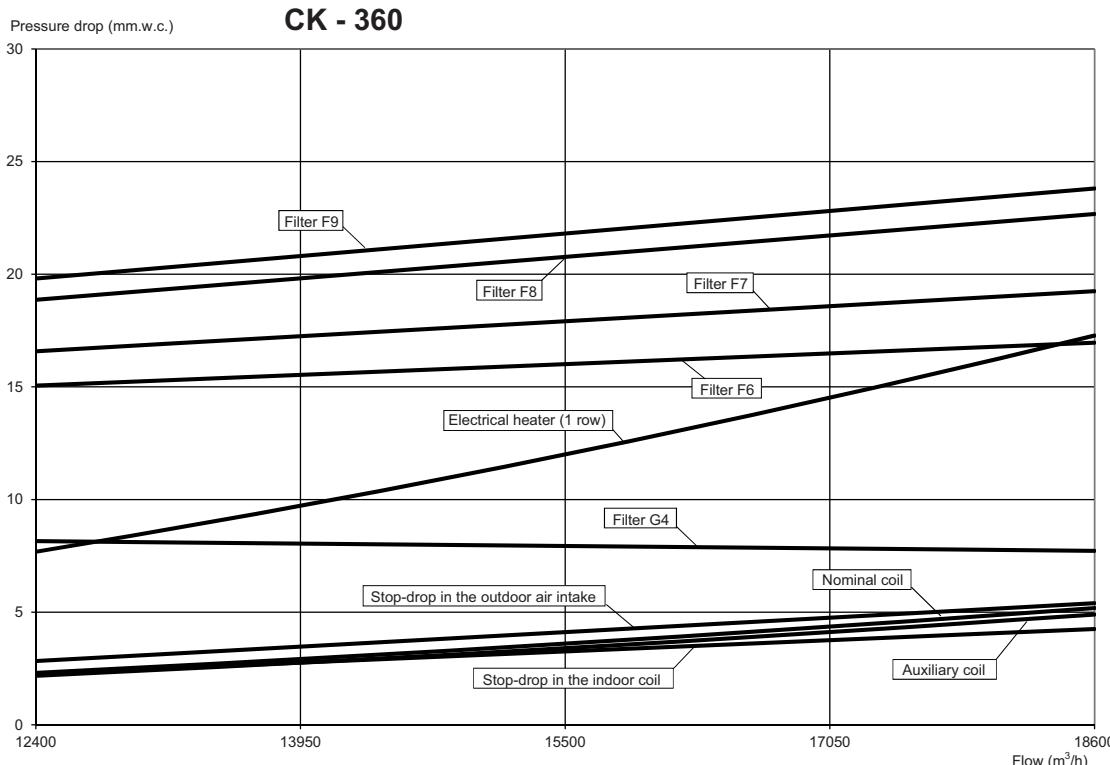
■ Return pressure drops



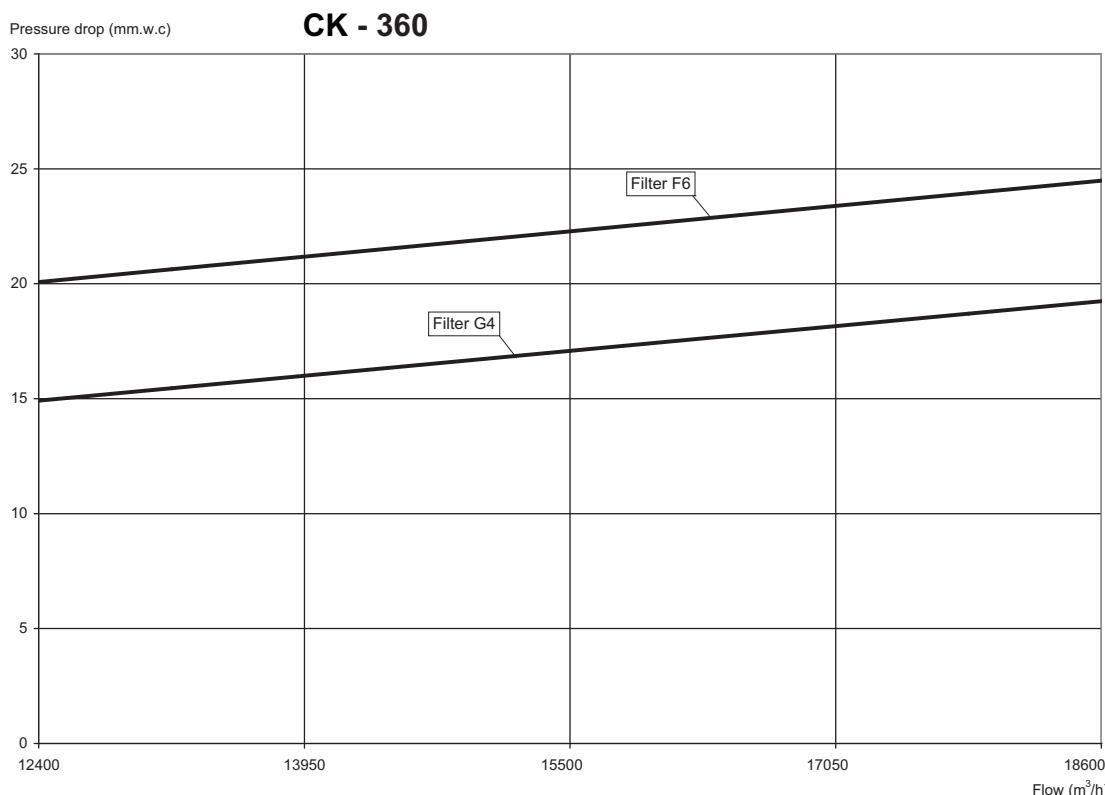
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



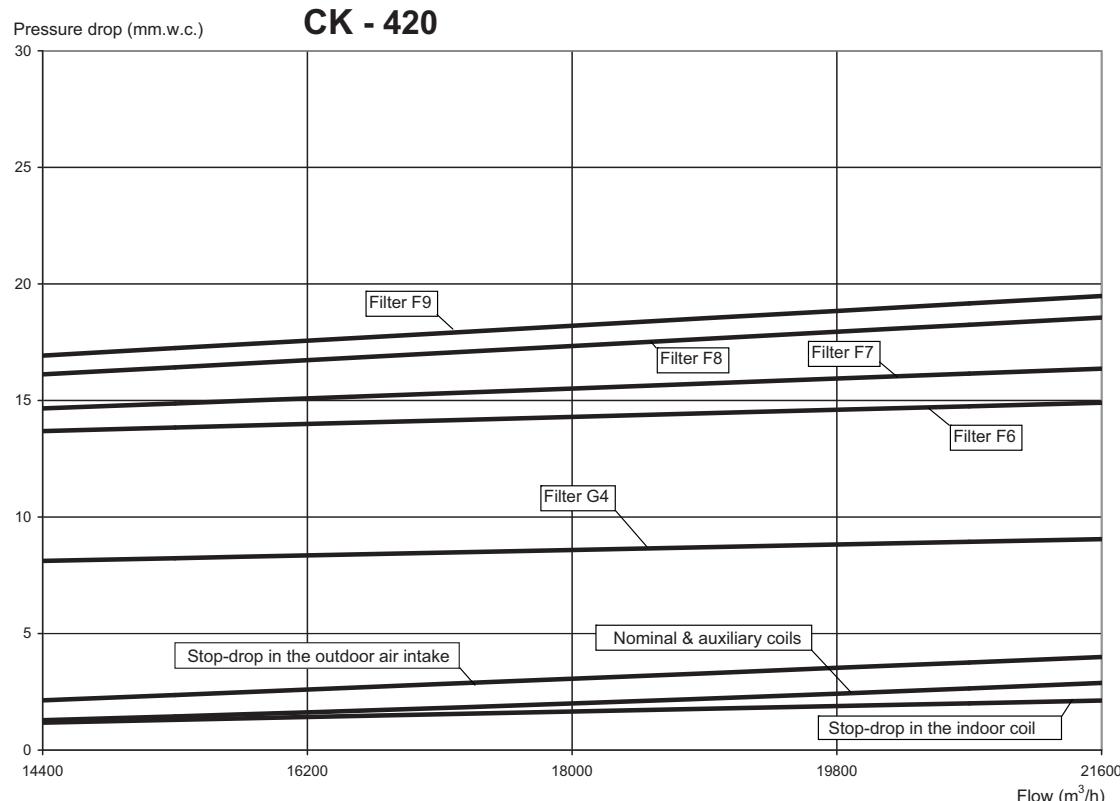
■ Return pressure drops



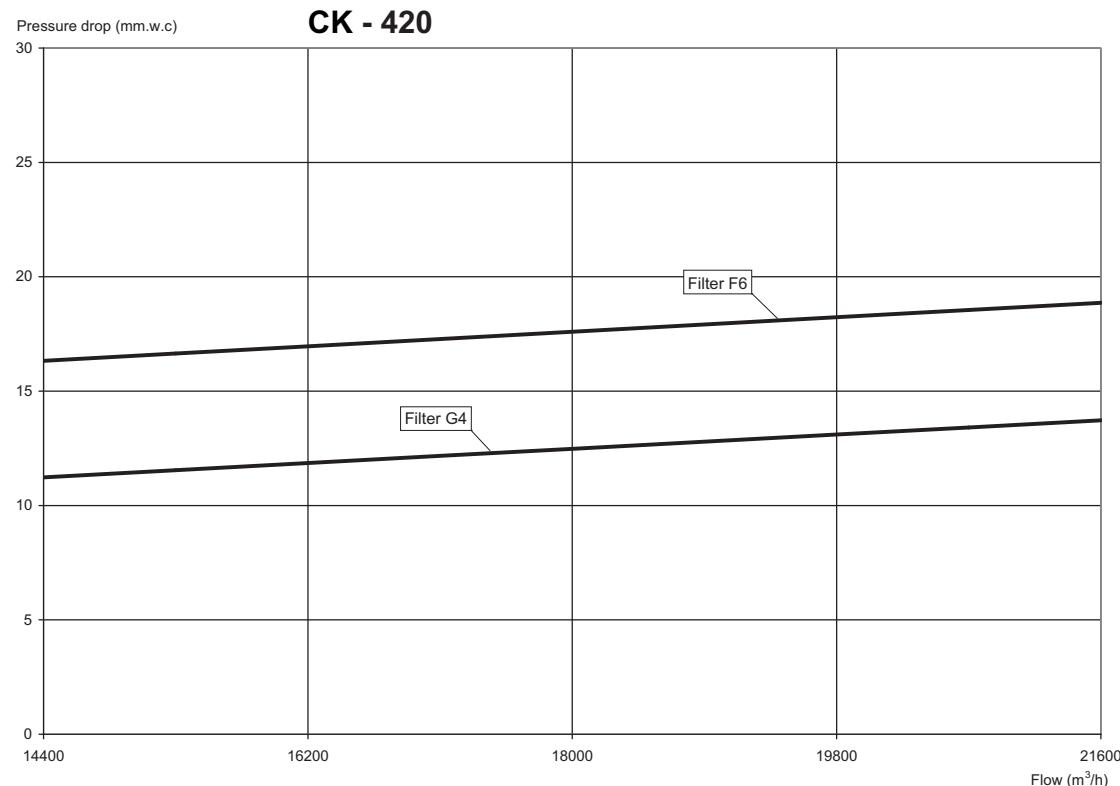
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



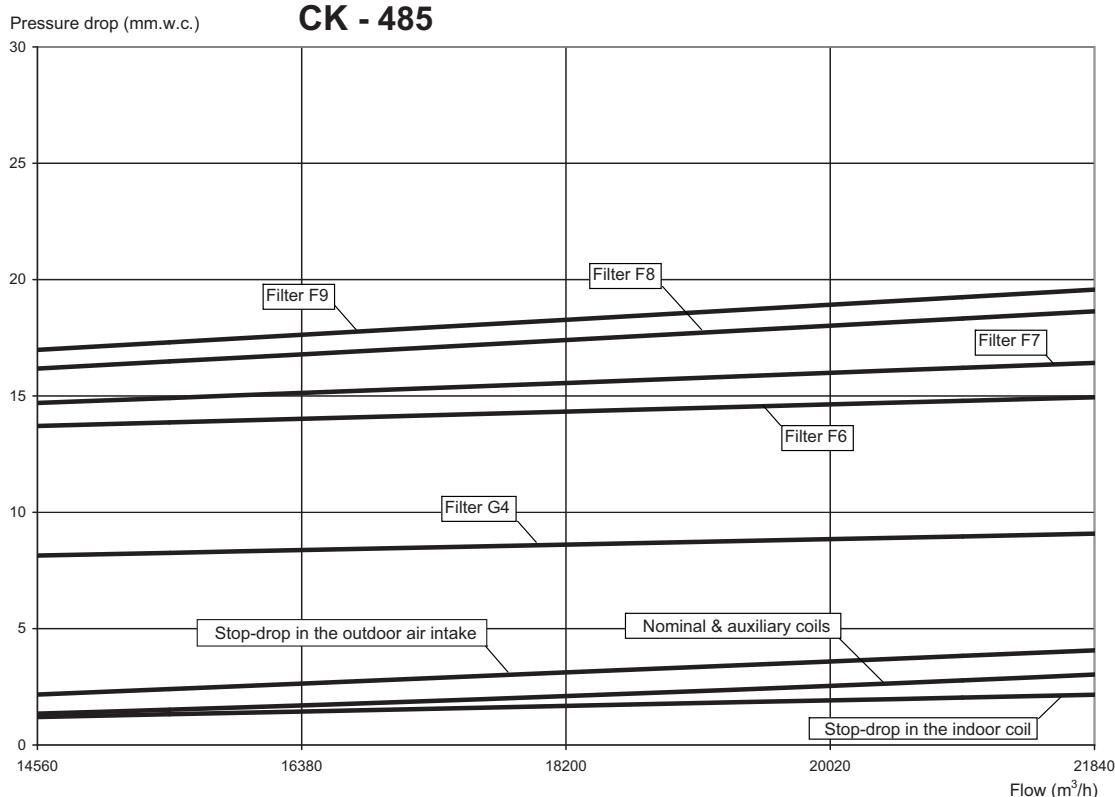
■ Return pressure drops



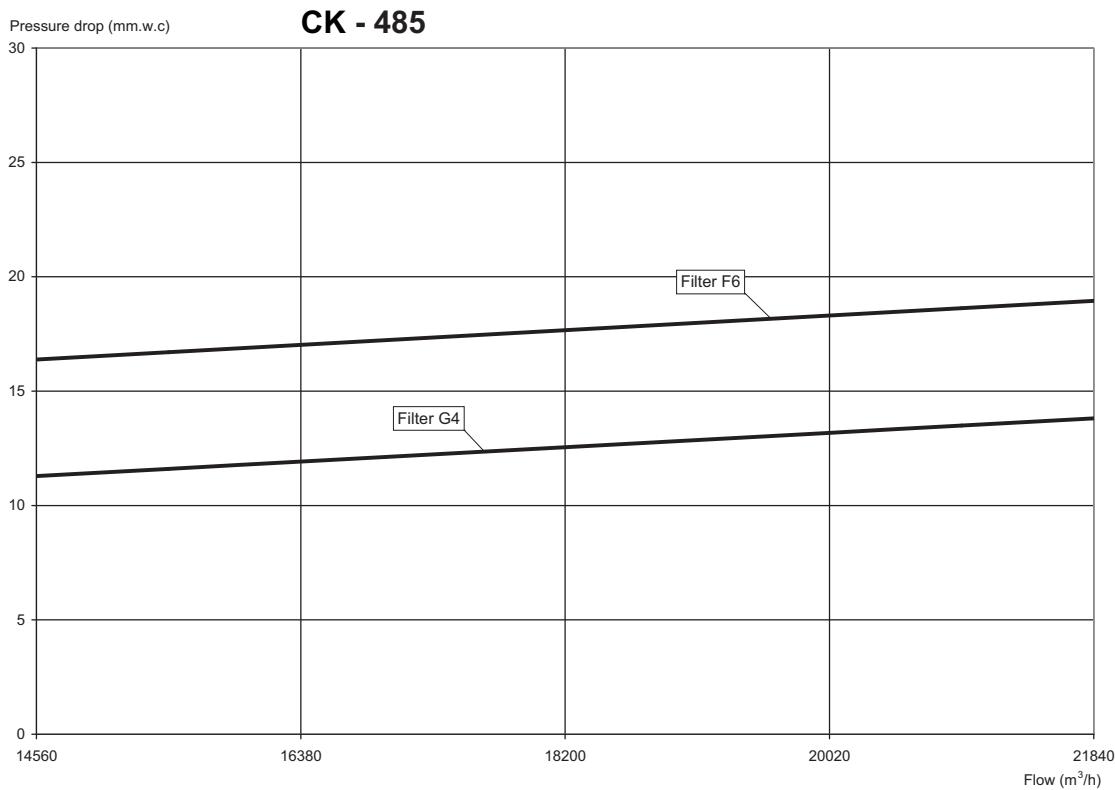
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



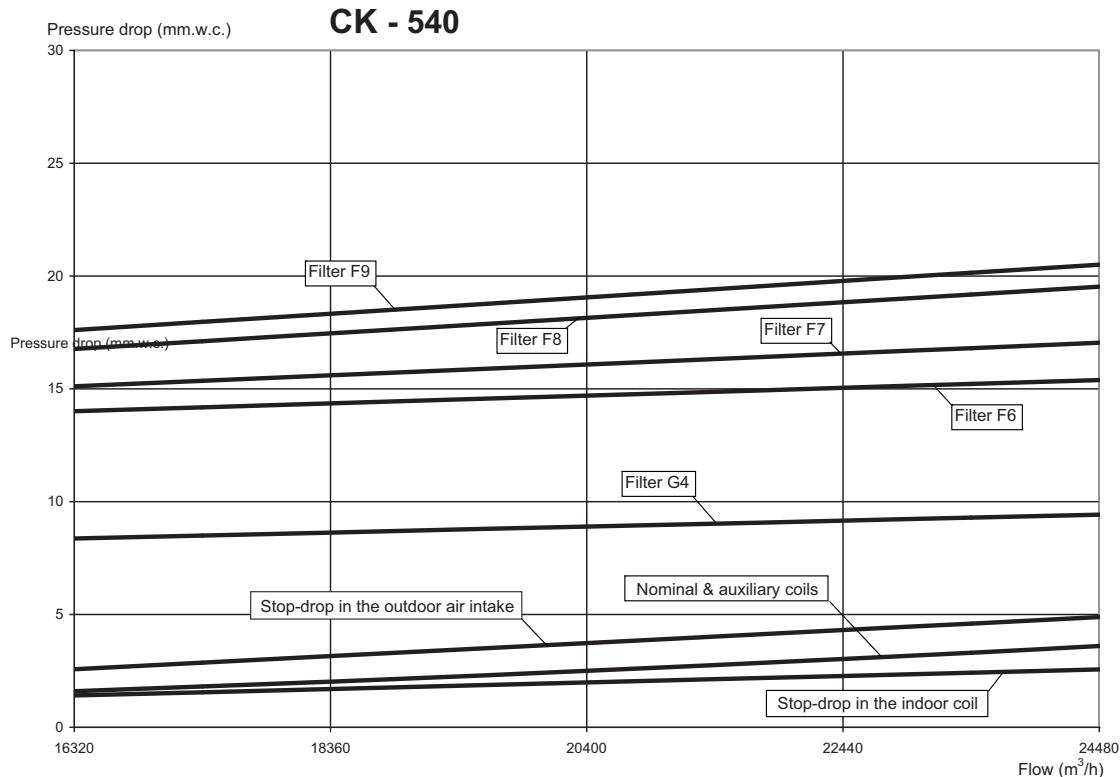
■ Return pressure drops



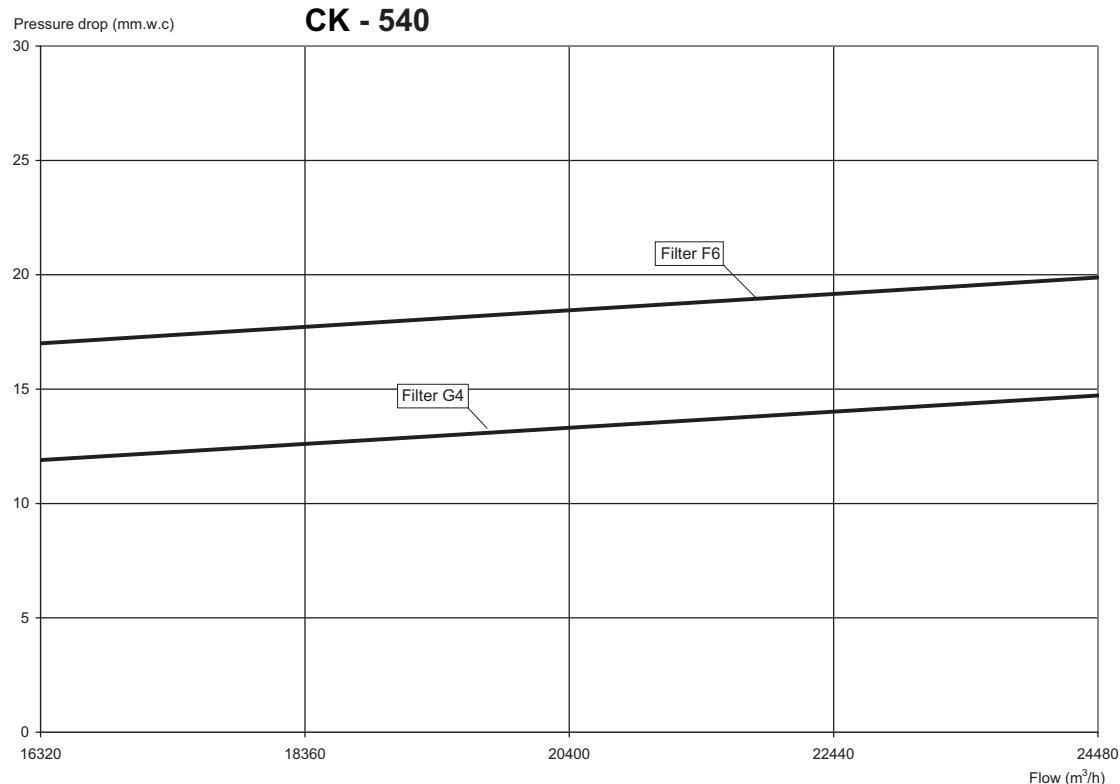
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



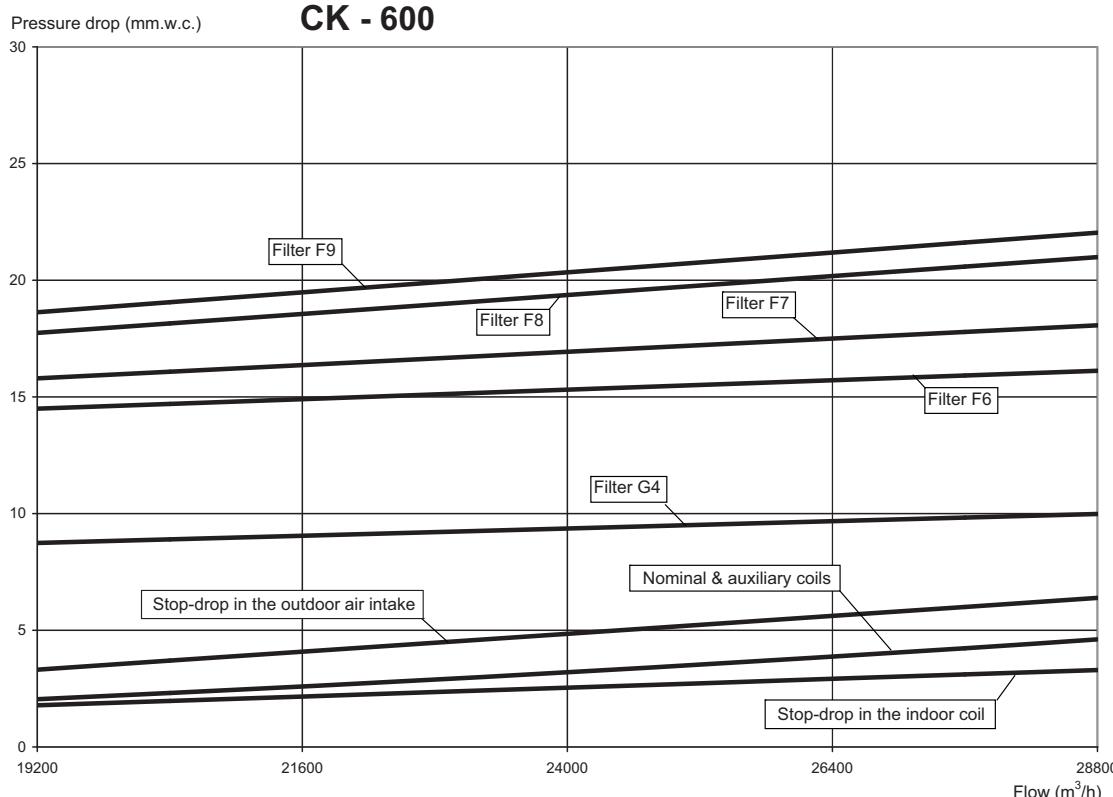
■ Return pressure drops



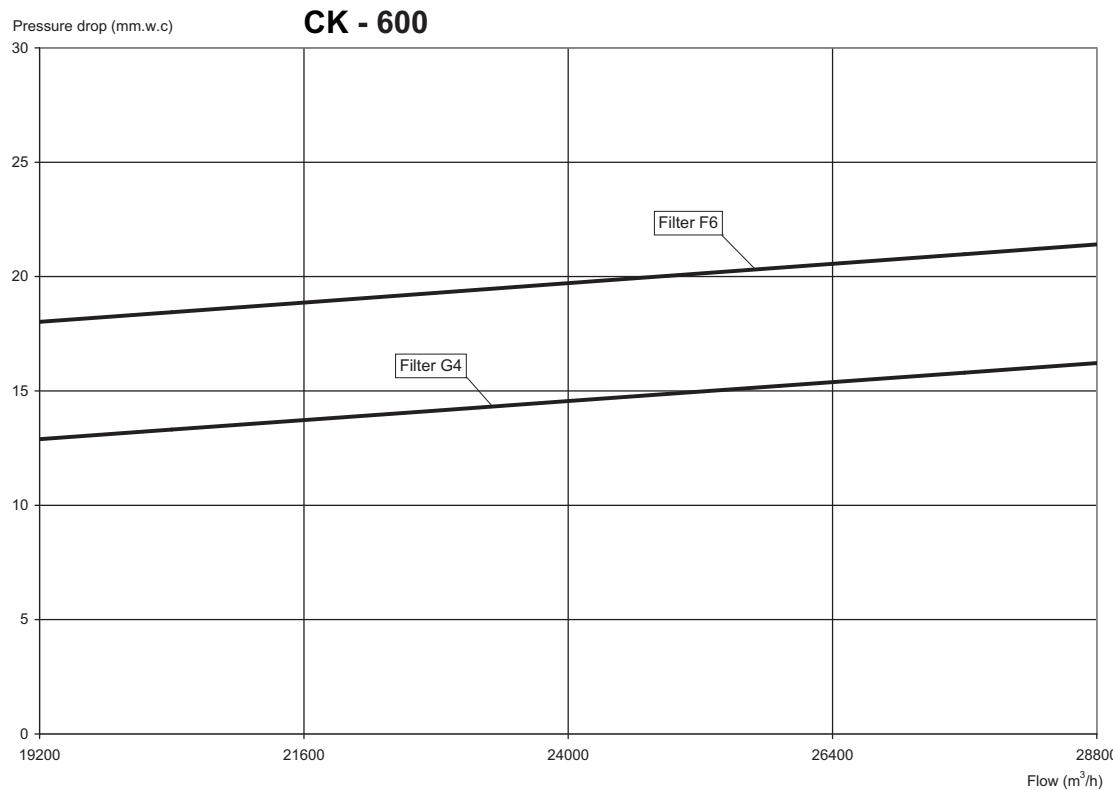
Note: pressure drops in the filters have been calculated for an average level of clogging.

PRESSURE DROPS IN THE AVAILABLE OPTIONS FOR THE INDOOR UNIT

■ Outlet pressure drops



■ Return pressure drops



Note: pressure drops in the filters have been calculated for an average level of clogging.

