



CIATCooler LP/ILP/ILPC

Технические характеристики

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Water chillers and air/water heat pumps



Cooling capacity: 17,7 to 192,3 kW
 Heating capacity: 21,8 to 214,0 kW

Scroll compressors
 R-410A refrigerant
 Compact and silent design
 Cooling solution where an outdoor installation is impossible

DESCRIPTION

The **CIATCooler LP / ILP** cooling only and reversible heat pumps are compact outdoor air/water units. Available in two versions: **STD (Standard)** and **HEE (High Energy Efficiency)**.

These units have been made for operation indoors in the production of hot and/or cold water, applicable to heating, cooling, and industry.

They are equipped with centrifugal fans (STD version) or electronic plug-fans (HEE version), plate exchangers, hermetic scroll compressors, and electronic control with microprocessors, components optimised for the R-410A refrigerant.

This range is also offered with an integrated circulation pump: **LPC / ILPC** and optionally, with a hydraulic module (attached to the unit or separate) equipped with a buffer tank.

The entire range also has the option to include a desuperheater circuit that allows for the production of hot water at a temperature greater than in the condensation circuits.

All units are charged with refrigerant and are tested at the factory, verifying the correct operation of all their components.

SERIES

CIATCooler LP

Air-condensed water chillers.

CIATCooler ILP

Reversible heat pump units for operation in negative outdoor temperatures (greater than -15°C WB) for water heating and cooling. Defrosting by reversing the cycle.

RANGE

Modelos	STD version (Standard)	HEE version (High Energy Efficiency)
1 circuit 1 compressor	90 / 100 / 120 / 160 / 180	90 / 100 / 120 / 160 / 180
1 circuit 2 compressors	200 / 240 / 280 / 320 / 360 420 / 480 / 600	200 / 240 / 280 / 320 / 360 420 / 480 / 600
2 circuits 4 compressors	640 / 720 / 840 / 960	640 / 720

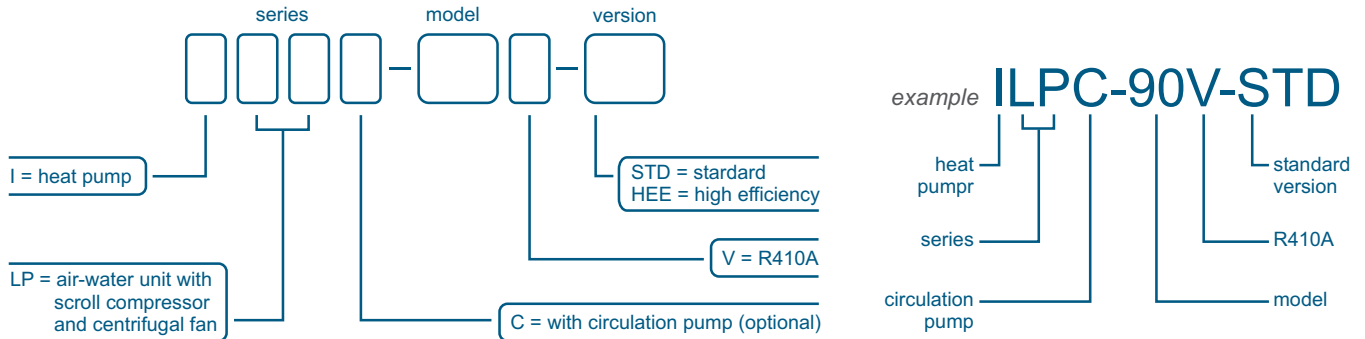
OPERATION LIMITS

Series	Cooling mode				Heating mode			
	Air		Water (outlet T.)		Air		Water (outlet T.)	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
LP	46°C	12°C ①	18°C	5°C ②	--	--	--	--
ILP	46°C	12°C ①	18°C	5°C ②	20°C BS	-15°C BS	55°C	30°C

① With control of operation condensation pressure up to -15°C.

② Minimum outlet temperature. With the option of glycol water for lower temperature operation from 5°C to -7°C.

DESIGNATION



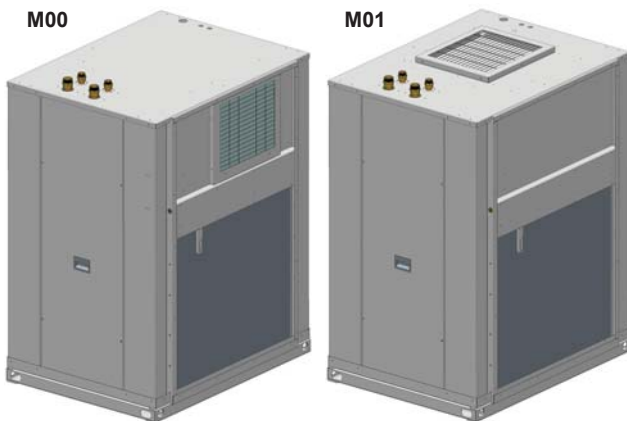
UNIT COMPONENTS

Casing

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

Outdoor circuit

- Coil(s) with copper pipes and aluminium fins.
- Condensate drain pan.
- Choice of air discharge position:
 - HORIZONTAL (M00 assembly): models 90 to 600 (STD version) and models 90 to 360 (HEE version).
 - VERTICAL (M01 assembly): all models.



- Outlet fan(s):

STD Version (Standard):

- Centrifugal fan(s) coupling by pulleys and belts.
- Electric motor(s) with tensioner, energy-efficient IE2 motors, class F, IP55, and internal thermal protection.
- One double-intake turbine, with an impeller with front-curved blades. Greased spherical bearings, with no maintenance required.
- Choice of available pressure from 7 to 35 mm.w.c.

HEE Version (High Energy Efficiency):

- Variable speed electronic plug-fan(s) with condensation pressure control which adapt 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 (ESEER).
- Energy-efficient ErP 2015 motor, Class F, IP54, and internal thermal protection.



Indoor circuit

- Thermally isolated, welded stainless steel plate exchanger.

Cooling circuit

- Hermetic scroll-type compressor(s), assembled over antivibration mounts. Control of phase equilibrium and the direction of rotation. Models 90 to 360 with acoustic insulating cover as standard (Low Noise version).
- Crankcase heater.
- Thermostatic expansion valve(s) with external equalisation.
- Anti-acid dehydrating filter(s)
- Liquid receiver(s) (heat pump units).
- Liquid sight glass (models 200 to 960).
- Particle separator (models 200 to 960).
- Four-way cycle reversing valves (heat pump units).

Electric panel

- Complete and fully wired electric panel. Insulated panel cover to prevent condensation. IP55 protection.
- Power supply with neutral and main ground connection.
- Compressor(s) and fan motor(s) contacts.

Protections

- High pressure pressostat.
- Low pressure safety device integrated into the control.
- Water flow controller.
- Water anti-freeze protection built into the control, depending on the temperature measured by the probe placed on the exchanger outlet.
- Water anti-freeze thermostat as additional safety.
- Compressor discharge temperature control.
- Non-return valve built into the compressor discharge.
- Compressor thermal protection.
- Main door switch.
- Automatic switch in the control circuit.
- Magnetothermic protection switches for the compressor(s) power line and fan motor.
- Timing the disconnection of the circulation pump.
- Failure safety device for the circulation pump.

- Safety valve with a tare value of 4 bar and draining valve.
- Automatic air bleeder valve (models 200 to 960).
- Filter with stainless steel mesh (500 microns), supplied in the kit for installation by the installer.

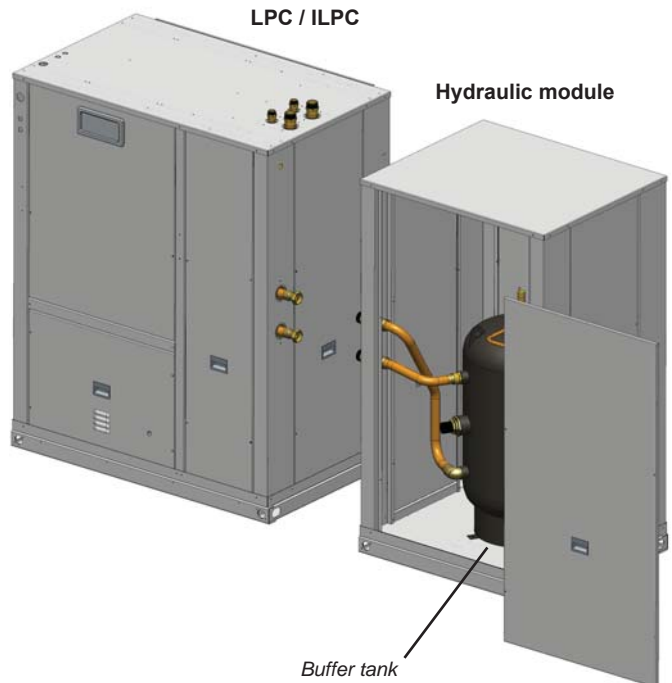
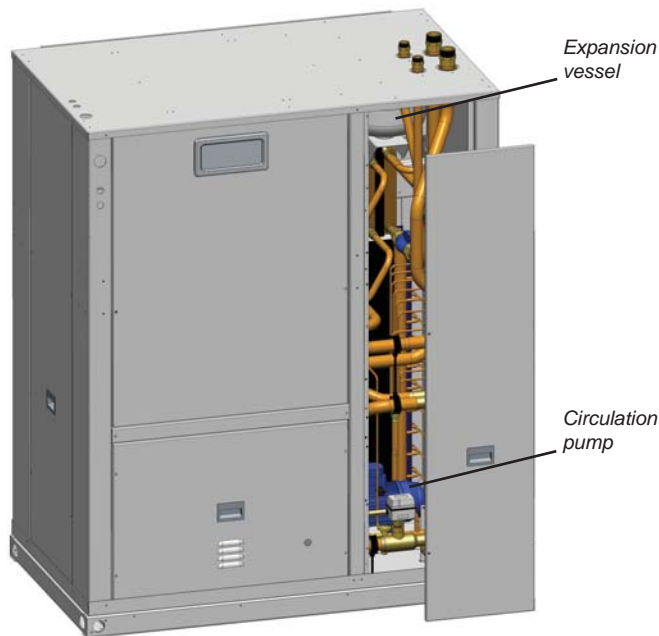
Hydraulic module

LPC / ILPC units can be completed with a hydraulic module.

This one includes a thermal buffer tank made of black stainless steel, painted, and thermally insulated, with an anti-freeze electrical heater (1kW).

This heater, in heat pump models, has the option to be replaced by a support heater in 1 to 4-stage (3 to 48 kW according to the model).

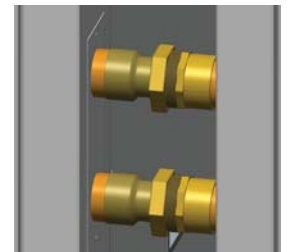
Version with circulation pump included (LPC / ILPC)



The module can be supplied:

- Separate for connection on site by the installer. In this case, the flexible connections of 500 mm (option) are recommended.
- Coupled to the LPC / ILPC unit, models 90 to 360 (STD version) and models 90 to 280 (HEE version).

Note: In order that the unit with hydraulic module could incorporate the option of antifreeze protection with flexible electric heaters on the hydraulic circuit piping, the module must be coupled to the unit, or in the case of separate, do not add additional elements in the threaded connections between module and unit, and isolate these connections.



For this reason the option of antifreeze protection with flexible electric heaters is not compatible with flexible hydraulic connections.

This version includes, in the same casing that the LP / ILP version, the following components:

- Monocellular IP55 centrifugal circulation pump that can operate with glycol water (mono-ethylene glycol). The pump must be changed for mono-propylene glycol (upon request).

Note: Models 420 to 720 have 2 pumps operating simultaneously (with a single pump function).

- Closed expansion vessel.

CONNECT2 electronic control

Electronic control module with microprocessor and CPU, central automation, and access to the internal operating states.

Composition of the main board

- Input for acquisition of sensors reading and operating state of components.
- Outputs for circulation pump control, stages connection, and general failure signal.
- Connector for local control panel, installed on the unit.
- Connector for remote control panel (optional).
- Connector for relay card (optional).
- Connector for management - MULTICONNECT (optional).
- RS485 output via the MODBUS-JBUS protocol for the GTC link.

Functions

- Run, Stop, Reset or Remote control functions.
- Selection of COOLING or HEATING operating mode.
- Display of the information related to operations for direct display of multi-lingual messages in clear text.
- Direct display of the water temperatures and pressures.
- Complete management of compressors with a start-up sequence, count, and equalisation of operating times.
- Anti-short-circuit protection.
- Auto-adaptive and pro-active functions, adjusting the control in the compensation for the parameters.
- Device to reduce the stratified power being cascaded to the multi-compressors, based on the cooling or heating needs controlled by the water temperatures.
- Control of the internal operating parameters.
- Management of auxiliary electrical heater working alone or simultaneous to the heating pump.
- Adjustment of the setpoint with a 4-20 mA signal.
- Management of a second setpoint.
- Diagnosis of the operating and failure states:
HP/LP, water flow, compressor motor(s), anti-frost.
- Remote management and surveillance.
- Master/slave management capable of managing two units in a single water loop, alternating the Master and Slave based on the operating times.
- Hourly and weekly programming.

Local control panel

Ergonomic interface panel with multi-lingual LCD display (4 lines of 24 characters each) and LED indicators.

Functions

- Reading of pressures and temperatures.
- Operating state and fault diagnostics.
- Master/slave management of two parallel-connected machines.
- Fault memory management.

- Pumps management.
- Hourly and weekly programming.



Remote control panel (optional)

Functions and design identical to the local panel.

Relay board (optional)

Volt-free contacts card for display of the operation state and signalling of components failure. Available outputs:

- Failures: water flow, antifreeze, pump, fans, high and low pressures, compressors safety, discharge temperature.
- Operation state of compressors.

Multigroups management - MULTICONNECT (optional)

Main functions available:

- Management of up to 8 units in a single water loop.
- Management in COOLING mode (cold water group) or HEATING mode (heat pump).
- Management of the cold water or hot water network pumps.
- Integrated management of a backup unit.
- Unit load shedding.
- Timer programming of the installation.
- Management of the energy storage method.
- Balancing of the unit operating times.
- RS485 output via the MODBUS-JBUS protocol for the GTC link.



Serial RS485 outputs

- MODBUS - JBUS open protocol (standard).
- LONWORKS®, BACNET IP & BACNET MSTP protocols (optional).
- ETHERNET bridge (standard).

CONNECT2 control allows that all CIAT products can be integrated into monitoring systems:

- Smart CIATControl
- Easy CIATControl: Optimal Water® functions /Optimal start & stop / Night cooling
- Power'Control, Cristo'Control
- CIATM2M

Options

Pumps

The pump installed on a unit LPC / ILPC can be replaced for:

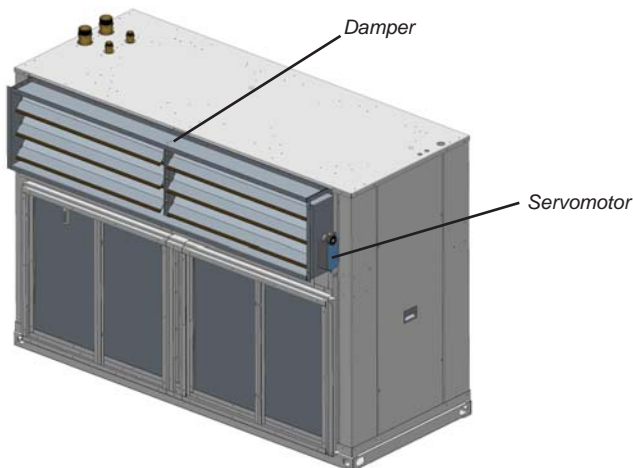
- High-pressure, monocellular, IP55, circulation pump that can operate with glycol water (mono-ethylene glycol).
- Low-pressure, monocellular, IP55, circulation pump that can operate with glycol water (mono-ethylene glycol) (except model 90 and 720).
- In units that have the standard or high-pressure pump:
 - Double circulation pump with automatic switching operation between them by schedule programmer (in models 200 / 240 / 280 / 320 / 360 / 840 / 960).
 - Lag circulation pump, the hydraulic circuit includes three pumps, one of them as lag pump. Using a manual switch with 3 positions it is possible to select the two pumps that will be in operation (in models 420 / 480 / 600 / 640 / 720).

Configuration

- VERTICAL air discharge, M01 assembly (default horizontal discharge, M00 assembly).
- In the STD version: Different configurations of available pressure from 7 to 35 mm.w.c. (default 20 mm.w.c.).

Climatic conditions

- In units with the **STD version** that work in cooling with an outdoor temperature lower than 12°C, the condensation pressure control allowing an "all seasons" operation (up to -15°C) is mandatory. This is performed per motorized damper in the fan outlet.



- Coils protection:
 - Coil with copper pipes and copper fins (upon request).
 - Coil with copper pipes and aluminium fins with polyurethane and blygold coating.
- During periods with low outdoor temperatures, anti-freeze protection for the unit:
 - Electrical heaters in the condensate drain pan. Mandatory when outdoor temperatures are below 3°C.
 - Operation with glycol water up to a minimum outlet temperature of -7°C.
 - Anti-freeze protection with flexible electrical heaters around the pipe of the hydraulic circuit. In order that the unit with hydraulic module could incorporate this option, the module must be coupled to the unit, or in the case of separate, do not add additional elements in the threaded connections between module and unit.

Acoustic

- Acoustic insulating cover for compressor (Low Noise version) from the model 420. In the other models included as standard.

Comfort / heating

- Electrical heater for support in heating, in heat pump models, placed in the hydraulic module, available in 1 to 4-stage. Available power of 3 kW to 48 kW (according to the model).

Note: this electrical heater replaces the anti-freeze electrical heater (1 kW) which incorporates the buffer tank as standard.

Energy recovery

Desuperheater circuit which includes:

- Thermally isolated, welded stainless steel plate exchanger for working in a closed circuit in the recovery of hot gases.
- Draining valve and ball valve
- Hot water recovery control thermostat.
- Option for a 3-speed hot water circulation pump.

Installation

- Antivibration mounts made of rubber.
- Protection grille for the coil.
- 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 LP, to be joined on site.
- Flexible ducts for outlet and return air.
- Flexible hydraulic connections (500mm), supplied in the kit. Available for:
 - Inlet / outlet of the unit.
 - Inlet / outlet of the desuperheater circuit.
 - Connection between the unit and the separate hydraulic module.
- Filter with stainless steel mesh (500 microns), supplied in the kit. Note: optional for LP / ILP units and standard for LPC / ILPC units.
- Cut-off and water control valves, supplied in the kit.
- High-pressure and low-pressure gauges in the cooling circuit.

Electric panel

- Compressor soft starter.
- Transformer for power supply without neutral.
- Voltage 400 / 440V - 60 Hz (upon request).
- Energy meter for monitoring of the power consumption of the installation.

CONNECT2 control / communications management

- Remote control panel.
- Kit for relay board (voltage-free contacts).
- Control card with electrical support (required for more than 2 stages of electrical heaters).
- Multi-groups management - MULTICONNECT.
- Kits for bridge: LONWORKS®, BACNET IP and BACNET MSTP.
- Kit for a master / slave control probe (necessary in case of a regulation in the water outlet).



Water chillers and air/water heat pumps

STD VERSION: TECHNICAL CHARACTERISTICS

CIATCooler LP / ILP		90V-STD	100V-STD	120V-STD	160V-STD	180V-STD	200V-STD	240V-STD	280V-STD	320V-STD	360V-STD	
Cooling capacities	Net cooling capacity ① (kW)	17,70	21,10	25,20	32,70	36,00	43,70	49,30	55,80	68,10	74,30	
	Net power input ③ (kW)	7,75	9,15	10,00	12,60	14,40	18,80	19,70	22,40	24,90	28,70	
	Net efficiency	EER	2,29	2,31	2,51	2,60	2,49	2,32	2,51	2,49	2,73	2,59
	Seasonal efficiency	ESEER ④	2,61	2,59	2,81	2,94	2,85	2,71	2,97	2,98	3,29	3,14
Heating capacities	Net heating capacity ② (kW)	21,80	26,10	29,70	38,30	42,60	51,60	58,50	66,90	76,60	84,80	
	Net power input ③ (kW)	7,31	8,90	9,90	12,90	14,20	18,40	19,60	22,40	24,80	28,20	
	Net efficiency	COP	2,97	2,94	3,00	2,97	3,01	2,80	2,99	2,98	3,08	3,01
	Seasonal efficiency ⑤ Average climate	SCOP	3,11	3,12	3,07	2,95	2,95	3,07	3,07	2,95	2,95	3,17
		ηs Heat	121%	122%	120%	115%	115%	120%	120%	115%	115%	124%
		Prated (kW)	16,77	19,19	21,82	26,33	31,31	38,59	41,71	44,94	51,08	65,47
	Seasonal efficiency ⑤ Warmer climate	SCOP	3,59	3,63	3,57	3,42	3,35	3,42	3,71	3,66	3,61	3,71
		ηs Heat	140%	142%	140%	134%	131%	134%	145%	143%	141%	145%
Prated (kW)		12,73	14,70	16,72	24,30	27,32	34,90	39,44	42,83	47,04	58,00	
Outdoor circuit centrifugal fan	Nominal air flow (m³/h)	6500	7000	10000	12200	12200	16000	20000	24400	24400	24400	
	Available static pressure (mm.w.c.)	20										
	Number / turbines	1					2					
	Motor output (kW)	2,2	2,2	3,0	4,0	4,0	2 x 3,0	2 x 3,0	2 x 4,0	2 x 4,0	2 x 4,0	
	Power input (kW) ⑥	1,46	1,77	2,33	2,83	2,83	4,68	4,66	5,3	5,66	5,66	
	Speed (r.p.m.)	973	1027	837	734	734	1082	837	705	734	734	
Indoor circuit	Nominal water flow (m³/h)	3,1	3,7	4,3	5,7	6,2	7,5	8,5	9,6	11,7	12,8	
	Pressure drop (m.w.c.)	2,3	3,2	2,9	4,7	2,9	4,2	3,2	4,0	2,1	2,6	
	Minimum water flow (m³/h)	2,2	2,7	3,1	4,1	4,3	4,7	6,2	7,2	8,3	8,6	
	Maximum water flow (m³/h)	6,2	7,4	8,8	11,3	12,7	15,0	17,2	19,2	23,6	26,0	
	Type of hydraulic connections	Gas threaded										
	Diameter of connections	1 1/4" M			1 1/2" M			2" M				
Compressor	Type	Scroll										
	No. of compressors / stages / circuits	1 / 1 / 1					2 / 2 / 1					
	Oil type	Copeland 3MAF 32 cST, Danfoss POE 160 SZ, ICI Emkarate RL 32 CF, Mobil EAL Artic 22 CC										
	Volume of oil (l)	3,0	3,3	3,3	3,3	6,2	2 x 3,3	2 x 3,3	2 x 3,3	2 x 3,3	2 x 6,2	
Refrigerant	Type	R-410A										
	Global warming potential (GWP) ⑦	2.088										
	Charge (kg)	5,9	6,1	6,6	6,9	7,6	9,2	12,3	12,4	14,9	15,4	
	Environment impact (tCO₂e)	12,3	12,7	13,8	14,4	15,9	19,2	25,7	25,9	31,1	32,2	
Electrical characteristics	Electrical power supply	400 V / III ph / 50 Hz (±10%)										
	Power supply	3 Wires + Ground + Neutral										
Maximum absorbed current	Compressor (A)	15,2	17,3	20,5	25,4	30,5	34,6	41,0	45,9	50,8	61,0	
	Fan (A)	5,0	5,0	6,9	8,9	8,9	13,8	13,8	17,8	17,8	17,8	
	Control (A)	0,9	0,9	0,9	0,9	0,9	1,8	1,8	1,8	1,8	1,8	
	Total (A)	21,1	23,2	28,3	35,2	40,3	50,2	56,6	65,5	70,4	80,6	
Dimensions	Length (mm)	1117			1398			2113		2673		
	Width (mm)	860				860			860			
	Height (mm) ⑧	1447			1727			1447		1727		
Weight	Empty (kg)	302	310	372	390	388	564	644	676	710	716	
	In operation (kg)	306	315	379	397	396	579	659	692	728	733	

- ① Cooling capacity calculated in accordance with the EN-14511-2013 standard given for outlet water temperature conditions of 7°C and 35°C outdoor temperature.
- ② Heating capacity calculated in accordance with the EN-14511-2013 standard given for outlet water temperature conditions of 45°C and 6°C WB outdoor temperature.
- ③ Total power input by compressor, motorised fan and electronic control under nominal conditions, calculated in accordance with the EN-14511-2013 standard. Options are not included.
- ④ European Seasonal Energy Efficiency Ratio (ESEER) obtained in accordance with the calculation conditions established by the certification body EUROVENT.
- ⑤ Values calculated in accordance with the EN-14825-2013 standard given for bivalent temperature of -5°C in average climate and 2°C in warmer climate.
- ⑥ Energy-efficient motors IE2.
- ⑦ Climatic warming potential of a kilogram of fluorinated greenhouse gas in relation to a kilogram of carbon dioxide over a period of 100 years.
- ⑧ With the transport brackets the machine is 106 mm higher.



STD VERSION: TECHNICAL CHARACTERISTICS

CIATCooler LP / ILP		420V-STD	480V-STD	600V-STD	640V-STD	720V-STD	840V-STD	960V-STD	
Cooling capacities	Net cooling capacity ① (kW)	88,80	97,00	119,00	134,60	152,30	177,30	193,50	
	Net power input ③ (kW)	33,20	37,40	48,10	50,50	60,10	66,80	76,20	
	Net efficiency	EER	2,68	2,59	2,48	2,66	2,53	2,65	2,54
	Seasonal efficiency	ESEER ④	3,25	3,20	3,12	3,15	3,05	3,12	3,01
Heating capacities	Net heating capacity ② (kW)	98,70	108,70	132,30	143,40	163,50	196,10	214,10	
	Net power input ③ (kW)	34,40	38,40	48,80	50,20	57,40	67,20	74,80	
	Net efficiency	COP	2,87	2,83	2,71	2,86	2,85	2,92	2,86
	Seasonal efficiency ⑤ Average climate	SCOP	3,12	3,25	3,29	3,10	3,21	3,14	3,36
		ηs Heat	122%	127%	128%	121%	125%	123%	131%
		Prated (kW)	82,03	90,05	110,77	117,76	135,09	159,65	174,08
	Seasonal efficiency ⑤ Warmer climate	SCOP	3,54	3,70	3,73	3,46	3,62	3,64	3,81
		ηs Heat	138%	145%	146%	135%	142%	142%	149%
Prated (kW)		70,04	76,82	94,07	100,70	114,85	135,74	147,87	
Outdoor circuit centrifugal fan	Nominal air flow (m³/h)	30000	30000	37500	48000	48000	60000	60000	
	Available static pressure (mm.w.c.)	20							
	Number / turbines	2		3	4				
	Motor output (kW)	2 x 5,5	2 x 5,5	3 x 4,0	4 x 4,0	4 x 4,0	4 x 5,5	4 x 5,5	
	Power input (kW) ⑥	7,72	7,72	9,12	14,64	14,64	16,52	16,52	
	Speed (r.p.m.)	737	737	751	940	940	771	771	
Indoor circuit	Nominal water flow (m³/h)	15,4	16,8	20,6	23,3	26,3	30,6	33,5	
	Pressure drop (m.w.c.)	4,1	4,9	5,6	3,9	5,1	5,2	6,1	
	Minimum water flow (m³/h)	12,2	13,4	16,9	18,2	20,9	24,1	26,6	
	Maximum water flow (m³/h)	31,4	34,5	42,1	48,2	54,3	63,5	69,4	
	Type of hydraulic connections	Gas threaded							
	Diameter of connections	2 1/2" H							
Compressor	Type	Scroll							
	No. of compressors / stages / circuits	2 / 2 / 1			4 / 4 / 2				
	Oil type	Copeland 3MAF 32 cST, Danfoss POE 160 SZ, ICI Emkarate RL 32 CF, Mobil EAL Artic 22 CC							
	Volume of oil (l)	4,7 + 3,3	2 x 4,7	2 x 6,8	4 x 3,3	4 x 3,3	2 x (4,7 + 3,3)	4 x 4,7	
Refrigerant	Type	R-410A							
	Global warming potential (GWP) ⑦	2.088							
	Charge (kg)	24,0	25,0	26,0	37,0	38,0	49,0	50,0	
	Environment impact (tCO ₂ e)	50,1	52,2	54,3	77,3	79,3	102,3	104,4	
Electrical characteristics	Electrical power supply	400 V / III ph / 50 Hz (±10%)							
	Power supply	3 Wires + Ground + Neutral							
Maximum absorbed current	Compressor (A)	67,0	73,0	89,2	101,6	122,0	134,0	146,0	
	Fan (A)	23,2	23,2	26,7	35,6	35,6	46,4	46,4	
	Control (A)	1,8	1,8	1,8	1,8	1,8	1,8	1,8	
	Total (A)	92,0	98,0	117,7	139,0	159,4	182,2	194,2	
Dimensions	Length (mm)	3400			3600		4500		
	Width (mm)	900			1150		1200		
	Height (mm) ⑧	1970			1970		1970		
Weight	Empty (kg)	1046	1122	1211	1461	1472	1949	2101	
	In operation (kg)	1065	1142	1232	1493	1504	1986	2138	

- ① Cooling capacity calculated in accordance with the EN-14511-2013 standard given for outlet water temperature conditions of 7°C and 35°C outdoor temperature.
 ② Heating capacity calculated in accordance with the EN-14511-2013 standard given for outlet water temperature conditions of 45°C and 6°C WB outdoor temperature.
 ③ Total power input by compressor, motorised fan and electronic control under nominal conditions, calculated in accordance with the EN-14511-2013 standard. Options are not included.
 ④ European Seasonal Energy Efficiency Ratio (ESEER) obtained in accordance with the calculation conditions established by the certification body EUROVENT.
 ⑤ Values calculated in accordance with the EN-14825-2013 standard given for bivalent temperature of -5°C in average climate and 2°C in warmer climate.
 ⑥ Energy-efficient motors IE2.
 ⑦ Climatic warming potential of a kilogram of fluorinated greenhouse gas in relation to a kilogram of carbon dioxide over a period of 100 years.
 ⑧ With the transport skids the machine is 120 mm higher.



Water chillers and air/water heat pumps

STD VERSION: TECHNICAL CHARACTERISTICS WITH PUMP INCLUDED LPC / ILPC

CIATCooler LPC / ILPC			90V-STD	100V-STD	120V-STD	160V-STD	180V-STD	200V-STD	240V-STD	280V-STD	320V-STD	360V-STD	
Cooling	Seasonal efficiency ①	ESEER	2,67	2,61	2,89	2,97	2,84	2,73	2,99	2,99	3,29	3,17	
		SCOP	3,24	3,13	3,10	2,95	3,06	2,96	3,10	2,95	2,96	3,02	
Heating	Seasonal efficiency ② Average climate	ηs Heat	126%	122%	121%	115%	119%	115%	121%	115%	115%	118%	
		Prated (kW)	16,83	19,20	21,83	26,21	30,53	38,31	41,45	44,73	51,02	65,65	
		SCOP	3,82	3,60	3,60	3,44	3,57	3,35	3,74	3,56	3,55	3,40	
	Seasonal efficiency ② Warmer climate	ηs Heat	150%	141%	141%	135%	140%	131%	147%	139%	139%	133%	
		Prated (kW)	12,77	14,71	16,72	24,22	27,28	34,73	39,27	42,59	46,95	58,15	
		SCOP	3,1	3,7	4,3	5,7	6,2	7,5	8,5	9,6	11,7	12,8	
Indoor circuit	Nominal water flow (m³/h)	3,1	3,7	4,3	5,7	6,2	7,5	8,5	9,6	11,7	12,8		
	Pressure drop (m.w.c.)	3,1	4,2	3,8	6,2	4,5	4,9	4,1	5,1	3,5	4,3		
Expansion vessel	Volume (l)	12						20					
	Filled pressure (kg/cm²)	1,5											
Buffer tank (LPC / ILPC + module)	Volume of the buffer tank (l)		100			150			225				
	Maximum water capacity of the installation ③	Water 40°C (l) ④	700			650			1100				
		Water 50°C (l) ⑤	410			360			625				
	Drained diameter		3/4" M						1" M				
	Anti-freeze elec. heater (standard)	Voltage	230 V / l ph										
		Output (kW)	1 kW (4,3 A)										
Dimensions	Length (mm) ⑥	LPC / ILPC	1117			1398			2113		2673		
		Module	1000			1000			1000		1000		
	Width (mm)		860			860			860		860		
	Height (mm)		1447			1727			1447		1727		
Weight	LPC / ILPC	Empty (kg)	318	328	390	408	408	586	666	700	736	741	
		In operation (kg)	335	345	410	428	429	622	702	736	774	780	
	Hydraulic module	Empty (kg)	139	139	161	161	161	161	169	169	169	169	
		In operation (kg)	242	242	315	315	315	393	404	404	404	404	

CIATCooler LPC / ILPC			420V-STD	480V-STD	600V-STD	640V-STD	720V-STD	840V-STD	960V-STD		
Cooling	Seasonal efficiency ①	ESEER	3,13	3,07	3,02	3,00	2,87	3,04	2,89		
		SCOP	2,95	3,04	3,09	2,95	2,95	3,10	3,21		
Heating	Seasonal efficiency ② Average climate	ηs Heat	115%	119%	120%	115%	115%	121%	126%		
		Prated (kW)	82,76	90,84	111,30	118,94	137,14	159,98	175,15		
		SCOP	3,29	3,61	3,34	3,42	3,34	3,46	3,68		
	Seasonal efficiency ② Warmer climate	ηs Heat	129%	141%	131%	134%	131%	135%	144%		
		Prated (kW)	70,59	77,41	95,09	102,06	116,45	137,01	148,68		
		SCOP	15,3	16,7	20,5	23,2	26,2	30,5	33,1		
Indoor circuit	Nominal water flow (m³/h)	15,3	16,7	20,5	23,2	26,2	30,5	33,1			
	Pressure drop (m.w.c.)	7,5	8,8	11,1	10,8	13,3	12,9	15,1			
Expansion vessel	Volume (l)	35				50					
	Filled pressure (kg/cm²)	1,5									
Buffer tank (LPC / ILPC + module)	Volume of the buffer tank (l)		275			275		375			
	Maximum water capacity of the installation ③	Water 40°C (l) ④	2050			3035		2985			
		Water 50°C (l) ⑤	1210			1840		1790			
	Drained diameter		1" M								
	Anti-freeze elec. heater (standard)	Voltage	230 V / l ph								
		Output (kW)	1 kW (4,3 A)								
Dimensions	Length (mm) ⑥	LPC / ILPC	3400			3600		4500			
		Module	1000			1000		1000			
	Width (mm)		900			1150		1200			
	Height (mm)		1970			1970		1970			
Weight	LPC / ILPC	Empty (kg)	1107	1183	1272	1512	1523	2038	2189		
		In operation (kg)	1169	1246	1336	1592	1603	2131	2282		
	Hydraulic module	Empty (kg)	202	202	202	241	241	263	263		
		In operation (kg)	486	486	486	544	544	668	668		

① European Seasonal Energy Efficiency Ratio (ESEER) obtained in accordance with the calculation conditions established by the certification body EUROVENT.
 ② Values calculated in accordance with the EN-14825-2013 standard given for bivalent temperature of -5°C in average climate and 2°C in warmer climate.
 ③ The water capacity for the installation indicated in this table corresponds to the maximum that the installation allows based on the expansion vessel assembled on the unit. The volume of the buffer tank has been taken into account for this section. In case the capacity of the installation is greater, it is necessary to add a supplementary expansion vessel to the installation based on its volume.
 ④ This temperature corresponds to the temperature that the circuit may reach when the unit is stopped. This case must be considered for cooling-only units.
 ⑤ This temperature corresponds to the maximum temperature that the circuit may reach when operating in a heat pump.
 ⑥ Minimum distance between the unit and the separate hydraulic module: 167 mm.



Water chillers and air/water heat pumps



HEE VERSION: TECHNICAL CHARACTERISTICS

CIATCooler LP

CIATCooler LP / ILP		90V-HEE	100V-HEE	120V-HEE	160V-HEE	180V-HEE	200V-HEE	240V-HEE	280V-HEE	
Cooling capacities	Net cooling capacity ① (kW)	18,40	21,00	25,50	31,40	35,70	42,30	52,30	58,10	
	Net power input ③ (kW)	7,20	7,95	9,10	11,50	13,60	15,50	18,20	21,20	
	Net efficiency	EER	2,55	2,64	2,81	2,74	2,62	2,73	2,87	2,74
	Seasonal efficiency	ESEER ④	2,89	2,99	3,20	3,14	3,03	3,38	3,44	3,16
Heating capacities	Net heating capacity ② (kW)	21,40	23,90	29,30	36,40	42,50	48,60	56,60	65,00	
	Net power input ③ (kW)	7,10	7,90	9,50	11,90	13,90	15,80	18,80	21,60	
	Net efficiency	COP	3,03	3,03	3,08	3,05	3,05	3,08	3,01	3,01
	Seasonal efficiency ⑤ Average climate	SCOP	2,98	2,95	3,29	3,18	3,09	3,31	3,20	2,95
		η _s Heat	116%	115%	129%	124%	121%	129%	125%	115%
	Seasonal efficiency ⑤ Warmer climate	Prated (kW)	15,92	17,74	21,94	26,77	30,87	34,82	45,34	50,85
		SCOP	3,41	3,58	3,82	3,67	3,65	3,78	3,70	3,37
		η _s Heat	134%	140%	150%	144%	143%	148%	145%	132%
Outdoor circuit plug-fan	Nominal air flow (m³/h)	6500	7000	10000	12200	14000	16000	20000	24400	
	Nominal avail. static pressure (mm.w.c.)	20								
	Maximum avail. static pressure (mm.w.c.)	63,7	70,3	45,6	65,1	62,7	61,0	45,6	57,3	
	Number / diameter	1 / 500		1 / 560		2 / 560				
	Motor output (kW)	2,7	2,8	3,0	2 x 3,0				2 x 4,7	
	Power input (kW) ⑥	1,33	1,21	1,87	2,20	2,52	2,70	3,88	5,28	
	Speed (r.p.m.)	1700	1780	1500	1500				1750	
Indoor circuit	Nominal water flow (m³/h)	3,2	3,7	4,5	5,4	6,2	7,4	9,3	10,2	
	Pressure drop (m.w.c.)	1,6	2,1	1,6	2,4	3,1	2,5	1,4	1,6	
	Minimum water flow (m³/h)	2,8	2,9	3,8	4,1	4,6	5,7	6,7	7,5	
	Maximum water flow (m³/h)	6,6	7,4	9,1	11,3	12,8	15,0	18,4	20,7	
	Type of hydraulic connections	Gas threaded								
	Diameter of connections	1 1/4" M		1 1/2" M			2" M			
Compressor	Type	Scroll								
	No. of compressors / stages / circuits	1 / 1 / 1					2 / 2 / 1			
	Oil type	Copeland 3MAF 32 cST, Danfoss POE 160 SZ, ICI Emkarate RL 32 CF, Mobil EAL Artic 22 CC								
	Volume of oil (l)	3,0	3,3	3,3	3,3	6,2	2 x 3,3	2 x 3,3	2 x 3,3	
Refrigerant	Type	R-410A								
	Global warming potential (GWP) ⑦	2.088								
	Charge (kg)	6,0	6,3	6,8	8,9	9,2	12,4	14,4	14,8	
	Environment impact (tCO ₂ e)	12,5	13,2	14,2	18,6	19,2	25,9	30,1	30,9	
Electrical characteristics	Electrical power supply	400 V / III ph / 50 Hz (±10%)								
	Power supply	3 Wires + Ground + Neutral								
Maximum absorbed current	Compressor (A)	15,2	17,3	20,5	25,4	30,5	34,6	41,0	45,9	
	Fan (A)	4,2	4,3	4,6	9,2	9,2	9,2	9,2	14,6	
	Control (A)	0,9	0,9	0,9	0,9	0,9	1,8	1,8	1,8	
	Total (A)	20,3	22,5	26,0	35,5	40,6	45,6	52,0	62,3	
Dimensions	Length (mm)	1117	1398		2113		2673			
	Width (mm)	860	860		860		860			
	Height (mm) ⑧	1447	1727		1447		1727			
Weight	Empty (kg)	294	351	368	450	455	633	656	662	
	In operation (kg)	298	358	376	465	468	648	674	680	

- ① Cooling capacity calculated in accordance with the EN-14511-2013 standard given for outlet water temperature conditions of 7°C and 35°C outdoor temperature.
- ② Heating capacity calculated in accordance with the EN-14511-2013 standard given for outlet water temperature conditions of 45°C and 6°C WB outdoor temperature.
- ③ Total power input by compressor, motorised fan and electronic control under nominal conditions, calculated in accordance with the EN-14511-2013 standard. Options are not included.
- ④ European Seasonal Energy Efficiency Ratio (ESEER) obtained in accordance with the calculation conditions established by the certification body EUROVENT.
- ⑤ Values calculated in accordance with the EN-14825-2013 standard given for bivalente temperature of -5°C in average climate and 2°C in warmer climate.
- ⑥ Motors that are more energy efficient than what is established by the ErP 2015 standard.
- ⑦ Climatic warming potential of a kilogram of fluorinated greenhouse gas in relation to a kilogram of carbon dioxide over a period of 100 years.
- ⑧ With the transport brackets the machine is 106 mm higher.

HEE VERSION: TECHNICAL CHARACTERISTICS



CIATCooler LP / ILP		320V- HEE	360V- HEE	420V- HEE	480V- HEE	600V- HEE	640V- HEE	720V- HEE	
Cooling capacities	Net cooling capacity ① (kW)	67,50	76,80	89,90	99,20	122,70	134,50	154,10	
	Net power input ③ (kW)	24,10	28,20	31,90	36,40	46,10	48,50	56,70	
	Net efficiency	EER	2,81	2,72	2,82	2,73	2,66	2,77	2,72
	Seasonal efficiency	ESEER ④	3,41	3,38	3,55	3,48	3,37	3,37	3,34
Heating capacities	Net heating capacity ② (kW)	75,40	86,30	99,60	109,30	133,60	150,80	172,00	
	Net power input ③ (kW)	24,50	28,50	32,10	36,00	44,80	48,50	55,70	
	Net efficiency	COP	3,08	3,03	3,11	3,03	2,98	3,11	3,09
	Seasonal efficiency ⑤ Average climate	SCOP	3,31	3,10	3,23	3,17	3,13	3,18	3,30
		ηs Heat	129%	121%	126%	124%	122%	124%	129%
	Seasonal efficiency ⑤ Warmer climate	Prated (kW)	61,19	62,56	71,89	91,68	96,42	108,74	124,22
		SCOP	3,77	3,65	3,83	3,79	3,69	3,67	3,79
		ηs Heat	148%	143%	150%	149%	145%	144%	149%
Prated (kW)	46,83	51,58	59,40	71,82	78,98	89,89	102,42		
Outdoor circuit plug-fan	Nominal air flow (m³/h)	24400	24400	30000	30000	34000	48000	48000	
	Nominal avail. static pressure (mm.w.c.)	20							
	Maximum avail. static pressure (mm.w.c.)	66,9	66,9	60,9	60,6	64,4	62,9	62,9	
	Number / diameter	2 / 560		3 / 560			4 / 560		
	Motor output (kW)	2 x 4,7		3 x 3,0		3 x 4,7	4 x 4,7		
	Power input (kW) ⑥	4,78	4,78	5,37	5,37	6,72	10,08	10,08	
	Speed (r.p.m.)	1750		1500		1750	1750		
Indoor circuit	Nominal water flow (m³/h)	11,7	13,3	15,6	17,2	21,0	23,2	26,5	
	Pressure drop (m.w.c.)	2,7	3,4	4,2	4,9	5,9	3,0	3,9	
	Minimum water flow (m³/h)	9,1	10,7	12,2	13,5	17,4	18,1	21,2	
	Maximum water flow (m³/h)	23,6	26,8	31,7	34,9	42,8	47,5	54,3	
	Type of hydraulic connections	Gas threaded							
	Diameter of connections	2 1/2" F							
Compressor	Type	Scroll							
	No. of compressors / stages / circuits	2 / 2 / 1					4 / 4 / 2		
	Oil type	Copeland 3MAF 32 cST, Danfoss POE 160 SZ, ICI Emkarate RL 32 CF, Mobil EAL Artic 22 CC							
	Volume of oil (l)	2 x 3,3	2 x 3,3	4,7 + 3,3	2 x 4,7	2 x 6,8	4 x 3,3	4 x 3,3	
Refrigerant	Type	R-410A							
	Global warming potential (GWP) ⑦	2.088							
	Charge (kg)	24,0	24,0	36,0	36,0	37,0	48,0	49,0	
	Environment impact (tCO ₂ e)	50,1	50,1	75,2	75,2	77,3	100,2	102,3	
Electrical characteristics	Electrical power supply	400 V / III ph / 50 Hz (±10%)							
	Power supply	3 Wires + Ground + Neutral							
Maximum absorbed current	Compressor (A)	50,8	61,0	67,0	73,0	89,2	101,6	122,0	
	Fan (A)	14,6	14,6	13,8	13,8	21,9	29,2	29,2	
	Control (A)	1,8	1,8	1,8	1,8	1,8	1,8	1,8	
	Total (A)	67,2	77,4	82,6	88,6	112,9	132,6	153,0	
Dimensions	Length (mm)	3400		3600			4500		
	Width (mm)	900		1150			1200		
	Height (mm) ⑧	1970		1970			1970		
Weight	Empty (kg)	942	948	1263	1339	1420	1713	1724	
	In operation (kg)	961	966	1285	1361	1444	1749	1761	

- ① Cooling capacity calculated in accordance with the EN-14511-2013 standard given for outlet water temperature conditions of 7°C and 35°C outdoor temperature.
 ② Heating capacity calculated in accordance with the EN-14511-2013 standard given for outlet water temperature conditions of 45°C and 6°C WB outdoor temperature.
 ③ Total power input by compressor, motorised fan and electronic control under nominal conditions, calculated in accordance with the EN-14511-2013 standard. Options are not included.
 ④ European Seasonal Energy Efficiency Ratio (ESEER) obtained in accordance with the calculation conditions established by the certification body EUROVENT.
 ⑤ Values calculated in accordance with the EN-14825-2013 standard given for bivalente temperature of -5°C in average climate and 2°C in warmer climate.
 ⑥ Motors that are more energy efficient than what is established by the ErP 2015 standard.
 ⑦ Climatic warming potential of a kilogram of fluorinated greenhouse gas in relation to a kilogram of carbon dioxide over a period of 100 years.
 ⑧ With the transpor skids the machine is 120 mm higher.



Water chillers and air/water heat pumps

HEE VERSION: TECHNICAL CHARACTERISTICS WITH PUMP INCLUDED LPC / ILPC

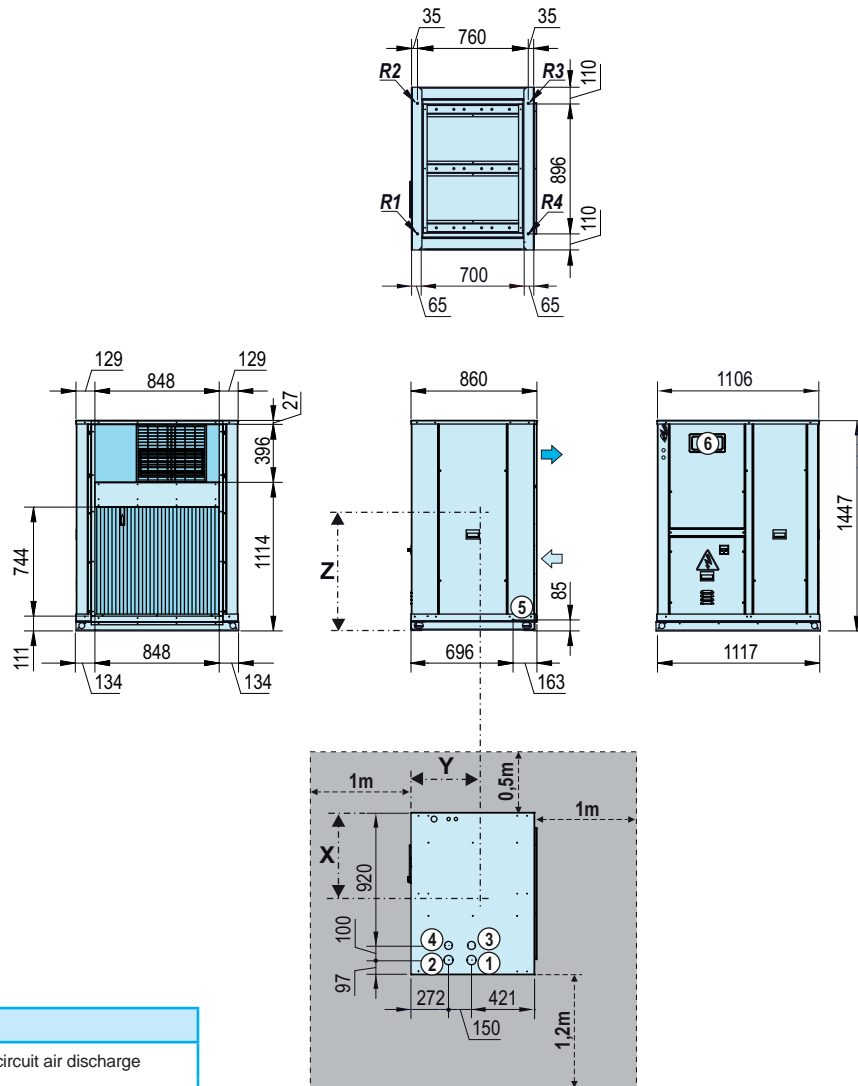
CIATCooler LPC / ILPC			90V-HEE	100V-HEE	120V-HEE	160V-HEE	180V-HEE	200V-HEE	240V-HEE	280V-HEE
Cooling	Seasonal efficiency ①	ESEER	2,95	3,00	3,22	3,17	3,02	3,39	3,44	3,15
	Heating	Seasonal efficiency ② Average climate	SCOP	3,12	2,95	3,33	3,20	3,08	3,34	3,24
ηs Heat			122%	115%	130%	125%	120%	131%	126%	120%
Prated (kW)			15,75	17,51	21,70	26,39	30,36	34,52	45,31	52,33
Seasonal efficiency ② Warmer climate		SCOP	3,64	3,56	3,77	3,67	3,60	3,77	3,76	3,54
	ηs Heat	143%	139%	148%	144%	141%	148%	147%	139%	
Indoor circuit	Prated (kW)		13,12	14,69	18,05	22,40	25,83	29,71	34,73	38,82
	Nominal water flow (m³/h)		3,2	3,7	4,5	5,4	6,2	7,4	9,3	10,2
Pressure drop (m.w.c.)		2,3		3,1	2,5	3,5	4,6	3,1	2,2	2,6
Expansion vessel	Volume (l)		12					20		
	Filled pressure (kg/cm²)		1,5							
Buffer tank (LPC / ILPC + module)	Volume of the buffer tank (l)		100			150		225		
	Maximum water capacity of the installation ③	Water 40°C (l) ④	700			650		1100		
		Water 50°C (l) ⑤	410			360		625		
	Drained diameter		3/4" M					1" M		
	Anti-freeze elec. heater (standard)	Voltage	230 V / 1 ph							
	Output (kW)	1 (4,3A)								
Dimensions	Length (mm) ⑥	LPC / ILPC	1117	1398	2113		2673			
		Module	1000	1000	1000		1000			
	Width (mm)		860	860	860		860			
	Height (mm)		1447	1727	1447		1727			
Weight	LPC / ILPC	Empty (kg)	310	370	386	469	476	654	678	686
		In operation (kg)	327	390	408	497	503	690	717	724
	Hydraulic module	Empty (kg)	138	151	161	154	154	169	169	169
		In operation (kg)	242	256	315	307	310	404	404	404

CIATCooler LPC / ILPC			320V-HEE	360V-HEE	420V-HEE	480V-HEE	600V-HEE	640V-HEE	720V-HEE	
Cooling	Seasonal efficiency ①	ESEER	3,19	3,20	3,40	3,30	3,24	3,30	3,27	
	Heating	Seasonal efficiency ② Average climate	SCOP	3,19	3,09	2,96	3,36	3,24	3,11	3,05
ηs Heat			124%	120%	115%	132%	126%	121%	119%	
Prated (kW)			55,66	63,89	74,33	97,30	99,47	112,13	128,57	
Seasonal efficiency ② Warmer climate		SCOP	3,73	3,54	3,54	3,35	3,35	3,62	3,67	
	ηs Heat	146%	139%	139%	131%	131%	142%	144%		
Indoor circuit	Prated (kW)		46,66	51,61	60,07	73,24	80,05	91,09	103,23	
	Nominal water flow (m³/h)		11,7	13,3	15,6	17,2	21,0	23,2	26,5	
Pressure drop (m.w.c.)		5,0		6,2	9,3	11,3	11,4	10,3	13,6	
Expansion vessel	Volume (l)		35			50				
	Filled pressure (kg/cm²)		1,5							
Buffer tank (LPC / ILPC + module)	Volume of the buffer tank (l)		225			275				
	Maximum water capacity of the installation ③	Water 40°C (l) ④	2100			3035				
		Water 50°C (l) ⑤	1260			1840				
	Drained diameter		1" M							
	Anti-freeze elec. heater (standard)	Voltage	230 V / 1 ph							
	Output (kW)	1 kW (4,3 A)								
Dimensions	Length (mm) ⑥	LPC / ILPC	3400			3600		4500		
		Module	1000			1000		1000		
	Width (mm)		900			1150		1200		
	Height (mm)		1970			1970		1970		
Weight	LPC / ILPC	Empty (kg)	979	985	1324	1400	1481	1782	1793	
		In operation (kg)	1028	1034	1391	1467	1550	1863	1875	
	Hydraulic module	Empty (kg)	193	193	225	225	225	236	236	
		In operation (kg)	424	424	508	508	508	523	523	

① European Seasonal Energy Efficiency Ratio (ESEER) obtained in accordance with the calculation conditions established by the certification body EUROVENT.
 ② Values calculated in accordance with the EN-14825-2013 standard given for bivalente temperature of -5°C in average climate and 2°C in warmer climate.
 ③ The water capacity for the installation indicated in this table corresponds to the maximum that the installation allows based on the expansion vessel assembled on the unit. The volume of the buffer tank has been taken into account for this section. In case the capacity of the installation is greater, it is necessary to add a supplementary expansion vessel to the installation based on its volume.
 ④ This temperature corresponds to the temperature that the circuit may reach when the unit is stopped. This case must be considered for cooling-only units.
 ⑤ This temperature corresponds to the maximum temperature that the circuit may reach when operating in a heat pump.
 ⑥ Minimum distance between the unit and the separate hydraulic module: 167mm. In models 640 and 720: 187mm.

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 90V-STD / 100V-STD HORIZONTAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

Anti-vibration anchoring: rivet nut M10

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

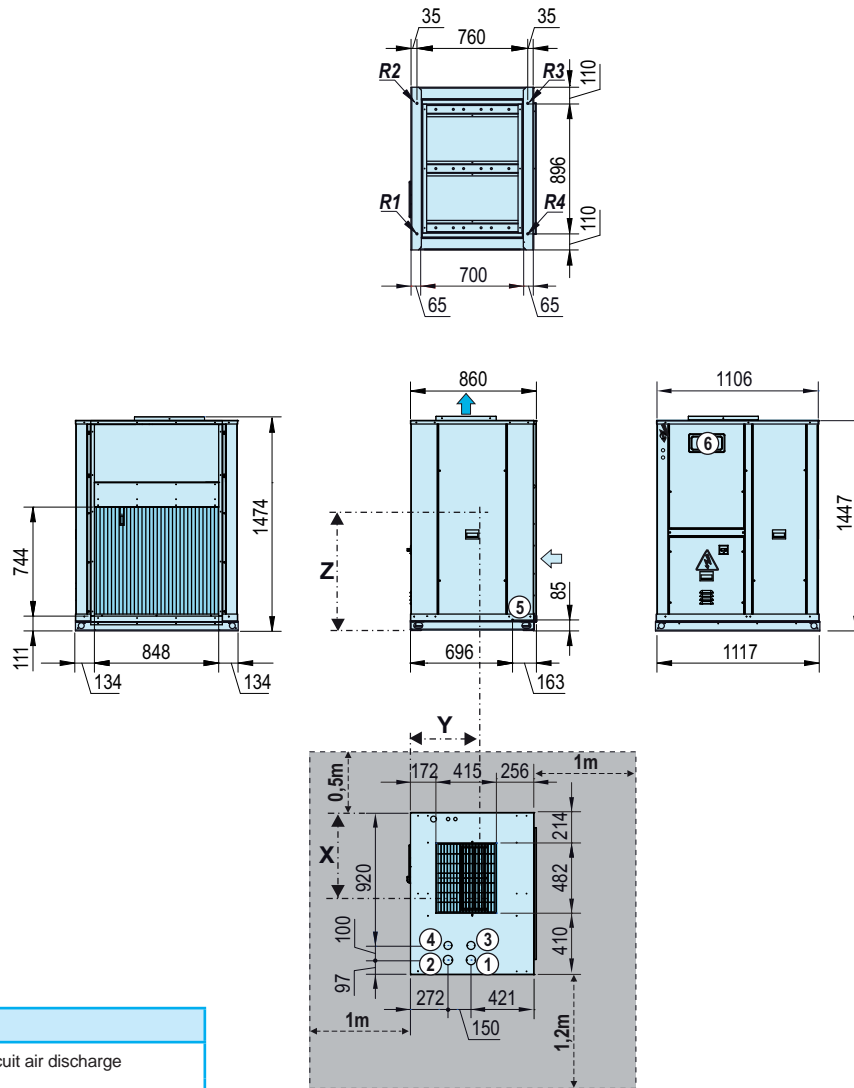
CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP	90V-STD	453	384	528	306	66	101	87	52
	ILP	100V-STD	488	398	576	315	69	93	84
LPC	90V-STD	517	396	577	335	81	97	86	71
	ILPC	100V-STD	515	402	574	345	82	99	90



Water chillers and air/water heat pumps

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 90V-STD / 100V-STD VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

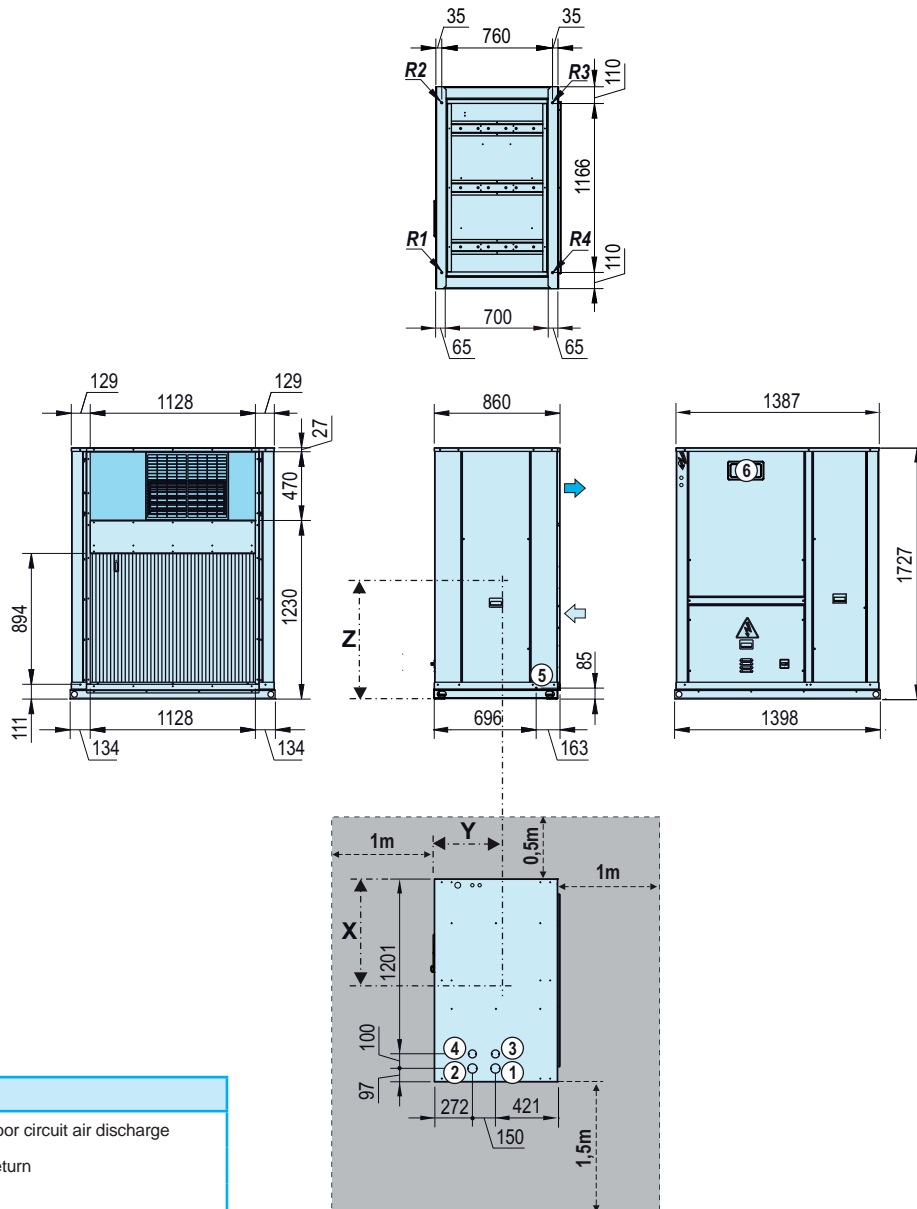
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP ILP	90V-STD	453	384	528	306	66	101	87	52
	100V-STD	488	398	576	315	69	93	84	60
LPC ILPC	90V-STD	517	396	577	335	81	97	86	71
	100V-STD	515	402	574	345	82	99	90	73

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 120V-STD / 160V-STD / 180V-STD HORIZONTAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

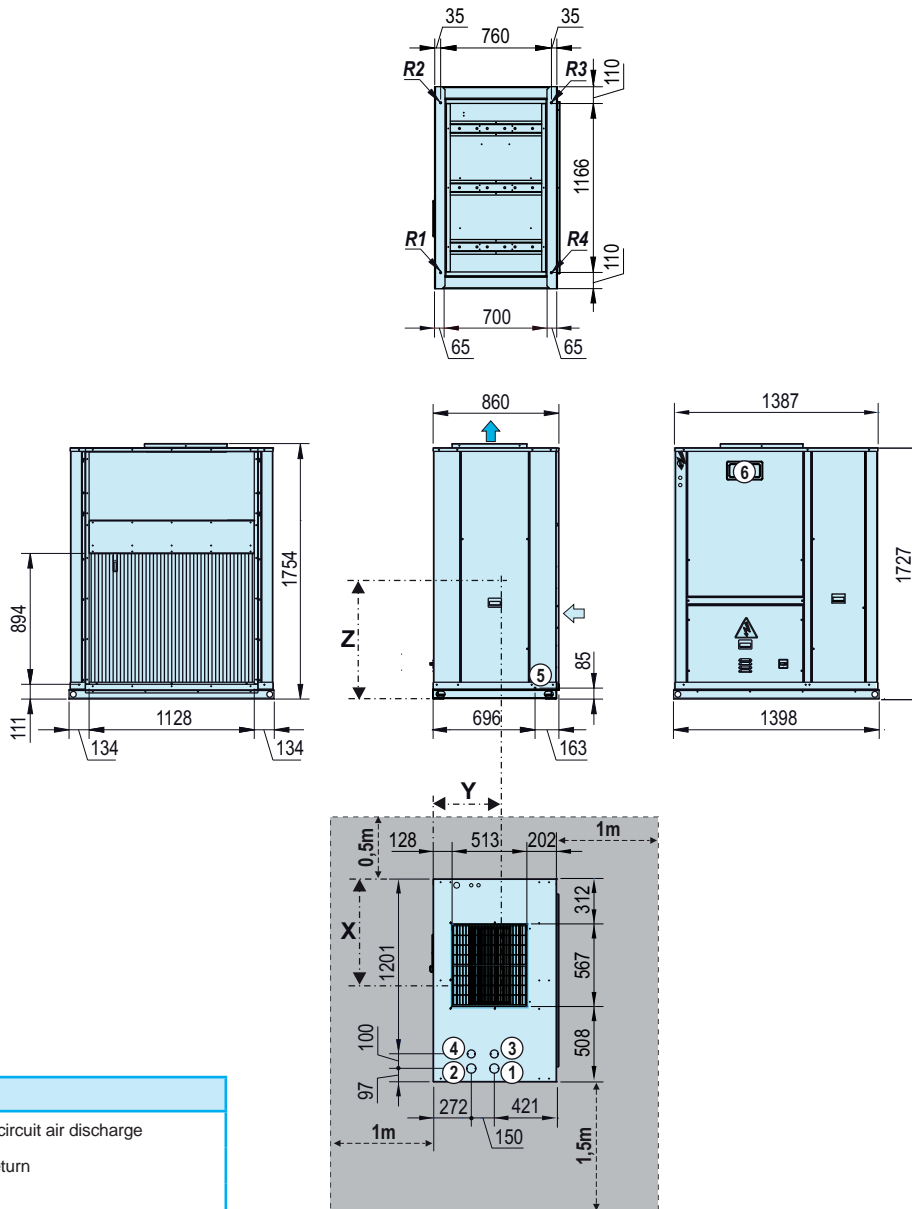
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP ILP	120V-STD	625	399	676	379	89	112	101	77
	160V-STD	619	400	666	397	92	119	107	79
	180V-STD	625	397	674	396	93	119	105	79
LPC ILPC	120V-STD	645	402	673	410	99	117	107	87
	160V-STD	639	402	663	428	102	124	113	90
	180V-STD	646	400	669	429	104	123	111	91

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 120V-STD / 160V-STD / 180V-STD vertical DISCHARGE, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

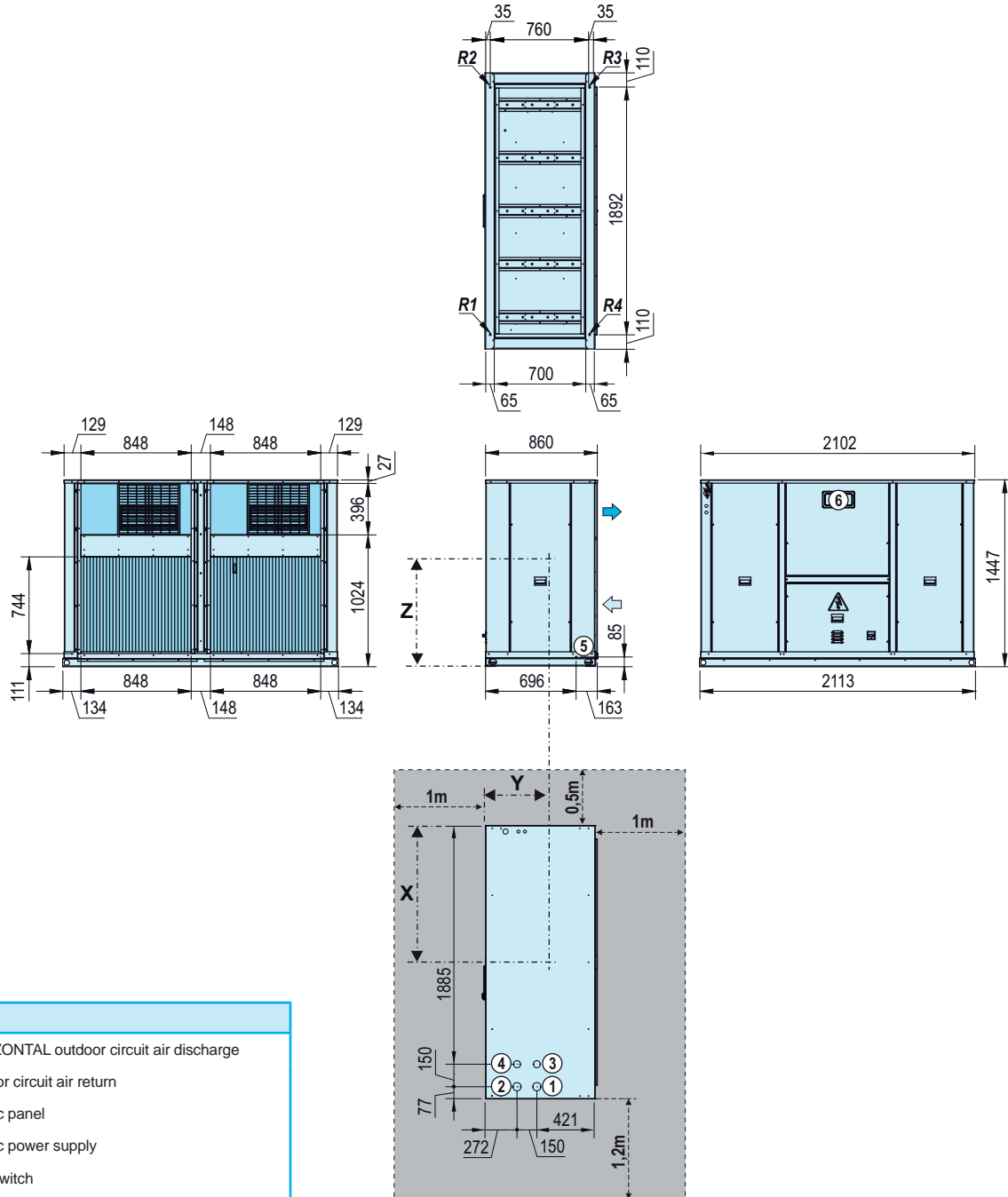
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP ILP	120V-STD	625	399	676	379	89	112	101	77
	160V-STD	619	400	666	397	92	119	107	79
	180V-STD	625	397	674	396	93	119	105	79
LPC ILPC	120V-STD	645	402	673	410	99	117	107	87
	160V-STD	639	402	663	428	102	124	113	90
	180V-STD	646	400	669	429	104	123	111	91

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 200V-STD VERTICAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

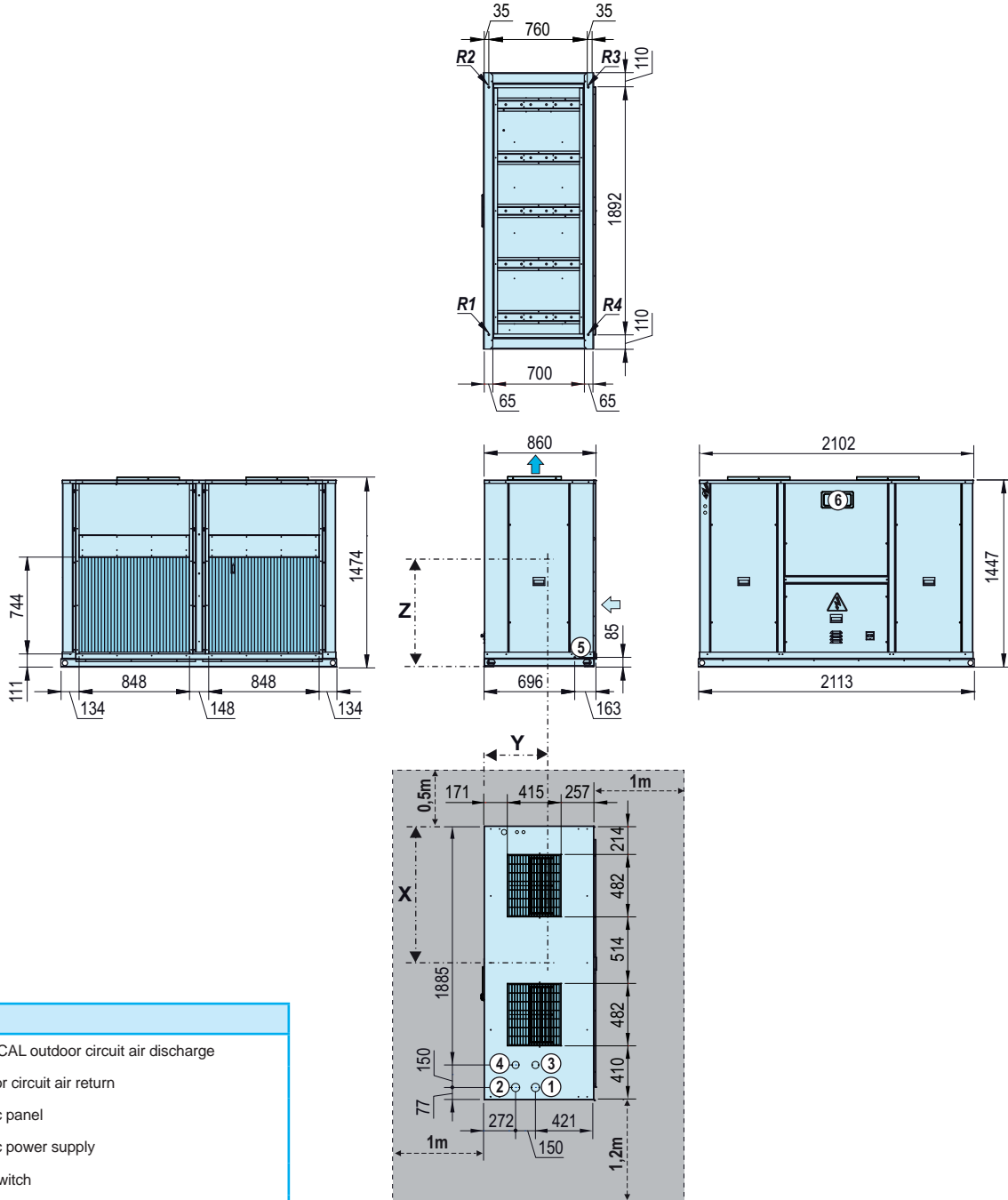
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP / ILP	200V-STD	930	427	575	579	121	162	166	127
LPC / ILPC	200V-STD	969	430	576	622	137	167	174	144

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 200V-STD HORIZONTAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

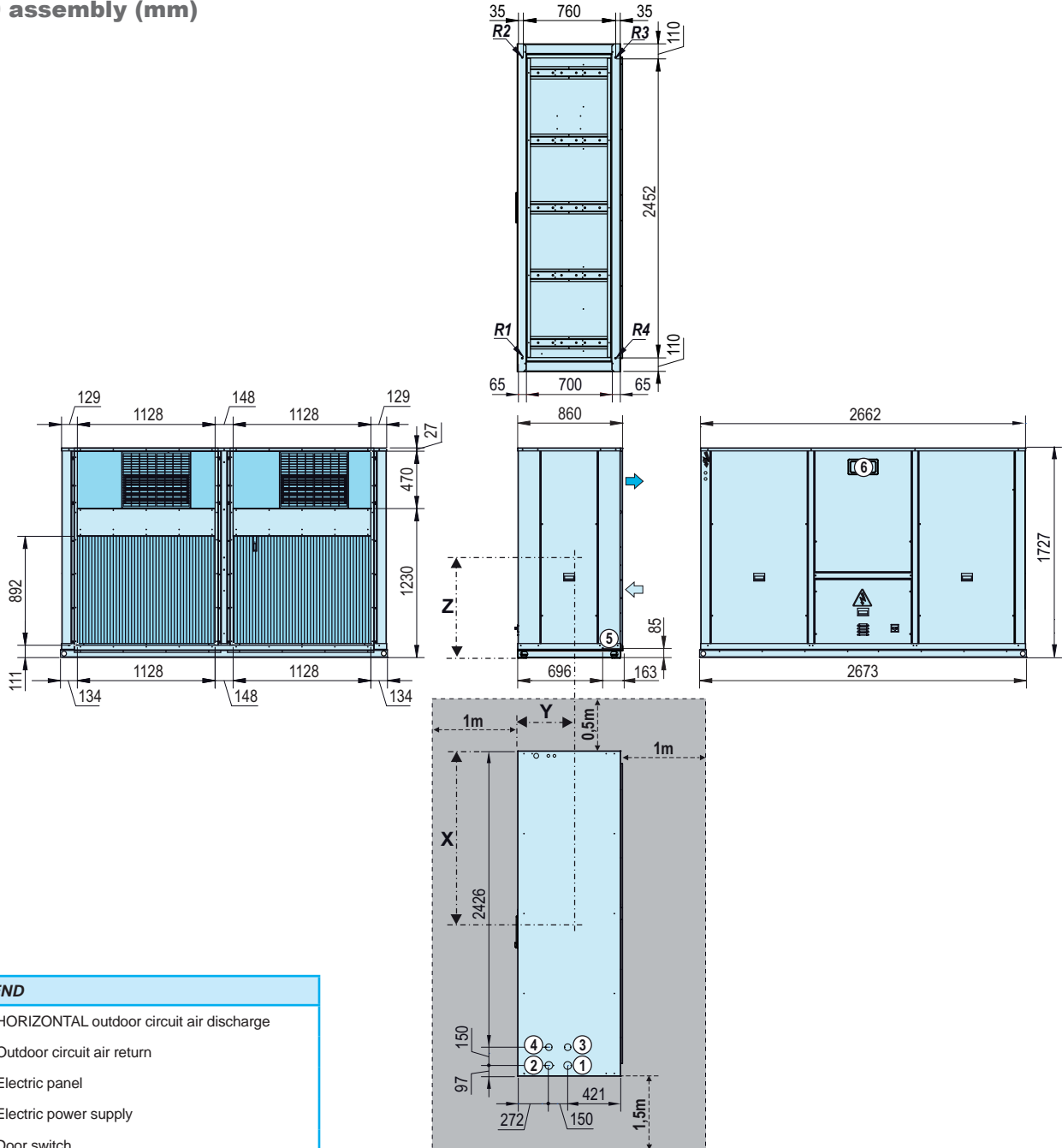
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP / ILP	200V-STD	930	427	575	579	121	162	166	127
LPC / ILPC	200V-STD	969	430	576	622	137	167	174	144

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 240V-STD / 280V-STD / 320V-STD / 360V-STD HORIZONTAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

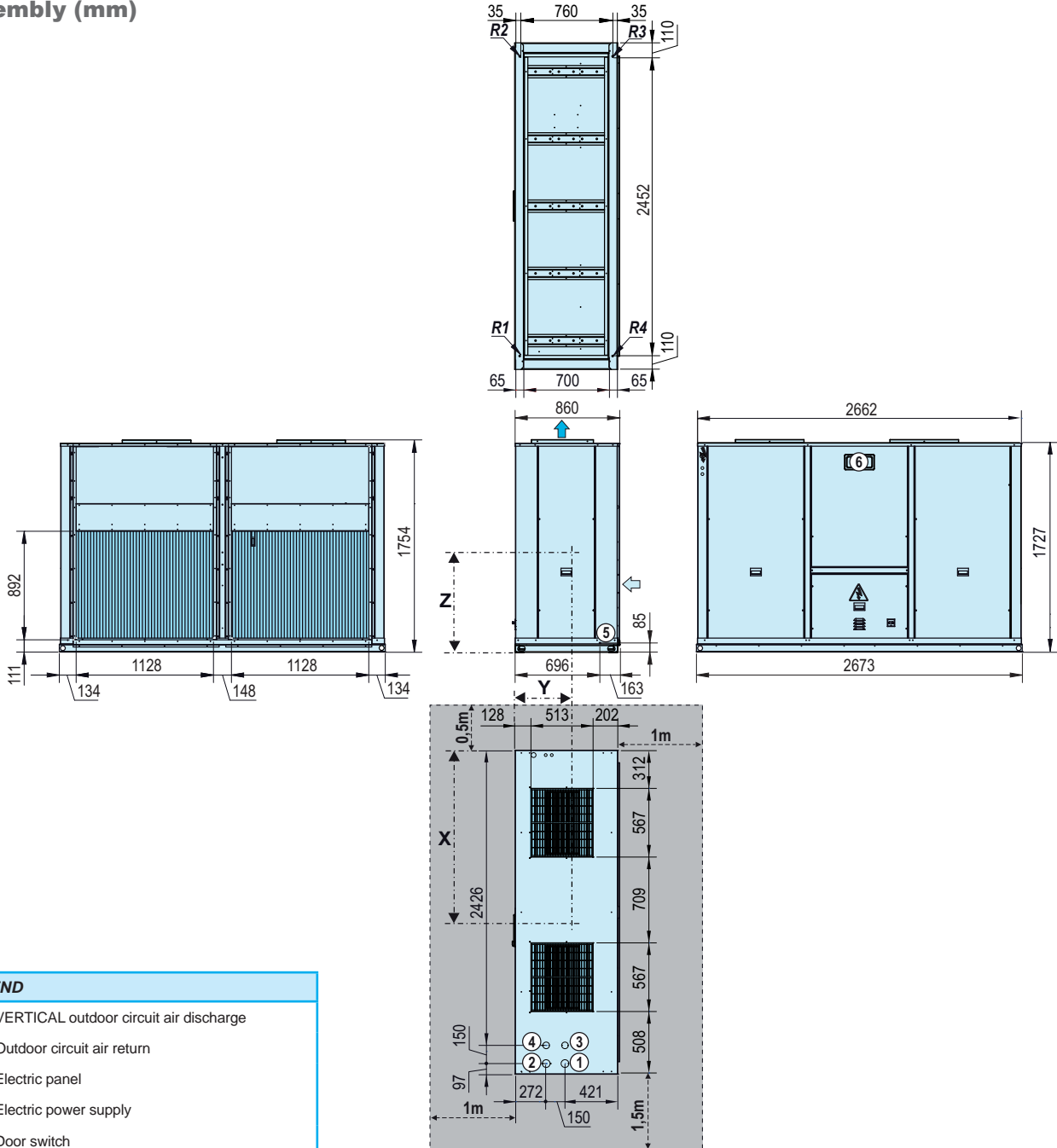
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP ILP	240V-STD	1162	424	680	659	140	187	190	142
	280V-STD	1162	423	680	692	147	197	199	149
	320V-STD	1189	420	665	728	160	205	204	159
	360V-STD	1184	420	672	733	161	207	206	159
LPC ILPC	240V-STD	1199	425	680	702	154	194	197	157
	280V-STD	1199	425	677	736	161	203	207	165
	320V-STD	1225	422	664	774	175	211	212	176
	360V-STD	1220	422	670	780	176	214	214	176

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 240V-STD / 280V-STD / 320V-STD / 360V-STD VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ① ② protrude 58 mm

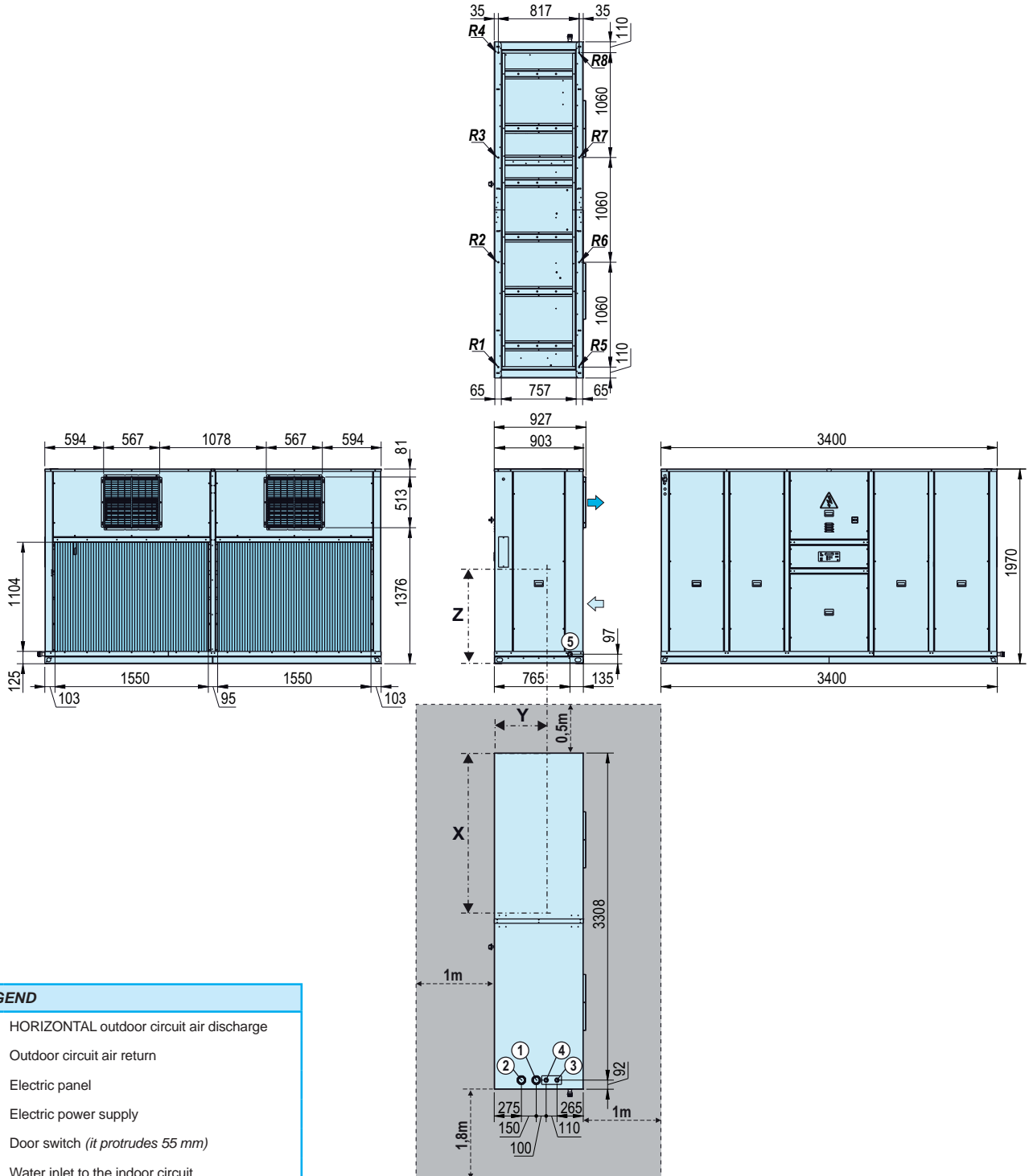
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP ILP	240V-STD	1162	424	680	659	140	187	190	142
	280V-STD	1162	423	680	692	147	197	199	149
	320V-STD	1189	420	665	728	160	205	204	159
	360V-STD	1184	420	672	733	161	207	206	159
LPC ILPC	240V-STD	1199	425	680	702	154	194	197	157
	280V-STD	1199	425	677	736	161	203	207	165
	320V-STD	1225	422	664	774	175	211	212	176
	360V-STD	1220	422	670	780	176	214	214	176

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 420V-STD / 480V-STD HORIZONTAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch (it protrudes 55 mm)
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 1 1/4" M

Anti-vibration anchoring: rivet nut M10

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

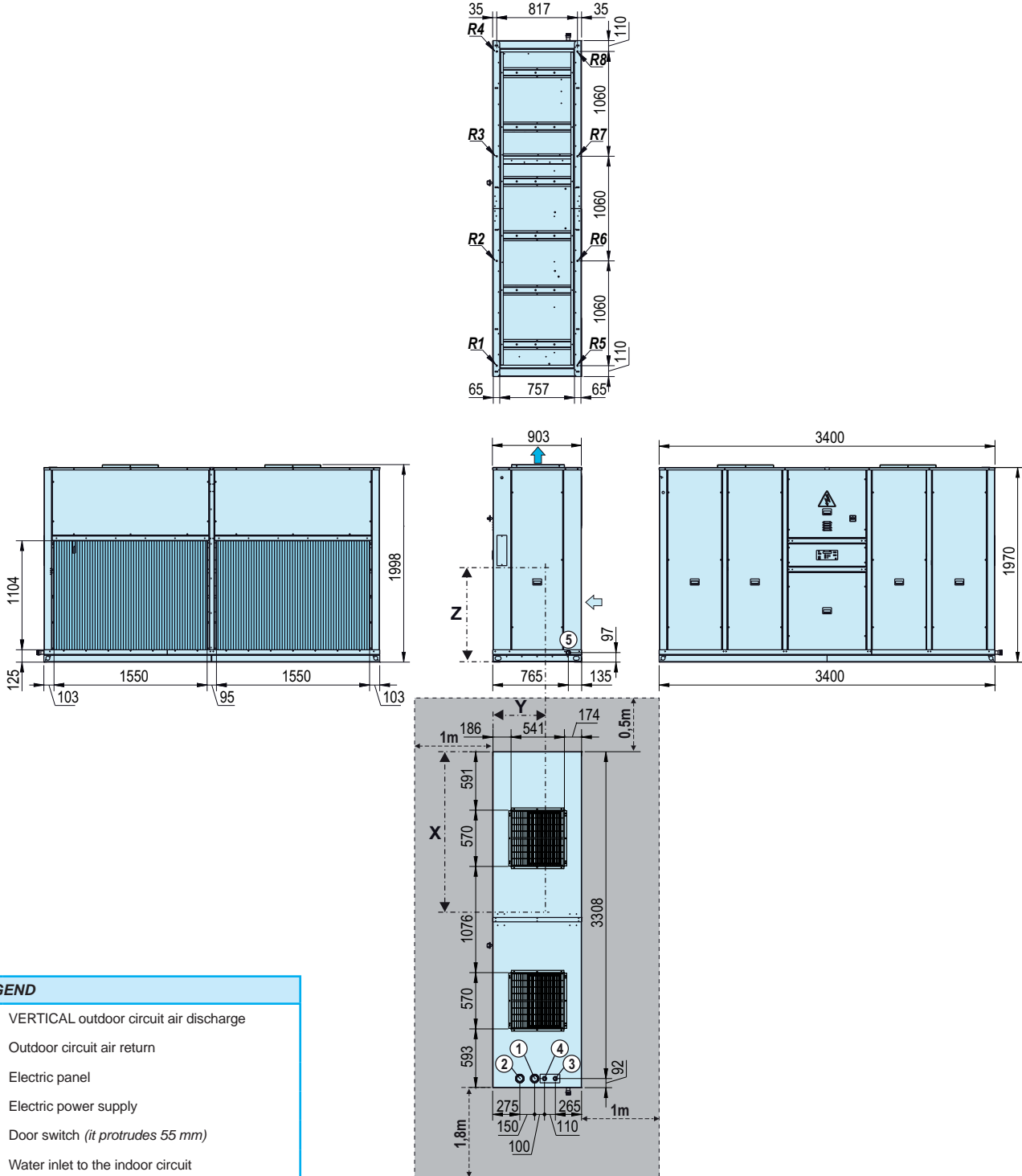
CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)								
		X	Y	Z	Weight	R1	R2	R3	R4	R5	R6	R7	R8
LP ILP	420V-STD	1556	424	765	1065	127	197	149	95	110	180	131	77
	480V-STD	1488	412	754	1142	148	227	151	97	121	201	125	71
LPC ILPC	420V-STD	1630	415	741	1169	133	205	180	116	108	181	155	91
	480V-STD	1562	405	734	1246	155	236	182	119	120	202	148	84



Water chillers and air/water heat pumps

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 420V-STD / 480V-STD VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch (it protrudes 55 mm)
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 1 1/4" M

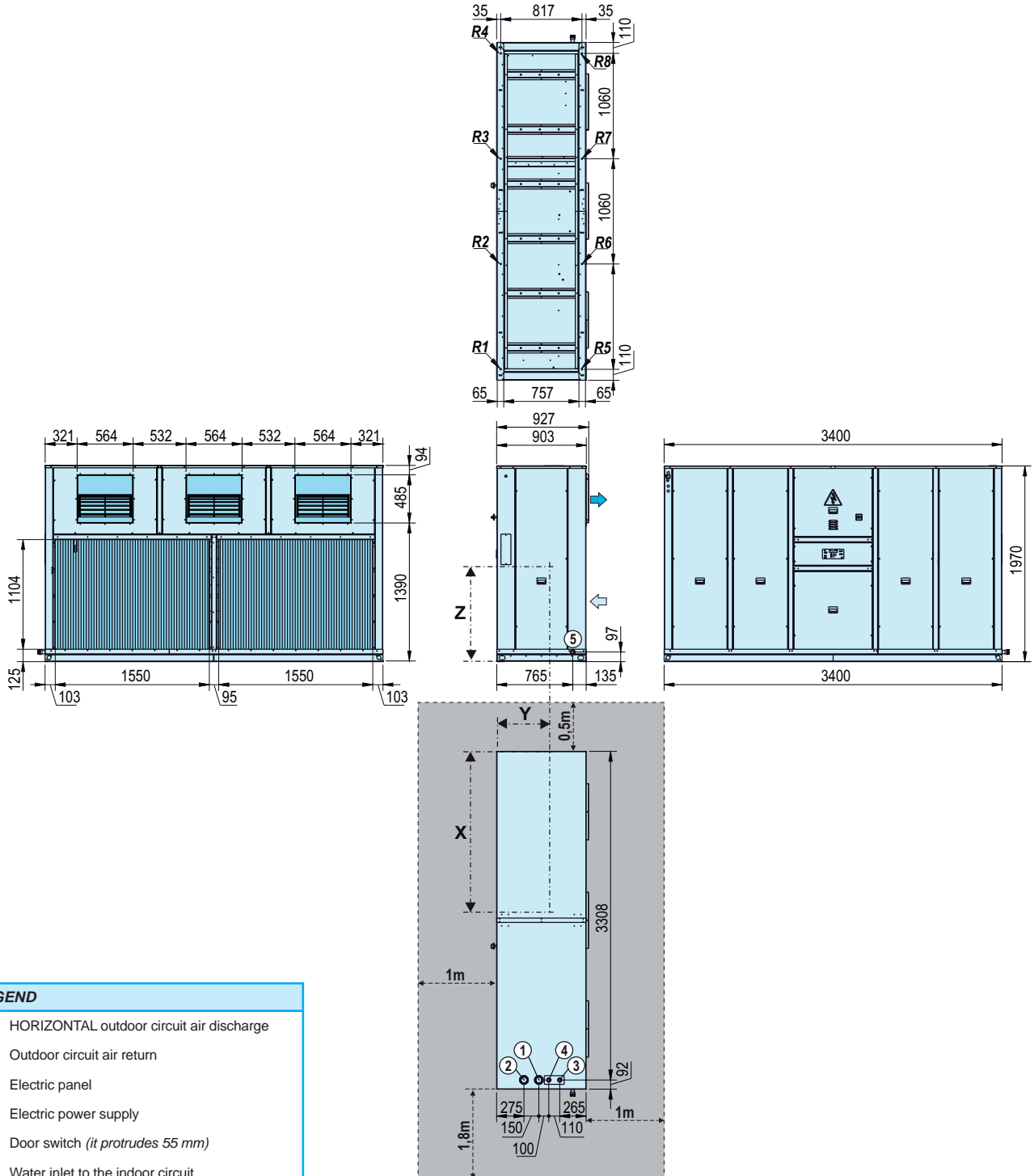
Anti-vibration anchoring: rivet nut M10

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

CIATCooler	Centre of gravity coordinates (mm)	Reactions in the supports (kg)											
		X	Y	Z	Weight	R1	R2	R3	R4	R5	R6	R7	R8
LP	420V-STD	1556	424	765	1065	127	197	149	95	110	180	131	77
ILP	480V-STD	1488	412	754	1142	148	227	151	97	121	201	125	71
LPC	420V-STD	1630	415	741	1169	133	205	180	116	108	181	155	91
ILPC	480V-STD	1562	405	734	1246	155	236	182	119	120	202	148	84

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 600V-STD HORIZONTAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch (it protrudes 55 mm)
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 1 1/4" M

Anti-vibration anchoring: rivet nut M10

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

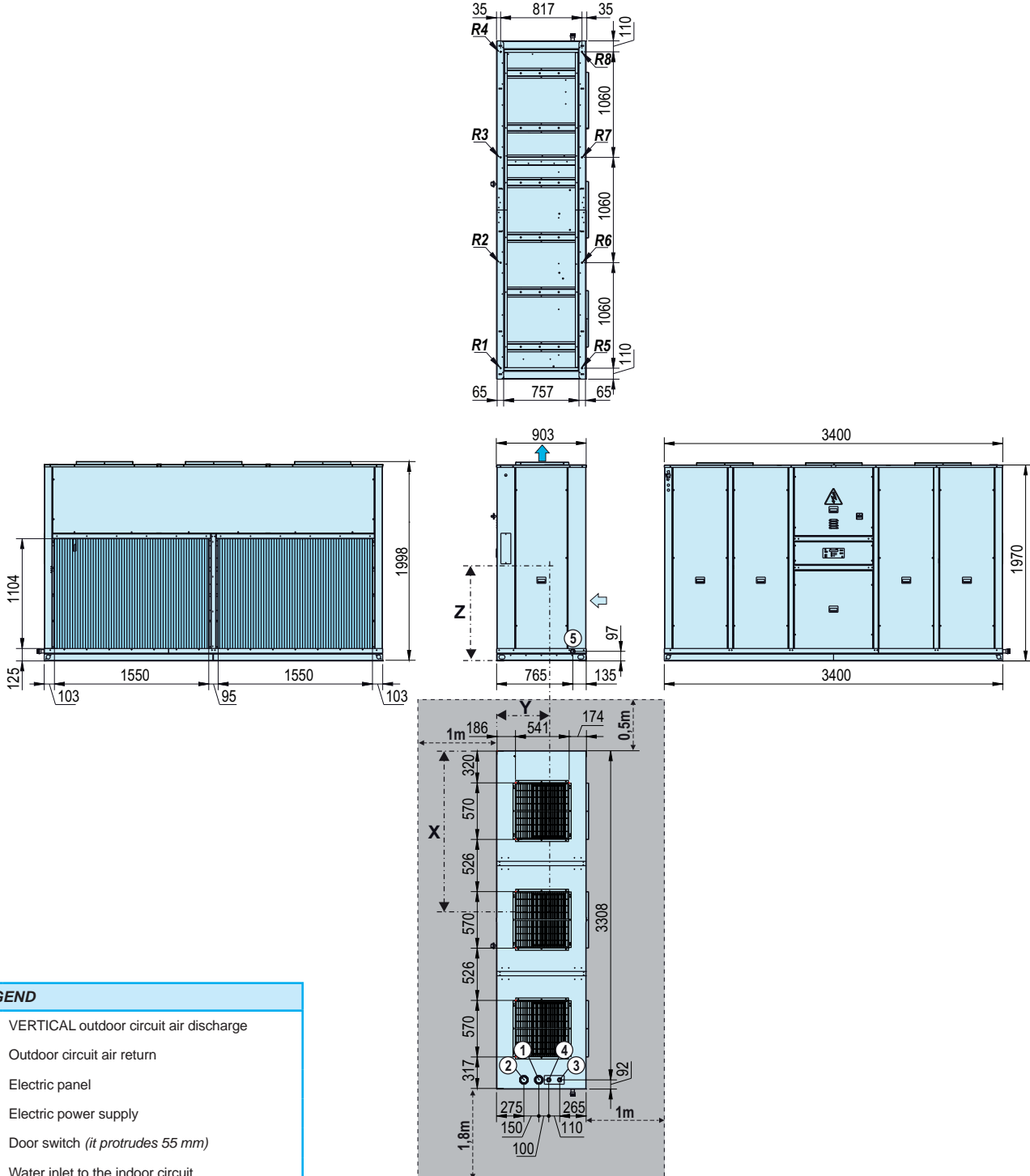
CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)								
		X	Y	Z	Weight	R1	R2	R3	R4	R5	R6	R7	R8
LP / ILP	600V-STD	1452	394	782	1232	172	263	163	105	128	219	120	62
LPC / ILPC	600V-STD	1521	389	762	1336	178	272	194	127	127	220	142	75



Water chillers and air/water heat pumps

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 600V-STD VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch (it protrudes 55 mm)
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 1 1/4" M

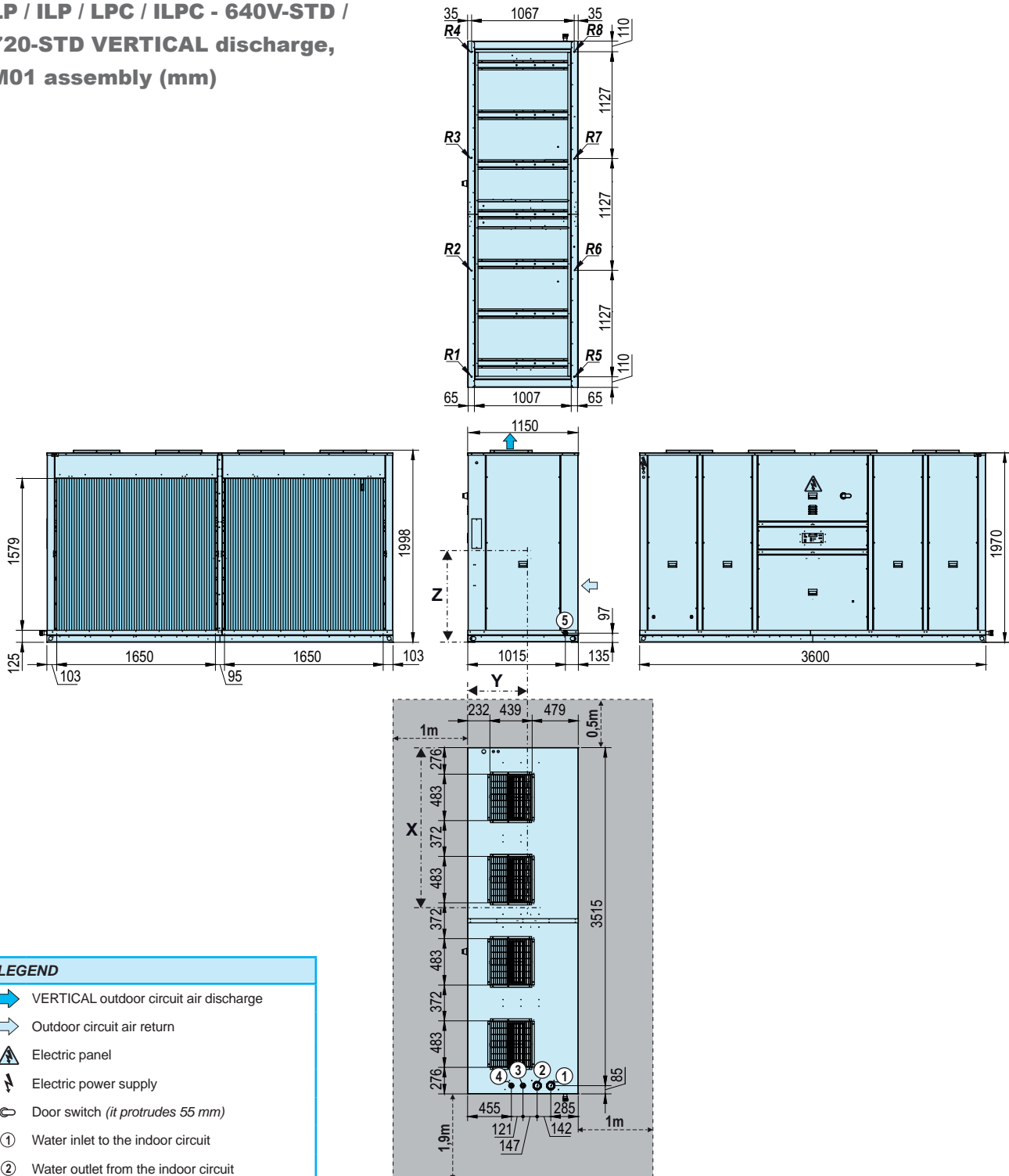
Anti-vibration anchoring: rivet nut M10

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

CIATCooler	Centre of gravity coordinates (mm)	Reactions in the supports (kg)											
		X	Y	Z	Weight	R1	R2	R3	R4	R5	R6	R7	R8
LP / ILP	600V-STD	1452	394	782	1232	172	263	163	105	128	219	120	62
LPC / ILPC	600V-STD	1521	389	762	1336	178	272	194	127	127	220	142	75

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 640V-STD / 720-STD VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch (it protrudes 55 mm)
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 1 1/4" M

Note: Models with double air volume (2 circuits): two separate air ducts are required

Anti-vibration anchoring: rivet nut M10

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

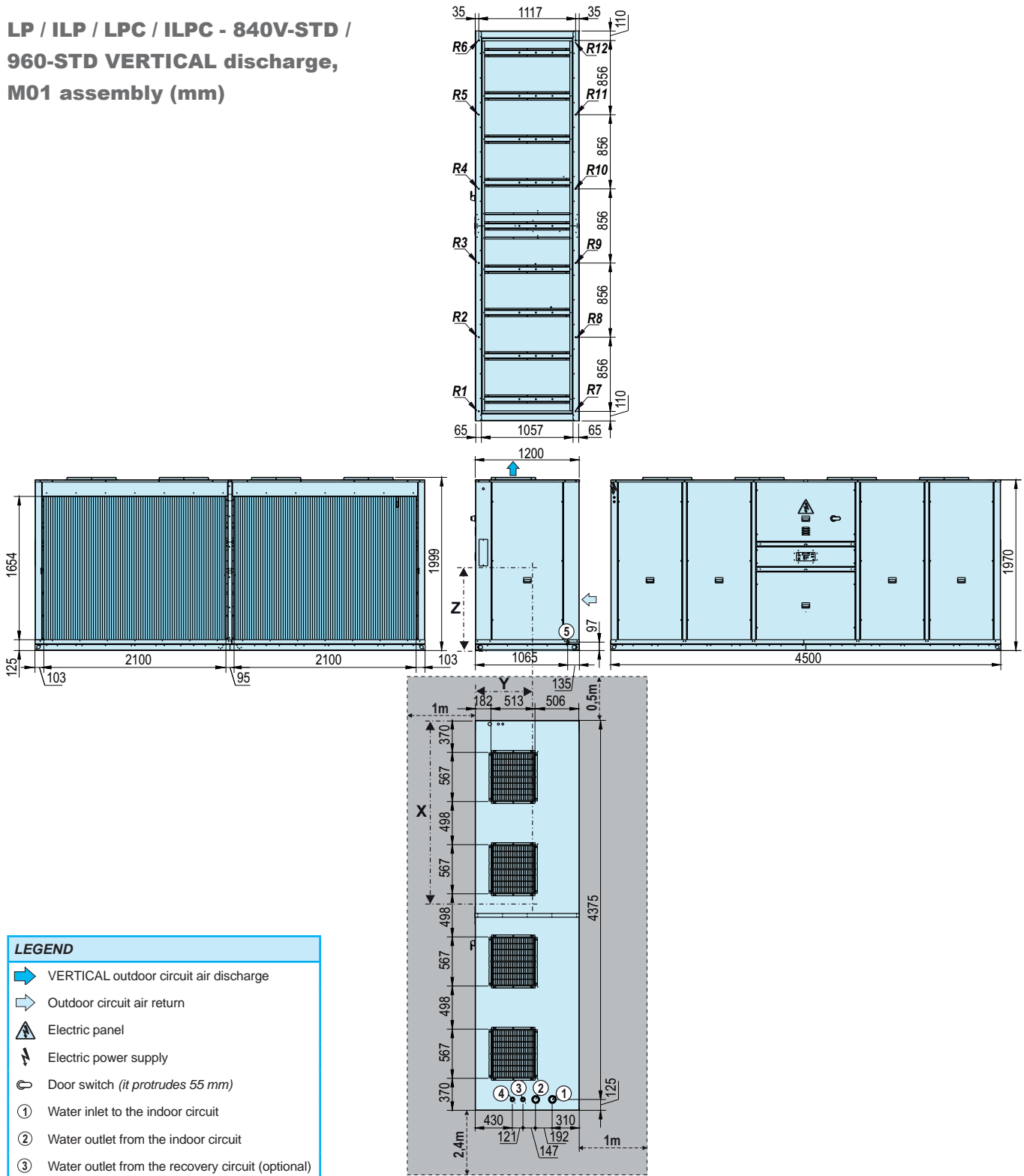
CIATCooler	Centre of gravity (mm)	Reactions in the supports (kg)										
		X	Y	Z	Weight	R1	R2	R3	R4	R5	R6	R7
LP 640V-STD	1821	509	784	1493	161	255	265	167	110	204	214	117
ILP 720V-STD	1820	509	784	1504	162	257	267	169	111	206	216	117
LPC 640V-STD	1823	514	769	1592	169	269	281	177	119	219	231	127
ILPC 720V-STD	1823	514	768	1603	170	271	283	178	120	221	233	128



Water chillers and air/water heat pumps

DIMENSION SCHEMES FOR THE STD VERSION

LP / ILP / LPC / ILPC - 840V-STD / 960V-STD VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch (it protrudes 55 mm)
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 1 1/4" M

Note: Models with double air volume (2 circuits): two separate air ducts are required

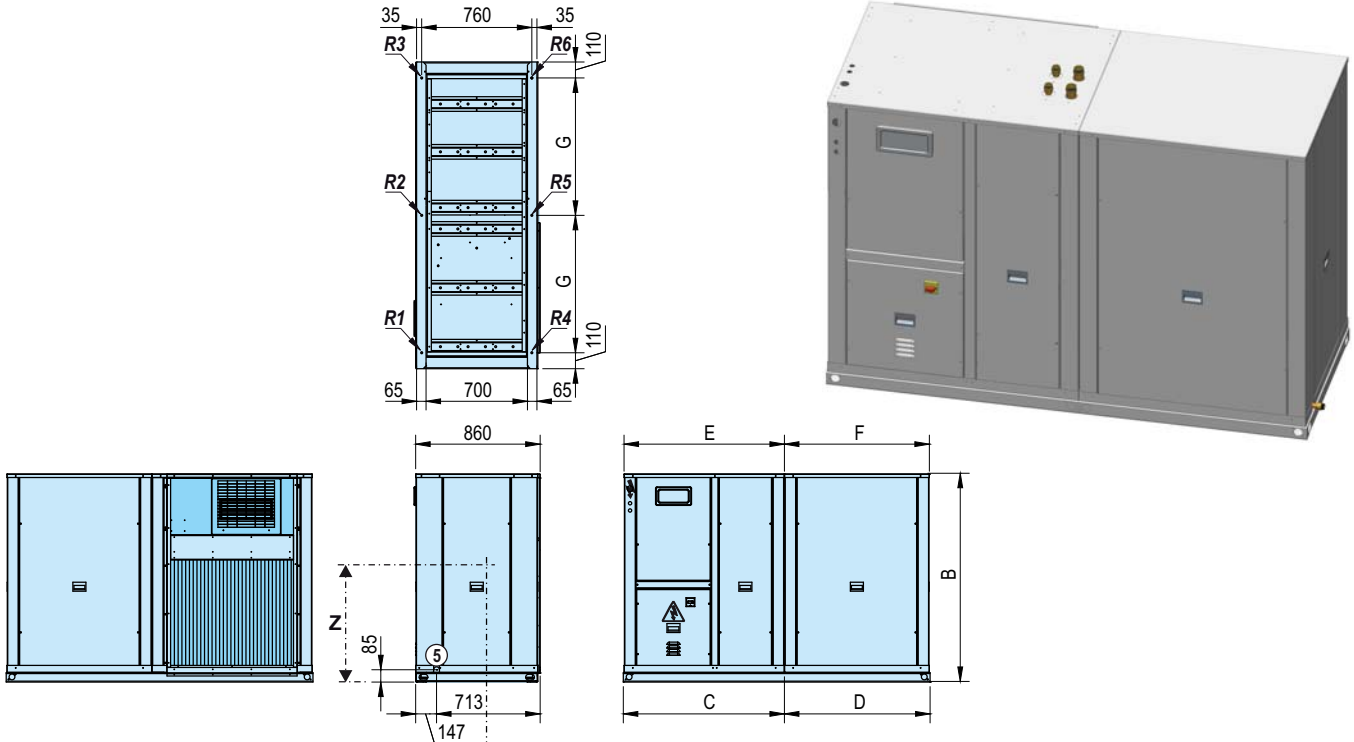
Anti-vibration anchoring: rivet nut M10

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

CIATCooler	Centre gravity (mm)			Reactions in the supports (kg)												
	X	Y	Z	Weight	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12
LP 840V-STD	2271	544	772	1986	148	167	175	180	182	170	140	157	165	170	172	162
ILP 960V-STD	2272	548	762	2138	158	178	187	192	194	182	152	170	179	184	186	176
LPC 840V-STD	2287	558	754	2131	152	172	182	189	192	181	151	171	181	188	192	181
ILPC 960V-STD	2285	544	746	2282	167	190	200	207	211	198	159	178	189	196	199	189

DIMENSION SCHEMES FOR THE STD VERSION

LPC / ILPC with hydraulic module (mm)



LPC / ILPC + module	Dimensions (mm)							
	A	B	C	D	E	F	G	H
90V-STD	2117	1447	1112	1005	1106	1000	948	1200
100V-STD	2117	1447	1112	1005	1106	1000	948	1200
120V-STD	2398	1727	1393	1005	1387	1000	1089	1500
160V-STD	2398	1727	1393	1005	1387	1000	1089	1500
180V-STD	2398	1727	1393	1005	1387	1000	1089	1500
200V-STD	3113	1447	2108	1005	2102	1000	1446	1200
240V-STD	3673	1727	2668	1005	2662	1000	1726	1500
280V-STD	3673	1727	2668	1005	2662	1000	1726	1500
320V-STD	3673	1727	2668	1005	2662	1000	1726	1500
360V-STD	3673	1727	2668	1005	2662	1000	1726	1500

LEGEND

- Electric panel
 - Electric power supply
 - Door switch
 - ① Water inlet to the indoor circuit
 - ② Water outlet from the indoor circuit
 - ③ Water outlet from the recovery circuit (optional)
 - ④ Water inlet to the recovery circuit (optional)
 - ⑤ Discharge of condensates and tank drain: trunk 3/4" M (models 90 to 180) or 1" M (models 200 to 360)
 - ⑥ Collapsible window for access to control panel (it protrudes 12 mm)
- Note: the hydraulic connections ①② protrude 58 mm
Anti-vibration anchoring: rivet nut M10
- Clear space to be observed for maintenance operations and unit start-up

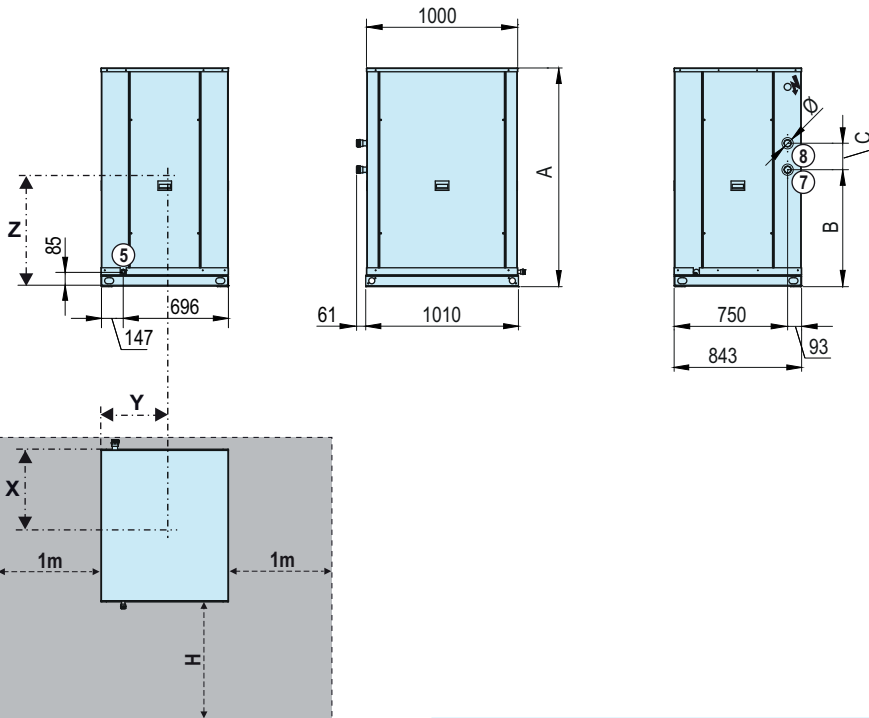
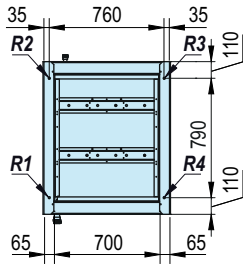
LPC / ILPC + module	Centre of gravity coordinates (mm)			Reactions in the supports (kg)						
	X	Y	Z	Weight	R1	R2	R3	R4	R5	R6
90V-STD	871	405	540	577	51	142	108	43	134	100
100V-STD	848	408	566	587	47	144	112	40	137	106
120V-STD	1013	409	673	726	67	178	130	59	170	121
160V-STD	997	409	666	744	66	183	136	58	174	127
180V-STD	1001	407	670	745	68	183	136	58	174	126
200V-STD	1337	428	577	1015	91	240	168	97	246	173
240V-STD	1610	425	678	1105	106	263	178	110	266	182
280V-STD	1609	425	676	1139	110	271	184	113	274	188
320V-STD	1611	422	665	1178	115	282	192	116	282	192
360V-STD	1605	422	670	1183	115	283	193	115	283	194



Water chillers and air/water heat pumps

ESQUEMAS DE DIMENSIONES DE LA VERSIÓN STD

Separate hydraulic module, models 90V-STD to 360-STD (mm)



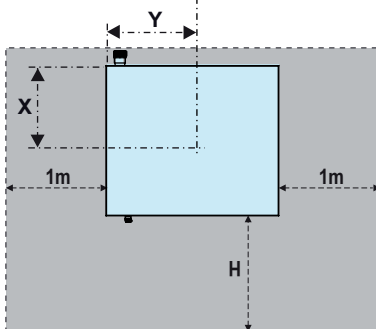
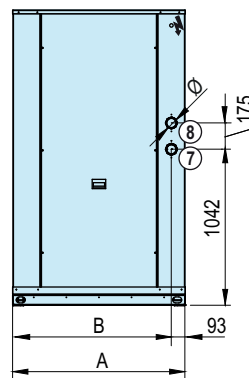
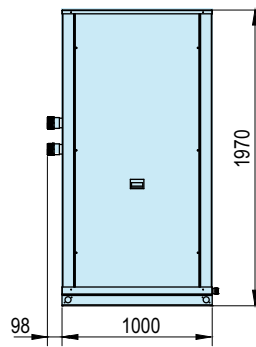
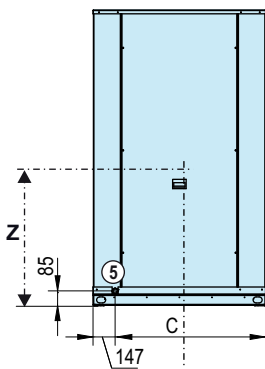
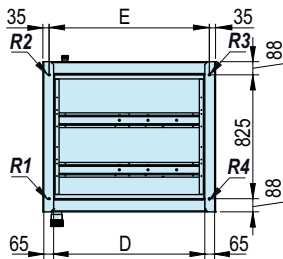
Separate module	Dimensions (mm)				Ø Module Connec.	Ø Unit Connec.
	A	B	C	H		
90V-STD / 100V-STD	1447	774	175	1200	1 1/4" M	1 1/4" F
120V-STD / 160V-STD / 180V-STD	1727	865	175	1500	1 1/2" M	1 1/2" F
200V-STD	1447	774	175	1200	2" M	2" F
240V-STD / 280V-STD / 320V-STD / 360V-STD	1727	865	175	1500	2" M	2" F

LEGEND	
	Electric power supply
⑤	Tank drain: trunk 3/4" M (models 90 to 180) or 1" M (models 200 to 360)
⑦	Water inlet to the tank
⑧	Water outlet from the tank
Anti-vibration anchoring: rivet nut M10	
Minimum distance between unit and module: 167 mm	
	Clear space to be observed for maintenance operations and unit start-up

Separate module	Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
90V-STD / 100V-STD	498	448	486	242	56	54	65	67
120V-STD / 160V-STD / 180V-STD	498	452	608	315	73	70	85	88
200V-STD	579	457	573	393	69	106	128	91
240V-STD / 280V-STD / 320V-STD / 360V-STD	577	456	613	404	72	108	130	93

DIMENSION SCHEMES FOR THE STD VERSION

Separate hydraulic module, models 420V-STD to 960-STD (mm)



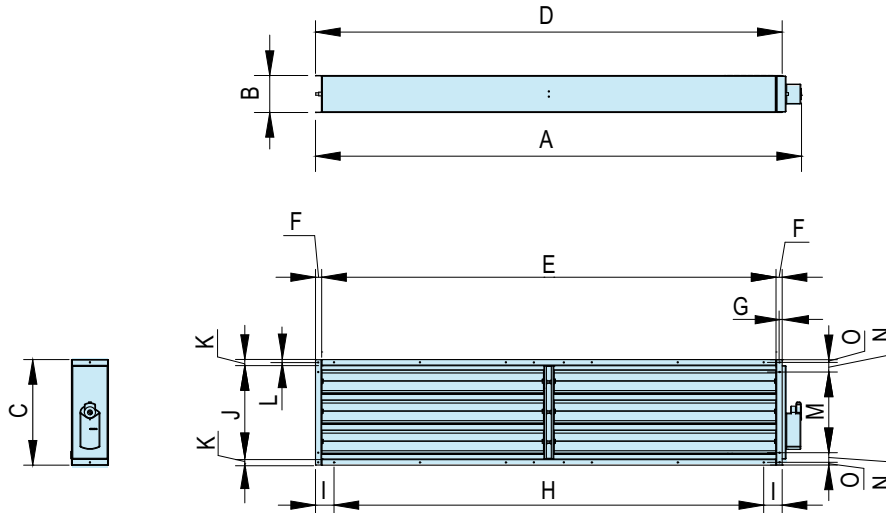
Separate module	Dimensions (mm)						Ø Module Connec.	Ø Unit Connec.
	A	B	C	D	E	H		
420V-STD / 480V-STD / 600V-STD	900	807	753	757	817	1800	2" M	2" F
640V-STD / 720V-STD	1150	1057	1003	1007	1067	1900	2 1/2" M	2 1/2" F
840V-STD / 960V-STD	1200	1107	1053	1057	1117	2400	2 1/2" M	2 1/2" F

LEGEND	
	Electric power supply
⑤	Tank drain: trunk 1" M
⑦	Water inlet to the tank
⑧	Water outlet from the tank
Anti-vibration anchoring: rivet nut M10	
Minimum distance between unit and module: 167 mm	
	Clear space to be observed for maintenance operations and unit start-up

Separate module	Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
420V-STD / 480V-STD / 600V-STD	498	445	784	486	124	122	119	121
640V-STD / 720V-STD	494	583	781	544	136	132	136	140
840V-STD / 960V-STD	492	600	841	668	175	170	159	164

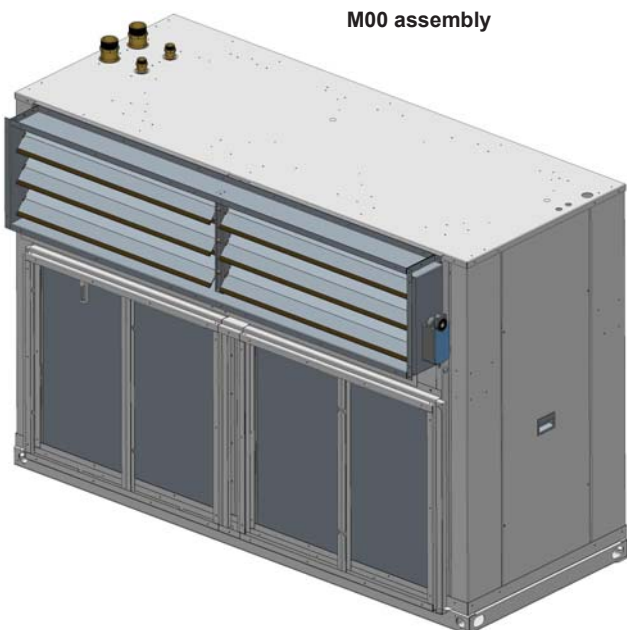
DIMENSION SCHEMES FOR THE STD VERSION

Condensation pressure control damper, models 90V-STD to 360-STD (mm)

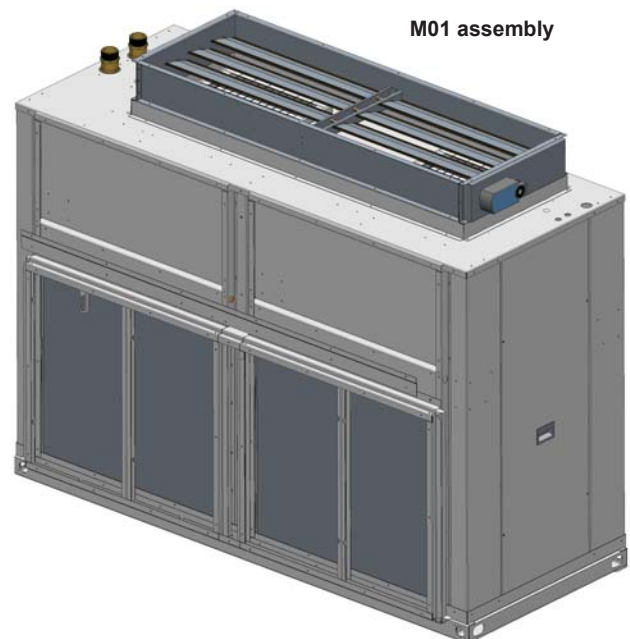


CIATCooler	Assembly	Servos per damper	Total weight (kg)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
90V-STD / 100V-STD	M00	1	13	978	150	446	895	845	25	11	3 x 266	49	396	25	11	296	64	11
120V-STD to 180V-STD		1	17	1258	150	520	1175	1125	25	11	4 x 269	49	470	25	11	370	64	11
200V-STD		1	34	1970	150	428	1892	1842	25	11	5 x 348	75	378	25	11	327	39	11
240V-STD to 360V-STD		1	43	2582	150	550	2452	2402	25	11	6 x 384	75	500	25	11	447	41	10
90V-STD / 100V-STD	M01	1	13	633	150 (*)	428	550	500	25	11	1 x 400	75	378	25	11	278	64	11
120V-STD to 180V-STD		1	17	733	150 (*)	550	650	600	25	11	2 x 250	75	500	25	11	400	64	11
200V-STD		1	34	1642	150 (*)	549	1550	1500	25	11	4 x 350	75	497	25	11	447	41	10
240V-STD to 360V-STD		1	43	2243	150 (*)	547	2150	2100	25	11	6 x 333	75	497	25	11	447	41	10

(*) In the case of vertical discharge (M01 assembly), the damper incorporates a frame (60 mm height) to fit the damper to the fan(s) outlet. This frame may be removed for duct installation.



M00 assembly

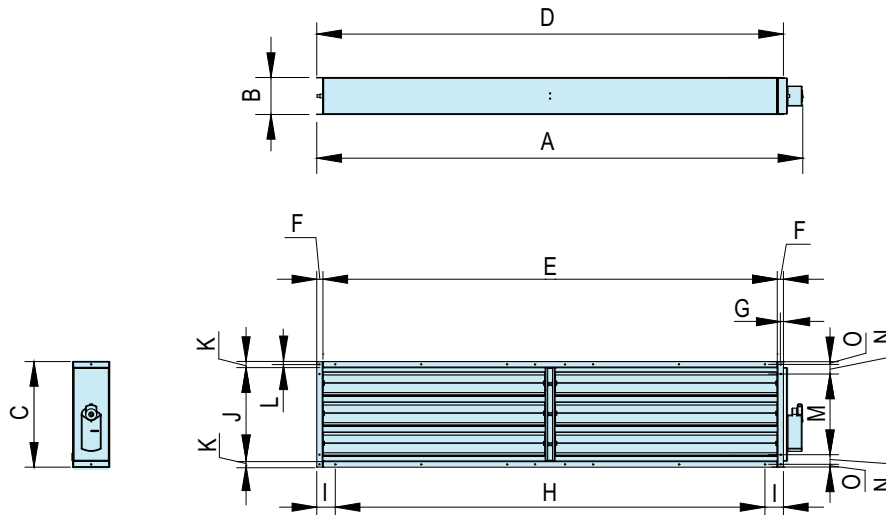


M01 assembly

Note: By default this damper is sent attached to the CIATCooler LP unit. For duct installation it is necessary to unscrew from the unit and disconnect the electrical supply of the servomotor.

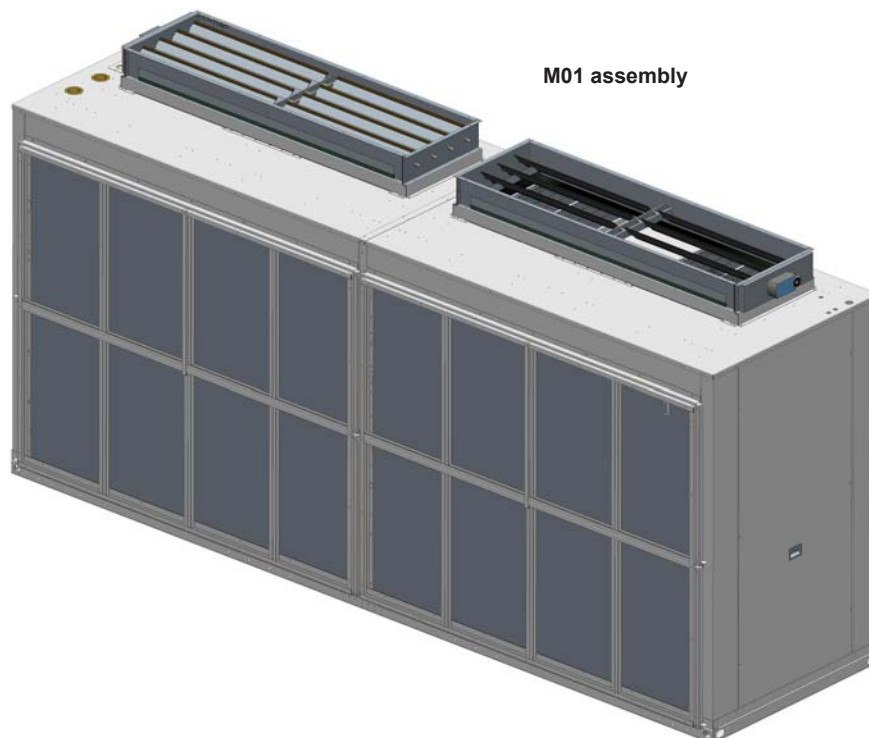
DIMENSION SCHEMES FOR THE STD VERSION

Condensation pressure control damper, models 420V-STD to 960-STD (mm)



CIATCooler	Assembly	No. dampers	Servos per damper	Total weight (kg)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
420V-STD / 480V-STD	M00	1	2	51	2511	150 (*)	550	2383	2300	25	11	6 x 367	75	500	25	11	400	64	11
600V-STD		1	2	60	2911	150 (*)	550	2750	2700	25	11	7 x 371	75	500	25	11	400	64	11
420V-STD / 480V-STD	M01	1	2	51	2511	150 (*)	550	2383	2300	25	11	6 x 367	75	500	25	11	400	64	11
600V-STD		1	2	60	2911	150 (*)	550	2750	2700	25	11	7 x 371	75	500	25	11	400	64	11
640V-STD / 720V-STD		2	1	66	1535	150 (*)	550	1450	1400	25	11	3 x 433	75	500	25	11	400	64	11
840V-STD / 960V-STD		2	1	79	1915	150 (*)	550	1830	1780	25	11	5 x 336	72	500	25	11	400	64	11

(*) The damper incorporates a frame (60 mm height) to fit the damper to the fan(s) outlet. This frame may be removed for duct installation.



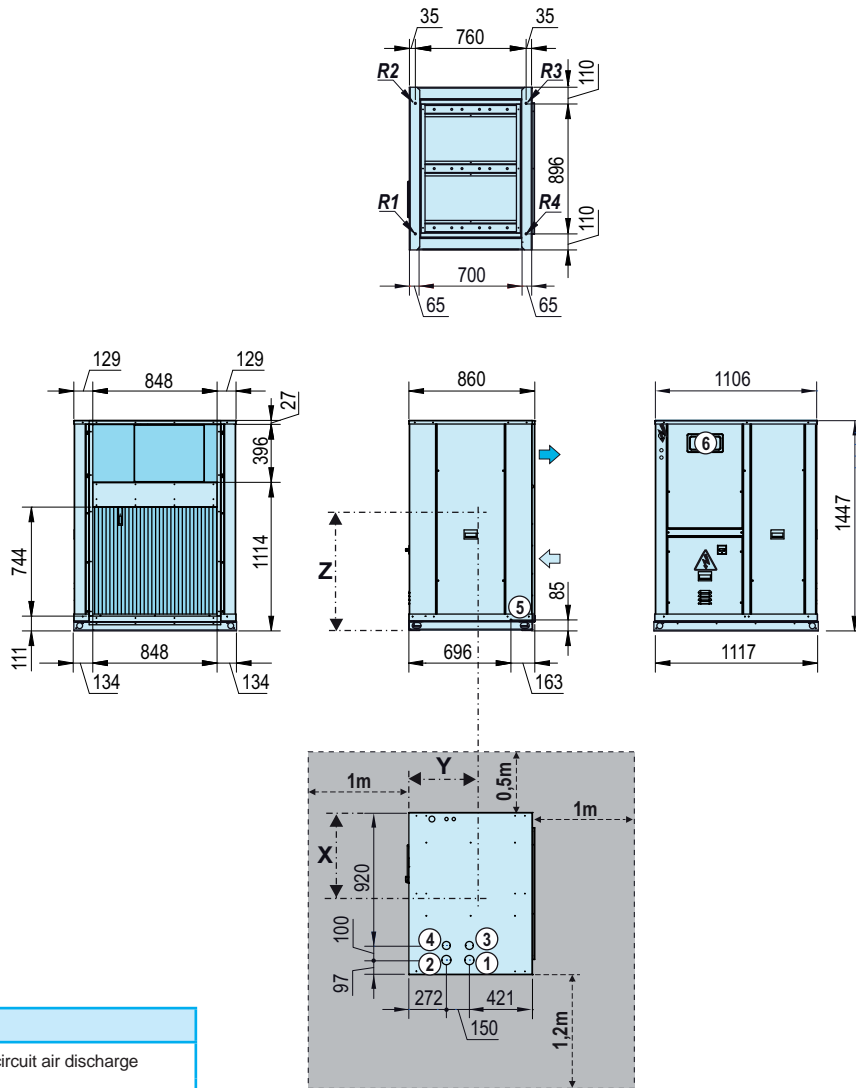
Note: By default this damper(s) is sent attached to the CIATCooler LP unit. For duct installation it is necessary to unscrew from the unit and disconnect the electrical supply of the servomotor(s).



Water chillers and air/water heat pumps

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 90V-HEE HORIZONTAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

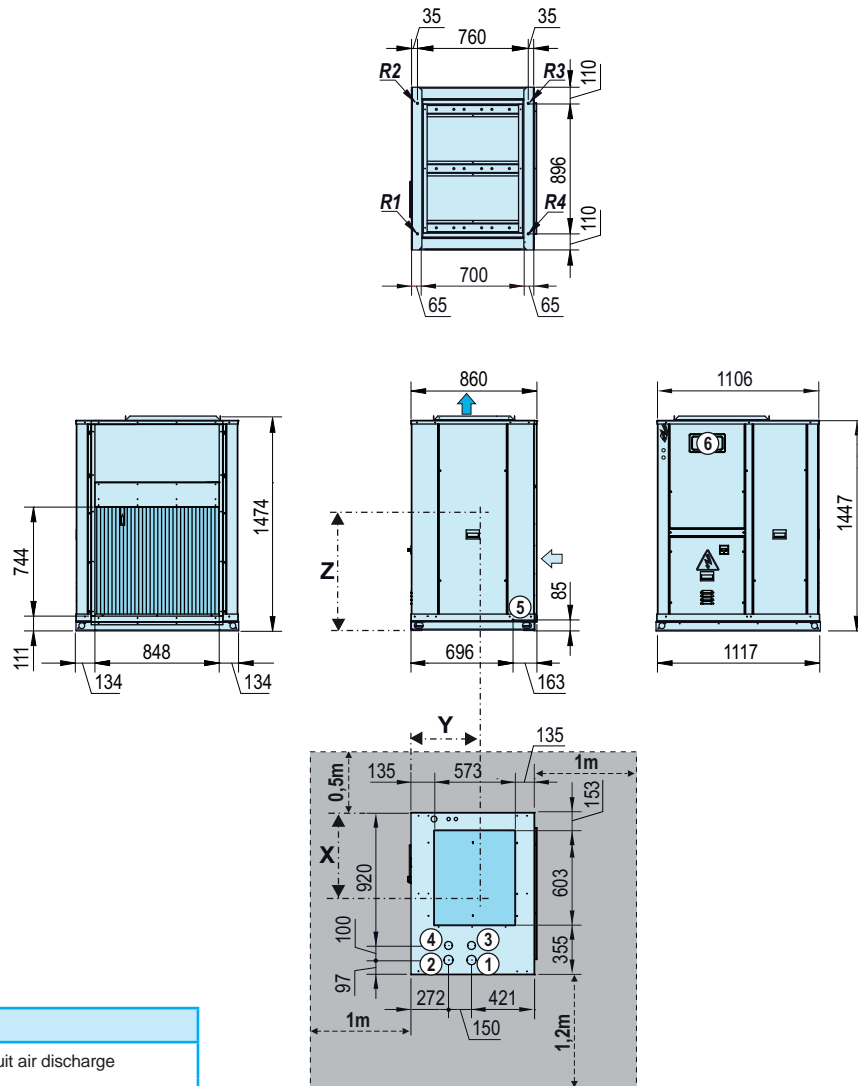
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP / ILP	90V-HEE	502	422	614	298	64	100	85	50
LPC / ILPC	90V-HEE	538	427	599	327	77	84	87	79

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 90V-HEE VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

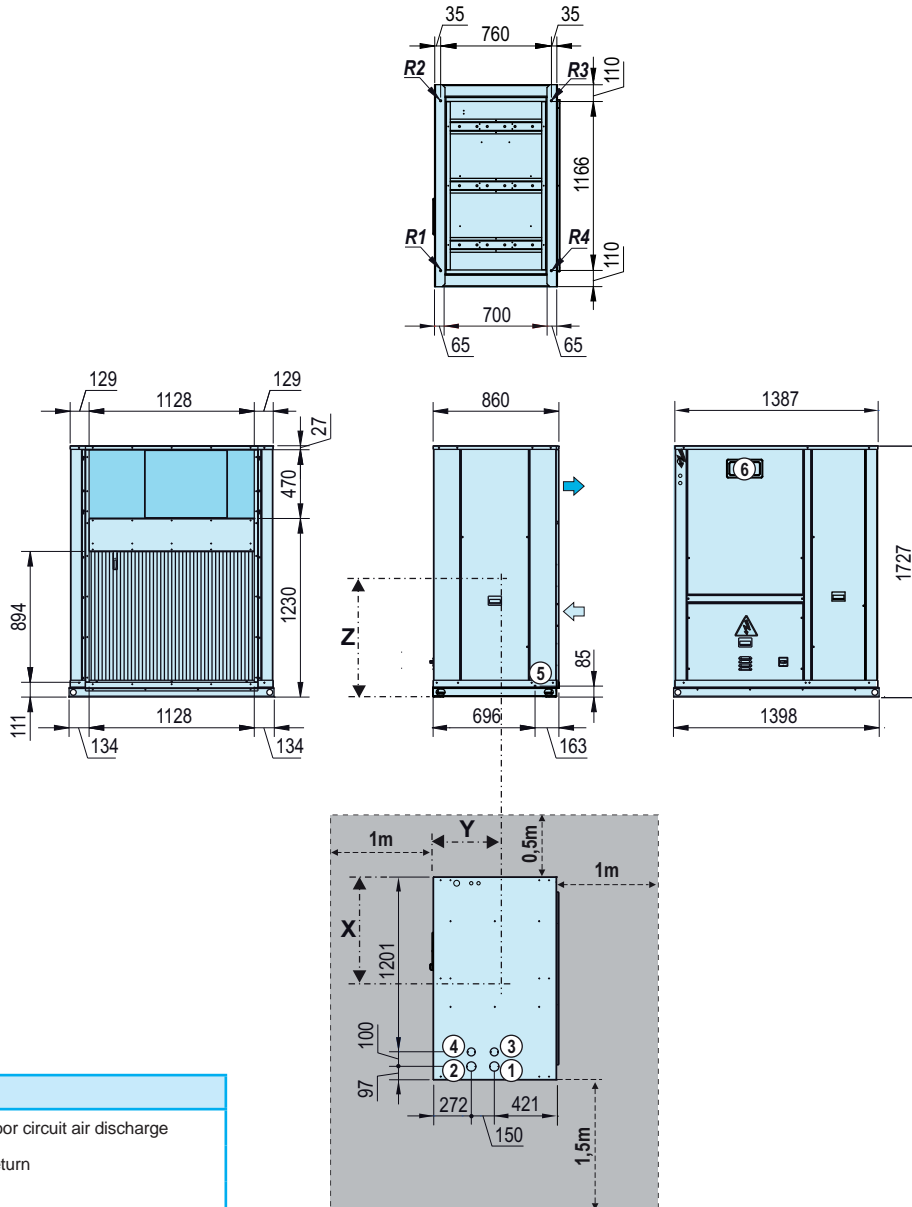
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP / ILP	90V-HEE	502	422	614	298	64	100	85	50
LPC / ILPC	90V-HEE	538	427	599	327	77	84	87	79

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 100V-HEE / 120V-HEE HORIZONTAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

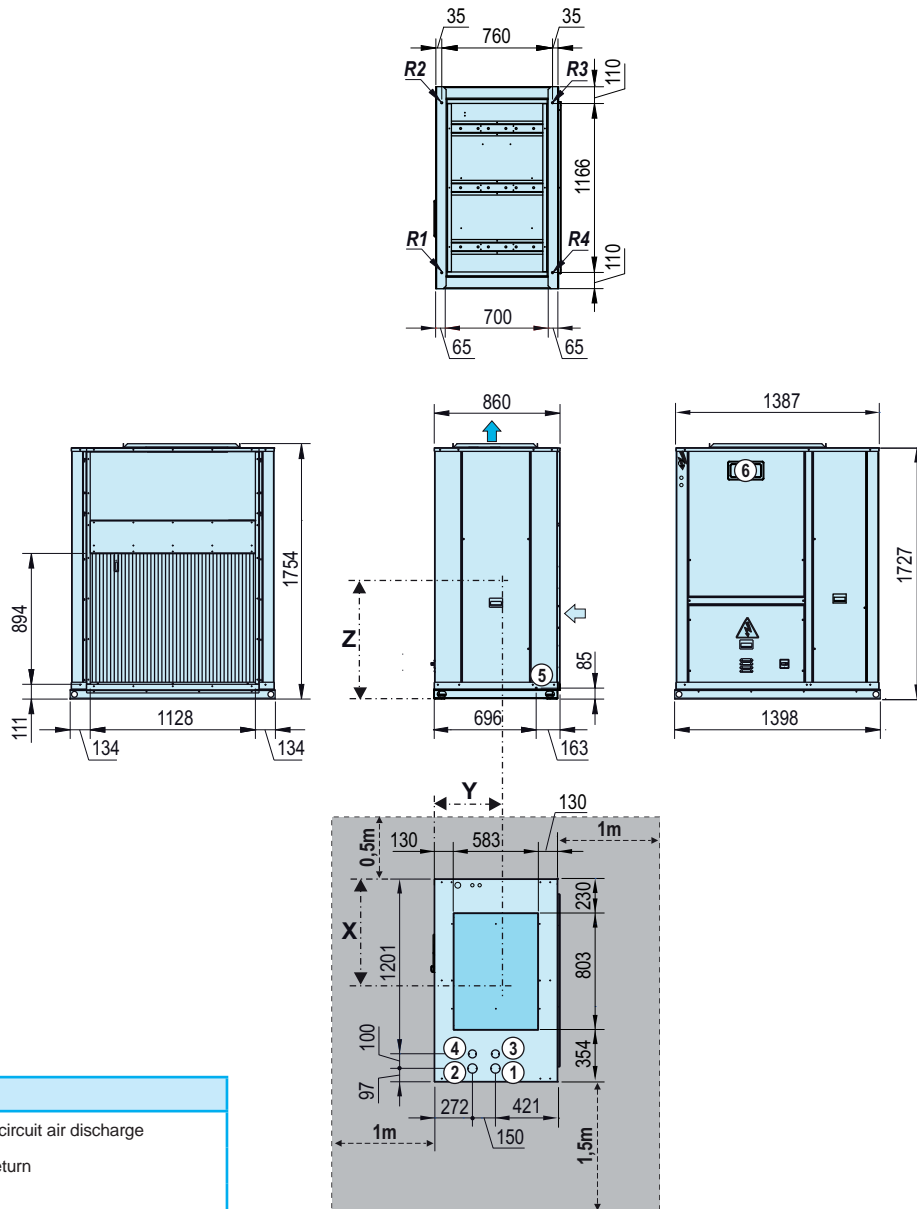
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP ILP	100V-HEE	569	417	673	358	63	127	116	52
	120V-HEE	628	426	742	376	88	112	100	77
LPC ILPC	100V-HEE	638	418	623	390	88	109	107	86
	120V-HEE	696	427	674	408	100	101	104	103

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 100V-HEE / 120V-HEE VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

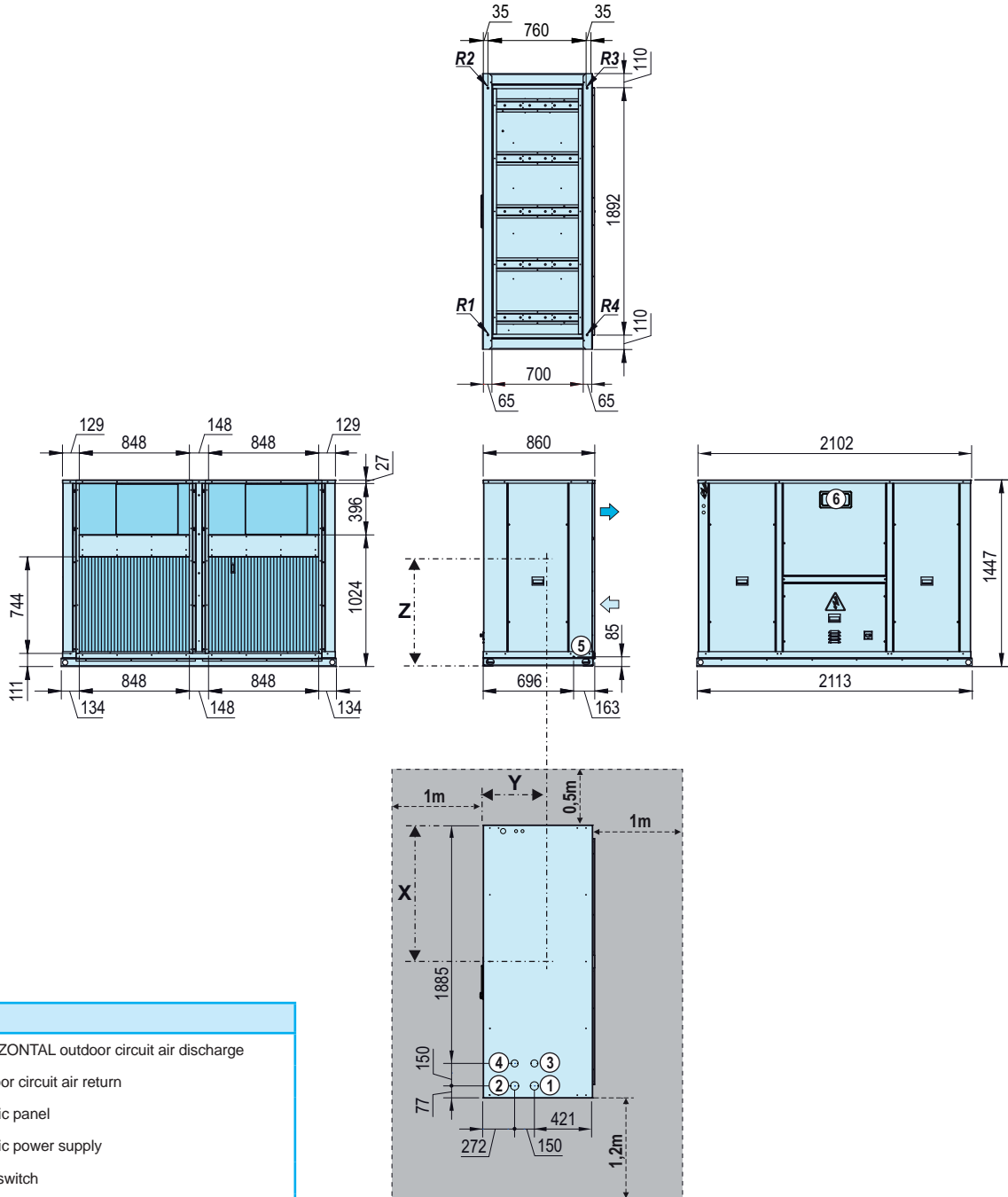
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP	100V-HEE	569	417	673	358	63	127	116	52
	120V-HEE	628	426	742	376	88	112	100	77
LPC	100V-HEE	638	418	623	390	88	109	107	86
	120V-HEE	696	427	674	408	100	101	104	103

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 160V-HEE / 180V-HEE HORIZONTAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ① ② protrude 58 mm

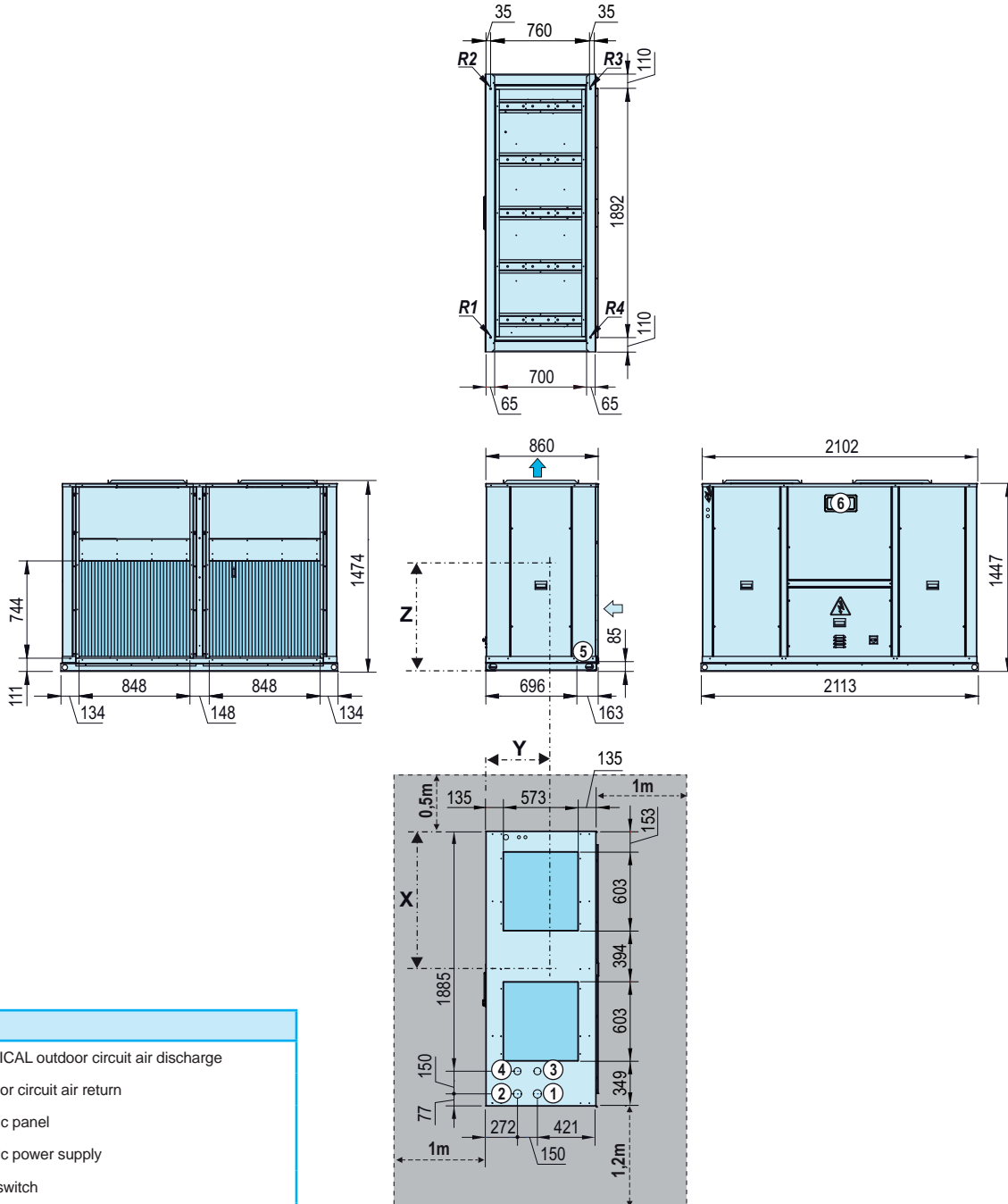
Anti-vibration anchoring: rivet nut M10

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

CIATCooler	Centre of gravity coordinates (mm)	Reactions in the supports (kg)							
		X	Y	Z	Weight	R1	R2	R3	R4
LP	160V-HEE	940	435	573	465	69	177	163	56
ILP	180V-HEE	936	434	579	468	71	178	163	56
LPC	160V-HEE	975	436	570	497	109	130	140	118
ILPC	180V-HEE	972	436	575	503	110	132	142	119

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 160V-HEE / 180V-HEE VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

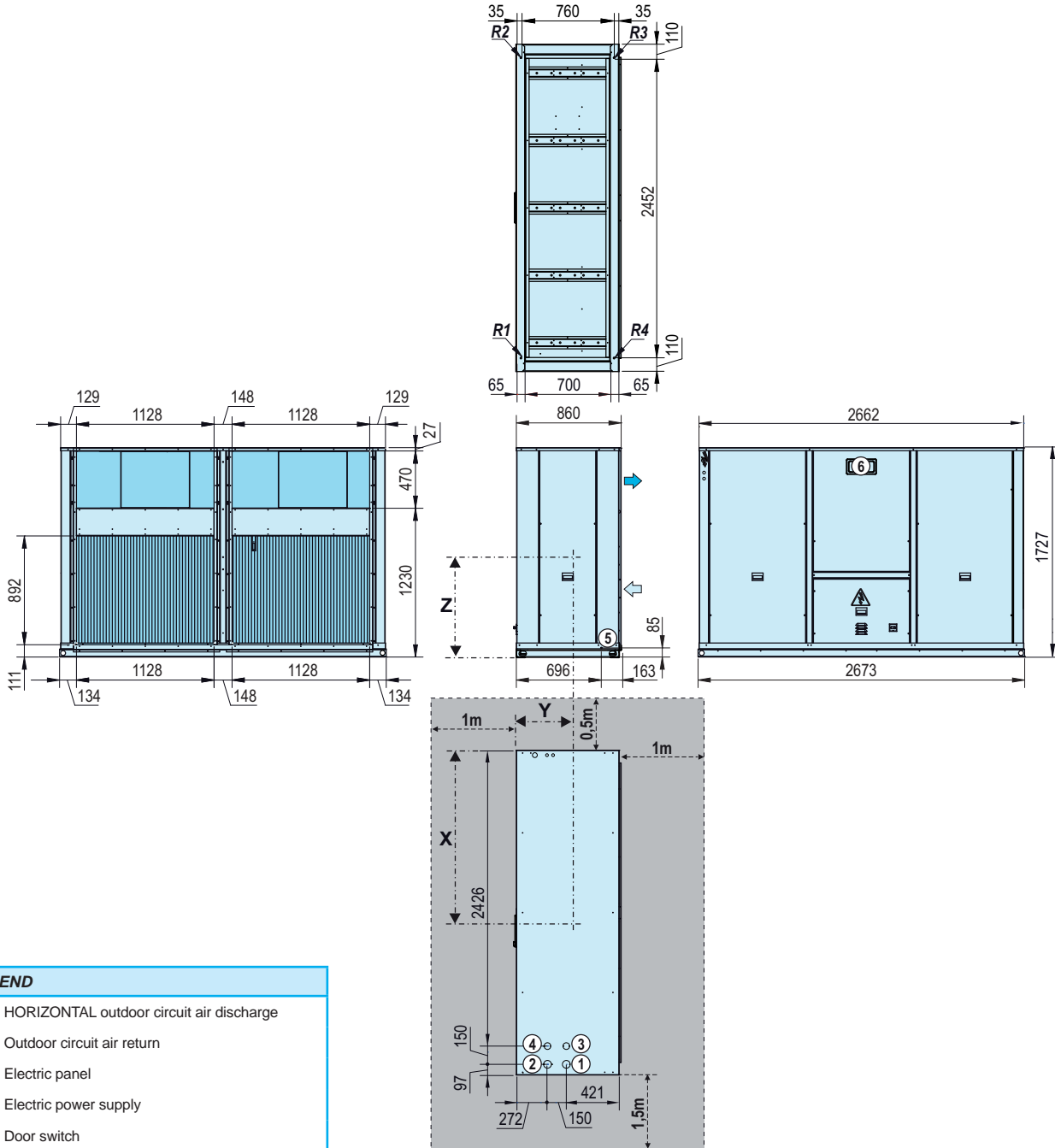
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP ILP	160V-HEE	940	435	573	465	69	177	163	56
	180V-HEE	936	434	579	468	71	178	163	56
LPC ILPC	160V-HEE	975	436	570	497	109	130	140	118
	180V-HEE	972	436	575	503	110	132	142	119

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 200V-HEE / 240V-HEE / 280V-HEE HORIZONTAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

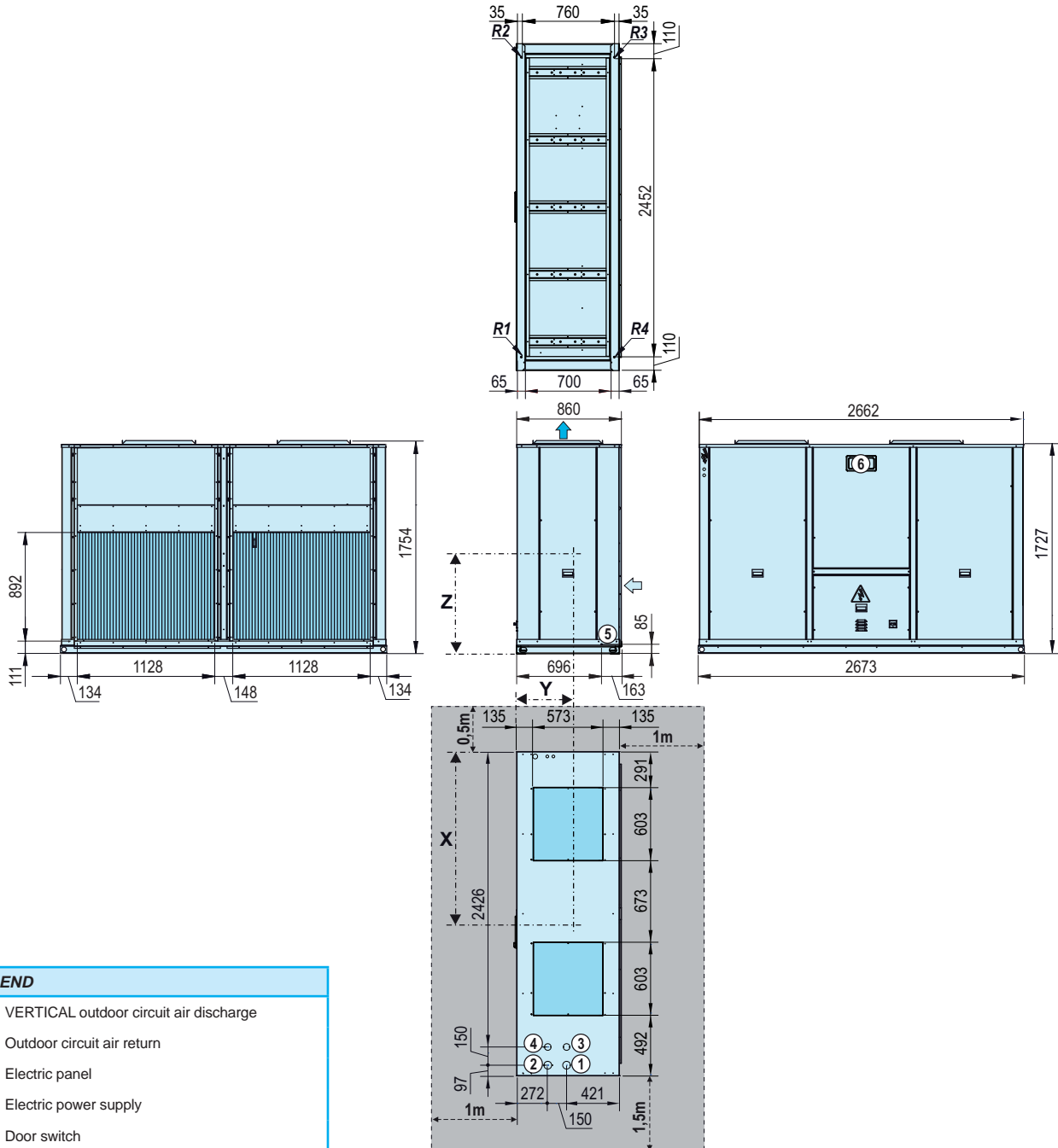
Note: the hydraulic connections ①② protrude 58 mm
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP ILP	200V-HEE	1161	440	646	648	106	213	218	111
	240V-HEE	1203	436	646	674	143	191	194	146
	280V-HEE	1198	435	642	680	145	193	195	146
LPC ILPC	200V-HEE	1221	441	635	690	147	180	198	165
	240V-HEE	1257	437	636	717	160	183	198	175
	280V-HEE	1252	436	634	724	162	187	200	175

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 200V-HEE / 240V-HEE / 280V-HEE VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 3/4" M
- ⑥ Collapsible window for access to control panel (it protrudes 12 mm)

Note: the hydraulic connections ①② protrude 58 mm

Anti-vibration anchoring: rivet nut M10

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

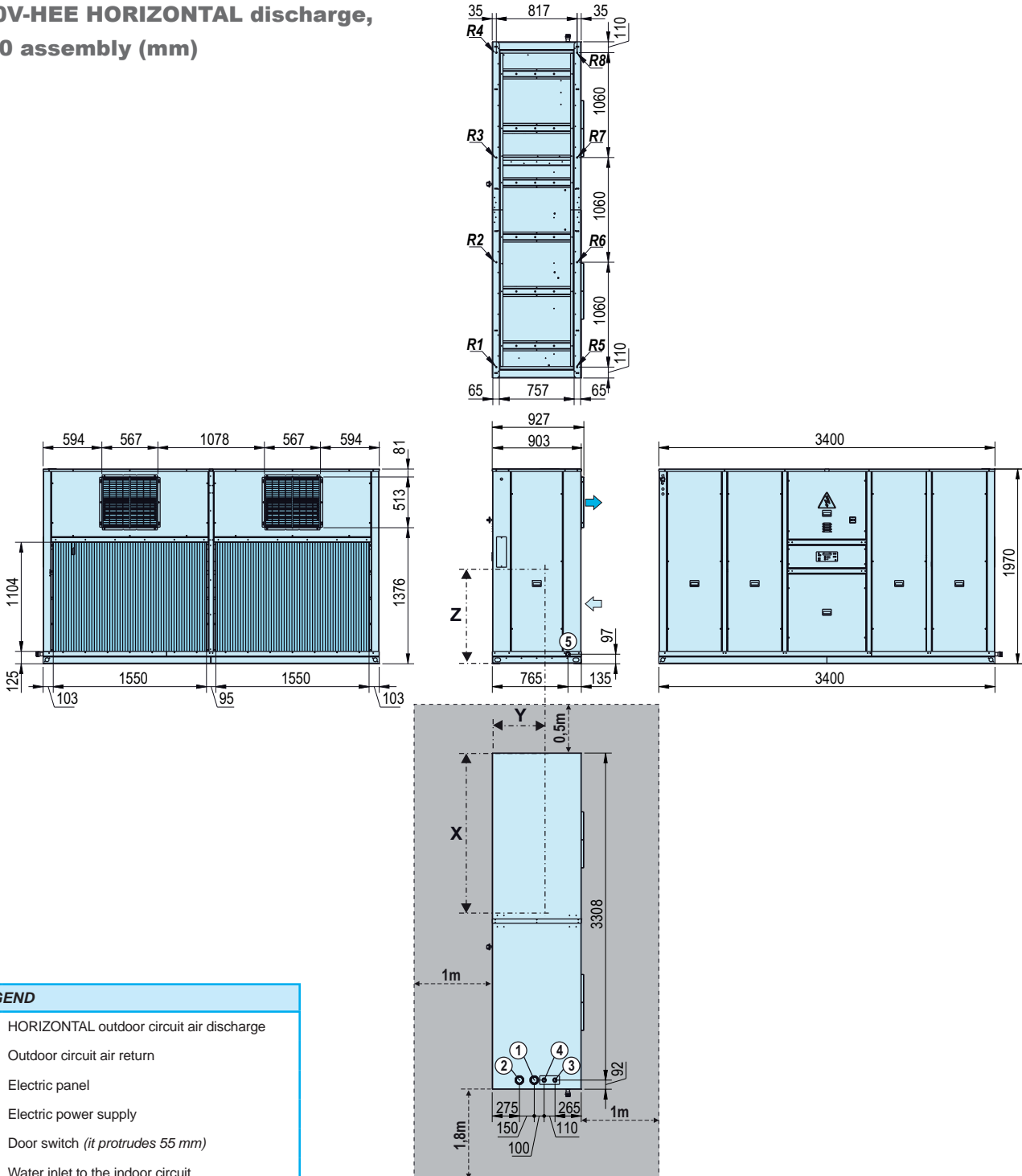
CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
		X	Y	Z	Weight	R1	R2	R3	R4
LP ILP	200V-HEE	1161	440	646	648	106	213	218	111
	240V-HEE	1203	436	646	674	143	191	194	146
	280V-HEE	1198	435	642	680	145	193	195	146
LPC ILPC	200V-HEE	1221	441	635	690	147	180	198	165
	240V-HEE	1257	437	636	717	160	183	198	175
	280V-HEE	1252	436	634	724	162	187	200	175



Water chillers and air/water heat pumps

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 320V-HEE / 360V-HEE HORIZONTAL discharge, M00 assembly (mm)



LEGEND

- HORIZONTAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch (it protrudes 55 mm)
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 1 1/4" M

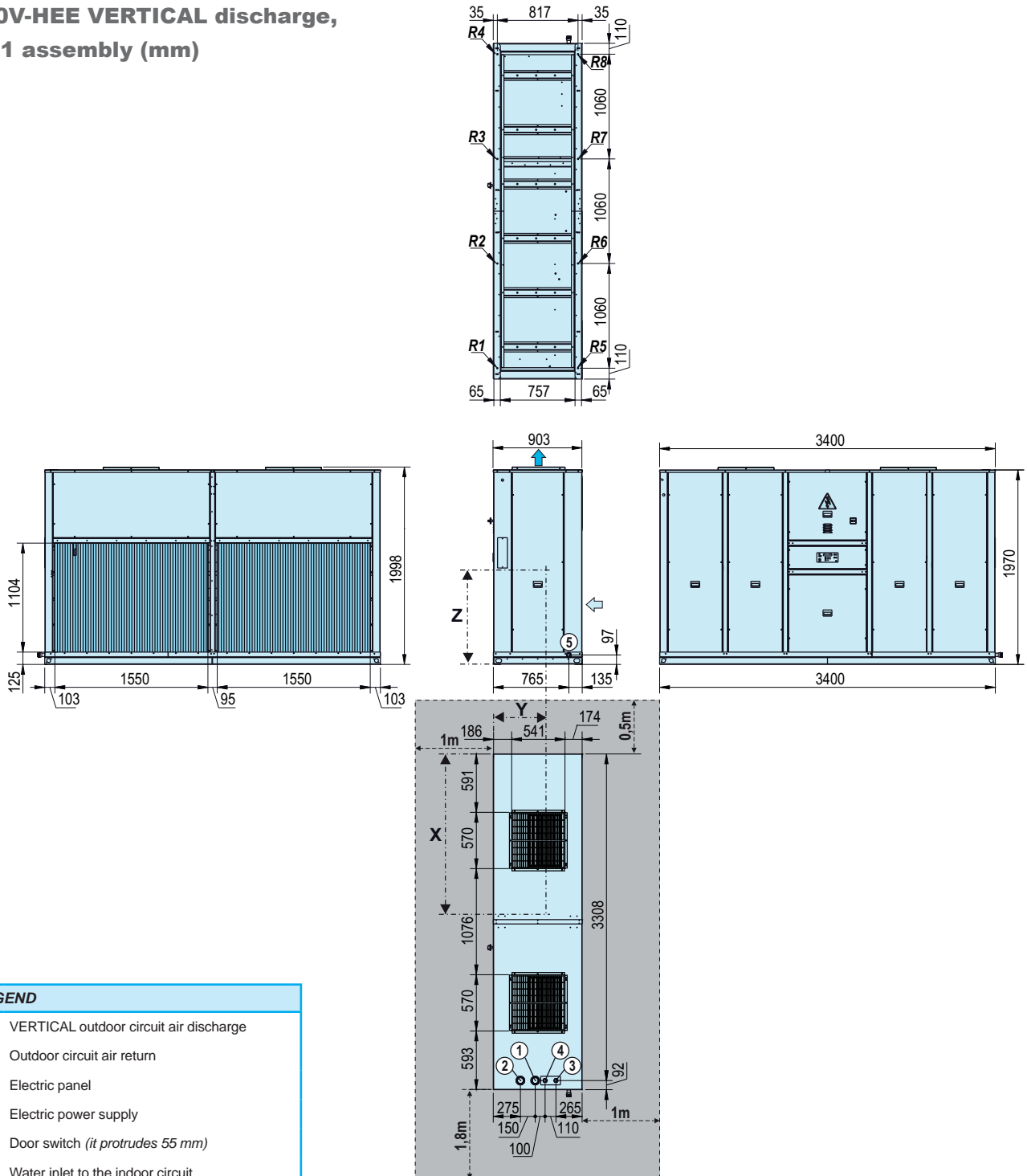
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)								
		X	Y	Z	Weight	R1	R2	R3	R4	R5	R6	R7	R8
LP ILP	320V-HEE	1560	441	810	961	109	172	130	81	104	167	124	75
	360V-HEE	1562	414	818	966	117	180	139	89	96	159	118	68
LPC ILPC	320V-HEE	1614	431	794	1028	114	178	151	95	102	166	139	83
	360V-HEE	1616	431	802	1034	114	179	152	96	102	167	140	84

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC- 320V-HEE /
360V-HEE VERTICAL discharge,
M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch (it protrudes 55 mm)
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 1 1/4" M

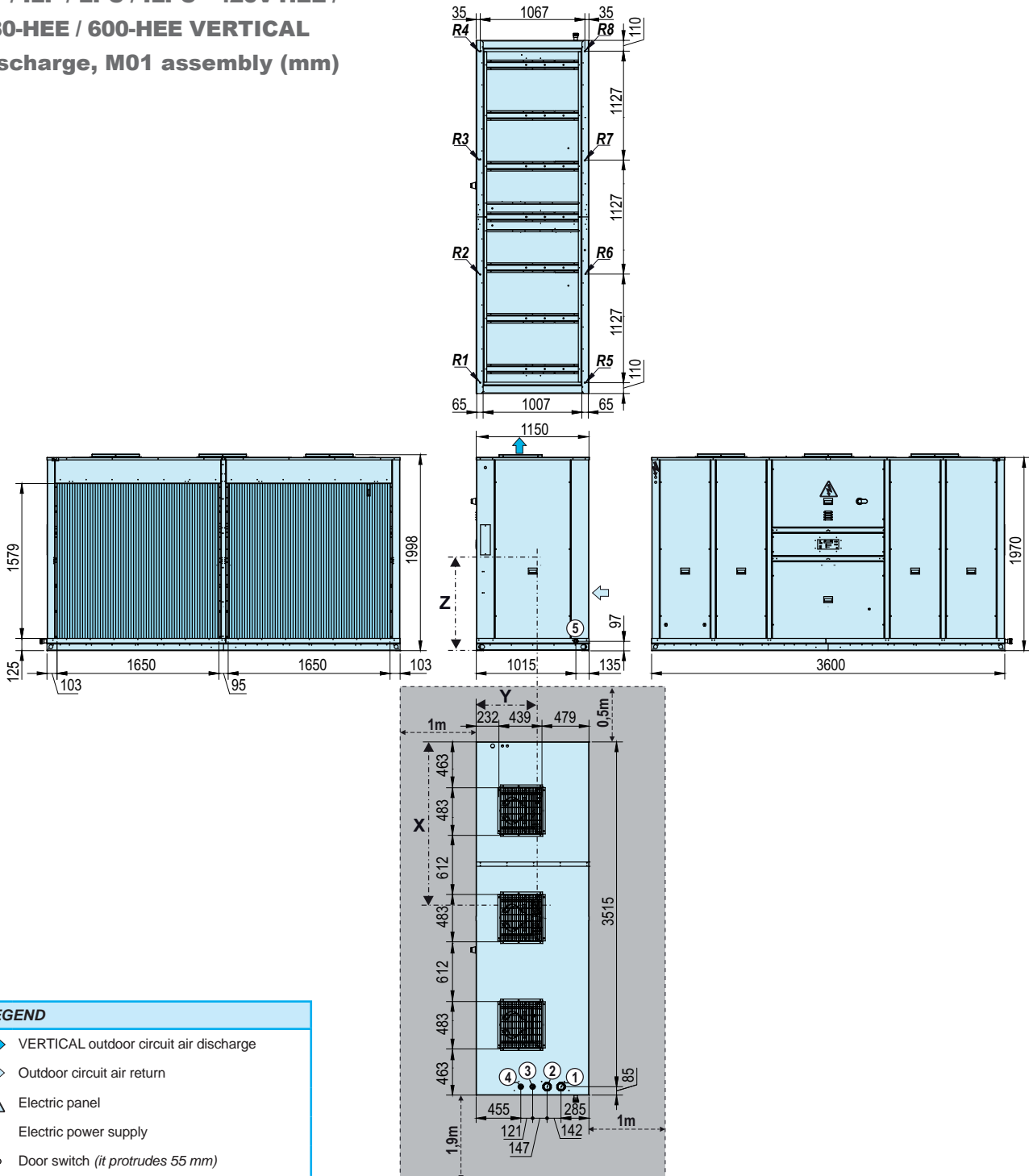
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		Centre of gravity coordinates (mm)			Reactions in the supports (kg)								
		X	Y	Z	Weight	R1	R2	R3	R4	R5	R6	R7	R8
LP ILP	320V-HEE	1560	441	810	961	109	172	130	81	104	167	124	75
	360V-HEE	1562	414	818	966	117	180	139	89	96	159	118	68
LPC ILPC	320V-HEE	1614	431	794	1028	114	178	151	95	102	166	139	83
	360V-HEE	1616	431	802	1034	114	179	152	96	102	167	140	84

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 420V-HEE / 480-HEE / 600-HEE VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch (it protrudes 55 mm)
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 1 1/4" M

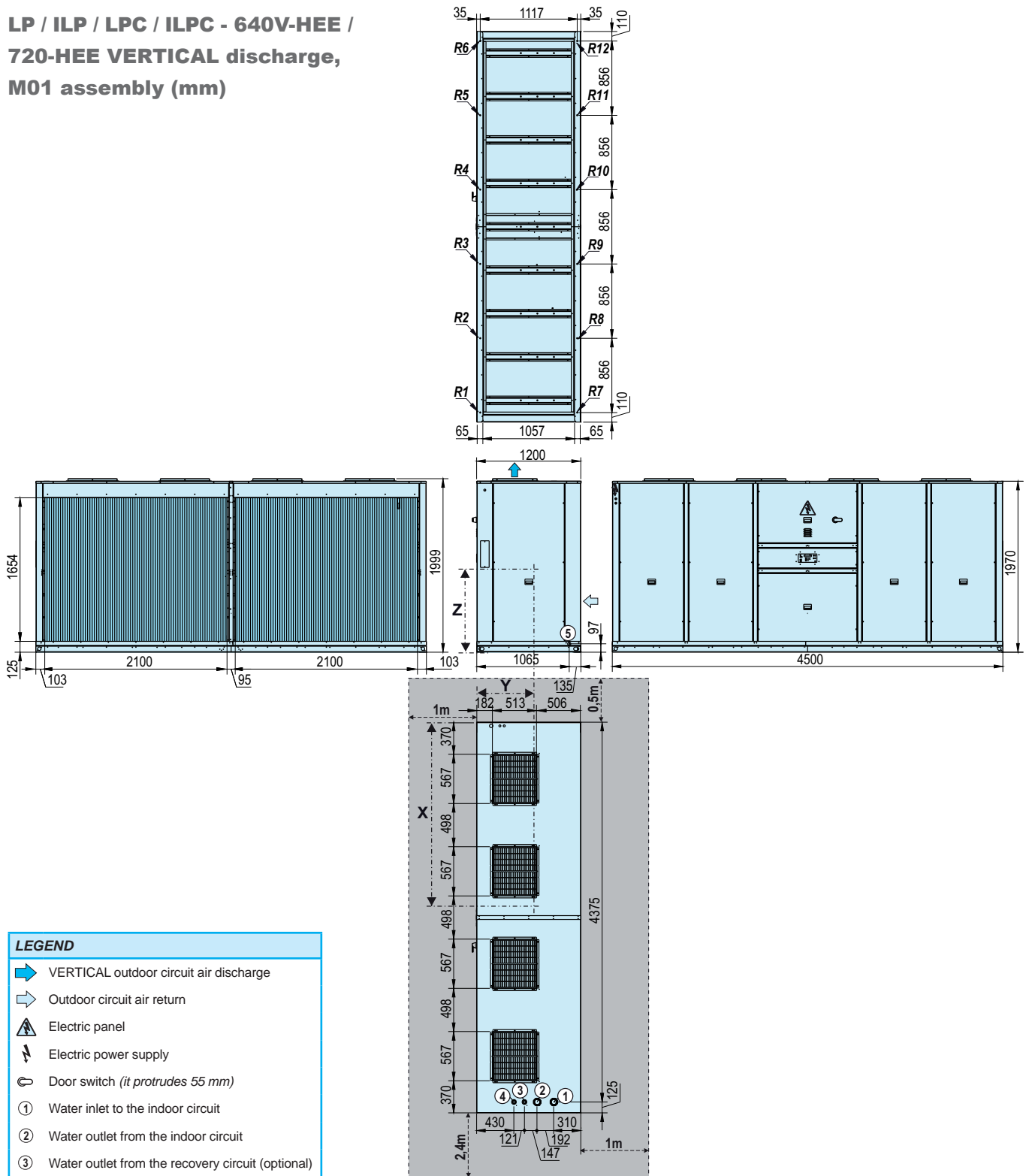
Anti-vibration anchoring: rivet nut M10

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

CIATCooler	Centre of gravity (mm)			Reactions in the supports (kg)									
	X	Y	Z	Weight	R1	R2	R3	R4	R5	R6	R7	R8	
LP ILP	420V-HEE	1619	553	849	1285	153	239	170	107	139	226	157	94
	480V-HEE	1551	537	837	1361	176	272	172	109	152	248	147	85
	600V-HEE	1522	527	830	1444	194	298	179	115	162	266	147	83
LPC ILPC	420V-HEE	1689	538	829	1391	161	249	204	130	136	225	180	106
	480V-HEE	1620	524	819	1467	184	283	205	132	149	248	169	97
	600V-HEE	1589	515	813	1550	203	309	212	138	159	266	169	95

DIMENSION SCHEMES FOR THE HEE VERSION

LP / ILP / LPC / ILPC - 640V-HEE / 720-HEE VERTICAL discharge, M01 assembly (mm)



LEGEND

- VERTICAL outdoor circuit air discharge
- Outdoor circuit air return
- Electric panel
- Electric power supply
- Door switch (it protrudes 55 mm)
- ① Water inlet to the indoor circuit
- ② Water outlet from the indoor circuit
- ③ Water outlet from the recovery circuit (optional)
- ④ Water inlet to the recovery circuit (optional)
- ⑤ Condensate outlet: trunk 1 1/4" M

Note: Models with double air volume (2 circuits): two separate air ducts are required

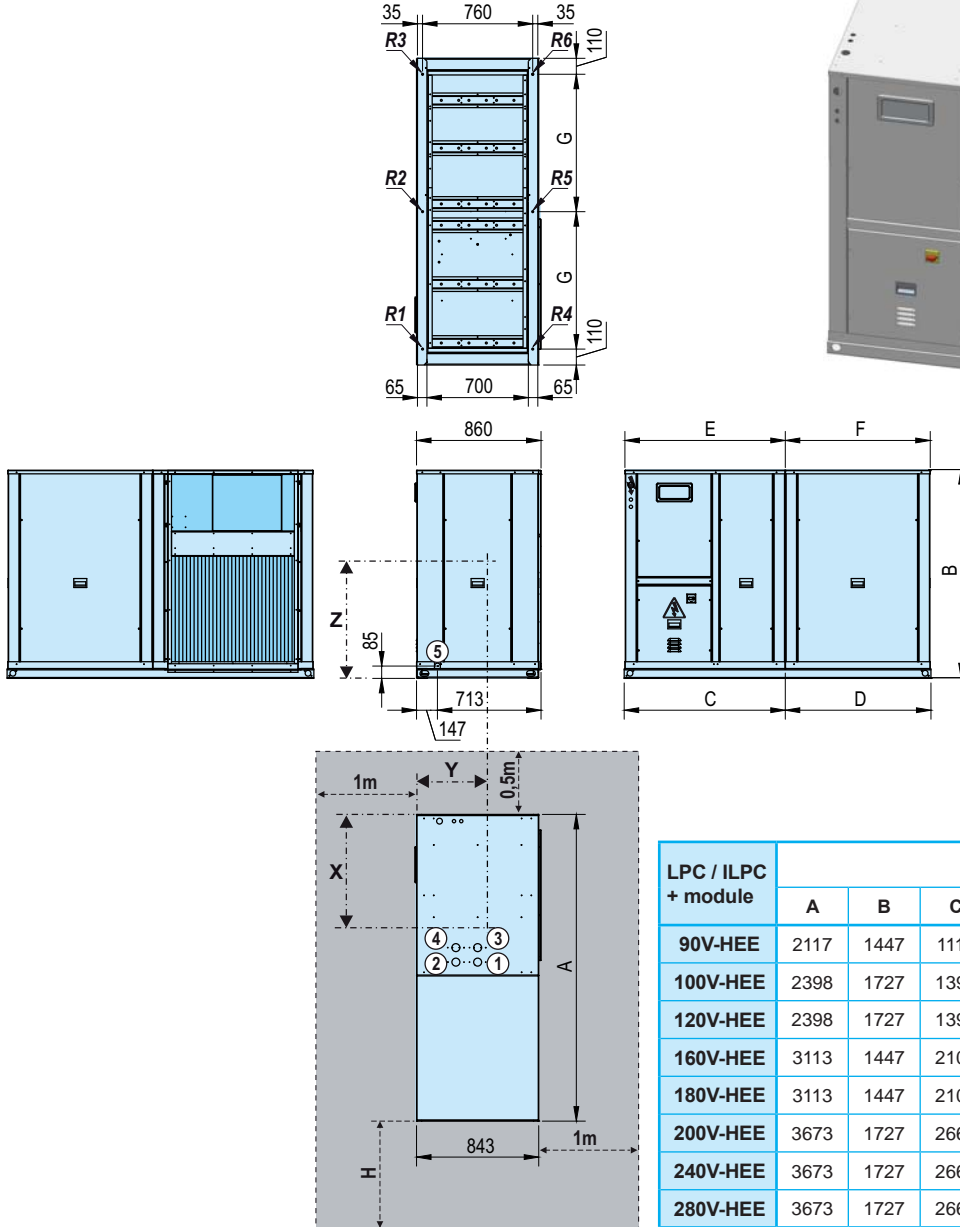
Anti-vibration anchoring: rivet nut M10

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

CIATCooler		C.o.g. (mm)			Reactions in the supports (kg)												
		X	Y	Z	Weight	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12
LP	640V-HEE	2274	564	847	1749	127	141	148	152	154	145	129	144	151	155	157	148
ILP	720V-HEE	2274	564	846	1761	128	142	149	153	155	146	130	145	152	156	158	149
LPC	640V-HEE	2284	569	827	1863	132	148	155	161	163	155	137	154	162	167	169	160
ILPC	720V-HEE	2284	569	826	1875	133	149	156	162	164	156	138	155	163	168	170	161

DIMENSION SCHEMES FOR THE HEE VERSION

LPC / ILPC with hydraulic module (mm)



LPC / ILPC + module	Dimensions (mm)							
	A	B	C	D	E	F	G	H
90V-HEE	2117	1447	1112	1005	1106	1000	948	1200
100V-HEE	2398	1727	1393	1005	1387	1000	1089	1500
120V-HEE	2398	1727	1393	1005	1387	1000	1089	1500
160V-HEE	3113	1447	2108	1005	2102	1000	1446	1200
180V-HEE	3113	1447	2108	1005	2102	1000	1446	1200
200V-HEE	3673	1727	2668	1005	2662	1000	1726	1500
240V-HEE	3673	1727	2668	1005	2662	1000	1726	1500
280V-HEE	3673	1727	2668	1005	2662	1000	1726	1500

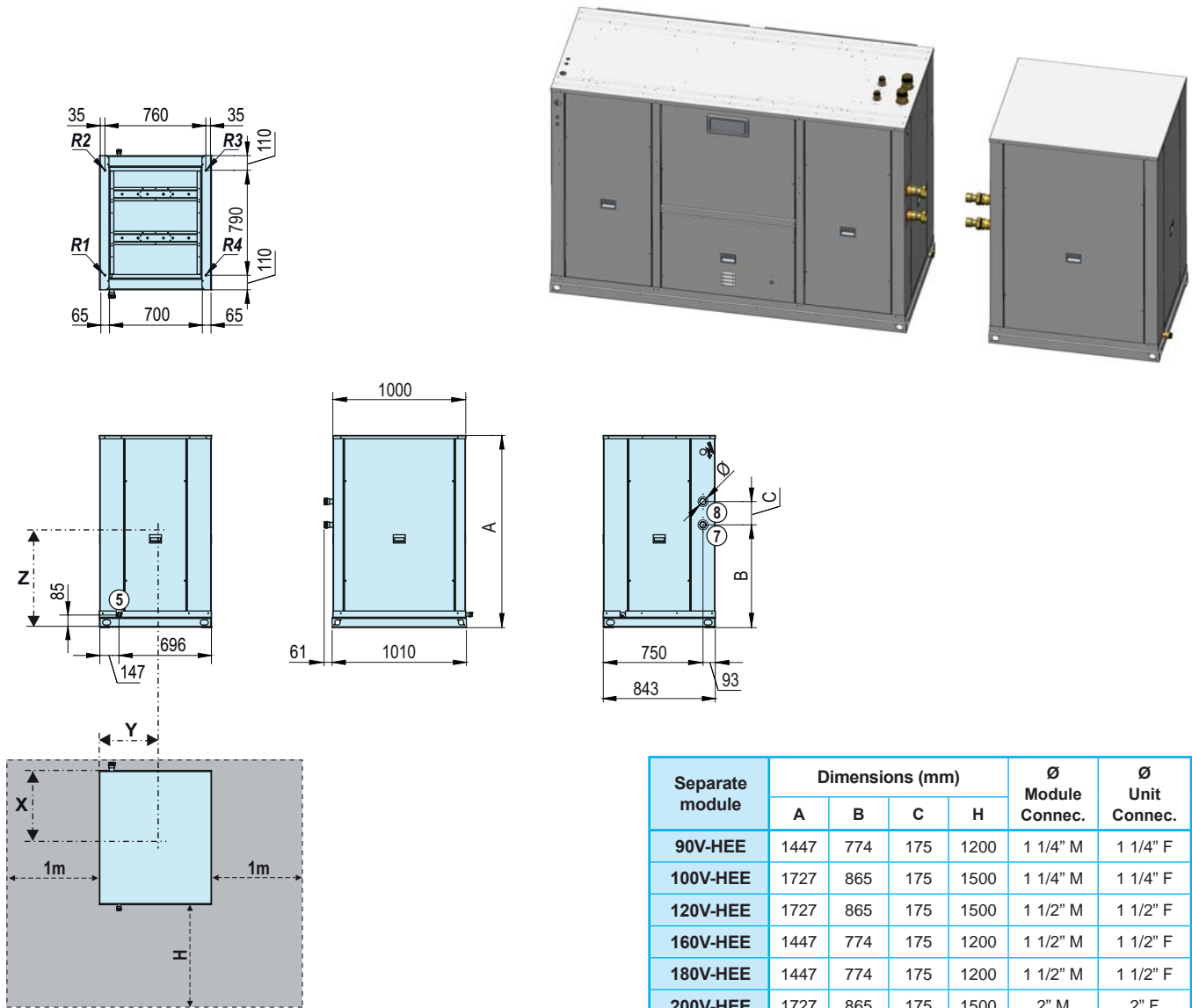
LEGEND

- Electric panel
 - Electric power supply
 - Door switch
 - ① Water inlet to the indoor circuit
 - ② Water outlet from the indoor circuit
 - ③ Water outlet from the recovery circuit (optional)
 - ④ Water inlet to the recovery circuit (optional)
 - ⑤ Discharge of condensates and tank drain: trunk 3/4" M (models 90 to 180) or 1" M (models 200 to 280)
 - ⑥ Collapsible window for access to control panel (it protrudes 12 mm)
- Note: the hydraulic connections ①② protrude 58 mm
- Anti-vibration anchoring: rivet nut M10
- Clear space to be observed for maintenance operations and unit start-up

LPC / ILPC + module	Centre of gravity coordinates (mm)			Reactions in the supports (kg)						
	X	Y	Z	Weight	R1	R2	R3	R4	R5	R6
90V-HEE	847	426	584	569	41	135	105	43	137	107
100V-HEE	913	420	629	646	42	155	127	41	154	126
120V-HEE	984	427	668	723	57	171	128	60	175	132
160V-HEE	1385	434	572	804	76	188	124	85	197	133
180V-HEE	1381	434	576	813	77	190	126	86	199	135
200V-HEE	1645	438	641	1094	104	254	165	120	270	181
240V-HEE	1660	436	644	1120	110	261	167	124	275	182
280V-HEE	1653	435	642	1128	110	264	170	124	277	184

DIMENSION SCHEMES FOR THE HEE VERSION

Separate hydraulic module, models 90V-HEE to 280-HEE (mm)



Separate module	Dimensions (mm)				Ø Module Connec.	Ø Unit Connec.
	A	B	C	H		
90V-HEE	1447	774	175	1200	1 1/4" M	1 1/4" F
100V-HEE	1727	865	175	1500	1 1/4" M	1 1/4" F
120V-HEE	1727	865	175	1500	1 1/2" M	1 1/2" F
160V-HEE	1447	774	175	1200	1 1/2" M	1 1/2" F
180V-HEE	1447	774	175	1200	1 1/2" M	1 1/2" F
200V-HEE	1727	865	175	1500	2" M	2" F
240V-HEE	1727	865	175	1500	2" M	2" F
280V-HEE	1727	865	175	1500	2" M	2" F

Separate module	Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
90V-HEE	488	448	496	242	58	53	63	68
100V-HEE	490	447	559	255	61	56	67	72
120V-HEE	490	452	616	315	74	68	83	89
160V-HEE	488	454	568	307	72	66	81	88
180V-HEE	488	454	568	310	73	66	82	89
200V-HEE	569	456	621	404	74	106	128	96
240V-HEE	569	456	621	404	74	106	128	96
280V-HEE	569	456	621	404	74	106	128	96

LEGEND

- Electric power supply
- ⑤ Tank drain: trunk 3/4" M (models 90 to 180) or 1" M (models 200 to 360)
- ⑦ Water inlet to the tank
- ⑧ Water outlet from the tank

Anti-vibration anchoring: rivet nut M10
 Minimum distance between unit and module: 167 mm

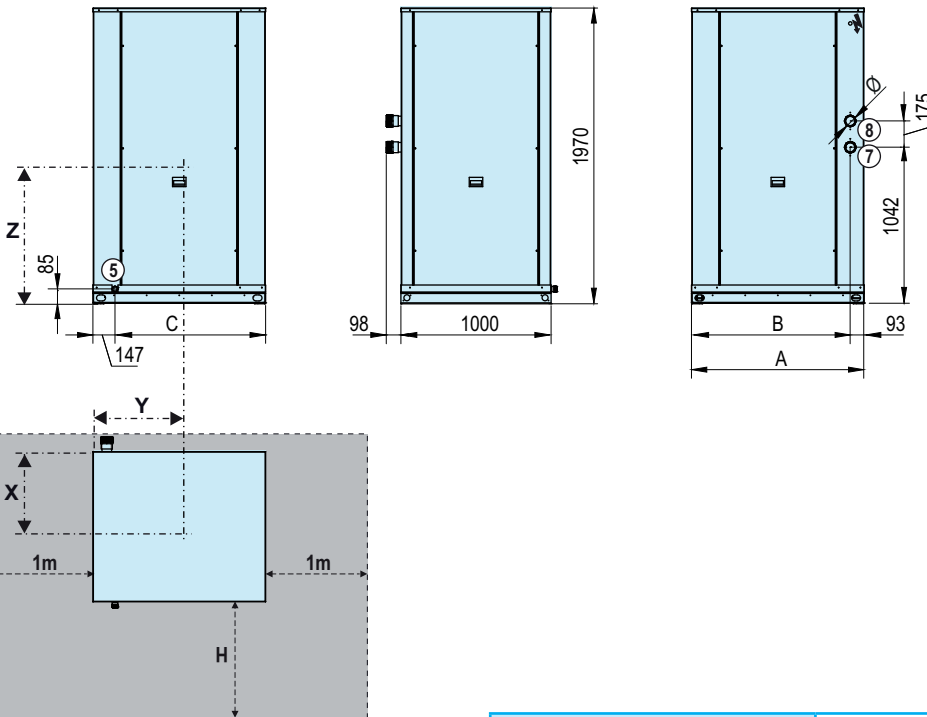
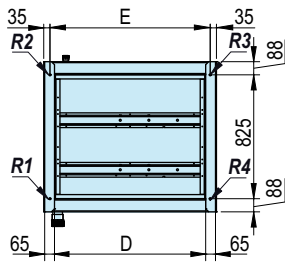
Clear space to be observed for maintenance operations and unit start-up



Water chillers and air/water heat pumps

DIMENSION SCHEMES FOR THE HEE VERSION

Separate hydraulic module, models 320V-HEE to 720-HEE (mm)



LEGEND

- Electric power supply
- Tank drain: trunk 1" M
- Water inlet to the tank
- Water outlet from the tank

Anti-vibration anchoring: rivet nut M10

Minimum distance between unit and module: 167mm in models 320 to 600 and 187mm in models 640 and 720

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

Separate module	Dimensions (mm)						Ø Module Connec.	Ø Unit Connec.
	A	B	C	D	E	H		
320V-HEE / 360V-HEE	900	807	753	757	817	1800	2" M	2" F
420V-HEE / 480V-HEE / 600V-HEE	1150	1057	1003	1007	1067	1900	2 1/2" M	2 1/2" F
640V-HEE / 720V-HEE	1200	1107	1053	1057	1117	2400	2 1/2" M	2 1/2" F

Separate module	Centre of gravity coordinates (mm)			Reactions in the supports (kg)				
	X	Y	Z	Weight	R1	R2	R3	R4
320V-HEE / 360V-HEE	498	445	784	424	108	107	104	105
420V-HEE / 480V-HEE / 600V-HEE	494	583	781	508	127	123	127	131
640V-HEE / 720V-HEE	492	600	841	523	137	133	125	129