

R407C

EASY_R

**Air cooled liquid chillers and heat pumps
equipped with scroll compressor and axial fans**

5,2 ÷ 41,5 kW




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T_ESY_R_0508_GB

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EASY.A "R": Air cooled liquid chillers equipped with scroll compressors and axial fans.
R407C refrigerant charge.

EASY.A.P "R": Air cooled heat pump equipped with scroll compressors, axial fans and welded plate heat exchangers.
R407C refrigerant charge.

The units are in compliance with CE 98/37, 2004/108/CE, CE 97/23, 2006/95/CE European norms and subsequent modifications.

WORKING LIMITS

COOLING MODE:

Evaporator water temperature:

6°C outlet minimum value.
-10°C outlet minimum value with antifreeze solution.
20°C inlet maximum value.

Ambient temperature:

20°C minimum value with nominal air flow rate
20/-15°C temperature range with air flow rate control
45°C maximum value

HEAT PUMP

Ambient temperature:

-15°C minimum value
30°C maximum value

Hot water temperature:

30÷50°C outlet water temperature range.

WARNING

The values are indicative.

Please check the limit operation conditions of the specific model with the electronic selection catalogue RC WORLD.

STORING TEMPERATURE: -30 ÷ 50°C in absence of superficial condensation and direct sun light.

SERIES IDENTIFICATION

EASY "R" - Air cooled liquid chillers and heat pumps with one condensing coil in vertical position and equipped with scroll compressor, axial fans and welded plate heat exchangers. Horizontal air suction and discharge.

EASY.A "R" - Liquid chiller

Cooling capacity 5,2 ÷ 41,5 kW

EASY.A.P "R" - Heat pump

Cooling capacity 5,2 ÷ 41,1 kW

Heating capacity 6,2 ÷ 49,5 kW

**MODEL IDENTIFICATION**

EASY A P T 8 Z 1 R1

A Condenser fan type

A Axial fan

P Heat pump version**ELN Extremely low noise version****T Power supply**

M Single-phase 230/150

T Three-phase 400/3/50+N

8 Cooling capacity (kW)**Z Compressor type**

Z Scroll

1 Compressors number**R1 Cabinet size**

COMPONENTS

- Housing and unit base made of RAL9002 epoxy painted galvanized steel sheet.
- Technical compartment, fully enclosed and separate from the air flow, housing compressors, evaporator, controls, electric and regulation devices, to assure working continuity during ordinary service and preventive maintenance operations and to reduce the noise emissions.
- Antifreeze electric heater for technical compartment.
- Scroll type fully-hermetic compressor with built-in electric protection.
- Rubber holders for compressor.
- Stainless steel AISI 316 welded plate evaporator, insulated with closed cells polyurethane.
- Condensing coil with copper tubes, continuous aluminium finning and frame in non-oxidable material.
- Axial fans directly coupled to electric motor and protected by special safety net.
- Condensing control system by stepless condenser fans speed, through electronic regulator directly driven by the proportional signal managed by microprocessor control.
- Differential pressure switch for water flow loss control.
- Rubber antivibration holders, not installed
- Cooling circuit components:
 - Thermostatic expansion valve with external equalizer.
 - Liquid and moisture indicator.
 - High pressure safety switch.
 - Low pressure safety switch.
 - Dryer and anti-acid gas filter.
 - Copper piping for cooling circuit.
 - Flexible piping for pressure switches connection.
 - R407C refrigerant gas and non-freezing oil charge.
- Microprocessor control system with contact for general alarm remotization.
- Temperature sensors on evaporator water inlet/outlet.
- Compressor hour-meter.
- Electric box built-in the unit housing, suitable for outdoor installation, including:
 - Quick opening external panel with protective function.
 - Safety internal panel equipped with microprocessor display and auxiliary controls.
 - Magnetothermic switches.
 - Contactor for compressor.
 - Auxiliary circuit and microprocessor feeding by transformer.

HEAT PUMP COMPONENTS

- Microprocessor controlled automatic defrosting system of the gas/air heat exchanger.
- Cycle inversion valve.
- Liquid receiver.

OPTIONAL ACCESSORIES

- “HYG” hydronic group equipped with water tank and one circulating water pump.
It is not possible to match the HYG hydronic group with the PU pumping group.
- “PU” pumping group equipped with one circulating water pump.
It is not possible to match the PU pumping group with the HYG hydronic group.
- Kit for gas/air heat exchanger protection net.
- LNO kit:
 - Set of the working parameters
 - Soundproof cap on compressor.
- Microprocessor accessories:
 - Remote control kit: remote panel for unit control and alarms signalling.
 - Kit for RS485 serial port.

WARNING

In case the unit is not equipped with “HYG Hydronic group” it is compulsory to install a water filter on evaporator water inlet.

It is not possible to match the “HYG Hydronic Group” and “Pumping Group” optional.

The optional named “Kit” are not factory installed. The installation is at Customer care.

RC GROUP reserves the right to accept the matching of the optional installed on the unit.

TECHNICAL DATA - EASY.A "R" – Liquid chiller

MODEL		M.5.Z1	M.6.Z1	M.8.Z1	T.8.Z1	M.9.Z1	T.9.Z1	T.11.Z1	T.14.Z1
SIZE		R1	R1	R1	R1	R1	R1	R2	R2
COOLING ONLY (1)									
COOLING CAPACITY	kW	5,2	6,4	7,5	7,5	8,8	8,7	10,9	12,9
Compressor power input	kW	1,5	2,0	2,6	2,5	3,0	2,9	3,5	4,5
Compressor absorbed current	A	7,4	9,5	11,9	4,7	14,0	5,3	6,3	8,3
Evaporator water flow rate	m ³ /h	0,9	1,1	1,3	1,3	1,5	1,5	1,9	2,2
Evaporator pressure drop	kPa	12	18	22	22	29	29	29	27
COMPRESSOR									
		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll
Quantity	n.	1	1	1	1	1	1	1	1
Max operating current FLA	A	10	12	14	5	16	6	7	9
Starting current LRA	A	47	61	76	40	100	46	52	66
Capacity steps	n.	1	1	1	1	1	1	1	1
EVAPORATOR									
	n.	1	1	1	1	1	1	1	1
Water volume	l	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Max water flow rate	m ³ /h	2,2	2,2	2,2	2,2	2,2	2,2	2,9	3,5
AXIAL FANS									
	n.	1	1	1	1	1	1	1	1
Total air flow	m ³ /h	3250	3250	3250	3250	2950	2950	3450	3450
Total power input	kW	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15
Max operating current FLA	A	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7
REFRIGERANT									
		R407C	R407C	R407C	R407C	R407C	R407C	R407C	R407C
Total refrigerant charge (optional excluded)	kg	1,8	1,8	1,8	1,8	1,8	1,8	1,9	1,9
Gas circuits	n.	1	1	1	1	1	1	1	1
POWER SUPPLY									
	V/Ph/Hz	230/1/50	230/1/50	230/1/50	400/3/50+N	230/1/50	400/3/50+N	400/3/50+N	400/3/50+N
ENERGY EFFICIENCY INDEXES									
EER - Energy Efficiency Ratio	kW/kW	3,15	2,98	2,73	2,83	2,79	2,85	2,99	2,77
IPLV - ARI Standard 550/590		3,87	3,67	3,36	3,48	3,43	3,51	3,68	3,41
ESEER Eurovent Standard		4,38	4,14	3,79	3,93	3,88	3,96	4,16	3,85
SOUND LEVEL - ISO 3744 (2)									
Sound pressure level (Lp)	dB(A)	54,5	54,5	55,0	55,0	55,0	55,0	55,0	60,2
Sound power level (Lw)	dB(A)	68,9	68,9	69,4	69,4	69,4	69,4	69,9	75,1
HYG HYDRONIC GROUP									
With 1 pump - Model		70	70	70	70	70	70	131	131
Water tank volume	l	70	70	70	70	70	70	130	130
PU PUMPING GROUP									
Model		01/R1	01/R1	01/R1	01/R1	01/R1	01/R1	01/R2a	01/R2a
DIMENSIONS									
Length	mm	1048	1048	1048	1048	1048	1048	1305	1305
Width	mm	460	460	460	460	460	460	580	580
Height	mm	836	836	836	836	836	836	900	900
NET WEIGHT	kg	80	80	82	82	83	83	105	108
HYDRAULIC CONNECTIONS									
EVAPORATOR									
Inlet / Outlet – ISO228/1-G M	Ø	1"	1"	1"	1"	1"	1"	1"	1"

1. Referred to chiller water temperature 12/7°C; 35°C ambient temperature.
2. Sound level 1m far in free field conditions.

TECHNICAL DATA - EASY.A "R" – Liquid chiller

MODEL		T.16.Z1	T.18.Z1	T.20.Z1	T.24.Z1	T.28.Z1	T.35.Z1	T.43.Z1
SIZE		R2	R2	R3	R3	R3	R4	R4
COOLING ONLY (1)								
COOLING CAPACITY	kW	15,6	17,4	20,7	24,5	27,8	34,1	41,5
Compressor power input	kW	5,1	6,0	5,9	7,6	9,1	11,3	13,6
Compressor operating current	A	8,9	11,0	12,0	15,0	16,3	19,1	23,5
Evaporator water flow rate	m ³ /h	2,7	3,0	3,6	4,2	4,8	5,9	7,2
Evaporator pressure drop	kPa	22	26	27	35	24	27	28
COMPRESSOR								
		scroll	scroll	scroll	scroll	scroll	scroll	scroll
Quantity	n.	1	1	1	1	1	1	1
Max operating current FLA	A	10	12	14	16	18	22	26
Starting current LRA	A	74	101	99	123	127	167	198
Capacity steps	n.	1	1	1	1	1	1	1
EVAPORATOR								
	n.	1	1	1	1	1	1	1
Water volume	l	1,5	1,5	1,8	1,8	2,5	3,0	3,5
Max water flow rate	m ³ /h	4,8	4,8	5,8	5,8	8,0	9,6	11,0
AXIAL FANS								
	n.	1	1	2	2	2	4	4
Total air flow	m ³ /h	4700	4400	8400	8400	8400	10250	13100
Total power input	kW	0,25	0,25	0,50	0,50	0,50	0,60	1,00
Max operating current FLA	A	1,2	1,2	2,3	2,3	2,3	2,8	4,6
REFRIGERANT								
		R407C	R407C	R407C	R407C	R407C	R407C	R407C
Total refrigerant charge (optional excluded)	kg	1,9	1,9	3,0	3,0	3,0	5,5	5,5
Gas circuits	n.	1	1	1	1	1	1	1
POWER SUPPLY								
	V/Ph/Hz	400/350+N	400/350+N	400/350+N	400/350+N	400/350+N	400/350+N	400/350+N
ENERGY EFFICIENCY INDEXES								
EER - Energy Efficiency Ratio	kW/kW	2,92	2,78	3,24	3,02	2,90	2,87	2,84
IPLV - ARI Standard 550/590		3,59	3,42	3,99	3,71	3,57	3,53	3,49
ESEER Eurovent Standard		4,06	3,86	4,50	4,20	4,03	3,99	3,95
SOUND LEVEL - ISO 3744 (2)								
Sound pressure level (Lp)	dB(A)	62,4	62,4	62,4	62,6	64,5	62,2	65,1
Sound power level (Lw)	dB(A)	77,3	77,3	77,9	78,1	80,0	78,1	81,0
HYG HYDRONIC GROUP								
With 1 pump - Model		131	131	132	132	132	210	210
Water tank volume	l	130	130	130	130	130	210	210
PU PUMPING GROUP								
Model		01/R2b	01/R2b	01/R3	01/R3	01/R3	01/R4	01/R4
DIMENSIONS								
Length	mm	1305	1305	1305	1305	1305	1805	1805
Width	mm	580	580	580	580	580	580	580
Height	mm	900	900	1285	1285	1285	1285	1285
NET WEIGHT								
	kg	115	120	170	185	205	280	295
HYDRAULIC CONNECTIONS								
EVAPORATOR								
Inlet / Outlet – ISO228/1-G M	Ø	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"

1. Referred to chiller water temperature 12/7°C; 35°C ambient temperature.
2. Sound level 1m far in free field conditions.

TECHNICAL DATA - EASY.A.P "R" – Heat pump

MODEL		M.5.Z1	M.6.Z1	M.8.Z1	T.8.Z1	M.9.Z1	T.9.Z1	T.11.Z1	T.14.Z1
SIZE		R1	R1	R1	R1	R1	R1	R2	R2
SUMMER WORKING MODE (1)									
COOLING CAPACITY	kW	5,2	6,31	7,4	7,4	8,6	8,6	10,8	12,8
Compressor power input	kW	1,5	2	2,6	2,5	3	2,9	3,4	4,5
Compressor operating current	A	7,39	9,48	11,9	4,7	14	5,3	6,3	8,3
Plant exchanger water flow rate	m ³ /h	0,89	1,09	1,28	1,28	1,48	1,48	1,86	2,21
Plant exchanger pressure drop	kPa	12	18	22	22	29	29	29	27
WINTER WORKING MODE (2)									
HEATING CAPACITY	kW	6,19	7,69	8,89	8,69	10,6	10,5	13,4	15,8
Compressor power input	kW	1,74	2,46	2,66	2,65	3,29	3,18	3,79	4,49
Compressor operating current	A	8,46	11,2	12,3	4,77	15,1	5,6	6,71	8,31
COMPRESSOR									
		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll
Quantity	n.	1	1	1	1	1	1	1	1
Max operating current FLA	A	10	12	14	5	16	6	7	9
Starting current LRA	A	47	61	76	40	100	46	52	66
Capacity steps	n.	1	1	1	1	1	1	1	1
PLANT WATER EXCHANGER									
	n.	1	1	1	1	1	1	1	1
Water volume	l	1	1	1	1	1	1	1	1
Max water flow rate	m ³ /h	2,2	2,2	2,2	2,2	2,2	2,2	2,9	3,5
AXIAL FANS									
	n.	1	1	1	1	1	1	1	1
Total air flow	m ³ /h	3250	3250	3250	3250	2950	2950	3450	3450
Total power input	kW	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15
Max operating current FLA	A	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7
REFRIGERANT									
		R407C	R407C	R407C	R407C	R407C	R407C	R407C	R407C
Total refrigerant charge (optional excluded)	kg	2	2	2	2	2	2	2,5	2,5
Gas circuits	n.	1	1	1	1	1	1	1	1
POWER SUPPLY									
	V/Ph/Hz	230/1/50	230/1/50	230/1/50	400/3/50+N	230/1/50	400/3/50+N	400/3/50+N	400/3/50+N
ENERGY EFFICIENCY INDEXES									
EER - Energy Efficiency Ratio	kW/kW	3,15	2,93	2,69	2,79	2,73	2,82	3,04	2,75
COP - Coefficient of Performance	kW/kW	3,28	2,95	3,16	3,1	3,08	3,15	3,4	3,41
IPLV - ARI Standard 550/590		3,87	3,6	3,31	3,43	3,36	3,47	3,74	3,38
ESEER Eurovent Standard		4,38	4,07	3,74	3,88	3,79	3,92	4,23	3,82
SOUND LEVEL - ISO 3744 (3)									
Sound pressure level (Lp)	dB(A)	54,5	54,5	55	55	55	55	55	60,2
Sound power level (Lw)	dB(A)	68,9	68,9	69,4	69,4	69,4	69,4	69,9	75,1
HYG HYDRONIC GROUP									
With 1 pump - Model		70	70	70	70	70	70	131	131
Water tank volume	l	70	70	70	70	70	70	130	130
PU PUMPING GROUP									
With 1 pump - Model		01/R1	01/R1	01/R1	01/R1	01/R1	01/R1	01/R2a	01/R2a
DIMENSIONS									
Length	mm	1048	1048	1048	1048	1048	1048	1305	1305
Width	mm	460	460	460	460	460	460	580	580
Height	mm	836	836	836	836	836	836	900	900
NET WEIGHT	kg	80	80	82	82	83	83	105	108
HYDRAULIC CONNECTIONS									
PLANT WATER EXCHANGER									
Inlet / Outlet – ISO228/1-G M	Ø	1"	1"	1"	1"	1"	1"	1"	1"

1. Referred to chiller water temperature 12/7°C; 35°C ambient temperature.
2. Referred to inlet hot water temperature at 40°C; 7°C ambient temperature with 90%rH
3. Sound level 1m far in free field conditions.

TECHNICAL DATA - EASY.A.P "R" – Heat pump

MODEL		T.16.Z1	T.18.Z1	T.20.Z1	T.24.Z1	T.28.Z1	T.35.Z1	T.43.Z1
SIZE		R2	R2	R3	R3	R3	R4	R4
SUMMER WORKING MODE (1)								
COOLING CAPACITY	kW	15,3	17,2	20,5	24,1	27,2	33	41,1
Compressor power input	kW	5,1	6	5,89	7,6	9,1	11,3	13,6
Compressor operating current	A	8,9	11	12,1	14,9	16,3	19,1	23,5
Plant exchanger water flow rate	m ³ /h	2,64	2,97	3,53	4,15	4,69	5,69	7,08
Plant exchanger pressure drop	kPa	22	26	27	35	24	27	28
WINTER WORKING MODE (2)								
HEATING CAPACITY	kW	18,6	21,4	24,9	29,2	32,9	40,7	49,5
Compressor power input	kW	5,21	5,96	6,86	8,18	8,93	11,5	13,7
Compressor operating current	A	9,07	11	13,2	15,6	16,2	19,2	23,5
COMPRESSOR								
		scroll	scroll	scroll	scroll	scroll	scroll	scroll
Quantity	n.	1	1	1	1	1	1	1
Max operating current FLA	A	10	12	14	16	18	22	26
Starting current LRA	A	74	101	99	123	127	167	198
Capacity steps	n.	1	1	1	1	1	1	1
PLANT WATER EXCHANGER								
	n.	1	1	1	1	1	1	1
Water volume	l	1,5	1,5	1,8	1,8	2,5	3	3,5
Max water flow rate	m ³ /h	4,8	4,8	5,8	5,8	8	9,6	11
AXIAL FANS								
	n.	1	1	2	2	2	4	4
Total air flow	m ³ /h	4700	4400	8400	8400	8400	10250	13100
Total power input	kW	0,25	0,25	0,5	0,5	0,5	0,6	1
Max operating current FLA	A	1,15	1,15	2,3	2,3	2,3	2,8	4,6
REFRIGERANT								
		R407C	R407C	R407C	R407C	R407C	R407C	R407C
Total refrigerant charge (optional excluded)	kg	2,5	2,5	4	4	4	6,5	6,5
Gas circuits	n.	1	1	1	1	1	1	1
POWER SUPPLY								
	V/Ph/Hz	400/350+N	400/350+N	400/350+N	400/350+N	400/350+N	400/350+N	400/350+N
ENERGY EFFICIENCY INDEXES								
EER - Energy Efficiency Ratio	kW/kW	2,86	2,75	3,21	2,98	2,83	2,77	2,82
COP - Coefficient of Performance	kW/kW	3,41	3,45	3,38	3,36	3,49	3,36	3,37
IPLV - ARI Standard 550/590		3,52	3,38	3,95	3,67	3,48	3,41	3,47
ESEER Eurovent Standard		3,98	3,82	4,46	4,14	3,93	3,85	3,92
SOUND LEVEL - ISO 3744 (3)								
Sound pressure level (Lp)	dB(A)	62,4	62,4	62,4	62,6	64,5	62,2	65,1
Sound power level (Lw)	dB(A)	77,3	77,3	77,9	78,1	80	78,1	81
HYG HYDRONIC GROUP								
With 1 pump - Model		131	131	132	132	132	210	210
Water tank volume	l	130	130	130	130	130	210	210
PU PUMPING GROUP								
With 1 pump - Model		01/R2b	01/R2b	01/R3	01/R3	01/R3	01/R4	01/R4
DIMENSIONS								
Length	mm	1305	1305	1305	1305	1305	1805	1805
Width	mm	580	580	580	580	580	580	580
Height	mm	900	900	1285	1285	1285	1285	1285
NET WEIGHT								
	kg	115	120	179	194	214	294	309
HYDRAULIC CONNECTIONS								
PLANT WATER EXCHANGER								
Inlet / Outlet – ISO228/1-G M	Ø	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"

1. Referred to chiller water temperature 12/7°C; 35°C ambient temperature.
2. Referred to inlet hot water temperature at 40°C; 7°C ambient temperature with 90%rH
3. Sound level 1m far in free field conditions.

ACOUSTIC DATA

MODEL		M.5.Z1	M.6.Z1	M.8.Z1	T.8.Z1	M.9.Z1	T.9.Z1	T.11.Z1	T.14.Z1
SIZE		R1	R1	R1	R1	R1	R1	R2	R2
Sound power level (1)	dB(A)	68,9	68,9	69,4	69,4	69,4	69,4	69,9	75,1
Sound pressure level at 1m (2)	dB(A)	54,5	54,5	55,0	55,0	55,0	55,0	55,0	60,2
Sound pressure level at 5m (3)	dB(A)	43,3	43,3	43,8	43,8	43,8	43,8	44,1	49,3
Sound pressure level at 10m (3)	dB(A)	37,7	37,7	38,2	38,2	38,2	38,2	38,6	43,8

MODEL		T.16.Z1	T.18.Z1	T.20.Z1	T.24.Z1	T.28.Z1	T.35.Z1	T.43.Z1
SIZE		R2	R2	R3	R3	R3	R4	R4
Sound power level (1)	dB(A)	77,3	77,3	77,9	78,1	80,0	78,1	81,0
Sound pressure level at 1m (2)	dB(A)	62,4	62,4	62,4	62,6	64,5	62,2	65,1
Sound pressure level at 5m (3)	dB(A)	51,5	51,5	52,0	52,1	54,0	52,0	54,9
Sound pressure level at 10m (3)	dB(A)	46,0	46,0	46,5	46,7	48,6	46,6	49,5

1. Sound power level (L_w) according to ISO3744.
2. Sound pressure level (L_p) in free field according to ISO3744
3. Sound pressure level (L_p) in free field

IMPORTANT

For further information about units acoustic data, please refer to “The Noise” bulletin of RC GROUP technical literature.

ELECTRIC DATA**MAXIMUM ELECTRIC ABSORPTION CALCULATION**

This chapter is showing the maximum electrical absorption calculation of unit (A), corresponding to extreme working conditions.

The involved components are the following:

- Compressors electric motor
- Condensers fans electric motors
- Water pump electric motor (if present)

The electrical data of the various components are indicated in the relative technical data sheets.

EXAMPLE 1:

Calculation for EASY.T.8.Z1.R1:

MAXIMUM ELECTRIC ABSORPTION

- Compressor	A	4,0	+
- Condenser fans	A	0,7	=
Maximum electric absorption	A	4,7	

EXAMPLE 2:

Calculation for EASY.T.8.Z1.R1 equipped with PU01/R1 pumping group:

MAXIMUM ELECTRIC ABSORPTION

- Compressor	A	4,00	+
- Condenser fans	A	0,70	+
- Water pump	A	1,02	=
Maximum electric absorption	A	5,72	

IMPORTANT

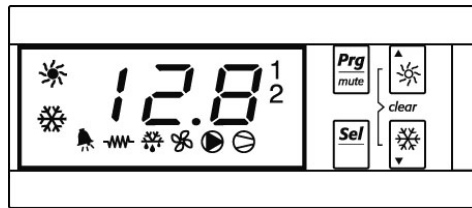
For water pumps and condenser fans, the current nominal values have been considered equal to the plate value. Therefore the nominal current and the plate current are the same.

In fact, the real absorbed current is normally lower than the plate value.

These values depend on the unit working conditions and on the control type of the plant.

MICROCHILLER: MICROPROCESSOR CONTROL SYSTEM

The MICROCHILLER microprocessor control system is equipped with 4 keys and display on which all information in easily identifiable symbols are displayed.



KEYBOARD FUNCTIONS



Setting and displaying the set-point and the main control parameters.



Access to the unit configuration parameters. Level protected by password.



Reset any alarms condition and the alarm relay will de-energized.



Enabling / Disabling cooling mode (Summer).



Enabling / Disabling heating mode (Winter, only heat pump).



To turn-on or turn-off the unit press the working mode key (Summer or Winter).

REMOTE CONTROLS/ALARMS

INLETS

- 1 External enabling •
- 2 set-point changeover •

OUTLETS

- 1 General alarm ••

OUTLETS (with HYG hydronic group optional accessory)

- 1 Water flow pressure switch ••

- remote controls/alarms
- voltage free controls/alarms

OPTIONAL ACCESSORIES - "HYG" HYDRONIC GROUP

Pumping group with insulated water tank made of housing and base in RAL 9002 epoxy painted galvanized steel sheet.

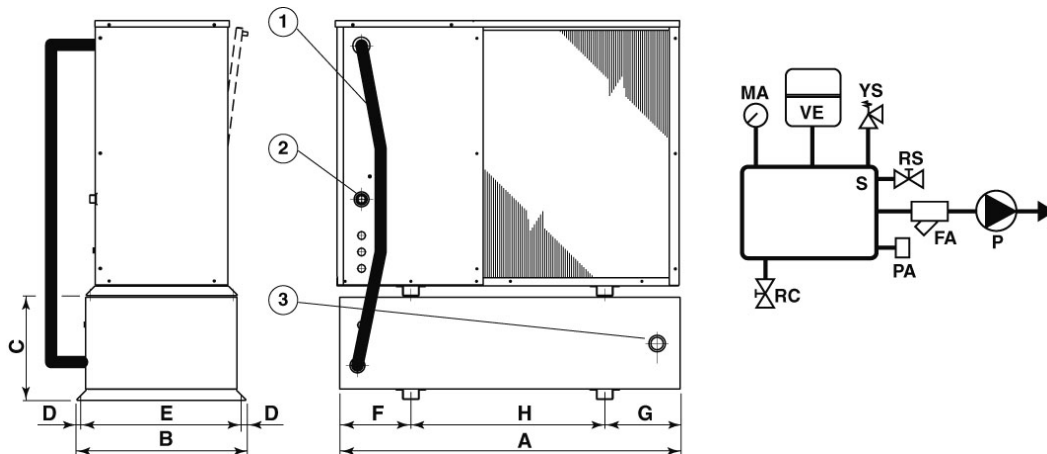
This optional is installed under the chiller.

In the chillers technical data tables are showed the hydronic group type for each unit.

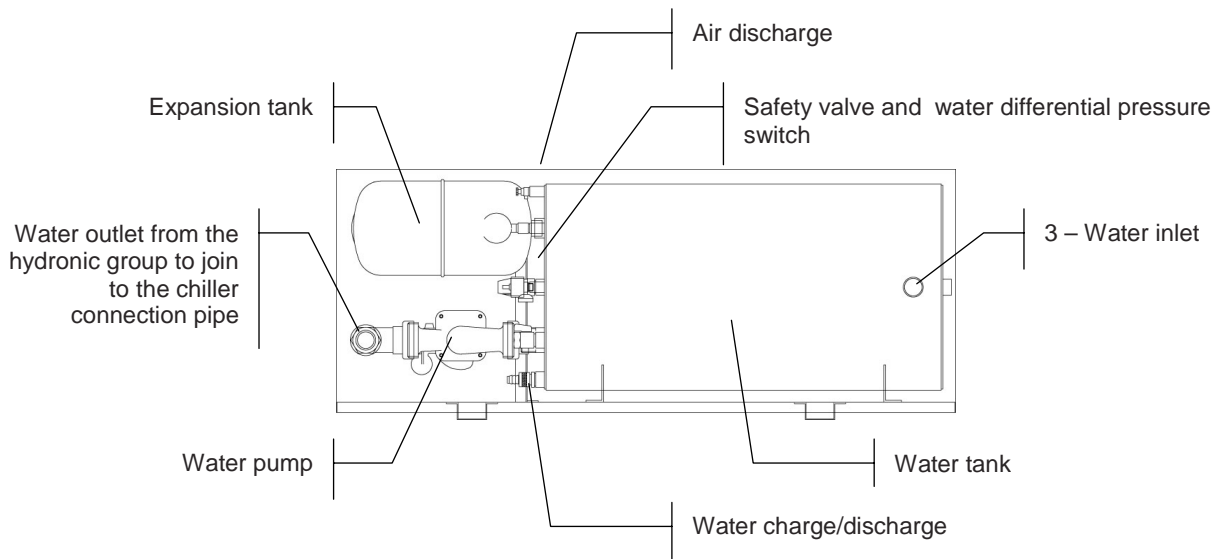
The system includes:

- water pump.
- insulated and painted water tank.
- expansion tank.
- water safety valve.
- water pressure switch.
- water pressure gauge.
- water filter.
- cocks for air discharge and water charge/discharge.
- connection pipe between hydronic group and chiller.
- electric cable for water pump power supply, directly from the chiller electric box.
- rubber washer and bolts to fix hydronic group to the chiller.

"HYG" HYDRONIC GROUP



	A	B	C	D	E	F	G	H
HYG 70	1050	500	425	10	480	230	230	590
HYG131/132	1305	620	520	10	600	181	214	910
HYG 210	1805	620	520	10	600	180	315	1310



- | | | |
|-------------------|-------------------|---------------------------|
| 1 Connection pipe | S Water tank | P Water pump |
| 2 Water outlet | MA Pressure gauge | PA Water pressure switch |
| 3 Water inlet | FA Water filter | RC Water charge/discharge |
| | VE Expansion tank | RS Air discharge |
| | YS Safety valve | |

OPTIONAL ACCESSORIES "HYG" HYDRONIC GROUP

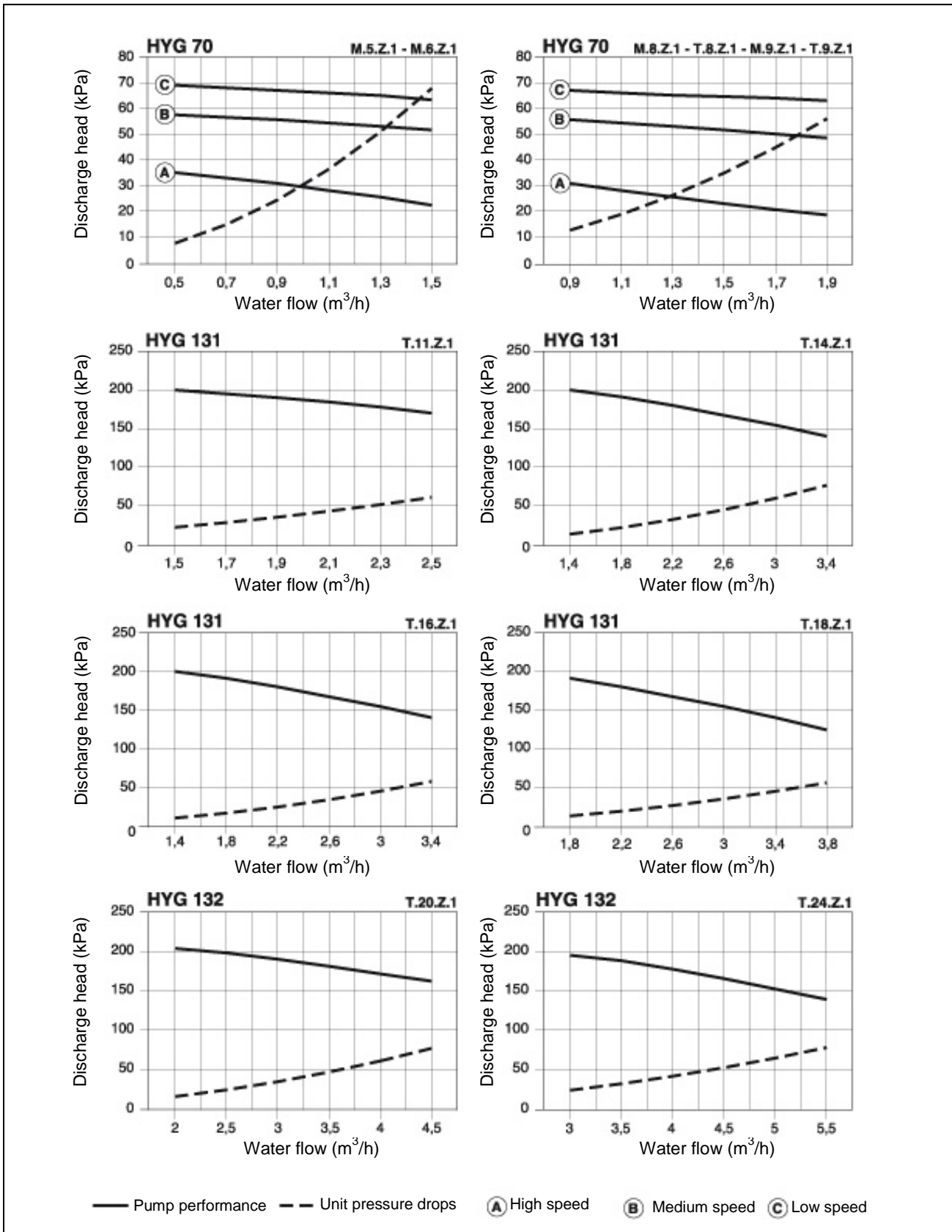
TECHNICAL DATA

SIZE		HYG70	HYG131	HYG132	HYG210
WATER TANK					
Water volume	l	70	130	130	210
WATER FLOW RATE					
Minimum water flow rate	m ³ /h	0,5	1,5	2,0	3,0
Maximum water flow rate	m ³ /h	1,9	3,8	6,0	9,0
DISCHARGE HEAD					
At minimum water flow rate	kPa	69	200	203	218
At maximum water flow rate	kPa	63	124	123	170
WATER PUMP (1)					
POWER INPUT					
High speed	kW	0,19	0,55	0,55	0,75
Medium speed	kW	0,17	--	--	--
Low speed	kW	0,12	--	--	--
OPERATING CURRENT					
High speed	A	0,88	3,8	3,8	4,8
Medium speed	A	0,83	--	--	--
Low speed	A	0,6	--	--	--
POWER SUPPLY	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50
DIMENSIONS					
Length	mm	1050	1305	1305	1805
Width	mm	500	620	620	620
Height (2)	mm	425	520	520	520
NET WEIGHT (3)					
Empty weight	kg	75	88	92	102
CONNECTIONS					
Water inlet - ISO 228/1-G M	∅	1"	1"	1 1/4"	1 1/4"
Water charge/discharge (4)	∅	1/2"	1/2"	1/2"	1/2"

1. The given values is referred to the working pump only
2. Add this value to the chiller height
3. Add this value to the chiller weight
4. Connection for rubber pipe

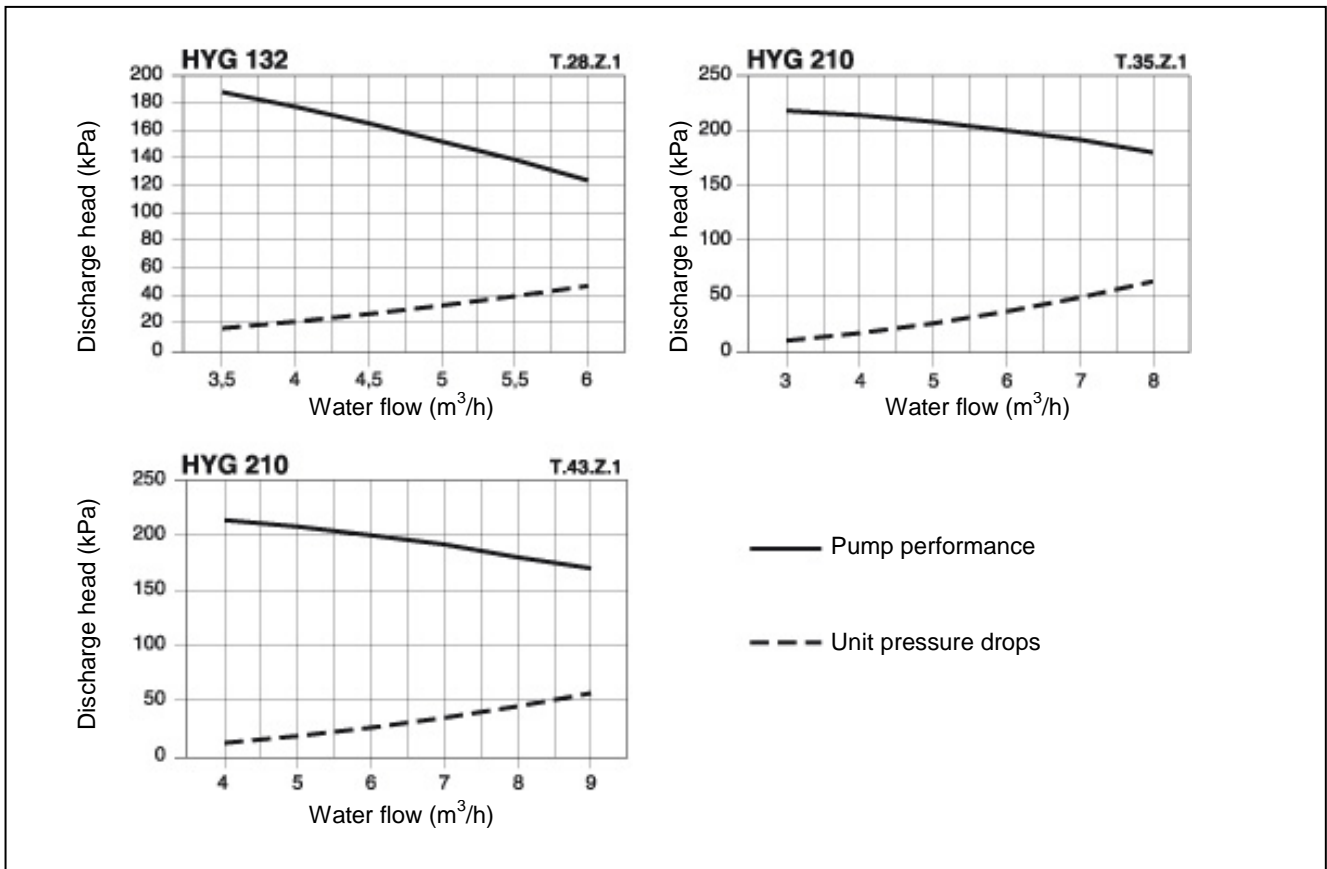
OPTIONAL ACCESSORIES - "HYG" HYDRONIC GROUP

WATER PUMPS PERFORMANCES



OPTIONAL ACCESSORIES - "HYG" HYDRONIC GROUP

WATER PUMPS PERFORMANCES



OPTIONAL ACCESSORIES - "PU" PUMPING GROUP

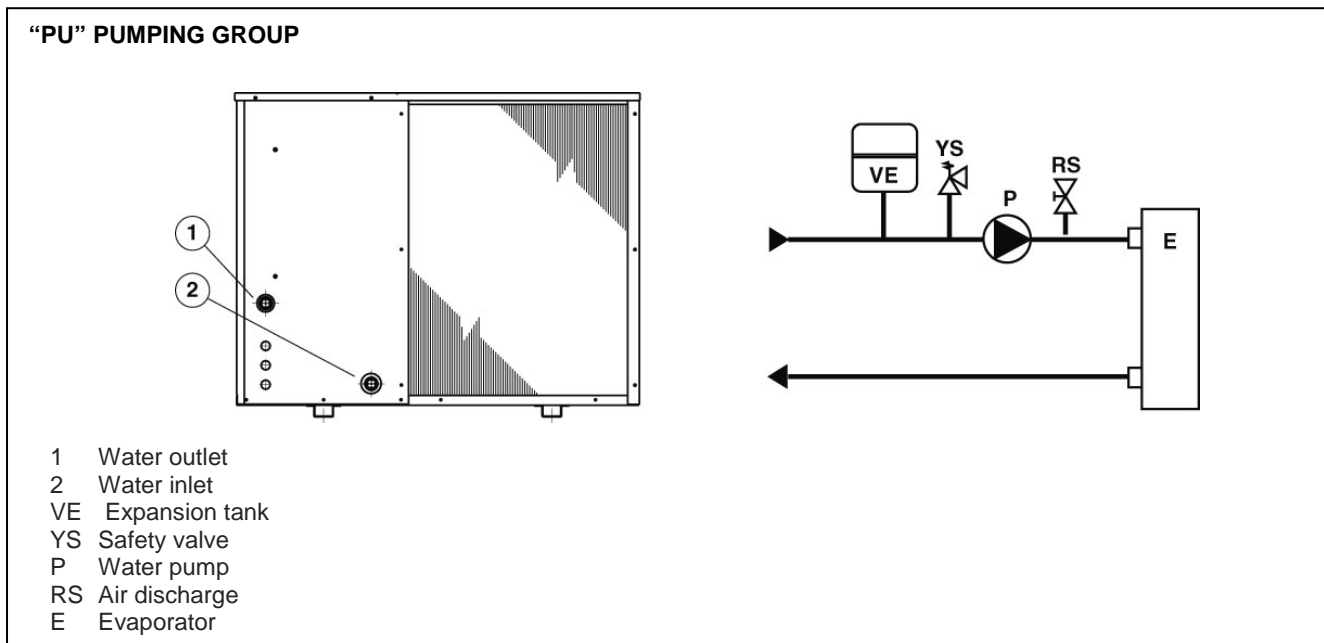
This optional is factory assembled inside the unit and it doesn't modify the water chiller dimensions.

It is standard fitted with control and working electric equipment built-in the water chiller electric board and it is directly managed by the microprocessor control.

In the chillers technical data tables are showed the pumping group type for each unit.

The system includes:

- water pump.
 - R1, R2a models with three speed electric motor
 - R2b, R3, R4 models with single speed electric motor
- expansion tank.
- water safety valve.
- taps for air discharge.

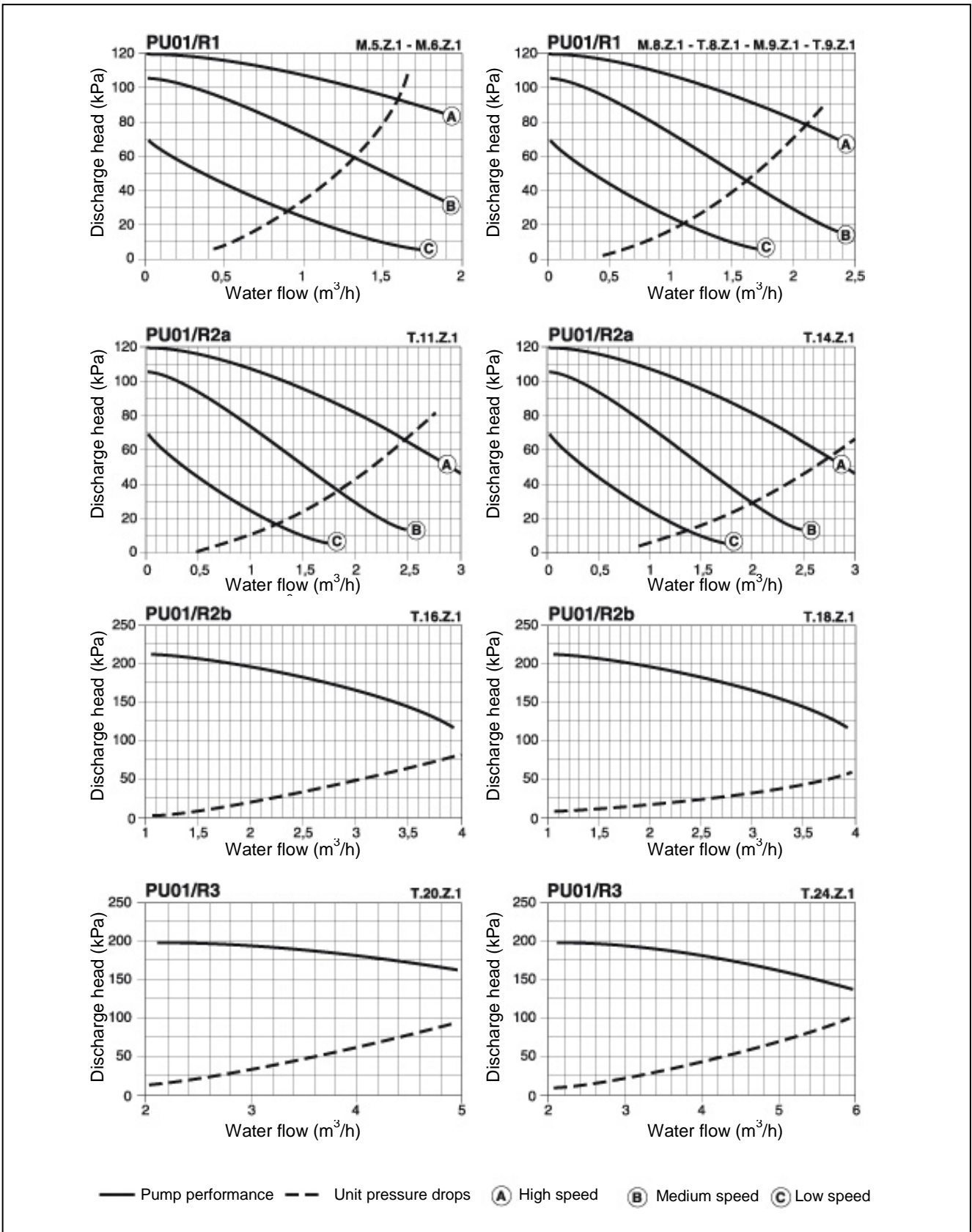
**TECHNICAL DATA**

SIZE		PU01/R1	PU01/R2a	PU01/R2b	PU01/R3	PU01/R4
WATER FLOW RATE						
Minimum water flow rate	m ³ /h	0,5	0,5	1,5	2,0	3,0
Maximum water flow rate	m ³ /h	8,5	8,5	3,8	6,0	9,0
DISCHARGE HEAD						
At minimum water flow	kPa	110	110	200	203,7	218
At maximum water flow	kPa	25	25	124	123,6	170
WATER PUMP (1)						
POWER INPUT						
High speed	kW	0,235	0,235	0,55	0,55	0,75
Medium speed	kW	0,18	0,18	--	--	--
Low speed	kW	0,12	0,12	--	--	--
OPERATING CURRENT						
High speed	A	1,02	1,02	3,8	3,8	4,8
Medium speed	A	0,78	0,78	--	--	--
Low speed	A	0,53	0,53	--	--	--
NET WEIGHT (2)						
Empty weight	kg	7	7	9	10	13
POWER SUPPLY						
	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50

- 1 The given values is referred to the working pump only
2 Add this value to the chiller weight

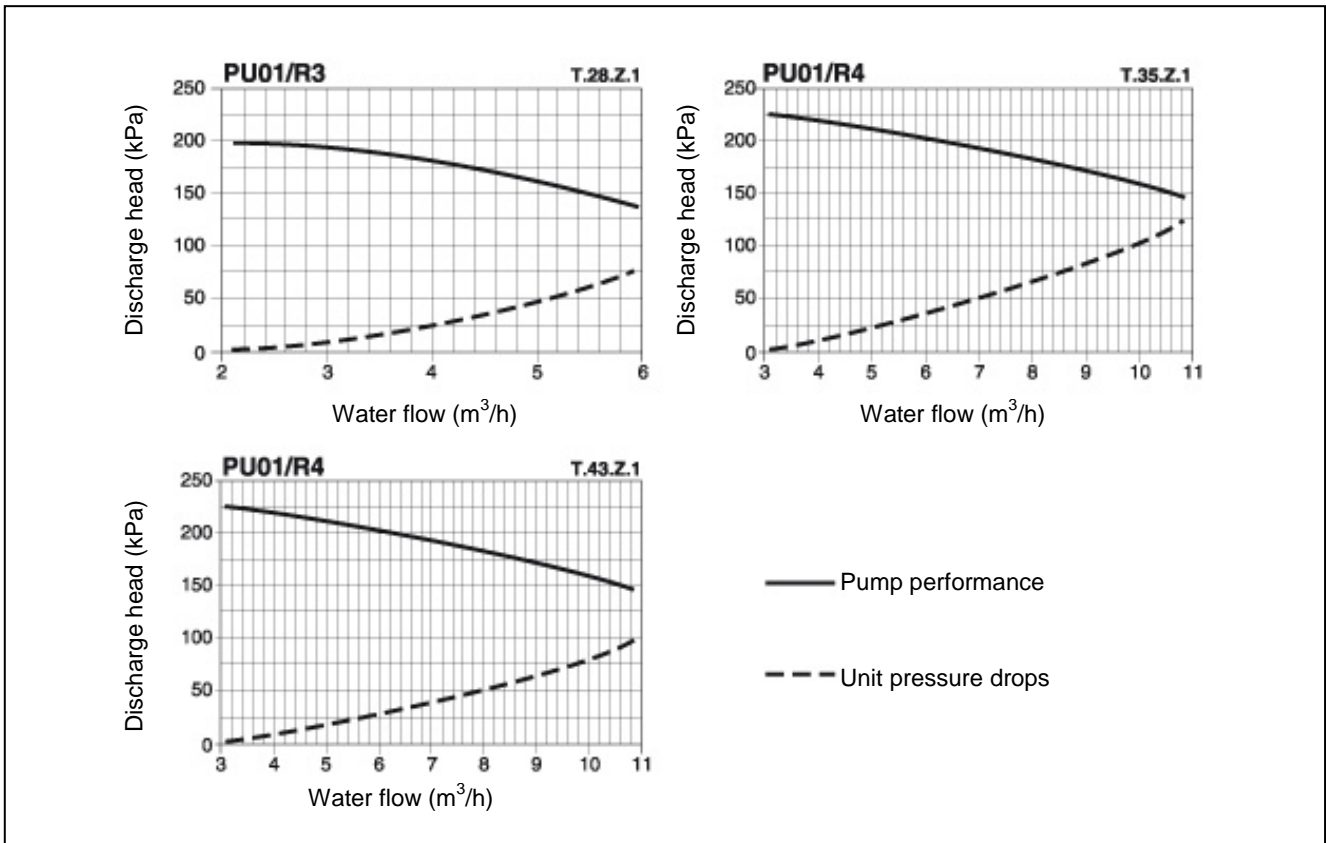
OPTIONAL ACCESSORIES - "PU" PUMPING GROUP

WATER PUMPS PERFORMANCE



OPTIONAL ACCESSORIES - "PU" PUMPING GROUP

WATER PUMPS PERFORMANCE



OPTIONAL ACCESSORIES - LNO KIT

This optional is available as accessory to obtain a chiller noise reduction. The versions equipped with KIT LNO having the following characteristics:

- Compressor sound proofing cap.
- Set of the working parameters.

The set of the working parameters consist in a different working sets of the microprocessor control and the condenser fans rotation speed, in order to reduce the air flow and noise emission.

The LNO KIT allow 3 different type of set:

LNO KIT 100%

No air flow reduction.

Noise reduction is obtained through a different working set of the microprocessor control and an acoustic insulation of the noise source.

LNO KIT 85%

Noise reduction is obtained through a different working set of the microprocessor control, an acoustic insulation of the noise source and a reduction of the condenser air flow at 85% of the nominal value.

LNO KIT 70%

Noise reduction is obtained through a different working set of the microprocessor control, an acoustic insulation of the noise source and a reduction of the condenser air flow at 70% of the nominal value.

The LNO KIT system operates in Summer and/or Winter working mode.

Consider that a condenser air flow reduction induce a minor cooling/heating capacity of the chiller and a major energy consumption of the compressor.

WARNING

To obtain the effective working conditions of cooling capacity reduction for unit equipped with LNO KIT, please refer to the electronic selection catalogue RC WORLD.

OPTIONAL ACCESSORIES - LNO KIT

ACOUSTIC DATA

VERSION WITH LNO KIT 100% - Air flow at 100%

MODEL		M.5.Z1	M.6.Z1	M.8.Z1	T.8.Z1	M.9.Z1	T.9.Z1	T.11.Z1	T.14.Z1
SIZE		R1	R1	R1	R1	R1	R1	R2	R2
Sound power level (1)	dB(A)	68,7	68,7	68,9	68,9	68,9	68,9	69,4	75,0
Sound pressure level at 1m (2)	dB(A)	54,3	54,3	54,5	54,5	54,5	54,5	54,5	60,1
Sound pressure level at 5m (3)	dB(A)	43,1	43,1	43,3	43,3	43,3	43,3	43,6	49,2
Sound pressure level at 10m (3)	dB(A)	37,5	37,5	37,7	37,7	37,7	37,7	38,1	43,7

MODEL		T.16.Z1	T.18.Z1	T.20.Z1	T.24.Z1	T.28.Z1	T.35.Z1	T.43.Z1
SIZE		R2	R2	R3	R3	R3	R4	R4
Sound power level (1)	dB(A)	77,1	77,1	77,5	77,6	79,5	76,5	80,5
Sound pressure level at 1m (2)	dB(A)	62,2	62,2	62,1	62,2	64,1	60,6	64,6
Sound pressure level at 5m (3)	dB(A)	51,3	51,3	51,6	51,7	53,6	50,4	54,5
Sound pressure level at 10m (3)	dB(A)	45,8	45,8	46,1	46,2	48,1	45,0	49,1

VERSION WITH LNO KIT 85% - Air flow at 85%

MODEL		M.5.Z1	M.6.Z1	M.8.Z1	T.8.Z1	M.9.Z1	T.9.Z1	T.11.Z1	T.14.Z1
SIZE		R1	R1	R1	R1	R1	R1	R2	R2
Sound power level (1)	dB(A)	65,5	65,5	66,0	66,0	66,0	66,0	66,5	71,6
Sound pressure level at 1m (2)	dB(A)	51,0	51,0	51,6	51,6	51,6	51,6	51,6	56,7
Sound pressure level at 5m (3)	dB(A)	39,8	39,8	40,3	40,3	40,3	40,3	40,7	45,8
Sound pressure level at 10m (3)	dB(A)	34,2	34,2	34,7	34,7	34,7	34,7	35,1	40,3

MODEL		T.16.Z1	T.18.Z1	T.20.Z1	T.24.Z1	T.28.Z1	T.35.Z1	T.43.Z1
SIZE		R2	R2	R3	R3	R3	R4	R4
Sound power level (1)	dB(A)	73,8	73,8	74,5	74,7	76,6	74,9	77,6
Sound pressure level at 1m (2)	dB(A)	58,9	58,9	59,0	59,2	61,1	59,0	61,7
Sound pressure level at 5m (3)	dB(A)	48,1	48,1	48,5	48,7	50,6	48,8	51,5
Sound pressure level at 10m (3)	dB(A)	42,5	42,5	43,1	43,3	45,2	43,4	46,1

VERSION WITH LNO KIT 70% - Air flow at 70%

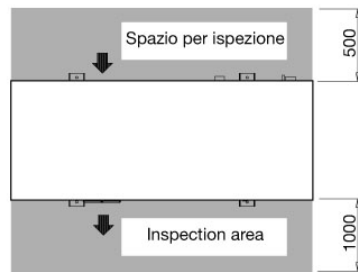
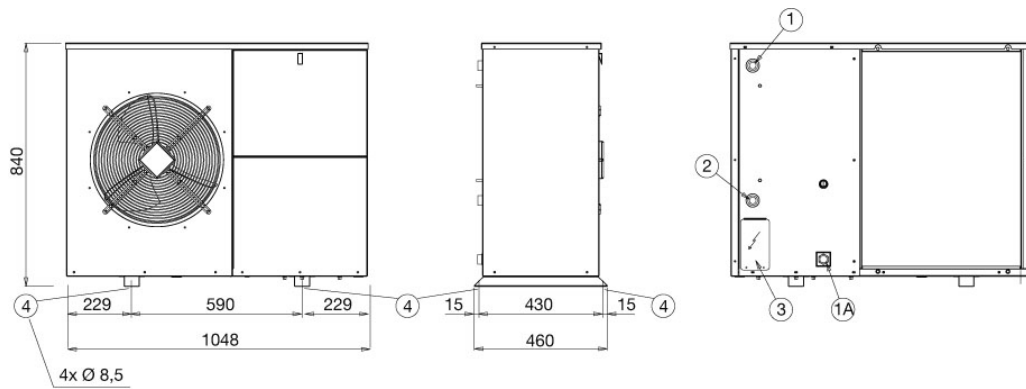
MODEL		M.5.Z1	M.6.Z1	M.8.Z1	T.8.Z1	M.9.Z1	T.9.Z1	T.11.Z1	T.14.Z1
SIZE		R1	R1	R1	R1	R1	R1	R2	R2
Sound power level (1)	dB(A)	62,1	62,1	63,1	63,1	63,1	63,1	63,6	67,8
Sound pressure level at 1m (2)	dB(A)	47,6	47,6	48,7	48,7	48,7	48,7	48,7	52,9
Sound pressure level at 5m (3)	dB(A)	36,4	36,4	37,5	37,5	37,5	37,5	37,8	42,0
Sound pressure level at 10m (3)	dB(A)	30,8	30,8	31,9	31,9	31,9	31,9	32,3	36,4

MODEL		T.16.Z1	T.18.Z1	T.20.Z1	T.24.Z1	T.28.Z1	T.35.Z1	T.43.Z1
SIZE		R2	R2	R3	R3	R3	R4	R4
Sound power level (1)	dB(A)	70,3	70,3	71,4	71,8	73,7	73,8	74,7
Sound pressure level at 1m (2)	dB(A)	55,4	55,4	55,9	56,3	58,2	57,9	58,8
Sound pressure level at 5m (3)	dB(A)	44,5	44,5	45,4	45,8	47,7	47,7	48,6
Sound pressure level at 10m (3)	dB(A)	39,0	39,0	40,0	40,4	42,3	42,3	43,2

1. Sound power level (Lw) according to ISO3744.
2. Sound pressure level (Lp) in free field according to ISO3744
3. Sound pressure level (Lp) in free field

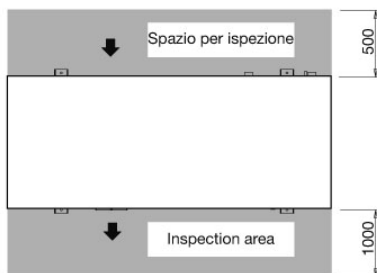
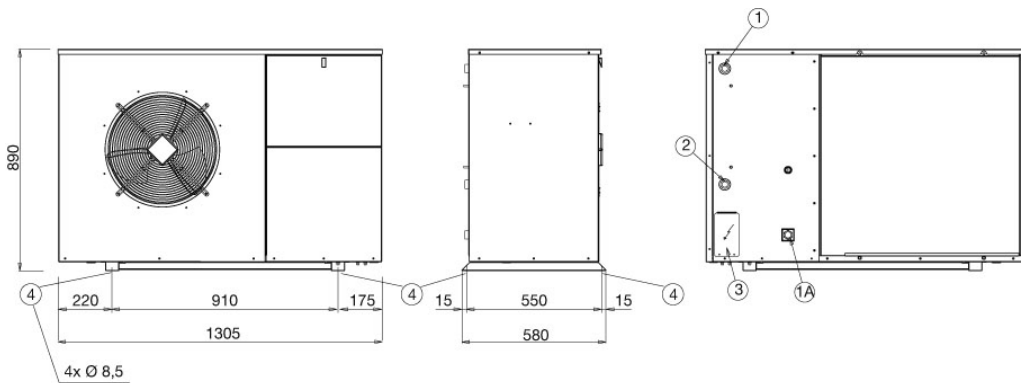
UNIT DRAWINGS
Dimensions in mm

SIZE R1



- 1 Water inlet
- 1A Water inlet with PU pumping group
- 2 Water outlet
- 3 Power supply
- 4 Mounting holes

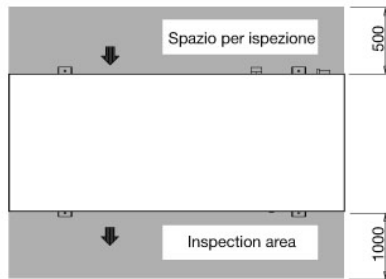
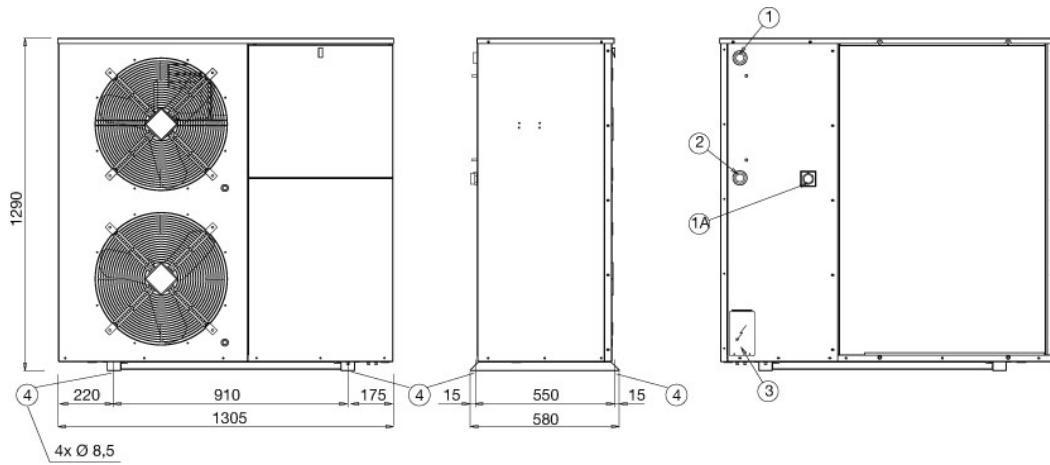
SIZE R2



- 1 Water inlet
- 1A Water inlet with PU pumping group
- 2 Water outlet
- 3 Power supply
- 4 Mounting holes

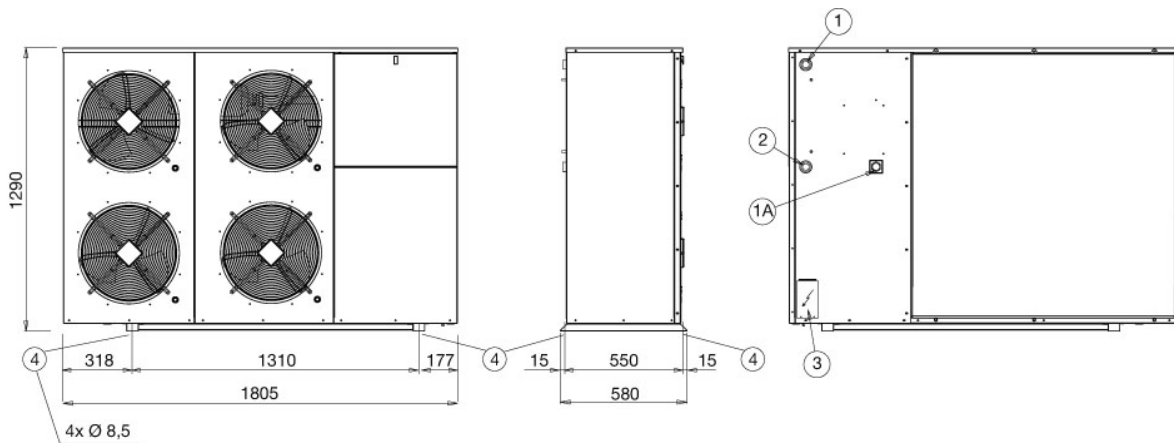
UNIT DRAWINGS
Dimensions in mm

SIZE R3



- 1 Water inlet
- 1A Water inlet with PU pumping group
- 2 Water outlet
- 3 Power supply
- 4 Mounting holes

SIZE R4



- 1 Water inlet
- 1A Water inlet with PU pumping group
- 2 Water outlet
- 3 Power supply
- 4 Mounting holes

Technical data and dimensions are not binding.
RC GROUP S.p.A. reserves the right of effecting opportune modifications without previous notice.



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