

RAS Kp

AIR COOLED CHILLERS WITH RECIPROCATING COMPRESSORS AND AXIAL FANS

REFRIGERANT R290



Above picture is only indicative and is not binding



The packaged air cooled chillers of **RAS... Kp series** are suitable for outdoor installation and can be used to cool pure fluid solutions for industrial applications or in air conditioning systems of the service industry, where it is necessary to grant excellent performances and a very low environmental impact.

The refrigerant used is propane, a non-toxic hydrocarbon, even at high concentrations, with a null ozone depletion potential, negligible global warming potential and thermodynamic properties which allow to reach high efficiency values.

For this reason the units are designed, as groups for external installation, in compliance with the European standards EN 378-1 / EN 378 -2 and their updates.

Depending on the required cooling capacity, they are available in mono or multi scroll version with 1,2 and 4 independent cooling circuits.

Thanks to the many available options, these chillers are particularly versatile and are easily adaptable to the different types of plant, where production of chilled water is required. All the units are completely factory-assembled and tested and supplied with refrigerant and non-freezing oil charge. So, once on site, they only need to be positioned and connected to the hydraulic line and power supply.

Following versions are available:

RAS...Kp – standard version

RAS...S Kp – silenced version

Reduced sound level in S versions is realized by reducing air flow through the coils obtained changing the electrical connection and using sound and fireproofing material for isolating compressors cabinet panels. The silenced operating mode is guaranteed for all sizes up to an external air temperature of 35 °C.

Operation limits (standard unit):

AIR: from +10°C to +40°C;

WATER (outlet from the evaporator): From 5 to 15°C.

MAIN COMPONENTS:

Structure strong and compact, made of base and frame with high-thickness galvanised steel elements, assembled with stainless steel rivets. All galvanised steel surfaces externally positioned are superficially coated by an oven powder-painting with colour RAL 7035. The technical section which contains compressors and the other cooling circuits elements, except the condensing part, is hermetically closed from the rest of the ambient and is always forcedly kept airy during unit operation. To reduce the sound level, it is possible to insulate the technical section with a sound and fire proof mattress.

Semi-hermetic alternative compressors optimized to operate with the hydrocarbons and realized in compliance with the regulations on safety in force. The compressors and all the relevant components of the cooling circuit are closed inside a technical compartment which is hermetically closed and kept in constant forced ventilation to avoid air stagnation and refrigerant pockets which can come out from possible leaks. The electrical motor, arranged for starting with low inrush current (option PW), is equipped with thermal protection module (installed inside the electrical cabinet). The lubricating system, of forced type, is equipped with oil filters and check valves to survey the lubricating pressure and is made through a high pressure pump. Each compressor, which works on a single independent circuit, is installed on rubber isolation dampers and provided with anti-vibration dampers and valves on suction and discharge side, ATEX version of electronic differential pressure switch to control the oil level, ATEX crankcase heater and temperature probe on discharge side to control the compressor discharge temperature.

Stainless steel plate evaporator one or two circuits version, thermally insulated with high thickness close cell flexible insulation. The max operating pressure limits are 10 bar for water side and 28 bar for refrigerant side. The evaporator is also equipped with safety water flow switch switching off the unit in case of low water flow through the evaporator.

Heat-exchange external coils with micro-finned copper tubes, positioned in staggered rows and mechanically expanded into an aluminium finned pack. Fins are designed with such a shape providing the highest heat exchange efficiency (turbo-fin). The max operating pressure refrigerant side is 28 relative bar. The frontal section of the coil can have, as an option, the safety protection grid (Option GP).

Axial fans of directly coupled type, with wing-profile aluminium blades, are designed not to create air turbulence in the air gap zone. This ensures the max efficiency with the lowest sound level. Each fan is provided with a galvanized steel protection grid, which is painted after construction. The IP54 fans motors are completely closed and provided with in-built overload protection thermostat, incorporated to the motor windings.

Plate regenerative gas/fluid Heating exchanger installed on each circuit to grant a suitable overheating value to the compressor sucked gas and a right oil temperature and at the same time to increase the cooling circuit efficiency through the sub-cooling of condensing section leaving fluid.

Independent cooling circuits each provided with a shut-off valve for refrigerant charge, antifreeze sensor, shut-off valves on liquid line, sight glass, dehydrating filter for R290 with wide filtering surface, ATEX high-pressure safety valve on high pressure refrigerant side equipped with a connector to the discharged refrigerant conveying piping, solenoid valve on liquid line with ATEX coil, mechanical thermostatic expansion valve, calibrated high and low pressure switches and gauges for R290 specifically.

Electric board built in compliance with 61439-1 standards, inside of which all the control system elements and the ones required for electrical motors starting and protection are located. All factory-connected and tested. The electrical cabinet has got a watertight structure, equipped with cable glands with protection factor IP65/66 and airy system to keep the inside of the unit pressurized in order to avoid the entry of a possible refrigerant leak. Beside the electrical cabinet also contains all the power and control devices, microprocessor electronic board complete with keypad and display, for visualizing the several functions available, main switch of lock-door type, isolation transformer for auxiliary circuits, automatic switches, fuses and protection switches for compressors and fans motors, terminals for general

alarm and remote ON/OFF, spring type terminal board, possibility to interface to BMS systems.

The unit is pre-arranged to activate the electrical power supply stop when there is a ventilation lack in the compressor section. The lack of ventilation is managed through differential pressure switches which works as air flow switches.

ACCESSORIES:

- A Amperometer:** Electrical device to measure the electrical current absorbed by the unit.
- AE Electrical power supply different than standard:** 230 V three-phase, 460 V three-phase. Frequency 50/60 Hz.
- BT Low temperature operation (-8°C):** Electronic device for the continuous modulating voltage control of the condensing pressure through the variation of the fan rotation speed (Alternative to BF).
- BF Low ambient temperature operation (down to -20°C):** Electronic device, frequency converter type, for the continuous modulating control of the condensing pressure through the variation of the fan rotation speed (Alternative to BT).
- CF Soundproofed compressors cabinet with standard material:** Insulation of compressors by a cabinet coated with 15 mm thick sound and fireproofing material. (Already included in SILENCED version)
- CFU Soundproofed compressors cabinet with higher thickness material:** Compressor insulation with high-density sound and fireproofing materials of higher thickness.
- CS Compressors inrush counter:** Electromechanical device positioned inside the electrical board, recording the total inrush starts of compressor.
- G2 2 steps capacity load:** (available for the units RAS 601 Kp till the unit RAS 1701 Kp)
- G4 4 steps capacity load:** (available for the units RAS 2002 Kp till the unit RAS 3502 Kp)
- G8 8 steps capacity load:** (available for the unit RAS 4304 Kp)
- GP Condensing coil protection grid:** Metal grid to protect against accidental impacts.
- I1 Victaulic insulation on pump side:** Insulation of the joints by close-cell polyurethane material, to prevent condensation, pump side.
- I2 Victaulic insulation buffer tank side:** Insulation of the joints by close-cell polyurethane material, to prevent condensation, buffer tank side.
- IH RS 485 Serial interface:** Electronic card to be connected to the microprocessor to allow connection of the units to supervision systems, for a remote control and monitoring of the unit. (Alternative to IH LON or IWG)
- IH LON Protocol serial interface:** Electronic card to be connected to the microprocessor to allow connection of the units to supervision systems with LON protocol, for a remote control and monitoring of the unit. (Alternative to IH or IWG)
- IM Seawood packing:** Fumigated seawood case and film envelope together added with slowly vaporizing corrosion inhibitors completely nitrates and heavy metals (VCI) free suitable for long sea transports.
- IWG SNMP or TCP/IP Protocol serial interface:** Electronic card to be connected to the microprocessor to allow connection of the units to supervision systems with SNMP or TCP/IP protocol, for a remote control and monitoring of the unit. (Alternative to IH or IH LON).
- MF Phase monitor:** Electronic device that checks the correct sequence and/or the lack of one of the 3 phases, switching off the unit if necessary.

LIQUID CHILLERS - AIR COOLED

- MV Buffer tank module:** Of suitable capacity complete with expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves, check valves for filter service operations.
- P1 Pump group:** Chilled water pump group made of a single pump, expansion vessel, safety valve water gauge, water charge and discharge valves, air purging valves, electric control of the pump. The pump is of centrifugal enbloc 2-pole type.
- P1H Higher available pressure pump group:** Chilled water pump group made of a single pump, expansion vessel, safety valve water gauge, water charge and discharge valves, air purging valves, electric control of the pump. The pump is of centrifugal enbloc 2-pole type.
- P2 Double pump group (only one working):** Chilled water pump group made by two pumps in parallel, expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves, water shut-off valve on suction and check valve on discharge for each single pump, electric control of the pump. The pumps are of centrifugal enbloc 2-pole type.
- P2H Higher available pressure double pump group (only one working):** Chilled water pump group made by two higher available pressure pumps in parallel, expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves, water shut-off valve on suction and check valve on discharge for each single pump, electric control of the pump. The pumps are of enbloc 2-pole type for standard and S versions, 4-pole for U version
- PA Rubber-type vibration dampers:** Bell-shaped vibration dampers supports for isolating the unit (supplied in kit), made of base and bell in galvanized steel and natural rubber mixture.
- PM Spring-type vibration dampers:** Spring-type vibration dampers supports, for isolating the unit (supplied in kit), mainly indicated for installation in difficult and aggressive environments. Made of two steel plates containing a suitable quantity of harmonic steel springs.
- PQ Remote display:** Remote terminal, allowing to display the temperature values detected by probes, the alarm digital inputs, the outputs and the remote ON/OFF of the unit, to change and program of the parameters, the signaling and the display of the present alarms.
- PW Part-Winding:** Equipment for step compressors starting, reducing of about 35% the inrush current of each compressor.
- RA Anti-freeze heater on evaporator:** Electrical heater installed on the evaporator, in order to prevent freezing, provided with thermostat.
- RF Power factor correction system $\cos\phi \geq 0,9$:** Electrical device made by suitable condensers for compressor rephasing that ensure a $\cos\phi$ value $\geq 0,9$, so to reduce absorption from electrical network.
- RL Compressors overload relays:** Electromechanical protection devices against compressor's overload .
- RM Condensing coil with pre-painted fins:** Double-layer treatment of condensing coils aluminium fins surface, to be used if there is an high concentration of corrosive agents in the environment.
- RP Partial heat recovery:** of condensing heat through a refrigerant/ water plate exchanger (desuperheater) always in series to the compressors. It is used when you want to partially recover condensing heat capacity for production of sanitary water.
- RR Copper/Copper coil:** Special condensing coils with copper pipes and fins.
- RV Personalized frame painting in alternative RAL color**
- TDS Double-layer treatment of the coil :** of epoxy type of the finned pack and its frame, to be used in industrial very corrosive environments or where there is an high concentration of chlorides.
- V Voltmeter:** Electrical device measuring the electrical voltage of the unit power supply.
- VB Brine Version:** Unit suitable for working with evaporator outlet water temperatures lower than 0°C. A 20 mm evaporator insulation will be provided.

LIQUID CHILLERS - AIR COOLED

Technical data - RAS 601-2302 Kp

RAS		601	801	1301	1601	1701	2002	2302
Cooling capacity								
Cooling capacity	kW	52,8	72,2	105,5	139,9	158,4	178,1	208,8
Absorbed power	kW	15,7	21,9	32,1	45,9	51,6	55,2	65,1
EER Gross		3,36	3,30	3,29	3,05	3,07	3,23	3,21
EER NET		2,90	2,96	2,85	2,75	2,80	2,96	2,88
ESEER		3,46	3,41	3,4	3,12	3,11	3,61	3,66
Compressors								
Quantity	n	1	1	1	1	1	2	2
Standard steps capacity	n	1	1	1	1	1	2	2
Circuits	n	1	1	1	1	1	2	2
Maximum absorbed current	A	37	47	75	103	111	122	149
Inrush current	A	203	239	321	548	584	319	378
Axial fans								
Quantity	n	1	1	2	2	2	2	3
Rotation speed	rpm	885	885	885	885	885	885	885
Motors power	kW	2,48	2,48	4,96	4,96	4,96	4,96	7,44
Total air flow	m ³ /h	27630	25770	55680	51540	48660	45400	77310
Nominal absorbed current	A	5,15	5,15	10,3	10,3	10,3	10,3	15,45
Evaporator								
Quantity	n	1	1	1	1	1	1	1
Water flow rate	m ³ /h	9,1	12,4	18,1	24	27,2	30,6	35,9
Pressure drop	kPa	56	33	46	57	56	31	35
Pump Group P1								
Available pressure	kPa	130	151	130	156	146	132	118
Motor power	kW	2,2	2,2	2,2	3	3	3	3
Absorbed current	A	4,8	4,8	4,8	6,3	6,3	6,3	6,3
Weight	Kg	32	32	32	35	35	39	39
Pump group P1H								
Available pressure	kPa	225	215	223	198	187	244	229
Motor power	kW	4	4	4	4	4	5,5	5,5
Absorbed current	A	8,5	8,5	8,5	8,5	8,5	12,1	12,1
Weight	Kg	38	38	41	41	41	53	53
Pump group P2								
Available pressure	kPa	130	151	130	156	146	132	118
Motor power	kW	2,2	2,2	2,2	3	3	3	3
Absorbed current	A	4,8	4,8	4,8	6,3	6,3	6,3	6,3
Weight	Kg	64	64	64	70	70	78	78
Pump group P2H								
Available pressure	kPa	225	215	223	198	187	244	229
Motor power	kW	4	4	4	4	4	5,5	5,5
Absorbed current	A	8,5	8,5	8,5	8,5	8,5	12,1	12,1
Weight	Kg	76	76	82	82	82	106	106
Hydraulik kit								
Buffer tank water volume	l	100	100	200	200	200	200	300
Electrical data								
Total absorbed power	kW	18,18	24,38	37,06	50,86	56,56	60,16	72,54
Total nominal absorbed current	A	35,25	42,75	67,1	95,7	104,8	104,8	130,65
Maximum absorbed current	A	42,15	52,15	85,3	113,3	121,3	132,3	164,45
Total inrush current	A	208,15	244,15	331,3	558,3	594,3	329,3	393,45
Sound pressure level								
Sound pressure level 2)	dB(A)	68,2	70,4	71,7	73,7	74,5	73,6	73,1
Dimensions								
Length	mm	1620	1620	2660	2660	2660	2660	3700
Width	mm	1370	1370	1370	1370	1370	1370	1370
Height	mm	2420	2420	2420	2420	2420	2420	2420
Transport weight 3)	kg	884	928	1178	1318	1392	1757	1834
Weight in operation	kg	1024	1068	1428	1568	1642	2007	2214
Refrigerant charge for each circuit	kg	3,5	5,8	7,2	10,2	13,1	16	15,4
Power supply								
Power supply	V / ph / Hz	400 V / 50Hz / 3Ph + N + T						

NOTES

Nominal condition referred to: air 35 °C - chilled water 7/12 °C.

2) Measured at 1 m in open field (ISO 3746) with air suction and air discharge in ducts.

LIQUID CHILLERS - AIR COOLED

Technische Daten - RAS 2502-4304 Kp

RAS		2502	2802	3002	3302	3502	4304
Cooling capacity							
Cooling capacity	kW	226,4	255,1	276,5	298,8	317,1	395,2
Absorbed power	kW	75,4	86,7	93,3	99,4	103,1	133,4
EER Gross		3,00	2,94	2,96	3,01	3,08	2,96
EER NET		2,73	2,71	2,68	2,73	2,81	2,76
ESEER		3,26	3,26	3,22	3,27	3,27	3,68
Compressors							
Quantity	n	2	2	2	2	2	4
Standard steps capacity	n	2	2	2	2	2	4
Circuits	n	2	2	2	2	2	4
Maximum absorbed current	A	179	200	207	216	222	298
Inrush current	A	433	531	633	674	677	494
Axial fans							
Quantity	n	3	3	3	4	4	4
Rotation speed	rpm	885	885	885	885	885	885
Motors power	kW	7,44	7,44	9,92	9,92	9,92	9,92
Total air flow	m ³ /h	77310	73200	69600	103280	97920	98160
Nominal absorbed current	A	15,45	15,45	20,6	20,6	20,6	20,6
Evaporator							
Quantity	n	1	1	1	1	1	2
Water flow rate	m ³ /h	38,9	43,8	47,5	51,3	54,5	67,9
Pressure drop	kPa	36	38	39	36	36	35
Pump Group P1							
Available pressure	kPa	112	137	135	137	136	129
Motor power	kW	3	5,5	5,5	5,5	5,5	5,5
Absorbed current	A	6,3	12,1	12,1	12,1	12,1	12,1
Weight	Kg	39	52	52	52	52	52
Pump Group P1H							
Available pressure	kPa	221	207	238	237	234	218
Motor power	kW	5,5	5,5	9,2	9,2	9,2	9,2
Absorbed current	A	12,1	12,1	18,3	18,3	18,3	18,3
Weight	Kg	53	53	75	75	75	75
Pump Group P2							
Available pressure	kPa	112	137	135	137	136	129
Motor power	kW	3	5,5	5,5	5,5	5,5	5,5
Absorbed current	A	6,3	12,1	12,1	12,1	12,1	12,1
Weight	Kg	78	104	104	104	104	104
Pump Group P2H							
Available pressure	kPa	221	207	238	237	234	218
Motor power	kW	5,5	5,5	9,2	9,2	9,2	9,2
Absorbed current	A	12,1	12,1	18,3	18,3	18,3	18,3
Weight	Kg	106	106	150	150	150	150
Hydraulik kit							
Buffer tank water volume	l	300	300	300	800	800	800
Electrical data							
Total absorbed power	kW	82,84	94,14	103,22	109,32	113,02	143,32
Total nominal absorbed current	A	150,35	171,55	193,3	205	209,7	256
Maximum absorbed current	A	194,45	215,45	227,6	236,6	242,6	318,6
Total inrush current	A	448,45	546,45	653,6	694,6	697,6	514,6
Sound pressure level							
Sound pressure level 2)	dB(A)	75	75,5	75,9	76,4	76,4	76,1
Dimensions							
Length	mm	3700	3700	3700	4740	4740	5780
Width	mm	1370	1370	1370	1370	1370	1370
Height	mm	2420	2420	2420	2420	2420	2420
Transport weight 3)	kg	1976	2066	2175	2282	2388	3212
Weight in operation	kg	2356	2446	2555	3227	3333	4157
Refrigerant charge for each circuit	kg	15,7	20,2	24,3	21	26,5	37
Power supply							
Power supply	V / ph / Hz	400 V/ 50Hz / 3Ph + N + T					

NOTES

Nominal condition referred to: air 35 °C - chilled water 7/12 °C.

2) Measured at 1 m in open field (ISO 3746) with air suction and air discharge in ducts.

LIQUID CHILLERS - AIR COOLED

Technische Daten - RAS 601-2302 S Kp

RAS S		601	801	1301	1601	1701	2002	2302
Cooling capacity								
Cooling capacity	kW	51,6	70,7	103,7	139,2	154,9	169,5	203,6
Absorbed power	kW	16	22,3	32,9	46	52,8	57,1	67,5
EER Gross		3,23	3,17	3,15	3,03	2,93	2,97	3,02
EER NET		2,94	2,96	2,88	2,83	2,77	2,81	2,82
ESEER		3,59	3,59	3,54	3,3	3,16	3,62	3,65
Compressors								
Quantity	n	1	1	1	1	1	2	2
Standard steps capacity	n	1	1	1	1	1	2	2
Circuits	n	1	1	1	1	1	2	2
Maximum absorbed current	A	37	47	75	103	111	122	149
Inrush current	A	203	239	321	548	584	319	378
Axial fans								
Quantity	n	1	1	2	2	2	2	3
Rotation speed	rpm	685	685	685	685	685	685	685
Motors power	kW	1,57	1,57	3,14	3,14	3,14	3,14	4,71
Total air flow	m ³ /h	21940	20100	43700	40000	37100	34540	60000
Nominal absorbed current	A	2,9	2,9	5,8	5,8	5,8	5,8	8,7
Evaporator								
Quantity	n	1	1	1	1	1	1	1
Water flow rate	m ³ /h	8,9	12,1	17,8	23,9	26,6	29,1	35
Pressure drop	kPa	55	33	44	54	54	29	34
Pump Group P1								
Available pressure	kPa	131	151	132	160	150	135	120
Motor power	kW	2,2	2,2	2,2	3	3	3	3
Absorbed current	A	4,8	4,8	4,8	6,3	6,3	6,3	6,3
Weight	Kg	32	32	32	35	35	39	39
Pump Group P1H								
Available pressure	kPa	226	217	226	201	191	248	232
Motor power	kW	4	4	4	4	4	5,5	5,5
Absorbed current	A	8,5	8,5	8,5	8,5	8,5	12,1	12,1
Weight	Kg	38	38	41	41	41	53	53
Pump Group P2								
Available pressure	kPa	131	151	132	160	150	135	120
Motor power	kW	2,2	2,2	2,2	3	3	3	3
Absorbed current	A	4,8	4,8	4,8	6,3	6,3	6,3	6,3
Weight	Kg	64	64	64	70	70	78	78
Pump Group P2H								
Available pressure	kPa	226	217	226	201	191	248	232
Motor power	kW	4	4	4	4	4	5,5	5,5
Absorbed current	A	8,5	8,5	8,5	8,5	8,5	12,1	12,1
Weight	Kg	76	76	82	82	82	106	106
Hydraulik kit								
Buffer tank water volume	l	100	100	200	200	200	200	300
Electrical data								
Total absorbed power	kW	17,57	23,87	36,04	49,14	55,94	60,24	72,21
Total nominal absorbed current	A	33,6	41,3	64	93	102,4	103,7	127,7
Maximum absorbed current	A	39,9	49,9	80,8	108,8	116,8	127,8	157,7
Total inrush current	A	205,9	241,9	326,8	553,8	589,8	324,8	386,7
Sound pressure level								
Sound pressure level 2)	dB(A)	62,4	65,6	67,1	69,9	70,8	69,8	69,4
Dimensions								
Lenght	mm	1620	1620	2660	2660	2660	2660	3700
Width	mm	1370	1370	1370	1370	1370	1370	1370
Height	mm	2420	2420	2420	2420	2420	2420	2420
Transport weight 3)	kg	884	928	1178	1318	1392	1757	1834
Weight in operation	kg	1024	1068	1428	1568	1642	2007	2214
Refrigerant charge for each circuit	kg	3,5	5,8	7,2	10,2	13,1	16	15,4
Power supply								
Power supply	V / ph / Hz	400 V/ 50Hz / 3Ph + N + T						
NOTES								
Nominal condition referred to: air 35 °C - chilled water 7/12 °C.								
2) Measured at 1 m in open field (ISO 3746) with air suction and air discharge in ducts.								

LIQUID CHILLERS - AIR COOLED

Technische Daten - RAS 2502-4304 S Kp

RAS S		2502	2802	3002	3302	3502	4304
Cooling capacity							
Cooling capacity	kW	221,4	249,4	267,2	291,5	309,4	381
Absorbed power	kW	77,3	90,2	96,8	102,3	105,9	139,6
EER Gross		2,86	2,76	2,76	2,85	2,92	2,73
EER NET		2,70	2,63	2,63	2,68	2,76	2,61
ESEER		3,24	3,26	3,49	3,44	3,47	3,95
Compressors							
Quantity	n	2	2	2	2	2	4
Standard steps capacity	n	2	2	2	2	2	4
Circuits	n	2	2	2	2	2	4
Maximum absorbed current	A	179	200	207	216	222	298
Inrush current	A	433	531	633	674	677	494
Axial fans							
Quantity	n	3	3	3	4	4	4
Rotation speed	rpm	685	685	685	685	685	685
Motors power	kW	4,71	4,71	4,71	6,28	6,28	6,28
Total air flow	m ³ /h	60000	55620	51870	80000	74000	74680
Nominal absorbed current	A	8,7	8,7	8,7	11,6	11,6	11,6
Evaporator							
Quantity	n	1	1	1	1	1	2
Water flow rate	m ³ /h	38	42,8	45,9	50,1	53,1	65,4
Pressure drop	kPa	35	37	37	35	35	30
Pump Group P1							
Available pressure	kPa	114	138	137	139	138	135
Motor power	kW	3	5,5	5,5	5,5	5,5	5,5
Absorbed current	A	6,3	12,1	12,1	12,1	12,1	12,1
Weight	Kg	39	52	52	52	52	52
Pump Group P1H							
Available pressure	kPa	223	210	240	239	236	226
Motor power	kW	5,5	5,5	9,2	9,2	9,2	9,2
Absorbed current	A	12,1	12,1	18,3	18,3	18,3	18,3
Weight	Kg	53	53	75	75	75	75
Pump Group P2							
Available pressure	kPa	114	138	137	139	138	135
Motor power	kW	3	5,5	5,5	5,5	5,5	5,5
Absorbed current	A	6,3	12,1	12,1	12,1	12,1	12,1
Weight	Kg	78	104	104	104	104	104
Pump Group P2H							
Available pressure	kPa	223	210	240	239	236	226
Motor power	kW	5,5	5,5	9,2	9,2	9,2	9,2
Absorbed current	A	12,1	12,1	18,3	18,3	18,3	18,3
Weight	Kg	106	106	150	150	150	150
Hydraulik kit							
Buffer tank water volume	l	300	300	300	800	800	800
Electrical data							
Total absorbed power	kW	82,01	94,91	101,51	108,58	112,18	145,88
Total nominal absorbed current	A	146,6	170,5	186,8	200,1	205	258,3
Maximum absorbed current	A	187,7	208,7	215,7	227,6	233,6	309,6
Total inrush current	A	441,7	539,7	641,7	685,6	688,6	505,6
Sound pressure level							
Sound pressure level 2)	dB(A)	71,3	71,8	72,2	72,2	72,7	72,3
Dimensions							
Length	mm	3700	3700	3700	4740	4740	5780
Width	mm	1370	1370	1370	1370	1370	1370
Height	mm	2420	2420	2420	2420	2420	2420
Transport weight 3)	kg	1976	2066	2175	2282	2388	3212
Weight in operation	kg	2356	2446	2555	3227	3333	4157
Refrigerant charge for each circuit	kg	15,7	20,2	24,3	21	26,5	37
Power supply							
Power supply	V / ph / Hz	400 V / 50Hz / 3Ph + N + T					

NOTES

Nominal condition referred to: air 35 °C - chilled water 7/12 °C.

2) Measured at 1 m in open field (ISO 3746) with air suction and air discharge in ducts.