Chiller

WQL/WQH/WQRC 524 to 1604

Water Cooled Water Chillers Cooling Only, Heat Pump and Condenserless Versions Engineering Data Manual

154 to 460 kW

170 to 508 kW

R410A

systemair

Key points

- 10 sizes:
  - Cooling from 154 kW up to 460 kW
  - Heating from 170 kW up to 508 kW
- 3 versions:
  - WQL (Cooling only)
  - WQH (Heat pump)
  - WQRC (Condenserless)
- 2 acoustic versions:
  - STD (standard)
  - S (Super Low Noise)
- R410A 2 refrigerant circuits with tandem Scroll compressors
- High seasonal performances SEER and SCOP
- 1 compact frame/configuration
- New electronic controller with auto-adaptive function to reduce water content in the piping system
- Condensing pressure control available as option for well application
- Wide range of hydrokit for "Plug and Play" units
- Victaulic joints for all internal water piping connections
- Desuperheater heat exchanger available as option

Specifications

General description

WQL/WQH/WQRC are a water to water units equipped with Scroll compressors, optimized to work with R410A refrigerant.

3 different versions are available:

- Cooling only units WQL
- Heat pump units WQH
- Remote condenser units WQRC

2 different acoustic options are available:

- Standard (STD): units are supplied without compressors box
- Super Low Noise (S): units are supplied with compressors box and additional insulation panels on the cabinet in order to further reduce noise impact.

WQL/WQH/WQRC units are available in totally 10 sizes, ranging from 154 to 460 kW in cooling operation and from 170 to 508 kW in heating operation.

WQL/WQH/WQRC units are available on one compact structural frame. Each unit is equipped with two refrigerant circuits and hermetic scroll compressors (tandem).

Evaporators and condensers are brazed plate heat exchanger type.

Heat pump units (WQH) are equipped with reversible valve, thus allowing to reverse cycle on refrigerant side and not on water side.

Remote condenser units (WQRC) are not equipped with condenser heat exchangers, but equipped with stop valves on discharge and liquid lines in order to allow connection to remote condensers.

Cabinet and structure

Cabinet and structure are made of galvanized steel. All galvanized steel components are individually painted by a special painting process before assembling of the unit. This painting system performs a homogeneous protection to the corrosion. The painting is a polyester powder based type, coloured in RAL 7040. The units are suitable for indoor installation.

Refrigerant circuit

Refrigerant circuit is equipped with four hermetic scroll compressors, sight glass, filter-drier and mechanical expansion valve (electronic expansion valve is available as an option).

Heat pump units (WQH) refrigerant circuit is also provided with 4-way reversing valve and check valves system in order to always run liquid line in the same direction (both in cooling and in heating mode).

Remote condenser units (WQRC) refrigerant circuit is supplied without condenser and it is provided with liquid receiver, stop valves both on discharge and liquid lines, solenoid valve on liquid line.

The functional diagram of each circuit is shown in section “Refrigerant flow diagram”.

Compressors

Compressors are hermetic scroll type fitted with an electronic control device ensuring protection of compressors against:

- Overheating
- Overloading
- Reversal rotation
- Phase loss

All compressors have direct-on-line starting and are mounted on rubber vibration isolators in order to minimize noise and vibration transmission.

Evaporators and condensers

Evaporator and condenser heat exchangers are brazed stainless steel plate type. They are insulated with a 10 mm thick closed cell polyethylene foam material and provide with Victaulic connections.

Electrical board

Electric equipment is built in compliance with CE standards. Easy accessible in front of the unit - through an access panel fixed with screws - the equipment is complete with:

- Door lock main isolating switch
- Compressor contactors and fuses
- Compressor overload protection (optional)
- Automatic circuit breaker switches (optional)
- Phase sequence control
- Clamps for remote start/stop switch
- Clamps for remote summer/winter switch
- Clamps for external flow switches (both exchangers)
- Clamps for remote double set-point
- Clamps for external interlock
- Clamps for remote general alarm
- Connection clamps to remote keyboard (optional)
- Clamps for evaporator/condenser pump relay control (optional)
- Clamps for boiler relay control (optional)
- Clamps for dynamic set-point compensation (4-20 mA, 0-1 V, 0-5 V, 0-10 V)
- Clamps for outdoor air temperature probe (accessory)
- Electronic control SC655
- Soft-starter (optional)
- Power factor correction capacitors (optional)
- 0-10 V clamps for condensing control (optional)

Control

A new optimized control is supplied on all the units with a simple user interface (possibility to customize keys functions and to set menus visibility).

In addition to standard features as water temperature control (with possibility to choose LWT/EWT probe), the control can also manage following functions:

- Dynamic set point (4-20 mA, 0-1V, 0-5V, 0-10V)
- Double set point
- OAT compensation
- Boiler integration
- Condensing control
- Auto adaptative function to reduce the water content of the plant
- Advanced pump management (both primary circuit and source side)
- Remote keyboard (accessory) with possibility to connect (up to 100 m distance) without any serial interface

Safety

Each unit is equipped with following electrical/refrigerant /hydraulic safety devices:

- Door lock main isolating switch
- Phase monitor control
- High pressure switch with manual reset
- Discharge safety valve
- Low pressure switch with automatic / manual reset
- Anti-freeze probe (leaving water temperature)
- Differential pressure switch (source / plant side)

Standards

WQL/WQH/WQRC are built in compliance with following standards:

- Machinery Directive: 2006/42/EC
- Electromagnetic Compatibility Directive: 2014/30/UE
- Pressure Equipment Directive: 2014/68/UE
- Ecodesign Directive: 2009/125/EC

And following harmonized European standards:

- Safety of machinery - Basic concepts, general principles for design: UNI EN ISO 12100-1 / 2
- Safety of machinery - Safety Distances To Prevent Hazard Zones Being Reached By Upper And Lower Limbs: EN ISO 13857
- Safety of machinery - Electrical equipment of machines: EN 60204-1
- Low-voltage switchgear and controlgear assemblies: EN 60439-1
- Electromagnetic compatibility (EMC) - Immunity for industrial environments: IEC EN 61000-6-2
- Electromagnetic compatibility (EMC) - Emission standard for residential, commercial and light-industrial environments: IEC EN 61000-6-3
- Refrigerating systems and heat pumps. Safety and environmental requirements: EN 378-1 / 2
- Metallic products - Types of inspection documents: EN 10204
- Ecodesign: REG. 813/2013, REG.2015/1095, REG. 2016/2281

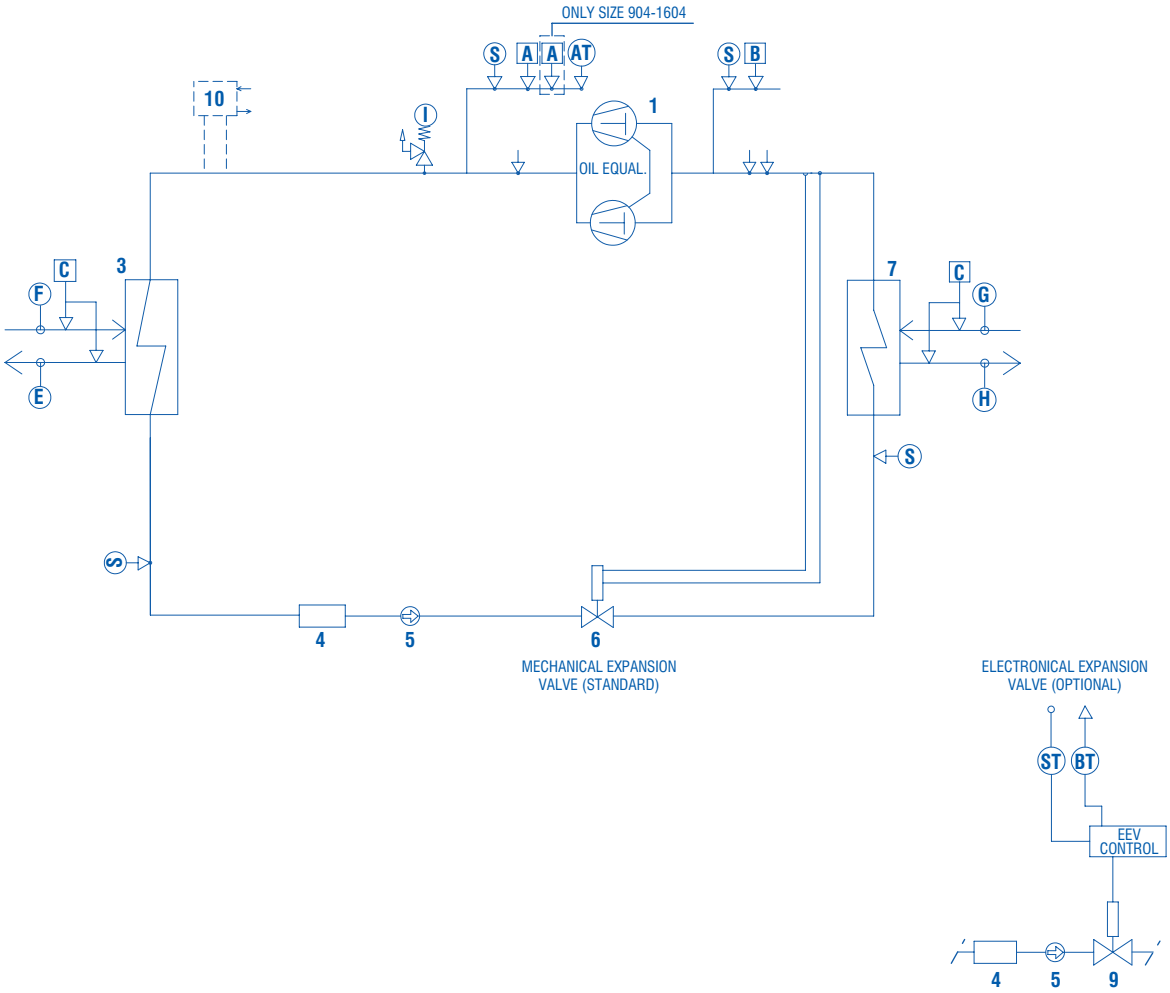
Factory installed options

- ModBus protocol kit for BMS
- Compressor soft starter
- Power factor correction capacitors
- Electronic expansion valve
- Compressor overload protection
- Automatic circuit breaker
- Condensing control kit
- Additional heating device wiring kit
- Mechanical gauges kit
- Compressor jacket
- On board hydrokit (1P/2P/both exchangers/SP-HP)
- Desuperheater

Field installed accessories

- Remote ON-OFF
- Remote keyboard panel
- Sequencer up to 4 units
- Condensing control kit
- Outdoor air sensor for climatic compensation
- Additional heating device wiring kit
- Compressor jacket
- Flow switch
- Pressure switch
- Victaulic to threaded pipe connection
- Spring type anti-vibration mounts
- Water filter

Refrigerant Flow Diagram - WQL 524 to 1604 - R410A



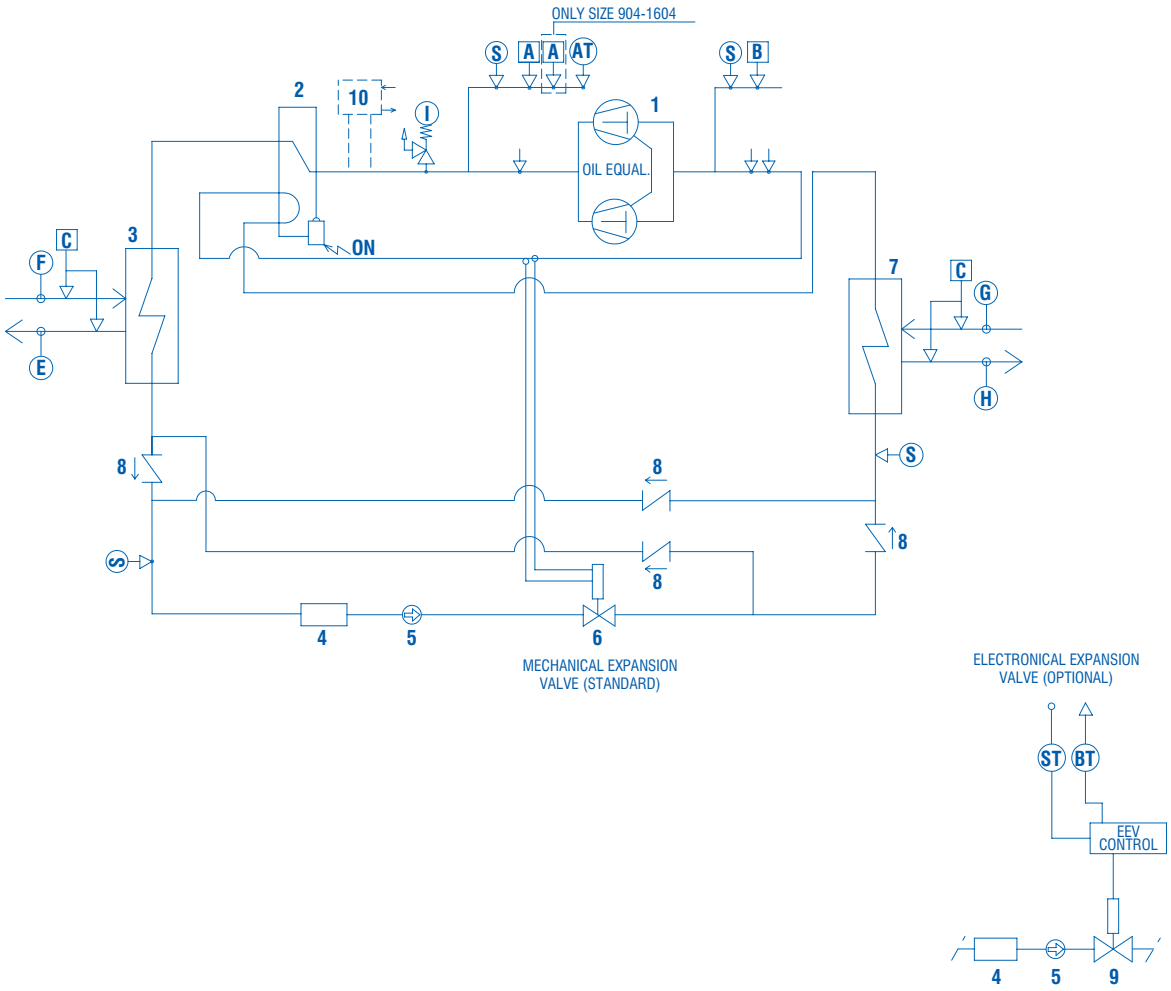
COMPONENTS

1 Compressor
3 Outdoor heat exchanger
4 Drier filter
5 Sight glass
6 Mechanical expansion valve
7 Indoor heat exchanger
9 Electronic expansion valve
10 Desuperheater

SAFETY/CONTROL DEVICES

A High pressure switch (40,5 bar)
B Low pressure switch (1,5 bar)
AT High pressure transducer
BT Low pressure transducer
C Water differential pressure switch (50 mbar)
E Outlet water temperature sensor
F Inlet water temperature sensor
G Inlet water temperature sensor
H Outlet water temperature sensor
I Ped pressure relief valve (45 bar)
S 5/16" Shrader connection (service only)
↓ Pipe connection with Shrader valve

Refrigerant Flow Diagram - WQH 524 to 1604 - R410A



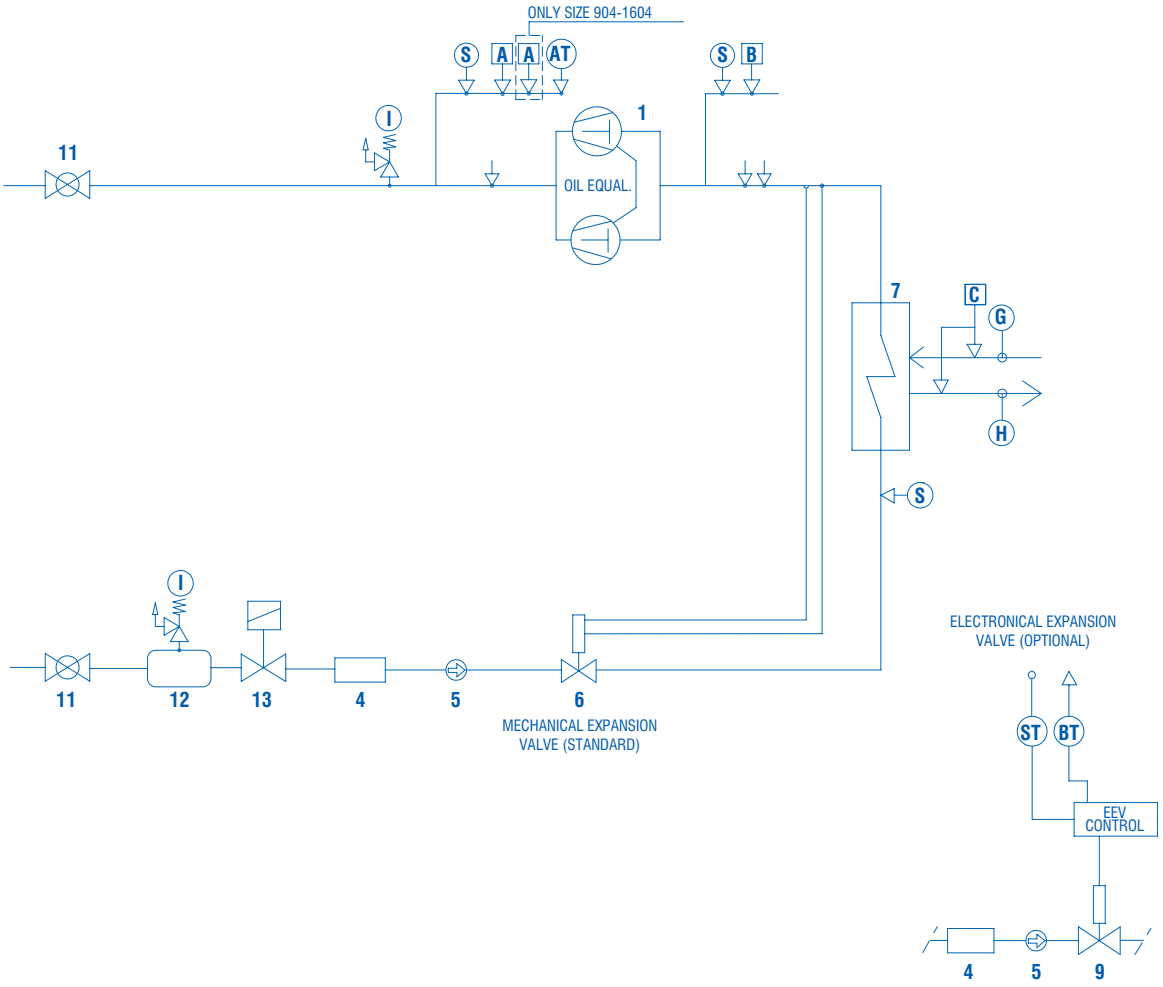
COMPONENTS

1 Compressor
2 4-way valve
3 Outdoor heat exchanger
4 Drier filter
5 Sight glass
6 Mechanical expansion valve
7 Indoor heat exchanger
8 Check valve
9 Electronic expansion valve
10 Desuperheater

SAFETY/CONTROL DEVICES

A High pressure switch (40,5 bar)
B Low pressure switch (1,5 bar)
AT High pressure transducer
BT Low pressure transducer
C Water differential pressure switch (50 mbar)
E Outlet water temperature sensor
F Inlet water temperature sensor
G Inlet water temperature sensor
H Outlet water temperature sensor
I Ped pressure relief valve (45 bar)
S 5/16" Shrader connection (service only)
↓ Pipe connection with Shrader valve

Refrigerant Flow Diagram - WQRC 524 to 1604 - R410A



COMPONENTS

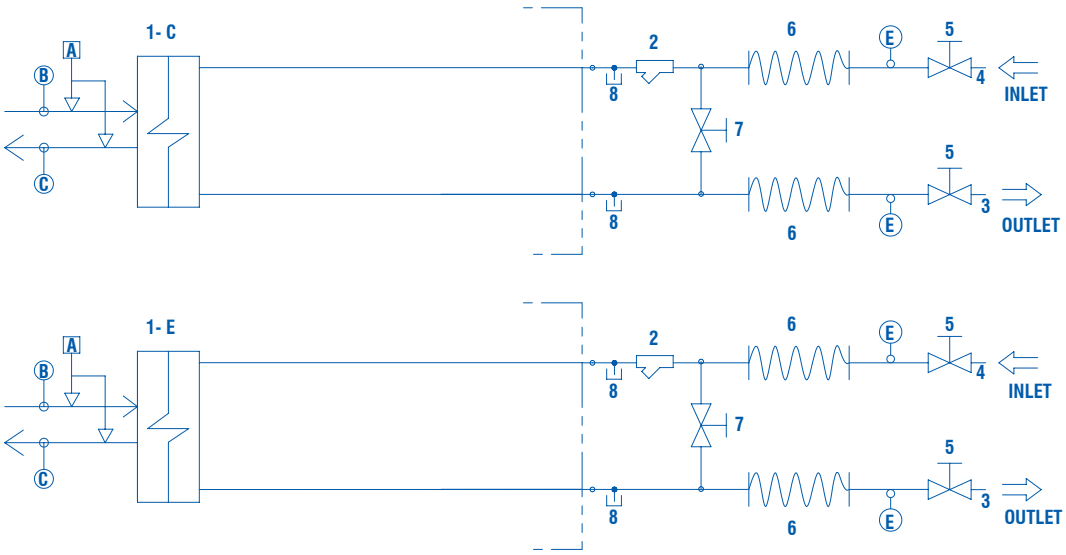
1 Compressor
4 Drier filter
5 Sight glass
6 Mechanical expansion valve
7 Indoor heat exchanger
9 Electronic expansion valve
11 Globe valve
12 Liquid receiver
13 Solenoid valve

SAFETY/CONTROL DEVICES

A High pressure switch (40,5 bar)
B Low pressure switch (1,5 bar)
AT High pressure transducer
BT Low pressure transducer
C Water differential pressure switch (50 mbar)
E Outlet water temperature sensor
F Inlet water temperature sensor
G Inlet water temperature sensor
H Outlet water temperature sensor
I Ped pressure relief valve (45 bar)
S 5/16" Shrader connection (service only)
↓ Pipe connection with Shrader valve

Hydraulic Circuit Diagram - WQL/WQH 524 to 1604 - R410A

Hydraulic system basic



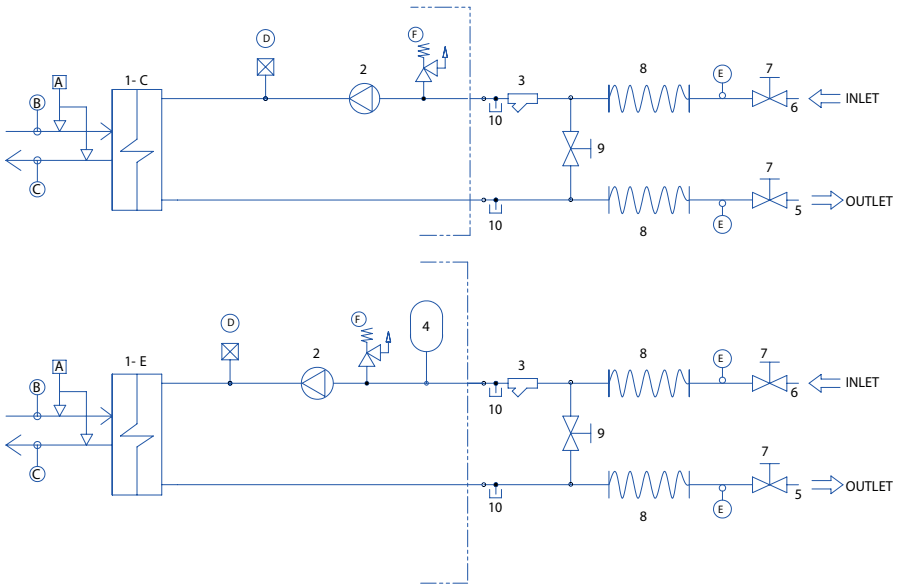
COMPONENTS

1C Outdoor heat exchanger
1E Indoor heat exchanger
2 Water filter
3 Water outlet
4 Water inlet
5 Globe valve
6 Flexible pipes
7 By-pass valve
8 Pressure point/drainage

SAFETY/CONTROL DEVICES

A Water differential pressure switch (50 mbar)
B Inlet water temperature sensor
C Outlet water temperature sensor
D Vent valve
E Thermometer
- - Unit side
O Probes

Hydraulic system 1P condenser and 1P evaporator



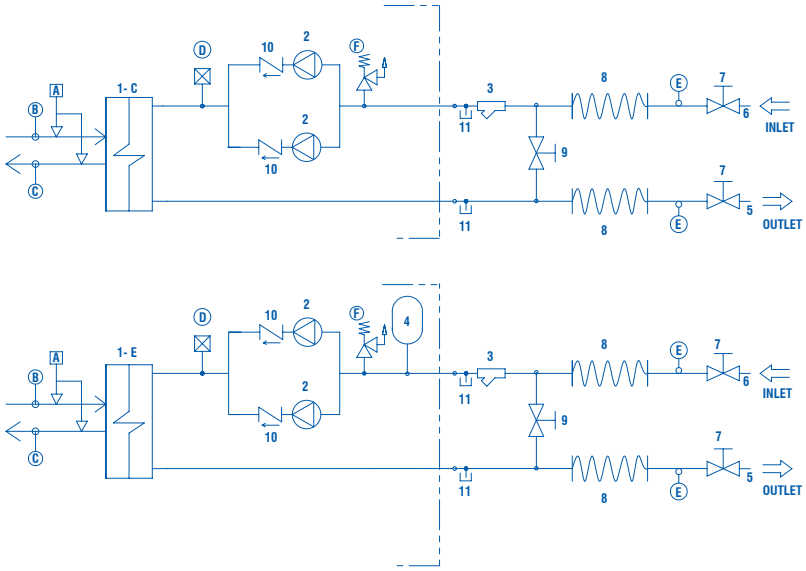
COMPONENTS

1C Outdoor heat exchanger
1E Indoor heat exchanger
2 Pump
3 Water filter
4 Pressure expansion tank
5 Water outlet
6 Water inlet
7 Globe valve
8 Flexible pipes
9 By-pass valve
10 Pressure point/drainage

SAFETY/CONTROL DEVICES

A Water differential pressure switch (50 mbar)
B Inlet water temperature sensor
C Outlet water temperature sensor
D Vent valve
E Thermometer
F Water safety valve (6 bar)
- - Unit side
O Probes

Hydraulic system 2P condenser and 2P evaporator



COMPONENTS

1C Outdoor heat exchanger
1E Indoor heat exchanger
2 Pump
3 Water filter
4 Pressure expansion tank
5 Water outlet
6 Water inlet
7 Globe valve
8 Flexible pipes
9 By-pass valve
10 Non-return valve
11 Pressure point/drainage

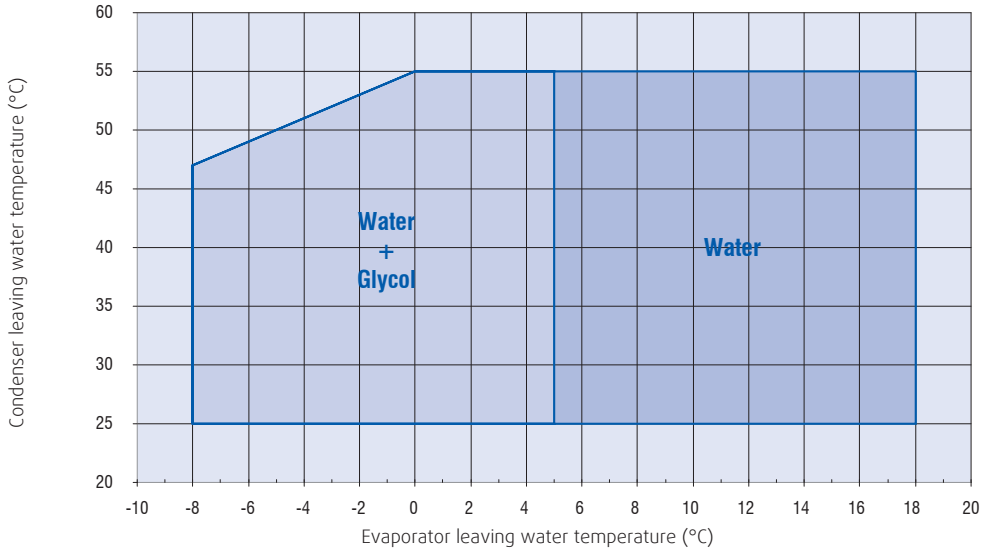
SAFETY/CONTROL DEVICES

A Water differential pressure switch (50 mbar)
B Inlet water temperature sensor
C Outlet water temperature sensor
D Vent valve
E Thermometer
F Water safety valve (6 bar)
- - Unit side
O Probes

Operating Limits

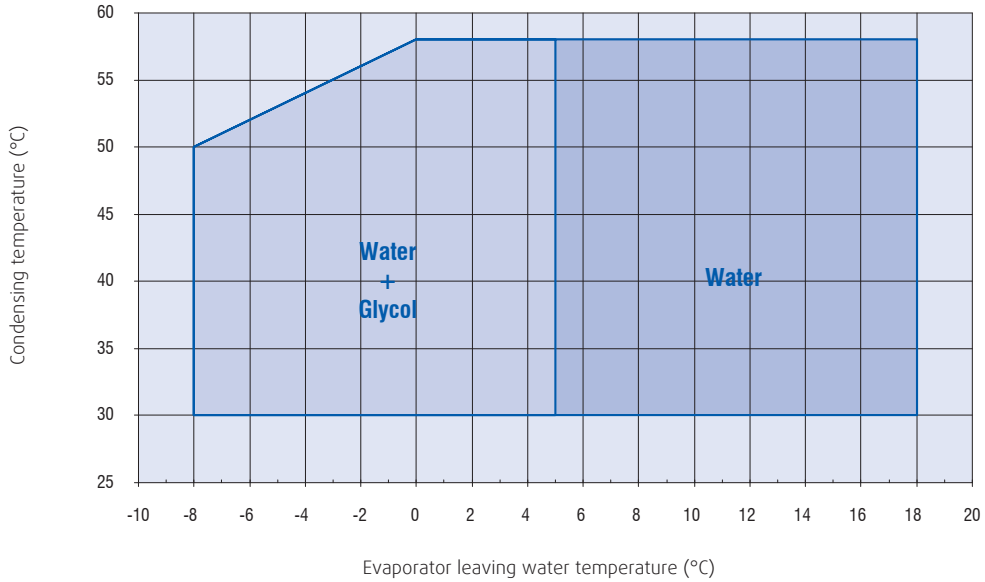
WQL/WQH 524 to 1604 - R410A				
Chilled liquid	Leaving fluid temperature range	Water	°C	+5 to +18
		Brine	°C	-8 / +5 (with glycol and electronic expansion valve); +5/+18 (standard application)
		Temperature spread	°K	3 to 8
	Maximum operating pressure		bar	6
Heated liquid	Leaving fluid temperature range	Water	°C	+25 to +55
		Temperature spread	°K	3 to 15
	Maximum operating pressure		bar	6
Unit power supply			V/ph/Hz	400/3/50

Note: Maximum % glycol (ethylenic or propilenic): 40%.



WQRC 524 to 1604 - R410A				
Liquid	Leaving fluid temperature range	Water	°C	+5 to +18
		Brine	°C	-8 / +5 (with glycol and electronic expansion valve); +5/+18 (standard application)
		Temperature spread	°K	3 to 8
	Maximum operating pressure		bar	6
Condensing temperature			°C	+30 to +58
Unit power supply			V/ph/Hz	400/3/50

Note: Maximum % glycol (ethylenic or propilenic): 40%.



Correction Factors

Unit capacity, absorbed power, brine flow rate, brine pressure drop, have to be corrected according to following formula:

Corrected unit capacity:

$$Q_{CORRECTED/GLYCOL} = Q_{NOMINAL} \times K_c \times K_c^{E,P}$$

Where K_c = capacity corrective factor according to LWT (ΔT = 5 [K]) → refer to Table 1
K_c^E = capacity corrective factor according to glycol percentage (ETHYLENE GLYCOL) → refer to Table 2
K_c^P = capacity corrective factor according to glycol percentage (PROPYLENE GLYCOL) → refer to Table 4

Corrected unit absorbed power:

$$P_{CORRECTED/GLYCOL} = P_{NOMINAL} \times K_i \times K_i^{E,P}$$

Where K_i = absorbed power corrective factor according to LWT (ΔT = 5 [K]) → refer to Table 1
K_i^E = absorbed power corrective factor according to glycol percentage (ETHYLENE GLYCOL) → refer to Table 2
K_i^P = absorbed power corrective factor according to glycol percentage (PROPYLENE GLYCOL) → refer to Table 4

Corrected brine flow rate:

$$G_{CORRECTED/GLYCOL} = G_{RE\text{-}CALCULATED} \times K_f^{E,P}$$

Where $G_{RE\text{-}CALCULATED}$ = flow rate according to $P_{CORRECTED/GLYCOL}$ ($P_{CORRECTED/GLYCOL}$ x 860 / ΔT / 3600)
K_f^E = flow rate corrective factor according to glycol percentage (ETHYLENE GLYCOL) → refer to Table 2
K_f^P = flow rate corrective factor according to glycol percentage (PROPYLENE GLYCOL) → refer to Table 4

Corrected brine pressure drop:

$$\Delta P_{CORRECTED/GLYCOL} = \Delta P_{RE\text{-}CALCULATED} \times K_p^{E,P}$$

Where $\Delta P_{RE\text{-}CALCULATED}$ = pressure drop according to $G_{CORRECTED/GLYCOL}$ (K_{BPHE} x ($G_{CORRECTED/GLYCOL}$)^2)
K_p^E = pressure drop corrective factor according to glycol percentage (ETHYLENE GLYCOL) → refer to Table 2
K_p^P = pressure drop corrective factor according to glycol percentage (PROPYLENE GLYCOL) → refer to Table 5

Table 1		K_c	K_i
Leaving water temperature [LWT] (°C) (ΔT=5 [K])	7	1	1
	4	0.887	0.94
	2	0.816	0.9
	0	0.748	0.865
	-2	0.685	0.826
	-4	0.624	0.788
	-6	0.568	0.753
	-8	0.513	0.718
	-10	0.461	0.683

Table 2							
Ethylene Glycol Percentage	%	0	10	20	30	35	40
Freezing point (1)	°C	0	-4	-10	-17	-21	-25
Minimum leaving water temperature allowed	°C	6	2	-2	-6	-8	-8
Capacity corrective factor (2)	K_c^E	1	0.995	0.985	0.97	0.963	0.955
Absorbed power corrective factor (2)	K_i^E	1	0.998	0.995	0.985	0.983	0.98
Flow rate corrective factor	K_f^E	1	1.015	1.05	1.085	1.123	1.16
Pressure drop corrective factor (3)	K_p^E	1	1.07	1.16	1.235	1.283	1.33

(1) ASHRAE Handbook Fundamentals.
(2) Valid for LWT=7 °C. If LWT < 7°C consider Kc x KcE and Ki x KiE.
(3) Valid for LWT > 5 °C. If LWT < 5 °C then refer to Table 3.

Correction Factors (continued)

Table 3			
Ethylene Glycol Percentage	LWT (°C)	Corrective factor K_f^E	Corrective factor K_P^E
10%	5	1.0154	1.071
	4	1.0154	1.076
	3	1.0154	1.081
	2	1.0154	1.085
20%	1	1.0417	1.193
	0	1.0423	1.2
	-1	1.0428	1.208
	-2	1.0434	1.215
30%	-3	1.0927	1.299
	-4	1.0936	1.306
	-5	1.0945	1.32
	-6	1.0954	1.333

Table 4							
Propylene Glycol Percentage	%	0	10	20	30	40	40
Freezing point (1)	°C	0	-3	-7	-13	-22	-25
Capacity corrective factor (2)	K_c^P	1	0.991	0.977	0.945	0.911	-8
Absorbed power corrective factor (2)	K_i^P	1	0.994	0.991	0.975	0.966	0.955
Flow rate corrective factor	K_f^P	1	1.005	1.03	1.067	1.13	0.98

(1) ASHRAE Handbook Fundamentals.
(2) Valid for LWT=7 °C. If LWT < 7°C consider Kc x KcP and Ki x KiP.

Table 5		
Ethylene Glycol Percentage	LWT (°C)	Corrective factor K_P^P
10%	5	1.112
	4	1.134
20%	5	1.175
	4	1.196
	3	1.206
30%	5	1.29
	4	1.3
	3	1.31
	0	1.362
40%	-2	1.393
	-4	1.414
	5	1.433
	4	1.435
	3	1.456
	0	1.497
	-2	1.549
	-4	1.58
	-6	1.612
	-8	1.653

Physical Data - WQL 524 to 1604 - R410A

Main data

WQL		524	604	704	804	904	1004	1104	1204	1404	1604
Cooling Capacity (1)	kW	154,3	181,8	208,9	232,6	265,8	295,6	338,0	379,2	421,1	459,8
Input Power (1)	kW	34,2	41,6	47,5	53,3	59,3	65,7	74,9	83,4	95,0	107,3
Total EER (1)		4,51	4,37	4,40	4,36	4,48	4,51	4,51	4,55	4,43	4,28
SEER (2)		5,55	6,28	6,1	5,75	6,1	6,1	6,2	6,25	6,43	6,47
η_{sc} (2)		219	248	241	227	241	241	245	247	254	256
Number of Refrigerant Circuits		2	2	2	2	2	2	2	2	2	2
Part Load Steps	%	0-25-50-75-100	0-25-50-75-100	0-21-50-71-100	0-25-50-75-100	0-22-50-72-100	0-25-50-75-100	0-23-50-73-100	0-25-50-75-100	0-23-50-73-100	0-25-50-75-100
Power Supply		400V/3/50Hz									
Startup Type		Direct									
Maximum Absorbed Power	kW	59	68	79	100	111	122	137	152	176	196
Maximum Current (FLA)	A	124	136	148	176	194	212	238	264	294	324
Startup Current (LRA)	A	233	276	333	342	351	369	459	485	511	541
REFRIGERANT											
Type		R410A									
Charge (3)	kg	8,7	11,1	12,6	13,4	17,2	21,3	23,8	27,4	29,8	29,8
COMPRESSOR											
Number/Type		4 / Scroll									
Crankcase Heater	W	90-90/90-90	90-90/90-90	90-120/90-120	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140
INTERNAL HEAT EXCHANGER											
Number/Type		1 / Plate									
Water Flow Rate	l/s	7,40	8,71	10,01	11,2	12,7	14,1	16,2	18,2	20,1	22,0
Water Pressure Drop	kPa	26,7	26,6	31,5	36,3	18,7	22,8	17,8	18,4	28,1	33,4
INTERNAL HEAT EXCHANGER WATER CONNECTIONS											
Type		Victaulic									
Inlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"
Outlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"
INTERNAL HEAT EXCHANGER PUMP											
Number		1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Input Power/SP	kW	2,20	2,20	2,20	3,00	3,00	3,00	4,00	4,00	5,50	7,50
Available Static Pressure/SP	kPa	Refer to "4B - Pump Av, Static Pressure"									
Input Power/HP	kW	3,00	3,00	4,00	4,00	5,50	5,50	5,50	7,50	-	-
Available Static Pressure/HP	kPa	Refer to "4B - Pump Av, Static Pressure"									
EXTERNAL HEAT EXCHANGER											
Number/Type		1 / Plate									
Water Flow Rate	l/s	8,97	10,6	12,2	13,6	15,5	17,2	19,7	22,0	24,7	27,1
Water Pressure Drop	kPa	38,1	38,6	45,8	53,0	23,6	18,6	21,5	21,5	35,8	38,5
EXTERNAL HEAT EXCHANGER WATER CONNECTIONS											
Type		Victaulic									
Inlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"
Outlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"
EXTERNAL HEAT EXCHANGER PUMP											
Number		1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Input Power/SP	kW	2,20	3,00	3,00	4,00	4,00	5,50	5,50	5,50	9,20	11,00
Available Static Pressure/SP	kPa	Refer to "4B - Pump Av, Static Pressure"									
Input Power/HP	kW	3,00	4,00	5,50	5,50	5,50	5,50	7,50	7,50	-	-
Available Static Pressure/HP	kPa	Refer to "4B - Pump Av, Static Pressure"									

(1) According to EN14511 standard: Cooling mode conditions: evaporator EWT/LWT 12°C/7°C, condenser EWT/LWT 30°C/35°C (without water pump).
(2) According to EN14825 standard and following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers.
(3) Data for each refrigerant circuit.
(4) STD version.
(5) S version.
(6) Only for movimentation.
(*) Sound pressure level at 10 m. Values refers to ISO Standard 3744 with parallepiped shape.

WQL		524	604	704	804	904	1004	1104	1204	1404	1604
DESUPERHEATER											
Number/Type		2 / Plate									
Heat recovery	kW	22,1	28,4	36,1	42,0	50,4	68,3	78,1	81,9	102	112
Water flow rate	l/s	1,05	1,35	1,73	2,01	2,41	3,26	3,73	3,91	4,86	5,37
Water pressure drop	kPa	8,3	4,5	5,1	5,7	5,0	8,7	10,3	7,5	14,08	10,73
WEIGHT											
Shipping Weight (4)	kg	858	929	1.110	1.279	1.266	1.363	1.449	1.541	1.611	1.660
Shipping Weight (5)	kg	961	1.032	1.213	1.382	1.369	1.466	1.552	1.644	1.714	1.763
Operating Weight (4)	kg	890	971	1.156	1.329	1.340	1.453	1.552	1.660	1.743	1.798
Operating Weight (5)	kg	993	1.074	1.259	1.432	1.443	1.556	1.655	1.763	1.846	1.901
DIMENSIONS											
Length	mm	2.250									
Width	mm	850 (4) / 854 (5) / 885 (4)/(6) - 1.005 (5)/(6)									
Height	mm	1.845 (4) / 1.880 (5)									
ACOUSTIC DATA											
Sound Power Level (4) / (5)	dB(A)	81/75	82/76	85/79	87/81	89/83	90/84	90/84	90/84	92/86	94/88
Sound Pressure Level (4)* / (5)*	dB(A)	49/43	50/44	53/47	55/49	57/51	58/52	58/52	58/52	60/54	62/56

(1) According to EN14511 standard: Cooling mode conditions: evaporator EWT/LWT 12°C/7°C, condenser EWT/LWT 30°C/35°C (without water pump).
(2) According to EN14825 standard and following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers.
(3) Data for each refrigerant circuit.
(4) STD version.
(5) S version.
(6) Only for movimentation.
(*) Sound pressure level at 10 m. Values refers to ISO Standard 3744 with parallepiped shape.

Physical Data - WQH 524 to 1604 - R410A

Main data

WQH		524	604	704	804	904	1004	1104	1204	1404	1604
Cooling Capacity (1)	kW	150,7	176,2	204,5	225,4	263,1	291,3	332	370,5	421,1	459,8
Input Power (1)	kW	34,9	42,7	48,3	54,3	59,8	66,4	76,2	85,2	95,0	107,3
Total EER (1)		4,32	4,13	4,23	4,15	4,4	4,39	4,36	4,35	4,43	4,28
SEER (2)		4,65	4,92	4,92	4,68	5,15	5,1	5,27	5,3	6,43	6,47
η_{sc} (2)		183	194	194	184	203	201	208	209	254	256
Heating Capacity (3)	kW	170,2	201,1	231,8	256,5	295,6	331	376,6	418,5	468,0	508,4
Input Power (3)	kW	44,2	53,6	60,2	68,4	77,4	84,0	95,6	106,2	122,2	131,9
Total COP (3)		3,85	3,75	3,85	3,75	3,82	3,94	3,94	3,94	3,83	3,85
SCOP (4)		5,40	5,20	5,38	5,35	5,73	5,85	5,83	5,85	-	-
η_{sh} (4)		208	200	207	206	221	226	225	226	-	-
SCOP (5)		4,55	4,38	4,48	4,43	4,53	4,58	4,60	4,60	-	-
η_{sh} (5)		174	167	171	169	173	175	176	176	-	-
Number of Refrigerant Circuits		2	2	2	2	2	2	2	2	2	2
Part Load Steps	%	0-25-50-75-100	0-25-50-75-100	0-21-50-71-100	0-25-50-75-100	0-22-50-72-100	0-25-50-75-100	0-23-50-73-100	0-25-50-75-100	0-23-50-73-100	0-25-50-75-100
Power Supply		400V/3/50Hz									
Startup Type		Direct									
Maximum Absorbed Power	kW	59	68	79	100	111	122	137	152	176	196
Maximum Corrent (FLA)	A	124	136	148	176	194	212	238	264	294	324
Startup Corrent (LRA)	A	233	276	333	342	351	369	459	485	511	541
REFRIGERANT											
Type		R410A									
Charge (9)	kg	9	11,4	13,1	13,9	17,3	21,8	24,4	27,9	30,4	30,4
COMPRESSOR											
Number/Type		4 / Scroll									
Crankcase Heater	W	90-90/90-90	90-90/90-90	90-120/90-120	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140
INTERNAL HEAT EXCHANGER											
Number/Type		1 / Plate									
Water Flow Rate - Cooling	l/s	7,22	8,44	9,8	10,8	12,6	14	15,9	17,7	20,1	22,0
Water Pressure Drop - Cooling	kPa	25,5	25	30,3	34,2	18,3	22,2	17,2	17,7	28,1	33,4
Water Flow Rate - Heating	l/s	8,1	9,57	11	12,2	14,1	15,8	18	20	22,4	24,3
Water Pressure Drop - Heating	kPa	31,6	31,7	37,9	43,2	22,6	28	21,6	22,1	26,2	30,8
INTERNAL HEAT EXCHANGER WATER CONNECTIONS											
Type		Victaulic									
Inlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"
Outlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"
INTERNAL HEAT EXCHANGER PUMP											
Number		1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Input Power/SP	kW	2,20	2,20	2,20	3,00	3,00	3,00	4,00	4,00	5,50	9,20
Available Static Pressure/SP	kPa	Refer to "4B - Pump Av. Static Pressure"									
Input Power/HP	kW	3,00	3,00	4,00	4,00	5,50	5,50	5,50	7,50	-	-
Available Static Pressure/HP	kPa	Refer to "4B - Pump Av. Static Pressure"									
EXTERNAL HEAT EXCHANGER											
Number/Type		1 / Plate									
Water Flow Rate - Cooling	l/s	8,83	10,40	12,00	13,30	15,40	17,10	19,50	21,70	24,70	27,10
Water Pressure Drop - Cooling	kPa	37,10	37,20	44,60	50,90	23,30	18,30	21,00	20,90	35,80	38,50
Water Flow Rate - Heating	l/s	10,30	12,00	13,90	15,30	17,80	20,00	22,70	25,20	27,50	30,00
Water Pressure Drop - Heating	kPa	48,90	48,50	58,80	66,50	30,70	24,60	28,10	27,60	46,70	52,10

(1) According to EN14511 standard: Cooling mode conditions: evaporator EWT/LWT 12°C/7°C, condenser EWT/LWT 30°C/35°C (without water pump).
(2) According to EN14825 standard and following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers
(3) According to EN14511 standard: Heating mode conditions: evaporator EWT/LWT 10°C/7°C, condenser EWT/LWT 40°C/45°C.
(4) According to EN14825 standard - low temperature application (35°C) and following COMMISSION REGULATION (EU) No 813/2013 for heat pumps.
(5) According to EN14825 standard - medium temperature application (55°C) and following COMMISSION REGULATION (EU) No 813/2013 for heat pumps.
(6) STD version.
(7) S version.
(8) Only for movimentation.
(9) Data for each refrigerant circuit.
(*) Sound pressure level at 10 m. Values refers to ISO Standard 3744 with parallepiped shape.

WQH		524	604	704	804	904	1004	1104	1204	1404	1604
EXTERNAL HEAT EXCHANGER WATER CONNECTIONS											
Type		Victaulic									
Inlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"
Outlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"
EXTERNAL HEAT EXCHANGER PUMP											
Number		1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Input Power/SP	kW	2,20	3,00	3,00	4,00	4,00	5,50	5,50	5,50	7,50	11,00
Available Static Pressure/SP	kPa	Refer to "4B - Pump Av. Static Pressure"									
Input Power/HP	kW	3,00	4,00	5,50	5,50	5,50	5,50	7,50	7,50	-	-
Available Static Pressure/HP	kPa	Refer to "4B - Pump Av. Static Pressure"									
DESUPERHEATER											
Number/Type		2 / Plate									
Heat recovery	kW	22,1	28,4	36,1	42	50,4	68,3	78,1	81,9	97	106
Water flow rate	l/s	1,05	1,35	1,73	2,01	2,41	3,26	3,73	3,91	4,65	5,08
Water pressure drop	kPa	8,3	4,5	5,1	5,7	5	8,7	10,3	7,5	12,86	9,59
WEIGHT											
Shipping Weight (6)	kg	876	947	1.141	1.311	1.302	1.410	1.494	1.585	1.655	1.704
Shipping Weight (7)	kg	979	1.050	1.244	1.414	1.405	1.513	1.597	1.688	1.758	1.807
Operating Weight (6)	kg	909	989	1.187	1.360	1.376	1.500	1.598	1.704	1.787	1.842
Operating Weight (7)	kg	1.012	1.092	1.290	1.463	1.479	1.603	1.701	1.807	1.890	1.945
DIMENSIONS											
Length	mm	2.250									
Width	mm	850 (6) / 854 (7) / 885 (6)/(8) - 1.005 (7)/(8)									
Height	mm	1.845 (6) / 1.880 (7)									
ACOUSTIC DATA											
Sound Power Level (6) / (7)	dB(A)	81/75	82/76	85/79	87/81	89/83	90/84	90/84	90/84	92/86	94/88
Sound Pressure Level (6)* / (7)*	dB(A)	49/43	50/44	53/47	55/49	57/51	58/52	58/52	58/52	60/54	62/56

(1) According to EN14511 standard: Cooling mode conditions: evaporator EWT/LWT 12°C/7°C, condenser EWT/LWT 30°C/35°C (without water pump).
(2) According to EN14825 standard and following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers
(3) According to EN14511 standard: Heating mode conditions: evaporator EWT/LWT 10°C/7°C, condenser EWT/LWT 40°C/45°C.
(4) According to EN14825 standard - low temperature application (35°C) and following COMMISSION REGULATION (EU) No 813/2013 for heat pumps.
(5) According to EN14825 standard - medium temperature application (55°C) and following COMMISSION REGULATION (EU) No 813/2013 for heat pumps.
(6) STD version.
(7) S version.
(8) Only for movimentation.
(9) Data for each refrigerant circuit.
(*) Sound pressure level at 10 m. Values refers to ISO Standard 3744 with parallepiped shape.

Physical Data - WQRC 524 to 1604 - R410A

Main data

WQRC		524	604	704	804	904	1004	1104	1204	1404	1604
Cooling Capacity (1)	kW	130,0	155,3	177,6	196,5	224,2	247,2	285,9	316,1	368	397
Input Power (1)	kW	43,2	51,5	59,5	66,4	74,8	83	95	106	120	134
Number of Refrigerant Circuits		2	2	2	2	2	2	2	2	2	2
Part Load Steps	%	0-25-50-75-100	0-25-50-75-100	0-21-50-71-100	0-25-50-75-100	0-22-50-72-100	0-25-50-75-100	0-23-50-73-100	0-25-50-75-100	0-23-50-73-100	0-25-50-75-100
Power Supply		400V/3/50Hz									
Startup Type		Direct									
Maximum Absorbed Power	kW	59	68	79	100	111	122	137	152	176	196
Maximum Corrent (FLA)	A	124	136	148	176	194	212	238	264	294	324
Startup Corrent (LRA)	A	233	276	333	342	351	369	459	485	511	541
REFRIGERANT											
Type		R410A									
COMPRESSOR											
Number/Type		4 / Scroll									
Crankcase Heater	W	90-90/90-90	90-90/90-90	90-120/90-120	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140	140-140/140-140
INTERNAL HEAT EXCHANGER											
Number/Type		1 / Plate									
Water Flow Rate	l/s	6,21	7,42	8,49	9,39	10,7	11,8	13,7	15,1	17,6	19,0
Water Pressure Drop	kPa	19,3	19,6	23	26,2	13,5	16,2	12,9	13	19,3	21,7
INTERNAL HEAT EXCHANGER WATER CONNECTIONS											
Type		Victaulic									
Inlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"
Outlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"
INTERNAL HEAT EXCHANGER PUMP											
Number		1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Input Power/SP	kW	2,20	2,20	2,20	3,00	3,00	3,00	4,00	4,00	5,50	7,50
Available Static Pressure/SP	kPa	Refer to "4B - Pump Av. Static Pressure"									
Input Power/HP	kW	3,00	3,00	4,00	4,00	5,50	5,50	5,50	7,50	-	-
Available Static Pressure/HP	kPa	Refer to "4B - Pump Av. Static Pressure"								-	-
REMOTE CONDENSER REFRIGERANT CONNECTIONS											
Type		To be brazed									
Inlet Diameter	inch	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"
Outlet Diameter	inch	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 5/8"	1 5/8"	1 5/8"	1 5/8"	1 5/8"	1 5/8"
WEIGHT											
Shipping Weight (2)	kg	754	791	965	1.138	1.153	1.203	1.279	1.333	1.397	1.433
Shipping Weight (3)	kg	857	894	1.068	1.241	1.256	1.306	1.382	1.436	1.497	1.536
Operating Weight (2)	kg	770	812	988	1.163	1.188	1.241	1.328	1.388	1.463	1.502
Operating Weight (3)	kg	873	915	1.091	1.266	1.291	1.344	1.431	1.491	1.566	1.605
DIMENSIONS											
Length	mm	2.250									
Width	mm	850 (2) / 854 (3) / 885 (2)/(4) - 1.005 (3)/(4)									
Height	mm	1.845 (2) / 1.880 (3)									
ACOUSTIC DATA											
Sound Power Level (2)	dB(A)	81	82	85	87	89	90	90	90	92	94
Sound Pressure Level (2)*	dB(A)	49	50	53	55	57	58	58	58	60	62
Sound Power Level (3)	dB(A)	75	76	79	81	83	84	84	84	86	88
Sound Pressure Level (3)*	dB(A)	43	44	47	49	51	52	52	52	54	56

(1) Data referred to evaporator water temperature 12/7°C and condensing temperature 50°C.
(2) STD version.
(3) S version.
(4) Only for movimentation.
(*) Sound pressure level at 10 m. Values refers to ISO Standard 3744 with parallepiped shape.

Electrical Data

Compressors data: 400 V / 3 ph / 50 Hz

Sizes	Nominal PNOM-CPS (kW)	Nominal INOM-CPS (A)	Maximum PMAX-CPS (kW)	Maximum IMAX-CPS (A)	ISTART-CPS LRA (A)	PF (NOM)	PFC*
524	8.3	16	*14.8*	31	140	0.75	*> 0.90*
	8.3	16	*14.8*	31	140	0.75	*> 0.90*
	8.3	16	*14.8*	31	140	0.75	*> 0.90*
	8.3	16	*14.8*	31	140	0.75	*> 0.90*
604	10.1	20.7	*17.1*	34	174	0.7	*> 0.90*
	10.1	20.7	*17.1*	34	174	0.7	*> 0.90*
	10.1	20.7	*17.1*	34	174	0.7	*> 0.90*
	10.1	20.7	*17.1*	34	174	0.7	*> 0.90*
704	10,0	21,4	*17,0*	34	174	0,68	*> 0.90*
	12,5	21,5	*21,6*	36,7	240	0,84	*> 0.90*
	10,0	21,4	*17,0*	34	174	0,68	*> 0.90*
	12,5	21,5	*21,6*	36,7	240	0,84	*> 0.90*
804	12,5	21,5	*21,6*	36,7	240	0,84	*> 0.90*
	12,5	21,5	*21,6*	36,7	240	0,84	*> 0.90*
	12,5	21,5	*21,6*	36,7	240	0,84	*> 0.90*
	12,5	21,5	*21,6*	36,7	240	0,84	*> 0.90*
904	12,5	21,5	*21,6*	36,7	240	0,84	*> 0.90*
	15,7	29,0	*27,1*	48,7	287	0,78	*> 0.90*
	12,5	21,5	*21,6*	36,7	240	0,84	*> 0.90*
	15,7	29,0	*27,1*	48,7	287	0,78	*> 0.90*
1004	15,7	29,0	*27,1*	48,7	287	0,78	*> 0.90*
	15,7	29,0	*27,1*	48,7	287	0,78	*> 0.90*
	15,7	29,0	*27,1*	48,7	287	0,78	*> 0.90*
	15,7	29,0	*27,1*	48,7	287	0,78	*> 0.90*
1104	15,7	29,0	*27,1*	48,7	287	0,78	*> 0.90*
	20,8	37,5	*36,0*	65,4	310	0,80	*> 0.90*
	15,7	29,0	*27,1*	48,7	287	0,78	*> 0.90*
	20,8	37,5	*36,0*	65,4	310	0,80	*> 0.90*
1204	20,8	37,5	*36,0*	65,4	310	0,80	*> 0.90*
	20,8	37,5	*36,0*	65,4	310	0,80	*> 0.90*
	20,8	37,5	*36,0*	65,4	310	0,80	*> 0.90*
	20,8	37,5	*36,0*	65,4	310	0,80	*> 0.90*
1404	21.6	35.7	*39.0*	66	326	0.87	*> 0.90*
	26.0	43.5	*49.0*	81	298	0.86	*> 0.90*
	21.6	35.7	*39.0*	66	326	0.87	*> 0.90*
	26.0	43.5	*49.0*	81	298	0.86	*> 0.90*
1604	26.0	43.5	*49.0*	81	298	0.86	*> 0.90*
	26.0	43.5	*49.0*	81	298	0.86	*> 0.90*
	26.0	43.5	*49.0*	81	298	0.86	*> 0.90*
	26.0	43.5	*49.0*	81	298	0.86	*> 0.90*

(*) Power factor correction capacitor option installed.

Electrical Data

STD unit without pump option

400V/3/50Hz		524	604	704	804	904	1004	1104	1204	1404	1604
Power input (kW)	Nominal	33	40	45	50	56	63	73	83	95	104
	Maximum	59	68	77	86	97	108	126	144	176	196
Current input (A)	Nominal	64	83	86	86	101	116	133	150	158	174
	Maximum	124	136	141	147	171	195	228	262	294	324
Start-up current (A)		233	276	345	350	409	433	473	506	511	541
Start-up current (A)**		191	224	266	279	288	306	373	399	-	-

(**) Soft-starter option installed.

Pump electrical data

400V/3/50Hz	1-2P/SP/E		1-2P/SP/C		1-2P/HP/E		1-2P/HP/C	
	PMAX-PUMP (kW)	IMAX-PUMP FLA (A)	PMAX-PUMP (kW)	IMAX-PUMP FLA (A)	PMAX-PUMP (kW)	IMAX-PUMP FLA (A)	PMAX-PUMP (kW)	IMAX-PUMP FLA (A)
524	2.20	5.03	2.20	5.03	3.00	6.25	3.00	6.25
604	2.20	5.03	3.00	6.25	3.00	6.25	4.00	7.71
704	2.20	5.03	3.00	6.25	4.00	7.71	5.50	10.4
804	3.00	6.25	4.00	7.71	4.00	7.71	5.50	10.4
904	3.00	6.25	4.00	7.71	5.50	10.4	5.50	10.4
1004	3.00	6.25	5.50	10.4	5.50	10.4	5.50	10.4
1104	4.00	7.71	5.50	10.4	5.50	10.4	7.50	13.9
1204	4.00	7.71	5.50	10.4	7.50	13.9	7.50	13.9
1404	5.5	10.6	9.2	17.2	-	-	-	-
1604	7.5	13.6	11	21.3	-	-	-	-

Sound Data

STD models

Sizes	Octave Band (Hz)								Sound Power Level dB(A)	Sound Pressure Level dB(A)*
	63	125	250	500	1000	2000	4000	8000		
	Sound Power Level dB									
524	69	74	79	79	77	71	69	57	81	49
604	70	75	80	80	78	72	70	57	82	50
704	72	78	83	83	81	75	73	60	85	53
804	74	80	85	85	83	77	75	62	87	55
904	77	82	87	87	85	79	77	65	89	57
1004	79	84	88	88	86	80	78	66	90	58
1104	79	84	88	88	86	80	78	66	90	58
1204	79	84	88	88	86	80	78	66	90	58
1404	81	86	90	90	88	82	80	68	92	60
1604	83	88	92	92	90	84	82	70	94	62

S models

Sizes	Octave Band (Hz)								Sound Power Level dB(A)	Sound Pressure Level dB(A)*
	63	125	250	500	1000	2000	4000	8000		
	Sound Power Level dB									
524	65	69	73	73	71	65	63	52	75	43
604	65	70	74	74	72	66	64	52	76	44
704	68	73	77	77	75	69	67	55	79	47
804	69	74	79	79	77	71	69	57	81	49
904	73	77	81	81	79	73	71	60	83	51
1004	75	79	82	82	80	74	72	61	84	52
1104	75	79	82	82	80	74	72	61	84	52
1204	75	79	82	82	80	74	72	61	84	52
1404	76	81	84	84	82	76	74	63	86	54
1604	79	83	86	86	84	78	76	65	88	56

Cooling Capacities

WQL models	Evap. LWT (°C)	Condenser LWT (°C)													
		25		30		35		40		45		50		55	
		P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)
WQL 524	5	157.8	26.7	151.2	29.3	142.9	32.7	132.5	37.0	120.4	42.3	107.1	48.7	101.6	51.3
	6	162.9	26.8	157.0	29.5	149.0	32.9	138.4	37.1	125.6	42.5	111.4	48.8	105.3	51.4
	7	167.9	27.1	162.5	29.7	**154.8**	**33.0**	143.9	37.3	130.6	42.6	115.7	48.9	109.2	51.5
	8	172.8	27.4	167.5	29.9	159.8	33.1	148.8	37.3	135.2	42.6	119.9	48.9	113.3	51.4
	9	177.5	27.8	172.1	30.1	164.2	33.1	153.0	37.3	139.3	42.5	123.9	48.9	117.6	51.4
	10	182.3	28.2	176.5	30.3	168.3	33.2	157.0	37.2	143.3	42.4	127.9	48.8	121.9	51.3
	11	187.1	28.7	180.9	30.6	172.4	33.3	161.1	37.2	147.3	42.3	131.9	48.8	126.2	51.2
	12	192.1	29.1	185.5	30.8	176.8	33.4	165.2	37.2	151.3	42.3	135.8	48.7	130.3	51.2
	13	197.4	29.5	190.4	31.1	181.2	33.6	169.3	37.3	155.2	42.3	139.5	48.7	134.1	51.1
	14	203.1	29.8	195.5	31.3	185.8	33.7	173.4	37.4	159.0	42.4	143.1	48.7	137.7	51.0
	15	209.5	30.0	200.9	31.5	190.4	33.9	177.5	37.6	162.5	42.5	146.3	48.7	140.8	50.9
	16	216.6	30.0	206.7	31.6	195.1	34.2	181.3	37.8	165.8	42.6	149.1	48.7	143.5	50.7
	17	224.7	29.7	213.0	31.6	199.9	34.3	185.0	38.0	168.8	42.8	151.6	48.7	145.7	50.4
	18	234.0	29.3	219.8	31.5	204.7	34.5	188.5	38.4	171.4	43.1	153.8	48.7	147.8	50.1
WQL 604	5	186.5	31.6	178.2	35.5	168.5	39.8	156.8	44.8	143.5	50.6	129.2	57	123.5	59.6
	6	192.4	31.6	185	35.6	175.6	40	163.6	45.1	149.6	50.9	134.3	57.2	127.8	59.7
	7	198.2	31.6	191.5	35.7	**182.4**	**40.2**	170.2	45.3	155.5	51	139.3	57.4	132.3	59.8
	8	203.8	31.6	197.3	35.8	188.2	40.2	175.8	45.4	160.8	51.1	144.2	57.4	137	59.8
	9	209.3	31.8	202.5	35.8	193.3	40.3	180.7	45.3	165.6	51	148.9	57.4	141.9	59.8
	10	214.8	31.9	207.6	35.9	198.1	40.2	185.4	45.2	170.2	51	153.5	57.3	146.9	59.8
	11	220.3	32.1	212.7	36	202.9	40.2	190	45.2	174.8	50.9	158	57.4	151.7	59.9
	12	226	32.2	218.1	36.1	207.9	40.3	194.8	45.2	179.2	51	162.3	57.5	156.3	60
	13	232.1	32.2	223.6	36.1	213	40.3	199.5	45.3	183.7	51	166.5	57.6	160.6	60.1
	14	238.7	32.1	229.6	36	218.2	40.3	204.2	45.4	187.9	51.2	170.3	57.8	164.4	60.2
	15	246.1	31.8	235.8	35.9	223.5	40.4	208.7	45.5	191.8	51.4	173.7	58.1	167.8	60.4
	16	254.3	31.3	242.5	35.7	228.9	40.4	213.1	45.7	195.4	51.7	176.7	58.4	170.5	60.5
	17	263.6	30.6	249.7	35.4	234.3	40.4	217.1	46	198.6	52.1	179.2	58.8	172.7	60.6
	18	274.3	29.6	257.5	34.8	239.8	40.4	220.9	46.3	201.4	52.6	181.5	59.1	174.4	60.9
WQL 704	5	215.3	37.5	205.2	41	193.4	45.5	179.6	51.2	164.1	58.4	147.4	67	141.1	70.1
	6	221.7	37.7	212.8	41.2	201.7	45.7	187.7	51.4	171.3	58.6	153.3	67.2	146.2	70.2
	7	228.2	37.9	220.2	41.3	**209.6**	**45.8**	195.3	51.6	178.2	58.7	159.2	67.3	151.5	70.2
	8	234.6	38.2	226.9	41.5	216.4	45.9	201.9	51.6	184.3	58.7	165	67.3	157.1	70.1
	9	240.9	38.7	233.1	41.8	222.3	45.9	207.7	51.5	190	58.5	170.5	67.2	163	70
	10	247.3	39.2	239	42	227.9	45.9	213.1	51.4	195.4	58.4	176	67.1	168.9	69.9
	11	254.1	39.7	245.2	42.3	233.6	46	218.5	51.3	200.8	58.3	181.4	67.1	174.7	69.9
	12	261.2	40.2	251.6	42.6	239.5	46.2	224	51.4	206	58.4	186.6	67.2	180.2	70
	13	269	40.5	258.4	42.9	245.5	46.4	229.5	51.5	211.2	58.5	191.6	67.3	185.4	70
	14	277.6	40.8	265.7	43.1	251.7	46.6	234.8	51.8	216	58.7	196.3	67.5	190.1	70.1
	15	287.3	40.8	273.5	43.3	257.9	46.9	240	52.1	220.6	59.1	200.6	67.8	194.2	70.2
	16	298.2	40.6	282	43.4	264.3	47.2	244.9	52.5	224.5	59.5	204.5	68	197.3	70.5
	17	310.8	40.1	291.1	43.3	270.7	47.5	249.5	53.1	228.1	60.1	207.9	68.3	199.8	70.8
	18	325.2	39.3	301	43.1	277.1	47.9	253.7	53.8	231.1	60.9	210.9	68.7	201.9	71.2
WQL 804	5	240.9	41.7	228.5	45.8	214.7	50.7	199.2	56.9	182	64.6	163.8	74.1	156.2	78.1
	6	248.9	41.9	237.6	46	224.3	51	208.3	57.2	190.1	64.9	170.5	74.4	161.9	78.2
	7	256.9	42.1	246.3	46.2	**233.4**	**51.2**	216.9	57.4	197.9	65.1	177.1	74.6	167.8	78.3
	8	264.6	42.4	254.2	46.5	241.3	51.3	224.5	57.5	204.9	65.1	183.6	74.6	174.1	78.2
	9	272.1	42.9	261.4	46.7	248.2	51.4	231.2	57.4	211.4	65	189.8	74.6	180.6	78.2
	10	279.7	43.4	268.4	47	254.7	51.5	237.5	57.3	217.5	64.9	195.9	74.5	187.2	78.1
	11	287.3	43.9	275.5	47.3	261.4	51.6	243.9	57.3	223.7	64.9	201.9	74.5	193.6	78.1
	12	295.1	44.4	282.8	47.6	268.2	51.7	250.3	57.4	229.8	65	207.7	74.6	199.7	78.2
	13	303.5	44.7	290.5	47.9	275.2	51.9	256.7	57.5	235.9	65.1	213.4	74.7	205.5	78.3
	14	312.6	45	298.5	48.1	282.4	52.1	263.2	57.7	241.6	65.3	218.6	74.9	210.7	78.3
	15	322.5	45	307.1	48.2	289.6	52.3	269.4	58	247	65.6	223.3	75.1	215.2	78.4
	16	333.7	44.7	316.2	48.2	297	52.6	275.4	58.4	251.9	65.9	227.3	75.4	219	78.4
	17	346.4	44.2	325.9	48.1	304.3	52.8	281	58.8	256.3	66.4	230.9	75.8	222.2	78.3
	18	360.8	43.2	336.6	47.7	311.8	53	286.3	59.4	260.2	67	233.8	76.2	224.9	78.3

Cooling Capacities

WQL models	Evap. LWT (°C)	Condenser LWT (°C)													
		25		30		35		40		45		50		55	
		P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)
WQL 904	5	273	47.7	260.3	51.9	245.4	57.3	227.8	64.3	208	72.8	186.8	83	176.8	88
	6	281.7	47.8	270.4	52.2	256.2	57.7	238.1	64.6	217.1	73.2	194.3	83.4	183.2	88.1
	7	290.3	48.1	280.2	52.4	**266.4**	**57.9**	247.9	64.9	225.9	73.5	201.8	83.6	189.9	88.2
	8	298.8	48.4	288.9	52.6	275.2	58	256.5	64.9	233.8	73.5	208.9	83.6	197	88.1
	9	307	48.9	296.9	52.9	282.9	58.1	263.9	64.9	241	73.4	215.9	83.6	204.3	88
	10	315.3	49.5	304.6	53.2	290.1	58.1	270.9	64.8	247.9	73.2	222.6	83.5	211.7	87.9
	11	323.8	50	312.4	53.5	297.4	58.2	277.8	64.8	254.6	73.2	229.3	83.5	218.9	87.9
	12	332.6	50.5	320.5	53.8	304.9	58.4	284.8	64.8	261.4	73.3	235.8	83.6	225.8	88
	13	342	50.8	329	54	312.5	58.6	291.8	65	267.8	73.4	242	83.8	232.3	88.1
	14	352.3	51	337.9	54.3	320.3	58.8	298.6	65.2	274	73.7	247.8	84.1	238.2	88.1
	15	363.6	50.9	347.3	54.3	328	59.1	305.1	65.6	279.7	74	252.9	84.4	243.3	88.2
	16	376.3	50.5	357.3	54.3	335.8	59.3	311.3	66	284.8	74.5	257.4	84.7	247.5	88.2
	17	390.7	49.7	368.1	54.1	343.5	59.6	316.9	66.5	289.2	75.1	261.2	85.1	251	88.2
	18	407.2	48.5	379.7	53.6	351.2	59.8	322.1	67.2	293	75.8	264.5	85.7	254	88.2
WQL 1004	5	306.1	53.3	290.6	57.7	273.2	63.4	253.2	70.9	231.4	80.2	208.8	91.5	196.4	98.1
	6	316.4	53.6	302	58	284.9	63.8	264.3	71.2	241.2	80.6	217	91.8	203.3	98.2
	7	326.4	54	312.8	58.3	**296**	**64.1**	274.8	71.5	250.7	80.8	225.1	92.1	210.6	98.2
	8	336.1	54.6	322.5	58.7	305.5	64.2	284	71.6	259.3	80.8	233	92.1	218.3	98.2
	9	345.3	55.3	331.2	59.1	313.9	64.3	292.1	71.5	267.2	80.7	240.7	92	226.3	98
	10	354.2	56	339.6	59.4	321.8	64.4	299.9	71.4	274.7	80.6	248.1	91.9	234.3	97.9
	11	363.1	56.7	348	59.8	329.9	64.6	307.6	71.4	282.4	80.5	255.5	91.9	242.1	97.8
	12	372.2	57.2	356.7	60.2	338.2	64.8	315.6	71.5	290	80.6	262.7	91.9	249.6	97.8
	13	381.6	57.6	365.6	60.5	346.7	65	323.7	71.8	297.5	80.8	269.6	92.1	256.3	97.8
	14	393	57.7	375.1	60.8	355.5	65.4	331.8	72.1	304.9	81.1	275.9	92.2	262.7	97.8
	15	402.7	57.4	385.1	60.8	364.5	65.7	339.8	72.6	311.8	81.6	281.5	92.5	268.1	97.7
	16	415.1	56.8	395.7	60.7	373.6	66	347.5	73.2	318.1	82.1	286.4	92.8	272.4	97.6
	17	428.6	55.6	407.2	60.4	382.8	66.4	354.9	73.9	323.8	82.9	290.4	93.1	276	97.4
	18	444.8	53.9	419.7	59.8	392.2	66.7	362	74.7	329	83.7	293.8	93.5	279	97.2
WQL 1104	5	346.9	59.7	330.9	65.5	312.2	72.7	290.3	81.6	265.9	92.4	240	105.1	226.6	111.8
	6	358.2	59.9	343.7	65.8	325.9	73.1	303.4	82.1	277.4	92.8	249.5	105.5	234.6	112
	7	369.2	60.2	356.1	66.2	**338.7**	**73.4**	315.7	82.4	288.4	93.1	258.8	105.8	242.9	112
	8	380.1	60.7	367.2	66.5	349.8	73.6	326.4	82.5	298.4	93.2	267.9	105.8	251.8	112
	9	390.5	61.4	377.3	66.8	359.5	73.7	335.8	82.4	307.5	93.1	276.6	105.8	261	111.9
	10	401	62.1	387.1	67.2	368.7	73.8	344.6	82.3	316.2	92.9	285.2	105.7	270.3	111.8
	11	411.6	62.9	396.9	67.7	378	73.9	353.5	82.3	324.9	92.9	293.7	105.7	279.4	111.8
	12	422.5	63.6	407.1	68.1	387.5	74.2	362.5	82.4	333.5	93	302	105.9	288.2	111.9
	13	434.1	64.1	417.7	68.6	397.2	74.5	371.6	82.6	342	93.2	310	106.1	296.4	112.1
	14	448.2	64.5	428.9	68.9	407.2	74.8	380.6	83	350.1	93.6	317.5	106.4	304	112.2
	15	460.6	64.5	440.8	69.2	417.3	75.2	389.3	83.5	357.8	94	324.3	106.9	310.6	112.3
	16	476.1	64.2	453.5	69.2	427.5	75.7	397.6	84.1	364.7	94.7	330.2	107.3	316.2	112.4
	17	493.3	63.4	467	69.1	437.7	76.1	405.4	84.8	371	95.4	335.3	107.9	320.9	112.4
	18	513.7	62.1	481.6	68.7	448	76.5	412.7	85.7	376.4	96.4	339.9	108.6	325.1	112.4
WQL 1204	5	391.6	68	372.3	73.5	350.1	80.9	324.4	90.5	296.1	102.4	266.5	116.9	248.9	126.1
	6	405.5	68.1	387.3	73.8	365.5	81.3	338.8	90.9	308.8	103	277.2	117.4	258.1	126.3
	7	419.1	68.3	401.7	74.1	**379.9**	**81.6**	352.5	91.3	321.1	103.3	287.8	117.8	267.6	126.5
	8	432	68.8	414.5	74.4	392.4	81.8	364.4	91.4	332.3	103.4	298	117.9	277.6	126.5
	9	444.4	69.5	426.1	74.8	403.4	81.9	375	91.3	342.5	103.3	307.9	117.9	287.9	126.4
	10	456.2	70.2	437	75.2	413.7	82	385	91.2	352.3	103.2	317.6	117.8	298.2	126.3
	11	467.8	71.1	447.9	75.7	424.2	82.2	395.1	91.3	362.2	103.2	327.1	117.8	308.2	126.3
	12	479.4	71.8	459.1	76.2	434.9	82.5	405.5	91.4	372.1	103.3	336.2	118	317.5	126.3
	13	491.3	72.4	470.6	76.7	446	82.9	416.1	91.8	381.8	103.6	344.8	118.2	326	126.4
	14	503.7	72.8	482.5	77.2	457.3	83.4	426.6	92.3	391.2	104	352.7	118.4	333.5	126.4
	15	517.1	72.9	495.1	77.6	468.9	84	437	92.9	400.1	104.5	359.5	118.7	339.7	126.2
	16	531.7	72.6	508.4	77.8	480.7	84.6	447.1	93.7	408.3	105.2	365.1	119	344.5	126
	17	548	71.8	522.6	77.8	492.7	85.3	456.9	94.7	415.6	106	369.7	119.2	348	125.6
	18	566.5	70.5	537.9	77.6	504.8	86	466.1	95.8	422.2	107	373.2	119.6	350.6	125.1

Cooling Capacities

WQL models	Evap. LWT (°C)	Condenser LWT (°C)													
		25		30		35		40		45		50		55	
		P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)
WQL 1404	5	441.0	75.2	421.1	82.8	399.1	90.9	376.8	102.6	353.1	114.8	325.9	129.6	299.3	138.9
	6	455.6	75.7	435.0	83.3	410.3	91.7	389.2	103.1	364.7	115.3	337.5	129.9	311.0	139.2
	7	470.1	76.3	448.9	83.8	**421.5**	**92.4**	401.7	103.5	376.4	115.7	349.2	130.2	322.7	139.5
	8	486.9	76.8	464.9	84.4	437.8	93.3	416.2	104.2	390.1	116.4	362.3	130.6	333.5	139.8
	9	503.7	77.3	480.9	85.0	454.1	94.1	430.8	104.9	403.9	117.0	375.3	131.0	344.3	140.1
	10	520.5	77.8	497.0	85.7	470.5	94.9	445.4	105.6	417.7	117.7	388.4	131.4	355.1	140.3
	11	537.3	78.3	513.0	86.3	486.8	95.8	459.9	106.4	431.5	118.3	401.5	131.9	365.9	140.6
	12	555.4	78.8	530.4	86.7	503.5	96.0	475.8	106.6	446.5	118.5	415.6	132.0	380.1	140.9
	13	573.5	79.3	547.8	87.1	520.2	96.3	491.7	106.8	461.5	118.6	429.7	132.1	394.4	141.2
	14	591.5	79.9	565.2	87.5	536.9	96.6	507.5	107.0	476.5	118.8	443.8	132.2	408.6	141.5
	15	609.6	80.4	582.5	87.9	553.6	96.9	523.4	107.2	491.5	118.9	457.9	132.3	422.9	141.8
	16	629.6	81.0	601.6	88.4	571.8	97.2	540.7	107.4	507.9	119.1	473.3	132.4	437.3	142.0
	17	649.5	81.5	620.7	88.9	590.0	97.6	558.0	107.7	524.3	119.3	488.7	132.6	451.8	142.1
	18	669.4	82.1	639.7	89.3	608.2	98.0	575.4	108.0	540.7	119.6	504.1	132.7	466.2	142.3
WQL 1604	5	478.8	83.1	456.7	91.6	432.0	102.8	407.7	114.6	381.2	128.3	350.0	145.5	321.2	159.1
	6	494.3	83.7	471.5	92.2	446.1	103.5	420.9	115.1	393.5	128.9	362.3	145.7	333.4	159.2
	7	509.7	84.4	486.3	92.8	**460.2**	**104.3**	434.2	115.7	405.8	129.5	374.5	145.9	345.6	159.2
	8	528.8	84.9	504.5	93.3	477.7	104.6	450.4	116.1	420.9	129.9	389.2	146.0	358.8	159.3
	9	547.9	85.3	522.7	93.9	495.1	104.8	466.6	116.6	436.1	130.4	403.8	146.1	372.1	159.4
	10	567.0	85.7	540.9	94.4	512.6	105.1	482.8	117.1	451.2	130.8	418.4	146.2	385.3	159.5
	11	586.0	86.2	559.0	95.0	530.1	105.4	499.0	117.5	466.4	131.3	433.0	146.3	398.5	159.5
	12	605.9	86.7	578.0	95.4	548.2	105.7	516.2	117.8	482.5	131.4	448.2	146.4	412.7	159.6
	13	625.7	87.2	597.0	95.8	566.3	106.0	533.3	118.0	498.7	131.6	463.4	146.5	426.8	159.7
	14	645.6	87.8	616.0	96.2	584.4	106.3	550.5	118.2	514.9	131.8	478.5	146.6	440.9	159.8
	15	665.4	88.3	635.1	96.6	602.5	106.6	567.6	118.4	531.0	131.9	493.7	146.8	455.1	159.9
	16	687.0	89.0	655.7	97.2	622.2	107.0	586.3	118.8	548.7	132.2	510.3	146.9	470.6	160.0
	17	708.6	89.7	676.4	97.7	641.9	107.5	605.0	119.1	566.3	132.4	526.8	147.1	486.1	160.1
	18	730.1	90.3	697.1	98.2	661.5	107.9	623.7	119.4	583.9	132.6	543.4	147.3	501.6	160.2

Cooling Capacities

WQH models	Evap. LWT (°C)	Condenser LWT (°C)													
		25		30		35		40		45		50		55	
		P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)
WQH 524	5	154.2	27.4	147.8	30.0	139.7	33.3	129.7	37.6	117.9	42.8	104.9	49.2	99.6	51.8
	6	159.1	27.5	153.3	30.2	145.6	33.6	135.3	37.8	122.9	43.0	109.1	49.3	103.2	51.9
	7	163.9	27.8	158.7	30.4	**151.2**	**33.7**	140.7	38.0	127.8	43.2	113.2	49.5	106.9	52.0
	8	168.5	28.1	163.5	30.6	156.0	33.8	145.3	38.0	132.2	43.2	117.3	49.5	110.8	52.0
	9	173.1	28.5	167.8	30.8	160.2	33.9	149.4	38.0	136.1	43.2	121.2	49.5	115.0	52.0
	10	177.5	29.0	172.0	31.1	164.1	34.0	153.2	38.0	139.9	43.1	125.0	49.5	119.1	51.9
	11	182.1	29.5	176.2	31.4	168.1	34.1	157.1	37.9	143.8	43.1	128.8	49.5	123.2	51.9
	12	186.8	29.9	180.6	31.7	172.2	34.3	161.0	38.0	147.6	43.1	132.5	49.5	127.1	51.9
	13	191.8	30.3	185.1	32.0	176.4	34.4	165.0	38.1	151.3	43.1	136.2	49.5	130.8	51.9
	14	197.3	30.6	190.0	32.2	180.7	34.6	168.9	38.3	154.9	43.2	139.5	49.5	134.2	51.9
	15	203.3	30.8	195.1	32.4	185.1	34.8	172.7	38.5	158.3	43.4	142.6	49.6	137.2	51.8
	16	210.1	30.8	200.7	32.5	189.6	35.1	176.4	38.7	161.4	43.5	145.3	49.6	139.7	51.6
	17	217.8	30.6	206.6	32.6	194.1	35.3	179.9	39.0	164.2	43.8	147.6	49.6	141.8	51.4
	18	226.6	30.1	213.1	32.4	198.6	35.5	183.1	39.3	166.7	44.0	149.6	49.6	143.7	51.1
WQH 604	5	180.4	33.2	172.6	36.8	163.4	40.9	152.3	45.7	139.5	51.3	125.8	57.5	120.2	60.2
	6	185.9	33.3	179.0	37.0	170.2	41.2	158.9	46.0	145.4	51.6	130.6	57.8	124.3	60.3
	7	191.4	33.4	185.2	37.2	**176.7**	**41.4**	165.0	46.3	151.0	51.8	135.5	58.0	128.6	60.4
	8	196.7	33.6	190.6	37.4	182.2	41.5	170.4	46.4	156.1	51.9	140.1	58.0	133.1	60.5
	9	201.8	33.9	195.6	37.5	187.0	41.6	175.1	46.4	160.6	51.9	144.6	58.0	137.8	60.5
	10	206.9	34.2	200.3	37.8	191.4	41.7	179.4	46.4	165.0	51.8	149.0	58.0	142.5	60.5
	11	212.0	34.6	205.1	38.0	196.0	41.8	183.8	46.4	169.3	51.9	153.2	58.1	147.1	60.6
	12	217.3	34.9	210.1	38.2	200.6	41.9	188.2	46.5	173.5	52.0	157.3	58.2	151.5	60.8
	13	223.0	35.1	215.3	38.3	205.4	42.0	192.7	46.6	177.7	52.1	161.3	58.4	155.5	60.9
	14	229.2	35.1	220.8	38.5	210.3	42.2	197.0	46.8	181.6	52.3	164.9	58.7	159.2	61.1
	15	236.0	35.0	226.6	38.5	215.2	42.4	201.3	47.1	185.3	52.6	168.1	59.0	162.3	61.3
	16	243.6	34.7	232.8	38.4	220.2	42.5	205.3	47.4	188.6	53.0	170.8	59.3	164.8	61.5
	17	252.4	34.1	239.5	38.2	225.2	42.6	209.1	47.7	191.5	53.5	173.1	59.8	166.8	61.7
	18	262.4	33.2	246.8	37.8	230.2	42.8	212.5	48.2	194.0	54.0	175.1	60.3	168.4	61.9
WQH 704	5	210.5	38.2	200.8	41.7	189.5	46.2	176.1	51.9	161.0	59.0	144.7	67.5	138.6	70.6
	6	216.7	38.4	208.2	41.9	197.6	46.4	184.0	52.1	168.0	59.2	150.5	67.8	143.5	70.7
	7	223.0	38.7	215.4	42.1	**205.2**	**46.6**	191.4	52.3	174.7	59.4	156.2	67.9	148.7	70.8
	8	229.1	39.0	221.9	42.4	211.8	46.7	197.8	52.3	180.8	59.3	161.8	67.9	154.1	70.7
	9	235.1	39.5	227.8	42.6	217.5	46.7	203.3	52.2	186.2	59.3	167.2	67.8	159.8	70.7
	10	241.3	40.0	233.4	42.9	222.8	46.8	208.6	52.2	191.4	59.1	172.4	67.8	165.5	70.6
	11	247.6	40.6	239.3	43.2	228.2	46.9	213.7	52.2	196.6	59.1	177.7	67.7	171.1	70.6
	12	254.2	41.1	245.3	43.5	233.8	47.1	219.1	52.2	201.6	59.2	182.7	67.9	176.5	70.7
	13	261.5	41.5	251.7	43.9	239.5	47.3	224.3	52.4	206.7	59.3	187.6	68.0	181.5	70.8
	14	269.4	41.8	258.5	44.1	245.4	47.6	229.4	52.7	211.4	59.6	192.2	68.3	186.1	71.0
	15	278.2	41.9	265.7	44.4	251.3	47.9	234.3	53.1	215.7	60.0	196.3	68.6	190.1	71.1
	16	288.2	41.8	273.5	44.5	257.3	48.3	239.0	53.5	219.6	60.4	200.1	68.9	193.0	71.4
	17	299.6	41.4	281.9	44.5	263.2	48.7	243.3	54.2	223.0	61.1	203.4	69.2	195.5	71.7
	18	312.7	40.6	291.0	44.4	269.1	49.1	247.3	54.9	226.0	61.8	206.4	69.6	197.7	72.1
WQH 804	5	232.5	43.1	221.2	47.0	208.4	51.7	193.7	57.8	177.2	65.4	159.7	74.9	152.3	78.9
	6	240.0	43.2	229.8	47.2	217.5	52.1	202.4	58.2	185.0	65.8	166.1	75.3	157.8	79.1
	7	247.4	43.5	238.1	47.5	**226.2**	**52.3**	210.7	58.5	192.4	66.1	172.5	75.5	163.5	79.2
	8	254.7	43.9	245.5	47.8	233.6	52.6	217.9	58.6	199.1	66.2	178.7	75.6	169.5	79.3
	9	261.7	44.5	252.3	48.1	240.1	52.7	224.2	58.6	205.3	66.2	184.6	75.6	175.7	79.2
	10	268.7	45.1	258.8	48.5	246.2	52.8	230.1	58.6	211.2	66.1	190.4	75.6	181.9	79.3
	11	275.7	45.7	265.3	48.8	252.5	53.0	236.1	58.6	217.0	66.1	196.1	75.7	188.0	79.3
	12	283.0	46.3	272.1	49.2	258.8	53.2	242.1	58.7	222.8	66.2	201.7	75.8	193.9	79.4
	13	290.7	46.7	279.3	49.6	265.4	53.4	248.2	58.9	228.5	66.4	207.0	76.0	199.3	79.6
	14	299.1	47.0	286.7	49.9	272.0	53.7	254.2	59.2	233.8	66.7	211.9	76.2	204.2	79.7
	15	308.4	47.1	294.6	50.1	278.7	54.0	260.0	59.6	238.9	67.0	216.3	76.6	208.4	79.8
	16	318.7	47.0	303.1	50.2	285.6	54.3	265.5	60.0	243.4	67.5	220.1	76.9	211.9	79.9
	17	330.4	46.5	312.2	50.1	292.4	54.7	270.8	60.5	247.5	68.0	223.3	77.3	214.8	80.0
	18	343.9	45.5	322.0	49.8	299.3	54.9	275.6	61.2	251.0	68.7	226.0	77.8	217.3	80.0

Cooling Capacities

WQ models	Evap. LWT (°C)	Condenser LWT (°C)													
		25		30		35		40		45		50		55	
		P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)
WQH 904	5	154.2	27.4	147.8	30	139.7	33.3	129.7	37.6	117.9	42.8	104.9	49.2	99.6	51.8
	6	159.1	27.5	153.3	30.2	145.6	33.6	135.3	37.8	122.9	43	109.1	49.3	103.2	51.9
	7	163.9	27.8	158.7	30.4	**151.2**	**33.7**	140.7	38	127.8	43.2	113.2	49.5	106.9	52
	8	168.5	28.1	163.5	30.6	156	33.8	145.3	38	132.2	43.2	117.3	49.5	110.8	52
	9	173.1	28.5	167.8	30.8	160.2	33.9	149.4	38	136.1	43.2	121.2	49.5	115	52
	10	177.5	29	172	31.1	164.1	34	153.2	38	139.9	43.1	125	49.5	119.1	51.9
	11	182.1	29.5	176.2	31.4	168.1	34.1	157.1	37.9	143.8	43.1	128.8	49.5	123.2	51.9
	12	186.8	29.9	180.6	31.7	172.2	34.3	161	38	147.6	43.1	132.5	49.5	127.1	51.9
	13	191.8	30.3	185.1	32	176.4	34.4	165	38.1	151.3	43.1	136.2	49.5	130.8	51.9
	14	197.3	30.6	190	32.2	180.7	34.6	168.9	38.3	154.9	43.2	139.5	49.5	134.2	51.9
	15	203.3	30.8	195.1	32.4	185.1	34.8	172.7	38.5	158.3	43.4	142.6	49.6	137.2	51.8
	16	210.1	30.8	200.7	32.5	189.6	35.1	176.4	38.7	161.4	43.5	145.3	49.6	139.7	51.6
	17	217.8	30.6	206.6	32.6	194.1	35.3	179.9	39	164.2	43.8	147.6	49.6	141.8	51.4
	18	226.6	30.1	213.1	32.4	198.6	35.5	183.1	39.3	166.7	44	149.6	49.6	143.7	51.1
WQH 1004	5	180.4	33.2	172.6	36.8	163.4	40.9	152.3	45.7	139.5	51.3	125.8	57.5	120.2	60.2
	6	185.9	33.3	179	37	170.2	41.2	158.9	46	145.4	51.6	130.6	57.8	124.3	60.3
	7	191.4	33.4	185.2	37.2	**176.7**	**41.4**	165	46.3	151	51.8	135.5	58	128.6	60.4
	8	196.7	33.6	190.6	37.4	182.2	41.5	170.4	46.4	156.1	51.9	140.1	58	133.1	60.5
	9	201.8	33.9	195.6	37.5	187	41.6	175.1	46.4	160.6	51.9	144.6	58	137.8	60.5
	10	206.9	34.2	200.3	37.8	191.4	41.7	179.4	46.4	165	51.8	149	58	142.5	60.5
	11	212	34.6	205.1	38	196	41.8	183.8	46.4	169.3	51.9	153.2	58.1	147.1	60.6
	12	217.3	34.9	210.1	38.2	200.6	41.9	188.2	46.5	173.5	52	157.3	58.2	151.5	60.8
	13	223	35.1	215.3	38.3	205.4	42	192.7	46.6	177.7	52.1	161.3	58.4	155.5	60.9
	14	229.2	35.1	220.8	38.5	210.3	42.2	197	46.8	181.6	52.3	164.9	58.7	159.2	61.1
	15	236	35	226.6	38.5	215.2	42.4	201.3	47.1	185.3	52.6	168.1	59	162.3	61.3
	16	243.6	34.7	232.8	38.4	220.2	42.5	205.3	47.4	188.6	53	170.8	59.3	164.8	61.5
	17	252.4	34.1	239.5	38.2	225.2	42.6	209.1	47.7	191.5	53.5	173.1	59.8	166.8	61.7
	18	262.4	33.2	246.8	37.8	230.2	42.8	212.5	48.2	194	54	175.1	60.3	168.4	61.9
WQH 1104	5	210.5	38.2	200.8	41.7	189.5	46.2	176.1	51.9	161	59	144.7	67.5	138.6	70.6
	6	216.7	38.4	208.2	41.9	197.6	46.4	184	52.1	168	59.2	150.5	67.8	143.5	70.7
	7	223	38.7	215.4	42.1	**205.2**	**46.6**	191.4	52.3	174.7	59.4	156.2	67.9	148.7	70.8
	8	229.1	39	221.9	42.4	211.8	46.7	197.8	52.3	180.8	59.3	161.8	67.9	154.1	70.7
	9	235.1	39.5	227.8	42.6	217.5	46.7	203.3	52.2	186.2	59.3	167.2	67.8	159.8	70.7
	10	241.3	40	233.4	42.9	222.8	46.8	208.6	52.2	191.4	59.1	172.4	67.8	165.5	70.6
	11	247.6	40.6	239.3	43.2	228.2	46.9	213.7	52.2	196.6	59.1	177.7	67.7	171.1	70.6
	12	254.2	41.1	245.3	43.5	233.8	47.1	219.1	52.2	201.6	59.2	182.7	67.9	176.5	70.7
	13	261.5	41.5	251.7	43.9	239.5	47.3	224.3	52.4	206.7	59.3	187.6	68	181.5	70.8
	14	269.4	41.8	258.5	44.1	245.4	47.6	229.4	52.7	211.4	59.6	192.2	68.3	186.1	71
	15	278.2	41.9	265.7	44.4	251.3	47.9	234.3	53.1	215.7	60	196.3	68.6	190.1	71.1
	16	288.2	41.8	273.5	44.5	257.3	48.3	239	53.5	219.6	60.4	200.1	68.9	193	71.4
	17	299.6	41.4	281.9	44.5	263.2	48.7	243.3	54.2	223	61.1	203.4	69.2	195.5	71.7
	18	312.7	40.6	291	44.4	269.1	49.1	247.3	54.9	226	61.8	206.4	69.6	197.7	72.1
WQH 1204	5	232.5	43.1	221.2	47	208.4	51.7	193.7	57.8	177.2	65.4	159.7	74.9	152.3	78.9
	6	240	43.2	229.8	47.2	217.5	52.1	202.4	58.2	185	65.8	166.1	75.3	157.8	79.1
	7	247.4	43.5	238.1	47.5	**226.2**	**52.3**	210.7	58.5	192.4	66.1	172.5	75.5	163.5	79.2
	8	254.7	43.9	245.5	47.8	233.6	52.6	217.9	58.6	199.1	66.2	178.7	75.6	169.5	79.3
	9	261.7	44.5	252.3	48.1	240.1	52.7	224.2	58.6	205.3	66.2	184.6	75.6	175.7	79.2
	10	268.7	45.1	258.8	48.5	246.2	52.8	230.1	58.6	211.2	66.1	190.4	75.6	181.9	79.3
	11	275.7	45.7	265.3	48.8	252.5	53	236.1	58.6	217	66.1	196.1	75.7	188	79.3
	12	283	46.3	272.1	49.2	258.8	53.2	242.1	58.7	222.8	66.2	201.7	75.8	193.9	79.4
	13	290.7	46.7	279.3	49.6	265.4	53.4	248.2	58.9	228.5	66.4	207	76	199.3	79.6
	14	299.1	47	286.7	49.9	272	53.7	254.2	59.2	233.8	66.7	211.9	76.2	204.2	79.7
	15	308.4	47.1	294.6	50.1	278.7	54	260	59.6	238.9	67	216.3	76.6	208.4	79.8
	16	318.7	47	303.1	50.2	285.6	54.3	265.5	60	243.4	67.5	220.1	76.9	211.9	79.9
	17	330.4	46.5	312.2	50.1	292.4	54.7	270.8	60.5	247.5	68	223.3	77.3	214.8	80
	18	343.9	45.5	322	49.8	299.3	54.9	275.6	61.2	251	68.7	226	77.8	217.3	80

Cooling Capacities

WQH models	Evap. LWT (°C)	Condenser LWT (°C)													
		25		30		35		40		45		50		55	
		P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)
WQH 1404	5	441.0	75.2	421.1	82.8	399.1	90.9	376.8	102.6	353.1	114.8	325.9	129.6	299.3	138.9
	6	455.6	75.7	435.0	83.3	410.3	91.7	389.2	103.1	364.7	115.3	337.5	129.9	311.0	139.2
	7	470.1	76.3	448.9	83.8	**421.5**	**92.4**	401.7	103.5	376.4	115.7	349.2	130.2	322.7	139.5
	8	486.9	76.8	464.9	84.4	437.8	93.3	416.2	104.2	390.1	116.4	362.3	130.6	333.5	139.8
	9	503.7	77.3	480.9	85.0	454.1	94.1	430.8	104.9	403.9	117.0	375.3	131.0	344.3	140.1
	10	520.5	77.8	497.0	85.7	470.5	94.9	445.4	105.6	417.7	117.7	388.4	131.4	355.1	140.3
	11	537.3	78.3	513.0	86.3	486.8	95.8	459.9	106.4	431.5	118.3	401.5	131.9	365.9	140.6
	12	555.4	78.8	530.4	86.7	503.5	96.0	475.8	106.6	446.5	118.5	415.6	132.0	380.1	140.9
	13	573.5	79.3	547.8	87.1	520.2	96.3	491.7	106.8	461.5	118.6	429.7	132.1	394.4	141.2
	14	591.5	79.9	565.2	87.5	536.9	96.6	507.5	107.0	476.5	118.8	443.8	132.2	408.6	141.5
	15	609.6	80.4	582.5	87.9	553.6	96.9	523.4	107.2	491.5	118.9	457.9	132.3	422.9	141.8
	16	629.6	81.0	601.6	88.4	571.8	97.2	540.7	107.4	507.9	119.1	473.3	132.4	437.3	142.0
	17	649.5	81.5	620.7	88.9	590.0	97.6	558.0	107.7	524.3	119.3	488.7	132.6	451.8	142.1
	18	669.4	82.1	639.7	89.3	608.2	98.0	575.4	108.0	540.7	119.6	504.1	132.7	466.2	142.3
WQH 1604	5	478.8	83.1	456.7	91.6	432.0	102.8	407.7	114.6	381.2	128.3	350.0	145.5	321.2	159.1
	6	494.3	83.7	471.5	92.2	446.1	103.5	420.9	115.1	393.5	128.9	362.3	145.7	333.4	159.2
	7	509.7	84.4	486.3	92.8	**460.2**	**104.3**	434.2	115.7	405.8	129.5	374.5	145.9	345.6	159.2
	8	528.8	84.9	504.5	93.3	477.7	104.6	450.4	116.1	420.9	129.9	389.2	146.0	358.8	159.3
	9	547.9	85.3	522.7	93.9	495.1	104.8	466.6	116.6	436.1	130.4	403.8	146.1	372.1	159.4
	10	567.0	85.7	540.9	94.4	512.6	105.1	482.8	117.1	451.2	130.8	418.4	146.2	385.3	159.5
	11	586.0	86.2	559.0	95.0	530.1	105.4	499.0	117.5	466.4	131.3	433.0	146.3	398.5	159.5
	12	605.9	86.7	578.0	95.4	548.2	105.7	516.2	117.8	482.5	131.4	448.2	146.4	412.7	159.6
	13	625.7	87.2	597.0	95.8	566.3	106.0	533.3	118.0	498.7	131.6	463.4	146.5	426.8	159.7
	14	645.6	87.8	616.0	96.2	584.4	106.3	550.5	118.2	514.9	131.8	478.5	146.6	440.9	159.8
	15	665.4	88.3	635.1	96.6	602.5	106.6	567.6	118.4	531.0	131.9	493.7	146.8	455.1	159.9
	16	687.0	89.0	655.7	97.2	622.2	107.0	586.3	118.8	548.7	132.2	510.3	146.9	470.6	160.0
	17	708.6	89.7	676.4	97.7	641.9	107.5	605.0	119.1	566.3	132.4	526.8	147.1	486.1	160.1
	18	730.1	90.3	697.1	98.2	661.5	107.9	623.7	119.4	583.9	132.6	543.4	147.3	501.6	160.2

Heating Capacities

WQH models	Evap. LWT (°C)	Condenser LWT (°C)													
		25		30		35		40		45		50		55	
		P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)
WQH 524	5	179.8	26.8	175.3	29.5	171.4	32.6	168.2	36.2	163.1	40.8	155	47.3	149.5	51.5
	6	184.7	27	181.1	29.7	177.5	32.9	173.6	36.3	167.6	40.9	158.8	47.4	153.1	51.6
	7	189.7	27.2	186.7	29.9	183.2	33	178.9	36.4	172.1	40.9	162.8	47.5	156.9	51.7
	8	194.7	27.6	191.6	30.1	188.1	33.1	183.6	36.5	176.6	40.9	166.9	47.5	160.8	51.7
	9	199.6	28	196.1	30.4	192.3	33.2	187.9	36.4	181	40.9	171.1	47.5	164.8	51.6
	10	204.5	28.4	200.4	30.6	196.3	33.3	192	36.5	185.4	40.9	175.3	47.5	168.9	51.6
	11	209.4	28.9	204.7	30.9	200.3	33.4	196.3	36.5	189.8	40.9	179.5	47.5	172.9	51.6
	12	214.6	29.3	209.2	31.2	204.6	33.5	200.6	36.5	194.2	40.9	183.6	47.5	176.7	51.6
	13	219.9	29.7	213.9	31.4	208.9	33.7	205	36.6	198.5	40.9	187.6	47.5	180.4	51.6
	14	225.6	30	218.9	31.7	213.4	33.9	209.3	36.7	202.7	40.9	191.3	47.5	183.7	51.6
	15	231.7	30.2	224.1	31.9	218	34.1	213.6	36.8	206.7	40.9	194.7	47.4	186.5	51.4
	16	238.4	30.2	229.6	32.1	222.6	34.3	217.8	37	210.4	40.9	197.8	47.3	188.8	51.2
	17	245.8	30	235.4	32.1	227.3	34.5	221.9	37.1	214	40.8	200.5	47	190.8	50.9
	18	253.9	29.6	241.5	32.1	232	34.7	225.9	37.2	217.4	40.8	203	46.7	192.5	50.5
WQH 604	5	210.6	33	205.8	36.7	201.6	40.6	198.3	44.6	192.9	49.5	183.9	56.2	178	60.2
	6	216.1	33	212.4	36.9	208.6	40.8	204.6	44.8	198.1	49.6	188.3	56.3	182.2	60.3
	7	221.6	33.2	218.7	37.1	215.2	41.1	210.7	45	203.4	49.7	192.9	56.4	186.5	60.4
	8	227.1	33.4	224.2	37.3	220.8	41.2	216.1	45.1	208.5	49.8	197.6	56.4	191	60.5
	9	232.4	33.7	229.2	37.4	225.5	41.3	221.1	45.1	213.5	49.8	202.4	56.4	195.6	60.5
	10	237.7	34	233.9	37.6	230	41.3	225.8	45.1	218.6	49.9	207.2	56.5	200.3	60.5
	11	243.1	34.3	238.7	37.8	234.6	41.4	230.6	45.2	223.6	49.9	212	56.6	204.8	60.6
	12	248.7	34.6	243.7	38	239.3	41.6	235.5	45.3	228.6	50	216.6	56.7	209.2	60.8
	13	254.4	34.8	248.8	38.2	244.1	41.7	240.4	45.4	233.5	50.1	221.1	56.9	213.3	61
	14	260.5	34.8	254.2	38.3	249	41.8	245.2	45.5	238.2	50.2	225.3	57.1	217.1	61.2
	15	267.1	34.7	259.8	38.4	254.1	42	250	45.6	242.7	50.3	229.2	57.2	220.3	61.3
	16	274.2	34.4	265.8	38.3	259.1	42.1	254.6	45.8	246.8	50.4	232.5	57.3	223	61.4
	17	282.2	33.9	272	38.2	264.2	42.3	259.1	46	250.7	50.5	235.6	57.4	225.3	61.4
	18	291.1	33.1	278.6	37.9	269.2	42.4	263.4	46.2	254.5	50.6	238.5	57.5	227.3	61.5
WQH 704	5	245.6	37.5	238.4	41.1	232.6	45.2	228.3	50	222.1	56.2	212.4	65.1	206	69.8
	6	251.9	37.7	246.1	41.3	240.9	45.4	235.8	50.1	228.3	56.2	217.7	65.1	211	69.9
	7	258.4	37.9	253.5	41.5	248.6	45.6	242.9	50.2	234.6	56.3	223.1	65.2	216.1	69.9
	8	264.8	38.3	260.1	41.7	255.2	45.7	249.4	50.2	240.6	56.2	228.7	65.2	221.4	69.9
	9	271.2	38.7	266	42	260.9	45.8	255.2	50.2	246.6	56.2	234.4	65.1	226.9	69.8
	10	277.7	39.2	271.7	42.2	266.2	45.8	260.8	50.1	252.5	56.2	240.2	65.1	232.5	69.8
	11	284.5	39.7	277.7	42.5	271.7	45.9	266.5	50.2	258.5	56.2	245.9	65.2	238	69.8
	12	291.5	40.2	283.8	42.8	277.4	46.1	272.3	50.2	264.5	56.2	251.6	65.3	243.4	69.9
	13	299.1	40.6	290.3	43.1	283.3	46.3	278.2	50.4	270.3	56.3	257.1	65.4	248.4	70
	14	307.1	40.9	297.1	43.4	289.3	46.6	284	50.6	276	56.5	262.3	65.5	253	70.1
	15	316	41	304.4	43.7	295.4	46.9	289.6	50.8	281.3	56.6	267.2	65.7	257.1	70.2
	16	325.6	40.9	312.1	43.8	301.7	47.2	295.1	51.1	286.2	56.8	271.5	65.8	260.6	70.2
	17	336.3	40.6	320.2	43.9	308	47.6	300.4	51.5	290.9	57	275.5	65.8	263.5	70.3
	18	348.4	39.9	328.9	43.9	314.3	48	305.5	51.9	295.4	57.2	279.5	65.7	266	70.5
WQH 804	5	272.5	42.7	264.1	46.7	257.3	51.3	252.3	56.3	245.6	63.1	235.5	73	228.5	78.7
	6	280.1	42.9	273	47	266.7	51.6	260.7	56.6	252.6	63.2	241.4	73.2	234	78.9
	7	287.7	43.2	281.6	47.3	275.5	51.9	268.8	56.8	259.6	63.4	247.5	73.3	239.7	79
	8	295.3	43.5	289.2	47.6	283	52.1	276.1	56.9	266.4	63.4	253.7	73.4	245.7	79
	9	302.8	44.1	296.1	47.9	289.6	52.2	282.8	56.9	273.2	63.5	260.1	73.4	251.8	79
	10	310.3	44.6	302.7	48.2	295.7	52.3	289.3	56.9	280	63.5	266.6	73.5	258	79
	11	317.9	45.2	309.4	48.6	302.1	52.4	295.8	57	286.7	63.6	272.9	73.6	264.1	79.1
	12	325.6	45.8	316.3	49	308.6	52.7	302.5	57.1	293.5	63.7	279.2	73.7	269.9	79.3
	13	333.7	46.3	323.6	49.3	315.3	52.9	309.3	57.3	300.2	63.8	285.2	73.9	275.4	79.4
	14	342.3	46.6	331.1	49.6	322.5	53.2	315.9	57.5	306.6	63.9	290.9	74	280.4	79.6
	15	351.6	46.7	339	49.9	329.2	53.5	322.5	57.7	312.7	64	296	74.2	284.7	79.6
	16	361.6	46.5	347.3	50	336.3	53.8	328.9	58	318.3	64.2	300.5	74.2	288.3	79.6
	17	372.7	46.1	356.1	50	343.3	54.1	335.1	58.3	323.7	64.2	304.6	74.2	291.4	79.4
	18	384.9	45.3	365.3	49.8	350.5	54.4	341.1	58.6	328.8	64.4	308.5	74.1	294	79.3

Heating Capacities

WQH models	Evap. LWT (°C)	Condenser LWT (°C)													
		25		30		35		40		45		50		55	
		P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)
WQH 904	5	313.8	48	304.5	52.5	296.8	57.7	290.7	63.5	282.2	71.1	269.1	81.9	260.5	88
	6	322.4	48.2	314.7	52.8	307.5	58	300.4	63.8	290.2	71.3	275.8	82	266.8	88.2
	7	331	48.5	324.5	53.1	317.7	58.3	309.7	64	298.2	71.4	282.7	82.1	273.4	88.2
	8	339.5	48.9	333.2	53.4	326.3	58.5	318.1	64	306.1	71.4	289.8	82.2	280.2	88.2
	9	347.9	49.4	341	53.6	333.8	58.5	325.8	64	313.8	71.4	297	82.2	287.3	88.1
	10	356.4	50	348.5	53.9	340.8	58.6	333.1	64	321.4	71.4	304.3	82.3	294.4	88.1
	11	365.1	50.5	356.1	54.3	347.9	58.7	340.5	64.1	329.1	71.4	311.5	82.4	301.4	88.1
	12	374	51	364	54.6	355.3	58.9	348	64.2	336.7	71.5	318.6	82.5	308.1	88.2
	13	383.3	51.4	372.2	54.9	362.8	59.2	355.4	64.3	344.1	71.6	325.5	82.7	314.4	88.4
	14	393.2	51.7	380.6	55.2	370.4	59.4	362.8	64.5	351.2	71.8	331.9	82.8	320.2	88.4
	15	403.7	51.7	389.5	55.4	378	59.7	370	64.7	357.9	71.9	337.8	82.9	325.3	88.5
	16	415.3	51.4	398.9	55.4	385.8	60	376.8	65	364.1	72	343.2	82.8	329.2	88.6
	17	428	50.7	408.6	55.4	393.4	60.3	383.4	65.3	369.8	72.1	348.2	82.6	332.4	88.7
	18	442.2	49.7	418.8	55.1	401	60.6	389.7	65.7	375.4	72.2	353	82.4	335.3	88.8
WQH 1004	5	360	53.7	347.5	58.4	337.3	63.9	329.6	70.2	319.6	78.5	305.1	90.4	295.2	97.6
	6	370.4	54.1	359.3	58.8	349.4	64.3	340.3	70.5	328.4	78.7	312.8	90.6	302.4	97.7
	7	380.7	54.5	370.6	59.2	360.7	64.6	350.6	70.7	333.3	79.5	320.6	90.7	309.8	97.8
	8	390.8	55.1	380.5	59.6	370.4	64.8	359.9	70.7	346.1	78.8	328.6	90.8	317.5	97.8
	9	400.5	55.7	389.4	59.9	378.9	65	368.5	70.7	354.9	78.8	336.8	90.8	325.4	97.7
	10	410.2	56.5	397.8	60.3	386.9	65.1	376.9	70.8	363.6	78.8	345.1	90.8	333.4	97.6
	11	419.8	57.2	406.4	60.8	395.1	65.3	385.5	70.9	372.5	78.8	353.3	90.9	341.2	97.6
	12	429.5	57.8	415.4	61.2	403.6	65.5	394.4	71	381.3	79	361.2	91	348.6	97.6
	13	439.6	58.3	424.6	61.6	412.5	65.9	403.4	71.2	390.2	79.1	368.8	91.1	355.5	97.7
	14	450.1	58.5	434.3	61.9	421.7	66.3	412.5	71.6	398.8	79.3	375.8	91.1	361.8	97.7
	15	461.3	58.4	444.5	62.2	431.1	66.7	421.5	71.9	406.9	79.5	382.1	91.1	367.1	97.5
	16	473.4	58	455.2	62.3	440.8	67.1	430.5	72.3	414.7	79.6	387.6	91	371.3	97.3
	17	486.8	57.1	466.6	62.2	450.7	67.6	439.3	72.8	422	79.8	392.3	90.7	374.7	96.9
	18	501.6	55.7	478.7	61.9	460.6	68.1	448.1	73.4	429.1	80	396.9	90.3	377.2	96.7
WQH 1104	5	397.2	60.8	385.9	66.9	376.7	73.6	369.7	81	359.5	90.5	343.5	103.8	332.3	112
	6	408.2	61.1	398.9	67.2	390.2	74.1	381.8	81.4	369.5	90.7	351.9	104	340.2	112.2
	7	419.2	61.5	411.3	67.7	403	74.4	393.4	81.6	379.5	90.8	360.6	104.1	348.4	112.3
	8	430.1	62	422.3	68	413.8	74.7	403.9	81.7	389.4	90.9	369.5	104.2	357	112.3
	9	440.9	62.8	432.2	68.5	423.3	74.8	413.6	81.8	399.1	90.9	378.7	104.3	365.8	112.3
	10	451.7	63.6	441.7	68.9	432.2	75	422.9	81.8	408.8	90.9	387.9	104.4	374.8	112.3
	11	462.6	64.4	451.3	69.4	441.2	75.2	432.3	81.9	418.5	91.1	397.1	104.6	383.6	112.4
	12	473.8	65.2	461.3	70	450.6	75.5	441.9	82	428.3	91.2	406.2	104.8	392.2	112.6
	13	485.5	65.9	471.7	70.5	460.3	75.9	451.7	82.3	438	91.4	415	105	400.3	112.8
	14	497.9	66.3	482.6	71	470.2	76.3	461.3	82.6	447.3	91.6	423.3	105.3	407.7	112.9
	15	511.2	66.5	494	71.3	480.3	76.8	470.9	83	456.2	91.8	430.9	105.5	414.3	113
	16	525.7	66.3	506	71.6	490.5	77.3	480.1	83.5	464.6	92	437.8	105.5	419.8	113
	17	541.5	65.7	518.6	71.6	500.8	77.8	489.1	84	472.5	92.3	444.1	105.6	424.6	112.8
	18	559.2	64.6	531.9	71.5	511.1	78.3	498	84.5	480.2	92.5	450.3	105.5	428.7	112.8
WQH 1204	5	446.7	69.3	432.5	75.3	420.7	82.3	411.6	90.3	399.4	100.9	381.5	116.1	368.4	126.6
	6	459.7	69.5	447.2	75.7	435.7	82.8	425	90.7	410.6	101.2	391.1	116.4	377.6	126.9
	7	472.6	69.9	461.2	76.1	449.8	83.2	437.8	91	421.7	101.4	401	116.7	387	127.2
	8	485.2	70.5	473.5	76.5	461.9	83.5	449.4	91.1	432.7	101.5	411.2	116.9	396.8	127.2
	9	497.4	71.2	484.6	77	472.4	83.6	460.1	91.2	443.5	101.6	421.6	117	406.7	127.2
	10	509.4	72.1	495.1	77.5	482.2	83.8	470.5	91.3	454.4	101.6	431.9	117.1	416.6	127.3
	11	521.4	73	505.8	78	492.4	84.1	481.2	91.4	465.4	101.8	442	117.3	426.2	127.4
	12	533.4	73.9	516.8	78.7	503	84.5	492.1	91.7	476.4	102	451.8	117.6	435.2	127.5
	13	545.8	74.6	528.2	79.3	514	85	503.2	92.1	487.2	102.2	461	117.7	443.3	127.7
	14	558.7	75.2	540.2	79.9	525.4	85.6	514.5	92.5	497.6	102.5	469.2	117.8	450.4	127.7
	15	572.4	75.5	552.8	80.5	537.1	86.3	525.7	93	507.5	102.7	476.4	117.8	456.1	127.6
	16	587.3	75.4	566.1	80.9	549.1	87	536.6	93.6	516.7	102.9	482.2	117.6	460.1	127.2
	17	603.6	74.8	580.2	81.1	561.4	87.7	547.5	94.2	525.3	103	486.8	117.2	462.9	126.6
	18	621.8	73.7	595.2	81.2	573.8	88.5	558.1	94.9	533.4	103.2	490.6	116.7	464.6	125.8

Heating Capacities

WQH models	Evap. LWT (°C)	Condenser LWT (°C)													
		25		30		35		40		45		50		55	
		P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)	P_{HEAT} (kW)	P_{ABS} (kW)
WQH 1404	5	490.6	75.1	480.0	83.7	468.9	94.0	458.7	105.0	448.1	117.6	436.5	131.7	426.1	145.7
	6	504.9	75.7	493.7	84.2	481.9	94.5	470.9	105.5	459.6	118.1	447.2	132.1	436.3	145.8
	7	519.3	76.2	507.5	84.7	494.9	95.0	483.2	105.9	471.0	118.6	457.9	132.6	446.4	145.9
	8	534.8	76.7	522.1	85.3	508.8	95.5	496.3	106.5	483.4	119.1	469.9	132.8	457.6	146.1
	9	550.4	77.3	536.7	85.9	522.7	96.1	509.4	107.0	495.8	119.6	481.8	133.1	468.7	146.3
	10	565.9	77.8	551.4	86.5	536.6	96.6	522.6	107.6	508.2	120.0	493.8	133.3	479.8	146.5
	11	581.4	78.4	566.0	87.1	550.5	97.2	535.7	108.1	520.7	120.5	505.7	133.5	490.9	146.7
	12	598.5	79.0	582.5	87.6	566.4	97.5	550.8	108.4	534.9	120.7	519.1	133.8	503.4	146.9
	13	615.6	79.7	599.0	88.1	582.2	97.8	565.8	108.6	549.2	120.8	532.5	134.1	515.9	147.1
	14	632.7	80.4	615.5	88.6	598.1	98.1	580.9	108.8	563.5	120.9	545.9	134.3	528.4	147.3
	15	649.8	81.0	632.0	89.1	614.0	98.4	596.0	109.0	577.7	121.1	559.3	134.6	540.9	147.5
	16	669.1	81.6	650.4	89.5	631.5	98.7	612.5	109.3	593.4	121.3	573.9	134.8	554.6	147.6
	17	688.3	82.1	668.8	89.9	648.9	99.0	629.1	109.5	609.0	121.4	588.6	134.9	568.3	147.7
	18	707.6	82.6	687.2	90.3	666.4	99.4	645.6	109.8	624.6	121.6	603.3	135.0	582.1	147.8
WQH 1604	5	539.7	83.8	527.0	93.3	513.9	104.7	500.2	117.9	485.4	131.4	473.8	144.8	462.1	161.4
	6	555.6	84.4	542.2	93.8	528.1	105.2	513.4	118.4	497.0	132.2	485.4	145.3	473.2	161.5
	7	571.6	84.9	557.4	94.4	542.3	105.8	526.7	118.9	508.7	133.0	497.0	145.9	484.3	161.6
	8	590.6	85.8	575.5	95.1	559.3	106.4	542.6	119.6	522.0	133.6	511.5	145.9	497.6	161.9
	9	609.7	86.6	593.6	95.8	576.3	107.1	558.4	120.3	535.4	134.3	525.9	146.0	511.0	162.2
	10	628.7	87.4	611.7	96.5	593.3	107.8	574.3	121.0	548.8	135.0	540.3	146.1	524.4	162.4
	11	647.8	88.2	629.8	97.2	610.3	108.5	590.1	121.8	562.2	135.7	554.8	146.2	537.8	162.7
	12	666.9	89.0	647.7	98.1	627.1	109.3	605.8	122.6	577.3	135.9	569.5	146.3	551.5	162.8
	13	686.0	89.7	665.5	98.9	643.8	110.1	621.4	123.4	592.4	136.0	584.2	146.4	565.2	162.9
	14	705.2	90.5	683.4	99.7	660.6	110.9	637.0	124.2	607.5	136.2	598.9	146.5	578.9	163.0
	15	724.3	91.2	701.2	100.5	677.4	111.7	652.7	125.0	622.6	136.4	613.6	146.6	592.6	163.1
	16	744.6	92.3	720.3	101.5	695.3	112.7	669.8	125.8	639.1	136.6	629.7	146.8	607.7	163.2
	17	764.8	93.3	739.4	102.5	713.2	113.7	686.9	126.5	655.7	136.8	645.9	146.9	622.7	163.3
	18	785.1	94.3	758.5	103.5	731.1	114.6	704.0	127.3	672.2	137.0	662.0	147.1	637.8	163.4

Cooling Capacities

WQRC models	Evap. LWT (°C)	Condensing temperature (°C)													
		30		35		40		45		50		55		60	
		P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)
WQRC 524	5	157	26.9	150.5	29.6	142.2	32.9	131.9	37.3	119.9	42.6	106.6	49.1	101.2	51.8
	6	162.1	27.1	156.2	29.7	148.3	33.1	137.7	37.5	125	42.8	110.9	49.2	104.8	51.8
	7	167.1	27.3	161.8	29.9	154	33.3	143.3	37.6	**130**	**42.9**	115.2	49.3	108.7	51.9
	8	172	27.6	166.7	30.1	159	33.4	148.1	37.6	134.6	42.9	119.3	49.4	112.8	51.9
	9	176.7	28	171.3	30.3	163.4	33.4	152.3	37.6	138.6	42.8	123.4	49.3	117	51.8
	10	181.4	28.5	175.6	30.6	167.5	33.5	156.3	37.5	142.6	42.7	127.3	49.2	121.3	51.7
	11	186.2	28.9	180	30.8	171.6	33.6	160.3	37.5	146.6	42.7	131.3	49.2	125.6	51.6
	12	191.1	29.4	184.7	31.1	175.9	33.7	164.4	37.5	150.5	42.6	135.1	49.1	129.6	51.6
	13	196.4	29.8	189.4	31.4	180.3	33.8	168.5	37.6	154.4	42.7	138.9	49.1	133.5	51.5
	14	202.1	30.1	194.5	31.6	184.9	34	172.6	37.7	158.2	42.7	142.4	49.1	137	51.4
	15	208.5	30.2	200	31.8	189.5	34.2	176.6	37.9	161.8	42.8	145.6	49.1	140.1	51.3
	16	215.6	30.2	205.7	31.9	194.2	34.4	180.5	38.1	165	43	148.4	49.1	142.8	51.1
	17	223.6	30	212	31.9	199	34.6	184.2	38.4	168	43.2	150.9	49.1	145	50.8
	18	232.9	29.5	218.8	31.8	203.7	34.8	187.6	38.7	170.6	43.4	153.1	49.1	147	50.5
WQRC 604	5	186.3	31.7	178.1	35.6	168.3	39.9	156.6	44.9	143.4	50.7	129.1	57.1	123.3	59.7
	6	192.2	31.6	184.8	35.7	175.5	40.1	163.5	45.2	149.5	51	134.2	57.3	127.6	59.8
	7	198	31.6	191.3	35.8	182.2	40.3	170	45.4	**155.3**	**51.1**	139.2	57.5	132.1	59.9
	8	203.6	31.7	197.1	35.8	188.1	40.3	175.6	45.5	160.6	51.2	144.1	57.5	136.9	59.9
	9	209.1	31.8	202.3	35.9	193.1	40.3	180.6	45.4	165.4	51.1	148.8	57.5	141.8	59.9
	10	214.6	32	207.4	36	197.9	40.3	185.2	45.3	170	51.1	153.3	57.4	146.8	59.9
	11	220.1	32.2	212.5	36.1	202.7	40.3	189.8	45.3	174.6	51	157.8	57.5	151.6	60
	12	225.8	32.3	217.9	36.1	207.7	40.3	194.6	45.3	179.1	51.1	162.2	57.6	156.2	60.1
	13	231.9	32.3	223.4	36.2	212.8	40.4	199.3	45.4	183.5	51.2	166.3	57.7	160.4	60.2
	14	238.5	32.1	229.3	36.1	218	40.4	204	45.4	187.8	51.3	170.1	57.9	164.3	60.4
	15	245.8	31.9	235.5	36	223.3	40.5	208.5	45.6	191.7	51.5	173.5	58.2	167.6	60.5
	16	254.1	31.4	242.2	35.8	228.7	40.5	212.9	45.8	195.3	51.8	176.5	58.5	170.4	60.6
	17	263.4	30.6	249.4	35.4	234.1	40.5	216.9	46.1	198.4	52.2	179	58.9	172.6	60.7
	18	274.1	29.6	257.2	34.9	239.5	40.4	220.7	46.4	201.2	52.7	181.4	59.3	174.2	61
WQRC 704	5	214.6	37.7	204.5	41.2	192.9	45.7	179.1	51.5	163.6	58.7	146.9	67.4	140.7	70.5
	6	221	37.9	212.2	41.4	201.1	45.9	187.1	51.7	170.7	58.9	152.9	67.6	145.8	70.6
	7	227.5	38.1	219.6	41.6	209	46.1	194.7	51.9	**177.6**	**59**	158.8	67.7	151.1	70.6
	8	233.9	38.4	226.2	41.8	215.8	46.1	201.3	51.9	183.8	59	164.5	67.7	156.7	70.5
	9	240.2	38.9	232.4	42	221.6	46.2	207.1	51.8	189.5	58.9	170	67.6	162.5	70.4
	10	246.6	39.4	238.3	42.2	227.2	46.2	212.5	51.6	194.8	58.7	175.5	67.5	168.4	70.3
	11	253.3	39.9	244.4	42.5	232.9	46.3	217.9	51.6	200.2	58.6	180.8	67.4	174.1	70.3
	12	260.4	40.4	250.9	42.8	238.8	46.4	223.4	51.7	205.4	58.7	186	67.5	179.7	70.3
	13	268.2	40.8	257.7	43.1	244.7	46.6	228.8	51.8	210.6	58.8	191	67.7	184.8	70.4
	14	276.8	41	264.9	43.3	250.9	46.9	234.1	52.1	215.4	59.1	195.8	67.9	189.5	70.5
	15	286.4	41	272.7	43.5	257.2	47.2	239.3	52.4	219.9	59.4	200	68.1	193.6	70.6
	16	297.3	40.8	281.1	43.6	263.5	47.5	244.2	52.8	223.9	59.9	203.9	68.4	196.7	70.9
	17	309.9	40.3	290.3	43.5	269.9	47.8	248.7	53.4	227.4	60.5	207.3	68.7	199.2	71.2
	18	324.2	39.5	300.1	43.4	276.3	48.2	252.9	54.1	230.4	61.2	210.3	69.1	201.3	71.6
WQRC 804	5	239.3	42.2	226.9	46.4	213.2	51.3	197.8	57.5	180.7	65.3	162.7	74.9	155.1	79
	6	247.2	42.4	235.9	46.6	222.8	51.6	206.8	57.8	188.7	65.6	169.3	75.2	160.7	79.1
	7	255.1	42.6	244.6	46.8	231.8	51.8	215.4	58.1	**196.5**	**65.8**	175.9	75.4	166.6	79.2
	8	262.8	42.9	252.5	47	239.6	51.9	223	58.1	203.4	65.9	182.3	75.5	172.9	79.2
	9	270.3	43.4	259.6	47.3	246.5	52	229.6	58.1	209.9	65.8	188.5	75.4	179.3	79.1
	10	277.7	43.9	266.6	47.5	252.9	52.1	235.8	58	216	65.7	194.6	75.3	185.9	79
	11	285.3	44.4	273.6	47.8	259.6	52.2	242.2	58	222.1	65.7	200.5	75.4	192.2	79
	12	293.1	44.9	280.9	48.1	266.3	52.3	248.6	58.1	228.2	65.7	206.3	75.4	198.3	79.1
	13	301.4	45.3	288.5	48.4	273.3	52.5	254.9	58.2	234.2	65.8	211.9	75.6	204	79.2
	14	310.4	45.5	296.4	48.7	280.4	52.7	261.4	58.4	239.9	66	217.1	75.8	209.2	79.2
	15	320.3	45.5	304.9	48.8	287.6	52.9	267.5	58.7	245.3	66.3	221.8	76	213.7	79.3
	16	331.4	45.3	314	48.8	294.9	53.2	273.5	59.1	250.2	66.7	225.8	76.3	217.5	79.3
	17	344	44.7	323.7	48.6	302.2	53.4	279.1	59.5	254.5	67.2	229.3	76.6	220.6	79.2
	18	358.3	43.7	334.2	48.3	309.6	53.6	284.3	60	258.4	67.8	232.2	77.1	223.4	79.2

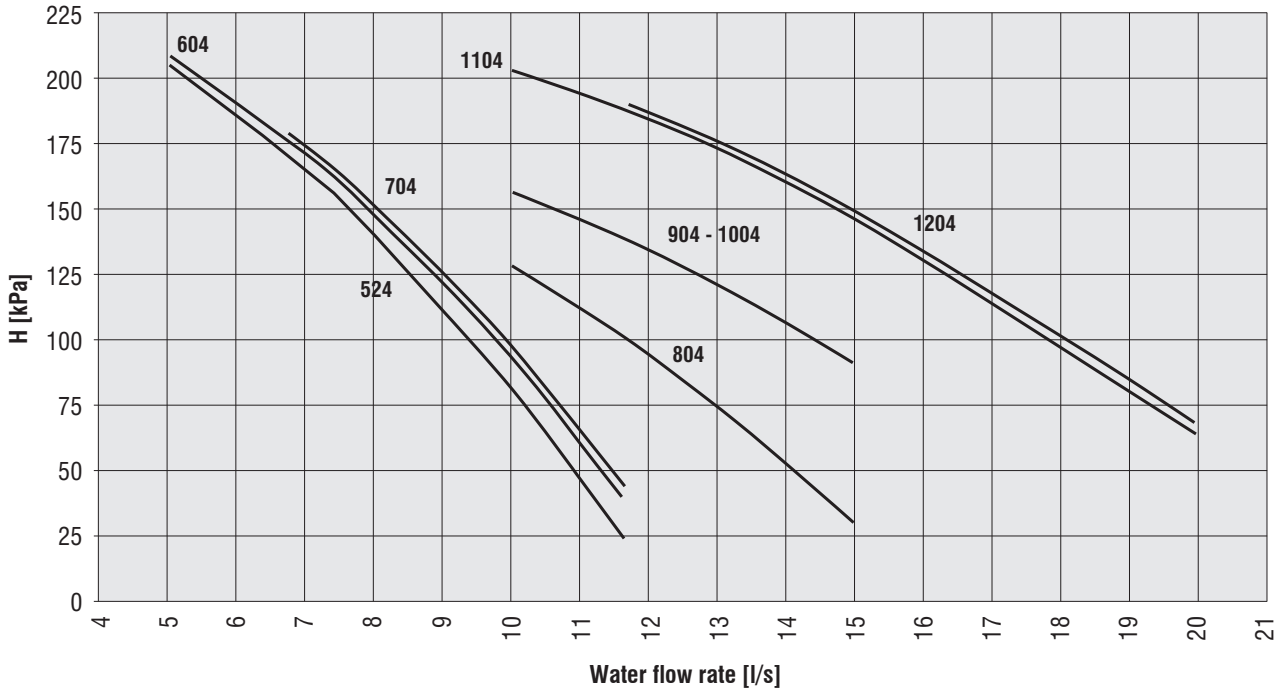
Cooling Capacities

WQRC models	Evap. LWT (°C)	Condensing temperature (°C)													
		30		35		40		45		50		55		60	
		P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)
WQRC 904	5	271	48.3	258.4	52.6	243.6	58.1	226.1	65.1	206.5	73.8	185.5	84.1	175.5	89.2
	6	279.6	48.5	268.4	52.8	254.3	58.4	236.4	65.5	215.5	74.2	192.9	84.4	181.9	89.3
	7	288.2	48.7	278.1	53.1	264.4	58.7	246.1	65.7	**224.2**	**74.4**	200.3	84.7	188.5	89.3
	8	296.6	49.1	286.8	53.3	273.2	58.8	254.6	65.8	232.1	74.4	207.4	84.7	195.5	89.3
	9	304.8	49.6	294.7	53.6	280.8	58.8	262	65.7	239.2	74.3	214.3	84.7	202.8	89.2
	10	313	50.1	302.4	53.9	288	58.9	268.9	65.6	246	74.2	221	84.6	210.1	89.1
	11	321.4	50.6	310.1	54.2	295.2	59	275.8	65.6	252.7	74.2	227.6	84.6	217.3	89.1
	12	330.2	51.1	318.2	54.5	302.7	59.1	282.7	65.7	259.4	74.2	234.1	84.7	224.1	89.1
	13	339.5	51.5	326.6	54.7	310.2	59.3	289.7	65.8	265.9	74.4	240.2	84.9	230.6	89.2
	14	349.7	51.6	335.4	55	317.9	59.6	296.4	66.1	272	74.6	246	85.1	236.4	89.3
	15	360.9	51.6	344.7	55.1	325.6	59.8	302.9	66.4	277.6	75	251.1	85.5	241.5	89.3
	16	373.5	51.2	354.7	55	333.3	60.1	309	66.9	282.7	75.4	255.5	85.8	245.7	89.4
	17	387.8	50.4	365.4	54.8	341	60.3	314.6	67.4	287	76	259.3	86.2	249.1	89.3
	18	404.2	49.1	376.9	54.3	348.6	60.6	319.8	68	290.8	76.8	262.5	86.8	252.1	89.3
WQRC 1004	5	301.8	54.4	286.6	58.9	269.3	64.7	249.6	72.4	228.2	81.9	205.8	93.4	193.6	100.2
	6	312	54.7	297.7	59.2	280.9	65.1	260.6	72.8	237.8	82.3	214	93.8	200.5	100.3
	7	321.9	55.2	308.4	59.6	291.8	65.4	271	73	**247.2**	**82.5**	222	94	207.7	100.3
	8	331.4	55.7	318	59.9	301.3	65.6	280.1	73.1	255.7	82.5	229.8	94	215.3	100.2
	9	340.4	56.4	326.6	60.3	309.5	65.7	288.1	73	263.4	82.4	237.3	93.9	223.1	100.1
	10	349.3	57.2	334.8	60.7	317.3	65.8	295.7	72.9	270.9	82.3	244.7	93.8	231	100
	11	358	57.9	343.1	61.1	325.2	65.9	303.3	72.9	278.4	82.2	251.9	93.8	238.7	99.9
	12	367	58.4	351.7	61.5	333.4	66.2	311.2	73.1	286	82.3	259	93.9	246.1	99.9
	13	376.3	58.8	360.5	61.8	341.9	66.4	319.2	73.3	293.4	82.5	265.8	94	252.7	99.9
	14	387.5	58.9	369.8	62	350.5	66.7	327.2	73.6	300.6	82.8	272	94.2	259	99.9
	15	397.1	58.7	379.7	62.1	359.4	67.1	335	74.1	307.4	83.3	277.6	94.5	264.3	99.8
	16	409.3	58	390.2	62	368.4	67.4	342.7	74.7	313.7	83.9	282.4	94.7	268.6	99.7
	17	422.6	56.8	401.5	61.7	377.5	67.8	350	75.4	319.3	84.6	286.3	95.1	272.1	99.5
	18	438.6	55	413.8	61.1	386.7	68.2	356.9	76.3	324.4	85.5	289.7	95.5	275.1	99.3
WQRC 1104	5	343.9	60.6	327.9	66.5	309.5	73.8	287.8	82.9	263.6	93.8	237.9	106.7	224.6	113.5
	6	355	60.8	340.7	66.9	323	74.2	300.7	83.3	274.9	94.3	247.3	107.1	232.5	113.7
	7	366	61.1	352.9	67.2	335.7	74.5	312.9	83.6	**285.9**	**94.6**	256.5	107.4	240.8	113.8
	8	376.7	61.6	364	67.5	346.7	74.7	323.5	83.7	295.8	94.6	265.5	107.5	249.6	113.7
	9	387.1	62.3	374	67.9	356.4	74.8	332.9	83.6	304.8	94.5	274.2	107.4	258.7	113.6
	10	397.5	63.1	383.6	68.3	365.4	74.9	341.6	83.6	313.4	94.3	282.7	107.3	267.9	113.5
	11	407.9	63.8	393.4	68.7	374.7	75.1	350.4	83.5	322	94.3	291.2	107.3	276.9	113.6
	12	418.8	64.6	403.5	69.2	384.1	75.3	359.3	83.7	330.6	94.4	299.4	107.5	285.6	113.7
	13	430.3	65.1	414.1	69.6	393.7	75.6	368.3	83.9	339	94.6	307.3	107.8	293.8	113.8
	14	444.2	65.5	425.1	70	403.6	76	377.2	84.3	347.1	95	314.7	108.1	301.3	113.9
	15	456.5	65.5	436.9	70.2	413.7	76.4	385.8	84.8	354.6	95.5	321.4	108.5	307.8	114
	16	471.9	65.2	449.5	70.3	423.7	76.8	394.1	85.4	361.5	96.1	327.3	109	313.4	114.1
	17	488.9	64.4	462.9	70.2	433.9	77.3	401.9	86.1	367.7	96.9	332.4	109.6	318.1	114.1
	18	509.2	63	477.4	69.8	444	77.7	409.1	87.1	373.1	97.9	336.9	110.3	322.3	114.1
WQRC 1204	5	385.6	69.6	366.6	75.3	344.8	82.8	319.4	92.6	291.5	104.9	262.4	119.6	245.1	129.1
	6	399.3	69.7	381.4	75.5	359.9	83.2	333.6	93.1	304.1	105.4	272.9	120.2	254.1	129.3
	7	412.7	69.9	395.5	75.8	374.1	83.5	347.1	93.5	**316.1**	**105.8**	283.4	120.5	263.5	129.5
	8	425.4	70.4	408.1	76.2	386.4	83.7	358.8	93.6	327.2	105.8	293.4	120.7	273.4	129.5
	9	437.5	71.1	419.5	76.5	397.2	83.8	369.2	93.5	337.2	105.7	303.2	120.6	283.5	129.4
	10	449.2	71.9	430.3	77	407.4	83.9	379.1	93.4	346.9	105.6	312.7	120.6	293.7	129.3
	11	460.6	72.7	441	77.5	417.6	84.1	389.1	93.4	356.6	105.6	322.1	120.6	303.4	129.3
	12	472	73.5	452.1	78	428.3	84.5	399.3	93.6	366.4	105.7	331.1	120.8	312.6	129.3
	13	483.8	74.1	463.3	78.6	439.2	84.9	409.7	94	375.9	106	339.5	121	321	129.4
	14	496	74.6	475.1	79	450.3	85.4	420.1	94.5	385.2	106.4	347.3	121.2	328.4	129.3
	15	509.1	74.7	487.5	79.4	461.7	86	430.3	95.1	394	107	354	121.5	334.5	129.2
	16	523.6	74.4	500.6	79.6	473.3	86.6	440.3	95.9	402	107.7	359.5	121.8	339.2	129
	17	539.6	73.5	514.5	79.7	485.1	87.3	449.8	96.9	409.2	108.6	364	122.1	342.6	128.6
	18	557.8	72.1	529.6	79.4	497	88	458.9	98.1	415.7	109.6	367.5	122.4	345.3	128.1

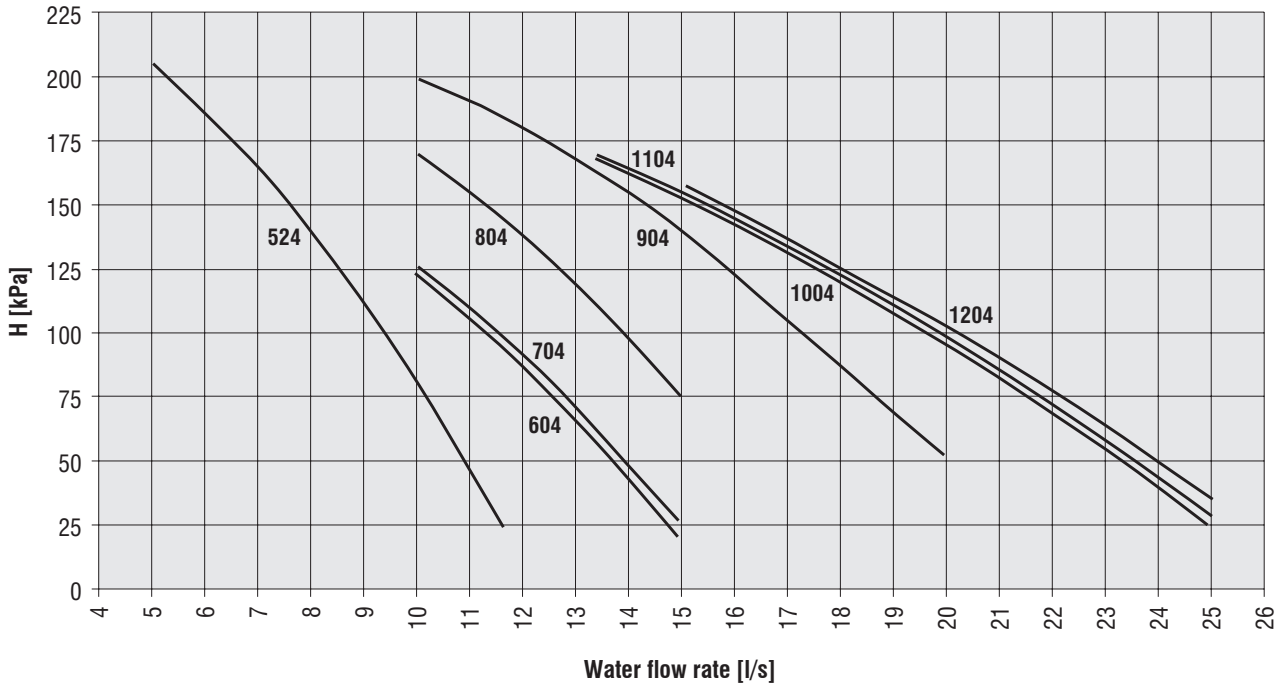
Cooling Capacities

WQRC models	Evap. LWT (°C)	Condensing temperature (°C)													
		30		35		40		45		50		55		60	
		P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)	P_{COOL} (kW)	P_{ABS} (kW)
WQRC 1404	5	434.5	78.1	414.6	85.7	392.9	94.5	369.9	107.2	345.3	120.2	320.1	132.2	290.8	142.9
	6	449.4	78.4	429.2	85.9	406.8	94.6	382.8	107.3	356.7	120.3	332.1	132.3	302.7	143.1
	7	464.4	78.6	443.8	86.2	420.7	94.8	395.8	107.4	**368.1**	**120.4**	344.0	132.4	314.5	143.2
	8	481.2	79.0	459.8	86.7	436.6	95.3	410.7	107.6	382.5	120.6	356.8	132.6	326.1	143.3
	9	498.0	79.4	475.7	87.2	452.4	95.8	425.6	107.8	396.9	120.7	369.7	132.7	337.6	143.4
	10	514.8	79.7	491.7	87.7	468.3	96.3	440.6	108.0	411.2	120.8	382.5	132.8	349.1	143.4
	11	531.6	80.1	507.6	88.2	484.2	96.8	455.5	108.2	425.6	120.9	395.4	132.9	360.7	143.5
	12	550.6	80.4	526.1	88.3	501.3	96.9	471.7	108.2	440.9	121.0	409.3	133.0	373.5	143.6
	13	569.6	80.7	544.6	88.5	518.3	97.1	487.9	108.2	456.3	121.1	423.2	133.0	386.4	143.7
	14	588.6	81.1	563.1	88.7	535.4	97.3	504.1	108.3	471.6	121.1	437.1	133.1	399.3	143.8
	15	607.6	81.4	581.5	88.9	552.4	97.5	520.3	108.3	486.9	121.2	451.0	133.1	412.2	143.9
	16	627.9	82.0	600.3	89.4	570.6	97.8	538.0	108.4	503.6	121.3	466.2	133.2	426.9	144.1
	17	648.1	82.5	619.0	89.9	588.8	98.1	555.7	108.5	520.4	121.4	481.4	133.4	441.6	144.2
	18	668.4	83.1	637.7	90.3	606.9	98.4	573.3	108.7	537.1	121.5	496.7	133.5	456.2	144.3
WQRC 1604	5	471.7	86.3	449.6	94.7	425.3	106.8	400.1	119.7	372.8	133.5	343.8	148.1	312.1	161.7
	6	487.6	86.7	465.2	94.9	442.3	106.9	414.0	119.8	384.9	133.7	356.4	148.2	324.5	161.8
	7	503.6	87.1	480.8	95.1	459.3	107.0	427.9	120.0	**396.9**	**133.8**	369.0	148.3	336.8	161.9
	8	522.6	87.3	498.9	95.6	476.3	107.1	444.4	120.1	412.7	133.9	383.3	148.4	350.8	162.1
	9	541.7	87.6	517.0	96.1	493.3	107.2	461.0	120.2	428.4	134.0	397.7	148.4	364.8	162.3
	10	560.8	87.9	535.1	96.5	510.3	107.3	477.6	120.4	444.2	134.0	412.0	148.5	378.8	162.5
	11	579.8	88.2	553.2	97.0	527.3	107.5	494.2	120.5	460.0	134.1	426.4	148.6	392.8	162.6
	12	600.7	88.5	573.4	97.2	545.8	107.6	511.7	120.6	476.5	134.2	441.4	148.7	405.5	162.7
	13	621.5	88.8	593.6	97.4	564.2	107.7	529.2	120.7	493.0	134.3	456.3	148.8	418.2	162.8
	14	642.4	89.1	613.8	97.6	582.7	107.8	546.7	120.9	509.5	134.4	471.3	148.9	430.9	162.8
	15	663.2	89.4	634.0	97.7	601.2	107.9	564.2	121.0	526.0	134.5	486.3	149.0	443.6	162.9
	16	685.2	90.1	654.3	98.3	620.8	108.0	583.3	121.2	544.0	134.6	502.6	149.0	459.3	162.9
	17	707.1	90.8	674.6	98.8	640.5	108.2	602.4	121.4	562.0	134.7	519.0	149.1	475.1	163.0
	18	729.0	91.4	694.9	99.3	660.1	108.4	621.5	121.6	580.1	134.8	535.4	149.1	490.8	163.0

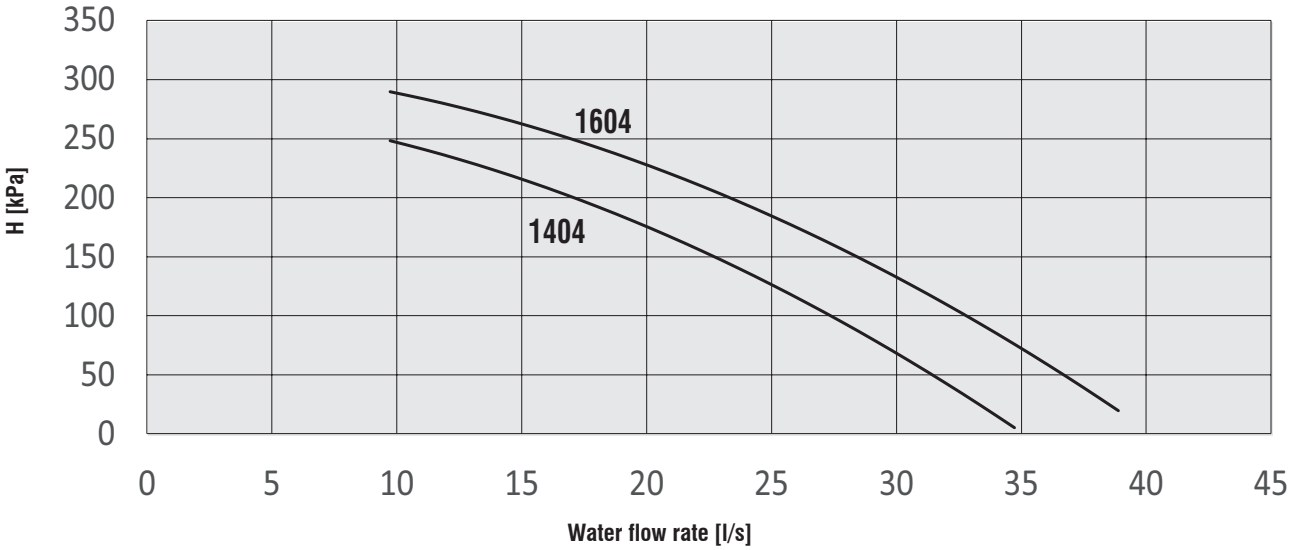
WQL/H/RC 524-1204 - Available static pressure
Internal heat exchanger (1/2P SP/E)



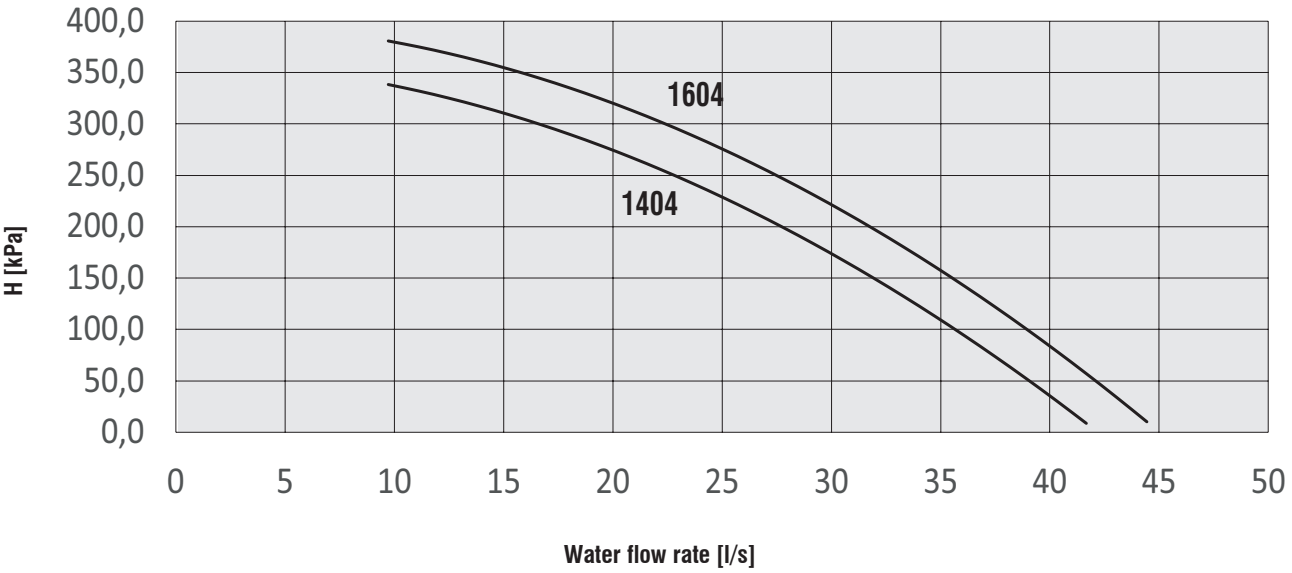
WQL/H/RC 524-1204 - Available static pressure
External heat exchanger (1/2P SP/C)



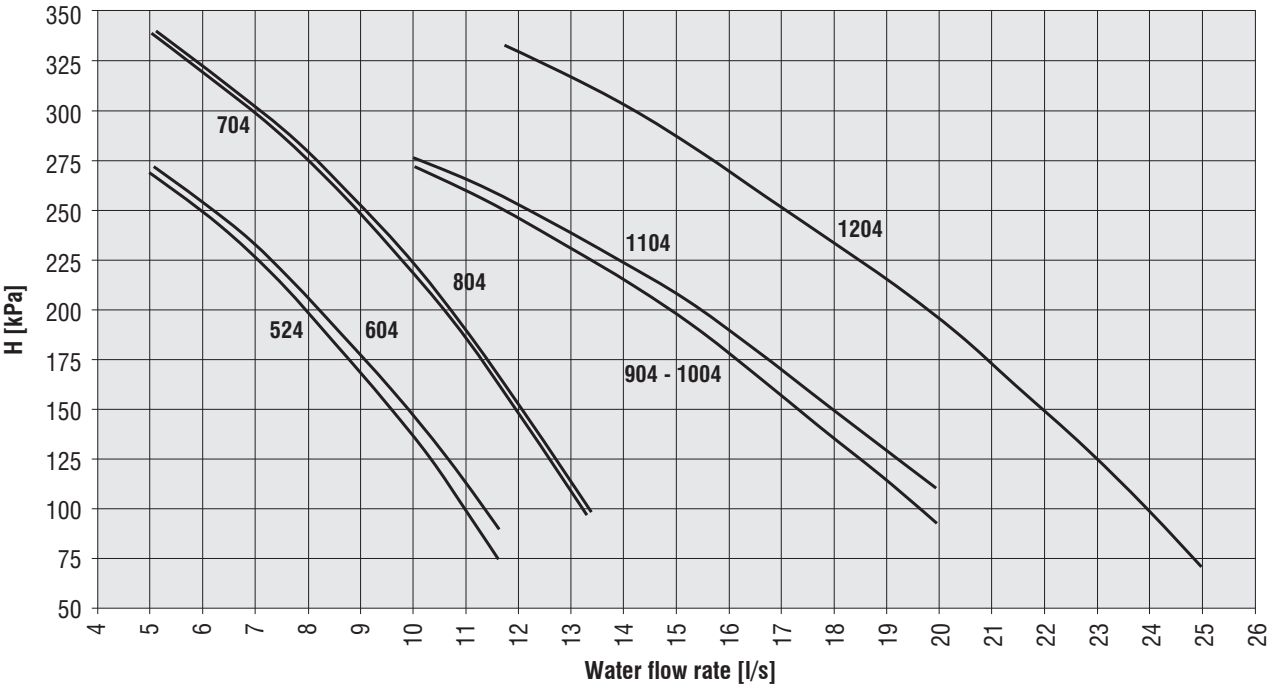
WQL/H/RC 1404-1604 - Available static pressure
Internal heat exchanger (1/2P SP/E)



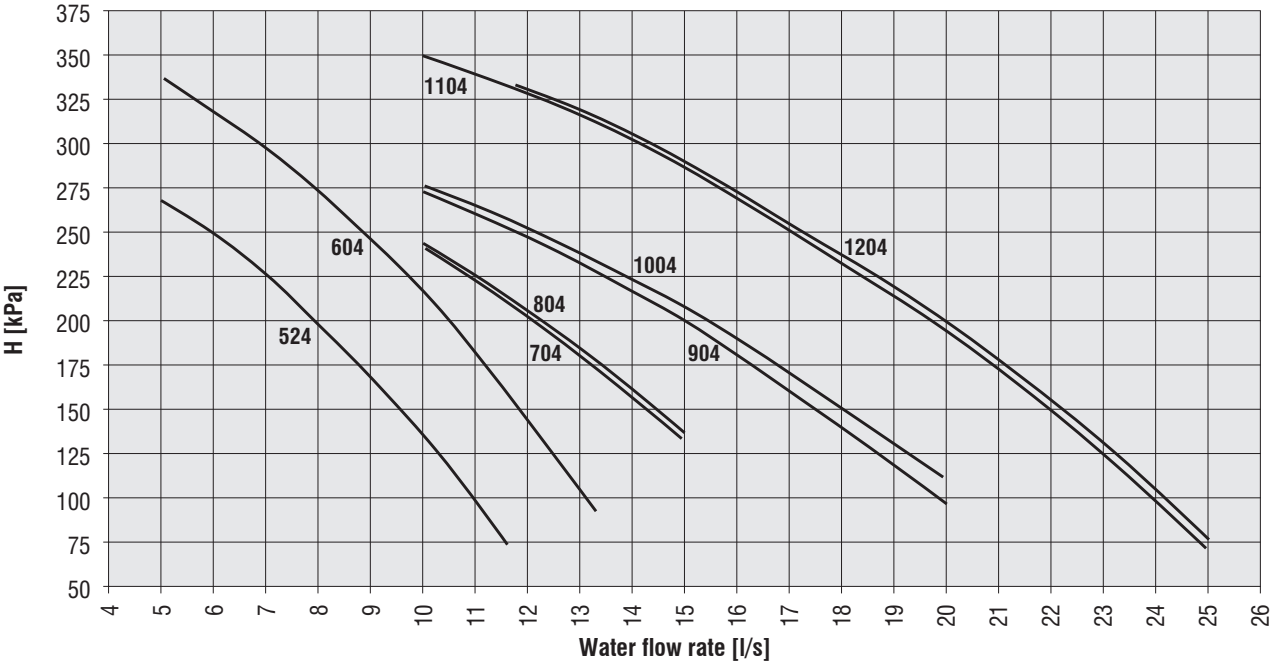
WQL/H/RC 1404-1604 - Available static pressure
External heat exchanger (1/2P SP/C)



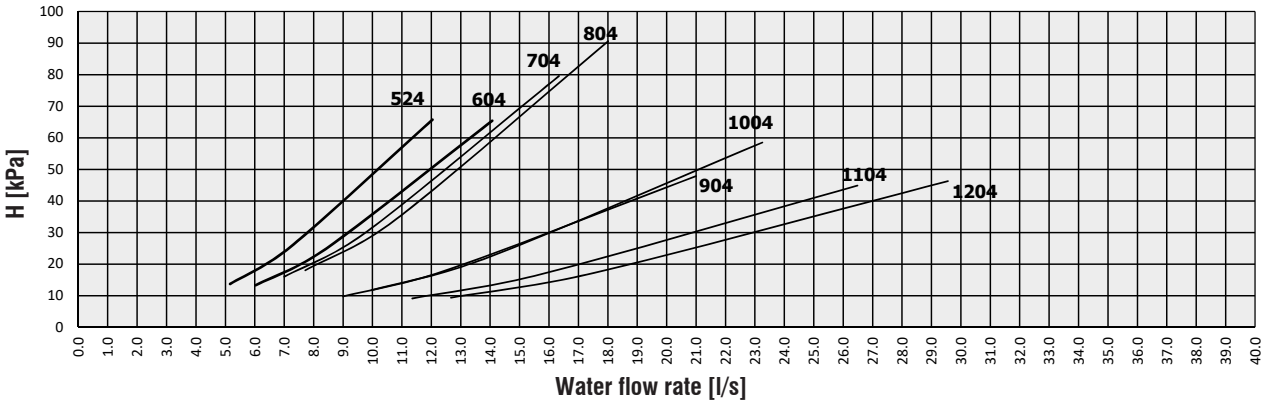
WQL/H/RC 524-1204 - Available static pressure
Internal heat exchanger (1/2P HP/E)



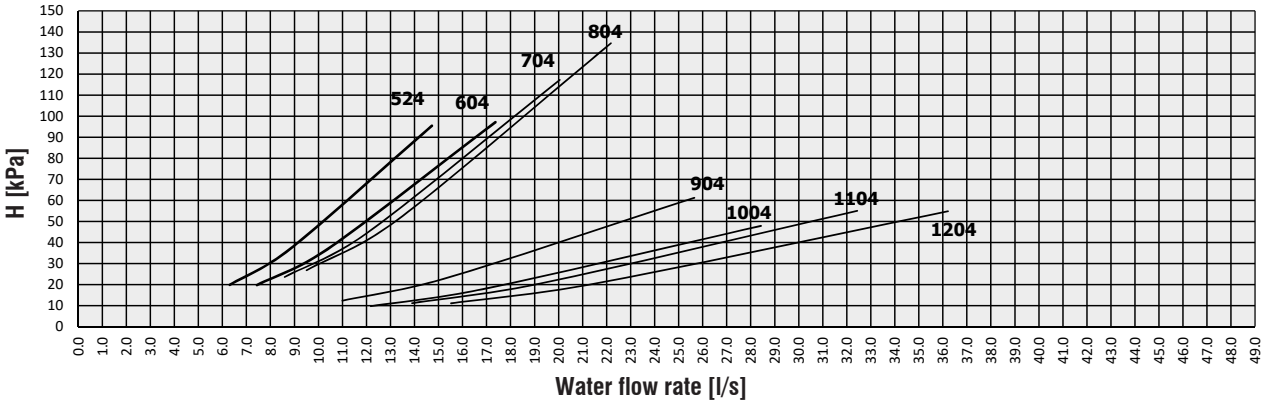
WQL/H/RC 524-1204 - Available static pressure
External heat exchanger (1/2P HP/C)



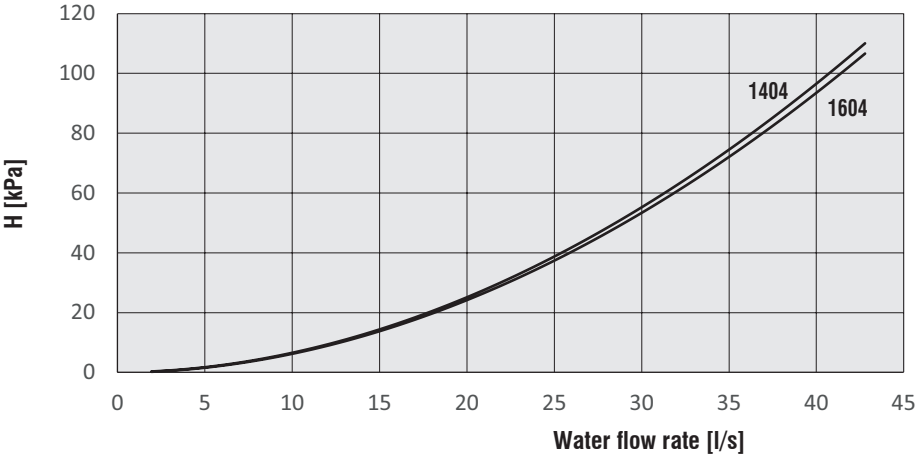
WQL/H/RC 524-1204 - internal heat exchanger pressure drop



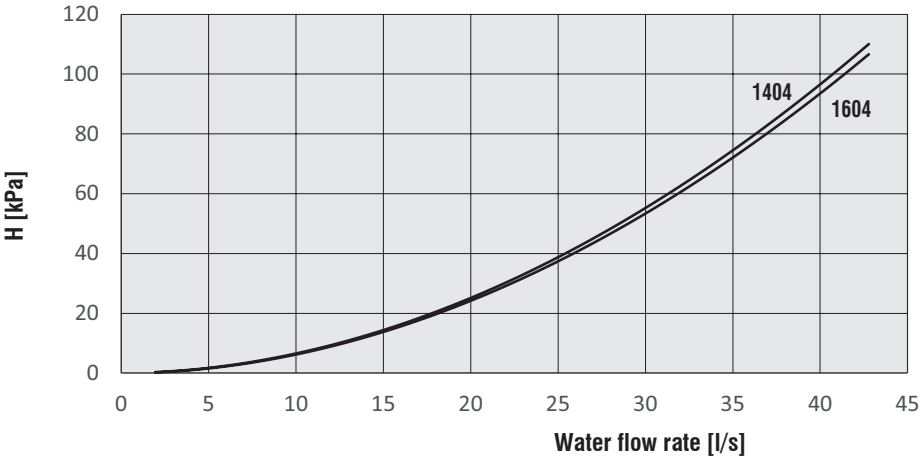
WQL/H 524-1204 - external heat exchanger pressure drop



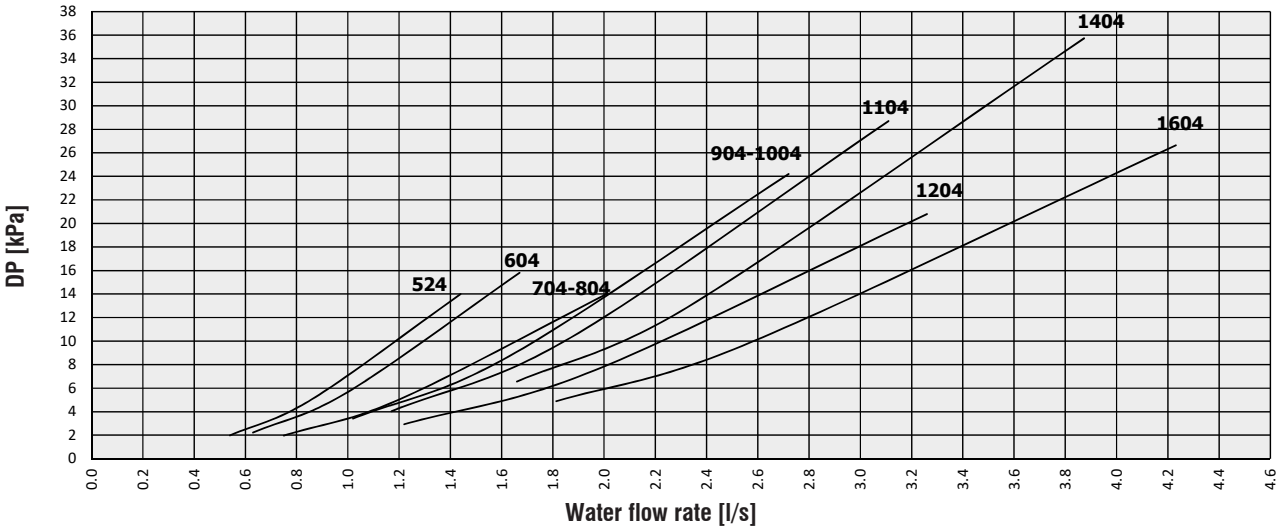
WQL/H/RC 1404-1604 - internal heat exchanger pressure drop



WQL/H 1404-1604 - external heat exchanger pressure drop

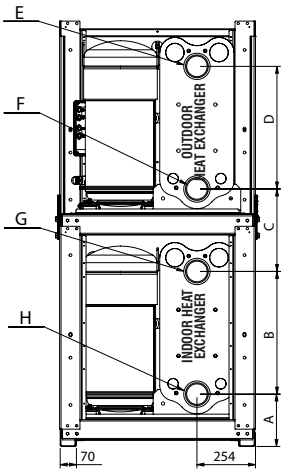


WQL/H/RC 524-1604 - desuperheater pressure drop

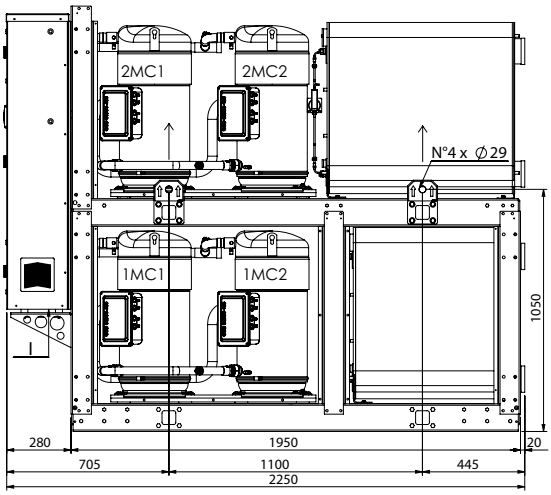


Dimensional drawings - WQL/WQH 524-1604

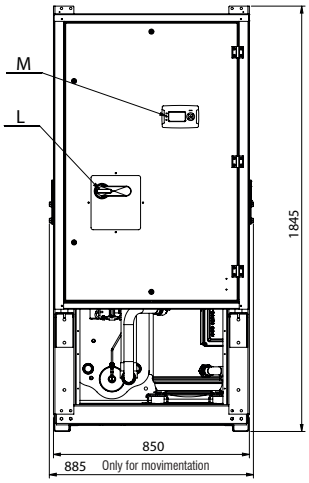
Back view

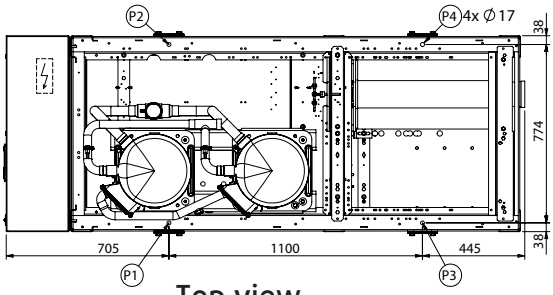


Side view



Front view





Top view

NOTES

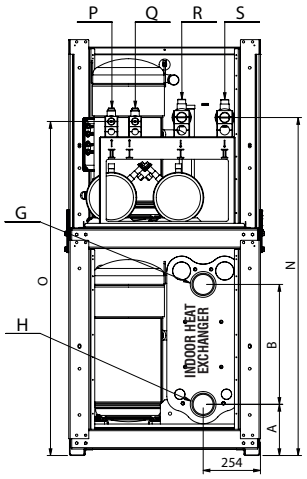
G H E F	Water connections
I	Electrical power supply
L	Main switch
M	Control keypad/display

P1, P2, P3, P4 AVM position

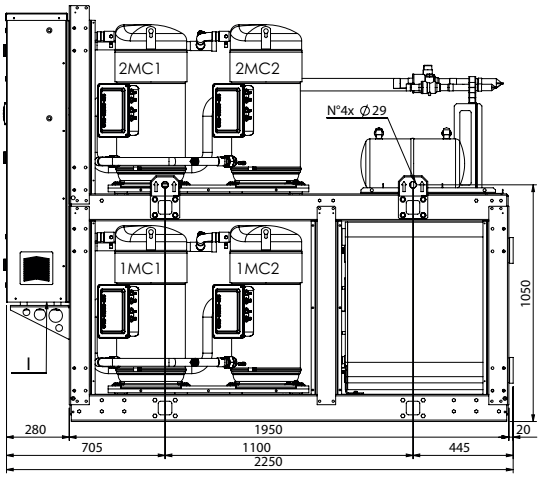
	INDOOR HEAT EXCHANGER		OUTDOOR HEAT EXCHANGER	
	IN	OUT	IN	OUT
	G	H	E	F
524-804	A = 227 mm	B = 369 mm	C = 521 mm	D = 369 mm
	2 1/2" VICT - 76,1 mm			
904-1204	A = 227 mm	B = 532 mm	C = 358 mm	D = 532 mm
	4" VICT - 114,3 mm			
1404-1604	A = 227 mm	B = 568 mm	C = 322 mm	D = 568 mm
	4" VICT - 114,3 mm			

Dimensional drawings - WQRC 524-1604

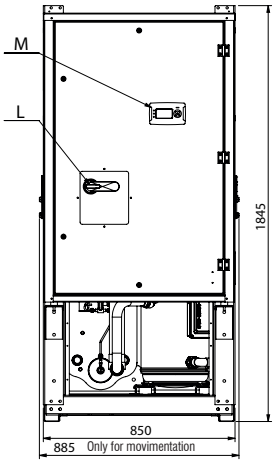
Back view



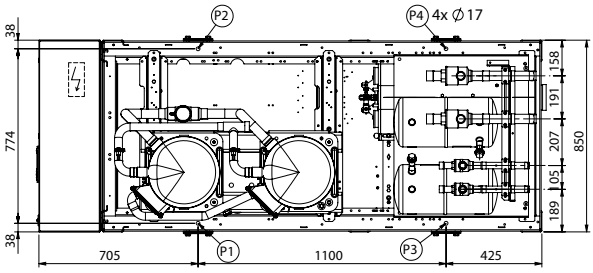
Side view



Front view



Top view



NOTES

G H	Water connections
I	Electrical power supply
L	Main switch
M	Control keypad/display

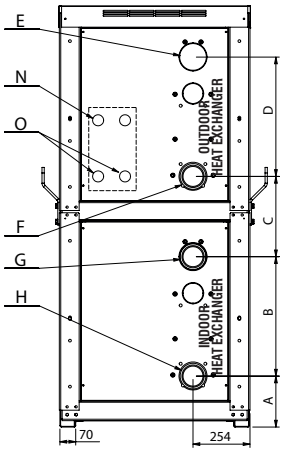
P1, P2, P3, P4 AVM position

	INDOOR HEAT EXCHANGER	
	IN	OUT
	G	H
524-804	A = 227 mm	B = 369 mm
	2 1/2″ VICT - 76,1 mm	
904-1204	A = 227 mm	B = 532 mm
	4″ VICT - 114,3 mm	
1404-1604	A = 227 mm	B = 568 mm
	4″ VICT - 114,3 mm	

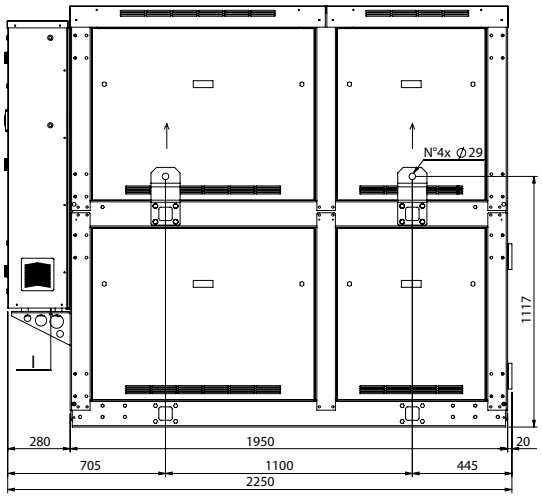
	LIQUID CONNECTION 2	LIQUID CONNECTION 1	DISCHARGE CONNECTION 1	DISCHARGE CONNECTION 2		
	P	Q	R	S	N	O
904-1604	1 1/8″	1 1/8″	1 5/8″	1 5/8″	1500	1435
704-804	1 1/8″	1 1/8″	1 3/8″	1 3/8″	1500	1480
524-604	7/8″	7/8″	1 1/8″	1 1/8″	1435	1435

Dimensional drawings - WQL/WQH 524-1604 S

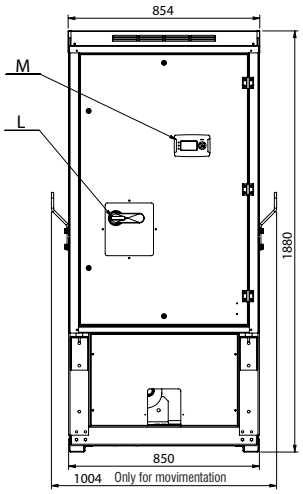
Back view

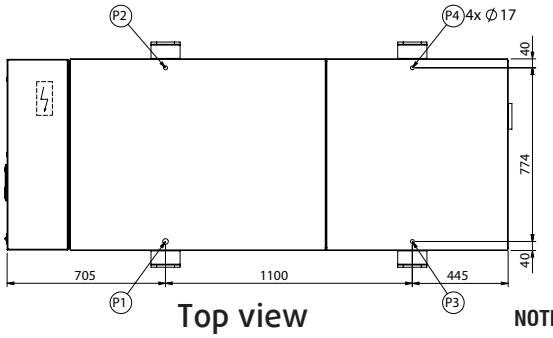


Side view



Front view





Top view

NOTES

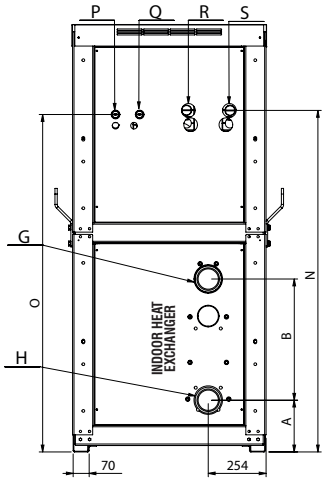
G H E F	Water connections
I	Electrical power supply
L	Main switch
M	Control keypad/display
N	Desuperheater water outlet 1″ Gas M
O	Desuperheater water inlet 1″ Gas M

P1, P2, P3, P4 AVM position

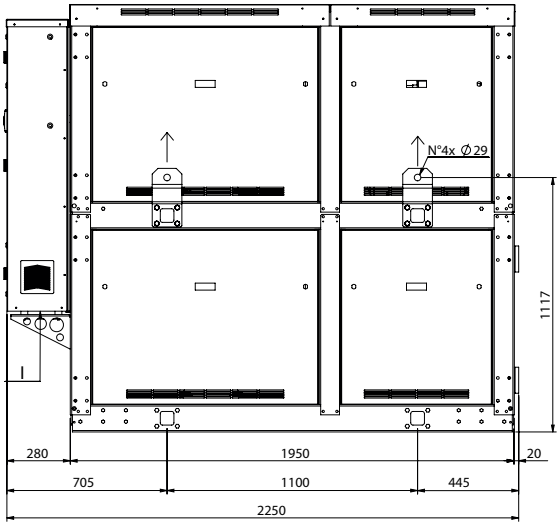
	INDOOR HEAT EXCHANGER		OUTDOOR HEAT EXCHANGER	
	IN	OUT	IN	OUT
	G	H	E	F
524-804	A = 227 mm	B = 369 mm	C = 521 mm	D = 369 mm
	2 1/2″ VICT - 76,1 mm			
904-1204	A = 227 mm	B = 532 mm	C = 358 mm	D = 532 mm
	4″ VICT - 114,3 mm			
1404-1604	A = 227 mm	B = 568 mm	C = 322 mm	D = 568 mm
	4″ VICT - 114,3 mm			

Dimensional drawings - WQRC 524-1604 S

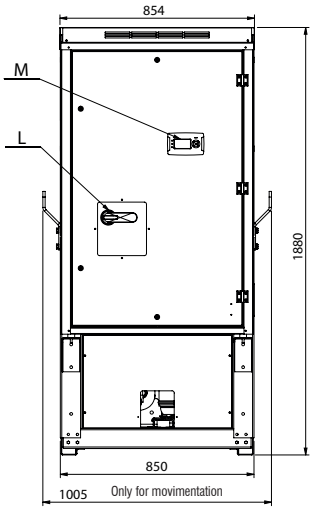
Back view

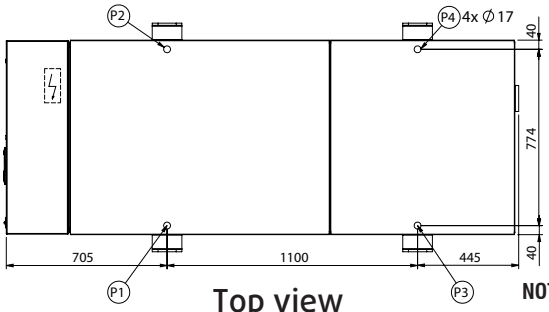


Side view



Front view





Top view

NOTES

G H	Water connections
I	Electrical power supply
L	Main switch
M	Control keypad/display

P1, P2, P3, P4 AVM position

	INDOOR HEAT EXCHANGER	
	IN	OUT
	G	H
524-804	A = 227 mm	B = 369 mm
	2 1/2" VICT - 76,1 mm	
904-1204	A = 227 mm	B = 532 mm
	4" VICT - 114,3 mm	
1404-1604	A = 227 mm	B = 568 mm
	4" VICT - 114,3 mm	

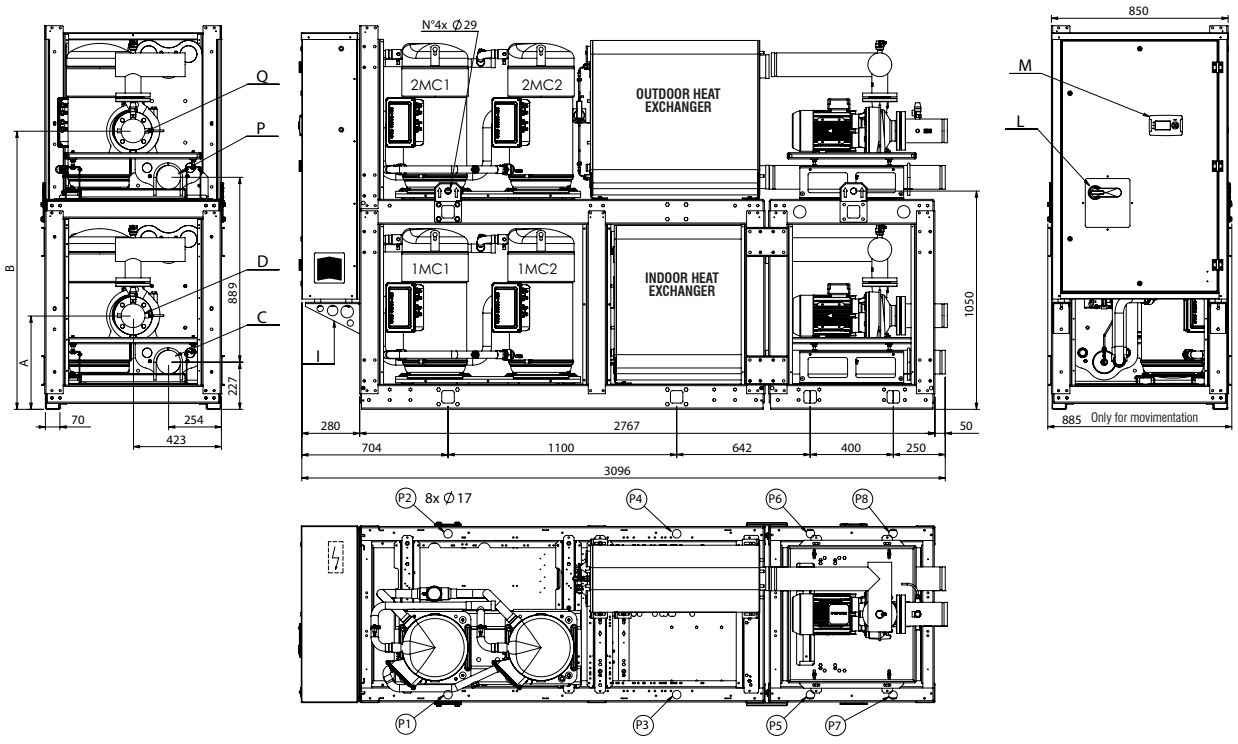
	LIQUID CONNECTION 2	LIQUID CONNECTION 1	DISCHARGE CONNECTION 1	DISCHARGE CONNECTION 2		
	P	Q	R	S	N	O
904-1604	1 1/8"	1 1/8"	1 5/8"	1 5/8"	1500	1435
704-804	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1500	1480
524-604	7/8"	7/8"	1 1/8"	1 1/8"	1435	1435

Dimensional drawings - WQ + IDRO 524-1604

Back view

Side view

Front view



Top view

NOTES

I	Electrical power supply
L	Main switch
M	Control keypad/display

P1, P2, P3, P4, P5, P6, P7, P8 AVM position

		WATER CONNECTIONS				WATER CONNECTIONS DIMENSIONS
		INDOOR HEAT EXCHANGER		OUTDOOR HEAT EXCHANGER		
		IN	OUT	IN	OUT	
524-804	STD	E	C	R	P	2 1/2" VICT 76,1 mm
	1P - 2P	D	C	Q	P	2 1/2" VICT 76,1 mm
904-1604	STD	F	C	S	P	4" VICT 114,3 mm
	1P - 2P	D	C	Q	P	4" VICT 114,3 mm

1P	A		B	
Dimensions	LP	HP	LP	HP
524	410	430	1300	1320
604	410	430	1320	1320
704	410	430	1320	1330
804	430	430	1340	1330
904	450	440	1340	1330
1004	450	440	1365	1330
1104	450	440	1365	1330
1204	450	440	1365	1330
1404	490	-	1405	-
1604	490	-	1405	-

2P	A		B	
Dimensions	LP	HP	LP	HP
524	410	430	1300	1320
604	410	430	1320	1320
704	410	430	1320	1365
804	430	430	1320	1365
904	450	475	1340	1365
1004	450	475	1365	1365
1104	450	475	1365	1365
1204	450	475	1365	1365
1404	490	-	1405	-
1604	490	-	1405	-

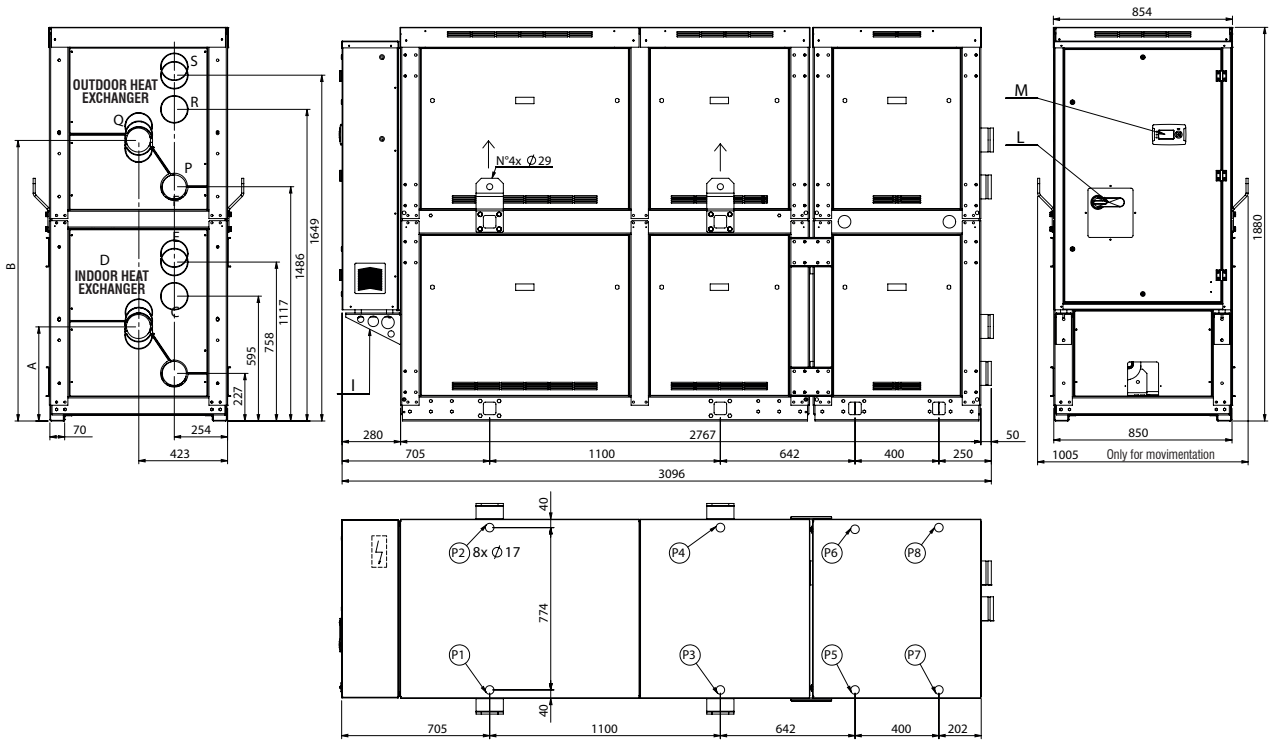
Low pressure pump (LP)
High pressure pump (HP)

Dimensional drawings - WQ + IDRO 524-1604

Back view

Side view

Front view



Top view

NOTES

I	Electrical power supply
L	Main switch
M	Control keypad/display

P1, P2, P3, P4, P5, P6, P7, P8 AVM position

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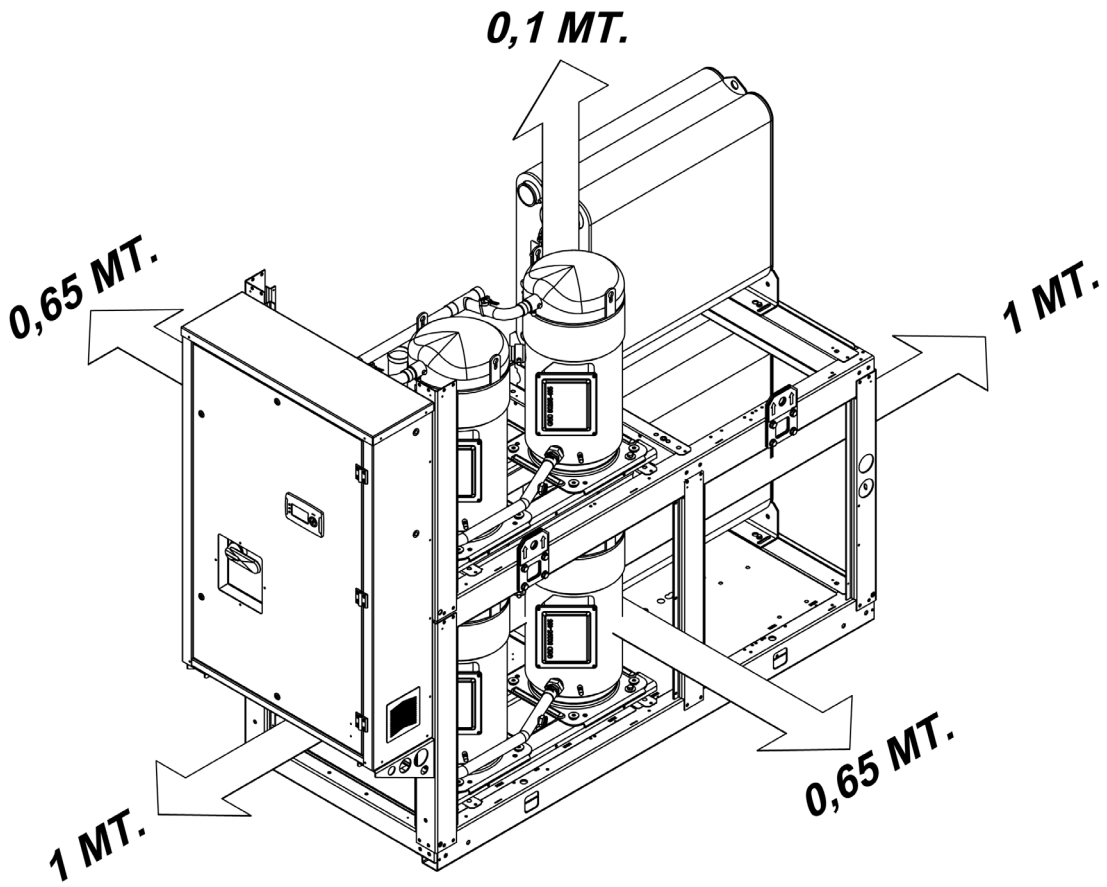
1004	450	440	1365	1330
1104	450	440	1365	1330
1204	450	440	1365	1330
1404	490	-	1405	-
1604	490	-	1405	-

2P	A		B	
Dimensions	LP	HP	LP	HP
524	410	430	1300	1320
604	410	430	1320	1320
704	410	430	1320	1365
804	430	430	1320	1365
904	450	475	1340	1365
1004	450	475	1365	1365
1104	450	475	1365	1365
1204	450	475	1365	1365
1404	490	-	1405	-
1604	490	-	1405	-

Low pressure pump (LP)
High pressure pump (HP)

Space requirements



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