Chiller

AQVL/AQVH 85-140

Air Cooled Water Chillers Cooling Only and Heat Pump
Engineering Data Manual

83 to 137 kW

92 to 147 kW

R410A

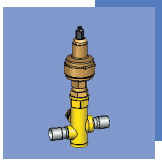
systemair

High Performance Components

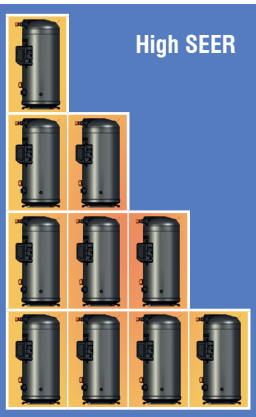
Special inverter fan (option)

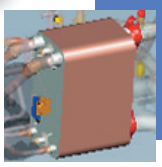
pCO1 control and PGD user interface

3 pump option
Energy saving in partial load



EXV
Optimization of superheating





True dual circuit evaporator
Optimized heat transfer coefficient

800 mm, 6 poles, axial fans

Compressor box
Standard on all units

Blue fin coil as standard on HP models

360° accessible compressor box for maintenance

Oustanding Strength Points

- Units with **R410A refrigerant**.
  As near azeotropic mixture it behaves like a homogeneous substance **(reduced service problems in case of leakage or re-charge)** with negligible temperature glide.

  Refrigerant with superior thermo-dynamical proprieties compared to R22 and R407C, it allows to have more efficiency or compact and lighter systems and larger operating limits (T ambient = -15 °C in heating mode).
- **2 independent refrigerant circuits** with 2 scroll compressors for each circuit.
- **Bi-flow electronic expansion devices** on all units : superheating value controlled by microprocessor, simple and accessible refrigeration system especially for heat pump versions with reduction of brazing points and then possible leakage.
- **V-shape condenser coils** ensuring compactness and small foot print.
- **High EER and COP** for fan coil application (water 12/7 °C cooling, 40/45 °C heating).
- **Excellent EER and COP** for floor heating application (water 23/18 °C cooling, 30/35 °C heating).
- **High SEER.**
- **2 acoustic versions :** STD (Standard) and S (Super Low Noise).
- **Heat recovery option** with desuperheater and total heat recovery.
- **Large choice of optional hydro kits** with or without buffer tank fitted on board of the chiller to perform package solution and plug & play concept.
- **Electric heaters fitted inside buffer tank** to ensure extra heating.
- For safety purpose when performing service operation, special valves dedicated to R410A are supplied on the refrigerant system. These valves, of 5/16" flare SAE type, are mounted on the liquid line and on the gauges manifold of the unit.

Specifications

General

The new **AQVL/AQVH** units have been designed to operate with **HFC 410A** refrigerant. Both compressors and heat exchangers (plate heat exchanger and coils) have been optimized for this refrigerant.

All the units are available either in **cooling only** or **heat pump** version. Each unit consists of **two independent refrigerant circuits** and is complete with high efficient and advanced technology components :

- Hermetic **Scroll** compressors with high efficiency and low vibration emissions,
- **Electronic expansion valves**,
- **"True dual"** circuit plate heat exchanger,
- Quiet fans located in externally mounted **nozzle profile housing** generating low sound levels,
- Controller using a **state-of-the-art microprocessor**.

The AQVL/AQVH units are available in **6 sizes and 4 versions :**

- **STD (Standard) version :** Designed in accordance with specifications described in the following sections.
- **HSE (High Seasonal Efficiency) version :** It has same equipment as that of the STD version, except that the units are equipped with **special inverter fans**, of large diameter, driven by **EC (electronic brushless type)** motors with **integrated electronic inverter**, to ensure low energy consumption.
- **HT (High Temperature) version :** It has same equipment as HSE units, but the **special inverter fans and motors** have a different regulation.
- **HPF (High Pressure Fan) version :** It has same equipment as STD units, except that the units are equipped with **special inverter fans** (same as those used on HSE version, but with a different regulation) driven by **EC motors** with **integrated electronic inverter**. The HPF version provides external static pressure up to **120 Pa.**

The STD and HSE versions can be supplied with **2 acoustic options :**

- **Standard (STD) :** The units are equipped with **star or delta connected fan motors** depending on size. The chillers are not supplied with fan speed controller, but fitted with **compressors box** to reduce the noise emissions.
- **Super Low Noise (S) :** The units are equipped with **star connected fan motors**, fitted with a speed controller which allows the units to operate with a very low rpm. The chillers are supplied with **compressors box** and **soundproof jackets** on compressors reducing significantly the noise emissions.

On the other hand, the HT and HPF versions can be supplied with STD option only.

In addition, all the units can be supplied with **2 heat recovery options :**

- **Desuperheater :** All the versions can be supplied with plate type heat exchangers fitted, one on each refrigerant circuit, on the compressor discharge line to recover about **20 % of the total heat** rejected to the condensers.
- **Total heat recovery (AQVR units) :** All the versions of the **cooling only** units can be supplied with a double circuit plate type heat exchanger to recover **100 % of heat rejection** by the condensers. 4-way valves and a field installed control sensor are also provided to ensure the cooling/heat recovery mode changeover.

Cabinet and structure

The cabinet and structure are made of heavy gauge galvanized steel. **All galvanized steel components are individually painted** by a special painting process before the assembly of the unit. This painting system performs a homogeneous protection to the corrosion.

The painting is a polyester powder based type, coloured in **RAL 9001**.

The units are suitable for outdoor installation, directly on the building roof or at the ground level.

Refrigerant circuits

All the units are composed of two independent and separate refrigerant circuits, complete with 4 hermetic scroll compressors in tandem configuration for each circuit.

Each refrigerant circuit is equipped with liquid line and discharge line shut-off valves, filter-drier with solid core, sight glass and **electronic expansion valve (EXV).**

The heat pump units (AQVH) are provided with 4-way reversing valves, suction accumulators and liquid receivers on the liquid lines.

The AQVL and AQVH units are both provided with double-circuit plate heat exchangers, of "true dual" type.

The total heat recovery units are supplied with double-circuit water condenser (of plate heat exchanger type), 4-way reversing valves and liquid receivers downstream of the heat recovery condenser.

The functional diagram of each circuit is shown in the section "Refrigerant flow diagram".

Specifications (continued)

Compressors

Each unit is equipped with 4 hermetic scroll compressors arranged in tandem configuration per refrigerant circuit.

The compressors are fitted with an electronic control device which ensures protection of compressors against :

- overheating and overloading,
- reversal rotation and phase loss.

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

Evaporator

Evaporator is of a "Dual Circuit" brazed stainless steel plate type heat exchanger. It is insulated with a 19 mm thick closed cell polyethylene foam material and is fitted with a film type electric heater on the external surface to prevent the unit from freezing at a low temperature (down to -18 °C) when the unit is off.

Condenser coils

The condenser coils are made of seamless copper tubes, arranged in staggered rows, mechanically expanded into corrugated aluminum fins.

They are mounted in V-shape arrangement, allowing the unit to be compact with small foot print.

The coils are supplied with blue fins on AQVH units to facilitate the flowing of water droplets during defrost cycles.

Condenser fans

All acoustic versions (STD & S) are equipped with large diameter, direct drive axial type fans with asynchronous three-phase motors.

Fans are fitted with externally mounted nozzle profile housing which generates low sound levels.

Fan speed control

The airflow is controlled in order to operate at a low ambient temperature.

On standard unit equipped with axial fans, the air flow control is :

- step type for STD version without fan speed controls, achieved by switching off some fans of each circuit in function of condensing pressure corrected by external temperature.
- stepless type for S version, achieved by an electronic fan speed control, supplied as standard, in function of condensing pressure.

The pressure actuated stepless type fan speed controller can be supplied as optional on STD version. It allows the units to operate in cooling mode at ambient temperature down to -18 °C.

Electrical board

The electrical board is located in a metal case arranged outside the unit and protected by a vertically pivoted access door. The metal case has an IP54 protection rating and is complete with grilles for natural air ventilation.

Electronic control

The units are supplied with the new microprocessor-based electronic control and management system ensuring the following functions :

→ Management of the operation of compressors :

a) Power on/off

b) Anticycle management

c) Tandem unloading for high pressure or high compressor pressure ratio (integrated inside the curves of compressor operating limits).

→ Chilled and hot water temperature regulation (control option on inlet water temperature RWT (PID) or outlet water temperature LWT (neutral band type) of the evaporator.

→ Control of superheating on suction line.

→ Evaporator antifreeze protection.

→ Heat pump defrost control for automatic operation.

→ Management of high and low pressure alarms.

→ Management of the electronic expansion valves by means of EXV controller allowing optimized functions : cooling, heating, start-up and defrost.

→ Management of external interlocks.

→ Management of the remote control :

d) Unit power on/off

e) Summary alarm signals

→ Remote signalling, by dry contacts :

f) Voltage presence

g) Compressors in operation

h) Circuit alarm unit

→ Management of the hydro kit : start-up of pump, antifreeze heater of external tank.

→ Management of the heat recovery mode by means of inlet water temperature sensor at the heat recovery condenser.

The unit controller can also clearly show all control parameters of the machine on the liquid crystal display, such as :

→ Display of superheating value.

→ Display of the temperature at the evaporator inlet and outlet.

→ Display of the ambient air temperature.

→ Display of the circuit 1 and circuit 2 discharge pressure and suction pressure.

→ Display of the set point.

→ Display of opening steps of EEV.

→ Display of speed control signal (voltage) of fans.

→ Display of the various alarm and operation status :

i) Compressor start-up alarm (discharge pressure check)

j) Low / High pressure

k) Low / High super-heating

l) Evaporator antifreeze

m) Flow switch signal for lack of water

n) Control of the compressor operating hours

o) Compressors in operation

p) Pump in operation and operating hours

q) Thermal protection of compressors

r) Thermal protection of fans

s) Faulty sensors

Control and safety devices

Each unit is fitted with the following devices :

Safety :

→ Power disconnect switch with an emergency stop function.

→ HP switches (double on each circuit), set to 40.5 bar, automatic reset and manual reset from the control panel.

→ Flow switch on the evaporator side.

→ Antifreeze temperature sensor (set to +4 °C) on the evaporator (AQVL/AQVH only).

→ Safety valve on the discharge line and the liquid receiver (on AQVH), set to 45 bar.

Specifications (continued)

Control :

- → HP and LP transducers (two for each circuit).
- → Evaporator water inlet temperature sensor.
- → Evaporator water outlet temperature sensor (with an antifreeze function).
- → Suction temperature sensor for EXV control.
- → Ambient air temperature sensor.
- → Coil temperature sensors.
- → Heat recovery condenser temperature sensor (AQVR only).

Conformity with standards

The following applies to all the sizes and versions of AQVL/AQVH/AQVR units :

- ✓ Machine Directive : 2006/42/EC
- ✓ Low Voltage Directive : 2006/95/EC
- ✓ Electromagnetic Compatibility Directive : 2004/108/EC
- ✓ Pressure Equipment Directive : 97/23/EC

Standard equipment

- ✓ Back light display.
- ✓ Digital pressure and temperature reading kit.
- ✓ High ambient pressure control.
- ✓ Double set point (AQVL/AQVH only).
- ✓ Sequence phase control.
- ✓ Electronic expansion valves.
- ✓ Control circuit transformer 400 V/230 V.
- ✓ Data logger.
- ✓ Power supply single point box.
- ✓ Power supply without neutral.
- ✓ Hour meter.
- ✓ Main switch.
- ✓ Refrigerant R410A.
- ✓ PED approval.
- ✓ Blue fin coils (AQVH only).
- ✓ Evaporator antifreeze electric heater.
- ✓ Compressor jacket (S version only).
- ✓ Compressor box.
- ✓ Rubber anti-vibration pads.

Optional hydro kits

All hydro kits are supplied fitted inside the unit with or without buffer tank. They are available for AQVL and AQVH units only.

- **1P :** 1 low or high pressure pump kit with relevant accessories.
- **2P :** 2 low or high pressure pump kit with relevant accessories.
- **3P :** 3 low or high pressure pump kit with relevant accessories.
- **1P+T :** 1P kit + buffer tank covered with insulation and fitted with an antifreeze electric heater.
- **2P+T :** 2P kit + buffer tank covered with insulation and fitted with an antifreeze electric heater.

When thermodynamic heating is not sufficient, optional electric heaters can be provided inside buffer tank to ensure extra heating.

Factory-installed options

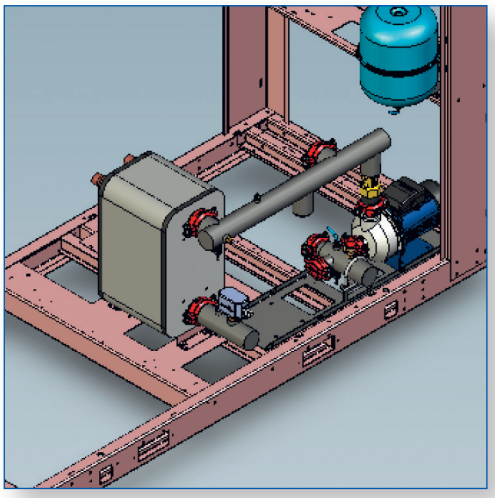
- ✓ ModBus protocol kit for BMS.
- ✓ Lonwork protocol kit for BMS.
- ✓ Bacnet protocol kit for BMS.
- ✓ WEBctrl.
- ✓ Ethernet TCP/IP interface board.
- ✓ Compressor soft starter.
- ✓ Pressure actuated stepless fan speed controller for low ambient operation (-18 °C) (STD version).
- ✓ Power factor correction capacitors.
- ✓ Compressor overload protection.
- ✓ Automatic circuit breaker.
- ✓ GSM.
- ✓ HP & LP manometers.
- ✓ Condenser coils with "Fin Guard Silver" (polyurethane) treatment.
- ✓ Condenser coils with copper fins.
- ✓ Condenser coils with black epoxy treatment.
- ✓ Coil guards.
- ✓ Chiller grilles.
- ✓ Compressor jacket.
- ✓ Total heat recovery (AQVR).
- ✓ Desuperheater.
- ✓ On board hydro kits.
- ✓ Electric heaters inside buffer tank, used as extra heating.
- ✓ Automatic pump switch on 2 pump kit.
- ✓ Antifreeze electric heater for hydraulic manifolds.

Field-installed accessories

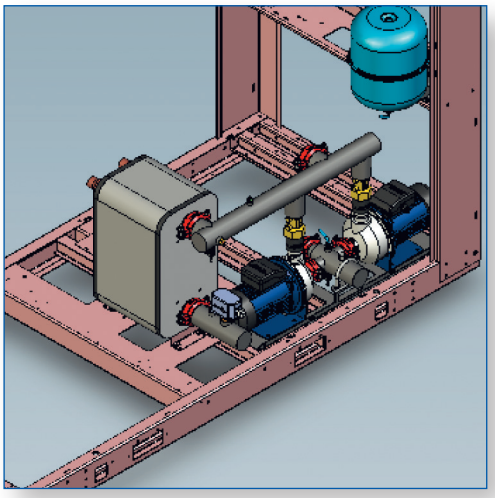
- ✓ Remote keyboard panel.
- ✓ Master and slaves control, up to 4 units max.
- ✓ Chiller grilles.
- ✓ Pressure switch.
- ✓ Water filter.

Hydro Options

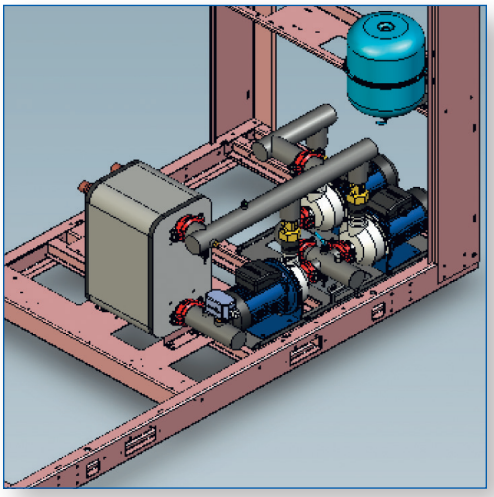
1P



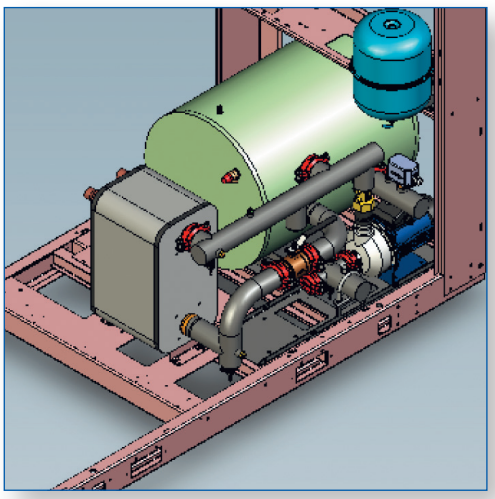
2P



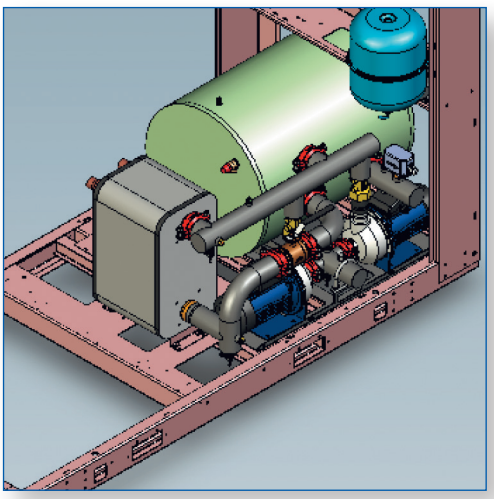
3P



1P + T

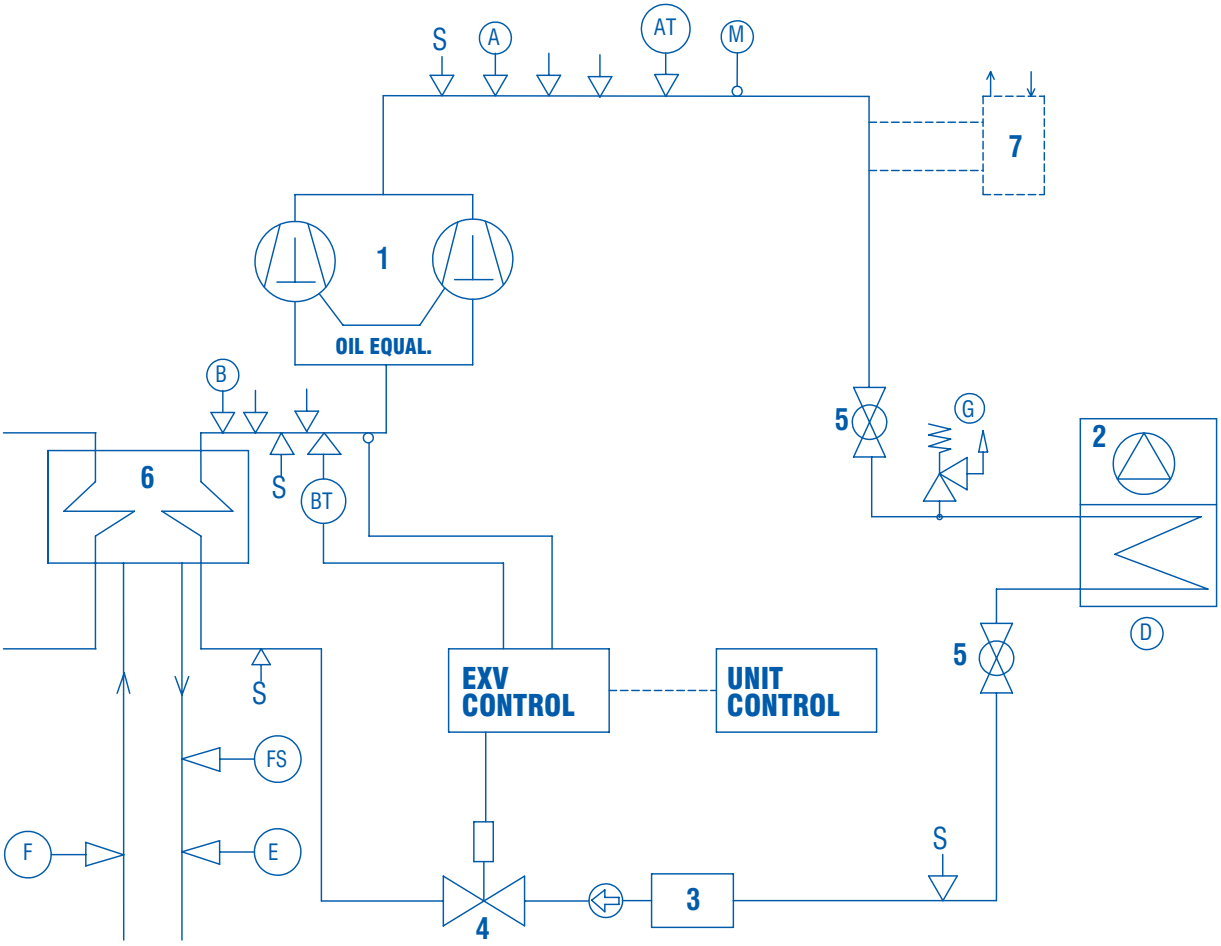


2P + T



All hydro options are supplied fitted inside the unit.

Refrigerant Flow Diagram - AQVL Units



COMPONENTS

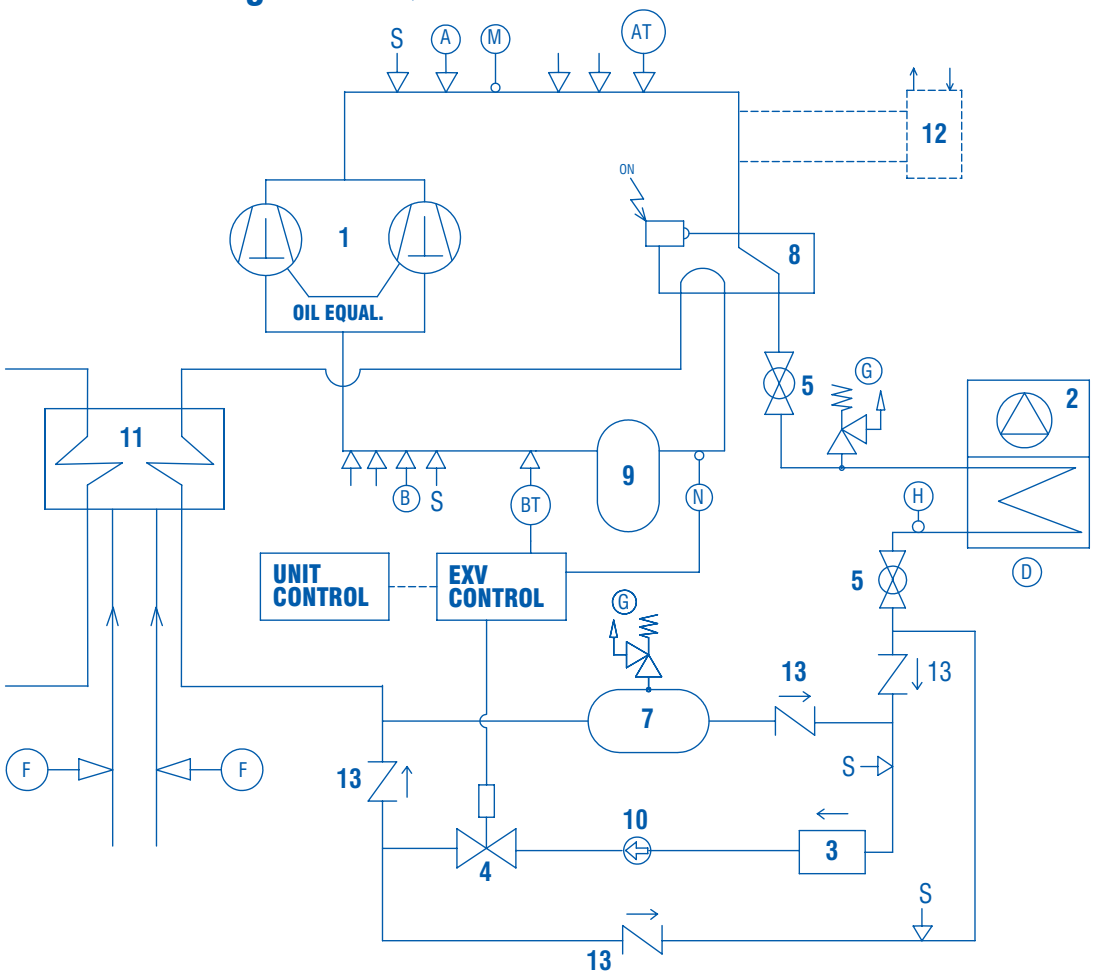
1	Compressor tandem scroll type
2	Air cooled condenser
3	Filter drier
4	Electronic expansion valve
5	Globe valve
6	Plate heat exchanger (Dual type)
7	Desuperheater (optional)

SAFETY/CONTROL DEVICES

A	High pressure switch
AT	High pressure transducer
B	Low pressure switch (1.5 bar)
BT	Low pressure transducer
FS	Water flow switch
D	Air temperature sensor
E	Outlet water temperature sensor
F	Inlet water temperature sensor
G	PED pressure relief valve
M	Discharge temperature sensor
S	5/16" shrader connection (service only)
	Pipe connection with shrader valve

Note: For reasons of readability, one circuit only is shown. The second circuit is identical.

Refrigerant Flow Diagram - AQVH Units



COMPONENTS

1	Compressor tandem scroll type
2	Air cooled condenser
3	Filter drier
4	Electronic expansion valve
5	Globe valve
7	Liquid receiver
8	Four-way valve
9	Suction accumulator
10	Sight glass
11	Plate heat exchanger (Dual type)
12	Desuperheater (optional)

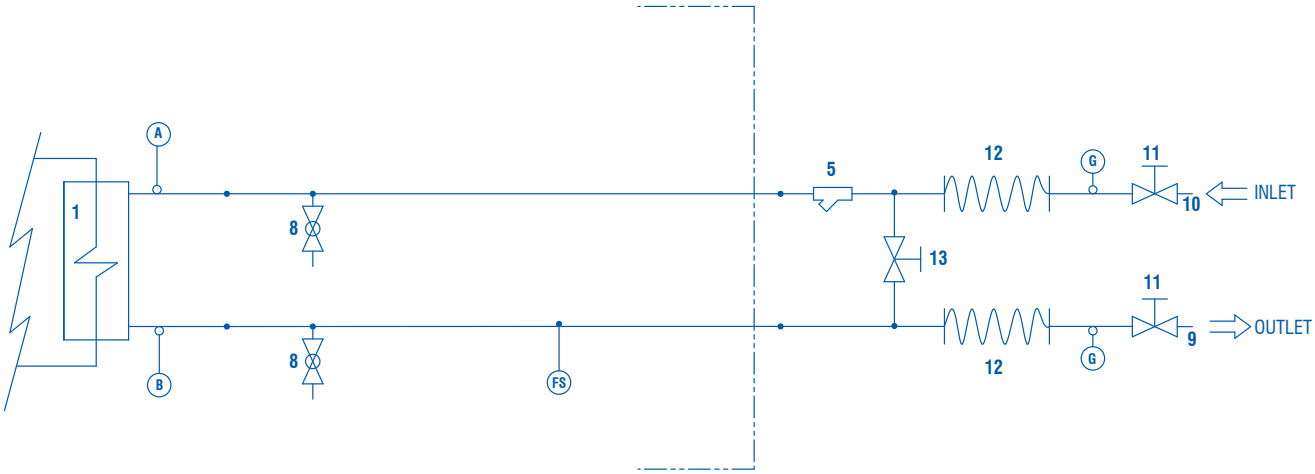
SAFETY/CONTROL DEVICES

A	High pressure switch
AT	High pressure transducer
B	Low pressure switch (1.5 bar)
BT	Low pressure transducer
FS	Water flow switch
D	Air temperature sensor
E	Outlet water temperature sensor
F	Inlet water temperature sensor
G	PED pressure relief valve
H	Defrost temperature sensor
M	Discharge temperature sensor
N	Suction temperature sensor
S	5/16" shrader connection (service only)
	Pipe connection with shrader valve

Note: For reasons of readability, one circuit only is shown. The second circuit is identical.

Hydraulic Circuit Diagram

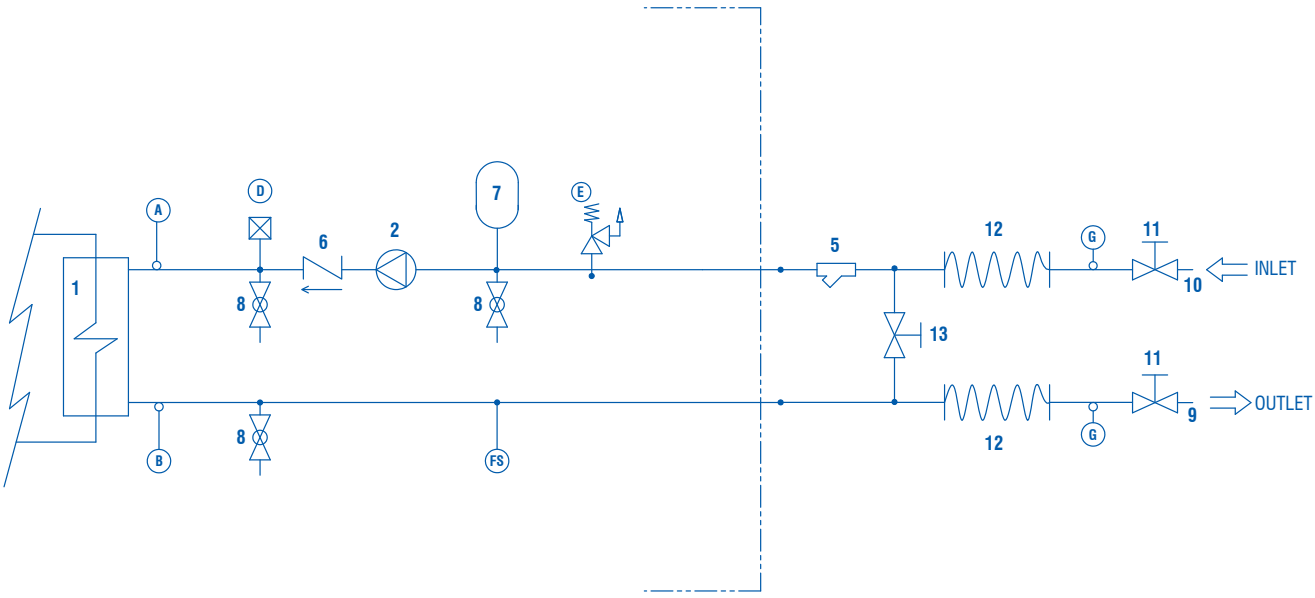
Basic unit



COMPONENTS
- **1** Plate heat exchanger
- **5** Water filter
- **8** Pressure point/drain valve
- **9** Water outlet
- **10** Water inlet
- **11** Globe valve
- **12** Flexible pipes
- **13** By-pass valve

SAFETY/CONTROL DEVICES
- **A** Inlet water temperature sensor
- **B** Outlet water temperature sensor
- **FS** Flow switch
- **G** Thermometer
- Unit side

1P unit

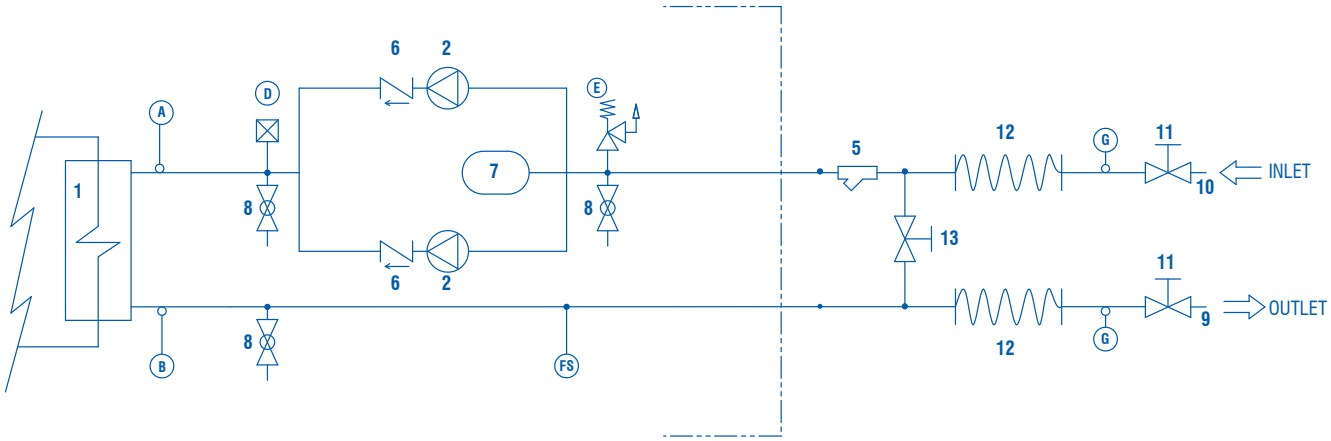


COMPONENTS
- **1** Plate heat exchanger
- **2** Pump
- **5** Water filter
- **7** Pressure expansion tank
- **8** Pressure point/drain valve
- **9** Water outlet
- **10** Water inlet
- **11** Globe valve
- **12** Flexible pipes
- **13** By-pass valve

SAFETY/CONTROL DEVICES
- **A** Inlet water temperature sensor
- **B** Outlet water temperature sensor
- **D** Vent valve
- **E** Water safety valve (6 bar)
- **FS** Flow switch
- **G** Thermometer
- Unit side

Hydraulic Circuit Diagram (continued)

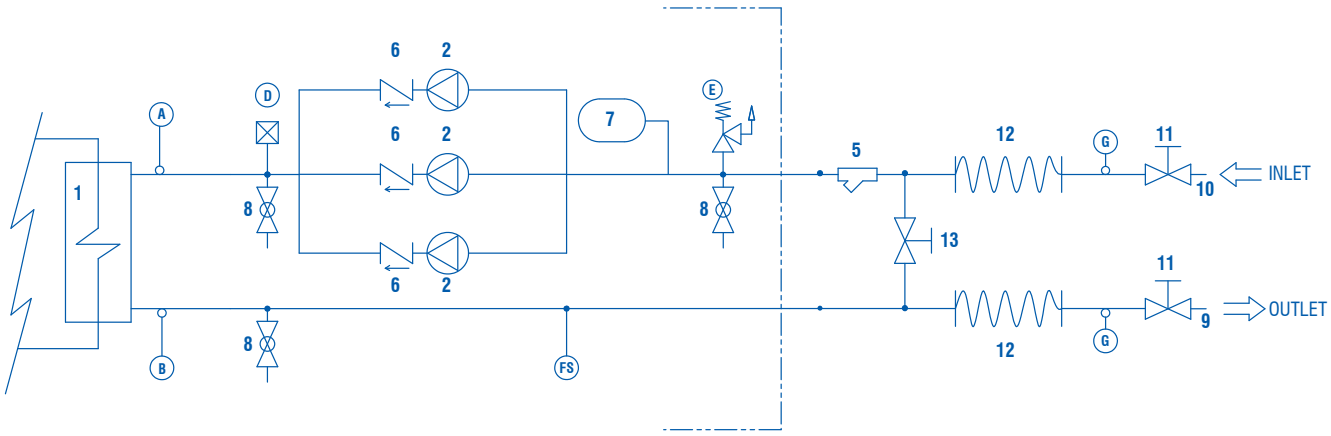
2P unit



COMPONENTS
1 Plate heat exchanger
2 Pump
5 Water filter
6 Non-return valve
7 Pressure expansion tank
8 Pressure point/drain valve
9 Water outlet
10 Water inlet
11 Globe valve
12 Flexible pipes
13 By-pass valve

SAFETY/CONTROL DEVICES
A Inlet water temperature sensor
B Outlet water temperature sensor
D Vent valve
E Water safety valve (6 bar)
FS Flow switch
G Thermometer
—·— Unit side

3P unit

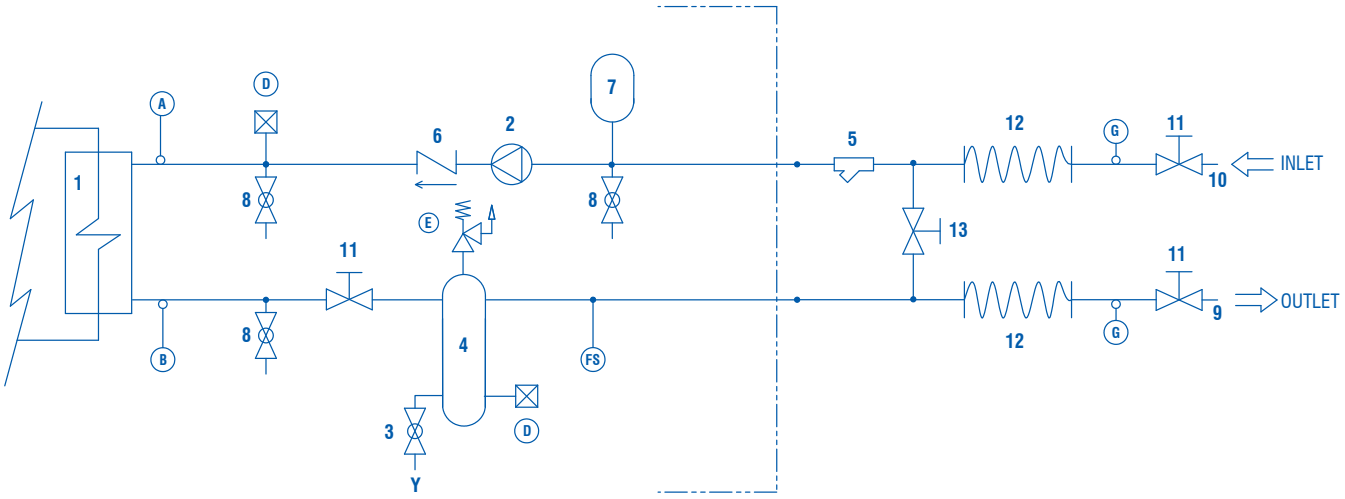


COMPONENTS
1 Plate heat exchanger
2 Pump
5 Water filter
6 Non-return valve
7 Pressure expansion tank
8 Pressure point/drain valve
9 Water outlet
10 Water inlet
11 Globe valve
12 Flexible pipes
13 By-pass valve

SAFETY/CONTROL DEVICES
A Inlet water temperature sensor
B Outlet water temperature sensor
D Vent valve
E Water safety valve (6 bar)
FS Flow switch
G Thermometer
—·— Unit side

Hydraulic Circuit Diagram (continued)

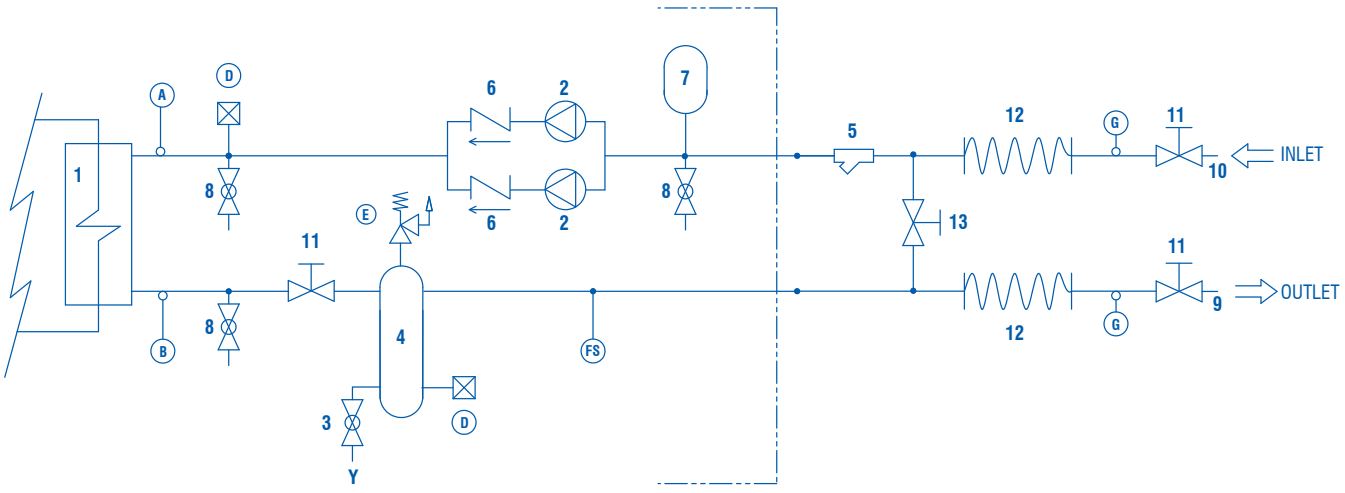
1P+T unit



COMPONENTS
1 Plate heat exchanger
2 Pump
3 Draining valve
4 Water buffer tank
5 Water filter
7 Pressure expansion tank
8 Pressure point/drain valve
9 Water outlet
10 Water inlet
11 Globe valve
12 Flexible pipes
13 By-pass valve

SAFETY/CONTROL DEVICES
A Inlet water temperature sensor
B Outlet water temperature sensor
D Vent valve
E Water safety valve (6 bar)
FS Flow switch
G Thermometer
—--- Unit side
Y Drainage water

2P+T unit

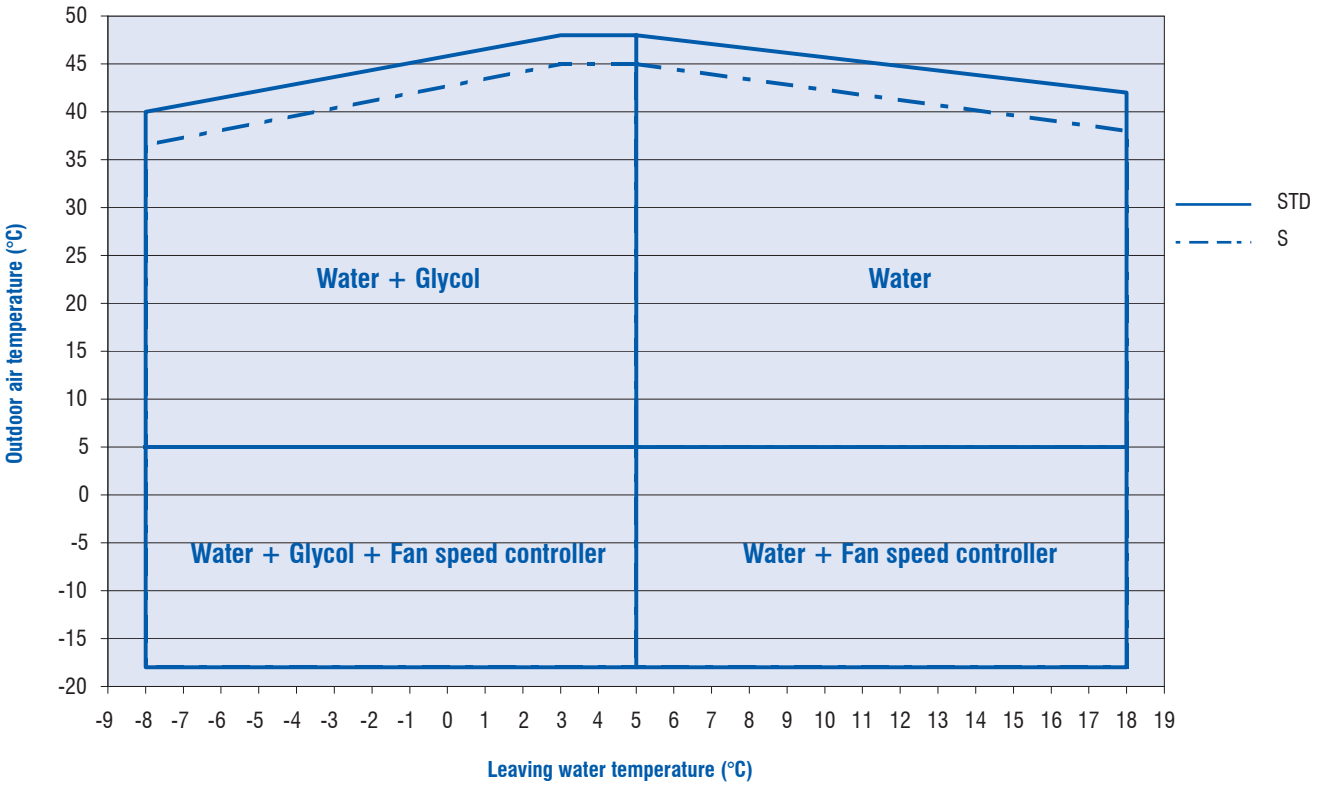


COMPONENTS
1 Plate heat exchanger
2 Pump
3 Draining valve
4 Water buffer tank
5 Water filter
7 Pressure expansion tank
8 Pressure point/drain valve
9 Water outlet
10 Water inlet
11 Globe valve
12 Flexible pipes
13 By-pass valve

SAFETY/CONTROL DEVICES
A Inlet water temperature sensor
B Outlet water temperature sensor
D Vent valve
E Water safety valve (6 bar)
FS Flow switch
G Thermometer
—--- Unit side
Y Drainage water

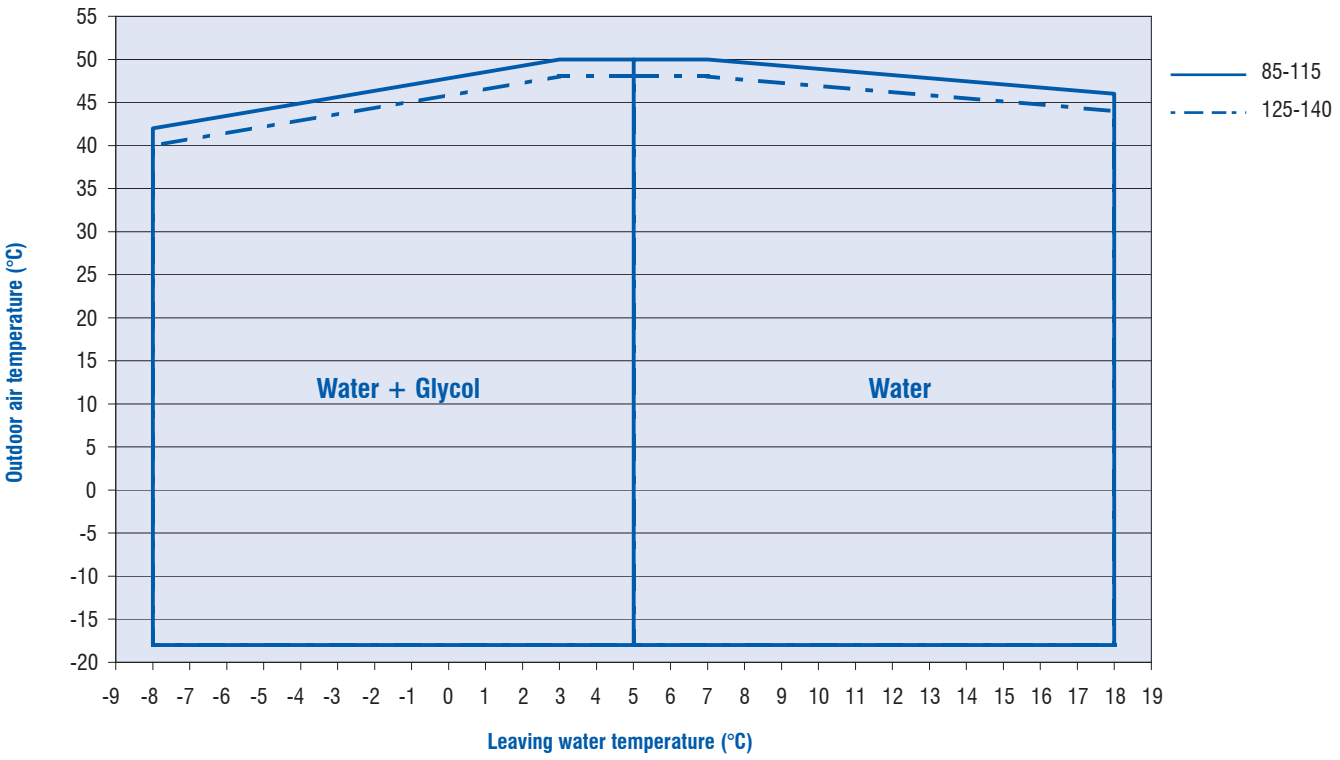
Operating Limits

AQVL/AQVH 85 to 140 - R410A - STD/S Version - Cooling



Notes :
Operating limits are referred to full load (4 compressors running).
Maximum %glycol (ethylenic or propilenic) : 40%

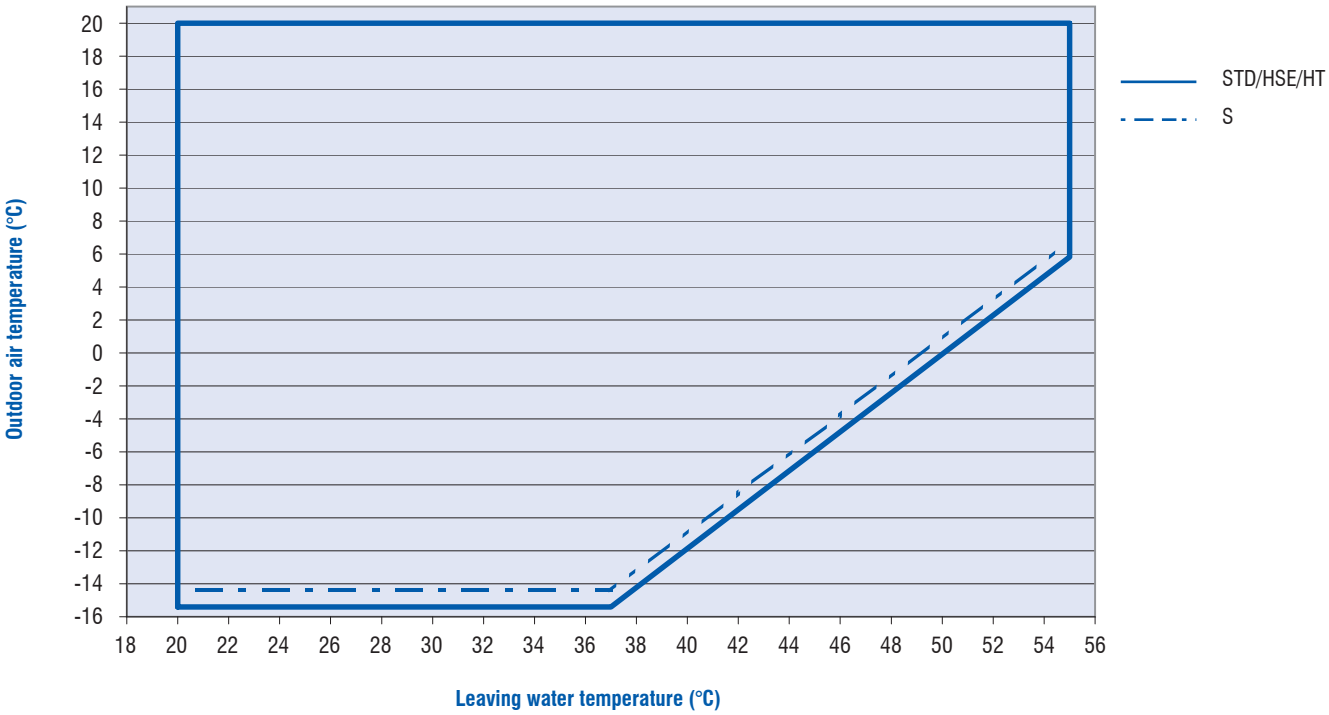
AQVL/AQVH 85 to 140 - R410A - HSE/HT Version - Cooling



Notes :
Operating limits are referred to full load (4 compressors running).
Maximum %glycol (ethylenic or propilenic) : 40%

Operating Limits (cont)

AQVL/AQVH 85 to 140 - R410A - STD/HSE/HT/S Version - Heating



Notes :
Operating limits are referred to full load (4 compressors running).
Maximum %glycol (ethylenic or propilenic) : 40%

Correction Factors

Fouling factors - Evaporator

Fouling factor (m².°C/kW)	Cooling capacity factor	Power input factor
0.044	1.000	1.000
0.088	0.987	0.995
0.176	0.964	0.985
0.352	0.915	0.962

Fouling factors - Condenser

Fouling factor (m².°C/kW)	Cooling capacity factor	Power input factor
0.044	1.000	1.000
0.088	0.987	1.023
0.176	0.955	1.068
0.352	0.910	1.135

Correction factors for water ΔT different from 5 K

Models	Water temperature in/out	Cooling capacity (kW)	Power input (kW)
AQVL - AQVH	17/7(10)	95%	98%
	14/7(7)	97%	99%
	12/7(5)	100%	100%
	10/7 (3)	103%	101%

Altitude factors

Altitude (m)	Cooling capacity factor	Power input factor
0	1.000	1.000
600	0.987	1.010
1200	0.973	1.020
1800	0.958	1.030
2400	0.943	1.040

Technical Data - AQVL 85 to 140 - R410A - STD/HSE/HPF - STD Version

AQVL Sizes - STD/HSE/HPF - STD Version		85	95	105	115	125	140
Cooling Capacity (1)	kW	83,3	93,3	102,4	110,1	121,9	136,6
Input Power (Compressor) (1)	kW	27,1	31	33,6	36,5	41,1	45,9
Total EER / Energy efficiency class (1)		3,08/B	3,01/B	3,05/B	3,02/B	2,97/B	2,97/B
SEER / η_{sc} (2)		4,55/ 179	4,8/ 189	4,78/ 188	4,8/ 189	4,73/ 186	4,53/ 178
Total EER / Energy eff. class (HSE/HPF) (1)		3,19/A	3,1/A	3,13/A	3,09/B	3,05/B	3,04/B
SEER (HSE/ HPF) / η_{sc} (HSE/ HPF) (2)		4,73/186	4,75/187	4,95/195	4,95/195	4,78/188	4,6/181
Number of Refrigerant Circuits		2	2	2	2	2	2
Part Load Steps	%	0-25-50-75-100	0-25-50-75-100	0-24-47-74-100	0-25-50-75-100	0-22-43-72-100	0-25-50-75-100
Power Supply		400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz
Startup Type		Direct	Direct	Direct	Direct	Direct	Direct
REFRIGERANT							
Type		R410A					
Charge	kg	17,6	19,7	21,6	23,2	25,7	28,8
COMPRESSOR							
Number		4	4	4	4	4	4
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Crankcase Heater	W	90	90	90	90	90	90
EVAPORATOR							
Number		1	1	1	1	1	1
Type		Plate	Plate	Plate	Plate	Plate	Plate
Water flow Rate	l/h	14377	16116	17681	19023	21033	23588
Water Pressure Drop	kPa	Refer to evaporator water pressure drop curve					
Antifreeze Heater	W	130	130	130	130	130	130
DESUPERHEATER							
Number		2	2	2	2	2	2
Type		Plate	Plate	Plate	Plate	Plate	Plate
Heat recovery	kW	21,6	24,4	26,8	28,9	31,9	35,9
Water flow rate	l/h	3721	4202	4604	4970	5486	6167
Water Pressure Drop	kPa	Refer to desuperheater water pressure drop					
COIL							
Number		2	2	2	2	2	2
Frontal Surface	l x a	2000 x 1200	2000 x 1200	2000 x 1200	2000 x 1200	2600 x 1200	2600 x 1200
FANS							
Number		2	2	2	2	2	2
Air Flow Rate	m^3/h	34000	34000	33200	32400	44000	42800
Speed	rpm	690	690	690	690	900	900
Input Power	kW	2,1	2,1	2,1	2,1	3,4	3,4
Input Power HSE	kW	1,2	1,2	1,2	1,2	2,4	2,4
Input Power HPF	kW	3,6	3,6	3,6	3,6	4,6	4,6
WATER CONNECTIONS (EVAPORATOR)							
Type		Male GAS Threaded					
Inlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
Outlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
WATER CONNECTIONS (DESUPERHEATER)							
Type		Male GAS Threaded					
Inlet Diameter	inch	1"	1"	1"	1"	1"	1"
Outlet Diameter	inch	1"	1"	1"	1"	1"	1"
WEIGHT							
Shipping Weight	kg	1033	1047	1084	1116	1151	1230
Operating Weight	kg	1058	1072	1111	1143	1183	1262
DIMENSIONS							
Length	mm	2555	2555	2555	2555	3155	3155
Width (transport only)	mm	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)
Height	mm	2185	2185	2185	2185	2185	2185
ACOUSTIC DATA							
Sound Power Level (3)	dB(A)	85	85	85	85	89	89
Sound Pressure Level (4)	dB(A)	53	53	53	53	57	57
Sound Power Level HPF (3)	dB(A)	92	92	92	92	95	95
Sound Pressure Level HPF (4)	dB(A)	60	60	60	60	63	63

(1) According EN14511: chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
(2) According EN14825 and following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers <400kW.
(3) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.
(4) Sound pressure calculated at 10 m. Sound pressure levels refer to ISO standard 3744 with parallepiped shape.

Technical Data - AQVL 85 to 140 - R410A - STD/HSE - S Version

AQVL Sizes - STD/HSE - S Version		85	95	105	115	125	140
Cooling Capacity (1)	kW	80,6	89,9	98,3	105,4	119,1	133,1
Input Power (Compressor) (1)	kW	28	32,6	35,5	38,6	41,1	46,5
Total EER / Energy efficiency class (1)		2,87/C	2,76/C	2,77/C	2,73/C	2,9/B	2,86/C
SEER / η_{sc} (2)		4,75/ 187	4,78/ 188	4,98/ 196	5,0/ 197	4,8/ 189	4,6/ 181
Total EER / Energy eff. class(HSE) (1)		3,00/B	2,87/C	2,87/C	2,81/C	2,96/B	2,91/B
SEER (HSE) / η_{sc} (HSE) (2)		4,8/ 189	4,75/ 187	4,88/ 192	4,88/192	4,9/193	4,7/185
Number of Refrigerant Circuits		2	2	2	2	2	2
Part Load Steps	%	0-25-50-75-100	0-25-50-75-100	0-24-47-74-100	0-25-50-75-100	0-22-43-72-100	0-25-50-75-100
Power Supply		400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz
Startup Type		Direct	Direct	Direct	Direct	Direct	Direct
REFRIGERANT							
Type				R410A			
Charge	kg	17,0	19,0	20,7	22,2	25,1	28,1
COMPRESSOR							
Number		4	4	4	4	4	4
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Crankcase Heater	W	90	90	90	90	90	90
EVAPORATOR							
Number		1	1	1	1	1	1
Type		Plate	Plate	Plate	Plate	Plate	Plate
Water flow Rate	l/h	13906	15532	16971	18204	20550	22988
Water Pressure Drop	kPa	Refer to evaporator water pressure drop curve					
Antifreeze Heater	W	130	130	130	130	130	130
DESUPERHEATER							
Number		2	2	2	2	2	2
Type		Plate	Plate	Plate	Plate	Plate	Plate
Heat recovery	kW	21,4	24,1	26,4	28,5	31,6	35,5
Water flow rate	l/h	3677	4152	4540	4894	5438	6108
Water Pressure Drop	kPa	Refer to desuperheater water pressure drop					
COIL							
Number		2	2	2	2	2	2
Frontal Surface	l x a	2000 x 1200	2000 x 1200	2000 x 1200	2000 x 1200	2600 x 1200	2600 x 1200
FANS							
Number		2	2	2	2	2	2
Air Flow Rate	m^3/h	25200	25200	24600	24000	36500	35000
Speed	rpm	500	500	500	500	690	690
Input Power	kW	1,8	1,8	1,8	1,8	2,1	2,1
Input Power HSE	kW	0,6	0,6	0,6	0,6	1,2	1,2
WATER CONNECTIONS (EVAPORATOR)							
Type				Male GAS Threaded			
Inlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
Outlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
WATER CONNECTIONS (DESUPERHEATER)							
Type				Male GAS Threaded			
Inlet Diameter	inch	1"	1"	1"	1"	1"	1"
Outlet Diameter	inch	1"	1"	1"	1"	1"	1"
WEIGHT							
Shipping Weight	kg	1063	1077	1114	1146	1181	1260
Operating Weight	kg	1088	1102	1141	1173	1213	1292
DIMENSIONS							
Length	mm	2555	2555	2555	2555	3155	3155
Width (transport only)	mm	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)
Height	mm	2185	2185	2185	2185	2185	2185
ACOUSTIC DATA							
Sound Power Level (3)	dB(A)	82	82	82	82	86	86
Sound Pressure Level (4)	dB(A)	50	50	50	50	54	54

(1) According EN14511: chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
(2) According EN14825 and Following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers <400kW.
(3) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.
(4) Sound pressure calculated at 10 m. Sound pressure levels refer to ISO standard 3744 with parallepiped shape.

Technical Data - AQVL 85 to 140 - R410A - HT

AQVL Sizes - HT		85	95	105	115	125	140
Cooling Capacity (1)	kW	86,2	96,9	107	115	124	139
Input Power (Compressor) (1)	kW	28,1	31,6	33,9	36,4	41,1	46
Total EER (1)		3,19	3,1	3,13	3,09	3,05	3,04
SEER / η_{sc} (2)		4,73/186	4,75/187	4,95/195	4,95/195	4,78/188	4,6/181
Number of Refrigerant Circuits		2	2	2	2	2	2
Part Load Steps	%	0-25-50-75-100	0-25-50-75-100	0-24-47-74-100	0-25-50-75-100	0-22-43-72-100	0-25-50-75-100
Power Supply		400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz
Startup Type		Direct	Direct	Direct	Direct	Direct	Direct
REFRIGERANT							
Type				R410A			
Charge	kg	18	20	22	24	26	29
COMPRESSOR							
Number		4	4	4	4	4	4
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Crankcase Heater	W	90	90	90	90	90	90
EVAPORATOR							
Number		1	1	1	1	1	1
Type		Plate	Plate	Plate	Plate	Plate	Plate
Water flow Rate	l/h	14835	16680	18381	19838	21427	24014
Water Pressure Drop	kPa	Refer to evaporator water pressure drop curve					
Antifreeze Heater	W	130	130	130	130	130	130
DESUPERHEATER							
Number		2	2	2	2	2	2
Type		Plate	Plate	Plate	Plate	Plate	Plate
Heat recovery	kW	21,9	24,7	27,2	29,3	32,1	36,1
Water flow rate	l/h	3766	4253	4671	5047	5526	6209
Water pressure drop	kPa	Refer to desuperheater water pressure drop curve					
COIL							
Number		2	2	2	2	2	2
Frontal Surface	l x a	2000 x 1200	2000 x 1200	2000 x 1200	2000 x 1200	2600 x 1200	2600 x 1200
FANS							
Number		2	2	2	2	2	2
Air Flow Rate	m^3/h	49700	49700	48950	48200	52200	50700
Speed	rpm	1130	1130	1130	1130	1130	1130
Input Power	kW	4,6	4,6	4,6	4,6	4,6	4,6
WATER CONNECTIONS (EVAPORATOR)							
Type				Male GAS Threaded			
Inlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
Outlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
WATER CONNECTIONS (DESUPERHEATER)							
Type				Male GAS Threaded			
Inlet Diameter	inch	1"	1"	1"	1"	1"	1"
Outlet Diameter	inch	1"	1"	1"	1"	1"	1"
WEIGHT							
Shipping Weight	kg	1033	1047	1084	1116	1151	1230
Operating Weight	kg	1058	1072	1111	1143	1183	1262
DIMENSIONS							
Length	mm	2555	2555	2555	2555	3155	3155
Width (transport only)	mm	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)
Height	mm	2185	2185	2185	2185	2185	2185
ACOUSTIC DATA							
Sound Power Level (3)	dB(A)	95	95	95	95	95	95
Sound Pressure Level (4)	dB(A)	63	63	63	63	63	63

(1) According EN14511: chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
(2) According EN14825 and following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers <400kW.
(3) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.
(4) Sound pressure calculated at 10 m. Sound pressure levels refer to ISO standard 3744 with parallepiped shape.

Technical Data - AQVH 85 to 140 - R410A - STD/HSE/HPF - STD Version

AQVH Sizes - STD/HSE/HPF - STD Version		85	95	105	115	125	140
Cooling Capacity (1)	kW	81	89,9	98,9	106,9	115,8	129,2
Input Power (Compressor) (1)	kW	27,5	31,5	34,2	36,9	41,8	46,5
Total EER / Energy efficiency class (1)		2,95/B	2,85/C	2,89/B	2,89/C	2,77/C	2,78/C
SEER / η_{sc} (2)		4,25/167	4,68/184	4,63/182	4,17/164	4,33/170	4,28/168
Total EER / Energy eff. class (HSE/HPF) (1)		3,05/B	2,94/B	2,97/B	2,96/B	2,84/C	2,84/C
SEER (HSE/ HPF) / η_{sc} (HSE/ HPF) (2)		4,6/181	5,03/198	4,95/195	4,55/179	4,6/181	4,5/177
Heating Capacity (3)	kW	91,8	102,8	110	119	134	146,9
Input Power (Compressor) (3)	kW	26,84	30,5	32,2	35,2	40,9	44,8
Total COP (3)		3,42	3,37	3,42	3,38	3,28	3,28
Total COP (HSE/HPF) (3)		3,54	3,47	3,52	3,47	3,36	3,36
SCOP / η_{sh} (4)		3,61/141	3,64/143	3,78/148	3,77/148	3,47/136	3,54/139
Number of Refrigerant Circuits		2	2	2	2	2	2
Part Load Steps	%	0-25-50-75-100	0-25-50-75-100	0-24-47-74-100	0-25-50-75-100	0-22-43-72-100	0-25-50-75-100
Power Supply		400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz
Startup Type		Direct	Direct	Direct	Direct	Direct	Direct
REFRIGERANT							
Type				R410A			
Charge	kg	21,1	23,4	25,8	27,9	30,2	33,7
COMPRESSOR							
Number		4	4	4	4	4	4
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Crankcase Heater	W	90	90	90	90	90	90
EVAPORATOR							
Number		1	1	1	1	1	1
Type		Plate	Plate	Plate	Plate	Plate	Plate
Water flow Rate	l/h	13967	15508	17060	18431	19987	22288
Water Pressure Drop	kPa	Refer to evaporator water pressure drop curve					
Antifreeze Heater	W	130	130	130	130	130	130
DESUPERHEATER							
Number		2	2	2	2	2	2
Type		Plate	Plate	Plate	Plate	Plate	Plate
Heat recovery	kW	21,3	23,9	26,2	28,3	30,8	34,4
Water flow rate	l/h	3657	4103	4505	4873	5306	5922
Water Pressure Drop	kPa	Refer to desuperheater water pressure drop					
COIL							
Number		2	2	2	2	2	2
Frontal Surface	l x a	2000 x 1200	2000 x 1200	2000 x 1200	2000 x 1200	2600 x 1200	2600 x 1200
FANS							
Number		2	2	2	2	2	2
Air Flow Rate	m^3/h	34700	34700	34050	33400	44500	43200
Speed	rpm	690	690	690	690	900	900
Input Power	kW	2,1	2,1	2,1	2,1	3,4	3,4
Input Power HSE	kW	1,2	1,2	1,2	1,2	2,4	2,4
Input Power HPF	kW	3,6	3,6	3,6	3,6	4,6	4,6
WATER CONNECTIONS (EVAPORATOR)							
Type				Male GAS Threaded			
Inlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
Outlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
WATER CONNECTIONS (DESUPERHEATER)							
Type				Male GAS Threaded			
Inlet Diameter	inch	1"	1"	1"	1"	1"	1"
Outlet Diameter	inch	1"	1"	1"	1"	1"	1"
WEIGHT							
Shipping Weight	kg	1065	1080	1122	1153	1196	1270
Operating Weight	kg	1090	1105	1149	1180	1227	1301
DIMENSIONS							
Length	mm	2555	2555	2555	2555	3155	3155
Width (transport only)	mm	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)
Height	mm	2185	2185	2185	2185	2185	2185
ACOUSTIC DATA							
Sound Power Level (5)	dB(A)	85	85	85	85	89	89
Sound Pressure Level (6)	dB(A)	53	53	53	53	57	57
Sound Power Level HPF (5)	dB(A)	92	92	92	92	95	95
Sound Pressure Level HPF (6)	dB(A)	60	60	60	60	63	63

(1) According EN14511: chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
(2) According EN14825 and following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers <400kW.
(3) According EN14511: warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.
(4) According EN14825 and following COMMISSION REGULATION (EU) No 813/2013 for low-temperature heat pumps.
(5) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.
(6) Sound pressure calculated at 10 m. Sound pressure levels refer to ISO standard 3744 with parallepiped shape.

Technical Data - AQVH 85 to 140 - R410A - STD/HSE - S Version

AQVH Sizes - STD/HSE - S Version		85	95	105	115	125	140
Cooling Capacity (1)	kW	78,4	86,7	95,1	102	112	124,6
Input Power (Compressor) (1)	kW	28,6	33,2	36	39,1	43,1	47,6
Total EER / Energy efficiency class (1)		2,75/C	2,61/D	2,64/D	2,62/D	2,61/D	2,63/D
SEER / η_{sc} (2)		4,25/167	4,68/184	4,63/182	4,17/164	4,33/170	4,28/168
Total EER / Energy eff. class (HSE) (1)		2,84/C	2,69/D	2,71/C	2,69/D	2,65/D	2,67/D
SEER (HSE) / η_{sc} (HSE) (2)		4,6/181	5,03/198	4,95/195	4,55/179	4,6/181	4,5/177
Heating Capacity (3)	kW	89,5	99,8	108	115	129	142
Input Power (Compressor) (3)	kW	26,4	30,1	32	34,7	39,3	43
Total COP (3)		3,39	3,32	3,36	3,32	3,29	3,3
Total COP (HSE) (3)		3,55	3,46	3,5	3,45	3,38	3,38
SCOP / η_{sh} (4)		3,61/141	3,64/143	3,78/148	3,77/148	3,47/136	3,54/139
Number of Refrigerant Circuits		2	2	2	2	2	2
Part Load Steps	%	0-25-50-75-100	0-25-50-75-100	0-24-47-74-100	0-25-50-75-100	0-22-43-72-100	0-25-50-75-100
Power Supply		400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz
Startup Type		Direct	Direct	Direct	Direct	Direct	Direct
REFRIGERANT							
Type		R410A					
Charge	kg	20,4	22,6	24,7	26,7	29,2	32,5
COMPRESSOR							
Number		4	4	4	4	4	4
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Crankcase Heater	W	90	90	90	90	90	90
EVAPORATOR							
Number		1	1	1	1	1	1
Type		Plate	Plate	Plate	Plate	Plate	Plate
Water flow Rate	l/h	13496	14924	16355	17632	19349	21508
Water Pressure Drop	kPa	Refer to evaporator water pressure drop curve					
Antifreeze Heater	W	130	130	130	130	130	130
DESUPERHEATER							
Number		2	2	2	2	2	2
Type		Plate	Plate	Plate	Plate	Plate	Plate
Heat recovery	kW	21,0	23,6	25,8	27,9	30,7	34,0
Water flow rate	l/h	3614	4056	4442	4801	5273	5854
Water Pressure Drop	kPa	Refer to desuperheater water pressure drop					
COIL							
Number		2	2	2	2	2	2
Frontal Surface	l x a	2000 x 1200	2000 x 1200	2000 x 1200	2000 x 1200	2600 x 1200	2600 x 1200
FANS							
Number		2	2	2	2	2	2
Air Flow Rate	m^3/h	25800	25800	25300	24800	36900	35800
Speed	rpm	500	500	500	500	690	690
Input Power	kW	1,8	1,8	1,8	1,8	2,1	2,1
Input Power HSE	kW	0,6	0,6	0,6	0,6	1,2	1,2
WATER CONNECTIONS (EVAPORATOR)							
Type		Male GAS Threaded					
Inlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
Outlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
WATER CONNECTIONS (DESUPERHEATER)							
Type		Male GAS Threaded					
Inlet Diameter	inch	1"	1"	1"	1"	1"	1"
Outlet Diameter	inch	1"	1"	1"	1"	1"	1"
WEIGHT							
Shipping Weight	kg	1095	1110	1152	1183	1226	1300
Operating Weight	kg	1120	1135	1179	1210	1257	1331
DIMENSIONS							
Length	mm	2555	2555	2555	2555	3155	3155
Width (transport only)	mm	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)
Height	mm	2185	2185	2185	2185	2185	2185
ACOUSTIC DATA							
Sound Power Level (5)	dB(A)	82	82	82	82	86	86
Sound Pressure Level (6)	dB(A)	50	50	50	50	54	54

(1) According EN14511: chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
(2) According EN14825 and following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers <400kW.
(3) According EN14511: warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.
(4) According EN14825 and Following COMMISSION REGULATION (EU) No 813/2013 for low-temperature heat pumps.
(5) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.
(6) Sound pressure calculated at 10 m. Sound pressure levels refer to ISO standard 3744 with parallepiped shape.

Technical Data - AQVH 85 to 140 - R410A - HT

AQVH Sizes - HT		85	95	105	115	125	140
Cooling Capacity (1)	kW	83,5	93,4	104	112	118	132
Input Power (Compressor) (1)	kW	28,4	32	34,4	37	42	46,2
Total EER (1)		2,94	2,9	3,02	3,02	2,8	2,85
SEER / η_{sc} (2)		4,6/181	5,03/198	4,95/195	4,55/179	4,6/181	4,5/177
Heating Capacity (3)	kW	93,4	104,9	113,7	121,9	135	148
Input Power (Compressor) (3)	kW	29,4	33,1	35	37,8	42,2	46,1
Total COP (3)		3,18	3,17	3,25	3,23	3,21	3,21
SCOP / η_{sh} (4)		3,99/157	3,96/155	4,12/162	4,07/160	3,73/146	3,77/148
Number of Refrigerant Circuits		2	2	2	2	2	2
Part Load Steps	%	0-25-50-75-100	0-25-50-75-100	0-24-47-74-100	0-25-50-75-100	0-22-43-72-100	0-25-50-75-100
Power Supply		400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz	400V/3/50Hz
Startup Type		Direct	Direct	Direct	Direct	Direct	Direct
REFRIGERANT							
Type				R410A			
Charge	kg	22	24	27	29	31	34
COMPRESSOR							
Number		4	4	4	4	4	4
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Crankcase Heater	W	90	90	90	90	90	90
EVAPORATOR							
Number		1	1	1	1	1	1
Type		Plate	Plate	Plate	Plate	Plate	Plate
Water flow Rate	l/h	14371	16073	17847	19219	20291	22718
Water Pressure Drop	kPa	Refer to evaporator water pressure drop curve					
Antifreeze Heater	W	130	130	130	130	130	130
DESUPERHEATER							
Number		2	2	2	2	2	2
Type		Plate	Plate	Plate	Plate	Plate	Plate
Heat recovery	kW	21,4	24,1	26,7	28,8	31,0	34,7
Water flow rate	l/h	3688	4150	4586	4946	5332	5962
Water pressure drop	kPa	Refer to desuperheater water pressure drop curve					
COIL							
Number		2	2	2	2	2	2
Frontal Surface	l x a	2000x1200	2000x1200	2000x1200	2000x1200	2600x1200	2600x1200
FANS							
Number		2	2	2	2	2	2
Air Flow Rate	m^3/h	50700	50700	49700	48700	52700	51700
Speed	rpm	1130	1130	1130	1130	1130	1130
Input Power	kW	4,6	4,6	4,6	4,6	4,6	4,6
WATER CONNECTIONS (EVAPORATOR)							
Type				Male GAS Threaded			
Inlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
Outlet Diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
WATER CONNECTIONS (DESUPERHEATER)							
Type				Male GAS Threaded			
Inlet Diameter	inch	1"	1"	1"	1"	1"	1"
Outlet Diameter	inch	1"	1"	1"	1"	1"	1"
WEIGHT							
Shipping Weight	kg	1065	1080	1122	1153	1196	1270
Operating Weight	kg	1090	1105	1149	1180	1227	1301
DIMENSIONS							
Length	mm	2555	2555	2555	2555	3155	3155
Width (transport only)	mm	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)	1095 (1250)
Height	mm	2185	2185	2185	2185	2185	2185
ACOUSTIC DATA							
Sound Power Level (5)	dB(A)	95	95	95	95	95	95
Sound Pressure Level (6)	dB(A)	63	63	63	63	63	63

(1) According EN14511: chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
(2) According EN14825 and following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers <400kW.
(3) According EN14511: warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.
(4) According EN14825 and Following COMMISSION REGULATION (EU) No 813/2013 for low-temperature heat pumps.
(5) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.
(6) Sound pressure calculated at 10 m. Sound pressure levels refer to ISO standard 3744 with parallepiped shape.

HPF Version Fan Performance Data

AQVL/AQVH Sizes	Fan Static Pressure (Pa)	Fan RPM	Parameter in Service Level Max Speed (Vdc)	Sound Power Level dB(A)
85	40	880	8.2	88
	60	920	8.5	89
	80	950	8.7	90
	100	990	9.0	91
	120	1030	9.3	92
95	40	880	8.2	88
	60	920	8.5	89
	80	950	8.7	90
	100	990	9.0	91
	120	1030	9.3	92
105	40	870	8.1	88
	60	910	8.4	89
	80	950	8.7	90
	100	990	9.0	91
	120	1030	9.3	92
115	40	870	8.1	88
	60	910	8.4	89
	80	950	8.7	90
	100	990	9.0	91
	120	1030	9.3	92
125	40	1000	9.1	91
	60	1030	9.3	92
	80	1070	9.6	93
	100	1100	9.8	94
	120	1130	10.0	95
140	40	1000	9.1	91
	60	1030	9.3	92
	80	1060	9.5	93
	100	1090	9.7	94
	120	1130	10.0	95

Electrical Data - AQVL/AQVH 85 to 140 - R410A - STD Units

Compressor data - 400 V/3Ph/50Hz

			NOMINAL		MAX		Istartup LRA (A)	Power factor coefficient (NOM)
			Pnom (kW)	Inom (A)	Pmax (kW)	Imax FLA (A)		
AQVL/AQVH 85	Circuit 1	COMP 1	6.3	11.3	9.1	16	95	0.8
		COMP 2	6.3	11.3	9.1	16	95	0.8
	Circuit 2	COMP 1	6.3	11.3	9.1	16	95	0.8
		COMP 2	6.3	11.3	9.1	16	95	0.8
AQVL/AQVH 95	Circuit 1	COMP 1	7.1	12.7	10.2	21	111	0.8
		COMP 2	7.1	12.7	10.2	21	111	0.8
	Circuit 2	COMP 1	7.1	12.7	10.2	21	111	0.8
		COMP 2	7.1	12.7	10.2	21	111	0.8
AQVL/AQVH 105	Circuit 1	COMP 1	8.3	15.3	12.0	22	118	0.8
		COMP 2	8.3	15.3	12.0	22	118	0.8
	Circuit 2	COMP 1	7.1	12.7	10.2	21	111	0.8
		COMP 2	7.1	12.7	10.2	21	111	0.8
AQVL/AQVH 115	Circuit 1	COMP 1	8.3	15.3	12.0	22	118	0.8
		COMP 2	8.3	15.3	12.0	22	118	0.8
	Circuit 2	COMP 1	8.3	15.3	12.0	22	118	0.8
		COMP 2	8.3	15.3	12.0	22	118	0.8
AQVL/AQVH 125	Circuit 1	COMP 1	10.5	19.1	14.8	31	140	0.8
		COMP 2	8.3	15.3	12.0	22	118	0.8
	Circuit 2	COMP 1	10.5	19.1	14.8	31	140	0.8
		COMP 2	8.3	15.3	12.0	22	118	0.8
AQVL/AQVH 140	Circuit 1	COMP 1	10.5	19.1	14.8	31	140	0.8
		COMP 2	10.5	19.1	14.8	31	140	0.8
	Circuit 2	COMP 1	10.5	19.1	14.8	31	140	0.8
		COMP 2	10.5	19.1	14.8	31	140	0.8

Fan data - 400 V/3Ph/50Hz - STD Version

Sizes	Number of fans	Pmax per fan (kW)	Imax per fan FLA(A)	Total fan power (kW)	Total fan max. current (A)
AQVL/AQVH 85	2	1.2	2.2	2.4	4.5
AQVL/AQVH 95	2	1.2	2.2	2.4	4.5
AQVL/AQVH 105	2	1.2	2.2	2.4	4.5
AQVL/AQVH 115	2	1.2	2.2	2.4	4.5
AQVL/AQVH 125	2	1.9	3.9	3.9	7.8
AQVL/AQVH 140	2	1.9	3.9	3.9	7.8

Fan data - 400 V/3Ph/50Hz - S Version

Sizes	Number of fans	Pmax per fan (kW)	Imax per fan FLA(A)	Total fan power (kW)	Total fan max. current (A)
AQVL/AQVH 85	2	1.2	2.2	2.4	4.5
AQVL/AQVH 95	2	1.2	2.2	2.4	4.5
AQVL/AQVH 105	2	1.2	2.2	2.4	4.5
AQVL/AQVH 115	2	1.2	2.2	2.4	4.5
AQVL/AQVH 125	2	1.2	2.2	2.4	4.5
AQVL/AQVH 140	2	1.2	2.2	2.4	4.5

Electrical Data - AQVL/AQVH 85 to 140 - R410A - STD Units (cont)

Units - 400 V/3Ph/50Hz - STD Version

Sizes		AQVL/AQVH 85	AQVL/AQVH 95	AQVL/AQVH 105	AQVL/AQVH 115	AQVL/AQVH 125	AQVL/AQVH 140
Power input (kW)	Nominal	27.4	30.6	33.1	35.5	41.4	45.9
	Maximum	38.8	43.2	46.7	50.2	57.3	62.9
Current input (A)	Nominal	49.8	55.3	60.4	65.5	76.5	84.2
	Maximum	68.5	88.5	90.5	92.5	113.8	131.8
Start-up current (A)		147.5	178.5	186.5	188.5	223	241

Units - 400 V/3Ph/50Hz - S Version

Sizes		AQVL/AQVH 85	AQVL/AQVH 95	AQVL/AQVH 105	AQVL/AQVH 115	AQVL/AQVH 125	AQVL/AQVH 140
Power input (kW)	Nominal	27.4	30.6	33.1	35.5	40.0	44.4
	Maximum	38.8	43.2	46.7	50.2	55.8	61.4
Current input (A)	Nominal	49.8	55.3	60.4	65.5	73.2	80.9
	Maximum	68.5	88.5	90.5	92.5	110.5	128.5
Start-up current (A)		147	178	186	188	219	237

Pumps - 400 V/3Ph/50Hz

Sizes	1/2 pumps		3 pumps	
	Absorbed power (kW)	Absorbed current (A)	Absorbed power (kW)	Absorbed current (A)
AQVL/AQVH 85	1.99	3.65	1.43	2.70
AQVL/AQVH 95	1.99	3.65	1.43	2.70
AQVL/AQVH 105	1.99	3.65	1.43	2.70
AQVL/AQVH 115	2.47	4.98	1.84	3.49
AQVL/AQVH 125	2.47	4.98	1.84	3.49
AQVL/AQVH 140	2.47	4.98	1.84	3.49

Electrical Data - AQVL/AQVH 85 to 140 - R410A - HSE/HPF/HT Units

Compressor data - 400 V/3Ph/50Hz

			NOMINAL		MAX		Istartup LRA (A)	Power factor coefficient (NOM)
			Pnom (kW)	Inom (A)	Pmax (kW)	Imax FLA (A)		
AQVL/AQVH 85	Circuit 1	COMP 1	6.3	11.3	9.1	16	95	0.8
		COMP 2	6.3	11.3	9.1	16	95	0.8
	Circuit 2	COMP 1	6.3	11.3	9.1	16	95	0.8
		COMP 2	6.3	11.3	9.1	16	95	0.8
AQVL/AQVH 95	Circuit 1	COMP 1	7.1	12.7	10.2	21	111	0.8
		COMP 2	7.1	12.7	10.2	21	111	0.8
	Circuit 2	COMP 1	7.1	12.7	10.2	21	111	0.8
		COMP 2	7.1	12.7	10.2	21	111	0.8
AQVL/AQVH 105	Circuit 1	COMP 1	8.3	15.3	12.0	22	118	0.8
		COMP 2	8.3	15.3	12.0	22	118	0.8
	Circuit 2	COMP 1	7.1	12.7	10.2	21	111	0.8
		COMP 2	7.1	12.7	10.2	21	111	0.8
AQVL/AQVH 115	Circuit 1	COMP 1	8.3	15.3	12.0	22	118	0.8
		COMP 2	8.3	15.3	12.0	22	118	0.8
	Circuit 2	COMP 1	8.3	15.3	12.0	22	118	0.8
		COMP 2	8.3	15.3	12.0	22	118	0.8
AQVL/AQVH 125	Circuit 1	COMP 1	10.5	19.1	14.8	31	140	0.8
		COMP 2	8.3	15.3	12.0	22	118	0.8
	Circuit 2	COMP 1	10.5	19.1	14.8	31	140	0.8
		COMP 2	8.3	15.3	12.0	22	118	0.8
AQVL/AQVH 140	Circuit 1	COMP 1	10.5	19.1	14.8	31	140	0.8
		COMP 2	10.5	19.1	14.8	31	140	0.8
	Circuit 2	COMP 1	10.5	19.1	14.8	31	140	0.8
		COMP 2	10.5	19.1	14.8	31	140	0.8

Fan data - 400 V/3Ph/50Hz

Sizes	Number of fans	Pmax per fan (kW)	Imax per fan FLA(A)	Total fan power (kW)	Total fan max. current (A)
AQVL/AQVH 85	2	2.8	4.5	5.6	9.0
AQVL/AQVH 95	2	2.8	4.5	5.6	9.0
AQVL/AQVH 105	2	2.8	4.5	5.6	9.0
AQVL/AQVH 115	2	2.8	4.5	5.6	9.0
AQVL/AQVH 125	2	2.8	4.5	5.6	9.0
AQVL/AQVH 140	2	2.8	4.5	5.6	9.0

Units - 400 V/3Ph/50Hz

Sizes		AQVL/AQVH 85	AQVL/AQVH 95	AQVL/AQVH 105	AQVL/AQVH 115	AQVL/AQVH 125	AQVL/AQVH 140
Power input (kW)	Nominal	30.6	33.8	36.2	38.7	43.1	47.6
	Maximum	42.0	46.4	49.9	53.4	59.0	64.6
Current input (A)	Nominal	54.3	59.8	65.0	70.1	77.7	85.4
	Maximum	73.0	93.0	95.0	97.0	115.0	133.0
Start-up current (A)		152	183	191	193	224	242

Pumps - 400 V/3Ph/50Hz

Sizes	1/2 pumps		3 pumps	
	Absorbed power (kW)	Absorbed current (A)	Absorbed power (kW)	Absorbed current (A)
AQVL/AQVH 85	1.99	3.65	1.43	2.70
AQVL/AQVH 95	1.99	3.65	1.43	2.70
AQVL/AQVH 105	1.99	3.65	1.43	2.70
AQVL/AQVH 115	2.47	4.98	1.84	3.49
AQVL/AQVH 125	2.47	4.98	1.84	3.49
AQVL/AQVH 140	2.47	4.98	1.84	3.49

Sound Data

STD/HSE STD Versions

Sizes	Octave Band (Hz)								Sound Power Level dB(A)	Sound Pressure Level * dB(A)
	63	125	250	500	1000	2000	4000	8000		
85	98	91	86	82	81	74	69	69	85	53
95	98	91	86	82	81	74	69	69	85	53
105	98	91	86	82	81	74	69	69	85	53
115	98	91	86	82	81	74	69	69	85	53
125	102	95	89	86	84	78	72	72	89	57
140	102	95	89	86	84	78	72	72	89	57

STD/HSE S Versions

Sizes	Octave Band (Hz)								Sound Power Level dB(A)	Sound Pressure Level * dB(A)
	63	125	250	500	1000	2000	4000	8000		
85	94	87	82	79	77	71	67	66	82	50
95	94	87	82	79	77	71	67	66	82	50
105	94	87	82	79	77	71	67	66	82	50
115	94	87	82	79	77	71	67	66	82	50
125	99	92	86	83	81	75	70	70	86	54
140	99	92	86	83	81	75	70	70	86	54

HPF

Sizes	Octave Band (Hz)								Sound Power Level dB(A)	Sound Pressure Level * dB(A)
	63	125	250	500	1000	2000	4000	8000		
85	109	102	96	92	90	83	77	77	95	63
95	109	102	96	92	90	83	77	77	95	63
105	109	102	96	92	90	83	77	77	95	63
115	109	102	96	92	90	83	77	77	95	63
125	109	102	96	92	90	83	77	77	95	63
140	109	102	96	92	90	83	77	77	95	63

HT **

Sizes	Octave Band (Hz)								Sound Power Level dB(A)	Sound Pressure Level * dB(A)
	63	125	250	500	1000	2000	4000	8000		
85	106	99	93	89	87	80	75	75	92	60
95	106	99	93	89	87	80	75	75	92	60
105	106	99	93	89	87	80	75	75	92	60
115	106	99	93	89	87	80	75	75	92	60
125	109	102	96	92	90	83	77	77	95	63
140	109	102	96	92	90	83	77	77	95	63

(*) Sound pressure at 10 m, data refer to ISO standard 3744 with parallepiped shape.
(**) Sound data valid in max. air flow rate/max. fan RPM condition.

Performance Data - AQVL 85 to 140 - R410A - STD/HSE/HPF - STD Version

AQVL Sizes STD Version	LWT (°C)	Outdoor air temperature (°C)																	
		25		30		32		35		38		40		42		45		48	
		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)	P cool (kW)	P abs* (kW)	P cool (kW)	P abs* (kW)
AQVL 85	5	87.3	19.8	83.3	21.9	81.7	22.8	79.1	24.2	76.1	25.6	73.9	26.6	71.7	27.7	68.3	29.4	65.0	31.0
	7	92.3	20.2	88.0	22.2	86.3	23.2	**83.6**	**24.6**	80.4	26.0	78.2	27.0	75.9	28.1	72.4	29.7		
	9	96.6	20.5	92.2	22.6	90.5	23.5	87.7	24.9	84.5	26.4	82.2	27.4	79.8	28.4	76.3	30.1		
	11	101.4	20.9	96.8	23.0	95.0	23.9	92.1	25.3	88.7	26.8	86.4	27.8	83.9	28.8	80.3	30.4		
	13	106.6	21.3	101.8	23.4	99.9	24.3	96.9	25.7	93.4	27.2	90.9	28.2	88.5	29.3				
	15	112.3	21.8	107.2	23.9	105.2	24.9	102.1	26.3	98.5	27.7	95.9	28.7	93.2	29.8				
	18	121.4	22.8	115.8	24.9	113.6	25.8	109.9	27.2	105.3	28.5	102.1	29.4	98.8	30.4				
AQVL 95	5	97.9	22.9	93.3	25.3	91.5	26.3	88.6	28.0	85.3	29.7	82.8	30.8	80.4	32.1	76.6	34.0	72.8	35.9
	7	103.4	23.3	98.7	25.8	96.8	26.8	**93.7**	**28.5**	90.2	30.1	87.7	31.3	85.1	32.5	81.2	34.4		
	9	108.3	23.7	103.4	26.1	101.4	27.2	98.3	28.8	94.7	30.5	92.1	31.7	89.5	32.9	85.5	34.8		
	11	113.7	24.2	108.5	26.6	106.5	27.6	103.2	29.3	99.5	31.0	96.8	32.1	94.1	33.4	90.0	35.3		
	13	119.4	24.7	114.1	27.1	112.0	28.2	108.6	29.8	104.7	31.5	101.9	32.7	99.2	33.9				
	15	125.9	25.3	120.2	27.7	118.0	28.8	114.4	30.4	110.4	32.1	107.5	33.3	104.5	34.4				
	18	136.0	26.4	129.8	28.8	127.3	29.8	123.2	31.4	118.1	33.0	114.4	34.1	110.8	35.2				
AQVL 105	5	107.4	25.0	102.4	27.6	100.4	28.8	97.2	30.5	93.5	32.4	90.9	33.7	88.2	35.0	84.0	37.1	79.9	39.2
	7	113.5	25.5	108.2	28.1	106.2	29.3	**102.8**	**31.1**	98.9	32.9	96.2	34.2	93.3	35.5	89.0	37.6		
	9	118.8	25.9	113.4	28.5	111.3	29.7	107.8	31.5	103.9	33.3	101.0	34.6	98.1	35.9	93.8	38.0		
	11	124.7	26.4	119.0	29.0	116.8	30.2	113.2	32.0	109.1	33.8	106.2	35.1	103.2	36.4	98.8	38.5		
	13	131.0	26.9	125.1	29.6	122.8	30.7	119.1	32.5	114.8	34.4	111.8	35.6	108.9	37.0				
	15	138.1	27.6	131.9	30.2	129.4	31.4	125.5	33.2	121.1	35.0	117.9	36.3	114.6	37.6				
	18	149.2	28.8	142.4	31.4	139.7	32.6	135.1	34.3	129.5	36.0	125.5	37.2	121.5	38.4				
AQVL 115	5	115.6	27.2	110.2	30.1	108.0	31.4	104.6	33.3	100.6	35.3	97.8	36.7	94.8	38.2	90.4	40.5	86.0	42.8
	7	122.1	27.8	116.5	30.7	114.2	31.9	**110.6**	**33.9**	106.4	35.9	103.5	37.3	100.4	38.7	95.8	41.0		
	9	127.9	28.2	122.0	31.1	119.7	32.4	116.0	34.3	111.8	36.3	108.7	37.7	105.6	39.2	100.9	41.4		
	11	134.2	28.7	128.1	31.6	125.7	32.9	121.8	34.9	117.4	36.9	114.3	38.3	111.1	39.7	106.3	42.0		
	13	141.0	29.4	134.6	32.3	132.2	33.5	128.2	35.5	123.6	37.5	120.3	38.9	117.1	40.3				
	15	148.6	30.1	141.9	33.0	139.2	34.3	135.1	36.2	130.3	38.2	126.9	39.6	123.3	41.0				
	18	160.6	31.4	153.3	34.3	150.3	35.5	145.4	37.4	139.4	39.3	135.0	40.6	130.7	41.9				
AQVL 125	5	127.8	29.9	121.8	33.1	119.5	34.4	115.7	36.6	111.3	38.8	108.1	40.3	104.9	41.9	100.0	44.4	95.0	47.0
	7	135.0	30.5	128.8	33.7	126.3	35.0	**122.3**	**37.2**	117.7	39.4	114.4	40.9	111.0	42.5	105.9	45.0		
	9	141.4	31.0	134.9	34.2	132.4	35.5	128.3	37.7	123.6	39.9	120.2	41.4	116.7	43.0	111.6	45.5		
	11	148.3	31.6	141.6	34.7	138.9	36.1	134.7	38.3	129.8	40.5	126.3	42.0	122.8	43.6	117.5	46.1		
	13	155.9	32.3	148.9	35.4	146.1	36.8	141.7	39.0	136.6	41.2	133.0	42.7	129.5	44.3				
	15	164.3	33.1	156.9	36.2	153.9	37.6	149.3	39.8	144.1	42.0	140.3	43.5	136.4	45.0				
	18	177.5	34.5	169.4	37.7	166.2	39.0	160.7	41.1	154.1	43.2	149.3	44.6	144.5	46.0				
AQVL 140	5	143.3	33.9	136.6	37.5	134.0	39.0	129.7	41.4	124.8	43.9	121.2	45.7	117.6	47.5	112.1	50.3	106.6	53.2
	7	151.4	34.6	144.4	38.1	141.6	39.7	**137.1**	**42.1**	132.0	44.6	128.3	46.3	124.5	48.2	118.8	51.0		
	9	158.5	35.1	151.3	38.7	148.5	40.3	143.9	42.7	138.6	45.2	134.8	46.9	130.9	48.7	125.1	51.5		
	11	166.4	35.8	158.8	39.3	155.8	40.9	151.0	43.4	145.6	45.9	141.7	47.6	137.7	49.4	131.7	52.2		
	13	174.8	36.5	166.9	40.1	163.9	41.7	158.9	44.1	153.2	46.6	149.2	48.3	145.2	50.2				
	15	184.2	37.4	175.9	41.0	172.6	42.6	167.5	45.1	161.6	47.5	157.3	49.2	152.9	51.0				
	18	199.1	39.0	190.0	42.6	186.4	44.2	180.2	46.5	172.8	48.9	167.4	50.5	162.1	52.1				

(*) Compressors only
LWT : Leaving water temperature

Performance Data - AQVL 85 to 140 - R410A - STD/HSE - S Version

AQVL Sizes S Version	LWT (°C)	Outdoor air temperature (°C)															
		25		30		32		35		38		40		42		45	
		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)	P cool (kW)	P abs* (kW)
AQVL 85	5	84.5	20.9	80.5	23.1	79.0	24.1	76.5	25.6	73.6	27.1	71.5	28.2	69.3	29.3	66.1	31.1
	7	89.3	21.4	85.1	23.6	83.5	24.5	**80.9**	**26.0**	77.8	27.6	75.6	28.6	73.4	29.8		
	9	93.5	21.7	89.2	23.9	87.5	24.9	84.8	26.4	81.7	27.9	79.5	29.0	77.2	30.1		
	11	98.1	22.1	93.6	24.3	91.9	25.3	89.0	26.8	85.8	28.3	83.5	29.4				
	13	103.1	22.6	98.4	24.8	96.6	25.8	93.7	27.3	90.3	28.8	88.0	29.9				
	15	108.6	23.1	103.7	25.4	101.8	26.3	98.7	27.8	95.3	29.4						
	18	117.4	24.1	112.0	26.3	109.9	27.3	106.3	28.8	101.9	30.2						
AQVL 95	5	94.4	24.4	90.0	27.0	88.2	28.1	85.4	29.9	82.2	31.7	79.8	33.0	77.4	34.3	73.8	36.3
	7	99.7	24.9	95.1	27.5	93.3	28.6	**90.3**	**30.4**	86.9	32.2	84.5	33.4	82.0	34.8		
	9	104.4	25.4	99.6	27.9	97.8	29.0	94.7	30.8	91.2	32.6	88.8	33.9	86.2	35.2		
	11	109.5	25.8	104.6	28.4	102.6	29.5	99.4	31.3	95.9	33.1	93.3	34.3				
	13	115.1	26.4	109.9	29.0	107.9	30.1	104.7	31.8	100.9	33.6	98.2	34.9				
	15	121.3	27.0	115.8	29.6	113.7	30.7	110.3	32.5	106.4	34.3						
	18	131.1	28.2	125.1	30.8	122.7	31.9	118.7	33.6	113.8	35.3						
AQVL 105	5	103.1	26.8	98.3	29.6	96.4	30.8	93.3	32.8	89.8	34.7	87.2	36.1	84.6	37.5	80.7	39.8
	7	108.9	27.3	103.9	30.1	101.9	31.4	**98.7**	**33.3**	95.0	35.3	92.3	36.6	89.6	38.1		
	9	114.1	27.8	108.9	30.6	106.8	31.8	103.5	33.8	99.7	35.7	97.0	37.1	94.2	38.5		
	11	119.7	28.3	114.3	31.1	112.1	32.3	108.7	34.3	104.7	36.3	101.9	37.6				
	13	125.8	28.9	120.1	31.7	117.9	33.0	114.4	34.9	110.2	36.9	107.3	38.2				
	15	132.5	29.6	126.6	32.4	124.2	33.7	120.5	35.6	116.3	37.6						
	18	143.2	30.8	136.7	33.7	134.1	34.9	129.7	36.8	124.3	38.6						
AQVL 115	5	110.6	29.3	105.4	32.4	103.4	33.7	100.1	35.8	96.3	38.0	93.6	39.5	90.8	41.1	86.5	43.5
	7	116.8	29.9	111.4	33.0	109.3	34.3	**105.8**	**36.4**	101.9	38.6	99.0	40.1	96.1	41.7		
	9	122.3	30.4	116.8	33.5	114.6	34.8	111.0	36.9	106.9	39.1	104.0	40.6	101.0	42.1		
	11	128.4	30.9	122.6	34.0	120.2	35.4	116.6	37.5	112.3	39.7	109.3	41.2				
	13	134.9	31.6	128.8	34.7	126.5	36.1	122.7	38.2	118.2	40.3	115.1	41.8				
	15	142.2	32.4	135.8	35.5	133.2	36.9	129.2	39.0	124.7	41.1						
	18	153.7	33.7	146.6	36.9	143.8	38.2	139.1	40.3	133.4	42.3						
AQVL 125	5	124.8	31.1	119.0	34.3	116.7	35.8	113.0	38.0	108.7	40.3	105.6	41.9	102.5	43.5	97.7	46.1
	7	131.9	31.7	125.8	34.9	123.4	36.4	**119.5**	**38.6**	115.0	40.9	111.8	42.5	108.5	44.1		
	9	138.1	32.2	131.8	35.5	129.3	36.9	125.3	39.1	120.7	41.4	117.4	43.0	114.1	44.7		
	11	144.9	32.8	138.4	36.1	135.7	37.5	131.6	39.8	126.8	42.0	123.4	43.6				
	13	152.3	33.5	145.4	36.8	142.8	38.2	138.5	40.4	133.5	42.7	130.0	44.3				
	15	160.5	34.3	153.3	37.6	150.4	39.1	145.9	41.3	140.8	43.6						
	18	173.5	35.8	165.5	39.1	162.4	40.5	157.0	42.7	150.5	44.8						
AQVL 140	5	139.6	35.3	133.1	39.0	130.6	40.7	126.4	43.2	121.6	45.8	118.1	47.6	114.6	49.5	109.2	52.5
	7	147.5	36.0	140.7	39.7	138.0	41.4	**133.6**	**43.9**	128.6	46.5	125.0	48.3	121.4	50.2		
	9	154.5	36.6	147.5	40.3	144.7	42.0	140.2	44.5	135.0	47.1	131.4	48.9	127.6	50.8		
	11	162.1	37.3	154.8	41.0	151.8	42.6	147.2	45.2	141.9	47.8	138.1	49.6				
	13	170.4	38.1	162.7	41.8	159.7	43.4	154.9	46.0	149.3	48.6	145.4	50.4				
	15	179.5	39.0	171.4	42.8	168.3	44.4	163.2	47.0	157.5	49.6						
	18	194.0	40.7	185.2	44.4	181.6	46.1	175.7	48.5	168.4	50.9						

(*) Compressors only
LWT : Leaving water temperature

Performance Data - AQVL 85 to 140 - R410A - HT

AQVL Sizes HT Version	LWT (°C)	Outdoor air temperature (°C)																			
		25		30		32		35		38		40		42		45		48		50	
		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)	P cool (kW)	P abs* (kW)	P cool (kW)	P abs* (kW)	P cool (kW)	P abs* (kW)
AQVL 85	5	90.1	18.7	85.9	20.7	84.2	21.5	81.6	22.8	78.5	24.2	76.2	25.2	74.0	26.2	70.5	27.8	67.0	29.3	64.8	30.3
	7	95.2	19.1	90.8	21.0	89.1	21.9	**86.2**	**23.2**	83.0	24.6	80.7	25.6	78.3	26.6	74.7	28.1	71.1	29.7	68.7	30.7
	9	99.7	19.4	95.2	21.3	93.4	22.2	90.5	23.5	87.1	24.9	84.8	25.9	82.3	26.9	78.7	28.4	75.0	30.0		
	11	104.6	19.7	99.9	21.7	98.0	22.6	95.0	23.9	91.5	25.3	89.1	26.2	86.6	27.2	82.9	28.8	79.1	30.3		
	13	110.0	20.1	105.0	22.1	103.1	23.0	100.0	24.3	96.4	25.7	93.8	26.7	91.3	27.7	87.7	29.2				
	15	115.9	20.6	110.6	22.6	108.6	23.5	105.3	24.8	101.6	26.2	99.0	27.1	96.2	28.1	91.9	29.6				
	18	125.2	21.5	119.5	23.5	117.2	24.4	113.4	25.7	108.7	26.9	105.3	27.8	101.9	28.7	97.0	30.2				
AQVL 95	5	101.3	21.4	96.6	23.7	94.7	24.7	91.7	26.2	88.2	27.8	85.7	28.9	83.2	30.0	79.3	31.8	75.4	33.6	72.8	34.8
	7	107.1	21.9	102.1	24.1	100.1	25.1	**97.0**	**26.6**	93.3	28.2	90.7	29.3	88.1	30.5	84.0	32.3	80.0	34.0	77.3	35.2
	9	112.1	22.2	107.0	24.5	105.0	25.5	101.7	27.0	98.0	28.6	95.3	29.7	92.6	30.8	88.5	32.6	84.4	34.4		
	11	117.6	22.6	112.3	24.9	110.2	25.9	106.8	27.4	102.9	29.0	100.2	30.1	97.4	31.2	93.2	33.0	88.9	34.8		
	13	123.6	23.1	118.0	25.4	115.9	26.4	112.4	27.9	108.3	29.5	105.5	30.6	102.7	31.7	98.6	33.5				
	15	130.3	23.7	124.4	26.0	122.1	27.0	118.4	28.5	114.3	30.1	111.3	31.1	108.1	32.3	103.3	34.0				
	18	140.8	24.7	134.4	27.0	131.8	28.0	127.5	29.4	122.2	30.9	118.4	31.9	114.6	33.0	109.0	34.6				
AQVL 105	5	111.7	23.3	106.5	25.7	104.4	26.8	101.1	28.4	97.2	30.1	94.5	31.3	91.6	32.6	87.4	34.5	83.1	36.5	80.2	37.8
	7	118.0	23.7	112.5	26.2	110.4	27.2	**106.9**	**28.9**	102.9	30.6	100.0	31.8	97.0	33.1	92.6	35.0	88.1	36.9	85.2	38.2
	9	123.5	24.1	117.9	26.6	115.7	27.6	112.1	29.3	108.0	31.0	105.0	32.2	102.0	33.4	97.5	35.4	93.0	37.3		
	11	129.6	24.5	123.8	27.0	121.4	28.1	117.7	29.8	113.4	31.5	110.4	32.7	107.3	33.9	102.7	35.8	98.0	37.7		
	13	136.2	25.1	130.1	27.5	127.7	28.6	123.9	30.3	119.4	32.0	116.3	33.2	113.2	34.4	108.6	36.4				
	15	143.6	25.7	137.1	28.2	134.5	29.2	130.5	30.9	125.9	32.6	122.6	33.8	119.2	35.0	113.8	36.9				
	18	155.1	26.8	148.1	29.3	145.2	30.3	140.5	31.9	134.7	33.5	130.5	34.6	126.3	35.8	120.1	37.5				
AQVL 115	5	120.5	25.2	114.9	27.9	112.7	29.1	109.1	30.9	104.9	32.7	102.0	34.0	98.9	35.4	94.3	37.5	89.6	39.6	86.6	41.0
	7	127.3	25.8	121.4	28.4	119.1	29.6	**115.3**	**31.4**	111.0	33.2	107.9	34.5	104.7	35.9	99.9	38.0	95.1	40.1	91.9	41.5
	9	133.3	26.2	127.3	28.8	124.9	30.0	121.0	31.8	116.5	33.7	113.4	35.0	110.1	36.3	105.2	38.4	100.3	40.5		
	11	139.9	26.6	133.6	29.3	131.0	30.5	127.0	32.3	122.4	34.2	119.2	35.5	115.8	36.8	110.8	38.9	105.8	41.0		
	13	147.0	27.2	140.4	29.9	137.8	31.1	133.7	32.9	128.9	34.7	125.5	36.0	122.1	37.4	117.2	39.5				
	15	154.9	27.9	148.0	30.6	145.2	31.7	140.8	33.6	135.9	35.4	132.3	36.7	128.6	38.0	122.9	40.0				
	18	167.4	29.1	159.8	31.8	156.7	32.9	151.6	34.7	145.3	36.4	140.8	37.6	136.3	38.8	129.7	40.8				
AQVL 125	5	130.2	29.0	124.1	32.1	121.7	33.4	117.8	35.5	113.3	37.6	110.1	39.1	106.8	40.7	101.8	43.1	96.8	45.5	93.5	47.1
	7	137.5	29.6	131.2	32.6	128.6	34.0	**124.6**	**36.1**	119.9	38.2	116.5	39.7	113.1	41.2	107.9	43.7	102.7	46.1	99.3	47.6
	9	144.0	30.1	137.5	33.1	134.9	34.5	130.7	36.6	125.9	38.7	122.4	40.2	118.9	41.7	113.7	44.1	108.4	46.5		
	11	151.1	30.6	144.3	33.7	141.5	35.0	137.2	37.1	132.2	39.3	128.7	40.7	125.1	42.3	119.7	44.7	114.2	47.1		
	13	158.8	31.3	151.6	34.4	148.9	35.7	144.4	37.8	139.2	39.9	135.5	41.4	131.9	42.9	126.6	45.3				
	15	167.3	32.0	159.8	35.1	156.8	36.5	152.1	38.6	146.8	40.7	142.9	42.2	138.9	43.7	132.7	46.0				
	18	180.9	33.4	172.6	36.5	169.3	37.8	163.7	39.8	157.0	41.8	152.1	43.2	147.3	44.6	140.1	46.8				
AQVL 140	5	145.9	32.9	139.1	36.3	136.4	37.8	132.1	40.2	127.0	42.6	123.4	44.3	119.7	46.1	114.1	48.8	108.5	51.6	104.8	53.4
	7	154.1	33.5	147.0	37.0	144.2	38.5	**139.6**	**40.9**	134.4	43.3	130.6	45.0	126.8	46.7	120.9	49.5	115.1	52.2	111.3	54.0
	9	161.4	34.1	154.1	37.5	151.2	39.1	146.5	41.4	141.1	43.9	137.2	45.5	133.3	47.3	127.4	50.0	121.5	52.7		
	11	169.4	34.7	161.7	38.2	158.6	39.7	153.8	42.1	148.2	44.5	144.2	46.2	140.2	47.9	134.1	50.6	128.0	53.4		
	13	178.0	35.5	170.0	38.9	166.8	40.4	161.8	42.8	156.0	45.2	151.9	46.9	147.8	48.7	141.9	51.4				
	15	187.6	36.3	179.1	39.8	175.8	41.3	170.5	43.7	164.5	46.1	160.2	47.8	155.7	49.5	148.7	52.1				
	18	202.7	37.9	193.5	41.4	189.7	42.9	183.5	45.2	175.9	47.4	170.5	49.0	165.0	50.6	157.0	53.1				

(*) Compressors only
LWT : Leaving water temperature

Performance Data - AQVH 85 to 140 - R410A - STD/HSE/HPF - STD Version - Cooling

AQVH Sizes STD Version	LWT (°C)	Outdoor air temperature (°C)																	
		25		30		32		35		38		40		42		45		48	
		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)	P cool (kW)	P abs* (kW)	P cool (kW)	P abs* (kW)
AQVH 85	5	85.0	20.2	81.0	22.3	79.4	23.2	76.9	24.7	73.9	26.2	71.8	27.2	69.6	28.3	66.3	29.9	63.0	31.6
	7	89.8	20.6	85.6	22.7	83.9	23.6	**81.2**	**25.1**	78.1	26.6	75.9	27.6	73.6	28.7	70.2	30.3		
	9	94.0	20.9	89.7	23.0	88.0	24.0	85.2	25.4	82.0	26.9	79.7	28.0	77.4	29.0	73.9	30.7		
	11	98.6	21.3	94.1	23.4	92.3	24.4	89.4	25.9	86.1	27.3	83.8	28.3	81.4	29.4	77.9	31.1		
	13	103.6	21.7	98.8	23.9	97.0	24.9	94.0	26.3	90.7	27.8	88.3	28.8	85.8	29.9				
	15	109.1	22.3	104.6	24.5	102.5	25.4	99.1	26.9	95.5	28.3	93.0	29.3	90.4	30.4				
	18	117.8	23.2	112.4	25.4	110.3	26.4	106.8	27.8	102.4	29.2	99.1	30.1	95.9	31.1				
AQVH 95	5	94.4	23.4	90.0	25.9	88.2	26.9	85.3	28.6	82.0	30.3	79.7	31.5	77.2	32.8	73.6	34.7	69.9	36.6
	7	99.7	23.9	95.0	26.3	93.2	27.4	**90.2**	**29.1**	86.7	30.8	84.3	32.0	81.7	33.3	77.9	35.2		
	9	104.4	24.3	99.6	26.7	97.7	27.8	94.6	29.5	91.0	31.2	88.5	32.4	85.9	33.7	82.0	35.6		
	11	109.4	24.7	104.4	27.2	102.4	28.3	99.2	30.0	95.6	31.7	93.0	32.9	90.4	34.1	86.5	36.1		
	13	115.0	25.2	109.7	27.8	107.7	28.8	104.4	30.5	100.7	32.2	98.0	33.4	95.3	34.7				
	15	121.1	25.9	116.2	28.5	113.8	29.5	110.0	31.2	106.0	32.9	103.3	34.1	100.4	35.3				
	18	130.8	27.0	124.8	29.5	122.5	30.6	118.6	32.3	113.7	33.9	110.1	34.9	106.5	36.1				
AQVH 105	5	103.8	25.5	99.0	28.2	97.0	29.4	93.9	31.2	90.2	33.1	87.6	34.4	85.0	35.8	80.9	37.9	76.9	40.0
	7	109.7	26.0	104.6	28.7	102.5	29.9	**99.2**	**31.8**	95.4	33.6	92.7	34.9	89.9	36.3	85.7	38.4		
	9	114.8	26.5	109.5	29.2	107.4	30.4	104.0	32.2	100.1	34.1	97.3	35.4	94.5	36.7	90.2	38.8		
	11	120.4	27.0	114.9	29.7	112.7	30.9	109.2	32.7	105.2	34.6	102.4	35.9	99.5	37.2	95.1	39.4		
	13	126.5	27.5	120.7	30.3	118.5	31.5	114.9	33.3	110.8	35.2	107.8	36.5	104.8	37.8				
	15	133.2	28.2	127.8	31.0	125.2	32.2	121.0	34.0	116.6	35.9	113.6	37.1	110.4	38.5				
	18	143.9	29.4	137.3	32.2	134.8	33.4	130.5	35.2	125.0	36.9	121.1	38.1	117.2	39.4				
AQVH 115	5	112.2	27.7	106.9	30.7	104.8	31.9	101.4	33.9	97.5	35.9	94.7	37.4	91.8	38.8	87.4	41.1	83.1	43.4
	7	118.5	28.3	113.0	31.2	110.7	32.5	**107.2**	**34.5**	103.1	36.5	100.1	37.9	97.1	39.4	92.6	41.7		
	9	124.1	28.7	118.3	31.7	116.1	33.0	112.4	35.0	108.2	37.0	105.2	38.4	102.1	39.9	97.5	42.2		
	11	130.1	29.3	124.1	32.2	121.7	33.5	118.0	35.5	113.6	37.6	110.6	39.0	107.5	40.4	102.8	42.7		
	13	136.7	29.9	130.4	32.9	128.0	34.2	124.1	36.2	119.7	38.2	116.5	39.6	113.2	41.1				
	15	143.9	30.7	138.1	33.7	135.3	35.0	130.7	36.9	126.0	38.9	122.8	40.3	119.3	41.8				
	18	155.5	31.9	148.4	34.9	145.6	36.2	140.9	38.2	135.1	40.1	130.8	41.4	126.6	42.7				
AQVH 125	5	121.6	30.6	115.9	33.8	113.7	35.2	110.0	37.4	105.7	39.6	102.7	41.2	99.6	42.8	94.8	45.3	90.1	47.9
	7	128.5	31.2	122.5	34.4	120.1	35.8	**116.2**	**38.0**	111.8	40.3	108.6	41.8	105.3	43.5	100.4	46.0		
	9	134.5	31.7	128.3	34.9	125.9	36.3	121.9	38.6	117.3	40.8	114.0	42.4	110.7	44.0	105.7	46.5		
	11	141.0	32.3	134.6	35.5	132.0	37.0	127.9	39.2	123.2	41.4	119.9	42.9	116.5	44.6	111.4	47.1		
	13	148.2	33.0	141.4	36.2	138.8	37.7	134.6	39.9	129.8	42.1	126.3	43.7	122.8	45.3				
	15	156.1	33.8	149.7	37.2	146.7	38.6	141.8	40.7	136.7	42.9	133.1	44.5	129.4	46.1				
	18	168.6	35.2	160.9	38.5	157.9	40.0	152.8	42.1	146.5	44.2	141.9	45.6	137.2	47.1				
AQVH 140	5	135.6	34.2	129.3	37.8	126.7	39.4	122.6	41.9	117.9	44.4	114.5	46.1	111.0	47.9	105.7	50.8	100.5	53.6
	7	143.3	34.9	136.6	38.5	133.9	40.1	**129.6**	**42.6**	124.6	45.1	121.1	46.8	117.5	48.7	111.9	51.5		
	9	150.0	35.5	143.1	39.1	140.3	40.7	135.9	43.2	130.8	45.7	127.2	47.4	123.5	49.2	117.9	52.0		
	11	157.3	36.1	150.1	39.8	147.2	41.4	142.6	43.9	137.4	46.4	133.7	48.1	130.0	49.9	124.3	52.8		
	13	165.3	36.9	157.7	40.6	154.8	42.2	150.1	44.6	144.7	47.1	140.9	48.9	136.9	50.7				
	15	174.0	37.8	166.9	41.6	163.6	43.2	158.1	45.6	152.4	48.1	148.4	49.8	144.3	51.6				
	18	188.1	39.4	179.4	43.1	176.1	44.7	170.4	47.2	163.4	49.5	158.2	51.1	153.1	52.8				

(*) Compressors only
LWT : Leaving water temperature

Performance Data - AQVH 85 to 140 - R410A - STD/HSE/HPF - STD Version - Heating

AQVH Sizes STD Version	LWT (°C)	Outdoor air temperature (°C)															
		-7		-5		-3		0		5		7		10		15	
		Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)
AQVH 85	30	65.8	16.9	70.6	16.9	74.5	17.0	80.9	17.1	91.6	17.4	96.8	17.5	104.6	17.8	118.9	18.5
	35	65.2	18.9	69.8	19.0	73.7	19.0	79.8	19.2	90.2	19.4	95.1	19.5	102.6	19.8	116.5	20.3
	40	64.6	21.3	69.0	21.3	72.7	21.4	78.7	21.5	88.6	21.7	93.3	21.8	100.5	22.0	113.6	22.7
	45			68.2	24.1	71.8	24.1	77.5	24.2	86.8	24.2	**91.5**	**24.4**	98.4	24.6	110.8	25.2
	50							76.2	27.3	82.3	26.2	89.6	27.5	96.1	27.7	108.9	28.2
AQVH 95	30	73.6	19.4	78.9	19.5	83.4	19.5	90.5	19.7	102.5	20.0	108.2	20.1	117.0	20.4	133.0	21.2
	35	72.9	21.7	78.1	21.8	82.4	21.9	89.2	22.0	100.8	22.2	106.3	22.4	114.7	22.7	130.3	23.3
	40	72.2	24.4	77.2	24.5	81.4	24.5	88.0	24.6	99.1	24.9	104.4	25.0	112.4	25.3	127.0	26.0
	45			76.2	27.7	80.3	27.7	86.7	27.7	97.1	27.8	**102.4**	**28.0**	110.0	28.3	123.9	29.0
	50							85.3	31.4	92.0	30.1	100.3	31.6	107.5	31.8	121.8	32.4
AQVH 105	30	79.6	20.7	85.4	20.8	90.2	20.9	97.9	21.0	110.9	21.3	117.1	21.5	126.5	21.9	143.9	22.7
	35	78.9	23.2	84.4	23.3	89.1	23.4	96.5	23.5	109.1	23.8	115.0	24.0	124.1	24.3	140.9	25.0
	40	78.1	26.1	83.5	26.2	88.0	26.3	95.2	26.4	107.2	26.6	112.9	26.8	121.6	27.1	137.4	27.8
	45			82.5	29.6	86.8	29.6	93.8	29.7	105.0	29.8	**110.7**	**30.0**	119.0	30.3	134.0	31.0
	50							92.2	33.6	99.5	32.2	108.5	33.8	116.3	34.0	131.7	34.7
AQVH 115	30	85.3	22.6	91.5	22.7	96.6	22.8	104.8	22.9	118.8	23.3	125.4	23.5	135.5	23.8	154.2	24.7
	35	84.5	25.3	90.5	25.4	95.5	25.5	103.4	25.6	116.8	25.9	123.2	26.1	132.9	26.5	150.9	27.2
	40	83.7	28.5	89.4	28.6	94.3	28.6	102.0	28.7	114.9	29.0	121.0	29.2	130.3	29.5	147.2	30.3
	45			88.4	32.3	93.0	32.3	100.4	32.3	112.5	32.4	**118.6**	**32.7**	127.5	33.0	143.6	33.8
	50							98.8	36.6	106.6	35.1	116.2	36.8	124.6	37.0	141.1	37.8
AQVH 125	30	96.2	25.6	103.2	25.7	109.0	25.8	118.3	26.0	134.0	26.4	141.5	26.6	152.9	27.0	173.9	28.1
	35	95.3	28.7	102.1	28.8	107.7	28.9	116.7	29.1	131.8	29.4	139.0	29.6	150.0	30.0	170.3	30.8
	40	94.4	32.3	100.9	32.4	106.4	32.5	115.1	32.6	129.6	32.9	136.5	33.1	147.0	33.4	166.1	34.4
	45			99.7	36.6	105.0	36.6	113.3	36.7	126.9	36.8	**133.9**	**37.1**	143.9	37.4	162.0	38.3
	50							111.5	41.5	120.3	39.8	131.1	41.7	140.6	42.0	159.2	42.8
AQVH 140	30	105.2	28.2	112.8	28.3	119.1	28.4	129.3	28.6	146.5	29.0	154.7	29.3	167.2	29.7	190.1	30.9
	35	104.2	31.6	111.6	31.7	117.7	31.8	127.5	32.0	144.1	32.4	152.0	32.6	163.9	33.0	186.2	33.9
	40	103.2	35.5	110.3	35.6	116.3	35.7	125.8	35.8	141.7	36.2	149.2	36.4	160.7	36.8	181.6	37.9
	45			109.0	40.3	114.7	40.3	123.9	40.4	138.7	40.5	**146.3**	**40.8**	157.3	41.1	177.1	42.1
	50							121.9	45.7	131.5	43.8	143.3	45.9	153.7	46.2	174.0	47.1

(*) Compressors only
LWT : Leaving water temperature

Performance Data - AQVH 85 to 140 - R410A - STD/HSE - S Version - Cooling

AQVH Sizes S Version	LWT (°C)	Outdoor air temperature (°C)															
		25		30		32		35		38		40		42		45	
		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)	P cool (kW)	P abs* (kW)
AQVH 85	5	82.1	21.4	78.3	23.6	76.8	24.6	74.3	26.2	71.4	27.7	69.3	28.8	67.2	29.9	64.0	31.7
	7	86.8	21.8	82.7	24.1	81.1	25.1	**78.5**	**26.6**	75.5	28.2	73.3	29.3	71.1	30.4		
	9	90.8	22.2	86.6	24.4	85.0	25.4	82.3	27.0	79.2	28.5	77.0	29.6	74.8	30.8		
	11	95.2	22.6	90.9	24.9	89.1	25.9	86.4	27.4	83.2	29.0	81.0	30.0				
	13	100.1	23.1	95.5	25.4	93.7	26.3	90.9	27.9	87.6	29.5	85.3	30.5				
	15	105.4	23.6	101.1	26.0	99.1	27.0	95.7	28.5	92.3	30.0						
	18	113.9	24.6	108.7	26.9	106.6	27.9	103.2	29.5	98.9	30.9						
AQVH 95	5	90.8	25.0	86.6	27.7	84.9	28.8	82.1	30.6	78.9	32.5	76.7	33.7	74.3	35.1	70.8	37.1
	7	95.9	25.5	91.5	28.2	89.7	29.3	**86.8**	**31.2**	83.5	33.0	81.1	34.3	78.7	35.6		
	9	100.4	25.9	95.8	28.6	94.0	29.8	91.0	31.6	87.6	33.4	85.1	34.7	82.7	36.0		
	11	105.3	26.4	100.5	29.1	98.6	30.3	95.5	32.1	92.0	33.9	89.5	35.2				
	13	110.7	27.0	105.6	29.7	103.6	30.8	100.5	32.7	96.9	34.5	94.3	35.8				
	15	116.5	27.7	111.8	30.4	109.5	31.6	105.9	33.4	102.0	35.2						
	18	125.9	28.8	120.1	31.5	117.9	32.7	114.1	34.5	109.4	36.2						
AQVH 105	5	99.5	27.4	94.9	30.3	93.0	31.5	90.0	33.5	86.5	35.5	84.0	36.9	81.5	38.3	77.6	40.6
	7	105.1	27.9	100.2	30.8	98.3	32.1	**95.1**	**34.1**	91.5	36.1	88.9	37.4	86.2	38.9		
	9	110.1	28.4	105.0	31.3	103.0	32.5	99.7	34.5	96.0	36.5	93.3	37.9	90.6	39.4		
	11	115.4	28.9	110.1	31.8	108.0	33.1	104.7	35.1	100.8	37.1	98.1	38.5				
	13	121.3	29.5	115.7	32.5	113.6	33.7	110.1	35.7	106.2	37.7	103.4	39.1				
	15	127.7	30.3	122.5	33.3	120.0	34.5	116.0	36.5	111.8	38.4						
	18	138.0	31.5	131.7	34.5	129.2	35.8	125.1	37.7	119.9	39.6						
AQVH 115	5	107.3	29.8	102.3	32.9	100.3	34.3	97.0	36.4	93.3	38.6	90.6	40.1	87.8	41.7	83.7	44.2
	7	113.3	30.4	108.1	33.5	105.9	34.9	**102.5**	**37.1**	98.6	39.2	95.8	40.8	92.9	42.3		
	9	118.7	30.9	113.2	34.0	111.0	35.4	107.5	37.6	103.5	39.8	100.6	41.3	97.7	42.9		
	11	124.4	31.5	118.7	34.6	116.5	36.0	112.8	38.2	108.7	40.4	105.8	41.9				
	13	130.8	32.1	124.8	35.3	122.4	36.7	118.7	38.8	114.5	41.0	111.5	42.5				
	15	137.7	32.9	132.1	36.2	129.4	37.6	125.1	39.7	120.6	41.8						
	18	148.8	34.3	142.0	37.5	139.3	38.9	134.8	41.1	129.2	43.1						
AQVH 125	5	117.8	32.8	112.2	36.2	110.0	37.7	106.5	40.1	102.4	42.5	99.4	44.2	96.4	45.9	91.8	48.6
	7	124.4	33.4	118.6	36.9	116.3	38.4	**112.5**	**40.8**	108.2	43.2	105.1	44.8	102.0	46.6		
	9	130.2	34.0	124.2	37.4	121.8	39.0	118.0	41.3	113.6	43.8	110.4	45.4	107.2	47.2		
	11	136.5	34.6	130.3	38.1	127.8	39.6	123.8	42.0	119.3	44.4	116.1	46.0				
	13	143.5	35.3	136.9	38.9	134.4	40.4	130.3	42.7	125.6	45.1	122.3	46.8				
	15	151.1	36.2	144.9	39.8	142.0	41.3	137.2	43.7	132.3	46.0						
	18	163.3	37.7	155.8	41.3	152.9	42.8	148.0	45.2	141.8	47.4						
AQVH 140	5	130.9	36.3	124.8	40.1	122.3	41.8	118.4	44.4	113.8	47.0	110.5	48.9	107.1	50.8	102.0	53.8
	7	138.3	37.0	131.8	40.8	129.2	42.5	**125.0**	**45.1**	120.3	47.8	116.9	49.6	113.4	51.6		
	9	144.8	37.6	138.1	41.5	135.4	43.1	131.2	45.8	126.2	48.4	122.7	50.3	119.1	52.2		
	11	151.8	38.3	144.8	42.2	142.1	43.9	137.6	46.5	132.6	49.1	129.0	51.0				
	13	159.5	39.1	152.2	43.0	149.4	44.7	144.8	47.3	139.7	50.0	136.0	51.8				
	15	167.9	40.1	161.1	44.1	157.9	45.8	152.6	48.3	147.1	51.0						
	18	181.5	41.8	173.2	45.7	169.9	47.4	164.5	50.0	157.6	52.5						

(*) Compressors only
LWT : Leaving water temperature

Performance Data - AQVH 85 to 140 - R410A - STD/HSE - S Version - Heating

AQVH Sizes S Version	LWT (°C)	Outdoor air temperature (°C)															
		-7		-5		-3		0		5		7		10		15	
		Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)
AQVH 85	30	64.4	16.8	69.0	16.9	72.9	17.0	79.1	17.1	89.6	17.3	94.7	17.5	102.3	17.8	116.3	18.4
	35	63.8	18.9	68.3	18.9	72.1	19.0	78.1	19.1	88.2	19.3	93.0	19.5	100.3	19.7	113.9	20.3
	40	63.2	21.2	67.5	21.3	71.2	21.3	77.0	21.4	86.7	21.6	91.3	21.7	98.3	22.0	111.1	22.6
	45					70.2	24.1	75.8	24.1	86.4	24.7	**89.5**	**24.4**	96.2	24.6	108.4	25.2
	50							74.6	27.3	80.5	26.2	87.7	27.4	94.1	27.6	106.5	28.2
AQVH 95	30	71.8	19.3	77.0	19.4	81.3	19.5	88.3	19.6	100.0	19.9	105.6	20.1	114.1	20.4	129.8	21.2
	35	71.1	21.7	76.2	21.7	80.4	21.8	87.1	21.9	98.4	22.2	103.7	22.4	111.9	22.7	127.1	23.3
	40	70.5	24.4	75.3	24.4	79.4	24.5	85.8	24.6	96.7	24.8	101.8	25.0	109.7	25.2	123.9	26.0
	45					78.3	27.6	84.6	27.7	96.4	28.4	**99.9**	**28.0**	107.3	28.2	120.9	28.9
	50							83.2	31.3	89.8	30.1	97.8	31.5	104.9	31.7	118.8	32.3
AQVH 105	30	77.5	20.7	83.1	20.8	87.8	20.9	95.3	21.0	107.9	21.3	113.9	21.5	123.1	21.8	140.1	22.7
	35	76.8	23.2	82.2	23.3	86.7	23.3	94.0	23.5	106.2	23.7	111.9	23.9	120.8	24.2	137.1	24.9
	40	76.1	26.1	81.3	26.1	85.7	26.2	92.6	26.3	104.4	26.5	109.9	26.7	118.4	27.0	133.8	27.8
	45					84.5	29.6	91.3	29.6	104.1	30.4	**107.8**	**29.9**	115.9	30.2	130.5	30.9
	50							89.8	33.5	96.9	32.2	105.6	33.7	113.2	33.9	128.2	34.6
AQVH 115	30	82.9	22.5	88.9	22.6	93.9	22.7	101.9	22.9	115.5	23.2	121.9	23.4	131.8	23.8	149.8	24.7
	35	82.1	25.2	87.9	25.3	92.8	25.4	100.5	25.6	113.6	25.9	119.8	26.1	129.2	26.4	146.7	27.1
	40	81.4	28.4	86.9	28.5	91.6	28.6	99.1	28.7	111.7	28.9	117.6	29.1	126.6	29.4	143.1	30.3
	45					90.4	32.2	97.6	32.3	111.3	33.1	**115.3**	**32.6**	123.9	32.9	139.6	33.7
	50							96.0	36.5	103.7	35.0	112.9	36.7	121.1	36.9	137.2	37.7
AQVH 125	30	93.0	25.4	99.8	25.5	105.4	25.6	114.4	25.8	129.6	26.2	136.8	26.4	147.9	26.8	168.2	27.8
	35	92.2	28.5	98.7	28.6	104.1	28.7	112.8	28.8	127.5	29.2	134.4	29.4	145.0	29.8	164.7	30.6
	40	91.3	32.1	97.6	32.1	102.8	32.2	111.2	32.3	125.3	32.6	132.0	32.8	142.1	33.2	160.6	34.2
	45					101.5	36.3	109.6	36.4	124.9	37.3	**129.4**	**36.8**	139.1	37.1	156.6	38.0
	50							107.8	41.2	116.3	39.5	126.7	41.4	135.9	41.7	153.9	42.5
AQVH 140	30	102.1	27.9	109.5	28.0	115.6	28.1	125.5	28.3	142.1	28.7	150.1	29.0	162.2	29.4	184.5	30.6
	35	101.1	31.3	108.3	31.4	114.2	31.5	123.8	31.7	139.8	32.0	147.5	32.3	159.1	32.7	180.6	33.6
	40	100.2	35.2	107.0	35.3	112.8	35.4	122.0	35.5	137.5	35.8	144.8	36.0	155.9	36.4	176.2	37.5
	45					111.3	39.9	120.2	40.0	137.1	41.0	**142.0**	**40.4**	152.6	40.7	171.9	41.7
	50							118.3	45.2	127.6	43.4	139.1	45.5	149.1	45.7	168.9	46.7

(*) Compressors only
LWT : Leaving water temperature

Performance Data - AQVH 85 to 140 - R410A - HT - Cooling

AQVH Sizes HT Version	LWT (°C)	Outdoor air temperature (°C)																			
		25		30		32		35		38		40		42		45		48		50	
		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)	P cool (kW)	P abs* (kW)	P cool (kW)	P abs* (kW)	P cool (kW)	P abs* (kW)
AQVH 85	5	87.5	19.0	83.4	21.0	81.7	21.9	79.1	23.2	76.0	24.6	73.8	25.6	71.6	26.6	68.2	28.2	64.8	29.8	62.5	30.8
	7	92.4	19.4	88.1	21.4	86.3	22.3	**83.6**	**23.6**	80.4	25.0	78.1	26.0	75.7	27.0	72.2	28.6	68.6	30.2	66.3	31.2
	9	96.7	19.7	92.3	21.7	90.5	22.6	87.6	24.0	84.3	25.4	82.0	26.3	79.6	27.3	76.0	28.9	72.4	30.4		
	11	101.4	20.1	96.8	22.1	94.9	23.0	92.0	24.4	88.6	25.7	86.2	26.7	83.8	27.7	80.1	29.3	76.5	30.9		
	13	106.6	20.5	101.7	22.5	99.8	23.4	96.8	24.8	93.3	26.2	90.8	27.1	88.3	28.1	84.4	29.7				
	15	112.2	21.0	107.6	23.1	105.5	24.0	101.9	25.3	98.3	26.7	95.7	27.6	93.0	28.6	88.9	30.2				
	18	121.3	21.9	115.7	23.9	113.5	24.8	109.9	26.2	105.3	27.5	102.0	28.4	98.7	29.3	93.8	30.7				
AQVH 95	5	97.8	21.9	93.2	24.1	91.4	25.1	88.4	26.7	85.0	28.3	82.6	29.4	80.1	30.6	76.3	32.4	72.5	34.2	69.9	35.4
	7	103.3	22.3	98.5	24.6	96.6	25.6	**93.4**	**27.2**	89.9	28.8	87.3	29.9	84.7	31.0	80.7	32.9	76.7	34.7	74.1	35.8
	9	108.2	22.6	103.2	25.0	101.2	26.0	98.0	27.5	94.3	29.2	91.7	30.3	89.0	31.4	85.0	33.2	81.0	35.0		
	11	113.4	23.1	108.2	25.4	106.2	26.4	102.9	28.0	99.1	29.6	96.4	30.7	93.7	31.9	89.6	33.7	85.5	35.5		
	13	119.2	23.5	113.7	25.9	111.6	26.9	108.2	28.5	104.4	30.1	101.6	31.2	98.8	32.4	94.4	34.1				
	15	125.5	24.2	120.4	26.6	118.0	27.6	114.0	29.1	109.9	30.7	107.0	31.8	104.1	32.9	99.4	34.7				
	18	135.6	25.2	129.4	27.5	127.0	28.5	122.9	30.1	117.8	31.6	114.1	32.6	110.4	33.7	104.9	35.3				
AQVH 105	5	108.6	23.8	103.5	26.3	101.5	27.3	98.2	29.0	94.4	30.8	91.7	32.0	88.9	33.3	84.7	35.2	80.4	37.2	77.7	38.4
	7	114.7	24.2	109.4	26.7	107.2	27.8	**103.8**	**29.5**	99.8	31.3	97.0	32.5	94.1	33.8	89.6	35.7	85.2	37.7	82.3	39.0
	9	120.1	24.6	114.6	27.1	112.4	28.2	108.8	29.9	104.7	31.7	101.8	32.9	98.9	34.2	94.4	36.1	89.9	38.0		
	11	125.9	25.1	120.2	27.6	117.9	28.7	114.2	30.4	110.0	32.2	107.1	33.4	104.1	34.6	99.5	36.6	95.0	38.6		
	13	132.4	25.6	126.3	28.2	123.9	29.3	120.2	31.0	115.9	32.7	112.8	33.9	109.6	35.2	104.8	37.1				
	15	139.4	26.3	133.7	28.9	131.0	30.0	126.6	31.6	122.0	33.4	118.9	34.5	115.5	35.8	110.4	37.7				
	18	150.6	27.3	143.7	29.9	141.0	31.0	136.5	32.7	130.8	34.4	126.7	35.4	122.6	36.6	116.4	38.4				
AQVH 115	5	117.0	25.8	111.5	28.5	109.3	29.6	105.8	31.5	101.7	33.4	98.7	34.7	95.7	36.1	91.2	38.2	86.6	40.3	83.6	41.7
	7	123.5	26.3	117.8	29.0	115.5	30.2	**111.7**	**32.0**	107.5	33.9	104.4	35.2	101.3	36.6	96.5	38.7	91.8	40.9	88.6	42.3
	9	129.4	26.7	123.4	29.4	121.0	30.6	117.2	32.5	112.8	34.4	109.7	35.7	106.5	37.1	101.7	39.2	96.9	41.3		
	11	135.6	27.2	129.4	29.9	126.9	31.1	123.0	33.0	118.5	34.9	115.3	36.2	112.1	37.6	107.2	39.7	102.2	41.9		
	13	142.5	27.8	136.0	30.5	133.5	31.7	129.4	33.6	124.8	35.5	121.5	36.8	118.1	38.1	112.9	40.2				
	15	150.1	28.5	144.0	31.3	141.1	32.5	136.3	34.3	131.4	36.2	128.0	37.5	124.4	38.8	118.8	40.9				
	18	162.2	29.7	154.7	32.4	151.8	33.7	147.0	35.5	140.9	37.3	136.4	38.4	132.0	39.7	125.4	41.6				
AQVH 125	5	123.5	29.8	117.7	32.9	115.4	34.2	111.7	36.4	107.3	38.6	104.2	40.1	101.1	41.7	96.3	44.1	91.5	46.6	88.3	48.2
	7	130.4	30.3	124.4	33.5	121.9	34.9	**118.0**	**37.0**	113.5	39.2	110.2	40.7	106.9	42.3	101.9	44.8	96.9	47.2	93.6	48.8
	9	136.6	30.8	130.3	34.0	127.8	35.4	123.7	37.5	119.1	39.7	115.8	41.2	112.4	42.8	107.3	45.2	102.3	47.7		
	11	143.2	31.4	136.6	34.6	134.0	36.0	129.9	38.1	125.1	40.3	121.7	41.8	118.3	43.4	113.1	45.9	108.0	48.4		
	13	150.5	32.1	143.6	35.3	140.9	36.7	136.6	38.8	131.8	41.0	128.3	42.5	124.7	44.1	119.2	46.5				
	15	158.4	32.9	152.0	36.2	148.9	37.5	143.9	39.6	138.7	41.8	135.1	43.3	131.4	44.8	125.5	47.2				
	18	171.2	34.3	163.4	37.5	160.3	38.9	155.2	41.0	148.7	43.0	144.0	44.4	139.3	45.9	132.4	48.1				
AQVH 140	5	138.3	33.1	131.8	36.6	129.2	38.1	125.0	40.5	120.2	43.0	116.7	44.6	113.2	46.4	107.8	49.1	102.4	51.9	98.9	53.7
	7	146.0	33.8	139.2	37.3	136.5	38.8	**132.1**	**41.2**	127.0	43.7	123.4	45.3	119.7	47.1	114.1	49.9	108.5	52.6	104.8	54.4
	9	152.9	34.3	145.9	37.9	143.1	39.4	138.5	41.8	133.3	44.2	129.6	45.9	125.8	47.7	120.2	50.4	114.5	53.1		
	11	160.3	35.0	153.0	38.5	150.1	40.1	145.4	42.5	140.1	44.9	136.3	46.6	132.5	48.3	126.7	51.1	120.9	53.9		
	13	168.5	35.7	160.8	39.3	157.8	40.8	153.0	43.2	147.5	45.6	143.6	47.3	139.6	49.1	133.4	51.8				
	15	177.4	36.6	170.2	40.3	166.7	41.8	161.1	44.2	155.3	46.6	151.3	48.2	147.1	49.9	140.5	52.6				
	18	191.7	38.2	182.9	41.7	179.5	43.3	173.7	45.7	166.5	47.9	161.3	49.5	156.0	51.1	148.2	53.6				

(*) Compressors only
LWT : Leaving water temperature

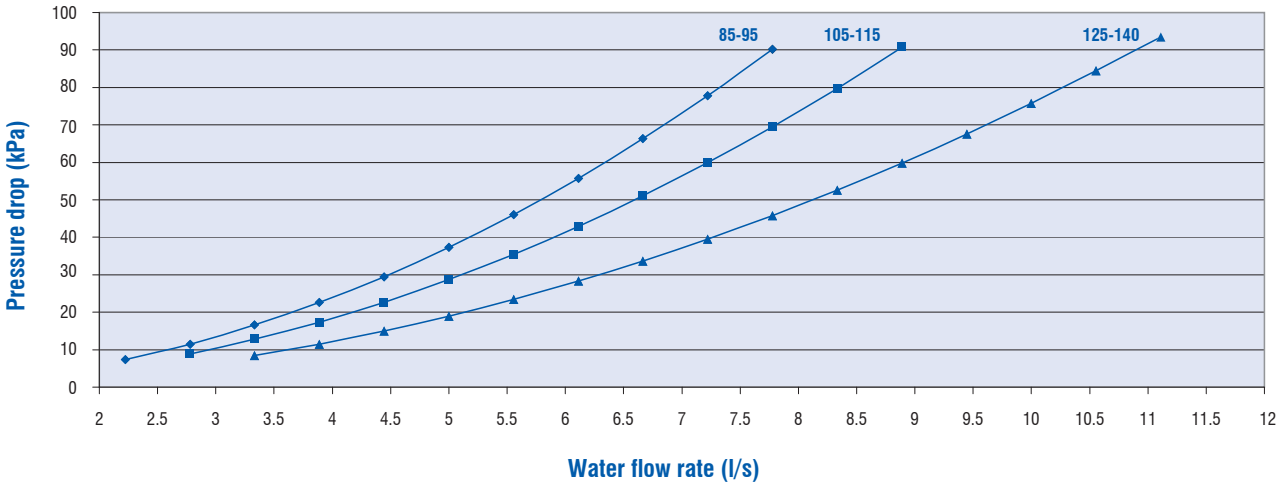
Performance Data - AQVH 85 to 140 - R410A - HT - Heating

AQVH Sizes HT Version	LWT (°C)	Outdoor air temperature (°C)															
		-7		-5		-3		0		5		7		10		15	
		Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)	Pheat (kW)	Pabs* (kW)
AQVH 85	30	67.2	16.9	72.1	17.0	76.2	17.1	82.6	17.2	93.6	17.4	98.9	17.6	106.8	17.8	121.5	18.5
	35	66.6	19.0	71.3	19.0	75.3	19.1	81.5	19.2	92.1	19.4	97.1	19.6	104.8	19.8	119.0	20.4
	40	66.0	21.3	70.5	21.4	74.3	21.4	80.4	21.5	90.5	21.7	95.4	21.8	102.7	22.1	116.1	22.7
	45			69.6	24.2	73.3	24.2	79.2	24.2	88.7	24.3	**93.5**	**24.5**	100.5	24.7	113.2	25.3
	50							77.9	27.4	84.1	26.3	91.6	27.6	98.2	27.7	111.2	28.3
AQVH 95	30	75.4	19.4	80.9	19.5	85.4	19.6	92.7	19.7	105.0	20.0	110.9	20.2	119.8	20.5	136.3	21.3
	35	74.7	21.8	80.0	21.8	84.4	21.9	91.4	22.0	103.3	22.3	108.9	22.5	117.5	22.8	133.4	23.4
	40	74.0	24.5	79.1	24.6	83.3	24.6	90.1	24.7	101.5	24.9	106.9	25.1	115.2	25.4	130.1	26.1
	45			78.1	27.7	82.2	27.8	88.8	27.8	99.4	27.9	**104.9**	**28.1**	112.7	28.4	126.9	29.0
	50							87.3	31.5	94.3	30.2	102.7	31.7	110.2	31.8	124.7	32.5
AQVH 105	30	81.7	20.8	87.6	20.9	92.6	20.9	100.4	21.1	113.8	21.4	120.1	21.6	129.9	21.9	147.7	22.7
	35	80.9	23.3	86.7	23.4	91.5	23.4	99.1	23.6	111.9	23.8	118.0	24.0	127.4	24.3	144.6	25.0
	40	80.2	26.2	85.7	26.3	90.3	26.3	97.7	26.4	110.0	26.7	115.9	26.8	124.8	27.1	141.1	27.9
	45			84.6	29.7	89.1	29.7	96.2	29.7	107.8	29.8	**113.7**	**30.1**	122.2	30.3	137.6	31.0
	50							94.7	33.6	102.2	32.3	111.3	33.8	119.4	34.0	135.2	34.7
AQVH 115	30	87.6	22.6	94.0	22.7	99.3	22.8	107.7	23.0	122.0	23.3	128.8	23.5	139.3	23.9	158.4	24.8
	35	86.8	25.4	92.9	25.5	98.1	25.5	106.3	25.7	120.0	26.0	126.6	26.2	136.6	26.5	155.1	27.3
	40	86.0	28.6	91.9	28.6	96.9	28.7	104.8	28.8	118.0	29.1	124.3	29.2	133.8	29.6	151.3	30.4
	45			90.8	32.3	95.6	32.4	103.2	32.4	115.6	32.5	**121.9**	**32.8**	131.0	33.1	147.5	33.8
	50							101.5	36.7	109.6	35.2	119.4	36.9	128.0	37.1	145.0	37.9
AQVH 125	30	97.4	25.6	104.5	25.8	110.4	25.9	119.8	26.1	135.7	26.4	143.3	26.7	154.9	27.1	176.1	28.1
	35	96.5	28.8	103.4	28.9	109.1	29.0	118.2	29.1	133.5	29.5	140.8	29.7	151.9	30.1	172.5	30.9
	40	95.6	32.4	102.2	32.4	107.7	32.5	116.5	32.6	131.2	32.9	138.2	33.1	148.9	33.5	168.2	34.5
	45			100.9	36.7	106.3	36.7	114.8	36.8	128.5	36.9	**135.6**	**37.2**	145.7	37.5	164.1	38.4
	50							112.9	41.6	121.8	39.9	132.8	41.8	142.4	42.1	161.2	42.9
AQVH 140	30	106.6	28.2	114.3	28.4	120.7	28.5	131.0	28.7	148.4	29.1	156.7	29.4	169.4	29.8	192.6	31.0
	35	105.6	31.7	113.1	31.8	119.3	31.9	129.2	32.1	146.0	32.5	154.0	32.7	166.1	33.1	188.6	34.0
	40	104.6	35.6	111.8	35.7	117.8	35.8	127.4	36.0	143.5	36.3	151.2	36.5	162.8	36.9	184.0	38.0
	45			110.4	40.4	116.3	40.4	125.5	40.5	140.6	40.6	**148.3**	**40.9**	159.4	41.3	179.5	42.3
	50							123.5	45.8	133.3	44.0	145.2	46.1	155.7	46.3	176.3	47.3

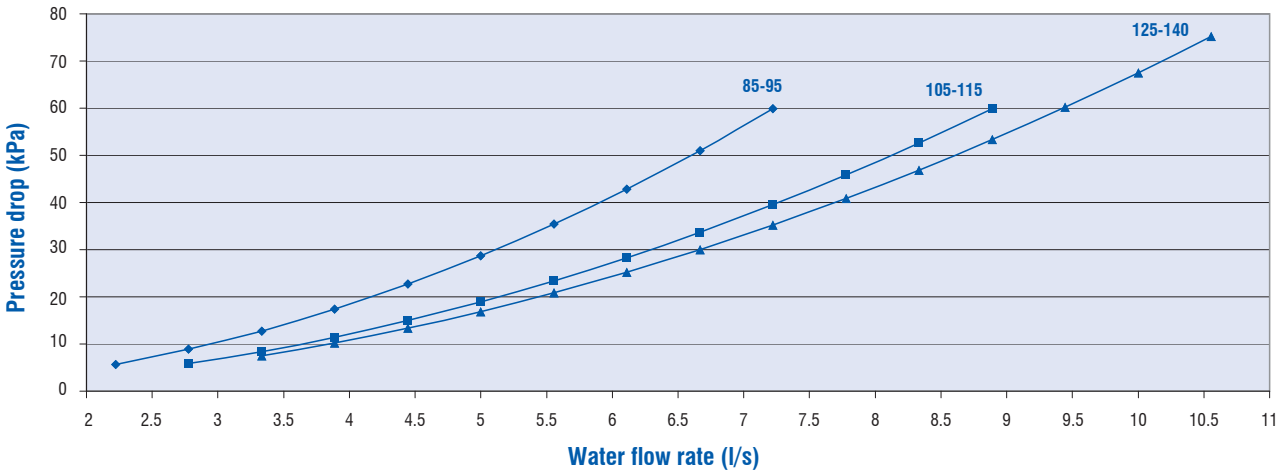
(*) Compressors only
LWT : Leaving water temperature

Evaporator Water Pressure Drop

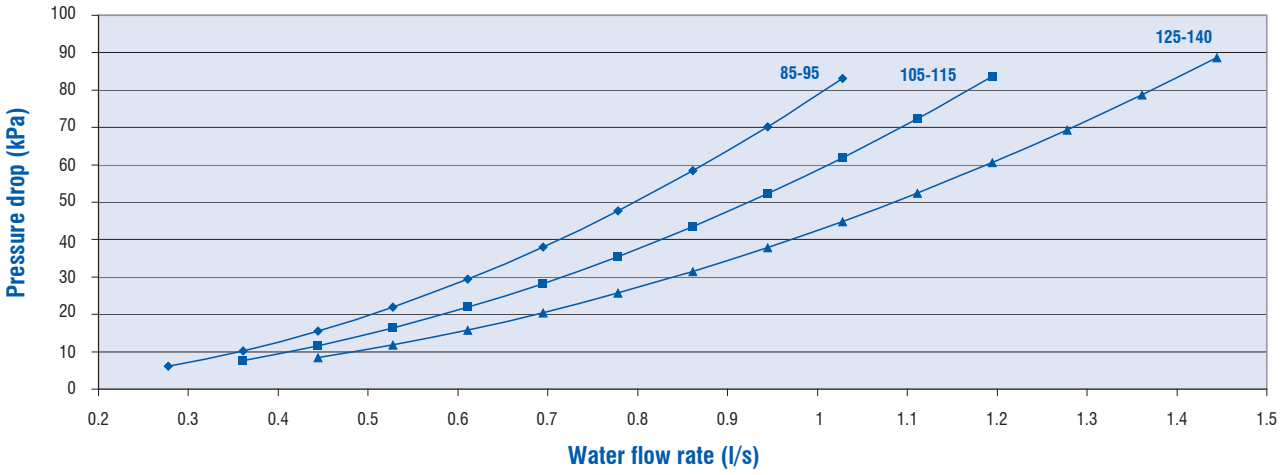
AQVL



AQVH

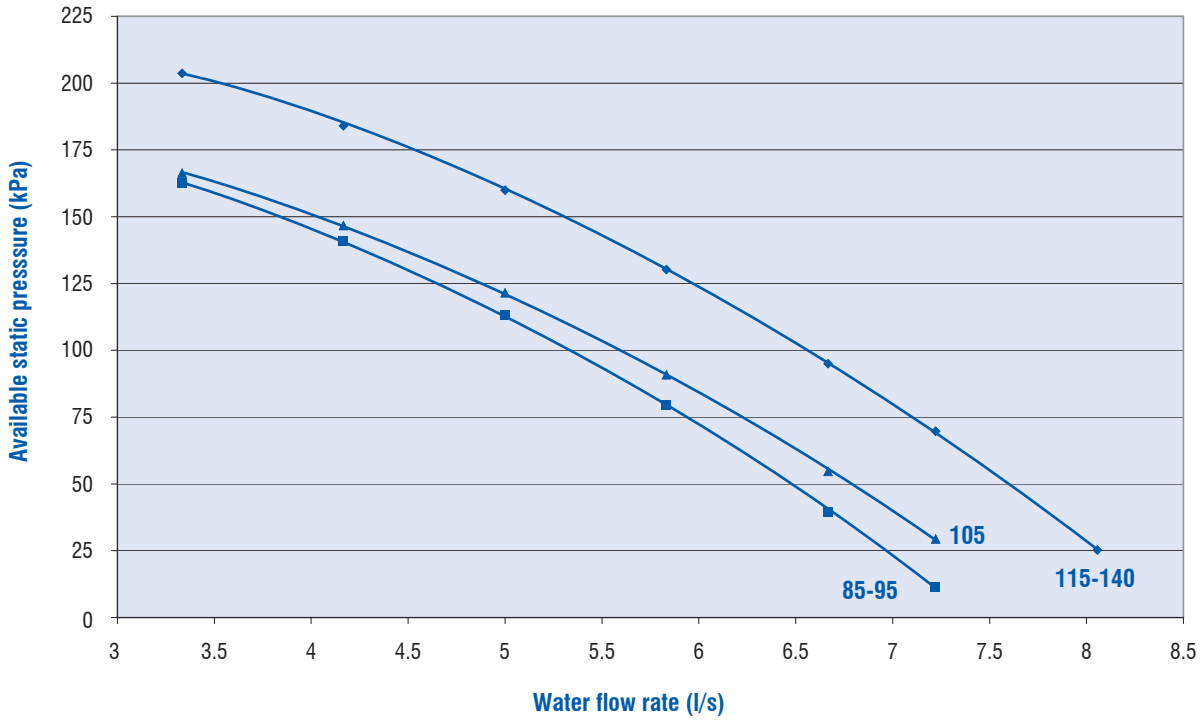


Desuperheater Water Pressure Drop - AQVL/AQVH

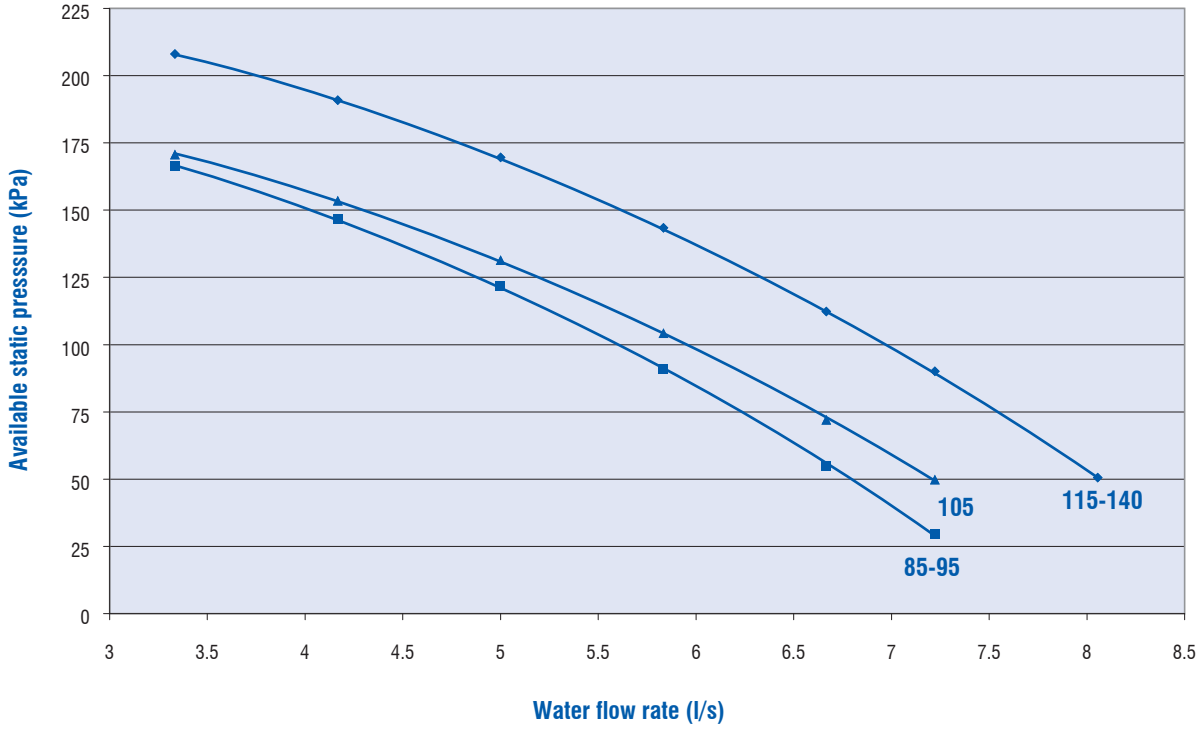


Water Pump Curves

AQVL - 1 or 2 pump available static pressure

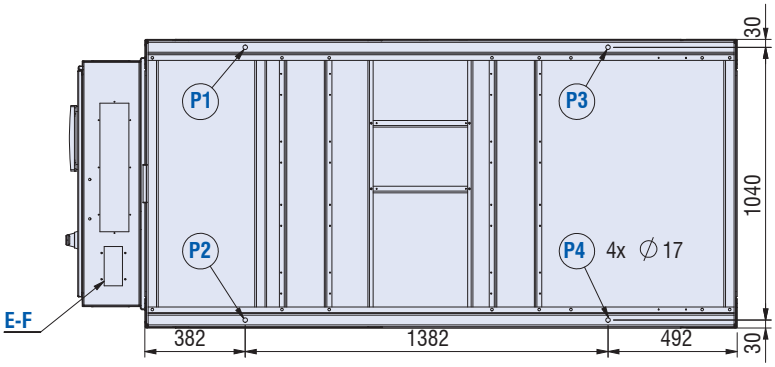


AQVH - 1 or 2 pump available static pressure

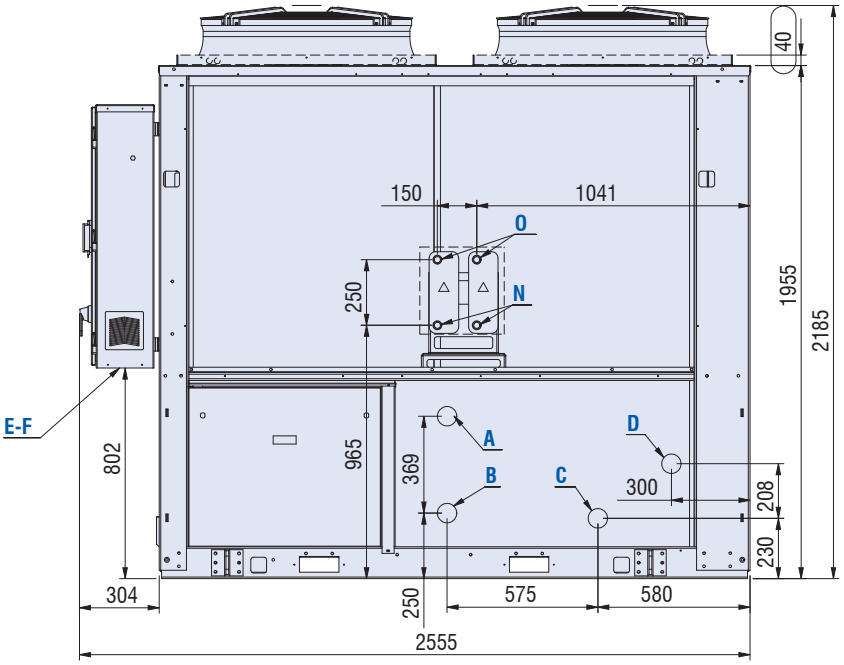


Dimensions (mm) - AQVL/AQVH - R410A - Sizes 85 to 115

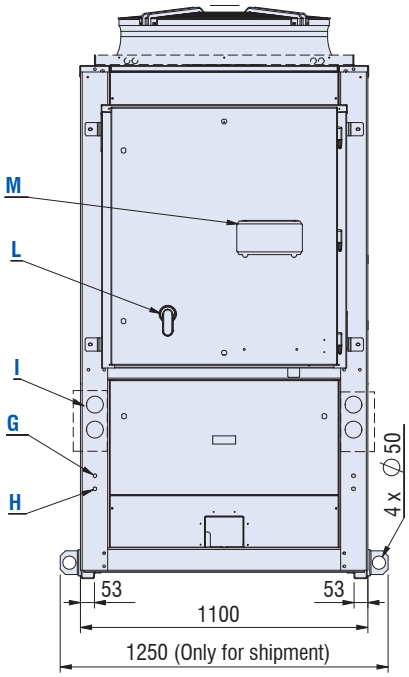
Bottom view



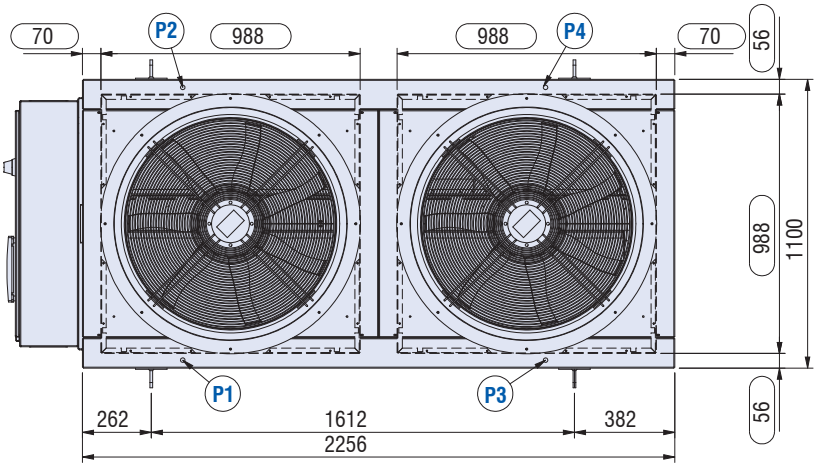
Side view



Front view



Top view



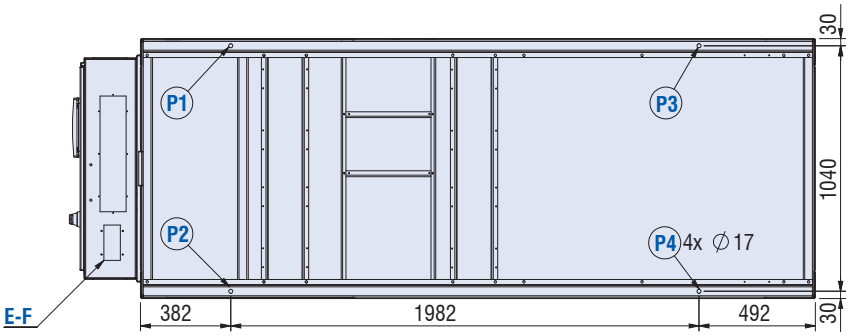
A	Water connection Ø 2 1/2" gas male
B	Water connection Ø 2 1/2" gas male
C	Water connection Ø 2 1/2" gas male
D	Water connection Ø 2 1/2" gas male
E	Electrical auxiliary lines
F	Electrical power supply
G	High pressure tap
H	Low pressure tap
I	Gauge kit (accessory)
L	Main switch
M	Control keypad / display

N	Desuperheater water inlet Ø1" gas male (optional)
O	Desuperheater water outlet Ø1" gas male (optional)
XXX	Only for HPF fan model
P1, P2, P3, P4	AVM position

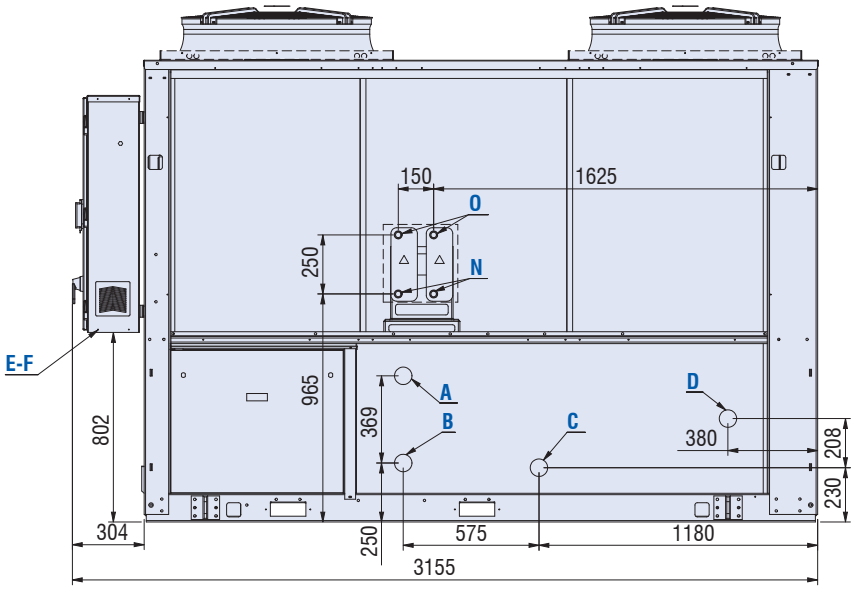
Hydraulic option	Water in	Water out
STD	A	B
1P/2P/3P	C	B
1P+T/2P+T	C	D

Dimensions (mm) - AQVL/AQVH - R410A - Sizes 125 & 140

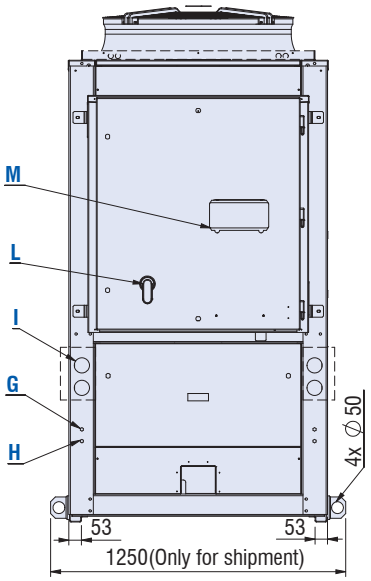
Bottom view



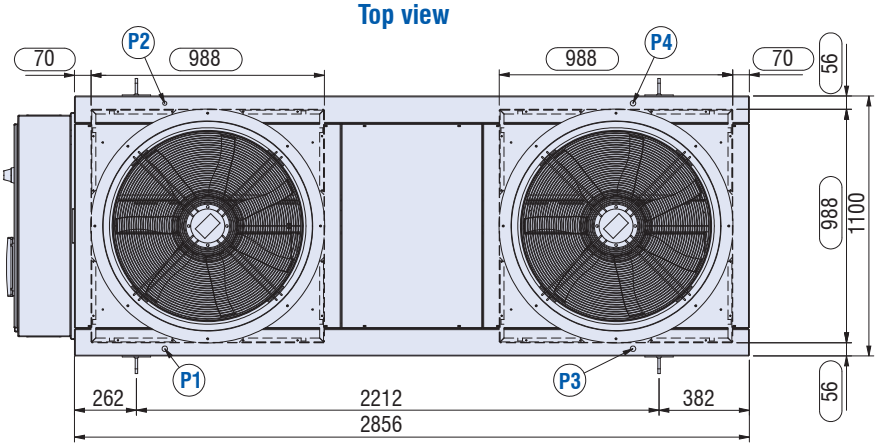
Side view



Front view



Top view



A	Water connection Ø 2 1/2" gas male
B	Water connection Ø 2 1/2" gas male
C	Water connection Ø 2 1/2" gas male
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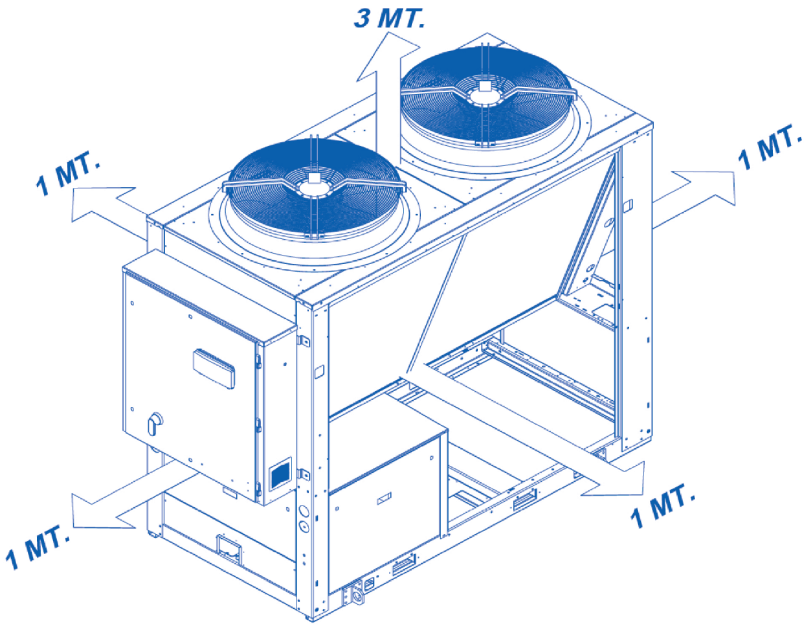
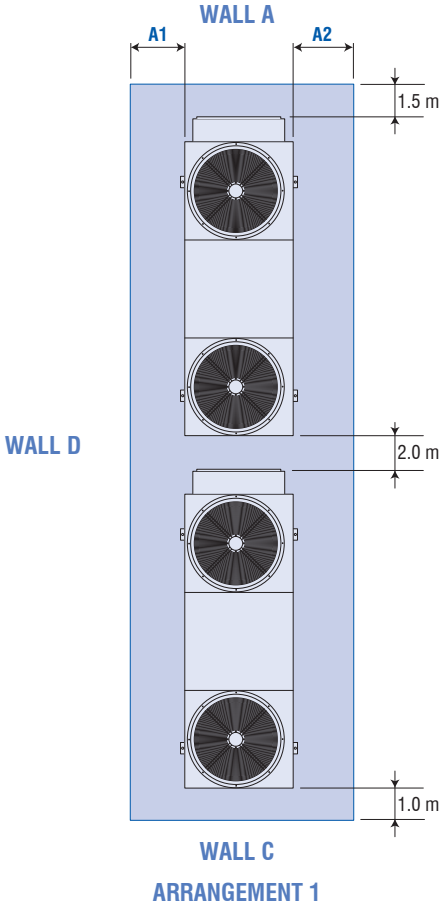
Hydraulic option	Water in	Water out
STD	A	B
1P/2P/3P	C	B
1P+T/2P+T	C	D

Space requirements (in mm)

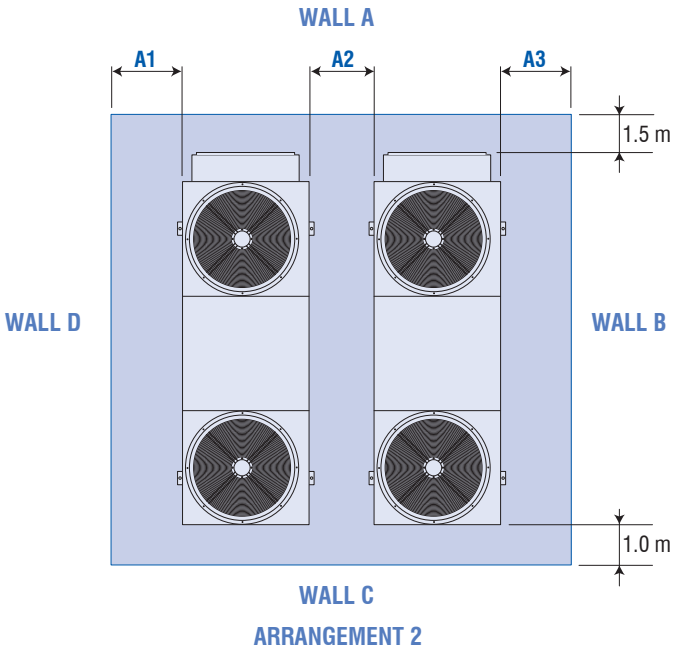
Installation of single unit



Installation of several units



ARRANGEMENT 1



ARRANGEMENT 2

	A and C grille B and D full			A and B full C and D full			A and C full B and D grille			A and B grille C and D full			A and D grille B and C full		
	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3
ARRANGEMENT 1	1000	1000		1000	1000		800	800		1000	800		800	1000	
ARRANGEMENT 2	1000	1500	1000	1000	2000	1000	800	2000	800	1000	1500	800	800	1500	1000

No more than one wall can be higher than the unit.
The area enclosed by the wall must be kept clear of all obstructions that would impede air flow to the unit. Dimensions in mm.

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