

SYSAQUA

Air Cooled Water Chillers

SYSAQUAL (Cooling Only) / SYSAQUAH (Heat Pump)
Models 25 to 125

Scroll Compressor



Refrigerant R410A



26.9 to 120.0kW



25.0 to 122.0kW



Key Points

- **R410A** refrigerant,
- Units are optimized for partial load operation,
- High ESEER,
- 2 compressors fitted in tandem for all the range with two capacity steps on sizes 25 to 45 and three capacity steps on sizes 55 to 125, with an immediate return on investment versus the inverter units,
- **Low noise version supplied as standard**, extra low noise version for the XLN units,
- «Night Mode» for energy savings and even more reduced noise level in night operation,
- Water law is standard for energy savings,
- Refrigerant circuit is completely closed in a separate compartment in order to reduce noise level (sizes 25 to 40),
- Great accessibility to internal components for service operations,
- New display on external panel allowing the complete control of the unit,
- Wide operating limits,
- High temperature operation up to 50 °C,
- Operation in heat pump mode down to external temperature of -15 °C,
- Fan speed control for low ambient operation in cooling mode down to -10 °C,
- ModBus interface available (reading),
- Phase sequence monitor supplied as standard,
- User-friendly microprocessor **ILTC II** controller that allows to reduce the need of an external water tank in most of comfort air conditioning installations,
- Control logic on return or leaving water temperature,
- In cooling mode, 3.5 litres of buffer volume per kW are recommended for sizes 25 to 40 and 2.5 litres per kW for sizes 45 to 125,
- Unique defrosting logic (optimized/improved interval),
- Double water set point,
- Water filter (not fitted) and water flow switch (factory fitted) are supplied as standard,
- "Plug and play" hydraulic kit is standard on sizes 25 to 40 and optional on sizes 45 to 125,
- Automatic air vent,
- Victaulic connection on internal components ensuring a perfect sealing and facilitating service operations,
- Double 3/8" valve on water pipes for pressure measurement,
- Small footprint, allowing shipping and handling costs to be saved, units find easily a place to be installed.

SYSAQUA

SYSAQUAL/SYSAQUAH
25 to 40

SYSAQUAL/SYSAQUAH
45 to 55

SYSAQUAL/SYSAQUAH
65 to 125



Specifications

General

The new **SYSAQUAL/SYSAQUAH 25 to 125** have been designed and optimized to operate with R410A refrigerant fluid. They are of single refrigerant circuit type.

They are available in **cooling only (SYSAQUAL)** and **heat pump (SYSAQUAH)** versions.

Each versions consists of **11 sizes (25, 30, 35, 40, 45, 55, 65, 75, 90, 105 & 125)** and covers a nominal cooling capacity range from **25.0 to 122 kW** and a nominal heating capacity range from **26.9 to 120 kW**.

All units are equipped with **two scroll compressors fitted in tandem** for adapting to partial system loads.

The general operation status of the machine is continuously under the control of an **ILTC II microprocessor based controller**.

The **SYSAQUAL** and **SYSAQUAH units can operate without water tank**, thanks to the ILTC II microprocessor that implements an **auto-adaptative control logic** ensuring a total protection of the compressors at different load or water volume conditions.

The minimum water volume requested in cooling mode (for sizes 25 to 40) is **3.5 litres** of buffer volume per kW and **2.5 litres** per kW for sizes 45 to 125.

In heating mode, **12.5 litres** of buffer volume per kW are recommended in order to guarantee homogeneous temperatures during the defrosting cycles (comfort and energy savings).

A **fan speed controller** can be also supplied as factory-fitted option to authorize the unit to operate in cooling mode at low ambient temperature.

SYSAQUAL and **SYSAQUAH** units can be supplied in several versions :

- **STD (Standard) version** : Includes a low noise (LS) acoustical performance.
- **XLN (Extra low noise) version** : Obtained by the installation of acoustic box around compressors.
- **HPF version** : Increases the static pressure.

Cabinet and structure

The cabinet and structure of the unit are of heavy duty 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 7040**.

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

Compressors

Each unit is equipped with two scroll compressors fitted on a rail and assembled together to form **tandem compressors**.

The compressors are then mounted on rubber pads in order to eliminate noise and vibration transmissions.

The compressor motors have a direct start-up. Each motor is cooled by the refrigerant gas and is equipped with an overload protection.

A **phase sequence monitor** is supplied as standard.

Evaporator

The evaporator is consisting of a stainless steel plate heat exchanger insulated with closed cell synthetic foam. It is protected by an **antifreeze electric heater** to ensure a good protection against freezing at low ambient temperature (-10 °C min.) when the unit is switched off.

Maximum working pressure is 10 bar at water side and 45 at refrigerant side.

Condenser

The condenser is a finned coil constructed with seamless copper tubes mechanically expanded into aluminium fins. The fins of SYSAQUAH coils are made of aluminium with hydrophilic blue coating to facilitate water droplets drain.

The condenser is largely dimensioned in order to optimize performance and defrosting cycles.

The condenser can be equipped, as optional, a protective grille to prevent shocks.

Condenser fans and motors

Each unit has one or two axial fan, with 2 speeds. According to the version, the fan is cabled in order to have high speed (700 to 900 rpm) for Standard version and low speed (530 to 680 rpm) to reduce the sound level for XLN version.

The fan motor has IP54 grade and is equipped with a thermal overload protection.

A pressostatic type fan speed controller can be delivered as factory-fitted option. It allows the unit to operate in cooling mode at low ambient temperatures down to -10 °C minimum, because it regulates the fan speed in order to maintain the constant condensing temperature.

All fans are fitted with a protective grille on top.

Refrigerant circuit

All units have one refrigerant circuit consisting of : scroll tandem compressors, plate heat exchanger, thermostatic expansion valve, 4-way reverse cycle valve and liquid reservoir (heat pump version only), condenser coil, as well as safety and control devices such as high pressure switch, high/low pressure transducers and PED safety valve.

Inspection on refrigerant via a sight glass can be done during service operations, by removing an access panel, without disturbing the unit operating conditions.

A set of LP and HP gauges can be factory fitted as optional.

All refrigerant components are shown in the functional diagrams illustrated in the next pages, section "Refrigerant flow diagrams".

Hydraulic circuit

Thanks to the design flexibility on the hydraulic circuit, all the units can be configured in several ways :

- **BASIC unit** : Unit without pump, the hydraulic circuit contains the following components : supplied loose water filter, mounted water flow switch, water safety valve, automatic air vent, optional field-installed in/out 3/8" water valves.
All water piping is covered with thermal insulation.
- **1P** : One pump unit having the same equipment as BASIC unit + a pump with 150 kPa external static pressure. An air vent is provided for this configuration.
- **2P** : Two pump unit (from size 45) having the same equipment as BASIC unit + 2 pumps with 150 kPa external static pressure. Each pump can be isolated and replaced with the aid of two valves. A non-return valve is fitted to prevent a pump from pumping water in the discharge piping of another pump. An air vent is also provided for this configuration.

The different components of hydraulic kit are interconnected by Victaulic couplings in order to facilitate maintenance operations.

The hydraulic connections are of male gas threaded type; for the connection diameters, please refer to the physical data tables on the next pages.

Specifications (continued)

Control panel

The units are fitted with an external control panel that displays the operating parameters and alarms.

The control panel is accessible from exterior without removing any parts, nor shutting down the unit, because it is placed on an external panel. A plexiglas cover protects the control from shocks and bad weather.



The **SYSAQUAL/SYSAQUAH** chillers are equipped with a microprocessor based control with a new **ILTC II** logic that implements an intelligent control **with anticipation of needs**, either on entering water temperature, or on leaving water temperature.

The main features of this control system are :

- User-friendly : with only 3 buttons and a tree logic, it is possible to control the unit easily,
- Reliable : all indications on the display are visible in every weather conditions,
- Internal test procedure,
- Alarm visualization with a logging of the last 10 alarms,
- Remote ON/OFF switching,
- Compressor and pump working hour counter,
- Pressure transducers to control discharge and suction temperatures,
- Maximum discharge temperature control,
- Part load operating mode,
- Remote Cooling/Heating mode switching,
- Compatibility with BMS (RS485 ModBus protocol),
- Compressor operating limits stored in a flash memory.

Control and safety devices

Each unit is complete with the following safety and control devices :

Safety :

- ➔ Fan motor overload protection.
- ➔ Compressor motor overload protection.

- ➔ Water flow switch.
- ➔ Water filter (supplied loose).
- ➔ High pressure switch.
- ➔ High and low pressure transducers.
- ➔ Evaporator antifreeze electric heater.
- ➔ Crankcase heater.
- ➔ Safety valve on 45 bar refrigerated side.
- ➔ Safety valve on 3 bar water side.

Control :

- ➔ Entering water temperature sensor.
- ➔ Leaving water temperature sensor.
- ➔ Coil temperature sensor.
- ➔ Discharge temperature sensor.
- ➔ Air temperature sensor.
- ➔ Suction and discharge pressure transducers.
- ➔ Dry contact available to the client:

ON / OFF, SUMMER / WINTER, Day / Night.

Conformity with standards

All **SYSAQUAL/SYSAQUAH** units are in compliance with the following standards:

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

Factory-installed options

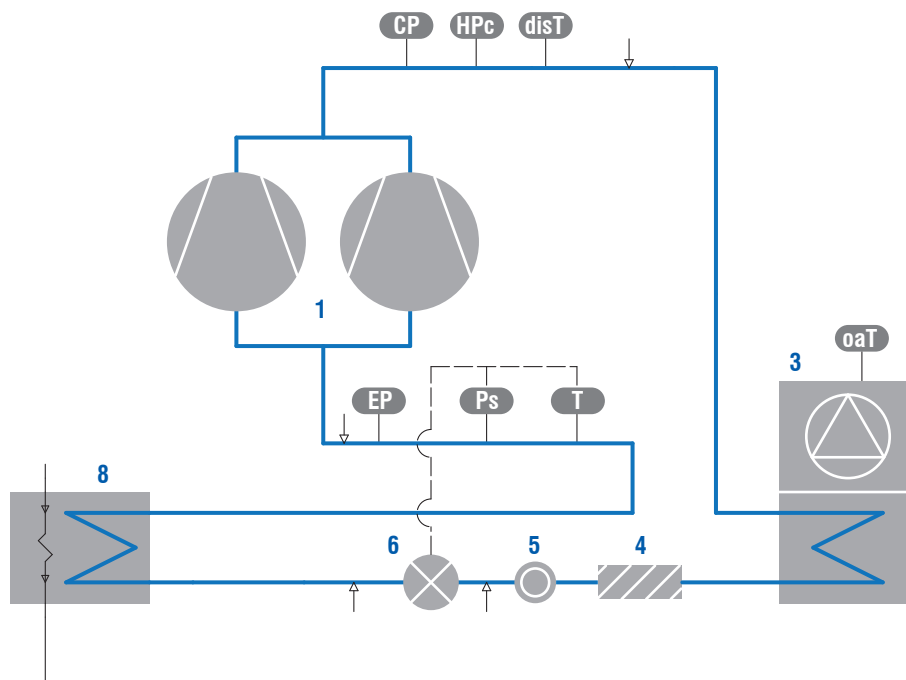
- ➔ Condenser protective grille.
- ➔ Reinforced acoustic insulation (XLN version).
- ➔ Coil with epoxy treatment.
- ➔ LP/HP gauges.
- ➔ Power supply without neutral kit.
- ➔ Lack of water pressure switch.
- ➔ 1-pump hydraulic kit (sizes 45 to 125).
- ➔ 2-pump hydraulic kit (sizes 45 to 125).
- ➔ Fan speed control kit (for operation with low ambient temperature down to -10 °C).

Field-installed accessories

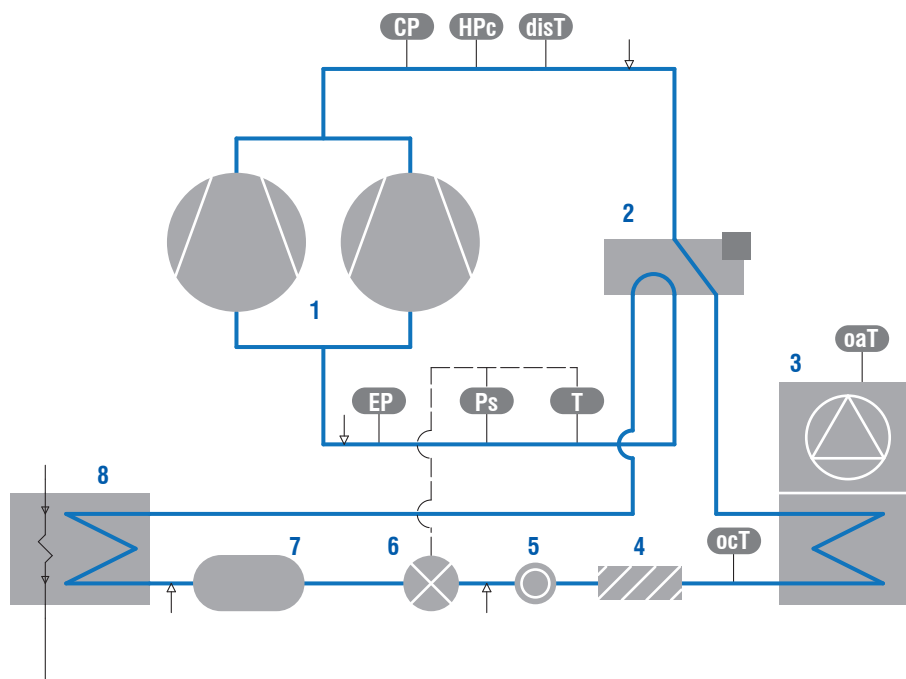
- ➔ Anti-vibration rubber pads.
- ➔ ModBus protocol kit for BMS.
- ➔ In/Out valve kit.

Refrigerant Flow Diagram

Cooling only version - SYSAQUAL 20 to 125



Heat pump version - SYSAQUAH 20 to 125



components

1	Tandem scroll compressors
2	Cycle reversal valve
3	Air cooled condenser
4	Filter drier
5	Sight glass
6	Thermostatic expansion valve
7	Liquid reservoir
8	Plate heat exchanger



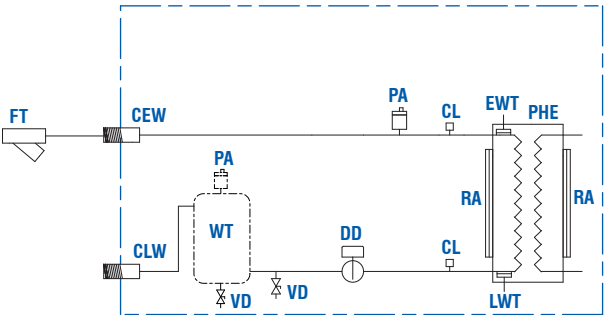
Pressure tapping point 5/16"

safety/control devices

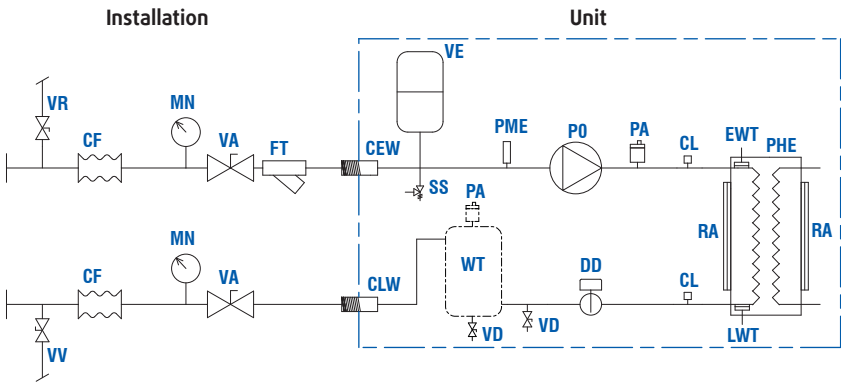
CP	High pressure transducer
HPc	High pressure switch
disT	Discharge temperature sensor
EP	Low pressure transducer
Ps	Expansion valve pressure tap
T	Expansion valve bulb
oaT	Outdoor air temperature sensor
ocT	Condenser outlet temperature sensor
ocT1	Models 65 to 125
ocT2	Models 65 to 125

Hydraulic Circuit Diagram

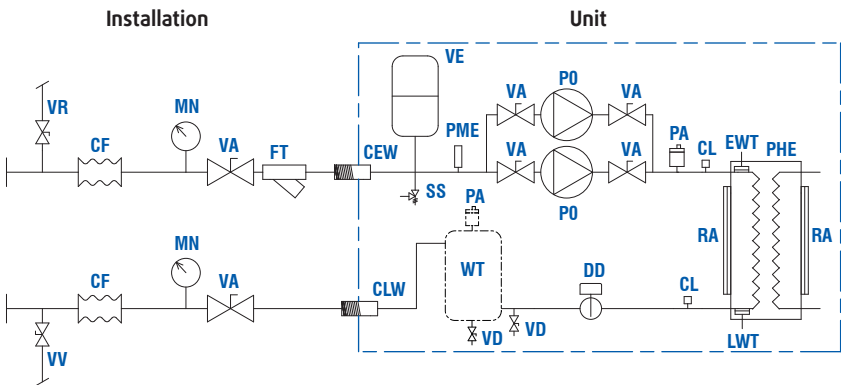
Without pump version



Recommended installation - Single pump version



Recommended installation - Double pump version



Installation recommandée	
VA	Globe valve (option)
VV	Drain valve
CF	Connexion flexible
VR	Water charging valve
MN	Manometer

circuit hydraulique	
FT	Filter (supplied loose)
CEW/CLW	Inlet/Outlet gas male connection (25 to 40 : 1"1/2 - 45 to 75 : 2" - 90 to 125 : 2"1/2)
VE	Pressure expansion tank
PME	Lack of water pressure switch (optional)
SS	Safety valve
PO	Pump
PA	Automatic air vent
CL	Pressure tap 3/8"
EWT	Inlet water temperature sensor
LWT	Outlet water temperature sensor
PHE	Plate heat exchanger
RA	Antifreeze heater
DD	Flow switch
VD	Drain valve
WT	Buffer tank

Operating Limits

SYSAQUAL/SYSAQUAH in cooling mode

SYSAQUAL/SYSAQUAH models			25		30		35		40		45		55	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Water	Water outlet temperature *	°C	2	18	2	18	2	18	2	18	2	18	2	18
	Water ΔT	K	3	8	3	8	3	8	3	8	3	8	3	8
	Flow rate	m ³ /h	2.6	6.8	3.3	7.3	3.5	9.7	3.8	10.0	5.7	12.8	6.2	14.5
Air temperature		°C	See diagrams on next page											

SYSAQUAL/SYSAQUAH models			65		75		90		105		125	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Eau	Water outlet temperature *	°C	2	18	2	18	2	18	2	18	2	18
	Water ΔT	K	3	8	3	8	3	8	3	8	3	8
	Flow rate	m ³ /h	6.8	18.9	7.4	19.6	9.7	25.1	10.9	29.1	12.5	33.4
Air temperature		°C	See diagrams on next page									

* Below 5 °C, glycol is required.

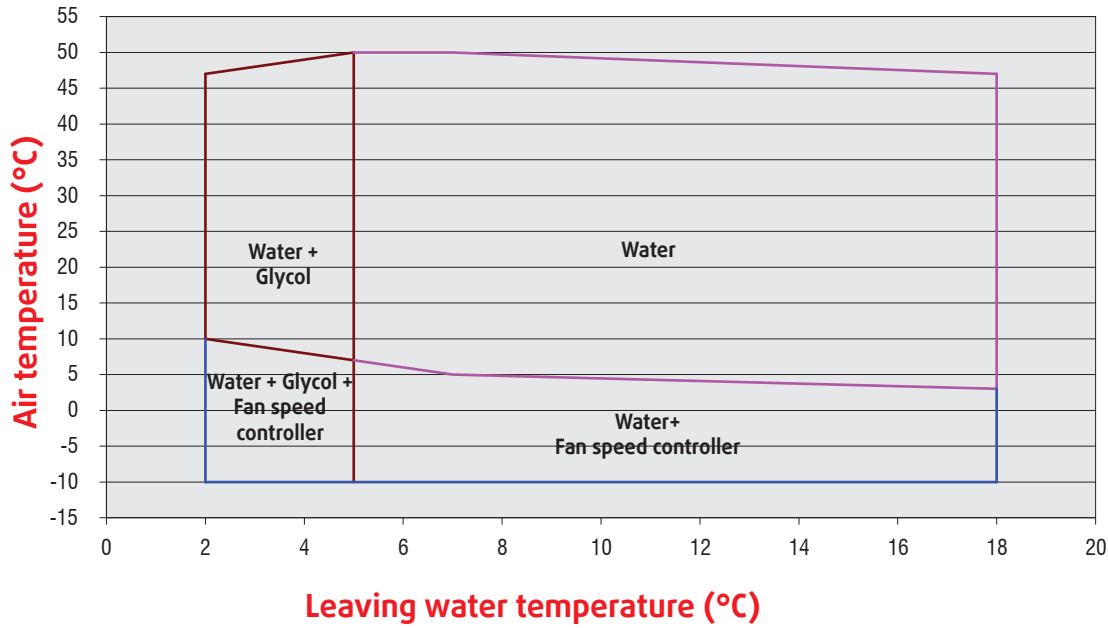
SYSAQUAH in heating mode

SYSAQUAH models			25		30		35		40		45		55	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Water	Water outlet temperature	°C	20	55	20	55	20	55	20	55	20	55	20	55
	Water ΔT	K	3	8	3	8	3	8	3	8	3	8	3	8
	Flow rate	m ³ /h	2.6	6.8	3.3	7.3	3.5	9.7	3.8	10.0	5.7	12.8	6.2	14.5
Air temperature		°C	See diagrams on next page											

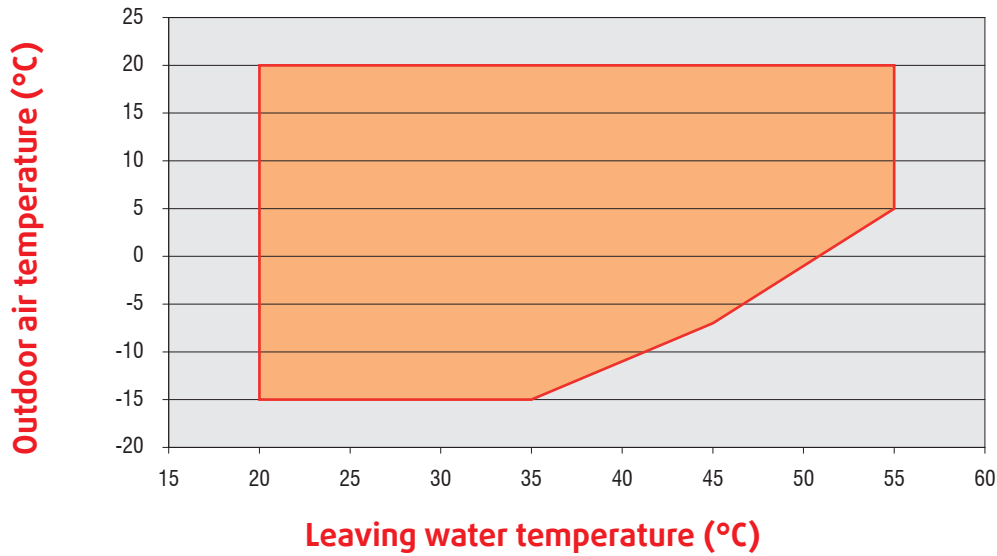
SYSAQUAH models			65		75		90		105		125	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Water	Water outlet temperature	°C	20	55	20	55	20	55	20	55	20	55
	Water ΔT	K	3	8	3	8	3	8	3	8	3	8
	Flow rate	m ³ /h	6.8	18.9	7.4	19.6	9.7	25.1	10.9	29.1	12.5	33.4
Air temperature		°C	See diagrams on next page									

Operating Limits

SYSAQUAL/SYSAQUAH in cooling mode



SYSAQUAH in heating mode



Correction Factors

Fouling factors - Evaporator

Fouling factor (m ² ·°C/kW)	Capacity	Power input
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 (m ² ·°C/kW)	Capacity	Power input
0.044	1.000	1.000
0.088	0.987	1.023
0.176	0.955	1.068
0.352	0.910	1.135

Altitude factors

Altitude (m)	Capacity	Power input
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

Correction factors - Ethylene glycol

% glycol	Freezing point (°C)	Capacity	Power input	Water flow	Pressure drop
0	0	1.00	1.00	1.00	1.00
10	-3	0.991	0.996	1.013	1.070
20	-8	0.982	0.992	1.040	1.129
30	-14	0.972	0.986	1.074	1.181

Warning !

Ethylene glycol is toxic to the environment. Moreover, it is not suitable for heating with domestic hot water production by simple exchange.

Correction factors - Propylene glycol

% glycol	Freezing point (°C)	Capacity	Power input	Water flow	Pressure drop
0	0	1.00	1.00	1.00	1.00
10	-3	0.987	0.992	1.010	1.068
20	-7	0.975	0.985	1.028	1.147
30	-13	0.962	0.978	1.050	1.248

Physical Data - SYSAQUAL STD

SYSAQUA - Cooling only version		25	30	35	40	45
Cooling capacity	kW	26,6	28,3	37,6	39,3	49,1
Power input	kW	8,61	9,34	13,49	13,64	16,90
Total EER 100% (1)		3,09	3,03	2,79	2,88	2,91
ESEER (2)		3,97	3,96	3,62	3,90	4,06
Energy class (2)		B	B	C	C	B
Power supply		400V/3~+N/50Hz				
Startup type		Direct				
Nominal operating current	A	15,1	16,3	24	24	30
Maximum operating current	A	22,5	24,5	32	34	41
Startup current	A	64	77,5	118,5	119,5	134
REFRIGERANT						
Type		R410A				
Number of refrigerant circuit		1				
Charge	kg	8,2	8,4	9,1	9,2	14
COMPRESSORS						
Number		2	2	2	2	2
Type		Scroll				
Part load steps	%	0/50/100	0/50/100	0/50/100	0/50/100	0/50/100
Crankcase heater	W	2 X 40	2 X 70	2 X 70	2 X 70	2 x 90
EVAPORATOR						
Number		1	1	1	1	1
Type		Plate				
Water flow	m ³ /h	4,6	4,8	6,5	6,7	8,4
Water pressure drop	kPa	40	24	40	44	30
Water volume	l	1,78	2,55	2,55	2,55	4,1
Antifreeze heater	W	30	30	30	30	30
COIL						
Number		1	1	1	1	1
Frontal surface	m ²	2,4	2,4	2,8	2,8	4,2
Number of rows		2	2	2	2	2
FAN						
Number		1	1	1	1	1
STD	Air flow	m ³ /h	13000	13000	16000	22500
	Rotational speed	tr/mn	900	900	650	860
	Power input each fan	W	940	940	930	2100
HPF	Air flow	m ³ /h	14000	14000	14000	21000
	Rotational speed	tr/mn	870	870	870	890
	Power input each fan	W	1950	1950	1950	1950
	Static pressure	Pa	140	140	140	100
WATER CONNECTIONS						
Type		Male gas threaded				
Inlet diameter	pouces	1"1/2	1"1/2	1"1/2	1"1/2	2"
Outlet diameter	pouces	1"1/2	1"1/2	1"1/2	1"1/2	2"
DIMENSIONS						
Length	mm	1000	1000	1000	1000	2180
Width	mm	1000	1000	1000	1000	1160
Height	mm	1983	1983	1983	1983	1986
WEIGHT						
Dry weight	kg	270	300	310	310	510
ACOUSTICAL DATA						
Sound power level	dB(A)	75	75	76	76	80
Sound pressure level (*)	dB(A)	46.8	46.8	47.8	47.8	51.8

(*) Sound pressure levels calculated at 10 meters. Sound pressure levels refer to ISO standard 3744 with parallelepiped shape.

(1) According to EN 14511-3:2011

(2) According to Eurovent

Physical Data - SYSAQUAL STD (continued)

SYSAQUA - Cooling only version		55	65	75	90	105	125
Cooling capacity	kW	56,0	69,1	75,1	96,0	111,5	128,0
Power input	kW	19,67	22,10	24,26	34,36	38,06	46,35
Total EER 100% (1)		2,85	3,13	3,10	2,79	2,93	2,76
ESEER (2)		4,08	4,2	4,17	4,01	4,04	4,02
Energy class (2)		C	A	A	C	B	C
Power supply		400V/3~+N/50Hz					
Startup type		Direct					
Nominal operating current	A	35	42	47	62	69	84
Maximum operating current	A	45	59,5	64,5	79,5	87,5	103,5
Startup current	A	141	201,5	206,5	266,5	313,5	351,5
REFRIGERANT							
Type		R410A					
Number of refrigerant circuit		1					
Charge	kg	14,3	18,9	19,3	22,0	32,3	33
COMPRESSORS							
Number		2	2	2	2	2	2
Type		Scroll					
Part load steps	%	0/43/57/100	0/40/60/100	0/45/55/100	0/45/55/100	0/38/62/100	0/33/67/100
Crankcase heater	W	2 x 90	2 x 90	2 x 90	90/120	90/140	90/140
EVAPORATOR							
Number		1					
Type		Plate					
Water flow	m³/h	9,6	11,9	12,9	16,5	19,1	22
Water pressure drop	kPa	38	31	36	28	38	49
Water volume	l	4,1	6,1	6,1	10,8	10,8	10,8
Antifreeze heater	W	30	2 x 30	2 x 30	2 x 30	2 x 30	2 x 30
COIL							
Number		1	2	2	2	2	2
Frontal surface	m²	4,2	5,55	5,55	6,4	6,4	6,4
Number of rows		2	2	2	2	3	3
FAN							
Number		1	2	2	2	2	2
STD	Air flow	m³/h	22500	15000	15000	21000	21000
	Rotational speed	tr/mn	860	650	650	860	860
	Power input each fan	W	2100	930	930	2100	2100
HPF	Air flow	m³/h	21000	16000	16000	20000	20000
	Rotational speed	tr/mn	890	870	870	890	890
	Power input each fan	W	1950	1950	1950	1950	1950
	Static pressure	Pa	100	130	130	100	90
WATER CONNECTIONS							
Type		Male gas threaded					
Inlet diameter	pouces	2"	2"	2"	2"1/2	2"1/2	2"1/2
Outlet diameter	pouces	2"	2"	2"	2"1/2	2"1/2	2"1/2
DIMENSIONS							
Length	mm	2180	2180	2180	2180	2180	2180
Width	mm	1160	1160	1160	1160	1160	1160
Height	mm	1986	1986	1986	2286	2286	2286
WEIGHT							
Dry weight	kg	510	580	580	760	870	890
ACOUSTICAL DATA							
Sound power level	dB(A)	80	80	80	83	83	83
Sound pressure level (*)	dB(A)	51.8	51.8	51.8	54.8	54.8	54.8

(*) Sound pressure levels calculated at 10 meters. Sound pressure levels refer to ISO standard 3744 with parallelepiped shape.

(1) According to EN 14511-3:2011

(2) According to Eurovent

Physical Data - SYSAQUAH STD

SYSAQUA - Heat pump version		25	30	35	40	45
Cooling capacity	kW	25,3	26,9	35,8	37,4	46,8
Power input	kW	8,61	9,34	13,49	13,64	16,90
Total EER 100% (1)		2,94	2,88	2,65	2,74	2,77
ESEER (2)		3,78	3,77	3,45	3,71	3,87
Energy class (2)		B	C	D	C	C
Heating capacity	kW	26,9	29,7	37,3	41,6	48,5
Power input	kW	9,27	9,93	13,21	13,49	17,32
Total COP 100% (1)		2,90	2,99	2,82	3,08	2,80
Energy class (2)		C	C	C	B	C
Power supply		400V/3ph+N/50Hz				
Startup type		Direct				
Nominal operating current	A	15,1	16,3	24	24	30
Maximum operating current	A	22,5	24,5	32	34	41
Startup current	A	64	77,5	118,5	119,5	134
REFRIGERANT						
Type		R410A				
Number of refrigerant circuit		1				
Charge	kg	8,2	8,4	9,1	9,2	14
COMPRESSORSS						
Number		2	2	2	2	2
Type		Scroll				
Part load steps	%	0/50/100	0/50/100	0/50/100	0/50/100	0/50/100
Crankcase heater	W	2 X 40	2 X 70	2 X 70	2 X 70	2 x 90
EVAPORATOR						
Number		1	1	1	1	1
Type		Plate				
Water flow	m³/h	4,3	4,6	6,1	6,4	8,0
Water pressure drop	kPa	37	22	37	40	27
Water volume	l	1,78	2,55	2,55	2,55	4,1
Antifreeze heater	W	30	30	30	30	30
COIL						
Number		1	1	1	1	1
Frontal surface	m²	2,4	2,4	2,8	2,8	4,2
Number of rows		2	2	2	2	2
FAN						
Number		1	1	1	1	1
STD	Air flow	m³/h	13000	13000	16000	22500
	Rotational speed	tr/mn	900	900	650	860
	Power input each fan	W	940	940	930	2100
HPF	Air flow	m³/h	14000	14000	14000	21000
	Rotational speed	tr/mn	870	870	870	890
	Power input each fan	W	1950	1950	1950	1950
	Static pressure	Pa	140	140	140	100
WATER CONNECTIONS						
Type		Male gas threaded				
Inlet diameter	pouces	1"1/2	1"1/2	1"1/2	1"1/2	2"
Outlet diameter	pouces	1"1/2	1"1/2	1"1/2	1"1/2	2"
DIMENSIONS						
Length	mm	1000	1000	1000	1000	2180
Width	mm	1000	1000	1000	1000	1160
Height	mm	1983	1983	1983	1983	1986
WEIGHT						
Dry weight	kg	270	300	310	310	510
ACOUSTICAL DATA						
Sound power level	dB(A)	75	75	76	76	80
Sound pressure level (*)	dB(A)	46.8	46.8	47.8	47.8	51.8

(*) Sound pressure levels calculated at 10 meters. Sound pressure levels refer to ISO standard 3744 with parallepiped shape.

(1) According to EN 14511-3:2011

(2) According to Eurovent

Physical Data - SYSAQUAH STD (continued)

SYSAQUA - Heat pump version		55	65	75	90	105	125
Cooling capacity	kW	53,3	65,8	71,6	91,4	106,2	121,9
Power input	kW	19,67	22,1	24,26	34,36	38,06	46,35
Total EER 100% (1)		2,71	2,98	2,95	2,66	2,79	2,63
ESEER (2)		3,89	4	3,97	3,82	3,85	3,83
Energy class (2)		C	B	B	D	C	D
Heating capacity	kW	58,2	67,2	75,9	88,1	101,0	119,1
Power input	kW	20,34	22,49	24,31	33,75	38,4	45,4
Total COP 100% (1)		2,86	2,99	3,12	2,61	2,63	2,62
Energy class (2)		C	C	B	D	D	D
Power supply		400V/3ph+N/50Hz					
Startup type		Direct					
Nominal operating current	A	35	42	47	62	69	84
Maximum operating current	A	45	59,5	64,5	79,5	87,5	103,5
Startup current	A	141	201,5	206,5	266,5	313,5	351,5
REFRIGERANT							
Type		R410A					
Number of refrigerant circuit		1					
Charge	kg	14,3	18,9	19,3	22,0	32,3	33
COMPRESSORSS							
Number		2	2	2	2	2	2
Type		Scroll					
Part load steps	%	0/43/57/100	0/40/60/100	0/45/55/100	0/45/55/100	0/38/62/100	0/33/67/100
Crankcase heater	W	2 x 90	2 x 90	2 x 90	90/120	90/140	90/140
EVAPORATOR							
Number		1	1	1	1	1	1
Type		Plate					
Water flow	m ³ /h	9,1	11,3	12,3	15,7	18,2	20,9
Water pressure drop	kPa	35	28	33	26	34	45
Water volume	l	4,1	6,1	6,1	10,8	10,8	10,8
Antifreeze heater	W	30	2 x 30	2 x 30	2 x 30	2 x 30	2 x 30
COIL							
Number		1	2	2	2	2	2
Frontal surface	m ²	4,2	5,55	5,55	6,4	6,4	6,4
Number of rows		2	2	2	2	3	3
FAN							
Number		1	2	2	2	2	2
STD	Air flow	m ³ /h	22500	15000	15000	21000	21000
	Rotational speed	tr/mn	860	650	650	860	860
	Power input each fan	W	2100	930	930	2100	2100
HPF	Air flow	m ³ /h	21000	16000	16000	20000	20000
	Rotational speed	tr/mn	890	870	870	890	890
	Power input each fan	W	1950	1950	1950	1950	1950
	Static pressure	Pa	100	130	130	100	90
WATER CONNECTIONS							
Type		Male gas threaded					
Inlet diameter	pouces	2"	2"	2"	2"1/2	2"1/2	2"1/2
Outlet diameter	pouces	2"	2"	2"	2"1/2	2"1/2	2"1/2
DIMENSIONS							
Length	mm	2180	2180	2180	2180	2180	2180
Width	mm	1160	1160	1160	1160	1160	1160
Height	mm	1986	1986	1986	2286	2286	2286
WEIGHT							
Dry weight	kg	510	580	580	760	870	890
ACOUSTICAL DATA							
Sound power level	dB(A)	80	80	80	83	83	83
Sound pressure level (*)	dB(A)	51.8	51.8	51.8	54.8	54.8	54.8

(*) Sound pressure levels calculated at 10 meters. Sound pressure levels refer to ISO standard 3744 with parallelepiped shape.

(1) According to EN 14511-3:2011

(2) According to Eurovent

Weight

Sizes		25	30	35	40	45	55	65	75	90	105	125
without pump	kg	270	300	310	310	510	510	580	580	760	870	890
Simple pump	kg	+20	+20	+20	+20	+30	+30	+30	+30	+30	+30	+30
Double pump	kg	/	/	/	/	+60	+60	+60	+60	+60	+60	+60
XLN	kg	/	/	/	/	+40	+40	+40	+40	+40	+40	+40
buffer tank (dry weight)	Kg	+65	+65	+65	+65	+160	+160	+160	+160	+160	+160	+160

Electrical Data

Unit without pump with condenser fans standard

Sizes		25	30	35	40	45	55	65	75	90	105	125
Power supply		3N~400V-50Hz										
Maximum current	A	22.5	24.5	32	34	41	45	59.5	64.5	79.5	87.5	103.5
Fuse rating aM	A	25	25	32	40	50	50	63	80	80	100	125
Total startup current	A	64	77.5	118.5	119.5	134	141	201.5	206.5	266.5	313.5	351.5

Unit without pump with condenser fans HPF

Sizes		25	30	35	40	45	55	65	75	90	105	125
Power supply		3N~400V-50Hz										
Maximum current	A	24.5	26.5	34	36	41	45	63	68	79.5	87.5	103.5
Fuse rating aM	A	25	32	40	40	50	50	80	80	80	100	125
Total startup current	A	66	79.5	120.5	121	134	141	205	210	266.5	313.5	351.5

Unit with standard pump and condenser fans standard

Sizes		25	30	35	40	45	55	65	75	90	105	125
Power supply		3N~400V-50Hz										
Maximum current	A	24	26	34.5	36.5	43.5	49	64	69	83.5	92	108
Fuse rating aM	A	25	32	40	40	50	50	80	80	100	100	125
Total startup current	A	65.5	79	121	122	136.5	145	206	211	270.5	318	356

Unit with standard pump and condenser fans HPF

Sizes		25	30	35	40	45	55	65	75	90	105	125
Power supply		3N~400V-50Hz										
Maximum current	A	26	28	36.5	38.5	43.5	49	67.3	72	83.5	92	108
Fuse rating aM	A	32	32	40	40	50	50	80	80	100	100	125
Total startup current	A	67.5	81	123	123.5	136.5	145	209.3	214	270.5	318	356

Simple pump 1P (400V/3/50Hz)

Sizes	Nominal power (kW)	Max. current (A)
25	0.75	1.8
30	0.75	1.8
35	1.1	2.4
40	1.1	2.4
45	1.1	2.4
55	2.2	4.2
65	2.2	4.2
75	2.2	4.2
90	2.2	4.2
105	2.2	4.5
125	2.2	4.5

Double pump 2P (400V/3/50Hz)

Sizes	Nominal power (kW)	Max. current (A)
25	0.75	1.8
30	0.75	1.8
35	1.1	2.4
40	1.1	2.4
45	1.1	2.4
55	2.2	4.2
65	2.2	4.2
75	2.2	4.2
90	2.2	4.2
105	2.2	4.5
125	2.2	4.5

Acoustical Data

Sound power level Lw-dB - condenser fans standard

SYSAQUAL/ SYSAQUAH models	Frequency in octave band (Hz)						Lw global dB(A)	Sound pressure level dB(A) *
	125	250	500	1000	2000	4000		
25	67	69	70	71	70	67	75	46.8
30	67	69	70	71	70	67	75	46.8
35	67	69	70	71	70	67	76	47.8
40	67	69	70	71	70	67	76	47.8
45	72	74	77	76	74	69	80	51.8
55	72	74	77	76	74	69	80	51.8
65	72	74	77	76	74	69	80	51.8
75	72	74	77	76	74	69	80	51.8
90	76	77	78	78	78	72	83	54.8
105	76	77	78	78	78	72	83	54.8
125	76	77	78	78	78	72	83	54.8

Sound power level Lw-dB - condenser fans standard - XLN version

SYSAQUAL/ SYSAQUAH models	Frequency in octave band (Hz)						Lw global dB(A)	Sound pressure level dB(A) *
	125	250	500	1000	2000	4000		
45	69	71	74	73	71	66	77	49
55	69	71	74	73	71	66	77	49
65	69	71	74	73	71	66	77	49
75	69	71	74	73	71	66	77	49
90	72	73	74	74	74	68	79	51
105	72	73	74	74	74	68	79	51
125	72	73	74	74	74	68	79	51

Sound power level Lw-dB - condenser fans HPF

SYSAQUAL/ SYSAQUAH models	Frequency in octave band (Hz)						Lw global dB(A)	Sound pressure level dB(A) *
	125	250	500	1000	2000	4000		
25	70	72	74	74	73	70	79	51
30	70	72	74	74	73	70	79	51
35	71	73	74	75	74	71	80	52
40	71	73	74	75	74	71	80	52
45	73	75	78	77	75	70	81	53
55	73	75	78	77	75	70	81	53
65	74	76	79	78	76	71	82	54
75	74	76	79	78	76	71	82	54
90	77	78	79	79	79	73	84	56
105	77	78	79	79	79	73	84	56
125	77	78	79	79	79	73	84	56

(*) Sound pressure levels calculated at 10 meters. Sound pressure levels refer to ISO standard 3744 with parallelepiped shape.

Performance Data - SYSAQUAL

Sizes SYSAQUAL	LWT (°C)	Condenser entering air temperature (°C)													
		20		25		30		35		40		45		47	
		Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)
25	5	29,3	7,25	28,2	7,69	26,6	8,10	24,7	8,50	22,2	8,82	19,5	9,09	18,3	9,23
	7	31,6	7,36	30,3	7,83	28,8	8,26	26,6	8,61	24,2	8,96	21,3	9,21	20,1	9,34
	10	34,3	7,82	33,0	8,29	31,6	8,81	27,7	8,70	28,2	10,13	26,2	11,02	25,4	11,46
	15	37,0	7,98	35,0	8,31	32,7	8,63	30,0	8,87	27,0	9,14	23,6	9,31	22,2	9,40
	18	38,1	8,01	36,4	8,33	34,2	8,74	31,3	8,96	28,0	9,17	24,1	9,20	22,6	9,21
30	5	30,9	7,75	29,8	8,25	28,2	8,74	26,2	9,23	23,8	9,67	21,0	8,54	19,9	8,09
	7	33,3	7,93	32,1	8,42	30,5	8,91	28,3	9,34	25,9	9,81	23,0	10,22	21,8	10,42
	10	36,0	8,34	34,8	8,87	33,3	9,47	29,5	9,44	29,9	11,02	28,0	12,08	27,2	12,62
	15	38,9	8,51	37,0	8,91	34,7	9,29	31,9	9,62	28,9	10,02	25,5	10,34	24,1	10,50
	18	40,2	8,55	38,4	8,93	36,2	9,41	33,3	9,72	30,0	10,06	26,1	10,22	24,6	10,31
35	5	39,6	10,52	38,4	11,36	36,8	12,28	34,9	13,33	32,5	14,51	29,7	13,27	28,6	12,77
	7	42,6	10,77	41,4	11,60	39,8	12,51	37,6	13,49	35,3	14,68	32,3	16,07	31,2	16,79
	10	45,8	11,24	44,5	12,12	43,1	13,16	39,2	13,64	39,7	16,06	37,7	18,23	36,9	19,35
	15	49,5	11,48	47,5	12,22	45,2	13,04	42,5	13,90	39,5	15,04	36,0	16,36	34,7	17,04
	18	51,1	11,55	49,4	12,25	47,1	13,20	44,2	14,04	41,0	15,10	37,1	16,24	35,6	16,82
40	5	41,1	10,68	40,0	11,52	38,4	12,43	36,4	13,48	34,0	14,63	31,2	13,43	30,1	12,95
	7	44,3	10,93	43,1	11,77	41,5	12,67	39,3	13,64	36,9	14,80	34,0	16,16	32,8	16,85
	10	47,5	11,39	46,2	12,27	44,8	13,31	40,9	13,79	41,4	16,14	39,4	18,23	38,7	19,29
	15	51,3	11,64	49,4	12,38	47,1	13,19	44,3	14,05	41,3	15,17	37,9	16,45	36,5	17,11
	18	53,1	11,72	51,3	12,41	49,1	13,36	46,2	14,19	42,9	15,24	39,1	16,35	37,5	16,91
45	5	56,1	14,39	53,1	15,13	49,4	15,86	45,1	16,80	40,0	17,22	34,4	17,81	32,2	18,13
	7	62,1	14,90	63,8	17,07	54,0	16,16	49,1	16,90	44,0	17,31	38,3	17,88	36,0	18,18
	10	67,2	15,34	62,9	15,92	58,2	16,52	53,1	17,53	47,4	17,80	41,3	18,51	38,9	18,88
	15	78,6	15,81	73,9	16,48	68,5	17,14	62,3	17,83	55,5	18,34	47,9	18,85	44,9	19,11
	18	78,5	16,58	72,7	17,51	72,7	17,51	66,5	18,27	57,0	21,54	51,1	19,31	48,7	18,41
55	5	62,4	16,24	59,3	17,21	55,6	18,21	51,4	19,56	46,3	20,43	40,7	17,94	38,4	16,95
	7	68,9	16,90	65,1	17,70	60,8	18,55	56,0	19,67	50,8	20,51	45,1	21,71	42,8	22,34
	10	74,6	17,28	70,3	18,09	65,6	18,97	60,5	20,40	54,8	21,09	48,7	22,48	46,3	23,20
	15	87,2	17,82	82,6	18,73	77,2	19,67	71,0	20,76	64,2	21,74	56,6	22,94	53,6	23,56
	18	87,7	18,85	81,9	20,12	81,9	20,12	75,8	21,27	66,2	25,80	60,3	23,50	58,0	22,58
65	5	74,4	18,15	71,4	19,26	67,7	20,43	63,4	21,98	58,4	23,10	52,7	20,87	50,5	19,98
	7	80,9	18,57	78,2	19,76	73,9	20,78	69,1	22,10	63,9	23,18	58,2	24,70	55,9	25,46
	10	88,8	19,27	84,5	20,22	79,8	21,28	74,7	22,93	68,9	23,87	62,9	25,57	60,4	26,43
	15	103,9	19,85	99,2	20,90	93,8	22,02	87,6	23,33	80,9	24,57	73,2	26,11	70,2	26,89
	18	105,5	21,08	99,7	22,54	99,7	22,54	93,6	23,90	84,0	28,78	78,1	26,76	75,7	25,95
75	5	80,8	19,94	77,8	21,26	74,1	22,69	69,8	24,60	64,8	26,13	59,1	23,86	56,9	22,95
	7	88,1	20,34	84,2	21,44	79,9	22,66	75,1	24,26	70,0	25,64	64,3	27,60	62,0	28,58
	10	94,6	21,09	90,3	22,27	85,6	23,60	80,5	25,68	74,8	27,03	68,7	29,41	66,3	30,62
	15	109,7	21,92	105,0	23,24	99,7	24,71	93,4	26,48	86,7	28,30	79,1	30,68	76,0	31,90
	18	110,9	23,50	105,1	25,41	105,1	25,41	98,9	27,28	89,4	33,97	83,5	31,73	81,1	30,83
90	5	99,1	26,13	96,1	28,26	92,4	30,73	88,1	34,17	83,0	37,43	77,4	34,89	75,2	33,88
	7	108,9	27,06	105,1	28,99	100,8	31,26	96,0	34,36	90,8	37,46	85,1	42,05	82,8	44,43
	10	117,8	27,65	113,5	29,63	108,8	31,99	103,7	35,65	98,0	38,56	91,9	43,54	89,5	46,15
	15	138,0	28,55	133,3	30,67	127,9	33,14	121,7	36,27	115,0	39,77	107,3	44,64	104,3	47,19
	18	141,9	30,93	136,1	33,97	136,1	33,97	130,0	37,16	120,4	48,13	114,5	45,77	112,1	44,82
105	5	113,4	28,93	110,3	31,29	106,6	34,05	102,4	37,85	97,3	41,50	91,7	39,10	89,4	38,14
	7	124,4	29,91	120,6	32,07	116,3	34,61	111,5	38,06	106,3	41,53	100,6	46,58	98,4	49,16
	10	134,6	30,57	130,3	32,80	125,6	35,44	120,5	39,49	114,8	42,77	108,7	48,24	106,3	51,05
	15	157,7	31,56	153,0	33,93	147,7	36,68	141,5	40,18	134,7	44,09	127,1	49,46	124,0	52,22
	18	162,9	34,24	157,1	37,61	157,1	37,61	151,0	41,16	141,5	52,92	135,6	50,71	133,2	49,83
125	5	128,5	34,15	125,5	37,23	121,8	40,91	117,5	46,09	112,4	51,36	106,8	48,79	104,6	47,76
	7	140,9	35,30	137,1	38,16	132,8	41,60	128,0	46,35	122,8	51,34	117,1	58,79	114,8	62,67
	10	152,4	36,05	148,2	39,00	143,4	42,58	138,3	48,09	132,6	52,86	126,5	60,88	124,1	65,09
	15	178,6	37,25	174,0	40,37	168,6	44,09	162,4	48,93	155,6	54,55	148,0	62,52	144,9	66,71
	18	185,3	40,73	179,5	45,24	179,5	45,24	173,3	50,12	163,8	66,51	157,9	64,12	155,5	63,16

Performance according to EN 14511-3:2011 (without pump).

LWT : Leaving water temperature.

Performance Data - SYSAQUAH - Cooling Mode

Sizes SYSAQUAH	LWT (°C)	Condenser entering air temperature (°C)													
		20		25		30		35		40		45		47	
		Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)	Cooling capacity (kW)	Power input (kW)
25	5	28,2	7,21	27,0	7,66	25,4	8,09	23,5	8,50	21,1	8,84	18,3	9,13	17,2	9,28
	7	30,3	7,31	29,0	7,80	27,5	8,25	25,3	8,61	23,0	8,98	20,0	9,25	18,9	9,39
	10	32,9	7,79	31,7	8,27	30,2	8,82	26,4	8,70	26,8	10,22	24,9	11,18	24,1	11,66
	15	35,6	7,95	33,6	8,29	31,3	8,62	28,6	8,87	25,6	9,16	22,2	9,34	20,8	9,44
	18	36,7	7,97	34,9	8,30	32,7	8,73	29,8	8,96	26,5	9,19	22,7	9,21	21,1	9,22
30	5	29,7	7,70	28,5	8,21	26,9	8,72	25,0	9,23	22,6	9,70	19,8	8,50	18,7	8,02
	7	31,9	7,88	30,7	8,39	29,1	8,89	26,9	9,34	24,6	9,84	21,7	10,28	20,5	10,50
	10	34,6	8,30	33,4	8,85	31,9	9,48	28,1	9,44	28,5	11,11	26,6	12,26	25,8	12,85
	15	37,4	8,47	35,5	8,88	33,1	9,28	30,4	9,62	27,4	10,04	24,0	10,39	22,6	10,57
	18	38,6	8,51	36,8	8,90	34,6	9,40	31,7	9,72	28,4	10,08	24,6	10,26	23,0	10,35
35	5	37,9	10,42	36,8	11,29	35,2	12,23	33,2	13,33	30,8	14,58	28,0	13,26	26,9	12,73
	7	40,8	10,67	39,6	11,53	38,0	12,47	35,8	13,49	33,5	14,75	30,5	16,25	29,4	17,05
	10	43,9	11,15	42,7	12,06	41,2	13,14	37,3	13,64	37,8	16,21	35,9	18,55	35,1	19,79
	15	47,4	11,39	45,5	12,16	43,2	13,00	40,4	13,90	37,5	15,10	34,0	16,53	32,7	17,28
	18	49,0	11,47	47,3	12,18	45,0	13,17	42,1	14,04	38,9	15,17	35,0	16,39	33,5	17,03
40	5	39,4	10,59	38,2	11,45	36,6	12,39	34,7	13,48	32,3	14,70	29,5	13,43	28,4	12,92
	7	42,4	10,84	41,2	11,69	39,6	12,63	37,4	13,64	35,0	14,87	32,1	16,33	31,0	17,09
	10	45,6	11,31	44,3	12,21	42,9	13,29	39,0	13,79	39,5	16,28	37,5	18,54	36,7	19,71
	15	49,2	11,56	47,3	12,32	45,0	13,16	42,2	14,05	39,2	15,23	35,8	16,62	34,4	17,34
	18	50,9	11,63	49,2	12,34	46,9	13,32	44,0	14,19	40,8	15,30	36,9	16,50	35,3	17,11
45	5	54,0	14,31	50,9	15,07	47,2	15,82	43,0	16,80	37,9	17,24	32,3	17,89	30,0	18,23
	7	59,7	14,83	61,5	17,08	51,6	16,12	46,8	16,90	41,6	17,34	35,9	17,95	33,6	18,28
	10	64,7	15,27	60,4	15,86	55,7	16,48	50,6	17,53	44,9	17,82	38,8	18,58	36,4	18,98
	15	75,6	15,74	71,0	16,43	65,6	17,11	59,4	17,84	52,6	18,37	45,0	18,92	41,9	19,21
	18	75,3	16,52	69,5	17,48	69,5	17,48	63,4	18,27	53,8	21,77	47,9	19,38	45,6	18,42
55	5	59,9	16,13	56,9	17,12	53,2	18,16	48,9	19,56	43,9	20,48	38,2	17,85	36,0	16,80
	7	66,2	16,80	62,4	17,62	58,1	18,50	53,3	19,67	48,1	20,56	42,4	21,86	40,1	22,54
	10	71,7	17,18	67,4	18,01	62,7	18,91	57,6	20,40	51,9	21,13	45,8	22,62	43,4	23,41
	15	83,9	17,72	79,2	18,65	73,8	19,62	67,6	20,76	60,8	21,80	53,2	23,09	50,2	23,77
	18	84,1	18,76	78,3	20,07	78,3	20,07	72,2	21,27	62,6	26,12	56,7	23,66	54,4	22,67
65	5	71,4	18,02	68,4	19,15	64,7	20,36	60,4	21,98	55,3	23,17	49,7	20,81	47,5	19,87
	7	77,6	18,44	74,9	19,67	70,6	20,72	65,8	22,10	60,6	23,24	54,9	24,87	52,6	25,70
	10	85,2	19,14	80,9	20,12	76,2	21,21	71,1	22,93	65,4	23,92	59,3	25,75	56,9	26,69
	15	99,7	19,73	95,1	20,81	89,7	21,97	83,5	23,33	76,7	24,64	69,1	26,30	66,0	27,15
	18	101,0	20,97	95,2	22,48	95,2	22,48	89,1	23,90	79,6	29,11	73,7	26,95	71,3	26,09
75	5	77,5	19,78	74,5	21,13	70,8	22,60	66,5	24,60	61,4	26,22	55,8	23,82	53,6	22,85
	7	84,5	20,21	80,7	21,33	76,4	22,59	71,6	24,26	66,4	25,72	60,7	27,83	58,4	28,90
	10	90,8	20,93	86,5	22,14	81,7	23,51	76,7	25,68	70,9	27,11	64,9	29,66	62,4	30,99
	15	105,2	21,76	100,6	23,12	95,2	24,63	89,0	26,48	82,2	28,40	74,6	30,97	71,6	32,31
	18	106,2	23,36	100,4	25,32	100,4	25,32	94,2	27,28	84,7	34,45	78,8	32,04	76,4	31,08
90	5	94,9	25,86	91,9	28,04	88,2	30,58	83,9	34,17	78,8	37,62	73,2	34,93	71,0	33,86
	7	104,3	26,81	100,5	28,79	96,2	31,13	91,4	34,36	86,2	37,64	80,5	42,59	78,2	45,21
	10	112,9	27,38	108,6	29,41	103,9	31,83	98,8	35,65	93,1	38,73	87,0	44,09	84,6	46,95
	15	132,2	28,29	127,5	30,46	122,2	33,00	115,9	36,27	109,2	39,98	101,6	45,24	98,5	48,04
	18	135,7	30,70	129,9	33,83	129,9	33,83	123,8	37,16	114,2	48,91	108,3	46,38	106,0	45,37
105	5	108,5	28,63	105,5	31,05	101,8	33,88	97,5	37,85	92,4	41,71	86,8	39,17	84,6	38,15
	7	119,1	29,62	115,3	31,84	111,0	34,46	106,2	38,06	101,0	41,73	95,3	47,16	93,0	49,99
	10	128,9	30,27	124,6	32,55	119,9	35,27	114,8	39,49	109,1	42,96	103,0	48,84	100,5	51,92
	15	151,0	31,26	146,3	33,69	140,9	36,53	134,7	40,18	127,9	44,32	120,3	50,11	117,3	53,14
	18	155,8	33,97	150,0	37,46	150,0	37,46	143,8	41,16	134,3	53,74	128,4	51,38	126,0	50,43
125	5	122,9	33,75	119,9	36,90	116,2	40,69	111,9	46,09	106,8	51,67	101,2	48,94	99,0	47,86
	7	134,8	34,92	131,0	37,85	126,7	41,40	121,9	46,35	116,7	51,63	111,0	59,66	108,7	63,94
	10	145,9	35,65	141,6	38,66	136,8	42,34	131,7	48,09	126,0	53,14	119,9	61,78	117,5	66,41
	15	170,9	36,86	166,2	40,05	160,8	43,88	154,6	48,93	147,9	54,88	140,2	63,49	137,2	68,10
	18	177,0	40,38	171,2	45,03	171,2	45,03	165,1	50,12	155,5	67,69	149,6	65,12	147,3	64,09

Performance according to EN 14511-3:2011 (without pump).

LWT : Leaving water temperature.

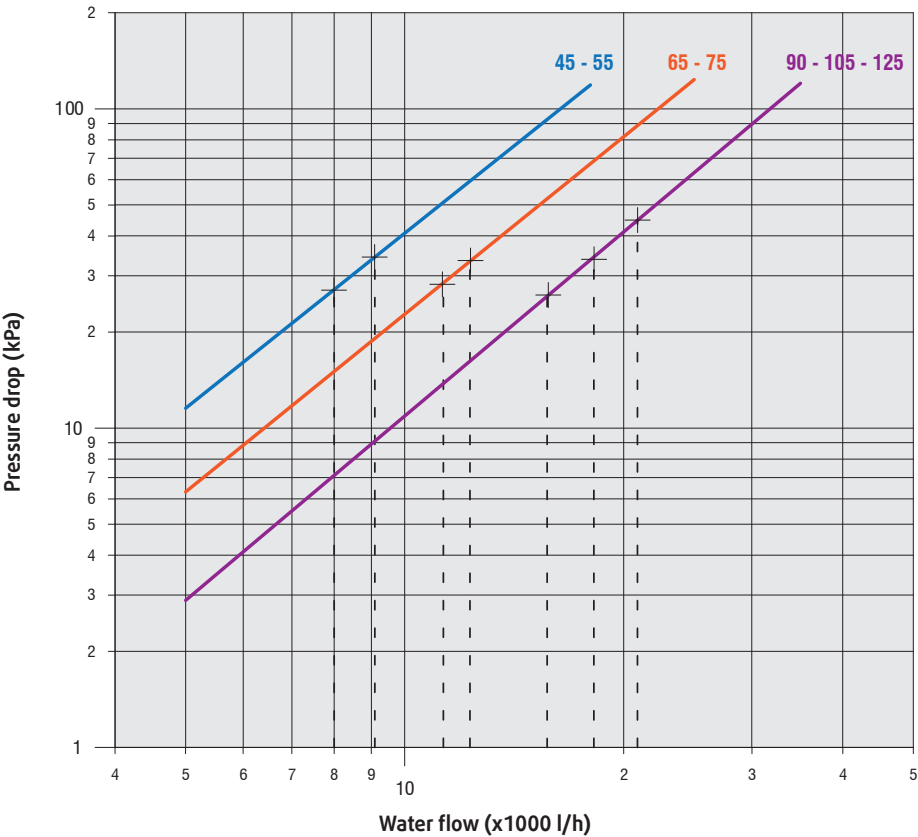
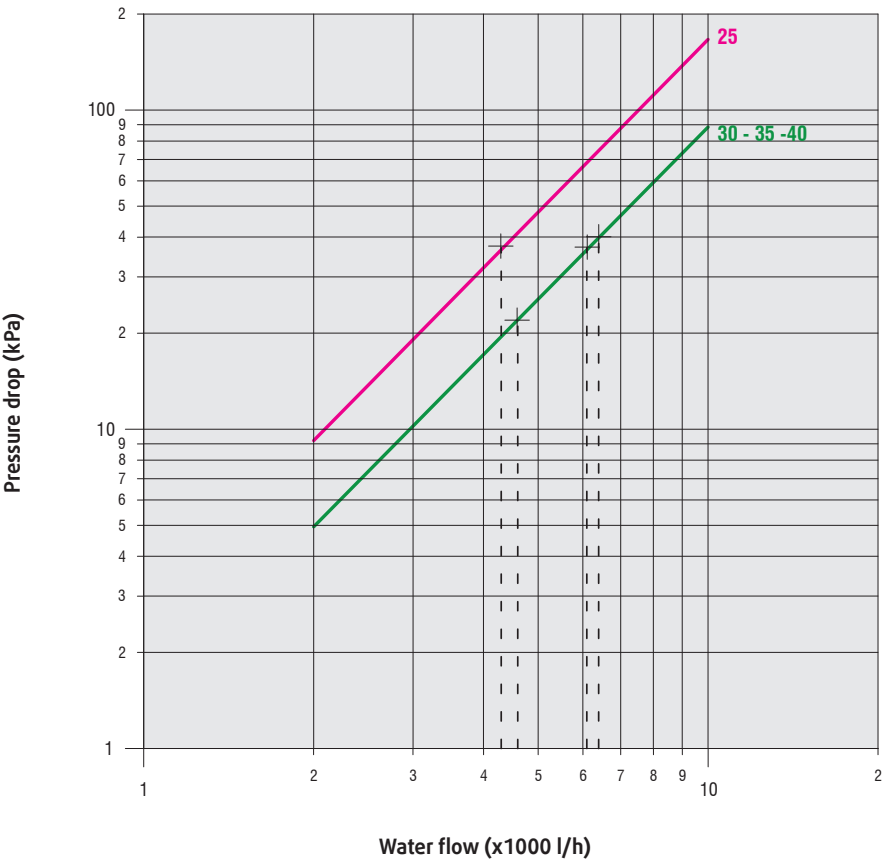
Performance Data - SYSAQUAH - Heating mode

Sizes SYSAQUAH	LWT (°C)	Evaporator entering air dry temperature (wet bulb temperature) (°C)											
		-15 (-16)		-10 (-11)		-7 (-8)		2 (1)		7 (6)		12 (11)	
		Heating capacity (kW)	Power input (kW)	Heating capacity (kW)	Power input (kW)	Heating capacity (kW)	Power input (kW)	Heating capacity (kW)	Power input (kW)	Heating capacity (kW)	Power input (kW)	Heating capacity (kW)	Power input (kW)
25	30	14,1	6,68	15,4	6,88	16,0	6,85	19,9	6,98	27,5	7,21	31,4	7,34
	35	14,1	7,34	15,4	7,53	16,0	7,49	19,9	7,68	27,5	7,85	31,4	8,00
	40			14,7	8,08	15,4	8,09	19,2	8,35	26,9	8,34	30,7	8,55
	45					15,4	9,26	18,6	9,18	26,9	9,27	30,1	9,31
	50							17,9	10,05	26,3	10,14	29,5	10,22
30	30	15,6	7,16	17,0	7,37	17,7	7,33	21,9	7,48	30,4	7,72	34,7	7,86
	35	15,6	7,87	17,0	8,06	17,7	8,02	21,9	8,22	30,4	8,41	34,7	8,57
	40			16,3	8,66	17,0	8,67	21,2	8,95	29,7	8,93	34,0	9,16
	45					17,0	9,91	20,5	9,83	29,7	9,93	33,3	9,97
	50							19,8	10,76	29,0	10,87	32,5	10,95
35	30	19,5	9,52	21,3	9,81	22,2	9,76	27,5	9,95	38,2	10,27	43,5	10,46
	35	19,5	10,47	21,3	10,73	22,2	10,68	27,5	10,94	38,2	11,19	43,5	11,41
	40			20,4	11,52	21,3	11,54	26,6	11,91	37,3	11,89	42,6	12,18
	45					21,3	13,19	25,8	13,08	37,3	13,21	41,7	13,27
	50							24,9	14,32	36,4	14,46	40,9	14,57
40	30	21,8	9,72	23,8	10,01	24,8	9,96	30,7	10,15	42,6	10,48	48,5	10,68
	35	21,8	10,68	23,8	10,95	24,8	10,89	30,7	11,17	42,6	11,42	48,5	11,64
	40			22,8	11,75	23,8	11,77	29,7	12,15	41,6	12,13	47,5	12,43
	45					23,8	13,46	28,7	13,35	41,6	13,49	46,5	13,54
	50							27,7	14,62	40,6	14,76	45,6	14,87
45	30	24,9	12,09	27,0	12,33	28,4	12,44	36,0	13,08	49,9	13,44	56,8	13,86
	35	24,9	13,15	27,0	13,52	28,4	13,65	35,3	14,10	49,2	14,43	56,8	15,08
	40			26,3	14,73	27,7	14,90	34,6	15,61	49,2	15,9	55,4	16,09
	45					27,0	16,39	33,3	16,95	48,5	17,32	54,7	17,58
	50							31,9	18,31	47,1	18,8	53,4	19,24
55	30	29,9	14,20	32,4	14,48	34,1	14,60	43,2	15,36	59,9	15,78	68,2	16,28
	35	29,9	15,44	32,4	15,88	34,1	16,03	42,4	16,56	59,0	16,95	68,2	17,71
	40			31,6	17,30	33,3	17,49	41,6	18,33	59,0	18,6	66,5	18,90
	45					32,4	19,25	39,9	19,91	58,2	20,34	65,7	20,65
	50							38,3	21,50	56,5	22,1	64,0	22,60
65	30	34,6	15,70	37,5	16,01	39,4	16,15	50,0	16,99	69,2	17,45	78,8	18,00
	35	34,6	17,07	37,5	17,56	39,4	17,72	49,0	18,32	68,2	18,75	78,8	19,59
	40			36,5	19,14	38,4	19,34	48,0	20,27	68,2	20,6	76,8	20,90
	45					37,5	21,28	46,1	22,01	67,2	22,49	75,9	22,83
	50							44,2	23,78	65,3	24,4	74,0	24,99
75	30	39,0	16,96	42,3	17,30	44,5	17,45	56,4	18,36	78,1	18,86	88,9	19,45
	35	40,4	19,10	43,8	19,64	46,0	19,83	57,3	20,49	79,7	20,97	92,1	21,91
	40			41,2	20,68	43,4	20,90	54,2	21,90	77,0	22,2	86,7	22,58
	45					42,3	23,00	52,0	23,79	75,9	24,31	85,7	24,67
	50							49,9	25,69	73,7	26,4	83,5	27,00
90	30	45,3	23,56	49,1	24,02	51,6	24,23	65,5	25,49	90,6	26,19	103,2	27,01
	35	45,3	25,61	49,1	26,34	51,6	26,59	64,2	27,48	89,4	28,13	103,2	29,39
	40			47,8	28,71	50,3	29,02	62,9	30,41	89,4	30,9	100,7	31,35
	45					49,1	31,94	60,4	33,03	88,1	33,75	99,4	34,26
	50							57,9	35,67	85,6	36,6	96,9	37,50
105	30	51,9	26,80	56,3	27,33	59,2	27,57	75,0	29,00	103,9	29,79	118,3	30,73
	35	51,9	29,14	56,3	29,97	59,2	30,25	73,6	31,27	102,4	32,00	118,3	33,43
	40			54,8	32,67	57,7	33,02	72,1	34,60	102,4	35,1	115,4	35,67
	45					56,3	36,33	69,3	37,58	101,0	38,40	114,0	38,98
	50							66,4	40,59	98,1	41,7	111,1	42,66
125	30	61,3	31,69	66,4	32,31	69,8	32,60	88,5	34,29	122,5	35,23	139,5	36,33
	35	61,3	34,46	66,4	35,44	69,8	35,77	86,8	36,97	120,8	37,84	139,5	39,53
	40			64,7	38,62	68,1	39,04	85,1	40,91	120,8	41,5	136,1	42,17
	45					66,4	42,96	81,7	44,43	119,1	45,40	134,4	46,08
	50							78,3	47,99	115,7	49,3	131,0	50,44

Performance according to EN 14511-3:2011 (without pump).

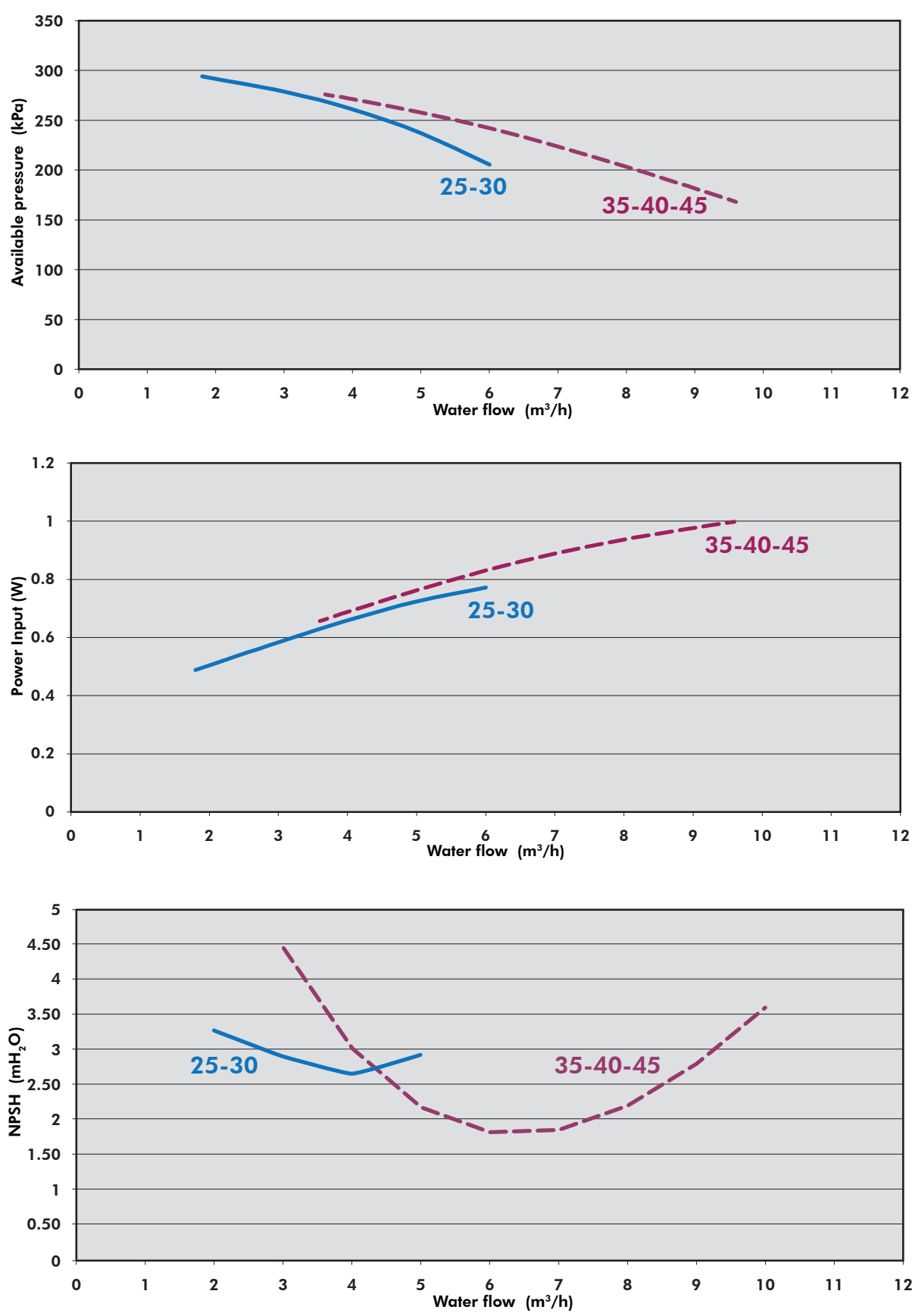
LWT : Leaving water temperature.

Water Pressure Drop of Indoor Heat Exchanger



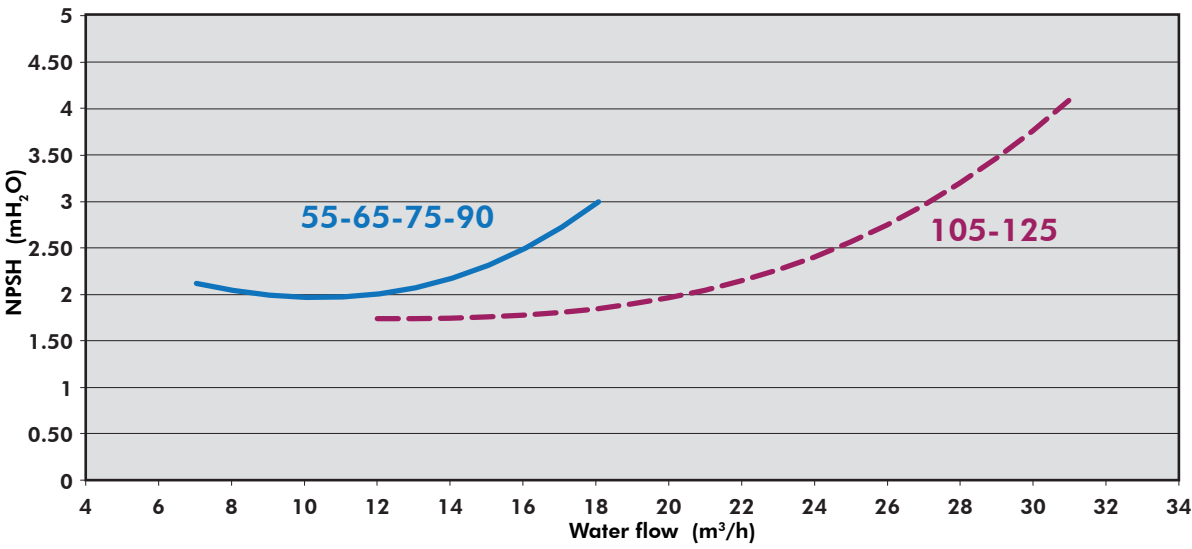
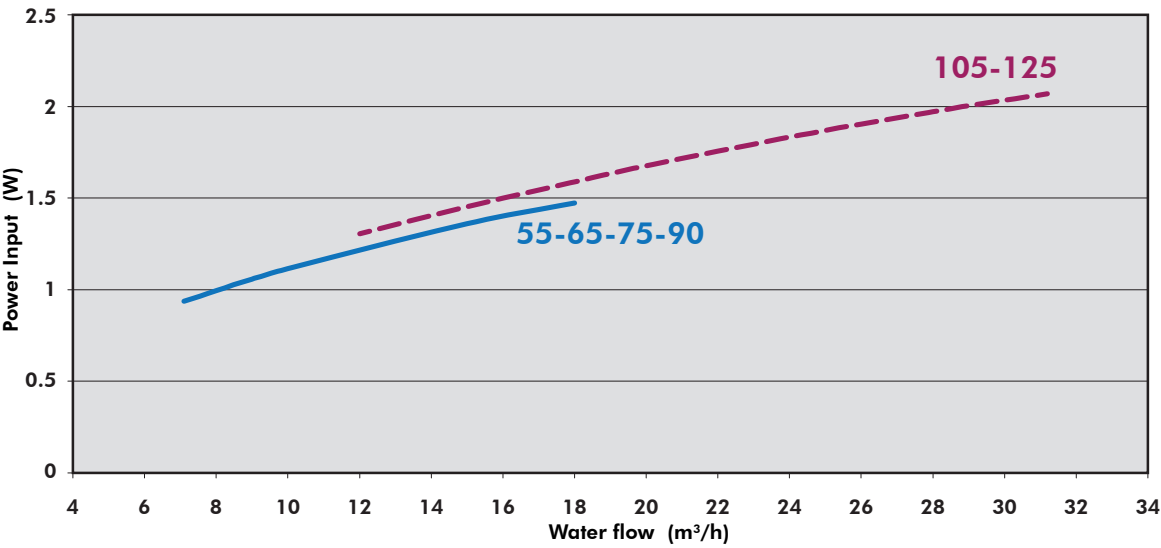
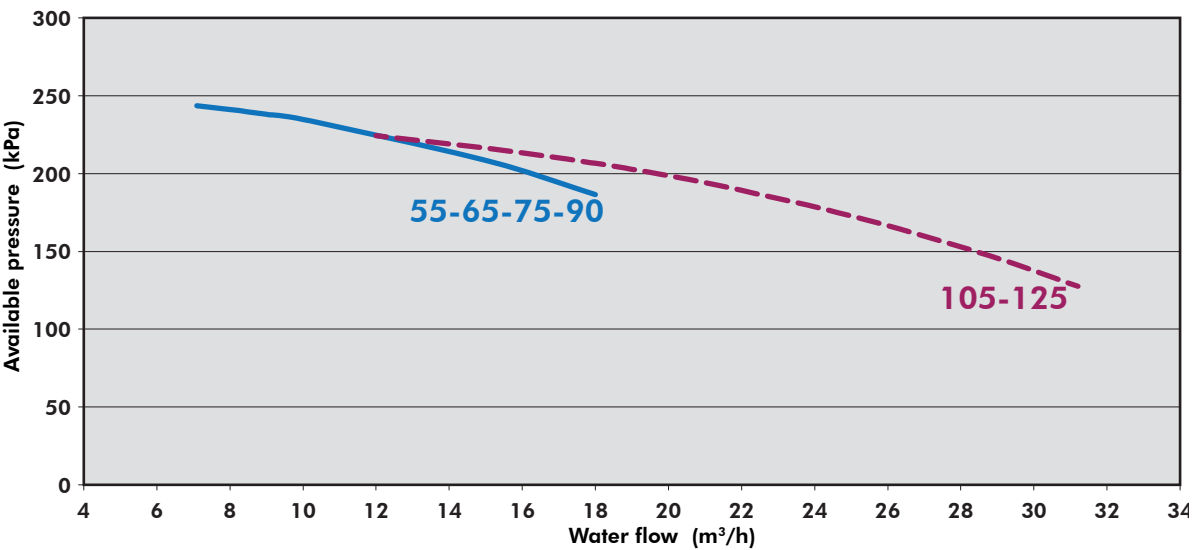
Water Pump Curves

SYSAQUA 25 - 30 - 35 - 40 - 45



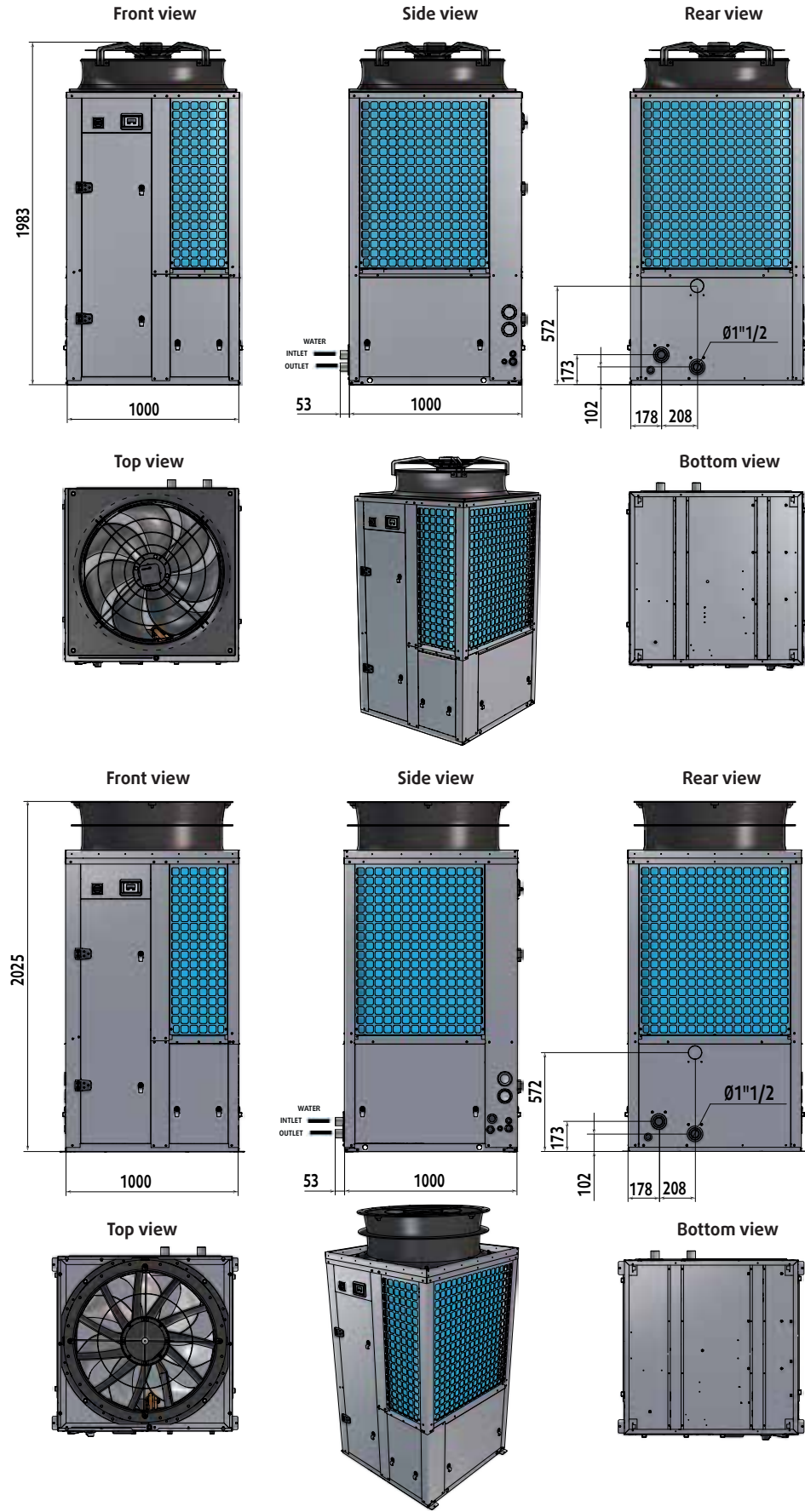
Water Pump Curves (continued)

SYSAQUA 55 - 65 - 75 - 90 - 105 - 125



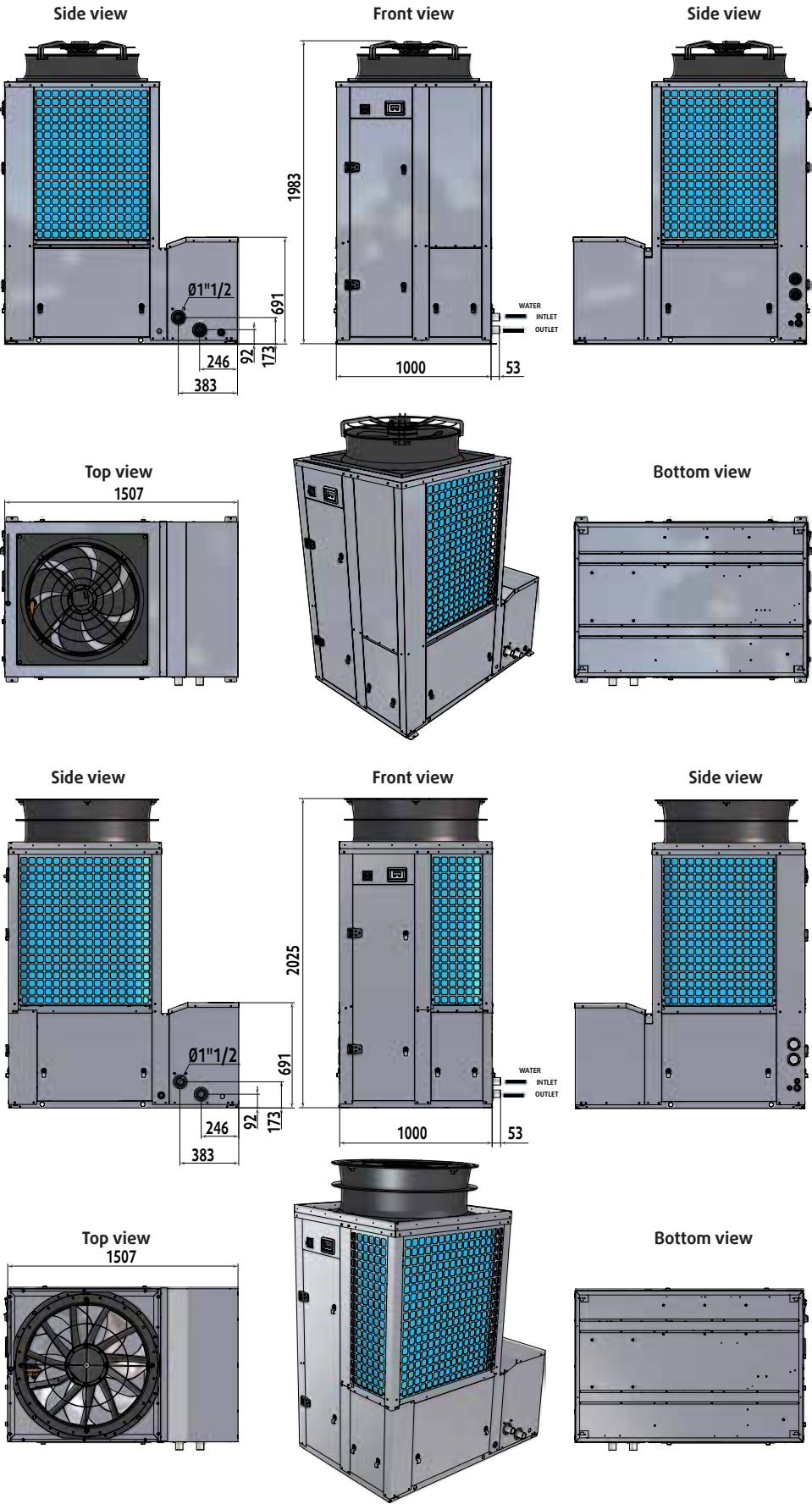
Dimensions (mm)

SYSAQUAL/SYSAQUAH 25 to 40



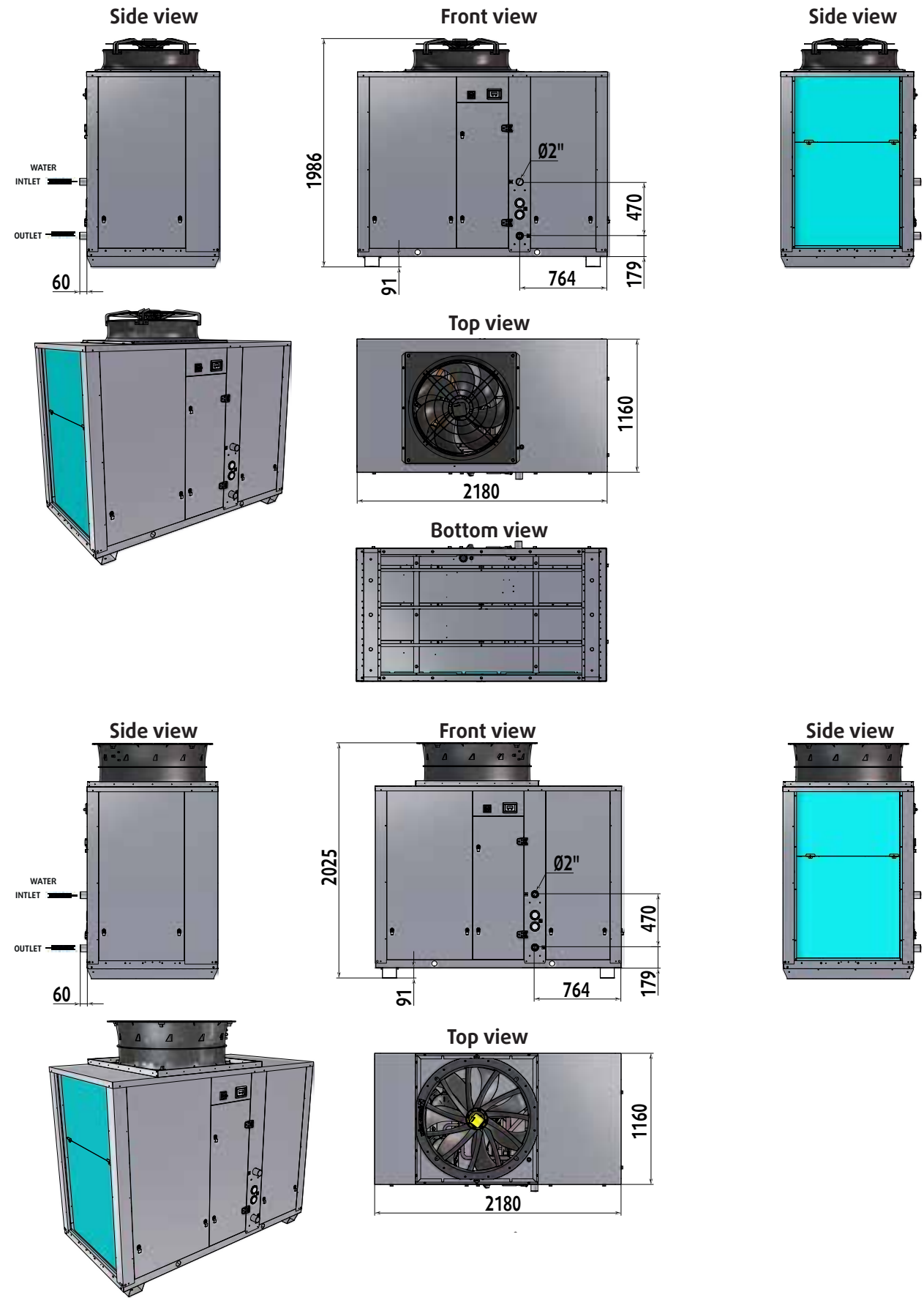
Dimensions (mm) (continued)

SYSAQUAL/SYSAQUAH 25 to 40 with buffer tank



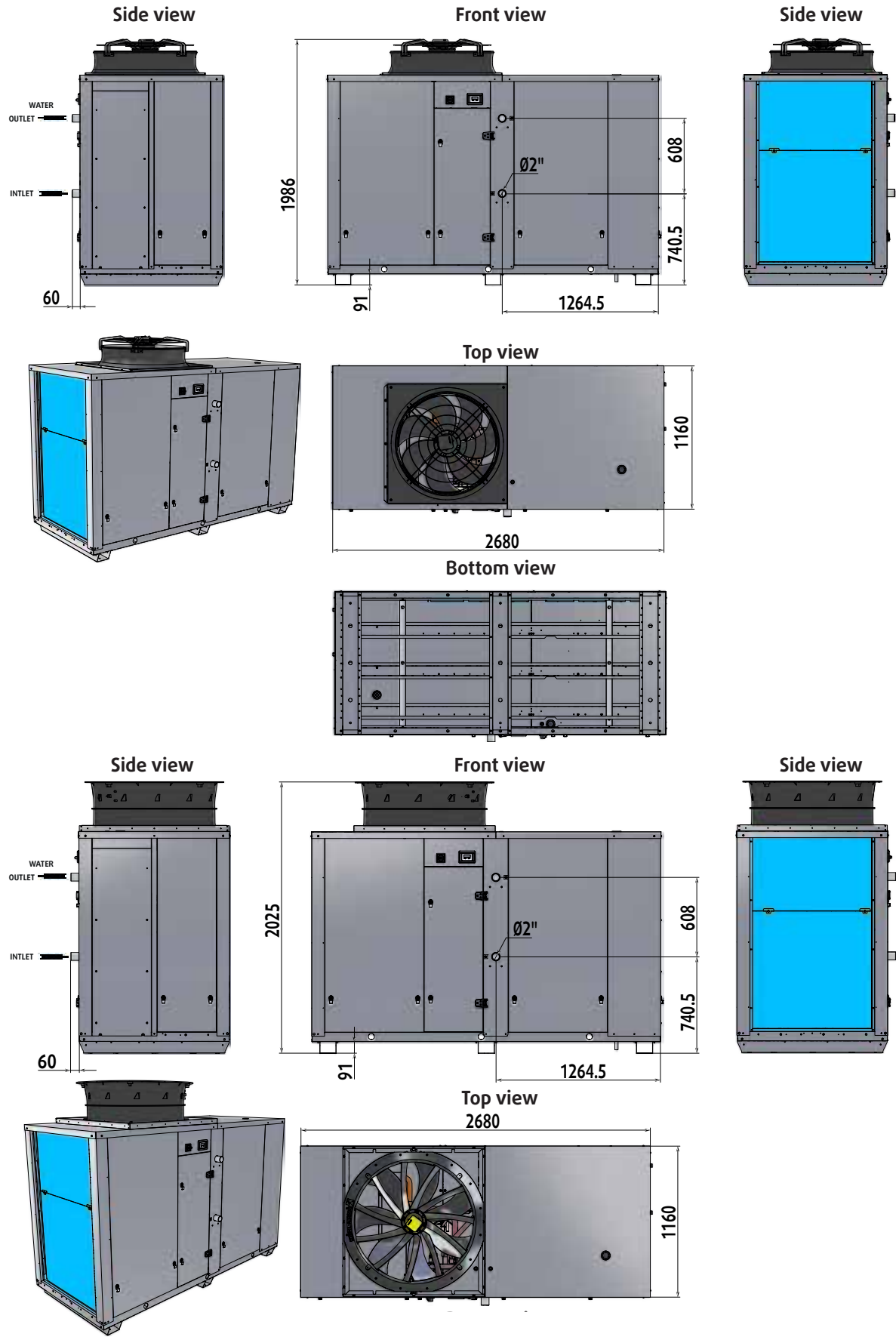
Dimensions (mm) (continued)

SYSAQUAL/SYSAQUAH 45 to 55



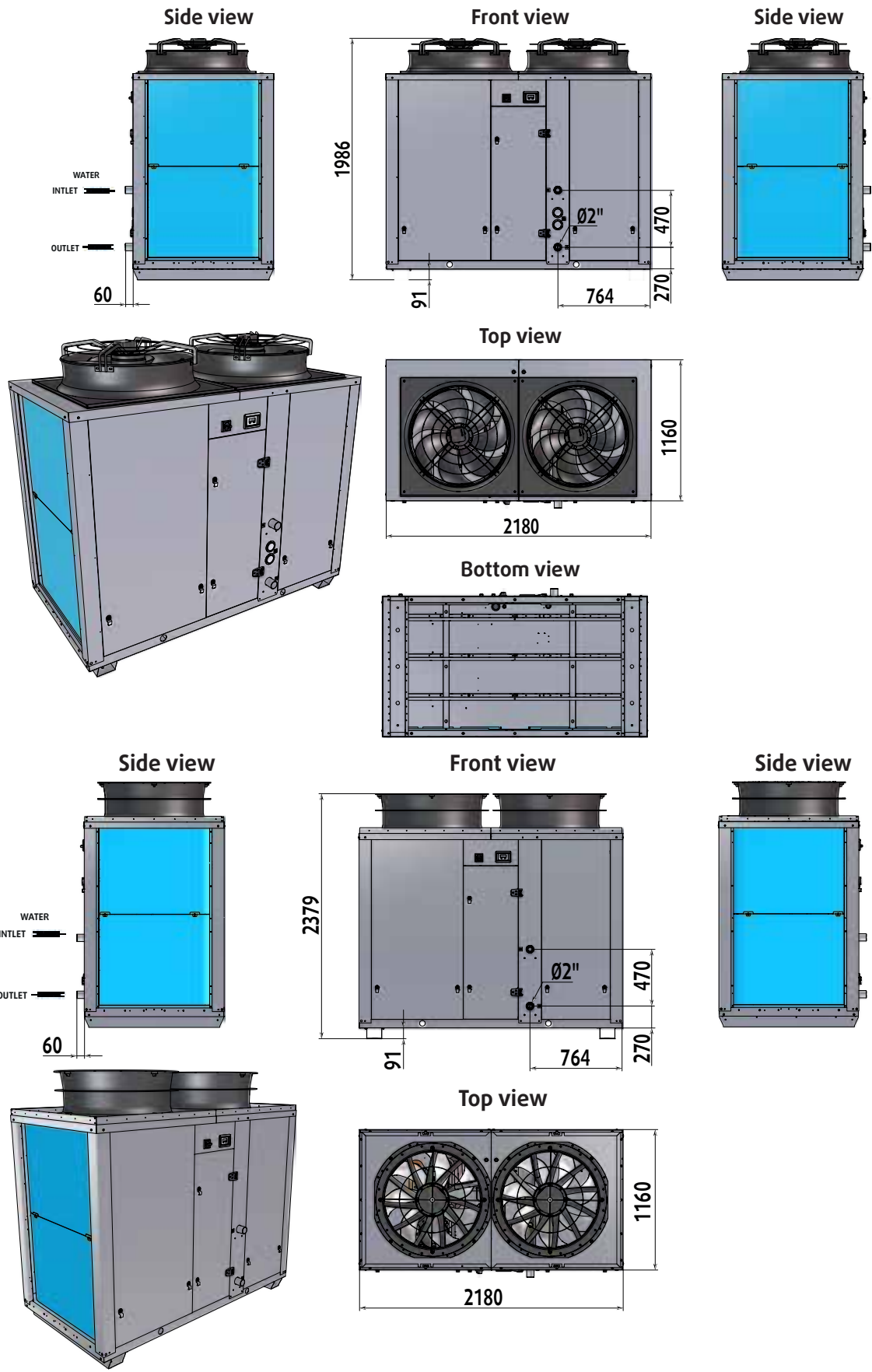
Dimensions (mm) (continued)

SYSAQUAL/SYSAQUAH 45 to 55 with buffer tank



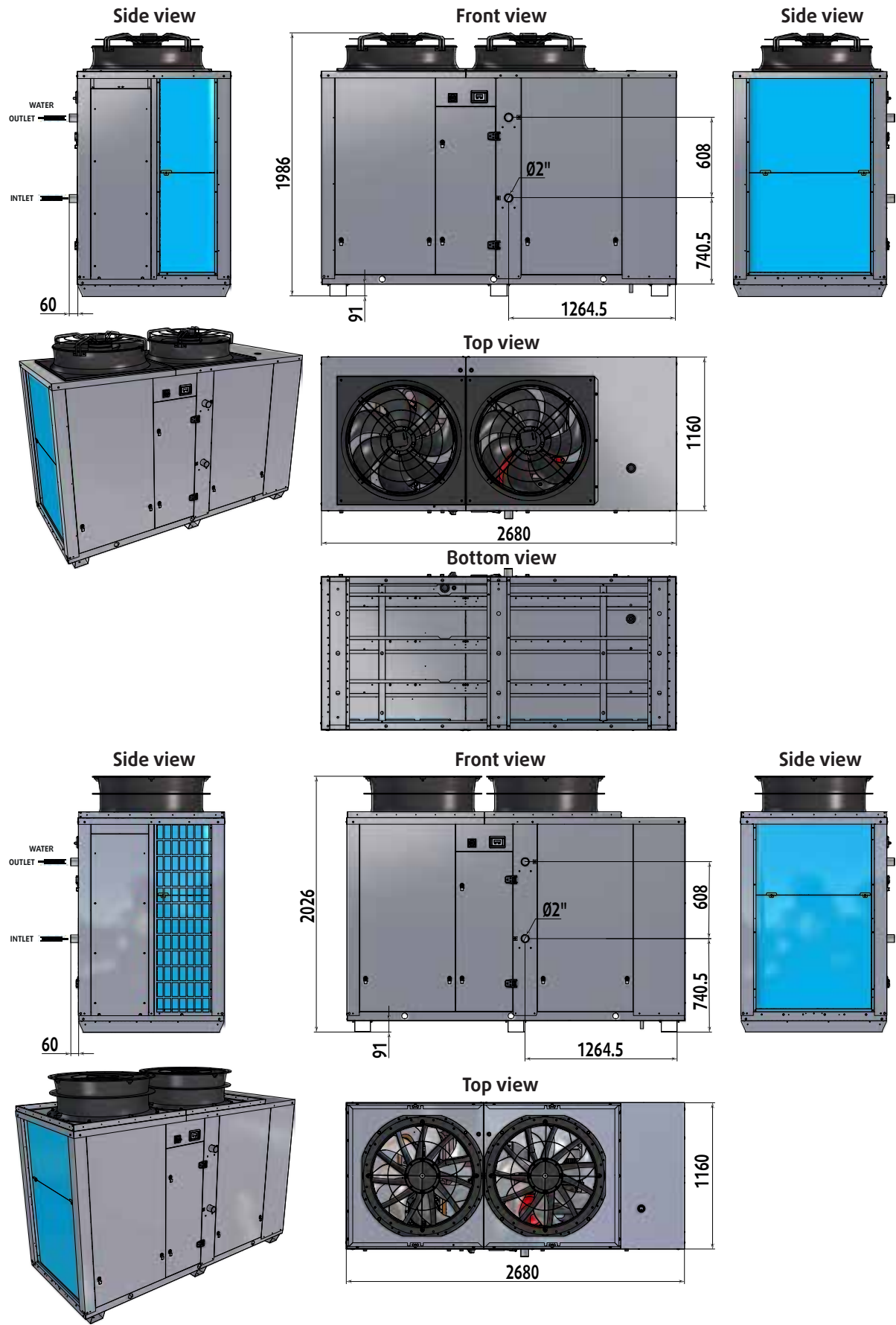
Dimensions (mm) (continued)

SYSAQUAL/SYSAQUAH 65 to 75



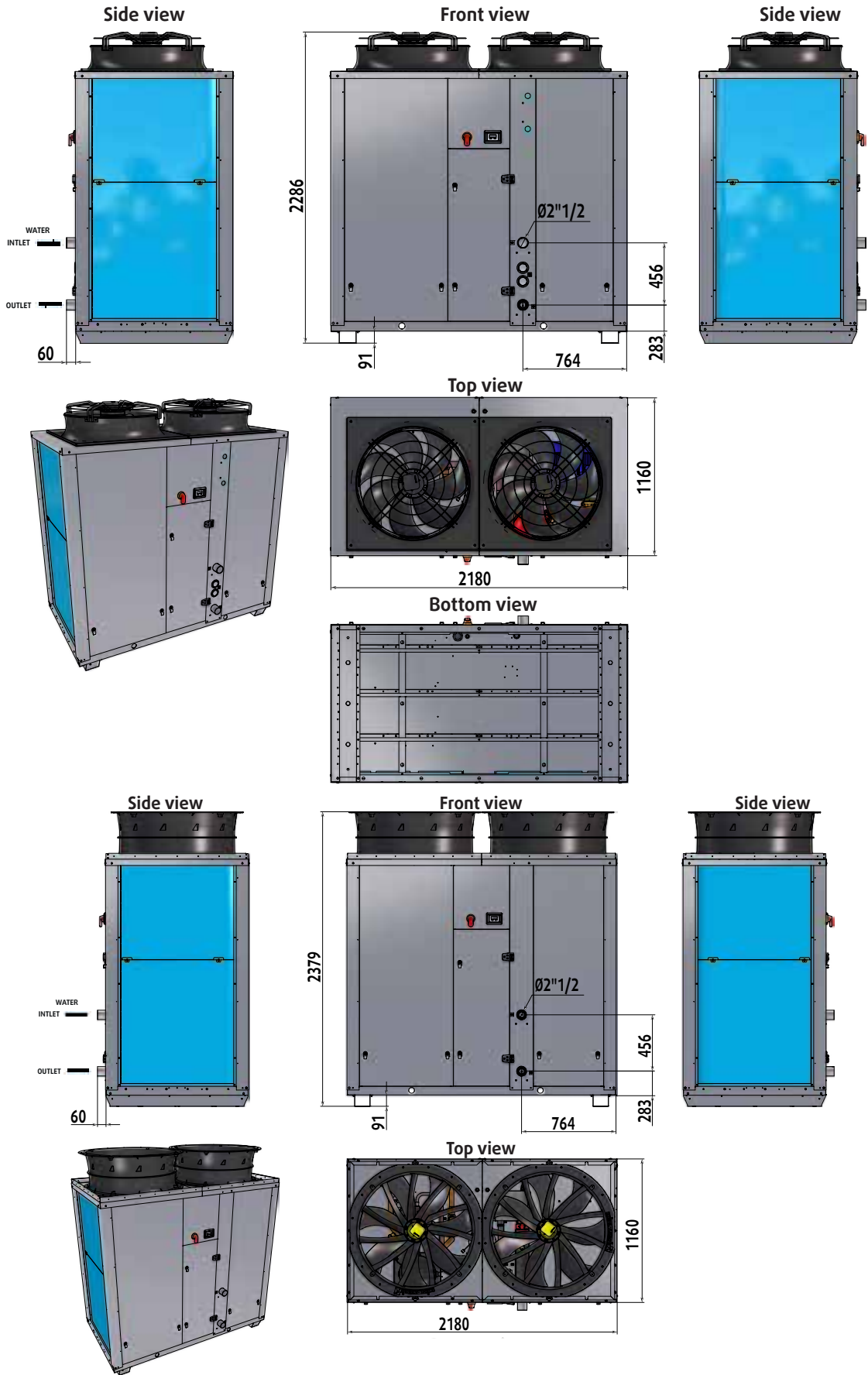
Dimensions (mm) (continued)

SYSAQUAL/SYSAQUAH 65 to 75 with buffer tank



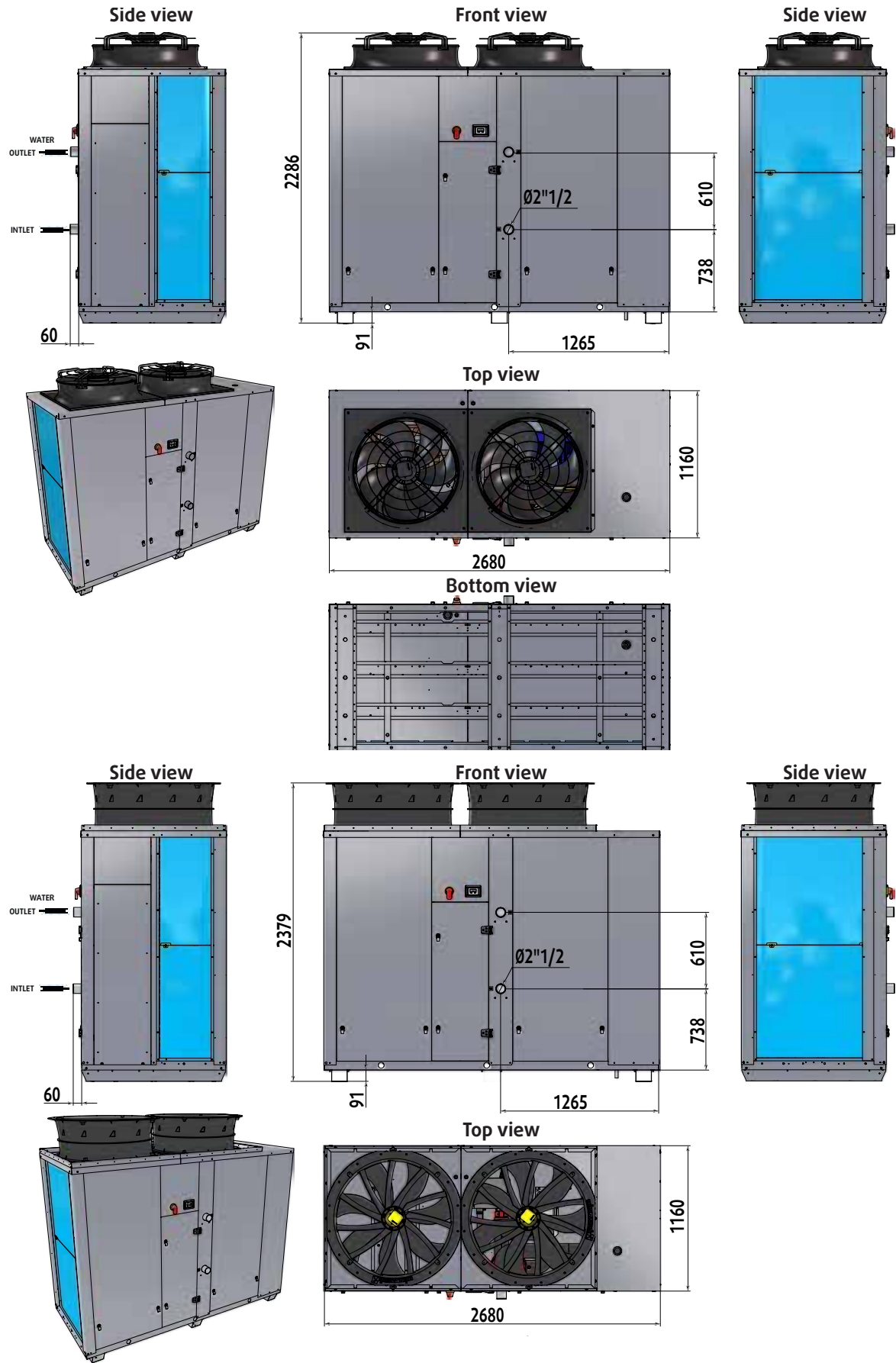
Dimensions (mm) (continued)

SYSAQUAL/SYSAQUAH 90 to 125



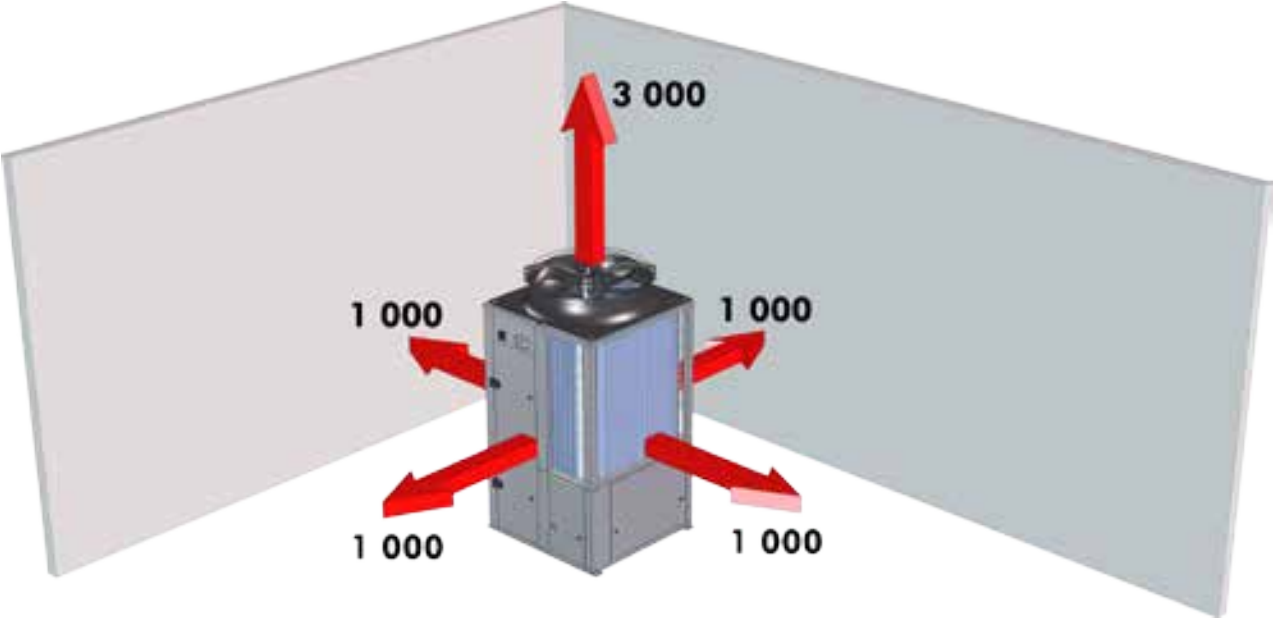
Dimensions (mm) (continued)

SYSAQUAL/SYSAQUAH 90 to 125 with buffer tank

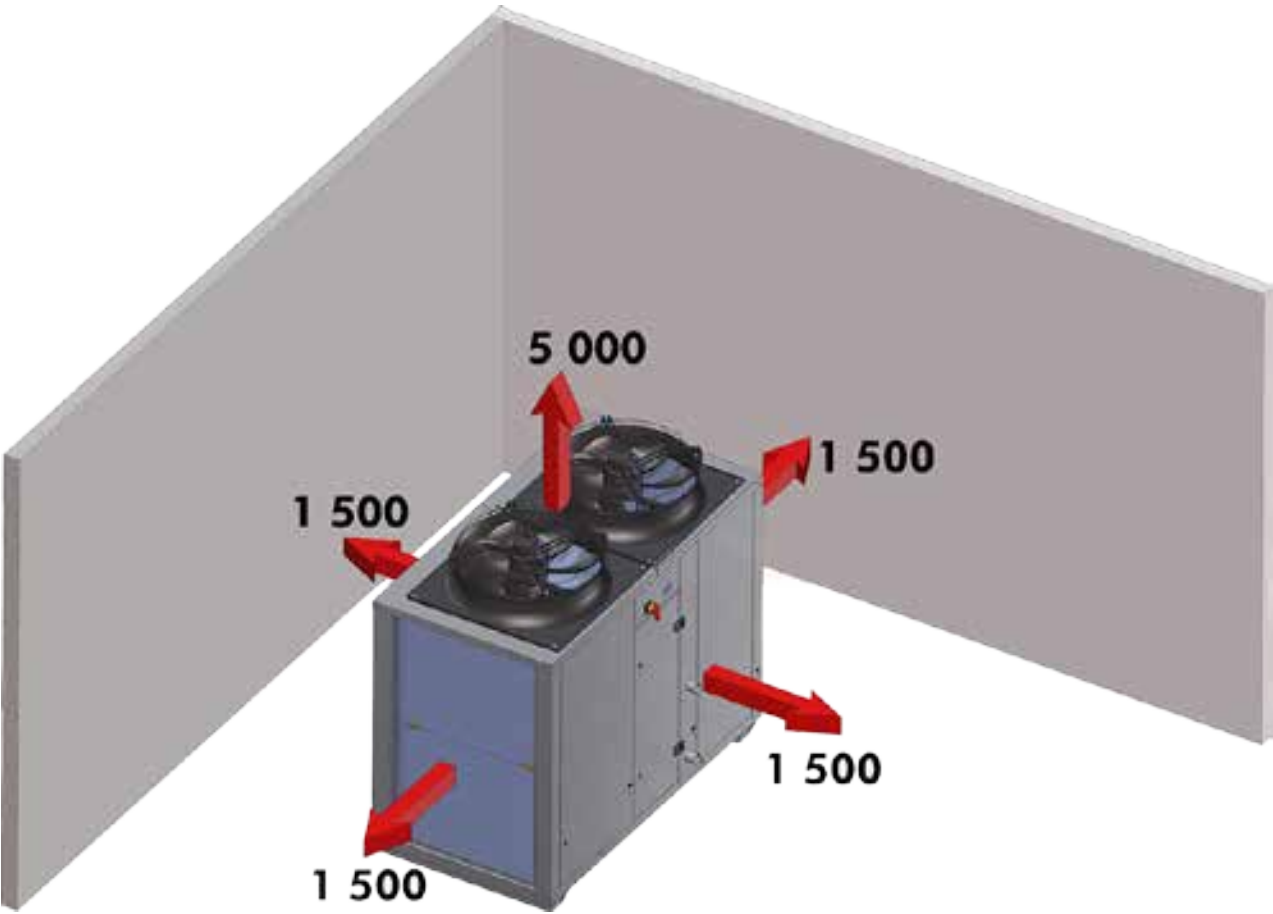


Space Requirements (mm)

SYSAQUAL/SYSAQUAH 25 to 55



SYSAQUAL/SYSAQUAH 65 to 125



Notes

Systemair AC SAS · route de Verneuil, 27570 Tillières-sur- Avre · Tél. 02 32 60 61 00 · Fax 02 32 32 55 13
www.systemair.fr