

SyScroll 40 to 75 Air **NEW**

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



R410A



40.0 to 76.0 kW

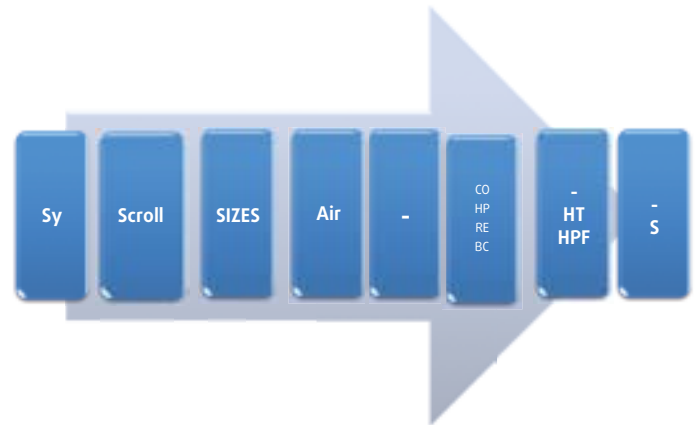
40.0 to 77.0 kW



Key points

- R410A refrigerant.
- Simple refrigerant circuit layout with one **compressor tandem**.
- Great **accessibility** to internal components for **service** operations.
- **Aeraulic independence** between refrigerant circuit and condensing side.
- **Low sound level** for BLN unit, very **low sound level** for SLN unit.
- New **display** on external panel allows the complete **control** of the unit.
- Wide **operating limits**:
 - Low water temperature applications in cooling mode (down to -8 °C).
 - High water temperature applications in heating mode (up to 55 °C).
- Fan speed control, suitable both for **low ambient temperature operation** in cooling mode and for **high ambient temperature operation** in heating mode.
- **Mechanical gauge** kit, available both factory mounted and field mounted.
- **ModBus** interface available.
- **New controller** with following functions:
 - Return and leaving water temperature control logic.
 - Dynamic set point (climatic, 4-20 mA, 0-10 V, 0-5 V, 0-1V) as standard.
 - Domestic hot water management.
 - Advanced defrost management.
 - Advanced pump management.
 - Time scheduling.
 - Double water set point.
- **Remote terminal** available as accessory.
- Several **options / accessories provided** with **standard** delivery:
 - phase sequence control → safe electric installation.
 - coil guard → protection during transport and installation.
 - double set-point → different daily profiles.
 - dynamic set-point → water profile in accordance with outdoor air temperature.
 - water filter → protection against impurities.
 - water differential pressure switch / water flow switch → protection against low water flow.
 - rubber pads → basic vibration attenuation.
- Optional **plug and play hydraulic** kit for last minute configuration equipped with 1 or 2 pump(s). Pumps can be supplied with or without buffer tank.
- Optional **electric heaters** fitted inside buffer tank to ensure extra heating.
- Optional **desuperheater** for partial heat recovery.
- Double **automatic air vent** (only for unit with pumps).
- **Victaulic connections** and **valves** for a easier installation.
- Double 3/8" valve on water pipes for pressure measurement and water charge/discharge.
- Easy to install **spring anti-vibration kit**.
- Dedicated versions for high ambient temperature (**HT**), reduced acoustic impact (**SLN**), need to duct exhaust air (**HPF**).

Specifications



CO = Cooling Only; HP = Heat Pump; RE = Remote Evaporator; BC = Brine for Process Cooling Application.

General

The new **SyScroll Air** air cooled water chillers have been designed and optimized to operate with **R410A** refrigerant fluid. They are available in **cooling only CO**, **heat pump HP**, **remote evaporator (RE)** and **brine for process cooling application** versions.

Each version consists of **6 sizes** and covers a nominal cooling capacity range from **40.0 to 76.0 kW** and a nominal heating capacity range from **40.0 to 77.0 kW**.

All units are equipped with **two scroll compressors in tandem** for the best operation in partial system loads.

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

The units can operate **with very low water content**, thanks to the new microprocessor implementing an **auto-adaptive control logic** ensuring a total protection of the compressors at different load or water volume conditions. The minimum water volume requested is **4 l/kW**. An **on board water tank with one or two pumps** can be supplied as option. Pumps (1 or 2) can also be supplied without water tank. A **fan speed controller** can be supplied loose as field-installed accessory to allow the unit operating in cooling mode at low ambient temperature.

SyScroll Air series can be supplied with **2 acoustic options**:

- **Base Low Noise (-)**: This version is equipped with delta connected fan motors.
- **Super Low Noise (S)**: This version is equipped with star connected fan motors which allow the unit to operate with a very low rpm. Compressor sound proof jackets are also supplied as standard on this version.

To increase its application field, **SyScroll Air** ranges are available in **2 additional versions**:

- **High temperature (HT)**: units are equipped with **inverter fans** allowing operating on a wider envelope. HT version can be supplied with BLN acoustic option only.
- **High pressure fans (HPF)**: units are equipped with **inverter fans** providing external static pressure up to 120

Pa. HT / HPF versions can be supplied with BLN acoustic option only.

Conformity with standards

The units are in conformity with the following standards:

- Machine Directive: 2006/42/EC
- Low Voltage Directive: 2006/95/EC
- Electromagnetic Compatibility Directive: 2004/108/EC
- Pressure Equipment Directive: 2014/68/EU

Cabinet

The cabinet is 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 7040**. The units are suitable for outdoor installation, directly on the building roof or at the ground level.

Compressors

Compressors are hermetic scroll type equipped with an inherent motor protection device ensuring protection against overheating. All compressors have direct-on-line starting and are mounted on rubber vibration isolators in order to minimize noise and vibration transmission. A soft start system can be supplied as optional, whereas a **phase sequence monitor** is supplied as standard.

Evaporator

Indoor heat exchangers are brazed stainless steel plate type. They are insulated with a 10 mm thick closed cell polyethylene foam material and provided with male gas threaded connections. It is protected by a **35 W antifreeze electric heater** to ensure a good protection against freezing at low ambient temperature when the unit is switched off. Maximum working pressure is 10 bar at water side and 45 bar at refrigerant side.

Air cooled condenser coil

Outdoor heat exchangers are finned tubes coils. Coils are built with internally grooved copper tubes expanded into corrugated aluminium fins. Fin pitch is differentiated between the two coil configuration (condensing only, reversible) in order to optimize operating conditions.

Condenser fans

Each unit has one axial fan, fixed speed type, 800 mm diameter. According to the version, the fan is cabled in order to have **high speed** (700 to 900 rpm) for BLN version and **low speed** (530 to 680 rpm) to reduce the sound level for SLN version. The fan motor has IP54 grade and is equipped with a thermal overload protection.

A pressure actuated fan speed controller can be supplied as field-installed accessory or factory-mounted option. It allows the unit operating in cooling mode at ambient temperature down to -18 °C.

On HT / HPF versions, a brushless fan motor is controlled by a 0-10 V signal regulating the speed from 0 to 1110 rpm. This special fan allows the unit to be used in two applications:

- **High ambient temperature:** The fan provides high air flow at maximum speed in order to keep a low condensing temperature while operating at high air temperature.
- **Ducted installation:** The fan provides high static pressure in order to allow the unit to be ducted.

All types of fans are fitted with a protective grille on top.

Refrigerant circuit

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

Heat pump units refrigerant circuit is also provided with 4-way reversing valve, bi-flow filter drier, bi-flow expansion valve, liquid separator and liquid receiver.

Hydraulic circuit

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

- **BASIC** unit: Unit is **without pump and tank**. The hydraulic circuit includes the following components: water filter, flow switch, 3/8" in/out water valves, water safety valve, automatic air vent, hydrometer and Victaulic connections (allowing quick connections in order to update the circuit with buffer tank and pumps). All water piping is covered with **19 mm thick insulation**.
- **1P: 1-Pump** unit having same equipment as BASIC one + **a pump** with available static pressure of 150 kPa. Two air vents are supplied for this configuration.
- **1PT: 1-Pump + Tank** unit having same equipment as 1P one + **a buffer tank** to be installed inside the unit. The tank is covered with 10 mm thick polyethylene insulation and is equipped with a **200 W antifreeze heater**.

- **2P: 2-Pump** unit having same equipment as BASIC one + **2 pumps** with available static pressure of 150 kPa. Each pump can be isolated and replaced with the help of two Victaulic valves. A non-return valve is provided to protect each pump from pumping water in the discharge pipe of the other pump. Two air vents are also supplied for this configuration.
- **2PT: 2-Pump + Tank** unit having same equipment as 2P one + **a buffer tank** to be installed inside the unit. The tank is covered with 10 mm thick polyethylene insulation and is equipped with a **200 W antifreeze heater**. In pump equipped unit, the head of the pump is insulated with a **19 mm thick insulation** to avoid condensation on it.

Serbatoio:

40-50: 98 liters

60-75: 152 liters.

Water connections are 2" male gas threaded type.

Control panel



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

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

The main features of this control system are:

- DHW control with anti-legionella function daily and weekly activated,
- Dynamic set point (4-20 mA, 0-1V, 0-5V, 0-10V),
- Double set point,
- OAT compensation,
- Boiler / Electrical heater integration,
- Auto adaptative function to reduce the water content of the plant,
- Managing of DHW 3 ways valve (ACCESSORY),
- Advanced pump management,
- Remote keyboard (ACCESSORY) with possibility to connect (up to 100 m distance) without any serial interface.

Electrical board

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

- Door lock main isolating switch,
- Compressor contactors and fuses,
- Phase sequence control,

- Clamps for remote summer/winter switch,
- Clamps for external flow switch,
- Clamps for remote double set-point,
- Clamps for external interlock,
- Clamps for remote general alarm,
- Connection clamps to remote keyboard (OPTIONAL),
- Clamps for boiler relay control (OPTIONAL),
- Clamps for dynamic set-point compensation (4-20 mA, 0-1 V, 0-5 V, 0-10 V),
- Clamps for DHW 3-way valve (ACCESSORY),
- Soft-starter (OPTIONAL),
- Power factor correction capacitors (OPTIONAL).

Standard equipment

- Microprocessor card with 4 red digits, 18 LED, 4 buttons.
- Digital pressure and temperature reading kit.
- High ambient pressure control.
- Sequence phase control.
- Control circuit transformer 230 V/12 V.
- Compressor/pump hour meter.
- Main switch.
- Refrigerant R410A.
- PED approval.
- Evaporator antifreeze electric heater.
- Compressor box.
- Water differential pressure switch.

- Water filter.
- Water flow switch.

Factory-installed option:

- Coil with blue fins treatment (only HP),
- Coil with "E-Coating" treatment,
- Soft starter,
- Electronic Expansion Valve,
- Desuperheater,
- Power supply without neutral,
- Automatic circuit breakers,
- Compressors overload protection,
- Hydraulic options (1P, 2P, 1PT, 2PT),
- Fan speed control kit.

Field-installed accessories

- Compressor jacket,
- Mechanical Gauge kit,
- Water pressure switch,
- In/out valve kit,
- Remote On/Off control,
- ModBus protocol kit for BMS,
- Power factor correction capacitors,
- Sequencer for up to 4 chillers installation
- Remote terminal.
- Antivibration kit,
- Fan speed control kit.
- Power factor correction capacitors.

Accessories & Options

SyScroll Air	Delivery	Abbreviation	Description & Befenit
Sequence phases control	Std	PHC	It allows to check the correct sense R-S-T of electric supply phases for 400/3/50 units.
Control circuit transformer 230V/12V	Std	TRF	Voltage transformer to provide correctly the separated voltage to the auxiliary line.
Main switch	Std		Front operated switch-disconnector with direct mounted handle to cut the power Supply Line according CE standards.
Differential pressure switch	Std		Prevents the operation of the unit if the circulating chilled fluid is insufficient. Checking water differential pressure.
Antifreeze electric heater kit	Std	EEH	Electrical Heater protects the plate exchanger.
Double set point	Std	DSP	Can manage two different applications (set point) selected by remote dry contact.
Coil Guards	Std	CG	Grilles to protect the coils.
Flow switch	Std	FS	Prevents the operation of the unit if the circulating chilled fluid is insufficient. It is recommended to install a flow switch to ensure the correct operation of the unit.
Water filter	Std		Filter to remove impurities from the water supply.
Low ambient kit (pressostatic stepless fan speed control)	Option	FSC	Electronic speed controllers are designed to control the speed of fan motors in Air Cooled Chiller and Heatpump. Fan Speed controlled by Condensing Pressure in cool mode or by Air Temp in heat mode. Using variable fan speed controllers offers following benefits in commercial refrigeration or air-conditioning applications High Efficiency, Low Noise level, Low air temperature in cool mode and High air temperature in heat mode.
Automatic circuit breaker	Option	ACB	ACB is an automatically operated electrical switch designed to protect an electrical circuit from damage caused by overload or short circuit. Providing Magnetic and Thermal protection to Compressor motors.
Electronic expansion valves	Option	EEV	It is the device able to control the refrigerant flow on suction line trough a stepper motor in order to keep the superheat as constant as possible.
Compressor Jacket	Option	CJ	Jacket for each compressors in order to reduce the sound of its.
Modbus protocol kit for BMS	Option	MBS	It permits the integration of the unit with BMS with Modbus protocol trough RS485 port.
Softstarter for compressor	Option	SS	An electronic device that automatically starts up the compressors gradually. The starting current can be reduced by up to 40% of the direct on line value.
Power factor corrector capacitors	Option	PFC	The purpose of the power factor corrector capacitor is to minimize the input current distortion and make the current in phase with the voltage. Target is to keep Power Factor about 0.90 in any running condition.
Mechanical gauges kit (HP and LP manometers)	Option	KM	Pressure gauges that display the operating pressure in the high and low pressure sections of the refrigerant circuit.
e-coating AL/CU	Option		It is a treatment fo AL/CU coil for medium level of pollution and for marine atmosphere.
Desuperheater	Option	D	Additional exchanger in order to recover 20% of capacity for Domestic Hot Water application.
Remote On/Off control	Accessory		It enables the operator to power on the unit when it is in standby mode, to display alarms and switch over cooling-heat pump. Maximum length: 50mt.
Remote keyboard panel	Accessory		Makes it possible to control the unit through the remote terminal, up to a maximum distance of 100mt of telephone cable.
Sequencer for up to 4 chillers installation	Accessory	SEQ	It can easily pilot up to 4 units, chiller or heat pumps, belonging to the same family, fitted in parallel, 50 metres apart maximum.
Water pressure switch	Accessory		Mechanical water pressure switch to be mounted on the field installation on installation water piping to prevent very low Water Pressure.
Valve in out	Accessory		Ball valves makes it possible to insulate unit hydraulic circuit from the rest of the installation.

Accessories are loosed and to install in the field. Options are mounted in factory.

EN 14511-2011

Starting 2012 Campaign Eurovent Certification Company took decision to start certify only performances declared in according severe European Standard EN14511.

BEFORE 2012: GROSS PERFORMANCES

Before this date all capacity performances are declared, measured and certified by Eurovent, as GROSS performances. COOLING or HEATING CAPACITY was rated without taking in account the negative contribution of the heat exchanger Pressure Drop or the positive contribution of the Head Available prevalence in example.

POWER INPUT was rated as pure sum of all power input contribution from all motors fitted on the unit. Without taking in account the correction due to power spent to win the exchanger Pressure Drop in example.

AFTER 2012: NET PERFORMANCES

After this date all data are certified according EN14511. Mainly consequences in example on Water chiller or heatpump are: COOLING or HEATING CAPACITY is now rated taking in account the negative contribution of the heat exchanger Pressure Drop or the positive contribution of the Head Available prevalence in example. In case of Water to Water unit, in example, both exchanger Pressure Drop values are taken in account in the formula.

POWER INPUT is now rated as all power input contribution from all motors fitted on the unit taking in account also the correction due to power spent to win the exchanger Pressure Drop in example.

As an important consequence of these new rules setted by Eurovent is that EER, COP and ESEER are also affected by these correction. All efficiency index are now calculated, measured and certified according new rules setted by Eurovent according EN14511.

Air to water unit (non ducted outdoor):

	Indoor pump is an integral part		Indoor pump is not an integral part	
	ECC 2011 (gross)	EN14511:2011	ECC 2011 (gross)	EN14511:2011
Ph	$Ph_m^{(1)}$	$Ph_m - \frac{q_{wi} \Delta p_{e,wi}}{\eta_{pi}}$	Ph_m	$Ph_m + \frac{q_{wi} (-\Delta p_{i,wi})}{\eta_{pi}}$
Pc	$Pc_m^{(1)}$	$Pc_m + \frac{q_{wi} \Delta p_{e,wi}}{\eta_{pi}}$	Pc_m	$Pc_m - \frac{q_{wi} (-\Delta p_{i,wi})}{\eta_{pi}}$
Pe	$Pe_m^{(1)}$	$Pe_m - \frac{q_{wi} \Delta p_{e,wi}}{\eta_{pi}}$	Pe_m	$Pe_m + \frac{q_{wi} (-\Delta p_{i,wi})}{\eta_{pi}}$

(1) Measured with the indoor pump not running.

Where:

Ph = NET heating capacity.

Pc = NET cooling capacity.

Pe = electrical power input.

Ph_m = is the gross heat capacity, expressed in Watts.

Pc_m = is the gross cool capacity, expressed in Watts.

q_{wi} = is the nominal liquid flow rate.

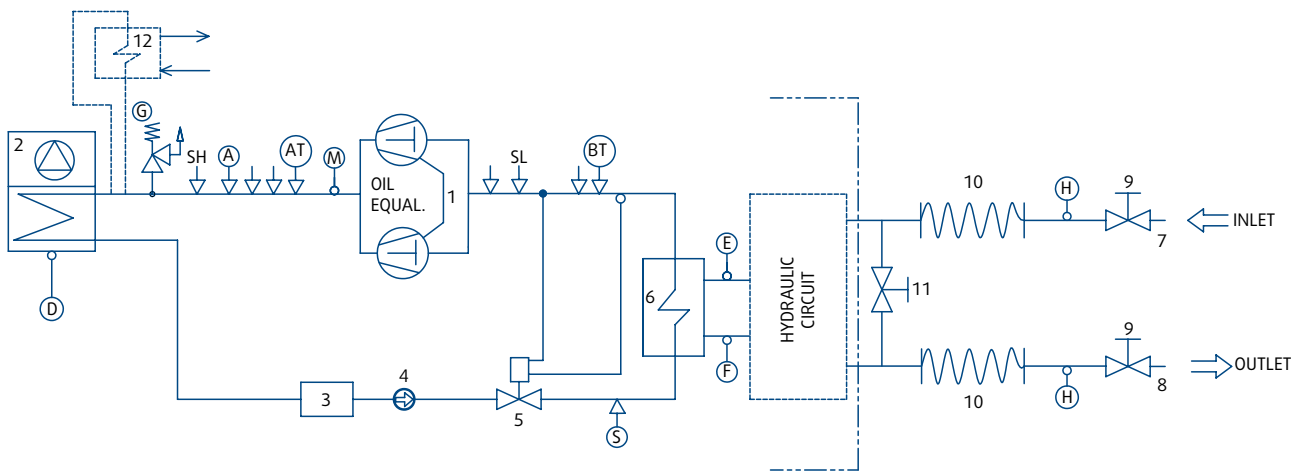
$\Delta p_{e,wi}$ = is the measured available external static pressure.

$\Delta p_{i,wi}$ = is the measured internal static pressure difference.

η_{pi} = is the efficiency of the pump.

Reference: Guidelines for the declaration of performances according to EN14511:2011 (available a copy upon request for Systemair customer).

Refrigerant Flow Diagram - SyScroll 40-75 Air CO



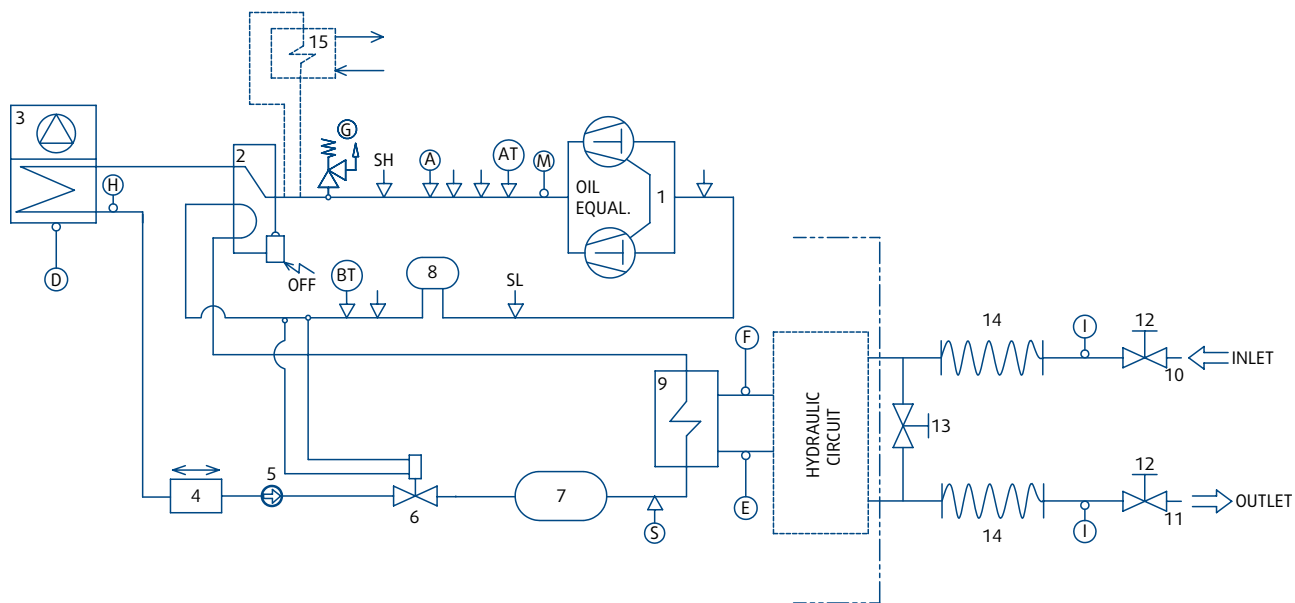
COMPONENTS

- 1 Compressor tandem scroll type
- 2 Air cooled condenser
- 3 Filter drier
- 4 Sight glass
- 5 Thermostatic expansion valve
- 6 Plate heat exchanger
- 7 Water inlet
- 8 Water outlet
- 9 In/Out valve
- 10 Flexible pipes
- 11 By-pass valve
- 12 Desuperheater (optional)

SAFETY/CONTROL DEVICES

- A High pressure switch (40.5 bar)
- AT High pressure transducer
- BT Low pressure transducer
- D Air temperature sensor
- E Inlet water temperature sensor
- F Outlet water temperature sensor
- G Safety valve (45 bar)
- M Discharge temperature sensor
- S 5/16" SAE Schrader valve (charging point)
- SH 5/16" SAE high pressure Schrader valve
- SL 5/16" SAE low pressure Schrader valve
- H Thermometer
- ↓ Pipe connection with Schrader valve 1/4" SAE
- Probes
- Unit side
- Optional parts

Refrigerant Flow Diagram - Syscroll 40-75 Air HP



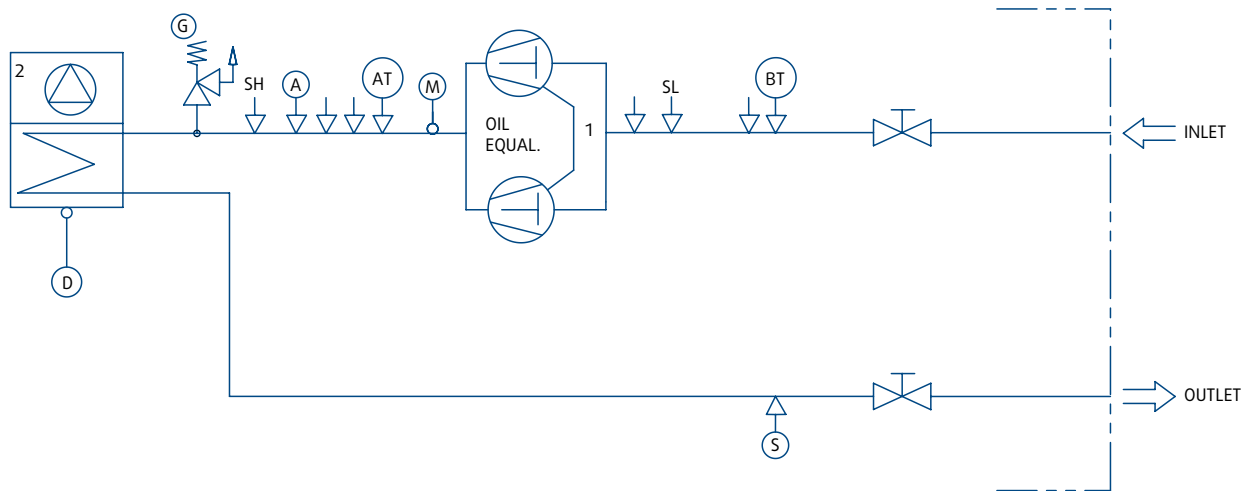
COMPONENTS

- 1 Compressor tandem scroll type
- 2 4-way valve
- 3 Air cooled condenser
- 4 Biflow filter drier
- 5 Sight glass
- 6 Biflow thermostatic expansion valve
- 7 Liquid receiver
- 8 Suction accumulator
- 9 Plate heat exchanger
- 10 Water inlet
- 11 Water outlet
- 12 In/Out valve
- 13 By-pass valve
- 14 Flexible pipes
- 15 Desuperheater (optional)

SAFETY/CONTROL DEVICES

- A High pressure switch (40.5 bar)
- AT High pressure transducer
- BT Low pressure transducer
- D Air temperature sensor
- E Outlet water temperature sensor
- F Inlet water temperature sensor
- G PED safety valve (45 bar)
- H Defrost temperature sensor
- M Discharge temperature sensor
- S 5/16" SAE Schrader valve (charging point)
- SH 5/16" SAE high pressure Schrader valve
- SL 5/16" SAE low pressure Schrader valve
- I Thermometer
- ↓ Pipe connection with Schrader valve 1/4" SAE
- Probes
- Unit side
- Optional parts

Refrigerant Flow Diagram - SyScroll 40-75 Air RE



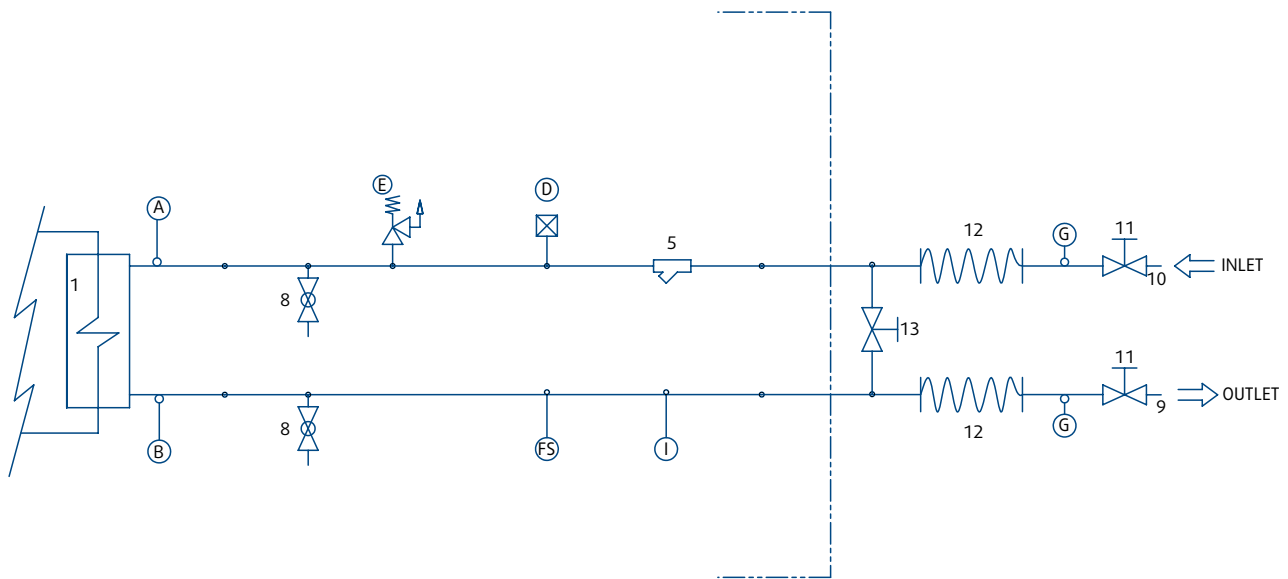
COMPONENTS

- 1 Compressor tandem scroll type
- 2 Air cooled condenser

SAFETY/CONTROL DEVICES

- A High pressure switch (40.5 bar)
- AT High pressure transducer
- BT Low pressure transducer
- D Air temperature sensor
- M Discharge temperature sensor
- S 5/16" SAE Schrader valve (charging point)
- SH 5/16" SAE high pressure Schrader valve
- SL 5/16" SAE low pressure Schrader valve
- G Safety valve (45 bar)
- H Thermometer
- ↓ Pipe connection with Schrader valve 1/4" SAE
- ° Probes
- Unit side
- Optional parts

Hydraulic Circuit Diagram - Basic Unit



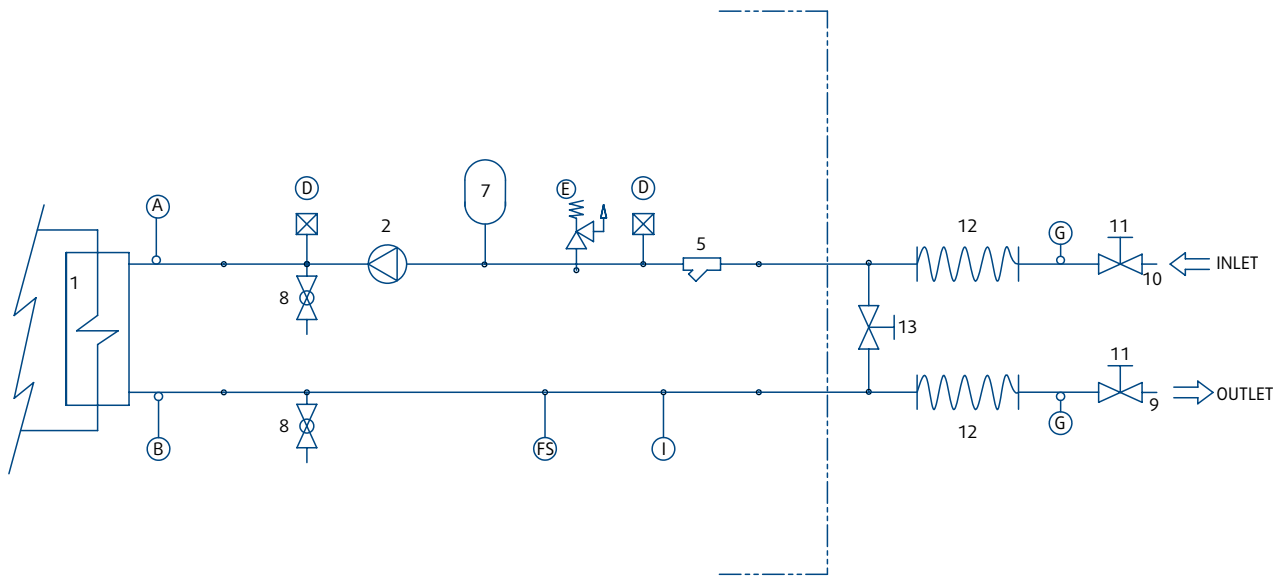
COMPONENTS

- 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
- D Vent valve
- E Water safety valve (3 bar)
- FS Flow switch
- G Thermometer
- I Hydrometer
- Unit side

Hydraulic Circuit Diagram - 1P Unit



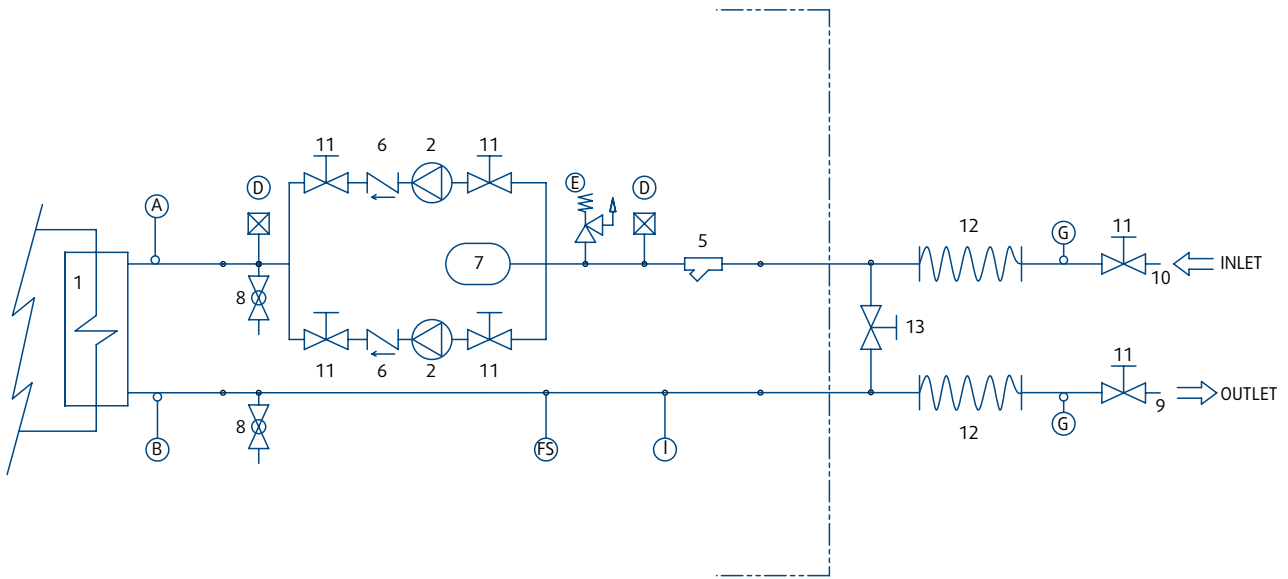
COMPONENTS

- 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 (3 bar)
- FS Flow switch
- G Thermometer
- I Hydrometer
- Unit side

Hydraulic Circuit Diagram - 2P Unit



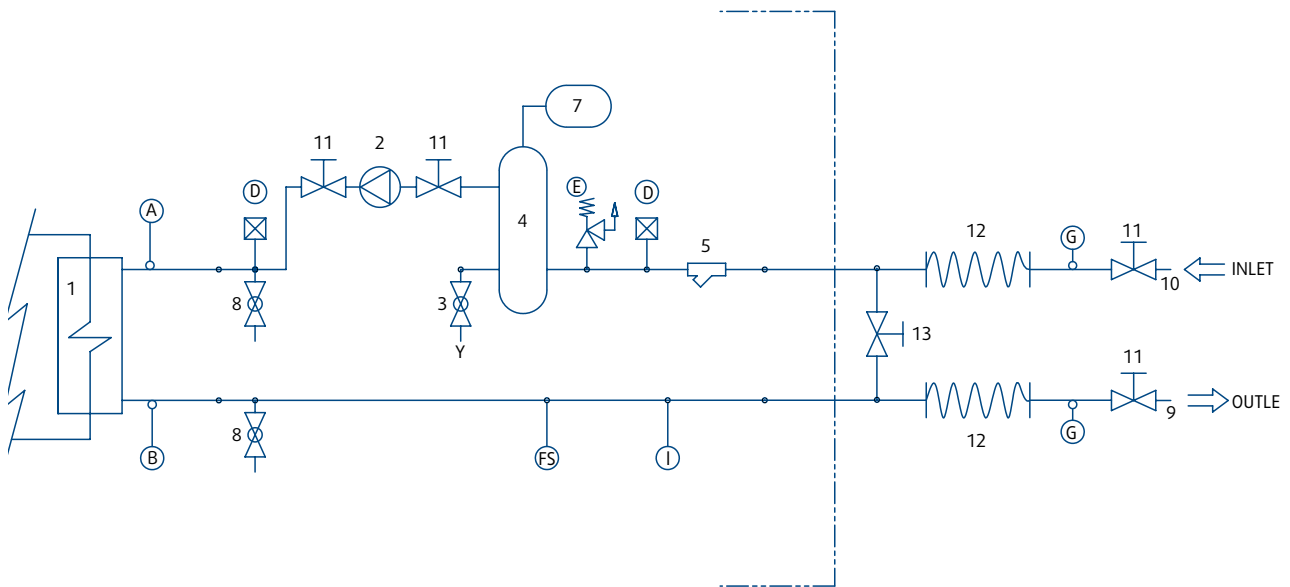
COMPONENTS

- 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 (3 bar)
- FS Flow switch
- G Thermometer
- I Hydrometer
- Unit side

Hydraulic Circuit Diagram - 1P+T Unit



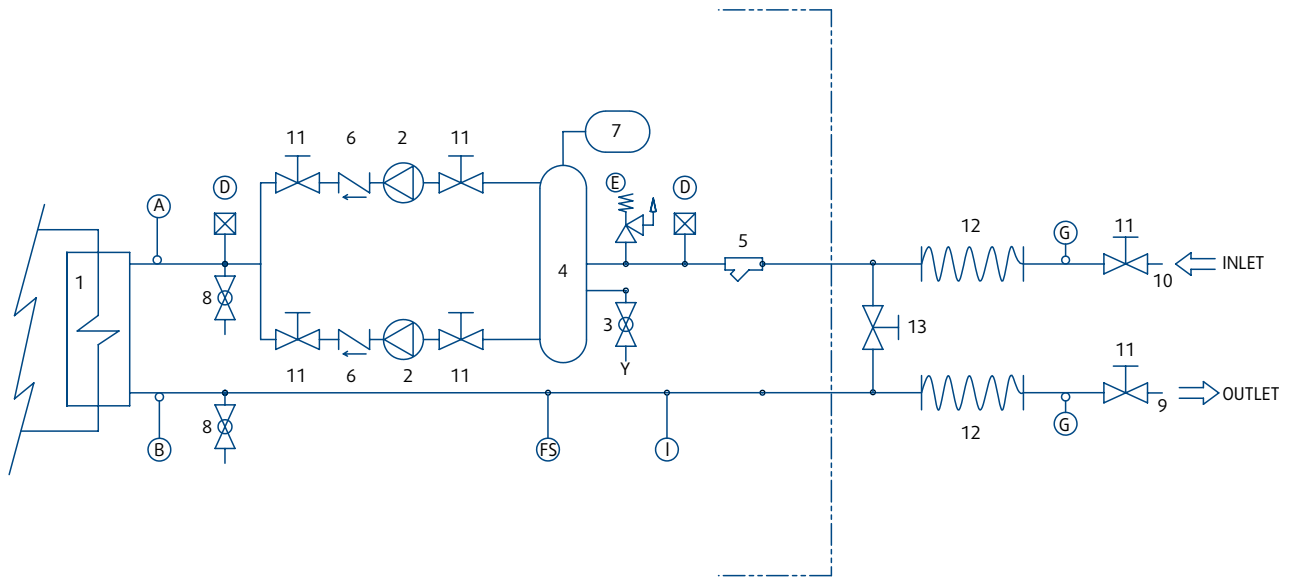
COMPONENTS

- 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 (3 bar)
- FS Flow switch
- G Thermometer
- I Hydrometer
- Unit side
- Y Drainage water

Hydraulic Circuit Diagram - 2P+T Unit



COMPONENTS

- 1 Plate heat exchanger
- 2 Pump
- 3 Draining valve
- 4 Water buffer tank
- 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 (3 bar)
- FS Flow switch
- G Thermometer
- I Hydrometer
- Unit side
- Y Drainage water

Operating Limits

Operating limits

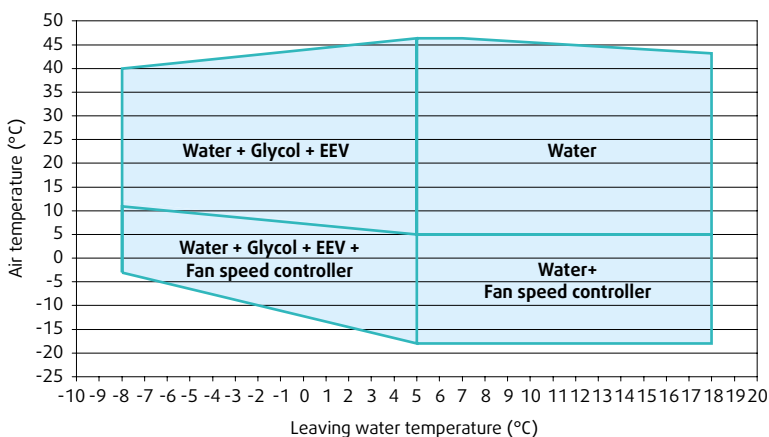
Model				SyScroll 40-75 Air	
Chilled liquid	Liquid outlet temperature	Water	°C	+5 to +18	
		Brine	°C	-8 / +5 (with glycol and electronic expansion valve); +5/+18 (standard application)	
		Temperature spread	K	3 to 7	
	Maximum operating pressure	bar	3		
Heated liquid	Leaving water temperature	Water	°C	+20 to +55	
		Temperature spread	°C	3 to 15	
	Maximum operating pressure	bar	3		
Outdoor air	Outdoor air temperature (cooling)	°C	Refer to diagram "SYSCROLL 40-75 Air CO/HP - COOLING OPERATION"		
	Outdoor air temperature (heating)	°C	Refer to diagram "SYSCROLL 40-75 Air CO/HP - HEATING OPERATION"		
Power supply voltage			V/ph/Hz	400 V, 3 ph + N, 50 Hz (+/- 10%)	

Maximum %Glycol (ethylenic or propilenic): 40%.

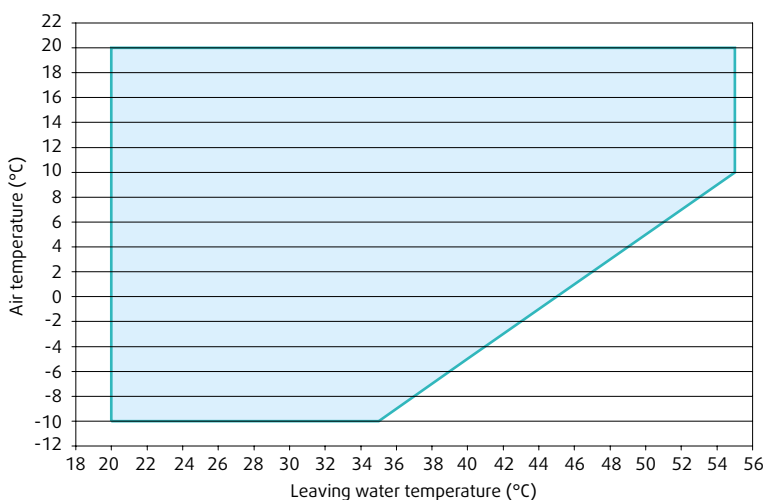
In case of operation with brines (water + glycol + inhibitors) it is strongly suggested the use of dedicated type of pump (contact sales dept).

SyScroll 40-75 Air CO/HP -

Cooling mode



Heating mode



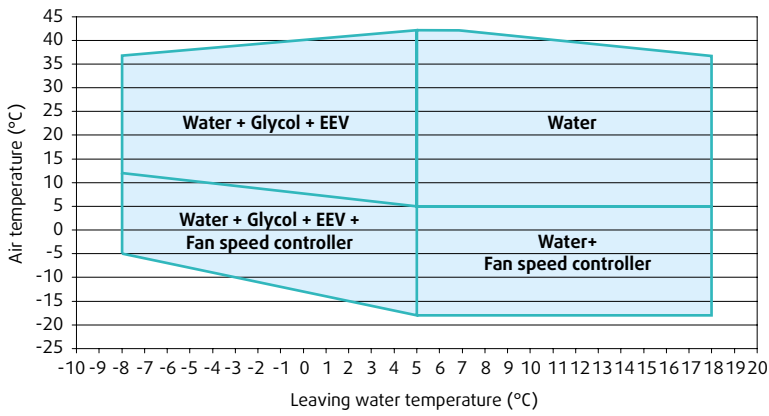
Operating limits are referred to full load (2 compressors running).

Maximum glycol% (ethylenic or propilenic)= 40%.

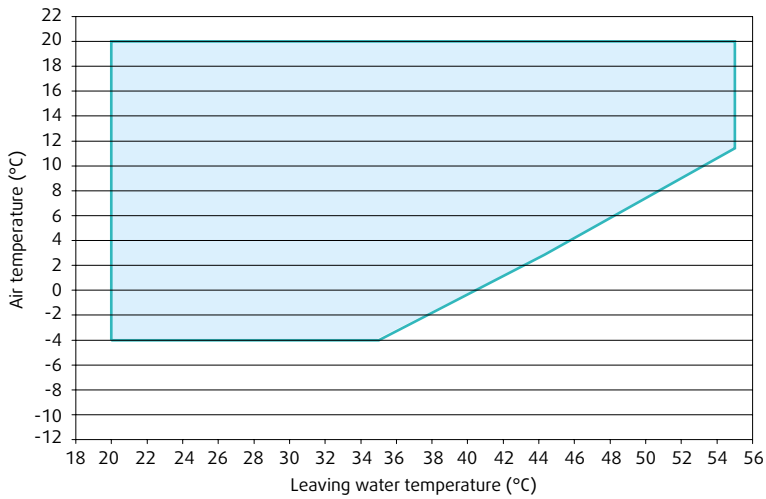
Operating Limits

SyScroll 40-75 Air CO/HP S

Cooling mode



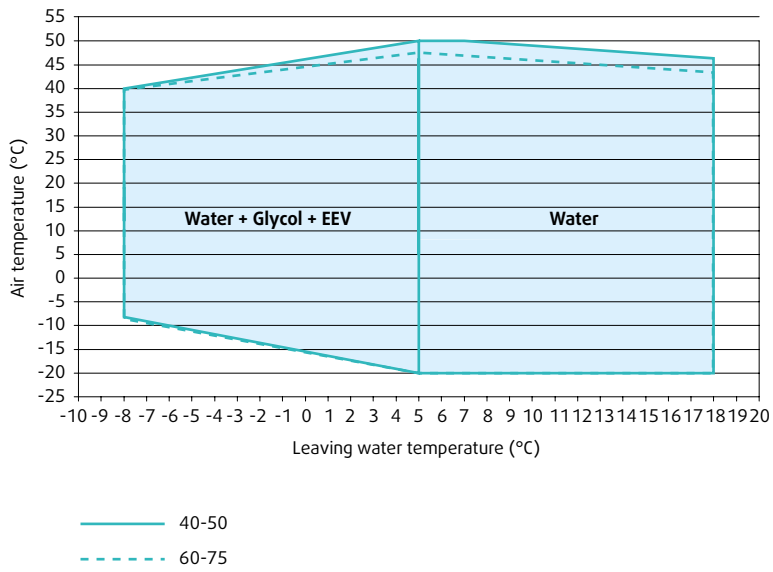
Heating mode



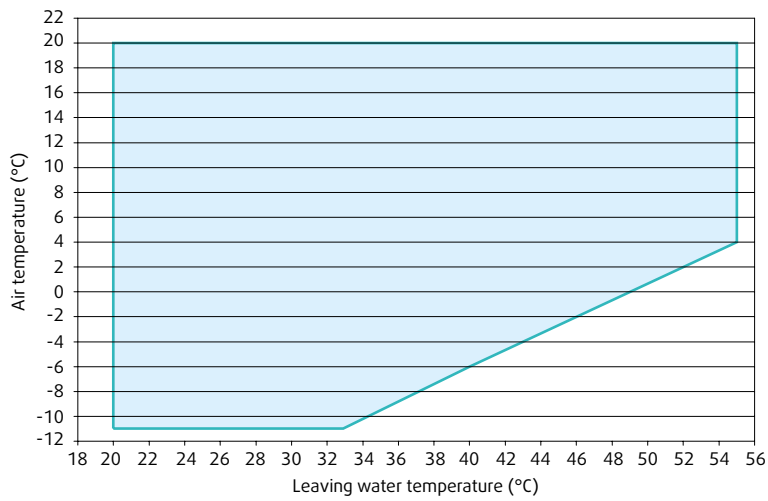
Operating limits are referred to full load (2 compressors running).
 Maximum glycol% (ethylene or propylene) = 40%.

SyScroll 40-75 Air CO/HP HT

Cooling mode



Heating mode



Operating limits are referred to full load (2 compressors running).

Performances corrective factors (brine)

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

CORRECTED UNIT CAPACITY

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

Where K_c : Capacity corrective factor according to LWT ($\Delta T = 5$ [K]) → refer to [Table 1](#)

K_c^E : Capacity corrective factor according to glycol percentage (ETHYLENE GLYCOL) → refer to [Table 2](#)

K_c^P : Capacity corrective factor according to glycol percentage (PROPYLENE GLYCOL) → refer to [Table 4](#)

CORRECTED UNIT ABSORBED POWER

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

Where K_i : Absorbed power corrective factor according to LWT ($\Delta T = 5$ [K]) → refer to [Table 1](#)

K_i^E : Absorbed power corrective factor according to glycol percentage (ETHYLENE GLYCOL) → refer to [Table 2](#)

K_i^P : Absorbed power corrective factor according to glycol percentage (PROPYLENE GLYCOL) → refer to [Table 4](#)

CORRECTED BRINE FLOW RATE

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

Where $G_{\text{RE-CALCULATED}}$: Flow rate according to $P_{\text{CORRECTED/GLYCOL}}$ ($P_{\text{CORRECTED/GLYCOL}} \times 860 / \Delta T / 3600$)

K_f^E : Flow rate corrective factor according to glycol percentage (ETHYLENE GLYCOL) → refer to [Table 2](#)

K_f^P : Flow rate corrective factor according to glycol percentage (PROPYLENE GLYCOL) → refer to [Table 4](#)

CORRECTED BRINE PRESSURE DROP

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

Where $\Delta P_{\text{RE-CALCULATED}}$: Pressure drop according to $G_{\text{CORRECTED/GLYCOL}}$ ($K_{\text{BPHE}} \times (G_{\text{CORRECTED/GLYCOL}})^2$)

K_p^E : Pressure drop corrective factor according to glycol percentage (ETHYLENE GLYCOL) → refer to [Table 2](#)

K_p^P : Pressure drop corrective factor according to glycol percentage (PROPYLENE GLYCOL) → refer to [Table 5](#)

Table 1

		K_c	K_i
Leaving water temperature [LWT] (°C) ($\Delta T=5$ [K])	7	1,000	1,000
	4	0,887	0,940
	2	0,816	0,900
	0	0,748	0,865
	-2	0,685	0,826
	-4	0,624	0,788
	-6	0,568	0,753
	-8	0,513	0,718
	-10	0,461	0,683

Table 2

Ethylene Glycol Percentage		0%	10%	20%	30%	35%	40%
Freezing point (*)	°C	0	-4	-10	-10	-21	-21
Minimum leaving water temperature allowed	°C	6	2	-2	-2	-8	-8
Capacity corrective factor (**)	K_c^E	1	0,995	0,985	0,985	0,963	0,963
Absorbed power corrective factor (**)	K_a^E	1	0,998	0,995	0,995	0,983	0,983
Flow rate corrective factor	K_f^E	1	1,015	1,050	1,050	1,123	1,123
Pressure drop corrective factor (***)	K_p^E	1	1,070	1,160	1,160	1,283	1,283

(*) ASHRAE Handbook Fundamentals.

 (**) Valid for LWT=7 [°C]. If LWT<7 [°C] consider $K_c \times K_c^E$ and $K_f \times K_f^E$

(***) Valid for LWT > 5 [°C]. If LWT<5°C → refer to Table 3

Table 3

Ethylene Glycol Percentage	LWT [°C]	Corrective factor K_f^E	Corrective factor K_p^E
10%	5	1,0154	1,0710
	4	1,0154	1,0760
	3	1,0154	1,0810
	2	1,0154	1,0850
20%	1	1,0417	1,1930
	0	1,0423	1,2000
	-1	1,0428	1,2080
	-2	1,0434	1,2150
30%	-3	1,0927	1,2990
	-4	1,0936	1,3060
	-5	1,0945	1,3200
	-6	1,0954	1,3330

Table 4

Propylene Glycol Percentage		0%	10%	20%	30%	40%
Freezing point (*)	°C	0	-3	-7	-13	-22
Capacity corrective factor (**)	K_c^P	1	0,991	0,977	0,945	0,911
Absorbed power corrective factor (**)	K_a^P	1	0,994	0,991	0,975	0,966
Flow rate corrective factor	K_f^P	1	1,005	1,030	1,067	1,130

(*) ASHRAE Handbook Fundamentals.

 (**) Valid for LWT=7 [°C]. If LWT<7 [°C] consider $K_c \times K_c^P$ and $K_f \times K_f^P$
Table 5

Propylene Glycol Percentage	LWT [°C]	Corrective factor K_p^P
10%	5	1,112
	4	1,134
20%	5	1,175
	4	1,196
	3	1,206
30%	5	1,290
	4	1,300
	3	1,310
	0	1,362
	-2	1,393
40%	-4	1,414
	5	1,433
	4	1,435
	3	1,456
	0	1,497
	-2	1,549
	-4	1,580
	-6	1,612
-8	1,653	

Technical data - SyScroll 40-75 Air CO₂ - (STD-HPF-HT)

Standard and High Pressure Fan Versions

Model		40	45	50	60	65	75
Nominal cooling capacity (1)	kW	40,8	44,8	51,9	60,9	68,9	76,7
Power input (1)	kW	14,0	16,2	18,6	20,5	23,5	27,9
EER (1)	kW/kW	2,91	2,77	2,79	2,97	2,93	2,75
Energy Efficiency Class		B	C	C	B	B	C
ESEER (1)	kW/kW	4,08	3,87	3,89	4,01	4,07	3,73
Number of refrigerant circuits		1					
Total capacity steps	%	50-100	50-100	50-100	44-56-100	50-100	50-100
Compressor							
Number		2					
Type / Oil type		Scroll / POE					
Internal heat exchanger							
Number		1					
Type		Plate					
Water flow rate	l/h	6.884	7.572	8.774	10.317	11.680	13.032
Water pressure drop	kPa	Refer to pressure drop curves					
Antifreeze heater	W	35					
External heat exchanger							
Number		1					
Type		Finned Tubes Coils					
Total face area	m ²	2,59	2,59	2,59	3,18	3,18	3,18
Fans							
Number		1					
Nominal speed	rpm	680	680	680	900	900	900
Air flow rate	m ³ /h	14.000	14.000	13.200	21.100	21.100	21.100
Input power	kW	0,98	0,98	0,98	2,00	2,00	2,00
Input power (*)	kW	2,67	2,67	2,67	2,67	2,67	2,67
External static pressure (*)	Pa	0 to 120					
Water connections (Internal heat exchanger)							
Type		Male Gas Threaded					
Inlet diameter / Outlet diameter	inch	2"					
Water connections (Desuperheater)							
Type		Male Gas Threaded					
Inlet diameter / Outlet diameter	inch	1"					
Weight							
Shipping	kg	Refer to weight table					
Operating	kg	Refer to weight table					
Dimensions							
Length	mm	1.750	1.750	1.750	2.200	2.200	2.200
Width	mm	1.100	1.100	1.100	1.100	1.100	1.100
Height	mm	1.580	1.580	1.580	1.580	1.580	1.580
Acoustic data							
Sound power level (2)	dB(A)	78	79	79	83	84	84
Sound pressure level (3)	dB(A)	47	47	47	52	52	52

(1) Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard.

(2) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

(3) Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.

(*) HPF / HT Versions with EC fan motor.

Technical data - SyScroll 40-75 Air CO_S

Super Low Noise Version

Model		40	45	50	60	65	75
Nominal cooling capacity (1)	kW	39,4	43,1	49,6	59,0	64,0	73,7
Power input (1)	kW	14,3	16,6	19,4	20,7	23,6	28,7
EER (1)	kW/kW	2,76	2,60	2,56	2,85	2,71	2,57
Energy Efficiency Class		C	D	D	C	C	D
ESEER (1)	kW/kW	3,87	3,62	3,58	3,85	3,77	3,50
Number of refrigerant circuits		1					
Total capacity steps	%	50-100	50-100	50-100	44-56-100	50-100	50-100
Compressor							
Number		2					
Type / Oil type		Scroll / POE					
Internal heat exchanger							
Number		1					
Type		Plate					
Water flow rate	l/h	6.656	7.293	8.376	9.976	10.853	12.522
Water pressure drop	kPa	Refer to pressure drop curves					
Antifreeze heater	W	35					
External heat exchanger							
Number		1					
Type		Finned Tubes Coils					
Total face area	m ²	2,59	2,59	2,59	3,18	3,18	3,18
Fans							
Number		1					
Nominal speed	rpm	530	530	530	720	720	720
Air flow rate	m ³ /h	11.000	11.000	10.300	16.000	16.000	16.000
Input power	kW	0,57	0,57	0,57	1,27	1,27	1,27
Water connections (Internal heat exchanger)							
Type		Male Gas Threaded					
Inlet diameter / Outlet diameter	inch	2"					
Water connections (Desuperheater)							
Type		Male Gas Threaded					
Inlet diameter / Outlet diameter	inch	1"					
Weight							
Shipping	kg	Refer to weight table					
Operating	kg	Refer to weight table					
Dimensions							
Length	mm	1.750	1.750	1.750	2.200	2.200	2.200
Width	mm	1.100	1.100	1.100	1.100	1.100	1.100
Height	mm	1.580	1.580	1.580	1.580	1.580	1.580
Acoustic data							
Sound power level (2)	dB(A)	74	75	75	78	79	79
Sound pressure level (3)	dB(A)	42	44	44	46	47	47

(1) Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard

(2) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard

(3) Sound pressure levels refer to ISO 3744 standard, parallelepiped shape

Technical data - SyScroll 40-75 Air HP_ - (STD-HPF-HT)

Standard and High Pressure Fan Versions

Model		40	45	50	60	65	75
Nominal cooling capacity (1)	kW	36,8	41,7	48,4	56,8	64,3	71,6
Power input (1)	kW	13,6	15,6	18,1	19,9	22,8	27,1
EER (1)	kW/kW	2,71	2,67	2,67	2,85	2,82	2,64
Energy Efficiency Class		C	D	D	C	C	D
ESEER (1)	kW/kW	3,81	3,74	3,72	3,82	3,75	3,57
Nominal heating capacity (2)	kW	39,2	43,7	51,7	58,0	69,1	76,3
Power input (2)	kW	13,3	14,5	16,3	21,3	23,0	26,9
COP (2)	kW/kW	2,95	3,01	3,17	2,72	3,00	2,84
Energy Efficiency Class		C	B	B	C	B	C
SCOP / Energy Efficiency Class		3,69 / A+	3,68 / A+	3,90 / A++	3,62 / A+	3,63 / A+	3,61 / A+
η_s		145	144	153	142	142	142
Number of refrigerant circuits		1					
Total capacity steps	%	50-100	50-100	50-100	44-56-100	50-100	50-100
Compressor							
Number		2					
Type / Oil type		Scroll / POE					
Internal heat exchanger							
Number		1					
Type		Plate					
Water flow rate (cooling operation)	l/h	6.209	7.052	8.170	9.615	10.888	12.160
Water flow rate (heating operation)	l/h	6.863	7.637	9.047	10.148	12.040	13.278
Water pressure drop	kPa	Refer to pressure drop curves					
Antifreeze heater	W	35					
External heat exchanger							
Number		1					
Type		Finned Tubes Coils					
Total face area	m ²	2,59	2,59	2,59	3,18	3,18	3,18
Fans							
Number		1					
Nominal speed	rpm	680	680	680	900	900	900
Air flow rate	m ³ /h	14.800	14.800	14.800	22.250	22.250	22.250
Input power	kW	0,98	0,98	0,98	2,00	2,00	2,00
Input power (*)	kW	2,67	2,67	2,67	2,67	2,67	2,67
External static pressure (*)	Pa	0 to 120					
Water connections (Internal heat exchanger)							
Type		Male Gas Threaded					
Inlet diameter / Outlet diameter	inch	2"					
Water connections (Desuperheater)							
Type		Male Gas Threaded					
Inlet diameter / Outlet diameter	inch	1"					
Weight							
Shipping	kg	Refer to weight table					
Operating	kg	Refer to weight table					
Dimensions							
Length	mm	1.750	1.750	1.750	2.200	2.200	2.200
Width	mm	1.100	1.100	1.100	1.100	1.100	1.100
Height	mm	1.580	1.580	1.580	1.580	1.580	1.580
Acoustic data							
Sound power level (3)	dB(A)	78	79	79	83	84	84
Sound pressure level (4)	dB(A)	47	47	47	52	52	52

(1) Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard.

(2) Data refers to 45°C leaving warm water temperature and 7°C ambient coil air temperature with 87% R.H., according EN14511 standard.

(3) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

(4) Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.

(*) HPF / HT Versions with EC fan motor.

Technical data - SyScroll 40-75 Air HP_S

Super Low Noise Version

Model		40	45	50	60	65	75
Nominal cooling capacity (1)	kW	36,8	40,2	46,3	55,0	59,8	68,9
Power input (1)	kW	13,9	16,1	18,9	20,1	22,9	28,0
EER (1)	kW/kW	2,65	2,50	2,45	2,74	2,61	2,46
Energy Efficiency Class		D	D	E	C	D	E
ESEER (1)	kW/kW	3,61	3,50	3,42	3,67	3,47	3,35
Nominal heating capacity (2)	kW	38,2	42,5	50,4	56,6	67,3	74,4
Power input (2)	kW	13,0	14,2	16,1	20,8	22,5	26,4
COP (2)	kW/kW	2,94	2,99	3,13	2,72	2,99	2,82
Energy Efficiency Class		C	C	B	C	C	C
SCOP / Energy Efficiency Class		3,71 / A+	3,65 / A+	3,84 / A++	3,65 / A+	3,63 / A+	3,54 / A+
η_s		146	143	151	143	142	139
Number of refrigerant circuits		1					
Total capacity steps	%	50-100	50-100	50-100	44-56-100	50-100	50-100
Compressor							
Number		2					
Type / Oil type		Scroll / POE					
Internal heat exchanger							
Number		1					
Type		Plate					
Water flow rate (cooling operation)	l/h	6.209	6.794	7.809	9.305	10.114	11.679
Water flow rate (heating operation)	l/h	6.691	7.446	8.821	9.894	11.738	12.946
Water pressure drop	kPa	Refer to pressure drop curves					
Antifreeze heater	W	35					
External heat exchanger							
Number		1					
Type		Finned Tubes Coils					
Total face area	m ²	2,59	2,59	2,59	3,18	3,18	3,18
Fans							
Number		1					
Nominal speed	rpm	530	530	530	720	720	720
Air flow rate	m ³ /h	11.500	11.500	10.800	17.000	17.000	17.000
Input power	kW	0,57	0,57	0,57	1,27	1,27	1,27
Water connections (Internal heat exchanger)							
Type		Male Gas Threaded					
Inlet diameter / Outlet diameter	inch	2"					
Water connections (Desuperheater)							
Type		Male Gas Threaded					
Inlet diameter / Outlet diameter	inch	1"					
Weight							
Shipping	kg	Refer to weight table					
Operating	kg	Refer to weight table					
Dimensions							
Length	mm	1.750	1.750	1.750	2.200	2.200	2.200
Width	mm	1.100	1.100	1.100	1.100	1.100	1.100
Height	mm	1.580	1.580	1.580	1.580	1.580	1.580
Acoustic data							
Sound power level (2)	dB(A)	74	75	75	78	79	79
Sound pressure level (3)	dB(A)	42	44	44	46	47	47

(1) Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard.

(2) Data refers to 45°C leaving warm water temperature and 7°C ambient coil air temperature with 87% R.H., according EN14511 standard.

(3) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

Technical data - SyScroll Air RE

Remote Evaporator Version

SyScroll Air RE_ - (STD/HPF/HT)		40	45	50	60	65	75
Nominal cooling capacity (1)	kW	43,2	48,8	56,9	67,4	73,8	84,5
Power input (1)	kW	13,9	16,3	18,8	20,7	23,6	28,3
Number of refrigerant circuits		1					
Total capacity steps	%	50-100	50-100	50-100	44-56-100	50-100	50-100
Fans							
Number		2					
Nominal speed	rpm	680	680	680	900	900	900
Air flow rate	m ³ /h	14.000	14.000	13.200	21.100	21.100	21.100
Input power	kW	0,98	0,98	0,98	2,00	2,00	2,00
Input power (*)	kW	2,67	2,67	2,67	2,67	2,67	2,67
External static pressure (*)	Pa	0 to 120					
Acoustic data							
Sound power level (2)	dB(A)	80	81	81	85	86	86
Sound pressure level (3)	dB(A)	49	49	49	54	54	54
SyScroll Air RE_S		40	45	50	60	65	75
Nominal cooling capacity (1)	kW	41,6	46,7	54,0	64,9	70,7	80,6
Power input (1)	kW	14,2	16,9	19,7	21,0	24,0	29,4
Number of refrigerant circuits		1					
Total capacity steps	%	50-100	50-100	50-100	44-56-100	50-100	50-100
Fans							
Number		1					
Nominal speed	rpm	530	530	530	720	720	720
Air flow rate	m ³ /h	11.000	11.000	10.300	16.000	16.000	16.000
Input power	kW	0,57	0,57	0,57	1,27	1,27	1,27
Acoustic data							
Sound power level (3)	dB(A)	74	75	75	78	79	79
Sound pressure level (4)	dB(A)	42	44	44	46	47	47
Compressor							
Number		2					
Type / Oil type		Scroll / POE					
External heat exchanger							
Number		1					
Type		Finned Tubes Coils					
Total face area	m ²	2,59	2,59	2,59	3,18	3,18	3,18
Refrigerant connections							
Type		To be brazed					
Inlet diameter / Outlet diameter	inch	5/8" / 1"3/8			7/8" / 1"3/8		
Weight							
Shipping	kg	Refer to weight table					
Operating	kg	Refer to weight table					
Dimensions							
Length	mm	1.750	1.750	1.750	2.200	2.200	2.200
Width	mm	1.100	1.100	1.100	1.100	1.100	1.100
Height	mm	1.580	1.580	1.580	1.580	1.580	1.580

(1) Data refers to 7°C evaporating temperature and 35°C condenser inlet air temperature.

(2) Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

(3) Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.

(*) HPF / HT Versions with EC fan motor.

Weight Data

	SyScroll Air CO - Basic unit						SyScroll Air HP - Basic unit					
	40	45	50	60	65	75	40	45	50	60	65	75
Shipping Weight (Kg)	403	411	436	476	483	488	422	430	457	504	511	517
Operating Weight (Kg)	413	421	446	489	496	502	431	440	467	517	524	530

	SyScroll Air CO - 1P						SyScroll Air HP - 1P					
	40	45	50	60	65	75	40	45	50	60	65	75
Shipping Weight (Kg)	434	442	470	516	523	529	453	461	490	545	552	557
Operating Weight (Kg)	450	458	486	535	542	548	468	476	507	563	570	576

	SyScroll Air CO - 2P						SyScroll Air HP - 2P					
	40	45	50	60	65	75	40	45	50	60	65	75
Shipping Weight (Kg)	460	468	499	544	551	556	479	487	520	572	579	585
Operating Weight (Kg)	478	487	518	565	572	578	497	505	538	593	600	606

	SyScroll Air CO - 1P + T						SyScroll Air HP - 1P + T					
	40	45	50	60	65	75	40	45	50	60	65	75
Shipping Weight (Kg)	476	484	512	572	579	585	494	503	532	600	607	613
Operating Weight (Kg)	587	595	623	740	748	753	606	614	644	769	776	781

	SyScroll Air CO - 2P + T						SyScroll Air HP - 2P + T					
	40	45	50	60	65	75	40	45	50	60	65	75
Shipping Weight (Kg)	495	503	534	595	602	608	513	522	554	623	631	636
Operating Weight (Kg)	607	615	646	765	772	778	625	633	667	793	800	806

	SyScroll Air RE					
	40	45	50	60	65	75
Shipping Weight (Kg)	391	399	422	456	466	469
Operating Weight (Kg)	391	399	422	456	466	469

Fan Data - HPF Version

Sizes	Fan static pressure (Pa)	Fan RPM	Sound power level - dB(A)
40	145	900	90
	195	1.000	92
	220	1.050	94
	245	1.100	95
45	145	900	90
	195	1.000	92
	220	1.050	94
	245	1.100	95
50	145	900	90
	195	1.000	92
	220	1.050	94
	245	1.100	95
60	45	1.000	93
	68	1.050	94
	120	1.100	95
65	45	1.000	93
	68	1.050	94
	120	1.100	95
75	45	1.000	93
	68	1.050	94
	120	1.100	95

Electrical Data - - Version

Compressor Data - 400 V/3 Ph/50 Hz

		Power input at nominal cond. per comp. (kW)	Nom. Cond. current per compressor (A)	Power input at max cond. per comp. (kW)	Current at max cond. per comp. FLA (A)	Start up current LRA (A)	Power factor @ nominal condition	Power factor @ maximum condition
40	COMP 1	6,3	11,3	9,1	16	95	0,8	0,8
	COMP 2	6,3	11,3	9,1	16	95	0,8	0,8
45	COMP 1	7,1	12,7	10,2	21	111	0,8	0,7
	COMP 2	7,1	12,7	10,2	21	111	0,8	0,7
50	COMP 1	8,3	15,3	12,0	22	118	0,8	0,8
	COMP 2	8,3	15,3	12,0	22	118	0,8	0,8
60	COMP 1	10,5	19,1	14,8	31	140	0,8	0,7
	COMP 2	8,3	15,3	12,0	22	118	0,8	0,8
65	COMP 1	10,5	19,1	14,8	31	140	0,8	0,7
	COMP 2	10,5	19,1	14,8	31	140	0,8	0,7
75	COMP 1	12,2	23,3	17,1	40	173	0,8	0,6
	COMP 2	12,2	23,3	17,1	40	173	0,8	0,6

Units - 400 V/3 Ph + N/50 Hz

Sizes	BLN Unit Data Without Pumps					
	40	45	50	60	65	75
Power input (kW) max.	19	21	25	29	32	36
Current input (A) max.	34	44	46	57	66	84
Start-up current (A)	113	134	142	166	175	217

Sizes	BLN Unit Data With Pumps					
	40	45	50	60	65	75
Power input (kW) max.	21	23	27	31	33	38
Current input (A) max.	37	47	50	61	70	88
Start-up current (A)	116	137	146	170	179	221

Fan electrical data - 400 V/3 Ph/50 Hz

Sizes	Number	Standard fan Nominal power (kW)	Standard fan Max. running current (A)	
40	1	0,98	2,4	8p - Δ
45	1	0,98	2,4	8p - Δ
50	1	0,98	2,4	8p - Δ
60	1	2,00	4,3	6p - Δ
65	1	2,00	4,3	6p - Δ
75	1	2,00	4,3	6p - Δ

Pump electrical data - 400 V/3 Ph/50 Hz

Sizes	1 P Unit		2 P Unit	
	Nominal power (kW)	Max. running current (A)	Nominal power (kW)	Max. running current (A)
40	1,32	2,61	1,32	2,61
45	1,32	2,61	1,32	2,61
50	1,84	3,49	1,84	3,49
60	1,84	3,49	1,84	3,49
65	1,84	3,49	1,84	3,49
75	1,84	3,49	1,84	3,49

Electrical Data - S Version

Compressor Data - 400 V/3 Ph/50 Hz

		Power input at nominal cond. per comp. (kW)	Nom. Cond. current per compressor (A)	Power input at max cond. per comp. (kW)	Current at max cond. per comp. FLA (A)	Start up current LRA (A)	Power factor @ nominal condition	Power factor @ maximum condition
40	COMP 1	6,3	11,3	9,1	16	95	0,8	0,8
	COMP 2	6,3	11,3	9,1	16	95	0,8	0,8
45	COMP 1	7,1	12,7	10,2	21	111	0,8	0,7
	COMP 2	7,1	12,7	10,2	21	111	0,8	0,7
50	COMP 1	8,3	15,3	12,0	22	118	0,8	0,8
	COMP 2	8,3	15,3	12,0	22	118	0,8	0,8
60	COMP 1	10,5	19,1	14,8	31	140	0,8	0,7
	COMP 2	8,3	15,3	12,0	22	118	0,8	0,8
65	COMP 1	10,5	19,1	14,8	31	140	0,8	0,7
	COMP 2	10,5	19,1	14,8	31	140	0,8	0,7
75	COMP 1	12,2	23,3	17,1	40	173	0,8	0,6
	COMP 2	12,2	23,3	17,1	40	173	0,8	0,6

Units - 400 V/3 Ph + N/50 Hz

Sizes	SLN Unit Data Without Pumps					
	40	45	50	60	65	75
Power input (kW) max.	19	21	24	28	31	35
Current input (A) max.	33	43	45	56	65	83
Start-up current (A)	112	133	141	165	174	216

Sizes	SLN Unit Data With Pumps					
	40	45	50	60	65	75
Power input (kW) max.	20	22	26	30	33	37
Current input (A) max.	36	46	49	59	68	86
Start-up current (A)	115	136	145	168	177	219

Fan electrical data - 400 V/3 Ph/50 Hz

Sizes	Number	Standard fan Nominal power (kW)	Standard fan Max. running current (A)	
40	1	0,57	1,2	8p - Y
45	1	0,57	1,2	8p - Y
50	1	0,57	1,2	8p - Y
60	1	1,27	2,5	6p - Y
65	1	1,27	2,5	6p - Y
75	1	1,27	2,5	6p - Y

Pump electrical data - 400 V/3 Ph/50 Hz

Sizes	1 P Unit		2 P Unit	
	Nominal power (kW)	Max. running current (A)	Nominal power (kW)	Max. running current (A)
40	1,32	2,61	1,32	2,61
45	1,32	2,61	1,32	2,61
50	1,84	3,49	1,84	3,49
60	1,84	3,49	1,84	3,49
65	1,84	3,49	1,84	3,49
75	1,84	3,49	1,84	3,49

Electrical Data - HT / HPF Version

Compressor Data - 400 V/3 Ph/50 Hz

		Power input at nominal cond. per comp. (kW)	Nom. Cond. current per compressor (A)	Power input at max cond. per comp. (kW)	Current at max cond. per comp. FLA (A)	Start up current LRA (A)	Power factor @ nominal condition	Power factor @ maximum condition
40	COMP 1	6,3	11,3	9,1	16	95	0,8	0,8
	COMP 2	6,3	11,3	9,1	16	95	0,8	0,8
45	COMP 1	7,1	12,7	10,2	21	111	0,8	0,7
	COMP 2	7,1	12,7	10,2	21	111	0,8	0,7
50	COMP 1	8,3	15,3	12,0	22	118	0,8	0,8
	COMP 2	8,3	15,3	12,0	22	118	0,8	0,8
60	COMP 1	10,5	19,1	14,8	31	140	0,8	0,7
	COMP 2	8,3	15,3	12,0	22	118	0,8	0,8
65	COMP 1	10,5	19,1	14,8	31	140	0,8	0,7
	COMP 2	10,5	19,1	14,8	31	140	0,8	0,7
75	COMP 1	12,2	23,3	17,1	40	173	0,8	0,6
	COMP 2	12,2	23,3	17,1	40	173	0,8	0,6

Units - 400 V/3 Ph + N/50 Hz

Sizes	HT / HPF Unit Data Without Pumps					
	40	45	50	60	65	75
Power input (kW) max.	21	23	27	29	32	37
Current input (A) max.	16	46	48	57	66	84
Start-up current (A)	115	136	144	166	175	217

Sizes	HT / HPF Unit Data Without Pumps					
	40	45	50	60	65	75
Power input (kW) max.	22	24	28	31	34	39
Current input (A) max.	39	49	52	61	70	88
Start-up current (A)	118	139	148	170	179	221

Fan electrical data - 400 V/3 Ph/50 Hz

Sizes	Number	Standard fan Nominal power (kW)	Standard fan Max. running current (A)
40	1	2,67	4,1
45	1	2,67	4,1
50	1	2,67	4,1
60	1	2,67	4,1
65	1	2,67	4,1
75	1	2,67	4,1

Pump electrical data - 400 V/3 Ph/50 Hz

Sizes	1 P Unit		2 P Unit	
	Nominal power (kW)	Max. running current (A)	Nominal power (kW)	Max. running current (A)
40	1,32	2,61	1,32	2,61
45	1,32	2,61	1,32	2,61
50	1,84	3,49	1,84	3,49
60	1,84	3,49	1,84	3,49
65	1,84	3,49	1,84	3,49
75	1,84	3,49	1,84	3,49

Sound Data

Sound power levels - Lw in dB(A) - - version

Sizes	Frequencies (Hz)								Lw(A) Global dB
	63	125	250	500	1000	2000	4000	8000	
40	73	89	75	75	73	69	60	54	78
45	73	89	75	76	74	69	61	54	79
50	73	89	75	76	74	69	61	54	79
60	75	92	79	80	79	74	65	58	83
65	75	92	79	81	79	74	65	58	84
75	76	93	79	81	79	75	65	58	84

Sound power levels - Lw in dB(A) - S version

Sizes	Frequencies (Hz)								Lw(A) Global dB
	63	125	250	500	1000	2000	4000	8000	
40	70	72	70	71	71	66	57	51	74
45	73	76	75	73	71	66	59	48	75
50	73	76	75	73	71	66	59	48	75
60	72	89	75	74	73	69	59	52	78
65	73	90	75	74	73	69	59	52	79
75	74	90	76	75	74	69	61	53	79

Sound power levels - Lw in dB(A) - HT / HPF* version

Sizes	Frequencies (Hz)								Lw(A) Global dB
	63	125	250	500	1000	2000	4000	8000	
40	83	99	90	94	91	85	75	69	95
45	83	99	90	94	91	85	75	69	95
50	83	99	90	94	91	85	75	69	95
60	83	100	90	94	92	85	75	69	95
65	83	100	90	94	92	85	75	69	95
75	83	100	90	94	92	85	75	69	95

* Sound data referred to a fan speed of 1110 rpm.
Compressor jacket (standard on SLN) can be ordered as accessory. Compressor jacket impact= -2 dB(A).

Sound Data (continued)

Sound pressure levels - Lp in dB(A) - BLN version

Sizes	Frequencies (Hz)								Lp(A) Global dB
	63	125	250	500	1000	2000	4000	8000	
40	41	57	43	43	41	38	29	23	47
45	41	57	43	44	42	38	29	23	47
50	41	57	43	44	42	38	29	23	47
60	44	60	47	48	47	43	33	26	52
65	44	60	47	49	48	43	34	27	52
75	44	61	47	49	48	43	34	27	52

Sound power levels - Lp in dB(A) - SLN version

Sizes	Frequencies (Hz)								Lp(A) Global dB
	63	125	250	500	1000	2000	4000	8000	
40	38	41	39	40	39	34	25	19	42
45	42	45	43	42	39	34	27	17	44
50	42	45	43	42	39	34	27	17	44
60	41	57	43	42	41	37	27	20	46
65	42	58	44	42	41	37	27	20	47
75	42	58	44	43	42	38	29	22	47

Sound power levels - Lp in dB(A) - HT / HPF* version

Sizes	Frequencies (Hz)								Lp(A) Global dB
	63	125	250	500	1000	2000	4000	8000	
40	51	68	59	62	60	54	43	37	64
45	51	68	59	62	60	54	43	37	64
50	51	68	59	62	60	54	43	37	64
60	51	68	59	62	60	54	43	37	64
65	51	68	59	62	60	54	43	37	64
75	51	68	59	62	60	54	43	37	64

Sound pressure level calculated at a distance of 10 metre. Sound pressure levels refer to ISO standard 3744 with parallelepiped shape.

* Sound data referred to a fan speed of 1110 rpm.

Compressor jacket (standard on SLN) can be ordered as accessory. Compressor jacket impact= -2 dB(A).

Performance Data - SyScroll Air CO - - Version

Sizes	LWT °C	Ambient Air Temperature (°C)																	
		25		30		32		35		40		43		46		48		50	
		P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40	5	42,2	10,5	40,1	11,4	39,2	11,9	37,9	12,5	35,5	13,7	34,0	14,4	32,4	15,2	31,4	15,7	30,4	16,2
	7	44,5	10,7	42,4	11,6	41,4	12,0	40,0	12,7	37,5	13,9	35,9	14,6	34,3	15,4	33,2	15,9	32,1	16,4
	9	47,0	10,8	44,7	11,8	43,7	12,2	42,2	12,9	39,5	14,0	37,8	14,8	36,1	15,5	34,8	16,0		
	11	49,4	11,0	46,9	11,9	45,9	12,4	44,3	13,0	41,4	14,1	39,7	14,8	37,8	15,5	36,6	15,9		
	13	51,8	11,2	49,3	12,1	48,2	12,4	46,4	13,0	43,4	14,0	41,5	14,7	39,5	15,3	38,2	15,7		
	15	54,3	11,3	51,5	12,2	50,3	12,5	48,5	13,0	45,3	13,9	43,3	14,4	41,2	14,9				
	17	56,6	11,4	53,7	12,2	52,4	12,4	50,5	12,8	47,1	13,5	44,9	13,9	42,7	14,3				
	18	57,8	11,6	54,9	12,3	53,6	12,6	51,6	13,1	48,2	13,8	46,0	14,2	43,7	14,7				
45	5	46,4	12,2	44,2	13,3	43,1	13,8	41,7	14,5	39,0	15,9	37,4	16,7	35,7	17,6	34,5	18,3	33,4	18,9
	7	49,0	12,4	46,6	13,5	45,6	14,0	44,0	14,8	41,3	16,2	39,5	17,0	37,7	17,9	36,5	18,5	35,3	19,1
	9	51,7	12,6	49,1	13,8	48,1	14,2	46,4	15,0	43,4	16,3	41,6	17,2	39,7	18,0	38,3	18,6		
	11	54,3	12,8	51,6	13,9	50,5	14,4	48,7	15,1	45,6	16,4	43,6	17,2	41,6	18,0	40,3	18,5		
	13	57,0	13,1	54,2	14,1	53,0	14,5	51,0	15,2	47,7	16,3	45,6	17,1	43,5	17,8	42,0	18,3		
	15	59,7	13,2	56,6	14,2	55,3	14,5	53,3	15,1	49,8	16,2	47,6	16,7	45,3	17,3				
	17	62,3	13,3	59,1	14,2	57,7	14,5	55,5	14,9	51,8	15,7	49,4	16,2	47,0	16,6				
	18	63,6	13,5	60,3	14,4	58,9	14,7	56,7	15,2	53,0	16,1	50,5	16,6	48,1	17,1				
50	5	53,8	14,2	51,2	15,5	50,0	16,1	48,3	16,9	45,2	18,5	43,4	19,4	41,4	20,5	40,0	21,2	38,7	21,9
	7	56,8	14,4	54,1	15,7	52,8	16,3	51,0	17,2	47,8	18,8	45,8	19,7	43,7	20,8	42,3	21,5	40,9	22,1
	9	59,9	14,6	56,9	16,0	55,7	16,5	53,7	17,4	50,3	18,9	48,2	20,0	46,0	20,9	44,4	21,6		
	11	62,9	14,9	59,8	16,1	58,5	16,7	56,5	17,6	52,8	19,1	50,5	20,0	48,2	20,9	46,7	21,5		
	13	66,0	15,2	62,8	16,4	61,4	16,8	59,1	17,6	55,3	19,0	52,9	19,8	50,4	20,7	48,7	21,2		
	15	69,2	15,3	65,6	16,4	64,1	16,9	61,8	17,6	57,7	18,8	55,1	19,4	52,5	20,1				
	17	72,2	15,5	68,5	16,4	66,8	16,8	64,3	17,3	60,0	18,2	57,2	18,8	54,4	19,3				
	18	73,7	15,6	69,9	16,7	68,3	17,1	65,8	17,7	61,4	18,7	58,6	19,2	55,7	19,8				
60	5	63,3	15,0	60,2	16,3	58,8	16,9	56,8	17,8	53,2	19,5	51,0	20,5	48,6	21,6	47,1	22,4		
	7	66,8	15,2	63,6	16,5	62,1	17,2	60,0	18,1	56,2	19,8	53,8	20,8	51,4	21,9				
	9	70,4	15,4	66,9	16,9	65,5	17,4	63,2	18,4	59,2	19,9	56,7	21,0	54,0	22,1				
	11	74,0	15,7	70,3	17,0	68,8	17,6	66,4	18,5	62,1	20,1	59,4	21,0	56,7	22,1				
	13	77,7	16,0	73,8	17,2	72,2	17,7	69,5	18,6	65,0	20,0	62,2	20,9						
	15	81,3	16,1	77,1	17,3	75,4	17,8	72,6	18,5	67,9	19,8	64,8	20,5						
	17	84,9	16,3	80,5	17,3	78,6	17,7	75,6	18,3	70,6	19,2	67,3	19,8						
	18	86,7	16,5	82,2	17,6	80,3	18,0	77,3	18,6	72,2	19,7	68,9	20,3						
65	5	71,6	17,3	68,1	18,9	66,6	19,6	64,3	20,6	60,2	22,6	57,7	23,8	55,1	25,0	53,3	26,0		
	7	75,6	17,6	71,9	19,2	70,3	19,9	67,9	21,0	63,7	22,9	61,0	24,1	58,2	25,4				
	9	79,7	17,9	75,8	19,5	74,1	20,2	71,5	21,3	67,0	23,1	64,2	24,4	61,2	25,6				
	11	83,8	18,2	79,6	19,7	77,9	20,5	75,2	21,5	70,3	23,3	67,3	24,4	64,2	25,6				
	13	87,9	18,5	83,6	20,0	81,7	20,5	78,7	21,6	73,6	23,2	70,4	24,2						
	15	92,1	18,7	87,3	20,1	85,3	20,6	82,2	21,5	76,8	22,9	73,4	23,8						
	17	96,1	18,9	91,1	20,1	89,0	20,5	85,6	21,2	79,9	22,3	76,2	22,9						
	18	98,1	19,1	93,1	20,4	90,9	20,8	87,5	21,6	81,7	22,8	78,0	23,5						
75	5	79,9	20,9	76,0	22,8	74,3	23,7	71,7	24,9	67,2	27,2	64,4	28,7	61,4	30,2	59,5	31,3		
	7	84,3	21,3	80,3	23,1	78,4	24,0	75,8	25,4	71,0	27,7	68,0	29,1	64,9	30,7				
	9	89,0	21,6	84,6	23,6	82,7	24,4	79,8	25,7	74,7	27,9	71,6	29,4	68,3	30,9				
	11	93,5	21,9	88,8	23,8	86,9	24,7	83,9	25,9	78,4	28,1	75,1	29,4	71,6	30,9				
	13	98,1	22,4	93,2	24,1	91,2	24,8	87,8	26,0	82,1	28,0	78,5	29,2						
	15	102,7	22,6	97,4	24,2	95,2	24,9	91,7	25,9	85,7	27,7	81,9	28,7						
	17	107,2	22,8	101,7	24,2	99,3	24,8	95,6	25,6	89,2	26,9	85,0	27,7						
	18	109,5	23,1	103,9	24,6	101,5	25,2	97,7	26,0	91,2	27,5	87,0	28,4						

(*) Only Compressors.

HT Version

Performance Data - SyScroll Air CO - S Version

Sizes	LWT °C	Ambient Air Temperature (°C)											
		25		30		32		35		40		43	
		P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40	5	40,8	11,0	38,8	12,0	37,9	12,5	36,6	13,1	34,3	14,4	32,9	15,1
	7	43,1	11,2	41,0	12,2	40,1	12,7	38,7	13,4	36,3	14,6	34,7	15,3
	9	45,4	11,4	43,2	12,4	42,2	12,8	40,8	13,5	38,2	14,7		
	11	47,7	11,6	45,4	12,5	44,4	13,0	42,8	13,7	40,1	14,8		
	13	50,1	11,8	47,6	12,7	46,6	13,1	44,8	13,7	42,0	14,8		
	15	52,5	11,9	49,8	12,8	48,6	13,1	46,9	13,7				
	17	54,8	12,0	51,9	12,8	50,7	13,1	48,8	13,5				
	18	55,9	12,2	53,0	13,0	51,8	13,3	49,9	13,7				
45	5	44,7	12,9	42,5	14,1	41,5	14,6	40,1	15,4	37,6	16,8	36,0	17,7
	7	47,2	13,1	44,9	14,3	43,9	14,8	42,4	15,7	39,7	17,1	38,1	18,0
	9	49,8	13,3	47,3	14,6	46,3	15,0	44,7	15,9	41,8	17,2		
	11	52,3	13,5	49,7	14,7	48,6	15,3	46,9	16,0	43,9	17,4		
	13	54,9	13,8	52,2	14,9	51,0	15,3	49,1	16,1	45,9	17,3		
	15	57,5	14,0	54,5	15,0	53,3	15,4	51,3	16,0				
	17	60,0	14,1	56,9	15,0	55,5	15,3	53,5	15,8				
	18	61,3	14,2	58,1	15,2	56,8	15,5	54,6	16,1				
50	5	51,4	15,2	48,8	16,5	47,7	17,2	46,1	18,1	43,2	19,7	41,4	20,8
	7	54,2	15,4	51,6	16,8	50,4	17,4	48,7	18,4	45,6	20,1	43,7	21,1
	9	57,2	15,6	54,3	17,1	53,1	17,7	51,3	18,6	48,0	20,2		
	11	60,1	15,9	57,1	17,3	55,8	17,9	53,9	18,8	50,4	20,4		
	13	63,0	16,2	59,9	17,5	58,6	18,0	56,4	18,9	52,8	20,3		
	15	66,0	16,4	62,6	17,6	61,2	18,1	58,9	18,8				
	17	68,9	16,5	65,3	17,6	63,8	18,0	61,4	18,5				
	18	70,4	16,7	66,7	17,8	65,2	18,2	62,8	18,9				
60	5	61,2	15,7	58,2	17,1	56,9	17,8	54,9	18,7	51,5	20,5	49,4	21,5
	7	64,6	16,0	61,5	17,4	60,1	18,0	58,0	19,0	54,4	20,8	52,1	21,9
	9	68,1	16,2	64,8	17,7	63,4	18,3	61,1	19,3	57,2	21,0		
	11	71,6	16,5	68,1	17,9	66,6	18,5	64,2	19,5	60,1	21,1		
	13	75,1	16,8	71,4	18,1	69,8	18,6	67,3	19,5	62,9	21,0		
	15	78,7	17,0	74,6	18,2	72,9	18,7	70,3	19,5				
	17	82,1	17,1	77,9	18,2	76,0	18,6	73,2	19,2				
	18	83,9	17,3	79,6	18,5	77,7	18,9	74,8	19,6				
65	5	66,6	18,1	63,3	19,7	61,9	20,5	59,8	21,5	56,0	23,5	53,7	24,8
	7	70,3	18,3	66,9	20,0	65,4	20,7	63,1	21,9	59,2	23,9	56,7	25,1
	9	74,1	18,6	70,5	20,4	68,9	21,0	66,5	22,2	62,3	24,1		
	11	77,9	18,9	74,0	20,5	72,4	21,3	69,9	22,4	65,4	24,3		
	13	81,7	19,3	77,7	20,8	76,0	21,4	73,2	22,5	68,4	24,2		
	15	85,6	19,5	81,2	20,9	79,3	21,5	76,4	22,4				
	17	89,4	19,7	84,7	20,9	82,7	21,4	79,6	22,1				
	18	91,3	19,9	86,5	21,2	84,5	21,7	81,4	22,5				
75	5	76,8	22,2	73,0	24,2	71,3	25,2	68,9	26,5	64,6	28,9	61,9	30,5
	7	81,0	22,6	77,1	24,6	75,3	25,5	72,8	26,9	68,2	29,4	65,3	30,9
	9	85,4	22,9	81,2	25,0	79,4	25,9	76,7	27,3	71,8	29,6		
	11	89,8	23,3	85,3	25,3	83,4	26,2	80,6	27,5	75,3	29,9		
	13	94,2	23,8	89,6	25,6	87,6	26,3	84,3	27,6	78,9	29,7		
	15	98,7	24,0	93,6	25,7	91,4	26,5	88,1	27,5				
	17	103,0	24,2	97,7	25,7	95,3	26,3	91,8	27,2				
	18	105,2	24,5	99,8	26,1	97,5	26,7	93,8	27,7				

(*) Only Compressors.
LWT: Leaving water temperature.

Performance Data - SyScroll Air HP - - Version

Sizes	LWT °C	Ambient Air Temperature (°C)																	
		25		30		32		35		40		43		46		48		50	
		P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40	5	38,1	10,2	36,2	11,1	35,4	11,5	34,2	12,1	32,0	13,2	30,7	13,9	29,3	14,7	28,3	15,2	27,4	15,7
	7	40,2	10,3	38,2	11,2	37,4	11,7	36,1	12,3	33,8	13,4	32,4	14,1	30,9	14,9	29,9	15,4	28,9	15,9
	9	42,4	10,5	40,3	11,5	39,4	11,8	38,0	12,5	35,6	13,6	34,1	14,3	32,5	15,0	31,4	15,5		
	11	44,5	10,7	42,3	11,6	41,4	12,0	40,0	12,6	37,4	13,7	35,8	14,3	34,1	15,0	33,0	15,4		
	13	46,7	10,9	44,4	11,7	43,4	12,1	41,8	12,6	39,1	13,6	37,4	14,2	35,7	14,8	34,4	15,2		
	15	48,9	11,0	46,4	11,8	45,4	12,1	43,7	12,6	40,8	13,4	39,0	13,9	37,1	14,4				
	17	51,1	11,1	48,4	11,8	47,3	12,1	45,5	12,4	42,5	13,1	40,5	13,4	38,5	13,8				
	18	52,2	11,2	49,5	12,0	48,3	12,2	46,5	12,7	43,4	13,4	41,5	13,8	39,4	14,2				
45	5	43,3	11,8	41,1	12,9	40,2	13,4	38,8	14,1	36,4	15,4	34,9	16,2	33,2	17,1	32,2	17,7	31,1	18,3
	7	45,6	12,0	43,4	13,1	42,4	13,6	41,0	14,3	38,4	15,6	36,8	16,4	35,1	17,3	34,0	17,9	32,9	18,4
	9	48,1	12,2	45,8	13,3	44,8	13,8	43,2	14,5	40,4	15,8	38,7	16,6	36,9	17,4	35,7	18,0		
	11	50,6	12,4	48,1	13,4	47,0	13,9	45,4	14,6	42,4	15,9	40,6	16,6	38,7	17,4	37,5	17,9		
	13	53,1	12,6	50,5	13,6	49,3	14,0	47,5	14,7	44,4	15,8	42,5	16,5	40,5	17,3	39,1	17,7		
	15	55,6	12,8	52,7	13,7	51,5	14,1	49,6	14,6	46,4	15,6	44,3	16,2	42,2	16,8				
	17	58,0	12,9	55,0	13,7	53,7	14,0	51,7	14,4	48,3	15,2	46,0	15,6	43,8	16,1				
	18	59,3	13,0	56,2	13,9	54,9	14,2	52,9	14,7	49,3	15,6	47,1	16,0	44,8	16,5				
50	5	50,1	13,8	47,6	15,0	46,6	15,6	45,0	16,4	42,1	18,0	40,4	18,9	38,5	19,9	37,3	20,7	36,0	21,3
	7	52,9	14,0	50,3	15,3	49,2	15,8	47,5	16,7	44,5	18,3	42,6	19,2	40,7	20,2	39,4	20,9	38,1	21,5
	9	55,8	14,2	53,0	15,6	51,9	16,1	50,0	16,9	46,8	18,4	44,9	19,4	42,8	20,4	41,3	21,0		
	11	58,6	14,5	55,7	15,7	54,5	16,3	52,6	17,1	49,2	18,5	47,1	19,4	44,9	20,4	43,4	21,0		
	13	61,5	14,7	58,5	15,9	57,1	16,4	55,0	17,2	51,5	18,5	49,2	19,3	46,9	20,2	45,3	20,7		
	15	64,4	14,9	61,1	16,0	59,7	16,4	57,5	17,1	53,7	18,3	51,3	18,9	48,9	19,6				
	17	67,2	15,0	63,7	16,0	62,2	16,4	59,9	16,9	55,9	17,7	53,3	18,3	50,7	18,8				
	18	68,7	15,2	65,1	16,2	63,6	16,6	61,2	17,2	57,2	18,2	54,5	18,7	51,9	19,3				
60	5	59,0	14,4	56,1	15,7	54,8	16,4	52,9	17,2	49,6	18,8	47,5	19,8	45,3	20,9	43,9	21,6		
	7	62,2	14,7	59,2	16,0	57,9	16,6	55,9	17,5	52,4	19,1	50,2	20,1	47,9	21,2				
	9	65,6	14,9	62,4	16,3	61,0	16,8	58,9	17,7	55,1	19,3	52,8	20,3	50,4	21,3				
	11	69,0	15,1	65,5	16,4	64,1	17,0	61,9	17,9	57,9	19,4	55,4	20,3	52,8	21,3				
	13	72,4	15,4	68,8	16,7	67,3	17,1	64,8	18,0	60,6	19,3	57,9	20,2						
	15	75,8	15,6	71,9	16,7	70,2	17,2	67,7	17,9	63,2	19,1	60,4	19,8						
	17	79,1	15,7	75,0	16,7	73,2	17,1	70,5	17,7	65,8	18,6	62,7	19,1						
	18	80,8	15,9	76,6	17,0	74,9	17,4	72,1	18,0	67,3	19,0	64,2	19,6						
65	5	66,8	16,8	63,5	18,4	62,0	19,1	59,9	20,0	56,1	21,9	53,8	23,1	51,3	24,3	49,7	25,2		
	7	70,5	17,1	67,1	18,6	65,5	19,3	63,3	20,4	59,3	22,3	56,8	23,4	54,2	24,7				
	9	74,3	17,4	70,6	19,0	69,1	19,6	66,7	20,7	62,4	22,4	59,8	23,7	57,0	24,9				
	11	78,1	17,6	74,2	19,2	72,6	19,9	70,1	20,8	65,5	22,6	62,7	23,7	59,8	24,9				
	13	82,0	18,0	77,9	19,4	76,2	20,0	73,4	20,9	68,6	22,5	65,6	23,5						
	15	85,8	18,2	81,4	19,5	79,5	20,0	76,6	20,8	71,6	22,3	68,4	23,1						
	17	89,6	18,4	84,9	19,5	82,9	20,0	79,8	20,6	74,5	21,6	71,0	22,3						
	18	91,5	18,6	86,8	19,8	84,8	20,2	81,6	21,0	76,2	22,2	72,7	22,8						
75	5	74,6	20,3	70,9	22,1	69,3	23,0	66,9	24,2	62,7	26,4	60,1	27,8	57,3	29,3	55,5	30,4		
	7	78,7	20,6	74,9	22,5	73,2	23,3	70,7	24,6	66,3	26,9	63,5	28,3	60,6	29,8				
	9	83,0	20,9	78,9	22,9	77,2	23,6	74,5	24,9	69,7	27,1	66,8	28,6	63,7	30,0				
	11	87,2	21,3	82,9	23,1	81,1	24,0	78,3	25,1	73,2	27,3	70,1	28,6	66,8	30,0				
	13	91,5	21,7	87,0	23,4	85,1	24,1	81,9	25,2	76,6	27,2	73,3	28,4						
	15	95,8	21,9	90,9	23,5	88,8	24,2	85,6	25,1	80,0	26,9	76,4	27,8						
	17	100,1	22,1	94,9	23,5	92,6	24,1	89,2	24,8	83,2	26,1	79,3	26,9						
	18	102,2	22,4	96,9	23,9	94,7	24,4	91,1	25,3	85,1	26,7	81,2	27,5						

(*) Only Compressors.

HT Version

Performance Data - SyScroll Air HP - - Version

Sizes	LWT °C	Ambient air temperature													
		-5		-3		0		5		7		10		15	
		P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40	30	30,4	8,63	32,0	8,63	34,7	8,69	39,6	8,69	41,7	8,69	45,2	8,69	51,9	8,75
	35	30,2	9,66	31,8	9,66	34,4	9,71	39,0	9,74	41,1	9,76	44,5	9,77	50,8	9,80
	40	30,0	10,7	31,5	10,7	34,0	10,7	38,5	10,7	40,5	10,8	43,8	10,8	49,8	10,8
	45					33,6	11,9	37,9	12,0	39,9	12,0	43,1	12,1	48,7	12,1
	50							37,3	13,4	39,2	13,5	42,2	13,5	47,3	13,4
45	30	33,8	9,35	35,6	9,35	38,7	9,41	44,0	9,41	46,4	9,41	50,3	9,41	57,7	9,47
	35	33,6	10,5	35,3	10,5	38,2	10,5	43,4	10,5	45,8	10,6	49,5	10,6	56,6	10,6
	40	33,4	11,6	35,0	11,6	37,8	11,6	42,9	11,6	45,1	11,7	48,8	11,7	55,4	11,7
	45					37,4	12,8	42,2	13,0	44,4	13,0	47,9	13,1	54,1	13,1
	50							41,5	14,5	43,6	14,6	46,9	14,7	52,7	14,5
50	30	40,0	10,7	42,2	10,7	45,8	10,79	52,2	10,8	55,0	10,8	59,6	10,8	68,4	10,9
	35	39,8	12,0	41,9	12,0	45,3	12,0	51,5	12,1	54,2	12,1	58,7	12,1	67,0	12,2
	40	39,5	13,2	41,5	13,2	44,8	13,2	50,8	13,3	53,4	13,4	57,8	13,4	65,7	13,4
	45					44,3	14,7	50,0	14,8	52,6	14,9	56,8	15,0	64,1	15,0
	50							49,2	16,6	51,7	16,7	55,6	16,8	62,4	16,7
60	30	44,9	13,5	47,4	13,5	51,4	13,59	58,5	13,6	61,7	13,6	66,9	13,6	76,7	13,7
	35	44,6	15,1	47,0	15,1	50,8	15,2	57,7	15,2	60,8	15,3	65,8	15,3	75,2	15,3
	40	44,3	16,7	46,5	16,7	50,2	16,7	57,0	16,8	59,9	16,9	64,8	16,9	73,7	16,9
	45					49,7	18,5	56,1	18,7	59,0	18,8	63,7	18,9	71,9	18,9
	50							55,1	20,9	57,9	21,1	62,4	21,2	70,0	21,0
65	30	53,3	14,7	56,2	14,7	61,0	14,82	69,4	14,8	73,2	14,8	79,3	14,8	91,0	14,9
	35	52,9	16,5	55,7	16,5	60,3	16,6	68,5	16,6	72,1	16,7	78,1	16,7	89,2	16,7
	40	52,6	18,2	55,2	18,2	59,6	18,2	67,6	18,3	71,1	18,4	76,9	18,4	87,4	18,4
	45					58,9	20,2	66,5	20,4	70,0	20,5	75,5	20,6	85,4	20,6
	50							65,4	22,8	68,7	23,0	74,0	23,1	83,0	22,9
75	30	58,8	17,5	62,0	17,5	67,2	17,57	76,6	17,6	80,7	17,6	87,5	17,6	100,4	17,7
	35	58,4	19,5	61,4	19,5	66,5	19,6	75,5	19,7	79,6	19,7	86,1	19,8	98,3	19,8
	40	58,0	21,6	60,9	21,6	65,7	21,6	74,5	21,7	78,4	21,8	84,8	21,8	96,4	21,8
	45					65,0	24,0	73,3	24,2	77,2	24,3	83,3	24,4	94,1	24,4
	50							72,2	27,0	75,8	27,3	81,6	27,4	91,6	27,2

(*) Only Compressors.

HT Version

Cooling mode - SyScroll Air HP - S Version

Sizes	LWT °C	Ambient Air Temperature (°C)											
		25		30		32		35		40		43	
		P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40	5	38,1	10,8	36,2	11,7	35,4	12,2	34,2	12,8	32,0	14,0	30,7	14,7
	7	40,2	10,9	38,2	11,9	37,4	12,3	36,1	13,0	33,8	14,2	32,4	15,0
	9	42,4	11,1	40,3	12,1	39,4	12,5	38,0	13,2	35,6	14,3		
	11	44,5	11,3	42,3	12,2	41,4	12,7	40,0	13,3	37,4	14,5		
	13	46,7	11,5	44,4	12,4	43,4	12,7	41,8	13,4	39,1	14,4		
	15	48,9	11,6	46,4	12,5	45,4	12,8	43,7	13,3				
	17	51,1	11,7	48,4	12,5	47,3	12,7	45,5	13,1				
	18	52,2	11,8	49,5	12,6	48,3	12,9	46,5	13,4				
45	5	41,7	12,6	39,6	13,7	38,7	14,2	37,4	15,0	35,0	16,4	33,6	17,2
	7	44,0	12,8	41,9	13,9	40,9	14,4	39,5	15,2	37,0	16,6	35,5	17,5
	9	46,4	13,0	44,1	14,2	43,1	14,6	41,6	15,4	39,0	16,8		
	11	48,7	13,2	46,3	14,3	45,3	14,8	43,7	15,6	40,9	16,9		
	13	51,1	13,4	48,6	14,5	47,5	14,9	45,8	15,6	42,8	16,8		
	15	53,6	13,6	50,8	14,6	49,6	15,0	47,8	15,6				
	17	55,9	13,7	53,0	14,6	51,7	14,9	49,8	15,4				
	18	57,1	13,8	54,1	14,8	52,9	15,1	50,9	15,6				
50	5	47,9	14,8	45,5	16,1	44,5	16,8	43,0	17,6	40,3	19,3	38,6	20,3
	7	50,5	15,0	48,1	16,4	47,0	17,0	45,4	17,9	42,6	19,6	40,8	20,6
	9	53,3	15,3	50,7	16,7	49,6	17,2	47,8	18,2	44,8	19,7		
	11	56,0	15,5	53,2	16,8	52,1	17,5	50,3	18,3	47,0	19,9		
	13	58,8	15,8	55,9	17,1	54,6	17,5	52,6	18,4	49,2	19,8		
	15	61,5	16,0	58,4	17,1	57,0	17,6	55,0	18,3				
	17	64,3	16,1	60,9	17,1	59,5	17,5	57,3	18,1				
	18	65,6	16,3	62,2	17,4	60,8	17,8	58,5	18,4				
60	5	57,1	15,2	54,3	16,6	53,0	17,2	51,2	18,1	48,0	19,8	46,0	20,8
	7	60,2	15,5	57,3	16,8	56,0	17,5	54,1	18,4	50,7	20,1	48,6	21,2
	9	63,5	15,7	60,4	17,1	59,1	17,7	57,0	18,7	53,4	20,3		
	11	66,7	15,9	63,4	17,3	62,0	17,9	59,9	18,8	56,0	20,4		
	13	70,0	16,3	66,6	17,5	65,1	18,0	62,7	18,9	58,6	20,4		
	15	73,3	16,4	69,5	17,6	68,0	18,1	65,5	18,8				
	17	76,6	16,6	72,6	17,6	70,9	18,0	68,2	18,6				
	18	78,2	16,8	74,2	17,9	72,4	18,3	69,7	18,9				
65	5	62,0	17,5	59,0	19,1	57,6	19,8	55,7	20,9	52,2	22,8	50,0	24,0
	7	65,4	17,8	62,3	19,4	60,9	20,1	58,8	21,2	55,1	23,2	52,8	24,4
	9	69,0	18,1	65,6	19,7	64,2	20,4	61,9	21,5	58,0	23,4		
	11	72,5	18,4	68,9	19,9	67,4	20,7	65,1	21,7	60,9	23,5		
	13	76,1	18,7	72,4	20,2	70,7	20,8	68,1	21,8	63,7	23,5		
	15	79,7	18,9	75,6	20,3	73,9	20,9	71,2	21,7				
	17	83,2	19,1	78,9	20,3	77,0	20,8	74,2	21,4				
	18	85,0	19,3	80,6	20,6	78,7	21,1	75,8	21,8				
75	5	71,6	21,6	68,1	23,6	66,6	24,5	64,3	25,8	60,2	28,2	57,7	29,7
	7	75,6	22,0	71,9	23,9	70,3	24,9	67,9	26,2	63,6	28,6	61,0	30,1
	9	79,7	22,3	75,8	24,4	74,1	25,2	71,5	26,6	67,0	28,9		
	11	83,8	22,7	79,6	24,6	77,9	25,5	75,2	26,8	70,3	29,1		
	13	87,9	23,1	83,6	25,0	81,7	25,7	78,7	26,9	73,6	29,0		
	15	92,1	23,4	87,3	25,1	85,3	25,8	82,2	26,8				
	17	96,1	23,6	91,1	25,1	88,9	25,7	85,6	26,5				
	18	98,1	23,9	93,1	25,4	90,9	26,0	87,5	27,0				

(*) Only Compressors.
LWT: Leaving water temperature.

Heating mode - SyScroll Air HP - S Version

Sizes	LWT °C	Ambient air temperature													
		-5		-3		0		5		7		10		15	
		P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *	P _{HEAT}	P _{ABS} *
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40	30	30,8	8,57	32,5	8,57	35,3	8,63	40,2	8,63	42,4	8,63	45,9	8,63	52,7	8,68
	35	30,6	9,59	32,2	9,59	34,9	9,63	39,6	9,67	41,7	9,69	45,2	9,70	51,6	9,73
	40			32,0	10,6	34,5	10,6	39,1	10,6	41,1	10,7	44,5	10,7	50,6	10,7
	45							38,5	11,9	40,5	11,9	43,7	12,0	49,4	12,0
	50							37,9	13,3	39,8	13,4	42,8	13,4	48,0	13,3
45	30	33,1	9,14	34,9	9,14	37,9	9,20	43,1	9,20	45,5	9,20	49,3	9,20	56,6	9,26
	35	32,9	10,23	34,6	10,23	37,5	10,28	42,6	10,31	44,8	10,34	48,5	10,35	55,4	10,38
	40			34,3	11,3	37,0	11,3	42,0	11,4	44,2	11,4	47,8	11,4	54,3	11,4
	45							41,3	12,7	43,5	12,7	46,9	12,8	53,0	12,8
	50							40,7	14,2	42,7	14,3	46,0	14,3	51,6	14,2
50	30	38,8	10,80	40,9	10,80	44,4	10,87	50,6	10,87	53,3	10,87	57,8	10,87	66,3	10,94
	35	38,6	12,08	40,6	12,08	43,9	12,14	49,9	12,18	52,6	12,21	56,9	12,22	65,0	12,26
	40			40,2	13,3	43,4	13,3	49,2	13,4	51,8	13,5	56,0	13,5	63,7	13,5
	45							48,5	15,0	51,0	15,0	55,0	15,1	62,2	15,1
	50							47,7	16,7	50,1	16,9	53,9	16,9	60,5	16,8
60	30	43,9	13,5	46,3	13,5	50,2	13,6	57,2	13,6	60,3	13,6	65,4	13,6	75,0	13,7
	35	43,6	15,1	45,9	15,1	49,7	15,2	56,4	15,3	59,5	15,3	64,4	15,3	73,5	15,4
	40			45,5	16,7	49,1	16,7	55,7	16,8	58,6	16,9	63,4	16,9	72,0	16,9
	45							54,8	18,7	57,7	18,8	62,3	18,9	70,4	18,9
	50									56,7	21,1	61,0	21,2	68,4	21,0
65	30	51,9	14,7	54,7	14,7	59,4	14,8	67,6	14,8	71,3	14,8	77,3	14,8	88,7	14,9
	35	51,6	16,5	54,3	16,5	58,7	16,6	66,7	16,6	70,3	16,7	76,1	16,7	86,9	16,7
	40			53,8	18,2	58,1	18,2	65,8	18,3	69,2	18,4	74,9	18,4	85,2	18,4
	45							64,8	20,4	68,2	20,5	73,6	20,6	83,2	20,6
	50									67,0	23,0	72,1	23,1	80,9	22,9
75	30	57,1	17,4	60,2	17,4	65,3	17,5	74,4	17,5	78,4	17,5	85,0	17,5	97,5	17,6
	35	56,7	19,5	59,7	19,5	64,6	19,6	73,4	19,6	77,3	19,7	83,7	19,7	95,5	19,8
	40			59,2	21,5	63,9	21,5	72,4	21,6	76,1	21,7	82,4	21,7	93,6	21,7
	45							71,3	24,1	75,0	24,2	80,9	24,3	91,5	24,3
	50									73,6	27,2	79,3	27,3	89,0	27,1

(*) Only Compressors.
LWT: Leaving water temperature.

Cooling mode - SyScroll Air RE - - Version

Sizes	ET °C	Ambient Air Temperature (°C)																	
		25		30		32		35		40		43		46		48		50	
		P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40	1	40,9	10,1	38,6	11,1	37,8	11,6	36,3	12,2	33,9	13,4	32,4	14,2	30,8	15,0	29,8	15,5	28,9	16,0
	3	43,5	10,4	41,0	11,3	40,1	11,8	38,6	12,5	35,9	13,6	34,4	14,4	32,8	15,1	31,6	15,7	30,6	16,2
	5	46,0	10,6	43,5	11,6	42,5	12,0	40,9	12,7	38,1	13,8	36,4	14,6	34,7	15,4	33,6	15,9		
	7	48,7	10,9	46,0	11,9	44,9	12,3	43,2	13,0	40,3	14,1	38,6	14,8	36,7	15,6	35,5	16,1		
	9	51,6	11,1	48,6	12,1	47,5	12,5	45,6	13,2	42,7	14,4	40,8	15,1	38,9	15,9	37,6	16,4		
	11	54,4	11,4	51,4	12,4	50,2	12,8	48,1	13,5	45,1	14,7	43,1	15,4	41,1	16,2				
45	1	46,3	12,0	43,7	13,1	42,7	13,7	41,1	14,5	38,4	15,8	36,6	16,8	34,9	17,7	33,8	18,3	32,7	18,9
	3	49,2	12,3	46,4	13,4	45,4	14,0	43,6	14,8	40,6	16,1	38,9	17,0	37,1	17,9	35,8	18,5	34,7	19,1
	5	52,1	12,6	49,2	13,7	48,1	14,2	46,3	15,1	43,1	16,3	41,2	17,3	39,3	18,2	38,0	18,8		
	7	55,2	12,9	52,0	14,1	50,9	14,6	48,8	15,3	45,6	16,7	43,6	17,5	41,5	18,4	40,2	19,0		
	9	58,4	13,1	55,0	14,4	53,8	14,8	51,6	15,6	48,3	17,0	46,1	17,9	44,0	18,8	42,6	19,4		
	11	61,6	13,5	58,2	14,7	56,8	15,2	54,5	16,0	51,0	17,4	48,8	18,3	46,5	19,2				
50	1	53,9	13,9	50,9	15,2	49,8	15,9	47,9	16,8	44,7	18,4	42,7	19,4	40,7	20,5	39,4	21,3	38,1	21,9
	3	57,3	14,3	54,1	15,6	52,9	16,2	50,9	17,1	47,4	18,7	45,3	19,8	43,2	20,8	41,7	21,5	40,4	22,2
	5	60,7	14,6	57,3	15,9	56,0	16,5	53,9	17,5	50,2	19,0	48,0	20,0	45,8	21,1	44,3	21,8		
	7	64,3	14,9	60,7	16,3	59,3	16,9	56,9	17,8	53,2	19,4	50,9	20,4	48,4	21,3	46,9	22,1		
	9	68,0	15,2	64,1	16,6	62,7	17,2	60,2	18,1	56,3	19,8	53,8	20,8	51,3	21,8	49,6	22,5		
	11	71,7	15,7	67,8	17,1	66,2	17,6	63,5	18,5	59,4	20,2	56,8	21,2	54,3	22,3				
60	1	63,9	14,7	60,3	16,0	59,0	16,7	56,7	17,7	52,9	19,3	50,5	20,5	48,1	21,6	46,6	22,4		
	3	67,9	15,0	64,1	16,4	62,6	17,1	60,2	18,0	56,1	19,7	53,7	20,8	51,2	21,9				
	5	71,9	15,4	67,9	16,7	66,4	17,4	63,9	18,4	59,5	20,0	56,9	21,1	54,2	22,2				
	7	76,1	15,7	71,8	17,2	70,2	17,8	67,4	18,7	63,0	20,4	60,2	21,4	57,4	22,5				
	9	80,6	16,0	75,9	17,5	74,2	18,1	71,3	19,1	66,7	20,8	63,7	21,9						
	11	85,0	16,5	80,3	18,0	78,4	18,6	75,2	19,5	70,4	21,3	67,3	22,3						
65	1	69,9	16,9	66,0	18,5	64,6	19,3	62,1	20,4	58,0	22,3	55,3	23,6	52,7	24,9	51,0	25,7		
	3	74,3	17,3	70,1	18,9	68,6	19,7	65,9	20,8	61,4	22,7	58,8	24,0	56,1	25,1				
	5	78,8	17,7	74,3	19,3	72,7	20,0	69,9	21,2	65,1	23,0	62,3	24,3	59,3	25,5				
	7	83,4	18,1	78,6	19,8	76,9	20,5	73,8	21,6	69,0	23,5	65,9	24,7	62,8	25,8				
	9	88,2	18,5	83,1	20,2	81,3	20,9	78,0	22,0	73,0	24,0	69,7	25,1						
	11	93,0	19,0	87,9	20,7	85,8	21,4	82,3	22,5	77,1	24,5	73,7	25,6						
75	1	80,0	20,6	75,6	22,5	73,9	23,5	71,0	24,8	66,3	27,2	63,3	28,7	60,3	30,3	58,4	31,4		
	3	85,1	21,1	80,2	23,0	78,4	24,0	75,4	25,3	70,3	27,6	67,3	29,2	64,1	30,7				
	5	90,1	21,5	85,1	23,5	83,1	24,4	80,0	25,8	74,5	28,0	71,2	29,6	67,9	31,2				
	7	95,4	22,0	90,0	24,1	87,9	25,0	84,5	26,3	78,9	28,6	75,4	30,1	71,8	31,5				
	9	100,9	22,5	95,0	24,6	93,0	25,4	89,3	26,8	83,5	29,2	79,8	30,7						
	11	106,4	23,1	100,5	25,2	98,1	26,1	94,2	27,4	88,2	29,8	84,3	31,3						
14	115,2	24,0	106,0	25,7	103,3	26,7	102,2	28,5	95,7	31,0									

(*) Only Compressors.

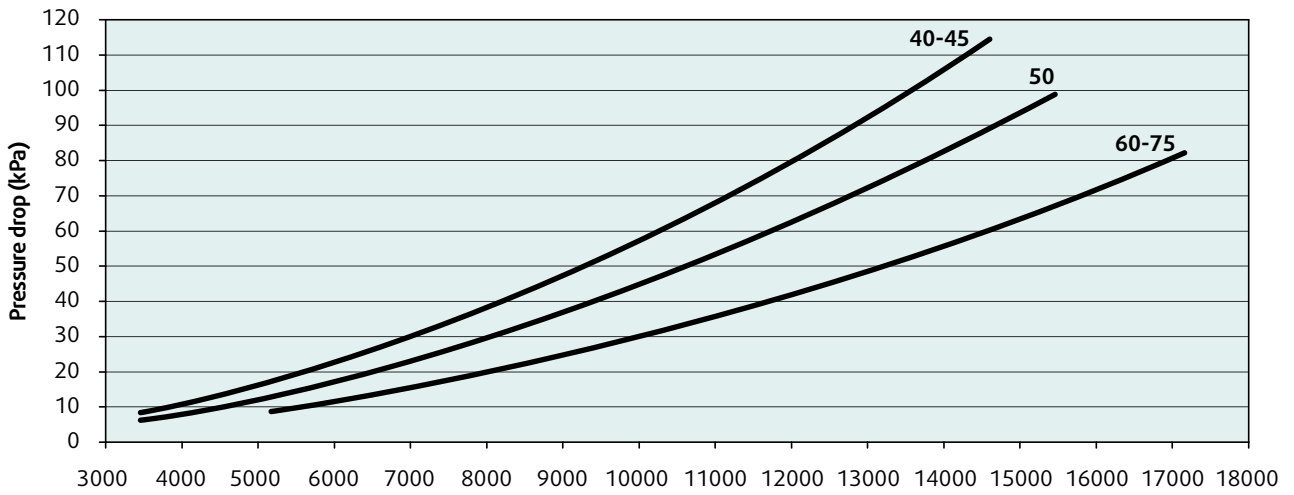
HT Version

Cooling mode - SyScroll Air RE - S Version

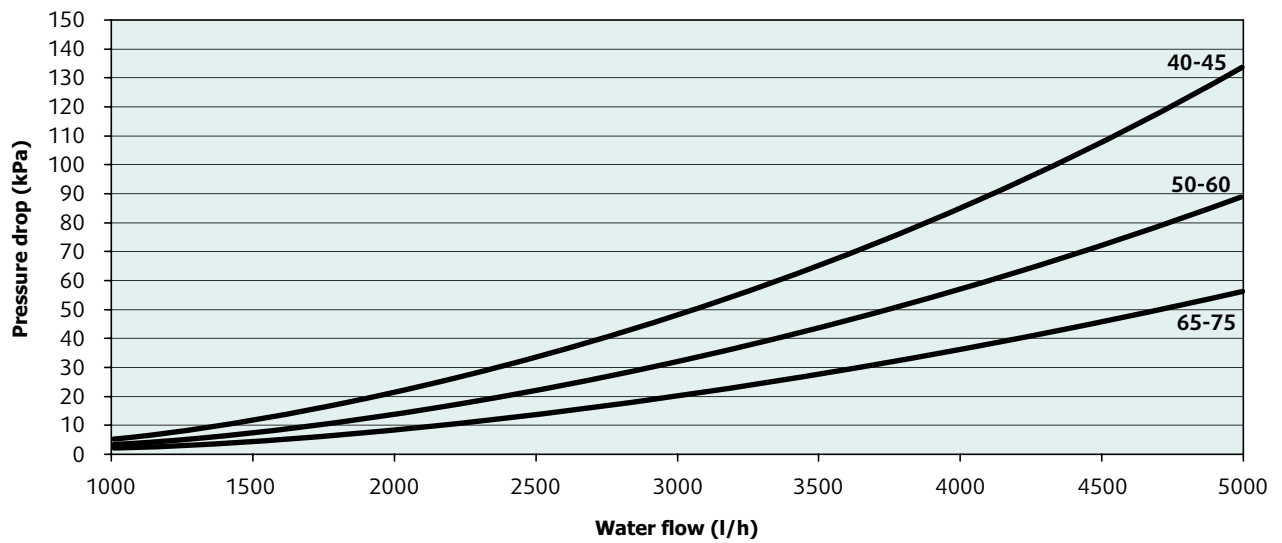
Sizes	ET °C	Ambient Air Temperature (°C)																		
		25		30		32		35		40		43		46		48		50		
		P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	P _{COOL}	P _{ABS} *	
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
40	1	39,4	10,7	37,3	11,7	36,4	12,2	35,0	12,9	32,7	14,1	31,2	14,9							
	3	41,9	10,9	39,6	12,0	38,7	12,5	37,2	13,2	34,6	14,4	33,2	15,2							
	5	44,4	11,2	41,9	12,2	41,0	12,7	39,4	13,4	36,7	14,5									
	7	47,0	11,4	44,4	12,5	43,4	13,0	41,6	13,7	38,9	14,9									
	9	49,8	11,7	46,9	12,8	45,8	13,2	44,0	13,9	41,2	15,2									
	11	52,5	12,0	49,6	13,1	48,4	13,5	46,4	14,2											
	14	56,8	12,5	52,2	13,3	50,9	13,9	50,4	14,8											
45	1	44,3	12,8	41,8	14,0	40,9	14,6	39,3	15,4	36,7	16,8	35,0	17,8							
	3	47,1	13,1	44,4	14,3	43,4	14,9	41,8	15,7	38,9	17,1	37,2	18,1							
	5	49,9	13,4	47,1	14,6	46,0	15,1	44,3	16,0	41,2	17,4									
	7	52,8	13,7	49,8	14,9	48,7	15,5	46,7	16,3	43,7	17,7									
	9	55,9	14,0	52,6	15,2	51,5	15,8	49,4	16,6	46,2	18,1									
	11	58,9	14,3	55,7	15,6	54,3	16,1	52,1	17,0											
	14	63,8	14,9	58,6	15,9	57,2	16,5	56,6	17,7											
50	1	51,1	15,0	48,3	16,4	47,2	17,1	45,4	18,1	42,4	19,7	40,5	20,9							
	3	54,4	15,3	51,3	16,7	50,1	17,4	48,2	18,4	44,9	20,1	43,0	21,2							
	5	57,6	15,7	54,4	17,1	53,1	17,7	51,1	18,8	47,6	20,4									
	7	61,0	16,0	57,5	17,5	56,2	18,1	54,0	19,1	50,4	20,8									
	9	64,5	16,4	60,7	17,9	59,4	18,5	57,0	19,5	53,4	21,2									
	11	68,0	16,8	64,3	18,3	62,7	18,9	60,2	19,9											
	14	73,6	17,4	67,7	18,7	66,0	19,4	65,3	20,7											
60	1	61,5	15,4	58,1	16,9	56,8	17,6	54,5	18,6	50,9	20,4	48,6	21,6							
	3	65,3	15,8	61,7	17,3	60,3	18,0	58,0	19,0	54,0	20,8	51,7	21,9							
	5	69,2	16,2	65,3	17,6	63,9	18,3	61,5	19,4	57,2	21,0									
	7	73,3	16,5	69,1	18,1	67,6	18,7	64,9	19,7	60,6	21,5									
	9	77,5	16,9	73,0	18,5	71,4	19,1	68,6	20,1	64,1	21,9									
	11	81,8	17,4	77,3	18,9	75,4	19,6	72,4	20,6											
	14	88,5	18,0	81,4	19,3	79,4	20,0	78,5	21,4											
65	1	67,0	17,8	63,3	19,5	61,9	20,3	59,5	21,5	55,5	23,5	53,0	24,9							
	3	71,2	18,2	67,2	19,9	65,7	20,8	63,2	21,9	58,9	23,9	56,3	25,3							
	5	75,5	18,6	71,2	20,3	69,6	21,1	67,0	22,3	62,4	24,2									
	7	79,9	19,1	75,4	20,9	73,7	21,6	70,7	22,8	66,1	24,8									
	9	84,5	19,5	79,6	21,3	77,9	22,0	74,8	23,2	69,9	25,3									
	11	89,1	20,0	84,2	21,8	82,2	22,5	78,9	23,7											
	14	96,5	20,8	88,7	22,2	86,5	23,1	85,6	24,6											
75	1	76,3	22,0	72,1	24,1	70,5	25,1	67,7	26,5	63,3	29,0	60,4	30,7							
	3	81,1	22,5	76,6	24,6	74,8	25,6	72,0	27,1	67,0	29,5	64,2	31,2							
	5	86,0	23,0	81,1	25,1	79,3	26,0	76,3	27,6	71,1	29,9									
	7	91,0	23,5	85,8	25,8	83,9	26,7	80,6	28,1	75,3	30,6									
	9	96,3	24,1	90,7	26,3	88,7	27,2	85,2	28,6	79,7	31,2									
	11	101,5	24,7	95,9	26,9	93,6	27,8	89,9	29,3											
	14	109,9	25,6	101,1	27,4	98,6	28,5	97,5	30,4											

(*) Only Compressors.

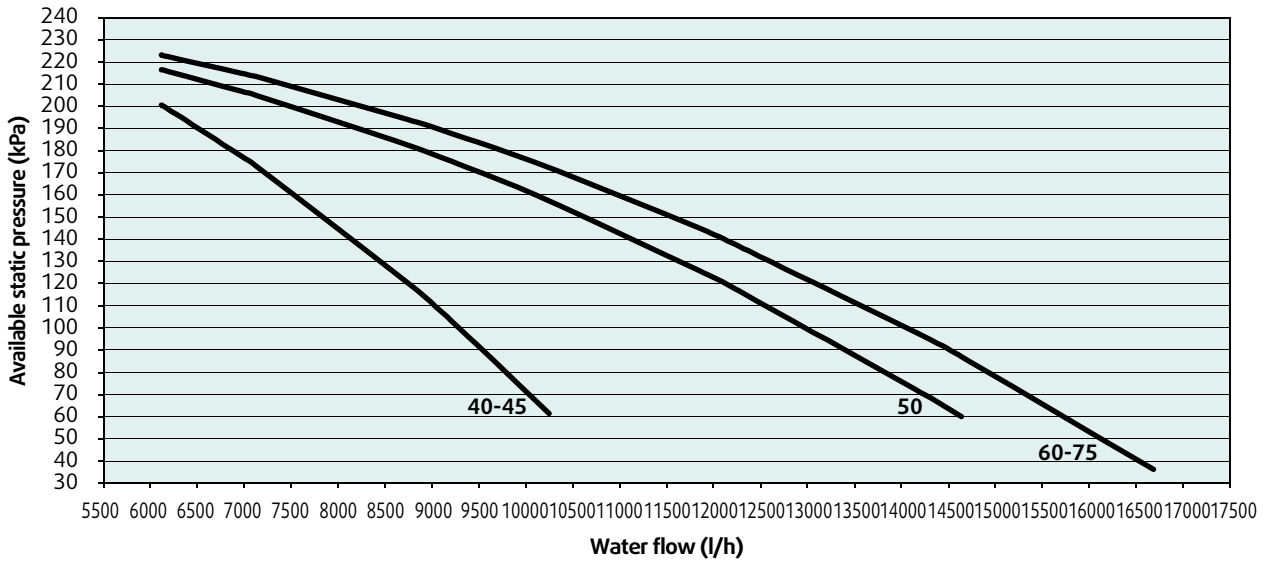
Evaporator Water Pressure Drop



Desuperheater Water Pressure Drop

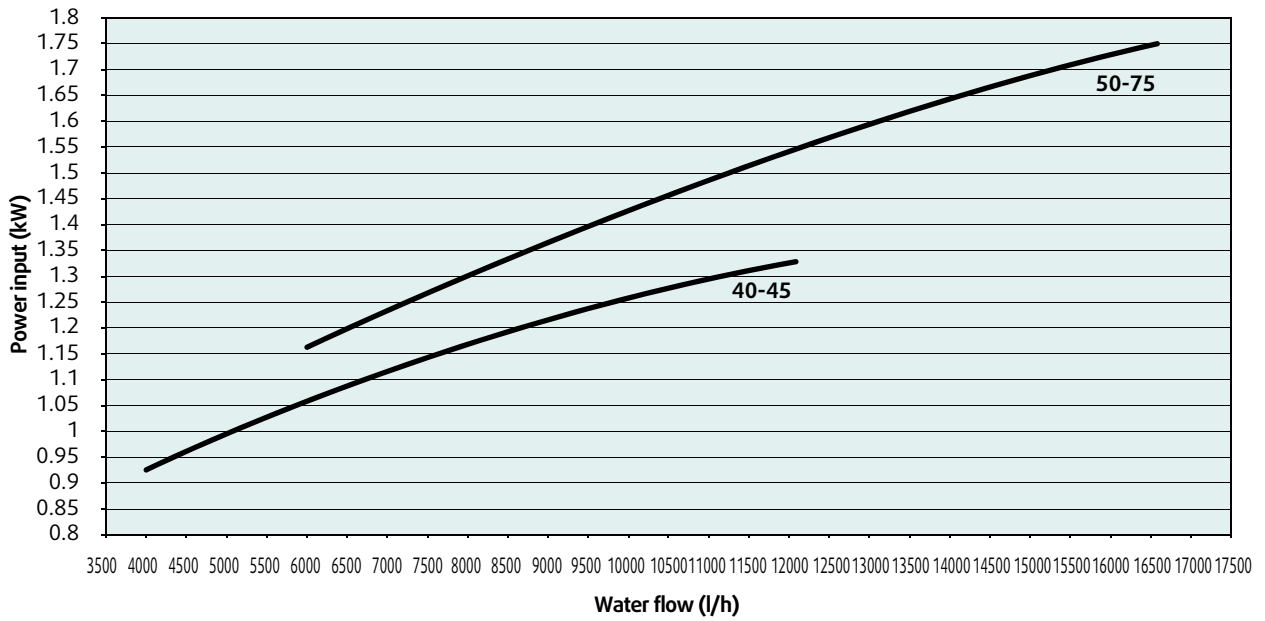


Pump Available Static Pressure



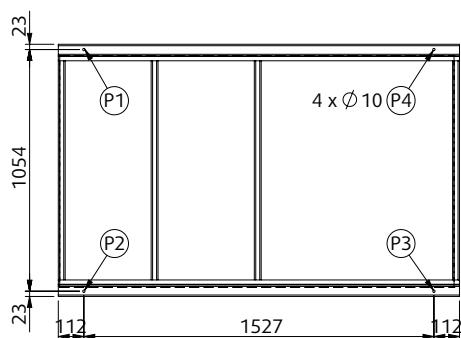
The curves are referred to 2P+T unit. Unit without tank could have higher performance.

Pump Power Input

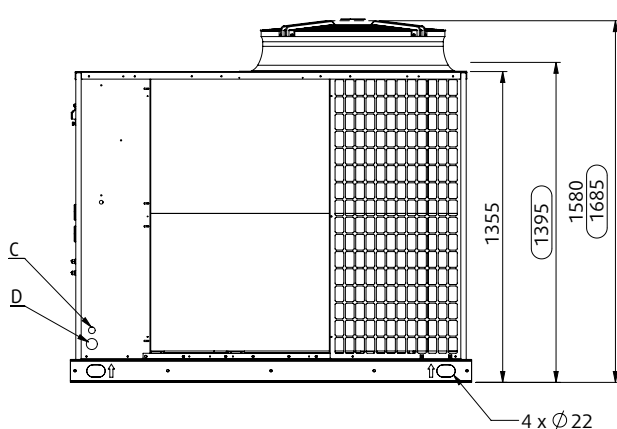
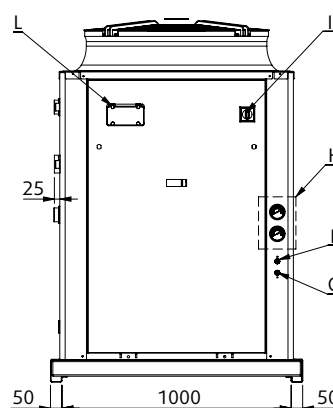


Dimensions SyScroll Air CO/HP/RE 40 to 50

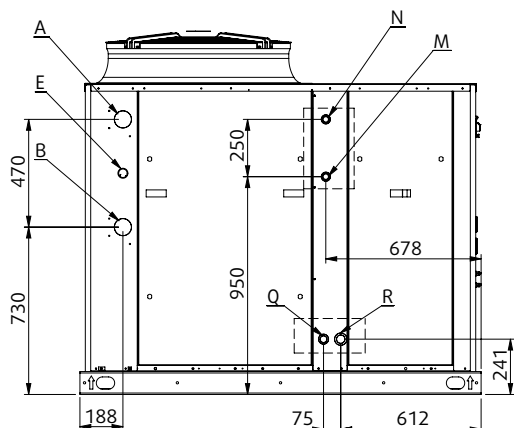
Bottom view



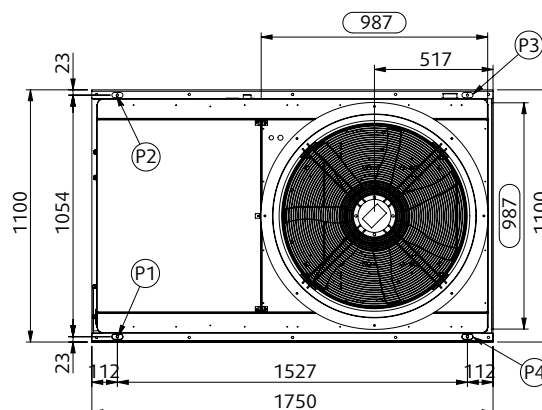
Front view



Side view



Top view



NOTES

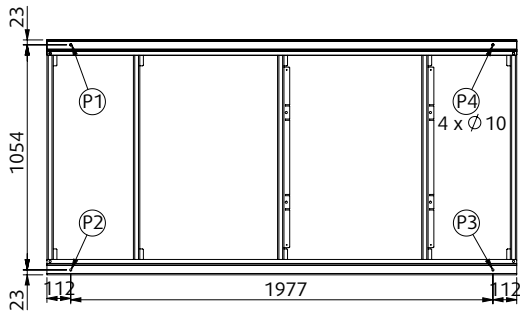
- A Water inlet \varnothing 2" GAS M.
- B Water outlet \varnothing 2" GAS M.
- C Electrical auxiliary lines
- D Electrical power supply
- E Hydrometer
- F High pressure tap
- G Low pressure tap
- H Gauge kit (Accessory)
- I Main switch
- L Control keypad / display

OPTIONAL

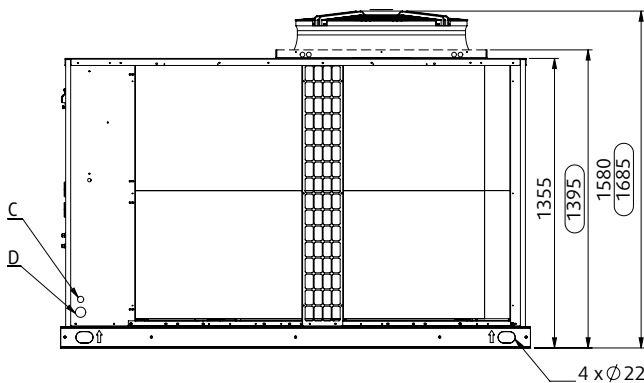
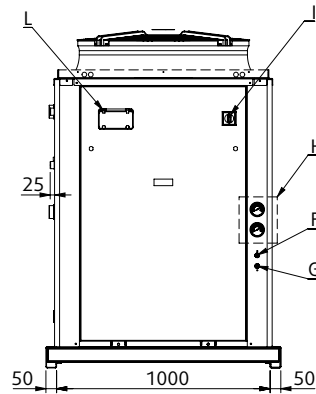
- M Desuperheater water inlet \varnothing 1" GAS M.
- N Desuperheater water outlet \varnothing 1" GAS M.
- (xxx) Only for HPF fan model
- P1, P2, P3, P4 AVM Position
- ONLY FOR SYSCROLL RE
- Q Liquid line \varnothing 5/8"
- R Suction line \varnothing 3/8"

Dimensions SyScroll Air Co/HP/RE 60 to 75

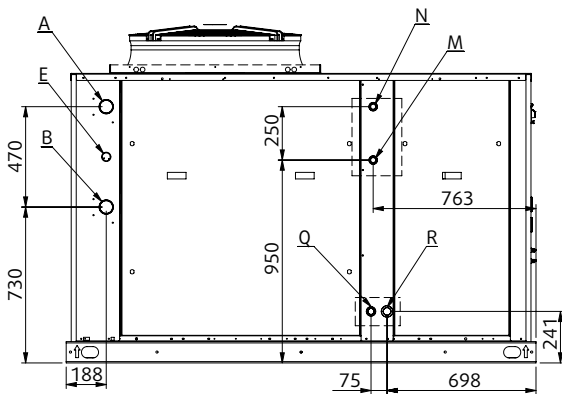
Bottom view



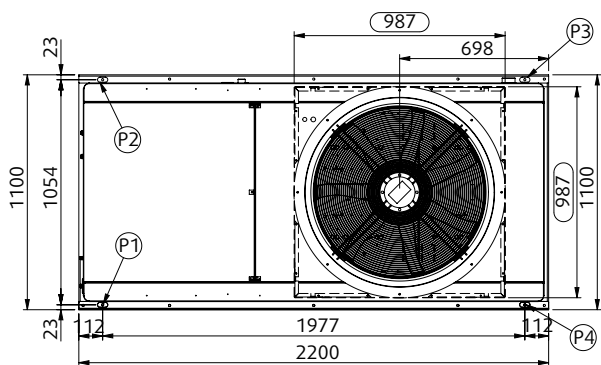
Front view



Side view



Top view



NOTES

- A Water inlet \varnothing 2" GAS M.
- B Water outlet \varnothing 2" GAS M.
- C Electrical auxiliary lines
- D Electrical power supply
- E Hydrometer
- F High pressure tap
- G Low pressure tap
- H Gauge kit (Accessory)
- I Main switch
- L Control keypad / display

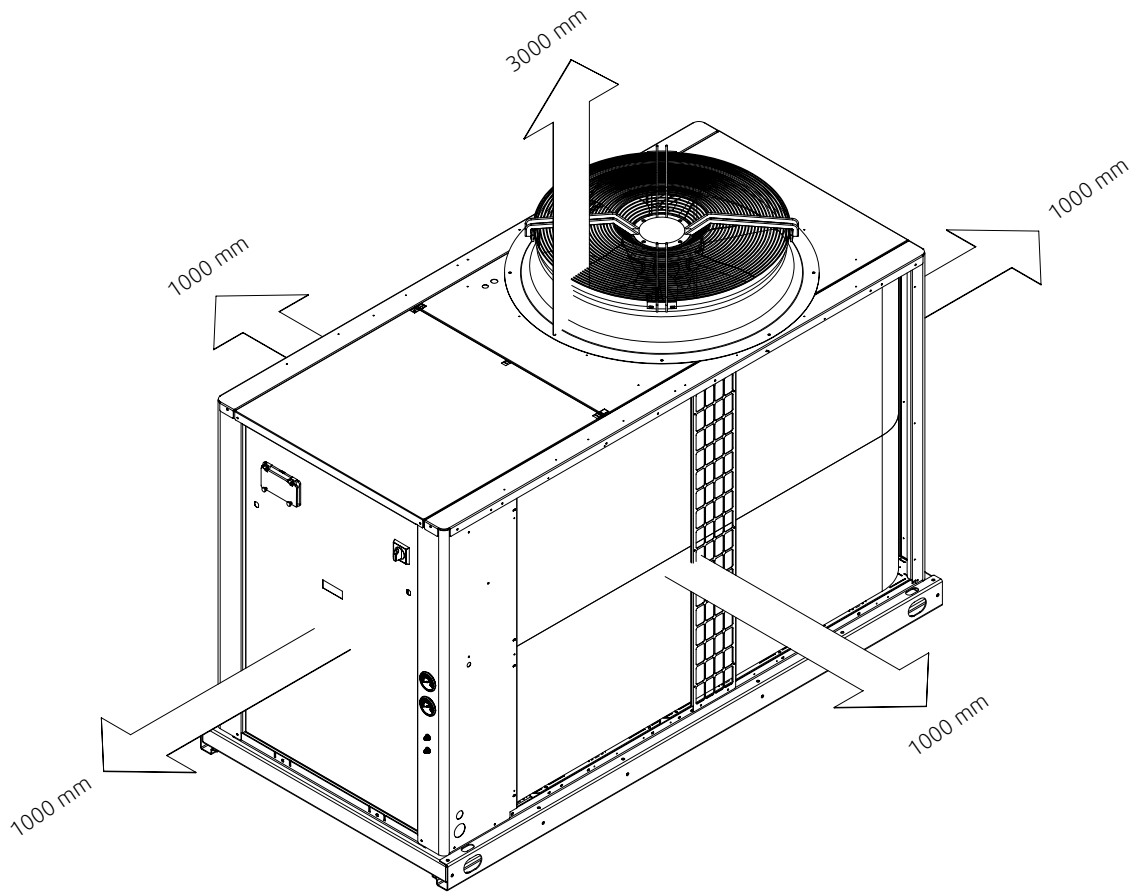
OPTIONAL

- M Desuperheater water inlet \varnothing 1" GAS M.
- N Desuperheater water outlet \varnothing 1" GAS M.
- (xxx) Only for HPF fan model
- P1, P2, P3, P4 AVM Position

ONLY FOR SYSCROLL RE

- Q Liquid line \varnothing 5/8"
- R Suction line \varnothing 3/8"

Unit Clearances



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