

Data Book



NX-Q-G06 0202P - 0602P_202005_EN R454B
ELCA_Engine ver.4.4.1.0

NX-Q-G06 0202P - 0602P

55,8-162 kW

INTEGRA unit for 4-pipe systems, air source for outdoor installation



(The photo of the unit is indicative and may vary depending on the model)

- ✓ **UNIQUE PROPOSAL**
- ✓ **LOW GWP REFRIGERANT**
- ✓ **ENERGY SAVING**

- ✓ **ErP READY**
- ✓ **INTEGRATED HYDRONIC GROUP**
- ✓ **WIDE OPERATING RANGE**

CERTIFICATIONS

Product certifications



Voluntary product certifications

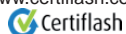


Check ongoing validity of certificate:

www.eurovent-certification.com

or

www.certiflash.com



System certifications



MITSUBISHI ELECTRIC HYDRONICS & IT COOLING SYSTEMS S.p.A.

Quality System complying with the requirements of UNI EN ISO 9001:2008 regulation
Environmental Management System complying with the requirements of UNI EN ISO 14001:2004 regulation
Occupational Health and Safety Management System complying with the requirements of BS OHSAS 18001:2007

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The units highlighted in this publication contain R454B [GWP₁₀₀ 466] fluorinated greenhouse gases.

Functions



Combined production of heating and cooling

Refrigerant



R454B

Compressors



Scroll compressor

Fan



Axial fan

Exchangers



Plates heat exchanger

Other features



Eurovent

1.1 PRODUCT FEATURES

2.1 GREEN CERTIFICATION RELEVANT

Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A., as a major player in the world HVAC market and a leading manufacturer of energy efficient, sustainable HVAC solutions, recognizes and supports the diffusion of green certification systems, as an effective way to deliver high performance buildings and improve the quality and the sustainability of the built environment.

Since the first certification system was introduced at the beginning of the 1990s, the demand for certified buildings has grown considerably, as well as the number of standards, rating and certification programs. Operating worldwide Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A., has extensive experience with many of them and is active member of Green Building Council Italy.

Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A., commitment to develop responsible and sustainable HVAC solutions, is reflected by a full range of premium efficiency products and systems, designed with special care to improve building energy performance ratings, according to major certification protocols, including LEED, BREAM, GREENSTAR, BCA, NABERS, DNGB, HQE and BEAM.

To find out more about how our products contribute to enhanced green certification rating and energy performance of a building, please refer to:

https://www.melcohit.com/EN/Environment/green_certifications/



PRODUCT FEATURES

1.2 FOCUS ON: 4 PIPE SYSTEMS

This type of system is suitable for air-conditioning buildings that require separate areas to be heated and cooled at the same time.

It is combined with centralised solutions capable of producing hot and cold water in the two hydronic circuits of the system, assuring maximum comfort in every room of the building, independently and in any period of the year.

From now on, a single intelligent unit is sufficient for the management of these complex systems: INTEGRA.

1.3 INTEGRA UNIT FOR 4-PIPE SYSTEMS, AIR SOURCE FOR OUTDOOR INSTALLATION

The series multi-use units are able to simultaneously meet hot and cold water production requests and are thus a valid alternative to traditional systems based on chillers and boilers for applications such as office blocks, pools and shopping centres. The advanced control logic, developed by MEHITS, ensures that heating and cooling loads are perfectly met. When these are simultaneous, the unit exchanges evaporation and condensation heat with the system cooling and heating circuits respectively. When heat loads are not balanced or one of the two are missing, the unit automatically switches to a third heat source which can be air or water according to the model.

This unit for outdoor installation. For these products heat is exchanged on the source side by a refrigerant air coils exchanger, it acts as a condenser or as an evaporator according to mode function.

1.4 INTEGRA, THE VERSATILE AND MULTI-FUNCTIONAL HEAT PUMP FOR ALL APPLICATIONS

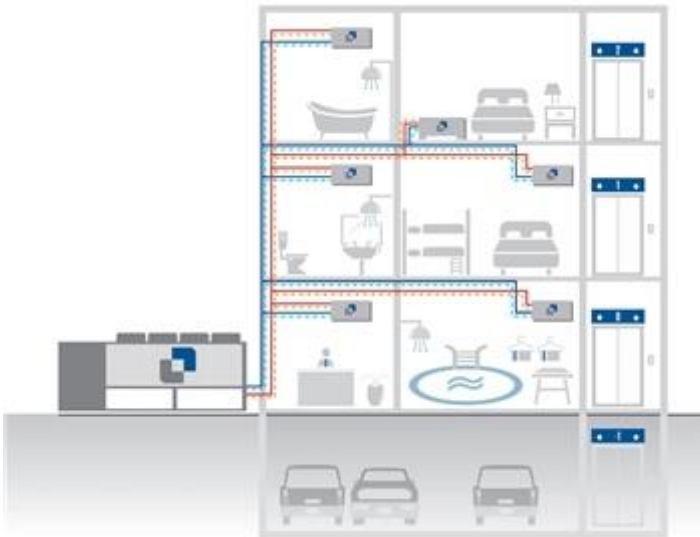
The INTEGRA units are used in many applications, even completely different from each other, for the versatility and flexibility that distinguishes them.

Many years of experience in these applications has led MEHITS to develop its own solution to the main challenges posed by comfort, industrial processes up to IT Cooling applications, without making any compromises.

1.5 Comfort Applications

Perfect for mixed-use buildings, residential applications, environments with complex and variable thermal loads, areas with large glass surfaces. To cool and simultaneously heat mixed-use environments is a frequent trend in the building and constructions segment. In these cases, the use of a smart INTEGRA heat pumps is key for producing hot and cold water simultaneously and independent matching any kind of load combinations whilst ensuring optimal comfort and highest energy efficiency all year long.

- Auto adaptability to variable loads
- Highest efficiency in all load conditions
- Plant simplification and reduction of technical spaces
- A gas network is no longer needed
- Smart management of thermal energy



1.6 SOUND LEVEL

This variability, further increased by a full range of accessories, makes the NX-Q range able to fit the needs of any installation with tailored performance levels and technical feature, also in terms of sound level.

- Standard sound level (-): Sound level as standard unit configuration.
- Sound level Super Low Noise (SL): This configuration features special soundproofing for the compressor chamber by 30 mm thick lining of polyester fibers (Fiberform), reduced fan speed, an oversized condensing section (0202+0502 sizes), spring supports for the compressors, vibration proof joints on the compressor intake and delivery lines, and a muffler on the compressor delivery line. Fan speed is automatically increased if environmental conditions are particularly tough.

In case of the hydronic module, it is protected by a self-ventilated enclosure. In silenced units /SL the enclosure is acoustically insulated by a 15 mm thick lining of polyester fibers (Fiberform).

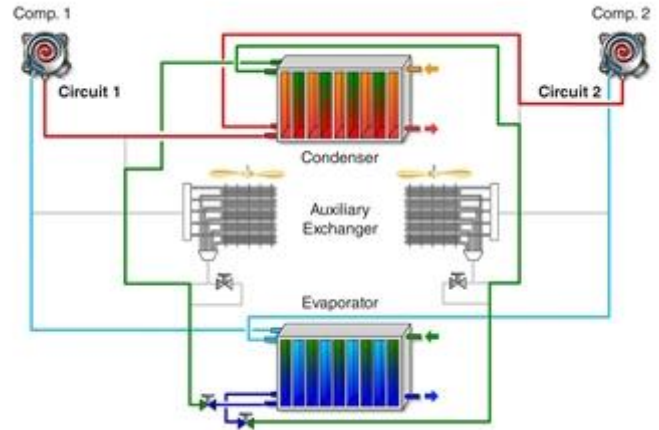
1.7 WORKING PRINCIPLE

The main feature of INTEGRA units is the ability to manage the overall capacity of both the cooling and heating side, based on the actual load requirements of the total system. The operational flexibility is total: all the combinations of heating and cooling loads can be met. A smart heat pump is a simple and integrated response to all the applications requiring independent cooling and heating simultaneously, such as air-conditioning requirements for large plants with complex loads.

Four operating modes for INTEGRA units are described below.

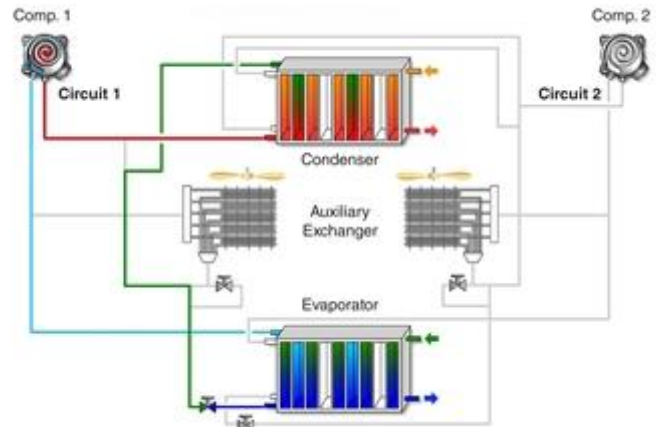
1.8 Operating mode: 100% cold side / 100% hot side

The two circuits operate at maximum power, evaporating in the cold-side exchanger and condensing in the hot-side one. The source-side heat exchanger (air coil or water exchanger, depending on the unit type) is not used, which means that in these conditions there is no energy waste.



1.9 Operating mode: 50% cold side / 50% hot side

Also in this situation, the unit operates like a water-water unit, as all the evaporating and condensing energy is used for the system. Since the system only requires 50% of the total energy, each circuit operates in partial load conditions. In this particular condition, the exchangers are oversized, thus achieving even higher efficiency.

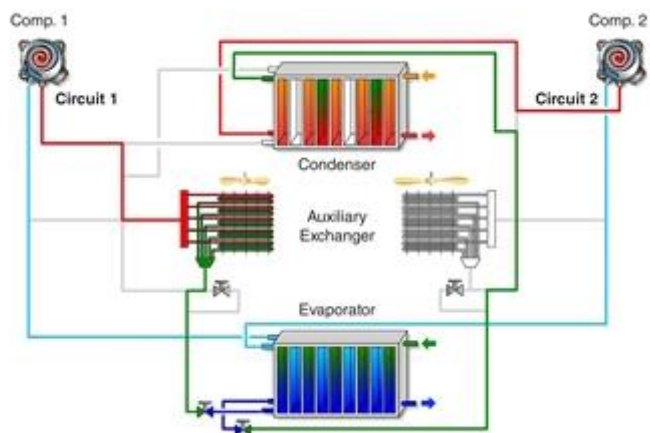


1.10 Operating mode: 100% cold side / 50% hot side

Both the circuits operate to produce the amount of energy necessary for

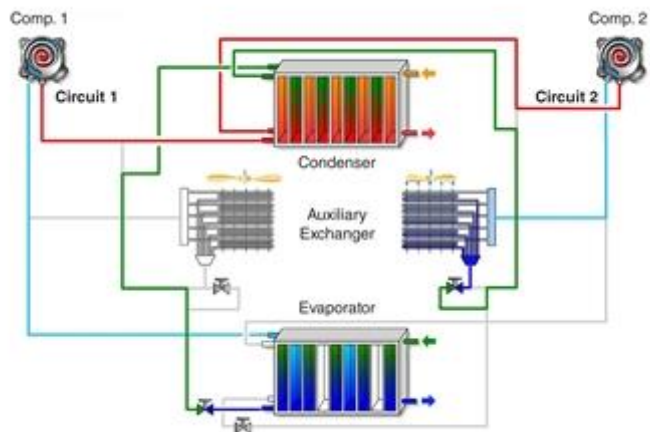
PRODUCT FEATURES

the cooling of the plant, evaporating all the refrigerant in the cold-side heat exchanger. While one circuit carries out the condensation on the hot-side heat exchanger, thus supplying the total energy necessary to heat the building, the other circuit exchanges the remaining heating energy in the external environment by using the auxiliary source-side heat exchanger (air coil or water exchanger, depending on the unit type).



1.11 Operating mode: 50% cold side / 100% hot side

Just like the latter case, in this condition both circuits operate differently, to supply the system with the correct amount of required energy. The unit uses two sources to produce the requested hot water flow: in fact, one circuit evaporates the refrigerant in the cold-side heat exchanger, thus supplying the cold water demand, while the other uses the auxiliary source-side heat exchanger. In this way both circuits move energy in the hot-side heat exchanger, fulfilling the request for hot water flow.



2.1 PRODUCT PRESENTATION

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler. Unit with a single refrigerant circuit, equipped with two hermetic rotary Scroll compressors, low-GWP and ozone-friendly refrigerant R454B, axial fans, braze-welded plate-type exchanger and thermal expansion valve.

2.3 UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

2.4 LOW GWP REFRIGERANT

The new generation refrigerant R454B is the most eco-sustainable alternative to traditional refrigerant R410A, offering a 76% reduction in terms of GWP (Global Warming Potential GWP of R454B = 466, GWP of R410A = 1924 as per IPCC rev. 5th) and zero impact on the ozone layer.

2.5 ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

2.6 ErP READY

The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP according with the eco-sustainable design requirements for all products using energy.

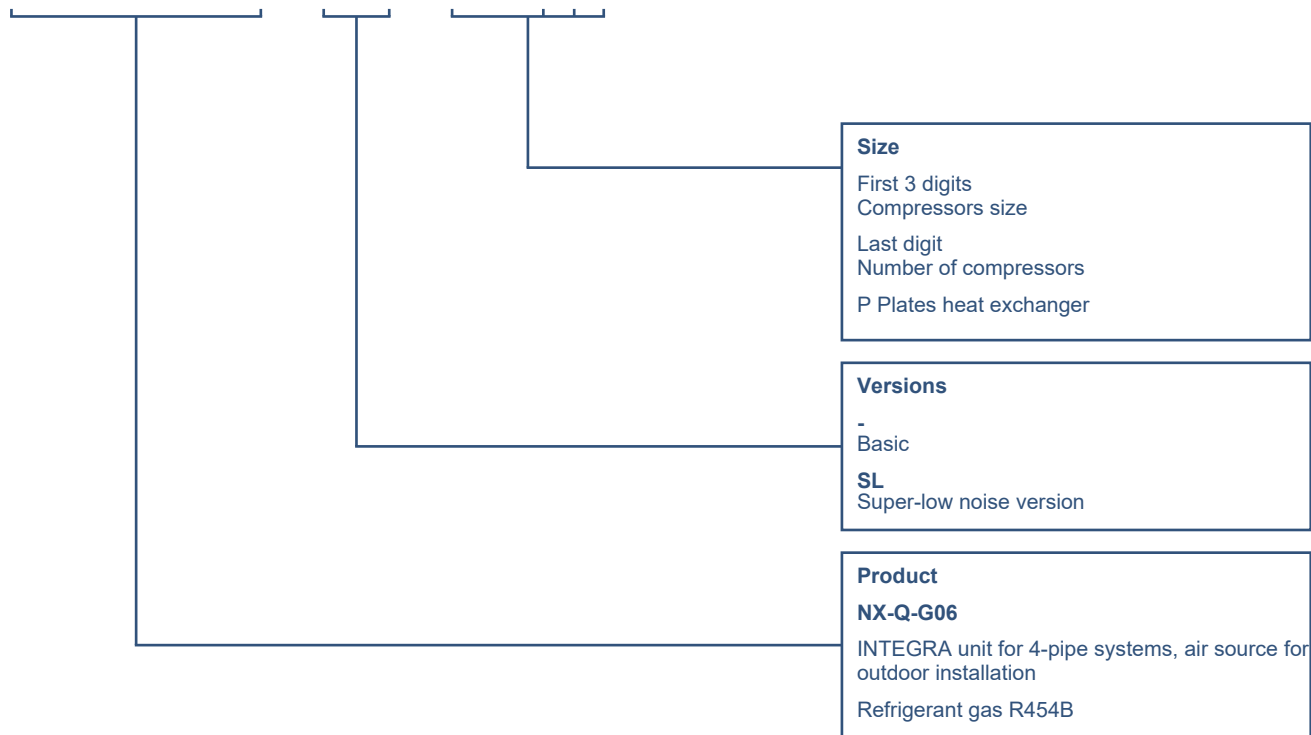
2.7 INTEGRATED HYDRONIC GROUP

The built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line pump, for achieving both low or high head, fixed or variable speed, available for both plant and recovery circuits (up to 4 pumps).

2.8 WIDE OPERATING RANGE

The units are operative at full load in heat pump mode down to -15°C outdoor air temperature, and up to 46°C in chiller mode without needing additional options. Furthermore, hot water can be provided up to 55°C, and at -15°C outdoor air temperature, the units can produce hot water up to 40°C at full load.

NX-Q-G06 / SL / 0502P



4.1 UNIT STANDARD COMPOSITION

4.2 INTEGRA unit for 4-pipe systems, air source for outdoor installation

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler. This unit is equipped with hermetic rotary Scroll compressors, with R454B, axial fans, braze-welded plate-type exchanger and thermal expansion valve.

Structure and external paneling in hot-galvanised shaped sheet steel with a suitable thickness. All parts polyester-powder painted, RAL 7035. The range includes two-compressor versions, with two independent refrigerant circuits.

4.3 R454B REFRIGERANT

The refrigerant used in these units is R454B, one of the most eco-sustainable refrigerants for replacing traditional R410A, thanks to the 76% lower GWP.

Unlike R410A, R454B is classified as A2L according to ISO 817. The first digit defines toxicity (A: NON-TOXIC), while the last digits define the flammability level (2L: MILDLY FLAMMABLE - low burning velocity). It is classified by PED Directive into Group 1.

The main characteristics of this refrigerant and some additional guidelines are reported below. Despite the minimal risk, the indications provided cannot replace a more detailed risk analysis if required, also based on any regulations in force in the installation area.

Further and more detailed guidelines are available in the dedicated area of the website www.melcohit.com (Guidelines) or in the dedicated addendum of the general installation and maintenance manual.

Main characteristics of R454B refrigerant:

- Safety classification (ASHRAE / ISO 817): A2L
- PED Group: 1
- Ozone Depletion Potential (ODP) (R11=1): 0
- AR5 (AR4) GWP (CO₂=1): 467 (466)
- Composition (Wt %): 68,9% R32, 31,1% R1234yf
- LFL@23°C, 50% RH (% v/v): 11,7
- UFL@23°C, 50% RH (% v/v): 22,0
- Burning velocity (cm/s): 5,2
- Minimum Ignition Energy (mJ) (ASTM E582-13): 100-300

- All operations on the unit must be performed by trained and qualified personnel on flammable refrigerants handling, in accordance with the relevant local standards and codes of practice.
- The refrigerant is heavier than air and can stagnate, reaching a dangerous concentration. To avoid risks, maintain a safe environment by ensuring adequate ventilation.
- The units must be installed in such a way as to prevent any refrigerant leaks from flowing into the buildings or any place where it could cause damage to people, animals or properties. Pay particular attention to the presence and disposition of any external air intakes, doors, shutters, etc.
- The units are equipped with conveyed safety valves with external discharge. In case of over-pressure, refrigerant gas can escape from these valves: the discharge of these ducts must be directed towards safe areas and away from the ground or potential sources of ignition.
- Do not braze pipes and components containing refrigerant.
- Do not use flames to cut / open pipes.
- The units are equipped with a safety valve (water side). In case of breakage of the heat exchanger and resulting overpressure, refrigerant gas can escape from these valves: the discharge of these valves must be directed towards safe areas and away from the ground or potential sources of ignition.
- The hydraulic circuit must be designed in such a way as to prevent the release of refrigerant gas inside the buildings or in any case in places where it can cause damage to people, animals or properties.

4.4 Structure

Structure in hot-galvanised shaped sheet steel with a suitable thickness. All parts polyester-powder painted RAL 7035. The self-supporting frame is built to guarantee maximum accessibility for servicing and maintenance operations.

4.5 Panelling

The external paneling made from hot galvanised metal plate and painted with epoxy powder coat RAL 7035. The panels are easy to remove for quick and easy access to the inside components from either side of the unit.

4.6 Compressor

Hermetic scroll compressors complete with an oil sump heater, electronic overheating protection with centralised manual reset and a two-pole electric motor.

4.7 Refrigerant circuit

Main components of the cooling circuit:

- R454B refrigerant
- liquid line solenoid valve
- drier filter with replaceable cartridge (from 0402 to 0602 sizes)
- liquid line shut-off valves (sizes 0402, 0602)
- refrigerant line sight glass with humidity indicator
- externally equalised thermostatic valve
- safety switching device for limiting the pressure
- high and low pressure transducers
- liquid receivers
- liquid separators
- 4-way reverse cycle valve
- electrovalves for circuit configuration
- crankcase heater on each compressor
- high and low pressure safety valves, conveyed to external discharge

4.8 Plant side cold heat exchanger

Braze welded AISI 316 steel plate heat exchanger, it acts as an evaporator. The heat exchangers are lined on the outside with closed-cell neoprene lagging. When the unit is not operating, these are protected against formation of ice on the inside by an electric heater with thermostat, while when the unit is operating protection is ensured by a differential pressure switch on the water side. The unit can also operate with non-freezing mixes, down to heat exchanger outlet temperatures of -8°C.

4.9 Plant side hot heat exchanger

Braze welded AISI 316 steel plate heat exchanger, it acts as a condenser. The heat exchangers are lined on the outside with closed-cell neoprene lagging. When the unit is not operating, these are protected against formation of ice on the inside by an electric heater with thermostat, while when the unit is operating protection is ensured by a differential pressure switch on the water side.

4.10 Source side heat exchanger

Air-refrigerant heat exchanger, working as a condenser or an evaporator depending to the specific operating mode. Made with copper tubes and aluminium fins. The aluminium fins are spaced to guarantee the best heat exchange efficiency.

4.11 Fan section source side

Axial electric fans, protected to IP 54, with external rotor and pressed sheet metal blades. Housed in aerodynamic hoods complete with safety grille. 6-pole electric motor with built-in thermal protection. The fan chamber is divided into two sections. This improves efficiency with partial loads as the fans of the idle circuit can be stopped.

4.12 Electrical and control panel

Electrical and control panel built in accordance with EN60204-1 standard, complete with:

- general door lock isolator
- control circuit transformer
- automatic circuit breakers on electric loads (2 compressor units)
- numbered cables (2 compressor units)
- terminals for cumulative alarm block
- remote ON/OFF terminals
- auxiliary 4-20mA analogue input
- remote demand limit contact
- relays for remote pump(s) activation for both plant side heat exchanger, evaporator and condenser (only for units without hydronic pumps)
- Electronic control W3000+
- Power supply 400V/3ph/50Hz+N+PE

4.13 Certification and applicable directives

The unit complies with the following directives and relative amendments:

- EUROVENT Certification program
- CE Declaration of conformity certificate for the European Union
- Machine directive 2006/42/EC
- 2014/30/EC EMC Directive
- Pressure Equipment Directive 2014/68/EU
- ErP Directive 2009/125/EC

4.14 Tests

Tests performed throughout the production process, as indicated in ISO9001.

Performance or noise tests can be performed by highly qualified staff in the presence of customers.

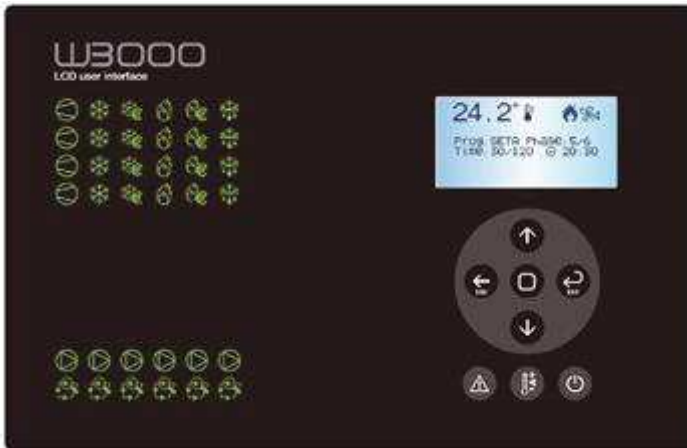
Performance tests comprise the measurement of:

UNIT STANDARD COMPOSITION

- electrical data
 - water flow rates
 - working temperatures
 - power input
 - power output
 - pressure drops on the water-side exchanger both at full load (at the conditions of selection and at the most critical conditions for the condenser) and at part load conditions.
- During performance testing it is also possible to simulate the main alarm states.
- Noise tests are performed to check noise emissions according to ISO9614.

4.15 Electronic control W3000+

The brand new W3000+ controller offers advanced functions and algorithms. The Large keypad, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. In addition to or as an alternative, the KIPlink is available - Keyboard In Your Pocket - is the innovative user interface based on WiFi technology that allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the refrigerant circuits, the compressors, the fans and the pumps (if present) and display and reset the possible alarms. The regulation is based on the patented "Quickmind" water temperature regulation logic uses self-adapting control to maintain flow temperatures and optimise performance even in low water content scenarios. As an alternative, the proportional or proportional-integral regulations are also available. Diagnostics include complete alarm management, with "blackbox" functions (via PC) and alarm log (display or PC) for best analysis of unit behaviour. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production. Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well. Supervision is available with different options, using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols. A dedicated wall-mounted keypad can be used for remote control of all the functions.



4.15 KIPlink - Keyboard In your Pocket (option 6196)

KIPlink - Keyboard In Your Pocket - is the innovative user interface based on WiFi technology that allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the refrigerant circuits, the compressors, the fans (if present) and the pumps (if present) and display and reset the possible alarms.



4.15 Climatic curve (option 5941)

Available as option an outside air temperature probe to control the system water temperature set point based on cooling and heating (reversible units) climatic curves.

4.15 Night mode (option 1430)

The night mode function allows to reduce the sound power of the unit, reducing the speed of the fans and the number of active compressors.

4.15 U.L.C. - User limit control (option 4960)

Guaranteed the start-up of the units with the option U.L.C. even when the critical working condition could generate an alarm. The controller can manage a 3way mixing valve (not provided) by 0-10V signal for ensuring a dynamic control of the water temperature on user heat exchanger according to the operating limits allowed. This ensures the start-up and correct functioning of the unit into the envelope, also even critical whether condition.

4.16 Versions

- **Basic version**
Standard unit

/SL - Super Low noise

This configuration features a special soundproofing for the compressor compartment and the pumps (if present), a reduced fan speed and an oversized condensing section (0202-0402). The fan speed is automatically increased in case of particularly tough environmental conditions.

4.17 Configurations

- , **standard unit**
Standard unit for production of chilled water

5.1 OPTIONS

OPTIONS	DESCRIPTIONS	BENEFITS	AVAILABLE FOR MODELS
PF232 EVAPORATOR WATER FLOW SWITCH			
C5140131 Evaporator flowswitch	Flow switch with stainless scoop AISI 316L and IP65 protection suitable for installation in industrial plant pipes. It should be installed in a straight pipe without filters, valves, etc., long at least 5 times its diameter, both upstream and downstream.	Signaling of lack of or excessive reduction of flow, it generates an alarm that is in automatic or manual reset depending on n ° alarms per hour and the maximum time of operation of the pump under conditions of low flow rate.	ALL
PF409 WATER FILTER			
C7420831 Filter 2"	Wire mesh water filter, to be installed on field. For the correct match between unit model and water filter please refer to the price list		ALL
C7420841 Filter 2" 1/2	Wire mesh water filter, to be installed on field. For the correct match between unit model and water filter please refer to the price list		ALL
C7420851 Filter 3"	Wire mesh water filter, to be installed on field. For the correct match between unit model and water filter please refer to the price list		ALL
PF410 ANTI-VIBRANT MOUNTINGS KIT (RUBBER ISOLATORS)			
F400504001 Anti-Vibration mountings Kit (rubber isolators)	For the correct match between unit model and anti-vibration mounting kit please refer to the price list		ALL
F400506001 Anti-Vibration mountings Kit (rubber isolators)	For the correct match between unit model and anti-vibration mounting kit please refer to the price list		ALL
F400507001 Anti-Vibration mountings Kit (rubber isolators)	For the correct match between unit model and anti-vibration mounting kit please refer to the price list		ALL
380 NUMBERED WIRING			
381 NUMBERED WIRING ON EL. BOARD	Electrical board wires are identified by numbered labels. The reference numbers are indicated in the unit's wiring scheme.	Facilitate maintenance interventions to the electrical board connections.	ALL
382 PWR WIRINGS ACC.TO UK REQUEST		Facilitate maintenance interventions to the electrical board connections.	ALL
383 NUMBERED WIRINGS+UK REQUESTS	Electrical board wires are identified by numbered labels. The reference numbers are indicated in the unit's wiring scheme.	Facilitate maintenance interventions to the electrical board connections.	ALL
2410 PHASE SEQUENCE RELAY			
2411 WITH EXTERNAL PHASE SEQUENCE RELAY	Relay for checking mains phase-sequence	Protects loads against faults due to incorrect connection of mains	ALL
2412 PHASE SEQU. RELAY + OVER/UNDER VOLT. MONIT.	Relay for checking mains phase-sequence and voltage	The monitoring relay protects loads against faults due to incorrect connection of mains, and it monitors whether it exceeds or falls below a specified voltage in a three-phase network.	ALL
3410 AUTOMATIC CIRCUIT BREAKERS			
3412 AUTOM. CIRCUIT BREAK. ON LOADS	Over-current switch on the major electrical loads.	In case of overcurrent allows resetting of the switch without the replacement of relative fuses.	ALL
3600 ON/OFF COMPRESSOR SIGNAL			
3601 COMPRESSOR OPERATION SIGNAL	Auxiliary contacts providing a voltage-free signal.	Allows remote signalling of compressor's activation or remote control of any auxiliary loads.	ALL

OPTIONS

OPTIONS	DESCRIPTIONS	BENEFITS	AVAILABLE FOR MODELS
4180 REMOTE CONNECTION ARRANGEMENT			
4181 SERIAL CARD MODBUS	Interface module for ModBUS protocols.	Allows integration with BMS operating with ModBUS protocol.	ALL
4182 SERIAL CARD FOR LONWORKS	Interface module for Echelon systems.	Allows integration with BMS operating with LonWorks protocols	ALL
4184 SERIAL CARD BACNET MS/TP RS485	Interface module for BACnet protocols.	Allows integration with BMS operating with BACnet protocol.	ALL
4185 SERIAL CARD FOR BACNET OVER IP	Interface module for BACnet OVER-IP protocols.	Allows to interconnect BACnet devices over Internet Protocol within wide-area networks.	ALL
4186 SERIAL CARD FOR KONNEX	Protocol for KNX system	Allows integration with BMS operating with KNX protocol	ALL
4188 SERIAL CARD MODBUS TCP/IP	Interface module for ModBus TCP/IP protocol	Allows integration with BMS operating with ModBus TCP/IP protocol.	ALL
4189 SERIAL CARD SNMP	Interface module for SNMP protocol	Allows integration with BMS operating with SNMP protocol.	ALL
6160 AUXILIARY INPUT			
6161 AUXILIARY SIGNAL 4-20mA	4-20 mA analog input	Allows to change the operating set-point according to the value of current applied to the analogue input.	ALL
6162 REMOTE SIGNAL DOUBLE SP	Allows to activate the Energy Saving set-point.	Allows to change the operating set-point according to a remote switch	ALL
6170 DEMAND LIMIT			
6171 INPUT REMOTE DEMAND LIMIT	Digital input (voltage free)	It permits to limit the unit's power absorption for safety reasons or in temporary situation.	ALL
1510 SOFT-STARTER			
1511 UNIT WITH SOFT-START	Electronic device adopted to manage the inrush current.	Break down of the inrush current compared to the direct motor start, lower motor windings' mechanical wear, avoidance of mains voltage fluctuations during starting, favourable sizing for the electrical system.	ALL
3300 COMPRESSOR REPHASING			
3301 COMPR.POWER FACTOR CORR.	Capacitors on the compressors' power inlet line.	The unit's average cos(phi) increases.	ALL
1440 USER INTERFACE			
1444 KIPlink + LARGE KEYBOARD	The unit is equipped with KIPlink, the innovative user interface based on WiFi technology, and, in addition, the physical LCD keyboard.		ALL
6194 LARGE KEYBOARD	The unit is equipped with the Large keyboard with a wide LCD display and led icons.		ALL
6196 KIPlink	The unit is equipped with KIPlink, the innovative user interface based on WiFi technology		ALL

OPTIONS

OPTIONS	DESCRIPTIONS	BENEFITS	AVAILABLE FOR MODELS
5940 SETP. COMPENSATION OUT. TEMP.			
5941 WITH SETPOINT COMPENSATION	This option includes an outside air sensor to be installed outside the building and enable the climatic curve function.	Available as option an outside air temperature probe to control the system water temperature set point based on cooling and heating (reversible units) climatic curves. Delivering water at different temperatures to the terminals based on the outside air temperature achieves high seasonal efficiency ratios and brings considerable savings in running costs.	ALL
1470 MULTIFUNCTION CARD			
1431 NIGHT MODE	The option includes a related controller expansion board and dedicated terminal block.	Night mode is a system setting to limit maximum noise level of the unit. Noise level is reduced limiting maximum compressor frequency and fan speed.	ALL
1471 4951 + 1431	The option includes a related controller expansion board and dedicated terminal block.	Enables the functions corresponding to the indicated accessory codes.	ALL
1472 4951 + 1431 + 4961	The option includes a related controller expansion board and dedicated terminal block (it is necessary to install a 3 way valve).	Enables the functions corresponding to the indicated accessory codes.	ALL
1473 4951 + 4961	The option includes a related controller expansion board and dedicated terminal block (it is necessary to install a 3 way valve).	Enables the functions corresponding to the indicated accessory codes.	ALL
1474 1431 + 4961	The option includes a related controller expansion board and dedicated terminal block (it is necessary to install a 3 way valve).	Enables the functions corresponding to the indicated accessory codes.	ALL
4951 WITH HYDRAULIC DECOUPLER PROBE	Water temperature probe on hydraulic decoupler.	The pump activation can be set by parameter according to the water temperature on buffer tank measuring by the sensor (in the systems with the primary and secondary circuits separated by a hydraulic decoupler), thus bringing significant pump consumption reduction during unit's stand-by.	ALL
4961 U.L.C.F. - WITH OR WITHOUT FIX SPEED PUMP	Option to be selected with the unit without pump/s or with fix speed pump/s (4703,4706,4707,4711,4712). The option includes a related controller expansion board and dedicated terminal block.	Guaranteed the start-up of the units with the option U.L.C. even when the critical working condition could generate an alarm. The W3000TE controller can manage a 3way mixing valve (not provided from MEHITS) by 0-10V signal for ensuring a dynamic control of the water temperature on user heat exchanger according to the operating limits allowed. This ensures the start-up and correct functioning of the unit into the envelope, also even critical whether condition.	ALL

OPTIONS

OPTIONS	DESCRIPTIONS	BENEFITS	AVAILABLE FOR MODELS
5920 MANAGEMENT & CONTROL SYSTEMS			
5922 ClimaPRO ModBUS RS485 - MID	This option includes all following devices on-board the unit panel: - MID certified network analyzer operating on ModBUS over RS-485 - Current transformers - W3000TE controller - Software release LA09 or later version.	This accessory allows to acquire the electrical data and the power absorbed by the unit and communicate with ClimaPRO via high level communication interface based on ModBUS over EIA RS-485. More specifically, the data collected are: power supply, current, frequency, power factor ($\cos\phi$), electrical power consumption, energy consumption. This specific energy meter model is MID certified and can therefore be used for billing applications. This option also ensures the compatibility between the units and ClimaPRO, thus allowing ClimaPRO to acquire all the main unit's operating variables and status by means of a high level communication interface to the controller installed onboard the unit panel.	ALL
5923 ClimaPRO BacNET over IP	This option includes all following devices on-board the unit panel: - network analyzer operating on BACnet over IP - Current transformers - W3000TE controller - Software release LA09 or later version.	This accessory allows to acquire the electrical data and the power absorbed by the unit and communicate with ClimaPRO via high level communication interface based on BACnet over IP. More specifically, the data collected are: power supply, current, frequency, power factor ($\cos\phi$), electrical power consumption, energy consumption. This network analyzer is not MID certified and cannot therefore be used for billing applications. This option also ensures the compatibility between the units and ClimaPRO, thus allowing ClimaPRO to acquire all the main unit's operating variables and status by means of a high level communication interface to the controller installed onboard the unit panel.	ALL
5924 ENERGY METER FOR BMS	This option includes all following devices on-board the unit panel: - network analyzer with display operating on ModBUS protocol over RS-485 (without certification MID) - current transformers.	This accessory allows to acquire the electrical data and the power absorbed by the unit and send them via RS-485 bus to the BMS for energy metering.	ALL
5925 ENERGY METER FOR W3000	This option includes all following devices on-board the unit panel: - network analyzer with display, already cabled to unit's controller - current transformers.	This option allows to acquire the electrical data and the power absorbed by the unit. The figures are accessible through the unit's W3000 interface, and be sent to the BMS via several protocols by selecting the dedicated serial card in the option list.	ALL
3430 REFRIGERANT LEAK DETECTOR			
3431 REFRIG. LEAK DETECTOR	Refrigerant leak detection system, supplied factory mounted and wired in the electrical board. In case of leak detection it will raise an alarm.	It promptly detects gas leakages	ALL
3433 GAS LEAK CONTACT + COMPR. OFF	Refrigerant leak detection system, supplied factory mounted and wired in the electrical board. In case of leak detection it will raise an alarm and stop the unit.	It promptly detects gas leakages and stops the unit	ALL
1400 HP AND LP GAUGES			
1401 HP AND LP GAUGES	High and low pressure gauges	Allows immediate reading of the pressure values on both low and high pressure circuits	ALL

OPTIONS

OPTIONS	DESCRIPTIONS	BENEFITS	AVAILABLE FOR MODELS
1960 PRESSURE RELIEF VALVES			
1961 DUAL RELIEF VALVES WITH SWITCH	Dual relief valve with switch	Allows to unselect a relief valve in order to service the unit avoiding medium or long inoperative periods	ALL
5040 COMPRESSOR SUCTION AND DISCHARGE VALVE			
5042 COMPRESSOR SUCTION AND DISCHARGE VALVE	Shut-off valve on compressor's suction and discharge circuit.	Simplifies maintenance activities	ALL
1940 EXPANSION VALVE			
1941 ELECTRONIC EXPANSION VALVE	Electronic expansion valve	Electronic lamination device with step motor. It is designed for the continuous and precise control of refrigerant flow entering in the evaporator. This solution permits extremely short times for reaction to variation in load, optimising power consumption.	ALL
870 OPERATION RANGE UNIT			
874 EVAPORATOR OUTLET WATER TEMPERATURE <5°C	The option includes an expansion valve optimized for outlet water temperature <5°C up to according the operating limits of the unit. The glycol is mandatory.	Dedicated components to the application to allow always the best performances in all working conditions.	ALL
890 CONDENSING COIL			
894 Cu PIPES/PREPAINTED ALL. FINS	Finned coil heat exchanger made from copper tubes and aluminum fins with chemical cleaning treatment to remove impurities, and then coated with protective paint with the following characteristics: - fins treated with protective polyester resin paint; - over 1000 hours of salt spray protection as per ASTM B117 (fins without cross and protected edges); - excellent resistance to UV rays.	Provide a good resistance against corrosion. For further information please refer to the Guidelines "Finned coil heat exchangers and protection against corrosion", available in the download section of the website www.melcohit.com/EN/Download/Corporate/ or contact our sales department.	ALL GUIDELINES
895 FIN GUARD SILVER TREATM	Copper-aluminum heat exchanger coils with polyurethane paint Fin Guard Silver SB. Coil completely coated by a protective layer of polyurethane paint with the following characteristics: - polyurethane paint with metallic emulsion; - over 3000 hours of salt spray protection as per ASTM B117; - excellent resistance to UV rays; - high-pressure spray painting system.	Provide a very high resistance against corrosion, also in very aggressive environment. For further information please refer to the Guidelines "Finned coil heat exchangers and protection against corrosion", available in the download section of the website www.melcohit.com/EN/Download/Corporate/ or contact our sales department.	ALL GUIDELINES
1260 DRAIN TRAY			
1261 DRAIN TRAY HEATED	This option includes an electric heater for heating the drain tray.	This option avoid the water freezing with a outdoor air temperature close to 0°C or lower.	ALL
820 FAN CONTROL			
802 VAR.FAN SPEED LOW AMB.CONTROL	Fan speed control according to the condensing pressure; the use of this device is mandatory in case the unit operates with low evaporator leaving water temperature combined with low outdoor air temperatures	Extension of the unit operating range (see the section dedicated to the operating limits). The device allows the unit to operate in the most extreme conditions avoiding any risk of low pressure alarm intervention. The enhanced air flow management delivers also benefits in terms of both efficiency and quietness.	ALL

OPTIONS

OPTIONS	DESCRIPTIONS	BENEFITS	AVAILABLE FOR MODELS
808 EC FANS	Electronically commutated fans (EC fans). The brushless motor, governed by a special controller, continuously adjust fans' speed.	Reduced energy consumption and minimized current's absorption during start-up phase. The efficiency is increased by approximately: +1% of EER and +4/5% of ESEER. The noise reduces proportionally to the unit's partialization.	ALL
819 DVVF	Fan speed control according to the condensing pressure; the use of this device is mandatory in case the unit operates with low evaporator leaving water temperature combined with low outdoor air temperatures	Extension of the unit operating range (see the section dedicated to the operating limits). The device allows the unit to operate in the most extreme conditions avoiding any risk of low pressure alarm intervention. The enhanced air flow management delivers also benefits in terms of both efficiency and quietness.	ALL
821 DVV2F	Fan speed control according to the condensing pressure; the use of this device is mandatory in case the unit operates with low evaporator leaving water temperature combined with low outdoor air temperatures	Extension of the unit operating range (see the section dedicated to the operating limits). The device allows the unit to operate in the most extreme conditions avoiding any risk of low pressure alarm intervention. The enhanced air flow management delivers also benefits in terms of both efficiency and quietness.	ALL
790 DEV.FOR LOW AIR TEMP.(HP MODE)			
814 COIL ANTIFREEZE HEATERS	L'opzione prevede l'inserimento di una resistenza elettrica tra batteria e bacinella di scarico condensa.	This option avoid the water freezing with a outdoor air temperature close to 0°C or lower.	ALL
2020 ANTI-INTRUSION GRILLS			
2021 ANTI-INTRUSION GRILLS	Anti-intrusions grills	Avoid the intrusion of solid bodies into the unit's structure.	ALL
4700 EV - HYDRONIC MODULE			
4702 EV - RELAY 1 PUMP (ON/OFF)	Evaporator hydronic module, compatible with constant flow control. The unit is provided with 1 relay to control the activation of 1 external pump via single ON/OFF signal.	The hydronic module allows to control the external pumps with the unit controller logic.	ALL
4703 EV - RELAY 2 PUMPS (ON/OFF)	Evaporator hydronic module, compatible with constant flow control. The unit is provided with 2 relays to control the activation of 2 external pumps via double ON/OFF signal. The pumps are controlled in duty/standby, with running hours equalization and changeover on device failure.	The hydronic module allows to control the external pumps with the unit controller logic.	ALL
4706 EV - 1 PUMP 2P LH (FIX SPEED)	Evaporator hydronic module, compatible with constant flow control. The unit is provided with 1 fixed speed pump, with 2-pole motor. Residual head of 100 kPa approximately. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL
4707 EV - 1 PUMP 2P HH (FIX SPEED)	Evaporator hydronic module, compatible with constant flow control. The unit is provided with 1 fixed speed pump, with 2-pole motor. Residual head of 200 kPa approximately. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL

OPTIONS

OPTIONS	DESCRIPTIONS	BENEFITS	AVAILABLE FOR MODELS
4711 EV - 2 PUMPS 2P LH (FIX SPEED)	Evaporator hydronic module, compatible with constant flow control. The unit is provided with 2 fixed speed pumps, with 2-pole motor. Residual head of 100 kPa approximately. The pumps are controlled in duty/standby, with running hours equalization and changeover on device failure. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL
4712 EV - 2 PUMPS 2P HH (FIX SPEED)	Evaporator hydronic module, compatible with constant flow control. The unit is provided with 2 fixed speed pumps, with 2-pole motor. Residual head of 200 kPa approximately. The pumps are controlled in duty/standby, with running hours equalization and changeover on device failure. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL
4713 EV - RELAY 1 PUMP + 0-10V SIG	Evaporator hydronic module, compatible with constant or variable flow control. The unit is provided with 1 relay and a 0-10V signal terminal to control the activation and the speed of 1 external variable speed pump.	The hydronic module allows to control the external pumps with the unit controller logic.	ALL
4714 EV - RELAY 2 PUMPS + 0-10V SIG	Evaporator hydronic module, compatible with constant or variable flow control. The unit is provided with 2 relays and a 0-10V signal terminal to control the activation and the speed of 2 external variable speed pump. The pumps are controlled in duty/standby, with running hours equalization and changeover on device failure.	The hydronic module allows to control the external pumps with the unit controller logic.	ALL
4717 EV - 1 PUMP 2P LH (VAR SPEED)	Evaporator hydronic module, compatible with constant or variable flow control. The unit is provided with 1 variable speed pump, with 2-pole motor. Residual head of 100 kPa approximately. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL
4722 EV - 2 PUMPS 2P LH (VAR SPEED)	Evaporator hydronic module, compatible with constant or variable flow control. The unit is provided with 2 variable speed pumps, with 2-pole motor. Residual head of 100 kPa approximately. The pumps are controlled in duty/standby, with running hours equalization and changeover on device failure. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL
4860 EV - PRIMARY FLOW CONTROL			
4861 EV - CONSTANT FLOW	Evaporator water flow control (plant primary circuit): constant flow. Compatible with hydronic modules without regulation devices (no pumps, no contacts), with ON/OFF regulation devices (relays) or with fixed speed pumps (codes: 4701, 4702, 4703, 4704, 4705, 4706, 4707, 4708, 4709, 4711, 4712 - hydronic modules availability depends on unit model).	The unit is set up to operate with a constant water flow in the heat exchanger (plant primary circuit). This is the only option available in case of unit without any water flow regulation devices (no pumps, no contacts), which means with water flow control provided by others. In case of unit with ON/OFF regulation devices or fixed speed pumps, the unit controller manages the pump activation to reduce pump consumption.	ALL

OPTIONS

OPTIONS	DESCRIPTIONS	BENEFITS	AVAILABLE FOR MODELS
4862 EV - CONSTANT FLOW (PARAMETER)	Evaporator water flow control (plant primary circuit): constant flow (parameter set). Compatible with hydronic modules with modulating regulation devices (0-10V signal) or with variable speed pumps (codes: 4713, 4714, 4715, 4716, 4717, 4718, 4719, 4721, 4722, 4723 - hydronic modules availability depends on unit model).	The unit is set up to operate with a constant water flow in the heat exchanger (plant primary circuit). The unit controller manages the pump activation to reduce pump consumption. The pump speed is adjusted via 0-10V signal. The option provides the possibility to set the pump speed with a controller parameter. Once set, the speed pump remains constant until the next parameter adjustment. The parameter set constant flow control is useful during the unit installation and commissioning, to adjust water flow and pressure head according to the real plant characteristics.	ALL
4760 CD - HYDRONIC MODULE			
4762 CD - RELAY 1 PUMP (ON/OFF)	Condenser hydronic module, compatible with constant flow control. The unit is provided with 1 relay to control the activation of 1 external pump via single ON/OFF signal.	The hydronic module allows to control the external pumps with the unit controller logic.	ALL
4763 CD - RELAY 2 PUMPS (ON/OFF)	Condenser hydronic module, compatible with constant flow control. The unit is provided with 2 relays to control the activation of 2 external pumps via double ON/OFF signal. The pumps are controlled in duty/standby, with running hours equalization and changeover on device failure.	The hydronic module allows to control the external pumps with the unit controller logic.	ALL
4766 CD - 1 PUMP 2P LH (FIX SPEED)	Condenser hydronic module, compatible with constant flow control. The unit is provided with 1 fixed speed pump, with 2-pole motor. Residual head of 100 kPa approximately. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL
4767 CD - 1 PUMP 2P HH (FIX SPEED)	Condenser hydronic module, compatible with constant flow control. The unit is provided with 1 fixed speed pump, with 2-pole motor. Residual head of 200 kPa approximately. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL
4771 CD - 2 PUMPS 2P LH (FIX SPEED)	Condenser hydronic module, compatible with constant flow control. The unit is provided with 2 fixed speed pumps, with 2-pole motor. Residual head of 100 kPa approximately. The pumps are controlled in duty/standby, with running hours equalization and changeover on device failure. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL
4772 CD - 2 PUMPS 2P HH (FIX SPEED)	Condenser hydronic module, compatible with constant flow control. The unit is provided with 2 fixed speed pumps, with 2-pole motor. Residual head of 200 kPa approximately. The pumps are controlled in duty/standby, with running hours equalization and changeover on device failure. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL

OPTIONS

OPTIONS	DESCRIPTIONS	BENEFITS	AVAILABLE FOR MODELS
4773 CD - RELAY 1 PUMP + 0-10V SIG	Condenser hydronic module, compatible with constant or variable flow control. The unit is provided with 1 relay and a 0-10V signal terminal to control the activation and the speed of 1 external variable speed pump.	The hydronic module allows to control the external pumps with the unit controller logic. In case of water cooled chiller, the 0-10V signal, it allows to manage several condensing devices in order to maintain the condensing pressure in a pre-defined range in every applications: - for well water application to manage a 2 way modulating valve; - for cooling tower application to manage a 3 way modulation valve; - for dry-cooler or cooling tower application to modulate the fans' speed.	ALL
4774 CD - RELAY 2 PUMPS + 0-10V SIG	Condenser hydronic module, compatible with constant or variable flow control. The unit is provided with 2 relays and a 0-10V signal terminal to control the activation and the speed of 2 external variable speed pump. The pumps are controlled in duty/standby, with running hours equalization and changeover on device failure.	The hydronic module allows to control the external pumps with the unit controller logic. In case of water cooled chiller, the 0-10V signal, it allows to manage several condensing devices in order to maintain the condensing pressure in a pre-defined range in every applications: - for well water application to manage a 2 way modulating valve; - for cooling tower application to manage a 3 way modulation valve; - for dry-cooler or cooling tower application to modulate the fans' speed.	ALL
4777 CD - 1 PUMP 2P LH (VAR SPEED)	Condenser hydronic module, compatible with constant or variable flow control. The unit is provided with 1 variable speed pump, with 2-pole motor. Residual head of 100 kPa approximately. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL
4782 CD - 2 PUMPS 2P LH (VAR SPEED)	Condenser hydronic module, compatible with constant or variable flow control. The unit is provided with 2 variable speed pumps, with 2-pole motor. Residual head of 100 kPa approximately. The pumps are controlled in duty/standby, with running hours equalization and changeover on device failure. Specifications and characteristic curves are available in the dedicated bulletin section.	The hydronic module includes the pumps and the main water circuit components, thus optimizing hydraulic and electrical installation space, time and costs.	ALL
4890 CD - PRIMARY FLOW CONTROL			
4891 CD - CONSTANT FLOW	Condenser water flow control (plant primary circuit): constant flow. Compatible with hydronic modules without regulation devices (no pumps, no contacts), with ON/OFF regulation devices (relays) or with fixed speed pumps (codes: 4701, 4702, 4703, 4704, 4705, 4706, 4707, 4708, 4709, 4711, 4712 - hydronic modules availability depends on unit model).	The unit is set up to operate with a constant water flow in the heat exchanger (plant primary circuit). This is the only option available in case of unit without any water flow regulation devices (no pumps, no contacts), which means with water flow control provided by others. In case of unit with ON/FF regulation devices or fixed speed pumps, the unit controller manages the pump activation to reduce pump consumption.	ALL

OPTIONS

OPTIONS	DESCRIPTIONS	BENEFITS	AVAILABLE FOR MODELS
4892 CD - CONSTANT FLOW (PARAMETER)	Condenser water flow control (plant primary circuit): constant flow (parameter set). Compatible with hydronic modules with modulating regulation devices (0-10V signal) or with variable speed pumps (codes: 4713, 4714, 4715, 4716, 4717, 4718, 4719, 4721, 4722, 4723 - hydronic modules availability depends on unit model).	The unit is set up to operate with a constant water flow in the heat exchanger (plant primary circuit). The unit controller manages the pump activation to reduce pump consumption. The pump speed is adjusted via 0-10V signal. The option provides the possibility to set the pump speed with a controller parameter. Once set, the speed pump remains constant until the next parameter adjustment. The parameter set constant flow control is useful during the unit installation and commissioning, to adjust water flow and pressure head according to the real plant characteristics.	ALL
2430 PIPING KIT ANTIFREEZE HEATER			
2432 ANTIFREEZE PIPING, PUMPS	Electrical heaters on pipes and other hydraulic unit's components. This option is mandatory if the unit is supposed to work with outdoor temperature below 0°C.	It protects the unit against ice formation on its hydraulic components.	ALL
2670 ACOUSTICAL ENCLOSURE			
2671 UNIT LOW NOISE KIT	This option includes a special soundproofing for the compressor chamber with the lining of polyester fibers (Fiberform), see the dedicated description in "Accessories notes".	The enclosure allows to reduce the sound level of the unit, see the dedicated description in "Accessories Notes".	ALL
2672 UNIT + PUMP/S LOW NOISE KIT	This option includes a special soundproofing for the compressor chamber and for pumps enclosure with the lining of polyester fibers (Fiberform), see the dedicated description in "Accessories notes".	The enclosure allows to reduce the sound level of the unit, see the dedicated description in "Accessories Notes".	ALL
9970 PACKING			
9969 NYLON + WOODEN CRATE PACKING	Unit provided with wooden cage and covered with nylon		ALL
9971 WITHOUT PACKAGING	Unit provided with plastic supports		ALL
9972 WOODEN BOX PACKING	Unit provided with wooden box		ALL
9973 WOODEN CAGE PACKING	Unit provided with wooden cage		ALL
9999 SUPPORTS AND NYLON	Unit provided with plastic supports and covered with nylon		ALL

OPTIONS

Additional information - IMPORTANT -

381 – Numbered wiring on electrical

Standard feature on 2 compressor units (sizes 0202 - 0602).

3412 – Automatic circuit breakers

Standard feature on 2 compressor units (sizes 0202 - 0602).

3301 – Compressor power factor correction

1511 – Soft starter

There is a mutual exclusion rule between the compressor rephrasing condensers and the soft start device. When both accessories are required together, a feasibility analysis is needed. If the configuration is available as a special execution, an extra-price may be quoted.

808 - EC fans

These fans are suitable to operate up to 46°C of outdoor temperature.

In case of higher temperatures, fans with oversized motors must be used. For the quotation of these components, please contact our sales department.

2671 - Unit low noise kit

This option includes a 15mm thick soundproofing for the compressor chamber. The noise reduction is of 2 dB(A).

2672 - Unit + pump/s low noise kit

This option includes a 30mm thick soundproofing for the compressor chamber and 15mm for the pump/s enclosure. The noise reduction is of 2 dB(A).

802 - DVV var. fan speed low amb. control

Fan speed control according to the condensing pressure; the use of this device is mandatory in case the unit operates with low evaporator leaving water temperature combined with low outdoor air temperatures.

OPTIONS

Chiller Plant Control with Active Optimization System

ClimaPRO System Manager

ClimaPRO System Manager represents the state-of-the-art platform for chiller plant management and control.

ClimaPRO ensures to actively optimize the entire chiller plant by managing and adjusting each component directly involved in the production and the distribution of the heating and the cooling energies, therefore involving chillers and heat pumps, pumping groups as well as the source-side devices like, for example, the cooling towers.

In particular, ClimaPRO measures in real-time all the operating variables from the field, for each individual device and each of the main system branches, by using serial communication lines as well as dedicated analogue signals.

The acquired data are then compared with the design data of each single unit at any different working conditions, thus allowing to implement control strategies based on dynamic algorithms which take into account the real operating conditions.

On the basis of these values, an advanced diagnostic module also allows to assess the level of efficiency for each individual unit, translating data into easy-to-read information in order to simplify and optimize the maintenance activities.

The "Chart Builder" software module allows to display the trends of the main operating variables. The "Reporting" module allows to send reports to selected users, including data and system's status of the main devices as well as to perform calculation of the energy indexes for each single unit and for the entire chiller plant.

The accessibility to ClimaPRO System Manager is ensured by an integrated web server that makes it visible from any computer equipped with a web browser, either locally or remotely.



6.1 GENERAL TECHNICAL DATA

NX-Q-G06

[SI System]

NX-Q-G06		0202P	0252P	0262P	0302P	0402P	0502P	0602P	
Power supply		V/ph/Hz 400/3+N/50 400/3+N/50 400/3+N/50 400/3+N/50 400/3+N/50 400/3+N/50 400/3+N/50							
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	55,80	61,47	68,70	82,11	106,2	132,3	161,8
Total power input	(1)	kW	16,44	17,86	20,70	23,86	31,12	39,38	52,53
EER	(1)	kW/kW	3,402	3,436	3,319	3,435	3,415	3,358	3,082
ESEER	(1)	kW/kW							
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	55,70	61,40	68,60	82,00	106,1	132,1	161,5
EER	(1)(2)	kW/kW	3,370	3,410	3,290	3,410	3,380	3,320	3,040
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	58,20	64,61	72,17	86,49	110,6	139,1	170,3
Total power input	(3)	kW	16,32	17,95	19,95	23,82	30,47	38,50	48,43
COP	(3)	kW/kW	3,571	3,609	3,610	3,634	3,626	3,613	3,519
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	58,30	64,70	72,30	86,60	110,8	139,3	170,6
COP	(2)(3)	kW/kW	3,550	3,580	3,590	3,610	3,600	3,580	3,480
COOLING WITH HEAT RECOVERY (EN 14511 VALUE)									
Cooling capacity	(2)(4)	kW	56,49	61,61	70,08	83,30	107,3	133,9	169,3
Total power input	(2)(4)	kW	14,79	16,32	18,64	22,07	28,72	37,33	47,98
Recovery heat exchanger capacity	(2)(4)	kW	70,32	76,85	87,50	103,9	134,1	168,7	213,9
TER		kW/kW	8,575	8,485	8,456	8,483	8,404	8,108	7,987
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	2,668	2,940	3,285	3,927	5,080	6,329	7,739
Pressure drop at the heat exchanger	(1)	kPa	14,6	17,7	15,8	17,9	20,5	24,1	29,3
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	2,809	3,119	3,484	4,175	5,340	6,712	8,218
Pressure drop at the heat exchanger	(3)	kPa	16,2	19,9	17,8	20,2	22,7	27,2	33,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
Number of capacity steps		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Regulation			STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS
Min. capacity step		%	50	50	50	50	50	50	50
Refrigerant			R454B	R454B	R454B	R454B	R454B	R454B	R454B
Refrigerant charge		kg	20,6	25,6	27,8	33,4	48,2	54,4	54,9
Oil charge		kg	5,40	5,40	5,40	5,40	5,40	10,6	10,6
Rc (ASHRAE)	(5)	kg/kW	0,37	0,42	0,41	0,41	0,46	0,42	0,34
NOISE LEVEL									
Sound Pressure	(6)	dB(A)	53	53	53	54	55	56	56
Sound power level in cooling	(7)(8)	dB(A)	85	85	85	86	87	88	88
Sound power level in heating	(7)(9)	dB(A)	85	85	85	86	87	88	88
SIZE AND WEIGHT									
A	(10)	mm	2625	2625	2625	3250	3875	4500	4500
B	(10)	mm	1350	1350	1350	1350	1350	1350	1350
H	(10)	mm	2070	2070	2070	2070	2070	2070	2070
Operating weight	(10)	kg	950	990	1000	1130	1310	1620	1650

Notes:

- Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°C.
 - Values in compliance with EN14511
 - Plant (side) heat exchanger water (in/out) 40,00°C/45,00°C; Source (side) heat exchanger air (in) 7,0°C - 87% R.H.
 - Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Plant (side) heat exchanger water (in/out) 40,00°C/45,00°C.
 - Rated in accordance with AHRI Standard 550/590
 - Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
 - Sound power on the basis of measurements made in compliance with ISO 9614.
 - Sound power level in cooling, outdoors.
 - Sound power level in heating, outdoors.
 - Unit in standard configuration/execution, without optional accessories.
 - Not available
- Certified data in EUROVENT

GENERAL TECHNICAL DATA

NX-Q-G06 /SL

[SI System]

NX-Q-G06 /SL		0202P	0252P	0262P	0302P	0402P	0502P	
Power supply	V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	56,14	60,65	68,69	81,39	104,2	125,5
Total power input	(1)	kW	16,08	18,03	20,50	23,76	31,12	41,15
EER	(1)	kW/kW	3,484	3,367	3,351	3,420	3,350	3,046
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	56,10	60,60	68,60	81,30	104,0	125,3
EER	(1)(2)	kW/kW	3,460	3,330	3,320	3,400	3,320	3,020
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	59,67	64,45	73,73	87,50	111,7	135,6
Total power input	(3)	kW	16,15	17,74	19,81	23,46	30,07	37,19
COP	(3)	kW/kW	3,685	3,644	3,722	3,723	3,711	3,645
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	59,80	64,50	73,80	87,60	111,8	135,8
COP	(2)(3)	kW/kW	3,660	3,620	3,700	3,690	3,680	3,610
COOLING WITH HEAT RECOVERY (EN 14511 VALUE)								
Cooling capacity	(2)(4)	kW	56,49	61,61	70,07	83,30	107,3	134,0
Total power input	(2)(4)	kW	14,80	16,31	18,65	22,07	28,72	37,22
Recovery heat exchanger capacity	(2)(4)	kW	70,32	76,85	87,50	103,9	134,1	168,7
TER		kW/kW	8,568	8,488	8,448	8,482	8,403	8,135
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	2,685	2,900	3,285	3,892	4,981	6,002
Pressure drop at the heat exchanger	(1)	kPa	14,8	17,2	15,8	17,6	19,7	21,7
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	2,880	3,111	3,559	4,224	5,390	6,545
Pressure drop at the heat exchanger	(3)	kPa	17,0	19,8	18,5	20,7	23,1	25,8
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
Number of capacity steps		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Regulation			STEPS	STEPS	STEPS	STEPS	STEPS	STEPS
Min. capacity step		%	50	50	50	50	50	50
Refrigerant			R454B	R454B	R454B	R454B	R454B	R454B
Refrigerant charge		kg	25,9	26,9	37,8	44,0	49,7	53,5
Oil charge		kg	5,40	5,40	5,40	5,40	5,40	10,6
Rc (ASHRAE)	(5)	kg/kW	0,47	0,45	0,56	0,55	0,48	0,43
NOISE LEVEL								
Sound Pressure	(6)	dB(A)	48	48	48	49	50	52
Sound power level in cooling	(7)(8)	dB(A)	80	80	80	81	82	84
Sound power level in heating	(7)(9)	dB(A)	80	80	80	81	82	84
SIZE AND WEIGHT								
A	(10)	mm	3250	3250	3250	3875	4500	4500
B	(10)	mm	1350	1350	1350	1350	1350	1350
H	(10)	mm	2070	2070	2070	2070	2070	2070
Operating weight	(10)	kg	1060	1060	1120	1270	1490	1630

Notes:

- 1 Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°C.
- 2 Values in compliance with EN14511
- 3 Plant (side) heat exchanger water (in/out) 40,00°C/45,00°C; Source (side) heat exchanger air (in) 7,0°C - 87% R.H.
- 4 Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Plant (side) heat exchanger water (in/out) 40,00°C/45,00°C.
- 5 Rated in accordance with AHRI Standard 550/590
- 6 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
- 7 Sound power on the basis of measurements made in compliance with ISO 9614.
- 8 Sound power level in cooling, outdoors.
- 9 Sound power level in heating, outdoors.
- 10 Unit in standard configuration/execution, without optional accessories.
- Not available

Certified data in EUROVENT

7.1 TECHNICAL DATA SEASONAL EFFICIENCY IN HEATING (EN14825 VALUE)

NX-Q-G06

[SI System]

NX-Q-G06 - LOW TEMPERATURE application			0202P	0252P	0262P	0302P	0402P	0502P
Power supply		(V/ph/Hz)	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
WEATHER CONDITIONS - AVERAGE								
Rated heat output at Tdesignh	(1)(2)	kW	42	47	53	63	79	102
Bivalent temperature	(1)(2)	°C	-7	-7	-7	-7	-7	-7
SCOP	(1)(2)		3,74	3,86	3,88	3,82	3,78	3,76
Seasonal space heating energy efficiency	(1)(2)	%	147	151	152	150	148	147
Seasonal space heating energy efficiency class	(1)(2)		A+	A++	A++	A++	-	-

1 Seasonal space heating energy efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013]

2 Type of calculation with fixed flow and variable temperature.

NX-Q-G06 - LOW TEMPERATURE application			0602P
Power supply		(V/ph/Hz)	400/3+N/50
WEATHER CONDITIONS - AVERAGE			
Rated heat output at Tdesignh	(1)(2)	kW	129
Bivalent temperature	(1)(2)	°C	-7
SCOP	(1)(2)		3,73
Seasonal space heating energy efficiency	(1)(2)	%	146
Seasonal space heating energy efficiency class	(1)(2)		-

1 Seasonal space heating energy efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013]

2 Type of calculation with fixed flow and variable temperature.

**TECHNICAL DATA SEASONAL
EFFICIENCY IN HEATING (EN14825
VALUE)**

NX-Q-G06 /SL

[SI System]

NX-Q-G06 /SL - LOW TEMPERATURE application			0202P	0252P	0262P	0302P	0402P	0502P
Power supply		(V/ph/Hz)	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
WEATHER CONDITIONS - AVERAGE								
Rated heat output at Tdesignh	(1)(2)	kW	44	47	54	64	81	101
Bivalent temperature	(1)(2)	°C	-7	-7	-7	-7	-7	-7
SCOP	(1)(2)		3,91	3,90	4,01	3,97	3,90	3,86
Seasonal space heating energy efficiency	(1)(2)	%	153	153	157	156	153	151
Seasonal space heating energy efficiency class	(1)(2)		A++	A++	A++	A++	-	-

1 Seasonal space heating energy efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013]

2 Type of calculation with fixed flow and variable temperature.

8.1 TECHNICAL DATA SEASONAL EFFICIENCY IN COOLING (EN14825 VALUE)

[SI System]

ENERGY EFFICIENCY

SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)

Ambient refrigeration

NX-Q-G06			0202P	0252P	0262P	0302P	0402P	0502P	0602P			
Prated,c	(1)	kW	55,7	61,4	68,6	82,0	106,1	132,1	161,5			
SEER	(1) (2)	-	4,03	4,16	3,99	4,11	4,09	4,02	3,70			
Performance η_s	(1) (3)	%	158,0	163,0	157,0	162,0	161,0	158,0	145,0			

NX-Q-G06 /SL			0202P	0252P	0262P	0302P	0402P	0502P				
Prated,c	(1)	kW	56,1	60,6	68,6	81,3	104,0	125,3				
SEER	(1) (2)	-	4,14	4,08	4,04	4,11	4,02	3,70				
Performance η_s	(1) (3)	%	163,0	160,0	158,0	162,0	158,0	145,0				

Notes:

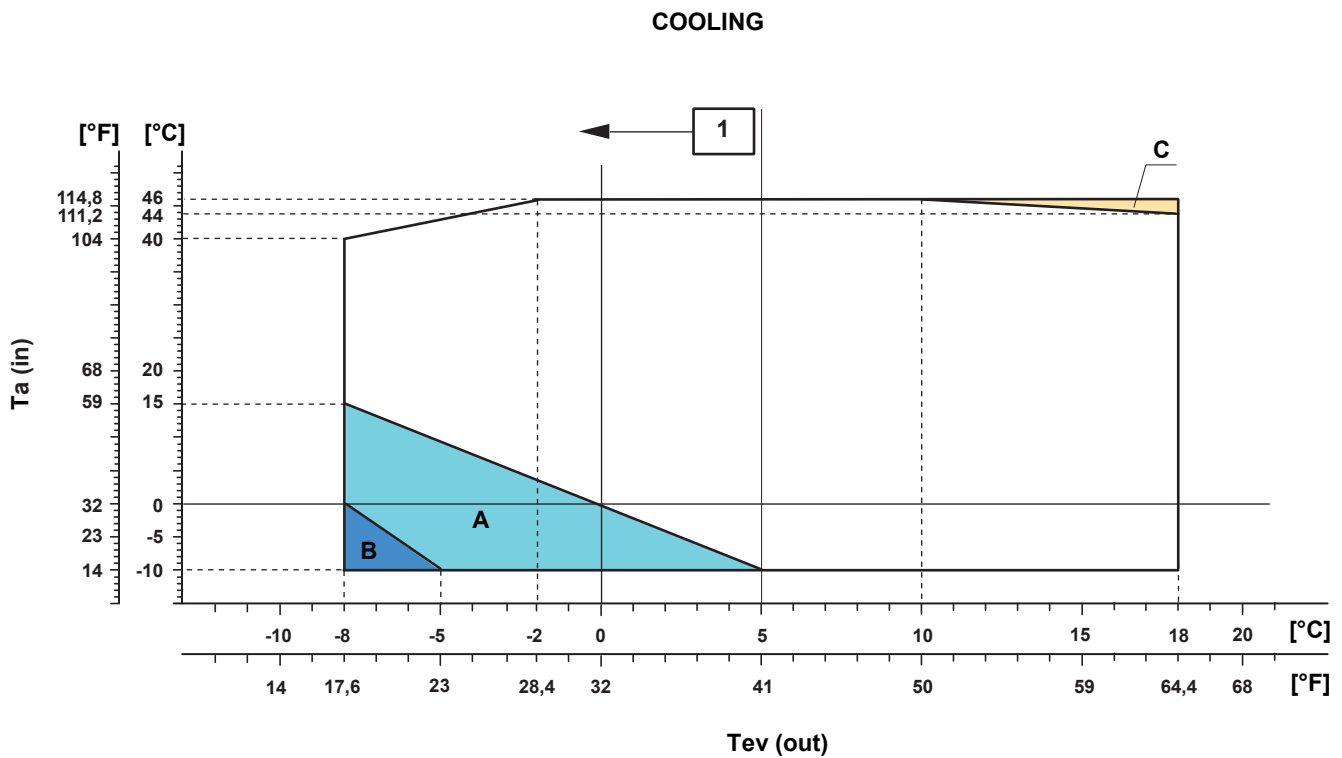
(1) Parameter calculated according to [REGULATION (EU) N. 2016/2281]

(2) Seasonal energy efficiency ratio

(3) Seasonal space cooling energy efficiency

The units highlighted in this publication contain R454B [GWP₁₀₀ 466] fluorinated greenhouse gases.

9.1 OPERATING LIMITS



Ta (in) Outdoor air temperature

Tev (out) Plant side cold heat exchanger leaving water temperature

1 Plant side cold heat exchanger leaving water temperature $\leq 5^{\circ}\text{C}$ (code 874)

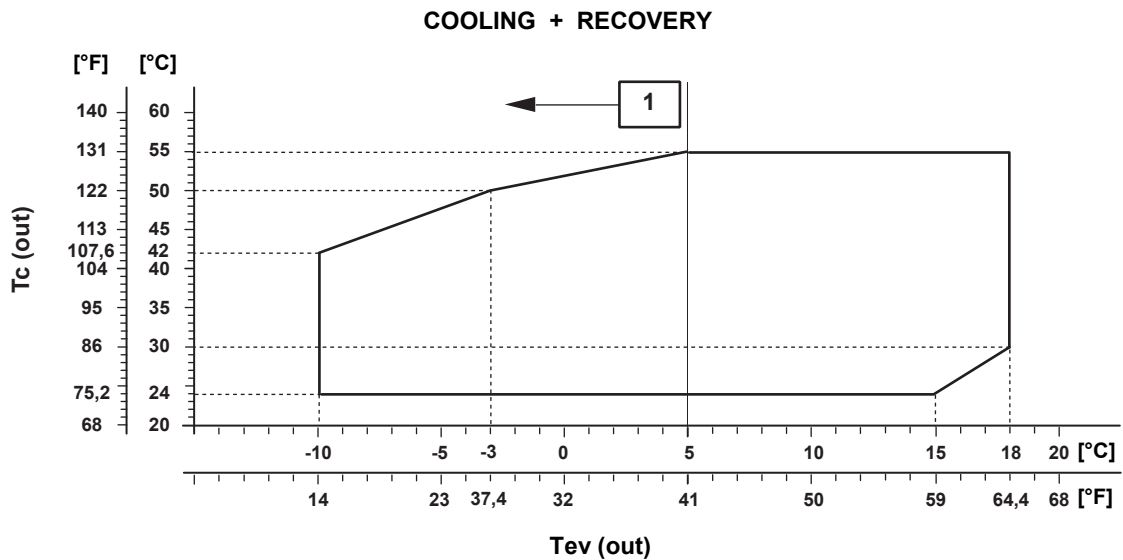
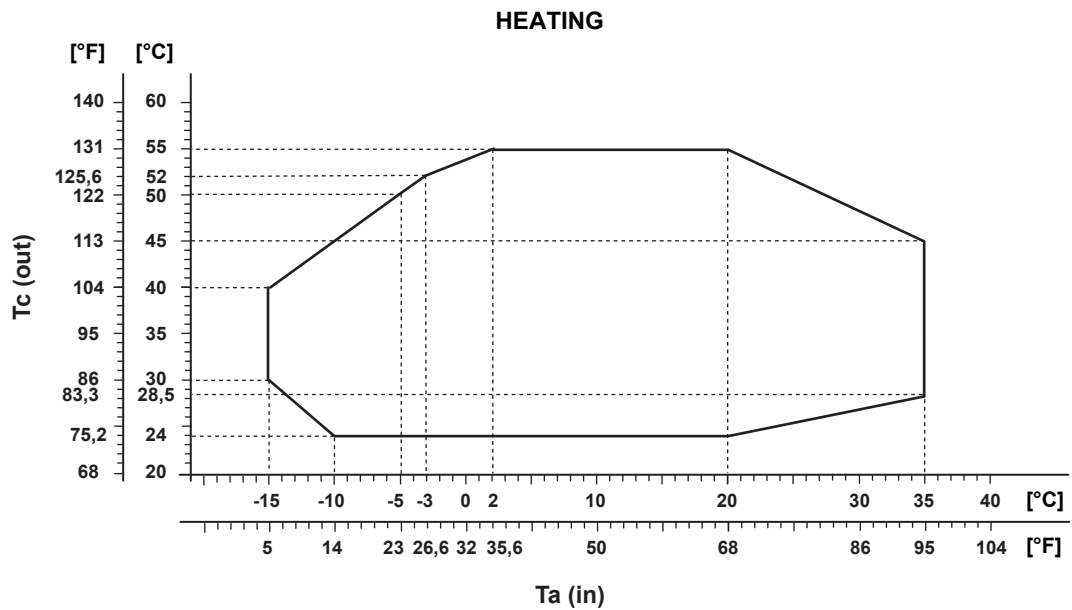
B Requested: DVV2F device (code 821) or EC fans (code 808)

A Requested: DVVF device (code 819) or EC fans (code 808)
Electronically commutated fans (EC fans)

C Not low noise mode

For the specific temperature limits of each model please refer to the selection software ElcaWorld.

OPERATING LIMITS



- T_a in Outdoor air temperature
- T_c (out) Plant side hot heat exchanger leaving water temperature
- T_{ev} (out) Plant side cold heat exchanger leaving water temperature

1 Plant side cold heat exchanger leaving water temperature $\leq 5^\circ\text{C}$ (code 874)

For the specific temperature limits of each model please refer to the selection software ElcaWorld.

OPERATING LIMITS

NX-Q-G06 0202P - 0602P

SIZE
NX-Q-G06 /0202P
NX-Q-G06 /0252P
NX-Q-G06 /0262P
NX-Q-G06 /0302P
NX-Q-G06 /0402P
NX-Q-G06 /0502P
NX-Q-G06 /0602P
NX-Q-G06 /SL /0202P
NX-Q-G06 /SL /0252P
NX-Q-G06 /SL /0262P
NX-Q-G06 /SL /0302P
NX-Q-G06 /SL /0402P
NX-Q-G06 /SL /0502P

9.2 ETHYLENE GLYCOL MIXTURE

Ethylene glycol and water mixture, used as a heat-conveying fluid, cause a variation in unit performance. For correct data, use the factors indicated in the following tabel.

	Freezing point (°C)							
	0	-5	-10	-15	-20	-25	-30	-35
	Ethylene glycol percentage by weight							
	0%	12%	20%	30%	35%	40%	45%	50%
cPf	1	0,985	0,98	0,974	0,97	0,965	0,964	0,96
cQ	1	1,02	1,04	1,075	1,11	1,14	1,17	1,2
cdp	1	1,07	1,11	1,18	1,22	1,24	1,27	1,3

cPf: cooling power correction factor
 cQ: flow correction factor
 cdp: pressure drop correction factor

For data concerning other kind of anti-freeze solutions (e.g. propylene glycol) please contact our Sale Department.

9.3 FOULING FACTORS

Performances are based on clean condition of tubes (fouling factor = 1). For different fouling values, performance should be adjusted using the correction factors shown in the following table.

SERIES	FOULING FACTORS	EVAPORATOR			CONDENSER/RECOVERY			DESUPERHEATER
	ff (m ² °CW)	F1	FK1	KE [°C]	F2	FK2	KC [°C]	R3
VARIOUS	0	1,000	1,000	0,0	1,000	1,000	0,0	1,000
VARIOUS	1,80 x 10 ⁻⁵	1,000	1,000	0,0	1,000	1,000	0,0	1,000
VARIOUS	4,40 x 10 ⁻⁵	1,000	1,000	0,0	0,990	1,030	1,0	0,990
VARIOUS	8,80 x 10 ⁻⁵	0,960	0,990	0,7	0,980	1,040	1,5	0,980
VARIOUS	13,20 x 10 ⁻⁵	0,944	0,985	1,0	0,964	1,050	2,3	0,964
VARIOUS	17,20 x 10 ⁻⁵	0,930	0,980	1,5	0,950	1,060	3,0	0,950

ff: fouling factors
 F1 - F2: potential correction factors
 FK1 - FK2: compressor power input correction factors
 R3: capacity correction factors
 KE: minimum evaporator outlet temperature increase
 KC: maximum condenser outlet temperature decrease

10.1 HYDRAULIC DATA

[SI System]

Water flow and pressure drop

Water flow in the plant (side) exchanger is given by:

$$Q = P / (4,186 \times Dt)$$

Q: water flow (l/s)

Dt: difference between inlet and outlet water temp. (°C)

P: heat exchanger capacity (kW)

Pressure drop is given by:

$$Dp = K \times (3,6 \times Q)^2 / 1000$$

Q: water flow (l/s)

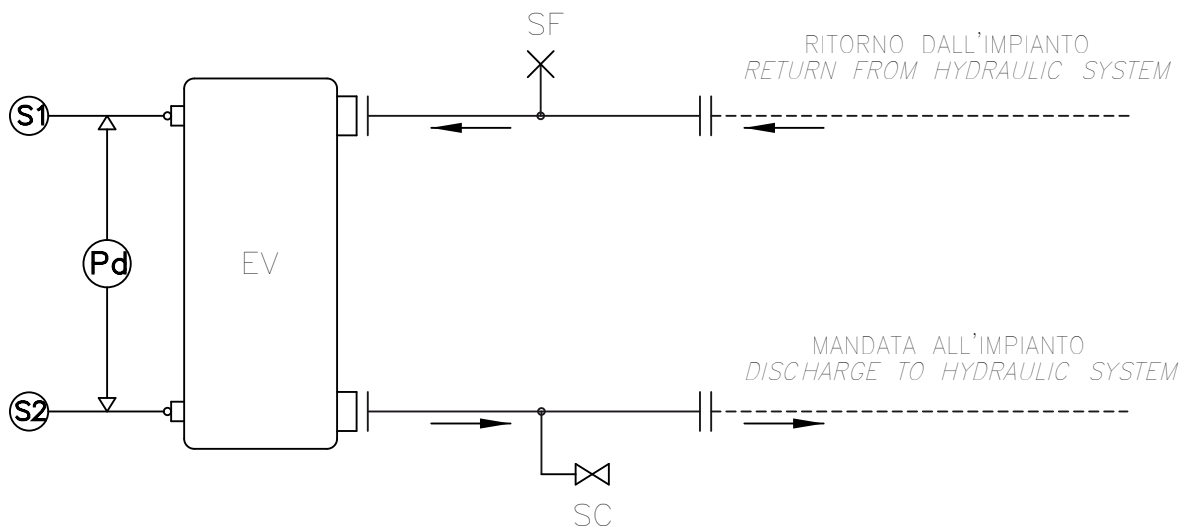
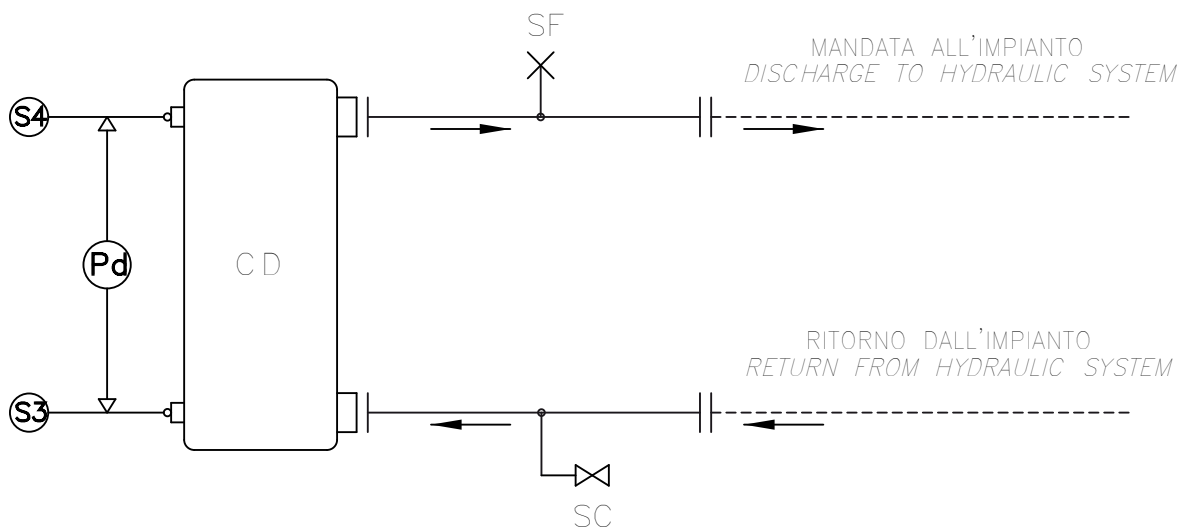
Dp: pressure drop (kPa)

K: unit size ratio

SIZE	Power supply V/ph/Hz	CHILLED WATER HEAT EX. USER SIDE					WARM WATER HEAT EX. USER SIDE			
		K	Q min l/s	Q max l/s	C.A.S. l	C.a. min l	K [1]	Q min [2] l/s	Q max l/s	C.A.S. l
NX-Q-G06 /0202P	400/3+N/50	158	1,639	4,694	6,00	614	158	1,639	4,694	6,00
NX-Q-G06 /0252P	400/3+N/50	158	1,750	5,167	6,00	676	158	1,750	5,167	6,00
NX-Q-G06 /0262P	400/3+N/50	113	2,000	5,750	7,20	769	113	2,000	5,750	7,20
NX-Q-G06 /0302P	400/3+N/50	89,4	2,361	6,861	8,50	906	89,4	2,361	6,861	8,50
NX-Q-G06 /0402P	400/3+N/50	61,4	3,056	8,889	10,1	1181	61,4	3,056	8,889	10,1
NX-Q-G06 /0502P	400/3+N/50	46,5	3,889	11,11	12,2	1480	46,5	3,889	11,11	12,2
NX-Q-G06 /0602P	400/3+N/50	37,8	4,778	13,47	14,3	1937	37,8	4,778	13,47	14,3
NX-Q-G06 /SL /0202P	400/3+N/50	158	1,611	4,694	6,00	614	158	1,611	4,694	6,00
NX-Q-G06 /SL /0252P	400/3+N/50	158	1,750	5,167	6,00	676	158	1,750	5,167	6,00
NX-Q-G06 /SL /0262P	400/3+N/50	113	2,000	5,750	7,20	769	113	2,000	5,750	7,20
NX-Q-G06 /SL /0302P	400/3+N/50	89,4	2,389	6,861	8,50	906	89,4	2,389	6,861	8,50
NX-Q-G06 /SL /0402P	400/3+N/50	61,4	3,056	8,889	10,1	1181	61,4	3,056	8,889	10,1
NX-Q-G06 /SL /0502P	400/3+N/50	46,5	3,889	11,03	12,2	1480	46,5	3,889	11,03	12,2

Q min: minimum water flow admitted to the heat exchanger
 Q max: maximum water flow admitted to the heat exchanger
 C.a. min: minimum water content admitted in the plant
 C.A.S.: Exchanger water content

HYDRAULIC DATA



LEGENDA – LEGEND	
EV	Evaporatore Evaporator
CD	Condensatore Condenser
Pd	Pressostato differenziale Differential pressure switch
SC	Valvola di scarico Drain valve
SF	Valvola di sfiato Purge valve
S1	Sonda ingresso acqua evaporatore Evaporator water inlet probe
S2	Sonda uscita acqua evaporatore Evaporator water outlet probe
S3	Sonda ingresso acqua condensatore Condenser water inlet probe
S4	Sonda uscita acqua condensatore Condenser water outlet probe

11.1 ELECTRICAL DATA

NX-Q-G06

[SI System]

SIZE	Power supply V/ph/Hz	Maximum values								
		n	Compressor			Fans (1)		Total (1)(2)		
			F.L.I. [kW]	F.L.A. [A]	L.R.A. [A]	F.L.I. [kW]	F.L.A. [A]	F.L.I. [kW]	F.L.A. [A]	S.A. [A]
0202P	400/3+N/50	2	2 x 10.5	2 x 16.6	2 x 123	0,300	1	22,50	40	146
0252P	400/3+N/50	2	2 x 11.5	2 x 18.3	2 x 138	0,300	1	24,50	43	163
0262P	400/3+N/50	2	2 x 13.1	2 x 20.8	2 x 145	0,300	1	27,70	48	172
0302P	400/3+N/50	2	2 x 15.4	2 x 24.9	2 x 172	0,300	1	32,80	59	206
0402P	400/3+N/50	2	2 x 21.4	2 x 34.2	2 x 211	0,300	1	45,30	79	256
0502P	400/3+N/50	2	2 x 27	2 x 42.5	2 x 210	0,300	1	56,90	98	266
0602P	400/3+N/50	2	2 x 34.5	2 x 55.1	2 x 326	0,300	1	71,90	123	394

F.L.I.: Full load power

F.L.A.: Full load current

L.R.A.: Locked rotor amperes for single compressor

S.A.: Inrush current

(1) Values calculated referring to the version with the maximum number of fans working at the max absorbed current

(1)(2) Safety values to be considered when cabling the unit for power supply and line-protections

Data valid for standard units without any additional option.

Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°C.

Voltage tolerance: 10%

Maximum voltage unbalance: 3%

Give the typical operating conditions of units designed for outdoor installation, which can be associated (according to reference document IEC 60721) to the following classes:

- climatic conditions class 4K4H: air temperature range from -20 up to 55°C (*), relative humidity range from 4 up to 100%, with possible precipitations, at air pressure from 70 and 106 kPa and a maximum solar radiation of 1120 W/m2

- special climatic conditions negligible

- biological conditions class 4B1 and 4C2: locations in a generic urban area

- mechanically active substances class 4S2: locations in areas with sand or dust representative of urban areas

- mechanical conditions class 4M1: locations protected from significant vibrations or shocks

The required protection level for safe operation, according to reference document IEC 60529, is IP43XW (protection against access, to the most critical unit's parts, of external devices with diameter larger than 1 mm and rain).

The unit can be considered IP44XW protected, i.e. protected against access of external devices (with diameter larger than 1 mm) and water in general.

(*) for the unit's operating limits, see "selection limits" section

ELECTRICAL DATA

NX-Q-G06 /SL

[SI System]

SIZE	Power supply V/ph/Hz	Maximum values								
		n	Compressor			Fans (1)		Total (1)(2)		
			F.L.I. [kW]	F.L.A. [A]	L.R.A. [A]	F.L.I. [kW]	F.L.A. [A]	F.L.I. [kW]	F.L.A. [A]	S.A. [A]
0202P	400/3+N/50	2	2 x 10.5	2 x 16.6	2 x 123	0,200	1	23,00	42	148
0252P	400/3+N/50	2	2 x 11.5	2 x 18.3	2 x 138	0,200	1	25,00	45	165
0262P	400/3+N/50	2	2 x 13.1	2 x 20.8	2 x 145	0,200	1	28,20	50	175
0302P	400/3+N/50	2	2 x 15.4	2 x 24.9	2 x 172	0,200	1	33,30	61	208
0402P	400/3+N/50	2	2 x 21.4	2 x 34.2	2 x 211	0,200	1	45,70	82	258
0502P	400/3+N/50	2	2 x 27	2 x 42.5	2 x 210	0,200	1	56,90	98	266

F.L.I.: Full load power

F.L.A.: Full load current

L.R.A.: Locked rotor amperes for single compressor

S.A.: Inrush current

(1) Values calculated referring to the version with the maximum number of fans working at the max absorbed current

(1)(2) Safety values to be considered when cabling the unit for power supply and line-protections

Data valid for standard units without any additional option.

Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°C.

Voltage tolerance: 10%

Maximum voltage unbalance: 3%

Give the typical operating conditions of units designed for outdoor installation, which can be associated (according to reference document IEC 60721) to the following classes:

- climatic conditions class 4K4H: air temperature range from -20 up to 55°C (*), relative humidity range from 4 up to 100%, with possible precipitations, at air pressure from 70 and 106 kPa and a maximum solar radiation of 1120 W/m2
- special climatic conditions negligible
- biological conditions class 4B1 and 4C2: locations in a generic urban area
- mechanically active substances class 4S2: locations in areas with sand or dust representative of urban areas
- mechanical conditions class 4M1: locations protected from significant vibrations or shocks

The required protection level for safe operation, according to reference document IEC 60529, is IP43XW (protection against access, to the most critical unit's parts, of external devices with diameter larger than 1 mm and rain).

The unit can be considered IP44XW protected, i.e. protected against access of external devices (with diameter larger than 1 mm) and water in general.

(*) for the unit's operating limits, see "selection limits" section

12.1 FULL LOAD SOUND LEVEL

NX-Q-G06

SOUND POWER LEVEL IN COOLING									
SIZE	Octave band [Hz]								Total sound level dB(A)
	63	125	250	500	1000	2000	4000	8000	
	Sound power level dB								
0202P	84	82	86	83	79	77	70	69	85
0252P	84	82	86	83	79	77	70	69	85
0262P	84	82	86	83	79	77	70	69	85
0302P	85	83	87	84	80	78	71	70	86
0402P	86	84	88	85	81	79	72	71	87
0502P	87	85	89	86	82	80	73	72	88
0602P	87	85	89	86	82	80	73	72	88

Working conditions

Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°C.

Sound power on the basis of measurements made in compliance with ISO 9614.

Such certification refers specifically to the sound Power Level in dB(A). This is therefore the only acoustic data to be considered as binding.

Sound power level in cooling, outdoors.

SOUND PRESSURE LEVEL									
SIZE	Octave band [Hz]								Total sound level dB(A)
	63	125	250	500	1000	2000	4000	8000	
	Sound pressure level dB								
0202P	52	50	54	51	47	45	38	37	53
0252P	52	50	54	51	47	45	38	37	53
0262P	52	50	54	51	47	45	38	37	53
0302P	53	51	55	52	48	46	39	38	54
0402P	54	52	56	53	49	47	40	39	55
0502P	55	53	57	54	50	48	41	40	56
0602P	55	53	57	54	50	48	41	40	56

Working conditions

Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°C.

Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

SOUND POWER LEVEL IN HEATING									
SIZE	Octave band [Hz]								Total sound level dB(A)
	63	125	250	500	1000	2000	4000	8000	
	Sound power level dB								
0202P	84	82	86	83	79	77	70	69	85
0252P	84	82	86	83	79	77	70	69	85
0262P	84	82	86	83	79	77	70	69	85
0302P	85	83	87	84	80	78	71	70	86
0402P	86	84	88	85	81	79	72	71	87
0502P	87	85	89	86	82	80	73	72	88
0602P	87	85	89	86	82	80	73	72	88

Working conditions

Sound power on the basis of measurements made in compliance with ISO 9614.

Such certification refers specifically to the sound Power Level in dB(A). This is therefore the only acoustic data to be considered as binding.

Sound power level in heating, outdoors.

SOUND PRESSURE LEVEL									
SIZE	Octave band [Hz]								Total sound level dB(A)
	63	125	250	500	1000	2000	4000	8000	
	Sound pressure level dB								
0202P	52	50	54	51	47	45	38	37	53
0252P	52	50	54	51	47	45	38	37	53
0262P	52	50	54	51	47	45	38	37	53
0302P	53	51	55	52	48	46	39	38	54
0402P	54	52	56	53	49	47	40	39	55
0502P	55	53	57	54	50	48	41	40	56
0602P	55	53	57	54	50	48	41	40	56

Working conditions

FULL LOAD SOUND LEVEL

NX-Q-G06 /SL

SOUND POWER LEVEL IN COOLING									
SIZE	Octave band [Hz]								Total sound level dB(A)
	63	125	250	500	1000	2000	4000	8000	
	Sound power level dB								
0202P	81	79	82	79	74	70	62	60	80
0252P	81	79	82	79	74	70	62	60	80
0262P	81	79	82	79	74	70	62	60	80
0302P	82	80	83	80	75	71	63	61	81
0402P	83	81	84	81	76	72	64	62	82
0502P	85	83	86	83	78	74	66	64	84

Working conditions

Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°C.

Sound power on the basis of measurements made in compliance with ISO 9614.

Such certification refers specifically to the sound Power Level in dB(A). This is therefore the only acoustic data to be considered as binding.

Sound power level in cooling, outdoors.

SOUND PRESSURE LEVEL									
SIZE	Octave band [Hz]								Total sound level dB(A)
	63	125	250	500	1000	2000	4000	8000	
	Sound pressure level dB								
0202P	49	47	50	47	42	38	30	28	48
0252P	49	47	50	47	42	38	30	28	48
0262P	49	47	50	47	42	38	30	28	48
0302P	50	48	51	48	43	39	31	29	49
0402P	51	49	52	49	44	40	32	30	50
0502P	53	51	54	51	46	42	34	32	52

Working conditions

Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°C.

Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

FULL LOAD SOUND LEVEL

NX-Q-G06 /SL

SOUND POWER LEVEL IN HEATING									
SIZE	Octave band [Hz]								Total sound level dB(A)
	63	125	250	500	1000	2000	4000	8000	
	Sound power level dB								
0202P	81	79	82	79	74	70	62	60	80
0252P	81	79	82	79	74	70	62	60	80
0262P	81	79	82	79	74	70	62	60	80
0302P	82	80	83	80	75	71	63	61	81
0402P	83	81	84	81	76	72	64	62	82
0502P	85	83	86	83	78	74	66	64	84

Working conditions

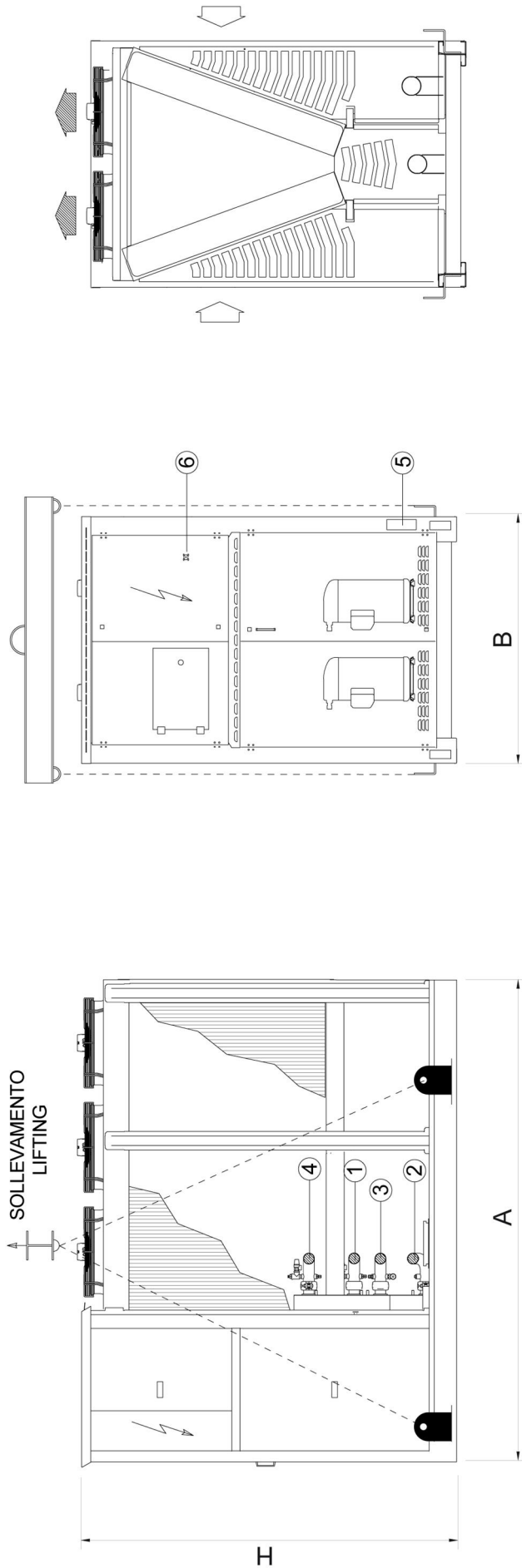
Sound power on the basis of measurements made in compliance with ISO 9614.

Such certification refers specifically to the sound Power Level in dB(A). This is therefore the only acoustic data to be considered as binding.

Sound power level in heating, outdoors.

SOUND PRESSURE LEVEL									
SIZE	Octave band [Hz]								Total sound level dB(A)
	63	125	250	500	1000	2000	4000	8000	
	Sound pressure level dB								
0202P	49	47	50	47	42	38	30	28	48
0252P	49	47	50	47	42	38	30	28	48
0262P	49	47	50	47	42	38	30	28	48
0302P	50	48	51	48	43	39	31	29	49
0402P	51	49	52	49	44	40	32	30	50
0502P	53	51	54	51	46	42	34	32	52

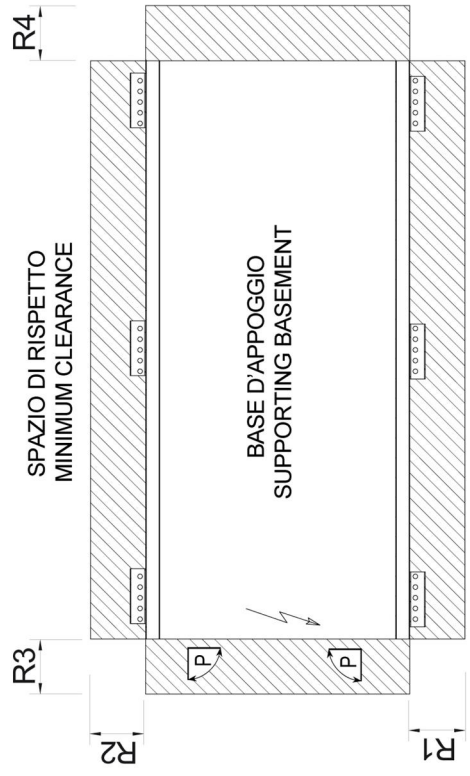
Working conditions



ENTRATA ARIA
AIR INLET

USCITA ARIA
AIR OUTLET

- ① ENTRATA ACQUA EVAPORATORE
EVAPORATOR WATER INLET
- ② USCITA ACQUA EVAPORATORE
EVAPORATOR WATER OUTLET
- ③ ENTRATA ACQUA CONDENSATORE
CONDENSER WATER INLET
- ④ USCITA ACQUA CONDENSATORE
CONDENSER WATER OUTLET
- ⑤ INGRESSO LINEA ELETTRICA
POWER INLET
- ⑥ MANIGLIA SEZIONATORE GENERALE
MAIN ISOLATOR HANDLE



REMARKS: For installation purposes, please refer to the documentation sent after the purchase contract. This technical data should be considered as indicative. Mitsubishi Electric Hydraulics & IT Cooling Systems S.p.A. may modify them at any moment. Data valid for standard units without any additional option.

DIMENSIONAL DRAWINGS

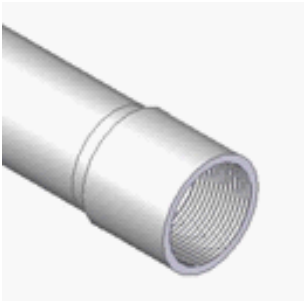
NX-Q-G06 0202P - 0602P

[SI System]

SIZE	DIMENSIONS AND WEIGHTS				CLEARANCE				CHILLED WATER HEAT EX. USER SIDE		WARM WATER HEAT EX. USER SIDE	
	A	B	H	WEIGHT	R1	R2	R3	R4	IN/OUT		IN/OUT	
	[mm]	[mm]	[mm]	[kg]	[mm]	[mm]	[mm]	[mm]	TYPE	Ø	TYPE	Ø
NX-Q-G06 /0202P	2625	1350	2070	950	1000	1000	1000	1000	E3	2"	E3	2"
NX-Q-G06 /0252P	2625	1350	2070	990	1000	1000	1000	1000	E3	2"	E3	2"
NX-Q-G06 /0262P	2625	1350	2070	1000	1000	1000	1000	1000	E3	2"	E3	2"
NX-Q-G06 /0302P	3250	1350	2070	1130	1000	1000	1000	1000	E3	2"	E3	2"
NX-Q-G06 /0402P	3875	1350	2070	1310	1000	1000	1000	1000	E3	2"1/2	E3	2"1/2
NX-Q-G06 /0502P	4500	1350	2070	1620	1000	1000	1000	1000	E3	2"1/2	E3	2"1/2
NX-Q-G06 /0602P	4500	1350	2070	1650	1000	1000	1000	1000	E3	2"1/2	E3	2"1/2
NX-Q-G06 /SL /0202P	3250	1350	2070	1060	1000	1000	1000	1000	E3	2"	E3	2"
NX-Q-G06 /SL /0252P	3250	1350	2070	1060	1000	1000	1000	1000	E3	2"	E3	2"
NX-Q-G06 /SL /0262P	3250	1350	2070	1120	1000	1000	1000	1000	E3	2"	E3	2"
NX-Q-G06 /SL /0302P	3875	1350	2070	1270	1000	1000	1000	1000	E3	2"	E3	2"
NX-Q-G06 /SL /0402P	4500	1350	2070	1490	1000	1000	1000	1000	E3	2"1/2	E3	2"1/2
NX-Q-G06 /SL /0502P	4500	1350	2070	1630	1000	1000	1000	1000	E3	2"1/2	E3	2"1/2

DIMENSIONAL DRAWINGS

LEGEND OF PIPE CONNECTIONS



TYPE = E
Female threaded pipe

NOMINAL PIPE SIZE	PIPE OUTSIDE DIAMETER
ø inches	ø mm
¾	26,7
1	33,7
1 ¼	42,4
1 ½	48,3
2	60,3
2 ½	76,1
3	88,9
3 ½	101,6

NOMINAL PIPE SIZE	PIPE OUTSIDE DIAMETER
ø inches	ø mm
4	114,3
4 ½	127,0
5	139,7
6	168,3
8	219,1
10	273,0
12	323,9
14	355,6

UNI ISO 228/13

Pipe threads where pressure-tight joints are not made on the threads - Designation, dimensions and tolerances

Used terminology:

G: Pipe threads where pressure-tight joints are not made on the threads

A: Close tolerance class for external pipe threads where pressure-tight joints are not made on the threads

B: Wider tolerance class for external pipe threads where pressure-tight joints are not made on the threads

Internal threads: G letter followed by thread mark (only tolerance class)

External threads: G letter followed by thread mark and by A letter for A class external threads or by B letter for B class external threads.

UNI EN 10226-1

Pipe threads where pressure-tight joints are made on the threads - Designation, dimensions and tolerances

Used terminology:

Rp: Internal cylindrical threads where pressure-tight joints are made on the threads

Rc: Internal conical threads where pressure-tight joints are made on the threads

R: External conical threads where pressure-tight joints are made on the threads

Internal cylindrical threads: R letter followed by p letter

Internal conical threads: R letter followed by c letter

External conical threads: R letter

DESIGNATION	DESCRIPTION
UNI EN 10226-1 - Rp 1 1/2	Internal cylindrical threads where pressure-tight joints are made on the threads, defined by standard UNI ISO 7/1 Conventional ø 1 1/2"
UNI EN 10226-1 - Rp 2 1/2	Internal cylindrical threads where pressure-tight joints are made on the threads, defined by standard UNI ISO 7/1 Conventional ø 2 1/2"
UNI EN 10226-1 - Rp 3	Internal cylindrical threads where pressure-tight joints are made on the threads, defined by standard UNI ISO 7/1 Conventional ø 3"
UNI EN 10226-1 - R 3	External conical threads where pressure-tight joints are made on the threads, defined by standard UNI ISO 7/1 Conventional ø 3"
UNI ISO 228/1 - G 4 B	Internal cylindrical threads where pressure-tight joints are not made on the threads, defined by standard UNI ISO 228/1 Tolerance class B for external thread Conventional ø 4"
DN 80 PN 16	Flange Nominal Diameter: 80 mm Nominal Pressure: 16 bar

NOTE:

Conventional diameter value [in inches] identifies short thread designation, based upon the relative standard.

All relative values are defined by standards.

As example, here below some values:

	UNI EN 10226-1	UNI ISO 228/1
Conventional ø	1"	1"
Pitch	2.309 mm	2.309 mm
External ø	33.249 mm	33.249 mm
Core ø	30.291 mm	30.291 mm
Thread height	1.479 mm	1.479 mm

14.1 HYDRONIC GROUP

14.1 HYDRONIC MODULE

The NX-Q units can be fitted with the hydronic module on the user for cold and hot heat exchanger. The hydronic module comprise the main water circuit components, thus optimizing water circuit and electrical installation space, times and costs.

The built-in hydronic module is available as option with single or twin in-line pump, for achieving low an high head, fixed or variable speed, available for cold and hot user side (up to 4 pumps).

The hydronic module is available with only terminals, ON/OFF or modulating.

For the hydronic modules with only terminals, the factory-mounted components are:

- terminals for external pumps control (only relays or relays + 0-10V signal)
- differential pressure switch per each heat exchanger
- purge valve
- drain valve

For the hydronic modules with pumps, the factory-mounted components are:

- 1 or 2 pumps, 2 poles, high and low head.
- differential pressure switch per each heat exchanger
- pump discharge valve
- safety valve
- purge valve
- drain valve

Each of the components of the hydraulic module has been designed to optimise hydraulic and electrical installation space, time and costs.

The second pump operates in stand-by to the first.

The relative operating hours of the two pumps are balanced. In case the operating pump breaks down, the reserve pump is automatically enabled.

The electrical panel of the unit is protected with fuses and contactors with thermals cut-out.

Suction, volute and discharge of each pump and all the water pipes are covered with an insulation lining in closed-cell reticulated foam in PE, CFC and HCFC-free.

The hydronic group is protected by a self-ventilated enclosure. In silenced units (/SL versions and units with Low Noise Kit (code 2672), the enclosure is acoustically insulated by a 15 mm thick lining of polyester fibers (Fiberform).

14.1 HYDRONIC MODULE SELECTION

Select same HYDRONIC MODULE for evaporator and condenser, different configurations require feasibility analysis.

The feasible selection of the hydronic module for cold and hot user side are showed in the following table.

MODULO IDRONICO EVAPORATORE		MODULO IDRONICO CONDENSATORE		VERSIONE	
Codice	Descrizione	Codice	Descrizione	(-) Standard	(/SL) Super Low Noise
4706	EV - 1 POMPA 2P BP (FIX SPEED)	4766	CD - 1 POMPA 2P BP (FIX SPEED)	X	X
4707	EV - 1 POMPA 2P AP (FIX SPEED)	4767	CD - 1 POMPA 2P AP (FIX SPEED)	X	X
4711	EV - 2 POMPE 2P BP (FIX SPEED)	4771	CD - 2 POMPE 2P BP (FIX SPEED)	X	X
4712	EV - 2 POMPE 2P AP (FIX SPEED)	4772	CD - 2 POMPE 2P AP (FIX SPEED)	X	X
4717	EV - 1 POMPA 2P BP (VAR SPEED)	4777	CD - 1 POMPA 2P BP (VAR SPEED)	X	X
4722	EV - 2 POMPE 2P BP (VAR SPEED)	4782	CD - 2 POMPE 2P BP (VAR SPEED)	X	X

EVAPORATOR HYDRONIC MODULE		CONDENSER HYDRONIC MODULE		VERSION	
Code	Description	Code	Description	(-) Standard	(/SL) Super Low Noise
4706	EV - 1 PUMP 2P LH (FIX SPEED)	4766	CD - 1 PUMP 2P LH (FIX SPEED)	X	X
4707	EV - 1 PUMP 2P HH (FIX SPEED)	4767	CD - 1 PUMP 2P HH (FIX SPEED)	X	X
4711	EV - 2 PUMPS 2P LH (FIX SPEED)	4771	CD - 2 PUMPS 2P LH (FIX SPEED)	X	X
4712	EV - 2 PUMPS 2P HH (FIX SPEED)	4772	CD - 2 PUMPS 2P HH (FIX SPEED)	X	X
4717	EV - 1 PUMP 2P LH (VAR SPEED)	4777	CD - 1 PUMP 2P LH (VAR SPEED)	X	X
4722	EV - 2 PUMPS 2P LH (VAR SPEED)	4782	CD - 2 PUMPS 2P LH (VAR SPEED)	X	X

14.2 IN-LINE PUMP SPECIFICATION IN SINGLE OR TWIN VERSION AT FIXED SPEED

Centrifugal pumps with in-line suction and delivery flanges, in single or twin versions. Pump body and impeller in cast-iron, entirely laser technology welded. Mechanical seal with components in ceramics, carbon and EPDM elastomers. Three-phase electric motor protected to IP55, insulation class F, suitable for continuous service. "Back pull-out" design, impeller, adapter, and motor can be extracted without disconnecting the pump body from the piping system.



14.3 IN-LINE PUMP SPECIFICATION IN SINGLE OR TWIN VERSION AT VARIABLE SPEED

The pumps with 2-pole motors are fitted with permanent-magnet and electronically speed-controlled which have an efficiency that exceeds the IE4 demands, including the energy consumption of the integrated frequency converter. The resulting in energy savings of up to 50% compared to conventional pumps.

Grundfos single and twin-head pumps, are single-stage, close-coupled pumps with in-line suction and discharge ports of identical diameter. Motor and pump shafts are connected via a rigid two-part coupling. The pumps are equipped with an unbalanced mechanical shaft seal.

The pumps are of the "top-pull-out" design, i.e. the power head (motor, pump head and impeller) can be removed for maintenance or service while the pump housing remains in the pipework.

The twin-head pumps are designed with two parallel power heads. A non-return flap valve in the common discharge port is opened by the flow of the pumped liquid and prevents backflow of liquid into the idle pump head.



14.4 SPECIAL PUMPS

For pumps with different configurations, please contact our sales department.

14.4 OTHER COMPONENTS

The hydronic kits do not include the following accessories though these are recommended to ensure correct system operation:

- Flow-out switch
- Pressure gauges upline and downline from the unit
- Flexible joints on piping
- On-off valves

HYDRONIC GROUP

- Outlet control thermometer
- Mains filter.

14.4 MECHANICAL WATER FILTER (optional)

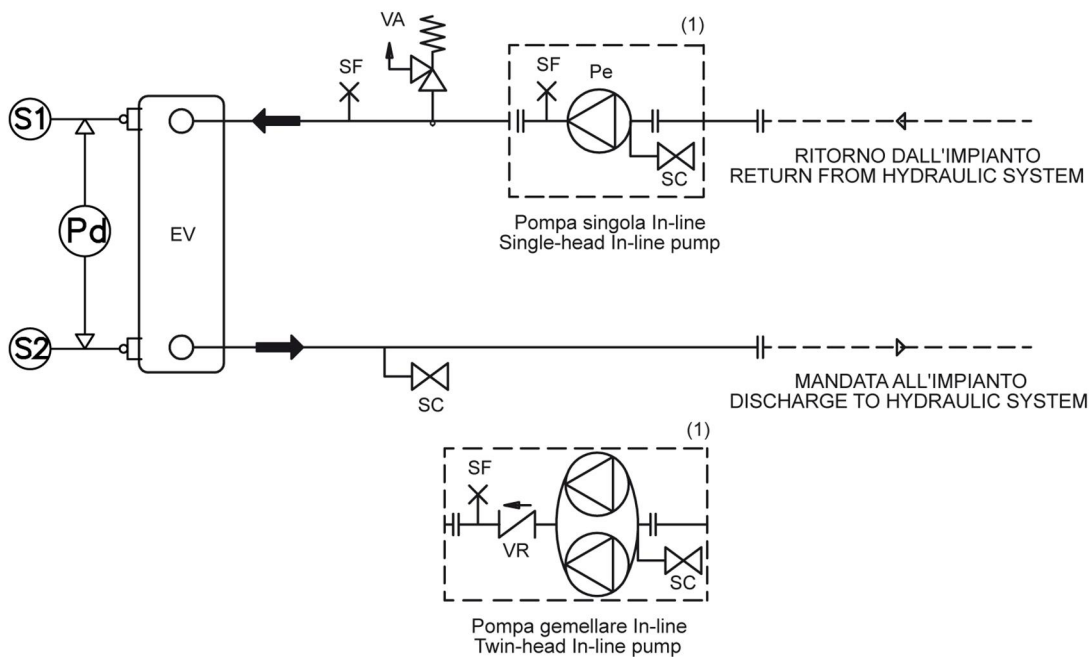
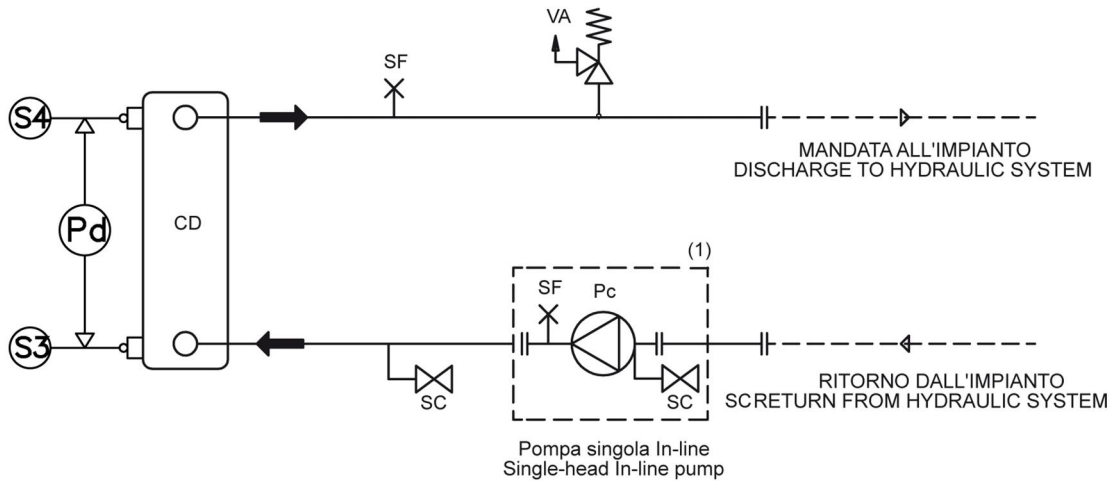
“Y” filter designed and built to trap the impurities in the water circuit. Fitted with stainless steel mesh cartridge and 0.9 mm openings, it can be replaced without removing the valve body from the piping. This accessory is recommended to ensure correct system operation.

Possible configurations

PUMP GROUP	Versions	
		SL
EV - 1 PUMP 2P LH (FIX SPEED)(4706)	X	X
U - 1 PUMP 2P HH (FIX SPEED)(4707)	X	X
EV - 2 PUMPS 2P LH (FIX SPEED)(4711)	X	X
U - 2 PUMPS 2P HH (FIX SPEED)(4712)	X	X
EV - 1 PUMP 2P LH (VAR SPEED)(4717)	X	X
EV - 2 PUMPS 2P LH (VAR SPEED)(4722)	X	X
CD - 1 PUMP 2P LH (FIX SPEED)(4766)	X	X
CD - 1 PUMP 2P HH (FIX SPEED)(4767)	X	X
CD - 2 PUMPS 2P LH (FIX SPEED)(4771)	X	X
CD - 2 PUMPS 2P HH (FIX SPEED)(4772)	X	X
CD - 1 PUMP 2P BP (VAR SPEED)(4777)	X	X
CD - 2 PUMPS 2P BP (VAR SPEED)(4782)	X	X

HYDRONIC GROUP

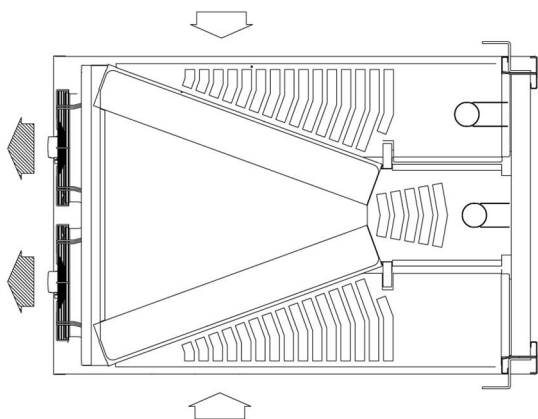
Configurazione con modulo idronico con 1 o 2 pompe per circuito Hydronic module configuration with 1 or 2 pumps for circuit



LEGENDA / LEGEND	
COMPONENTI DEL KIT IDRONICO / COMPONENTS OF THE HYDRONIC KIT	
CD	Condensatore / Condenser
EV	Evaporatore / Evaporator
Pd	Pressostato differenziale / Differential pressure switch
Pc	Pompa di circolazione condensatore / Condenser available pressure pump
Pe	Pompa di circolazione evaporatore / Evaporator available pressure pump
SC	Valvola di scarico / Drain valve
SF	Valvola di sfiato / Purge valve
S1	Sonda ingresso acqua evaporatore / Evaporator water inlet probe
S2	Sonda uscita acqua evaporatore / Evaporator water outlet probe
S3	Sonda ingresso acqua scambiatore / Condenser water inlet probe
S4	Sonda uscita acqua scambiatore / Condenser water outlet probe
VA	Valvola di sicurezza / Relief Valve

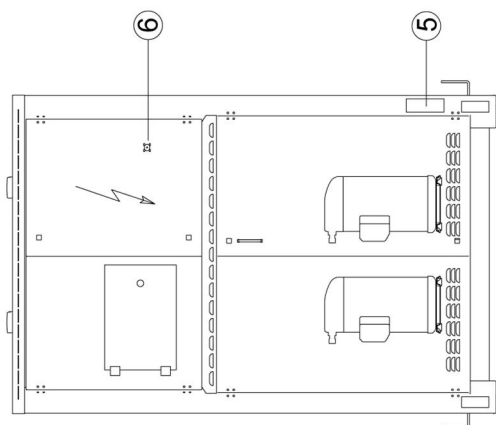
HYDRONIC GROUP

UNITA' SENZA MODULO IDRONICO
UNITS WITHOUT HYDRONIC MODULE

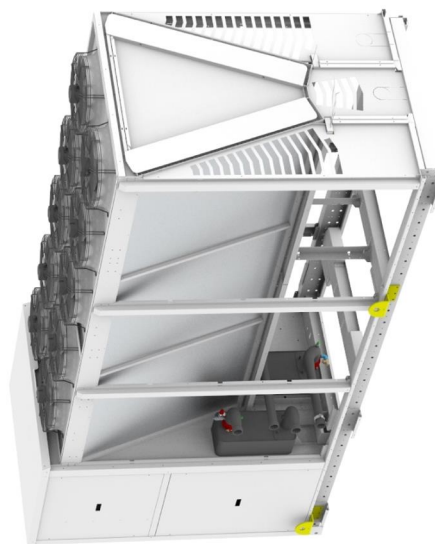
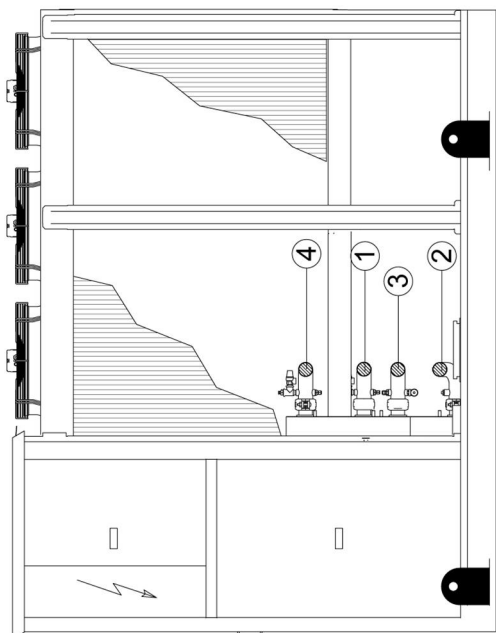


ENTRATA ARIA
AIR INLET

USCITA ARIA
AIR OUTLET

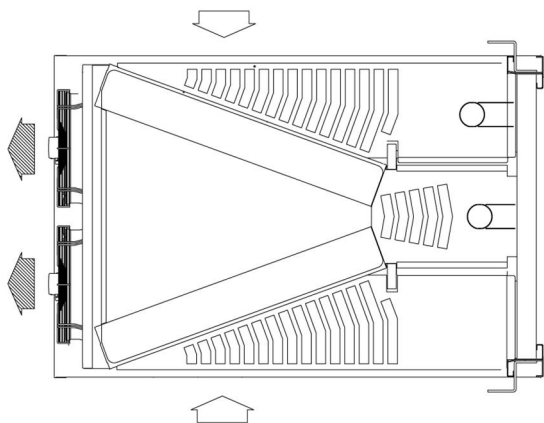


- ① ENTRATA ACQUA EVAPORATORE
EVAPORATOR WATER INLET
- ② USCITA ACQUA EVAPORATORE
EVAPORATOR WATER OUTLET
- ③ ENTRATA ACQUA CONDENSATORE
CONDENSER WATER INLET
- ④ USCITA ACQUA CONDENSATORE
CONDENSER WATER OUTLET
- ⑤ INGRESSO LINEA ELETTRICA
POWER INLET
- ⑥ MANIGLIA SEZIONATORE GENERALE
MAIN ISOLATOR HANDLE



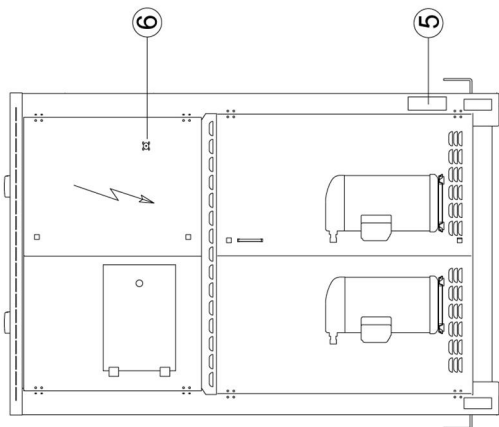
HYDRONIC GROUP

UNITA' CON MODULO IDRONICO - 1 POMPA EV + 1 POMPA CD
 UNITS WITH HYDRONIC MODULE - 1 PUMP EV + 1 PUMP CD

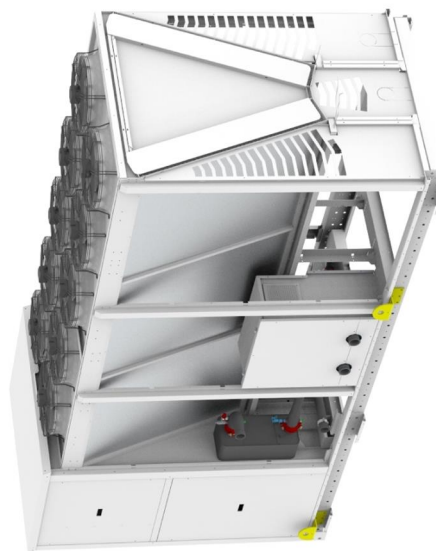
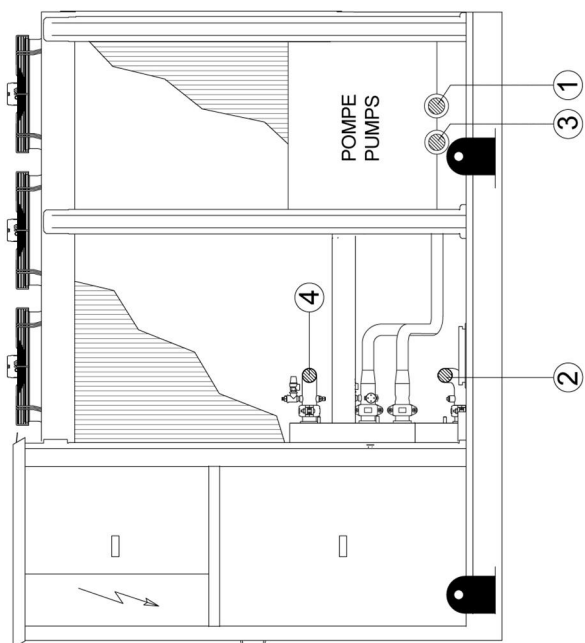


ENTRATA ARIA
AIR INLET

USCITA ARIA
AIR OUTLET

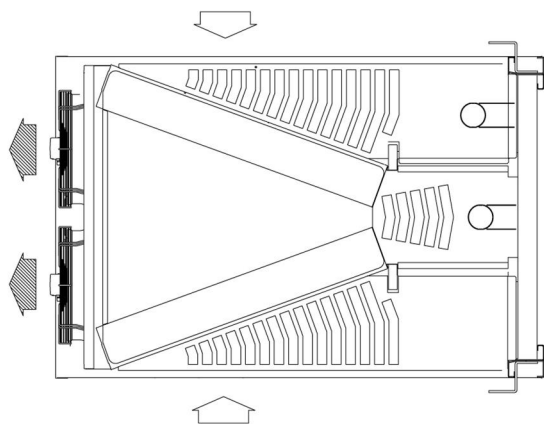


- ① ENTRATA ACQUA EVAPORATORE
EVAPORATOR WATER INLET
- ② USCITA ACQUA EVAPORATORE
EVAPORATOR WATER OUTLET
- ③ ENTRATA ACQUA CONDENSATORE
CONDENSER WATER INLET
- ④ USCITA ACQUA CONDENSATORE
CONDENSER WATER OUTLET
- ⑤ INGRESSO LINEA ELETTRICA
POWER INLET
- ⑥ MANIGLIA SEZIONATORE GENERALE
MAIN ISOLATOR HANDLE



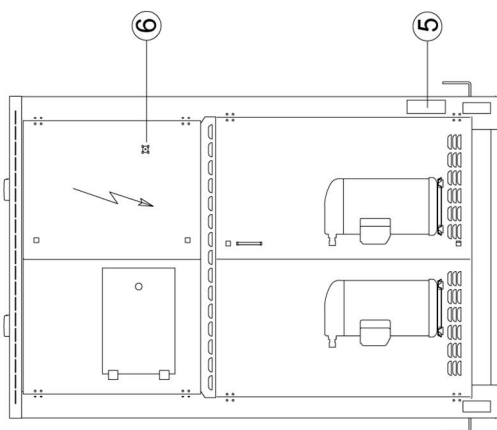
HYDRONIC GROUP

UNITA' CON MODULO IDRONICO - 2 POMPE EV + 2 POMPE CD
 UNITS WITH HYDRONIC MODULE - 2 PUMPS EV + 2 PUMPS CD

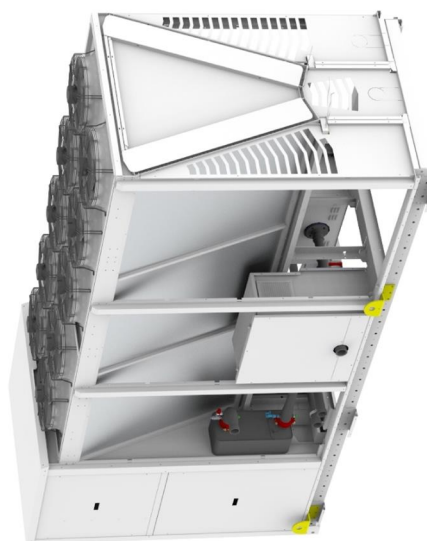
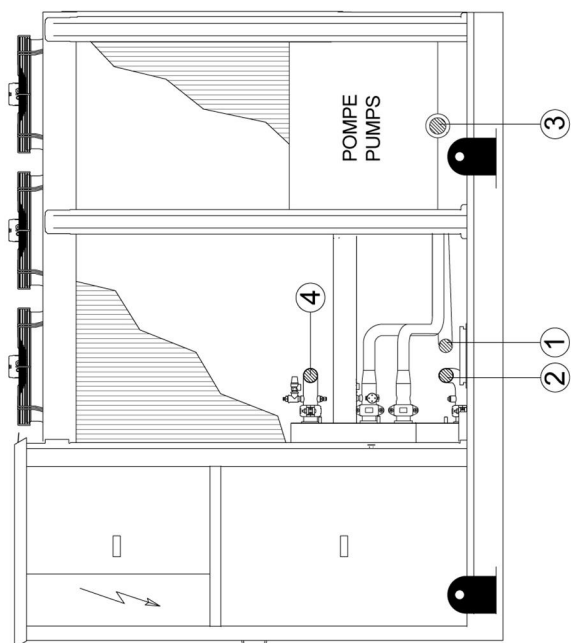


ENTRATA ARIA
AIR INLET

USCITA ARIA
AIR OUTLET



- 1 ENTRATA ACQUA EVAPORATORE
EVAPORATOR WATER INLET
- 2 USCITA ACQUA EVAPORATORE
EVAPORATOR WATER OUTLET
- 3 ENTRATA ACQUA CONDENSATORE
CONDENSER WATER INLET
- 4 USCITA ACQUA CONDENSATORE
CONDENSER WATER OUTLET
- 5 INGRESSO LINEA ELETTRICA
POWER INLET
- 6 MANIGLIA SEZIONATORE GENERALE
MAIN ISOLATOR HANDLE



HYDRONIC GROUP

Hydronic kit positioning

	Version	EV - 1 PUMP 2P LH (FIX SPEED) (4706)				U - 1 PUMP 2P HH (FIX SPEED) (4707)				EV - 2 PUMPS 2P LH (FIX SPEED) (4711)				U - 2 PUMPS 2P HH (FIX SPEED) (4712)			
		extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]	extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]	extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]	extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]
0202P		/	/	/	65	/	/	/	70	/	/	/	115	/	/	/	135
	SL	/	/	/	65	/	/	/	70	/	/	/	115	/	/	/	135
0252P		/	/	/	65	/	/	/	75	/	/	/	115	/	/	/	140
	SL	/	/	/	65	/	/	/	75	/	/	/	115	/	/	/	140
0262P		/	/	/	65	/	/	/	75	/	/	/	115	/	/	/	140
	SL	/	/	/	65	/	/	/	75	/	/	/	115	/	/	/	140
0302P		/	/	/	65	/	/	/	75	/	/	/	115	/	/	/	140
	SL	/	/	/	65	/	/	/	75	/	/	/	115	/	/	/	140
0402P		/	/	/	75	/	/	/	85	/	/	/	140	/	/	/	155
	SL	/	/	/	75	/	/	/	85	/	/	/	140	/	/	/	155
0502P		/	/	/	80	/	/	/	85	/	/	/	150	/	/	/	150
	SL	/	/	/	80	/	/	/	85	/	/	/	150	/	/	/	150
0602P		/	/	/	90	/	/	/	95	/	/	/	165	/	/	/	165

extra L	Unit's extra length
extra W	Unit's extra operating width (NOT to be considered for transport)
extra H	Unit's extra height
extra H	Unit's extra weight (pumps and piping)
EV - 1 PUMP 2P LH (FIX SPEED)	EV - 1 PUMP 2P LH (FIX SPEED)
U - 1 PUMP 2P HH (FIX SPEED)	U - 1 PUMP 2P HH (FIX SPEED)
EV - 2 PUMPS 2P LH (FIX SPEED)	EV - 2 PUMPS 2P LH (FIX SPEED)
U - 2 PUMPS 2P HH (FIX SPEED)	U - 2 PUMPS 2P HH (FIX SPEED)
-	Not available

HYDRONIC GROUP

Hydronic kit positioning

	Version	EV - 1 PUMP 2P LH (VAR SPEED) (4717)				EV - 2 PUMPS 2P LH (VAR SPEED) (4722)				CD - 1 PUMP 2P LH (FIX SPEED) (4766)				CD - 1 PUMP 2P HH (FIX SPEED) (4767)			
		extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]	extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]	extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]	extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]
0202P		/	/	/	55	/	/	/	105	/	/	/	65	/	/	/	70
	SL	/	/	/	55	/	/	/	105	/	/	/	65	/	/	/	70
0252P		/	/	/	55	/	/	/	105	/	/	/	65	/	/	/	75
	SL	/	/	/	55	/	/	/	105	/	/	/	65	/	/	/	75
0262P		/	/	/	55	/	/	/	105	/	/	/	65	/	/	/	75
	SL	/	/	/	55	/	/	/	105	/	/	/	65	/	/	/	75
0302P		/	/	/	55	/	/	/	105	/	/	/	65	/	/	/	75
	SL	/	/	/	55	/	/	/	105	/	/	/	65	/	/	/	75
0402P		/	/	/	65	/	/	/	120	/	/	/	75	/	/	/	85
	SL	/	/	/	65	/	/	/	120	/	/	/	75	/	/	/	85
0502P		/	/	/	65	/	/	/	120	/	/	/	80	/	/	/	85
	SL	/	/	/	65	/	/	/	120	/	/	/	80	/	/	/	85
0602P		/	/	/	75	/	/	/	130	/	/	/	90	/	/	/	95

extra L	Unit's extra length
extra W	Unit's extra operating width (NOT to be considered for transport)
extra H	Unit's extra height
extra H	Unit's extra weight (pumps and piping)
EV - 1 PUMP 2P LH (VAR SPEED)	EV - 1 PUMP 2P LH (VAR SPEED)
EV - 2 PUMPS 2P LH (VAR SPEED)	EV - 2 PUMPS 2P LH (VAR SPEED)
CD - 1 PUMP 2P LH (FIX SPEED)	CD - 1 PUMP 2P LH (FIX SPEED)
CD - 1 PUMP 2P HH (FIX SPEED)	CD - 1 PUMP 2P HH (FIX SPEED)
-	Not available

HYDRONIC GROUP

Hydronic kit positioning

	Version	CD - 2 PUMPS 2P LH (FIX SPEED) (4771)				CD - 2 PUMPS 2P HH (FIX SPEED) (4772)				CD - 1 PUMP 2P BP (VAR SPEED) (4777)				CD - 2 PUMPS 2P BP (VAR SPEED) (4782)			
		extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]	extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]	extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]	extra L [mm]	extra W [mm]	extra H [mm]	extra WGT [kg]
0202P		/	/	/	115	/	/	/	135	/	/	/	55	/	/	/	105
	SL	/	/	/	115	/	/	/	135	/	/	/	55	/	/	/	105
0252P		/	/	/	115	/	/	/	140	/	/	/	55	/	/	/	105
	SL	/	/	/	115	/	/	/	140	/	/	/	55	/	/	/	105
0262P		/	/	/	115	/	/	/	140	/	/	/	55	/	/	/	105
	SL	/	/	/	115	/	/	/	140	/	/	/	55	/	/	/	105
0302P		/	/	/	115	/	/	/	140	/	/	/	55	/	/	/	105
	SL	/	/	/	115	/	/	/	140	/	/	/	55	/	/	/	105
0402P		/	/	/	140	/	/	/	155	/	/	/	65	/	/	/	120
	SL	/	/	/	140	/	/	/	155	/	/	/	65	/	/	/	120
0502P		/	/	/	150	/	/	/	150	/	/	/	65	/	/	/	120
	SL	/	/	/	150	/	/	/	150	/	/	/	65	/	/	/	120
0602P		/	/	/	165	/	/	/	165	/	/	/	75	/	/	/	130

extra L	Unit's extra length
extra W	Unit's extra operating width (NOT to be considered for transport)
extra H	Unit's extra height
extra H	Unit's extra weight (pumps and piping)
CD - 2 PUMPS 2P LH (FIX SPEED)	CD - 2 PUMPS 2P LH (FIX SPEED)
CD - 2 PUMPS 2P HH (FIX SPEED)	CD - 2 PUMPS 2P HH (FIX SPEED)
CD - 1 PUMP 2P BP (VAR SPEED)	CD - 1 PUMP 2P BP (VAR SPEED)
CD - 2 PUMPS 2P BP (VAR SPEED)	CD - 2 PUMPS 2P BP (VAR SPEED)
-	Not available

HYDRONIC GROUP

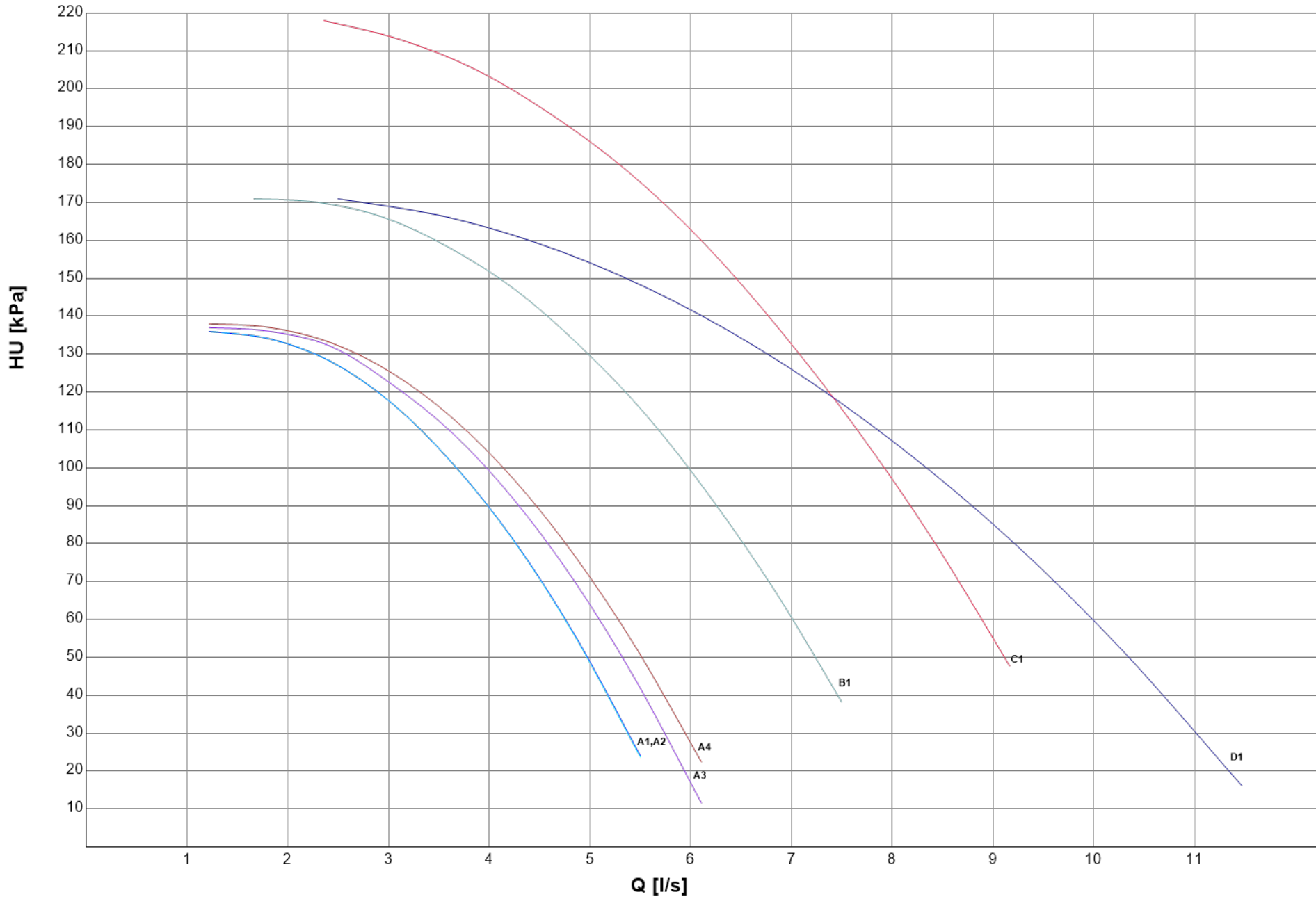
CHILLED WATER HEAT EX. USER SIDE - EV - 1 PUMP 2P LH (FIX SPEED)

SIZE		CH		HP		PUMP				CH	HP							
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU						
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]						
0202P		55,80	2,668	58,20		A1	LNEE 40-125/11/2	2	2	1,100	124							
	SL	56,14	2,685	59,67							124							
0252P		61,47	2,940	64,61		A2					2	2	1,100	119				
	SL	60,65	2,900	64,45										120				
0262P		68,70	3,285	72,17		A3								2	2	1,100	117	
	SL	68,69	3,285	73,73													117	
0302P		82,11	3,927	86,49		A4		2	2	1,100							106	
	SL	81,39	3,892	87,50													107	
0402P		106,2	5,080	110,6		B1					2	3	1,500				127	
	SL	104,2	4,981	111,7													130	
0502P		132,3	6,329	139,1		C1								2	5	2,200	154	
	SL	125,5	6,002	135,6													163	
0602P		161,8	7,739	170,3		D1	2	5	2,200	113								

(1) Values refer to nominal conditions
 CH Cooling mode
 HP HP mode
 Pf Cooling capacity unit (Cooling mode)
 Pt Heating capacity unit (Heating mode)

Q Plant (side) exchanger water flow
 F.L.I. Pump power input
 F.L.A. Pump running current
 HU Pump residual pressure head (Units with hydronic group without mains filter)

CHILLED WATER HEAT EX. USER SIDE - EV - 1 PUMP 2P LH (FIX SPEED)



HYDRONIC GROUP

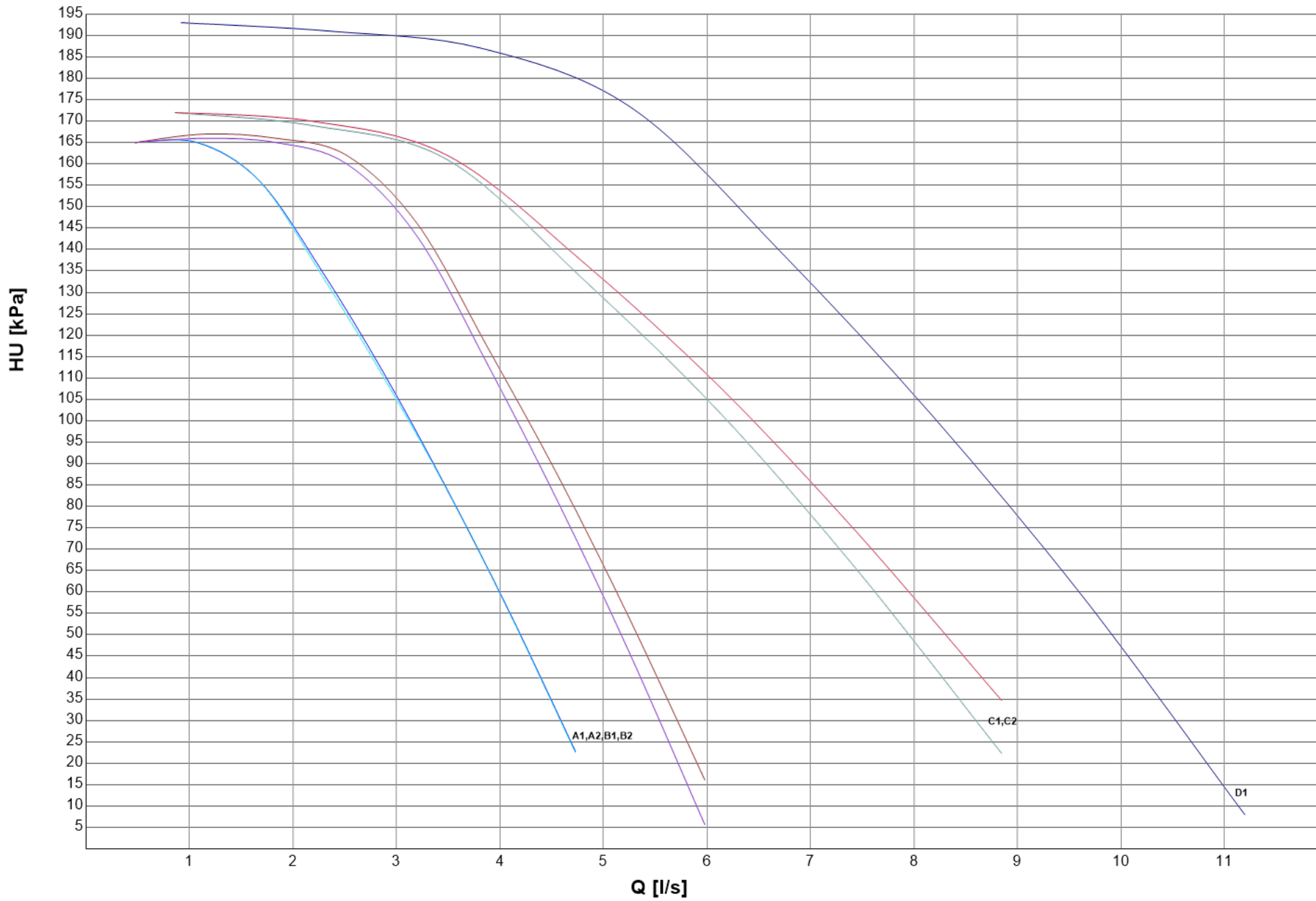
CHILLED WATER HEAT EX. USER SIDE - EV - 1 PUMP 2P LH (VAR SPEED)

SIZE		CH		HP		PUMP				CH	HP	
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]
0202P		55,80	2,668	58,20		A1	TPE2 32-180-N	2	1	0,550	119	
	SL	56,14	2,685	59,67							118	
0252P		61,47	2,940	64,61		A2	TPE2 32-180-N	2	1	0,550	108	
	SL	60,65	2,900	64,45							110	
0262P		68,70	3,285	72,17		B1	TPE2 32-200-N	2	2	0,750	139	
	SL	68,69	3,285	73,73							139	
0302P		82,11	3,927	86,49		B2	TPE2 32-200-N	2	2	0,750	116	
	SL	81,39	3,892	87,50							117	
0402P		106,2	5,080	110,6		C1	TPE2 50-180-N	2	2	1,100	127	
	SL	104,2	4,981	111,7							129	
0502P		132,3	6,329	139,1		C2	TPE2 50-180-N	2	2	1,100	103	
	SL	125,5	6,002	135,6							110	
0602P		161,8	7,739	170,3		D1	TPE2 50-200-N	2	3	1,500	114	

(1) Values refer to nominal conditions
 CH Cooling mode
 HP HP mode
 Pf Cooling capacity unit (Cooling mode)
 Pt Heating capacity unit (Heating mode)

Q Plant (side) exchanger water flow
 F.L.I. Pump power input
 F.L.A. Pump running current
 HU Pump residual pressure head (Units with hydronic group without mains filter)

CHILLED WATER HEAT EX. USER SIDE - EV - 1 PUMP 2P LH (VAR SPEED)



HYDRONIC GROUP

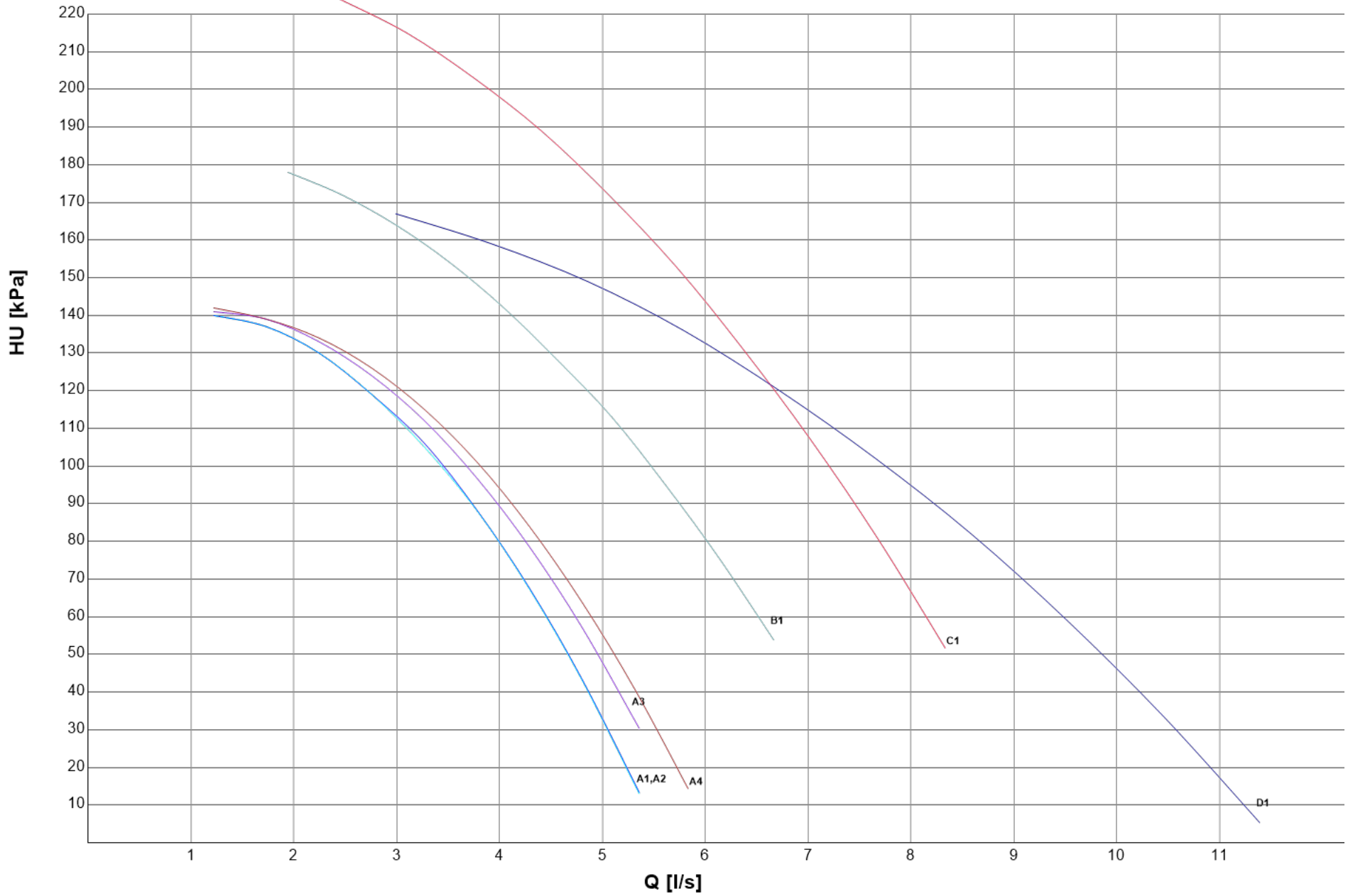
CHILLED WATER HEAT EX. USER SIDE - EV - 2 PUMPS 2P LH (FIX SPEED)

SIZE		CH		HP		PUMP				CH	HP			
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU		
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]		
0202P		55,80	2,668	58,20		A1	LNTE 40-125/11	2	2	1,100	121			
	SL	56,14	2,685	59,67							121			
0252P		61,47	2,940	64,61		A2					115			
	SL	60,65	2,900	64,45							116			
0262P		68,70	3,285	72,17		A3					112			
	SL	68,69	3,285	73,73							112			
0302P		82,11	3,927	86,49		A4		96,4						
	SL	81,39	3,892	87,50				97,5						
0402P		106,2	5,080	110,6		B1		LNTE 40-125/15 /2	2	3	1,500	113		
	SL	104,2	4,981	111,7								116		
0502P		132,3	6,329	139,1		C1						LNTE 40-125/22	2	5
	SL	125,5	6,002	135,6					144					
0602P		161,8	7,739	170,3		D1	LNTE 50-125/22/2		2	5	2,200	101		

(1) Values refer to nominal conditions
 CH Cooling mode
 HP HP mode
 Pf Cooling capacity unit (Cooling mode)
 Pt Heating capacity unit (Heating mode)

Q Plant (side) exchanger water flow
 F.L.I. Pump power input
 F.L.A. Pump running current
 HU Pump residual pressure head (Units with hydronic group without mains filter)

CHILLED WATER HEAT EX. USER SIDE - EV - 2 PUMPS 2P LH (FIX SPEED)



HYDRONIC GROUP

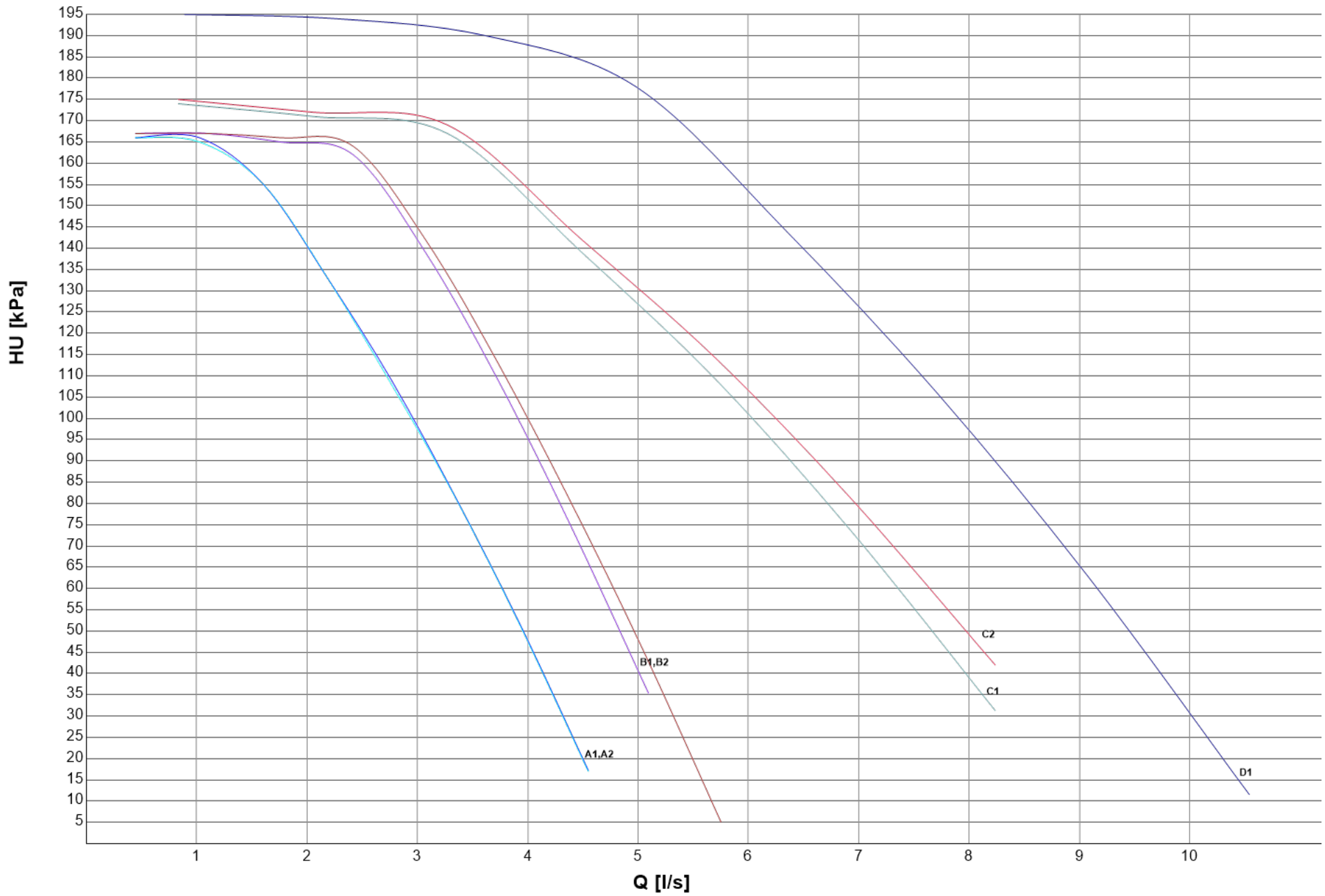
CHILLED WATER HEAT EX. USER SIDE - EV - 2 PUMPS 2P LH (VAR SPEED)

SIZE		CH		HP		PUMP				CH	HP	
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]
0202P		55,80	2,668	58,20		A1	TPE2 D 32-180-N	2	1	0,550	113	
	SL	56,14	2,685	59,67							112	
0252P		61,47	2,940	64,61		A2	TPE2 D 32-180-N	2	1	0,550	101	
	SL	60,65	2,900	64,45							102	
0262P		68,70	3,285	72,17		B1	TPE2 D 32-200-N	2	2	0,750	130	
	SL	68,69	3,285	73,73							130	
0302P		82,11	3,927	86,49		B2	TPE2 D 32-200-N	2	2	0,750	103	
	SL	81,39	3,892	87,50							105	
0402P		106,2	5,080	110,6		C1	TPE2 D 50-180-N	2	2	1,100	125	
	SL	104,2	4,981	111,7							127	
0502P		132,3	6,329	139,1		C2	TPE2 D 50-180-N	2	2	1,100	97,7	
	SL	125,5	6,002	135,6							106	
0602P		161,8	7,739	170,3		D1	TPE2 D 50-200-N	2	3	1,500	105	

(1) Values refer to nominal conditions
 CH Cooling mode
 HP HP mode
 Pf Cooling capacity unit (Cooling mode)
 Pt Heating capacity unit (Heating mode)

Q Plant (side) exchanger water flow
 F.L.I. Pump power input
 F.L.A. Pump running current
 HU Pump residual pressure head (Units with hydronic group without mains filter)

CHILLED WATER HEAT EX. USER SIDE - EV - 2 PUMPS 2P LH (VAR SPEED)



HYDRONIC GROUP

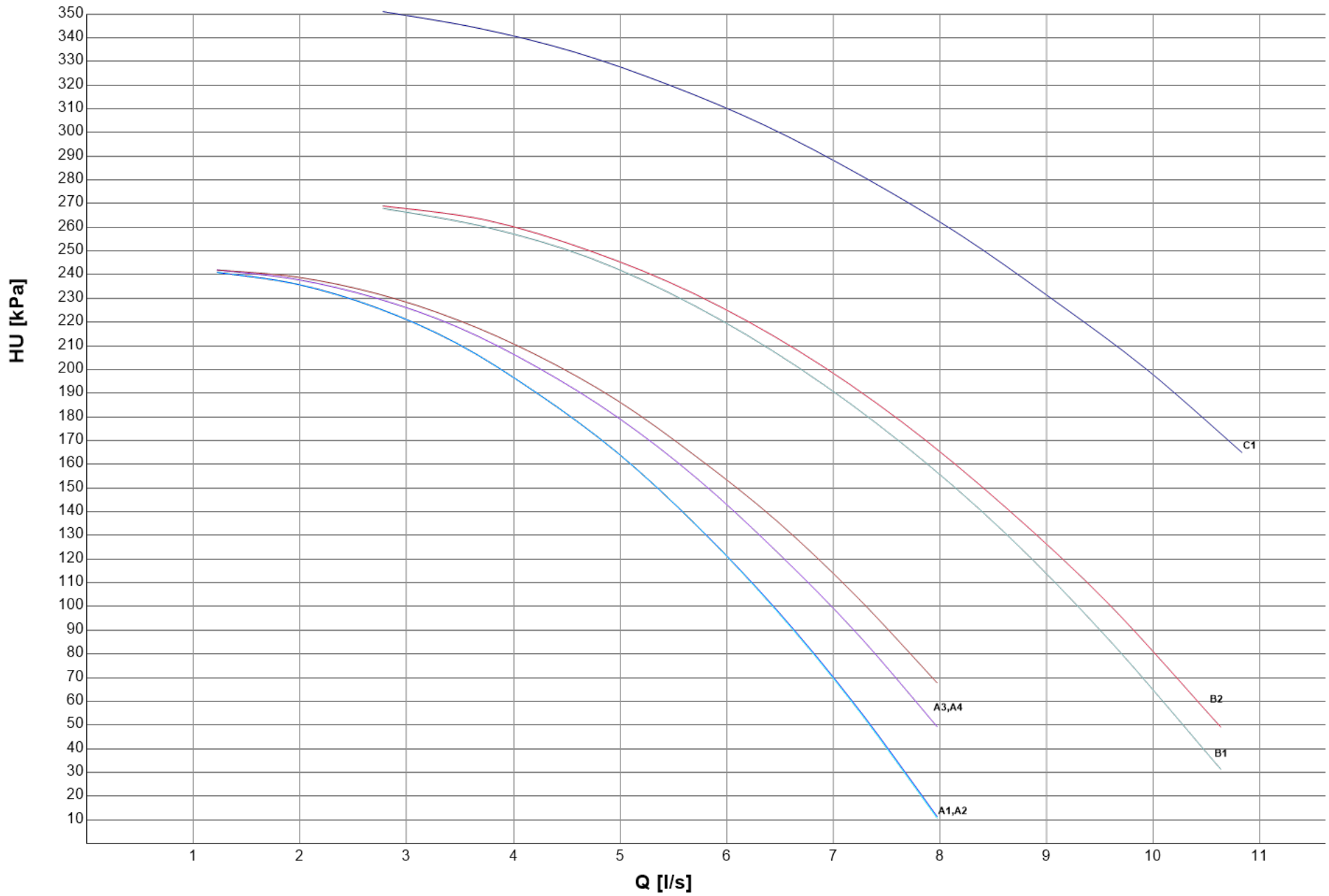
CHILLED WATER HEAT EX. USER SIDE - U - 1 PUMP 2P HH (FIX SPEED)

SIZE		CH		HP		PUMP				CH	HP					
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU				
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]				
0202P		55,80	2,668	58,20		A1	LNEE 40-160/22/2	2	5	2,200	227					
	SL	56,14	2,685	59,67							226					
0252P		61,47	2,940	64,61		A2					222					
	SL	60,65	2,900	64,45							223					
0262P		68,70	3,285	72,17		A3					221					
	SL	68,69	3,285	73,73							221					
0302P		82,11	3,927	86,49		A4					213					
	SL	81,39	3,892	87,50							213					
0402P		106,2	5,080	110,6		B1					LNEE 40-125/30	2	6	3,000	240	
	SL	104,2	4,981	111,7											242	
0502P		132,3	6,329	139,1		B2	217									
	SL	125,5	6,002	135,6			225									
0602P		161,8	7,739	170,3		C1	LNEE 40-160/40/2	2	8	4,000					269	

(1) Values refer to nominal conditions
 CH Cooling mode
 HP HP mode
 Pf Cooling capacity unit (Cooling mode)
 Pt Heating capacity unit (Heating mode)

Q Plant (side) exchanger water flow
 F.L.I. Pump power input
 F.L.A. Pump running current
 HU Pump residual pressure head (Units with hydronic group without mains filter)

CHILLED WATER HEAT EX. USER SIDE - U - 1 PUMP 2P HH (FIX SPEED)



HYDRONIC GROUP

CHILLED WATER HEAT EX. USER SIDE - U - 2 PUMPS 2P HH (FIX SPEED)

SIZE		CH		HP		PUMP				CH	HP					
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU				
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]				
0202P		55,80	2,668	58,20		A1	LNTE 40-160/22/2	2	5	2,200	217					
	SL	56,14	2,685	59,67							216					
0252P		61,47	2,940	64,61		A2					211					
	SL	60,65	2,900	64,45							212					
0262P		68,70	3,285	72,17		A3					210					
	SL	68,69	3,285	73,73							210					
0302P		82,11	3,927	86,49		A4		201								
	SL	81,39	3,892	87,50				202								
0402P		106,2	5,080	110,6		B1		LNTE 40-125/30	2	6	3,000	232				
	SL	104,2	4,981	111,7								234				
0502P		132,3	6,329	139,1		B2						206				
	SL	125,5	6,002	135,6								215				
0602P		161,8	7,739	170,3		C1	LNTE 40-160/40/2					2	8	4,000	232	

(1) Values refer to nominal conditions

CH Cooling mode

HP HP mode

Pf Cooling capacity unit (Cooling mode)

Pt Heating capacity unit (Heating mode)

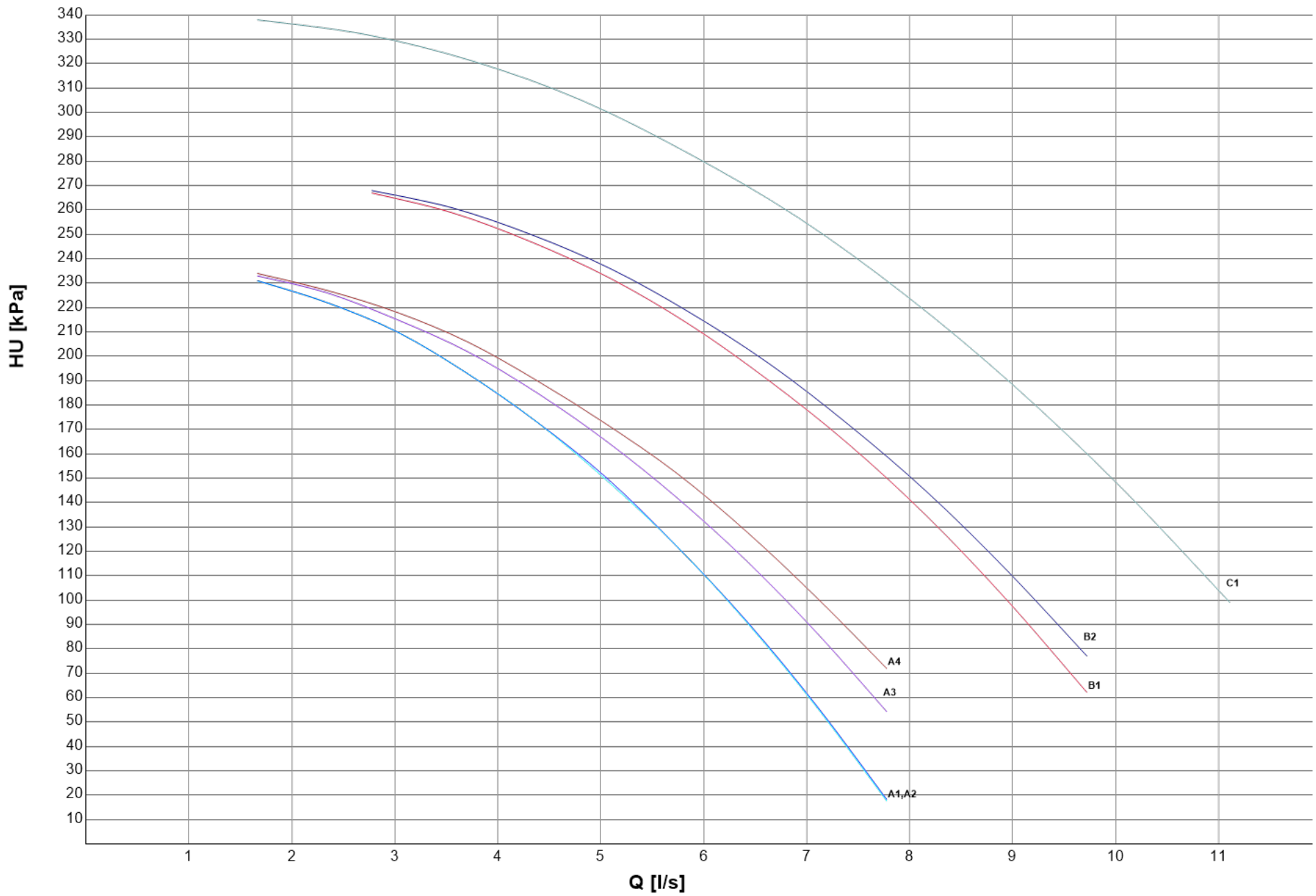
Q Plant (side) exchanger water flow

F.L.I. Pump power input

F.L.A. Pump running current

HU Pump residual pressure head (Units with hydronic group without mains filter)

CHILLED WATER HEAT EX. USER SIDE - U - 2 PUMPS 2P HH (FIX SPEED)



HYDRONIC GROUP

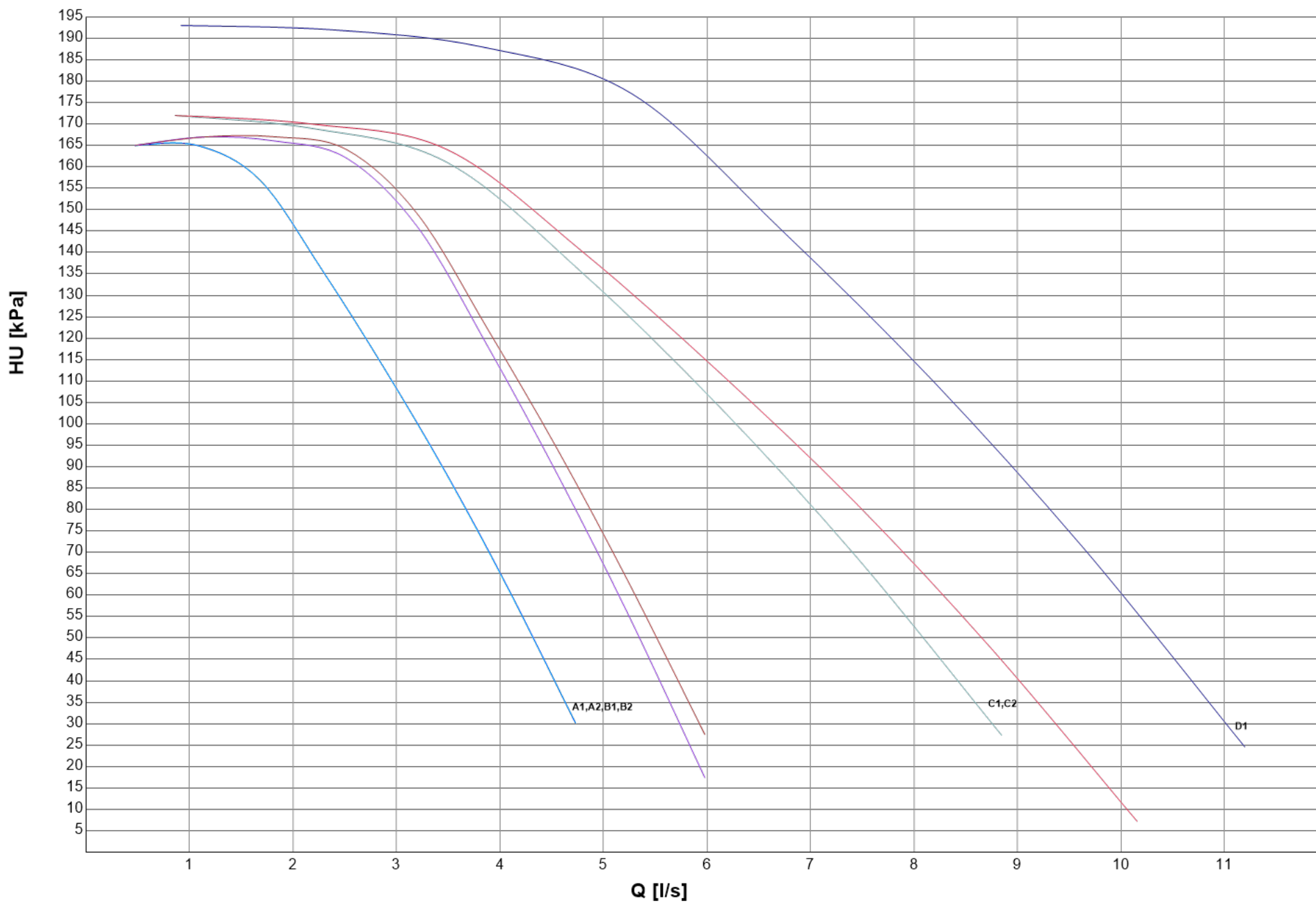
WARM WATER HEAT EX. USER SIDE - CD - 1 PUMP 2P BP (VAR SPEED)

SIZE		CH		HP		PUMP				CH	HP		
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU	
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]	
0202P		55,80		58,20	2,809	A1	TPE2 32-180-N	2	1	0,550		116	
	SL	56,14		59,67	2,880							113	
0252P		61,47		64,61	3,119	A2							104
	SL	60,65		64,45	3,111								104
0262P		68,70		72,17	3,484	B1	TPE2 32-200-N	2	2	0,750		135	
	SL	68,69		73,73	3,559							132	
0302P		82,11		86,49	4,175	B2							110
	SL	81,39		87,50	4,224								108
0402P		106,2		110,6	5,340	C1	TPE2 50-180-N	2	2	1,100		123	
	SL	104,2		111,7	5,390							122	
0502P		132,3		139,1	6,712	C2							99,0
	SL	125,5		135,6	6,545								103
0602P		161,8		170,3	8,218	D1	TPE2 50-200-N	2	3	1,500		109	

(1) Values refer to nominal conditions
 CH Cooling mode
 HP HP mode
 Pf Cooling capacity unit (Cooling mode)
 Pt Heating capacity unit (Heating mode)

Q Plant (side) exchanger water flow
 F.L.I. Pump power input
 F.L.A. Pump running current
 HU Pump residual pressure head (Units with hydronic group without mains filter)

WARM WATER HEAT EX. USER SIDE - CD - 1 PUMP 2P BP (VAR SPEED)



HYDRONIC GROUP

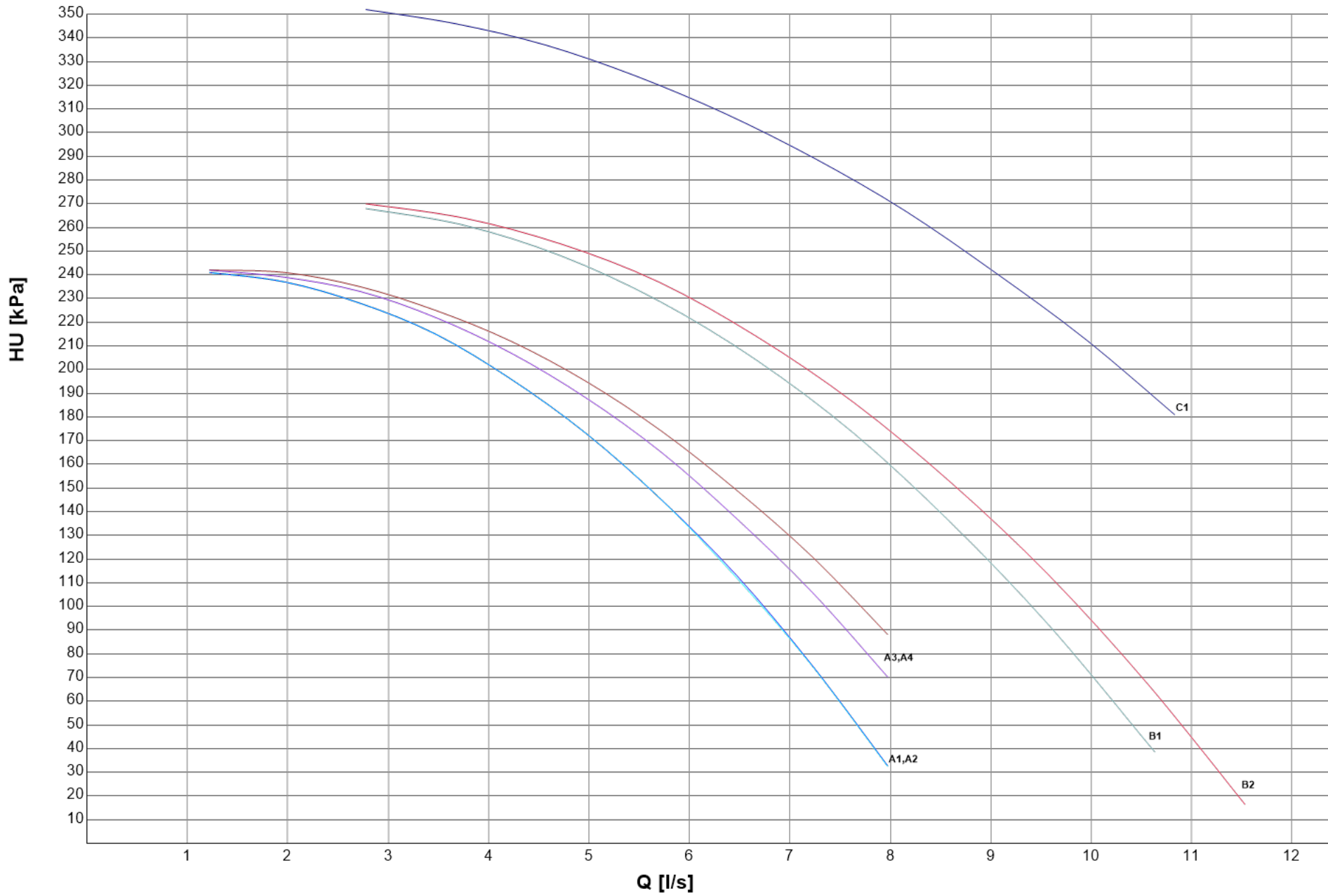
WARM WATER HEAT EX. USER SIDE - CD - 1 PUMP 2P HH (FIX SPEED)

SIZE		CH		HP		PUMP				CH	HP				
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU			
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]			
0202P		55,80		58,20	2,809	A1	LNEE 40-160/22/2	2	5	2,200		227			
	SL	56,14		59,67	2,880							226			
0252P		61,47		64,61	3,119	A2									222
	SL	60,65		64,45	3,111										222
0262P		68,70		72,17	3,484	A3									222
	SL	68,69		73,73	3,559										220
0302P		82,11		86,49	4,175	A4						213			
	SL	81,39		87,50	4,224							212			
0402P		106,2		110,6	5,340	B1		LNEE 40-125/30	2	6	3,000		237		
	SL	104,2		111,7	5,390								236		
0502P		132,3		139,1	6,712	B2									
	SL	125,5		135,6	6,545								217		
0602P		161,8		170,3	8,218	C1	LNEE 40-160/40/2		2	8	4,000		265		

(1) Values refer to nominal conditions
 CH Cooling mode
 HP HP mode
 Pf Cooling capacity unit (Cooling mode)
 Pt Heating capacity unit (Heating mode)

Q Plant (side) exchanger water flow
 F.L.I. Pump power input
 F.L.A. Pump running current
 HU Pump residual pressure head (Units with hydronic group without mains filter)

WARM WATER HEAT EX. USER SIDE - CD - 1 PUMP 2P HH (FIX SPEED)



HYDRONIC GROUP

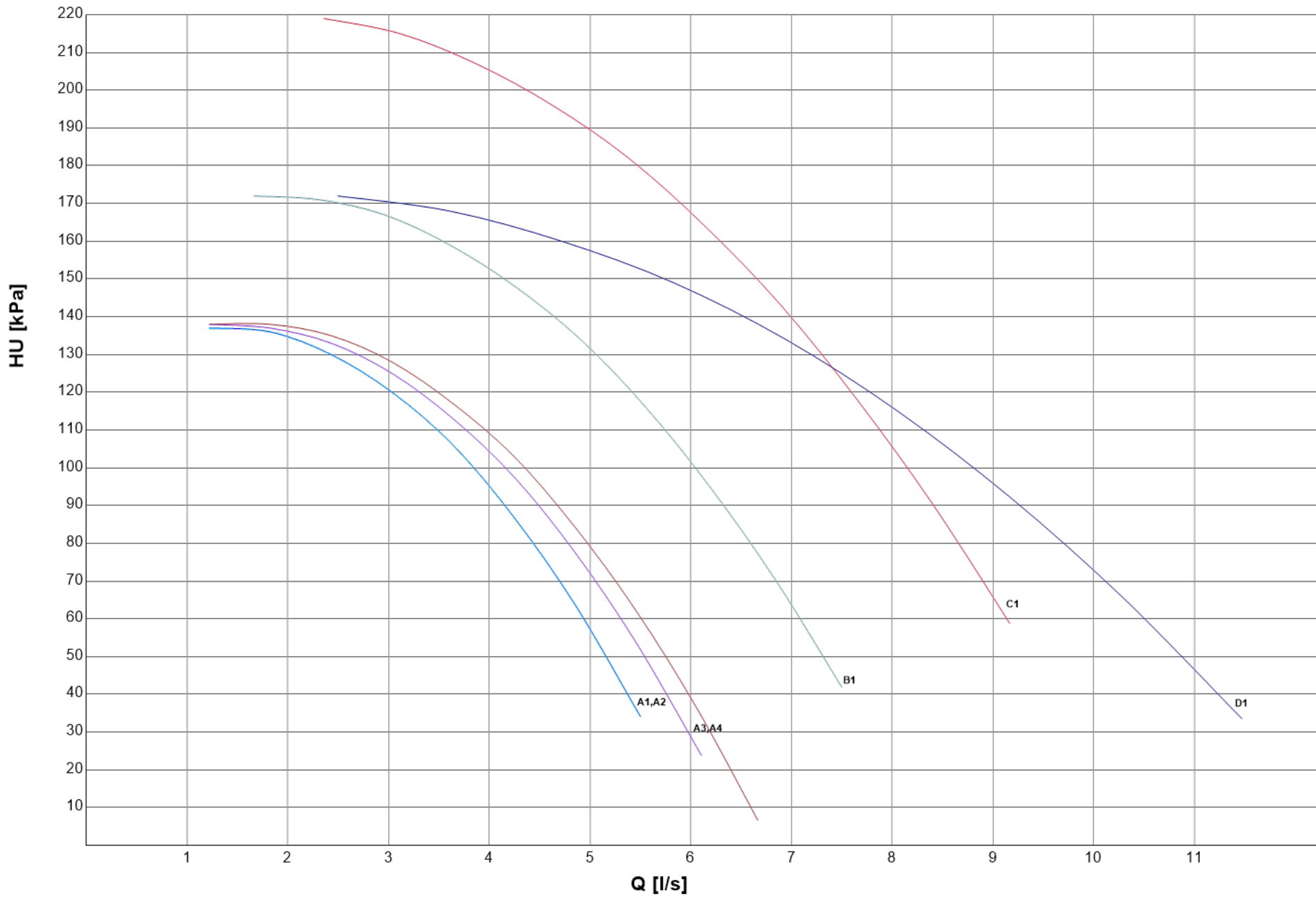
WARM WATER HEAT EX. USER SIDE - CD - 1 PUMP 2P LH (FIX SPEED)

SIZE		CH		HP		PUMP				CH	HP					
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU				
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]				
0202P		55,80		58,20	2,809	A1	LNEE 40-125/11/2	2	2	1,100		124				
	SL	56,14		59,67	2,880							123				
0252P		61,47		64,61	3,119	A2										118
	SL	60,65		64,45	3,111											118
0262P		68,70		72,17	3,484	A3										117
	SL	68,69		73,73	3,559											115
0302P		82,11		86,49	4,175	A4							105			
	SL	81,39		87,50	4,224								103			
0402P		106,2		110,6	5,340	B1		LNEE 40-125/15/2	2	3	1,500		122			
	SL	104,2		111,7	5,390								121			
0502P		132,3		139,1	6,712	C1						LNEE 40-125/22	2	5	2,200	
	SL	125,5		135,6	6,545					153						
0602P		161,8		170,3	8,218	D1	LNEE 50-125/22/2		2	5	2,200					

(1) Values refer to nominal conditions
 CH Cooling mode
 HP HP mode
 Pf Cooling capacity unit (Cooling mode)
 Pt Heating capacity unit (Heating mode)

Q Plant (side) exchanger water flow
 F.L.I. Pump power input
 F.L.A. Pump running current
 HU Pump residual pressure head (Units with hydronic group without mains filter)

WARM WATER HEAT EX. USER SIDE - CD - 1 PUMP 2P LH (FIX SPEED)



HYDRONIC GROUP

WARM WATER HEAT EX. USER SIDE - CD - 2 PUMPS 2P BP (VAR SPEED)

SIZE		CH		HP		PUMP				CH	HP	
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]
0202P		55,80		58,20	2,809	A1	TPE2 D 32-180-N	2	1	0,550		109
	SL	56,14		59,67	2,880							106
0252P		61,47		64,61	3,119	A2	TPE2 D 32-180-N	2	1	0,550		95,6
	SL	60,65		64,45	3,111							95,9
0262P		68,70		72,17	3,484	B1	TPE2 D 32-200-N	2	2	0,750		124
	SL	68,69		73,73	3,559							121
0302P		82,11		86,49	4,175	B2	TPE2 D 32-200-N	2	2	0,750		96,8
	SL	81,39		87,50	4,224							94,5
0402P		106,2		110,6	5,340	C1	TPE2 D 50-180-N	2	2	1,100		120
	SL	104,2		111,7	5,390							119
0502P		132,3		139,1	6,712	C2	TPE2 D 50-180-N	2	2	1,100		93,2
	SL	125,5		135,6	6,545							97,5
0602P		161,8		170,3	8,218	D1	TPE2 D 50-200-N	2	3	1,500		99,6

(1) Values refer to nominal conditions

CH Cooling mode

HP HP mode

Pf Cooling capacity unit (Cooling mode)

Pt Heating capacity unit (Heating mode)

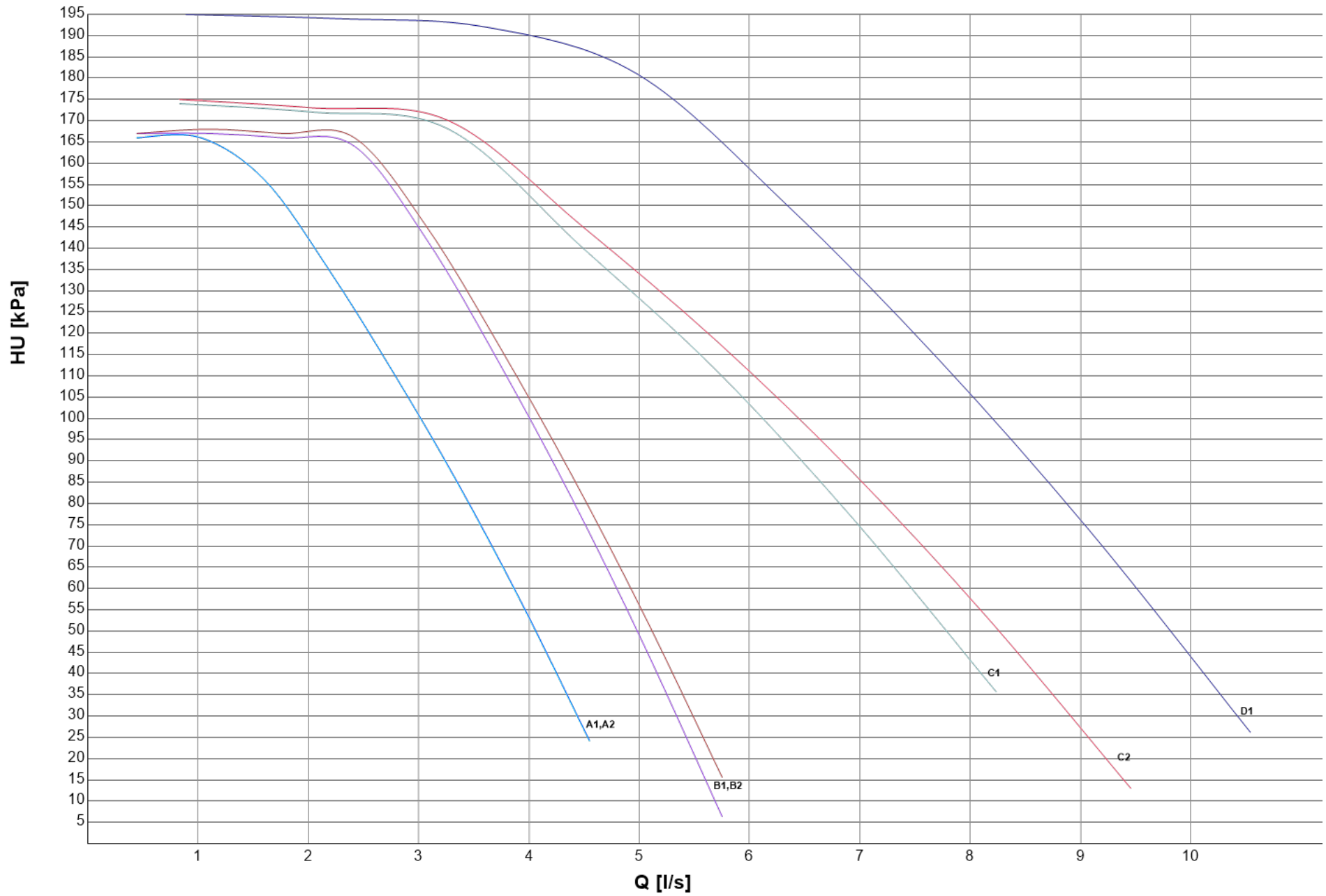
Q Plant (side) exchanger water flow

F.L.I. Pump power input

F.L.A. Pump running current

HU Pump residual pressure head (Units with hydronic group without mains filter)

WARM WATER HEAT EX. USER SIDE - CD - 2 PUMPS 2P BP (VAR SPEED)



HYDRONIC GROUP

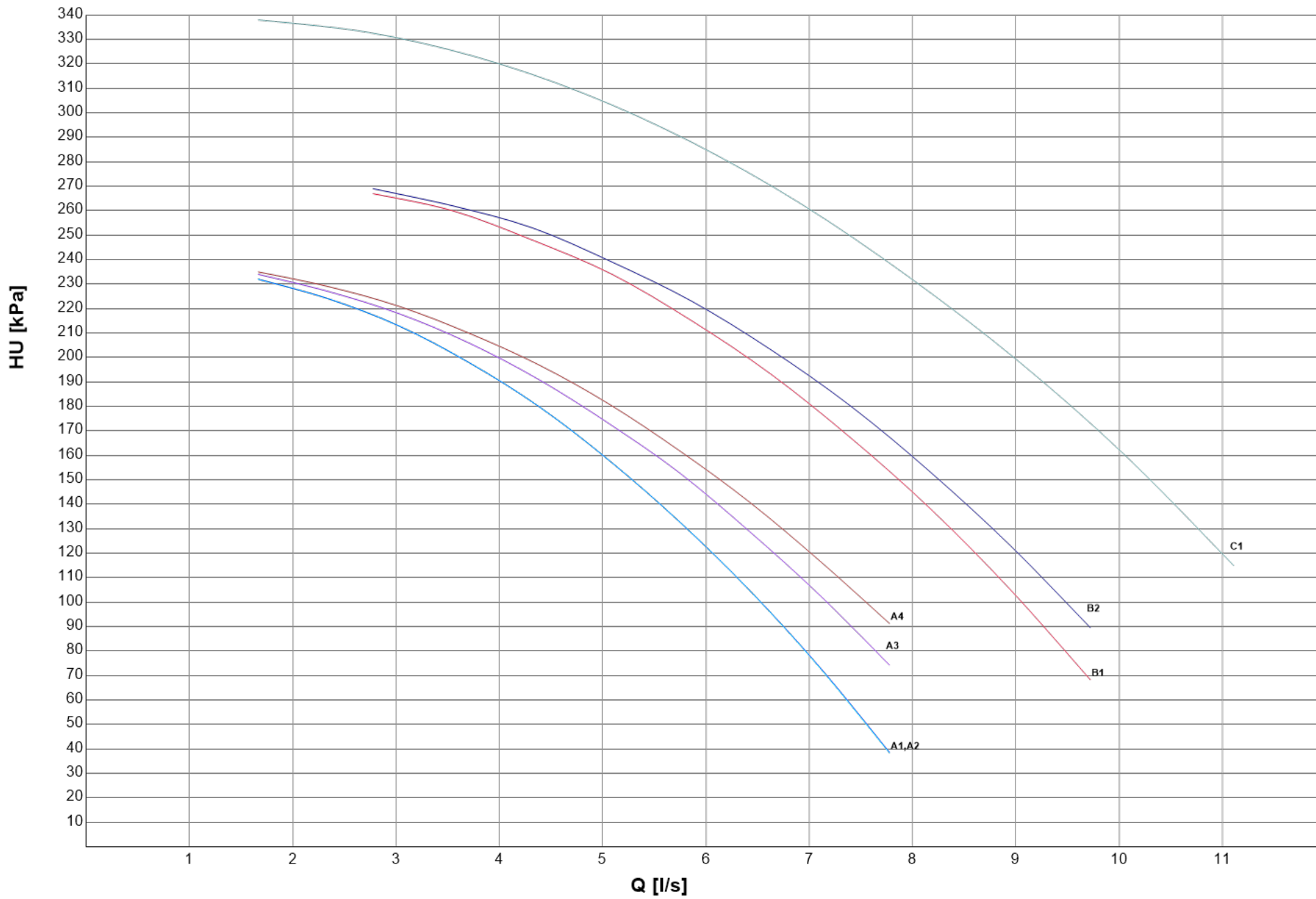
WARM WATER HEAT EX. USER SIDE - CD - 2 PUMPS 2P HH (FIX SPEED)

SIZE		CH		HP		PUMP				CH	HP				
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU			
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]			
0202P		55,80		58,20	2,809	A1	LNTE 40-160/22/2	2	5	2,200		217			
	SL	56,14		59,67	2,880							215			
0252P		61,47		64,61	3,119	A2									211
	SL	60,65		64,45	3,111										211
0262P		68,70		72,17	3,484	A3									210
	SL	68,69		73,73	3,559										209
0302P		82,11		86,49	4,175	A4						201			
	SL	81,39		87,50	4,224							200			
0402P		106,2		110,6	5,340	B1		LNTE 40-125/30	2	6	3,000		228		
	SL	104,2		111,7	5,390								227		
0502P		132,3		139,1	6,712	B2									
	SL	125,5		135,6	6,545								206		
0602P		161,8		170,3	8,218	C1	LNTE 40-160/40/2		2	8	4,000		226		

(1) Values refer to nominal conditions
 CH Cooling mode
 HP HP mode
 Pf Cooling capacity unit (Cooling mode)
 Pt Heating capacity unit (Heating mode)

Q Plant (side) exchanger water flow
 F.L.I. Pump power input
 F.L.A. Pump running current
 HU Pump residual pressure head (Units with hydronic group without mains filter)

WARM WATER HEAT EX. USER SIDE - CD - 2 PUMPS 2P HH (FIX SPEED)



HYDRONIC GROUP

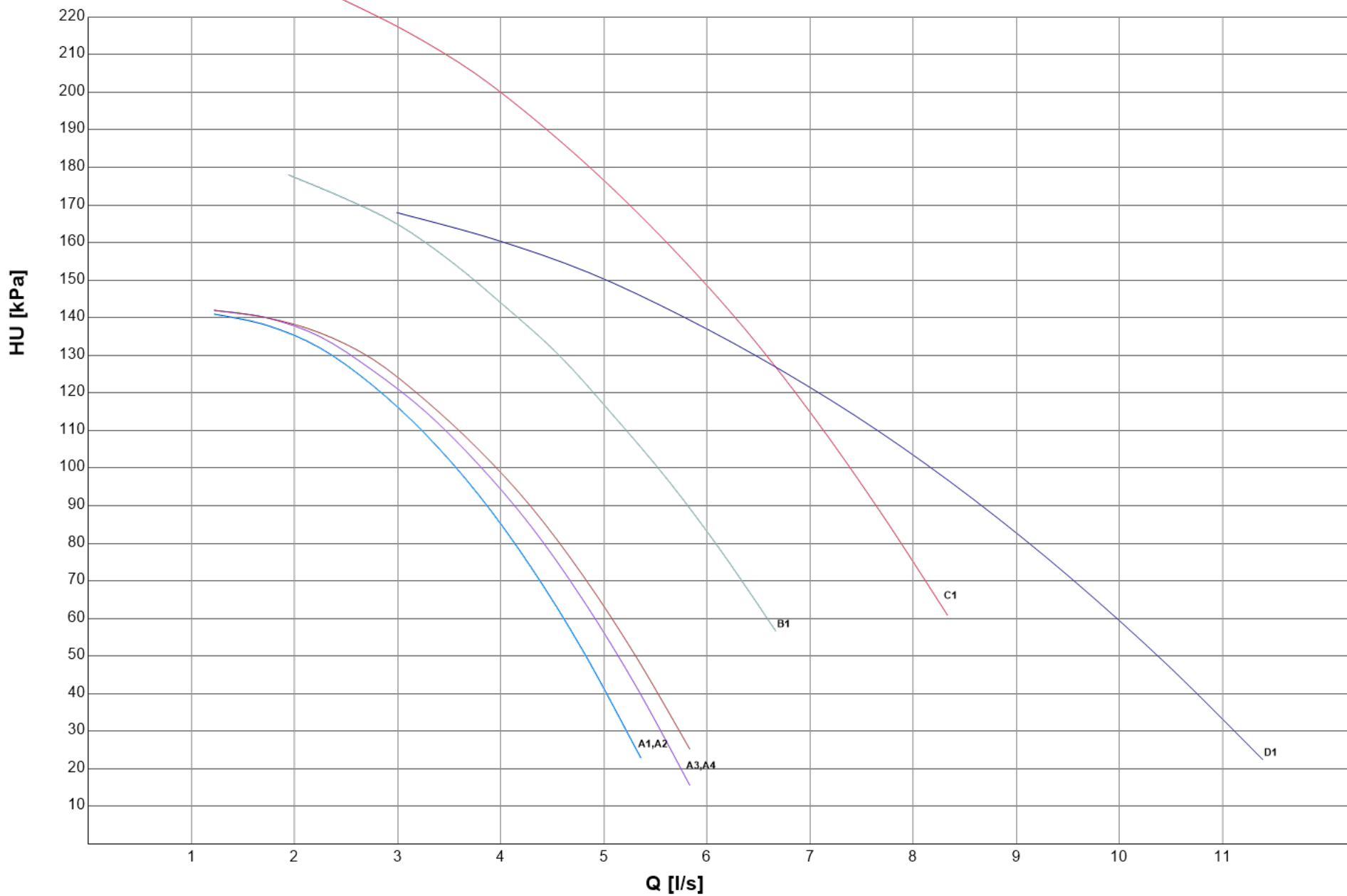
WARM WATER HEAT EX. USER SIDE - CD - 2 PUMPS 2P LH (FIX SPEED)

SIZE		CH		HP		PUMP				CH	HP					
		Pfgross	Qfgross	Ptgross	Qcdgross	Rif.	Model	N.	F.L.A.	F.L.I.	HU	HU				
		[kW] (1)	[l/s] (1)	[kW] (1)	[l/s] (1)			Pole	[A]	[kW]	[kPa]	[kPa]				
0202P		55,80		58,20	2,809	A1	LNTE 40-125/11	2	2	1,100		121				
	SL	56,14		59,67	2,880							119				
0252P		61,47		64,61	3,119	A2									113	
	SL	60,65		64,45	3,111										114	
0262P		68,70		72,17	3,484	A3									110	
	SL	68,69		73,73	3,559										108	
0302P		82,11		86,49	4,175	A4									93,7	
	SL	81,39		87,50	4,224										92,1	
0402P		106,2		110,6	5,340	B1					LNTE 40-125/15 /2	2	3	1,500		106
	SL	104,2		111,7	5,390											105
0502P		132,3		139,1	6,712	C1	LNTE 40-125/22	2	5	2,200		125				
	SL	125,5		135,6	6,545							131				
0602P		161,8		170,3	8,218	D1	LNTE 50-125/22/2	2	5	2,200		99,3				

(1) Values refer to nominal conditions
 CH Cooling mode
 HP HP mode
 Pf Cooling capacity unit (Cooling mode)
 Pt Heating capacity unit (Heating mode)

Q Plant (side) exchanger water flow
 F.L.I. Pump power input
 F.L.A. Pump running current
 HU Pump residual pressure head (Units with hydronic group without mains filter)

WARM WATER HEAT EX. USER SIDE - CD - 2 PUMPS 2P LH (FIX SPEED)





for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.



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