

**EN**

4138501\_10 - 24.01  
Translation of Original instructions

# NRB 0800-3000

## Technical manual



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**AIR-WATER CHILLER**

Cooling capacity 58.8 ÷ 240.8 ton

**AERMEC**

[www.aermecc.com](http://www.aermecc.com)



*Dear Customer,*

*Thank you for wanting to learn about a product Aermec. This product is the result of many years of experience and in-depth engineering research, and it is built using top quality materials and advanced technologies.*

*The manual you are about to read is meant to present the product and help you select the unit that best meets the needs of your system.*

*WARNING: personnel who possess the necessary skills according to state, national and local regulations in force must choose and size the machine*

*Aermec, always attentive to the continuous changes in the market and its regulations, reserves the right to make all the changes deemed necessary for improving the product, including technical data.*

*Thank you again.*

*Aermec S.p.A.*

#### CERTIFICATIONS



#### COMPANY CERTIFICATIONS



#### SAFETY CERTIFICATIONS



This mark indicates that the disposal of this product must strictly follow the national and local laws in force.

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# 1 PRODUCT DESCRIPTION



**The Selection and the sizing of the unit for each application must be approved by a person skilled in the field of the existing legislation**

Air-cooled outdoor chiller designed to meet air conditioning needs in residential/commercial complexes or industrial applications.

They are outdoor units with axial fan scroll compressors, microchannel batteries and plate exchangers.

In the unit with desuperheater, it is also possible to produce free-hot water.

The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

## ACOUSTIC EFFICIENCY

This product range does not consider the energy class as the only selection parameter. Chillers can be chosen between different noise levels that do not affect the energy class but maintain the best energy efficiency status.

The different versions have been designed to identify the unit according to the intended use of the system.

The NRB range excludes any compromise in technological choices, as efficiency and silence can coexist perfectly.

## MAXIMUM ADAPTABILITY

To obtain a solution that allows you to save money and to facilitate installation. These units can be configured with an integrated hydronic system.

The kit contains the main hydraulic components, and is available in various configurations with a single pump or a standby pump and with various heads. (see configurator)

## EXTENDED OPERATING RANGE

This range can work at full load with outdoor temperature up to 122.0 °F. This occurs in the high efficiency versions and also, for example, in versions with silent operation. Therefore, their natural location is in urban centres, where environmental requirements are strictly related to noise.

The unit can produce chilled water at a negative temperature (up to 14.0 °F of produced water in some versions).

## CONTROL

The controller with liquid crystal display is supplied as per standard with all the units. It has a multilingual user interface, which is available also in remote version (accessory) to be connected to the unit with serial connection.

The presence of an internal clock allows you to program the operation in time periods in order to improve the system efficiency and reduce consumption during periods of non-use.

This option (Night Mode) is perfect for night operation, since it guarantees greater acoustic comfort in the evenings, and a high efficiency in the time of greater load.

**For the Night Mode, in non-silenced versions, the inverter fan "J" (standard in the silenced versions) is mandatory.**

Systems consisting of two chillers allow the unit to be adjusted via (Master/Slave), supplied as per standard. In case of several chillers through the Multichiller\_EVO. The supervision is possible thanks to different options, with proprietary devices or by integrating other systems via ModBus, Bacnet, LonWorks etc. protocols.

## VERSION WITH DESUPERHEATER OR TOTAL RECOVERY

Cooler complete with a desuperheater / total recovery section.

In this configuration a coolant/water heat exchanger is added on the gas flow line. The exchanger is set i series before the condenser and is appropriately sized to guarantee the recovery of all or part of the heat produced, for the free production of hot water at a medium-high temperature for domestic or other uses.

Each exchanger is protected by an anti-freeze resistance.

## DUAL-CIRCUIT UNIT

Unit with 2 refrigerant circuits designed to provide maximum efficiency at full load, ensuring high efficiency at partial loads also and ensuring continuity in case one of the circuits stops.

## ALUMINIUM MICROCHANNEL COILS

The microchannel condensing aluminum coils ensure high levels of efficiency, reduced quantities of refrigerant and lower unit weight. The treatment "O" available as configurator it ensures high resistance to corrosion even in the most aggressive environments.

## ELECTRONIC EXPANSION VALVE

The possibility to use electronic expansion valve, offers significant benefits, especially when the chiller is working with partial loads, increasing the energy efficiency of the unit.

**It is standard in all sizes from 2000 to 3000.**

## 2 CONFIGURATOR

| Field   | Description  |
|---------|--|
| 1,2,3   | <b>NRB</b>   |
| 4,5,6,7 | <b>Size</b><br>0800, 0900, 1000, 1100, 1200, 1400, 1600, 1800, 2000, 2200, 2400, 2600, 2800, 3000  |
| 8       | <b>Operating field</b> <ul style="list-style-type: none"> <li>◦ Standard mechanic thermostatic valve (1)</li> <li>X Electronic thermostatic expansion valve (2)</li> <li>Y Low temperature mechanic thermostatic valve (3)</li> <li>Z Low temperature electronic thermostatic valve (3)</li> </ul>   |
| 9       | <b>Model</b> <ul style="list-style-type: none"> <li>◦ Cooling only</li> </ul>  |
| 10      | <b>Heat recovery</b> <ul style="list-style-type: none"> <li>◦ Without heat recovery</li> <li>D With desuperheater (4)</li> <li>T With total recovery (5)</li> </ul>  |
| 11      | <b>Version</b> <ul style="list-style-type: none"> <li>A High efficiency</li> <li>E Silenced high efficiency</li> <li>N Silenced very high efficiency</li> <li>U Very high efficiency</li> </ul>  |
| 12      | <b>Coils</b> <ul style="list-style-type: none"> <li>◦ Aluminium microchannel</li> <li>O Coated aluminium microchannel</li> <li>R Copper-copper</li> <li>S Tinned copper</li> </ul>   |
| 13      | <b>Fans</b> <ul style="list-style-type: none"> <li>◦ Standard (6)</li> <li>J Inverter</li> </ul>   |
| 14      | <b>Power supply</b> <ul style="list-style-type: none"> <li>6 230V ±10% ~3 / 60Hz with thermomagnetic switches (7)</li> <li>7 460V ±10% ~3 / 60Hz with thermomagnetic switches</li> <li>8 575V ±10% ~3 / 60Hz with thermomagnetic switches</li> <li>9 208V ±10% ~3 / 60Hz with thermomagnetic switches (7)</li> </ul>   |
| 15,16   | <b>Integrated hydronic kit</b> <ul style="list-style-type: none"> <li>00 Without hydronic kit</li> <li><b>Kit with n°1 pump</b> <ul style="list-style-type: none"> <li>PA Pump A (8)</li> <li>PB Pump B (8)</li> <li>PC Pump C (8)</li> <li>PD Pump D (8)</li> <li>PE Pump E (8)</li> <li>PF Pump F (8)</li> <li>PG Pump G (8)</li> <li>PH Pump H (8)</li> </ul> </li> </ul> |

| Field   | Description                                  |
|---|--|
| PI  | Pump I (8)                                   |
| PJ  | Pump J (8)                                   |
| <b>Pump n°1 pump + stand-by pump</b>                      |  |
| DA  | Pump A + stand-by pump (8)                   |
| DB  | Pump B + stand-by pump (8)                   |
| DC  | Pump C + stand-by pump (8)                   |
| DD  | Pump D + stand-by pump (8)                   |
| DE  | Pump E + stand-by pump (8)                   |
| DF  | Pump F + stand-by pump (8)                   |
| DG  | Pump G + stand-by pump (8)                   |
| DH  | Pump H + stand-by pump (8)                   |
| DI  | Pump I + stand-by pump (8)                   |
| DJ  | Pump J + stand-by pump (8)                   |
| <b>Kit with storage tank and n°1 pump</b>                 |  |
| AA  | Storage tank and pump A (8)                  |
| AB  | Storage tank and pump B (8)                  |
| AC  | Storage tank and pump C (8)                  |
| AD  | Storage tank and pump D (8)                  |
| AE  | Storage tank and pump E (8)                  |
| AF  | Storage tank and pump F (8)                  |
| AG  | Storage tank and pump G (8)                  |
| AH  | Storage tank and pump H (8)                  |
| AI  | Storage tank and pump I (8)                  |
| AJ  | Storage tank and pump J (8)                  |
| <b>Kit with storage tank and n°1 pump + stand-by pump</b> |  |
| BA  | Storage tank with pump A + stand-by pump (8) |
| BB  | Storage tank with pump B + stand-by pump (8) |
| BC  | Storage tank with pump C + stand-by pump (8) |
| BD  | Storage tank with pump D + stand-by pump (8) |
| BE  | Storage tank with pump E + stand-by pump (8) |
| BF  | Storage tank with pump F + stand-by pump (8) |
| BG  | Storage tank with pump G + stand-by pump (8) |
| BH  | Storage tank with pump H + stand-by pump (8) |
| BI  | Storage tank with pump I + stand-by pump (8) |
| BJ  | Storage tank with pump J + stand-by pump (8) |

(1) Water produced up to 39.2 °F.

(2) Processed water temperature up to 39.2°F. The standard electronic expansion valve with a size from 2000 to 3000.

(3) Processed water temperature from 39.2°F to 14.0 °F

(4) During operation, a water temperature no lower than 95°F must always be guaranteed on the heat exchanger inlet. The option is not compatible with application Y, Z and the <sup>\*\*\*</sup> fan.

(5) The option is not compatible with application Y and Z and with the hydronic kit with storage tank A\* and B\*.

(6) Not available for silenced versions.

(7) Available only with fans J for sizes from 0800 to 1200.

(8) For the availability of the pumps in the different configurations, refer to the Magellano selection program or the technical documentation.

### 3 UNIT COMPONENTS DESCRIPTION

#### REFRIGERANT CIRCUIT

##### Compressors

Crankcase heaters as standard, automatically activated when the unit stops, as long as power is maintained to the unit.

##### Microchannel coils

The full range uses aluminium microchannel coils, ensuring very high levels of efficiency.  
This allows using less refrigerant compared to traditional copper coils.

##### System side heat exchanger

Brazed plate heat exchanger in stainless steel. It is externally insulated with closed cell neoprene anti-condensation material.  
When the unit is not functioning, it's protected against the formation of ice by an electric heater.

##### Filter drier

Hermetic-mechanical made of hygroscopic material, able to withhold impurities and any traces of humidity present in the cooling circuit.

##### Mechanic thermostatic valve

The mechanical type valve, with external equaliser located at the evaporator outlet, modulates the flow of refrigerant into the evaporator based on the load and ensures the correct superheat of the suction gas.

##### Electronic thermostatic expansion valve

Compared with a mechanical thermostatic valve, the electronic one offers better overheating control so the evaporator is used more efficiently in all conditions, thereby boosting machine output.  
Its use in comfort dedicated applications allows to make substantial benefits especially in the presence of varying loads, because it allows you to maintain the maximum efficiency with any external air temperature.  
In industrial applications, where there is often a need to make temperature changes in a wide range of environmental conditions, the use of the electronic valve is ideal because it avoids the need for continuous calibration, adapting the system to different load conditions and hence making it independent.

■ *Electronic thermostatic X as standard from size 2000÷3000.*

##### Solenoid valves

The valves close when the compressor switches off, blocking the flow of refrigerant gas to the evaporator, recovery and the coil.

■ *Only with the mechanical thermostatic valve*

##### Sight glass

It is used to verify that the expansion system is powered correctly and the presence of humidity in the cooling circuit.

#### HYDRAULIC CIRCUIT

##### Water filter

Equipped with steel filtering mesh, it prevents the heat-exchanger from clogging system side due to any impurity inside the circuit.

■ *Installed in versions with the hydronic kit, it is supplied for version 00.*

##### Recovery side heat exchanger (optional)

Brazed plate heat exchanger in stainless steel. It is externally insulated with closed cell neoprene anti-condensation material.  
When the unit is not functioning, it's protected against the formation of ice by an electric heater.

#### HYDRAULIC CIRCUIT (VERSIONS WITH HYDRONIC KIT)

##### Pump

They provide useful static pressure to the system, excluding the unit pressure drops.

■ *The pumps are programmed in rotation with automatic exchange if the running pump fails*

##### Expansion vessel

Membrane type precharged with nitrogen.

##### Pressure relief valve

Calibrated at 87.0 psi and drain pipe, it activates by discharging overpressure if abnormal pressure occurs.

##### Air drain valve

Mounted at the highest level of the hydraulic system. The air vent is used for the release of any air pockets from the hydraulic circuit.

##### Drain valve

##### System buffer tank

In steel to reduce heat gain and avoid the formation of condensation.

Insulated with polyurethane material of adequate thickness.

It reduces the number of compressor starts and stabilises the water temperature delivered to the system.

It is equipped with antifreeze electrical resistances to ensure minimum temperature of stored water of 5.0 °C, with minimum outdoor temperature of -4.0 °F. The resistance is activated by a water temperature probe placed inside the unit's hydronic circuit.

■ *Available only on request the tank in stainless steel AISI 304.*

#### STRUCTURE AND FANS

##### Structure

Supporting structure for outdoor installation, in hot-dipped galvanized sheet steel, with RAL 9003 polyester powder coating.

Designed to ensure the maximum access for service and maintenance.

##### Standard fan unit

Equipped with accident-prevention net, it consists of axial fans and 6-pole motor with external rotor and protection rating IP54.

Moreover, the motor is equipped with inner thermal protection with automatic reset.

##### Inverter fans

Continuous modulation of revolution speed according to the condensation pressure, highly efficient motor for low energy consumption.

#### CONTROL AND SAFETY COMPONENTS

##### High pressure switch

With fixed calibration, placed on the high pressure side of the cooling circuit, it inhibits the operation of the compressor if abnormal work pressure occurs.

■ *Manual reset*

##### Low pressure transducer

Placed on low pressure side of cooling circuit, it signals the work pressure to the control board, generating a pre-warning in case abnormal pressure occurs.

##### High pressure transducer

Placed on the high pressure side of the cooling circuit, signals the work pressure to control board, generating a pre-warning in case abnormal pressure occurs.

#### ELECTRICAL CONTROL AND POWER PANEL

Complete with:

- door interlocked isolator
- Magnet circuit breakers and contactors for compressors and fans
- external electrical panel
- electronic controller
- All numbered cables

##### Door interlocked isolator

Access to the electrical panel is by operating the handle of the door interlocked isolator which removes power to the unit.

To avoid accidentally powering up the unit during maintenance the isolator is fitted with a locking mechanism.

##### Controller keypad

Allows complete control of the unit.

For further information refer to the user manual.

### Electronic controller

The microprocessor controls features cutting edge functions and proprietary adjustments.

The control panel allows the user to consult and manage the unit operating parameters thanks to a purposely designed multi-language graphic interface.

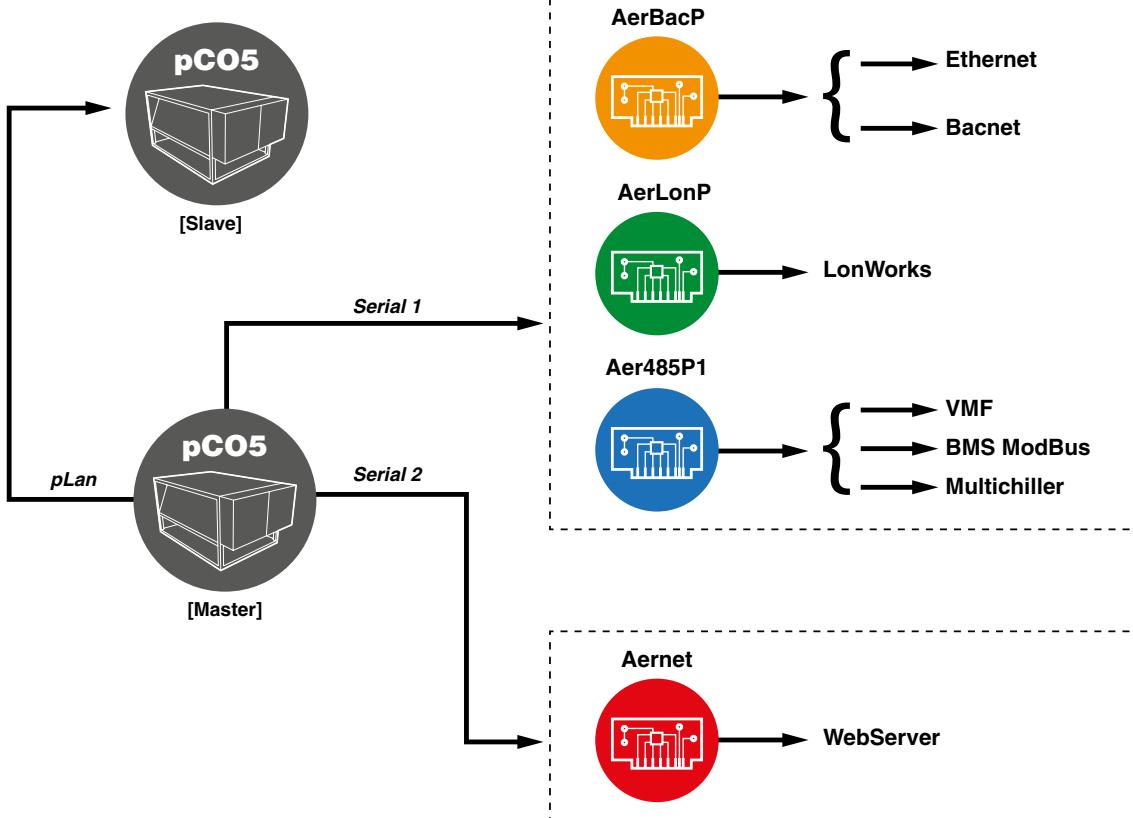
The multi-level menu can be used to control:

- The system temperature for cooling the environments or industrial processes. The different temperatures are managed automatically according to the unit work conditions and requirements.
- Management and alarm log to have always a prompt diagnosis of the unit operation.

- Creation of operation time periods required for efficient programming
- A self-adaptive logic is used to defrost. This logic allows you to adjust the number of defrosts in order to increase efficiency.
- Systems consisting of two chillers allow the unit to be adjusted via (Master/Slave), supplied as per standard. In case of several chillers through the Multichiller\_EVO. The supervision is possible thanks to different options, with proprietary devices or by integrating other systems via ModBus, Bacnet, LonWorks etc. protocols.

A specific keyboard for wall-mounting installation (PGD1 accessory) allows the remote control of all the functions.

■ Note: For further information, refer to the user manual.



## 4 MAIN HYDRAULIC CIRCUITS

### WITHOUT HYDRONIC KIT

**Do not fill up the hydraulic system by glycol near the suction of the pump. High concentration of glycol could stuck the pump. Do not use the pump to mix water and glycol.**

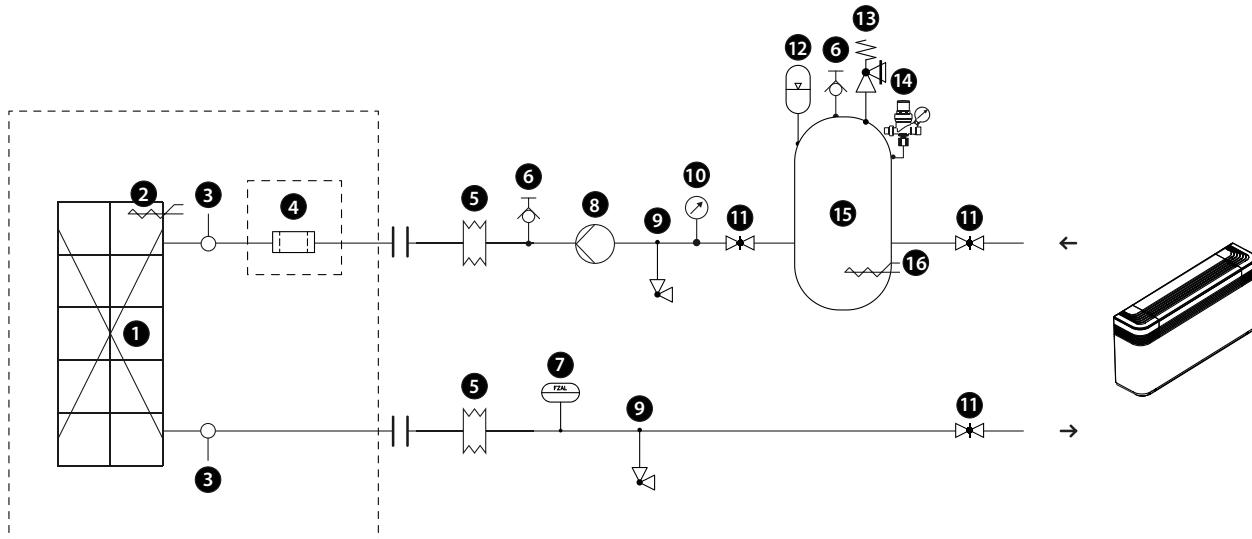
**Water filter: Installation in the immediate vicinity of the heat exchanger is mandatory.**



In the absence of glycol, the machine needs to be powered to ensure the heaters (if present) and the pumps (if present) are operating to avoid glazing and, therefore, damaging the components in the hydraulic circuit.



Flushing the plant's hydraulic circuit (cleaning the hydraulic circuit) needs to be done by excluding the chiller's hydraulic circuit. Make sure, in any case, that the water has not entered the chiller by ensuring you open the chiller's hydraulic circuit drains. Any water accumulated in the chiller's hydraulic circuit can cause icing/damage to the components.



#### Components as standard

- 1 Plate heat exchanger
- 2 Antifreeze electric heater
- 3 Water temperature sensors (IN/OUT)
- 4 Water filter (as standard)

#### Components not provided and responsibility of the installer

- 5 Anti-vibration joints
- 6 Air drain valve
- 7 Flow switch (MANDATORY)

- 8 Pump
- 9 Drain valve
- 10 Pressure gauge
- 11 Flow shut-off valves
- 12 Expansion vessel
- 13 Pressure relief valve
- 14 Loading unit
- 15 Storage tank



It is of fundamental importance to keep the oxygen concentration in the water under control, especially in open vessel systems. This type of system, in fact, is very sensitive to the phenomenon of extra-oxygenation of the water (an event that can be encouraged by the incorrect positioning of some components). This phenomenon can trigger corrosion processes and subsequent drilling of the heat exchanger and pipes.

#### Water characteristics

##### System: Chiller with plate heat exchanger

|                                  |               |
|----------------------------------|---------------|
| PH                               | 7,5 - 9       |
| Total hardness                   | 4,5 - 8,5 °dH |
| Temperature                      | < 65 °C       |
| Oxygen content                   | < 0,1 ppm     |
| Max. glycol amount               | 50 %          |
| Phosphates (PO <sub>4</sub> )    | < 2ppm        |
| Manganese (Mn)                   | < 0,05 ppm    |
| Iron (Fe)                        | < 0,3 ppm     |
| Alkalinity (HCO <sub>3</sub> )   | 70 - 300 ppm  |
| Chloride ions (Cl <sup>-</sup> ) | < 50 ppm      |
| Sulphate ions (SO <sub>4</sub> ) | < 50 ppm      |
| Sulphide ion (S)                 | None          |
| Ammonium ions (NH <sub>4</sub> ) | None          |
| Silica (SiO <sub>2</sub> )       | < 30 ppm      |



**WARNING under no circumstances does the unit have to be operated with water circulating on the heat exchanger whose characteristics are different from those indicated in the table WATER CHARACTERISTICS, under penalty of the warranty expiration. Aermec cannot be held responsible for any malfunction of the units which are operated with water whose characteristics are outside the limits in the table WATER CHARACTERISTICS and for their consequences.**

## WITH PUMPS

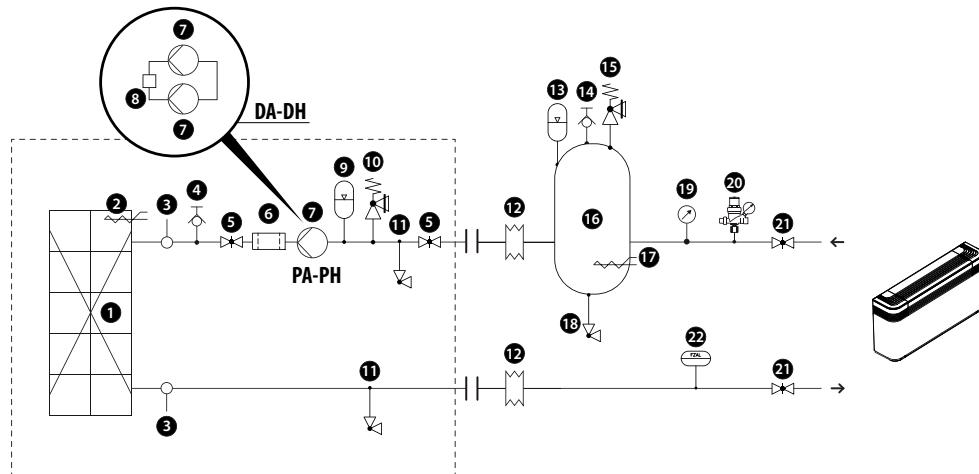
- Do not fill up the hydraulic system by glycol near the suction of the pump. High concentration of glycol could stuck the pump. Do not use the pump to mix water and glycol.
- Water filter: Installation in the immediate vicinity of the heat exchanger is mandatory.



In the absence of glycol, the machine needs to be powered to ensure the heaters (if present) and the pumps (if present) are operating to avoid glazing and, therefore, damaging the components in the hydraulic circuit.



Flushing the plant's hydraulic circuit (cleaning the hydraulic circuit) needs to be done by excluding the chiller's hydraulic circuit. Make sure, in any case, that the water has not entered the chiller by ensuring you open the chiller's hydraulic circuit drains. Any water accumulated in the chiller's hydraulic circuit can cause icing/damage to the components.



### Components as standard

- Plate heat exchanger
- Antifreeze electric heater
- Water temperature sensors (IN/OUT)
- Air drain valve
- Flow shut-off valves
- Water filter
- Pump
- Clapet valve
- Expansion vessel
- Pressure relief valve
- Drain valve

### Components not provided and responsibility of the installer

- Anti-vibration joints
- Expansion vessel
- Air drain valve
- Pressure relief valve
- Storage tank
- Antifreeze electric heater
- Drain valve
- Pressure gauge
- Loading unit
- Flow shut-off valves
- Flow switch (MANDATORY)

### Water characteristics

#### System: Chiller with plate heat exchanger

|                                 |               |
|---------------------------------|---------------|
| PH                              | 7,5 - 9       |
| Total hardness                  | 4,5 - 8,5 °dH |
| Temperature                     | < 65 °C       |
| Oxygen content                  | < 0,1 ppm     |
| Max. glycol amount              | 50 %          |
| Phosphates ( $\text{PO}_4$ )    | < 2ppm        |
| Manganese (Mn)                  | < 0,05 ppm    |
| Iron (Fe)                       | < 0,3 ppm     |
| Alkalinity ( $\text{HCO}_3$ )   | 70 - 300 ppm  |
| Chloride ions ( $\text{Cl}^-$ ) | < 50 ppm      |
| Sulphate ions ( $\text{SO}_4$ ) | < 50 ppm      |
| Sulphide ion (S)                | None          |
| Ammonium ions ( $\text{NH}_4$ ) | None          |
| Silica ( $\text{SiO}_2$ )       | < 30 ppm      |

corrosion processes and subsequent drilling of the heat exchanger and pipes.

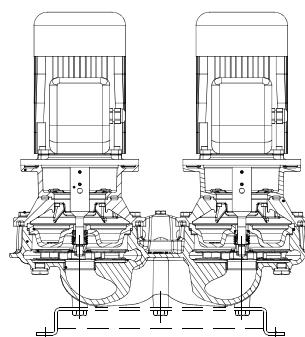
### Clapet valve



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It is of fundamental importance to keep the oxygen concentration in the water under control, especially in open vessel systems. This type of system, in fact, is very sensitive to the phenomenon of extra-oxygenation of the water (an event that can be encouraged by the incorrect positioning of some components). This phenomenon can trigger



1 Clapet valve

The unit with double pump circuit does not have one-way valves. If you choose to install two units in parallel or in cascade, it is recommended to provide one-way valves for the correct operation of the unit.

## WITH PUMPS AND STORAGE TANK

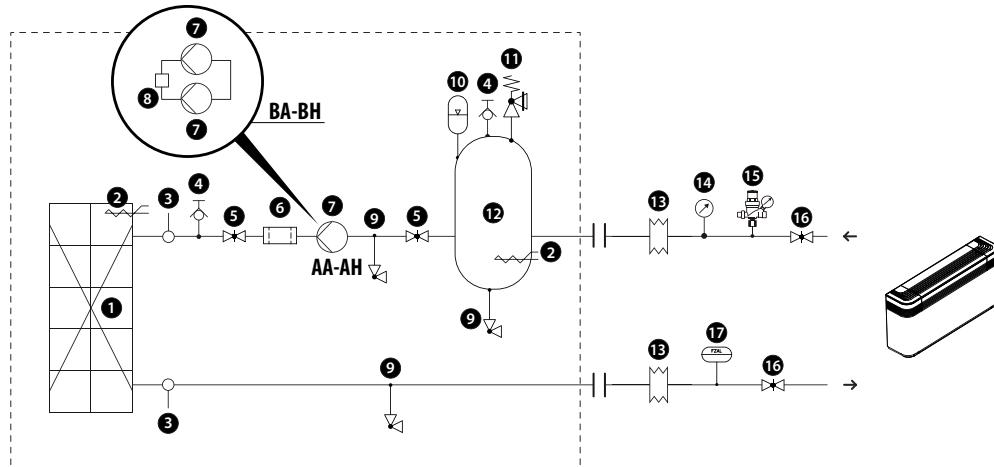
- Do not fill up the hydraulic system by glycol near the suction of the pump. High concentration of glycol could stuck the pump. Do not use the pump to mix water and glycol.
- Water filter: Installation in the immediate vicinity of the heat exchanger is mandatory.



In the absence of glycol, the machine needs to be powered to ensure the heaters (if present) and the pumps (if present) are operating to avoid glazing and, therefore, damaging the components in the hydraulic circuit.



Flushing the plant's hydraulic circuit (cleaning the hydraulic circuit) needs to be done by excluding the chiller's hydraulic circuit. Make sure, in any case, that the water has not entered the chiller by ensuring you open the chiller's hydraulic circuit drains. Any water accumulated in the chiller's hydraulic circuit can cause icing/damage to the components.



### Components as standard

- 1 Plate heat exchanger
- 2 Antifreeze electric heater
- 3 Water temperature sensors (IN/OUT)
- 4 Air drain valve
- 5 Flow shut-off valves
- 6 Water filter
- 7 Pump
- 8 Clapet valve
- 9 Drain valve

- 10 Expansion vessel
- 11 Pressure relief valve
- 12 Storage tank

### Components not provided and responsibility of the installer

- 13 Anti-vibration joints
- 14 Pressure gauge
- 15 Loading unit
- 16 Flow shut-off valves
- 17 Flow switch (MANDATORY)

### Water characteristics

#### System: Chiller with plate heat exchanger

|                                  |               |
|----------------------------------|---------------|
| PH                               | 7,5 - 9       |
| Total hardness                   | 4,5 - 8,5 °dH |
| Temperature                      | < 65 °C       |
| Oxygen content                   | < 0,1 ppm     |
| Max. glycol amount               | 50 %          |
| Phosphates (PO <sub>4</sub> )    | < 2ppm        |
| Manganese (Mn)                   | < 0,05 ppm    |
| Iron (Fe)                        | < 0,3 ppm     |
| Alkalinity (HCO <sub>3</sub> )   | 70 - 300 ppm  |
| Chloride ions (Cl <sup>-</sup> ) | < 50 ppm      |
| Sulphate ions (SO <sub>4</sub> ) | < 50 ppm      |
| Sulphide ion (S)                 | None          |
| Ammonium ions (NH <sub>4</sub> ) | None          |
| Silica (SiO <sub>2</sub> )       | < 30 ppm      |

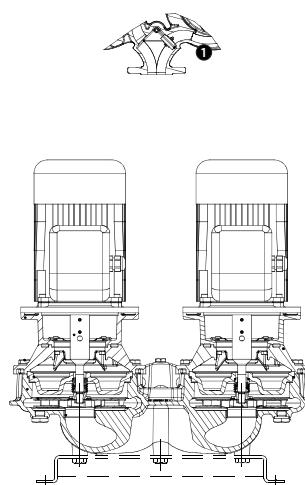
### Clapet valve



**WARNING** under no circumstances does the unit have to be operated with water circulating on the heat exchanger whose characteristics are different from those indicated in the table WATER CHARACTERISTICS, under penalty of the warranty expiration. Aermec cannot be held responsible for any malfunction of the units which are operated with water whose characteristics are outside the limits in the table WATER CHARACTERISTICS and for their consequences.



It is of fundamental importance to keep the oxygen concentration in the water under control, especially in open vessel systems. This type of system, in fact, is very sensitive to the phenomenon of extra-oxygenation of the water (an event that can be encouraged by the incorrect positioning of some components). This phenomenon can trigger corrosion processes and subsequent drilling of the heat exchanger and pipes.



1 Clapet valve

The unit with double pump circuit does not have one-way valves. If you choose to install two units in parallel or in cascade, it is recommended to provide one-way valves for the correct operation of the unit.

## WITH DESUPERHEATER

■ Do not fill up the hydraulic system by glycol near the suction of the pump. High concentration of glycol could stuck the pump. Do not use the pump to mix water and glycol.

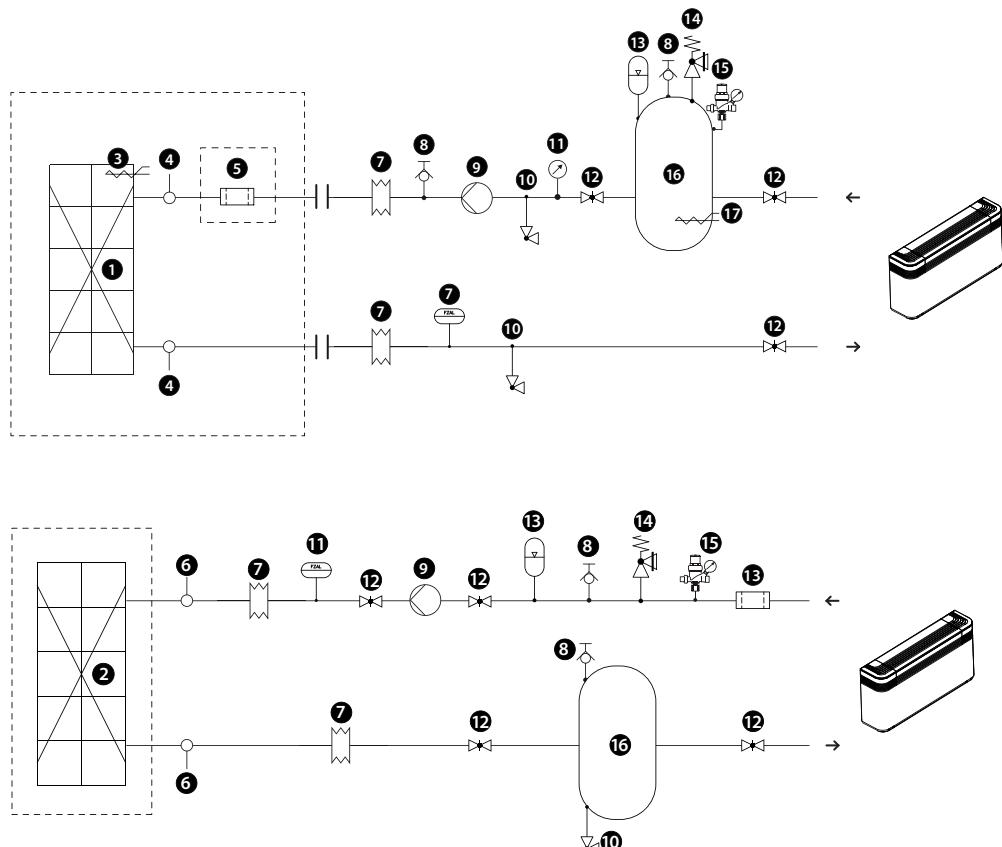
■ Water filter: Installation in the immediate vicinity of the heat exchanger is mandatory.

 In the absence of glycol, the machine needs to be powered to ensure the heaters (if present) and the pumps (if present) are operating to

avoid glazing and, therefore, damaging the components in the hydraulic circuit.



Flushing the plant's hydraulic circuit (cleaning the hydraulic circuit) needs to be done by excluding the chiller's hydraulic circuit. Make sure, in any case, that the water has not entered the chiller by ensuring you open the chiller's hydraulic circuit drains. Any water accumulated in the chiller's hydraulic circuit can cause icing/damage to the components.



### Components as standard

- 1 Plate heat exchanger
- 2 Plate heat exchanger (desuperheater)
- 3 Antifreeze electric heater
- 4 Water temperature sensors (IN/OUT)
- 5 Water filter (as standard)

### Components not provided and responsibility of the installer

- 6 Water temperature sensors (IN/OUT)
- 7 Anti-vibration joints
- 8 Air drain valve
- 9 Pump
- 10 Drain valve

- 11 Pressure gauge
- 12 Flow shut-off valves
- 13 Expansion vessel
- 14 Pressure relief valve
- 15 Loading unit
- 16 Storage tank
- 17 Antifreeze electric heater

### Water characteristics

#### System: Chiller with plate heat exchanger

|                                  |              |
|----------------------------------|--------------|
| PH                               | 7,5 - 9      |
| Total hardness                   | 4,5 - 8,5 dH |
| Temperature                      | < 65 °C      |
| Oxygen content                   | < 0,1 ppm    |
| Max. glycol amount               | 50 %         |
| Phosphates (PO <sub>4</sub> )    | < 2ppm       |
| Manganese (Mn)                   | < 0,05 ppm   |
| Iron (Fe)                        | < 0,3 ppm    |
| Alkalinity (HCO <sub>3</sub> )   | 70 - 300 ppm |
| Chloride ions (Cl <sup>-</sup> ) | < 50 ppm     |
| Sulphate ions (SO <sub>4</sub> ) | < 50 ppm     |
| Sulphide ion (S)                 | None         |
| Ammonium ions (NH <sub>4</sub> ) | None         |
| Silica (SiO <sub>2</sub> )       | < 30 ppm     |

held responsible for any malfunction of the units which are operated with water whose characteristics are outside the limits in the table WATER CHARACTERISTICS and for their consequences.



It is of fundamental importance to keep the oxygen concentration in the water under control, especially in open vessel systems. This type of system, in fact, is very sensitive to the phenomenon of extra-oxygenation of the water (an event that can be encouraged by the incorrect positioning of some components). This phenomenon can trigger corrosion processes and subsequent drilling of the heat exchanger and pipes.



**WARNING** under no circumstances does the unit have to be operated with water circulating on the heat exchanger whose characteristics are different from those indicated in the table WATER CHARACTERISTICS, under penalty of the warranty expiration. Aermec cannot be

## WITH TOTAL RECOVERY

**Do not fill up the hydraulic system by glycol near the suction of the pump. High concentration of glycol could stuck the pump. Do not use the pump to mix water and glycol.**

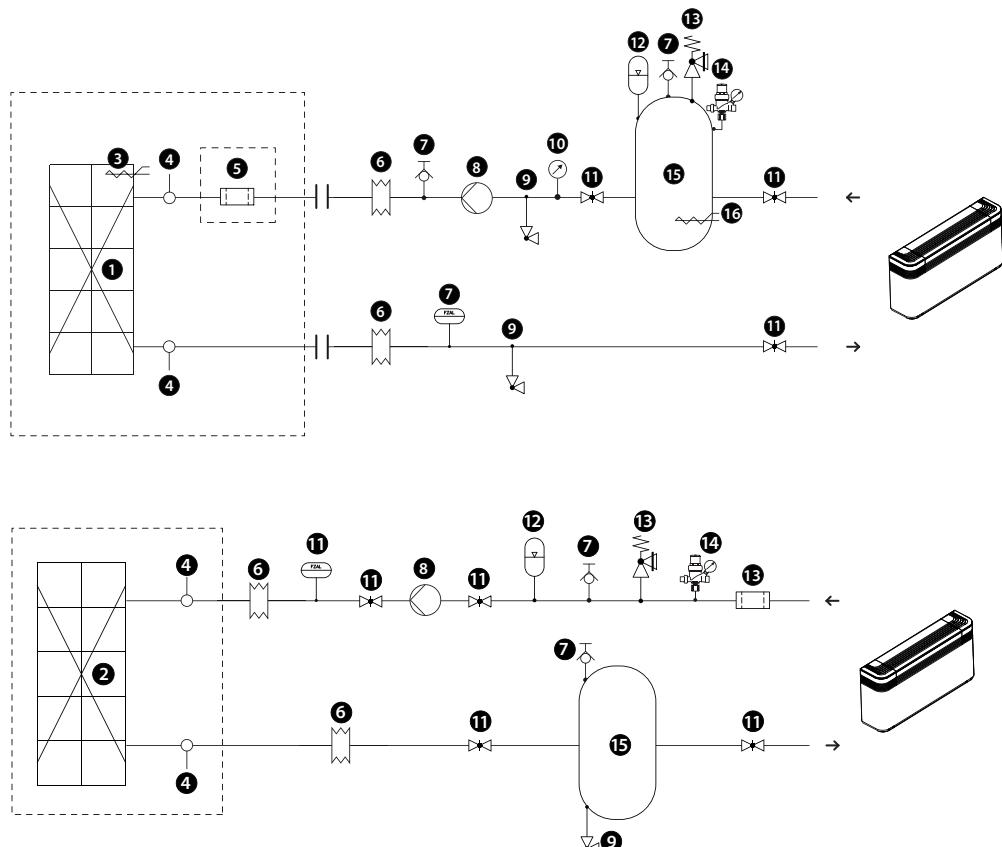
**Water filter: Installation in the immediate vicinity of the heat exchanger is mandatory.**

**In the absence of glycol, the machine needs to be powered to ensure the heaters (if present) and the pumps (if present) are operating to**

**avoid glazing and, therefore, damaging the components in the hydraulic circuit.**



**Flushing the plant's hydraulic circuit (cleaning the hydraulic circuit) needs to be done by excluding the chiller's hydraulic circuit. Make sure, in any case, that the water has not entered the chiller by ensuring you open the chiller's hydraulic circuit drains. Any water accumulated in the chiller's hydraulic circuit can cause icing/damage to the components.**



### Components as standard

- 1 Plate heat exchanger
- 2 Plate heat exchanger (total recovery)
- 3 Antifreeze electric heater
- 4 Water temperature sensors (IN/OUT)
- 5 Water filter (as standard)

### Components not provided and responsibility of the installer

- 6 Anti-vibration joints
- 7 Air drain valve
- 8 Pump
- 9 Drain valve
- 10 Pressure gauge

- 11 Flow shut-off valves
- 12 Expansion vessel
- 13 Pressure relief valve
- 14 Loading unit
- 15 Storage tank
- 16 Antifreeze electric heater

### Water characteristics

#### System: Chiller with plate heat exchanger

|                                  |               |
|----------------------------------|---------------|
| PH                               | 7,5 - 9       |
| Total hardness                   | 4,5 - 8,5 °dH |
| Temperature                      | < 65 °C       |
| Oxygen content                   | < 0,1 ppm     |
| Max. glycol amount               | 50 %          |
| Phosphates (PO <sub>4</sub> )    | < 2ppm        |
| Manganese (Mn)                   | < 0,05 ppm    |
| Iron (Fe)                        | < 0,3 ppm     |
| Alkalinity (HCO <sub>3</sub> )   | 70 - 300 ppm  |
| Chloride ions (Cl <sup>-</sup> ) | < 50 ppm      |
| Sulphate ions (SO <sub>4</sub> ) | < 50 ppm      |
| Sulphide ion (S)                 | None          |
| Ammonium ions (NH <sub>4</sub> ) | None          |
| Silica (SiO <sub>2</sub> )       | < 30 ppm      |

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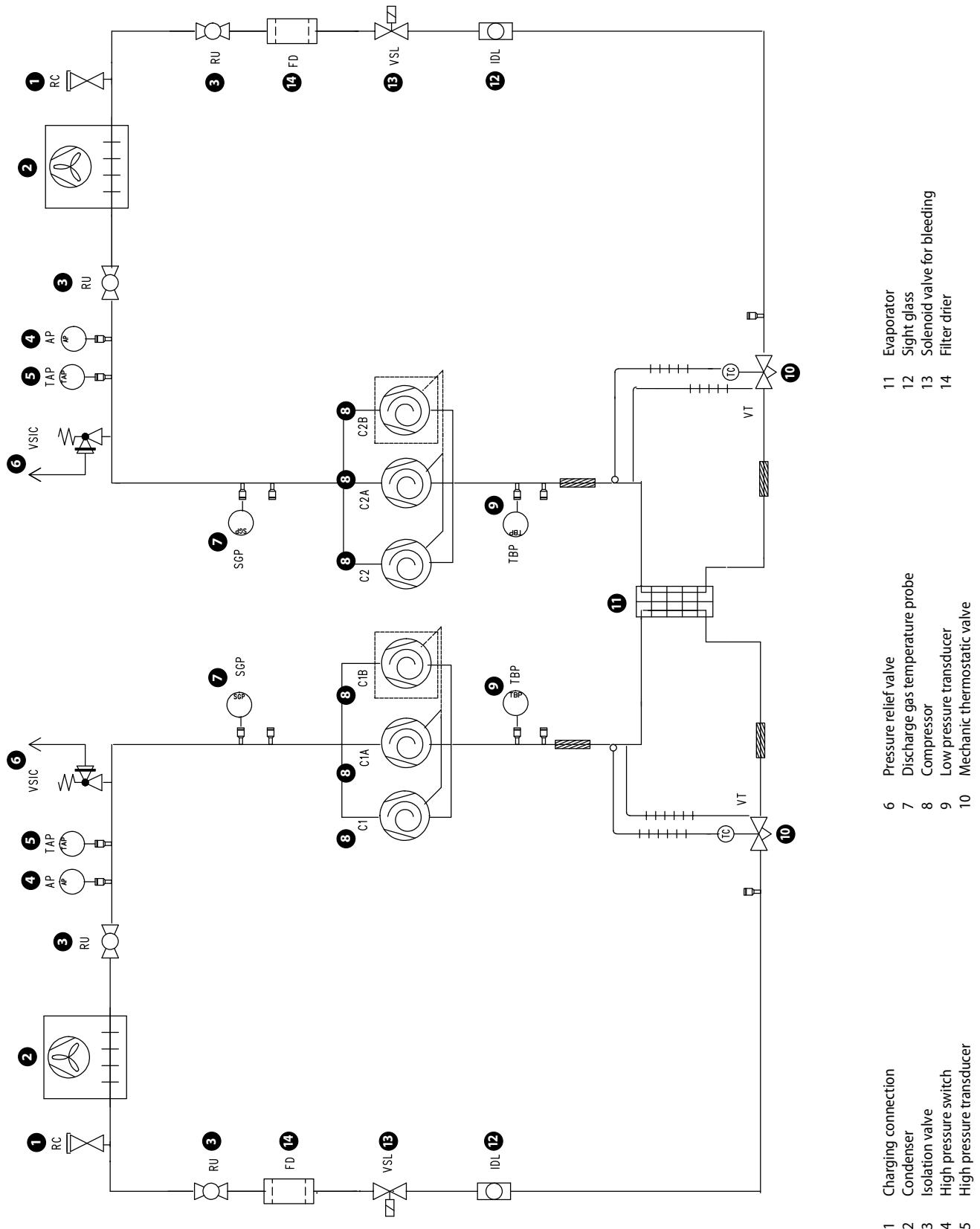
**It is of fundamental importance to keep the oxygen concentration in the water under control, especially in open vessel systems. This type of system, in fact, is very sensitive to the phenomenon of extra-oxygenation of the water (an event that can be encouraged by the incorrect positioning of some components). This phenomenon can trigger corrosion processes and subsequent drilling of the heat exchanger and pipes.**



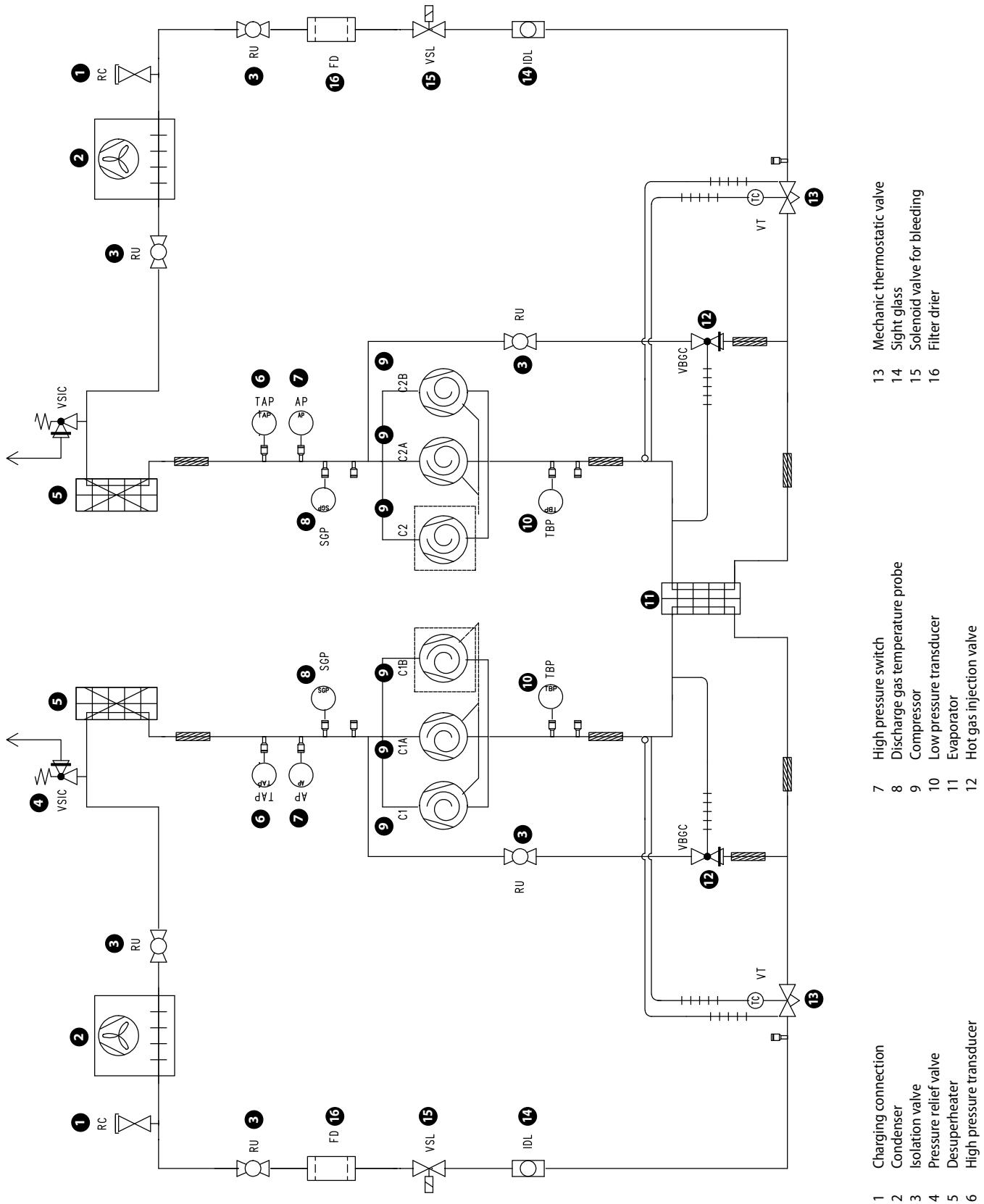
**WARNING under no circumstances does the unit have to be operated with water circulating on the heat exchanger whose characteristics are different from those indicated in the table WATER CHARACTERISTICS, under penalty of the warranty expiration. Aermec cannot be**

## 5 MAIN COOLING REFRIGERANT LAYOUTS

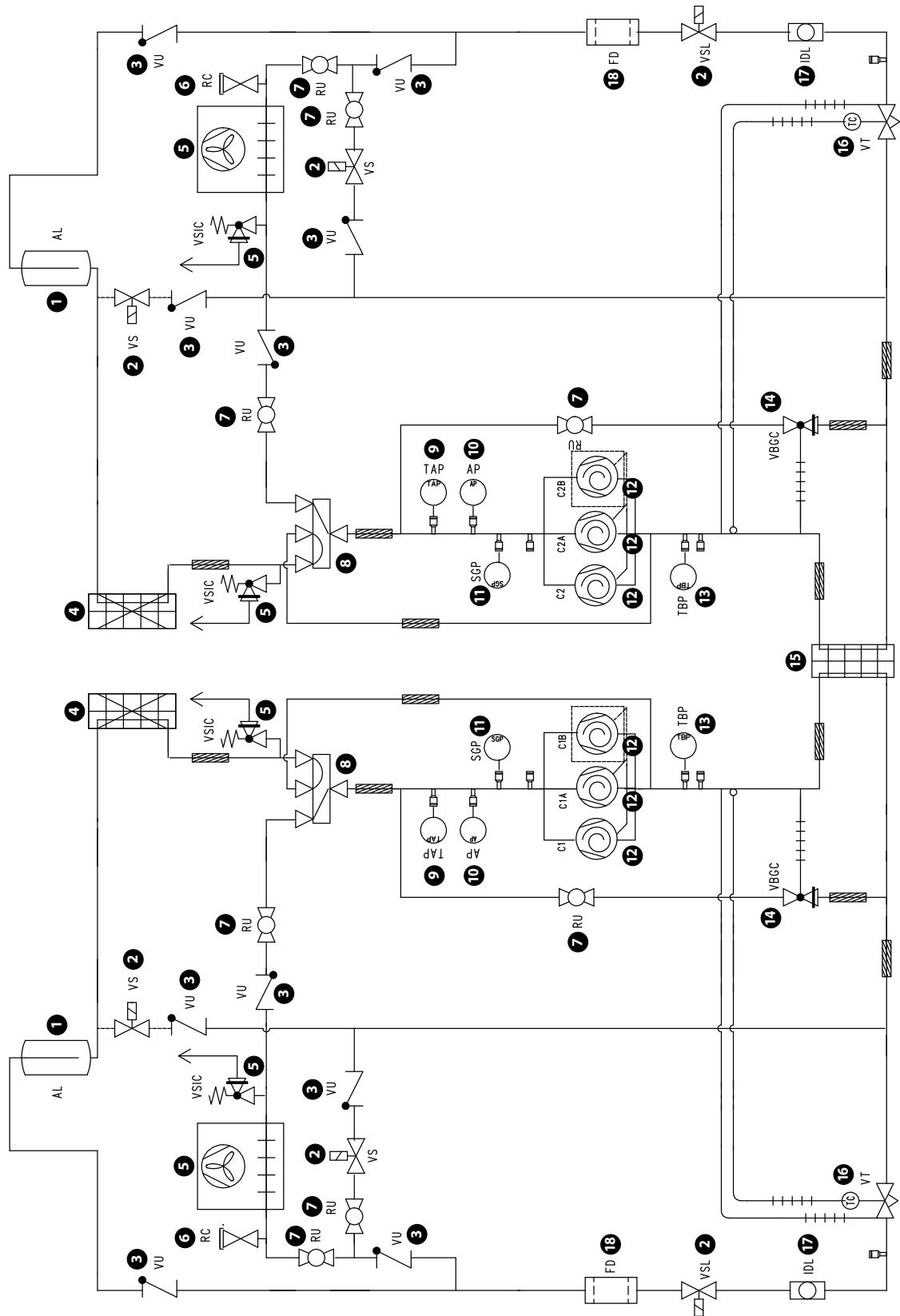
NRB 0800 ÷ 1800 - VALVE °



**NRB 0800 ÷ 1800 - VALVE ° - DESUPERHEATER D**

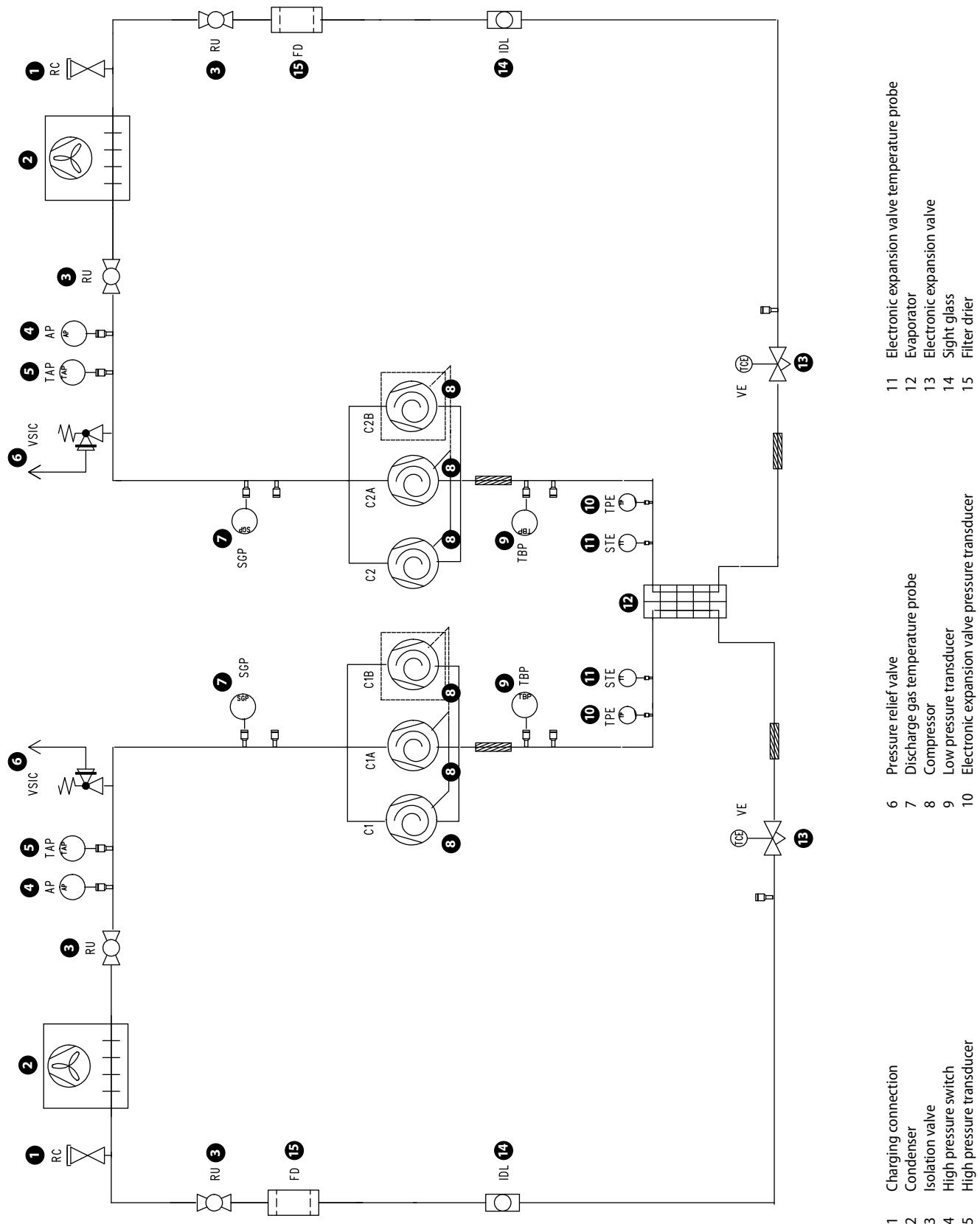


**NRB 0800 ÷ 1800 - VALVE ° - TOTAL RECOVERY T**

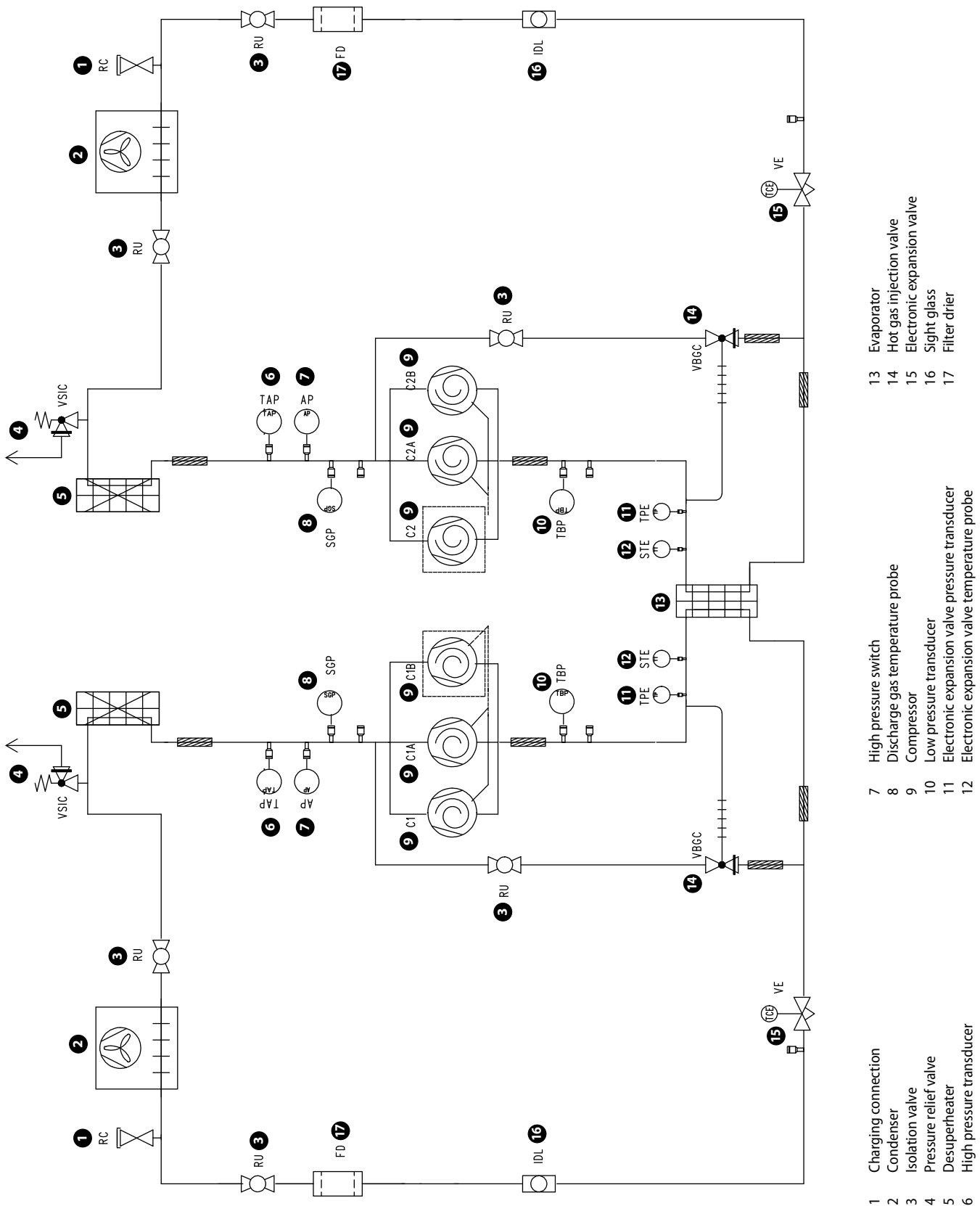


- |    |                                 |
|----|---------------------------------|
| 1  | Liquid accumulator              |
| 2  | Solenoid valve for bleeding     |
| 3  | One-way valve                   |
| 4  | Total recovery                  |
| 5  | Condenser                       |
| 6  | Charging connection             |
| 7  | Isolation valve                 |
| 8  | 4-way cycle inversion valve     |
| 9  | High pressure transducer        |
| 10 | High pressure switch            |
| 11 | Discharge gas temperature probe |
| 12 | Compressor                      |
| 13 | Low pressure transducer         |
| 14 | Evaporator                      |
| 15 | Mechanic thermostatic valve     |
| 16 | Sight glass                     |
| 17 | Filter drier                    |

**NRB 2000 ÷ 3000 - VALVE X / NRB 0800 ÷ 1800 - VALVE X OPTIONAL**

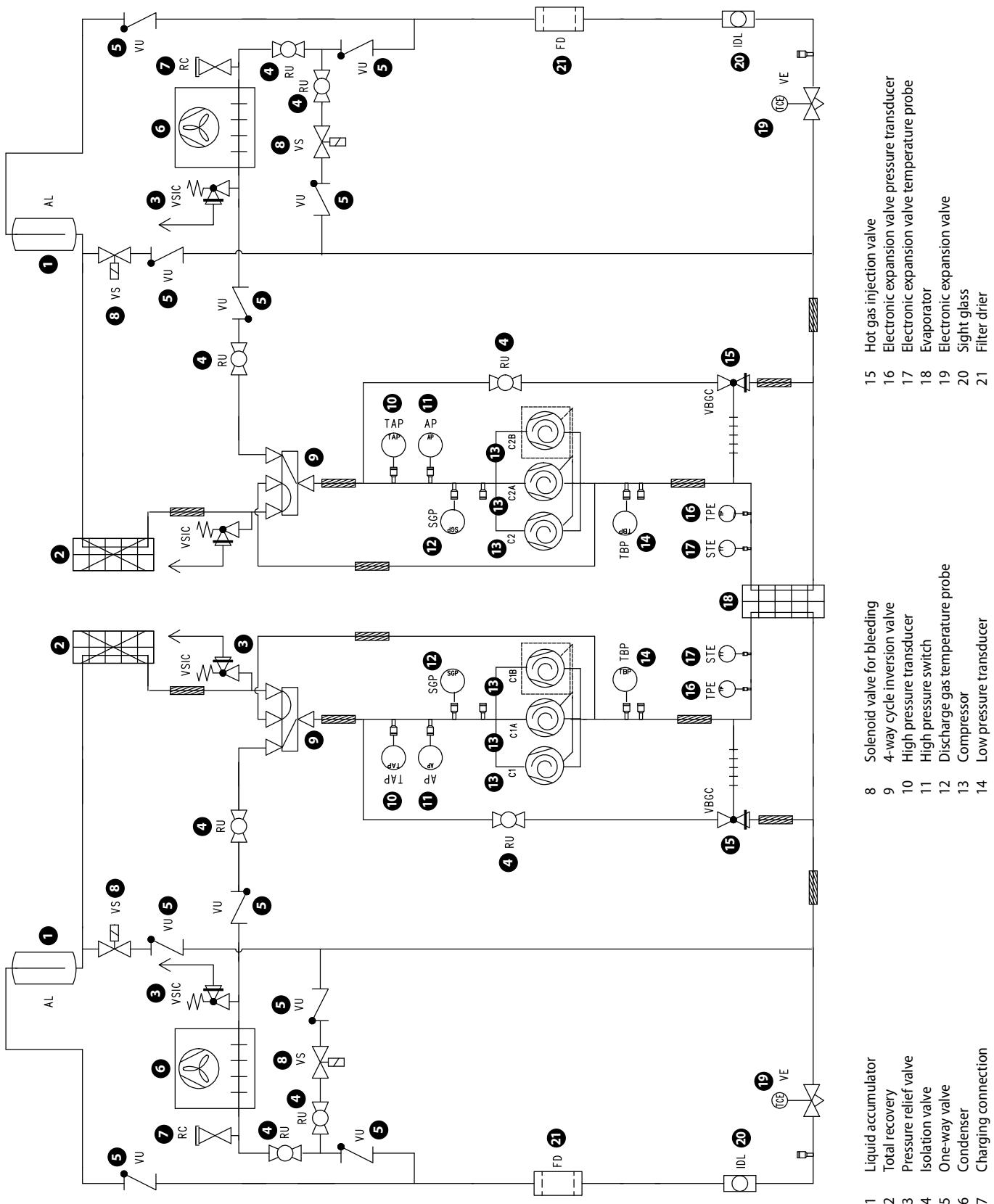


**NRB 2000 ÷ 3000 - VALVE X - DESUPERHEATER D / NRB 0800 ÷ 1800 - VALVE X OPTIONAL - DESUPERHEATER D**



- 1 Charging connection
- 2 Condenser
- 3 Isolation valve
- 4 Pressure relief valve
- 5 Desuperheater
- 6 High pressure transducer
- 7 High pressure switch
- 8 Discharge gas temperature probe
- 9 Compressor
- 10 Low pressure transducer
- 11 Electronic expansion valve pressure transducer
- 12 High pressure transducer
- 13 Evaporator
- 14 Hot gas injection valve
- 15 Electronic expansion valve
- 16 Sight glass
- 17 Filter drier

**NRB 2000 ÷ 3000 - VALVE X - TOTAL RECOVERY T / NRB 0800 ÷ 1800 - VALVE X OPTIONAL - TOTAL RECOVERY T**



## 6 ACCESSORIES

**AER485P1:** RS-485 interface for supervision systems with MODBUS protocol.

**AERNET:** The device allows the control, the management and the remote monitoring of a Chiller with a PC, smartphone or tablet using Cloud connection. AERNET works as Master while every unit connected is configured as Slave (max. 6 unit); also, with a simple click is possible to save a log file with all the connected unit datas in the personal terminal for post analysis.

**FL:** Flow switch.

**MULTICHILLER\_EVO:** Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel, always ensuring constant flow rate to the evaporators.

**PGD1:** Allows you to control the unit at a distance.

**AVX:** Spring anti-vibration supports.

### FACTORY FITTED ACCESSORIES

**DRE:** Electronic device for peak current reduction.

**RIF:** Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current.

**GP\_:** Anti-intrusion grid kit

### ACCESSORIES COMPATIBILITY

| Model            | Ver     | 0800 | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|------------------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| AER485P1         | A,E,N,U | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    |
| AERNET           | A,E,N,U | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    |
| FL               | A,E,N,U | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    |
| MULTICHILLER_EVO | A,E,N,U | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    |
| PGD1             | A,E,N,U | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    | .    |

Antivibration

| Ver                                | 0800    | 0900    | 1000    | 1100    | 1200    | 1400    | 1600    | 1800    | 2000    | 2200    | 2400    | 2600    | 2800    | 3000    |
|------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>Integrated hydronic kit: 00</b> |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| A                                  | AVX1099 | AVX1099 | AVX1080 | AVX1080 | AVX1080 | AVX1080 | AVX1081 | AVX1081 | AVX1083 | AVX1100 | AVX1089 | AVX1087 | AVX1087 | AVX1087 |
| E,U                                | AVX1080 | AVX1080 | AVX1080 | AVX1081 | AVX1081 | AVX1081 | AVX1083 | AVX1084 | AVX1084 | AVX1087 | AVX1087 | AVX1091 | AVX1091 | AVX1092 |
| N                                  | AVX1081 | AVX1081 | AVX1081 | AVX1083 | AVX1083 | AVX1083 | AVX1084 | AVX1085 | AVX1085 | AVX1101 | AVX1090 | AVX1092 | AVX1092 | AVX1093 |

**230V and 208V power supplies: Available only with fans J for sizes from 0800 to 1200.**

Device for peak current reduction

| Ver     | 0800    | 0900    | 1000    | 1100    | 1200    | 1400    | 1600    | 1800    | 2000    | 2200    | 2400    | 2600    | 2800    | 3000    |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| A,E,N,U | DRE (1) |

(1) Contact the factory

A grey background indicates the accessory must be assembled in the factory

Power factor correction

| Ver     | 0800    | 0900    | 1000    | 1100    | 1200    | 1400    | 1600    | 1800    | 2000    | 2200    | 2400    | 2600    | 2800    | 3000    |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| A,E,N,U | RIF (1) |

(1) Contact the factory

A grey background indicates the accessory must be assembled in the factory

Anti-intrusion grid

| Ver | 0800  | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200 | 2400 | 2600  | 2800  | 3000  |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|
| A   | GP2VN | GP2VN | GP3VN | GP3VN | GP3VN | GP4VN | GP4VN | GP5VN | GP5VN | GP6V | GP7V | GP7V  | GP7V  | GP7V  |
| E,U | GP3VN | GP3VN | GP3VN | GP4VN | GP4VN | GP4VN | GP5VN | GP6V  | GP6V  | GP7V | GP7V | GP8V  | GP8V  | GP9VN |
| N   | GP4VN | GP4VN | GP4VN | GPSVN | GPSVN | GP5VN | GP6V  | GP7V  | GP7V  | GP8V | GP8V | GP9VN | GP9VN | GP10V |

A grey background indicates the accessory must be assembled in the factory

## 7 SELECTION CRITERIA OF THE HEAT EXCHANGERS ACCORDING TO THE PLACE OF INSTALLATION OF THE UNIT

The guide provides advice for applications. Although recommendations are given, all the details about the real world application of our products cannot be fully covered in this document.

For these reasons, this section contains the basic warnings and precautions to be taken into account in general, it being understood that:

- The final choice of the type of exchanger according to the place of installation is left to the client (or to the professional appointed by him).
- In any case, it is recommended to wash the coils with adequate frequency (a maximum time interval of three months is recommended, shorter in conditions of particularly dirty and aggressive atmospheres) to preserve their condition and ensure the proper functioning of the unit.

Potentially corrosive outdoor environments include areas near coasts, industrial sites, densely populated urban areas, certain rural areas or a combination of these environments. Other factors, including the presence of effluent gas, sewage vents or open sewage systems and the exhaust of diesel engines can all be harmful for the microchannel coil.

The purpose of this application guide is to provide general information on the mechanisms of corrosion and corrosive environments.

### SEA COAST ENVIRONMENTS

Coastal or marine environments are characterized by the abundance of sodium chloride (salt) which is carried by sea spray, mist, or fog. Most importantly, this salt water can be carried more than several miles by ocean breezes and tidal currents. It's not uncommon to experience salt-water contamination as far as 6.2 mi from the coast.

For this reason, it may be necessary to protect the exchangers from electrolytes of marine origin through the appropriate choice of materials and / or appropriate protective treatment.

### INDUSTRIAL ENVIRONMENTS

Industrial applications are associated with several different conditions that can potentially produce a variety of atmospheric emissions.

Contaminants from sulphur and nitrogen oxides are most often linked to high-density urban environments. The combustion of coal oils and fuel oils releases sulphur oxides ( $\text{SO}_2$ ,  $\text{SO}_3$ ) and nitrogen oxides ( $\text{NO}_x$ ) into the atmosphere. These gases accumulate in the atmosphere and return to the ground as acid rain or low pH dew. Industrial emissions are not only potentially corrosive: many industrial dust particles can be loaded with harmful components such as metal oxides, chlorides, sulphates, sulfuric acid, carbon and carbon compounds.

In the presence of oxygen, water or high humidity environments, these particles can be extremely corrosive and in several forms, including general and localised corrosion, such as pitting and anthill.

### MIX OF SEASIDE AND INDUSTRIAL ENVIRONMENTS

Sea mist loaded with salt, associated with the harmful emissions of an industrial environment, poses a serious risk.

The combined effects of the salt loaded mist and industrial emissions accelerate corrosion.

Within the manufacturing plants, corrosive gas may result from the processing of chemicals or by the typical industrial processes used in manufacturing.

Potential sources of risk to be considered are open sewage systems, exhaust vents, diesel engine exhaust, emissions from heavy traffic, landfills, aircraft and ocean-go-

ing ship engine exhaust, industrial production, chemical treatment facilities (cooling towers in the vicinity) and fossil fuel power plants.

### URBAN ENVIRONMENTS

Densely populated areas generally have high levels of emissions of motor vehicles and increases in fuel use for heating buildings.

Both conditions elevate sulfur oxide ( $\text{SO}_x$ ) and nitrogen oxide ( $\text{NO}_x$ ) concentrations. Corrosive atmospheres may even occur in some closed areas, such as facilities with swimming pools and water treatment systems.

It is advisable to pay particular attention to the positioning of the units if it occurs in the immediate vicinity of these places, and to avoid that they are installed in the vicinity of outlets for the expulsion of air coming from them, or in any case exposed to such atmospheres.

Corrosion severity in this environment is a function of the pollution levels, which in turn depend on several factors including population density in the area.

Any equipment installed in locations immediately adjacent to diesel engine exhausts, incinerator flues, fuel-fired boiler flues, or areas exposed to fossil fuel emissions shall be considered subject to the same measures as an industrial application.

### RURAL ENVIRONMENTS

Rural environments may contain high levels of pollution from ammonia and nitrogen products from animal excrements, fertilizers and high concentration of diesel engine exhaust. The approach to these environments must be entirely similar to that of industrial environments.

Local weather conditions have a major role in the concentration or dispersion of outdoor gaseous contaminants.

Thermal inversions can trap pollutants, thereby producing serious air pollution problems.

### ADDITIONAL TIPS

Although each of the above corrosive environments can be detrimental to the life of the heat exchanger, several additional factors must be considered before choosing the final design.

The local climate surrounding the site of application may be influenced by the presence of:

- wind
- dust
- road salts
- swimming pools
- diesel engines discharge / traffic
- Localised mist
- cleaning agents for domestic use
- Sewage system outlets
- many other separate contaminants

Even within 1.9-3.1 mi from these particular local climates a normal environment with moderate characteristics can be classified as an environment that requires preventive corrosion measures. When these factors are directly and immediately part of the environment, their influence is further aggravating.

Only in the absence of potentially risky situations such as those indicated above can an environment be considered moderate.

| Application           | Tip                            |
|-----------------------|--------------------------------|
| Severe environments   | Coils with suitable protection |
| Moderate environments | Standard coil °                |

## 8 BASIC PRINCIPLES ON MICROCHANNEL COIL CORROSION

The main material in Aermec heat exchangers is aluminium.

Aluminum is a very reactive metal, which is easily oxidized on its surface. As long as this hard layer of aluminum oxide remains intact, the aluminum at the base will remain resistant to corrosion (unlike other materials, such as steel, where the oxide layer peels off the surface and flakes off, allowing the constant attack of the underlying metal).

However, aggressive environments can damage the oxide layer, which may not regenerate as quickly as necessary to provide the product with sufficient protection. These harsh environments are typified by very high or very low pH levels. Normally, aluminum's protective oxide layer is generally stable in the pH range of 4.5 to 8.5; the lack of exposure to excessively acidic or basic pH conditions is not in itself sufficient to exclude the need for appropriate protective treatments on the batteries.

The presence of salt (associated with marine environments) as well as the presence of other aggressive substances can in fact induce widespread or localized galvanic corrosion (pitting or anthill corrosion).

### OTHER RISK FACTORS FOR CORROSION

The principal cause of corrosion is elevated humidity and/or temperatures in the presence of contaminant gases. These conditions alone, or in combination, accelerate the natural corrosion process in metals.

#### Humidity

Moisture in air can be considered the lifeblood of galvanic corrosion. A galvanic corrosion cell requires an electrolyte or current carrying media, to reach a dynamic state. The electrolyte can be water or any water-soluble substance with good conducting properties. Moisture in the air is one such electrolyte. Humid air contaminated with corrosive gasses further accelerates the corrosion rate as the air's current carrying potential increases.

#### Temperature

Chemical reactions generally depend on the temperature, for reactions that involve corrosion of aluminum by an increase in temperature, faster reaction frequencies usually arise.

#### Corrosive gases

Not all gases cause corrosion. Specifically, we are concerned with three types of gases:

- Acidic gases, such as hydrogen sulfide, sulfur oxides, chlorides, hydrogen fluoride (HF) and nitrogen oxides;
- Caustic gases, such as ammonia;
- Oxidizing gases, such as ozone

**■ Of the gases that can cause corrosion, the acidic gases are typically the most harmful.**

Dirt, grease, oil, and other foreign material must be removed periodically from the surface of the battery according to the following recommendations.

#### Required elements:

- Personal protective equipment
- Hot water
- High-pressure washing

#### Procedure:

Use a high-pressure washer with a large cast and enough force to remove all foreign material, proceed with care to avoid damage and possible wear of the louvers. Lastly, also rinse the carpentry and the fans thoroughly to be sure that all impurities have been removed.

**■ Aermecwe assume no liability for the completeness of the information contained in this document.**

## 9 CLEANING MICRO-CHANNEL COIL

**Keeping the surfaces of the microchannel coils clean is essential to ensure the correct operation of the unit and to avoid punctures on the coil with the consequent loss of refrigerant gas which would lead to the replacement of the coil itself.**



**WARNING** Damage to the coil due to neglect or lack of or poor cleaning is not covered by the warranty.

## 10 PERFORMANCE SPECIFICATIONS

| Size  |     | 0800              | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|---|-----|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>FANS: °</b>                                    |     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Cooling performance 54.01 °F / 44.01 °F(1)</b> |     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Cooling capacity                                  | A   | ton               | 58.80 | 66.44 | 77.70 | 87.01 | 95.12 | 107.7 | 124.3 | 138.5 | 155.7 | 169.6 | 186.9 | 205.7 | 218.5 | 233.1 |
|   | E,N | ton               | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|   | U   | ton               | 61.94 | 69.82 | 78.59 | 89.78 | 99.18 | 112.1 | 129.3 | 145.7 | 161.0 | 178.7 | 192.3 | 208.9 | 222.2 | 240.8 |
| Input power                                       | A   | kW                | 64.83 | 75.79 | 84.44 | 95.90 | 107.6 | 125.7 | 139.7 | 160.3 | 177.5 | 195.7 | 209.7 | 228.0 | 247.5 | 267.9 |
|   | E,N | kW                | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|   | U   | kW                | 65.29 | 74.86 | 84.64 | 96.07 | 106.9 | 123.0 | 139.1 | 158.0 | 176.9 | 193.3 | 208.8 | 227.4 | 246.2 | 265.3 |
| Cooling total input current                       | A   | A                 | 96.0  | 107.0 | 110.0 | 126.0 | 143.0 | 168.0 | 184.0 | 212.0 | 232.0 | 258.0 | 275.0 | 297.0 | 324.0 | 352.0 |
|   | E,N | A                 | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|   | U   | A                 | 93.0  | 102.0 | 110.0 | 123.0 | 138.0 | 160.0 | 179.0 | 201.0 | 227.0 | 247.0 | 270.0 | 292.0 | 318.0 | 340.0 |
| EER   | A   | BTU/(Wh)          | 10.88 | 10.52 | 11.04 | 10.89 | 10.61 | 10.28 | 10.68 | 10.37 | 10.53 | 10.40 | 10.70 | 10.83 | 10.60 | 10.44 |
|   | E,N | BTU/(Wh)          | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|   | U   | BTU/(Wh)          | 11.38 | 11.19 | 11.14 | 11.21 | 11.13 | 10.93 | 11.16 | 11.06 | 10.92 | 11.09 | 11.06 | 11.02 | 10.83 | 10.89 |
| IPLV  | A   | BTU/(Wh)          | 14.81 | 14.30 | 15.01 | 14.81 | 14.43 | 14.06 | 14.50 | 14.09 | 14.43 | 14.09 | 14.13 | 14.26 | 14.23 | 14.06 |
|   | E,N | BTU/(Wh)          | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|   | U   | BTU/(Wh)          | 15.49 | 15.22 | 15.15 | 15.25 | 15.15 | 14.88 | 15.15 | 15.05 | 15.25 | 15.15 | 14.81 | 14.77 | 14.81 | 14.88 |
| Water flow rate system side                       | A   | gpm               | 140.7 | 159.0 | 185.9 | 208.2 | 227.6 | 257.6 | 297.4 | 331.5 | 372.4 | 405.8 | 447.1 | 492.0 | 522.8 | 557.6 |
|   | E,N | gpm               | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|   | U   | gpm               | 148.2 | 167.0 | 188.0 | 214.8 | 237.3 | 268.1 | 309.4 | 348.6 | 385.1 | 427.4 | 460.1 | 499.7 | 531.7 | 576.0 |
| Pressure drop system side                         | A   | fth <sub>20</sub> | 11.4  | 12.0  | 16.7  | 17.7  | 16.7  | 18.4  | 10.4  | 9.7   | 12.0  | 12.7  | 16.1  | 10.0  | 11.0  | 10.7  |
|   | E,N | fth <sub>20</sub> | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|   | U   | fth <sub>20</sub> | 10.4  | 13.4  | 14.4  | 18.7  | 16.1  | 20.4  | 8.7   | 11.0  | 11.4  | 9.0   | 10.4  | 10.4  | 11.7  | 11.7  |

(1) Reference conditions: AHRI std 550/590 I-P; Service side water 54.01°F / 44.01°F; Outside air 95°F

| Size  |   | 0800              | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|---|---|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>FANS: J</b>                                    |   |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Cooling performance 54.01 °F / 44.01 °F(1)</b> |   |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Cooling capacity                                  | A | ton               | 57.77 | 65.30 | 76.33 | 85.49 | 93.47 | 108.3 | 122.2 | 138.2 | 156.8 | 166.1 | 179.5 | 197.5 | 209.9 | 226.0 |
|   | E | ton               | 58.14 | 65.19 | 72.97 | 83.99 | 92.41 | 103.7 | 120.3 | 136.0 | 149.4 | 162.4 | 174.3 | 189.8 | 201.2 | 218.4 |
|   | N | ton               | 59.82 | 67.43 | 75.87 | 86.16 | 95.12 | 107.4 | 123.4 | 138.7 | 152.9 | 165.5 | 178.0 | 193.1 | 205.0 | 222.0 |
| Input power                                       | U | ton               | 60.83 | 68.58 | 77.20 | 88.18 | 97.41 | 110.1 | 127.0 | 143.1 | 158.1 | 171.5 | 184.7 | 200.5 | 213.4 | 231.1 |
|   | A | kW                | 65.08 | 75.98 | 84.87 | 96.29 | 108.0 | 125.9 | 140.2 | 160.7 | 178.0 | 196.1 | 210.4 | 228.9 | 248.3 | 268.6 |
|   | E | kW                | 60.15 | 70.81 | 81.73 | 89.99 | 102.3 | 120.8 | 134.2 | 150.3 | 171.2 | 185.7 | 203.9 | 219.5 | 240.6 | 256.7 |
| Cooling total input current                       | N | kW                | 58.73 | 68.47 | 78.43 | 87.85 | 99.16 | 116.0 | 130.4 | 147.2 | 167.1 | 181.9 | 198.9 | 215.3 | 235.5 | 252.2 |
|   | U | kW                | 65.80 | 75.33 | 85.09 | 96.72 | 107.5 | 123.5 | 139.9 | 159.0 | 177.8 | 194.3 | 209.7 | 228.5 | 247.3 | 266.6 |
|   | A | A                 | 108.0 | 118.0 | 127.0 | 143.0 | 160.0 | 185.0 | 206.0 | 235.0 | 260.0 | 287.0 | 309.0 | 336.0 | 363.0 | 392.0 |
| EER   | E | A                 | 99.0  | 110.0 | 120.0 | 132.0 | 149.0 | 175.0 | 194.0 | 217.0 | 246.0 | 268.0 | 295.0 | 317.0 | 346.0 | 369.0 |
|   | N | A                 | 98.0  | 107.0 | 116.0 | 130.0 | 146.0 | 169.0 | 190.0 | 213.0 | 241.0 | 263.0 | 289.0 | 312.0 | 340.0 | 364.0 |
|   | U | A                 | 110.0 | 119.0 | 128.0 | 145.0 | 161.0 | 183.0 | 207.0 | 235.0 | 261.0 | 287.0 | 310.0 | 337.0 | 363.0 | 391.0 |
| IPLV  | A | BTU/(Wh)          | 10.65 | 10.31 | 10.79 | 10.65 | 10.39 | 10.32 | 10.46 | 10.32 | 10.56 | 10.16 | 10.24 | 10.35 | 10.14 | 10.10 |
|   | E | BTU/(Wh)          | 11.60 | 11.05 | 10.71 | 11.20 | 10.84 | 10.31 | 10.76 | 10.86 | 10.47 | 10.49 | 10.25 | 10.38 | 10.03 | 10.21 |
|   | N | BTU/(Wh)          | 12.22 | 11.82 | 11.61 | 11.77 | 11.51 | 11.10 | 11.36 | 11.31 | 10.98 | 10.92 | 10.74 | 10.76 | 10.45 | 10.56 |
| Water flow rate system side                       | U | BTU/(Wh)          | 11.09 | 10.92 | 10.89 | 10.94 | 10.88 | 10.69 | 10.90 | 10.80 | 10.67 | 10.59 | 10.57 | 10.53 | 10.35 | 10.40 |
|   | A | BTU/(Wh)          | 16.96 | 16.45 | 17.20 | 16.99 | 16.55 | 16.14 | 16.65 | 16.21 | 16.41 | 16.28 | 16.34 | 16.55 | 16.21 | 15.97 |
|   | E | BTU/(Wh)          | 18.56 | 17.61 | 17.06 | 17.85 | 17.27 | 16.41 | 17.16 | 17.37 | 16.75 | 17.13 | 16.31 | 16.58 | 16.04 | 16.31 |
| Pressure drop system side                         | N | BTU/(Wh)          | 19.48 | 18.90 | 18.49 | 18.77 | 18.36 | 17.67 | 18.08 | 18.02 | 17.50 | 17.85 | 17.13 | 17.20 | 16.69 | 16.86 |
|   | U | BTU/(Wh)          | 17.67 | 17.40 | 17.33 | 17.44 | 17.33 | 17.03 | 17.37 | 17.23 | 16.99 | 17.30 | 16.86 | 16.82 | 16.51 | 16.62 |
|   | A | gpm               | 138.2 | 156.2 | 182.6 | 204.5 | 223.6 | 259.0 | 292.2 | 330.7 | 375.0 | 397.4 | 429.4 | 472.4 | 502.1 | 540.7 |
| Water flow rate system side                       | E | gpm               | 139.1 | 156.0 | 174.6 | 200.9 | 221.1 | 248.2 | 287.9 | 325.4 | 357.3 | 388.5 | 416.9 | 454.1 | 481.3 | 522.4 |
|   | N | gpm               | 143.1 | 161.3 | 181.5 | 206.1 | 227.6 | 256.8 | 295.3 | 331.9 | 365.7 | 396.0 | 425.8 | 462.0 | 490.5 | 531.0 |
|   | U | gpm               | 145.5 | 164.1 | 184.7 | 211.0 | 233.1 | 263.3 | 303.9 | 342.5 | 378.3 | 410.3 | 441.8 | 479.7 | 510.4 | 552.9 |
| Pressure drop system side                         | A | fth <sub>20</sub> | 11.0  | 11.7  | 16.1  | 17.1  | 16.4  | 18.7  | 10.0  | 9.7   | 12.0  | 12.4  | 14.7  | 9.0   | 10.4  | 10.0  |
|   | E | fth <sub>20</sub> | 9.4   | 11.7  | 12.4  | 16.4  | 14.1  | 17.4  | 7.4   | 9.4   | 10.0  | 7.4   | 8.4   | 8.4   | 9.4   | 9.7   |
|   | N | fth <sub>20</sub> | 9.7   | 12.4  | 13.4  | 17.4  | 14.7  | 18.7  | 7.7   | 10.0  | 10.4  | 7.7   | 9.0   | 8.7   | 9.7   | 10.0  |
|   | U | fth <sub>20</sub> | 10.0  | 13.0  | 14.1  | 18.1  | 15.4  | 19.7  | 8.4   | 10.7  | 11.0  | 8.4   | 9.4   | 9.4   | 10.7  | 10.7  |

(1) Reference conditions: AHRI std 550/590 I-P; Service side water 54.01°F / 44.01°F; Outside air 95°F

## PART LOAD IPLV

| Size                  |     | 0800     | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------|-----|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FANS: °               |     |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Part load IPLV</b> |     |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100 %                 | A   | BTU/(Wh) | 10.88 | 10.51 | 11.06 | 10.88 | 10.61 | 10.27 | 10.68 | 10.37 | 10.54 | 10.99 | 10.99 | 10.82 | 10.61 | 10.44 |
|                       | E,N | BTU/(Wh) | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|                       | U   | BTU/(Wh) | 11.40 | 11.19 | 11.16 | 11.23 | 11.12 | 10.92 | 11.16 | 11.06 | 10.92 | 11.09 | 11.06 | 11.02 | 10.82 | 10.88 |
| 75 %                  | A   | BTU/(Wh) | 13.48 | 13.03 | 13.68 | 13.48 | 13.14 | 12.69 | 13.20 | 12.83 | 13.20 | 13.96 | 14.02 | 14.19 | 13.89 | 13.24 |
|                       | E,N | BTU/(Wh) | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|                       | U   | BTU/(Wh) | 14.09 | 13.85 | 13.79 | 13.89 | 13.79 | 13.55 | 13.82 | 13.68 | 13.82 | 15.01 | 14.74 | 14.67 | 14.43 | 14.50 |
| 50 %                  | A   | BTU/(Wh) | 15.66 | 15.15 | 15.90 | 15.66 | 15.25 | 14.98 | 15.35 | 14.91 | 15.29 | 14.09 | 14.09 | 14.23 | 14.54 | 14.60 |
|                       | E,N | BTU/(Wh) | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|                       | U   | BTU/(Wh) | 16.38 | 16.11 | 16.04 | 16.14 | 16.04 | 15.73 | 16.04 | 15.93 | 16.17 | 15.08 | 14.77 | 14.71 | 15.12 | 15.18 |
| 25 %                  | A   | BTU/(Wh) | 16.48 | 15.93 | 16.72 | 16.51 | 16.07 | 15.59 | 16.17 | 15.70 | 15.93 | 14.71 | 14.81 | 14.95 | 14.71 | 15.25 |
|                       | E,N | BTU/(Wh) | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|                       | U   | BTU/(Wh) | 17.27 | 16.96 | 16.89 | 16.99 | 16.86 | 16.58 | 16.89 | 16.75 | 16.99 | 16.34 | 15.59 | 15.53 | 15.32 | 15.39 |
| Size                  |     | 0800     | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| FANS: J               |     |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Part load IPLV</b> |     |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100 %                 | A   | BTU/(Wh) | 10.65 | 10.30 | 10.78 | 10.65 | 10.37 | 10.10 | 10.44 | 10.17 | 10.30 | 9.96  | 10.24 | 10.34 | 10.13 | 10.00 |
|                       | E   | BTU/(Wh) | 11.60 | 11.06 | 10.71 | 11.19 | 10.85 | 10.30 | 10.75 | 10.85 | 10.48 | 10.51 | 10.27 | 10.37 | 10.03 | 10.20 |
|                       | N   | BTU/(Wh) | 12.22 | 11.81 | 11.60 | 11.77 | 11.50 | 11.09 | 11.36 | 11.29 | 10.99 | 10.92 | 10.75 | 10.75 | 10.44 | 10.54 |
| 75 %                  | U   | BTU/(Wh) | 11.09 | 10.92 | 10.88 | 10.95 | 10.88 | 10.68 | 10.88 | 10.82 | 10.68 | 10.58 | 10.58 | 10.54 | 10.34 | 10.41 |
|                       | A   | BTU/(Wh) | 14.98 | 14.50 | 15.15 | 14.98 | 14.60 | 14.23 | 14.71 | 14.30 | 14.47 | 13.17 | 13.85 | 13.99 | 13.72 | 13.51 |
|                       | E   | BTU/(Wh) | 16.38 | 15.53 | 15.05 | 15.73 | 15.22 | 14.47 | 15.12 | 15.32 | 14.77 | 13.85 | 13.85 | 14.02 | 13.58 | 13.82 |
| 50 %                  | N   | BTU/(Wh) | 17.16 | 16.69 | 16.31 | 16.55 | 16.17 | 15.59 | 15.97 | 15.90 | 15.42 | 14.40 | 14.50 | 14.54 | 14.13 | 14.26 |
|                       | U   | BTU/(Wh) | 15.59 | 15.35 | 15.29 | 15.35 | 15.29 | 15.01 | 15.32 | 15.18 | 14.98 | 13.99 | 14.30 | 14.23 | 13.99 | 14.06 |
|                       | A   | BTU/(Wh) | 18.32 | 17.74 | 18.56 | 18.32 | 17.88 | 17.44 | 17.98 | 17.50 | 17.74 | 18.39 | 17.91 | 18.15 | 17.81 | 17.50 |
| 25 %                  | E   | BTU/(Wh) | 20.03 | 19.01 | 18.43 | 19.28 | 18.66 | 17.74 | 18.53 | 18.77 | 18.08 | 19.35 | 17.81 | 17.57 | 17.88 |       |
|                       | N   | BTU/(Wh) | 21.02 | 20.40 | 19.96 | 20.27 | 19.82 | 19.11 | 19.55 | 19.45 | 18.90 | 20.13 | 18.80 | 18.87 | 18.29 | 18.49 |
|                       | U   | BTU/(Wh) | 19.11 | 18.80 | 18.73 | 18.84 | 18.70 | 18.39 | 18.77 | 18.60 | 18.36 | 19.55 | 18.49 | 18.46 | 18.15 | 18.22 |
| A                     | A   | BTU/(Wh) | 19.45 | 18.84 | 19.69 | 19.45 | 18.97 | 18.43 | 19.11 | 18.56 | 18.84 | 19.79 | 19.65 | 19.89 | 19.48 | 19.21 |
|                       | E   | BTU/(Wh) | 21.19 | 20.17 | 19.55 | 20.44 | 19.79 | 18.80 | 19.65 | 19.82 | 19.11 | 20.85 | 19.65 | 19.93 | 19.28 | 19.62 |
|                       | N   | BTU/(Wh) | 22.32 | 21.56 | 21.19 | 21.50 | 21.02 | 20.27 | 20.75 | 20.64 | 20.03 | 21.70 | 20.61 | 20.68 | 20.06 | 20.27 |
| U                     | U   | BTU/(Wh) | 20.27 | 19.93 | 19.89 | 19.96 | 19.86 | 19.52 | 19.89 | 19.72 | 19.48 | 21.05 | 20.30 | 20.23 | 19.89 | 19.96 |

## WITH DESUPERHEATER

| Size   |   | 0800               | 0900    | 1000    | 1100    | 1200    | 1400    | 1600    | 1800    | 2000    | 2200    | 2400    | 2600    | 2800      | 3000      |           |
|--|---|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|
| <b>Cooling performances with desuperheater (1)</b> |   |                    |         |         |         |         |         |         |         |         |         |         |         |           |           |           |
| Recovered heating power                            | A | BTU/h              | 300,118 | 350,396 | 391,414 | 444,070 | 497,883 | 580,497 | 646,440 | 741,090 | 821,125 | 904,562 | 970,225 | 1,055,467 | 1,145,149 | 1,238,764 |
|  | E | BTU/h              | 277,390 | 326,583 | 376,922 | 415,039 | 471,623 | 557,012 | 618,802 | 693,149 | 789,583 | 856,277 | 940,533 | 1,012,495 | 1,109,703 | 1,183,641 |
|  | N | BTU/h              | 270,866 | 315,787 | 361,694 | 405,158 | 457,309 | 535,109 | 601,352 | 678,890 | 770,581 | 838,687 | 917,439 | 993,155   | 1,086,160 | 1,163,168 |
|  | U | BTU/h              | 303,445 | 347,424 | 392,396 | 446,062 | 495,736 | 569,657 | 644,970 | 733,191 | 820,016 | 896,049 | 967,236 | 1,053,963 | 1,140,631 | 1,229,582 |
| Desuperheater water flow rate                      | A | gpm                | 66.6    | 77.8    | 86.9    | 98.6    | 110.5   | 128.9   | 143.5   | 164.5   | 182.3   | 200.8   | 215.3   | 234.3     | 254.2     | 275.0     |
|  | E | gpm                | 61.6    | 72.5    | 83.7    | 92.2    | 104.7   | 123.6   | 137.4   | 153.9   | 175.3   | 190.1   | 208.8   | 224.7     | 246.3     | 262.7     |
|  | N | gpm                | 60.1    | 70.1    | 80.3    | 90.0    | 101.5   | 118.8   | 133.5   | 150.7   | 171.1   | 186.2   | 203.6   | 220.5     | 241.1     | 258.2     |
|  | U | gpm                | 67.4    | 77.1    | 87.1    | 99.0    | 110.0   | 126.5   | 143.2   | 162.7   | 182.0   | 198.9   | 214.7   | 233.9     | 253.2     | 272.9     |
| Pressure drop desuperheater                        | A | ftH <sub>2</sub> O | 7.0     | 9.7     | 10.7    | 13.0    | 10.0    | 12.4    | 15.4    | 19.7    | 18.7    | 23.4    | 26.8    | 26.8      | 24.8      | 28.8      |
|  | E | ftH <sub>2</sub> O | 6.0     | 8.4     | 10.0    | 11.4    | 9.0     | 11.4    | 14.1    | 17.4    | 17.4    | 21.1    | 25.4    | 24.4      | 23.1      | 26.4      |
|  | N | ftH <sub>2</sub> O | 5.7     | 8.0     | 9.0     | 11.0    | 8.7     | 10.4    | 13.4    | 16.7    | 16.7    | 20.4    | 24.1    | 23.8      | 22.1      | 25.4      |
|  | U | ftH <sub>2</sub> O | 7.4     | 9.7     | 10.7    | 13.4    | 10.0    | 12.0    | 15.4    | 19.4    | 18.7    | 23.1    | 26.8    | 26.4      | 24.4      | 28.4      |

(1) Desuperheater water 104 °F/113 °F; External air 95 °F

■ The option with the desuperheater "D" is available only with "J" fans.

## WITH TOTAL RECOVERY

| Size  |       | 0800               | 0900    | 1000    | 1100      | 1200      | 1400      | 1600      | 1800      | 2000      | 2200      | 2400      | 2600      | 2800      | 3000      |           |
|---|-------|--------------------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Cooling performances with total recovery (1)</b> |       |                    |         |         |           |           |           |           |           |           |           |           |           |           |           |           |
| Recovered heating power                             | A     | BTU/h              | 830,379 | 956,014 | 1,081,649 | 1,220,421 | 1,359,192 | 1,570,336 | 1,781,479 | 2,009,922 | 2,238,365 | 2,455,291 | 2,672,218 | 2,900,661 | 3,129,104 | 3,357,547 |
|   | E,N,U | BTU/h              | 836,862 | 963,793 | 1,090,725 | 1,230,145 | 1,369,565 | 1,582,005 | 1,794,445 | 2,026,129 | 2,257,814 | 2,474,741 | 2,691,668 | 2,923,352 | 3,155,036 | 3,386,721 |
| Total recovery water flow rate                      | A     | gpm                | 184.3   | 212.2   | 240.0     | 270.9     | 301.7     | 348.5     | 395.4     | 446.1     | 496.8     | 544.9     | 593.1     | 643.8     | 694.5     | 745.2     |
|   | E,N,U | gpm                | 185.8   | 213.9   | 242.1     | 273.0     | 304.0     | 351.1     | 398.3     | 449.7     | 501.1     | 549.3     | 597.4     | 648.8     | 700.2     | 751.7     |
| Total pressure drop total recovery                  | A     | ftH <sub>2</sub> O | 8.4     | 11.0    | 10.4      | 13.0      | 10.0      | 13.4      | 12.7      | 16.1      | 16.7      | 20.1      | 12.4      | 14.7      | 17.1      | 16.7      |
|   | E,N,U | ftH <sub>2</sub> O | 8.7     | 11.4    | 10.4      | 13.4      | 10.0      | 13.4      | 12.7      | 16.4      | 17.1      | 20.4      | 12.7      | 15.1      | 17.4      | 16.7      |

(1) Water total recovery 104 °F/113 °F; External air 95 °F

## GENERAL TECHNICAL DATA

| Size  |         | 0800  | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000           |
|---|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------|
| <b>Compressor</b>                                 |         |       |       |       |       |       |       |       |       |       |       |       |       |       |                |
| Type  | A,E,N,U | Type  |       |       |       |       |       |       |       |       |       |       |       |       | Scroll         |
| Compressor regulation                             | A,E,N,U | Type  |       |       |       |       |       |       |       |       |       |       |       |       | On-Off         |
| Number  | A,E,N,U | no.   | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 5     | 6     | 6     | 6     | 6              |
| Circuits  | A,E,N,U | no.   | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2              |
| Refrigerant                                       | A,E,N,U | Type  |       |       |       |       |       |       |       |       |       |       |       |       | R410A          |
|   | A       | lbs   | 35.3  | 35.3  | 44.1  | 46.3  | 46.3  | 48.5  | 57.3  | 61.7  | 70.5  | 75.0  | 83.8  | 105.8 | 105.8          |
| Refrigerant load circuit 1 (1)                    | E,U     | lbs   | 44.1  | 44.1  | 47.4  | 57.3  | 55.1  | 55.1  | 66.1  | 79.4  | 83.8  | 105.8 | 110.2 | 116.8 | 116.8          |
|   | N       | lbs   | 57.3  | 57.3  | 58.4  | 63.9  | 63.9  | 63.9  | 79.4  | 79.4  | 86.0  | 112.4 | 116.8 | 127.9 | 127.9          |
|   | A       | lbs   | 35.3  | 35.3  | 44.1  | 46.3  | 46.3  | 48.5  | 57.3  | 61.7  | 70.5  | 83.8  | 83.8  | 105.8 | 105.8          |
| Refrigerant load circuit 2 (1)                    | E,U     | lbs   | 44.1  | 44.1  | 47.4  | 59.5  | 61.7  | 61.7  | 70.5  | 86.0  | 83.8  | 105.8 | 110.2 | 127.9 | 138.9          |
|   | N       | lbs   | 57.3  | 57.3  | 58.4  | 66.1  | 68.3  | 68.3  | 86.0  | 86.0  | 88.2  | 114.6 | 127.9 | 143.3 | 143.3          |
| Oil charge circuit 1                              | A,E,N,U | lbs   | 14.3  | 14.3  | 20.5  | 25.4  | 30.0  | 28.9  | 27.8  | 27.8  | 27.8  | 41.7  | 41.7  | 41.7  | 41.7           |
| Oil charge circuit 2                              | A,E,N,U | lbs   | 14.3  | 20.5  | 20.5  | 25.4  | 30.0  | 28.9  | 27.8  | 27.8  | 27.8  | 41.7  | 41.7  | 41.7  | 41.7           |
| <b>System side heat exchanger</b>                 |         |       |       |       |       |       |       |       |       |       |       |       |       |       |                |
| Type  | A,E,N,U | Type  |       |       |       |       |       |       |       |       |       |       |       |       | Brazed plate   |
| Number  | A,E,N,U | no.   | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1              |
| <b>Hydraulic connections without hydronic kit</b> |         |       |       |       |       |       |       |       |       |       |       |       |       |       |                |
| Connections (in/out)                              | A,E,N,U | Type  |       |       |       |       |       |       |       |       |       |       |       |       | Grooved joints |
| Sizes (in/out)                                    | A       | Ø     | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 5"             |
|   | E,N,U   | Ø     | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 5"             |
|   | A       | gpm   | 73.0  | 82.5  | 96.4  | 108.0 | 118.1 | 133.7 | 154.3 | 172.0 | 193.2 | 210.6 | 232.0 | 255.3 | 271.3          |
| Minimum water flow rate                           | E       | gpm   | 73.4  | 82.3  | 92.2  | 106.1 | 116.7 | 131.0 | 152.0 | 171.8 | 188.7 | 209.9 | 225.3 | 245.4 | 260.1          |
|   | N       | gpm   | 75.6  | 85.2  | 95.8  | 108.8 | 120.2 | 135.6 | 155.9 | 175.3 | 193.1 | 213.9 | 230.1 | 249.6 | 265.0          |
|   | U       | gpm   | 76.8  | 86.6  | 97.5  | 111.4 | 123.1 | 139.1 | 160.5 | 180.8 | 199.8 | 221.7 | 238.7 | 259.2 | 275.8          |
|   | A       | gpm   | 243.3 | 275.0 | 321.4 | 360.0 | 393.6 | 445.7 | 514.4 | 573.4 | 644.1 | 702.0 | 773.3 | 850.9 | 904.2          |
| Maximum water flow rate                           | E       | gpm   | 244.8 | 274.5 | 307.2 | 353.7 | 389.1 | 436.8 | 506.7 | 572.7 | 628.9 | 699.6 | 750.9 | 817.9 | 866.9          |
|   | N       | gpm   | 251.9 | 283.9 | 319.5 | 362.8 | 400.5 | 452.0 | 519.7 | 584.2 | 643.6 | 713.2 | 766.9 | 832.1 | 883.5          |
|   | U       | gpm   | 256.1 | 288.8 | 325.1 | 371.3 | 410.2 | 463.5 | 534.9 | 602.7 | 665.9 | 739.0 | 795.6 | 864.0 | 919.3          |
| <b>Hydraulic connections with hydronic kit</b>    |         |       |       |       |       |       |       |       |       |       |       |       |       |       |                |
| Connections (in/out)                              | A,E,N,U | Type  |       |       |       |       |       |       |       |       |       |       |       |       | Grooved joints |
| Sizes (in/out)                                    | A       | Ø     | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 5"             |
|   | E,N,U   | Ø     | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 5"             |
|   | A       | gpm   | 73.0  | 82.5  | 96.4  | 108.0 | 118.1 | 133.7 | 154.3 | 172.0 | 193.2 | 210.6 | 232.0 | 255.3 | 271.3          |
| Minimum water flow rate                           | E       | gpm   | 73.4  | 82.3  | 92.2  | 106.1 | 116.7 | 131.0 | 152.0 | 171.8 | 188.7 | 209.9 | 225.3 | 245.4 | 260.1          |
|   | N       | gpm   | 75.6  | 85.2  | 95.8  | 108.8 | 120.2 | 135.6 | 155.9 | 175.3 | 193.1 | 213.9 | 230.1 | 249.6 | 265.0          |
|   | U       | gpm   | 76.8  | 86.6  | 97.5  | 111.4 | 123.1 | 139.1 | 160.5 | 180.8 | 199.8 | 221.7 | 238.7 | 259.2 | 275.8          |
|   | A       | gpm   | 243.3 | 275.0 | 321.4 | 360.0 | 393.6 | 445.7 | 514.4 | 573.4 | 644.1 | 702.0 | 773.3 | 850.9 | 904.2          |
| Maximum water flow rate                           | E       | gpm   | 244.8 | 274.5 | 307.2 | 353.7 | 389.1 | 436.8 | 506.7 | 572.7 | 628.9 | 699.6 | 750.9 | 817.9 | 866.9          |
|   | N       | gpm   | 251.9 | 283.9 | 319.5 | 362.8 | 400.5 | 452.0 | 519.7 | 584.2 | 643.6 | 713.2 | 766.9 | 832.1 | 883.5          |
|   | U       | gpm   | 256.1 | 288.8 | 325.1 | 371.3 | 410.2 | 463.5 | 534.9 | 602.7 | 665.9 | 739.0 | 795.6 | 864.0 | 919.3          |
| <b>Sound data calculated in cooling mode (2)</b>  |         |       |       |       |       |       |       |       |       |       |       |       |       |       |                |
| Sound power level                                 | A       | dB(A) | 87.5  | 90.1  | 92.1  | 93.4  | 94.4  | 94.0  | 93.9  | 95.8  | 97.3  | 96.3  | 95.5  | 97.1  | 97.9           |
|   | E       | dB(A) | 84.0  | 88.5  | 90.6  | 92.4  | 93.6  | 93.1  | 92.6  | 95.0  | 96.6  | 95.6  | 94.4  | 96.1  | 97.4           |
|   | N       | dB(A) | 84.2  | 88.5  | 90.7  | 92.4  | 93.6  | 93.2  | 92.7  | 95.1  | 96.6  | 95.6  | 94.4  | 96.1  | 97.4           |
|   | U       | dB(A) | 88.6  | 90.7  | 92.1  | 93.7  | 94.7  | 94.3  | 94.2  | 96.2  | 97.4  | 96.8  | 95.9  | 97.3  | 98.3           |
| Sound pressure level (10 m / 33 ft)               | A       | dB(A) | 55.4  | 57.9  | 59.9  | 61.2  | 62.1  | 61.8  | 61.5  | 63.4  | 64.7  | 63.8  | 62.8  | 64.3  | 65.1           |
|   | E       | dB(A) | 51.8  | 56.2  | 58.4  | 60.0  | 61.2  | 60.7  | 60.1  | 62.4  | 63.9  | 62.8  | 61.6  | 63.2  | 64.4           |
|   | N       | dB(A) | 51.8  | 56.1  | 58.3  | 59.9  | 61.1  | 60.6  | 60.0  | 62.3  | 63.8  | 62.7  | 61.5  | 63.1  | 64.3           |
|   | U       | dB(A) | 56.4  | 58.5  | 59.9  | 61.3  | 62.3  | 61.9  | 61.7  | 63.5  | 64.7  | 64.0  | 63.1  | 64.4  | 65.4           |
| Sound pressure level (1 m / 3.3 ft)               | A       | dB(A) | 68.3  | 70.9  | 72.3  | 73.6  | 74.6  | 74.2  | 73.6  | 75.5  | 76.4  | 75.5  | 74.2  | 75.4  | 77.1           |
|   | E       | dB(A) | 64.3  | 68.7  | 70.8  | 72.0  | 73.2  | 72.8  | 71.8  | 73.7  | 75.3  | 73.9  | 72.7  | 74.1  | 75.3           |
|   | N       | dB(A) | 63.8  | 68.2  | 70.3  | 71.5  | 72.8  | 72.3  | 71.4  | 73.4  | 74.9  | 73.6  | 72.3  | 73.7  | 75.0           |
|   | U       | dB(A) | 68.8  | 70.9  | 72.3  | 73.4  | 74.3  | 73.9  | 73.3  | 74.9  | 76.1  | 75.1  | 74.2  | 75.2  | 76.7           |

(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

(2) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2. Sound pressure (cold functioning) measured in free field, 10 m / 33 ft away from the unit external surface (in compliance with UNI EN ISO 3744).

## FANS DATA

| Size                      |         | 0800 | 0900   | 1000   | 1100   | 1200   | 1400   | 1600   | 1800    | 2000    | 2200    | 2400    | 2600    | 2800    | 3000         |         |
|---------------------------|---------|------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|--------------|---------|
| <b>FANS: °</b>            |         |      |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| <b>Power supply: 230V</b> |         |      |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Type                      | A,E,N,U | type |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Fan motor                 | A,E,N,U | type |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Number                    | A,E,N,U | no.  | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Air flow rate             | A,E,N,U | cfm  | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Total fan input current   | A,E,N,U | A    | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Total fan input power     | A,E,N,U | kW   | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
| <b>Power supply: 460V</b> |         |      |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Type                      | A,U     | type |        |        |        |        |        |        |         |         |         |         |         |         | Axial        |         |
|                           | E,N     | type |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Fan motor                 | A,U     | type |        |        |        |        |        |        |         |         |         |         |         |         | Asynchronous |         |
|                           | E,N     | type |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Number                    | A       | no.  | 4      | 4      | 6      | 6      | 6      | 6      | 8       | 8       | 10      | 10      | 12      | 14      | 14           |         |
|                           | E,N     | no.  | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | U       | no.  | 6      | 6      | 6      | 8      | 8      | 8      | 10      | 12      | 12      | 14      | 14      | 16      | 18           |         |
| Air flow rate             | A       | cfm  | 47,887 | 47,887 | 71,836 | 71,836 | 71,836 | 71,836 | 95,791  | 95,791  | 119,717 | 119,717 | 143,672 | 167,627 | 167,627      | 167,627 |
|                           | E,N     | cfm  | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | U       | cfm  | 71,836 | 71,836 | 71,836 | 95,791 | 95,791 | 95,791 | 119,717 | 143,672 | 143,672 | 167,627 | 167,627 | 191,582 | 191,582      | 215,478 |
| Total fan input current   | A,U     | A    | 15.2   | 15.2   | 22.8   | 22.8   | 22.8   | 22.8   | 30.4    | 30.4    | 38.0    | 38.0    | 45.6    | 53.2    | 53.2         | 53.2    |
|                           | E,N     | A    | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | A       | kW   | 8.7    | 8.7    | 13.1   | 13.1   | 13.1   | 13.1   | 17.4    | 17.4    | 21.8    | 21.8    | 26.2    | 30.5    | 30.5         | 30.5    |
| Total fan input power     | E,N     | kW   | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | U       | kW   | 13.1   | 13.1   | 13.1   | 17.4   | 17.4   | 17.4   | 21.8    | 26.2    | 30.5    | 30.5    | 34.9    | 34.9    | 39.2         | 39.2    |
| <b>Power supply: 575V</b> |         |      |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Type                      | A,E,N,U | type |        |        |        |        |        |        |         |         |         |         |         |         | Axial        |         |
| Fan motor                 | A,E,N,U | type |        |        |        |        |        |        |         |         |         |         |         |         | Asynchronous |         |
|                           | A       | no.  | 4      | 4      | 6      | 6      | 6      | 6      | 8       | 8       | 10      | 10      | 12      | 14      | 14           | 14      |
| Number                    | E,N     | no.  | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | U       | no.  | 6      | 6      | 6      | 8      | 8      | 8      | 10      | 12      | 12      | 14      | 14      | 16      | 18           |         |
| Air flow rate             | A       | cfm  | 47,887 | 47,887 | 71,836 | 71,836 | 71,836 | 71,836 | 95,791  | 95,791  | 119,717 | 119,717 | 143,672 | 167,627 | 167,627      | 167,627 |
|                           | E,N     | cfm  | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | U       | cfm  | 71,836 | 71,836 | 71,836 | 95,791 | 95,791 | 95,791 | 119,717 | 143,672 | 143,672 | 167,627 | 167,627 | 191,582 | 191,582      | 215,478 |
| Total fan input current   | E,N     | A    | 13.2   | 13.2   | 19.8   | 19.8   | 19.8   | 19.8   | 26.4    | 26.4    | 33.0    | 33.0    | 39.6    | 46.2    | 46.2         | 46.2    |
|                           | U       | A    | 19.8   | 19.8   | 19.8   | 26.4   | 26.4   | 26.4   | 33.0    | 39.6    | 39.6    | 46.2    | 46.2    | 52.8    | 52.8         | 59.4    |
| Total fan input power     | E,N     | kW   | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | U       | kW   | 13.1   | 13.1   | 13.1   | 17.5   | 17.5   | 17.5   | 21.9    | 26.3    | 26.3    | 30.7    | 30.7    | 35.0    | 35.0         | 39.4    |
| <b>Power supply: 208V</b> |         |      |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Type                      | A,E,N,U | type |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Fan motor                 | A,E,N,U | type |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Number                    | A,E,N,U | no.  | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Air flow rate             | A,E,N,U | cfm  | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Total fan input current   | A,E,N,U | A    | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Total fan input power     | A,E,N,U | kW   | -      | -      | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Size                      |         | 0800 | 0900   | 1000   | 1100   | 1200   | 1400   | 1600   | 1800    | 2000    | 2200    | 2400    | 2600    | 2800    | 3000         |         |
| <b>FANS: J</b>            |         |      |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| <b>Power supply: 230V</b> |         |      |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Type                      | A,E,N,U | type |        |        |        |        |        |        |         |         |         |         |         |         | Axial        |         |
| Fan motor                 | A,E,N,U | type |        |        |        |        |        |        |         |         |         |         |         |         | Inverter     |         |
|                           | A       | no.  | 4      | 4      | 6      | 6      | 6      | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Number                    | E,U     | no.  | 6      | 6      | 6      | 8      | 8      | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | N       | no.  | 8      | 8      | 8      | 10     | 10     | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Air flow rate             | A       | cfm  | 48,940 | 48,940 | 73,425 | 73,425 | 73,425 | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | E       | cfm  | 42,378 | 42,378 | 42,378 | 56,445 | 56,445 | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | N       | cfm  | 56,445 | 56,445 | 56,445 | 70,541 | 70,541 | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | U       | cfm  | 73,425 | 73,425 | 73,425 | 97,880 | 97,880 | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Total fan input current   | A       | A    | 30.0   | 30.0   | 45.0   | 45.0   | 45.0   | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | E,U     | A    | 45.0   | 45.0   | 45.0   | 60.0   | 60.0   | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | N       | A    | 60.0   | 60.0   | 60.0   | 75.0   | 75.0   | -      | -       | -       | -       | -       | -       | -       | -            |         |
| Total fan input power     | A       | kW   | 9.6    | 9.6    | 14.4   | 14.4   | 14.4   | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | E,U     | kW   | 14.4   | 14.4   | 14.4   | 19.2   | 19.2   | -      | -       | -       | -       | -       | -       | -       | -            |         |
|                           | N       | kW   | 19.2   | 19.2   | 19.2   | 24.0   | 24.0   | -      | -       | -       | -       | -       | -       | -       | -            |         |
| <b>Power supply: 460V</b> |         |      |        |        |        |        |        |        |         |         |         |         |         |         |              |         |
| Type                      | A,E,N,U | type |        |        |        |        |        |        |         |         |         |         |         |         | Axial        |         |
| Fan motor                 | A,E,N,U | type |        |        |        |        |        |        |         |         |         |         |         |         | Inverter     |         |
|                           | A       | no.  | 4      | 4      | 6      | 6      | 6      | 6      | 8       | 8       | 10      | 10      | 12      | 14      | 14           | 14      |
| Number                    | E,U     | no.  | 6      | 6      | 6      | 8      | 8      | 8      | 10      | 12      | 12      | 14      | 14      | 16      | 18           | 18      |
|                           | N       | no.  | 8      | 8      | 8      | 10     | 10     | 10     | 12      | 14      | 14      | 16      | 16      | 18      | 18           | 20      |

| Size                    |     | 0800 | 0900   | 1000   | 1100   | 1200   | 1400   | 1600   | 1800    | 2000    | 2200    | 2400    | 2600    | 2800    | 3000    |         |
|-------------------------|-----|------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|
| Air flow rate           | A   | cfm  | 48,940 | 48,940 | 73,425 | 73,425 | 73,425 | 73,425 | 97,880  | 97,880  | 122,365 | 122,365 | 146,850 | 171,276 | 171,276 | 171,276 |
|                         | E   | cfm  | 42,378 | 42,378 | 42,378 | 56,445 | 56,445 | 56,445 | 70,541  | 84,579  | 84,579  | 98,763  | 98,763  | 112,889 | 112,889 | 126,897 |
|                         | N   | cfm  | 56,445 | 56,445 | 56,445 | 70,541 | 70,541 | 70,541 | 84,637  | 98,763  | 98,763  | 112,889 | 112,889 | 126,956 | 126,956 | 141,082 |
|                         | U   | cfm  | 73,425 | 73,425 | 73,425 | 97,880 | 97,880 | 97,880 | 122,365 | 146,850 | 146,850 | 171,276 | 171,276 | 195,790 | 195,790 | 220,099 |
| Total fan input current | A   | A    | 15.6   | 15.6   | 23.4   | 23.4   | 23.4   | 23.4   | 31.2    | 31.2    | 39.0    | 39.0    | 46.8    | 54.6    | 54.6    | 54.6    |
|                         | E,U | A    | 23.4   | 23.4   | 31.2   | 31.2   | 31.2   | 31.2   | 39.0    | 46.8    | 46.8    | 54.6    | 54.6    | 62.4    | 62.4    | 70.2    |
|                         | N   | A    | 31.2   | 31.2   | 39.0   | 39.0   | 39.0   | 39.0   | 46.8    | 54.6    | 54.6    | 62.4    | 62.4    | 70.2    | 70.2    | 78.0    |
| Total fan input power   | A   | kW   | 8.7    | 8.7    | 13.0   | 13.0   | 13.0   | 13.0   | 17.4    | 17.4    | 21.7    | 21.7    | 26.1    | 30.4    | 30.4    | 30.4    |
|                         | E   | kW   | 3.4    | 3.4    | 3.4    | 4.5    | 4.5    | 4.5    | 5.6     | 6.7     | 6.7     | 7.9     | 7.9     | 9.0     | 9.0     | 10.1    |
|                         | N   | kW   | 4.5    | 4.5    | 4.5    | 5.6    | 5.6    | 5.6    | 6.7     | 7.9     | 7.9     | 9.0     | 9.0     | 10.1    | 10.1    | 11.2    |
|                         | U   | kW   | 13.0   | 8.7    | 13.0   | 13.0   | 13.0   | 13.0   | 17.4    | 17.4    | 21.7    | 21.7    | 26.1    | 30.4    | 30.4    | 30.4    |

**Power supply: 575V**

| Type                    | A,E,N,U | type | Axial    |        |        |        |        |        |         |         |         |         |         |         |         |         |
|-------------------------|---------|------|----------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|
| Fan motor               | A,E,N,U | type | Inverter |        |        |        |        |        |         |         |         |         |         |         |         |         |
| Number                  | A       | no.  | 4        | 4      | 6      | 6      | 6      | 8      | 8       | 10      | 10      | 12      | 14      | 14      | 14      |         |
|                         | E,U     | no.  | 6        | 6      | 6      | 8      | 8      | 8      | 10      | 12      | 12      | 14      | 14      | 16      | 16      |         |
|                         | N       | no.  | 8        | 8      | 8      | 10     | 10     | 10     | 12      | 14      | 14      | 16      | 16      | 18      | 20      |         |
| Air flow rate           | A       | cfm  | 48,940   | 48,940 | 73,425 | 73,425 | 73,425 | 73,425 | 97,880  | 97,880  | 122,365 | 122,365 | 146,850 | 171,276 | 171,276 | 171,276 |
|                         | E       | cfm  | 42,378   | 42,378 | 42,378 | 56,445 | 56,445 | 56,445 | 70,541  | 84,579  | 84,579  | 98,763  | 98,763  | 112,889 | 112,889 | 126,897 |
|                         | N       | cfm  | 56,445   | 56,445 | 56,445 | 70,541 | 70,541 | 70,541 | 84,637  | 98,763  | 98,763  | 112,889 | 112,889 | 126,956 | 126,956 | 141,082 |
| Total fan input current | U       | cfm  | 73,425   | 73,425 | 73,425 | 97,880 | 97,880 | 97,880 | 122,365 | 146,850 | 146,850 | 171,276 | 171,276 | 195,790 | 195,790 | 220,099 |
|                         | A       | A    | 12.5     | 12.5   | 18.7   | 18.7   | 18.7   | 18.7   | 25.0    | 25.0    | 31.2    | 31.2    | 37.4    | 43.7    | 43.7    | 43.7    |
|                         | E,U     | A    | 18.7     | 18.7   | 18.7   | 25.0   | 25.0   | 25.0   | 31.2    | 37.4    | 37.4    | 43.7    | 43.7    | 49.9    | 49.9    | 56.2    |
| Total fan input power   | N       | A    | 25.0     | 25.0   | 25.0   | 31.2   | 31.2   | 31.2   | 37.4    | 43.7    | 43.7    | 49.9    | 49.9    | 56.2    | 56.2    | 62.4    |
|                         | A       | kW   | 10.2     | 10.2   | 15.4   | 15.4   | 15.4   | 15.4   | 20.5    | 20.5    | 25.6    | 25.6    | 30.7    | 35.8    | 35.8    | 35.8    |
|                         | E,U     | kW   | 15.4     | 15.4   | 15.4   | 20.5   | 20.5   | 20.5   | 25.6    | 30.7    | 30.7    | 35.8    | 35.8    | 41.0    | 41.0    | 46.1    |
|                         | N       | kW   | 20.5     | 20.5   | 20.5   | 25.6   | 25.6   | 25.6   | 30.7    | 35.8    | 35.8    | 41.0    | 41.0    | 46.1    | 46.1    | 51.2    |

**Power supply: 208V**

| Type                    | A,E,N,U | type | Axial    |        |        |        |        |   |   |   |   |   |   |   |   |
|-------------------------|---------|------|----------|--------|--------|--------|--------|---|---|---|---|---|---|---|---|
| Fan motor               | A,E,N,U | type | Inverter |        |        |        |        |   |   |   |   |   |   |   |   |
| Number                  | A       | no.  | 4        | 4      | 6      | 6      | 6      | - | - | - | - | - | - | - | - |
|                         | E,U     | no.  | 6        | 6      | 6      | 8      | 8      | - | - | - | - | - | - | - | - |
|                         | N       | no.  | 8        | 8      | 8      | 10     | 10     | - | - | - | - | - | - | - | - |
| Air flow rate           | A       | cfm  | 48,940   | 48,940 | 73,425 | 73,425 | 73,425 | - | - | - | - | - | - | - | - |
|                         | E       | cfm  | 42,378   | 42,378 | 42,378 | 56,445 | 56,445 | - | - | - | - | - | - | - | - |
|                         | N       | cfm  | 56,445   | 56,445 | 56,445 | 70,541 | 70,541 | - | - | - | - | - | - | - | - |
| Total fan input current | U       | cfm  | 73,425   | 73,425 | 73,425 | 97,880 | 97,880 | - | - | - | - | - | - | - | - |
|                         | A       | A    | 30.0     | 30.0   | 45.0   | 45.0   | 45.0   | - | - | - | - | - | - | - | - |
|                         | E,U     | A    | 45.0     | 45.0   | 45.0   | 60.0   | 60.0   | - | - | - | - | - | - | - | - |
| Total fan input power   | N       | A    | 60.0     | 60.0   | 60.0   | 75.0   | 75.0   | - | - | - | - | - | - | - | - |
|                         | A       | kW   | 9.6      | 9.6    | 14.4   | 14.4   | 14.4   | - | - | - | - | - | - | - | - |
|                         | E,U     | kW   | 14.4     | 14.4   | 14.4   | 19.2   | 19.2   | - | - | - | - | - | - | - | - |
|                         | N       | kW   | 19.2     | 19.2   | 19.2   | 24.0   | 24.0   | - | - | - | - | - | - | - | - |

## ELECTRIC DATA

### Fan ° Power supply 460V

 - = Configuration not possible

| Size   | 0800 | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |
|--|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>INTEGRATED HYDRONIC KIT: 00</b>                           |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A    | A    | 303.2 | 355.2 | 374.8 | 430.3 | 447.3 | 502.2 | 543.6 | 658.8 | 700.8 | 733.5 | 691.3 | 814.1 | 848.5 | 882.9 |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 310.8 | 362.8 | 374.8 | 437.9 | 454.9 | 509.8 | 551.2 | 674.0 | 708.4 | 748.7 | 698.9 | 821.7 | 856.1 | 898.1 |
| Minimum circuit amperage (MCA)                               | A,U  | A    | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 450.0 | 500.0 | 600.0 |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A    | A    | 150.0 | 150.0 | 175.0 | 225.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 500.0 | 500.0 | 600.0 |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 150.0 | 175.0 | 175.0 | 225.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 500.0 | 500.0 | 600.0 |
| <b>INTEGRATED HYDRONIC KIT: AA, BA, DA, PA</b>               |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A    | A    | 308.6 | 360.6 | 380.2 | 435.7 | 452.7 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 316.2 | 368.2 | 380.2 | 443.3 | 460.3 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A    | A    | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A,U  | A    | 150.0 | 175.0 | 175.0 | 225.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| <b>INTEGRATED HYDRONIC KIT: AB, BB, DB, PB</b>               |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A    | A    | 309.9 | 361.9 | 381.5 | 437.0 | 454.0 | 508.9 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 317.5 | 369.5 | 381.5 | 444.6 | 461.6 | 516.5 | -     | -     | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A    | A    | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A    | A    | 150.0 | 175.0 | 175.0 | 225.0 | 250.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 150.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | -     | -     | -     | -     | -     | -     | -     | -     |
| <b>INTEGRATED HYDRONIC KIT: AC, BC, DC, PC</b>               |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A    | A    | 312.1 | 364.1 | 383.7 | 439.2 | 456.2 | 511.1 | 552.5 | 667.7 | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 319.7 | 371.7 | 383.7 | 446.8 | 463.8 | 518.7 | 560.1 | 682.9 | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A    | A    | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A    | A    | 150.0 | 175.0 | 175.0 | 225.0 | 250.0 | 250.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | -     | -     | -     | -     | -     | -     |
| <b>INTEGRATED HYDRONIC KIT: AD, BD, DD, PD</b>               |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A    | A    | 315.4 | 367.4 | 387.0 | 442.5 | 459.5 | 514.4 | 555.8 | 671.0 | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 323.0 | 375.0 | 387.0 | 450.1 | 467.1 | 522.0 | 563.4 | 686.2 | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A    | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A    | A    | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | -     | -     | -     | -     | -     | -     |
| <b>INTEGRATED HYDRONIC KIT: AE, BE, DE, PE</b>               |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A    | A    | 315.4 | 367.4 | 387.0 | 442.5 | 459.5 | 514.4 | 555.8 | 671.0 | 713.0 | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 323.0 | 375.0 | 387.0 | 450.1 | 467.1 | 522.0 | 563.4 | 686.2 | 720.6 | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A    | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | -     | -     | -     | -     | -     |
|  | E,N  | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U    | A    | 175.0 | 175.0 | 175.0 | 225.0 | 225.0 | 300.0 | 300.0 | 400.0 | -     | -     | -     | -     | -     | -     |

| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|--|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | -     | -     | -     | -     |       |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | 400.0 | -     | -     | -     | -     |       |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AF, BF, DF, PF</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 318.3 | 370.3 | 389.9 | 445.4 | 462.4 | 517.3 | 558.7 | 673.9 | 715.9 | 748.6 | -     | -     | -     |       |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 325.9 | 377.9 | 389.9 | 453.0 | 470.0 | 524.9 | 566.3 | 689.1 | 723.5 | 763.8 | -     | -     | -     |       |
| Minimum circuit amperage (MCA)                               | A   | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | -     | -     |       |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 | -     | -     | -     |       |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 | -     | -     | -     |       |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | 450.0 | 450.0 | -     | -     | -     |       |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AG, BG, DG, PG</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 320.6 | 372.6 | 392.2 | 447.7 | 464.7 | 519.6 | 561.0 | 676.2 | 718.2 | 750.9 | 708.7 | 831.5 | -     |       |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 328.2 | 380.2 | 392.2 | 455.3 | 472.3 | 527.2 | 568.6 | 691.4 | 725.8 | 766.1 | 716.3 | 839.1 | -     |       |
| Minimum circuit amperage (MCA)                               | A   | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 500.0 | -     |       |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 500.0 | -     |       |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | 400.0 | 450.0 | 450.0 | 500.0 | -     |       |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 175.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | 300.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | -     |       |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AH, BH, DH, PH</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 326.0 | 378.0 | 397.6 | 453.1 | 470.1 | 525.0 | 566.4 | 681.6 | 723.6 | 756.3 | 714.1 | 836.9 | 871.3 | 905.7 |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 333.6 | 385.6 | 397.6 | 460.7 | 477.7 | 532.6 | 574.0 | 696.8 | 731.2 | 771.5 | 721.7 | 844.5 | 878.9 | 920.9 |
| Minimum circuit amperage (MCA)                               | A   | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 500.0 | 600.0 | 600.0 |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 500.0 | 600.0 |       |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 175.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | 300.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 |       |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 175.0 | 200.0 | 200.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 |       |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AI, BI, DI, PI</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | -     | -     | -     | 458.3 | 475.3 | 530.2 | 571.6 | 686.8 | 728.8 | 761.5 | 719.3 | 842.1 | 876.5 | 910.9 |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | -     | -     | -     | 465.9 | 482.9 | 537.8 | 579.2 | 702.0 | 736.4 | 776.7 | 726.9 | 849.7 | 884.1 | 926.1 |
| Minimum circuit amperage (MCA)                               | A   | A    | -     | -     | -     | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 500.0 | 600.0 | 600.0 |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | -     | -     | -     | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 |       |
| Maximum overcurrent permitted by the protection device (MOP) | A,U | A    | -     | -     | -     | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 |       |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AJ, BJ, DJ, PJ</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | -     | 392.0 | 411.6 | 467.1 | 484.1 | 539.0 | 580.4 | 695.6 | 737.6 | 770.3 | 728.1 | 850.9 | 885.3 | 919.7 |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | -     | 399.6 | 411.6 | 474.7 | 491.7 | 546.6 | 588.0 | 710.8 | 745.2 | 785.5 | 735.7 | 858.5 | 892.9 | 934.9 |
| Minimum circuit amperage (MCA)                               | A   | A    | -     | 200.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 350.0 | 400.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | -     | 200.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 450.0 | 500.0 | 600.0 |       |
| Maximum overcurrent permitted by the protection device (MOP) | A,U | A    | -     | 200.0 | 225.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 |       |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: 00</b>                           |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 231.8 | 284.8 | 301.5 | 366.3 | 379.9 | 394.8 | 429.2 | 576.5 | 605.8 | 637.3 | 549.3 | 703.2 | 725.8 | 748.4 |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 238.5 | 291.5 | 301.5 | 372.9 | 386.5 | 401.4 | 435.9 | 589.8 | 612.4 | 650.5 | 555.9 | 709.9 | 732.5 | 761.7 |

**Fan ° Power supply 575V**

 - Configuration not possible

| Size                               |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|------------------------------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>INTEGRATED HYDRONIC KIT: 00</b> |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz           |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)                 | A   | A    | 231.8 | 284.8 | 301.5 | 366.3 | 379.9 | 394.8 | 429.2 | 576.5 | 605.8 | 637.3 | 549.3 | 703.2 | 725.8 | 748.4 |
|                                    | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
|                                    | U   | A    | 238.5 | 291.5 | 301.5 | 372.9 | 386.5 | 401.4 | 435.9 | 589.8 | 612.4 | 650.5 |       |       |       |       |

| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|--|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Minimum circuit amperage (MCA)                               | A   | A    | 125.0 | 125.0 | 150.0 | 150.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 125.0 | 125.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 350.0 | 400.0 | 400.0 |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 125.0 | 125.0 | 150.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>INTEGRATED HYDRONIC KIT: AA, BA, DA, PA</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Power supply 575V-3-60Hz</b>                              |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 236.2 | 289.2 | 305.8 | 370.6 | 384.2 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 242.8 | 295.8 | 305.8 | 377.3 | 390.9 | -     | -     | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A   | A    | 125.0 | 125.0 | 150.0 | 175.0 | 175.0 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | -     | -     | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 125.0 | 150.0 | 150.0 | 175.0 | 200.0 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | -     | -     | -     | -     | -     | -     | -     | -     |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>INTEGRATED HYDRONIC KIT: AB, BB, DB, PB</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Power supply 575V-3-60Hz</b>                              |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 237.1 | 290.1 | 306.7 | 371.5 | 385.1 | 400.0 | -     | -     | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 243.7 | 296.7 | 306.7 | 378.2 | 391.8 | 406.7 | -     | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A   | A    | 125.0 | 125.0 | 150.0 | 175.0 | 200.0 | 225.0 | -     | -     | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | -     | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 125.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>INTEGRATED HYDRONIC KIT: AC, BC, DC, PC</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Power supply 575V-3-60Hz</b>                              |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 239.0 | 292.0 | 308.7 | 373.5 | 387.1 | 402.0 | 436.4 | 583.7 | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 245.7 | 298.7 | 308.7 | 380.1 | 393.7 | 408.6 | 443.1 | 597.0 | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A   | A    | 125.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>INTEGRATED HYDRONIC KIT: AD, BD, DD, PD</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Power supply 575V-3-60Hz</b>                              |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 241.8 | 294.8 | 311.5 | 376.3 | 389.9 | 404.8 | 439.2 | 586.5 | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 248.5 | 301.5 | 311.5 | 382.9 | 396.5 | 411.4 | 445.9 | 599.8 | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>INTEGRATED HYDRONIC KIT: AE, BE, DE, PE</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Power supply 575V-3-60Hz</b>                              |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 241.8 | 294.8 | 311.5 | 376.3 | 389.9 | 404.8 | 439.2 | 586.5 | 615.8 | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 248.5 | 301.5 | 311.5 | 382.9 | 396.5 | 411.4 | 445.9 | 599.8 | 622.4 | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>INTEGRATED HYDRONIC KIT: AF, BF, DF, PF</b>               |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Power supply 575V-3-60Hz</b>                              |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 243.9 | 296.9 | 313.6 | 378.4 | 392.0 | 406.9 | 441.3 | 588.6 | 617.9 | 649.4 | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 250.6 | 303.6 | 313.6 | 385.0 | 398.6 | 413.5 | 448.0 | 601.9 | 624.5 | 662.6 | -     | -     | -     |

| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400    | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|--|-----|------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Minimum circuit amperage (MCA)                               | A,U | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0   | 225.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     |       |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | A   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0   | 250.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     |       |
| Maximum overcurrent permitted by the protection device (MOP) | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0   | 250.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     |       |
|  | A   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0   | 250.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     |       |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400    | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AG, BG, DG, PG</b>               |     |      |       |       |       |       |         |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |     |      |       |       |       |       |         |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 245.8 | 298.8 | 315.5 | 380.3 | 393.9   | 408.8 | 443.2 | 590.5 | 619.8 | 651.3 | 563.3 | 717.2 | -     |       |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 252.5 | 305.5 | 315.5 | 386.9 | 400.5   | 415.4 | 449.9 | 603.8 | 626.4 | 664.5 | 569.9 | 723.9 | -     |       |
| Minimum circuit amperage (MCA)                               | A,U | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0   | 225.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | -     | -     |       |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | A   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | -     | -     |       |
| Maximum overcurrent permitted by the protection device (MOP) | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | -     | -     |       |
|  | A   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | -     | -     |       |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400    | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AH, BH, DH, PH</b>               |     |      |       |       |       |       |         |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |     |      |       |       |       |       |         |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 250.8 | 303.8 | 320.5 | 385.3 | 398.9   | 413.8 | 448.2 | 595.5 | 624.8 | 656.3 | 568.3 | 722.2 | 744.8 | 767.4 |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 257.5 | 310.5 | 320.5 | 391.9 | 405.5   | 420.4 | 454.9 | 608.8 | 631.4 | 669.5 | 574.9 | 728.9 | 751.5 | 780.7 |
| Minimum circuit amperage (MCA)                               | A   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0   | 225.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | -     | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | 150.0 | 150.0 | 150.0 | 250.0 | 225.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400    | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AI, BI, DI, PI</b>               |     |      |       |       |       |       |         |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |     |      |       |       |       |       |         |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | -     | -     | -     | 389.3 | 402.9   | 417.8 | 452.2 | 599.5 | 628.8 | 660.3 | 572.3 | 726.2 | 748.8 | 771.4 |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | -     | -     | -     | 395.9 | 409.5   | 424.4 | 458.9 | 612.8 | 635.4 | 673.5 | 578.9 | 732.9 | 755.5 | 784.7 |
| Minimum circuit amperage (MCA)                               | A   | A    | -     | -     | -     | 175.0 | 200.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | -     | -     | -     | 200.0 | 200.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 |
| Maximum overcurrent permitted by the protection device (MOP) | A,U | A    | -     | -     | -     | 200.0 | 225.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | -     | -     | -     | 175.0 | 175.0   | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400    | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AJ, BJ, DJ, PJ</b>               |     |      |       |       |       |       |         |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |     |      |       |       |       |       |         |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | -     | 312.8 | 329.5 | 394.3 | 407.9   | 422.8 | 457.2 | 604.5 | 633.8 | 665.3 | 577.3 | 731.2 | 753.8 | 776.4 |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | -     | 319.5 | 329.5 | 400.9 | 414.5   | 429.4 | 463.9 | 617.8 | 640.4 | 678.5 | 583.9 | 737.9 | 760.5 | 789.7 |
| Minimum circuit amperage (MCA)                               | A   | A    | -     | 150.0 | 175.0 | 200.0 | 200.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | -     | -     |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | -     | 175.0 | 175.0 | 200.0 | 225.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | -     | 150.0 | 175.0 | 200.0 | 225.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 |
|  | E,N | A    | -     | -     | -     | -     | -       | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | U   | A    | -     | 175.0 | 175.0 | 200.0 | 225.0   | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 400.0 | 450.0 |
| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400    | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: 00</b>                           |     |      |       |       |       |       |         |       |       |       |       |       |       |       |       |       |
| Power supply 208V-3-60Hz                                     |     |      |       |       |       |       |         |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A   | A    | 604.2 | 785.2 | 830.6 | 951.2 | 992.4   | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,U | A    | 617.6 | 798.6 | 830.6 | 964.6 | 1,005.8 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | N   | A    | 631.0 | 812.0 | 844.0 | 978.0 | 1,019.2 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A   | A    | 300.0 | 350.0 | 400.0 | 400.0 | 450.0   | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,U | A    | 300.0 | 350.0 | 400.0 | 450.0 | 450.0   | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | N   | A    | 350.0 | 350.0 | 400.0 | 450.0 | 450.0   | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 300.0 | 350.0 | 400.0 | 450.0 | 500.0   | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,U | A    | 300.0 | 400.0 | 400.0 | 450.0 | 500.0   | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | N   | A    | 350.0 | 400.0 | 450.0 | 500.0 | 500.0   | -     | -     | -     | -     | -     | -     | -     | -     | -     |

| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400    | 1600    | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|--|---------|------|-------|-------|-------|---------|---------|------|------|------|------|------|------|------|
| <b>INTEGRATED HYDRONIC KIT: AA, BA, DA, PA</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Power supply 208V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 615.5 | 796.5 | 841.9 | 962.5   | 1,003.7 | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 628.9 | 809.9 | 841.9 | 975.9   | 1,017.1 | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 642.3 | 823.3 | 855.3 | 989.3   | 1,030.5 | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A,E,U   | A    | 300.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 400.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A       | A    | 300.0 | 400.0 | 450.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
|  | E,N,U   | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400    | 1600    | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AB, BB, DB, PB</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Power supply 208V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 618.3 | 799.3 | 844.7 | 965.3   | 1,006.5 | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 631.7 | 812.7 | 844.7 | 978.7   | 1,019.9 | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 645.1 | 826.1 | 858.1 | 992.1   | 1,033.3 | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A       | A    | 300.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 350.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 400.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A       | A    | 300.0 | 400.0 | 450.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
|  | E,N,U   | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400    | 1600    | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AC, BC, DC, PC</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Power supply 208V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 622.9 | 803.9 | 849.3 | 969.9   | 1,011.1 | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 636.3 | 817.3 | 849.3 | 983.3   | 1,024.5 | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 649.7 | 830.7 | 862.7 | 996.7   | 1,037.9 | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A       | A    | 300.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 350.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 400.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A       | A    | 350.0 | 400.0 | 450.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
|  | E,N,U   | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400    | 1600    | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AD, AE, BD, BE, DD, DE, PD, PE</b> |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Power supply 208V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 630.2 | 811.2 | 856.6 | 977.2   | 1,018.4 | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 643.6 | 824.6 | 856.6 | 990.6   | 1,031.8 | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 657.0 | 838.0 | 870.0 | 1,004.0 | 1,045.2 | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A       | A    | 300.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 350.0 | 400.0 | 400.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 450.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A,E,N,U | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400    | 1600    | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AF, BF, DF, PF</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Power supply 208V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 635.9 | 816.9 | 862.3 | 982.9   | 1,024.1 | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 649.3 | 830.3 | 862.3 | 996.3   | 1,037.5 | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 662.7 | 843.7 | 875.7 | 1,009.7 | 1,050.9 | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A       | A    | 350.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 350.0 | 400.0 | 400.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 450.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A,E,U   | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 450.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400    | 1600    | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AG, BG, DG, PG</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Power supply 208V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 641.3 | 822.3 | 867.7 | 988.3   | 1,029.5 | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 654.7 | 835.7 | 867.7 | 1,001.7 | 1,042.9 | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 668.1 | 849.1 | 881.1 | 1,015.1 | 1,056.3 | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A       | A    | 350.0 | 400.0 | 450.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A,E,U   | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 450.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    |
| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400    | 1600    | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AH, BH, DH, PH</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Power supply 208V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 654.2 | 835.2 | 880.6 | 1,001.2 | 1,042.4 | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 667.6 | 848.6 | 880.6 | 1,014.6 | 1,055.8 | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 681.0 | 862.0 | 894.0 | 1,028.0 | 1,069.2 | -    | -    | -    | -    | -    | -    | -    |

| Size   |     | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|--|-----|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| Minimum circuit amperage (MCA)                               | A   | A    | 350.0 | 400.0 | 450.0 | 450.0 | 500.0 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U | A    | 350.0 | 400.0 | 450.0 | 500.0 | 500.0 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N   | A    | 400.0 | 400.0 | 450.0 | 500.0 | 500.0 | -    | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP) | A   | A    | 350.0 | 400.0 | 450.0 | 500.0 | 500.0 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U | A    | 350.0 | 450.0 | 450.0 | 500.0 | 500.0 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N   | A    | 400.0 | 450.0 | 500.0 | 500.0 | 500.0 | -    | -    | -    | -    | -    | -    | -    | -    |

| Size |  | 0800 | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

#### INTEGRATED HYDRONIC KIT: AI, BI, DI, PI

Power supply 208V-3-60Hz

|  |         |   |   |   |   |         |         |   |   |   |   |   |   |   |   |
|--|---------|---|---|---|---|---------|---------|---|---|---|---|---|---|---|---|
| Peak current (LRA)   | A       | A | - | - | - | 1,012.2 | 1,053.4 | - | - | - | - | - | - | - | - |
|  | E,U     | A | - | - | - | 1,025.6 | 1,066.8 | - | - | - | - | - | - | - | - |
|  | N       | A | - | - | - | 1,039.0 | 1,080.2 | - | - | - | - | - | - | - | - |
| Minimum circuit amperage (MCA)                               | A,E,U   | A | - | - | - | 500.0   | 500.0   | - | - | - | - | - | - | - | - |
|  | N       | A | - | - | - | 500.0   | 600.0   | - | - | - | - | - | - | - | - |
| Maximum overcurrent permitted by the protection device (MOP) | A,E,N,U | A | - | - | - | 500.0   | 500.0   | - | - | - | - | - | - | - | - |

| Size |  | 0800 | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

#### INTEGRATED HYDRONIC KIT: AJ, BJ, DJ, PJ

Power supply 208V-3-60Hz

|  |       |   |   |       |       |         |         |   |   |   |   |   |   |   |   |
|--|-------|---|---|-------|-------|---------|---------|---|---|---|---|---|---|---|---|
| Peak current (LRA)   | A     | A | - | 860.0 | 905.4 | 1,026.0 | 1,067.2 | - | - | - | - | - | - | - | - |
|  | E,U   | A | - | 873.4 | 905.4 | 1,039.4 | 1,080.6 | - | - | - | - | - | - | - | - |
|  | N     | A | - | 886.8 | 918.8 | 1,052.8 | 1,094.0 | - | - | - | - | - | - | - | - |
| Minimum circuit amperage (MCA)                               | A     | A | - | 400.0 | 450.0 | 500.0   | 500.0   | - | - | - | - | - | - | - | - |
|  | E,U   | A | - | 450.0 | 450.0 | 500.0   | 600.0   | - | - | - | - | - | - | - | - |
| Maximum overcurrent permitted by the protection device (MOP) | A,E,U | A | - | 450.0 | 500.0 | 500.0   | 500.0   | - | - | - | - | - | - | - | - |
|  | N     | A | - | 450.0 | 500.0 | 500.0   | 600.0   | - | - | - | - | - | - | - | - |

#### Fan J Power supply 230V

■ - Configuration not possible

| Size |  | 0800 | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

#### INTEGRATED HYDRONIC KIT: 00

Power supply 230V-3-60Hz

|  |     |   |       |       |       |       |         |   |   |   |   |   |   |   |   |
|--|-----|---|-------|-------|-------|-------|---------|---|---|---|---|---|---|---|---|
| Peak current (LRA)   | A   | A | 588.8 | 769.8 | 815.2 | 935.8 | 977.0   | - | - | - | - | - | - | - | - |
|  | E,U | A | 602.2 | 783.2 | 815.2 | 949.2 | 990.4   | - | - | - | - | - | - | - | - |
|  | N   | A | 615.6 | 796.6 | 828.6 | 962.6 | 1,003.8 | - | - | - | - | - | - | - | - |
| Minimum circuit amperage (MCA)                               | A   | A | 300.0 | 300.0 | 350.0 | 400.0 | 400.0   | - | - | - | - | - | - | - | - |
|  | E,U | A | 300.0 | 350.0 | 350.0 | 400.0 | 450.0   | - | - | - | - | - | - | - | - |
| Maximum overcurrent permitted by the protection device (MOP) | N   | A | 300.0 | 350.0 | 400.0 | 450.0 | 450.0   | - | - | - | - | - | - | - | - |
|  | A   | A | 300.0 | 350.0 | 400.0 | 450.0 | 450.0   | - | - | - | - | - | - | - | - |
|  | E,U | A | 300.0 | 350.0 | 400.0 | 450.0 | 500.0   | - | - | - | - | - | - | - | - |
|  | N   | A | 300.0 | 400.0 | 400.0 | 450.0 | 500.0   | - | - | - | - | - | - | - | - |

| Size |  | 0800 | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

#### INTEGRATED HYDRONIC KIT: AA, BA, DA, PA

Power supply 230V-3-60Hz

|  |       |   |       |       |       |       |         |   |   |   |   |   |   |   |   |
|--|-------|---|-------|-------|-------|-------|---------|---|---|---|---|---|---|---|---|
| Peak current (LRA)   | A     | A | 599.7 | 780.7 | 826.1 | 946.7 | 987.9   | - | - | - | - | - | - | - | - |
|  | E,U   | A | 613.1 | 794.1 | 826.1 | 960.1 | 1,001.3 | - | - | - | - | - | - | - | - |
|  | N     | A | 626.5 | 807.5 | 839.5 | 973.5 | 1,014.7 | - | - | - | - | - | - | - | - |
| Minimum circuit amperage (MCA)                               | A,E,U | A | 300.0 | 350.0 | 400.0 | 400.0 | 450.0   | - | - | - | - | - | - | - | - |
|  | N     | A | 300.0 | 350.0 | 400.0 | 450.0 | 450.0   | - | - | - | - | - | - | - | - |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A | 300.0 | 350.0 | 400.0 | 450.0 | 450.0   | - | - | - | - | - | - | - | - |
|  | E,U   | A | 300.0 | 400.0 | 400.0 | 450.0 | 500.0   | - | - | - | - | - | - | - | - |
|  | N     | A | 350.0 | 400.0 | 450.0 | 500.0 | 500.0   | - | - | - | - | - | - | - | - |

| Size |  | 0800 | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

#### INTEGRATED HYDRONIC KIT: AB, BB, DB, PB

Power supply 230V-3-60Hz

|  |       |   |       |       |       |       |         |   |   |   |   |   |   |   |   |
|--|-------|---|-------|-------|-------|-------|---------|---|---|---|---|---|---|---|---|
| Peak current (LRA)   | A     | A | 602.2 | 783.2 | 828.6 | 949.2 | 990.4   | - | - | - | - | - | - | - | - |
|  | E,U   | A | 615.6 | 796.6 | 828.6 | 962.6 | 1,003.8 | - | - | - | - | - | - | - | - |
|  | N     | A | 629.0 | 810.0 | 842.0 | 976.0 | 1,017.2 | - | - | - | - | - | - | - | - |
| Minimum circuit amperage (MCA)                               | A     | A | 300.0 | 350.0 | 400.0 | 400.0 | 450.0   | - | - | - | - | - | - | - | - |
|  | E,N,U | A | 300.0 | 350.0 | 400.0 | 450.0 | 450.0   | - | - | - | - | - | - | - | - |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A | 300.0 | 350.0 | 400.0 | 450.0 | 500.0   | - | - | - | - | - | - | - | - |
|  | E,U   | A | 300.0 | 400.0 | 400.0 | 450.0 | 500.0   | - | - | - | - | - | - | - | - |
|  | N     | A | 350.0 | 400.0 | 450.0 | 500.0 | 500.0   | - | - | - | - | - | - | - | - |

| Size |  | 0800 | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

#### INTEGRATED HYDRONIC KIT: AC, BC, DC, PC

Power supply 230V-3-60Hz

|                    |     |   |       |       |       |       |         |   |   |   |   |   |   |   |   |
|--------------------|-----|---|-------|-------|-------|-------|---------|---|---|---|---|---|---|---|---|
| Peak current (LRA) | A   | A | 606.6 | 787.6 | 833.0 | 953.6 | 994.8   | - | - | - | - | - | - | - | - |
|                    | E,U | A | 620.0 | 801.0 | 833.0 | 967.0 | 1,008.2 | - | - | - | - | - | - | - | - |
|                    | N   | A | 633.4 | 814.4 | 846.4 | 980.4 | 1,021.6 | - | - | - | - | - | - | - | - |

| Size   |         | 0800 | 0900  | 1000  | 1100  | 1200    | 1400    | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|--|---------|------|-------|-------|-------|---------|---------|------|------|------|------|------|------|------|------|
| Minimum circuit amperage (MCA)                                 | A       | A    | 300.0 | 350.0 | 400.0 | 400.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 300.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A       | A    | 300.0 | 350.0 | 400.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 350.0 | 400.0 | 400.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
| Size   |         | 0800 | 0900  | 1000  | 1100  | 1200    | 1400    | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AD, AE, BD, BE, DD, DE, PD, PE</b> |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Power supply 230V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 613.3 | 794.3 | 839.7 | 960.3   | 1,001.5 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 626.7 | 807.7 | 839.7 | 973.7   | 1,014.9 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 640.1 | 821.1 | 853.1 | 987.1   | 1,028.3 | -    | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A       | A    | 300.0 | 350.0 | 400.0 | 400.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 300.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A       | A    | 300.0 | 400.0 | 450.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,N,U   | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Size   |         | 0800 | 0900  | 1000  | 1100  | 1200    | 1400    | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AF, BF, DF, PF</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Power supply 230V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 619.1 | 800.1 | 845.5 | 966.1   | 1,007.3 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 632.5 | 813.5 | 845.5 | 979.5   | 1,020.7 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 645.9 | 826.9 | 858.9 | 992.9   | 1,034.1 | -    | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A       | A    | 300.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 350.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 400.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A       | A    | 300.0 | 400.0 | 450.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,N,U   | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Size   |         | 0800 | 0900  | 1000  | 1100  | 1200    | 1400    | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AG, BG, DG, PG</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Power supply 230V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 623.8 | 804.8 | 850.2 | 970.8   | 1,012.0 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 637.2 | 818.2 | 850.2 | 984.2   | 1,025.4 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 650.6 | 831.6 | 863.6 | 997.6   | 1,038.8 | -    | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A       | A    | 300.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 350.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 400.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A,E,N,U | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Size   |         | 0800 | 0900  | 1000  | 1100  | 1200    | 1400    | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AH, BH, DH, PH</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Power supply 230V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | 635.3 | 816.3 | 861.7 | 982.3   | 1,023.5 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 648.7 | 829.7 | 861.7 | 995.7   | 1,036.9 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 662.1 | 843.1 | 875.1 | 1,009.1 | 1,050.3 | -    | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A       | A    | 350.0 | 350.0 | 400.0 | 450.0   | 450.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | 350.0 | 400.0 | 400.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 400.0 | 450.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
| Maximum overcurrent permitted by the protection device (MOP)   | A,E,U   | A    | 350.0 | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | 350.0 | 450.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Size   |         | 0800 | 0900  | 1000  | 1100  | 1200    | 1400    | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AI, BI, DI, PI</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Power supply 230V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | -     | -     | -     | 992.7   | 1,033.9 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | -     | -     | -     | 1,006.1 | 1,047.3 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | -     | -     | -     | 1,019.5 | 1,060.7 | -    | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A,E,U   | A    | -     | -     | -     | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | -     | -     | -     | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | A,E,N,U | A    | -     | -     | -     | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
| Size   |         | 0800 | 0900  | 1000  | 1100  | 1200    | 1400    | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
| <b>INTEGRATED HYDRONIC KIT: AJ, BJ, DJ, PJ</b>                 |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Power supply 230V-3-60Hz                                       |         |      |       |       |       |         |         |      |      |      |      |      |      |      |      |
| Peak current (LRA)   | A       | A    | -     | 842.8 | 888.2 | 1,008.8 | 1,050.0 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,U     | A    | -     | 856.2 | 888.2 | 1,022.2 | 1,063.4 | -    | -    | -    | -    | -    | -    | -    | -    |
|  | N       | A    | -     | 869.6 | 901.6 | 1,035.6 | 1,076.8 | -    | -    | -    | -    | -    | -    | -    | -    |
| Minimum circuit amperage (MCA)                                 | A       | A    | -     | 400.0 | 450.0 | 450.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | E,N,U   | A    | -     | 400.0 | 450.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
|  | A,E,N,U | A    | -     | 450.0 | 500.0 | 500.0   | 500.0   | -    | -    | -    | -    | -    | -    | -    | -    |
| Size   |         | 0800 | 0900  | 1000  | 1100  | 1200    | 1400    | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |

## Fan J Power supply 460V

 - = Configuration not possible

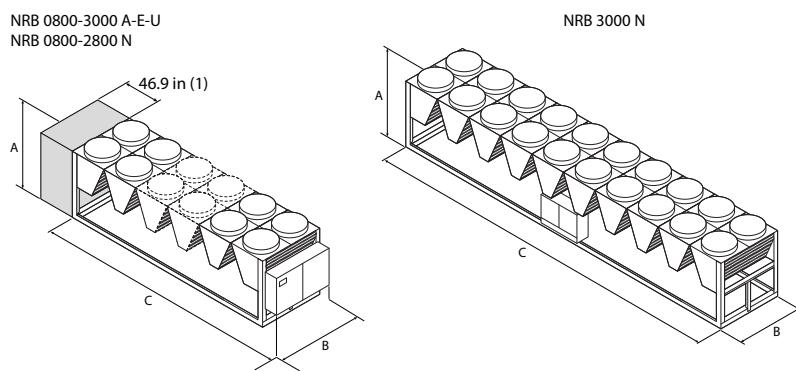
| Size   | 0800  | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |
|--|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>INTEGRATED HYDRONIC KIT: 00</b>                           |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 303.6 | 355.6 | 375.4 | 430.9 | 447.9 | 502.8 | 544.4 | 659.6 | 701.8 | 734.5 | 692.5 | 815.5 | 849.9 | 884.3 |
|  | E,U   | A    | 311.4 | 363.4 | 375.4 | 438.7 | 455.7 | 510.6 | 552.2 | 675.2 | 709.6 | 750.1 | 700.3 | 823.3 | 857.7 | 899.9 |
|  | N     | A    | 319.2 | 371.2 | 383.2 | 446.5 | 463.5 | 518.4 | 560.0 | 683.0 | 717.4 | 757.9 | 708.1 | 831.1 | 865.5 | 907.7 |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 450.0 | 500.0 | 600.0 |
|  | E,U   | A    | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 450.0 | 500.0 | 600.0 |
|  | N     | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 450.0 | 500.0 | 600.0 |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | 150.0 | 150.0 | 175.0 | 225.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 450.0 | 500.0 | 600.0 |
|  | E,U   | A    | 150.0 | 175.0 | 175.0 | 225.0 | 250.0 | 250.0 | 300.0 | 400.0 | 400.0 | 450.0 | 450.0 | 500.0 | 500.0 | 600.0 |
|  | N     | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | 400.0 | 450.0 | 450.0 | 500.0 | 500.0 | 600.0 |
| Size   | 0800  | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |
| <b>INTEGRATED HYDRONIC KIT: AA, BA, DA, PA</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 309.0 | 361.0 | 380.8 | 436.3 | 453.3 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 316.8 | 368.8 | 380.8 | 444.1 | 461.1 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 324.6 | 376.6 | 388.6 | 451.9 | 468.9 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A,E,U | A    | 150.0 | 175.0 | 175.0 | 225.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Size   | 0800  | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |
| <b>INTEGRATED HYDRONIC KIT: AB, BB, DB, PB</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 310.3 | 362.3 | 382.1 | 437.6 | 454.6 | 509.5 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 318.1 | 370.1 | 382.1 | 445.4 | 462.4 | 517.3 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 325.9 | 377.9 | 389.9 | 453.2 | 470.2 | 525.1 | -     | -     | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | -     | -     | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | 150.0 | 175.0 | 175.0 | 225.0 | 250.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | -     | -     | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 175.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | -     | -     | -     | -     | -     | -     | -     | -     |
| Size   | 0800  | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |
| <b>INTEGRATED HYDRONIC KIT: AC, BC, DC, PC</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 312.5 | 364.5 | 384.3 | 439.8 | 456.8 | 511.7 | 553.3 | 668.5 | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 320.3 | 372.3 | 384.3 | 447.6 | 464.6 | 519.5 | 561.1 | 684.1 | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 328.1 | 380.1 | 392.1 | 455.4 | 472.4 | 527.3 | 568.9 | 691.9 | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | 150.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 175.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | 300.0 | 400.0 | -     | -     | -     | -     | -     | -     |
| Size   | 0800  | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |
| <b>INTEGRATED HYDRONIC KIT: AD, BD, DD, PD</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 315.8 | 367.8 | 387.6 | 443.1 | 460.1 | 515.0 | 556.6 | 671.8 | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 323.6 | 375.6 | 387.6 | 450.9 | 467.9 | 522.8 | 564.4 | 687.4 | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 331.4 | 383.4 | 395.4 | 458.7 | 475.7 | 530.6 | 572.2 | 695.2 | -     | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     | -     | -     | -     |
|  | E,U   | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 175.0 | 200.0 | 200.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | -     | -     | -     | -     | -     | -     |
| Size   | 0800  | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |
| <b>INTEGRATED HYDRONIC KIT: AE, BE, DE, PE</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 315.8 | 367.8 | 387.6 | 443.1 | 460.1 | 515.0 | 556.6 | 671.8 | 714.0 | -     | -     | -     | -     | -     |
|  | E,U   | A    | 323.6 | 375.6 | 387.6 | 450.9 | 467.9 | 522.8 | 564.4 | 687.4 | 721.8 | -     | -     | -     | -     | -     |
|  | N     | A    | 331.4 | 383.4 | 395.4 | 458.7 | 475.7 | 530.6 | 572.2 | 695.2 | 729.6 | -     | -     | -     | -     | -     |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | -     | -     | -     | -     | -     |
|  | E,U   | A    | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | -     | -     | -     | -     | -     | -     |
|  | N     | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | -     | -     | -     | -     | -     |

| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |       |
|--|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | -     | -     | -     | -     |       |       |       |
|  | E,U   | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | 400.0 | -     | -     | -     | -     |       |       |       |
|  | N     | A    | 175.0 | 200.0 | 200.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | -     | -     | -     | -     |       |       |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |       |
| <b>INTEGRATED HYDRONIC KIT: AF, BF, DF, PF</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 318.7 | 370.7 | 390.5 | 446.0 | 463.0 | 517.9 | 559.5 | 674.7 | 716.9 | 749.6 | -     | -     | -     |       |       |       |
|  | E,U   | A    | 326.5 | 378.5 | 390.5 | 453.8 | 470.8 | 525.7 | 567.3 | 690.3 | 724.7 | 765.2 | -     | -     | -     |       |       |       |
|  | N     | A    | 334.3 | 386.3 | 398.3 | 461.6 | 478.6 | 533.5 | 575.1 | 698.1 | 732.5 | 773.0 | -     | -     | -     |       |       |       |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | -     | -     | -     |       |       |       |
|  | E,U   | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 | -     | -     | -     |       |       |       |
|  | N     | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 | -     | -     | -     |       |       |       |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | 400.0 | 450.0 | -     | -     | -     |       |       |       |
|  | E,U   | A    | 175.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | 300.0 | 400.0 | 450.0 | 450.0 | -     | -     | -     |       |       |       |
|  | N     | A    | 175.0 | 200.0 | 200.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | -     | -     | -     |       |       |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |       |
| <b>INTEGRATED HYDRONIC KIT: AG, BG, DG, PG</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 321.0 | 373.0 | 392.8 | 448.3 | 465.3 | 520.2 | 561.8 | 677.0 | 719.2 | 751.9 | 709.9 | 832.9 | -     |       |       |       |
|  | E,U   | A    | 328.8 | 380.8 | 392.8 | 456.1 | 473.1 | 528.0 | 569.6 | 692.6 | 727.0 | 767.5 | 717.7 | 840.7 | -     |       |       |       |
|  | N     | A    | 336.6 | 388.6 | 400.6 | 463.9 | 480.9 | 535.8 | 577.4 | 700.4 | 734.8 | 775.3 | 725.5 | 848.5 | -     |       |       |       |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 500.0 | -     |       |       |       |
|  | E,U   | A    | 175.0 | 175.0 | 175.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 500.0 | -     |       |       |       |
|  | N     | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 500.0 | -     |       |       |       |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 400.0 | 400.0 | 450.0 | 450.0 | 500.0 | -     |       |       |       |
|  | E,U   | A    | 175.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | 300.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | -     |       |       |       |
|  | N     | A    | 175.0 | 200.0 | 200.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | -     |       |       |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |       |
| <b>INTEGRATED HYDRONIC KIT: AH, BH, DH, PH</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 326.4 | 378.4 | 398.2 | 453.7 | 470.7 | 525.6 | 567.2 | 682.4 | 724.6 | 757.3 | 715.3 | 838.3 | 872.7 | 907.1 |       |       |
|  | E,U   | A    | 334.2 | 386.2 | 398.2 | 461.5 | 478.5 | 533.4 | 575.0 | 698.0 | 732.4 | 772.9 | 723.1 | 846.1 | 880.5 | 922.7 |       |       |
|  | N     | A    | 342.0 | 394.0 | 406.0 | 469.3 | 486.3 | 541.2 | 582.8 | 705.8 | 740.2 | 780.7 | 730.9 | 853.9 | 888.3 | 930.5 |       |       |
| Minimum circuit amperage (MCA)                               | A     | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 500.0 | 600.0 | 600.0 |       |       |
|  | E,U   | A    | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |       |       |
|  | N     | A    | 175.0 | 200.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |       |       |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | 175.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | 300.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |       |       |
|  | E,U   | A    | 175.0 | 200.0 | 200.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |       |       |
|  | N     | A    | 175.0 | 200.0 | 200.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |       |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |       |
| <b>INTEGRATED HYDRONIC KIT: AI, BI, DI, PI</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | -     | -     | -     | 458.9 | 475.9 | 530.8 | 572.4 | 687.6 | 729.8 | 762.5 | 720.5 | 843.5 | 877.9 | 912.3 |       |       |
|  | E,U   | A    | -     | -     | -     | 466.7 | 483.7 | 538.6 | 580.2 | 703.2 | 737.6 | 778.1 | 728.3 | 851.3 | 885.7 | 927.9 |       |       |
|  | N     | A    | -     | -     | -     | 474.5 | 491.5 | 546.4 | 588.0 | 711.0 | 745.4 | 785.9 | 736.1 | 859.1 | 893.5 | 935.7 |       |       |
| Minimum circuit amperage (MCA)                               | A     | A    | -     | -     | -     | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 500.0 | 600.0 | 600.0 |       |       |
|  | E,U   | A    | -     | -     | -     | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |       |       |
|  | N     | A    | -     | -     | -     | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |       |       |
| Maximum overcurrent permitted by the protection device (MOP) | A,E,U | A    | -     | -     | -     | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |       |       |
|  | N     | A    | -     | -     | -     | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 500.0 | 500.0 | 500.0 | 600.0 | 600.0 |       |       |
|  | E     | U    | -     | -     | -     | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 500.0 | 500.0 | 500.0 | 600.0 | 600.0 |       |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |       |
| <b>INTEGRATED HYDRONIC KIT: AJ, BJ, DJ, PJ</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 460V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | -     | -     | -     | 392.4 | 412.2 | 467.7 | 484.7 | 539.6 | 581.2 | 696.4 | 738.6 | 771.3 | 729.3 | 852.3 | 886.7 | 921.1 |
|  | E,U   | A    | -     | -     | -     | 400.2 | 412.2 | 475.5 | 492.5 | 547.4 | 589.0 | 712.0 | 746.4 | 786.9 | 737.1 | 860.1 | 894.5 | 936.7 |
|  | N     | A    | -     | -     | -     | 408.0 | 420.0 | 483.3 | 500.3 | 555.2 | 596.8 | 719.8 | 754.2 | 794.7 | 744.9 | 867.9 | 902.3 | 944.5 |
| Minimum circuit amperage (MCA)                               | A     | A    | -     | -     | -     | 200.0 | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |
|  | E,U   | A    | -     | -     | -     | 200.0 | 200.0 | 250.0 | 250.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 |
|  | N     | A    | -     | -     | -     | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 | 600.0 |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | -     | -     | -     | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 450.0 | 450.0 | 500.0 | 600.0 | 600.0 | 600.0 |
|  | E,U   | A    | -     | -     | -     | 200.0 | 225.0 | 250.0 | 300.0 | 350.0 | 400.0 | 450.0 | 500.0 | 500.0 | 600.0 | 600.0 | 600.0 | 600.0 |
|  | N     | A    | -     | -     | -     | 225.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 | 500.0 | 500.0 | 600.0 | 600.0 | 600.0 |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |       |
| <b>Fan J Power supply 575V</b>                               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| - = Configuration not possible                               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |       |       |
| <b>INTEGRATED HYDRONIC KIT: 00</b>                           |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (L  |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|--|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Minimum circuit amperage (MCA)                               | A     | A    | 125.0 | 125.0 | 150.0 | 150.0 | 175.0 | 225.0 | 250.0 | 250.0 | 300.0 | 300.0 | 350.0 | 350.0 | 400.0 | 400.0 |
|  | E,U   | A    | 125.0 | 125.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 350.0 | 400.0 | 400.0 |       |
|  | N     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 |       |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | 125.0 | 125.0 | 150.0 | 175.0 | 200.0 | 250.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 |       |
|  | E,U   | A    | 125.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | 350.0 | 350.0 | 400.0 | 400.0 | 400.0 |       |
|  | N     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 400.0 | 400.0 |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AA, BA, DA, PA</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 235.4 | 288.4 | 304.6 | 369.4 | 383.0 | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | E,U   | A    | 241.6 | 294.6 | 304.6 | 375.7 | 389.3 | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | N     | A    | 247.9 | 300.9 | 310.9 | 381.9 | 395.5 | -     | -     | -     | -     | -     | -     | -     | -     |       |
| Minimum circuit amperage (MCA)                               | A     | A    | 125.0 | 125.0 | 150.0 | 175.0 | 175.0 | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | E,N,U | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | A     | A    | 125.0 | 150.0 | 150.0 | 175.0 | 200.0 | -     | -     | -     | -     | -     | -     | -     | -     |       |
| Maximum overcurrent permitted by the protection device (MOP) | E,U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | -     | -     | -     | -     | -     | -     | -     | -     |       |
|  | N     | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0 | -     | -     | -     | -     | -     | -     | -     | -     |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AB, BB, DB, PB</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 236.3 | 289.3 | 305.5 | 370.3 | 383.9 | 398.8 | -     | -     | -     | -     | -     | -     | -     |       |
|  | E,U   | A    | 242.5 | 295.5 | 305.5 | 376.6 | 390.2 | 405.1 | -     | -     | -     | -     | -     | -     | -     |       |
|  | N     | A    | 248.8 | 301.8 | 311.8 | 382.8 | 396.4 | 411.3 | -     | -     | -     | -     | -     | -     | -     |       |
| Minimum circuit amperage (MCA)                               | A     | A    | 125.0 | 125.0 | 150.0 | 175.0 | 175.0 | 225.0 | -     | -     | -     | -     | -     | -     | -     |       |
|  | E,N,U | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | -     | -     | -     | -     | -     | -     | -     |       |
|  | A     | A    | 125.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     |       |
| Maximum overcurrent permitted by the protection device (MOP) | E,U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     |       |
|  | N     | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0 | 250.0 | -     | -     | -     | -     | -     | -     | -     |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AC, BC, DC, PC</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 238.2 | 291.2 | 307.5 | 372.3 | 385.9 | 400.8 | 434.8 | 582.1 | -     | -     | -     | -     | -     |       |
|  | E,U   | A    | 244.5 | 297.5 | 307.5 | 378.5 | 392.1 | 407.0 | 441.1 | 594.6 | -     | -     | -     | -     | -     |       |
|  | N     | A    | 250.7 | 303.7 | 313.7 | 384.8 | 398.4 | 413.3 | 447.3 | 600.8 | -     | -     | -     | -     | -     |       |
| Minimum circuit amperage (MCA)                               | A     | A    | 125.0 | 125.0 | 150.0 | 175.0 | 175.0 | 225.0 | -     | -     | -     | -     | -     | -     | -     |       |
|  | E,N,U | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
|  | A     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
| Maximum overcurrent permitted by the protection device (MOP) | E,U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
|  | N     | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AD, BD, DD, PD</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 241.0 | 294.0 | 310.3 | 375.1 | 388.7 | 403.6 | 437.6 | 584.9 | -     | -     | -     | -     | -     |       |
|  | E,U   | A    | 247.3 | 300.3 | 310.3 | 381.3 | 394.9 | 409.8 | 443.9 | 597.4 | -     | -     | -     | -     | -     |       |
|  | N     | A    | 253.5 | 306.5 | 316.5 | 387.6 | 401.2 | 416.1 | 450.1 | 603.6 | -     | -     | -     | -     | -     |       |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | -     | -     | -     | -     | -     |       |
|  | E,N,U | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
|  | A     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
| Maximum overcurrent permitted by the protection device (MOP) | E,U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
|  | N     | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AE, BE, DE, PE</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 241.0 | 294.0 | 310.3 | 375.1 | 388.7 | 403.6 | 437.6 | 584.9 | 613.8 | -     | -     | -     | -     |       |
|  | E,U   | A    | 247.3 | 300.3 | 310.3 | 381.3 | 394.9 | 409.8 | 443.9 | 597.4 | 620.0 | -     | -     | -     | -     |       |
|  | N     | A    | 253.5 | 306.5 | 316.5 | 387.6 | 401.2 | 416.1 | 450.1 | 603.6 | 626.2 | -     | -     | -     | -     |       |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     |       |
|  | E,N,U | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
|  | A     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
| Maximum overcurrent permitted by the protection device (MOP) | E,U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
|  | N     | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | -     | -     | -     | -     | -     |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
| <b>INTEGRATED HYDRONIC KIT: AF, BF, DF, PF</b>               |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A     | A    | 243.1 | 296.1 | 312.4 | 377.2 | 390.8 | 405.7 | 439.7 | 587.0 | 615.9 | 647.4 | -     | -     | -     |       |
|  | E,U   | A    | 249.4 | 302.4 | 312.4 | 383.4 | 397.0 | 411.9 | 446.0 | 599.5 | 622.1 | 659.8 | -     | -     | -     |       |
|  | N     | A    | 255.6 | 308.6 | 318.6 | 389.7 | 403.3 | 418.2 | 452.2 | 605.7 | 628.3 | 666.1 | -     | -     | -     |       |
| Minimum circuit amperage (MCA)                               | A     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     |       |
|  | E,U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     |       |
|  | N     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     |       |
| Maximum overcurrent permitted by the protection device (MOP) | A     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     |       |
|  | E,N,U | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | -     | -     | -     |       |
| Size   |       | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |

| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|--|---------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>INTEGRATED HYDRONIC KIT: AG, BG, DG, PG</b>               |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A       | A    | 245.0 | 298.0 | 314.3 | 379.1 | 392.7 | 407.6 | 441.6 | 588.9 | 617.8 | 649.3 | 560.9 | 714.4 |
|  | E,U     | A    | 251.3 | 304.3 | 314.3 | 385.3 | 398.9 | 413.8 | 447.9 | 601.4 | 624.0 | 661.7 | 567.1 | 720.7 |
|  | N       | A    | 257.5 | 310.5 | 320.5 | 391.6 | 405.2 | 420.1 | 454.1 | 607.6 | 630.2 | 668.0 | 573.4 | 726.9 |
| Minimum circuit amperage (MCA)                               | A,E,U   | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | N       | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
| Maximum overcurrent permitted by the protection device (MOP) | A       | A    | 150.0 | 150.0 | 150.0 | 200.0 | 200.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | E,N,U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>INTEGRATED HYDRONIC KIT: AH, BH, DH, PH</b>               |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A       | A    | 250.0 | 303.0 | 319.3 | 384.1 | 397.7 | 412.6 | 446.6 | 593.9 | 622.8 | 654.3 | 565.9 | 719.4 |
|  | E,U     | A    | 256.3 | 309.3 | 319.3 | 390.3 | 403.9 | 418.8 | 452.9 | 606.4 | 629.0 | 666.7 | 572.1 | 725.7 |
|  | N       | A    | 262.5 | 315.5 | 325.5 | 396.6 | 410.2 | 425.1 | 459.1 | 612.6 | 635.2 | 673.0 | 578.4 | 731.9 |
| Minimum circuit amperage (MCA)                               | A       | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | E,U     | A    | 150.0 | 150.0 | 150.0 | 175.0 | 200.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | N       | A    | 150.0 | 150.0 | 175.0 | 200.0 | 200.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
| Maximum overcurrent permitted by the protection device (MOP) | A,E,U   | A    | 150.0 | 150.0 | 150.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | N       | A    | 150.0 | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>INTEGRATED HYDRONIC KIT: AI, BI, DI, PI</b>               |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A       | A    | -     | -     | -     | 388.1 | 401.7 | 416.6 | 450.6 | 597.9 | 626.8 | 658.3 | 569.9 | 723.4 |
|  | E,U     | A    | -     | -     | -     | 394.3 | 407.9 | 422.8 | 456.9 | 610.4 | 633.0 | 670.7 | 576.1 | 729.7 |
|  | N       | A    | -     | -     | -     | 400.6 | 414.2 | 429.1 | 463.1 | 616.6 | 639.2 | 677.0 | 582.4 | 735.9 |
| Minimum circuit amperage (MCA)                               | A       | A    | -     | -     | -     | 175.0 | 200.0 | 225.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | E,U     | A    | -     | -     | -     | 200.0 | 200.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | N       | A    | -     | -     | -     | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
| Maximum overcurrent permitted by the protection device (MOP) | A,E,N,U | A    | -     | -     | -     | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>INTEGRATED HYDRONIC KIT: AJ, BJ, DJ, PJ</b>               |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Power supply 575V-3-60Hz                                     |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak current (LRA)   | A       | A    | -     | 312.0 | 328.3 | 393.1 | 406.7 | 421.6 | 455.6 | 602.9 | 631.8 | 663.3 | 574.9 | 728.4 |
|  | E,U     | A    | -     | 318.3 | 328.3 | 399.3 | 412.9 | 427.8 | 461.9 | 615.4 | 638.0 | 675.7 | 581.1 | 734.7 |
|  | N       | A    | -     | 324.5 | 334.5 | 405.6 | 419.2 | 434.1 | 468.1 | 621.6 | 644.2 | 682.0 | 587.4 | 740.9 |
| Minimum circuit amperage (MCA)                               | A       | A    | -     | 150.0 | 175.0 | 200.0 | 200.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | E,U     | A    | -     | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | N       | A    | -     | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 450.0 |
| Maximum overcurrent permitted by the protection device (MOP) | A       | A    | -     | 150.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | E,U     | A    | -     | 175.0 | 175.0 | 200.0 | 225.0 | 250.0 | 300.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 |
|  | N       | A    | -     | 175.0 | 175.0 | 225.0 | 225.0 | 250.0 | 300.0 | 300.0 | 350.0 | 400.0 | 400.0 | 450.0 |

## DIMENSIONS



(1) Additional module needed to contain the hydronic kit with "accumulation" option in sizes:  
NRB 0800A, 0900A

| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|--|---------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>INTEGRATED HYDRONIC KIT: 00, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ</b> |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Dimensions and weights</b>  |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| A  | A,E,N,U | in   | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  |
| B  | A,E,N,U | in   | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  |
| C  | A       | in   | 109.4 | 109.4 | 156.3 | 156.3 | 156.3 | 156.3 | 203.1 | 203.1 | 250.0 | 250.0 | 296.9 | 343.7 |
|  | E,U     | in   | 156.3 | 156.3 | 156.3 | 203.1 | 203.1 | 203.1 | 250.0 | 296.9 | 343.7 | 343.7 | 390.6 | 437.4 |
|  | N       | in   | 203.1 | 203.1 | 203.1 | 250.0 | 250.0 | 250.0 | 296.9 | 343.7 | 343.7 | 390.6 | 437.4 | 468.5 |
| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>INTEGRATED HYDRONIC KIT: AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ</b>     |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Dimensions and weights</b>  |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| A  | A,E,N,U | in   | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  | 96.5  |
| B  | A,E,N,U | in   | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  | 86.6  |
| C  | A       | in   | 156.3 | 156.3 | 156.3 | 156.3 | 156.3 | 156.3 | 203.1 | 203.1 | 250.0 | 250.0 | 296.9 | 343.7 |
|  | E,U     | in   | 156.3 | 156.3 | 156.3 | 203.1 | 203.1 | 203.1 | 250.0 | 296.9 | 343.7 | 343.7 | 390.6 | 437.4 |
|  | N       | in   | 203.1 | 203.1 | 203.1 | 250.0 | 250.0 | 250.0 | 296.9 | 343.7 | 343.7 | 390.6 | 437.4 | 468.5 |

## DATA FROM THE DESUPERHEATER

| Size   | 0800    | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|--|---------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Desuperheater</b>                         |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Type   | A,E,N,U | type |       |       |       |       |       |       |       |       |       |       |       |       |
| Number                                       | A,E,N,U | no.  | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     |
| <b>Water connections, desuperheater side</b> |         |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Connections (in/out)                         | A,E,N,U | Type |       |       |       |       |       |       |       |       |       |       |       |       |
| Sizes (in/out)                               | A       | Ø    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    |
|  | E,N,U   | Ø    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    |
| Minimum water flow rate                      | A       | gpm  | 33.3  | 38.9  | 43.5  | 49.3  | 55.3  | 64.4  | 71.7  | 82.2  | 91.1  | 100.4 | 107.7 | 117.1 |
|  | E       | gpm  | 30.8  | 36.3  | 41.8  | 46.1  | 52.4  | 61.8  | 68.7  | 76.9  | 87.6  | 95.0  | 104.4 | 112.4 |
|  | N       | gpm  | 30.1  | 35.0  | 40.2  | 45.0  | 50.8  | 59.4  | 66.7  | 75.4  | 85.5  | 93.1  | 101.8 | 110.2 |
| Maximum water flow rate                      | A       | gpm  | 111.0 | 129.7 | 144.9 | 164.3 | 184.2 | 214.8 | 239.2 | 274.2 | 303.8 | 334.6 | 358.9 | 390.5 |
|  | E       | gpm  | 102.7 | 120.9 | 139.4 | 153.6 | 174.5 | 206.1 | 228.9 | 256.5 | 292.1 | 316.8 | 348.0 | 374.5 |
|  | N       | gpm  | 100.2 | 116.8 | 133.8 | 149.9 | 169.2 | 198.0 | 222.5 | 251.2 | 285.1 | 310.3 | 339.4 | 367.4 |
|  | U       | gpm  | 112.3 | 128.6 | 145.2 | 165.0 | 183.4 | 210.8 | 238.6 | 271.2 | 303.4 | 331.5 | 357.8 | 389.9 |

■ The option with the desuperheater "D" is available only with "J" fans.

## TOTAL RECOVERY DATA

| Size  | 0800    | 0900 | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000    |
|---|---------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| <b>Total recovery</b>                           |         |      |       |       |       |       |       |       |       |       |       |       |       |         |
| Type  | A,E,N,U | type |       |       |       |       |       |       |       |       |       |       |       |         |
| Number  | A,E,N,U | no.  | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1       |
| <b>Heat recovery side hydraulic connections</b> |         |      |       |       |       |       |       |       |       |       |       |       |       |         |
| Connections (in/out)                            | A,E,N,U | Type |       |       |       |       |       |       |       |       |       |       |       |         |
| Sizes (in/out)                                  | A       | Ø    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"      |
|   | E,N,U   | Ø    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"    | 3"      |
| Minimum water flow rate                         | A       | gpm  | 92.2  | 106.1 | 120.0 | 135.4 | 150.8 | 174.3 | 197.7 | 223.0 | 248.4 | 272.5 | 296.5 | 321.9   |
|   | E,N,U   | gpm  | 92.9  | 106.9 | 121.0 | 136.5 | 152.0 | 175.6 | 199.1 | 224.8 | 250.5 | 274.6 | 298.7 | 324.4   |
| Maximum water flow rate                         | A       | gpm  | 307.2 | 353.6 | 400.1 | 451.4 | 502.8 | 580.9 | 659.0 | 743.5 | 828.0 | 908.2 | 988.4 | 1,073.0 |
|   | E,N,U   | gpm  | 309.6 | 356.5 | 403.4 | 455.0 | 506.6 | 585.2 | 663.8 | 749.4 | 835.1 | 915.4 | 995.6 | 1,081.3 |

## 11 MINIMUM TECHNICAL SPACES

For all units, it is fundamental to respect the minimum distances in order to guarantee optimal ventilation to the finned heat exchanger coils to avoid the following:

- The generation of hazardous atmospheres in the case of refrigerant gas leaks;
- Return of hot air;
- Insufficient air flow to the finned heat exchanger coils.



**Each side of the unit must have space to allow all routine and extraordinary maintenance to be performed.**

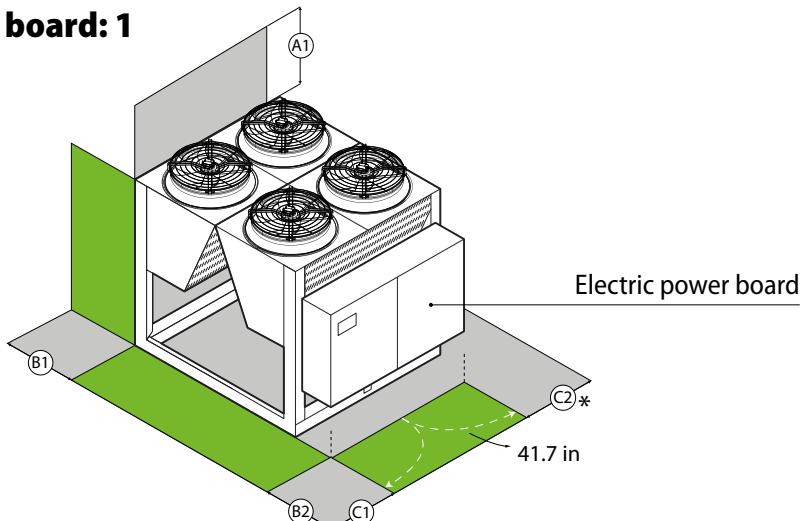


**The air suction inlet and the vertical air exhaust must not be obstructed.**

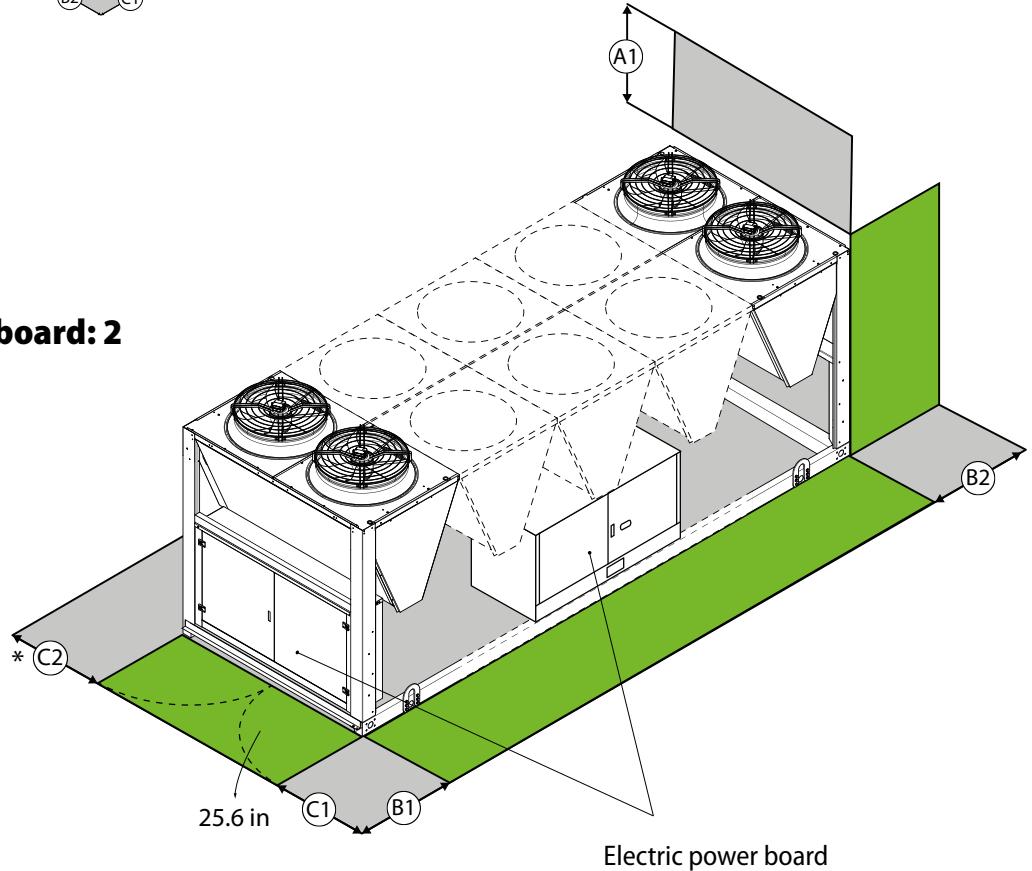
The following images indicate the minimum required space:

### SINGLE INSTALLATION

#### Type of board: 1

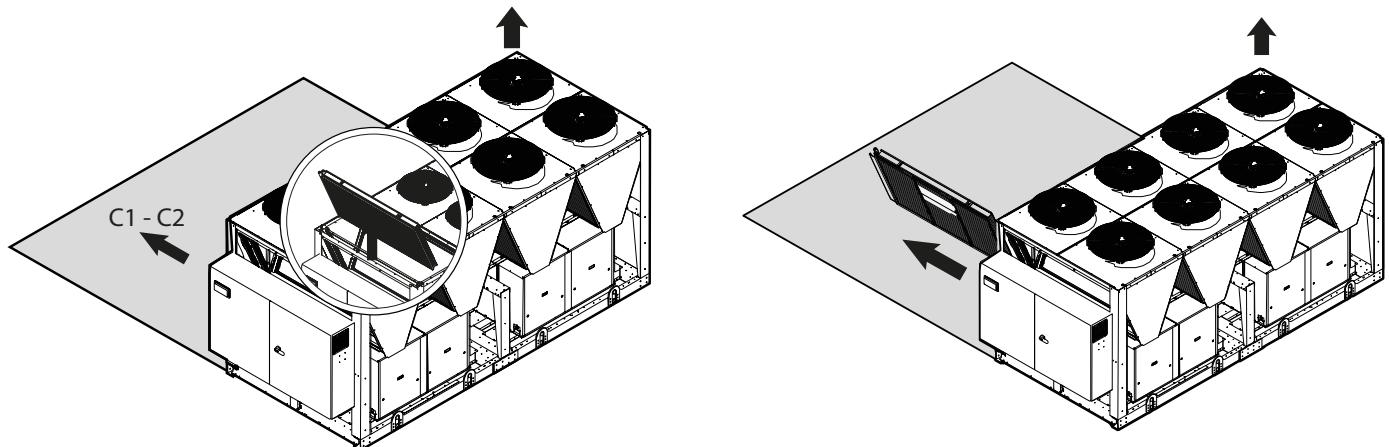


#### Type of board: 2



\* Minimum technical space, to be ensured in order for the chiller to work properly and for possible maintenance.

ATTENTION with this space, the condenser coil can only be pulled out from above; to pull it out from the side you must leave at least 90.6 in.



**■** The drawings are provided solely as examples.

#### VERSION A

| Size                            | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|---------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Minimum technical spaces</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Type of board                   | 1    | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     |
| <b>Fan</b>                      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Number                          | no.  | 4     | 4     | 6     | 6     | 6     | 6     | 8     | 8     | 10    | 10    | 12    | 14    | 14    |
| <b>Minimum technical spaces</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| A1                              | in   | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 |
| B1                              | in   | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  |
| B2                              | in   | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  |
| C1                              | in   | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  |
| C2                              | in   | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  |

#### VERSION E

| Size                            | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|---------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Minimum technical spaces</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Type of board                   | 1    | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     |
| <b>Fan</b>                      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Number                          | no.  | 6     | 6     | 6     | 8     | 8     | 8     | 10    | 12    | 12    | 14    | 14    | 16    | 18    |
| <b>Minimum technical spaces</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| A1                              | in   | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 |
| B1                              | in   | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  |
| B2                              | in   | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  |
| C1                              | in   | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  |
| C2                              | in   | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  |

#### VERSION U

| Size                            | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|---------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Minimum technical spaces</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Type of board                   | 1    | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     |
| <b>Fan</b>                      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Number                          | no.  | 6     | 6     | 6     | 8     | 8     | 8     | 10    | 12    | 12    | 14    | 14    | 16    | 18    |
| <b>Minimum technical spaces</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| A1                              | in   | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 |
| B1                              | in   | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  |
| B2                              | in   | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  |
| C1                              | in   | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  |
| C2                              | in   | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  |

| Size                            | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|---------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Minimum technical spaces</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Type of board                   | 1    | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 2     |
| <b>Fan</b>                      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Number                          | no.  | 8     | 8     | 8     | 10    | 10    | 10    | 12    | 14    | 14    | 16    | 16    | 18    | 20    |
| <b>Minimum technical spaces</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| A1                              | in   | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 | 118.1 |
| B1                              | in   | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 31.5  | 45.3  |
| B2                              | in   | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 43.3  | 31.5  |
| C1                              | in   | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 58.3  |
| C2                              | in   | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  | 39.4  |

■ Data referring to: Power supply 460V ±10% ~3 / 60Hz

## MULTIPLE INSTALLATION

The minimum distances indicated above guarantee unit operation in the majority of applications. There are however specific situations that involve the installation of multiple units:



A 91 in

B 59 in

## 12 OPERATING LIMITS

In their standard configuration, the units are not suitable for installation in salty environments.

The values indicated in the table refer to the min. and max. limits of the unit, valid for  $\Delta T = 10.1 \text{ DT } ^\circ\text{F}$  (cooling mode) and  $\Delta T = 9.0 \text{ DT } ^\circ\text{F}$  (heating mode).

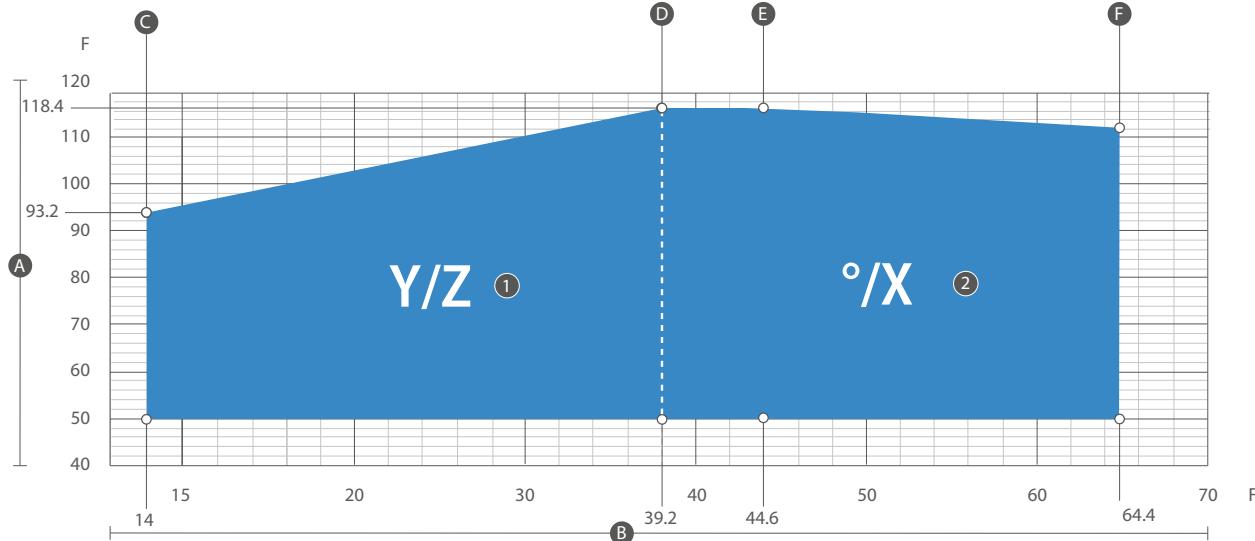
If the unit operates beyond the operational limits, we recommend you first contact our technical-sales service.

**■ If the unit is installed in particularly windy locations the provision of wind barriers may be necessary to avoid malfunctions. It should be installed if wind speed is above 4.9 knot.**

**⚠ Under no circumstances does the unit have to be operated outside the operating limit under penalty of the warranty expiration. Aermec S.p.A. cannot be held responsible for any malfunction of the units which are operated outside the established limits and for their consequences.**

### FAN °

Versions A - U



**Key**  
A   Outdoor air temperature (F)

B   Water produced (F)  
1   Operation with glycol-water solution

2   Standard mode

**ATTENTION: The external temperature values marked in the graphs by a letter are specified in detail for each size and version in the following table.**

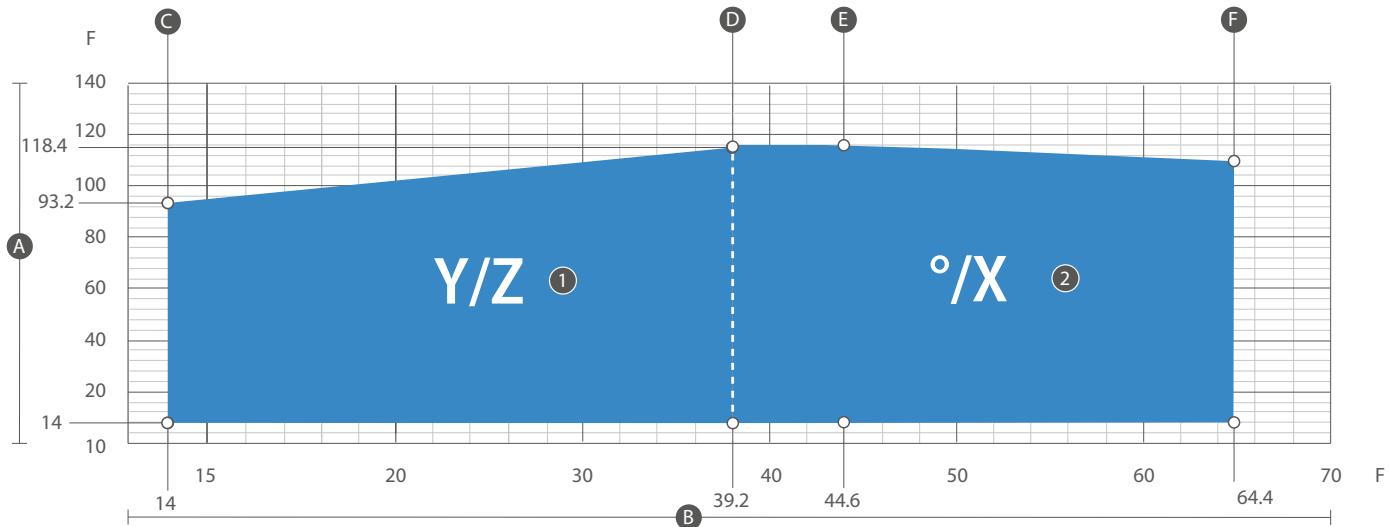
VERSION A

| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|---------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>OPERATING FIELD: °</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan °                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| D                         | °F   | 118.4 | 111.2 | 118.4 | 118.4 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 111.2 | 118.4 | 118.4 | 114.8 |
| E                         | °F   | 118.4 | 111.2 | 118.4 | 118.4 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 111.2 | 118.4 | 118.4 | 114.8 |
| F                         | °F   | 107.6 | 104.0 | 111.2 | 111.2 | 107.6 | 107.6 | 107.6 | 107.6 | 107.6 | 104.0 | 111.2 | 111.2 | 107.6 |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: X</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan °                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| D                         | °F   | 118.4 | 111.2 | 118.4 | 118.4 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 111.2 | 118.4 | 118.4 | 114.8 |
| E                         | °F   | 118.4 | 111.2 | 118.4 | 118.4 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 111.2 | 118.4 | 118.4 | 114.8 |
| F                         | °F   | 107.6 | 104.0 | 111.2 | 111.2 | 107.6 | 107.6 | 107.6 | 107.6 | 107.6 | 104.0 | 111.2 | 111.2 | 107.6 |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: Y</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan °                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | 93.2  | 89.6  | 95.0  | 95.0  | 91.4  | 89.6  | 91.4  | 89.6  | 91.4  | 89.6  | 91.4  | 91.4  | 89.6  |
| D                         | °F   | 118.4 | 111.2 | 118.4 | 118.4 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 111.2 | 118.4 | 118.4 | 114.8 |
| E                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| F                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: Z</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan °                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | 93.2  | 89.6  | 95.0  | 95.0  | 91.4  | 89.6  | 91.4  | 89.6  | 91.4  | 89.6  | 91.4  | 91.4  | 89.6  |
| D                         | °F   | 118.4 | 111.2 | 118.4 | 118.4 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 111.2 | 118.4 | 118.4 | 114.8 |
| E                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| F                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |

| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|---------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>OPERATING FIELD: °</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan °                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| D                         | °F   | 122.0 | 114.8 | 118.4 | 122.0 | 118.4 | 118.4 | 118.4 | -     | -     | -     | -     | -     | -     |
| E                         | °F   | 122.0 | 114.8 | 118.4 | 122.0 | 118.4 | 118.4 | 118.4 | -     | -     | -     | -     | -     | -     |
| F                         | °F   | 114.8 | 107.6 | 111.2 | 114.8 | 111.2 | 111.2 | 111.2 | -     | -     | -     | -     | -     | -     |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: X</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan °                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| D                         | °F   | 122.0 | 114.8 | 118.4 | 122.0 | 118.4 | 118.4 | 118.4 | 118.4 | 114.8 | 118.4 | 118.4 | 118.4 | 118.4 |
| E                         | °F   | 122.0 | 114.8 | 118.4 | 122.0 | 118.4 | 118.4 | 118.4 | 118.4 | 114.8 | 118.4 | 118.4 | 118.4 | 118.4 |
| F                         | °F   | 114.8 | 107.6 | 111.2 | 114.8 | 111.2 | 111.2 | 111.2 | 111.2 | 107.6 | 111.2 | 111.2 | 111.2 | 111.2 |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: Y</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan °                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | 93.2  | 89.6  | 95.0  | 95.0  | 91.4  | 89.6  | 91.4  | 89.6  | 91.4  | 89.6  | 91.4  | 91.4  | 89.6  |
| D                         | °F   | 122.0 | 114.8 | 118.4 | 122.0 | 118.4 | 118.4 | 118.4 | 118.4 | 114.8 | 118.4 | 118.4 | 118.4 | 118.4 |
| E                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| F                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: Z</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan °                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | 93.2  | 89.6  | 95.0  | 95.0  | 91.4  | 89.6  | 91.4  | 89.6  | 91.4  | 89.6  | 91.4  | 91.4  | 89.6  |
| D                         | °F   | 122.0 | 114.8 | 118.4 | 122.0 | 118.4 | 118.4 | 118.4 | 118.4 | 114.8 | 118.4 | 118.4 | 118.4 | 118.4 |
| E                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| F                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |

**FAN J**

Versions A - U



ATTENTION: The external temperature values marked in the graphs by a letter are specified in detail for each size and version in the following table.

VERSION A

| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200 | 2400 | 2600 | 2800 | 3000 |
|---------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>OPERATING FIELD: °</b> |      |       |       |       |       |       |       |       |       |      |      |      |      |      |
| Fan J                     |      |       |       |       |       |       |       |       |       |      |      |      |      |      |
| C                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -    | -    | -    | -    | -    |
| D                         | °F   | 118.4 | 111.2 | 118.4 | 118.4 | 114.8 | 114.8 | 118.4 | 118.4 | -    | -    | -    | -    | -    |
| E                         | °F   | 118.4 | 111.2 | 118.4 | 118.4 | 114.8 | 114.8 | 118.4 | 114.8 | -    | -    | -    | -    | -    |
| F                         | °F   | 107.6 | 104.0 | 111.2 | 111.2 | 107.6 | 107.6 | 111.2 | 107.6 | -    | -    | -    | -    | -    |

**Size** 0800 0900 1000 1100 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000

**OPERATING FIELD: Y**

**Size** 0800 0900 1000 1100 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000

## **OPERATING FIELD: Z**

## VERSION U

Size 0800 0900 1000 1100 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000

## **OPERATING FIELD:**

**OPERATING FIELD** - X

## **OPERATING FIELD: X**

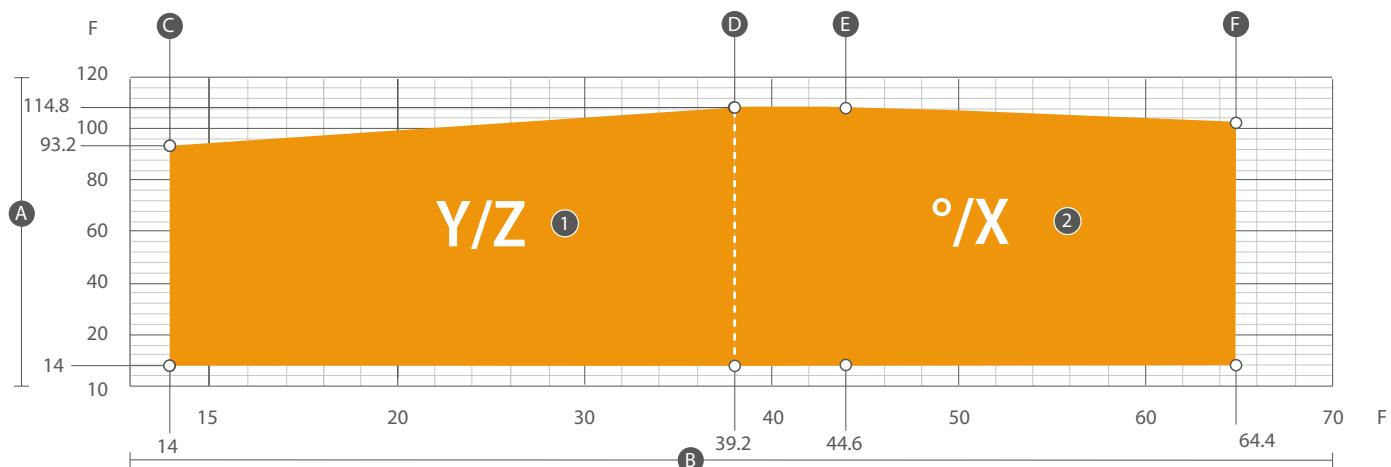
| Fahr | °F | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|------|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C    | °F | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 118.4 | 122.0 | 122.0 | 118.4 | 118.4 | 118.4 | 122.0 | 118.4 | 118.4 | 118.4 | 118.4 |
| D    | °F | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 118.4 | 122.0 | 122.0 | 118.4 | 118.4 | 118.4 | 122.0 | 118.4 | 118.4 | 118.4 | 118.4 |
| E    | °F | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 118.4 | 122.0 | 122.0 | 118.4 | 118.4 | 118.4 | 122.0 | 118.4 | 118.4 | 118.4 | 118.4 |
| F    | °F | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 111.2 | 114.8 | 114.8 | 111.2 | 111.2 | 111.2 | 114.8 | 111.2 | 111.2 | 111.2 | 111.2 |

**OPERATING FIELD-X**

## **OPERATING FIELD: Y**

**OPERATING FIELD: Z**

## **OPERATING FIELD: 2**



**Key**  
A   Outdoor air temperature (°C)

B   Water produced (°C)  
1   Silenced operation: with glycol

2   Silenced operation: standard

**ATTENTION: The external temperature values marked in the graphs by a letter are specified in detail for each size and version in the following table.**

VERSION E

| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|---------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>OPERATING FIELD: °</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan J                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| D                         | °F   | 114.8 | 114.8 | 111.2 | 114.8 | 111.2 | 107.6 | 111.2 | 111.2 | -     | -     | -     | -     | -     |
| E                         | °F   | 114.8 | 114.8 | 111.2 | 114.8 | 111.2 | 107.6 | 111.2 | 111.2 | -     | -     | -     | -     | -     |
| F                         | °F   | 107.6 | 107.6 | 104.0 | 107.6 | 104.0 | 100.4 | 104.0 | 104.0 | -     | -     | -     | -     | -     |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: X</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan J                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| D                         | °F   | 114.8 | 114.8 | 111.2 | 114.8 | 111.2 | 107.6 | 111.2 | 111.2 | 111.2 | 107.6 | 107.6 | 107.6 | 107.6 |
| E                         | °F   | 114.8 | 114.8 | 111.2 | 114.8 | 111.2 | 107.6 | 111.2 | 111.2 | 111.2 | 107.6 | 107.6 | 107.6 | 107.6 |
| F                         | °F   | 107.6 | 107.6 | 104.0 | 107.6 | 104.0 | 100.4 | 104.0 | 104.0 | 104.0 | 100.4 | 100.4 | 100.4 | 100.4 |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: Y</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan J                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | 93.2  | 89.6  | 95.0  | 95.0  | 91.4  | 89.6  | 91.4  | 91.4  | -     | -     | -     | -     | -     |
| D                         | °F   | 114.8 | 111.2 | 111.2 | 114.8 | 114.8 | 111.2 | 111.2 | 111.2 | -     | -     | -     | -     | -     |
| E                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| F                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: Z</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan J                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | 93.2  | 89.6  | 95.0  | 95.0  | 91.4  | 89.6  | 91.4  | 89.6  | 91.4  | 89.6  | 91.4  | 91.4  | 89.6  |
| D                         | °F   | 114.8 | 111.2 | 111.2 | 114.8 | 114.8 | 111.2 | 111.2 | 114.8 | 111.2 | 111.2 | 111.2 | 111.2 | 111.2 |
| E                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| F                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |

VERSION N

| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200 | 2400 | 2600 | 2800 | 3000 |
|---------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>OPERATING FIELD: °</b> |      |       |       |       |       |       |       |       |       |      |      |      |      |      |
| Fan J                     |      |       |       |       |       |       |       |       |       |      |      |      |      |      |
| C                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -    | -    | -    | -    | -    |
| D                         | °F   | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | -    | -    | -    | -    | -    |
| E                         | °F   | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | -    | -    | -    | -    | -    |
| F                         | °F   | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | -    | -    | -    | -    | -    |

| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|---------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>OPERATING FIELD: X</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan J                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| D                         | °F   | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 |
| E                         | °F   | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 |
| F                         | °F   | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 114.8 | 111.2 | 111.2 |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: Y</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan J                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | -     | -     | -     | -     | -     |
| D                         | °F   | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | -     | -     | -     | -     | -     |
| E                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| F                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Size                      | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
| <b>OPERATING FIELD: Z</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fan J                     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| C                         | °F   | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  | 98.6  |
| D                         | °F   | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 | 122.0 |
| E                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| F                         | °F   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |

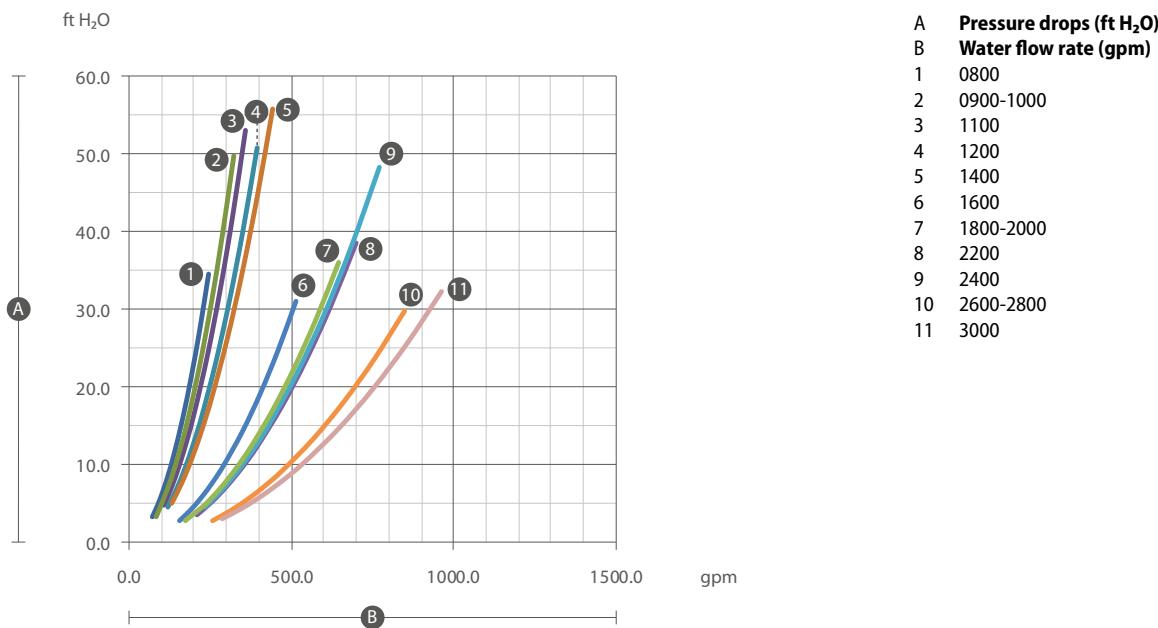
## 13 PRESSURE DROPS

Inlet water temperature 54.0 °F  
 Outlet water temperature 44.0 °F  
 External air temperature 95.0 °F  
 Average water temperature 50.0 °F

**ATTENTION:** For average water temperature different than 50.0 °F refer to the chapter "Corrective factors for average water temperatures different from nominal values"

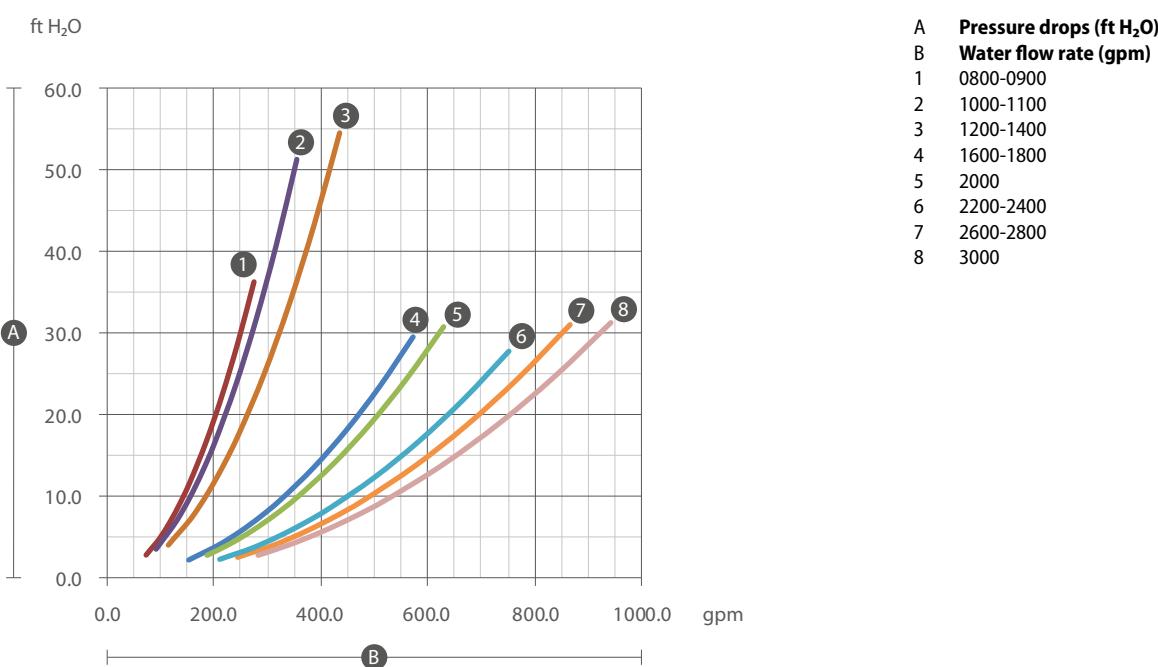
### WITHOUT HYDRONIC KIT

#### Version A



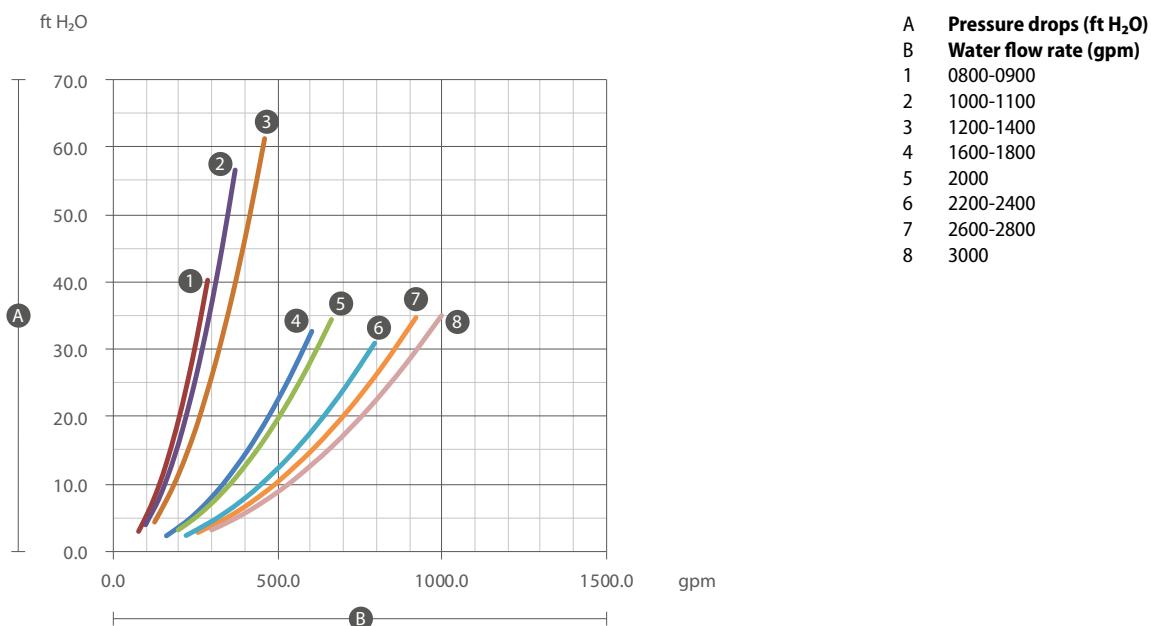
| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 73.0  | 82.5  | 96.4  | 108.0 | 118.1 | 133.7 | 154.3 | 172.0 | 193.2 | 210.6 | 232.0 | 255.3 | 271.3 | 289.3 |
| Maximum water flow rate           | gpm  | 243.3 | 275.0 | 321.4 | 360.0 | 393.6 | 445.7 | 514.4 | 573.4 | 644.1 | 702.0 | 773.3 | 850.9 | 904.2 | 964.4 |

#### Version E



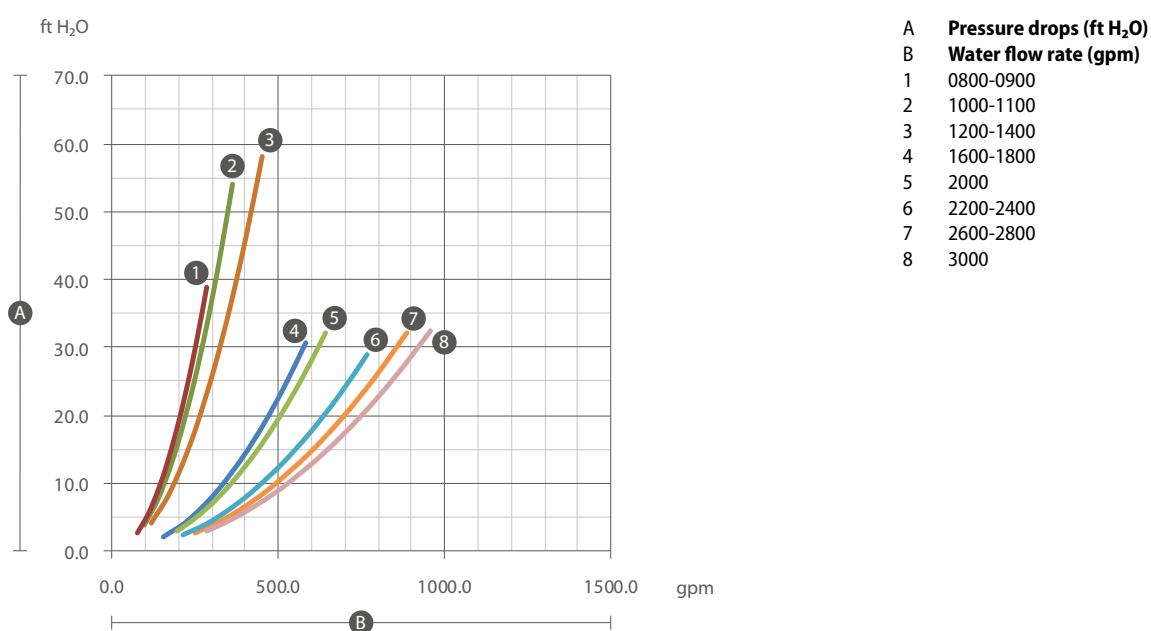
| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 73.4  | 82.3  | 92.2  | 106.1 | 116.7 | 131.0 | 152.0 | 171.8 | 188.7 | 209.9 | 225.3 | 245.4 | 260.1 | 282.3 |
| Maximum water flow rate           | gpm  | 244.8 | 274.5 | 307.2 | 353.7 | 389.1 | 436.8 | 506.7 | 572.7 | 628.9 | 699.6 | 750.9 | 817.9 | 866.9 | 940.9 |

## Version U



| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 76.8  | 86.6  | 97.5  | 111.4 | 123.1 | 139.1 | 160.5 | 180.8 | 199.8 | 221.7 | 238.7 | 259.2 | 275.8 | 298.7 |
| Maximum water flow rate           | gpm  | 256.1 | 288.8 | 325.1 | 371.3 | 410.2 | 463.5 | 534.9 | 602.7 | 665.9 | 739.0 | 795.6 | 864.0 | 919.3 | 995.8 |

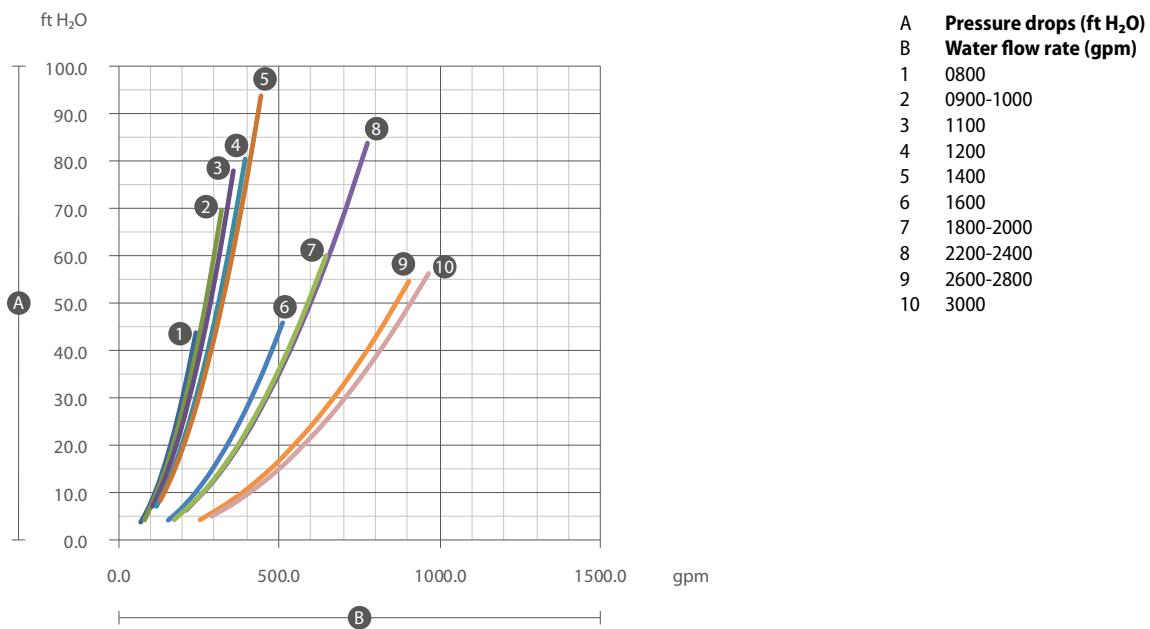
## Version N



| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 75.6  | 85.2  | 95.8  | 108.8 | 120.2 | 135.6 | 155.9 | 175.3 | 193.1 | 213.9 | 230.1 | 249.6 | 265.0 | 286.9 |
| Maximum water flow rate           | gpm  | 251.9 | 283.9 | 319.5 | 362.8 | 400.5 | 452.0 | 519.7 | 584.2 | 643.6 | 713.2 | 766.9 | 832.1 | 883.5 | 956.3 |

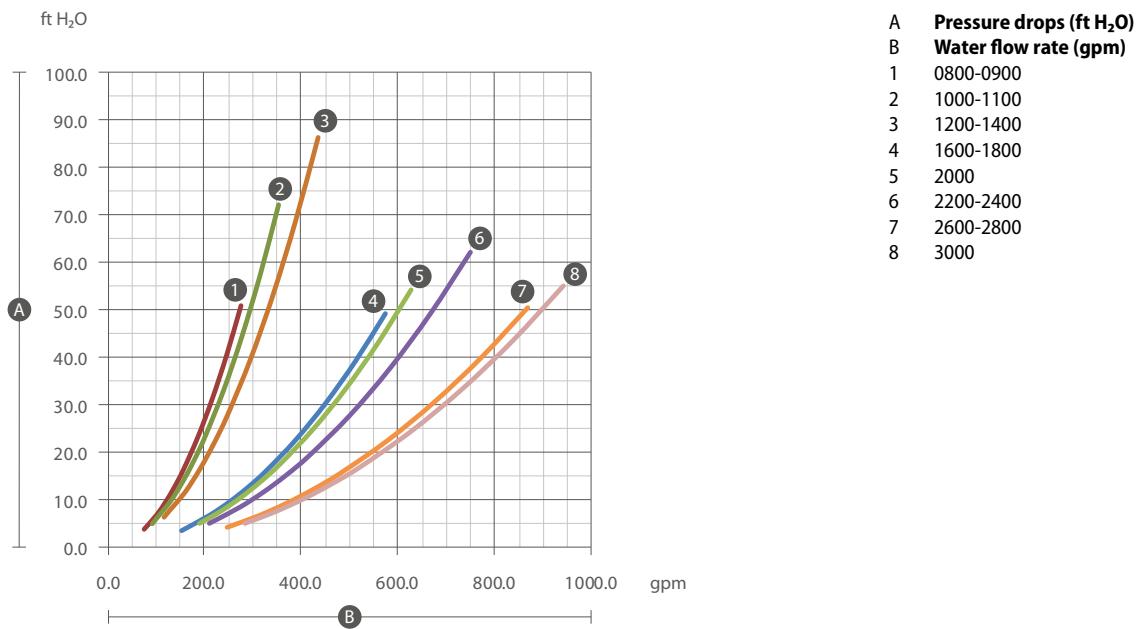
## WITH PUMPS

### Version A



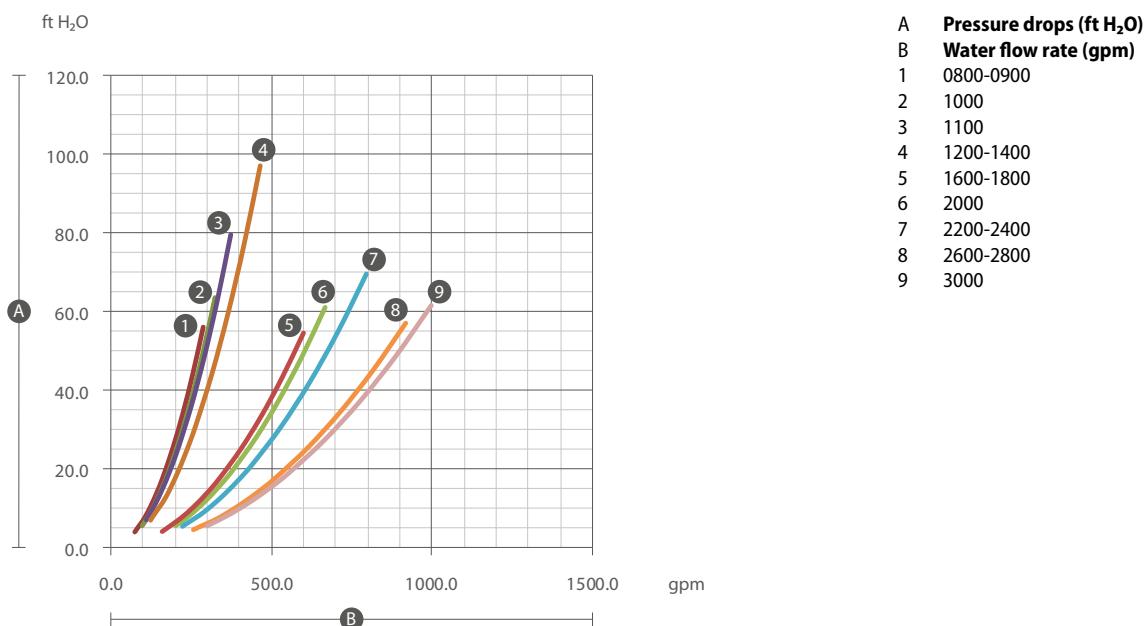
| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 73.0  | 82.5  | 96.4  | 108.0 | 118.1 | 133.7 | 154.3 | 172.0 | 193.2 | 210.6 | 232.0 | 255.3 | 271.3 | 289.3 |
| Maximum water flow rate           | gpm  | 243.3 | 275.0 | 321.4 | 360.0 | 393.6 | 445.7 | 514.4 | 573.4 | 644.1 | 702.0 | 773.3 | 850.9 | 904.2 | 964.4 |

### Version E



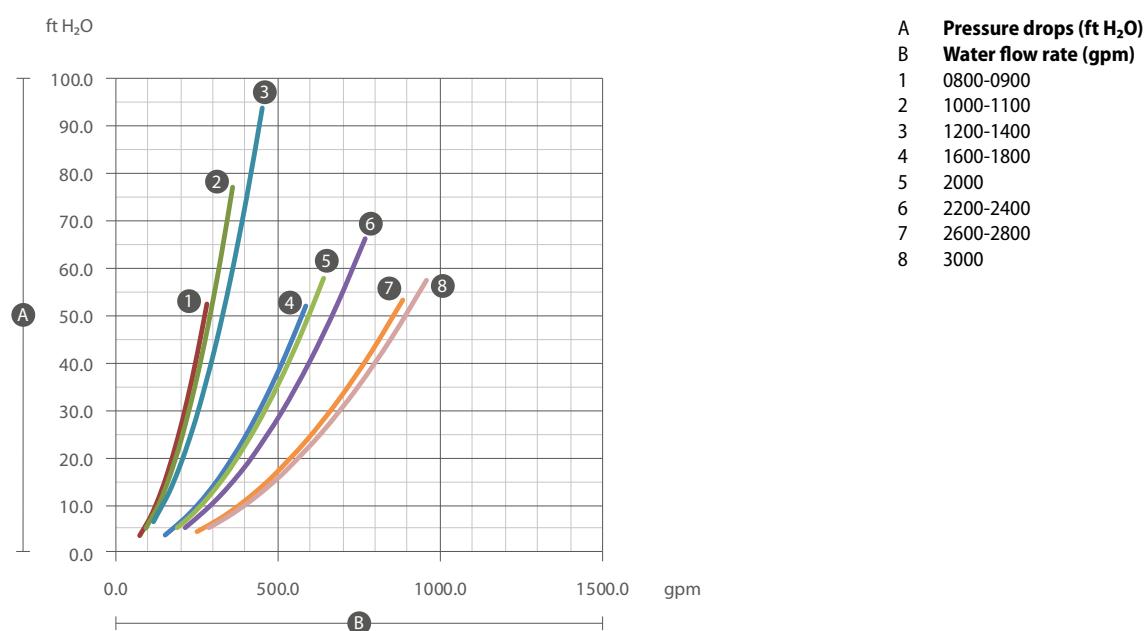
| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 73.4  | 82.3  | 92.2  | 106.1 | 116.7 | 131.0 | 152.0 | 171.8 | 188.7 | 209.9 | 225.3 | 245.4 | 260.1 | 282.3 |
| Maximum water flow rate           | gpm  | 244.8 | 274.5 | 307.2 | 353.7 | 389.1 | 436.8 | 506.7 | 572.7 | 628.9 | 699.6 | 750.9 | 817.9 | 866.9 | 940.9 |

## Version U



| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 76.8  | 86.6  | 97.5  | 111.4 | 123.1 | 139.1 | 160.5 | 180.8 | 199.8 | 221.7 | 238.7 | 259.2 | 275.8 | 298.7 |
| Maximum water flow rate           | gpm  | 256.1 | 288.8 | 325.1 | 371.3 | 410.2 | 463.5 | 534.9 | 602.7 | 665.9 | 739.0 | 795.6 | 864.0 | 919.3 | 995.8 |

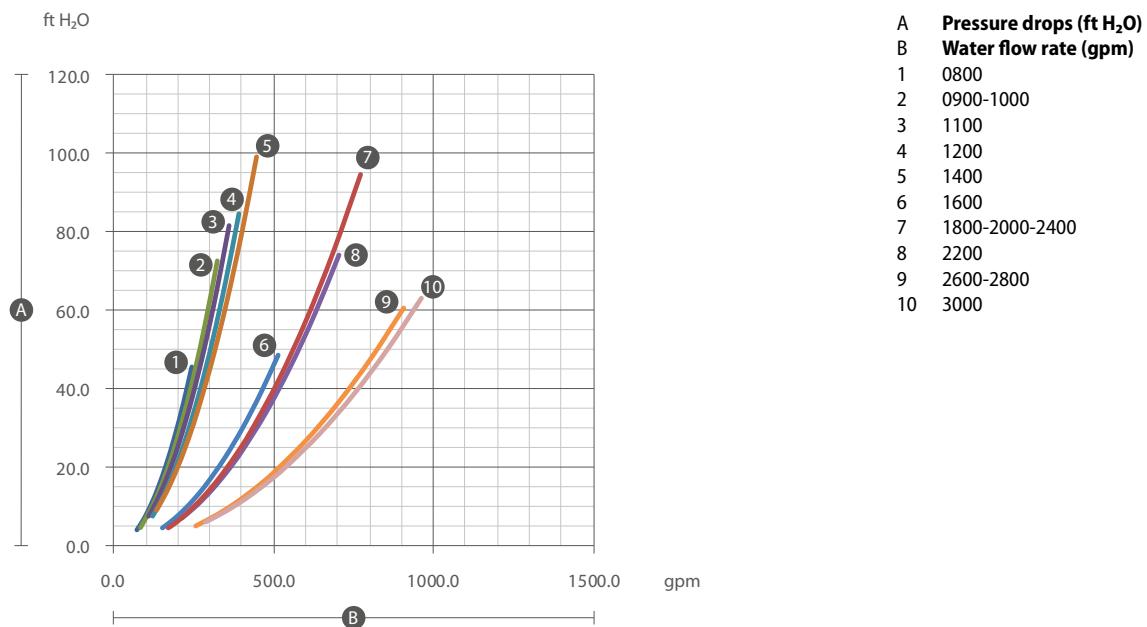
## Version N



| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 75.6  | 85.2  | 95.8  | 108.8 | 120.2 | 135.6 | 155.9 | 175.3 | 193.1 | 213.9 | 230.1 | 249.6 | 265.0 | 286.9 |
| Maximum water flow rate           | gpm  | 251.9 | 283.9 | 319.5 | 362.8 | 400.5 | 452.0 | 519.7 | 584.2 | 643.6 | 713.2 | 766.9 | 832.1 | 883.5 | 956.3 |

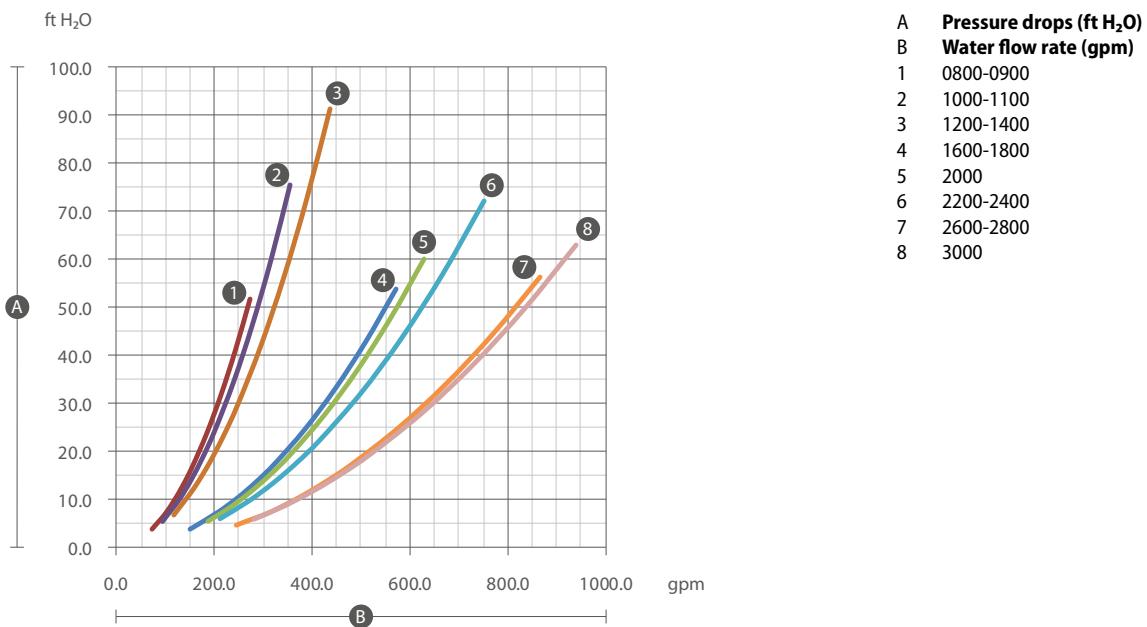
## WITH PUMPS AND STORAGE TANK

### Version A



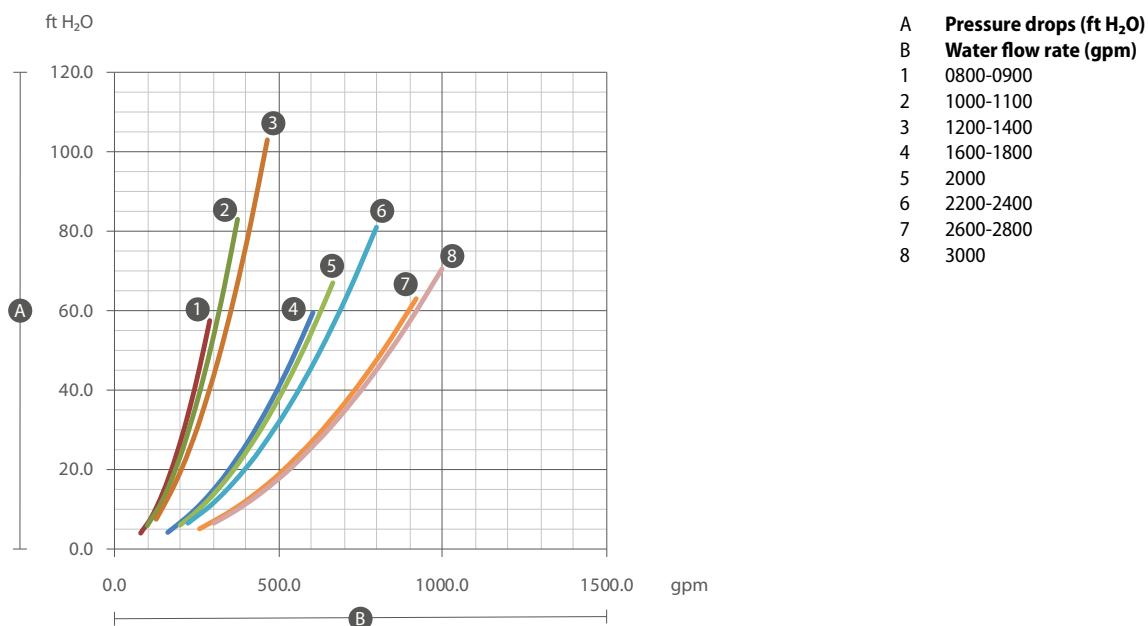
| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 73.0  | 82.5  | 96.4  | 108.0 | 118.1 | 133.7 | 154.3 | 172.0 | 193.2 | 210.6 | 232.0 | 255.3 | 271.3 | 289.3 |
| Maximum water flow rate           | gpm  | 243.3 | 275.0 | 321.4 | 360.0 | 393.6 | 445.7 | 514.4 | 573.4 | 644.1 | 702.0 | 773.3 | 850.9 | 904.2 | 964.4 |

### Version E



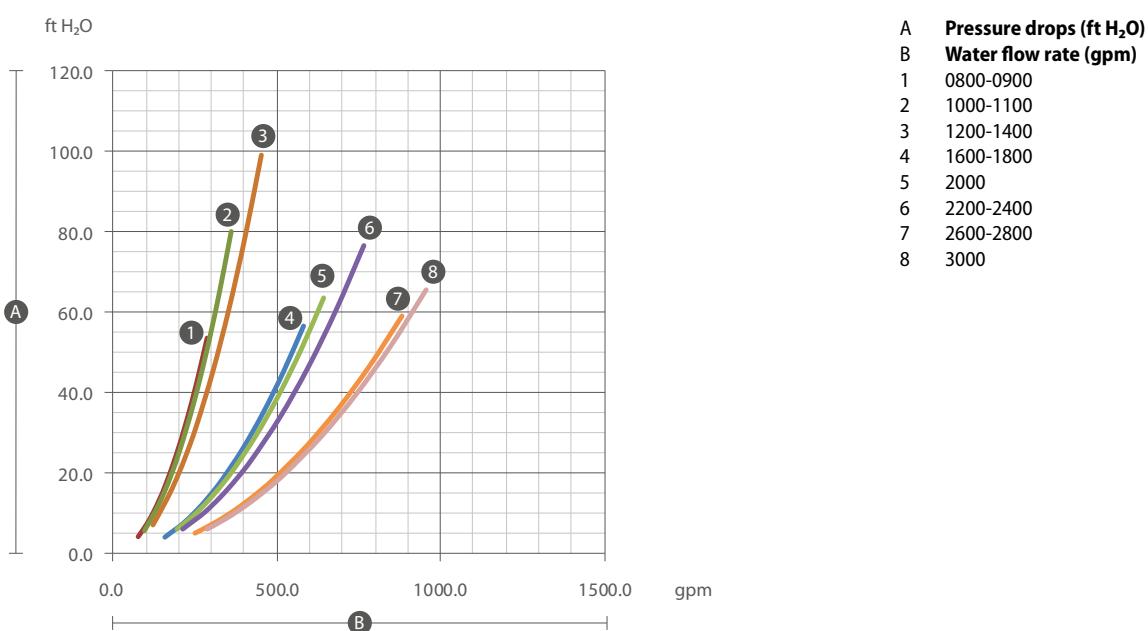
| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 73.4  | 82.3  | 92.2  | 106.1 | 116.7 | 131.0 | 152.0 | 171.8 | 188.7 | 209.9 | 225.3 | 245.4 | 260.1 | 282.3 |
| Maximum water flow rate           | gpm  | 244.8 | 274.5 | 307.2 | 353.7 | 389.1 | 436.8 | 506.7 | 572.7 | 628.9 | 699.6 | 750.9 | 817.9 | 866.9 | 940.9 |

## Version U



| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 76.8  | 86.6  | 97.5  | 111.4 | 123.1 | 139.1 | 160.5 | 180.8 | 199.8 | 221.7 | 238.7 | 259.2 | 275.8 | 298.7 |
| Maximum water flow rate           | gpm  | 256.1 | 288.8 | 325.1 | 371.3 | 410.2 | 463.5 | 534.9 | 602.7 | 665.9 | 739.0 | 795.6 | 864.0 | 919.3 | 995.8 |

## Version N



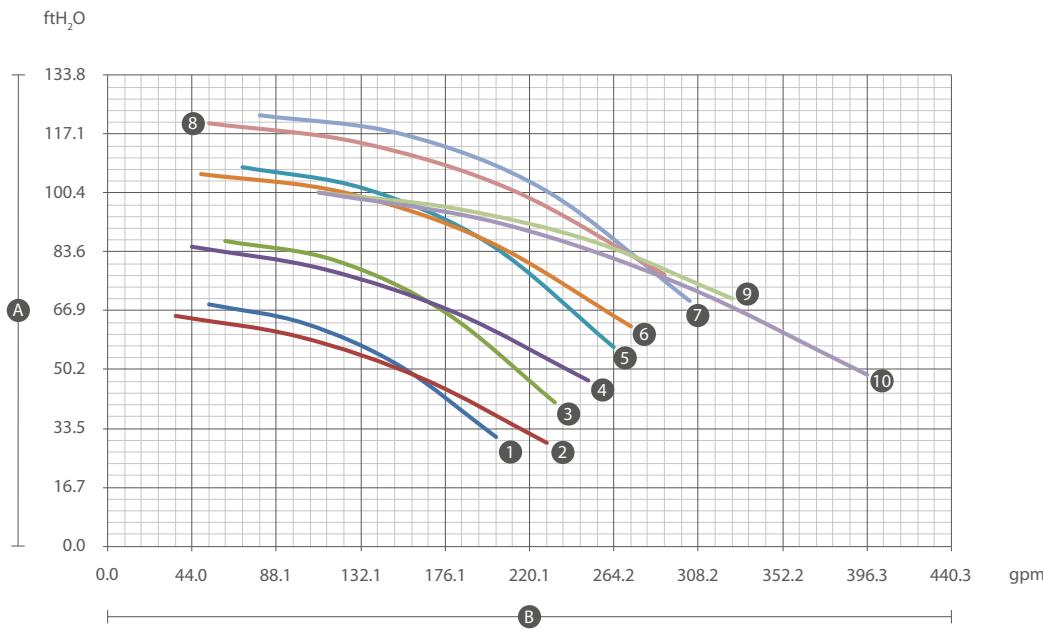
| Size                              | 0800 | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |       |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>System side heat exchanger</b> |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum water flow rate           | gpm  | 75.6  | 85.2  | 95.8  | 108.8 | 120.2 | 135.6 | 155.9 | 175.3 | 193.1 | 213.9 | 230.1 | 249.6 | 265.0 | 286.9 |
| Maximum water flow rate           | gpm  | 251.9 | 283.9 | 319.5 | 362.8 | 400.5 | 452.0 | 519.7 | 584.2 | 643.6 | 713.2 | 766.9 | 832.1 | 883.5 | 956.3 |

## 14 PUMPS STATIC PRESSURE

**PA÷PE / AA÷AE / DA÷DE / BA÷BE**

The table shows the characteristic curves of the pumps, **and therefore they do not represent the useful static pressures of the system.**

The useful heads of the system must be calculated by subtracting the unit's pressure drops ( $\Delta p$ ) from the useful head of the pump shown in this diagram (see chapter: 13 Pressure drops p. 50).



A Pumps static pressure (ft H<sub>2</sub>O)

B Water flow rate (gpm)

1 PA-AA

2 DA-BA

3 PB-AB

4 DB-BB

5 PC-AC

6 DC-BC

7 PD-AD

8 DD-BD

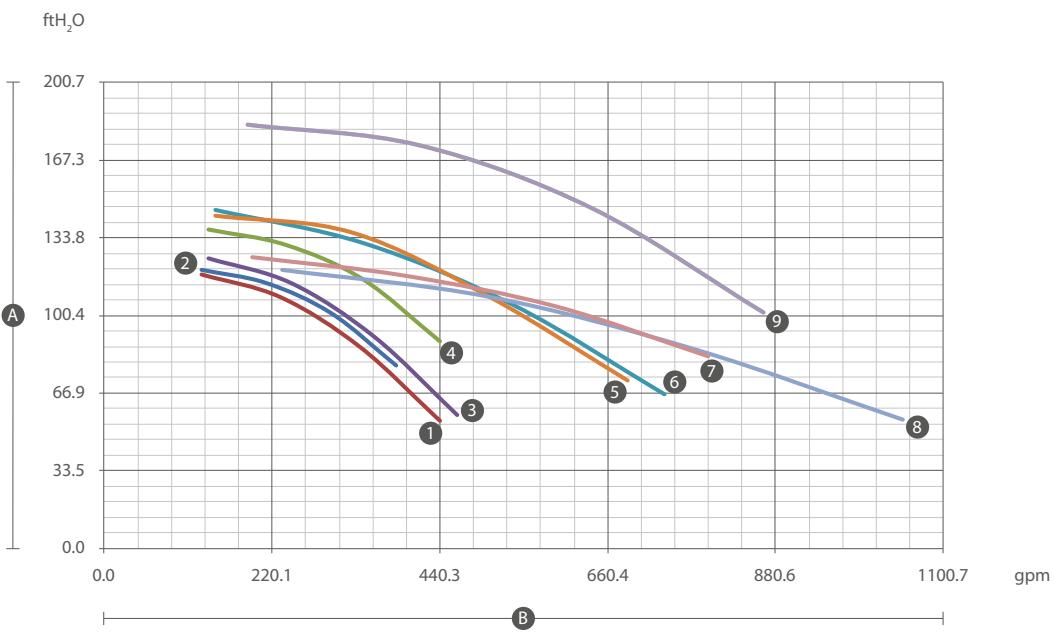
9 PE-AE

10 DE-BE

**PF÷PJ / AF÷AJ / DF÷DJ / BF÷BJ**

The table shows the characteristic curves of the pumps, **and therefore they do not represent the useful static pressures of the system.**

The useful heads of the system must be calculated by subtracting the unit's pressure drops ( $\Delta p$ ) from the useful head of the pump shown in this diagram (see chapter: 13 Pressure drops p. 50).



A Pumps static pressure (ft H<sub>2</sub>O)

B Water flow rate (gpm)

1 DF-BF

2 PF-AF

3 DG-BG

4 PG-AG

5 DH-BH

6 PH-AH

7 DI-BI

8 PI-AI

9 PJ-AJ-DJ-BJ

## SINGLE HYDRONIC KITS' DATA

| Size                |             | 0800 | 0900    | 1000    | 1100    | 1200    | 1400    | 1600    | 1800    | 2000    | 2200    | 2400    | 2600    | 2800    | 3000    |
|---------------------|-------------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Pumps               | 00          | kW   | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       |
|                     | AA,PA       | kW   | 2.94    | 2.94    | 2.94    | 2.94    | 2.94    | 2.94    | 2.94    | 2.94    | 2.94    | 2.94    | 2.94    | 2.94    | 2.94    |
|                     | AB,PB       | kW   | 4.29    | 4.29    | 4.29    | 4.29    | 4.29    | 4.29    | 4.29    | 4.29    | 4.29    | 4.29    | 4.29    | 4.29    | 4.29    |
|                     | AC,PC       | kW   | 5.99    | 5.99    | 5.99    | 5.99    | 5.99    | 5.99    | 5.99    | 5.99    | 5.99    | 5.99    | 5.99    | 5.99    | 5.99    |
|                     | AD,PD       | kW   | 8.02    | 8.02    | 8.02    | 8.02    | 8.02    | 8.02    | 8.02    | 8.02    | 8.02    | 8.02    | 8.02    | 8.02    | 8.02    |
|                     | AE,PE       | kW   | 8.25    | 8.25    | 8.25    | 8.25    | 8.25    | 8.25    | 8.25    | 8.25    | 8.25    | 8.25    | 8.25    | 8.25    | 8.25    |
|                     | AF,PF       | kW   | 9.10    | 9.10    | 9.10    | 9.10    | 9.10    | 9.10    | 9.10    | 9.10    | 9.10    | 9.10    | 9.10    | 9.10    | 9.10    |
|                     | AG,PG       | kW   | 12.02   | 12.02   | 12.02   | 12.02   | 12.02   | 12.02   | 12.02   | 12.02   | 12.02   | 12.02   | 12.02   | 12.02   | 12.02   |
|                     | AH,PH       | kW   | 15.13   | 15.13   | 15.13   | 15.13   | 15.13   | 15.13   | 15.13   | 15.13   | 15.13   | 15.13   | 15.13   | 15.13   | 15.13   |
| Maximum input power | AI,PI       | kW   | 19.16   | 19.16   | 19.16   | 19.16   | 19.16   | 19.16   | 19.16   | 19.16   | 19.16   | 19.16   | 19.16   | 19.16   | 19.16   |
|                     | AJ,BJ,DJ,PJ | kW   | 24.46   | 24.46   | 24.46   | 24.46   | 24.46   | 24.46   | 24.46   | 24.46   | 24.46   | 24.46   | 24.46   | 24.46   | 24.46   |
|                     | BA,DA       | kW   | 3.07    | 3.07    | 3.07    | 3.07    | 3.07    | 3.07    | 3.07    | 3.07    | 3.07    | 3.07    | 3.07    | 3.07    | 3.07    |
|                     | BB,DB       | kW   | 4.46    | 4.46    | 4.46    | 4.46    | 4.46    | 4.46    | 4.46    | 4.46    | 4.46    | 4.46    | 4.46    | 4.46    | 4.46    |
|                     | BC,DC       | kW   | 6.15    | 6.15    | 6.15    | 6.15    | 6.15    | 6.15    | 6.15    | 6.15    | 6.15    | 6.15    | 6.15    | 6.15    | 6.15    |
|                     | BD,DD       | kW   | 7.60    | 7.60    | 7.60    | 7.60    | 7.60    | 7.60    | 7.60    | 7.60    | 7.60    | 7.60    | 7.60    | 7.60    | 7.60    |
|                     | BE,DE       | kW   | 7.36    | 7.36    | 7.36    | 7.36    | 7.36    | 7.36    | 7.36    | 7.36    | 7.36    | 7.36    | 7.36    | 7.36    | 7.36    |
|                     | BF,DF       | kW   | 9.42    | 9.42    | 9.42    | 9.42    | 9.42    | 9.42    | 9.42    | 9.42    | 9.42    | 9.42    | 9.42    | 9.42    | 9.42    |
|                     | BG,DG       | kW   | 10.29   | 10.29   | 10.29   | 10.29   | 10.29   | 10.29   | 10.29   | 10.29   | 10.29   | 10.29   | 10.29   | 10.29   | 10.29   |
|                     | BH,DH       | kW   | 14.86   | 14.86   | 14.86   | 14.86   | 14.86   | 14.86   | 14.86   | 14.86   | 14.86   | 14.86   | 14.86   | 14.86   | 14.86   |
|                     | BI,DI       | kW   | 19.32   | 19.32   | 19.32   | 19.32   | 19.32   | 19.32   | 19.32   | 19.32   | 19.32   | 19.32   | 19.32   | 19.32   | 19.32   |
|                     | 00          | A    | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       |
|                     | AA,PA       | A    | 5.50    | 5.50    | 5.50    | 5.50    | 5.50    | 5.50    | 5.50    | 5.50    | 5.50    | 5.50    | 5.50    | 5.50    | 5.50    |
|                     | AB,PB       | A    | 6.70    | 6.70    | 6.70    | 6.70    | 6.70    | 6.70    | 6.70    | 6.70    | 6.70    | 6.70    | 6.70    | 6.70    | 6.70    |
|                     | AC,PC       | A    | 8.90    | 8.90    | 8.90    | 8.90    | 8.90    | 8.90    | 8.90    | 8.90    | 8.90    | 8.90    | 8.90    | 8.90    | 8.90    |
|                     | AD,AE,PD,PE | A    | 12.20   | 12.20   | 12.20   | 12.20   | 12.20   | 12.20   | 12.20   | 12.20   | 12.20   | 12.20   | 12.20   | 12.20   | 12.20   |
|                     | AF,PF       | A    | 15.50   | 15.50   | 15.50   | 15.50   | 15.50   | 15.50   | 15.50   | 15.50   | 15.50   | 15.50   | 15.50   | 15.50   | 15.50   |
|                     | AG,PG       | A    | 17.40   | 17.40   | 17.40   | 17.40   | 17.40   | 17.40   | 17.40   | 17.40   | 17.40   | 17.40   | 17.40   | 17.40   | 17.40   |
|                     | AH,PH       | A    | 22.80   | 22.80   | 22.80   | 22.80   | 22.80   | 22.80   | 22.80   | 22.80   | 22.80   | 22.80   | 22.80   | 22.80   | 22.80   |
| Maximum current     | AI,BI,DI,PI | A    | 33.20   | 33.20   | 33.20   | 33.20   | 33.20   | 33.20   | 33.20   | 33.20   | 33.20   | 33.20   | 33.20   | 33.20   | 33.20   |
|                     | AJ,BJ,DJ,PJ | A    | 40.50   | 40.50   | 40.50   | 40.50   | 40.50   | 40.50   | 40.50   | 40.50   | 40.50   | 40.50   | 40.50   | 40.50   | 40.50   |
|                     | BA,DA       | A    | 6.23    | 6.23    | 6.23    | 6.23    | 6.23    | 6.23    | 6.23    | 6.23    | 6.23    | 6.23    | 6.23    | 6.23    | 6.23    |
|                     | BB,DB       | A    | 7.62    | 7.62    | 7.62    | 7.62    | 7.62    | 7.62    | 7.62    | 7.62    | 7.62    | 7.62    | 7.62    | 7.62    | 7.62    |
|                     | BC,DC       | A    | 10.40   | 10.40   | 10.40   | 10.40   | 10.40   | 10.40   | 10.40   | 10.40   | 10.40   | 10.40   | 10.40   | 10.40   | 10.40   |
|                     | BD,BE,DD,DE | A    | 14.20   | 14.20   | 14.20   | 14.20   | 14.20   | 14.20   | 14.20   | 14.20   | 14.20   | 14.20   | 14.20   | 14.20   | 14.20   |
|                     | BF,DF       | A    | 17.30   | 17.30   | 17.30   | 17.30   | 17.30   | 17.30   | 17.30   | 17.30   | 17.30   | 17.30   | 17.30   | 17.30   | 17.30   |
|                     | BG,DG       | A    | 20.20   | 20.20   | 20.20   | 20.20   | 20.20   | 20.20   | 20.20   | 20.20   | 20.20   | 20.20   | 20.20   | 20.20   | 20.20   |
|                     | BH,DH       | A    | 26.80   | 26.80   | 26.80   | 26.80   | 26.80   | 26.80   | 26.80   | 26.80   | 26.80   | 26.80   | 26.80   | 26.80   | 26.80   |
|                     | 00          | gpm  | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       |
|                     | AA,BD,DD,PA | gpm  | 52.8    | 52.8    | 52.8    | 52.8    | 52.8    | 52.8    | 52.8    | 52.8    | 52.8    | 52.8    | 52.8    | 52.8    | 52.8    |
|                     | AB,PB       | gpm  | 61.6    | 61.6    | 61.6    | 61.6    | 61.6    | 61.6    | 61.6    | 61.6    | 61.6    | 61.6    | 61.6    | 61.6    | 61.6    |
|                     | AC,PC       | gpm  | 70.4    | 70.4    | 70.4    | 70.4    | 70.4    | 70.4    | 70.4    | 70.4    | 70.4    | 70.4    | 70.4    | 70.4    | 70.4    |
|                     | AD,PD       | gpm  | 79.3    | 79.3    | 79.3    | 79.3    | 79.3    | 79.3    | 79.3    | 79.3    | 79.3    | 79.3    | 79.3    | 79.3    | 79.3    |
|                     | AE,BE,DE,PE | gpm  | 110.1   | 110.1   | 110.1   | 110.1   | 110.1   | 110.1   | 110.1   | 110.1   | 110.1   | 110.1   | 110.1   | 110.1   | 110.1   |
|                     | AF,BF,DF,PF | gpm  | 127.7   | 127.7   | 127.7   | 127.7   | 127.7   | 127.7   | 127.7   | 127.7   | 127.7   | 127.7   | 127.7   | 127.7   | 127.7   |
|                     | AG,BG,DG,PG | gpm  | 136.5   | 136.5   | 136.5   | 136.5   | 136.5   | 136.5   | 136.5   | 136.5   | 136.5   | 136.5   | 136.5   | 136.5   | 136.5   |
|                     | AH,BH,DH,PH | gpm  | 145.3   | 145.3   | 145.3   | 145.3   | 145.3   | 145.3   | 145.3   | 145.3   | 145.3   | 145.3   | 145.3   | 145.3   | 145.3   |
|                     | AI,PI       | gpm  | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   |
|                     | AJ,BJ,DJ,PJ | gpm  | 188.1   | 188.1   | 188.1   | 188.1   | 188.1   | 188.1   | 188.1   | 188.1   | 188.1   | 188.1   | 188.1   | 188.1   | 188.1   |
|                     | BA,DA       | gpm  | 35.2    | 35.2    | 35.2    | 35.2    | 35.2    | 35.2    | 35.2    | 35.2    | 35.2    | 35.2    | 35.2    | 35.2    | 35.2    |
|                     | BB,DB       | gpm  | 44.0    | 44.0    | 44.0    | 44.0    | 44.0    | 44.0    | 44.0    | 44.0    | 44.0    | 44.0    | 44.0    | 44.0    | 44.0    |
|                     | BC,DC       | gpm  | 48.4    | 48.4    | 48.4    | 48.4    | 48.4    | 48.4    | 48.4    | 48.4    | 48.4    | 48.4    | 48.4    | 48.4    | 48.4    |
|                     | BI,DI       | gpm  | 193.7   | 193.7   | 193.7   | 193.7   | 193.7   | 193.7   | 193.7   | 193.7   | 193.7   | 193.7   | 193.7   | 193.7   | 193.7   |
|                     | 00          | gpm  | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       | /       |
|                     | AA,PA       | gpm  | 202.5   | 202.5   | 202.5   | 202.5   | 202.5   | 202.5   | 202.5   | 202.5   | 202.5   | 202.5   | 202.5   | 202.5   | 202.5   |
|                     | AB,PB       | gpm  | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   | 233.4   |
|                     | AC,PC       | gpm  | 264.2   | 264.2   | 264.2   | 264.2   | 264.2   | 264.2   | 264.2   | 264.2   | 264.2   | 264.2   | 264.2   | 264.2   | 264.2   |
|                     | AD,PD       | gpm  | 303.8   | 303.8   | 303.8   | 303.8   | 303.8   | 303.8   | 303.8   | 303.8   | 303.8   | 303.8   | 303.8   | 303.8   | 303.8   |
|                     | AE,PE       | gpm  | 325.8   | 325.8   | 325.8   | 325.8   | 325.8   | 325.8   | 325.8   | 325.8   | 325.8   | 325.8   | 325.8   | 325.8   | 325.8   |
|                     | AF,PF       | gpm  | 383.0   | 383.0   | 383.0   | 383.0   | 383.0   | 383.0   | 383.0   | 383.0   | 383.0   | 383.0   | 383.0   | 383.0   | 383.0   |
|                     | AG,BF,DF,PG | gpm  | 440.3   | 440.3   | 440.3   | 440.3   | 440.3   | 440.3   | 440.3   | 440.3   | 440.3   | 440.3   | 440.3   | 440.3   | 440.3   |
|                     | AH,PH       | gpm  | 735.3   | 735.3   | 735.3   | 735.3   | 735.3   | 735.3   | 735.3   | 735.3   | 735.3   | 735.3   | 735.3   | 735.3   | 735.3   |
|                     | AI,PI       | gpm  | 1,047.9 | 1,047.9 | 1,047.9 | 1,047.9 | 1,047.9 | 1,047.9 | 1,047.9 | 1,047.9 | 1,047.9 | 1,047.9 | 1,047.9 | 1,047.9 | 1,047.9 |
|                     | AJ,BJ,DJ,PJ | gpm  | 864.3   | 864.3   | 864.3   | 864.3   | 864.3   | 864.3   | 864.3   | 864.3   | 864.3   | 864.3   | 864.3   | 864.3   | 864.3   |
|                     | BA,DA       | gpm  | 228.9   | 228.9   | 228.9   | 228.9   | 228.9   | 228.9   | 228.9   | 228.9   | 228.9   | 228.9   | 228.9   | 228.9   | 228.9   |
|                     | BB,DB       | gpm  | 251.0   | 251.0   | 251.0   | 251.0   | 251.0   | 251.0   | 251.0   | 251.0   | 251.0   | 251.0   | 251.0   | 251.0   | 251.0   |
|                     | BC,DC       | gpm  | 273.0   | 273.0   | 273.0   | 273.0   | 273.0   | 273.0   | 273.0   | 273.0   | 273.0   | 273.0   | 273.0   | 273.0   | 273.0   |
|                     | BD,DD       | gpm  | 290.6   | 290.6   | 290.6   | 290.6   | 290.6   | 290.6   | 290.6   | 290.6   | 290.6   | 290.6   | 290.6   | 290.6   | 290.6   |
|                     | BE,DE       | gpm  | 396.3   | 396.3   | 396.3   | 396.3   | 396.3   | 396.3   | 396.3   | 396.3   | 396.3   | 396.3   | 396.3   | 396.3   | 396.3   |
|                     | BG,DG       | gpm  | 462.3   | 462.3   | 462.3   | 462.3   | 462.3   | 462.3   | 462.3   | 462.3   | 462.3   | 462.3   | 462.3   | 462.3   | 462.3   |
|                     | BH,DH       | gpm  | 686.8   | 686.8   | 686.8   | 686.8   | 686.8   | 686.8   | 686.8   | 686.8   | 686.8   | 686.8   | 686.8   | 686.8   | 686.8   |
|                     | BI,DI       | gpm  | 792.5   | 792.5   | 792.5   | 792.5   | 792.5   | 792.5   | 792.5   | 792.5   | 792.5   | 792.5   | 792.5   | 792.5   | 792.5   |

## 15 SYSTEM WATER CONTENT

### MINIMUM SYSTEM WATER CONTENT

For correct unit operation, there must be a suitable amount of water in the system. A sufficient quantity of water not only ensures machine stability, but also helps avoid a high number of hourly compressor start-ups.

To calculate it, use the formula: Unit rated cooling capacity (ton) x table value (gal/ton) = Minimum system content (gal).

| Size                                       |         | 0800    | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|--|---------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>Minimum system water content</b>        |         |         |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Minimum water content for air conditioning | A,E,N,U | gal/ton | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  |
| Minimum water content for processes        | A,E,N,U | gal/ton | 7.4  | 7.4  | 7.4  | 7.4  | 7.4  | 7.4  | 7.4  | 7.4  | 7.4  | 7.4  | 7.4  | 7.4  | 7.4  |

**Note:** the water content referred to in the tables corresponds to the amount of water effectively useful for inertial purposes; this value does not necessarily coincide with the entire system water content, and must be calculated on the basis of the system layout and operating modes.

A example is given below, but it does not cover a possible situation.

**Example:** for a chiller/heat pump equipped with a primary and a secondary circuit, and in which the zone pumps of the secondary circuit could (even occasionally) be turned off, only the water content of the primary circuit has value of useful water content for the counting purposes.

If you are in any doubt, please refer to the relevant technical documentation or contact the AERMEC Technical-Commercial Service.

 **NOTICE:** Under no circumstances does the unit have to be operated when water flow rate on the heat exchanger is below the minimum water flow rate or above the maximum water flow rate, under penalty of the warranty expiration. Aermec cannot be held responsible for any malfunction of the units which are operated outside the established limits of water flow rate and for their consequences

 **NOTICE:** Under no circumstances does the unit have to be operated in a system in which the content of the water circulating is below the MINIMUM SYSTEM WATER CONTENT, under penalty of the warranty expiration. Aermec cannot be held responsible for any malfunction of the units which are operated in a system in which the content of the water circulating is below the MINIMUM SYSTEM WATER CONTENT and for their consequences

 **NOTICE:** in the case of several units connected in parallel, the designer must ensure that the configuration of the system and the management logic adopted do not cause too frequent START/STOP cycles and / or sudden changes in the water flow rate of the groups in operation

 **ATTENTION** It is recommended to design systems with high water content (minimum recommended values shown in tab), in order to limit:

— Number of peaks made by the compressors

— The reduction of water temperature during defrosting cycles in the winter period for heat pumps.

### MAXIMUM SYSTEM WATER CONTENT

Units with the hydronic kit mounted come standard with the expansion vessel set at 21.8 psi, the pressure relief valve and the water filter mounted.

The maximum system water content depends on the capacity of the expansion vessel and on the calibration of the pressure relief valve.

| Size                               |         | 0800   | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|------------------------------------|---------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>INTEGRATED HYDRONIC KIT: 00</b> |         |        |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Hydronic kit                       |         |        |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Expansion vessel number            | A,E,N,U | no.    |      |      |      |      |      |      |      |      |      |      |      |      | /    |
| Expansion vessel capacity          | A,E,N,U | gal    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    |
| Storage tank number                | A,E,N,U | no.    |      |      |      |      |      |      |      |      |      |      |      |      | /    |
| Storage tank capacity              | A,E,N,U | gal    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    |
| Pressure relief valve              | A,E,N,U | n°/psi |      |      |      |      |      |      |      |      |      |      |      |      | /    |

| Size   |         | 0800   | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800   | 3000  |
|--|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| <b>INTEGRATED HYDRONIC KIT: AA, AB, AC, AD, AE, AF, AG, AH, AI, BA, BB, BC, BD, BE, BF, BG, BH, BI</b> |         |        |       |       |       |       |       |       |       |       |       |       |       |        |       |
| Hydronic kit   |         |        |       |       |       |       |       |       |       |       |       |       |       |        |       |
| Expansion vessel number  | A,E,N,U | no.    | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 3      | 3     |
| Expansion vessel capacity  | A,E,N,U | gal    | 6.3   | 6.3   | 6.3   | 6.3   | 6.3   | 6.3   | 6.3   | 6.3   | 6.3   | 6.3   | 6.3   | 6.3    | 6.3   |
| Storage tank number  | A,E,N,U | no.    |       |       |       |       |       |       |       |       |       |       |       | 1      |       |
| Storage tank capacity  | A,E,N,U | gal    | 158.5 | 158.5 | 158.5 | 158.5 | 158.5 | 158.5 | 158.5 | 158.5 | 158.5 | 158.5 | 158.5 | 158.5  | 317.0 |
| Pressure relief valve  | A,E,N,U | n°/psi |       |       |       |       |       |       |       |       |       |       |       | 1/87.0 |       |

| Size                                   |         | 0800   | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000  |
|--|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>INTEGRATED HYDRONIC KIT: AJ, BJ</b> |         |        |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Hydronic kit                           |         |        |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Expansion vessel number                | A,E,N,U | no.    |       |       |       |       |       |       |       |       |       |       |       | - (1) |       |
| Expansion vessel capacity              | A,E,N,U | gal    | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) |
| Storage tank number                    | A,E,N,U | no.    |       |       |       |       |       |       |       |       |       |       |       | - (1) |       |
| Storage tank capacity                  | A,E,N,U | gal    | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) |
| Pressure relief valve                  | A,E,N,U | n°/psi |       |       |       |       |       |       |       |       |       |       |       | - (1) |       |

(1) Contact the factory

| Size   |         | 0800 | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|--|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>INTEGRATED HYDRONIC KIT: DA, DB, DC, DD, DE, DF, DG, DH, DI, PA, PB, PC, PD, PE, PF, PG, PH, PI</b> |         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Hydronic kit   |         |      |      |      |      |      |      |      |      |      |      |      |      |      | 2    |
| Expansion vessel number  | A,E,N,U | no.  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Expansion vessel capacity  | A,E,N,U | gal  | 6.3  | 6.3  | 6.3  | 6.3  | 6.3  | 6.3  | 6.3  | 6.3  | 6.3  | 6.3  | 6.3  | 6.3  | 6.3  |
| Storage tank number  | A,E,N,U | no.  |      |      |      |      |      |      |      |      |      |      |      |      | /    |

| Size                                   |         | 0800   | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000   |
|--|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Storage tank capacity                  | A,E,N,U | gal    | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /      |
| Pressure relief valve                  | A,E,N,U | n°/psi |       |       |       |       |       |       |       |       |       |       |       |       | 1/87.0 |
| Size                                   |         | 0800   | 0900  | 1000  | 1100  | 1200  | 1400  | 1600  | 1800  | 2000  | 2200  | 2400  | 2600  | 2800  | 3000   |
| <b>INTEGRATED HYDRONIC KIT: DJ, PJ</b> |         |        |       |       |       |       |       |       |       |       |       |       |       |       |        |
| <b>Hydronic kit</b>                    |         |        |       |       |       |       |       |       |       |       |       |       |       |       |        |
| Expansion vessel number                | A,E,N,U | no.    |       |       |       |       |       |       |       |       |       |       |       |       | - (1)  |
| Expansion vessel capacity              | A,E,N,U | gal    | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1) | - (1)  |
| Storage tank number                    | A,E,N,U | no.    |       |       |       |       |       |       |       |       |       |       |       |       | /      |
| Storage tank capacity                  | A,E,N,U | gal    | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /      |
| Pressure relief valve                  | A,E,N,U | n°/psi |       |       |       |       |       |       |       |       |       |       |       |       | - (1)  |

(1) Contact the factory

The table gives an example of the maximum water content calculated at the indicated operating conditions and only to protect the unit.

If the volume of water in the system is higher, add another expansion vessel of the correct size.

|   |     |             |                 |             |             |               |
|---|-----|-------------|-----------------|-------------|-------------|---------------|
| <b>System water temperature max/min</b> | °F  |             | <b>104/39.2</b> |             |             |               |
| <b>Hydraulic height</b>                 | Ft  | <b>98.4</b> | <b>82.0</b>     | <b>65.6</b> | <b>49.2</b> | <b>≤40.19</b> |
| Expansion vessel pre-load               | psi | 46.4        | 40.6            | 33.4        | 26.1        | 21.8          |
| Water content maximum                   | gal | 574.3       | 699.0           | 823.7       | 948.4       | 1,017.6       |
| <b>System water temperature max/min</b> | °F  |             | <b>140/39.2</b> |             |             |               |
| Expansion vessel pre-load               | psi | 46.4        | 40.6            | 33.4        | 26.1        | 21.8          |
| Water content maximum                   | gal | 258.4       | 314.4           | 370.9       | 426.9       | 457.5         |

The data in the table refer to units with a 6.3 gal. expansion vessel.

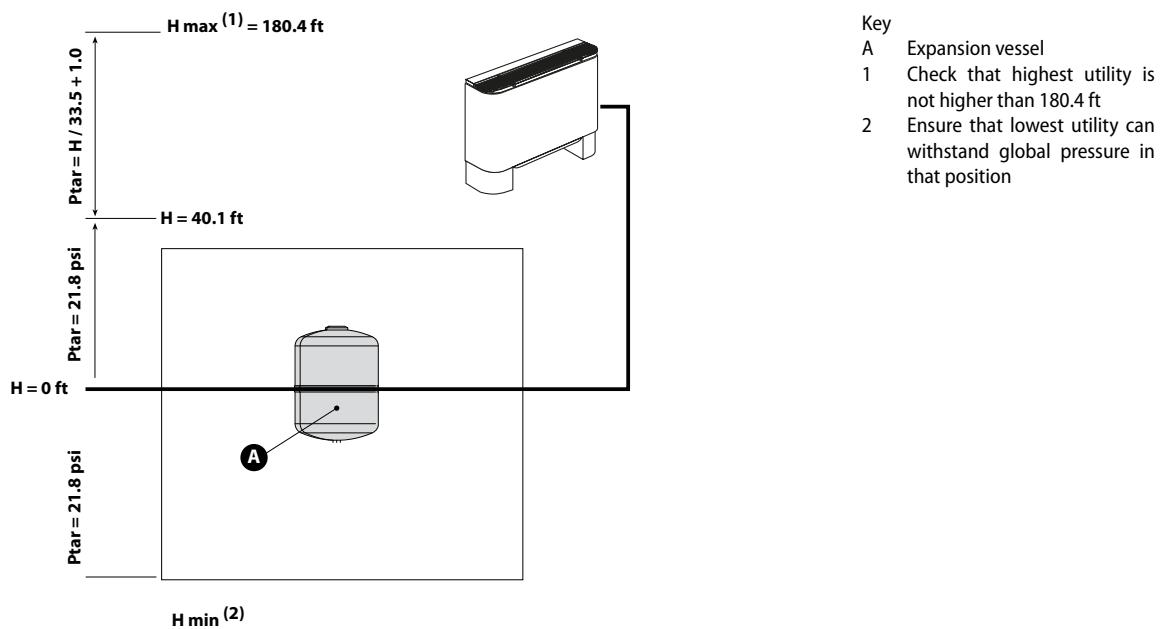
## EXPANSION VESSEL SETTING

The expansion tank volume is 6.3 gal. The standard value of the expansion tank pre-charge pressure is 21.8 psi, but this can be calibrated up to a maximum of 87.0 psi.

The expansion tank pressure setting has to be adjusted based on the difference in height (H) of the installation (see figure) according to the formula:  $p$  (rating) [bar] =  $H$  [ft] / 33.5 + 1.0.

For example: if level difference H is equal to 65.6 ft, the calibration value of the vessel will be 33.4 psi.

If the calibration value obtained from the formula is less than 21.8 psi (i.e. for  $H < 40.2$ ), use the standard calibration.



## 16 CORRECTION FACTORS

### CORRECTIVE FACTORS FOR AVERAGE WATER TEMPERATURES DIFFERENT FROM NOMINAL VALUES

The pressure drops are calculated with an average water temperature of 50.0 °F (Cooling mode), 109.4 °F (Heating or recovery mode)

| Average water temperatures | °F | System side heat exchanger |      |      |      |      |       |       |      | Heating mode or recovery |      |       |       |       |       |       |
|----------------------------|----|----------------------------|------|------|------|------|-------|-------|------|--------------------------|------|-------|-------|-------|-------|-------|
|                            |    | Cooling mode               |      |      |      |      |       |       |      | Heating mode or recovery |      |       |       |       |       |       |
| Average water temperatures | °F | 41.0                       | 50.0 | 59.0 | 68.0 | 86.0 | 104.0 | 122.0 | 73.4 | 82.4                     | 91.4 | 100.4 | 109.4 | 118.4 | 127.4 | 134.4 |
| Correction factor          |    | 1.02                       | 1.00 | 0.98 | 0.97 | 0.95 | 0.93  | 0.91  | 1.04 | 1.03                     | 1.02 | 1.01  | 1.00  | 0.99  | 0.98  | 0.97  |

### FOULING: DEPOSIT CORRECTIVE FACTORS [K\*M<sup>2</sup>]/[W]

|                                       |     |         |        |        |
|---------------------------------------|-----|---------|--------|--------|
|                                       | 0,0 | 0,00005 | 0,0001 | 0,0002 |
| Corrective factor of cooling capacity | 1,0 | 1       | 0.98   | 0.94   |
| Corrective factor of input power      | 1,0 | 1       | 0.98   | 0.95   |

## 17 GLYCOL

### ETHYLENE GLYCOL

#### Cooling mode

| CORRECTION FACTOR WITH ETHYLENE GLYCOL - COOLING MODE |    |       |       |       |       |       |       |       |        |        |        |
|---|----|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| Freezing Point  | °F | 0     | 25.47 | 21.02 | 15.93 | 10.20 | 3.67  | -3.89 | -12.62 | -22.79 | -34.78 |
| Percent ethylene glycol                               | %  | 0     | 10    | 15    | 20    | 25    | 30    | 35    | 40     | 45     | 50     |
| Qwc   | -  | 1.000 | 1.033 | 1.040 | 1.049 | 1.060 | 1.072 | 1.086 | 1.102  | 1.120  | 1.141  |
| Pc  | -  | 1.000 | 0.990 | 0.985 | 0.980 | 0.975 | 0.970 | 0.965 | 0.960  | 0.955  | 0.950  |
| Pa  | -  | 1.000 | 0.996 | 0.994 | 0.992 | 0.990 | 0.988 | 0.986 | 0.984  | 0.982  | 0.980  |
| Δp  | -  | 1.000 | 1.109 | 1.157 | 1.209 | 1.268 | 1.336 | 1.414 | 1.505  | 1.609  | 1.728  |

#### Heating mode range

| CORRECTION FACTOR WITH ETHYLENE GLYCOL - HEATING MODE |    |       |       |       |       |       |       |       |        |        |        |
|---|----|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| Freezing Point  | °F | 0     | 25.47 | 21.02 | 15.93 | 10.20 | 3.67  | -3.89 | -12.62 | -22.79 | -34.78 |
| Percent ethylene glycol                               | %  | 0     | 10    | 15    | 20    | 25    | 30    | 35    | 40     | 45     | 50     |
| Qwh   | -  | 1.000 | 1.027 | 1.038 | 1.050 | 1.063 | 1.078 | 1.095 | 1.114  | 1.135  | 1.158  |
| Ph  | -  | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000  | 1.000  | 1.000  |
| Pa  | -  | 1.000 | 1.002 | 1.003 | 1.004 | 1.005 | 1.007 | 1.008 | 1.010  | 1.012  | 1.015  |
| Δp  | -  | 1.000 | 1.087 | 1.128 | 1.175 | 1.227 | 1.286 | 1.353 | 1.428  | 1.514  | 1.610  |

### PROPYLENE GLYCOL

#### Cooling mode

| CORRECTION FACTOR WITH PROPYLENE GLYCOL - COOLING MODE |    |       |       |       |       |       |       |       |       |        |        |
|--|----|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| Freezing Point   | °F | 0     | 25.83 | 22.46 | 18.61 | 14.04 | 8.46  | 1.65  | -6.65 | -16.67 | -28.70 |
| Percent propylene glycol                               | %  | 0     | 10    | 15    | 20    | 25    | 30    | 35    | 40    | 45     | 50     |
| Qwc  | -  | 1.000 | 1.007 | 1.006 | 1.007 | 1.010 | 1.015 | 1.022 | 1.032 | 1.044  | 1.058  |
| Pc   | -  | 1.000 | 0.985 | 0.978 | 0.970 | 0.963 | 0.955 | 0.947 | 0.939 | 0.932  | 0.924  |
| Pa   | -  | 1.000 | 0.996 | 0.994 | 0.992 | 0.990 | 0.988 | 0.986 | 0.984 | 0.982  | 0.980  |
| Δp   | -  | 1.000 | 1.082 | 1.102 | 1.143 | 1.201 | 1.271 | 1.351 | 1.435 | 1.520  | 1.602  |

#### Heating mode range

| CORRECTION FACTOR WITH PROPYLENE GLYCOL - HEATING MODE |    |       |       |       |       |       |       |       |       |        |        |
|--|----|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| Freezing Point   | °F | 0     | 25.83 | 22.46 | 18.61 | 14.04 | 8.46  | 1.65  | -6.65 | -16.67 | -28.70 |
| Percent propylene glycol                               | %  | 0     | 10    | 15    | 20    | 25    | 30    | 35    | 40    | 45     | 50     |
| Qwh  | -  | 1.000 | 1.008 | 1.014 | 1.021 | 1.030 | 1.042 | 1.055 | 1.071 | 1.090  | 1.112  |
| Ph   | -  | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000  | 1.000  |
| Pa   | -  | 1.000 | 1.003 | 1.004 | 1.005 | 1.007 | 1.009 | 1.011 | 1.014 | 1.018  | 1.023  |
| Δp   | -  | 1.000 | 1.050 | 1.077 | 1.111 | 1.153 | 1.202 | 1.258 | 1.321 | 1.390  | 1.467  |

■ Attention: Avoid adding the glycol in the hydraulic circuit near the pump intake. A high concentration of glycol and additives above the permissible limits can block the pump: do not use the pump as a mixer.

## 18 SOUND DATA

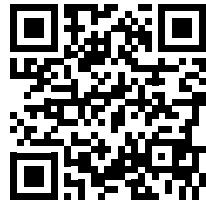
| Size   |     | 0800  | 0900 | 1000 | 1100 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |      |
|--|-----|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>Sound data calculated in cooling mode (1)</b> |     |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Sound power level                                | A   | dB(A) | 87.5 | 90.1 | 92.1 | 93.4 | 94.4 | 94.0 | 93.9 | 95.8 | 97.3 | 96.3 | 95.5 | 97.1 | 97.9 | 98.8 |
|  | E   | dB(A) | 84.0 | 88.5 | 90.6 | 92.4 | 93.6 | 93.1 | 92.6 | 95.0 | 96.6 | 95.6 | 94.4 | 96.1 | 97.4 | 98.3 |
|  | N   | dB(A) | 84.2 | 88.5 | 90.7 | 92.4 | 93.6 | 93.2 | 92.7 | 95.1 | 96.6 | 95.6 | 94.4 | 96.1 | 97.4 | 98.3 |
|  | U   | dB(A) | 88.6 | 90.7 | 92.1 | 93.7 | 94.7 | 94.3 | 94.2 | 96.2 | 97.4 | 96.8 | 95.9 | 97.3 | 98.3 | 99.2 |
| Sound pressure level (10 m / 33 ft)              | A   | dB(A) | 55.4 | 57.9 | 59.9 | 61.2 | 62.1 | 61.8 | 61.5 | 63.4 | 64.7 | 63.8 | 62.8 | 64.3 | 65.1 | 66.0 |
|  | E   | dB(A) | 51.8 | 56.2 | 58.4 | 60.0 | 61.2 | 60.7 | 60.1 | 62.4 | 63.9 | 62.8 | 61.6 | 63.2 | 64.4 | 65.3 |
|  | N   | dB(A) | 51.8 | 56.1 | 58.3 | 59.9 | 61.1 | 60.6 | 60.0 | 62.3 | 63.8 | 62.7 | 61.5 | 63.1 | 64.3 | 65.2 |
|  | U   | dB(A) | 56.4 | 58.5 | 59.9 | 61.3 | 62.3 | 61.9 | 61.7 | 63.5 | 64.7 | 64.0 | 63.1 | 64.4 | 65.4 | 66.1 |
| Sound pressure level (1 m / 3.3 ft)              | A   | dB(A) | 68.3 | 70.9 | 72.3 | 73.6 | 74.6 | 74.2 | 73.6 | 75.5 | 76.4 | 75.5 | 74.2 | 75.4 | 76.2 | 77.1 |
|  | E   | dB(A) | 64.3 | 68.7 | 70.8 | 72.0 | 73.2 | 72.8 | 71.8 | 73.7 | 75.3 | 73.9 | 72.7 | 74.1 | 75.3 | 75.9 |
|  | N   | dB(A) | 63.8 | 68.2 | 70.3 | 71.5 | 72.8 | 72.3 | 71.4 | 73.4 | 74.9 | 73.6 | 72.3 | 73.7 | 75.0 | 75.7 |
|  | U   | dB(A) | 68.8 | 70.9 | 72.3 | 73.4 | 74.3 | 73.9 | 73.3 | 74.9 | 76.1 | 75.1 | 74.2 | 75.2 | 76.2 | 76.7 |
| <b>Sound power by centre octave band dB(A)</b>   |     |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 125 Hz   | A   | dB(A) | 77.3 | 77.3 | 79.1 | 79.1 | 79.1 | 80.3 | 80.3 | 81.3 | 81.3 | 82.1 | 82.1 | 82.8 | 82.8 | 82.8 |
|  | E   | dB(A) | 65.5 | 65.6 | 65.8 | 66.9 | 66.8 | 66.7 | 67.7 | 68.5 | 68.6 | 69.2 | 69.2 | 69.8 | 69.8 | 70.3 |
|  | N   | dB(A) | 66.7 | 66.8 | 67.0 | 67.8 | 67.7 | 67.7 | 68.5 | 69.2 | 69.2 | 69.8 | 69.7 | 70.3 | 70.3 | 70.8 |
|  | U   | dB(A) | 79.1 | 79.1 | 79.1 | 80.3 | 80.3 | 80.3 | 81.3 | 82.1 | 82.1 | 82.8 | 82.8 | 83.3 | 83.3 | 83.8 |
| 250 Hz   | A   | dB(A) | 74.5 | 76.1 | 78.3 | 77.9 | 77.5 | 77.9 | 79.0 | 80.0 | 81.3 | 80.7 | 80.7 | 81.8 | 82.3 | 82.8 |
|  | E   | dB(A) | 65.4 | 72.0 | 74.5 | 73.8 | 72.8 | 73.7 | 74.6 | 77.0 | 78.5 | 77.6 | 76.3 | 78.1 | 79.3 | 80.3 |
|  | N   | dB(A) | 66.6 | 72.3 | 74.7 | 74.0 | 73.0 | 73.9 | 74.8 | 77.1 | 78.6 | 77.7 | 76.4 | 78.2 | 79.3 | 80.3 |
|  | U   | dB(A) | 76.3 | 77.4 | 78.3 | 78.8 | 78.5 | 78.8 | 79.7 | 81.1 | 81.7 | 81.7 | 81.3 | 82.3 | 82.8 | 83.5 |
| 500 Hz   | A   | dB(A) | 78.4 | 80.4 | 82.4 | 82.1 | 81.8 | 82.3 | 83.3 | 83.7 | 84.4 | 84.4 | 84.9 | 85.5 | 85.7 | 85.9 |
|  | E   | dB(A) | 74.7 | 78.5 | 80.4 | 80.1 | 79.5 | 80.4 | 81.2 | 81.9 | 82.4 | 82.7 | 82.9 | 83.4 | 83.8 | 84.1 |
|  | N   | dB(A) | 75.1 | 78.6 | 80.5 | 80.2 | 79.7 | 80.5 | 81.3 | 81.9 | 82.4 | 82.7 | 83.0 | 83.4 | 83.8 | 84.2 |
|  | U   | dB(A) | 79.7 | 81.2 | 82.4 | 82.7 | 82.4 | 82.9 | 83.7 | 84.5 | 84.8 | 85.2 | 85.3 | 85.9 | 86.1 | 86.5 |
| 1000 Hz  | A   | dB(A) | 82.6 | 84.4 | 86.4 | 88.6 | 90.0 | 89.3 | 88.9 | 91.4 | 93.1 | 91.9 | 90.5 | 92.6 | 93.7 | 94.7 |
|  | E   | dB(A) | 77.8 | 81.9 | 84.0 | 87.3 | 89.2 | 88.3 | 87.3 | 90.6 | 92.5 | 91.1 | 89.0 | 91.5 | 93.1 | 94.2 |
|  | N   | dB(A) | 78.0 | 82.0 | 84.1 | 87.4 | 89.2 | 88.3 | 87.3 | 90.6 | 92.5 | 91.1 | 89.1 | 91.5 | 93.1 | 94.2 |
|  | U   | dB(A) | 83.9 | 85.3 | 86.4 | 89.0 | 90.3 | 89.7 | 89.3 | 91.8 | 93.3 | 92.3 | 90.9 | 92.8 | 94.0 | 95.0 |
| 2000 Hz  | A   | dB(A) | 82.7 | 86.3 | 88.5 | 89.7 | 90.6 | 90.3 | 90.2 | 92.2 | 93.6 | 92.7 | 91.8 | 93.3 | 94.3 | 95.1 |
|  | E,N | dB(A) | 80.9 | 85.6 | 87.9 | 89.2 | 90.2 | 89.9 | 89.7 | 91.8 | 93.3 | 92.5 | 91.4 | 93.0 | 94.1 | 95.0 |
|  | U   | dB(A) | 83.4 | 86.7 | 88.5 | 89.8 | 90.7 | 90.5 | 90.4 | 92.4 | 93.7 | 93.0 | 92.1 | 93.5 | 94.5 | 95.4 |
|  | A   | dB(A) | 75.9 | 79.8 | 82.0 | 83.5 | 84.6 | 84.0 | 83.4 | 85.0 | 86.2 | 85.5 | 84.9 | 86.2 | 86.9 | 87.7 |
| 4000 Hz  | E,N | dB(A) | 74.8 | 79.4 | 81.6 | 83.2 | 84.4 | 83.8 | 83.0 | 84.7 | 85.9 | 85.4 | 84.8 | 86.0 | 86.9 | 87.7 |
|  | U   | dB(A) | 76.4 | 80.0 | 82.0 | 83.6 | 84.7 | 84.1 | 83.5 | 85.1 | 86.2 | 85.8 | 85.2 | 86.3 | 87.2 | 88.0 |
|  | A   | dB(A) | 67.5 | 68.2 | 69.0 | 72.1 | 73.9 | 72.5 | 70.6 | 71.9 | 73.1 | 72.5 | 72.2 | 73.3 | 73.9 | 74.6 |
|  | E   | dB(A) | 66.7 | 67.5 | 68.1 | 71.7 | 73.7 | 72.1 | 69.8 | 71.4 | 72.5 | 72.0 | 71.5 | 72.6 | 73.5 | 74.3 |
| 8000 Hz  | N   | dB(A) | 66.8 | 67.5 | 68.1 | 71.7 | 73.7 | 72.2 | 69.8 | 71.4 | 72.5 | 72.1 | 71.5 | 72.7 | 73.5 | 74.3 |
|  | U   | dB(A) | 67.9 | 68.5 | 69.0 | 72.3 | 74.0 | 72.6 | 70.8 | 72.2 | 73.2 | 72.9 | 72.5 | 73.5 | 74.2 | 74.9 |

(1) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2. Sound pressure (cold functioning) measured in free field, 10 m / 33 ft away from the unit external surface (in compliance with UNI EN ISO 3744).





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Aermec S.p.A.

Via Roma, 996 - 37040 Bevilacqua (VR) - Italia

Tel. +39 0442 633 111 - Fax +39 0442 93577

[marketing@aermec.com](mailto:marketing@aermec.com) - [www.aermec.com](http://www.aermec.com)

