

► Air-to-Water Reverse Cycle Heat Pumps

CLH 182 to 602



41 to 131 kW



46 to 152 kW



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Technical Brochure

TM CLH-W.3GB

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Wesper®

Specifications

General characteristics

The CLH air-to-water reverse cycle heat pumps have been designed to operate with the **HFC 407C** refrigerant.

They are complete with **two independent reversible refrigerant circuits** fitted with a high efficiency and low vibration level Scroll compressor on each circuit.

These units are suitable for outdoor installation on the roof of a building or on the ground.

All the CLH units are completely factory tested in compliance with the internal quality system specifications and procedures, and are ready for field installation.

The "Plug and Play" concept has been introduced in each CLH unit, thanks to the use of BMS compatible microprocessor-based control system and to the **integrated hydraulic module** supplied as optional on all versions of the CLH range.

Also, thanks to the versions and options available, the CLH air-to-water heat pumps can fit all the demands of the market.

The CLH range is available in **4 versions**; each version is composed of **9 sizes**.

CLH STD : Standard version fitted with standard equipment intended for reliable operation. The CLH STD units cover a nominal cooling capacity range from 41 to 131 kW and a nominal heating capacity range from 46 to 152 kW.

CLH LN : Low noise version having same equipment as STD version, except that it is fitted with low speed type larger size fans. The CLH LN units cover a nominal cooling capacity range from 41 to 131 kW and a nominal heating capacity range from 46 to 152 kW.

CLH ELN : Extra low noise version fitted with greater heat exchange surface area condenser coils, very low speed type fans and a stepless fan speed controller. When the optional integrated hydraulic module is supplied with electric heaters (EH), the fan speed controller will be provided upon request, as optional, for external mounting to the unit. Furthermore, the ELN version is equipped with a reinforced soundproofing :

- mufflers mounted on compressor discharge lines (all sizes),
- soundproofing jacket on compressor (sizes 182 to 302),
- sound insulation on compressor compartment (sizes 352 to 602).

The CLH ELN units cover a nominal cooling capacity range from 41 to 131 kW and a nominal heating capacity range from 40 to 152 kW.

CLH HPF : High pressure fan version having same equipment as STD version, except that larger size fans with 80 Pa external static pressure are fitted on this HPF version. The CLH HPF units cover a nominal cooling capacity range from 41 to 131 kW and a nominal heating capacity range from 40 to 152 kW.

Reference standards

The following applies to all the sizes and versions belonging to the CLH units :

- ✓ Performance test EN 12055
- ✓ Machine Directive CEE 89 / 392
- ✓ Low Voltage Directive CEE 73/23 (EN 60204-1)
- ✓ Electromagnetic Compatibility Directive CEE 89/336 as modified by Directive CEE 92/31 (EN 50081-1, EN 50082-2)

Cabinet and structure

The unit structure shall be of heavy gauge galvanized steel fastened with non-corrosive screws and bolts. Galvanized steel parts shall be painted with baked on enamel colored white (**RAL 9001**).

Compressors

Each unit shall be equipped with 2 Scroll hermetic compressors.

Compressors on all models shall be mounted on rubber anti-vibration pads and have direct on line starting.

The compressor motors shall be refrigerant gas cooled, with integral thermistor protection against overloads. The overload protection is automatically reset.

The motor terminal boxes shall have IP-54 weather protection.

Evaporator

Evaporators are of a brazed stainless steel plate type heat exchanger. They are insulated with a closed cell foam material and are fitted with an electric cable resistance to prevent the unit from freezing at a low temperature when the unit is off.

Design working pressure shall be 10 bar on the water side and 30 bar on the refrigerant side.

Water connections are of a 2 " Victaulic type on each evaporator. Optional inlet and outlet 2" male threaded gas type manifolds can be supplied to ensure single flow and return water connections.

Condenser coils

The condenser coils shall be seamless copper tubes, arranged in staggered rows, mechanically expanded into corrugated aluminum fins.

Condenser coil fans

The condenser fans shall be direct drive with aluminum wing contour blades. Each fan will have a painted galvanized steel protection guard.

The totally enclosed fan motors shall have IP 54 degree of protection and thermo-contact protection embedded in their windings.

Fan controls

Each unit can be equipped, as optional , with a stepless fan speed controller, operating on the basis of condensing pressure, to keep fan rpm under control in order to operate in cooling mode at a low ambient temperature (-18 °C).

This fan speed controller is supplied as standard on the ELN units without extra electric heating resistances (EH) and as optional on ELN units with EH resistances. However, it is not available on HPF units.

Refrigerant circuits

All the units are composed of two independent and separate refrigerant circuits. All the components that constitute each circuit are shown on the functional diagram (see chapter "Refrigerant flow diagram").

Integrated hydraulic module (optional)

Units can be supplied with optional integrated hydraulic module composed of water tank and 1 or 2 pumps complete with accessories.

Antifreeze heater is supplied as standard in the tank.

The hydraulic module can be fitted, as optional, with an extra electric heating (EH).

Units can also be supplied with pump kit only (with 1 or 2 pumps).

Specifications (continued)

Power and control panel

The control compartment shall contain an electronic circuit board and a key control panel with display of operating parameters, alarms and stops.

Thermal relays and fuses are supplied to protect compressors, fans and pumps from overloading.

Control and safety devices

Each CLH unit is fitted with the following devices :

Safety :

- ✓ Fan thermal protection.
- ✓ Compressor thermal protection.
- ✓ Water differential pressure switch.
- ✓ High pressure switch.
- ✓ Evaporator antifreeze protection.
- ✓ Low pressure switch.
- ✓ Crankcase heater.

Control :

- ✓ Evaporator water inlet temperature sensor.
- ✓ Evaporator water outlet temperature sensor.
- ✓ Coil temperature sensor.

Factory-installed accessories and options

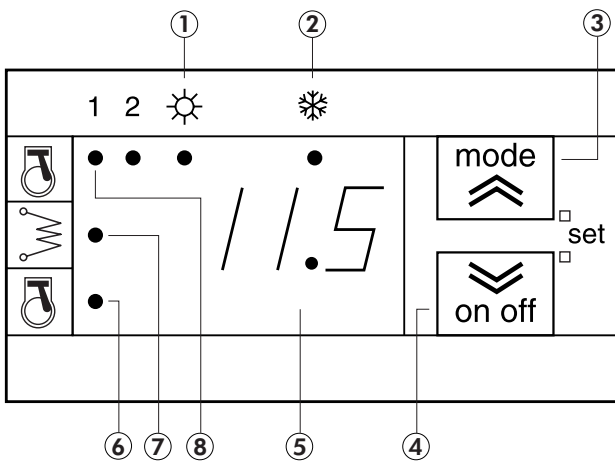
- ✓ Coils with hydrophilic coated fins.
- ✓ Coils with vinyl coated fins.
- ✓ Coils with polyurethane coated fins.
- ✓ Copper / Copper coils.
- ✓ LP & HP manometers.
- ✓ Condenser coil guards.
- ✓ Integrated hydraulic module with water tank, antifreeze resistance and 1 or 2 pumps.
- ✓ Extra electric heating for hydraulic module.
- ✓ Pump kit with 1 or 2 pumps.
- ✓ Compressor overload protection kit.
- ✓ Inlet and outlet water connection manifolds.
- ✓ Phase monitor.
- ✓ Stepless fan speed controller (STD and LN versions).

Field-installed accessories

- ✓ Water filter.
- ✓ Flow switch.
- ✓ Spring anti-vibration mounts.
- ✓ Remote control kit (On/Off, Heating, Cooling).
- ✓ Modbus interface kit.
- ✓ Remote keyboard panel.
- ✓ Chiller sequencer (4 units maximum).

Control

Controller display panel



The controller provides information on status of operation, configuration and alarms through a display and LEDs on the front panel.

Display

It allows mainly to show :

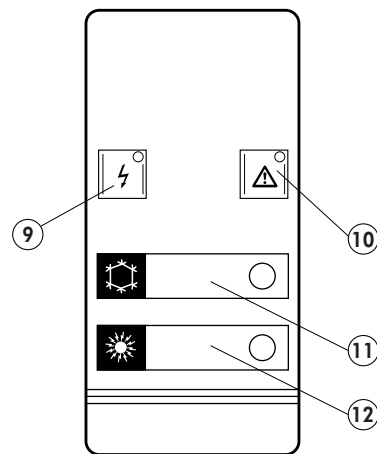
- the entering water temperature of the unit in tenths of degrees Celsius with a decimal point,
- the alarm code if at least one alarm is active.

LEDs

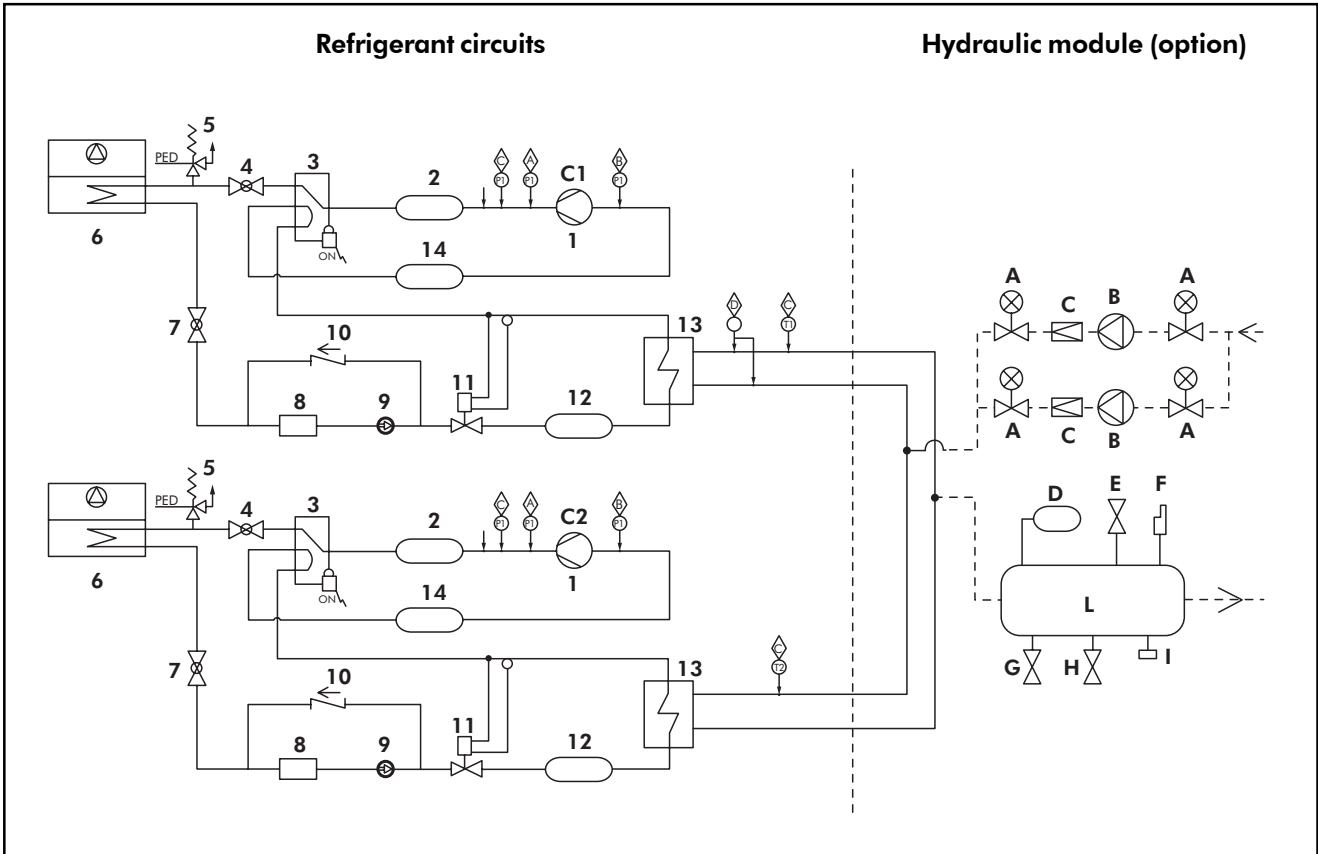
- | | |
|---|---|
| <ul style="list-style-type: none"> 1 - Heating mode display 2 - Cooling mode display 3 - Operating mode selection 4 - Unit On/Off; Alarm restoration 5 - Display 6 - Compressor 2 ON LED (Blink : time delay in progress) | <ul style="list-style-type: none"> 7 - Electric resistance ON LED 8 - Compressor 1 ON LED (Blink : time delay in progress) 9 - Voltage ON LED 10 - Unit activated alarm LED 11 - Start key and LED - Cooling 12 - Start key and LED - Heating |
|---|---|

If neither HEATING LED nor COOLING LED is ON, the controller is in STANDBY mode.

Remote control kit (optional)



Refrigerant Flow Diagram



Components (refrigerant circuits) :

- 1 - Compressors C1, C2
- 2 - Mufflers (for ELN version only)
- 3 - Four-way valve
- 4 - Discharge valve
- 5 - PED pressure relief valve
- 6 - Air cooled condenser
- 7 - Liquid valve
- 8 - Filter drier
- 9 - Sight glass
- 10- Check valve
- 11- Expansion valve
- 12- Liquid receiver
- 13- Plate heat exchanger
- 14- Suction accumulator

Components (optional hydraulic module) :

- A - Shutoff valve
- B - Pump(s)
- C - Check valve
- D - Expansion tank
- E - Relief valve
- F - Air vent
- G - Filling up valve
- H - Drain valve
- I - Manometer
- L - Water tank

Safety / Control devices :

- ⬆ - High pressure switch
- ⬆ - Low pressure switch
- ⬆ - Transducer (optional)
- ⬆ - Water differential pressure switch
- ⬆ - Pressure tapping and refrigerant charging/discharging points

Operating Limits

CLH 182 to 302

| CLH | | | 182 | | 202 | | 242 | | 302 | | |
|---|--------------------------------------|--|--------------|--------------|------|-------|------|-------|------|-------|----|
| | | | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | |
| Chiller | Liquid outlet temperature | Water | °C +6 to +15 | | | | | | | | |
| | | Brine (for low liquid temp. application) | °C -8 to +5 | | | | | | | | |
| | | Temperature difference | K 3 to 7 | | | | | | | | |
| | Flow rate | l/h | 3902 | 9106 | 6731 | 15705 | 8268 | 19296 | 9656 | 22532 | |
| | Max. operating pressure - Water side | bar | 10 | | | | | | | | |
| Ambient air | Air entering temperature | Cooling - STD | °C | 15 | 46 | 15 | 46 | 15 | 46 | 15 | 46 |
| | | Cooling - LN/HPF | °C | 15 | 46 | 15 | 46 | 15 | 46 | 15 | 46 |
| | | Cooling - ELN | °C | -18 | 42 | -18 | 42 | -18 | 42 | -18 | 42 |
| | | Heating | °C | -5 to +15 °C | | | | | | | |
| | External static pressure | Standard fans | Pa | 0 | | | | | | | |
| | | High pressure fans - HPF version | Pa | 80 | | | | | | | |
| Heat pump | °C | +30 to +50 | | | | | | | | | |
| Recommended system chilled water volume | litres | 200 | | 280 | | 330 | | 370 | | | |
| Nominal supply voltage | | 400 V / 3 Ph / 50 Hz | | | | | | | | | |

CLH 352 to 602

| CLH | | | 352 | | 402 | | 502 | | 552 | | 602 | | |
|---|--------------------------------------|--|--------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| | | | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | |
| Chiller | Liquid outlet temperature | Water | °C +6 to +15 | | | | | | | | | | |
| | | Brine (for low liquid temp. application) | °C -8 to +5 | | | | | | | | | | |
| | | Temperature difference | K 3 to 7 | | | | | | | | | | |
| | Flow rate | l/h | 10800 | 25198 | 12126 | 28294 | 13563 | 31648 | 12997 | 37668 | 14126 | 37668 | |
| | Max. operating pressure - Water side | bar | 10 | | | | | | | | | | |
| Ambient air | Air entering temperature | Cooling - STD | °C | 15 | 46 | 15 | 46 | 15 | 46 | 15 | 44 | 15 | 44 |
| | | Cooling - LN/HPF | °C | 15 | 46 | 15 | 46 | 15 | 46 | 15 | 44 | 15 | 44 |
| | | Cooling - ELN | °C | -18 | 42 | -18 | 42 | -18 | 42 | -18 | 42 | -18 | 42 |
| | | Heating | °C | -5 to +15 °C | | | | | | | | | |
| | External static pressure | Standard fans | Pa | 0 | | | | | | | | | |
| | | High pressure fans - HPF version | Pa | 80 | | | | | | | | | |
| Heat pump | °C | +30 to +50 | | | | | | | | | | | |
| Recommended system chilled water volume | litres | 450 | | 530 | | 600 | | 677 | | 747 | | | |
| Nominal supply voltage | | 400 V / 3 Ph / 50 Hz | | | | | | | | | | | |

Correction Factors

Fouling factors

| EVAPORATOR | | | CONDENSER | | |
|--|-------------------------|--------------------|--|-------------------------|--------------------|
| Fouling factor (m ² .°C/kW) | Cooling capacity factor | Power input factor | Fouling factor (m ² .°C/kW) | Cooling capacity factor | Power input factor |
| 0.044 | 1.000 | 1.000 | 0.044 | 1.000 | 1.000 |
| 0.088 | 0.987 | 0.995 | 0.088 | 0.987 | 1.023 |
| 0.176 | 0.964 | 0.985 | 0.176 | 0.955 | 1.068 |
| 0.352 | 0.915 | 0.962 | 0.352 | 0.910 | 1.135 |

Altitude factors

| Altitude (m) | Cooling capacity factor | Power input factor |
|--------------|-------------------------|--------------------|
| 0 | 1.000 | 1.000 |
| 600 | 0.987 | 1.010 |
| 1200 | 0.973 | 1.020 |
| 1800 | 0.958 | 1.029 |
| 2400 | 0.943 | 1.038 |

Ethylene glycol solution correction factors

| Ethylene glycol percent by weight | % | 10 | 20 | 30 | 35 | 40 |
|---|----|-------|-------|-------|-------|-------|
| Freezing point | °C | -4 | -10 | -17 | -21 | -25 |
| Cooling capacity correction factors (1) | | 0.995 | 0.985 | 0.970 | 0.963 | 0.955 |
| Power input correction factors (1) | | 0.998 | 0.995 | 0.985 | 0.983 | 0.980 |
| Flow rate correction factors | | 1.015 | 1.050 | 1.085 | 1.123 | 1.160 |
| Pressure drop correction factors (2) | | 1.070 | 1.160 | 1.235 | 1.283 | 1.330 |

(1) Factors applicable only for glycol solution leaving temperature ≥ 7 °C. For temperatures < 7 °C, refer to table "Low temperature operation correction factors".

(2) Factors applicable only for glycol solution leaving temperature > 5 °C. For temperatures < 5 °C, refer to table "Pressure drop correction factors for low temperature operation".

Low temperature operation correction factors

| Leaving water temperature | °C | 7 | 4 | 2 | 0 | -2 | -4 | -6 | -8 |
|-------------------------------------|----|-------|-------|-------|-------|-------|-------|-------|-------|
| Minimum ethylene glycol percent | % | 0 | 10 | 10 | 20 | 20 | 30 | 30 | 35 |
| Cooling capacity correction factors | | 1.000 | 0.887 | 0.816 | 0.748 | 0.685 | 0.624 | 0.568 | 0.513 |
| Power input correction factors | | 1.000 | 0.940 | 0.900 | 0.865 | 0.826 | 0.788 | 0.753 | 0.718 |

Pressure drop correction factors for low temperature operation

| Ethylene glycol percent by weight | Glycol solution leaving temperature (°C) | Pressure drop correction factors |
|-----------------------------------|--|----------------------------------|
| 10% | 5 | 1.071 |
| | 4 | 1.076 |
| | 3 | 1.081 |
| | 2 | 1.085 |
| 20% | 1 | 1.193 |
| | 0 | 1.200 |
| | -1 | 1.208 |
| | -2 | 1.215 |
| 30% | -3 | 1.299 |
| | -4 | 1.306 |
| | -5 | 1.320 |
| | -6 | 1.333 |

Physical Data - CLH STD / STD EH

| CLH STD / STD EH sizes | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|---|-------------------|-------------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Nominal cooling capacity (1) | kW | 40.8 | 54.8 | 67.3 | 78.6 | 87.9 | 98.7 | 110.4 | 120.9 | 131.4 |
| Compressor power input - Cooling | kW | 12.5 | 17.5 | 24.6 | 28.0 | 33.6 | 35.0 | 42.0 | 49.4 | 56.7 |
| Maximum power input (3) | kW | 18.8 | 25.4 | 31.0 | 36.0 | 42.1 | 49.9 | 57.6 | 64.7 | 71.8 |
| EER | | 3.3 | 3.1 | 2.7 | 2.8 | 2.6 | 2.8 | 2.6 | 2.4 | 2.3 |
| Nominal heating capacity (2) | kW | 45.7 | 58.0 | 77.4 | 90.4 | 101.0 | 113.5 | 127.0 | 139.7 | 152.4 |
| Compressor power input - Heating | kW | 10.9 | 17.2 | 25.1 | 29.0 | 31.6 | 35.3 | 41.3 | 47.5 | 53.6 |
| Number of refrigerant circuits | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Capacity steps | % | 50/100 | 50/100 | 50/100 | 50/100 | 43-57/100 | 50/100 | 50/100 | 43-57/100 | 50/100 |
| Refrigerant | | | | | | | | | | |
| Type | | HFC 407C | | | | | | | | |
| Charge | kg | 7 | 11 | 13 | 14.5 | 15 | 17 | 20 | 22 | 24 |
| Compressors | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Type | | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll |
| Evaporators | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Type | | Plate | Plate | Plate | Plate | Plate | Plate | Plate | Plate | Plate |
| Antifreeze heater power input | W | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 |
| Air cooled condensers | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total face area per coil | m ² | 2.1 | 2.1 | 2.1 | 2.85 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| Number of rows | | 2 | 3 | 4 | 3 | 3 | 4 | 4 | 5 | 5 |
| Fans | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| Total air flow | m ³ /h | 21000 | 21000 | 21000 | 31700 | 32400 | 32100 | 32100 | 32100 | 32100 |
| Power input | kW | 0.96 | 0.96 | 0.96 | 1.44 | 1.44 | 1.44 | 1.44 | 1.44 | 1.44 |
| Water connections * | | | | | | | | | | |
| Type | | Male gas threaded | | | | | | | | |
| Inlet diameter | inch | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" |
| Outlet diameter | inch | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" |
| Dimensions | | | | | | | | | | |
| Length | mm | 2110 | 2110 | 2110 | 2760 | 3110 | 3110 | 3110 | 3110 | 3110 |
| Width | mm | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 |
| Height | mm | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 |
| Weight | | | | | | | | | | |
| Basic - Shipping / Operating | kg | 640 / 650 | 690 / 700 | 850 / 860 | 900 / 910 | 1000 / 1010 | 1150 / 1160 | 1150 / 1160 | 1285 / 1295 | 1320 / 1330 |
| 1 pump - Shipping / Operating | kg | 672 / 682 | 722 / 732 | 882 / 892 | 932 / 942 | 1032 / 1042 | 1182 / 1192 | 1182 / 1192 | 1317 / 1327 | 1352 / 1362 |
| 2 pumps - Shipping / Operating | kg | 692 / 702 | 742 / 752 | 902 / 912 | 952 / 962 | 1052 / 1062 | 1202 / 1212 | 1202 / 1212 | 1337 / 1347 | 1372 / 1382 |
| Water tank+1 pump - Shipping / Operating | kg | 737 / 947 | 787 / 997 | 947 / 1157 | 1032 / 1362 | 1152 / 1552 | 1302 / 1702 | 1302 / 1702 | 1437 / 1837 | 1472 / 1872 |
| Water tank+2 pumps - Shipping / Operating | kg | 757 / 967 | 807 / 1017 | 967 / 1177 | 1052 / 1382 | 1172 / 1572 | 1322 / 1722 | 1322 / 1722 | 1457 / 1857 | 1492 / 1892 |
| Sound levels | | | | | | | | | | |
| Sound power levels | dB(A) | 86 | 86 | 87 | 87 | 89 | 91 | 91 | 91 | 91 |
| Sound pressure levels at 10 meters (4) | dB(A) | 54 | 54 | 55 | 55 | 57 | 59 | 59 | 59 | 59 |

(1) Data based on 7 °C leaving chilled water temperature and 35 °C ambient air temperature.

(2) Data based on 45 °C leaving hot water temperature and 7 °C ambient air temperature.

(3) Maximum power input includes : maximum compressor power input and maximum fan power input.

(4) Sound pressure level values refer to ISO standard 3744.

(*) With optional manifolds.

Physical Data - CLH LN / LN EH

| CLH LN / LN EH sizes | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|---|-------------------|-------------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Nominal cooling capacity (1) | kW | 40.8 | 54.8 | 67.3 | 78.6 | 87.9 | 98.7 | 110.4 | 120.9 | 131.4 |
| Compressor power input - Cooling | kW | 12.5 | 17.5 | 24.6 | 28.0 | 33.6 | 35.0 | 42.0 | 49.4 | 56.7 |
| Maximum power input (3) | kW | 19.3 | 25.9 | 31.4 | 36.7 | 42.8 | 50.6 | 58.3 | 65.4 | 72.5 |
| EER | | 3.3 | 3.1 | 2.7 | 2.8 | 2.6 | 2.8 | 2.6 | 2.4 | 2.3 |
| Nominal heating capacity (2) | kW | 45.7 | 58.0 | 77.4 | 90.4 | 101.0 | 113.5 | 127.0 | 139.7 | 152.4 |
| Compressor power input - Heating | kW | 10.9 | 17.2 | 25.1 | 29.0 | 31.6 | 35.3 | 41.3 | 47.5 | 53.6 |
| Number of refrigerant circuits | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Capacity steps | % | 50/100 | 50/100 | 50/100 | 50/100 | 43-57/100 | 50/100 | 50/100 | 43-57/100 | 50/100 |
| Refrigerant | | | | | | | | | | |
| Type | | HFC 407C | | | | | | | | |
| Charge | kg | 7 | 11 | 13 | 14.5 | 15 | 17 | 20 | 22 | 24 |
| Compressors | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Type | | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll |
| Evaporators | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Type | | Plate | Plate | Plate | Plate | Plate | Plate | Plate | Plate | Plate |
| Antifreeze heater power input | W | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 |
| Air cooled condensers | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total face area per coil | m ² | 2.1 | 2.1 | 2.1 | 2.85 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| Number of rows | | 2 | 3 | 4 | 3 | 3 | 4 | 4 | 5 | 5 |
| Fans | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| Total air flow | m ³ /h | 22650 | 22650 | 22650 | 34400 | 35800 | 34700 | 34700 | 34700 | 34700 |
| Power input | kW | 1.4 | 1.4 | 1.4 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| Water connections * | | | | | | | | | | |
| Type | | Male gas threaded | | | | | | | | |
| Inlet diameter | inch | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" |
| Outlet diameter | inch | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" |
| Dimensions | | | | | | | | | | |
| Length | mm | 2100 | 2100 | 2100 | 2760 | 3110 | 3110 | 3110 | 3110 | 3110 |
| Width | mm | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 |
| Height | mm | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 |
| Weight | | | | | | | | | | |
| Basic - Shipping / Operating | kg | 640 / 650 | 690 / 700 | 850 / 860 | 900 / 910 | 1000 / 1010 | 1150 / 1160 | 1150 / 1160 | 1285 / 1295 | 1320 / 1330 |
| 1 pump - Shipping / Operating | kg | 672 / 682 | 722 / 732 | 882 / 892 | 932 / 942 | 1032 / 1042 | 1182 / 1192 | 1182 / 1192 | 1317 / 1327 | 1352 / 1362 |
| 2 pumps - Shipping / Operating | kg | 692 / 702 | 742 / 752 | 902 / 912 | 952 / 962 | 1052 / 1062 | 1202 / 1212 | 1202 / 1212 | 1337 / 1347 | 1372 / 1382 |
| Water tank+1 pump - Shipping / Operating | kg | 737 / 947 | 787 / 997 | 947 / 1157 | 1032 / 1362 | 1152 / 1552 | 1302 / 1702 | 1302 / 1702 | 1437 / 1837 | 1472 / 1872 |
| Water tank+2 pumps - Shipping / Operating | kg | 757 / 967 | 807 / 1017 | 967 / 1177 | 1052 / 1382 | 1172 / 1572 | 1322 / 1722 | 1322 / 1722 | 1457 / 1857 | 1492 / 1892 |
| Sound levels | | | | | | | | | | |
| Sound power levels | dB(A) | 83 | 83 | 84 | 85 | 87 | 87 | 87 | 87 | 87 |
| Sound pressure levels at 10 meters (4) | dB(A) | 51 | 51 | 52 | 53 | 55 | 55 | 55 | 55 | 55 |

(1) Data based on 7 °C leaving chilled water temperature and 35 °C ambient air temperature.

(2) Data based on 45 °C leaving hot water temperature and 7 °C ambient air temperature.

(3) Maximum power input includes : maximum compressor power input and maximum fan power input.

(4) Sound pressure level values refer to ISO standard 3744.

(*) With optional manifolds.

Physical Data - CLH ELN / ELN EH

| CLH ELN / ELN EH sizes | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|---|-------------------|-------------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Nominal cooling capacity (1) | kW | 40.8 | 54.1 | 64.5 | 71.4 | 87.0 | 93.0 | 104.2 | 120.9 | 131.4 |
| Compressor power input - Cooling | kW | 12.3 | 18.2 | 25.9 | 31.8 | 33.9 | 39.4 | 47.0 | 49.4 | 56.7 |
| Maximum power input (3) | kW | 19.3 | 25.9 | 31.4 | 36.0 | 42.8 | 50.6 | 58.3 | 65.4 | 72.5 |
| EER | | 3.3 | 3.0 | 2.5 | 2.2 | 2.6 | 2.4 | 2.2 | 2.4 | 2.3 |
| Nominal heating capacity (2) | kW | 40.4 | 54.8 | 74.2 | 82.0 | 100.0 | 106.0 | 122.0 | 139.7 | 152.4 |
| Compressor power input - Heating | kW | 12.6 | 17.2 | 25.0 | 28.8 | 31.6 | 35.2 | 41.2 | 47.5 | 53.6 |
| Number of refrigerant circuits | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Capacity steps | % | 50/100 | 50/100 | 50/100 | 50/100 | 43-57/100 | 50/100 | 50/100 | 43-57/100 | 50/100 |
| Refrigerant | | | | | | | | | | |
| Type | | HFC 407C | | | | | | | | |
| Charge | kg | 9 | 12 | 15 | 15 | 15 | 17 | 20 | 22 | 24 |
| Compressors | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Type | | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll |
| Evaporators | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Type | | Plate | Plate | Plate | Plate | Plate | Plate | Plate | Plate | Plate |
| Antifreeze heater power input | W | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 |
| Air cooled condensers | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total face area per coil | m ² | 2.1 | 2.1 | 2.85 | 2.85 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| Number of rows | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 |
| Fans | | | | | | | | | | |
| Number | | 2 | 2 | 3 (2xEH) | 3 (2xEH) | 3 (2xEH) | 3 | 3 | 3 | 3 |
| Total air flow | m ³ /h | 15000 | 14250 | 14250 | 14250 | 11250 | 22500 | 22500 | 34700 | 34700 |
| Power input | kW | 1.4 | 1.4 | 2.1(1.4xEH) | 2.1(1.4xEH) | 2.1(1.4xEH) | 2.1 | 2.1 | 2.1 | 2.1 |
| Water connections * | | | | | | | | | | |
| Type | | Male gas threaded | | | | | | | | |
| Inlet diameter | inch | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" |
| Outlet diameter | inch | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" |
| Dimensions | | | | | | | | | | |
| Length | mm | 2100 | 2100 | 2760 | 2760 | 3110 | 3110 | 3110 | 3110 | 3110 |
| Width | mm | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 |
| Height | mm | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 |
| Weight | | | | | | | | | | |
| Basic - Shipping / Operating | kg | 660 / 670 | 710 / 720 | 900 / 910 | 950 / 960 | 1120 / 1130 | 1170 / 1180 | 1170 / 1180 | 1305 / 1315 | 1340 / 1350 |
| 1 pump - Shipping / Operating | kg | 692 / 702 | 742 / 752 | 932 / 942 | 982 / 992 | 1152 / 1162 | 1202 / 1212 | 1202 / 1212 | 1337 / 1347 | 1372 / 1382 |
| 2 pumps - Shipping / Operating | kg | 712 / 722 | 762 / 772 | 952 / 962 | 1002 / 1012 | 1172 / 1182 | 1222 / 1232 | 1222 / 1232 | 1357 / 1367 | 1392 / 1402 |
| Water tank+1 pump - Shipping / Operating | kg | 757 / 967 | 807 / 1017 | 1032 / 1362 | 1082 / 1412 | 1272 / 1672 | 1322 / 1436 | 1322 / 1722 | 1457 / 1857 | 1492 / 1892 |
| Water tank+2 pumps - Shipping / Operating | kg | 777 / 987 | 827 / 1037 | 1052 / 1382 | 1102 / 1432 | 1292 / 1692 | 1342 / 1742 | 1342 / 1742 | 1477 / 1877 | 1512 / 1912 |
| Sound levels | | | | | | | | | | |
| Sound power levels | dB(A) | 78 | 78 | 79 | 80 | 81.5 | 83 | 83 | 83 | 83 |
| Sound pressure levels at 10 meters (4) | dB(A) | 46 | 46 | 47 | 48 | 49.5 | 51 | 51 | 51 | 51 |

(1) Data based on 7 °C leaving chilled water temperature and 35 °C ambient air temperature.

(2) Data based on 45 °C leaving hot water temperature and 7 °C ambient air temperature.

(3) Maximum power input includes : maximum compressor power input and maximum fan power input.

(4) Sound pressure level values refer to ISO standard 3744.

(*) With optional manifolds.

Physical Data - CLH HPF / HPF EH

| CLH HPF / HPF EH sizes | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|---|-------------------|-------------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Nominal cooling capacity (1) | kW | 40.8 | 54.8 | 67.3 | 78.6 | 87.9 | 98.7 | 110.4 | 120.9 | 131.4 |
| Compressor power input - Cooling | kW | 12.5 | 17.5 | 24.6 | 28.0 | 33.6 | 35.0 | 42.0 | 49.4 | 56.7 |
| Maximum power input (3) | kW | 19.8 | 26.4 | 32.0 | 37.5 | 43.6 | 51.4 | 59.1 | 64.7 | 71.8 |
| EER | | 3.3 | 3.1 | 2.7 | 2.8 | 2.6 | 2.8 | 2.6 | 2.4 | 2.3 |
| Nominal heating capacity (2) | kW | 40.4 | 54.8 | 74.2 | 82.0 | 100.0 | 106.0 | 122.0 | 139.7 | 152.4 |
| Compressor power input - Heating | kW | 12.6 | 17.2 | 25.0 | 28.8 | 31.6 | 35.2 | 41.2 | 47.5 | 53.6 |
| Number of refrigerant circuits | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Capacity steps | % | 50/100 | 50/100 | 50/100 | 50/100 | 43-57/100 | 50/100 | 50/100 | 43-57/100 | 50/100 |
| Refrigerant | | | | | | | | | | |
| Type | | HFC 407C | | | | | | | | |
| Charge | kg | 9 | 12 | 15 | 15 | 15 | 17 | 20 | 22 | 24 |
| Compressors | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Type | | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll |
| Evaporators | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Type | | Plate | Plate | Plate | Plate | Plate | Plate | Plate | Plate | Plate |
| Antifreeze heater power input | W | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 | 2 x 35 |
| Air cooled condensers | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total face area per coil | m ² | 2.1 | 2.1 | 2.1 | 2.85 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| Number of rows | | 2 | 3 | 4 | 3 | 3 | 4 | 4 | 5 | 5 |
| Fans | | | | | | | | | | |
| Number | | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| Total air flow | m ³ /h | 21000 | 21000 | 21000 | 31700 | 32400 | 32100 | 32100 | 32100 | 32100 |
| Power input | kW | 1.96 | 1.96 | 1.96 | 2.94 | 2.94 | 2.94 | 2.94 | 2.94 | 2.94 |
| Water connections * | | | | | | | | | | |
| Type | | Male gas threaded | | | | | | | | |
| Inlet diameter | inch | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" |
| Outlet diameter | inch | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" |
| Dimensions | | | | | | | | | | |
| Length | mm | 2100 | 2100 | 2760 | 2760 | 3110 | 3110 | 3110 | 3110 | 3110 |
| Width | mm | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 |
| Height | mm | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 | 1850 |
| Weight | | | | | | | | | | |
| Basic - Shipping / Operating | kg | 640 / 650 | 690 / 700 | 850 / 860 | 900 / 910 | 1000 / 1010 | 1150 / 1160 | 1150 / 1160 | 1285 / 1295 | 1320 / 1330 |
| 1 pump - Shipping / Operating | kg | 672 / 682 | 722 / 732 | 882 / 892 | 932 / 942 | 1032 / 1042 | 1182 / 1192 | 1182 / 1192 | 1317 / 1327 | 1352 / 1362 |
| 2 pumps - Shipping / Operating | kg | 692 / 702 | 742 / 752 | 902 / 912 | 952 / 962 | 1052 / 1062 | 1202 / 1212 | 1202 / 1212 | 1337 / 1347 | 1372 / 1382 |
| Water tank+1 pump - Shipping / Operating | kg | 737 / 947 | 787 / 997 | 947 / 1157 | 1032 / 1362 | 1152 / 1552 | 1302 / 1702 | 1302 / 1702 | 1437 / 1837 | 1472 / 1872 |
| Water tank+2 pumps - Shipping / Operating | kg | 757 / 967 | 807 / 1017 | 967 / 1177 | 1052 / 1382 | 1172 / 1572 | 1322 / 1722 | 1322 / 1722 | 1457 / 1857 | 1492 / 1892 |
| Sound levels | | | | | | | | | | |
| Sound power levels | dB(A) | 89 | 89 | 90 | 90 | 92 | 94 | 94 | 94 | 94 |
| Sound pressure levels at 10 meters (4) | dB(A) | 57 | 57 | 58 | 58 | 60 | 62 | 62 | 62 | 62 |

(1) Data based on 7 °C leaving chilled water temperature and 35 °C ambient air temperature.

(2) Data based on 45 °C leaving hot water temperature and 7 °C ambient air temperature.

(3) Maximum power input includes : maximum compressor power input and maximum fan power input.

(4) Sound pressure level values refer to ISO standard 3744.

(*) With optional manifolds.

Electrical Data

Compressors @ 400 V / 3 Ph / 50 Hz

| CLH models | Power input at nominal conditions per compressor (kW) | Current at nominal conditions per compressor (A) | Power input at max. conditions per compressor (kW) | Current at max. conditions per compressor FLA (A) | Start up current LRA (A) | Power factor at nominal conditions | Crankcase heater @ 230 V/1Ø (W) | Unit fuse size (A) | Cable section (mm ²) | |
|------------|---|--|--|---|--------------------------|------------------------------------|---------------------------------|--------------------|----------------------------------|----|
| 182 | Circuit 1 | 6 | 10.1 | 9 | 15 | 99 | 0.84 | 70 | 50 | 16 |
| | Circuit 2 | 6 | 10.1 | 9 | 15 | 99 | 0.84 | 70 | | |
| 202 | Circuit 1 | 8.5 | 14.4 | 12 | 21 | 127 | 0.84 | 70 | 63 | 25 |
| | Circuit 2 | 8.5 | 14.4 | 12 | 21 | 127 | 0.84 | 70 | | |
| 242 | Circuit 1 | 12 | 20 | 15 | 24 | 150 | 0.87 | 65 | 63 | 25 |
| | Circuit 2 | 12 | 20 | 15 | 24 | 150 | 0.87 | 65 | | |
| 302 | Circuit 1 | 13.7 | 24.3 | 17 | 29 | 175 | 0.81 | 75 | 80 | 35 |
| | Circuit 2 | 13.7 | 24.3 | 17 | 29 | 175 | 0.81 | 75 | | |
| 352 | Circuit 1 | 12.9 | 21.8 | 16 | 28 | 198 | 0.84 | 70 | 100 | 35 |
| | Circuit 2 | 15.8 | 26.7 | 24 | 41 | 225 | 0.84 | 120 | | |
| 402 | Circuit 1 | 15.8 | 26.7 | 24 | 41 | 225 | 0.84 | 120 | 100 | 35 |
| | Circuit 2 | 15.8 | 26.7 | 24 | 41 | 225 | 0.84 | 120 | | |
| 502 | Circuit 1 | 18.8 | 31.8 | 28 | 48 | 272 | 0.84 | 150 | 125 | 50 |
| | Circuit 2 | 18.8 | 31.8 | 28 | 48 | 272 | 0.84 | 150 | | |
| 552 | Circuit 1 | 20.3 | 34.3 | 28 | 48 | 272 | 0.84 | 150 | 125 | 70 |
| | Circuit 2 | 25.3 | 44.2 | 35 | 58.5 | 320 | 0.83 | 150 | | |
| 602 | Circuit 1 | 25.3 | 44.2 | 35 | 58.5 | 320 | 0.83 | 150 | 160 | 70 |
| | Circuit 2 | 25.3 | 44.2 | 35 | 58.5 | 320 | 0.83 | 150 | | |

Units @ 400 V / 3 Ph / 50 Hz

| CLH STD Models | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|------------------------|----|------|------|------|------|------|------|------|-------|-------|
| Nominal current input | A | 22.2 | 30.6 | 41.9 | 51.4 | 51.3 | 56.2 | 66.4 | 81.3 | 91.2 |
| Maximum current input | A | 32.1 | 43.3 | 49.9 | 60.8 | 71.6 | 84.8 | 97.8 | 108.8 | 119.8 |
| Nominal power input | kW | 13.0 | 18.0 | 25.0 | 28.8 | 30.1 | 33.0 | 39.0 | 47.0 | 52.0 |
| Maximum power input | kW | 18.8 | 25.4 | 31.0 | 36.0 | 42.1 | 49.9 | 57.6 | 64.7 | 71.8 |
| Starting current (LRA) | A | 116 | 150 | 176 | 207 | 256 | 269 | 322 | 370 | 381 |

| CLH LN Models | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|------------------------|----|------|------|------|------|------|------|------|-------|-------|
| Nominal current input | A | 22.6 | 31.0 | 42.3 | 52.1 | 52.0 | 56.9 | 67.0 | 82.0 | 91.9 |
| Maximum current input | A | 32.5 | 43.7 | 50.3 | 61.5 | 72.3 | 85.5 | 98.5 | 109.5 | 120.5 |
| Nominal power input | kW | 13.4 | 18.4 | 25.4 | 29.5 | 30.8 | 33.7 | 39.7 | 47.7 | 52.7 |
| Maximum power input | kW | 19.3 | 25.9 | 31.4 | 36.7 | 42.8 | 50.6 | 58.3 | 65.4 | 72.5 |
| Starting current (LRA) | A | 116 | 150 | 176 | 207 | 256 | 269 | 323 | 371 | 382 |

| CLH ELN Models | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|------------------------|----|------|------|------|------|------|------|------|-------|-------|
| Nominal current input | A | 22.6 | 31.0 | 43.5 | 52.1 | 52.0 | 56.9 | 67.0 | 82.0 | 91.9 |
| Maximum current input | A | 32.5 | 43.7 | 51.5 | 61.5 | 72.3 | 85.5 | 98.5 | 109.5 | 120.5 |
| Nominal power input | kW | 13.4 | 18.4 | 26.1 | 29.5 | 30.8 | 33.7 | 39.7 | 47.7 | 52.7 |
| Maximum power input | kW | 19.3 | 25.9 | 32.1 | 36.7 | 42.8 | 50.6 | 58.3 | 65.4 | 72.5 |
| Starting current (LRA) | A | 116 | 150 | 177 | 207 | 256 | 269 | 323 | 371 | 382 |

| CLH HPF Models | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|------------------------|----|------|------|------|------|------|------|-------|-------|-------|
| Nominal current input | A | 23.7 | 32.1 | 43.4 | 53.7 | 53.6 | 58.5 | 73.8 | 83.6 | 93.5 |
| Maximum current input | A | 33.6 | 44.8 | 51.4 | 63.1 | 73.9 | 87.1 | 100.1 | 111.1 | 122.1 |
| Nominal power input | kW | 14.0 | 19.0 | 26.0 | 30.3 | 31.6 | 34.5 | 43.5 | 48.5 | 53.5 |
| Maximum power input | kW | 19.8 | 26.4 | 32.0 | 37.5 | 43.6 | 51.4 | 59.1 | 66.2 | 73.3 |
| Starting current (LRA) | A | 118 | 151 | 177 | 209 | 258 | 271 | 325 | 373 | 384 |

Electrical Data (continued)

Units @ 400 V / 3 Ph / 50 Hz

| CLH STD Models with pump | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|--------------------------|----|------|------|------|------|------|------|-------|-------|-------|
| Nominal current input | A | 24.3 | 32.7 | 45.7 | 55.2 | 56.2 | 61.1 | 71.3 | 86.2 | 96.1 |
| Maximum current input | A | 34.2 | 45.4 | 53.7 | 64.6 | 76.5 | 89.7 | 102.7 | 113.7 | 124.7 |
| Nominal power input | kW | 13.8 | 18.8 | 26.5 | 30.3 | 31.9 | 34.8 | 40.8 | 48.8 | 53.8 |
| Maximum power input | kW | 19.6 | 26.2 | 32.5 | 37.5 | 43.9 | 51.7 | 59.4 | 66.5 | 73.6 |
| Starting current (LRA) | A | 118 | 152 | 180 | 211 | 260 | 274 | 327 | 375 | 386 |

| CLH LN Models with pump | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|-------------------------|----|------|------|------|------|------|------|-------|-------|-------|
| Nominal current input | A | 24.7 | 33.1 | 46.1 | 55.9 | 56.9 | 61.8 | 71.9 | 86.9 | 96.8 |
| Maximum current input | A | 34.6 | 45.8 | 54.1 | 65.3 | 77.2 | 90.4 | 103.4 | 114.4 | 125.4 |
| Nominal power input | kW | 14.2 | 19.2 | 26.9 | 31.0 | 32.6 | 35.5 | 41.5 | 49.5 | 54.5 |
| Maximum power input | kW | 20.1 | 26.7 | 32.9 | 38.2 | 44.6 | 52.4 | 60.1 | 67.2 | 74.3 |
| Starting current (LRA) | A | 119 | 152 | 180 | 211 | 261 | 274 | 328 | 376 | 387 |

| CLH ELN Models with pump | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|--------------------------|----|------|------|------|------|------|------|-------|-------|-------|
| Nominal current input | A | 24.7 | 33.1 | 47.3 | 55.9 | 56.9 | 61.8 | 71.9 | 86.9 | 96.8 |
| Maximum current input | A | 34.6 | 45.8 | 55.3 | 65.3 | 77.2 | 90.4 | 103.4 | 114.4 | 125.4 |
| Nominal power input | kW | 14.2 | 19.2 | 27.6 | 31.0 | 32.6 | 35.5 | 41.5 | 49.5 | 54.5 |
| Maximum power input | kW | 20.1 | 26.7 | 33.6 | 38.2 | 44.6 | 52.4 | 60.1 | 67.2 | 74.3 |
| Starting current (LRA) | A | 119 | 152 | 181 | 211 | 261 | 274 | 328 | 376 | 387 |

| CLH HPF Models with pump | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|--------------------------|----|------|------|------|------|------|------|-------|-------|-------|
| Nominal current input | A | 25.8 | 34.2 | 47.2 | 57.5 | 58.5 | 63.4 | 78.7 | 88.5 | 98.4 |
| Maximum current input | A | 35.7 | 46.9 | 55.2 | 66.9 | 78.8 | 92.0 | 105.0 | 116.0 | 127.0 |
| Nominal power input | kW | 14.8 | 19.8 | 27.5 | 31.8 | 33.4 | 36.3 | 45.3 | 50.3 | 55.3 |
| Maximum power input | kW | 20.6 | 27.2 | 33.5 | 39.0 | 45.4 | 53.2 | 60.9 | 68.0 | 75.1 |
| Starting current (LRA) | A | 120 | 153 | 181 | 213 | 263 | 276 | 330 | 378 | 389 |

| CLH EH Models (Option 0) * | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|----------------------------|----|------|------|------|-------|-------|-------|-------|-----|-----|
| Nominal current input | A | 58.9 | 67.3 | 91.9 | 101.4 | 102.4 | 130.3 | 140.5 | | |
| Maximum current input | A | 68.8 | 80.0 | 99.9 | 110.8 | 122.7 | 158.9 | 171.9 | | |
| Nominal power input | kW | 37.8 | 42.8 | 58.5 | 62.3 | 63.9 | 82.8 | 88.8 | | |
| Maximum power input | kW | 43.6 | 50.2 | 64.5 | 69.5 | 75.9 | 99.7 | 107.4 | | |
| Starting current (LRA) | A | 153 | 186 | 226 | 257 | 307 | 343 | 396 | | |

| CLH EH Models (Option 1) * | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|----------------------------|----|------|------|-------|-------|-------|-------|-------|-----|-----|
| Nominal current input | A | 70.5 | 78.9 | 114.9 | 124.4 | 125.4 | 141.9 | 152.1 | | |
| Maximum current input | A | 80.4 | 91.6 | 122.9 | 133.8 | 145.7 | 170.5 | 183.5 | | |
| Nominal power input | kW | 45.8 | 50.8 | 74.5 | 78.3 | 79.9 | 90.8 | 96.8 | | |
| Maximum power input | kW | 51.6 | 58.2 | 80.5 | 85.5 | 91.9 | 107.7 | 115.4 | | |
| Starting current (LRA) | A | 164 | 198 | 249 | 280 | 330 | 354 | 408 | | |

| CLH EH Models (Option 2) * | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|----------------------------|----|-------|-------|-------|-------|-------|-------|-------|-----|-----|
| Nominal current input | A | 93.5 | 101.9 | 126.5 | 136.0 | 137.0 | 153.5 | 163.7 | | |
| Maximum current input | A | 103.4 | 114.6 | 134.5 | 145.4 | 157.3 | 182.1 | 195.1 | | |
| Nominal power input | kW | 61.8 | 66.8 | 82.5 | 86.3 | 87.9 | 98.8 | 104.8 | | |
| Maximum power input | kW | 67.6 | 74.2 | 88.5 | 93.5 | 99.9 | 115.7 | 123.4 | | |
| Starting current (LRA) | A | 187 | 221 | 260 | 291 | 341 | 366 | 420 | | |

* Data given for all versions.

Pump(s)

| CLH models | Units with 1 pump | | Units with 2 pumps | |
|------------|-------------------|-----|--------------------|---------|
| | kW | A | kW | A |
| 182 | 0.8 | 1.7 | 2 x 0.8 | 2 x 2.1 |
| 202 | 0.8 | 1.7 | 2 x 0.8 | 2 x 2.1 |
| 242 | 1.1 | 3.1 | 2 x 1.5 | 2 x 3.8 |
| 302 | 1.1 | 3.1 | 2 x 1.5 | 2 x 3.8 |
| 352 | 1.5 | 3.8 | 2 x 1.8 | 2 x 4.9 |
| 402 | 1.8 | 4.9 | 2 x 1.8 | 2 x 4.9 |
| 502 | 1.8 | 4.9 | 2 x 1.8 | 2 x 4.9 |
| 552 | 1.8 | 4.9 | 2 x 1.8 | 2 x 4.9 |
| 602 | 1.8 | 4.9 | 2 x 1.8 | 2 x 4.9 |

Sound Levels

Sound power levels Lw-dB(A)

| CLH STD sizes | Frequencies (Hz) | | | | | | | Lw global dB(A) |
|----------------|------------------|-----|-----|------|------|------|------|-----------------|
| | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 182 STD | 86 | 84 | 83 | 82 | 80 | 70 | 59 | 86 |
| 202 STD | 86 | 84 | 83 | 82 | 80 | 70 | 59 | 86 |
| 242 STD | 87 | 85 | 84 | 83 | 81 | 71 | 60 | 87 |
| 302 STD | 87 | 85 | 84 | 83 | 81 | 71 | 60 | 87 |
| 352 STD | 89 | 87 | 86 | 85 | 83 | 73 | 62 | 89 |
| 402 STD | 89 | 87 | 86 | 85 | 83 | 73 | 62 | 91 |
| 502 STD | 90 | 88 | 87 | 86 | 84 | 74 | 63 | 91 |
| 552 STD | 90 | 88 | 87 | 86 | 84 | 74 | 63 | 91 |
| 602 STD | 90 | 88 | 87 | 86 | 84 | 74 | 63 | 91 |

Sound pressure level Lp-dB(A)

| CLH STD sizes | Frequencies (Hz) | | | | | | | Lw global dB(A) |
|----------------|------------------|-----|-----|------|------|------|------|-----------------|
| | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 182 STD | 54 | 52 | 51 | 50 | 48 | 38 | 27 | 54 |
| 202 STD | 54 | 52 | 51 | 50 | 48 | 38 | 27 | 54 |
| 242 STD | 55 | 53 | 52 | 51 | 49 | 39 | 28 | 55 |
| 302 STD | 55 | 53 | 52 | 51 | 49 | 39 | 28 | 55 |
| 352 STD | 57 | 55 | 54 | 53 | 51 | 41 | 30 | 57 |
| 402 STD | 57 | 55 | 54 | 53 | 51 | 41 | 30 | 59 |
| 502 STD | 58 | 56 | 55 | 54 | 52 | 42 | 31 | 59 |
| 552 STD | 58 | 56 | 55 | 54 | 52 | 42 | 31 | 59 |
| 602 STD | 58 | 56 | 55 | 54 | 52 | 42 | 31 | 59 |

Note : sound pressure levels are given at 10 meters according to ISO 3744.

| CLH LN sizes | Frequencies (Hz) | | | | | | | Lw global dB(A) |
|---------------|------------------|-----|-----|------|------|------|------|-----------------|
| | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 182 LN | 83 | 81 | 80 | 79 | 77 | 67 | 56 | 83 |
| 202 LN | 83 | 81 | 80 | 79 | 77 | 67 | 56 | 83 |
| 242 LN | 84 | 82 | 81 | 80 | 78 | 68 | 57 | 84 |
| 302 LN | 85 | 83 | 82 | 81 | 79 | 69 | 58 | 85 |
| 352 LN | 87 | 85 | 84 | 83 | 81 | 71 | 60 | 87 |
| 402 LN | 87 | 85 | 84 | 83 | 81 | 71 | 60 | 87 |
| 502 LN | 87 | 85 | 84 | 83 | 81 | 71 | 60 | 87 |
| 552 LN | 87 | 85 | 84 | 83 | 81 | 71 | 60 | 87 |
| 602 LN | 87 | 85 | 84 | 83 | 81 | 71 | 60 | 87 |

| CLH LN sizes | Frequencies (Hz) | | | | | | | Lw global dB(A) |
|---------------|------------------|-----|-----|------|------|------|------|-----------------|
| | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 182 LN | 51 | 49 | 48 | 47 | 45 | 35 | 24 | 51 |
| 202 LN | 51 | 49 | 48 | 47 | 45 | 35 | 24 | 51 |
| 242 LN | 52 | 50 | 49 | 48 | 46 | 36 | 25 | 52 |
| 302 LN | 53 | 51 | 50 | 49 | 47 | 37 | 26 | 53 |
| 352 LN | 55 | 53 | 52 | 51 | 49 | 39 | 28 | 55 |
| 402 LN | 55 | 53 | 52 | 51 | 49 | 39 | 28 | 55 |
| 502 LN | 55 | 53 | 52 | 51 | 49 | 39 | 28 | 55 |
| 552 LN | 55 | 53 | 52 | 51 | 49 | 39 | 28 | 55 |
| 602 LN | 55 | 53 | 52 | 51 | 49 | 39 | 28 | 55 |

Note : sound pressure levels are given at 10 meters according to ISO 3744.

| CLH ELN sizes | Frequencies (Hz) | | | | | | | Lw global dB(A) |
|----------------|------------------|-----|-----|------|------|------|------|-----------------|
| | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 182 ELN | 78 | 76 | 75 | 74 | 72 | 62 | 51 | 78 |
| 202 ELN | 78 | 76 | 75 | 74 | 72 | 62 | 51 | 78 |
| 242 ELN | 79 | 77 | 76 | 75 | 73 | 63 | 52 | 79 |
| 302 ELN | 80 | 78 | 77 | 76 | 74 | 64 | 53 | 80 |
| 352 ELN | 82 | 80 | 79 | 78 | 76 | 66 | 55 | 82 |
| 402 ELN | 83 | 81 | 80 | 79 | 77 | 67 | 56 | 83 |
| 502 ELN | 83 | 81 | 80 | 79 | 77 | 67 | 56 | 83 |
| 552 ELN | 83 | 81 | 80 | 79 | 77 | 67 | 56 | 83 |
| 602 ELN | 83 | 81 | 80 | 79 | 77 | 67 | 56 | 83 |

| CLH ELN sizes | Frequencies (Hz) | | | | | | | Lw global dB(A) |
|----------------|------------------|-----|-----|------|------|------|------|-----------------|
| | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 182 ELN | 46 | 44 | 43 | 42 | 40 | 30 | 19 | 46 |
| 202 ELN | 46 | 44 | 43 | 42 | 40 | 30 | 19 | 46 |
| 242 ELN | 47 | 45 | 44 | 43 | 41 | 31 | 20 | 47 |
| 302 ELN | 48 | 46 | 45 | 44 | 42 | 32 | 21 | 48 |
| 352 ELN | 50 | 48 | 47 | 46 | 44 | 34 | 23 | 50 |
| 402 ELN | 51 | 49 | 48 | 47 | 45 | 35 | 24 | 51 |
| 502 ELN | 51 | 49 | 48 | 47 | 45 | 35 | 24 | 51 |
| 552 ELN | 51 | 49 | 48 | 47 | 45 | 35 | 24 | 51 |
| 602 ELN | 51 | 49 | 48 | 47 | 45 | 35 | 24 | 51 |

Note : sound pressure levels are given at 10 meters according to ISO 3744.

| CLH HPF sizes | Frequencies (Hz) | | | | | | | Lw global dB(A) |
|----------------|------------------|-----|-----|------|------|------|------|-----------------|
| | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 182 HPF | 89 | 87 | 86 | 85 | 83 | 73 | 62 | 89 |
| 202 HPF | 89 | 87 | 86 | 85 | 83 | 73 | 62 | 89 |
| 242 HPF | 90 | 88 | 87 | 86 | 84 | 74 | 63 | 90 |
| 302 HPF | 90 | 88 | 87 | 86 | 84 | 74 | 63 | 90 |
| 352 HPF | 92 | 90 | 89 | 88 | 86 | 76 | 65 | 92 |
| 402 HPF | 92 | 90 | 89 | 88 | 86 | 76 | 65 | 94 |
| 502 HPF | 93 | 91 | 90 | 89 | 87 | 77 | 66 | 94 |
| 552 HPF | 92 | 90 | 89 | 88 | 86 | 76 | 65 | 94 |
| 602 HPF | 93 | 91 | 90 | 89 | 87 | 77 | 66 | 94 |

| CLH HPF sizes | Frequencies (Hz) | | | | | | | Lw global dB(A) |
|----------------|------------------|-----|-----|------|------|------|------|-----------------|
| | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 182 HPF | 57 | 55 | 54 | 53 | 51 | 41 | 30 | 57 |
| 202 HPF | 57 | 55 | 54 | 53 | 51 | 41 | 30 | 57 |
| 242 HPF | 58 | 56 | 55 | 54 | 52 | 42 | 31 | 58 |
| 302 HPF | 58 | 56 | 55 | 54 | 52 | 42 | 31 | 58 |
| 352 HPF | 60 | 58 | 57 | 56 | 54 | 44 | 33 | 60 |
| 402 HPF | 60 | 58 | 57 | 56 | 54 | 44 | 33 | 62 |
| 502 HPF | 61 | 59 | 58 | 57 | 55 | 45 | 34 | 62 |
| 552 HPF | 61 | 59 | 58 | 57 | 55 | 45 | 34 | 62 |
| 602 HPF | 61 | 59 | 58 | 57 | 55 | 45 | 34 | 62 |

Note : sound pressure levels are given at 10 meters according to ISO 3744.

Cooling Capacities - CLH/CLH EH 182 ÷ 602 STD/LN/HPF

| CLH Models | LWT (°C) | Ambient air temperature (°C) | | | | | | | | | | | | | |
|------------|----------|------------------------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
| | | 25 | | 30 | | 32 | | 35 | | 40 | | 43 | | 46 | |
| | | Cool. Cap. (kW) | Power Input (kW) | Cool. Cap. (kW) | Power Input (kW) | Cool. Cap. (kW) | Power Input (kW) | Cool. Cap. (kW) | Power Input (kW) | Cool. Cap. (kW) | Power Input (kW) | Cool. Cap. (kW) | Power Input (kW) | Cool. Cap. (kW) | Power Input (kW) |
| 182 | 6 | 44.9 | 11.3 | 42.1 | 11.8 | 41.0 | 12.0 | 39.4 | 12.2 | 36.7 | 12.7 | 33.5 | 13.1 | 25.9 | 15.1 |
| | 7 | 46.4 | 11.5 | 43.6 | 12.0 | 42.5 | 12.2 | 40.8 | 12.5 | 37.9 | 12.9 | 34.5 | 13.5 | 26.9 | 15.2 |
| | 8 | 48.0 | 11.8 | 45.0 | 12.3 | 43.9 | 12.5 | 42.2 | 12.8 | 39.3 | 13.2 | 35.8 | 13.7 | | |
| | 10 | 51.2 | 12.2 | 48.2 | 12.8 | 47.0 | 13.0 | 45.1 | 13.3 | 42.1 | 13.8 | 38.6 | 14.4 | | |
| | 15 | 54.6 | 12.7 | 51.4 | 13.3 | 50.0 | 13.5 | 48.1 | 13.8 | 44.9 | 14.4 | | | | |
| 202 | 6 | 56.6 | 14.8 | 54.7 | 16.2 | 54.0 | 16.6 | 52.7 | 17.3 | 48.4 | 19.3 | 45.5 | 20.4 | 44.6 | 21.1 |
| | 7 | 58.9 | 15.0 | 56.9 | 16.3 | 56.2 | 16.8 | 54.8 | 17.5 | 50.4 | 19.5 | 47.3 | 20.6 | 46.4 | 21.3 |
| | 8 | 60.0 | 15.1 | 58.0 | 16.5 | 57.3 | 17.0 | 55.8 | 17.7 | 51.3 | 19.8 | 50.4 | 20.8 | | |
| | 10 | 62.2 | 15.6 | 60.2 | 17.4 | 59.4 | 17.4 | 57.9 | 18.1 | 53.2 | 20.3 | 52.4 | 21.3 | | |
| | 15 | 64.3 | 16.0 | 62.2 | 17.4 | 61.4 | 17.9 | 59.9 | 18.7 | 55.1 | 20.7 | | | | |
| 242 | 6 | 74.0 | 22.3 | 69.5 | 23.2 | 67.7 | 23.6 | 64.9 | 24.1 | 60.5 | 24.9 | 57.9 | 25.4 | 55.2 | 25.9 |
| | 7 | 76.6 | 22.7 | 71.9 | 23.7 | 70.1 | 24.1 | 67.3 | 24.6 | 62.6 | 25.5 | 59.8 | 26.0 | 56.9 | 26.5 |
| | 8 | 79.1 | 23.2 | 74.3 | 24.2 | 72.5 | 24.6 | 69.5 | 25.1 | 64.8 | 26.0 | 62.0 | 26.6 | | |
| | 10 | 84.5 | 24.1 | 79.4 | 25.2 | 77.5 | 25.6 | 74.4 | 26.2 | 69.5 | 27.1 | 66.6 | 27.7 | | |
| | 15 | 90.1 | 25.0 | 84.8 | 26.2 | 82.5 | 26.6 | 79.3 | 27.3 | 74.1 | 28.3 | | | | |
| 302 | 6 | 86.4 | 25.3 | 81.1 | 26.4 | 79.1 | 26.8 | 75.8 | 27.4 | 70.6 | 28.4 | 67.6 | 28.9 | 64.5 | 29.4 |
| | 7 | 89.4 | 25.9 | 84.0 | 27.0 | 81.9 | 27.4 | 78.6 | 28.0 | 73.1 | 29.0 | 69.8 | 29.6 | 66.5 | 30.2 |
| | 8 | 92.4 | 26.4 | 86.8 | 27.5 | 84.6 | 28.0 | 81.2 | 28.6 | 75.7 | 29.6 | 72.4 | 30.2 | | |
| | 10 | 98.7 | 27.4 | 92.8 | 28.6 | 90.5 | 29.1 | 86.9 | 29.8 | 81.1 | 30.9 | 77.7 | 31.6 | | |
| | 15 | 105.2 | 28.5 | 99.0 | 29.8 | 96.4 | 30.3 | 92.7 | 31.0 | 86.5 | 32.2 | | | | |
| 352 | 6 | 96.7 | 30.4 | 90.7 | 31.7 | 88.4 | 32.2 | 84.8 | 32.9 | 79.0 | 34.0 | 75.6 | 34.7 | 72.1 | 35.3 |
| | 7 | 100.0 | 31.0 | 93.9 | 32.4 | 91.6 | 32.9 | 87.9 | 33.6 | 81.8 | 34.8 | 78.1 | 35.5 | 74.4 | 36.2 |
| | 8 | 103.3 | 31.7 | 97.0 | 33.0 | 94.6 | 33.6 | 90.8 | 34.3 | 84.7 | 35.5 | 81.0 | 36.2 | | |
| | 10 | 110.4 | 32.9 | 103.8 | 34.4 | 101.2 | 34.9 | 97.2 | 35.7 | 90.7 | 37.0 | 86.9 | 37.9 | | |
| | 15 | 117.7 | 34.2 | 110.7 | 35.7 | 107.8 | 36.3 | 103.6 | 37.2 | 96.8 | 38.7 | | | | |
| 402 | 6 | 108.5 | 31.7 | 101.9 | 33.0 | 99.3 | 33.5 | 95.2 | 34.3 | 88.7 | 35.4 | 84.9 | 36.1 | 81.0 | 36.8 |
| | 7 | 112.3 | 32.3 | 105.5 | 33.7 | 102.8 | 34.2 | 98.7 | 35.0 | 91.8 | 36.2 | 87.7 | 37.0 | 83.5 | 37.7 |
| | 8 | 116.0 | 33.0 | 109.0 | 34.4 | 106.3 | 34.9 | 102.0 | 35.7 | 95.1 | 37.0 | 90.9 | 37.8 | | |
| | 10 | 123.9 | 34.3 | 116.5 | 35.8 | 113.6 | 36.4 | 109.1 | 37.2 | 101.9 | 38.6 | 97.6 | 39.5 | | |
| | 15 | 132.1 | 35.6 | 124.3 | 37.2 | 121.0 | 37.9 | 116.4 | 38.8 | 108.6 | 40.3 | | | | |
| 502 | 6 | 121.4 | 38.0 | 113.9 | 39.6 | 111.0 | 40.2 | 106.5 | 41.1 | 99.2 | 42.5 | 94.9 | 43.3 | | |
| | 7 | 125.6 | 38.8 | 118.0 | 40.5 | 115.0 | 41.1 | 110.4 | 42.0 | 102.7 | 43.5 | 98.1 | 44.4 | | |
| | 8 | 129.8 | 39.6 | 121.9 | 41.3 | 118.8 | 41.9 | 114.1 | 42.9 | 106.4 | 44.4 | 101.7 | 45.3 | | |
| | 10 | 138.6 | 41.1 | 130.3 | 43.0 | 127.1 | 43.7 | 122.1 | 44.7 | 113.9 | 46.3 | | | | |
| | 15 | 147.8 | 42.7 | 139.0 | 44.7 | 135.4 | 45.4 | 130.1 | 46.5 | 121.5 | 48.3 | | | | |
| 552 | 6 | 162.0 | 45.2 | 152.5 | 47.3 | 148.6 | 48.2 | 143.0 | 49.5 | 133.6 | 51.7 | | | | |
| | 7 | 132.9 | 44.7 | 124.8 | 46.6 | 121.6 | 47.3 | 116.7 | 48.4 | 108.7 | 50.0 | 99.2 | 51.9 | | |
| | 8 | 137.6 | 45.6 | 129.2 | 47.6 | 125.9 | 48.3 | 120.9 | 49.4 | 112.4 | 51.1 | 102.3 | 53.2 | | |
| | 10 | 142.1 | 46.5 | 133.5 | 48.6 | 130.2 | 49.3 | 124.9 | 50.4 | 116.5 | 52.2 | 106.2 | 54.3 | | |
| | 15 | 151.8 | 48.4 | 142.7 | 50.5 | 139.2 | 51.4 | 133.7 | 52.5 | 124.8 | 54.4 | | | | |
| 602 | 6 | 161.8 | 50.3 | 152.3 | 52.5 | 148.3 | 53.4 | 142.5 | 54.7 | 133.1 | 56.8 | | | | |
| | 7 | 177.4 | 53.2 | 167.1 | 55.7 | 162.8 | 56.7 | 156.6 | 58.2 | 146.3 | 60.8 | | | | |
| | 8 | 144.5 | 51.3 | 135.6 | 53.5 | 132.2 | 54.3 | 126.8 | 55.5 | 118.1 | 57.4 | 107.8 | 59.6 | | |
| | 10 | 149.5 | 52.4 | 140.4 | 54.6 | 136.9 | 55.5 | 131.4 | 56.7 | 122.2 | 58.7 | 111.2 | 61.1 | | |
| | 15 | 154.5 | 53.4 | 145.1 | 55.7 | 141.5 | 56.6 | 135.8 | 57.9 | 126.6 | 59.9 | 115.4 | 62.4 | | |
| 602 | 6 | 165.0 | 55.5 | 155.1 | 58.0 | 151.3 | 58.9 | 145.3 | 60.3 | 135.6 | 62.5 | | | | |
| | 12 | 175.9 | 57.7 | 165.5 | 60.3 | 161.1 | 61.3 | 154.9 | 62.8 | 144.6 | 65.2 | | | | |
| | 15 | 192.8 | 61.0 | 181.6 | 63.9 | 176.9 | 65.1 | 170.2 | 66.8 | 159.0 | 69.8 | | | | |

Note : - LWT : Leaving water temperature.
 - Power input data are given for compressors only.

Heating Capacities - CLH/CLH EH 182 ÷ 602 STD/LN/HPF

| CLH Models | LWT (°C) | Ambient air temperature (°C) | | | | | | | | | | | | | |
|------------|----------|------------------------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
| | | -5 | | -3 | | 0 | | 5 | | 7 | | 10 | | 15 | |
| | | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) |
| 182 | 30 | 33.8 | 7.9 | 36.5 | 8.2 | 40.7 | 8.7 | 47.9 | 9.4 | 51.0 | 9.6 | 55.9 | 10.0 | 64.9 | 10.7 |
| | 35 | 32.4 | 8.1 | 35.0 | 8.5 | 39.1 | 9.0 | 46.3 | 9.8 | 49.4 | 10.1 | 54.2 | 10.5 | 63.1 | 11.3 |
| | 40 | 30.8 | 8.4 | 33.4 | 8.7 | 37.5 | 9.3 | 44.5 | 10.1 | 47.6 | 10.5 | 52.4 | 11.0 | 61.2 | 11.9 |
| | 45 | 29.2 | 8.6 | 31.7 | 9.0 | 35.7 | 9.6 | 42.6 | 10.5 | 45.7 | 10.9 | 50.5 | 11.5 | 59.2 | 12.5 |
| | 50 | | | | | 33.8 | 9.8 | 40.7 | 10.9 | 43.7 | 11.3 | 48.5 | 12.0 | 57.1 | 13.1 |
| 202 | 30 | 43.0 | 12.5 | 46.3 | 12.9 | 51.7 | 13.7 | 60.8 | 14.8 | 64.7 | 15.2 | 71.0 | 15.8 | 82.4 | 16.9 |
| | 35 | 41.1 | 12.8 | 44.4 | 13.4 | 49.7 | 14.2 | 58.7 | 15.4 | 62.6 | 15.9 | 68.8 | 16.6 | 80.1 | 17.8 |
| | 40 | 39.1 | 13.2 | 42.3 | 13.8 | 47.5 | 14.6 | 56.5 | 16.0 | 60.4 | 16.6 | 66.5 | 17.4 | 77.7 | 18.7 |
| | 45 | 37.0 | 13.5 | 40.2 | 14.1 | 45.3 | 15.1 | 54.1 | 16.6 | 58.0 | 17.2 | 64.1 | 18.1 | 75.1 | 19.7 |
| | 50 | | | | | 42.9 | 15.5 | 51.6 | 17.2 | 55.4 | 17.9 | 61.5 | 18.9 | 72.4 | 20.6 |
| 242 | 30 | 57.3 | 18.2 | 61.8 | 18.9 | 69.0 | 19.9 | 81.1 | 21.5 | 86.4 | 22.1 | 94.7 | 23.1 | 109.9 | 24.6 |
| | 35 | 54.8 | 18.7 | 59.2 | 19.5 | 66.3 | 20.6 | 78.4 | 22.4 | 83.6 | 23.1 | 91.9 | 24.2 | 106.9 | 25.9 |
| | 40 | 52.2 | 19.2 | 56.5 | 20.1 | 63.4 | 21.3 | 75.4 | 23.3 | 80.6 | 24.1 | 88.8 | 25.3 | 103.7 | 27.3 |
| | 45 | 49.4 | 19.7 | 53.6 | 20.6 | 60.4 | 22.0 | 72.2 | 24.2 | 77.4 | 25.1 | 85.5 | 26.4 | 100.3 | 28.7 |
| | 50 | | | | | 57.3 | 22.6 | 68.9 | 25.1 | 74.0 | 26.0 | 82.1 | 27.5 | 96.6 | 30.0 |
| 302 | 30 | 67.0 | 21.0 | 72.2 | 21.8 | 80.5 | 23.0 | 94.8 | 24.8 | 100.9 | 25.6 | 110.6 | 26.6 | 128.4 | 28.4 |
| | 35 | 64.0 | 21.6 | 69.2 | 22.5 | 77.4 | 23.9 | 91.5 | 25.9 | 97.6 | 26.7 | 107.3 | 27.9 | 124.9 | 30.0 |
| | 40 | 60.9 | 22.2 | 66.0 | 23.2 | 74.1 | 24.7 | 88.0 | 27.0 | 94.1 | 27.9 | 103.7 | 29.3 | 121.1 | 31.5 |
| | 45 | 57.7 | 22.7 | 62.6 | 23.8 | 70.6 | 25.4 | 84.4 | 28.0 | 90.4 | 29.0 | 99.9 | 30.5 | 117.1 | 33.1 |
| | 50 | | | | | 66.9 | 26.1 | 80.4 | 28.9 | 86.4 | 30.1 | 95.8 | 31.8 | 112.9 | 34.7 |
| 352 | 30 | 74.8 | 22.9 | 80.7 | 23.8 | 90.0 | 25.1 | 105.9 | 27.1 | 112.7 | 27.9 | 123.6 | 29.0 | 143.4 | 31.0 |
| | 35 | 71.5 | 23.6 | 77.3 | 24.5 | 86.5 | 26.0 | 102.2 | 28.2 | 109.1 | 29.1 | 119.9 | 30.5 | 139.5 | 32.7 |
| | 40 | 68.1 | 24.2 | 73.7 | 25.3 | 82.8 | 26.9 | 98.4 | 29.4 | 105.2 | 30.4 | 115.9 | 31.9 | 135.3 | 34.4 |
| | 45 | 64.5 | 24.8 | 70.0 | 25.9 | 78.8 | 27.7 | 94.2 | 30.5 | 101.0 | 31.6 | 111.6 | 33.3 | 130.8 | 36.1 |
| | 50 | | | | | 74.7 | 28.5 | 89.9 | 31.5 | 96.6 | 32.8 | 107.1 | 34.7 | 126.1 | 37.8 |
| 402 | 30 | 84.1 | 25.5 | 90.6 | 26.5 | 101.1 | 28.0 | 119.0 | 30.2 | 126.7 | 31.1 | 138.9 | 32.4 | 161.2 | 34.6 |
| | 35 | 80.4 | 26.3 | 86.9 | 27.4 | 97.2 | 29.0 | 114.9 | 31.5 | 122.6 | 32.5 | 134.7 | 34.0 | 156.8 | 36.5 |
| | 40 | 76.5 | 27.0 | 82.9 | 28.2 | 93.0 | 30.0 | 110.5 | 32.8 | 118.2 | 33.9 | 130.2 | 35.6 | 152.0 | 38.4 |
| | 45 | 72.5 | 27.7 | 78.6 | 29.0 | 88.6 | 30.9 | 105.9 | 34.0 | 113.5 | 35.3 | 125.4 | 37.2 | 147.0 | 40.3 |
| | 50 | | | | | 84.0 | 31.8 | 101.0 | 35.2 | 108.5 | 36.6 | 120.3 | 38.7 | 141.7 | 42.2 |
| 502 | 30 | 94.1 | 29.9 | 101.4 | 31.0 | 113.1 | 32.8 | 133.1 | 35.4 | 141.8 | 36.4 | 155.4 | 37.9 | 180.4 | 40.5 |
| | 35 | 90.0 | 30.8 | 97.2 | 32.1 | 108.8 | 34.0 | 128.6 | 36.9 | 137.2 | 38.1 | 150.7 | 39.8 | 175.4 | 42.7 |
| | 40 | 85.6 | 31.6 | 92.7 | 33.0 | 104.1 | 35.1 | 123.7 | 38.4 | 132.3 | 39.7 | 145.7 | 41.7 | 170.1 | 44.9 |
| | 45 | 81.1 | 32.4 | 88.0 | 33.9 | 99.1 | 36.2 | 118.5 | 39.8 | 127.0 | 41.3 | 140.4 | 43.5 | 164.5 | 47.1 |
| | 50 | | | | | 93.9 | 37.2 | 113.0 | 41.2 | 121.4 | 42.9 | 134.6 | 45.3 | 158.6 | 49.4 |
| 552 | 30 | 103.5 | 34.4 | 111.6 | 35.7 | 124.5 | 37.7 | 146.4 | 40.7 | 155.9 | 41.9 | 171.0 | 43.6 | 198.4 | 46.5 |
| | 35 | 99.0 | 35.4 | 106.9 | 36.9 | 119.6 | 39.1 | 141.4 | 42.4 | 150.9 | 43.8 | 165.8 | 45.8 | 193.0 | 49.1 |
| | 40 | 94.2 | 36.4 | 102.0 | 38.0 | 114.5 | 40.4 | 136.1 | 44.1 | 145.5 | 45.7 | 160.3 | 47.9 | 187.1 | 51.6 |
| | 45 | 89.2 | 37.3 | 96.8 | 39.0 | 109.0 | 41.6 | 130.4 | 45.8 | 139.7 | 47.5 | 154.4 | 50.0 | 181.0 | 54.2 |
| | 50 | | | | | 103.3 | 42.8 | 124.3 | 47.4 | 133.6 | 49.3 | 148.1 | 52.1 | 174.4 | 56.8 |
| 602 | 30 | 112.9 | 38.8 | 121.7 | 40.3 | 135.8 | 42.5 | 159.8 | 45.9 | 170.1 | 47.2 | 186.5 | 49.2 | 216.5 | 52.5 |
| | 35 | 107.9 | 40.0 | 116.6 | 41.6 | 130.5 | 44.1 | 154.3 | 47.9 | 164.6 | 49.4 | 180.9 | 51.7 | 210.5 | 55.4 |
| | 40 | 102.7 | 41.1 | 111.3 | 42.9 | 124.9 | 45.6 | 148.4 | 49.8 | 158.7 | 51.5 | 174.8 | 54.1 | 204.2 | 58.3 |
| | 45 | 97.3 | 42.0 | 105.6 | 44.0 | 119.0 | 47.0 | 142.2 | 51.7 | 152.4 | 53.6 | 168.4 | 56.4 | 197.4 | 61.2 |
| | 50 | | | | | 112.7 | 48.3 | 135.6 | 53.5 | 145.7 | 55.6 | 161.6 | 58.8 | 190.3 | 64.1 |

Note : - LWT : Leaving water temperature.
 - Power input data are given for compressors only.

Cooling Capacities - CLH/CLH EH 182 ÷ 602 ELN

| CLH models | LWT (°C) | Ambient air temperature (°C) | | | | | | | | | |
|------------|----------|------------------------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
| | | 25 | | 30 | | 32 | | 35 | | 40 | |
| | | Cool. Cap. (kW) | Power Input (kW) | Cool. Cap. (kW) | Power Input (kW) | Cool. Cap. (kW) | Power Input (kW) | Cool. Cap. (kW) | Power Input (kW) | Cool. Cap. (kW) | Power Input (kW) |
| 182 ELN | 6 | 42.2 | 10.4 | 40.8 | 11.4 | 40.3 | 11.7 | 39.2 | 12.2 | 36.1 | 13.6 |
| | 7 | 43.9 | 10.6 | 42.4 | 11.5 | 41.9 | 11.9 | 40.8 | 12.3 | 37.5 | 13.8 |
| | 8 | 44.7 | 10.7 | 43.2 | 11.7 | 42.7 | 12.0 | 41.6 | 12.5 | | |
| | 10 | 46.4 | 11.0 | 44.8 | 31.5 | 44.3 | 12.3 | 43.1 | 12.8 | | |
| | 12 | 47.9 | 11.3 | 46.3 | 12.3 | 45.7 | 12.6 | 44.6 | 13.2 | | |
| 15 | 50.2 | 11.7 | 48.5 | 12.8 | 48.0 | 13.1 | 46.7 | 13.6 | | | |
| 202 ELN | 6 | 55.9 | 15.4 | 54.1 | 16.8 | 53.4 | 17.3 | 52.0 | 18.0 | 47.8 | 20.1 |
| | 7 | 58.2 | 15.6 | 56.2 | 17.0 | 55.5 | 17.5 | 54.1 | 18.2 | 49.8 | 20.3 |
| | 8 | 59.3 | 15.8 | 57.3 | 17.2 | 56.6 | 17.7 | 55.1 | 18.5 | | |
| | 10 | 61.5 | 16.2 | 59.4 | 46.5 | 58.7 | 18.1 | 57.2 | 18.9 | | |
| | 12 | 63.5 | 16.6 | 61.4 | 18.1 | 60.6 | 18.6 | 59.2 | 19.4 | | |
| 15 | 66.5 | 17.3 | 64.3 | 18.9 | 63.6 | 19.3 | 61.9 | 20.1 | | | |
| 242 ELN | 6 | 70.9 | 23.4 | 66.6 | 24.4 | 64.9 | 24.8 | 62.2 | 25.4 | 58.0 | 26.2 |
| | 7 | 73.4 | 23.9 | 68.9 | 24.9 | 67.2 | 25.3 | 64.5 | 25.9 | 60.0 | 26.8 |
| | 8 | 75.8 | 24.4 | 71.2 | 25.5 | 69.4 | 25.9 | 66.7 | 26.4 | | |
| | 10 | 81.0 | 25.4 | 76.1 | 26.5 | 74.2 | 26.9 | 71.3 | 27.6 | | |
| | 12 | 86.3 | 26.4 | 81.2 | 27.5 | 79.1 | 28.0 | 76.0 | 28.7 | | |
| 15 | 94.6 | 27.9 | 89.1 | 29.2 | 86.8 | 29.7 | 83.5 | 30.5 | | | |
| 302 ELN | 6 | 78.5 | 28.8 | 73.7 | 30.0 | 71.8 | 30.5 | 68.9 | 31.2 | 64.2 | 32.2 |
| | 7 | 81.3 | 29.4 | 76.3 | 30.6 | 74.4 | 31.1 | 71.4 | 31.8 | 66.4 | 32.9 |
| | 8 | 83.9 | 30.0 | 78.8 | 31.3 | 76.9 | 31.8 | 73.8 | 32.5 | | |
| | 10 | 89.7 | 31.1 | 84.3 | 32.5 | 82.2 | 33.1 | 79.0 | 33.8 | | |
| | 12 | 95.6 | 32.4 | 89.9 | 33.8 | 87.6 | 34.4 | 84.2 | 35.2 | | |
| 15 | 104.7 | 34.2 | 98.7 | 35.8 | 96.1 | 36.5 | 92.5 | 37.5 | | | |
| 352 ELN | 6 | 95.7 | 30.7 | 89.8 | 32.0 | 87.5 | 32.5 | 83.9 | 33.2 | 78.2 | 34.3 |
| | 7 | 99.0 | 31.3 | 93.0 | 32.7 | 90.6 | 33.2 | 87.0 | 33.9 | 80.9 | 35.1 |
| | 8 | 102.3 | 31.9 | 96.0 | 33.3 | 93.7 | 33.9 | 89.9 | 34.6 | | |
| | 10 | 109.3 | 33.2 | 102.7 | 34.7 | 100.1 | 35.2 | 96.2 | 36.1 | | |
| | 12 | 116.4 | 34.5 | 109.6 | 36.1 | 106.7 | 36.7 | 102.6 | 37.6 | | |
| 15 | 127.6 | 36.5 | 120.2 | 38.2 | 117.1 | 38.9 | 112.7 | 40.0 | | | |
| 402 ELN | 6 | 102.3 | 35.7 | 96.0 | 37.2 | 93.5 | 37.8 | 89.7 | 38.6 | 83.6 | 39.9 |
| | 7 | 105.8 | 36.4 | 99.4 | 37.9 | 96.9 | 38.5 | 93.0 | 39.4 | 86.5 | 40.8 |
| | 8 | 109.3 | 37.1 | 102.7 | 38.7 | 100.1 | 39.3 | 96.1 | 40.2 | | |
| | 10 | 116.8 | 38.6 | 109.8 | 40.3 | 107.1 | 41.0 | 102.8 | 41.9 | | |
| | 12 | 124.5 | 40.1 | 117.1 | 41.9 | 114.1 | 42.6 | 109.6 | 43.6 | | |
| 15 | 136.4 | 42.4 | 128.5 | 44.4 | 125.2 | 45.2 | 120.4 | 46.4 | | | |
| 502 ELN | 6 | 114.6 | 42.5 | 107.5 | 44.4 | 104.8 | 45.0 | 100.5 | 46.0 | 93.7 | 47.6 |
| | 7 | 118.6 | 43.4 | 111.4 | 45.3 | 108.5 | 46.0 | 104.2 | 47.0 | 96.9 | 48.6 |
| | 8 | 122.5 | 44.3 | 115.0 | 46.2 | 112.2 | 46.9 | 107.7 | 48.0 | | |
| | 10 | 130.9 | 46.0 | 123.0 | 48.1 | 119.9 | 48.9 | 115.2 | 50.0 | | |
| | 12 | 139.5 | 47.8 | 131.2 | 50.0 | 127.8 | 50.8 | 122.8 | 52.1 | | |
| 15 | 152.9 | 50.6 | 144.0 | 53.0 | 140.3 | 54.0 | 134.9 | 55.4 | | | |
| 552 ELN | 6 | 132.9 | 44.7 | 124.8 | 46.6 | 121.6 | 47.3 | 116.7 | 48.4 | 108.7 | 50.0 |
| | 7 | 137.6 | 45.6 | 129.2 | 47.6 | 125.9 | 48.3 | 120.9 | 49.4 | 112.4 | 51.1 |
| | 8 | 142.1 | 46.5 | 133.5 | 48.6 | 130.2 | 49.3 | 124.9 | 50.4 | | |
| | 10 | 151.8 | 48.4 | 142.7 | 50.5 | 139.2 | 51.4 | 133.7 | 52.5 | | |
| | 12 | 161.8 | 50.3 | 152.3 | 52.5 | 148.3 | 53.4 | 142.5 | 54.7 | | |
| 15 | 177.4 | 53.2 | 167.1 | 55.7 | 162.8 | 56.7 | 156.6 | 58.2 | | | |
| 602 ELN | 6 | 144.5 | 51.3 | 135.6 | 53.5 | 132.2 | 54.3 | 126.8 | 55.5 | 118.1 | 57.4 |
| | 7 | 149.5 | 52.4 | 140.4 | 54.6 | 136.9 | 55.5 | 131.4 | 56.7 | 122.2 | 58.7 |
| | 8 | 154.5 | 53.4 | 145.1 | 55.7 | 141.5 | 56.6 | 135.8 | 57.9 | | |
| | 10 | 165.0 | 55.5 | 155.1 | 58.0 | 151.3 | 58.9 | 145.3 | 60.3 | | |
| | 12 | 175.9 | 57.7 | 165.5 | 60.3 | 161.1 | 61.3 | 154.9 | 62.8 | | |
| 15 | 192.8 | 61.0 | 181.6 | 63.9 | 176.9 | 65.1 | 170.2 | 66.8 | | | |

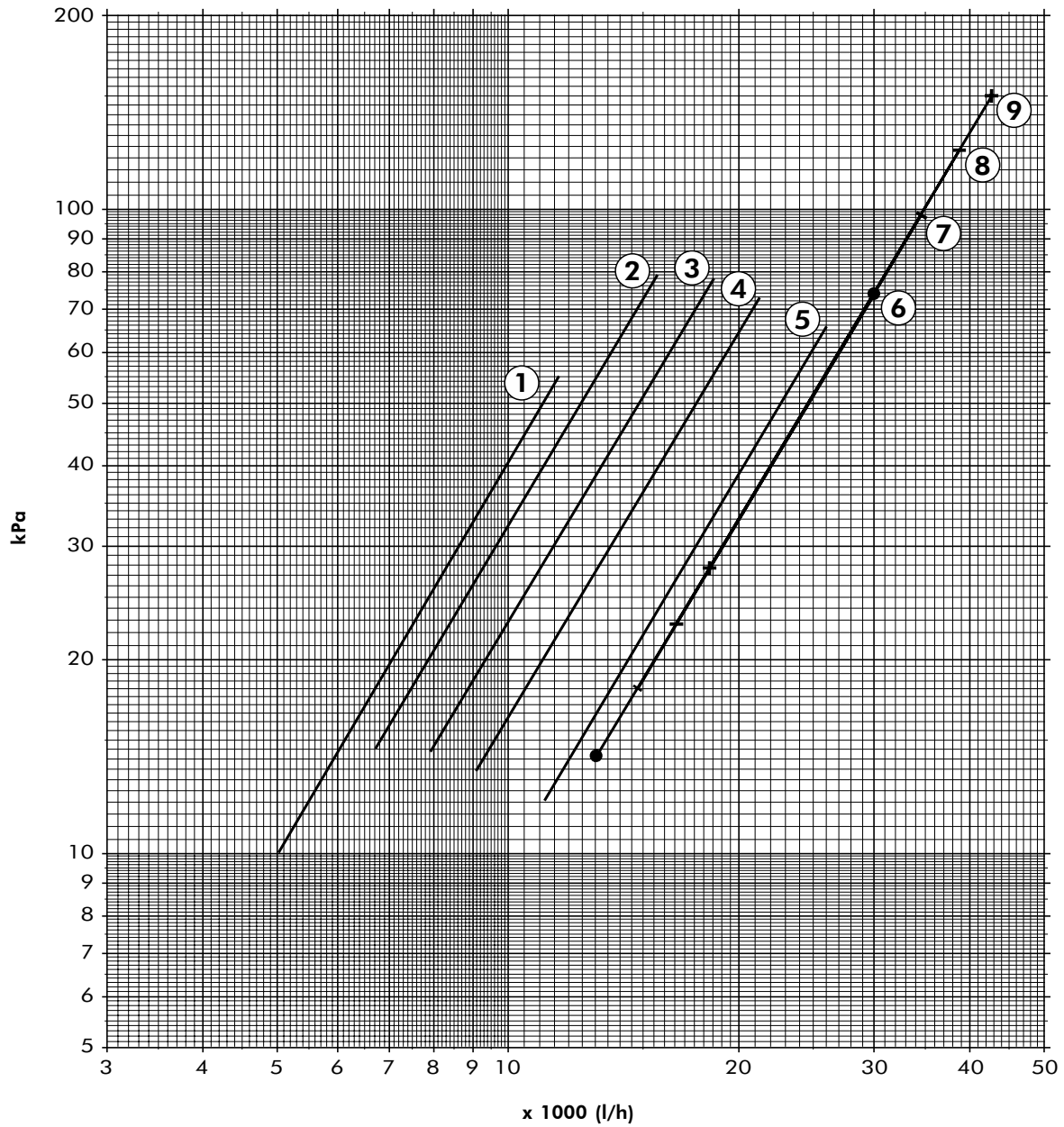
Note : - LWT : Leaving water temperature.
 - Power input data are given for compressors only.

Heating Capacities - CLH/CLH EH 182 ÷ 602 ELN

| CLH Models | LWT (°C) | Ambient air temperature (°C) | | | | | | | | | | | | | |
|------------|----------|------------------------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
| | | -5 | | -3 | | 0 | | 5 | | 7 | | 10 | | 15 | |
| | | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) | Heat. Cap. (kW) | Power Input (kW) |
| 182 ELN | 30 | 29.9 | 9.1 | 32.3 | 9.5 | 36.0 | 10.0 | 42.4 | 10.8 | 45.1 | 11.1 | 49.5 | 11.6 | 57.4 | 12.3 |
| | 35 | 28.6 | 9.4 | 30.9 | 9.8 | 34.6 | 10.4 | 40.9 | 11.3 | 43.6 | 11.6 | 48.0 | 12.1 | 55.8 | 13.0 |
| | 40 | 27.2 | 9.7 | 29.5 | 10.1 | 33.1 | 10.7 | 39.4 | 11.7 | 42.1 | 12.1 | 46.4 | 12.7 | 54.1 | 13.7 |
| | 45 | 25.8 | 9.9 | 28.0 | 10.3 | 31.5 | 11.0 | 37.7 | 12.2 | 40.4 | 12.6 | 44.7 | 13.3 | 52.3 | 14.4 |
| | 50 | | | | | 29.9 | 11.4 | 36.0 | 12.6 | 38.6 | 13.1 | 42.8 | 13.8 | 50.5 | 15.1 |
| 202 ELN | 30 | 40.6 | 12.5 | 43.8 | 12.9 | 48.8 | 13.7 | 57.5 | 14.7 | 61.2 | 15.2 | 67.1 | 15.8 | 77.9 | 16.9 |
| | 35 | 38.8 | 12.8 | 41.9 | 13.4 | 46.9 | 14.2 | 55.5 | 15.4 | 59.2 | 15.9 | 65.1 | 16.6 | 75.7 | 17.8 |
| | 40 | 37.0 | 13.2 | 40.0 | 13.8 | 44.9 | 14.6 | 53.4 | 16.0 | 57.1 | 16.6 | 62.9 | 17.4 | 73.4 | 18.7 |
| | 45 | 35.0 | 13.5 | 38.0 | 14.1 | 42.8 | 15.1 | 51.1 | 16.6 | 54.8 | 17.2 | 60.6 | 18.1 | 71.0 | 19.7 |
| | 50 | | | | | 40.5 | 15.5 | 48.8 | 17.2 | 52.4 | 17.9 | 58.1 | 18.9 | 68.4 | 20.6 |
| 242 ELN | 30 | 55.0 | 18.1 | 59.3 | 18.8 | 66.1 | 19.8 | 77.8 | 21.4 | 82.8 | 22.0 | 90.8 | 23.0 | 105.4 | 24.5 |
| | 35 | 52.6 | 18.6 | 56.8 | 19.4 | 63.5 | 20.6 | 75.1 | 22.3 | 80.1 | 23.0 | 88.1 | 24.1 | 102.5 | 25.8 |
| | 40 | 50.0 | 19.1 | 54.2 | 20.0 | 60.8 | 21.3 | 72.3 | 23.2 | 77.3 | 24.0 | 85.1 | 25.2 | 99.4 | 27.2 |
| | 45 | 47.4 | 19.6 | 51.4 | 20.5 | 57.9 | 21.9 | 69.2 | 24.1 | 74.2 | 25.0 | 82.0 | 26.3 | 96.1 | 28.5 |
| | 50 | | | | | 54.9 | 22.5 | 66.0 | 25.0 | 70.9 | 25.9 | 78.7 | 27.4 | 92.6 | 29.9 |
| 302 ELN | 30 | 60.7 | 20.8 | 65.5 | 21.6 | 73.1 | 22.8 | 86.0 | 24.7 | 91.5 | 25.4 | 100.4 | 26.5 | 116.5 | 28.2 |
| | 35 | 58.1 | 21.5 | 62.8 | 22.4 | 70.2 | 23.7 | 83.0 | 25.7 | 88.6 | 26.5 | 97.3 | 27.8 | 113.3 | 29.8 |
| | 40 | 55.3 | 22.1 | 59.9 | 23.0 | 67.2 | 24.5 | 79.9 | 26.8 | 85.4 | 27.7 | 94.1 | 29.0 | 109.8 | 31.3 |
| | 45 | 52.4 | 22.6 | 56.8 | 23.6 | 64.0 | 25.2 | 76.5 | 27.8 | 82.0 | 28.8 | 90.6 | 30.3 | 106.2 | 32.9 |
| | 50 | | | | | 60.7 | 26.0 | 73.0 | 28.7 | 78.4 | 29.9 | 86.9 | 31.6 | 102.4 | 34.4 |
| 352 ELN | 30 | 74.1 | 22.9 | 79.9 | 23.8 | 89.1 | 25.1 | 104.8 | 27.1 | 111.6 | 27.9 | 122.4 | 29.0 | 142.0 | 31.0 |
| | 35 | 70.8 | 23.6 | 76.5 | 24.5 | 85.6 | 26.0 | 101.2 | 28.2 | 108.0 | 29.1 | 118.7 | 30.5 | 138.1 | 32.7 |
| | 40 | 67.4 | 24.2 | 73.0 | 25.3 | 82.0 | 26.9 | 97.4 | 29.4 | 104.1 | 30.4 | 114.7 | 31.9 | 134.0 | 34.4 |
| | 45 | 63.8 | 24.8 | 69.3 | 25.9 | 78.1 | 27.7 | 93.3 | 30.5 | 100.0 | 31.6 | 110.5 | 33.3 | 129.5 | 36.1 |
| | 50 | | | | | 74.0 | 28.5 | 89.0 | 31.5 | 95.6 | 32.8 | 106.0 | 34.7 | 124.9 | 37.8 |
| 402 ELN | 30 | 78.5 | 25.5 | 84.6 | 26.5 | 94.4 | 27.9 | 111.1 | 30.1 | 118.3 | 31.0 | 129.7 | 32.3 | 150.6 | 34.5 |
| | 35 | 75.1 | 26.2 | 81.1 | 27.3 | 90.8 | 28.9 | 107.3 | 31.4 | 114.5 | 32.4 | 125.8 | 33.9 | 146.4 | 36.4 |
| | 40 | 71.5 | 27.0 | 77.4 | 28.1 | 86.9 | 29.9 | 103.2 | 32.7 | 110.4 | 33.8 | 121.6 | 35.5 | 142.0 | 38.3 |
| | 45 | 67.7 | 27.6 | 73.5 | 28.9 | 82.7 | 30.9 | 98.9 | 33.9 | 106.0 | 35.2 | 117.2 | 37.1 | 137.3 | 40.2 |
| | 50 | | | | | 78.4 | 31.7 | 94.3 | 35.1 | 101.3 | 36.5 | 112.4 | 38.6 | 132.4 | 42.1 |
| 502 ELN | 30 | 90.4 | 29.8 | 97.4 | 31.0 | 108.7 | 32.7 | 127.9 | 35.3 | 136.2 | 36.3 | 149.3 | 37.8 | 173.3 | 40.4 |
| | 35 | 86.4 | 30.7 | 93.4 | 32.0 | 104.5 | 33.9 | 123.5 | 36.8 | 131.8 | 38.0 | 144.8 | 39.7 | 168.5 | 42.6 |
| | 40 | 82.3 | 31.6 | 89.1 | 32.9 | 100.0 | 35.0 | 118.8 | 38.3 | 127.0 | 39.6 | 140.0 | 41.6 | 163.4 | 44.8 |
| | 45 | 77.9 | 32.3 | 84.5 | 33.8 | 95.2 | 36.1 | 113.8 | 39.7 | 122.0 | 41.2 | 134.8 | 43.4 | 158.0 | 47.0 |
| | 50 | | | | | 90.2 | 37.1 | 108.5 | 41.1 | 116.6 | 42.8 | 129.3 | 45.2 | 152.3 | 49.3 |
| 552 ELN | 30 | 103.5 | 34.4 | 111.6 | 35.7 | 124.5 | 37.7 | 146.4 | 40.7 | 155.9 | 41.9 | 171.0 | 43.6 | 198.4 | 46.5 |
| | 35 | 99.0 | 35.4 | 106.9 | 36.9 | 119.6 | 39.1 | 141.4 | 42.4 | 150.9 | 43.8 | 165.8 | 45.8 | 193.0 | 49.1 |
| | 40 | 94.2 | 36.4 | 102.0 | 38.0 | 114.5 | 40.4 | 136.1 | 44.1 | 145.5 | 45.7 | 160.3 | 47.9 | 187.1 | 51.6 |
| | 45 | 89.2 | 37.3 | 96.8 | 39.0 | 109.0 | 41.6 | 130.4 | 45.8 | 139.7 | 47.5 | 154.4 | 50.0 | 181.0 | 54.2 |
| | 50 | | | | | 103.3 | 42.8 | 124.3 | 47.4 | 133.6 | 49.3 | 148.1 | 52.1 | 174.4 | 56.8 |
| 602 ELN | 30 | 112.9 | 38.8 | 121.7 | 40.3 | 135.8 | 42.5 | 159.8 | 45.9 | 170.1 | 47.2 | 186.5 | 49.2 | 216.5 | 52.5 |
| | 35 | 107.9 | 40.0 | 116.6 | 41.6 | 130.5 | 44.1 | 154.3 | 47.9 | 164.6 | 49.4 | 180.9 | 51.7 | 210.5 | 55.4 |
| | 40 | 102.7 | 41.1 | 111.3 | 42.9 | 124.9 | 45.6 | 148.4 | 49.8 | 158.7 | 51.5 | 174.8 | 54.1 | 204.2 | 58.3 |
| | 45 | 97.3 | 42.0 | 105.6 | 44.0 | 119.0 | 47.0 | 142.2 | 51.7 | 152.4 | 53.6 | 168.4 | 56.4 | 197.4 | 61.2 |
| | 50 | | | | | 112.7 | 48.3 | 135.6 | 53.5 | 145.7 | 55.6 | 161.6 | 58.8 | 190.3 | 64.1 |

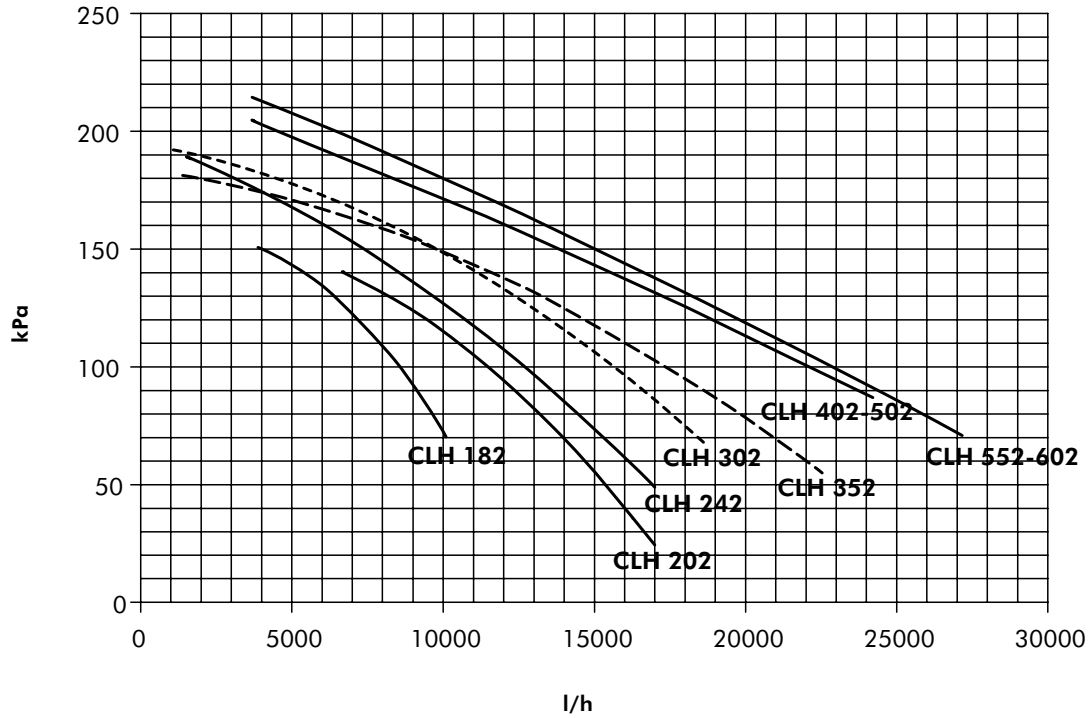
Note : - LWT : Leaving water temperature.
 - Power input data are given for compressors only.

Water Pressure Drop Curves



- ① Size 182
- ② Size 202
- ③ Size 242
- ④ Size 302
- ⑤ Size 352
- ⑥ Size 402
- ⑦ Size 502
- ⑧ Size 552
- ⑨ Size 602

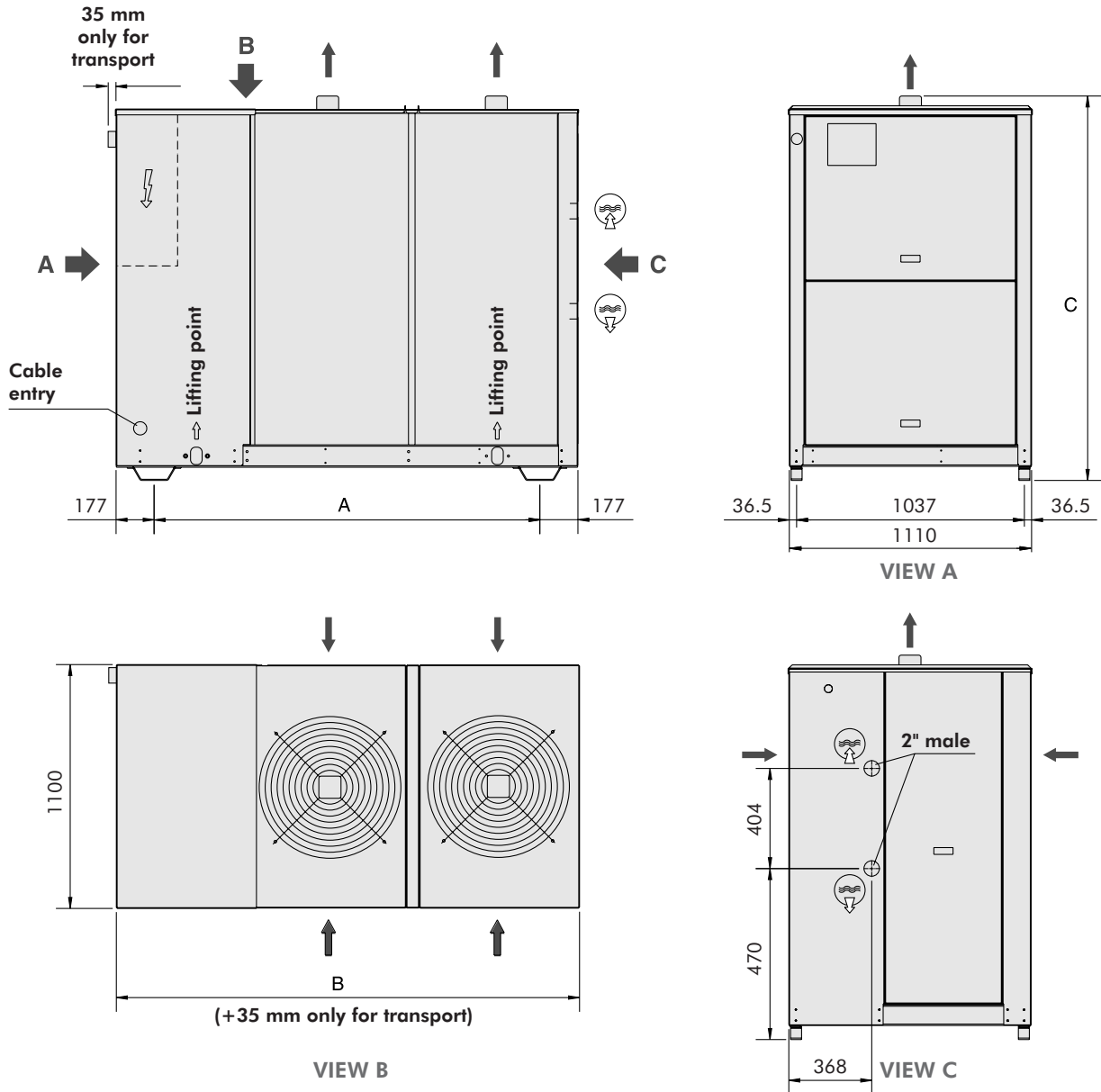
Integrated Hydraulic Module Data (optional)



| CLH sizes | | 182 | 202 | 242 | 302 | 352 | 402 | 502 | 552 | 602 |
|--|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Water tank volume - STD/LN/HPF | litres | 210 | 210 | 210 | 330 | 400 | 400 | 400 | 400 | 400 |
| Water tank volume - ELN | litres | 210 | 210 | 330 | 330 | 400 | 400 | 400 | 400 | 400 |
| Expansion tank volume - STD/LN/HPF | litres | 12 | 12 | 12 | 18 | 18 | 18 | 18 | 18 | 18 |
| Expansion tank volume - ELN | litres | 12 | 12 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| Antifreeze electric heater | kW | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Extra electric heating capacity (option 0) | kW | 24 | 24 | 32 | 32 | 32 | 48 | 48 | 48 | 48 |
| Extra electric heating capacity (option 1) | kW | 32 | 32 | 48 | 48 | 48 | 56 | 56 | | |
| Extra electric heating capacity (option 2) | kW | 48 | 48 | 56 | 56 | 56 | 64 | 64 | | |

Dimensions

Models CLH 182÷242 STD/LN/HPF - CLH 182 ELN & 202 ELN

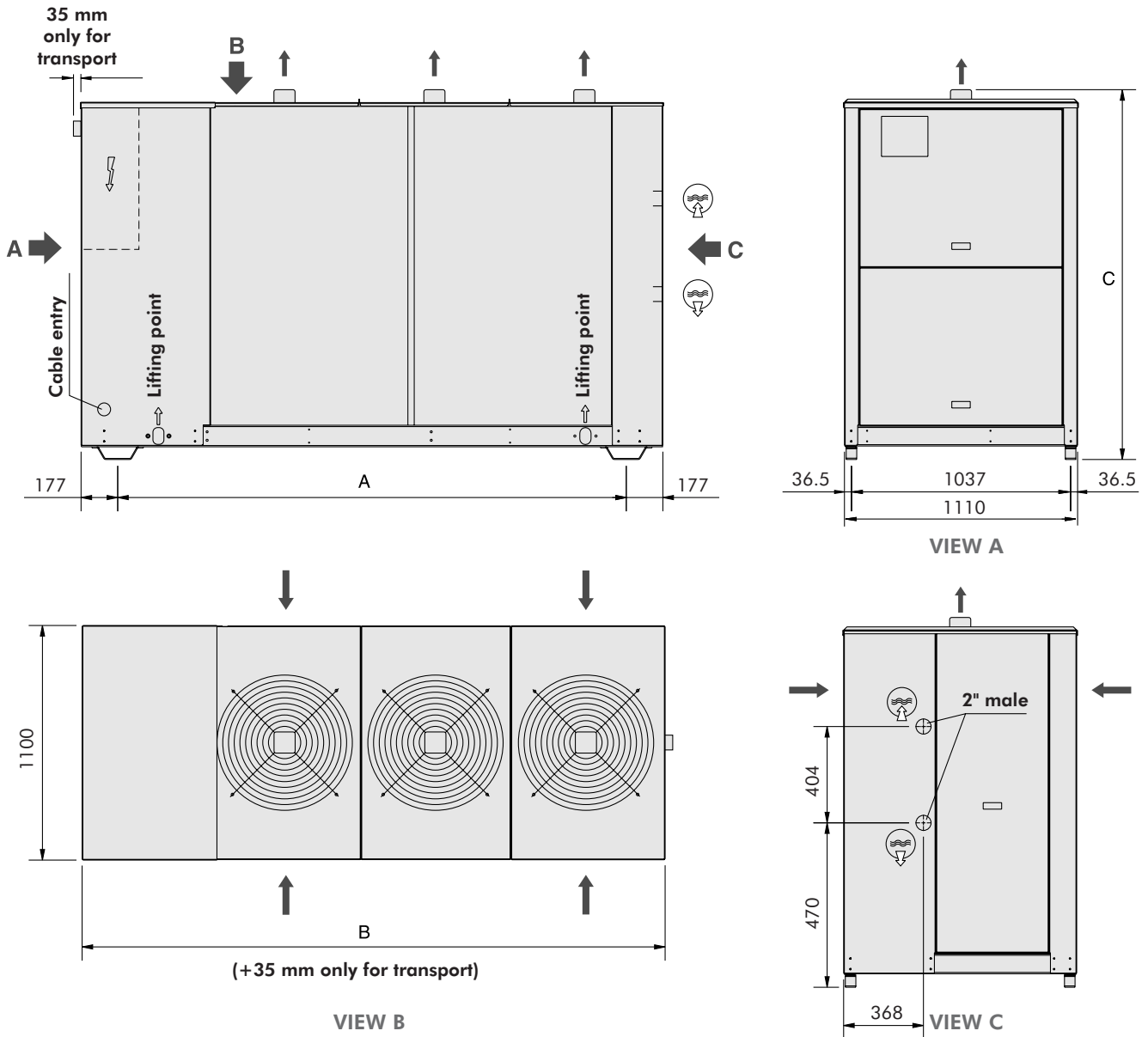


| Models | Versions | Dimensions A (mm) | Dimensions B (mm) | Dimensions C (mm) | Number of fans |
|---------|----------|-------------------|-------------------|-------------------|----------------|
| CLH 182 | Standard | 1756 | 2110 | 1750 | 2 |
| | LN/HPF | 1756 | 2110 | 1850 | 2 |
| | ELN | 1756 | 2110 | 1850 | 2 |
| CLH 202 | Standard | 1756 | 2110 | 1750 | 2 |
| | LN/HPF | 1756 | 2110 | 1850 | 2 |
| | ELN | 1756 | 2110 | 1850 | 2 |
| CLH 242 | Standard | 1756 | 2110 | 1750 | 2 |
| | LN/HPF | 1756 | 2110 | 1850 | 2 |

Note : For units without hydraulic module, the water connections are done on the optional 2" male threaded gas type manifolds located inside the unit.

Dimensions (continued)

Models CLH 242 ELN and CLH 302 to 602 STD/LN/ELN/HPF

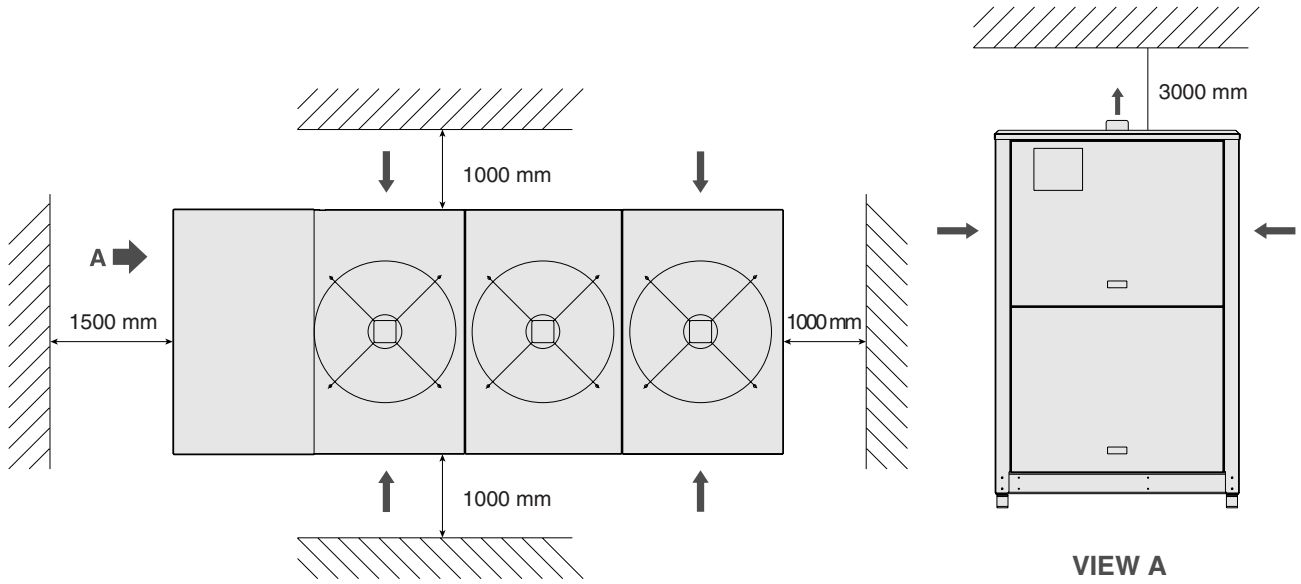


| Models | Versions | Dimensions A (mm) | Dimensions B (mm) | Dimensions C (mm) | Number of fans |
|----------------|----------|-------------------|-------------------|-------------------|----------------|
| CLH 242 | ELN | 2406 | 2760 | 1850 | 3 |
| CLH 302 | Standard | 2406 | 2760 | 1750 | 3 |
| | LN/HPF | 2406 | 2760 | 1850 | 3 |
| CLH 352 to 602 | ELN | 2406 | 2760 | 1850 | 3 |
| | Standard | 2756 | 3110 | 1750 | 3 |
| | LN/HPF | 2756 | 3110 | 1850 | 3 |
| | ELN | 2756 | 3110 | 1850 | 3 |

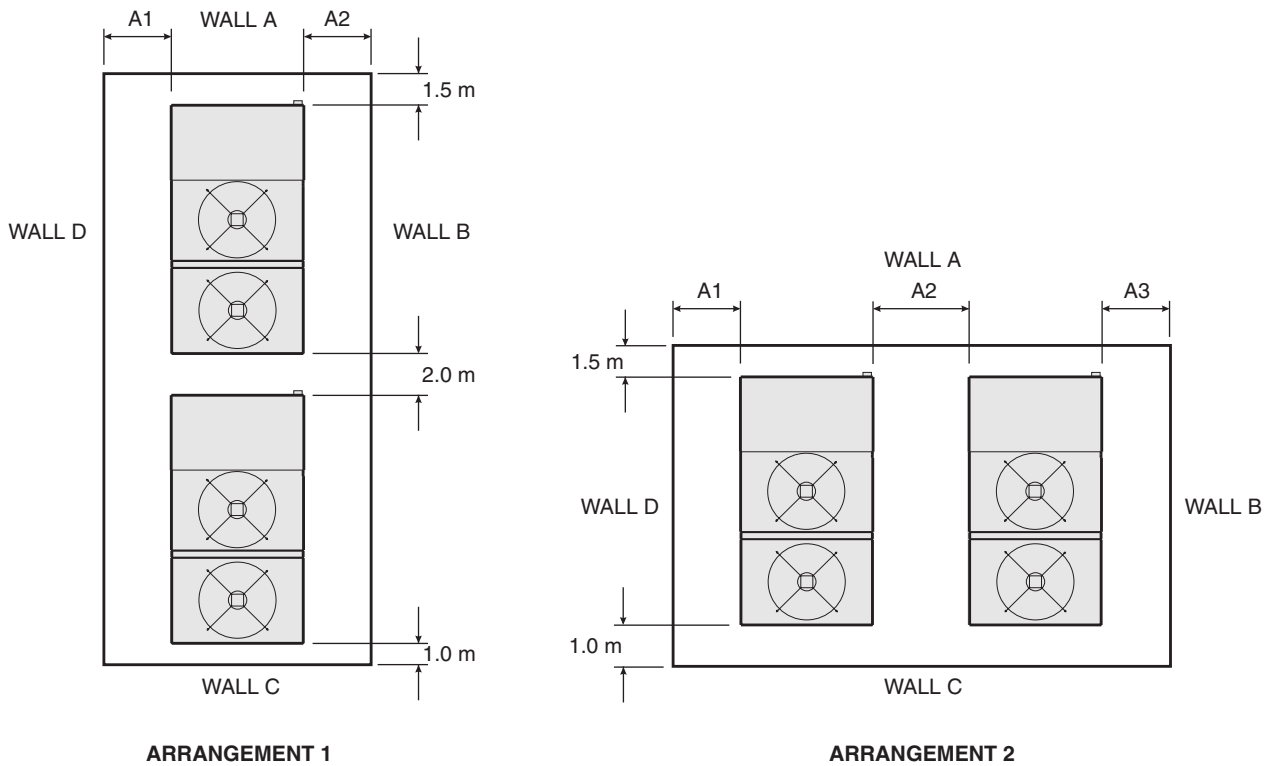
Note : For units without hydraulic module, the water connections are done on the optional 2" male threaded gas type manifolds located inside the unit.

Space Requirements

Single unit applications



Multi units applications



ARRANGEMENT 1

ARRANGEMENT 2

| | LOUVRED A & C SOLID B & D | | | SOLID A & B SOLID C & D | | | SOLID A & C LOUVRED B & D | | | LOUVRED A & B SOLID C & D | | | LOUVRED A & D SOLID B & C | | |
|---------------|------------------------------|-----|-----|----------------------------|-----|-----|------------------------------|-----|-----|------------------------------|-----|-----|------------------------------|-----|-----|
| | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 |
| ARRANGEMENT 1 | 1.0 | 1.0 | | 1.0 | 1.0 | | 0.8 | 0.8 | | 1.0 | 0.8 | | 0.8 | 1.0 | |
| ARRANGEMENT 2 | 1.0 | 1.5 | 1.0 | 1.0 | 2.0 | 1.0 | 0.8 | 2.0 | 0.8 | 1.0 | 1.5 | 0.8 | 0.8 | 1.5 | 1.0 |

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

Wesper®

motralec

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