



ammolite

ammonia refrigeration

NH₃ refrigeration system



Smart installation



100 % natural solution



Reliability and safety



- ❄️ Plug & Play.
- ❄️ Low ammonia charge.
- ❄️ No machine room.
- ❄️ No water consumption.

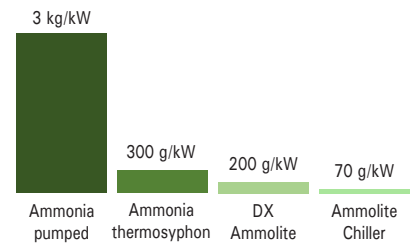
Industrial refrigeration chiller with low ammonia charge technology developed by INTARCON, for positive and negative temperature air-condensed applications. Compact construction built in galvanised steel body and chassis with polyester paint, for outdoor installation.

Features

- ▶ 400V 3 50Hz power supply. Available in 60Hz. Other voltages on request.
- ▶ Semihermetic screw compressors with variable speed permanent magnet motor. Suction filter, oil filter, discharge check valve. Suction and discharge valves integrated in the compressor.
- ▶ Miscible oil.
- ▶ High efficiency vertical oil separator.
- ▶ Tropicalised condenser with aluminium microchannel coils, with Polyester Powder Coating treatment.
- ▶ Oil cooler with stainless steel tube coils and aluminium fins.
- ▶ Variable speed EC motor fans for condensing pressure and oil temperature control.
- ▶ Evaporator with stainless steel welded plates with stainless steel welding.
- ▶ Electronic expansion valve, and electronic liquid injection valve for compressor cooling in extreme conditions.
- ▶ Stainless steel refrigeration circuit per compressor with decanter. Filter service valves, sight glasses, pressure switches and high and low pressure transducers.
- ▶ Stainless steel hydraulic circuit with fill/drain valve, air vent, flow switch, inlet and outlet thermometers and pressure gauges.
- ▶ Closed economiser with plate heat exchanger for liquid subcooling and medium pressure injection (only in negative temperature models).
- ▶ Electrical control panel. Frequency variator per compressor. Differential protection. Individual magneto-thermal and thermal protection for compressor and fans.
- ▶ Electronic control with digital control panel, cooling capacity control, condensation control, VI variation, start/stop sequence, compressor, fan and pump safety and stop sequence, compressor/s, fans and pumps safeties. Web interface and external communication.

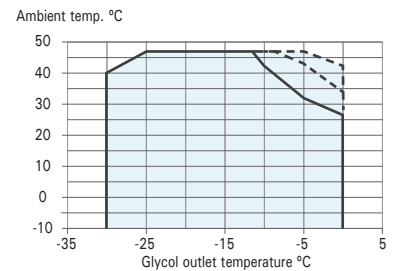
Low ammonia charge

Ammonia is a natural refrigerant with zero greenhouse effect. Thanks to the critical charge design and low charge components, we have achieved the lowest specific refrigerant charge of only 70 g per kW refrigerant.



Tropicalised condenser up to 47 °C

The integrated microchannel condenser offers a high exchange capacity, which, together with efficient oil cooling in air coils and liquid injection protection, allows the system to operate at ambient temperatures of up to 47 °C.



Heat recovery in oil

Optionally, partial heat recovery can be integrated, by means of oil heat recovery, and full heat recovery, by means of a parallel condenser.

Virtual tour

A virtual tour of the ammolite MWW-MPM-7 is available on our website.





Semihermetic screw compressors

SRM compressors are characterised by their small size, low noise level and low vibration.

The screw is designed with high compression pressure and variable VI. It is driven by an integrated permanent magnet motor on high precision roller bearings, with a service life of sixty thousand hours.



400V 3 50Hz | Positive temperature | Semihermetic screw compressors | R-717

| Refrigerant | Compressor | Series / Model | | Compressor | | Cooling capacity (kW) ⁽¹⁾ I / O propylene glycol -2 / -8 °C | Compressor input power (kW) | Total input power (kW) | Ecodesign SEPR ⁽³⁾ | Max. current (A) | Condenser + Oil cooler | | Glycol flow (m ³ /h) | Pressure drop (kPa) | Hydraulic connection | Weight (kg) | SPL dB(A) ⁽⁴⁾ |
|-------------|------------|----------------|-------|-------------|------------------------------|--|-----------------------------|------------------------|----------------------------------|------------------|------------------------|---------|---------------------------------|---------------------|----------------------|-------------|--------------------------|
| | | HP | Model | Fans Ø (mm) | Air flow (m ³ /h) | | | | | | | | | | | | |
| R-717 | 1x Semih. | MWW-MPM-3 1201 | 120 | SRS14MM | | 249 | 96 | 105 | 4.4 | 296 | 6x Ø 800 | 114 000 | 38.2 | 35 | DN100 | 3 765 | 60.4 |
| | | MWW-MPM-4 1701 | 170 | SRS16SM | | 317 | 113 | 125 | 4.6 | 321 | 8x Ø 800 | 160 000 | 48.6 | 40 | DN125 | 5 020 | 64.6 |
| | | MWW-MPM-4 1801 | 180 | SRS16LM | | 369 | 131 | 143 | 4.7 | 321 | 8x Ø 800 | 182 000 | 56.6 | 45 | DN125 | 5 020 | 64.6 |
| | 2x Semih. | MWW-MPM-5 2402 | 240 | 2x SRS14MM | | 499 | 193 | 211 | 4.3 | 584 | 10x Ø 800 | 228 000 | 76.5 | 35 | DN150 | 6 275 | 63.2 |
| | | MWW-MPM-7 3402 | 340 | 2x SRS16SM | | 634 | 225 | 251 | 4.6 | 635 | 14x Ø 800 | 320 000 | 97.2 | 40 | DN150 | 8 785 | 67.6 |
| | | MWW-MPM-7 3602 | 360 | 2x SRS16LM | | 738 | 261 | 287 | 4.7 | 635 | 14x Ø 800 | 320 000 | 113 | 45 | DN150 | 8 785 | 67.6 |

400V 3 50Hz | Negative temperature | Semihermetic screw compressors | R-717

| Refrigerant | Compressor | Series / Model | | Compressor | | Cooling capacity (kW) ⁽²⁾ I / O ethylene glycol -19 / -25 °C | Compressor input power (kW) | Total input power (kW) | Ecodesign SEPR ⁽³⁾ | Max. current (A) | Condenser + Oil cooler | | Glycol flow (m ³ /h) | Pressure drop (kPa) | Hydraulic connection | Weight (kg) | SPL dB(A) ⁽⁴⁾ |
|-------------|------------|----------------|-------|-------------|------------------------------|---|-----------------------------|------------------------|----------------------------------|------------------|------------------------|---------|---------------------------------|---------------------|----------------------|-------------|--------------------------|
| | | HP | Model | Fans Ø (mm) | Air flow (m ³ /h) | | | | | | | | | | | | |
| R-717 | 1x Semih. | BWW-MPM-3 1201 | 120 | SRS14MM | | 131 | 94 | 103 | 1.9 | 306 | 6x Ø 800 | 114 000 | 22.6 | 25 | DN100 | 3 765 | 60.4 |
| | | BWW-MPM-3 1701 | 170 | SRS16SM | | 160 | 114 | 123 | 2.1 | 324 | 6x Ø 800 | 114 000 | 27.6 | 30 | DN125 | 3 765 | 64.5 |
| | | BWW-MPM-4 1801 | 180 | SRS16LM | | 193 | 132 | 144 | 2.1 | 333 | 8x Ø 800 | 182 000 | 33.3 | 35 | DN125 | 5 020 | 64.6 |
| | 2x Semih. | BWW-MPM-5 2402 | 240 | 2x SRS14MM | | 262 | 189 | 207 | 2.0 | 597 | 10x Ø 800 | 228 000 | 45.2 | 25 | DN150 | 6 275 | 63.2 |
| | | BWW-MPM-5 3402 | 340 | 2x SRS16SM | | 320 | 229 | 247 | 2.1 | 632 | 10x Ø 800 | 228 000 | 55.2 | 30 | DN150 | 6 275 | 67.4 |
| | | BWW-MPM-7 3602 | 360 | 2x SRS16LM | | 387 | 263 | 289 | 2.1 | 650 | 14x Ø 800 | 320 000 | 66.8 | 35 | DN150 | 8 785 | 67.6 |

Options

- ▶ Multi-tube stainless steel tube evaporator.
- ▶ Stainless steel tube condenser and aluminium fins.
- ▶ Variable glycol flow rate.
- ▶ Condensation heat recovery.
- ▶ Total heat recovery (80 %).
- ▶ Hydraulic unit with back-up pump.

⁽¹⁾ Nominal performance positive temperature: 35 °C ambient temperature with glycol inlet/outlet at -2/-8 °C, with a propylene glycol concentration of 35 %.

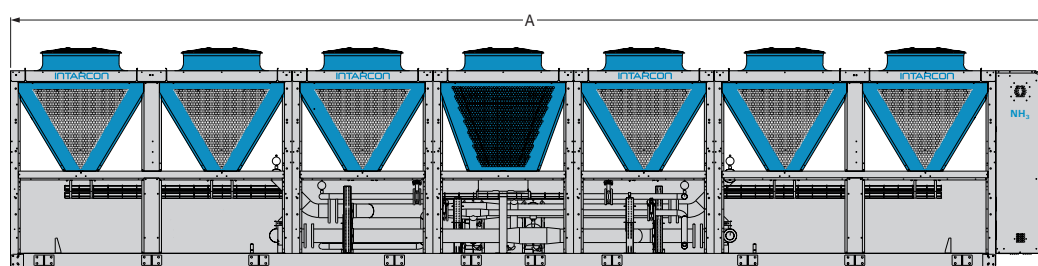
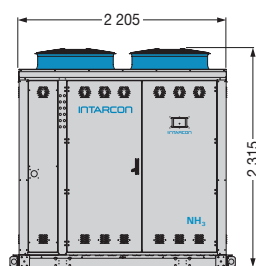
⁽²⁾ Nominal performance positive temperature: 35 °C ambient temperature with glycol inlet/outlet at -19/-25 °C, with a ethylene glycol concentration of 50 %.

⁽³⁾ Seasonal performance factor (SEPR) according to Commission Regulation (EU) 2015/1095.

⁽⁴⁾ Free field sound pressure level with compressors operating at full load (180 Hz, 3600 r.p.m.), directivity 1, measured at 10 metres from the source (non-binding value calculated from sound power)

Note: Lower cooling capacity models on request.

Dimensions



Dimensions in mm

| Dimensions (mm) | A |
|-----------------|--------|
| 3 series | 4 977 |
| 4 series | 6 454 |
| 5 series | 7 960 |
| 7 series | 10 883 |

ammolite DX

NH₃ direct expansion



- ❄ Plug & Play.
- ❄ Low ammonia charge.
- ❄ No machine room.
- ❄ No water consumption.

Direct expansion ammonia refrigeration condensing unit with low charge technology developed by INTARCON for low temperature industrial applications. Compact air-condensed construction and built in galvanised steel body and chassis with polyester paint, for outdoor installation.

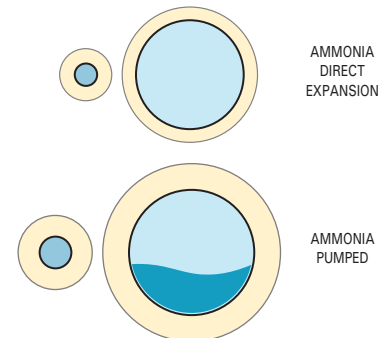
Features

- ▶ 400V 3 50Hz power supply. Available in 60Hz. Others voltages by request.
- ▶ Semihermetic screw compressors with variable speed permanent magnet motor. Suction filter, check valve, suction and discharge valves integrated in the compressor.
- ▶ Miscible oil with return through suction, no bleeding required.
- ▶ High efficiency vertical oil separator.
- ▶ Tropicalised condenser with aluminium microchannel coils, with Polyester Powder Coating treatment.
- ▶ Oil cooler with stainless steel tube coils and aluminium fins.
- ▶ Variable speed EC motor fans for condensing pressure and oil temperature control.
- ▶ Electronic liquid injection valve for compressor cooling in extreme conditions.
- ▶ Stainless steel cooling circuit with liquid vessel. Filter service valves, sight glasses, pressure switches and high and low pressure transducers.
- ▶ Closed economiser with plate heat exchanger for liquid subcooling and medium pressure injection.
- ▶ Electrical power and control panel. Frequency variator per compressor. Differential protection, magneto-thermal and individual thermal protection for compressor and fans.
- ▶ Electronic control with digital control board, cooling capacity control, condensation control, VI variation by solenoid, start and stop sequence, compressor, and fans safeties. Web interface and external communication.

Low-charge technology

Low ammonia charge technology is based on direct expansion of refrigerant as opposed to traditional pumped ammonia systems, with the following advantages:

- 90 % ammonia load reduction.
- Smaller section refrigeration lines.
- Higher energy efficiency.
- Lower pressure loss in refrigeration lines.
- Lower cooling losses.
- Direct condensation without water consumption.



Ammonia pipe comparison

Reduced maintenance

Low-load ammonia technology is low-maintenance every ten thousand operating hours, with no purging or oil replenishment required.

Hot glycol defrost (optional)

Heat recovery from the oil allows the accumulation of hot glycol, which is pumped to the evaporators during defrost cycles.

This system is the most energy efficient and reliable, as it does not subject the evaporator to sudden changes in pressure and temperature.

400V 3 50Hz | Negative temperature | Semihermetic screw compressor | R-717

| Refrigerant | Compressor | Series / Model | Compressor | | Cooling capacity (kW) ⁽¹⁾ Evaporating temperature -30 °C | Compressor input power (kW) | Total input power (kW) | Max. current (A) | Condenser + Oil cooler | | Cooling connection Liq-Gas | Weight (kg) | SPL dB(A) ⁽²⁾ |
|-------------|-------------|----------------|------------|------------|---|-----------------------------|------------------------|------------------|------------------------|------------------------------|----------------------------|-------------|--------------------------|
| | | | HP | Model | | | | | Fans Ø (mm) | Air flow (m ³ /h) | | | |
| R-717 | 1x Semiher. | BDW-MM-3 1201 | 120 | SRS14MM | 106 | 75 | 84 | 288 | 6x Ø 800 | 114 000 | DN15 - DN65 | 3 500 | 60,4 |
| | | BDW-MM-3 1701 | 170 | SRS16SM | 131 | 94 | 103 | 313 | 6x Ø 800 | 114 000 | DN20 - DN80 | 4 300 | 64,5 |
| | | BDW-MM-4 1801 | 180 | SRS16LM | 157 | 105 | 118 | 321 | 8x Ø 800 | 182 000 | DN20 - DN80 | 5 020 | 64,6 |
| | 2x Semiher. | BDW-MM-4 2402 | 240 | 2x SRS14MM | 212 | 155 | 170 | 576 | 8x Ø 800 | 182 000 | DN20 - DN100 | 5 400 | 63,0 |
| | | BDW-MM-5 3402 | 340 | 2x SRS16SM | 262 | 186 | 205 | 619 | 10x Ø 800 | 228 000 | DN20 - DN100 | 6 275 | 67,4 |
| | | BDW-MM-7 3602 | 360 | 2x SRS16LM | 313 | 209 | 236 | 635 | 14x Ø 800 | 320 000 | DN25 - DN100 | 8 785 | 67,6 |

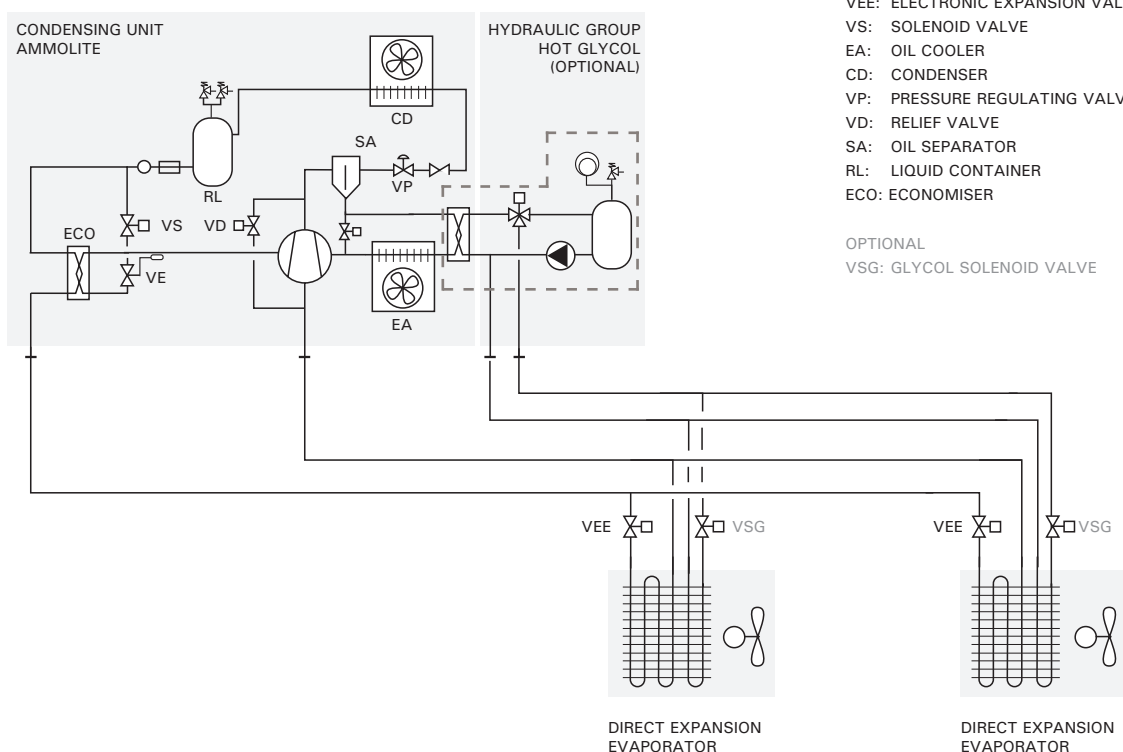
Options

- ▶ Heat recovery for production of hot defrost glycol.
- ▶ Variable glycol flow rate.
- ▶ Condensation heat recovery.
- ▶ Stainless steel tube condenser and aluminium fins.
- ▶ Hydraulic group for accumulation and pumping of hot glycol.

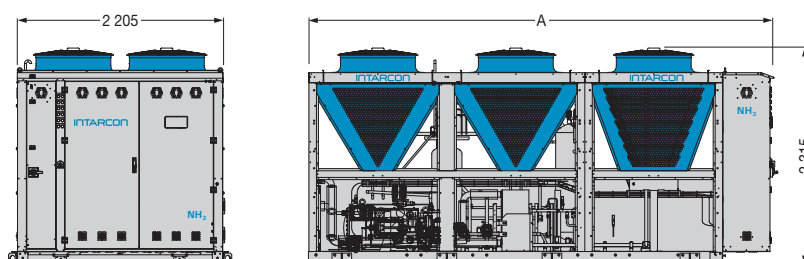
⁽¹⁾ Nominal performance for negative temperature: ambient temperature 35 °C with evaporating temperature at -30 °C.

⁽²⁾ Free field sound pressure level with compressors operating at full load (180 Hz, 3600 r.p.m.), directivity 1, measured at 10 metres from the source (non-binding value calculated from sound power).

Refrigeration scheme



Dimensions



| Dimensiones (mm) | A |
|------------------|--------|
| 3 series | 4 977 |
| 4 series | 6 454 |
| 5 series | 7 960 |
| 7 series | 10 883 |

Dimensions in mm.

ammolite

KJ series – NH₃ direct expansion evaporators



- ❄ Low ammonia charge.
- ❄ Large surface area coils.
- ❄ Easy installation.

Industrial evaporators for large cold rooms with direct expansion of ammonia, built in galvanised sheet steel bodywork with polyester coating.

Features

- ▶ 400V 3N 50Hz power supply. Available in 60Hz. Others voltages by request.
- ▶ Coil of 5/8" stainless steel tubes and aluminium fins, in large exchange surface geometry, with 7 and 10 mm fin spacing.
- ▶ Coolant distributor and suction manifold, optimised for direct expansion of ammonia.
- ▶ Axial motor fans Ø 630 and Ø 800 mm long range.

Ammonia dry expansion

Evaporators designed to work with ammonia in direct expansion, with refrigerant distribution capillaries and suction manifold.

The special tube geometry of the industrial evaporators reduces frost formation and allows spacing of defrost cycles.

The counter-current circuit design facilitates gas reheating.

Thanks to the ammonia-miscible oil, oil return to the compressor occurs naturally during operation.

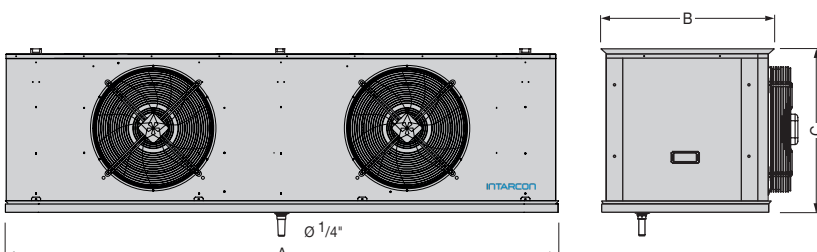
400V 3N 50Hz | **Negative temperatura** | Deep-freezing | **R-717**

| Refrigerant | Application | Series / Model | Cooling capacity according to cold room temperature (W) | | | Coil | | | Fans | | | | Electrical defrost | | Cooling connection Liq-Gas | Weight (kg) | |
|--------------|---------------|----------------|---|-----------------------------------|-----------------------------------|------------------|------------------------|---------------|------------------------------|-----------|------------|------------------|--------------------|-------------|----------------------------|-------------|-------|
| | | | SC2 0 °C 85 % RH DT1 = 8K | SC3 -18 °C 95 % RH DT1 = 7K | SC4 -25 °C 95 % RH DT1 = 6K | Fin spacing (mm) | Area (m ²) | Vol. (litres) | Air flow (m ³ /h) | Nx Ø (mm) | Power (kW) | Max. current (A) | Range (m) | kW | | | A |
| R-717 | Negative | BKJ-NM-1 263 | 42.3 | 33.8 | 27.6 | 7 | 243 | 65 | 21 500 | 2x Ø 630 | 1.8 | 3.4 | 35 | 20 | 29 | DN10 - DN40 | 325 |
| | | BKJ-NM-1 363 | 63.9 | 51.0 | 41.7 | 7 | 365 | 98 | 32 500 | 3x Ø 630 | 2.7 | 5 | 35 | 30 | 43 | DN15 - DN50 | 475 |
| | | BKJ-NM-1 463 | 81.5 | 65.1 | 53.1 | 7 | 486 | 130 | 43 000 | 4x Ø 630 | 3.6 | 7 | 35 | 40 | 58 | DN15 - DN50 | 625 |
| | | BKJ-NM-2 280 | 72.7 | 58.1 | 47.4 | 7 | 432 | 115 | 38 500 | 2x Ø 800 | 3.2 | 6 | 45 | 40 | 58 | DN15 - DN50 | 575 |
| | | BKJ-NM-2 380 | 109.0 | 87.0 | 71.1 | 7 | 649 | 173 | 57 500 | 3x Ø 800 | 4.8 | 9 | 45 | 50 | 72 | DN15 - DN65 | 825 |
| | Deep-freezing | BKJ-NM-2 480 | 132.7 | 106.1 | 86.6 | 7 | 865 | 230 | 76 500 | 4x Ø 800 | 6.3 | 12 | 45 | 60 | 87 | DN15 - DN65 | 1 075 |
| | | UKJ-NM-1 263 | 34.7 | 27.7 | 22.6 | 10 | 176 | 65 | 22 000 | 2x Ø 630 | 1.8 | 3.4 | 35 | 20 | 29 | DN10 - DN40 | 325 |
| | | UKJ-NM-1 363 | 52.0 | 41.5 | 33.9 | 10 | 263 | 96 | 33 000 | 3x Ø 630 | 2.7 | 5 | 35 | 30 | 43 | DN15 - DN50 | 475 |
| | | UKJ-NM-1 463 | 66.7 | 53.3 | 43.5 | 10 | 351 | 127 | 44 000 | 4x Ø 630 | 3.6 | 7 | 35 | 40 | 58 | DN15 - DN50 | 625 |
| | | UKJ-NM-2 280 | 59.5 | 47.5 | 38.8 | 10 | 312 | 114 | 39 500 | 2x Ø 800 | 3.2 | 6 | 45 | 40 | 58 | DN15 - DN50 | 575 |
| UKJ-NM-2 380 | 89.2 | 71.3 | 58.2 | 10 | 468 | 171 | 59 000 | 3x Ø 800 | 4.8 | 9 | 45 | 50 | 72 | DN15 - DN65 | 825 | | |
| UKJ-NM-2 480 | 109.0 | 87.1 | 71.1 | 10 | 624 | 228 | 78 500 | 4x Ø 800 | 6.3 | 12 | 45 | 60 | 87 | DN15 - DN65 | 1 075 | | |

Options

- ▶ Defrosting by imbricated heating elements.
- ▶ Hot glycol defrosting.
- ▶ Anti-corrosion coating of coil.

Dimensions



| Dimensions (mm) | A | B | C |
|-----------------|-------|-------|-------|
| 12 series | 3 000 | 960 | 970 |
| 13 series | 4 200 | 960 | 970 |
| 14 series | 5 400 | 960 | 970 |
| 22 series | 3 800 | 1 050 | 1 270 |
| 23 series | 5 400 | 1 050 | 1 270 |
| 24 series | 7 000 | 1 050 | 1 270 |