



ammolite

ammonia refrigeration

NH₃ refrigeration system



Smart
installation



100 % natural
solution



Reliability
and safety



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.

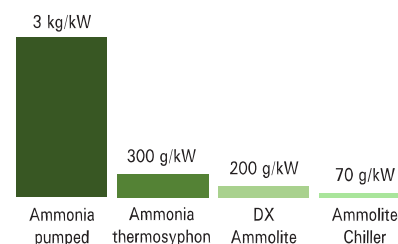
Features

- ▶ 400 V-III-50 Hz power supply. Available in 60 Hz. 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 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.
- ▶ 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 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. Integrated compressor variator. 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 by solenoid, start/stop sequence, compressor, fan and pump safety and stop sequence, compressor/s, fans and pumps safeties. Web interface and external communication.

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

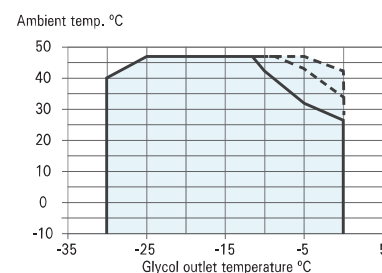
Low ammonia charge

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.



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

Refrigerant	Compressor	Series / Model	Compressor		Cooling capacity (kW) I / O propylene glycol	Compressor input power (kW)	Total input power (kW)	Max. current (A)	Condenser + Oil cooler		Glycol flow (m ³ /h)	Pressure drop (kPa)	Hydraulic connection	Weight (kg)
			HP	Model					Fans Ø (mm)	Air flow (m ³ /h)				
R-717	1x Semih.	MWW-MPM-3 1201	120	SRS14MM	237.4	108.0	117.0	306	6x Ø 800	114 000	36.4	110	DN100	3 550
		MWW-MPM-4 1701	170	SRS16SM	306.7	126.9	140.0	333	8x Ø 800	160 000	47.0	100	DN125	4 350
		MWW-MPM-4 1801	180	SRS16LM	356.6	150.4	163.0	333	8x Ø 800	182 000	54.7	110	DN125	4 550
	2x Semih.	MWW-MPM-5 2402	240	2x SRS14MM	474.8	216.0	235.0	597	10x Ø 800	228 000	72.8	110	DN150	5 440
		MWW-MPM-7 3402	340	2x SRS16SM	613.4	253.8	281.0	650	14x Ø 800	320 000	94.1	110	DN150	7 250
		MWW-MPM-7 3602	360	2x SRS16LM	715.0	300.8	328.0	650	14x Ø 800	320 000	109.7	100	DN150	7 250

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

Refrigerant	Compressor	Series / Model	Compressor		Cooling capacity (kW) I / O ethylene glycol	Compressor input power (kW)	Total input power (kW)	Max. current (A)	Condenser + Oil cooler		Glycol flow (m ³ /h)	Hydraulic connection	Weight (kg)
			HP	Model					Fans Ø (mm)	Air flow (m ³ /h)			
R-717	1x Semih.	BWW-MPM-3 1201	120	SRS14MM	119.7	88.04	93.5	306	6x Ø 800	114 000	21.5	DN100	3 550
		BWW-MPM-3 1701	170	SRS16SM	142.9	110.4	116.3	324	6x Ø 800	114 000	25.6	DN125	4 350
		BWW-MPM-4 1801	180	SRS16LM	182.7	124.5	133.9	333	8x Ø 800	182 000	32.8	DN125	4 550
	2x Semih.	BWW-MPM-5 2402	240	2x SRS14MM	239.6	176.1	191.5	597	10x Ø 800	228 000	42.9	DN150	5 440
		BWW-MPM-5 3402	340	2x SRS16SM	285.9	220.9	233.5	632	10x Ø 800	228 000	51.3	DN150	7 250
		BWW-MPM-7 3602	360	2x SRS16LM	365.4	249.1	268.8	650	14x Ø 800	320 000	65.5	DN150	7 250

Options

- ▶ Multi-tube stainless steel tube evaporator.
- ▶ Stainless steel tube condenser and aluminium fins.
- ▶ Variable glycol flow rate.
- ▶ Partial heat recovery (20 %).
- ▶ Total heat recovery (80 %).
- ▶ Hydraulic unit with back-up pump.

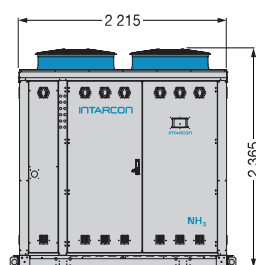
⁽¹⁾ Nominal performance positive temperature: 35 °C ambient temperature with glycol inlet/outlet at -2/-8 °C, with a propylene glycol concentration of 35 %.

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

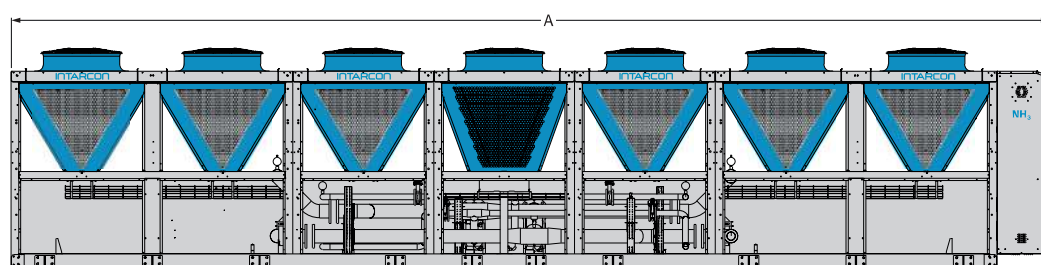
⁽³⁾ Seasonal performance factor (SEPR) according to ErP directive 2015/1095/EU.

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



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

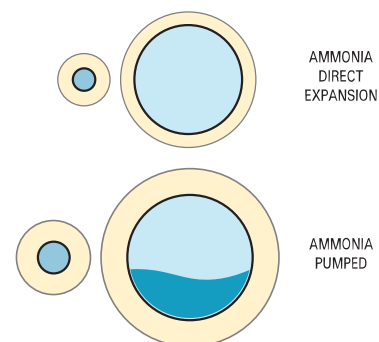
- ▶ 400 V-III-50 Hz power supply. Available in 60 Hz. Others voltages by request.
- ▶ Semihermetic screw compressors with variable speed permanent magnet motor. Suction filter, check valve, suction and discharge valves integrated in the compressor.
- ▶ Miscible oil with return through suction, no bleeding 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.
- ▶ 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.
- ▶ Electrical power and control panel. Integrated compressor variator. 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.
- ▶ Heat recovery for production of hot defrost glycol.

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

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

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.

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

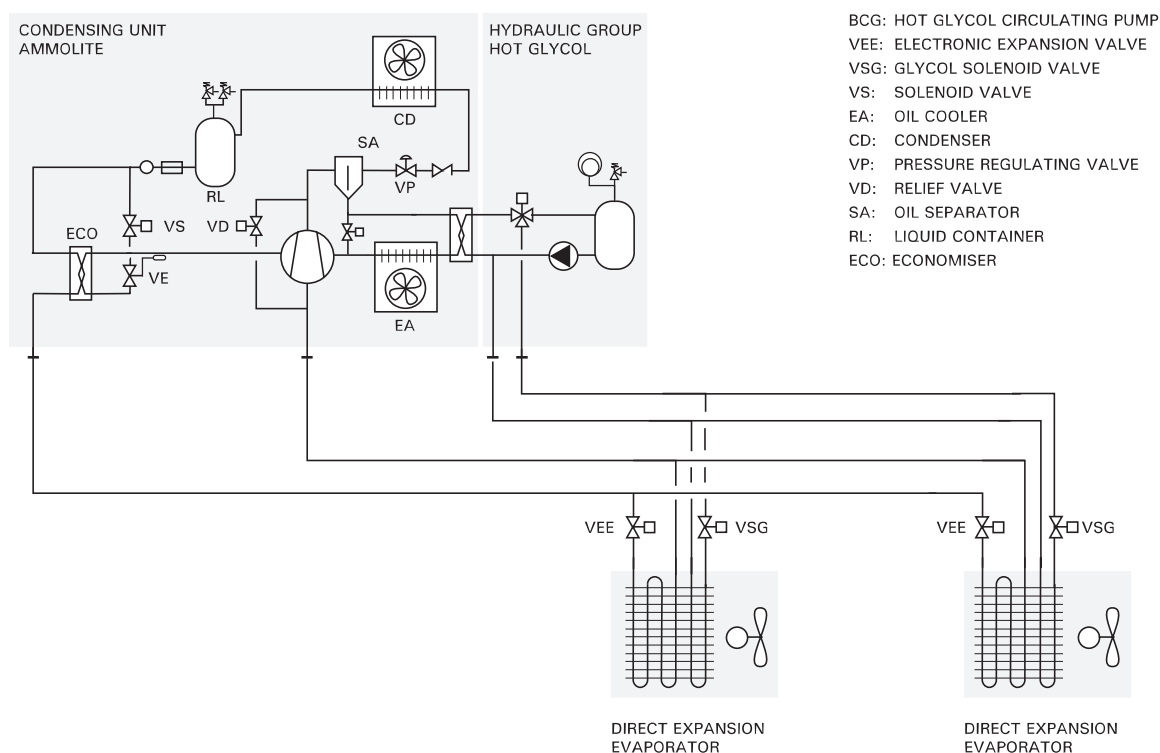
Refrigerant	Compressor	Series / Model	Compressor		Cooling capacity (kW) Evaporating temperature -30 °C ⁽¹⁾	Compressor input power (kW)	Total input power (kW)	Max. current (A)	Condenser + Oil cooler		Cooling connection Liq-Gas	Weight (kg)
			HP	Model					Fans Ø (mm)	Air flow (m³/h)		
R-717	1x Semiher.	BDW-MM-3 1201	120	SRS14MM	108.1	84.4	93.5	306	6x Ø 800	114 000	DN15 - DN65	3 500
		BDW-MM-3 1701	170	SRS16SM	129.8	107.2	116.3	324	6x Ø 800	114 000	DN20 - DN80	4 300
	2x Semiher.	BDW-MM-4 1801	180	SRS16LM	165.8	121.0	133.9	333	8x Ø 800	182 000	DN20 - DN80	4 500
		BDW-MM-4 2402	240	2x SRS14MM	212.8	176.1	191.5	588	8x Ø 800	182 000	DN20 - DN100	5 400
		BDW-MM-5 3402	340	2x SRS16SM	259.6	214.3	233.5	632	10x Ø 800	228 000	DN20 - DN100	7 200
		BDW-MM-7 3602	360	2x SRS16LM	331.6	242.0	268.8	650	14x Ø 800	320 000	DN25 - DN100	7 200

Options

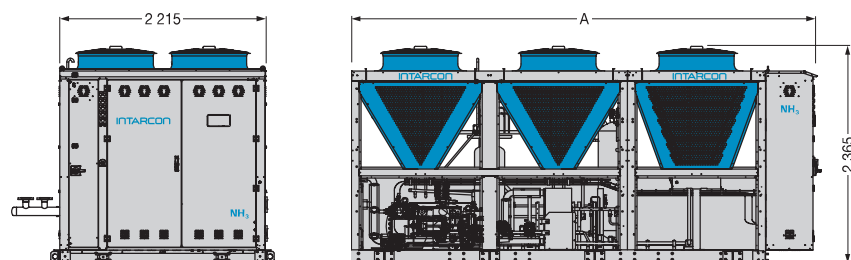
- ▶ Total heat recovery.
- ▶ Stainless steel tube condenser and aluminium fins.
- ▶ Hydraulic group for accumulation and pumping of hot glycol.

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

Refrigeration scheme



Dimensions



Dimensions in mm.

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

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

- ▶ 400 V-III-50 Hz power supply. Available in 60 Hz. 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.

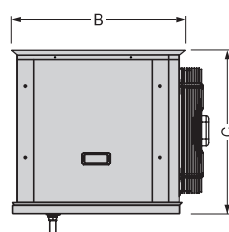
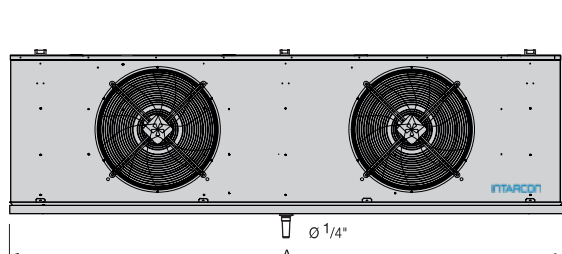
400 V-III-50 Hz | **Negative temperature** | Deep-freezing | **R-717**

Refrigerant	Application	Series / Model	Cooling capacity according to cold room temperature (kW)			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
		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
	Deep-freezing	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

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