superblock HFC

- High cooling capacity in reduced volume.
- Tropicalised design for ambient temperature up to 45 ºC.
- 100 % factory tested.
- Scroll compressors, with noise insulation.

Refrigeration monoblock units built in a galvanised steel shell with polyester coating, designed for outdoor installation through a cold room wall, with easy maintenance access through hinged panels.

Features

- 400V 3N 50Hz power supply. Available in 60 Hz. Others voltages by request.
- Scroll compressors with noise insulation, mounted on shock absorbers, with internal klixon and crankcase heater.
- Large area condensing coil, in copper pipes and aluminium fins, tropicalised for ambient temperature up to 45 ºC.
- High efficiency evaporating coil, in copper pipes and aluminium fins.
- Low-speed condenser motor fans, with internal electronic protection, mounted on nozzle, dynamically balanced blades and external protection grille.
- Proportional control of condensation temperature by fan speed control.
- Long-range evaporator axial motor fans, mounted on nozzles, dynamically balanced blades and external protection grille.
- Refrigeration circuit equipped with high and negative pressure switches, ceramic dryer filter, sight glass and thermostatic expansion valve pre-adjusted at factory.
- Hot gas defrost for MCH, and BCH series, and air defrost for ACH series.
- Full control and power electric panel, with thermal and differential magneto-thermal protection for compressor/s, fan/s and heaters.
- Multifunctional electronic control with remote control keyboard.
- Mounting template for installation on insulation panel (4 and 5 series).
- Indoor/outdoor insulated panel injected polyurethane with 45 kg/m^3 density.
- Liquid and vapour injection system for negative temperature models with R449A.

Series

- ACH - High temperature (9 ºC...15 ºC)
  Monoblock units designed for high temperature application cold rooms, handling and process rooms, ante rooms and refrigerated loading docks.
- MCH - Positive temperature (-5 ºC...10 ºC)
  Monoblock units designed for preservation of generic products in medium temperature cold rooms.
- BCH - Low temperature (-30 ºC...-15 ºC)
  Monoblock units designed for preservation of frozen products in negative temperature cold rooms.

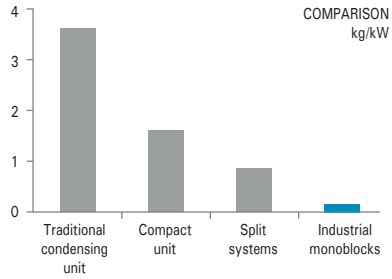
Highly reliable compressors

Copeland scroll compressors are characterised by their great robustness and reliability of operation, and as they are cooled exclusively by the refrigerant gas, they provide effective soundproofing.

Copeland's low-temperature scroll compressors feature the EVI vapour injection system, which enables an efficiency improvement of up to 25% over conventional compressors.

Reduced refrigerant charge

Superblock units have an advanced refrigerant circuit design with a small internal volume. The ecological refrigerant charge has been factory set for optimal operation.



Efficient, quiet and modulating condensing units

The tropicalised design of the condensing coil together with quiet, speed-modulated fans ensures operation at ambient temperatures of up to 45°C and maintains condensing pressure at low ambient temperatures while reducing noise emissions.

Electronic controller

Superblock units come with an advanced multifunction control as standard, with an electronic board integrated in the control panel and digital remote control.

Optionally, up to 8 units can be connected in master-slave operation via an internal LAN network and can be controlled from a single control unit.

superblock HFC | High temperature

Monoblock units designed for high temperature application cold rooms, handling and process rooms and refrigerated loading docks.

Special features

- Air defrost and oversized condenser.

400V 3N 50Hz | High temperature | Scroll compressor | R-449A

Refrigerant	Compressor	Series / Model	Compressor HP	Compressor Model	Cooling capacity (kW) [1] Cold room temperature 18 °C 65 % RH	12 °C 75 % RH	6 °C 85 % RH	Input power (kW)	Max. current (A)	Evaporator Fan Ø (mm)	Air flow (m³/h)	Range (m)	Condenser Fan Ø (mm)	Air flow (m³/h)	Refrig. charge (kg)	Weight (kg)	SPL dB(A) [2]
R-449A	1x Scroll	**ACH-SG-1 0211**	3	ZB21	9.9	**8.6**	7.2	3.5	9	1x Ø 450	4 750	22	1x Ø 450	3 700	1.5	265	32
		ACH-SG-2 0291	4	ZB29	13.5	**11.6**	9.6	4.5	13	1x Ø 500	7 000	26	2x Ø 450	6 500	2.0	324	32
		ACH-SG-2 0381	5	ZB38	16.3	**14.2**	11.9	5.7	15	1x Ø 500	7 000	26	2x Ø 450	10 500	2.5	332	35
		ACH-SG-2 0451	6	ZB45	18.6	**16.3**	13.7	6.5	20	1x Ø 500	7 000	26	2x Ø 450	10 500	3.0	335	35
		ACH-SG-3 0571	8	ZB57	23.6	**20.7**	17.5	8.4	24	2x Ø 450	9 500	22	2x Ø 450	11 500	4.0	395	42
		ACH-SG-4 0761	10	ZB76	33.3	**29.1**	24.4	11.2	25	2x Ø 500	14 000	26	4x Ø 450	21 000	5.3	511	40
		ACH-SG-4 0951	13	ZB95	38.9	**34.1**	28.9	14.1	37	2x Ø 500	14 000	26	4x Ø 450	21 000	6.3	515	41
		ACH-SG-4 1141	15	ZB114	43.3	**38.2**	32.6	16.9	42	2x Ø 500	14 000	26	4x Ø 450	21 000	6.5	516	45
	2x Sc.	**ACH-SG-5 1142**	16	2x ZB57	50.5	**43.9**	36.7	15.2	39	2x Ø 500	14 000	26	2x Ø 630	26 000	11.0	749	45
		ACH-SG-5 1522	20	2x ZB76	67.0	**58.4**	49.4	21.2	49	3x Ø 500	18 000	26	2x Ø 630	26 000	12.0	812	44

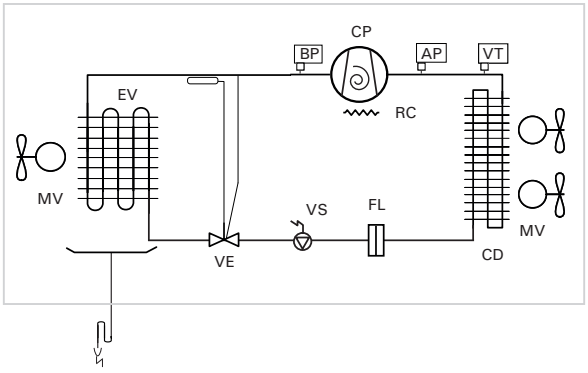
Options

- Made-to-measure extension structure for through-wall assembly.
- Anti-corrosion coil coating.
- Mounting template for installation on insulation panel (included 4 and 5 series).
- Protection system for voltage drops and phase failures.
- Long range air streamer in evaporating fans.

[1] Rated data are related to operation at cold room temperature of 12 °C and 75 % RH, , and ambient temperature of 35 °C. Oversized evaporators are for a difference between evaporating temperature and air inlet temperature of DTM=10 K (±1.0 K). Oversized condensers are for a difference between condensing temperature and air inlet temperature of DTM=12 K (±2 K).

[2] Sound pressure level of the condenser referred to dB(A) sound pressure level, measured in the open field at 10 m distance.

ACH-SG refrigeration scheme



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CD: CONDENSER
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RC: CRANKCASE HEATER
VS: SOLENOID VALVE
VE: THERMOSTATIC EXPANSION VALVE

superblock HFC | Positive temperature

Monoblock units designed for preservation of generic products at positive temperature cold rooms.

Special features

- Hot gas defrost and oversized evaporator to keep a relative humidity between 80 % and 85 %.

400V 3N 50Hz | Positive temperature | Scroll compressor | R-449A

Refrigerant	Compressor	Series / Model	Compressor HP	Compressor Model	Cooling capacity (kW) [1] Cold room temperature 10 °C 85 % HR	5 °C 85 % HR	0 °C 85 % HR	Input power (kW)	Max. current (A)	Evaporator Fan Ø (mm)	Evaporator Air flow (m³/h)	Evaporator Range (m)	Condenser Fan Ø (mm)	Condenser Air flow (m³/h)	Refrig. charge (kg)	Weight (kg)	SPL dB(A) [2]
R-449A	1x Scroll	**MCH-SG-1 0211**	3	ZB21	8.2	7.0	**5.8**	3.1	9	1x Ø 450	4 750	22	1x Ø 450	3 700	1.3	265	32
		MCH-SG-2 0291	4	ZB29	10.1	8.6	**7.3**	3.9	12	1x Ø 500	7 000	26	1x Ø 450	4 000	1.7	265	32
		MCH-SG-2 0381	5	ZB38	12.2	10.5	**9.0**	5.0	15	1x Ø 500	7 000	26	2x Ø 450	6 500	2.3	325	35
		MCH-SG-2 0451	6	ZB45	14.9	12.9	**11.1**	5.7	16	1x Ø 500	7 000	26	2x Ø 450	6 500	2.7	335	35
		MCH-SG-3 0571	8	ZB57	18.9	16.3	**14.1**	7.2	19	2x Ø 450	9 500	22	2x Ø 450	7 400	3.3	395	42
		MCH-SG-4 0761	10	ZB76	26.8	23.1	**19.8**	9.8	25	2x Ø 500	14 000	26	4x Ø 450	13 000	4.7	511	40
		MCH-SG-4 0951	13	ZB95	31.4	27.1	**23.4**	12.2	33	2x Ø 500	14 000	26	4x Ø 450	13 000	5.3	515	41
		MCH-SG-4 1141	15	ZB114	36.1	31.2	**27.0**	14.4	42	2x Ø 500	14 000	26	4x Ø 450	13 000	6.0	516	45
	2x Sc.	**MCH-SG-5 1142**	16	2x ZB57	40.5	34.9	**30.1**	13.2	39	2x Ø 500	14 000	26	2x Ø 630	15 500	11.0	749	45
		MCH-SG-5 1522	20	2x ZB76	51.6	44.6	**38.6**	18.8	50	3x Ø 500	18 000	26	2x Ø 630	15 500	11.0	792	43

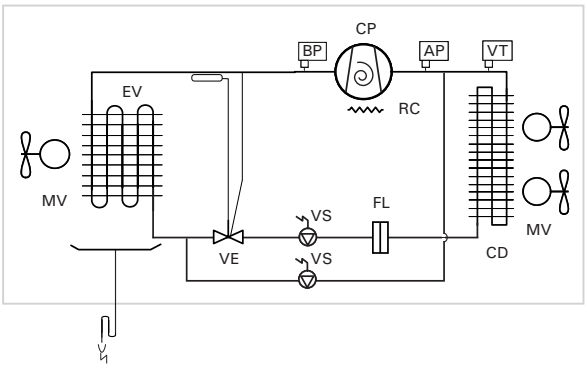
Options

- Made-to-measure extension structure for through-wall assembly.
- Anti-corrosion coil coating.
- Mounting template for installation on insulation panel (included 4 and 5 series).
- Protection system for voltage drops and phase failures.
- Long range air streamer in evaporating fans.

[1] Rated data are related to operation at cold room temperature of 0 °C and 85 % RH, and ambient temperature of 35 °C. Oversized evaporators are for a difference between evaporating temperature and air inlet temperature of DTM = 10 K (±1.0 K). Oversized condensers are for a difference between condensing temperature and air inlet temperature of DTM = 10 K (±2 K).

[2] Sound pressure level of the condenser referred to dB(A) sound pressure level, measured in the open field at 10 m distance.

MCH-SG refrigeration scheme



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VE: THERMOSTATIC EXPANSION VALVE

superblock HFC | Negative temperature

Monoblock units designed for preservation of frozen products in negative temperature cold rooms.

Special features

- Hot gas defrost in coil and tray, and electric heater for drain pipe and tray.

400V 3N 50Hz | Negative temperature | Scroll EVI compressor | R-449A

Refrigerant	Compressor	Series / Model	Compressor HP	Compressor Model	Cooling capacity (kW) [1] Cold room temperature -20 °C 95 % HR	-25 °C 95 % HR	-30 °C 95 % HR	Input power (kW)	Max. current (A)	Evaporator Fan Ø (mm)	Evaporator Air flow (m³/h)	Evaporator Range (m)	Condenser Fan Ø (mm)	Condenser Air flow (m³/h)	Refrig. charge (kg)	Weight (kg)	SPL dB(A) [2]
R-449A	1x Scroll	BCH-SG-1 131	4	ZF13KVE	4.7	3.9	3.1	3.3	11	1x Ø 450	5 250	22	1x Ø 450	3 700	4.0	278	37
		BCH-SG-2 181	6	ZF18KVE	7.1	5.9	4.7	4.7	16	1x Ø 500	7 500	26	2x Ø 450	6 500	5.0	338	41
		BCH-SG-3 251	8	ZF25K5E	9.1	7.5	5.9	5.6	19	2x Ø 450	10 500	22	2x Ø 450	7 400	7.0	398	44
		BCH-SG-3 341	10	ZF34K5E	11.9	10.0	8.2	7.7	28	2x Ø 450	10 500	22	2x Ø 450	7 400	7.0	424	42
		BCH-SG-4 411	13	ZF41K5E	14.6	12.1	9.5	9.2	33	2x Ø 500	15 000	26	4x Ø 450	13 000	8.0	519	42
		BCH-SG-4 491	15	ZF49K5E	16.3	13.7	11.2	10.9	34	2x Ø 500	15 000	26	4x Ø 450	13 000	10.0	523	46
	2x Scroll	BCH-SG-5 502	16	2x ZF25K5E	18.1	15.0	11.8	10.9	41	2x Ø 500	15 000	26	2x Ø 630	15 500	20.0	757	47
		BCH-SG-5 682	20	2x ZF34K5E	24.0	19.9	15.7	14.9	59	2x Ø 500	15 000	26	2x Ø 630	15 500	18.0	809	45
		BCH-SG-5 822	26	2x ZF41K5E	28.6	24.1	19.8	18.2	66	3x Ø 500	20 000	26	2x Ø 630	15 500	18.0	829	46
		BCH-SG-5 982	30	2x ZF49K5E	31.1	26.7	22.2	21.6	68	3x Ø 500	20 000	26	2x Ø 630	15 500	20.0	836	49

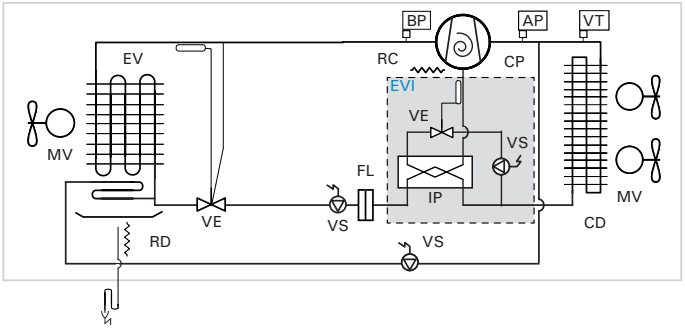
Options

- Made-to-measure extension structure for through-wall assembly.
- Anti-corrosion coil coating.
- Mounting template for installation on insulation panel (included 4 and 5 series).
- Protection system for voltage drops and phase failures.
- Long range air streamer in evaporating fans.
- Bi-temperature. Equipment for medium and low temperature operation (except 15 and 30 HP models).

[1] Rated data are related to operation at cold room temperature of -20 °C and 95 % RH, , and ambient temperature of 35 °C. Oversized evaporators are for a difference between evaporating temperature and air inlet temperature of DTM=6.5 K (±1.0 K). Oversized condensers are for a difference between condensing temperature and air inlet temperature of DTM=10 K (±2 K).

[2] Sound pressure level of the condenser referred to dB(A) sound pressure level, measured in the open field at 10 m distance.

BCH-SG refrigeration scheme



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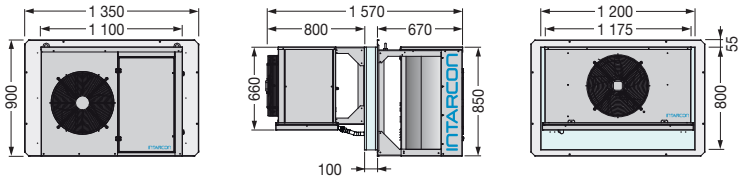
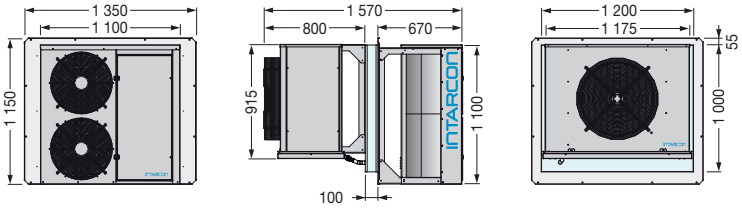
RC: CRANKCASE HEATER
VS: SOLENOID VALVE
VE: THERMOSTATIC EXPANSION VALVE
RD: DEFROST HEATER

superblock HFC dimensions

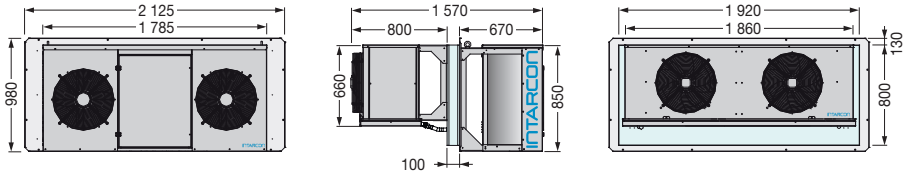
1 series



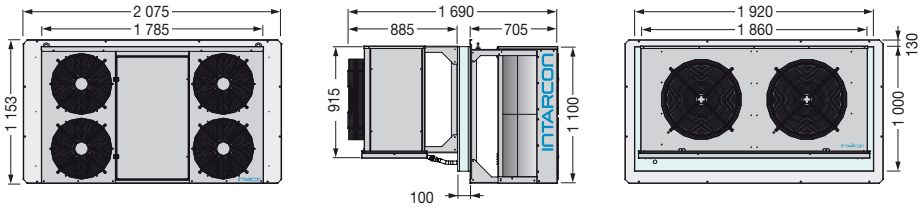
2 series



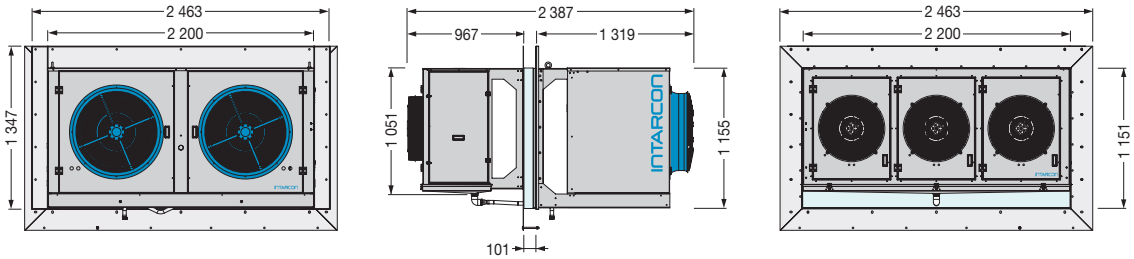
3 series



4 series



5 series



Dimensions in mm.