INTARCON

intarWATT

Industrial condensing units with V-condenser

Complies with Ecodesign

Low refrigerant charge

Large cooling capacity

intarWatt

Industrial condensing units

- Low refrigerant charge.
- Large cooling capacity.
- Semihermetic compressors.
- Great service accessibility.

The intarWatt range consists of high-power air-cooled condensing unit for industrial applications. These equipments are characterised by a very compact construction designed for outdoor use, which integrates the semihermetic compressor set, air condensers with V-coil arrangement, and the control and power panel.

Features

- 400V 3N 50Hz power supply. Available in 60 Hz. Others voltages by request.
- Semihermetic compressors Copeland Stream, mounted on shock absorbers and acoustically insulated with capacity modulation, rotalock service valves, crankcase heater and electronic CoreSense module protection and diagnostics.
- High-efficiency V condensing coils, made of copper pipes and aluminium fins, Ø 800 mm axial fan motors with double speed.
- Cooling circuits manufactured in annealed copper tube equipped with high and low pressure switches, service valves, safety valves, liquid receiver, filter and sight gauge.
- Oil separators and balance lines 1 and 2 compressor condensing units , oil accumulator with individual electronic fuel injection for each compressor in unit of 3 compressor.
- Electrical panel with overload and differential protection for compressor and fans.
- Electronic control with high and low pressure transducer, and suction temperature sensor, compressor discharge, liquid line, and ambient temperature; suction pressure control and condensing pressure control; management and recording of alarms; mountable remote digital display; and integration of CoreSense protections.
- Emergency manoeuvre by means of adjustable pressure switches, with manual or automatic activation in case of failure of the electronic controller.

Options

- One compressor with digital capacity control (B version).
- Microchannel aluminium coils.
- Variable speed electronic axial fan.
- Hot gas defrost.
- Anti-corrosion coil coating.
- Low voltage and phase change protection.
- Heat recovery (20 or 80 % condenser heat) for hot water generation.
- Interior fairing of frigorific compartment.
- Suction separator.
- Suction filter.

Reduced refrigerant charge

intarWatt condensing unit benefit from a reduced refrigerant charge of 50 % compared to a traditional direct expansion system.

The multi-circuit configuration also makes it possible to split the refrigerant charge of the system, thus reducing the risk of leakage.

Highly reliable semihermetic compressors

The new range of Copeland Stream semihermetic compressors provide best-in-class performance with both existing HFC refrigerants and new low-GWP refrigerants.

The range consists of four- and six-cylinder semihermetic compressors. They are available to work with frequency inverters or with Digital modulation, to achieve continuous capacity modulation.

The CoreSense™ technology incorporated in the compressors helps to extend the life of the equipment. This technology provides advanced compressor protection, fault diagnosis, and energy consumption measurement.

Tropicalised condensing coil in V

intarWatt condensing units integrate the air condenser with coils in a V-arrangement, with a large exchange surface on a small floor plan, enabling efficient and reliable operation at high ambient temperatures.

intarWatt condensing units can integrate microchannel heat exchanger technology, achieving an even higher exchange capacity compared to tube and fin coils.

Electronic oil injection system

The 3 compressor condensing units are equipped with oil recovery, accumulation, injection and oil level control systems, which guarantee the correct lubrication of the compressors in installations with large refrigerant circuits, even when working at different pressures.

400V 3N 50Hz | Positive temperature | Semihermetic compressor | R-134a / R-449A

Refrigerant	Compressor	Axial version Series / Model	Compressor HP	Compressor Model	Cooling capacity (kW) [1] Average evaporating temperature 10 °C	5 °C	0 °C	-5 °C	-10 °C	-15 °C	-20 °C	Input power (kW)	Max. current (A)	Condenser Fan Ø (mm)	Condenser Flow (m³/h)	Liq-Gas Cooling Connection	Weight (kg)	SPL dB(A) [2]
R-134a	1x Semih.	MDW-TY-1 0301	30	6MM-30X	89.0	74.5	61.5	50.0	39.9	31.3	24.2	15.8	65	2x Ø 800	44 000	7/8"-2 1/8"	9 40	44
		MDW-TY-1 0351	35	6MT-35X	97.9	82.3	68.4	55.7	44.6	35.1	27.2	18.1	73	2x Ø 800	44 000	7/8"-2 1/8"	9 46	44
		MDW-TY-1 0401	40	6MU-40X	106.5	89.7	74.5	60.9	48.7	38.0	29.2	20.4	81	2x Ø 800	44 000	7/8"-2 5/8"	9 50	45
	2x Semihermetic	MDW-TY-1 0262	26	2x 4MF-13X	89.6	74.9	61.7	49.9	39.6	30.8	23.5	15.8	67	2x Ø 800	44 000	7/8"-2x 1 5/8"	1 079	43
		MDW-TY-1 0302	30	2x 4ML-15X	102.6	86.4	71.9	58.8	47.3	37.2	28.8	18.8	76	2x Ø 800	44 000	7/8"-2x 2 1/8"	1 085	44
		MDW-TY-1 0402	40	2x 4MM-20X	110.3	93.3	77.8	64.1	51.7	40.2	31.6	21.2	84	2x Ø 800	44 000	7/8"-2x 2 1/8"	1 089	44
		MDW-TY-1 0502	50	2x 4MU-25X	139.5	117.8	98.2	80.8	65.0	51.0	39.5	26.7	109	2x Ø 800	42 000	7/8"-2x 2 1/8"	1 122	46
		MDW-TY-1 0602	60	2x 6MM-30X	165.6	140.1	116.9	96.3	77.6	60.8	47.0	32.0	125	2x Ø 800	40 000	1 1/8"-2x 2 1/8"	1 205	45
		MDW-TY-1 0702	70	2x 6MT-35X	181.0	153.6	128.8	106.5	86.7	68.2	52.9	36.8	140	2x Ø 800	40 000	1 1/8"-2x 2 1/8"	1 217	46
		MDW-TY-1 0802	80	2x 6MU-40X	194.6	165.7	138.0	114.9	93.5	73.6	56.5	41.2	157	2x Ø 800	40 000	1 1/8"-2x 2 5/8"	1 225	47
	3x Semihermetic	MDW-TY-2 0453	45	3x 4ML-15X	162.0	135.5	111.4	90.1	72.2	56.8	44.0	27.4	117	4x Ø 800	88 000	1 1/8"-3x 2 1/8"	1 990	46
		MDW-TY-2 0603	60	3x 4MM-20X	175.3	147.0	121.4	98.8	79.0	62.3	48.3	30.6	128	4x Ø 800	88 000	1 1/8"-3x 2 1/8"	1 996	47
		MDW-TY-2 0753	75	3x 4MU-25X	211.5	178.5	148.6	121.9	98.1	77.0	59.7	40.5	167	4x Ø 800	88 000	1 1/8"-3x 2 1/8"	2 008	48
		MDW-TY-2 0903	90	3x 6MM-30X	258.3	217.2	180.6	147.4	117.8	92.6	71.5	47.6	190	4x Ø 800	84 000	1 1/8"-3x 2 1/8"	2 145	47
		MDW-TY-2 1053	105	3x 6MT-35X	283.1	239.2	199.5	164.3	132.2	103.9	80.5	54.3	213	4x Ø 800	84 000	1 3/8"-3x 2 1/8"	2 163	48
		MDW-TY-2 1203	120	3x 6MU-40X	306.5	259.2	216.5	178.1	143.4	112.1	86.1	61.7	238	4x Ø 800	84 000	1 3/8"-3x 2 5/8"	2 175	49
R-449A	1x Semihermetic	MDW-TG-1 0251	25	4MH-25X	88.5	75.0	62.7	51.7	42.2	33.9	26.9	16.4	47	2x Ø 800	44 000	7/8"-2 1/8"	912	43
		MDW-TG-1 0301	30	4MI-30X	95.9	81.6	68.6	56.9	46.4	37.5	29.9	18.3	52	2x Ø 800	44 000	7/8"-2 1/8"	913	43
		MDW-TG-1 0351	35	4MK-35X	114.8	98.2	83.2	69.5	57.0	46.0	36.6	24.2	67	2x Ø 800	44 000	1 1/8"-2 1/8"	927	44
		MDW-TG-1 0401	40	6MI-40X	141.3	120.6	101.9	84.9	69.3	55.9	44.4	28.0	77	2x Ø 800	42 000	1 1/8"-2 1/8"	969	47
		MDW-TG-1 0451	45	6MJ-45X	153.8	131.8	111.8	93.6	76.9	61.9	49.2	31.9	87	2x Ø 800	42 000	1 1/8"-2 5/8"	973	47
		MDW-TG-1 0501	50	6MK-50X	167.2	143.9	122.3	102.6	84.8	68.3	54.1	36.9	98	2x Ø 800	42 000	1 1/8"-2 5/8"	980	48
	2x Semihermetic	MDW-TG-1 0602	60	2x 4MI-30X	179.3	154.0	130.9	109.9	90.6	73.6	58.9	36.5	98	2x Ø 800	40 000	1 3/8"-2x 2 1/8"	1 151	44
		MDW-TG-1 0702	70	2x 4MK-35X	210.7	182.4	156.1	131.7	109.7	89.5	71.6	47.9	127	2x Ø 800	40 000	1 3/8"-2x 2 1/8"	1 179	45
		MDW-TG-2 0802	80	2x 6MI-40X	282.6	241.2	203.9	169.9	138.6	111.7	88.7	56.0	154	4x Ø 800	84 000	1 5/8"-2x 2 1/8"	1 938	50
		MDW-TG-2 0902	90	2x 6MJ-45X	307.6	263.7	223.5	187.1	153.7	123.9	98.4	63.8	174	4x Ø 800	84 000	1 5/8"-2x 2 5/8"	1 946	50
		MDW-TG-2 1002	100	2x 6MK-50X	334.4	287.8	244.6	205.3	169.5	136.5	108.2	73.8	197	4x Ø 800	84 000	1 5/8"-2x 2 5/8"	1 960	51
	3x Semihermetic	MDW-TG-2 0903	90	3x 4MI-30X	279.1	238.4	201.6	168.2	138.0	111.8	88.8	54.4	151	4x Ø 800	84 000	1 5/8"-3x 2 1/8"	2 064	47
		MDW-TG-2 1053	105	3x 4MK-35X	330.9	285.0	242.3	203.6	168.5	136.1	108.4	72.1	194	4x Ø 800	84 000	1 5/8"-3x 2 1/8"	2 106	47
		MDW-TG-2 1203	120	3x 6MI-40X	394.5	340.2	289.9	244.0	202.4	163.7	130.9	85.6	224	4x Ø 800	80 000	2 1/8"-3x 2 1/8"	2 207	51
		MDW-TG-2 1353	135	3x 6MJ-45X	425.9	368.9	315.8	266.7	222.1	181.3	144.8	97.1	255	4x Ø 800	80 000	2 1/8"-3x 2 1/8"	2 219	52
		MDW-TG-2 1503	150	3x 6MK-50X	--	398.8	342.6	290.2	242.2	198.6	158.1	110.6	289	4x Ø 800	80 000	2 1/8"-3x 2 5/8"	2 240	53

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

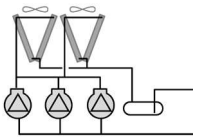
Refrigerant	Compressor	Axial version Series / Model	Compressor HP	Compressor Model	Cooling capacity (kW) [1] Average evaporating temperature -10 °C	-15 °C	-20 °C	-25 °C	-30 °C	-35 °C	Input power (kW)	Max. current (A)	Condenser Fan Ø (mm)	Condenser Flow (m³/h)	Liq-Gas Cooling Connection	Weight (kg)	SPL dB(A) [2]
R-449A	2x Semihermetic	BDW-TG-1 0402	40	2x 4MM-20X	84,9	70,2	56,8	44,8	34,7	26,2	18,9	84	2x Ø 800	44 000	7/8"-2x 2 1/8"	1 089	44
		BDW-TG-1 0502	50	2x 4MU-25X	100,5	83,6	68,3	54,2	41,8	31,4	23,9	109	2x Ø 800	44 000	7/8"-2x 2 1/8"	1 097	46
		BDW-TG-1 0602	60	2x 6MM-30X	124,5	103,3	84,3	66,6	51,4	38,7	28,8	125	2x Ø 800	42 000	7/8"-2x 2 1/8"	1 180	45
		BDW-TG-1 0702	70	2x 6MT-35X	135,1	112,7	92,3	73,7	56,9	42,8	32,3	140	2x Ø 800	42 000	1 1/8"-2x 2 1/8"	1 192	46
		BDW-TG-1 0802	80	2x 6MU-40X	146,4	122,8	100,9	81,0	62,7	47,0	36,3	157	2x Ø 800	42 000	1 1/8"-2x 2 5/8"	1 200	47
	3x Semihermetic	BDW-TG-1 0603	60	3x 4MM-20X	123,3	102,4	83,6	66,2	51,3	38,9	28,0	122	2x Ø 800	42 000	1 1/8"-3x 2 1/8"	1 296	45
		BDW-TG-1 0753	75	3x 4MU-25X	144,3	120,9	99,3	79,8	61,7	46,4	35,6	161	2x Ø 800	42 000	1 1/8"-3x 2 1/8"	1 308	47
		BDW-TG-2 0903	90	3x 6MM-30X	188,0	155,8	126,9	100,3	77,3	58,2	43,8	190	4x Ø 800	88 000	1 1/8"-3x 2 1/8"	2 095	47
		BDW-TG-2 1053	105	3x 6MT-35X	204,2	170,1	139,1	110,8	85,6	64,5	48,9	213	4x Ø 800	88 000	1 1/8"-3x 2 1/8"	2 113	48
		BDW-TG-2 1203	120	3x 6MU-40X	221,5	185,6	152,2	122,0	94,5	71,0	54,9	239	4x Ø 800	88 000	1 1/8"-3x 2 5/8"	2 125	49

[1] Conditions according to UNE-EN 13215: ambient temperature of 32 °C, average evaporating temperature of -10 °C (MT) and -35 °C (BT), SH = 10 K, refrigerant R-449A.

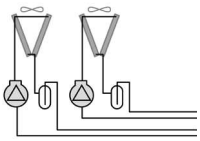
[2] Sound pressure level of the condenser referred to dB(A) sound pressure level, measured in the open field at 10 m distance.

Configurations

- **DX condensing units configuration:** Cooling circuit with parallel compressor rack and common condensation. With oil separators per compressor, common oil accumulator and level controls and electronic oil injectors for each compressor.

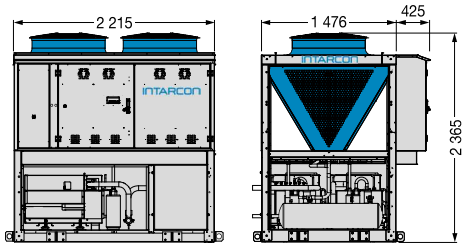


- **Multi-circuit configuration**: Multiple refrigeration circuits, each consisting of one or two compressors and a V-shaped air condenser module with two motor fans. Each circuit incorporates oil separators and balancing lines.

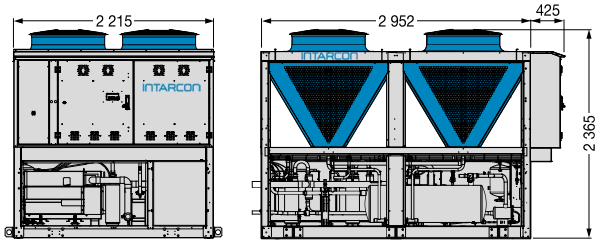


Dimensions

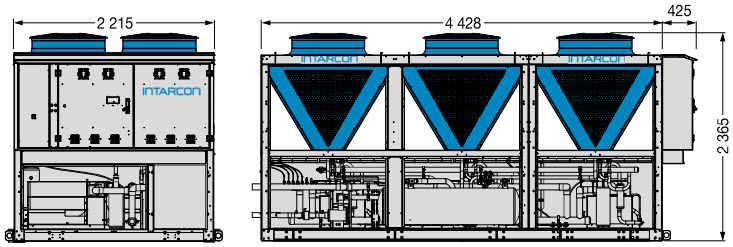
1 series



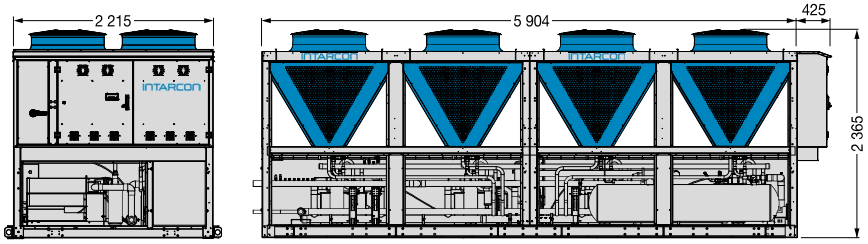
2 series



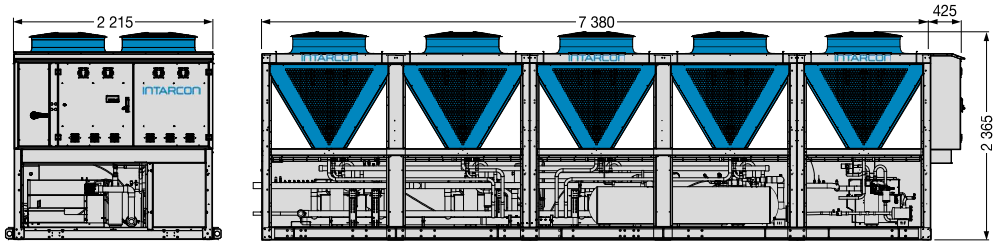
3 series



4 series



5 series



Dimensions in mm.

Sound insulation of compressors

intarWatt condensing units are equipped with acoustic compressor encapsulation, consisting of a metal enclosure with a sound-absorbing inner lining, with an acoustic attenuation of up to 9 dB(A).

Control panel

The intarWatt condensing units incorporate in the condensing unit the electrical power and electronic control panel for compressors and condenser, with the following characteristics:

- Main switch.
- Multifunction electronic controller for control of the control unit:
  - Up to 3 independent or linked aspirations.
  - Management of compressors and condensing unit fans.
  - Management of up to one compressor with proportional capacity control (digital semihermetic) per circuit.
  - Control of power stages (up to 3 stages per compressor), proportional or neutral band, depending on suction pressure.
  - Proportional control of condensing pressure by varying fan speed, with floating set point (in units with electronic EC fans).
  - High and low pressure transducers and suction, discharge and liquid line temperature probes.
  - Safety control and operation alarms for each compressor and fan alarms for each compressor and fan.
  - Abnormal operation warnings with alarm detail.
  - RS485 connection with MODBUS
  - RTU communication protocol.
  - Internal Web Server with which the following can be managed: current control status, alarms, operating data logging, parameter configuration and graphic representation of operating data.
- Digital control panel with display of parameters and operating status of the control unit.