

# intarCUBE INVERTER



intarCUBE INVERTER range has been designed for medium capacity (15 to 40 kW) commercial centralised refrigeration applications with multiple evaporator units, such as supermarkets, industrial kitchens or small industries.

The new intarCUBE INVERTER units are positioned as an efficient and safe investment, at low cost, and within the medium-term EU F-Gas regulatory framework.

## Features

- ▶ 400V 3N 50Hz power supply. Available in 60Hz. Other voltages by request.
- ▶ Scroll compressors with sound insulation on shock absorbers, internal clixon and crankcase heater, and oil level monitoring.
- ▶ Inverter drive of a compressor by means of frequency variation, with progressive capacity control of the total condensing unit from 15 % to 100 %.
- ▶ Condenser coil with copper pipes and aluminium fins, with air circuit separated from the compressor compartment.
- ▶ Axial or EC radial condensation fans, with independent air volumes.
- ▶ Refrigeration circuit equipped with high and low pressure switches, ceramic dryer filter, liquid receiver and sight glass.
- ▶ Full control panel integrated in the unit, with differential, MCB protection for compressors and fans.
- ▶ Certification of the condensing unit as a whole (Ecodesign, pressure equipment, etc.).

- ❄ Quiet and efficient operation.
- ❄ Low investment and maintenance costs.
- ❄ Quick installation in new or existing installations.
- ❄ F-Gas 2022 and Ecodesign compliant.

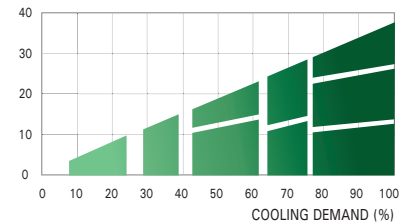
## Inverter technology

Inverter control of the compressor allows progressive capacity modulation, without pulses or start-up cycles, to modulate the capacity of the condensing units from 15 % to 100 %.

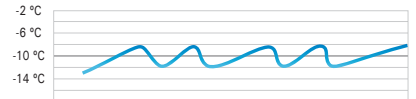


The Inverter drive of one compressor is combined with the neutral band control of the other compressors to continuously adapt the cooling capacity to the demand.

COOLING CAPACITY (kW)

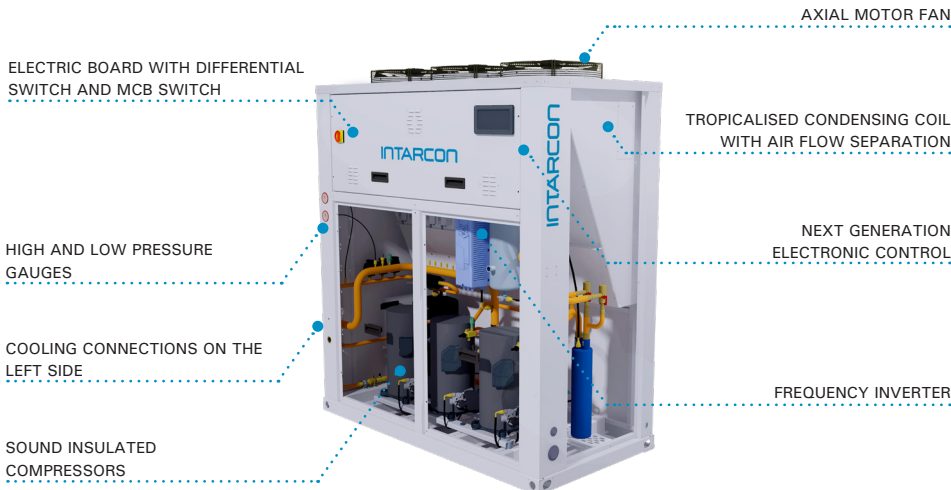


Neutral band suction pressure



## Head pressure

Head pressure control by sequencing and varying fan speed, depending on load and ambient temperature, ensures that the condensing units operates at its optimum performance point.



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

Refrigerant Compressor	Axial version		Compressor		Cooling capacity (kW) <sup>(1)</sup>				Input power (kW)	SEPR <sup>(2)</sup>	Max. current (A)	Condenser		Liq-Gas Cooling Connection	Weight (kg)	SPL dB(A) <sup>(3)</sup>	Radial version		
	Series / Model	HP	Model	Average evaporating temperature				Fan Ø (mm)				Air flow (m³/h)	Series / Model				Air flow (m³/h)	ASP (Pa) <sup>(4)</sup>	
				0 °C	-5 °C	-10 °C	-15 °C												
R-449A	2x Scroll	MDV-YG-6 0532	7	ZB38 + ZB15i	19.4	16.4	13.6	11.2	7.4	3.8	31	2x Ø 450	2x 4 750	5/8"-1 1/8"	285	39	MDV-YCG-6 0532	2x 4 800	160
		MDV-YG-6 0662	9	ZB45 + ZB21i	25.5	21.5	17.8	14.7	8.4	3.8	33	2x Ø 450	2x 4 750	5/8"-1 3/8"	300	39	MDV-YCG-6 0662	2x 4 800	160
		MDV-YG-6 0862	12	ZB57 + ZB29i	32.3	27.2	22.6	18.6	10.7	3.8	26	2x Ø 450	2x 4 750	5/8"-1 3/8"	300	46	MDV-YCG-6 0862	2x 4 800	160
	3x Scroll	MDV-YG-7 1113	15	2x ZB45 + ZB21i	41.1	34.5	28.6	23.6	13.3	4.0	33	3x Ø 450	3x 4 750	5/8"-1 3/8"	425	43	MDV-YCG-7 1113	2x 7 125	250
		MDV-YG-7 1433	20	2x ZB57 + ZB29i	51.9	43.6	36.2	29.8	16.7	4.1	42	3x Ø 450	3x 4 750	7/8"-1 5/8"	425	43	MDV-YCG-7 1433	2x 7 125	250
		MDV-YG-7 1523	21	2x ZB57 + ZB38i	55.8	46.7	38.9	32.0	17.9	4.1	45	3x Ø 450	3x 4 750	7/8"-1 5/8"	425	43	MDV-YCG-7 1523	2x 7 125	250

Options

- ▶ Anti-corrosion coating of condenser coil.
- ▶ Automatic emergency manoeuvre.
- ▶ Discharge check valve (radial version).
- ▶ Low voltage and phase change protection.
- ▶ Heat recovery (20 or 80 % condenser heat) for hot water generation.

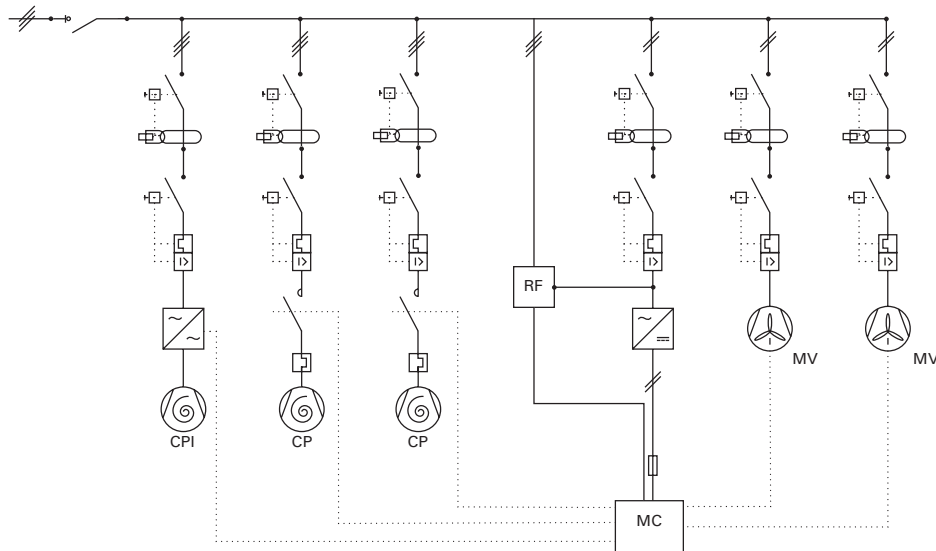
<sup>(1)</sup> Conditions according to UNE-EN 13215: Ambient temp. 32 °C, average evaporating temp. of -10 °C (PT) and -35 °C (NT), SH = 10 K, refrigerant R-449A.

<sup>(2)</sup> Seasonal Performance Factor (SEPR) according to Commission Regulation (EU) 2015/1095.

<sup>(3)</sup> Sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

<sup>(4)</sup> Available static pressure condensation for air ducts.

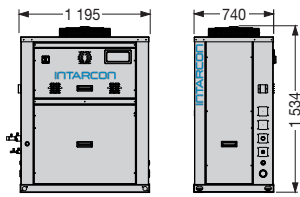
Wiring diagram



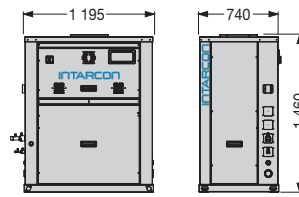
- CP: COMPRESSOR
- CPI: INVERTEER COMPRESSOR
- MV: AXIAL MOTOR FAN
- MC: ELECTRONIC MICROCONTROLLER
- RF: PHASE CONTROL RELAY

## Dimensions

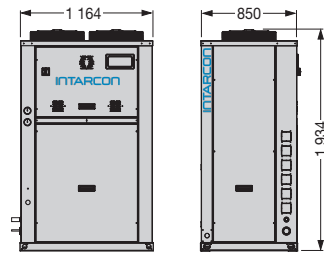
## 5 series - axial



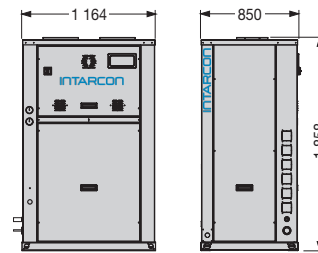
## 5 series - centrifugal



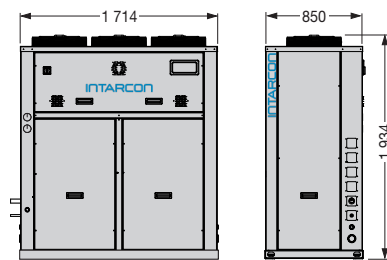
## 6 series - axial



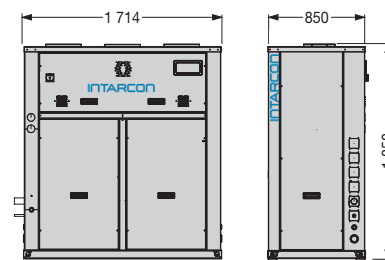
## 6 series - centrifugal or radial with vertical drive



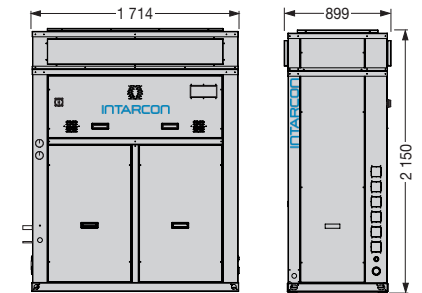
## 7 series - axial



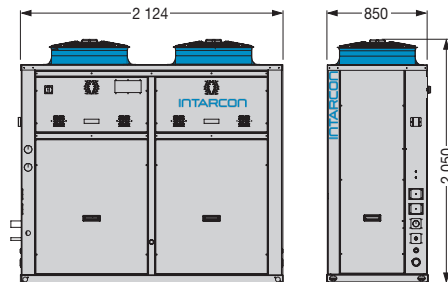
## 7 series - centrifugal



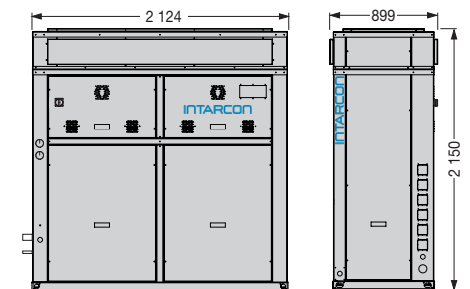
## 7 series - radial with vertical drive



## 8 series - axial



## 8 series - radial with vertical drive



Dimensions in mm.

## Electronic control

XC control for mini refrigeration units: intarCUBE condensing units are equipped with an electronic controller:

- ▶ Capacity control by suction pressure.
- ▶ Compressor and fan management with proportional condensation control.
- ▶ Low and high pressure transducers.
- ▶ Safety control.
- ▶ Optional emergency manoeuvre by means of adjustable pressure switches with manual or automatic activation.
- ▶ Evaporator solenoid permit.



## Optional

XM670K Control for cold room: intarCUBE units with one or two compressors can be equipped with joint control of evaporator and condensing unit.

- ▶ Capacity control by temperature, with management of up to 2 compressors or two power stages.
- ▶ Control of up to two independent defrosts for two evaporators in the same cold room.
- ▶ Proportional condensation control.
- ▶ Remote control.

