



Footprint condensing units
intarCUBE
A2L

A2L CONDENSING UNITS

LOW ENVIRONMENTAL IMPACT SOLUTIONS

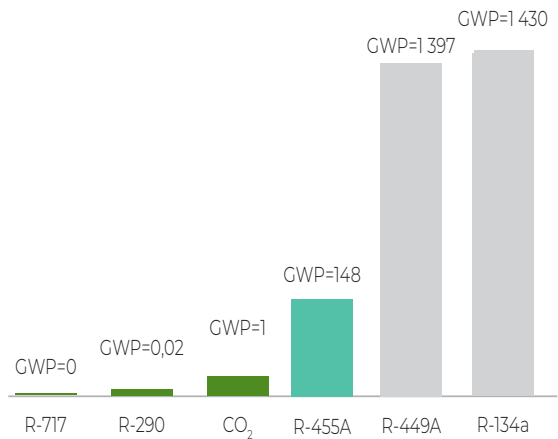
INTARCON's new range of **intarCUBE A2L** units, presented as the best low greenhouse effect solution for supermarkets and convenience stores. Due to their characteristics and the properties of the refrigerant, they are a long-term solution for refrigeration installations of up to 40 kW.

A2L REFRIGERANT

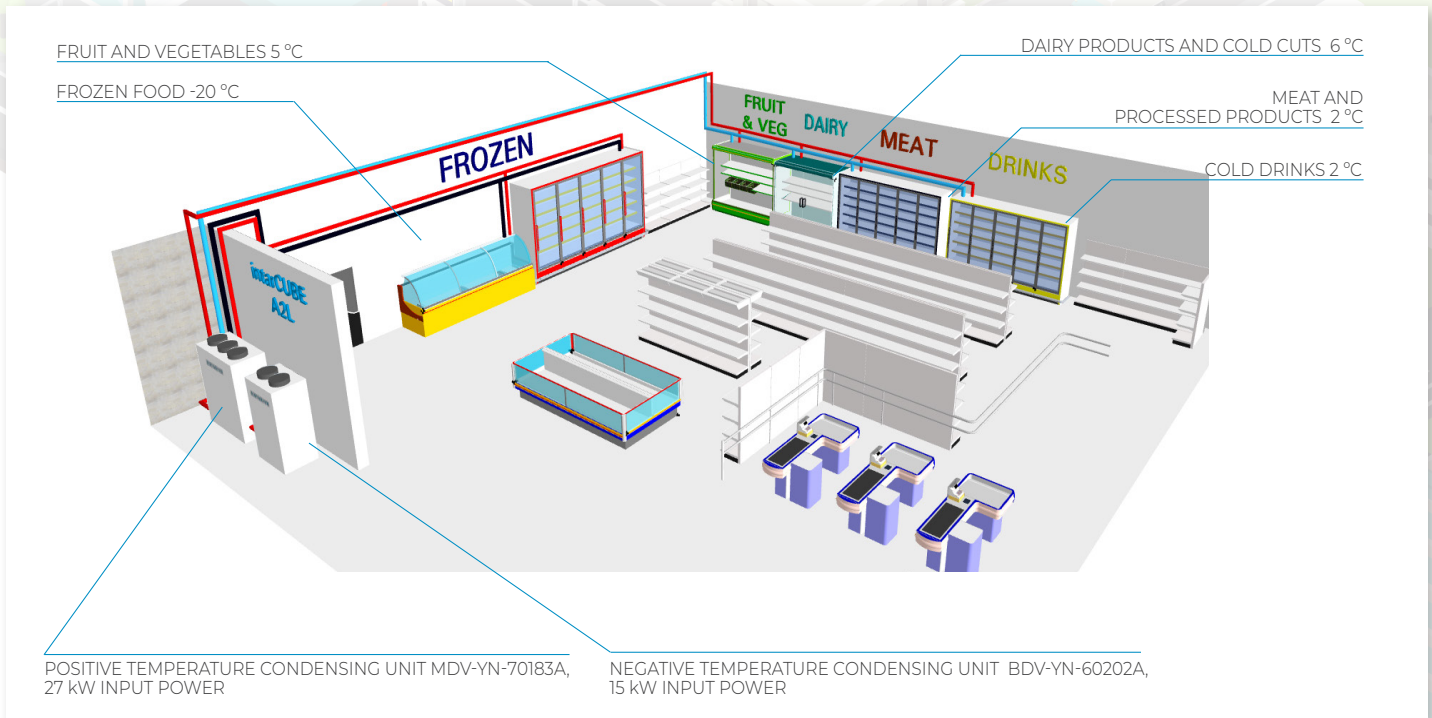
Refrigerants classified as A2L combine low toxicity (class A) with slight flammability (2L), characterised by a reduced flame speed. These refrigerants have been developed as a low environmental impact solution, with a GWP typically below 150, in line with the restrictions imposed by environmental regulations such as the F-Gas Regulation.

Among their technical properties, working pressures similar to traditional HFCs stand out, facilitating their application in new systems or retrofit processes. Due to their low flammability, the use of A2L requires compliance with safety measures such as leak detection, adequate ventilation and a hermetic system design.

Therefore, A2L refrigerants represent an appropriate technical and regulatory solution for small and medium-sized installations, especially in commercial applications, where a transition to low GWP gases is required without compromising safety or performance.



SUPERMARKETS INSTALLATION EXAMPLE



A2L intarCUBE

The new **intarCUBE A2L condensing units** are designed to adapt to the real requirements of installations in convenience stores and supermarkets. Its compact and modular design allows easy integration even in small spaces, and can be installed outdoors or in a machine room, with its powered axial or radial version, offering great versatility in new or renovation projects.

A unit designed for energy efficiency, safety and ease of maintenance, with all components ready to work with A2L refrigerants.



500 mm (7,000 m³/h) for optimised condensation. Optional radial 150 Pa or enhanced axial up to 80 Pa.

ELECTRONIC AXIAL FANS



PRESSURE GAUGES WITH SCALES

Pressure gauges with low dew pressure and liquid bubble indication for R-455A and R-454C.



FREQUENCY CONVERTER

For INVERTER models, to modulate the capacity of the unit from 15% to 100%.



ELECTRICAL PANEL AND CONTROL



Large and accessible, with independent circuit breakers and magnetic thermal switches for the compressor and fan. Ventilation and thermostat inside the panel.

ELECTROMECHANICAL EMERGENCY MANOEUVRE



By adjustable pressure switches with manual or automatic activation in case of failure.

ELECTRONIC OIL INJECTION



Electronic oil injection ensures precise lubrication of compressors, prevents failures, optimises efficiency and extends the service life of the system.

HIGH EFFICIENCY COMPRESSORS



2 or 3 compressors in an insulated compartment, with rotalock valve included.

A2L intarCUBE Scroll



Compact refrigeration condensing units, with scroll compressors, one of them INVERTER and axial condensation. Designed to operate at positive and negative temperatures up to 40 kW. Capable of operating with R-455A or R-454C.

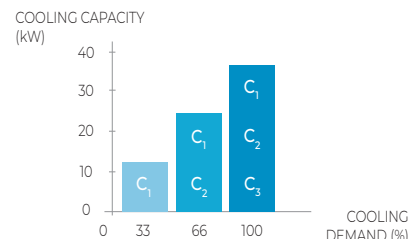
FEATURES

Casing in pre-painted galvanized sheet, with acoustically insulated panels and service access covers.	■
Independent compressor compartment with ATEX extraction fans.	■
Scroll compressors acoustically insulated with soundproof cover.	■
Integrated safety valve in the boiler and in the low-pressure sector.	■
Liquid injection system for negative temperature.	■
Oil separator.	■
Aluminium microchannel condenser coil with Polyester Powder Coating treatment.	■
Axial EC fans.	■
Electrical panel independent of the frigorific compartment.	■
Pressure gauges with low dew pressure and liquid bubble indication.	■
Crankcase heater on all compressors.	■
Electromechanical emergency manoeuvre by adjustable pressure switches with manual or automatic activation in case of failure.	■
Differential and thermal-magnetic protection for each compressor, fan, manoeuvre and auxiliary elements.	■
Solenoid permission.	■
High-performance axial fan, up to 80 Pa.	□
Radial EC fan with horizontal discharge, up to 150 Pa.	□
Radial EC fan with vertical discharge, up to 150 Pa.	□
Hot gas defrost.	□
Suction separator.	□
Copper microtube coil and aluminium fins.	□
Copper microtube coil and aluminium fins with polyurethane coating.	□
Copper microtube coil and aluminium fins with magnesium alloy.	□
Danfoss AK-PC 551 electronic regulation.	□
Supervision and control kiconex system with several configurations.	□
Stainless steel screws.	□

■ As standard □ Optional

Step-by-step operation

Preconfigured electronic controller for managing compressors in response to cooling demand using a neutral band.



Operating limits

	Min. value	Max. value
Outdoor temp.	-5 °C	45 °C
Evaporation temp. (PT)	-15 °C	5 °C
Evaporation temp. (NT)	-35 °C	-20 °C

Plug & Play

INTARCON units are specifically designed and dimensioned for each R-455A or R-454C refrigerant.

They are delivered factory tested and adjusted with CE conformity certificate as a whole (pressure equipment, Ecodesign, etc.).

Operational reliability

The duplication of components and back-up systems is an important design criterion. intarCUBE condensing units are equipped with two or more fans, tandem or trio compressors, and emergency operation.

DV-SN series accessories

- ▶ Spare electronic regulation.
- ▶ Non-return damper.
- ▶ Silentblock kit.

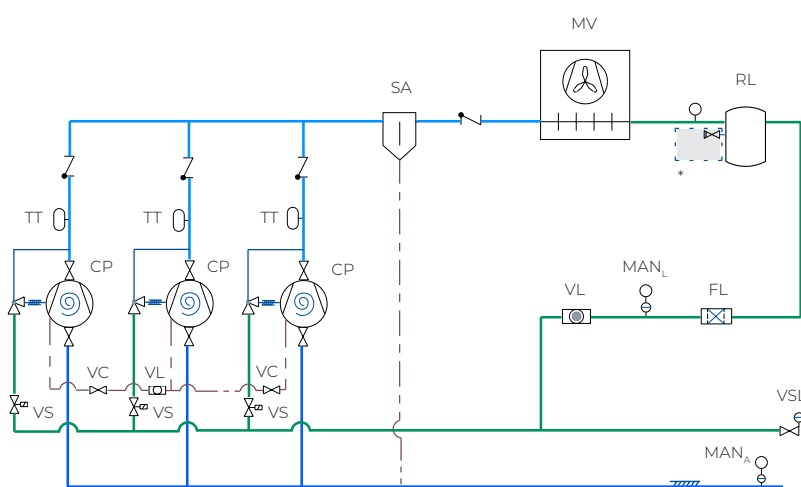
400V 3N 50 Hz | Positive temperature | Scroll compressor | R-455A

Refrigerant	Series / Model	Compressor (HP)	Cooling capacity (kW) Average evaporating temperature ⁽¹⁾				Input power (kW)	SEPR ⁽²⁾	Max. current (A)	Condenser		Liq-Gas cooling connection	Weight (kg)	SPL dB(A) ⁽³⁾
			-15 °C	-10 °C	-5 °C	0 °C				Fan Ø (mm)	Conden. air flow (m ³ /h)			
R-455A	MDV-SN-60082A	2x 4	9.9	12.3	14.9	18.0	6.6	4.0	22.5	2x Ø 500	14,000	1/2" - 1 1/8"	485	51
	MDV-SN-60142A	2x 7	16.2	19.8	23.8	28.7	10.1	4.2	32.9	2x Ø 500	14,000	5/8" - 1 3/8"	500	51
	MDV-SN-70213A	3x 7	24.2	29.7	36.1	43.3	15.1	4.2	49.2	3x Ø 500	21,000	5/8" - 1 5/8"	615	53

400V 3N 50 Hz | Negative temperature | Scroll compressor | R-455A

Refrigerant	Series / Model	Compressor (HP)	Cooling capacity (kW) Average evaporating temperature ⁽¹⁾			Input power (kW)	SEPR ⁽²⁾	Max. current (A)	Condenser		Liq-Gas cooling connection	Weight (kg)	SPL dB(A) ⁽³⁾
			-35 °C	-30 °C	-25 °C				Fan Ø (mm)	Conden. air flow (m ³ /h)			
R-455A	BDV-SN-60202A	2x 10	10.6	13.2	16.4	13.7	1.5	40.1	2x Ø 500	14,000	1/2" - 1 5/8"	510	56
	BDV-SN-70303A	3x 10	15.7	19.7	24.5	20.7	1.5	60.0	3x Ø 500	21,000	5/8" - 2 1/8"	590	57

BDV-SN-7 REFRIGERATION SCHEME



- CP: COMPRESSOR
- MV: AXIAL MOTOR FAN
- RL: LIQUID RESERVOIR
- FL: LIQUID FILTER
- SA: OIL SEPARATOR
- TT: DISCHARGE THERMOSTAT
- VS: SOLENOID VALVE
- VC: SERVICE VALVE
- VL: SIGHT GAUGE
- VSV_L: LIQUID SERVICE VALVE
- MAN_L: LIQUID PRESSURE GAUGE
- MAN_A: SUCTION PRESSURE GAUGE

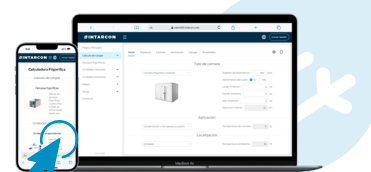
* SAFETY VALVE PIPED TO THE OUTSIDE

⁽¹⁾ Conditions according to UNE-EN 13215: Ambient temp. 35 °C, average evaporating temp. -10 °C (PT) and -30 °C (NT), SH=10 K.

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

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

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SOFTWARE REFRIGERATION CALCULATION



A2L intarCUBE Scroll INVERTER



Compact refrigeration condensing units, with scroll compressors, one of them INVERTER and axial condensation. Designed to operate at positive and negative temperatures up to 40 kW. Capable of operating with R-455A or R-454C.

FEATURES

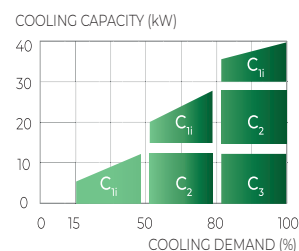
Casing in pre-painted galvanized sheet, with acoustically insulated panels and service access covers.	■
Independent compressor compartment with ATEX extraction fans.	■
Scroll compressors, one of them INVERTER, acoustically insulated with soundproof cover.	■
Integrated safety valve in the boiler and in the low-pressure sector.	■
Liquid injection system for negative temperature.	■
Aluminium microchannel condenser coil with Polyester Powder Coating treatment.	■
Axial EC fans.	■
Electrical panel independent of the frigorific compartment.	■
Pressure gauges with low dew pressure and liquid bubble indication.	■
Crankcase heater on all compressors.	■
Oil separator.	■
Electronic oil injection system with tank.	■
Electromechanical emergency manoeuvre by adjustable pressure switches with manual or automatic activation in case of failure.	■
Differential and thermal-magnetic protection for each compressor, fan, manoeuvre and auxiliary elements.	■
Solenoid permission.	■
High-performance axial fan, up to 80 Pa.	□
Radial EC fan with horizontal discharge, up to 150 Pa.	□
Radial EC fan with vertical discharge, up to 150 Pa.	□
Hot gas defrost.	□
Suction separator.	□
Copper microtube coil and aluminium fins.	□
Copper microtube coil and aluminium fins with polyurethane coating.	□
Copper microtube coil and aluminium fins with magnesium alloy.	□
Danfoss AK-PC 551 electronic regulation.	□
Supervision and control kiconex.	□
Stainless steel screws.	□

■ As standard □ Optional

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.



Night mode

Silent operating mode available, reducing the sound level and condenser airflow.

Operating limits

	Min. value	Max. value
Outdoor temp.	-5 °C	45 °C
Evaporation temp. (PT)	-15 °C	5 °C
Evaporation temp. (NT)	-35 °C	-20 °C

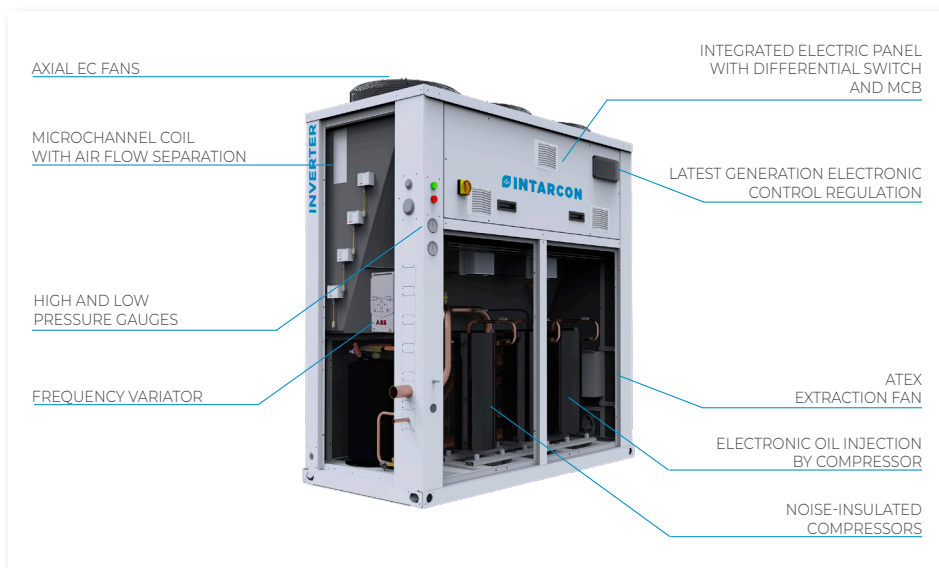
Head pressure

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.

DV-YN series accessories

- ▶ Spare electronic regulation.
- ▶ Non-return damper.
- ▶ Silentblock kit.

REFRIGERATION DETAIL



Electromechanical emergency manoeuvre

The electromechanical emergency manoeuvre included as standard in the intarCUBE A2L range allows the system to be controlled or stopped manually in the event of an electronic failure. Its main function is to ensure the safety of the refrigerated product.

High-pressure axial fan up to 80 Pa (optional)

The optional enhanced axial fan offers a pressure of up to 80 Pa, channelling hot condensation air and facilitating its transfer to the outside or to technical areas, especially in installations in machine rooms or enclosed spaces.

Radial EC fan (optional)

The optional electronic radial fan offers a pressure of 150 Pa, with the possibility of vertical or horizontal discharge.

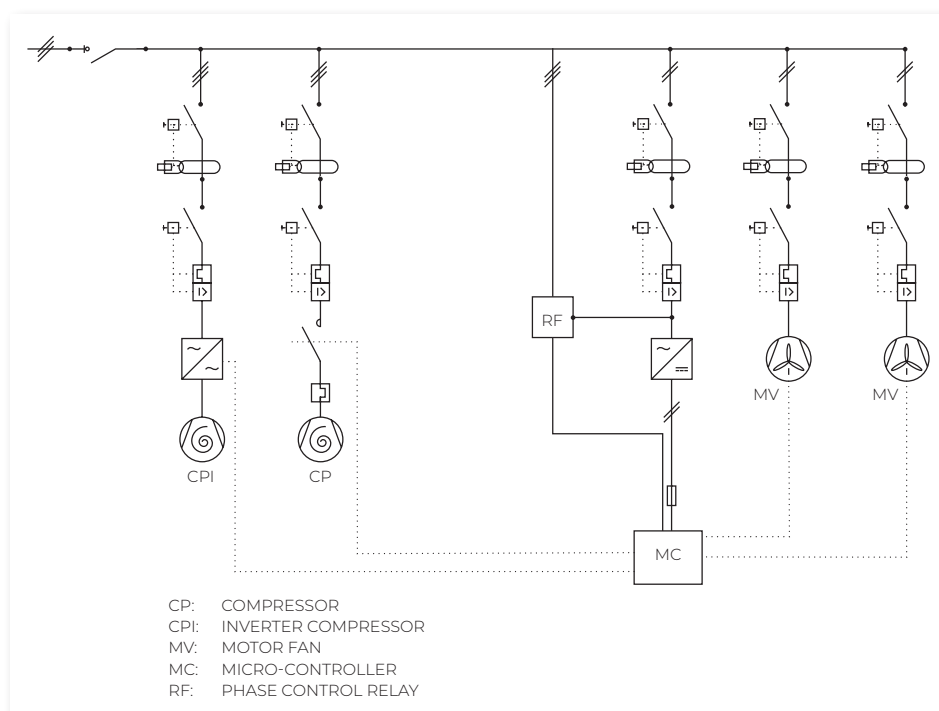
400V 3N 50 Hz | Positive temperature | Scroll INVERTER compressor | R-455A

Refrigerant	Series / Model	Compressor (HP)	Cooling capacity (kW) Average evaporating temperature ⁽¹⁾				Input power (kW)	SEPR ⁽²⁾	Max. current (A)	Condenser		Liq-Gas cooling connection	Weight (kg)	SPL dB(A) ⁽³⁾
			-15 °C	-10 °C	-5 °C	0 °C				Fan Ø (mm)	Conden. air flow (m³/h)			
R-455A	MDV-YN-60112A	4 ⁽¹⁾ + 7	14.1	17.2	20.9	24.9	8.3	4.4	27.7	2x Ø 500	14,000	1/2" - 1 1/8"	470	51
	MDV-YN-60142A	7 ⁽¹⁾ + 7	17.6	21.5	26.0	31.2	10.1	4.4	32.9	2x Ø 500	14,000	5/8" - 1 3/8"	480	51
	MDV-YN-70183A	4 ⁽¹⁾ + 2x 7	22.0	27.1	33.0	39.5	13.3	4.4	44.0	3x Ø 500	21,000	5/8" - 1 5/8"	580	53
	MDV-YN-70213A	7 ⁽¹⁾ + 2x 7	25.7	31.5	38.2	45.8	15.1	4.5	49.2	3x Ø 500	21,000	5/8" - 1 5/8"	600	53
	MDV-YN-70223A	7 ⁽¹⁾ + 2x 7,5	31.5	38.5	46.3	54.8	19.3	4.9	43.6	3x Ø 500	21,000	5/8" - 1 5/8"	638	52

400V 3N 50 Hz | Negative temperature | Scroll INVERTER compressor | R-455A

Refrigerant	Series / Model	Compressor (HP)	Cooling capacity (kW) Average evaporating temperature ⁽¹⁾			Input power (kW)	SEPR ⁽²⁾	Max. current (A)	Condenser		Liq-Gas cooling connection	Weight (kg)	SPL dB(A) ⁽³⁾
			-35 °C	-30 °C	-25 °C				Fan Ø (mm)	Conden. air flow (m³/h)			
R-455A	BDV-YN-60152A	5 ⁽¹⁾ + 10	8.4	10.7	13.4	10.4	1.6	30.8	2x Ø 500	14,000	1/2" - 1 1/8"	425	55
	BDV-YN-60202A	10 ⁽¹⁾ + 10	11.5	14.4	17.8	13.6	1.6	40.1	2x Ø 500	14,000	1/2" - 1 5/8"	445	56
	BDV-YN-70253A	5 ⁽¹⁾ + 2x 10	13.6	17.2	21.5	17.3	1.7	50.8	3x Ø 500	21,000	5/8" - 2 1/8"	590	55
	BDV-YN-70303A	10 ⁽¹⁾ + 2x 10	16.6	20.9	26.0	20.6	1.7	60.0	3x Ø 500	21,000	5/8" - 2 1/8"	649	57

MDV-YN-6 REFRIGERATION SCHEME



⁽¹⁾ Inverter compressor.
⁽¹⁾ Conditions according to UNE-EN 13215. Ambient temp. 35 °C, average evaporating temp. -10 °C (PT) and -30 °C (NT), SH=10 K.
⁽²⁾ Seasonal Performance Factor (SEPR) according to Commission Regulation (EU) 2015/1095.
⁽³⁾ Sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

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