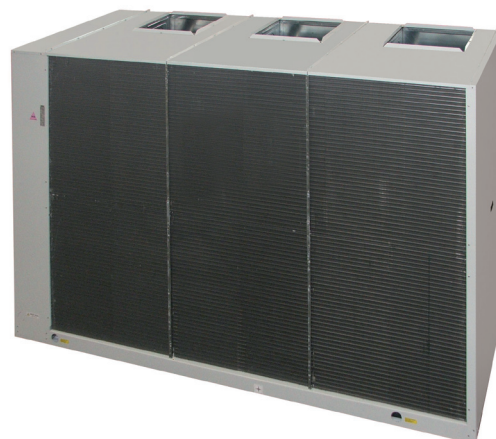


> CGC HE

CONDENSING UNITS FOR INDOOR INSTALLATION



Available range

Unit type

- SR Condensing unit
- SP Heat pump condensing unit (reversible on the refrigerant side)

Version

- VB Base version
- VD Desuperheater version
- VR Total recovery version

Acoustic setting up

- AB Base setting up
- AS Low noise setting up

Source temperature level

- M Medium temperature level
- A High temperature level

Unit description

This series of condensing units satisfies the cooling and heating requirements of residential plants of medium size.

All the units are suitable for outdoor installation and can be connected to a remote heat exchanger properly designed in order to transfer to the plant all the cooling (and heating for reversible units) power generated.

The refrigerant circuit, contained in a compartment protected from the air flow to simplify the maintenance operations, is equipped with scroll compressors mounted on

damper supports, thermostatic expansion valve (only for SP), reverse cycle valve, double inlet centrifugal fans with forward curved blades, finned coil made of copper pipes and aluminium louvered fins with subcooling section. The circuit is protected by a safety gas valve, high and low pressure switches.

All the units can be equipped with variable speed fans control that allows the units to operate with low outdoor temperatures in cooling and high outdoor temperature in heating and permits to reduce noise emissions in such operating conditions.

The low noise acoustic setting up (AS) is obtained, starting from the base setting up (AB), mounting sound jackets on the compressors and the technical compartment is clad with soundproofing material of suitable thickness.

All the units are supplied with a management and control electrical panel containing general switch, phase presence and correct sequence controller, microprocessor controller with display and all the other electrical components with IP54 minimum protection degree.

All the units are accurately built and individually tested in the factory.

All the units are supplied with refrigerant charge inside.

Only electric and refrigerant connections (between condensing unit and remote heat exchanger) are required for installation.

Options

Compressor starting

- standard (contactors)
- soft starter

Fans control

- on-off control
- modulating control INVERTER (condensation / evaporation control)

Compressor power factor correction

Electrical load protection

- fuses
- thermal magnetic circuit breakers

Coil condensate tray

(standard for SP)

Accessories

Rubber vibration dampers

Spring vibration dampers

Coil protection grilles

Remote control

Modbus serial interface on RS485

Programmer clock

Phase sequence and voltage controller

Low temperature kit (standard for SP)

High and low pressure gauges

High temperature thermostat

Coil shut off valves

Outdoor air sensor

Remote plate heat exchanger

Liquid line

NOMINAL performances

SR	Base setting up (AB)	40.2	50.2	60.2	70.2	80.2	90.2	100.2	115.2	130.2	145.2	160.2	180.2	
A35E5	Cooling capacity	51,2	60,7	68,5	76,7	90,5	103,0	116	131	145	166	188	214	kW
	Power input	14,8	17,0	19,7	21,8	27,0	30,9	34,3	38,3	42,3	49,5	54,8	63,9	kW
	EER	3,46	3,57	3,48	3,52	3,35	3,33	3,38	3,42	3,43	3,35	3,43	3,35	W/W
SR	Low noise setting up (AS)	40.2	50.2	60.2	70.2	80.2	90.2	100.2	115.2	130.2	145.2	160.2	180.2	
A35E5	Cooling capacity	51,2	60,7	68,5	76,7	90,5	103,0	116	131	145	166	188	214	kW
	Power input	14,8	17,0	19,7	21,8	27,0	30,9	34,3	38,3	42,3	49,5	54,8	63,9	kW
	EER	3,46	3,57	3,48	3,52	3,35	3,33	3,38	3,42	3,43	3,35	3,43	3,35	W/W
SP	Base setting up (AB)	40.2	50.2	60.2	70.2	80.2	90.2	100.2	115.2	130.2	145.2	160.2	180.2	
A35E5	Cooling capacity	49,1	58,2	65,9	73,7	88,2	100,2	112	125	139	160	180	207	kW
	Power input	14,5	16,9	19,3	21,5	26,5	30,0	33,6	37,5	41,4	48,1	53,8	62,2	kW
	EER	3,39	3,44	3,41	3,43	3,33	3,34	3,33	3,33	3,36	3,33	3,35	3,33	W/W
A7C50	Heating capacity	49,2	58,0	65,6	73,6	87,9	99,8	112	125	140	160	180	206	kW
	Power input	15,3	17,8	20,4	22,9	27,4	31,0	34,8	39,0	43,5	50,0	55,9	64,2	kW
	COP	3,22	3,26	3,22	3,21	3,21	3,22	3,22	3,21	3,22	3,20	3,22	3,21	W/W
A7C45	Heating capacity	54,1	63,8	72,2	81,0	96,7	110	123	138	154	176	198	227	kW
	Power input	13,5	15,7	18,0	20,2	24,1	27,3	30,6	34,3	38,3	44,0	49,2	56,5	kW
	COP	4,01	4,06	4,01	4,01	4,01	4,03	4,02	4,02	4,02	4,00	4,02	4,02	W/W
SP	Low noise setting up (AS)	40.2	50.2	60.2	70.2	80.2	90.2	100.2	115.2	130.2	145.2	160.2	180.2	
A35E5	Cooling capacity	49,1	58,2	65,9	73,7	88,2	100,2	112	125	139	160	180	207	kW
	Power input	14,5	16,9	19,3	21,5	26,5	30,0	33,6	37,5	41,4	48,1	53,8	62,2	kW
	EER	3,39	3,44	3,41	3,43	3,33	3,34	3,33	3,33	3,36	3,33	3,35	3,33	W/W
A7C50	Heating capacity	49,2	58,0	65,6	73,6	87,9	99,8	112	125	140	160	180	206	kW
	Power input	15,3	17,8	20,4	22,9	27,4	31,0	34,8	39,0	43,5	50,0	55,9	64,2	kW
	COP	3,22	3,26	3,22	3,21	3,21	3,22	3,22	3,21	3,22	3,20	3,22	3,21	W/W
A7C45	Heating capacity	54,1	63,8	72,2	81,0	96,7	110	123	138	154	176	198	227	kW
	Power input	13,5	15,7	18,0	20,2	24,1	27,3	30,6	34,3	38,3	44,0	49,2	56,5	kW
	COP	4,01	4,06	4,01	4,01	4,01	4,03	4,02	4,02	4,02	4,00	4,02	4,02	W/W

The values are referred to units without options and accessories.
EER (Energy Efficiency Ratio) = ratio of the total cooling capacity to the effective power input of the unit
COP (Coefficient Of Performance) = ratio of the total heating capacity to the effective power input of the unit

A35E5 = source : air in 35°C d.b. / plant : evaporation temperature (dew point) 5°C - superheating 5°C
A7C50 = source : air in 7°C d.b. 6°C w.b. / plant : condensation temperature (dew point) 50°C - subcooling 5°C
A7C45 = source : air in 7°C d.b. 6°C w.b. / plant : condensation temperature (dew point) 45°C - subcooling 5°C

VD and VR versions

These units allow to recover the heating power, otherwise wasted on air, through an additional heat exchanger.

The **Desuperheater Version (VD)** allow the hot water production at temperatures between 30 and 70°C through the partial heat recovery of the condensation heat.

The **Total Recovery Version (VR)** allows the cold water production and, at the same time, the hot water production at temperatures between 30 and 55°C through the total recovery of the condensation heat.

Desupeheater Version (VD) - NOMINAL performances

SR	Base setting up (AB)	40.2	50.2	60.2	70.2	80.2	90.2	100.2	115.2	130.2	145.2	160.2	180.2	
A35E5 - W45	Cooling capacity	53,2	63,1	71,2	79,7	94,1	107	120	136	151	173	195	222	kW
	Total power input	14,4	16,5	19,1	21,1	26,2	30,0	33,2	37,2	41,1	48,0	53,2	62,0	kW
	EER	3,69	3,82	3,73	3,78	3,59	3,57	3,61	3,66	3,67	3,60	3,67	3,58	W/W
	Heating recovery capacity	15,4	18,3	20,7	23,1	27,3	31,1	34,9	39,4	43,6	50,2	56,7	64,5	kW
	Water flow rate recovery	0,74	0,87	0,99	1,10	1,30	1,48	1,67	1,88	2,09	2,40	2,71	3,08	l/s
	Water pressure drop recovery	8	12	15	18	25	20	24	14	18	24	29	24	kPa
SP	Base setting up (AB)	40.2	50.2	60.2	70.2	80.2	90.2	100.2	115.2	130.2	145.2	160.2	180.2	
A35E5 - W45	Cooling capacity	51,1	60,5	68,5	76,6	91,8	104	117	130	145	166	188	216	kW
	Total power input	14,1	16,4	18,7	20,8	25,7	29,1	32,6	36,4	40,2	46,6	52,2	60,3	kW
	EER	3,62	3,69	3,66	3,68	3,57	3,57	3,59	3,57	3,61	3,56	3,60	3,58	W/W
	Heating recovery capacity	14,8	17,6	19,9	22,2	26,6	30,2	33,9	37,8	42,0	48,2	54,4	62,5	kW
	Water flow rate recovery	0,71	0,84	0,95	1,06	1,27	1,44	1,62	1,81	2,01	2,30	2,60	2,99	l/s
	Water pressure drop recovery	7	11	14	17	24	19	22	13	17	22	27	23	kPa

Total Recovery Version (VR) - NOMINAL performances

SR	Base setting up (AB)	40.2	50.2	60.2	70.2	80.2	90.2	100.2	115.2	130.2	145.2	160.2	180.2	
A35E5 - W45	Cooling capacity	53,2	63,1	71,2	79,7	94,1	107	120	136	151	173	195	222	kW
	Total power input	14,2	16,4	18,9	20,9	25,9	29,7	32,9	36,8	40,6	47,5	52,6	61,4	kW
	EER	3,75	3,85	3,77	3,81	3,63	3,60	3,65	3,70	3,72	3,64	3,71	3,62	W/W
	Heating recovery capacity	66,8	78,7	89,1	99,6	119	135	151	171	189	218	245	281	kW
	Water flow rate recovery	3,19	3,76	4,26	4,76	5,68	6,47	7,23	8,16	9,03	10,42	11,7	13,4	l/s
	Water pressure drop recovery	43	60	54	53	64	61	65	63	66	67	71	76	kPa

Data declared according to EN 14511. The values are referred to units without options and accessories.

EER (Energy Efficiency Ratio) = ratio of the total cooling capacity to the effective power input of the unit

HRE (Heat Recovery Efficiency) = ratio of the total capacity of the system (heating plus cooling capacity) to the effective power input

A35W7 - W45 = source : air in 35°C d.b. / plant : water in 12°C out 7°C / Recovery : water in 40°C out 45°C

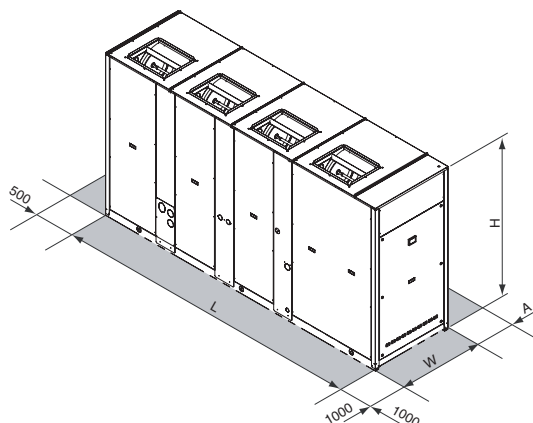
CONTROL SYSTEM

The units are equipped with a controller designed to ensure energy saving and unit efficiency. Available functions :

- Adaptive function
- Dynamic defrost
- Sound management
- Climatic control in heating and in cooling mode
- Economy function
- Demand limit
- Integrative heating
- Remote stand by
- Remote cooling-heating



DIMENSIONS - MINIMUM OPERATING AREA - WEIGHT



	40.2	50.2	60.2	70.2	80.2	90.2	100.2	115.2	130.2	145.2	160.2	180.2	
L		2501				3343			3343			4097	mm
W		954				1104			1104			1104	mm
H		1930				1793			2193			2193	mm
A		1600				2000			2000				mm
Operating maximum weight	1121	1125	1146	1189	1670	1751	1836	2051	2080	2124	2478	2520	kg