

# > CGC

## 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	200.2	
A35E5	Cooling capacity	48,9	57,8	63,3	74,3	85,0	98,3	110	121	136	154	171	194	216	kW
	Power input	15,5	18,4	20,5	23,7	27,6	32,1	35,5	39,4	44,5	50,8	56,3	63,7	70,6	kW
	EER	3,15	3,14	3,09	3,14	3,08	3,06	3,10	3,07	3,06	3,03	3,04	3,05	3,06	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	200.2	
A35E5	Cooling capacity	48,9	57,8	63,3	74,3	85,0	98,3	110	121	136	154	171	194	216	kW
	Power input	15,5	18,4	20,5	23,7	27,6	32,1	35,5	39,4	44,5	50,8	56,3	63,7	70,6	kW
	EER	3,15	3,14	3,09	3,14	3,08	3,06	3,10	3,07	3,06	3,03	3,04	3,05	3,06	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	200.2	
A35E5	Cooling capacity	47,3	57,1	62,1	72,6	80,0	96,3	107	119	132	149	166	192	214	kW
	Power input	15,3	18,6	20,4	23,8	26,7	31,9	35,3	39,3	43,9	49,7	55,6	62,7	70,3	kW
	EER	3,09	3,07	3,04	3,05	3,00	3,02	3,03	3,03	3,01	3,00	2,99	3,06	3,04	W/W
A7C50	Heating capacity	47,8	57,5	62,6	73,8	82,3	98,7	109	124	135	153	171	195	214	kW
	Power input	15,3	18,5	20,3	23,7	26,9	32,6	35,0	40,0	43,7	50,5	55,4	63,4	69,8	kW
	COP	3,12	3,11	3,08	3,11	3,06	3,03	3,11	3,10	3,09	3,03	3,09	3,08	3,07	W/W
A7C45	Heating capacity	52,6	63,3	68,9	81,2	90,5	109	120	136	149	168	188	215	235	kW
	Power input	13,5	16,3	17,9	20,9	23,7	28,7	30,8	35,2	38,5	44,4	48,8	55,8	61,4	kW
	COP	3,90	3,88	3,85	3,89	3,82	3,80	3,90	3,86	3,87	3,78	3,85	3,85	3,83	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	200.2	
A35E5	Cooling capacity	47,3	57,1	62,1	72,6	80,0	96,3	107	119	132	149	166	192	214	kW
	Power input	15,3	18,6	20,4	23,8	26,7	31,9	35,3	39,3	43,9	49,7	55,6	62,7	70,3	kW
	EER	3,09	3,07	3,04	3,05	3,00	3,02	3,03	3,03	3,01	3,00	2,99	3,06	3,04	W/W
A7C50	Heating capacity	47,8	57,5	62,6	73,8	82,3	98,7	109	124	135	153	171	195	214	kW
	Power input	15,3	18,5	20,3	23,7	26,9	32,6	35,0	40,0	43,7	50,5	55,4	63,4	69,8	kW
	COP	3,12	3,11	3,08	3,11	3,06	3,03	3,11	3,10	3,09	3,03	3,09	3,08	3,07	W/W
A7C45	Heating capacity	52,6	63,3	68,9	81,2	90,5	109	120	136	149	168	188	215	235	kW
	Power input	13,5	16,3	17,9	20,9	23,7	28,7	30,8	35,2	38,5	44,4	48,8	55,8	61,4	kW
	COP	3,90	3,88	3,85	3,89	3,82	3,80	3,90	3,86	3,87	3,78	3,85	3,85	3,83	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	200.2	
A35E5 - W45	Cooling capacity	50,9	60,1	65,8	77,3	88,4	102	115	126	142	161	177	202	225	kW
	Total power input	15,1	17,9	19,8	23,0	26,8	31,1	34,4	38,2	43,1	49,3	54,7	61,8	68,4	kW
	<b>EER</b>	<b>3,37</b>	<b>3,36</b>	<b>3,32</b>	<b>3,36</b>	<b>3,30</b>	<b>3,28</b>	<b>3,34</b>	<b>3,30</b>	<b>3,29</b>	<b>3,27</b>	<b>3,24</b>	<b>3,27</b>	<b>3,29</b>	W/W
	Heating recovery capacity	14,8	17,4	19,1	22,4	25,6	29,6	33,2	36,5	41,0	46,6	51,5	58,6	65,1	kW
	Water flow rate recovery	0,70	0,83	0,91	1,07	1,22	1,42	1,59	1,74	1,96	2,23	2,46	2,80	3,11	l/s
	Water pressure drop recovery	7	11	13	17	22	18	22	12	16	20	24	20	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	200.2	
A35E5 - W45	Cooling capacity	49,2	59,4	64,6	75,5	83,2	100	111	124	137	155	173	200	222	kW
	Total power input	14,9	18,1	19,8	23,1	25,9	30,9	34,2	38,1	42,6	48,2	54,0	60,8	68,1	kW
	<b>EER</b>	<b>3,30</b>	<b>3,28</b>	<b>3,26</b>	<b>3,27</b>	<b>3,21</b>	<b>3,24</b>	<b>3,25</b>	<b>3,25</b>	<b>3,22</b>	<b>3,22</b>	<b>3,20</b>	<b>3,29</b>	<b>3,26</b>	W/W
	Heating recovery capacity	14,3	17,2	18,7	21,9	24,1	29,1	32,2	35,8	39,7	45,0	50,2	58,0	64,5	kW
	Water flow rate recovery	0,68	0,82	0,89	1,05	1,15	1,39	1,54	1,71	1,90	2,15	2,40	2,77	3,08	l/s
	Water pressure drop recovery	7	11	12	17	20	17	20	12	15	19	23	20	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	200.2	
A35E5 - W45	Cooling capacity	50,9	60,1	65,8	77,3	88,4	102	115	126	142	161	177	202	225	kW
	Total power input	14,9	17,7	19,6	22,7	26,5	30,8	34,1	37,8	42,7	48,8	54,1	61,2	67,7	kW
	<b>EER</b>	<b>3,42</b>	<b>3,40</b>	<b>3,36</b>	<b>3,41</b>	<b>3,34</b>	<b>3,31</b>	<b>3,37</b>	<b>3,33</b>	<b>3,33</b>	<b>3,30</b>	<b>3,27</b>	<b>3,30</b>	<b>3,32</b>	W/W
	Heating recovery capacity	65,0	76,9	84,5	98,9	114	131	147	162	182	207	229	260	289	kW
	Water flow rate recovery	3,11	3,67	4,04	4,73	5,43	6,28	7,02	7,73	8,70	9,89	10,9	12,4	13,8	l/s
	Water pressure drop recovery	41	57	48	53	59	58	62	56	61	61	62	65	65	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

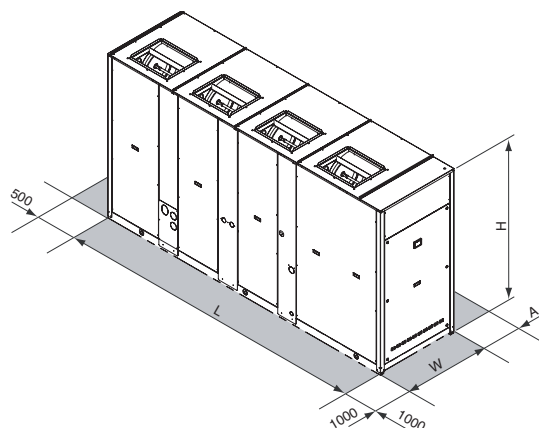
## CONTROL SYSTEM

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	200.2	
L			2501				3343			3343		4097		mm
W			954				1104			1104		1104		mm
H			1930				1793			2193		2193		mm
A			1600							2000				mm
Operating maximum weight	1078	1082	1102	1143	1168	1684	1765	1825	2000	2042	2094	2423	2467	kg