

## Refrigeration unit **RGE 150÷520**

## Heat Pumps **HGE 150÷520**

To produce hot or cold water and feed convector fans or air treatment units, ACCORRONI has created a full range of appliances designed to meet the requirements of any system. The range of large refrigerating units (RGE 150÷520) and heat pumps (HGE 150÷520) includes models with a potential ranging from 150 to 520 kW.

All models have laminated zinc panels painted with polyurethane powder paint.

The main and base frames are in laminated zinc painted with polyurethane powder paint.

The bases also have holes for easy raising and putting down of the appliances.

All models have a microprocessor control which can be connected to a remote control panel for distance operating.

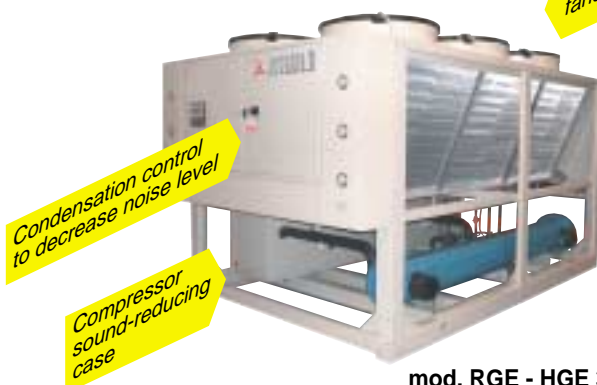
All the machines are carefully assembled and checked in the factory and are ready for installation.

**\* On request, the machines can be ordered with laminated AISI 304 inox steel frames.**

**Silent version available  
on request**

**R 407 C**

**low rpm  
fans**



**mod. RGE - HGE 350**

MODELS		THERMAL POWER		REFRIGER. CAPACITY	
		kW	kcal/h	kW	frig/h
RGE 150 screw single-compressor	P/N 66600000			151	129.860
RGE 150 reciprocating twin-compressor	P/N 66600100			151	129.860
HGE 150 screw single-compressor (heat pump)	P/N 66600001	176	151.360	151	129.860
HGE 150 reciprocating twin-compressor (heat pump)	P/N 66600101	173	148.780	151	129.860
RGE 170 screw single-compressor	P/N 66620000			174	149.640
RGE 170 reciprocating twin-compressor	P/N 66620100			168	144.480
HGE 170 screw single-compressor (heat pump)	P/N 66620001	203	174.580	174	149.640
HGE 170 reciprocating twin-compressor (heat pump)	P/N 66620101	188	161.680	168	144.480
RGE 210 screw single-compressor	P/N 66640000			215	184.900
RGE 210 reciprocating twin-compressor	P/N 66640100			210	180.600
HGE 210 screw single-compressor (heat pump)	P/N 66640001	250	215.000	215	184.900
HGE 210 reciprocating twin-compressor (heat pump)	P/N 66640101	254	218.440	210	180.600
RGE 250 screw twin-compressor (heat pump)	P/N 66660000			250	215.000
HGE 250 screw twin-compressor (heat pump)	P/N 66660001	300	258.000	250	215.000
RGE 300 screw twin-compressor	P/N 66680000			300	258.000
HGE 300 screw twin-compressor (heat pump)	P/N 66680001	352	302.720	300	258.000
RGE 350 screw twin-compressor	P/N 66700000			348	299.280
HGE 350 screw twin-compressor (heat pump)	P/N 66700001	406	349.160	348	299.280
RGE 420 screw twin-compressor	P/N 66720000			420	361.200
HGE 420 screw twin-compressor (heat pump)	P/N 66720001	493	423.980	420	361.200
RGE 520 screw twin-compressor	P/N 66740000			520	447.200
HGE 520 screw twin-compressor (heat pump)	P/N 66740001	596	512.560	520	447.200

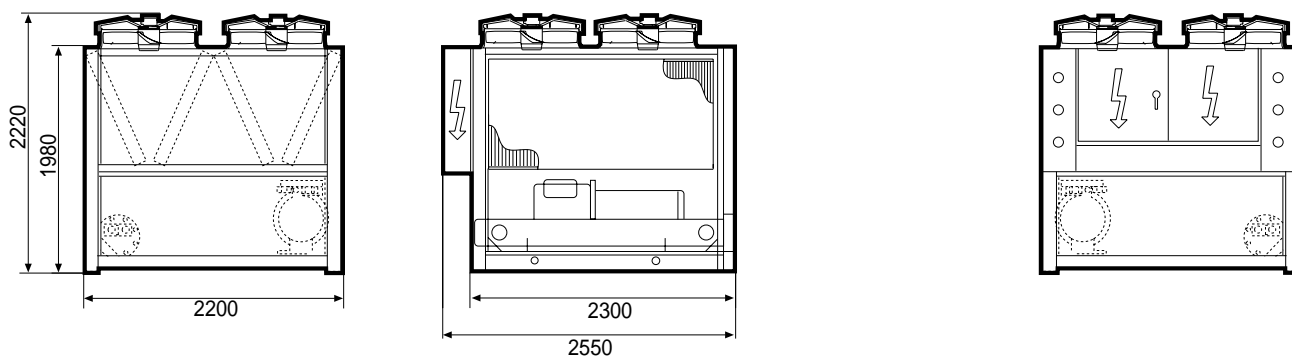
Operating conditions refer to: 35°C dry bulb and 24°C wet bulb with 5°C thermal head and 7°C outgoing water for summer operation; 7°C dry bulb and 6°C wet bulb with 5°C thermal head and 0°C outgoing water for winter operation;

\* Surcharge for versions with stainless steel frame = price + 10%. When ordering, add letter A to product code.

- Designed for feeding convector fans, air treatment units, centralised air treatment or to satisfy particular installation needs. High resistance to atmospheric agents due to the laminated zinc cover painted in polyurethane powder paint.
- Two refrigeration circuits which optimise performance levels and guarantee partial operation during maintenance phases.
- 4/8 gradations which optimise performance levels according to the needs of the user with subsequent energy savings.
- Sequence control device to safeguard against errors of electrical connection.
- On request a version with AISI 304 inox steel internal fittings is available.

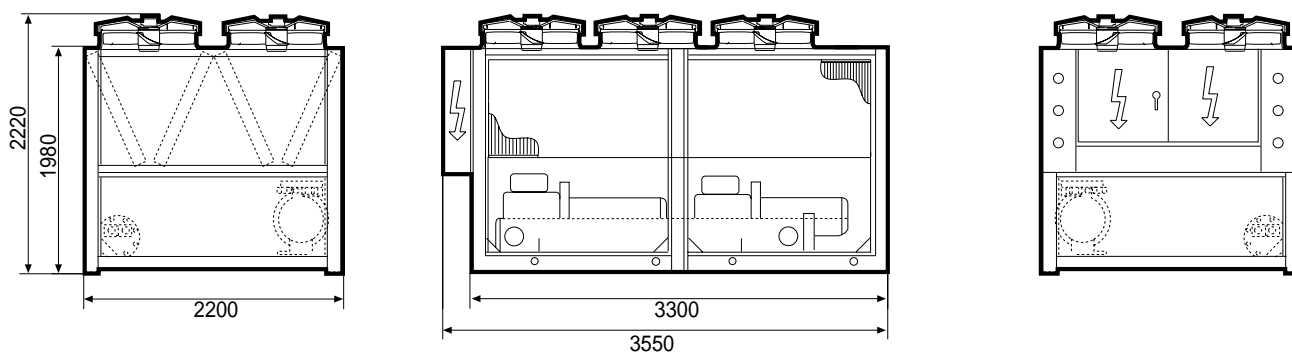
## Dimension of models RGE - HGE 150 - 170 - 210

(dimensions in mm.s)



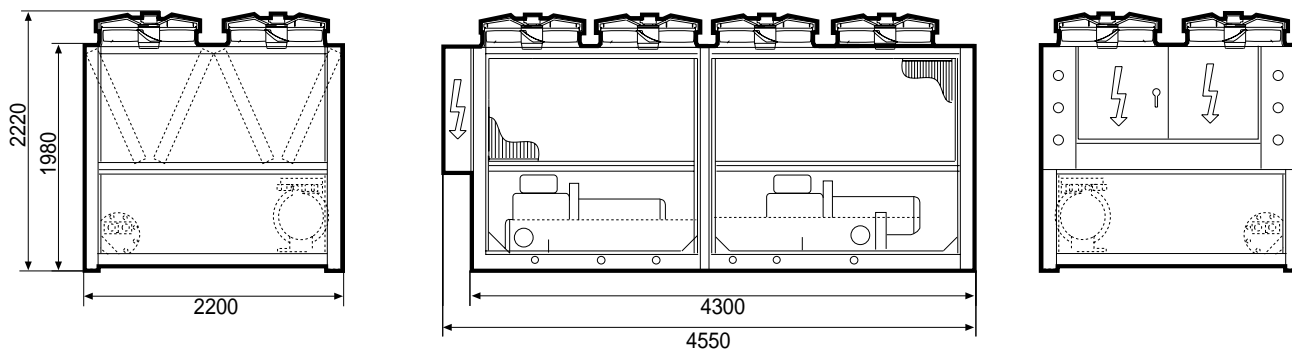
## Dimension of models RGE - HGE 250 - 300 - 350

(dimensions in mm.s)



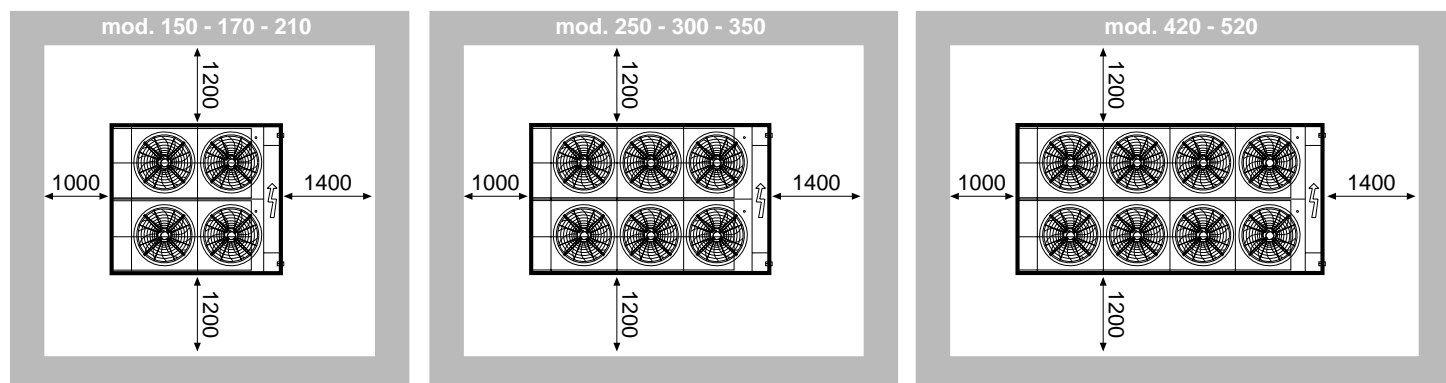
## Dimension of models RGE - HGE 420 - 520

(dimensions in mm.s)



## Minimum installation clearance RGE-HGE

(dimensions in mm.s)



## Technical and assembly characteristics

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Base framework in laminated zinc painted with polyurethane powder paint

Main framework in laminated zinc painted with polyurethane powder paint

Refrigeration compressors:

Models 150 - 170 - 210 are available in two versions:

- with 1 high efficiency screw compressor
- with 2 semihermetic alternative compressors

Models 250 - 300 - 350 - 420 - 520 come with two screw compressors.

All compressors have interception taps, electrical heat resistance to oil and filling with unsuitable oils.

The screw compressors have a series of 4 steps for partial operating (25 - 50 - 75 - 100%)

The electric motors are the 'part winding' type and are protected against overheating by thermostats on the winding arm.

Blade pack type condensers with copper tubing with aluminium turbo fins to increase efficiency in the over-cooling circuit for the heat pump.

Low revolution axial fans with external rotor motor and sheet aluminium slats, complete with protective grilles.

The electric motors are protected by thermostats. The external outlet contributes to reducing noise levels.

Refrigeration Circuit

Models 150 - 170 - 210 with single compressor have 1 refrigeration circuit with a screw compressor.

Models 150 - 170 - 210 with two compressors have 2 independent refrigeration circuits, each one with 1 semihermetic alternative compressor.

Models 250 - 300 - 350 - 420 - 520 have two independent refrigeration circuits, each one with 1 screw compressor.

Connections between the individual components in the circuits are in copper tubing with silver solder.

The refrigeration circuits have the following components:

- lamination valve
- cycle inversion valve (heat pump)
- one-directional valves (heat pump)
- high pressure safety valve
- solenoid line liquid valve
- high and low pressure switches with pin valve
- filter and liquid indicator
- differential oil pressure control

Refrigeration tube evaporator with two independent circuits, complete with thermal insulation.

Electrical system in an isolation container. The power area consists of:

- general line sectioner with gate block
- compressor control counter
- fan control counter

Control is by a microprocessor for maximum performance. It is programmed to carry out the following functions:

- Thermostatic check of water temperature
- programming and visual check of the set (water inlet and outlet) temperature and differential after intervention.
- alarms for high, low and differential oil pressure, compressor heat, condensation fan heat, anti-freeze and differential water pressure control (or flow measure)
- Automatic cyclical rotation for starting the compressors.
- Condensation check control
- Remote control possibility
- Maintenance programme possibility (timer)
- Possibility of communication with the outside through serial gates
- RS422/RS485
- Alarm storage using a timer plan

### VERSIONS AVAILABLE ON REQUEST

**S** - Standard version

**L** - Silenced version

Soundproofed compressors and condensation control

**H** - Super version - silenced

Enlarged condenser and slow speed fans + soundproofing of the compressors and condensation control

## Classification and certification

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The products described in this manual are defined as: "Air/water enbloc heat pumps and refrigeration units." Water refrigeration units are indicated by **RGE** and heat pumps by **HGE**, with the addition of a numeric code representing the power given off in kW.

### Models 150 - 170 - 210

The units are available in 2 versions:

- with no.1 high-efficiency screw compressor equipped standard with no.4 partialization steps;
- with no.2 partially air-tight reciprocating compressors.

### Models 250 - 300 - 350 - 420 - 520:

The units are equipped with no.2 screw compressors with no.4 standard partialization steps for each compressor.

Products **RGE** - **HGE** comply with Directives 97/23/EC, 89/392/EEC, 91/368/ECC, 93/44/EEC, 73/23 and following amendments of 93/68/ECC, besides Directive "Electromagnetic Compatibility" 89/336/ECC.

These EC-marked products have been tested according to all applicable harmonised standards and come complete with the relevant certificate (enclosed).

## Accessories available on request

<b>Models</b>	<b>Desuperheaters</b>	<b>P/N</b>
RGE - HGE 150	recovered thermal power 1 x 26 kW water in-out 40-50 °C	66602801
RGE - HGE 170	recovered thermal power 1 x 34 kW water in-out 40-50 °C	66622801
RGE - HGE 210	recovered thermal power 1 x 40 kW water in-out 40-50 °C	66642801
RGE - HGE 250	recovered thermal power 2 x 26 kW water in-out 40-50 °C	66662801
RGE - HGE 300	recovered thermal power 2 x 34 kW water in-out 40-50 °C	66682801
RGE - HGE 350	recovered thermal power 2 x 40 kW water in-out 40-50 °C	66702801
RGE - HGE 420	recovered thermal power 2 x 50 kW water in-out 40-50 °C	66722801
RGE - HGE 520	recovered thermal power 2 x 60 kW water in-out 40-50 °C	66742801
<b>Models</b>	<b>Total heat regenerators</b>	<b>P/N</b>
RGE 150	recovered thermal power kW water in-out 40-45 °C	66602802
RGE 170	recovered thermal power 230 kW water in-out 40-45 °C	66622802
RGE 210	recovered thermal power 285 kW water in-out 40-45 °C	66642802
RGE 250	recovered thermal power 330 kW water in-out 40-45 °C	66662802
RGE 300	recovered thermal power 420 kW water in-out 40-45 °C	66682802
RGE 350	recovered thermal power 460 kW water in-out 40-45 °C	66702802
RGE 420	recovered thermal power 570 kW water in-out 40-45 °C	66722802
RGE 520	recovered thermal power 660 kW water in-out 40-45 °C	66742802
<b>Models</b>	<b>Partialisation steps for twin-compressor model (4 steps)</b>	<b>P/N</b>
RGE - HGE 150÷210		66609903
<b>Models</b>	<b>Partialisation steps for twin-compressors model (4 steps)</b>	<b>P/N</b>
RGE - HGE 150 - 170 - 210 twin-compressors x 2	(2 inozers per unit)	66600702
RGE - HGE 150 - 170 single-compressor	(2 inozers per unit)	66600701
RGE - HGE 210 single-compressor	(2 inozers per unit)	66660701
RGE - HGE 250 twin-compressors x 2	(2 inozers per unit)	66700701
RGE - HGE 300 - 350 twin-compressors x 2	(2 inozers per unit)	66600701
RGE - HGE 420 twin-compressors x 2	(2 inozers per unit)	66660701
RGE - HGE 520 twin-compressors x 2	(2 inozers per unit)	66740701
<b>Model</b>	<b>Antifreeze resistance</b>	<b>P/N</b>
RGE - HGE 150÷520		66609902
<b>Models</b>	<b>Condensation control</b>	<b>P/N</b>
RGE - HGE 150÷210		66605001
RGE - HGE 250÷300		66665001
RGE - HGE 350÷520		66705001
<b>Models</b>	<b>Remote control panel</b>	<b>P/N</b>
RGE - HGE 150÷520		66605002
<b>Models</b>	<b>Remote control panel + clock</b>	<b>P/N</b>
RGE - HGE 150÷520		66605003
<b>Models</b>	<b>Lower protection grates</b>	<b>P/N</b>
RGE - HGE 150÷210		66601501
RGE - HGE 250÷300		66661501
RGE - HGE 350÷520		66701501
<b>Models</b>	<b>Rubber vibration dampers</b>	<b>P/N</b>
RGE - HGE 150÷210		66609901
RGE - HGE 250÷300		66669901
RGE - HGE 350÷520		66709901
<b>Models</b>	<b>Hydraulic kit with 1 pump 1,000 L</b>	<b>P/N</b>
RGE - HGE 150÷170		66606301
RGE - HGE 210		66646301
<b>Models</b>	<b>Hydraulic kit with 2 pumps 1,000 L</b>	<b>P/N</b>
RGE - HGE 150÷170		66606302
RGE - HGE 210		66646302
<b>Models</b>	<b>Hydraulic kit with 1 pump 1,500 L</b>	<b>P/N</b>
RGE - HGE 250		66666301
RGE - HGE 300÷350		66686301
RGE - HGE 420÷520		66726301
<b>Models</b>	<b>Hydraulic kit with 2 pumps 1,500 L</b>	<b>P/N</b>
RGE - HGE 250		66666302
RGE - HGE 300÷350		66686302
RGE - HGE 420÷520		66726302

\* Inox version - Add A on PIN and plus 10%.

DESCRIPTION		150	170	210	150	170	210
		Twin compressor	Twin compressor	Twin compressor	Single compressor	Single compressor	Single compressor
Compressors	n./type		2/Reciprocating type		1/Screw type		
Standard partialization steps			2 (100-50-0%)		4 (100-75-50-25-0%)		
On-request partialization steps			4 (100-75-50-25-0%)		/		
Refrigerating power	KW	151	168	210	151	174	215
Summer operation absorption	KW	60	68	84	63	75	84
Summer rated current	A	108	123	152	103	123	138
RGE refrigerating load	kg	42	44	57	43	46	59
Thermal power	KW	173	188	254	176	203	250
Winter operation absorption	KW	57	65	87	62,5	74	80
Winter rated current	A	94	107	143	103	122	145
HGE refrigerating load (heat pump)	kg	47	49	63	48	50	65
Fans	n.		4				
Air flow	m³/h	64.000	84.000	80.000	64.000	84.000	80.000
Power supply			400V 3N - 50 Hz				
Auxiliary circuit voltage			230V 1N - 50 Hz/24V 1N - 50 Hz				
Max absorbed power	KW	76,2	80,9	98,8	85,3	95,0	112,0
Max current	A	128	136	166	140	156	184
Breakaway current	A	178	185	233	313	355	457
Type of starting			Part Winding				
Water flow	l/h	25.972	28.896	36.120	25.972	28.928	36.980
Flow resistance - water side	kPa	45	35	37	45	35	37
Connection diameters	"	3"	114,3 mm/BSP		3"	114,3 mm/BSP	
Noise level (at 10 metres)	dB(A)	61	65	66	63	64	65
Max dimensions: length	mm	2.550					
width	mm	2.200					
height	mm	2.170					
Shipping weight	kg	1.850	2.020	2.430	1.700	1.750	1.880

DESCRIPTION		250	300	350	420	520	
Compressors	n./tipo	2 /Screw type					
Standard partialization steps		8 (100-87,5-75-62,5-50-37,5-25-12,5-0%)					
On-request partialization steps		/					
Refrigerating power	KW	250	300	348	420	520	
Summer operation absorption	KW	104	129	147	173	211	
Summer rated current	A	171	212	241	284	346	
RGE refrigerating load	kg	64	84	86	112	130	
Thermal power	KW	300	352	406	493	596	
Winter operation absorption	KW	98	127	144	176	207	
Winter rated current	A	177	229	260	318	374	
HGE refrigerating load (heat pump)	kg	70	92	94	124	135	
Fans	n.	6			8		
Air flow	m³/h	129.000	126.000	130.000	160.000		
Power supply		400V 3N - 50 Hz					
Auxiliary circuit voltage		230V 1N - 50 Hz/24V 1N - 50 Hz					
Max absorbed power	KW	131,5	165,6	185,1	224,1	258,2	
Max current	A	216	272	304	368	424	
Breakaway current	A	355	313	355	457	563	
Type of starting		Part Winding					
Water flow	l/h	43.000	51.600	59.856	72.240	89.440	
Flow resistance - water side	kPa	26	49	40	33	48	
Connection diameters	“	114,3 mm/BSP			168,3 mm/BSP		
Noise level (at 10 metres)	dB(A)	66	67	67	69	69	
Max dimensions: length	mm	3.550			4.550		
width	mm	2.200					
height	mm	2.170					
Shipping weight	kg	2.640	3.100	3.250	4.050	4.250	