

R32 MONOBLOC HEAT PUMP AIR-TO-WATER

The FGS10/20MG heat pumps, with a nominal capacity of 10 and 20 kW, meet the highest energy efficiency class A+++ criteria, delivering a COP of up to 4.8.
Thanks to integrated innovative technologies, they operate reliably even in extreme outdoor conditions down to -25°C.

Like all Mareli Systems products, the heat pumps are manufactured in Bulgaria and have been officially tested in the laboratories of the Polytechnic University of Milan, Italy, ensuring high quality and reliability. The heat pumps are Smart Grid ready.

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MADE IN BULGARIA PREMIUM QUALITY

ehpa european heat pump association

RELAB

POLITECNICO MILANO 1863
DIPARTIMENTO DI ENERGIA

- Eco-friendly power, delivered by intelligent inverter technology.
- R-32 - One of the most balanced refrigerants in terms of environmental impact, energy efficiency, safety, and cost-effectiveness.
- A+++ energy efficiency with outstanding performance and reduced electricity costs.
- **Tested and approved** by the RELAB laboratory, part of the Polytechnic University of Milan, Italy.
- Suitable for connection to **underfloor heating systems, fan coil units, and radiators**, reaching a water temperature of up to +60°C.
- Suitable for **heating, cooling**, and providing **domestic hot water**.



Integrated automatic valve for reversing water flow direction

A unique 4-way valve system that takes the heat pump's efficiency to the next level. This innovation ensures maximum efficiency in both cooling and heating modes. Typically, this type of system is installed during the setup, and the customer is required to pay extra for it.

Key components from leading manufacturers

The main components of the heat pump series are supplied by world-leading manufacturers. The inverter compressor comes from the Japanese manufacturer PANASONIC. The electronic control and inverter are from the Italian manufacturer CAREL. The reversible valve is supplied by the leading Danish manufacturer DANFOS, and the inverter circulation pump unit is from the brand GRUNDFOS.





Three-row external heat exchanger

This makes the heat pump highly resistant to freezing, even in the most extreme climatic conditions. The large heat exchanger also significantly contributes to the high performance level that the heat pump can achieve.

Intelligent defrosting and inverter fan

A unique defrost cycle control algorithm that is activated when performance drops. The algorithm continuously monitors the coefficient of performance (COP), allowing the heat pump to adapt flexibly to any weather conditions. Additionally, the advanced fan design ensures maximum performance while maintaining low noise levels.



Model		FGS10MB	FGS20MB
Power supply	V/Hz/Ph	230/50/1	380/50/3
HEATING MODE DATA			
7**°C**/ 35**°C**			
Nominal Heating Capacity	KW	10,7	20,00
Power consumption	KW	2,22	4,15
COP	W/W	4.83	4.81
7**°C**/ 45**°C**			
Nominal Heating Capacity	KW	10.46	19.52
Power consumption	KW	2.71	4.98
COP	W/W	3.86	3.92
7**°C**/ 55**°C**			
Nominal Heating Capacity	KW	9.98	19.40
Power consumption	KW	3.21	5.72
COP	W/W	3.11	3.39
-10**°C**/ 35**°C**			
Nominal Heating Capacity	KW	6.61	12.09
Power consumption	KW	2.12	3.82
COP	W/W	3.11	3.16
-10**°C**/ 55**°C**			
Nominal Heating Capacity	KW	6.05	10.72
Power consumption	KW	2.81	4.67
COP	W/W	2.15	2.29
Moderate climate / water 35**°C**			
SCOP	W/W	4.84	4.66
Seasonal efficiency	%	190.42	183.47
Energy class		A+++	A+++
COOLING MODE DATA			
23**°C**/18**°C** - DB35**°C**/ WB24**°C**			
Nominal Cooling Capacity	KW	10.00	18.00
Power consumption	KW	2.80	5.08
EER	W/W	3.52	3.54
12**°C**/7**°C** - DB35**°C**/ WB24**°C**			
Nominal Cooling Capacity	KW	7.30	13.50
Power consumption	KW	2.70	4.73
EER	W/W	2.74	2.85
Moderate climate / water 18**°C**			
SEER	WW	5.22	5.48
Seasonal efficiency	%	206	216
TECHNICAL INFORMATION			
Maximum current	A	13.7	11.7
Maximum power consumption	KW	3.13	5.66
Pipe connection	Inch	G1"	G1"
Maximum water flow (minimum/nominal)	m3/h	1/ 1.8	1.5/ 3.4
Water Pressure Drop	kPa	29	69
Control Unit	Carel		
Compressor	Panasonic / Twin rotary		
Fan	Inverter		
Fan quantity	Nr	1	2
Fan flow	m3/h	5000	10 000
Rated power of the fan	W	150	300
Noise	dB (A)	59	69
Net Dimension (L * D * H)	mm	1165 x 465 x 910	1165 x 520 x 1410
Packing Dimension (L * D * H)	mm	1200 x 485 x 1030	1200 x 530 x 1530
Net Weight	Kg	120	188
Gross Weight	Kg	132	200