



Technical catalogue

# HEAT PUMPS

5 – 66 kW

Brine/water  
Water/water

**HES HEAT PUMP CONTROLLER** is designed to control complex heating and hot water supply systems in residential, commercial, office and industrial buildings.

The controller includes a huge combination of control functions for (both, separately certain options and all options at once):



- ▶ IHP (individual heating plant),
- ▶ Boiler station,
- ▶ Solar panels,
- ▶ Passive-active cooling,
- ▶ DHW (domestic hot water),
- ▶ Underfloor heating,
- ▶ Fan coil units,
- ▶ Swimming pool,
- ▶ Up to 128 heat pumps in a cascade.

A built-in intelligent algorithm of HES heat pump controller enables to control and protect the unit components and ensures maximum efficient resources consumption.



Controlling **HES HEAT PUMP** is possible from anywhere in the world:

- ▶ Remote diagnostics and monitoring of heat pump technical conditions and its performance parameters using iOS and Android applications;
- ▶ Data storage on event server;
- ▶ Charts for systems operation analysis and optimization;
- ▶ Automatic and manual switching over to a second heat source.



# Low-power **HEAT PUMPS**

Brine/water  
Water/water



## HES ECO HEAT PUMP “BRINE|WATER”



The heat pump is used for space heating and cooling.

Weather-dependent function to adjust temperature, depending on current weather and save energy.

Priority in heating of hot water and legionella thermal disinfection.

Heat pump controller with touch screen display.

Ability to control additional heat sources (diesel/electric boiler).

Possibility to build in a system for metering of heat output and efficiency coefficient.



### DEVICE PARAMETERS:

- ▶ Refrigerant R410A;
  - ▶ Heating water for heating at a source temperature of 5°C to 55°C;
  - ▶ Suitable for cascade heating systems in water/water systems;
  - ▶ Passive/active cooling function built into the controller;
  - ▶ Built-in solar water heating station controller;
  - ▶ Built-in controller function to control the temperature circuit of the house;
  - ▶ Built-in controller function for controlling two underfloor heating circuits;
- ▶ Built-in synchronization with solar photovoltaic power plant;
  - ▶ Quiet operation due to sound-proof housing design;
  - ▶ Installed inside a heated living space.



## MAIN TECHNICAL SPECIFICATIONS:

Model	HES ECO									
	5 kW	7 kW	10 kW	13 kW	16 kW	19 kW	22 kW	25 kW		
	HES-ECO-5-A-4	HES-ECO-7-A-4	HES-ECO-10-A-4 / HES-ECO-10-A-6	HES-ECO-13-A-6	HES-ECO-16-A-6	HES-ECO-19-A-6	HES-ECO-22-A-6	HES-ECO-25-A-6		
Electricity consumption:										
Compressor	V/Hz	230/50	230/50	230(380)/50	380/50	380/50	380/50	380/50	380/50	
Operating voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	
Essential specifications:										
Weight*	kg	207	213	220	228	231	241	253	273	
Overall dimensions, WxDxH	mm	600x650x1280								
Refrigerant		R410A								
Heating circuit connection		D28 copper	D28 copper	D28 copper	D28 copper	D28 copper	D32 copper	D32 copper	D32 copper	
Source circuit connection		D28 copper	D28 copper	D28 copper	D28 copper	D28 copper	D32 copper	D32 copper	D32 copper	
HES EMERSON compressor		HES 24	HES 31	HES 42	HES 54	HES 72	HES 83	HES 91	HES 104	
Performance characteristics:										
Heating capacity	B0/W35	kW	5,77	7,39	9,92	12,6	17,2	19,75	21,5	25,2
Power consumption	B0/W35	kW	1,41	1,82	2,36	2,91	3,94	4,41	4,85	5,59
Coefficient of performance	B0/W35		4,09	4,07	4,2	4,34	4,38	4,48	4,44	4,51
Heating capacity	B0/W50	kW	5,4	6,78	9,29	11,75	16,05	18,35	19,8	23,4
Power consumption	B0/W50	kW	2,05	2,62	3,53	4,35	5,6	6,63	6,67	7,78
Coefficient of performance	B0/W50		2,64	2,59	2,63	2,7	2,87	2,9	2,97	3,01

\* - product weight may vary

## HES ECO-L HEAT PUMP “BRINE|WATER”



The heat pump is used for space heating and cooling.

Weather-dependent function to adjust temperature, depending on current weather and save energy.

Priority in heating of hot water and legionella thermal disinfection.

Heat pump controller with touch screen display.

Ability to control additional heat sources (diesel/electric boiler).

Possibility to build in a system for metering of heat output and efficiency coefficient.



### DEVICE PARAMETERS:

- ▶ Refrigerant R410A;
  - ▶ Heating water for heating at a source temperature of 5°C to 55°C;
  - ▶ Built-in circuit circulation pumps;
  - ▶ Suitable for cascade heating systems in water/water systems;
  - ▶ Passive/active cooling function built into the controller;
  - ▶ Built-in solar water heating station controller;
  - ▶ Built-in controller function to control the temperature circuit of the house;
  - ▶ Built-in controller function for controlling two underfloor heating circuits;
- ▶ Built-in synchronization with solar photovoltaic power plant;
  - ▶ Quiet operation due to sound-proof housing design;
  - ▶ Installed inside a heated living space.

**MAIN TECHNICAL SPECIFICATIONS:**

Model	HES ECO-L									
	5 kW	7 kW	10 kW	13 kW	16 kW	19 kW	22 kW	25 kW		
	HES-ECO-L-5-A-4	HES-ECO-L-7-A-4	HES-ECO-L-10-A-4 / HES-ECO-L-10-A-6	HES-ECO-L-13-A-6	HES-ECO-L-16-A-6	HES-ECO-L-19-A-6	HES-ECO-L-22-A-6	HES-ECO-L-25-A-6		
Electricity consumption:										
Compressor	V/Hz	230/50	230/50	230(380)/50	380/50	380/50	380/50	380/50	380/50	
Operating voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	
Essential specifications:										
Weight*	kg	207	213	220	228	231	241	253	273	
Overall dimensions, WxDxH	mm	600x650x1280								
Refrigerant		R410A								
Heating circuit connection		D28 copper	D28 copper	D28 copper	D28 copper	D28 copper	D32 copper	D32 copper	D32 copper	
Source circuit connection		D28 copper	D28 copper	D28 copper	D28 copper	D28 copper	D32 copper	D32 copper	D32 copper	
HES EMERSON compressor		HES 24	HES 31	HES 42	HES 54	HES 72	HES 83	HES 91	HES 104	
Performance characteristics:										
Heating capacity	B0/W35	kW	5,77	7,39	9,92	12,6	17,2	19,75	21,5	25,2
Power consumption	B0/W35	kW	1,41	1,82	2,36	2,91	3,94	4,41	4,85	5,59
Coefficient of performance	B0/W35		4,09	4,07	4,2	4,34	4,38	4,48	4,44	4,51
Heating capacity	B0/W50	kW	5,4	6,78	9,29	11,75	16,05	18,35	19,8	23,4
Power consumption	B0/W50	kW	2,05	2,62	3,53	4,35	5,6	6,63	6,67	7,78
Coefficient of performance	B0/W50		2,64	2,59	2,63	2,7	2,87	2,9	2,97	3,01

\* - product weight may vary

## HES ECO-S HEAT PUMP “BRINE|WATER”



The heat pump is used for space heating and cooling.

Weather-dependent function to adjust temperature, depending on current weather and save energy.

Priority in heating of hot water and legionella thermal disinfection.

Heat pump controller with touch screen display.

Ability to control additional heat sources (diesel/electric boiler).

Possibility to build in a system for metering of heat output and efficiency coefficient.



### DEVICE PARAMETERS:

- ▶ Refrigerant R410A;
  - ▶ Heating water for heating at a source temperature of 5°C to 55°C;
  - ▶ Built-in circuit circulation pumps;
  - ▶ Built-in backup power supply;
  - ▶ Integrated heating/hot water switching circuit;
  - ▶ Suitable for cascade heating systems in water/water systems;
  - ▶ Passive/active cooling function built into the controller;
  - ▶ Built-in solar water heating station controller;
- ▶ Built-in controller function to control the temperature circuit of the house;
  - ▶ Built-in controller function for controlling two underfloor heating circuits;
  - ▶ Built-in synchronization with solar photovoltaic power plant;
  - ▶ Quiet operation due to sound-proof housing design;
  - ▶ Installed inside a heated living space.



## MAIN TECHNICAL SPECIFICATIONS:

Model	HES ECO-S									
		5 kW	7 kW	10 kW	13 kW	16 kW	19 kW	22 kW	25 kW	
		HES-ECO-S-5-A-4	HES-ECO-S-7-A-4	HES-ECO-S-10-A-4 / HES-ECO-S-10-A-6	HES-ECO-S-13-A-6	HES-ECO-S-16-A-6	HES-ECO-S-19-A-6	HES-ECO-S-22-A-6	HES-ECO-S-25-A-6	
Electricity consumption:										
Compressor	V/Hz	230/50	230/50	230(380)/50	380/50	380/50	380/50	380/50	380/50	
Operating voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	
Essential specifications:										
Weight*	kg	207	213	220	228	231	241	253	273	
Overall dimensions, WxDxH	mm	600x650x1280								
Refrigerant		R410A								
Heating circuit connection		D28 copper	D28 copper	D28 copper	D28 copper	D28 copper	D32 copper	D32 copper	D32 copper	
Source circuit connection		D28 copper	D28 copper	D28 copper	D28 copper	D28 copper	D32 copper	D32 copper	D32 copper	
HES EMERSON compressor		HES 24	HES 31	HES 42	HES 54	HES 72	HES 83	HES 91	HES 104	
Performance characteristics:										
Heating capacity	B0/W35	kW	5,77	7,39	9,92	12,6	17,2	19,75	21,5	25,2
Power consumption	B0/W35	kW	1,41	1,82	2,36	2,91	3,94	4,41	4,85	5,59
Coefficient of performance	B0/W35		4,09	4,07	4,2	4,34	4,38	4,48	4,44	4,51
Heating capacity	B0/W50	kW	5,4	6,78	9,29	11,75	16,05	18,35	19,8	23,4
Power consumption	B0/W50	kW	2,05	2,62	3,53	4,35	5,6	6,63	6,67	7,78
Coefficient of performance	B0/W50		2,64	2,59	2,63	2,7	2,87	2,9	2,97	3,01

\* - product weight may vary

## HES ECO-cool HEAT PUMP “BRINE|WATER”



The heat pump is used for space heating and cooling.

Weather-dependent function to adjust temperature, depending on current weather and save energy.

Priority in heating of hot water and legionella thermal disinfection.

Heat pump controller with touch screen display.

Ability to control additional heat sources (diesel/electric boiler).

Possibility to build in a system for metering of heat output and efficiency coefficient.



### DEVICE PARAMETERS:

- ▶ Refrigerant R410A;
- ▶ Heating water for heating at a source temperature of 5°C to 55°C;
- ▶ Built-in circuit circulation pumps;
- ▶ Built-in backup power supply;
- ▶ Integrated heating/hot water switching circuit;
- ▶ Built-in passive cooling function module;
- ▶ Built-in solar water heating station controller;
- ▶ Built-in controller function to control the temperature circuit of the house;
- ▶ Built-in controller function for controlling two underfloor heating circuits;
- ▶ Built-in synchronization with solar photovoltaic power plant;
- ▶ Quiet operation due to sound-proof housing design;
- ▶ Installed inside a heated living space.

**MAIN TECHNICAL SPECIFICATIONS:**

Model	HES ECO-cool									
	5 kW	7 kW	10 kW	13 kW	16 kW	19 kW	22 kW	25 kW		
	HES-ECO-cool-5-A-4	HES-ECO-cool-7-A-4	HES-ECO-cool-10-A-4 / HES-ECO-cool-10-A-6	HES-ECO-cool-13-A-6	HES-ECO-cool-16-A-6	HES-ECO-cool-19-A-6	HES-ECO-cool-22-A-6	HES-ECO-cool-25-A-6		
Electricity consumption:										
Compressor	V/Hz	230/50	230/50	230(380) /50	380/50	380/50	380/50	380/50	380/50	
Operating voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	
Essential specifications:										
Weight*	kg	207	213	220	228	231	241	253	273	
Overall dimensions, WxDxH	mm	600x650x1280								
Refrigerant		R410A								
Heating circuit connection		D28 copper	D28 copper	D28 copper	D28 copper	D28 copper	D32 copper	D32 copper	D32 copper	
Source circuit connection		D28 copper	D28 copper	D28 copper	D28 copper	D28 copper	D32 copper	D32 copper	D32 copper	
HES EMERSON compressor		HES 24	HES 31	HES 42	HES 54	HES 72	HES 83	HES 91	HES 104	
Performance characteristics:										
Heating capacity	B0/W35	kW	5,77	7,39	9,92	12,6	17,2	19,75	21,5	25,2
Power consumption	B0/W35	kW	1,41	1,82	2,36	2,91	3,94	4,41	4,85	5,59
Coefficient of performance	B0/W35		4,09	4,07	4,2	4,34	4,38	4,48	4,44	4,51
Heating capacity	B0/W50	kW	5,4	6,78	9,29	11,75	16,05	18,35	19,8	23,4
Power consumption	B0/W50	kW	2,05	2,62	3,53	4,35	5,6	6,63	6,67	7,78
Coefficient of performance	B0/W50		2,64	2,59	2,63	2,7	2,87	2,9	2,97	3,01

\* - product weight may vary



## HES ECO-i HEAT PUMP “BRINE|WATER”



The inverter heat pump is used for space heating and cooling.

Weather-dependent function to adjust temperature, depending on current weather and save energy.

Priority in heating of hot water and legionella thermal disinfection.

Heat pump controller with touch screen display.

Ability to control additional heat sources (diesel/electric boiler).

Built-in metering system for heat output and efficiency coefficient.



### DEVICE PARAMETERS:

- ▶ Refrigerant R410A/R32;
  - ▶ Heating water for heating at a source temperature of 5°C to 55°C;
  - ▶ Built-in circuit circulation pumps;
  - ▶ Built-in backup power supply;
  - ▶ Integrated heating/hot water switching circuit;
  - ▶ Built-in system of recording heating capacity and efficiency factor;
  - ▶ Suitable for cascade heating systems in water/water systems;
  - ▶ Passive/active cooling function built into the controller;
- ▶ Built-in solar water heating station controller;
  - ▶ Built-in controller function to control the temperature circuit of the house;
  - ▶ Built-in controller function for controlling two underfloor heating circuits;
  - ▶ Built-in synchronization with solar photovoltaic power plant;
  - ▶ Quiet operation due to sound-proof housing design;
  - ▶ Installed inside a heated living space.

**MAIN TECHNICAL SPECIFICATIONS:**

Model		HES ECO-i					
		5 kW	7 kW	10 kW	13 kW	16 kW	
		<b>HES-ECO-i-5-A-4</b>	<b>HES-ECO-i-7-A-4</b>	<b>HES-ECO-i-10-A-4/ HES-ECO-i-10-A-6</b>	<b>HES-ECO-i-13-A-6</b>	<b>HES-ECO-i-16-A-6</b>	
Electricity consumption:							
Compressor	V/Hz	230/50	230/50	230(380)/50	380/50	380/50	
Operating voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	
Essential specifications:							
Weight*	kg	107	113	120	128	131	
Overall dimensions, WxDxH	mm	600x650x1280					
Refrigerant		R410A/R32					
Heating circuit connection		G1"	G1"	G1"	G1"	G1"	
Source circuit connection		G1"	G1"	G1"	G1"	G1"	
Mitsubishi Electric compressor	Product ID	SNB172FSHM1	TNB220FLHMC	TNB306FPGMT	MNB33FEAMC	ANB42FNDMT	
Performance characteristics:							
Heating capacity	B0/W35	kW	5,18	7,28	10,7	13,15	15,75
Power consumption	B0/W35	kW	1,26	1,74	2,44	2,96	3,52
Coefficient of performance	B0/W35		4,3	4,37	4,37	4,43	4,47
Heating capacity	B0/W50	kW	4,91	6,86	9,98	12,3	14,7
Power consumption	B0/W50	kW	1,68	2,3	3,37	4,05	4,77
Coefficient of performance	B0/W50		2,9	3	2,96	3,04	3,08

\* - product weight may vary

## HES ECO-HH HEAT PUMP “BRINE|WATER”



The heat pump is used for space heating and cooling.

Weather-dependent function to adjust temperature, depending on current weather and save energy.

Priority in heating of hot water and legionella thermal disinfection.

Heat pump controller with touch screen display.

Ability to control additional heat sources (diesel/electric boiler).

Possibility to build in a system for metering of heat output and efficiency coefficient.



### DEVICE PARAMETERS:

- ▶ Refrigerant R134A;
- ▶ Heating water for heating at a source temperature of 5°C to 73°C;
- ▶ Built-in circuit circulation pumps;
- ▶ Heat pump with high supply temperature;
- ▶ Suitable for cascade heating systems in water/water systems;
- ▶ Passive/active cooling function built into the controller;
- ▶ Built-in solar water heating station controller;
- ▶ Built-in controller function to control the temperature circuit of the house;
- ▶ Built-in controller function for controlling two underfloor heating circuits;
- ▶ Built-in synchronization with solar photovoltaic power plant;
- ▶ Quiet operation due to sound-proof housing design;
- ▶ Installed inside a heated living space.



**MAIN TECHNICAL SPECIFICATIONS:**

Model		HES ECO-HH					
		14 kW	17 kW	20 kW	25 kW	30 kW	
		<b>HES-ECO-LS-HH-14-C-6</b>	<b>HES-ECO-LS-HH-17-C-6</b>	<b>HES-ECO-LS-HH-20-C-6</b>	<b>HES-ECO-LS-HH-25-C-6</b>	<b>HES-ECO-LS-HH-30-C-6</b>	
Electricity consumption:							
Compressor	V/Hz	380/50	380/50	380 /50	380/50	380/50	
Operating voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	
Essential specifications:							
Weight*	kg	107	113	120	128	131	
Overall dimensions, WxDxH	mm	600x650x1280					
Refrigerant		R134A	R134A	R134A	R134A	R134A	
Heating circuit connection		G1"	G1"	G1"	G1"	G1"	
Source circuit connection		G1"	G1"	G1"	G1"	G1"	
COPELAND compressor	Product ID	HH 1501015	HH 210115	HH 300115	HH 380115	HH 450115	
Performance characteristics:							
Heating capacity	B0/W35	kW	14,5	17,7	20,1	25	30,7
Power consumption	B0/W35	kW	7,8	8,15	9,48	12,65	15,2
Coefficient of performance	B0/W35		1,85	2,17	2,12	1,98	2,02
Heating capacity	B0/W50	kW	27,8	32	37	46,2	55,2
Power consumption	B0/W50	kW	7,63	8,22	9,56	12,6	15,25
Coefficient of performance	B0/W50		3,65	3,89	3,87	3,66	3,62

\* - product weight may vary

## HES ECO-X HEAT PUMP “BRINE|WATER”



The heat pump is used for space heating and cooling.

Weather-dependent function to adjust temperature, depending on current weather and save energy.

Priority in heating of hot water and legionella thermal disinfection.

Heat pump controller with touch screen display.

Ability to control additional heat sources (diesel/electric boiler).

Possibility to build in a system for metering of heat output and efficiency coefficient.



### DEVICE PARAMETERS:

- ▶ Refrigerant R410A;
  - ▶ Heating water for heating at a source temperature of 5°C to 55°C;
  - ▶ Built-in circuit circulation pumps;
  - ▶ Built-in backup power supply;
  - ▶ Integrated heating/hot water switching circuit;
  - ▶ Built-in hot water tank for 180 liters;
  - ▶ Passive/active cooling function built into the controller;
  - ▶ Built-in solar water heating station controller;
  - ▶ Built-in controller function to control the temperature circuit of the house;
- ▶ Built-in controller function for controlling two underfloor heating circuits;
  - ▶ Built-in synchronization with solar photovoltaic power plant;
  - ▶ Quiet operation due to sound-proof housing design;
  - ▶ Installed inside a heated living space.

## MAIN TECHNICAL SPECIFICATIONS:

Model	HES ECO-X									
		5 kW	7 kW	10 kW	13 kW	16 kW	19 kW	22 kW	25 kW	
		HES-ECO-S-X-5-A-4	HES-ECO-S-X-7-A-4	HES-ECO-S-X-10-A-4 / HES-ECO-S-X-10-A-6	HES-ECO-S-X-13-A-6	HES-ECO-S-X-16-A-6	HES-ECO-S-X-19-A-6	HES-ECO-S-X-22-A-6	HES-ECO-S-X-25-A-6	
Electricity consumption:										
Compressor	V/Hz	230/50	230/50	230(380)/50	380/50	380/50	380/50	380/50	380/50	
Operating voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	
Essential specifications:										
Weight*	kg	207	213	220	228	231	241	253	273	
Overall dimensions, WxDxH	mm	600x650x1280								
Refrigerant		R410A								
Heating circuit connection		D28 copper	D28 copper	D28 copper	D28 copper	D28 copper	D32 copper	D32 copper	D32 copper	
Source circuit connection		D28 copper	D28 copper	D28 copper	D28 copper	D28 copper	D32 copper	D32 copper	D32 copper	
HES EMERSON compressor		HES 24	HES 31	HES 42	HES 54	HES 72	HES 83	HES 91	HES 104	
Performance characteristics:										
Heating capacity	B0/W35	kW	5,77	7,39	9,92	12,6	17,2	19,75	21,5	25,2
Power consumption	B0/W35	kW	1,41	1,82	2,36	2,91	3,94	4,41	4,85	5,59
Coefficient of performance	B0/W35		4,09	4,07	4,2	4,34	4,38	4,48	4,44	4,51
Heating capacity	B0/W50	kW	5,4	6,78	9,29	11,75	16,05	18,35	19,8	23,4
Power consumption	B0/W50	kW	2,05	2,62	3,53	4,35	5,6	6,63	6,67	7,78
Coefficient of performance	B0/W50		2,64	2,59	2,63	2,7	2,87	2,9	2,97	3,01

\* - product weight may vary



## HES ECO-ix HEAT PUMP “BRINE|WATER”



The inverter heat pump is used for space heating and cooling.

Weather-dependent function to adjust temperature, depending on current weather and save energy.

Priority in heating of hot water and legionella thermal disinfection.

Heat pump controller with touch screen display.

Ability to control additional heat sources (diesel/electric boiler).

Built-in metering system for heat output and efficiency coefficient.



### DEVICE PARAMETERS:

- ▶ Refrigerant R410A/R32;
  - ▶ Heating water for heating at a source temperature of 5°C to 55°C;
  - ▶ Built-in circuit circulation pumps;
  - ▶ Built-in backup power supply;
  - ▶ Integrated heating/hot water switching circuit;
  - ▶ Built-in system of recording heating capacity and efficiency factor;
  - ▶ Built-in hot water tank for 180 liters;
  - ▶ Passive/active cooling function built into the controller;
  - ▶ Built-in solar water heating station controller;
- ▶ Built-in controller function to control the temperature circuit of the house;
  - ▶ Built-in controller function for controlling two underfloor heating circuits;
  - ▶ Built-in synchronization with solar photovoltaic power plant;
  - ▶ Quiet operation due to sound-proof housing design;
  - ▶ Installed inside a heated living space.

**MAIN TECHNICAL SPECIFICATIONS:**

Model		HES ECO-ix					
		5 kW	7 kW	10 kW	13 kW	16 kW	
		HES-ECO-LS-ix-5-A-4	HES-ECO-LS-ix-7-A-4	HES-ECO-LS-ix-10-A-4/ HES-ECO-LS-ix-10-A-6	HES-ECO-LS-ix-13-A-6	HES-ECO-LS-ix-16-A-6	
Electricity consumption:							
Compressor	V/Hz	230/50	230/50	230(380)/50	380/50	380/50	
Operating voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	
Essential specifications:							
Weight*	kg	107	113	120	128	131	
Overall dimensions, WxDxH	mm	600x650x1800					
Refrigerant		R410A/R32					
Heating circuit connection		G1"	G1"	G1"	G1"	G1"	
Source circuit connection		G1"	G1"	G1"	G1"	G1"	
Mitsubishi Electric compressor	Product ID	SNB172FSHM1	TNB220FLHMC	TNB306FPGMT	MNB33FEAMC	ANB42FNDMT	
Performance characteristics:							
Heating capacity	B0/W35	kW	5,18	7,28	10,7	13,15	15,75
Power consumption	B0/W35	kW	1,26	1,74	2,44	2,96	3,52
Coefficient of performance	B0/W35		4,3	4,37	4,37	4,43	4,47
Heating capacity	B0/W50	kW	4,91	6,86	9,98	12,3	14,7
Power consumption	B0/W50	kW	1,68	2,3	3,37	4,05	4,77
Coefficient of performance	B0/W50		2,9	3	2,96	3,04	3,08

\* - product weight may vary

**HES ECO G and HES ECO GHH** high-power heat pumps are designed for industrial and residential buildings and other major facilities with high power consumption.

The heat pumps of this type combine optimal capacity, compact size, easy installation and control. The pumps have extended model range, wide selection of functions and they are adapted for being used with different heating and ventilating systems.

The heat pump (by its controller) can control second (secondary) heat sources, such as diesel, gas or electric boilers. It is possible to install up to 128 pumps in a building to provide power output up to 8,000 kW. It is also possible to cool the building on hot summer days by means of brine.

## DEFINITION OF MODEL NAMES

model **HES - ECO - LS - i X - 5 - A - 4**  
                   1    2   3 4 5 6 7

<b>1</b>	<b>ECO</b>	Heat pump of «brine - water», «water - water» series			
	<b>L</b>	standard + circuit circulation pumps			
<b>2</b>	<b>S</b>	L + electric heating element, «heating» / «hot water»			
	<b>COOL</b>	S + active / passive cooling			
	<b>G</b>	high-capacity heat pump			
	<b>HH</b>	high temperature			
<b>3</b>		start-stop			
	<b>i</b>	inverter			
<b>4</b>		without DHW supply			
	<b>X</b>	with DHW supply			
<b>5</b>	<b>5</b>	5 kW	<b>5</b>	<b>27</b>	27 kW
	<b>7</b>	7 kW		<b>40</b>	40 kW
	<b>10</b>	10 kW		<b>42</b>	42 kW
	<b>13</b>	13 kW		<b>52</b>	52 kW
	<b>16</b>	16 kW		<b>64</b>	64 kW
	<b>20</b>	20 kW		<b>66</b>	66 kW
<b>6</b>	<b>A</b>	Freon R410A			
	<b>B</b>	Freon R32			
	<b>C</b>	Freon R134A			
<b>7</b>	<b>4</b>	power supply 220-240 V; 1 phase; 50 Hz			
	<b>6</b>	power supply 380 V; 3 phases; 50 Hz			



# High-power **HEAT PUMPS**

Brine/water  
Water/water



## HES ECO G THREE-PHASE HEAT PUMP “BRINE|WATER”



The heat pump is used for space heating and cooling.

Weather-dependent function to adjust temperature, depending on current weather and save energy.

Priority in heating of hot water and legionella thermal disinfection.

Heat pump controller with touch screen display.

Ability to control additional heat sources (diesel/electric boiler).

Possibility to build in a system for metering of heat output and efficiency coefficient.



### DEVICE PARAMETERS:

- ▶ Refrigerant R32/R410A;
  - ▶ Heating water for heating at a source temperature of 5°C to 55°C;
  - ▶ High-power heat pump 20 to 66 kW;
  - ▶ Suitable for cascade heating systems in water/water systems;
  - ▶ Passive/active cooling function built into the controller;
  - ▶ Built-in solar water heating station controller;
  - ▶ Built-in controller function to control the temperature circuit of the house;
  - ▶ Built-in controller function for controlling two underfloor heating circuits;
- ▶ Built-in synchronization with solar photovoltaic power plant;
  - ▶ Quiet operation due to sound-proof housing design;
  - ▶ Installed inside a heated living space.

**MAIN TECHNICAL SPECIFICATIONS:**

Model		HES ECO-G					
		20 kW	27 kW	40 kW	52 kW	66 kW	
		HES-ECO-G-20-A-6/ HES-ECO-G-20-C-6	HES-ECO-G-27-A-6/ HES-ECO-G-27-C-6	HES-ECO-G-40-A-6/ HES-ECO-G-40-C-6	HES-ECO-G-52-A-6/ HES-ECO-G-52-C-6	HES-ECO-G-66-A-6/ HES-ECO-G-66-C-6	
Electricity consumption:							
Compressor	V/Hz	380/50	380/50	380/50	380/50	380/50	
Operating voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	
Essential specifications:							
Weight*	kg	420	440	480	540	580	
Overall dimensions, WxDxH	mm	600x650x1800					
Refrigerant		R410A/R32					
Heating circuit connection		2xD28 copper	2xD28 copper	2xD32 copper	2xD32 copper	2xD35 copper	
Source circuit connection		2xD28 copper	2xD28 copper	2xD32 copper	2xD32 copper	2xD32 copper	
HES EMERSON compressor		two HES 42	two HES 61	two HES 91	two HES 104	two HES 137	
Performance characteristics:							
Heating capacity	B0/W35	kW	19,84	29,70	43,00	50,40	65,00
Power consumption	B0/W35	kW	4,72	6,70	9,70	11,18	14,36
Coefficient of performance	B0/W35		4,20	4,43	4,44	4,51	4,53
Heating capacity	B0/W50	kW	18,58	28,00	39,60	46,80	59,20
Power consumption	B0/W50	kW	7,06	10,14	13,34	15,56	20,20
Coefficient of performance	B0/W50		2,63	2,77	2,97	3,01	2,94

\* - product weight may vary



## HES ECO GHH THREE-PHASE HEAT PUMP “BRINE|WATER”



The heat pump is used for space heating and cooling.

Weather-dependent function to adjust temperature, depending on current weather and save energy.

Priority in heating of hot water and legionella thermal disinfection.

Heat pump controller with touch screen display.

Ability to control additional heat sources (diesel/electric boiler).

Possibility to build in a system for metering of heat output and efficiency coefficient.



### DEVICE PARAMETERS:

- ▶ Refrigerant R134A;
  - ▶ Heating water for heating at a source temperature of 5°C to 73°C;
  - ▶ Suitable for cascade heating systems in water/water systems;
  - ▶ Passive/active cooling function built into the controller;
  - ▶ Built-in solar water heating station controller;
  - ▶ Built-in controller function to control the temperature circuit of the house;
  - ▶ Built-in controller function for controlling two underfloor heating circuits;
  - ▶ Built-in synchronization with solar photovoltaic power plant;
- ▶ Quiet operation due to sound-proof housing design;
  - ▶ Installed inside a heated living space.

**MAIN TECHNICAL SPECIFICATIONS:**

Model		<b>HES ECO-GHH</b>			
		42 kW	52 kW	64 kW	
		<b>HES-ECO-G-HH-42-C-6</b>	<b>HES-ECO-G-HH-52-C-6</b>	<b>HES-ECO-G-HH-64-C-6</b>	
Electricity consumption:					
Compressor	V/Hz	380/50	380/50	380/50	
Operating voltage	V/Hz	230/50	230/50	230/50	
Essential specifications:					
Weight*	kg	107	113	120	
Overall dimensions, WxDxH	mm	600x650x1800			
Refrigerant		R134A	R134A	R134A	
Heating circuit connection		G2"	G2»	G2"	
Source circuit connection		G2»	G2»	G2»	
COPELAND compressor	Product ID	GHH 1501015	GHH 210115	GHH 300115	
Performance characteristics:					
Heating capacity	B0/W35	kW	42,2	52,4	64,4
Power consumption	B0/W35	kW	19,55	24,9	28,5
Coefficient of performance	B0/W35		2,16	2,11	2,27
Heating capacity	B0/W50	kW	54,8	68	84
Power consumption	B0/W50	kW	19,95	24,9	29,9
Coefficient of performance	B0/W50		2,75	2,74	2,86

\* - product weight may vary


## HES ECO HEAT PUMPS COMPARISON TABLE


Nº	Heat pump characteristic	Heat pump model		
		HES ECO	HES ECO-G	HES ECO-GHH
1	Space heating and cooling	yes	yes	yes
2	Weather-dependent function	yes	yes	yes
3	Heat pump controller with touch screen display	yes	yes	yes
4	Ability to control additional heat sources (diesel/ electric boiler)	yes	yes	yes
5	Possibility to build in a system for metering of heat output and efficiency coefficient	yes	yes	yes
6	Built-in system of recording heating capacity and efficiency factor	no	no	no
7	Heating water for heating at a source temperature of 5°C	55°C	55°C	73°C
8	Refrigerant	R410A	R410A/R32	R134A
9	Priority in heating of hot water and legionella thermal disinfection	yes	yes	yes
10	Built-in circuit circulation pumps	no	no	no
11	High-power heat pump 20 to 66 kW	no	yes	yes
12	Built-in backup power supply	no	no	no
13	Integrated heating/hot water switching circuit	no	no	no
14	Built-in passive cooling function module	no	no	no
15	Inverter heat pump	no	no	no
16	Heat pump with high supply temperature	no	no	no
17	Suitable for cascade heating systems in water/water systems	yes	yes	yes
18	Passive/active cooling function built into the controller	yes	yes	yes
19	Built-in hot water tank for 180 liters	no	no	no
20	Built-in solar water heating station controller	yes	yes	yes
21	Built-in controller function to control the temperature circuit of the house	yes	yes	yes
22	Built-in controller function for controlling two underfloor heating circuits	yes	yes	yes
23	Built-in synchronization with solar photovoltaic power plant	yes	yes	yes


№	Heat pump model						
	HES ECO-L	HES ECO-S	HES ECO-cool	HES ECO-i	HES ECO-HH	HES ECO-X	HES ECO-ix
1	yes	yes	yes	yes	yes	yes	yes
2	yes	yes	yes	yes	yes	yes	yes
3	yes	yes	yes	yes	yes	yes	yes
4	yes	yes	yes	yes	yes	yes	yes
5	yes	yes	yes	built-in	yes	yes	built-in
6	no	no	no	yes	no	no	yes
7	55°C	55°C	55°C	55°C	73°C	55°C	55°C
8	R410A	R410A	R410A	R410A/R32	R134A	R410A	R410A/R32
9	yes	yes	yes	yes	yes	yes	yes
10	yes	yes	yes	yes	yes	yes	yes
11	no	no	no	no	no	no	no
12	no	yes	yes	yes	no	yes	yes
13	no	yes	yes	yes	no	yes	yes
14	no	no	yes	no	no	no	no
15	no	no	no	yes	no	no	yes
16	no	no	no	no	yes	no	no
17	yes	yes	no	yes	yes	no	no
18	yes	yes	no	yes	yes	yes	yes
19	no	no	no	no	no	yes	yes
20	yes	yes	yes	yes	yes	yes	yes
21	yes	yes	yes	да	yes	yes	yes
22	yes	yes	yes	yes	yes	yes	yes
23	yes	yes	yes	yes	yes	yes	yes





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