Heat pump systems
GEO HFE 6-42



fiorini

Water-water geothermal heat pumps GEO HFE 6-42

Reversible geothermal heat pump with highly efficient domestic hot water production unit



Power from 6 to 33 kW

Functions

✔ Production of hot water for installation
✔ Production of chilled water for installation
✔ Production of high temperature domestic water
✔ Production in priority of DHW simultaneous with the production for the installation

Main features

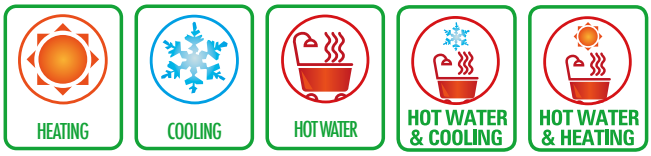
✔ high efficiency scroll-compressor
✔ inverter circulators on the three circuits (device, domestic, geothermal)
✔ total DHW recovery
✔ DHW production up to 65°C
✔ Galileus regulation for the whole system
✔ up to 5 heat pumps in series

Applications

✔ Exchange on probe (standard)
✔ Exchange on well (upon request)



Start-up: first start-up is mandatory. See page 361



		Probe			
		GEO HFE Without recovery		With recovery GEO HFE/R	
Gas	Model	Code	Price	Code	Price
R410a	6 M	444090045		444090001	
	6 T	444090047		444090003	
	8 M	444090049		444090005	
	8 T	444090051		444090007	
	12 M	444090053		444090009	
	12 T	444090055		444090011	
	16 T	444090059		444090015	
	20 T	444090061		444090017	
	24 T	444090063		444090019	
	33 T	444090065		444090021	
	42 T	444090120		444090124	

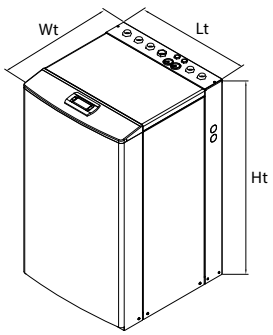
Models	
GEO	Heating-cooling for device with geothermal probe
GEO/R	Heating-cooling for device and DHW production with geothermal probe
GEO/P	Heating-cooling for device with well (upon request)
GEO/R/P	Heating-cooling for device and DHW production with well (upon request)

Technical data
GEO HFE 6-42

Sizes		6	8	12	16	20	24	33	42
Winter functioning B0/W35									
Energy label		A++	A++	A++	A++	A++	A++	A++	A++
Thermal power	kW	5,8	7,5	10,2	13,2	17,1	21,0	25,4	33,8
Compressor absorbed power	kW	1,30	1,7	2,2	2,9	3,7	4,4	5,5	7,8
COP		4,43	4,57	4,68	4,60	4,60	4,82	4,60	4,4
Device									
Device's water flow rate	m3/h	0,99	1,30	1,75	2,26	2,93	3,61	4,37	5,8
Head pressure	mca	6,5	6,2	5,8	5,0	6,7	6,0	11,1	81,5
Pump's absorbed power	kW	0,07	0,07	0,07	0,07	0,14	0,14	0,31	0,31
Geothermal									
Cooling power to exchange in probe	kW	4,5	6,0	8,1	10,5	13,5	16,0	20,2	26,0
Probe liquid flow rate	m3/h	1,30	1,71	2,32	3,00	3,87	4,58	5,79	8,1
Head pressure	mca	5,9	5,5	8,9	6,1	5,1	4,1	8,7	4,89
Pump's absorbed power	kW	0,07	0,07	0,14	0,14	0,14	0,14	0,31	0,31
DHW side B0/W50									
Thermal power	kW	5,3	7,0	9,4	11,9	15,7	18,6	23,7	31,5
Domestic water flow	m3/h	0,91	1,21	1,62	2,05	2,70	3,20	4,08	5,5
Head pressure	mca	6,6	6,2	5,7	5,5	4,1	5,2	5,3	9,18
Pump's absorbed power	kW	0,07	0,07	0,07	0,07	0,07	0,14	0,14	0,31
Winter functioning									
Thermal power	kW	7,5	9,9	13,3	16,7	22,2	26,1	33,5	42,3
Compressor absorbed power	kW	1,3	1,6	2,2	2,8	3,8	4,4	5,6	7,8
COP		5,85	6,10	6,14	6,04	5,88	5,99	6,02	5,5
Device									
Device's water flow rate	m3/h	1,27	1,67	2,24	2,82	3,75	4,40	5,64	7,4
Head pressure	mca	5,94	5,59	4,93	3,70	5,40	4,61	8,82	6,62
Well									
Cooling power to exchange in well	kW	6,2	8,2	11,1	13,9	18,4	21,6	27,8	34,5
Well liquid flow rate	m3/h	1,06	1,40	1,88	2,37	3,14	3,68	4,73	6,1
Exchanger pressure loss	mca	0,3	0,4	0,6	0,7	0,7	0,9	0,9	14,4
Summer functioning									
Cooling power	kW	9,5	12,5	16,6	20,9	27,5	32,7	41,6	47,6
Compressor's absorbed power	kW	1,3	1,5	2,1	2,8	3,8	4,3	5,7	8,6
EER		7,39	8,19	7,84	7,44	7,33	7,68	7,35	5,6
Device									
Device's water flow rate	m3/h	1,63	2,14	2,85	3,59	4,55	5,62	7,16	8,2
Device's head pressure	mca	5,8	5,0	3,7	3,0	3,3	3,3	6,6	4,58
Geothermal									
Thermal power to exchange in probe	kW	10,7	13,9	18,6	23,6	31,0	36,8	47,0	56,2
Probe liquid flow rate	m3/h	1,91	2,39	3,20	4,06	5,33	6,33	8,08	10,2
Head pressure	mca	5,1	4,5	5,4	3,1	3,4	4,2	4,1	2,55
Features									
Compressor type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Number of compressors		1	1	1	1	1	2	2	2
Refrigerant		R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a
Power supply	V/Ph/Hz	230/1/50	230/1/50 400/3/50	230/1/50 400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Diametric hydraulic fittings		1"	1"	1"	1"	1"	1"1/4	1"1/4	1"1/4
Expansion vessels (device and geothermal)	litres	2	2	4	4	8	8	8	8
Water circuit's max content	litres	29	29	57	57	114	114	114	114
Sound pressure at 1m	dB(A)	48	49	50	52	54	56	60	66
Weight (unpacked)	Kg	146	153	169	195	215	262	302	320
Weight (packed)	Kg	151	158	175	200	220	270	310	345

All indicated operating conditions comply with the regulation EN14511

Utility circuit				
B0/W35	radiant plant	°C	30/35	In-Out
W5/W35	radiant plant	°C	30/35	In-Out
B30/W18	radiant plant	°C	23/18	In-Out
	Domestic circuit			
B0/W50	DHW	°C	45/50	In-Out
External circuit				
B0/W35	glycol water geothermal probe 20%	°C	0/-3	In-Out
W5/W35	well water	°C	10/5	In-Out
B30/W18	glycol water geothermal probe 20%	°C	30/35	In-Out
B0/W50	glycol water geothermal probe 20%	°C	0/-3	In-Out



Dimensions	Sizes			
	6-8	12	16-20	24-42
Lt	620	620	620	800
Wt	575	650	650	880
Ht	1000	1080	1080	1070

Accessories
GEO HFE 6-42

Control/regulation accessories			
code	**description**	**price**	**function**
452010006*	Web Kit (pCOweb - remote control)		Makes it possible to control and supervise the installation via internet.
452010010*	Serial port kit RS485 Modbus		Makes it possible to communicate with the supervision systems through the Modbus protocol
452010074*	Serial port kit Konnex		Makes it possible to communicate with the supervision systems through the Konnex protocol
452010075*	Serial prot kit RS485 BACnet		Makes it possible to communicate with the supervision systems through the Bacnet protocol
452010050	My-zone kit with T/U thermostat		Thermostat for temperature and humidity. Max 30
452010051	My-board kit expansion kit for My-zone		Expansion kit to control the dehumidifier, the circulation pump, zone valve and mixing valve
452010053	Field-bus for zone RS485 kit		Necessary for connection of Galileus5 with Myzone and Myboard
452010061	My-power kit		It optimizes the self-consumption of the energy produced by the photovoltaic system and allows the activation of the heat pump according to the active electrical loads to prevent excessive consumption. It is possible to monitor a maximum phase current of 40 A.
452020123	Soundproofing Kit GEO HFE/EASY 6-8		The soundproofing kit must be installed on the compressor to attenuate the noise of the heat pump (the sound insulating panels are installed as standard). If purchased together with the heat pump, the soundproofing kit comes already installed.
452020124	Soundproofing Kit GEO HFE/EASY 12		
452020125	Soundproofing Kit GEO HFE/EASY 16		
452020126	Soundproofing Kit GEO HFE/EASY 20		
452020127	Soundproofing Kit GEO HFE 24		
452020128	Soundproofing Kit GEO HFE 33		
452020129	Soundproofing Kit GEO HFE 42		
452020136	Soft starter kit GEO HFE 24-33 T		Electronic device installed at the factory on a three-phase unit. Reduces the maximum value of the compressor starting current by using an inverter which powers the motor by varying the frequency so as to limit the inrush current
452020137	Soft starter kit GEO HFE 42 T		

* Kits 452010006, 452010010, 452010074, 452010075 are alternative options. Only one of these interfaces can be chosen.

Accessories for the device			
code	**description**	**price**	**function**
421120013	MFREE SMALL		Module for passive cooling – application size 6-8-12
421120014	MFREE MEDIUM		Module for passive cooling – application size 16-20-24
421120015	MFREE LARGE		Module for passive cooling – application size 33-42
452010003	Mixing kit		Makes it possible to regulate the supply temperature of the cooling device

Accessories for IANUS System with GEO (up to GEO 33)			
code	**description**	**price**	**function**
452010042	IANUS SOL KIT		Makes it possible to regulate thermal solar system for hybrid photovoltaic panels. Solar circulator not included
452010037	IANUS deviation kit		Optimized the use of thermal sources (PVT and probes) base on the environmental conditions. Obligated with mixed system (PVT + probe)



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