Geothermal Heat Pump

130kW-2500kW

Application areas

- Offices, Hotels, Hospitals, Apartment, Villa
- Factory, Shopping center, Schools
- Commercial buildings

Why this choice?

- Semi - hermetic screw compressor
- Great environmental and economic benefit
- High efficiency shell and tube evaporator
- Electronic controller with BMS system
- Widely cooling capacity range

Characteristics

29 sizes available ranging from 127 kW to 2450 kW heating capacity.

Reusable: using solar energy stored in earth as cooling & heating source.

Great environmental and economic benefit: no boiler or cooling tower; less space, less CO^2 and less initial investment.

Acting as multi-function unit such as cooling, heating, sanitary hot water separately or simultaneously.

Wide application as hotel, apartment, villa, factory, shopping center, office building, school, etc.

Semi-hermetic screw compressor for mod.130 to 2500. Each compressor is equipped with a crankcase heater and a thermal overload cut-out; the screw compressor is also complete with a built-in electronic protection with temperature sensor located directly in the motor winding and on the discharge line.

The refrigerant circuit is complete with sight glass, filter drier, high and low pressure gauges, solenoid valve, direct expansion valve, high and low pressure switch.
Shell and tube dry expansion type condenser, factory insulated with flexible close cell material.
Shell and tube type evaporator, factory insulated with flexible close cell material.

The electric panel consists of compressor breaker, compressor contactor, phase sequence relay, control circuit breaker, microprocessor control with function display.

LCD display, touch screen control panel as standard.

Automatic operation dramatically reducing maintenance cost thanks to reliable microprocessor system.

For the units with semi-hermetic screw compressor, an infinitely variable capacity control system that is capable of exactly matching the demand requirement of the system is to be supplied. This system is to provide precise and stable control of supply water temperature over the complete range of operating conditions.

Optional

Electronic expansion valve.
Desuperheater as optional.
Electronic controller with BMS system.
Low noise compressor cabinet or outside full cover
Channel Steel base

Technical Data

Model	Unit	130	170	200	240	260	280	310	360	380	420
Cooling capacity*	kW	130	170	200	240	260	280	310	360	380	420
Heating capacity*	kW	127	167	196	235	255	274	304	353	372	412
Power supply						380-415V/3Ph/50Hz					
Compressor											
Qty/refrigerant circuit	Nr.	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Cooling power input*	kW	24	31	37	44	48	52	57	67	70	78
Heating power input*	kW	43	56	66	80	86	93	103	120	126	140
Energy adjustment steps	step					25% - 100%					
Max. current for wiring	A	87	108	128	165	165	165	165	185	185	258
Refrigerant charge	kg	23	30	36	43	46	50	55	64	68	75
Evaporator											
Water side pressure drop	kPa	42	45	45	45	45	46	46	46	47	46
Pipe size	mm	DN65	DN80	DN100	DN100	DN100	DN100	DN100	DN125	DN125	DN125
Water flow rate in cooling*	m^3/h	22	29	34	41	45	48	53	62	65	72
Water flow rate in heating*	m^3/h	9	12	14	17	18	19	22	25	26	29
Condenser											
Water side pressure drop	kPa	42	45	44	44	45	45	44	44	44	42
Pipe size	mm	DN80	DN80	DN100	DN100	DN100	DN100	DN100	DN125	DN125	DN125
Water flow rate in cooling*	m^3/h	12	16	19	22	24	26	29	33	35	39
Water flow rate in heating*	m^3/h	22	29	34	40	44	47	52	61	64	71
Dimensions											
Length	mm	2635	2760	2740	2880	2870	2870	2970	3170	3280	3280
Width	mm	1090	1115	1175	1125	1125	1125	1230	1200	1285	1285
Height	mm	1625	1555	1650	1645	1685	1685	1685	1685	1805	1805
Net weight	kg	1600	1800	1900	2000	2100	2200	2250	2400	3000	3100
Noise level**	dB(A)	68	69	69	70	70	72	73	73	73	73

Technical Data

Model	Unit	480	530	610	680	710	760	860	960	1000	1120
Cooling capacity*	kW	480	530	610	680	710	760	860	960	1000	1120
Heating capacity*	kW	470	519	598	666	696	745	843	941	980	1098
Power supply		380-415V/3Ph/50Hz									
Compressor											
Qty/refrigerant circuit	Nr.	1/1	1/1	1/1	1/1	2/2	2/2	2/2	2/2	2/2	2/2
Cooling power input*	kW	89	98	113	126	131	141	159	178	185	207
Heating power input*	kW	159	176	203	226	236	252	286	319	332	372
Energy adjustment steps	step	25% - 100%							12.5% - 100%		
Max. current for wiring	A	302	302	357	378	2×185	2×185	2×258	2×258	2×302	2×302
Refrigerant charge	kg	85	94	108	121	126	135	153	171	178	199
Evaporator											
Water side pressure drop	kPa	46	46	46	47	47	46	47	46	46	46
Pipe size	mm	DN125	DN125	DN125	DN150	DN150	DN150	DN150	DN200	DN200	DN200
Water flow rate in cooling*	m^3/h	83	91	105	117	122	131	148	165	172	193
Water flow rate in heating*	m^3/h	33	37	42	47	49	53	60	67	70	78
Condenser											
Water side pressure drop	kPa	42	42	44	42	44	42	44	42	44	44
Pipe size	mm	DN125	DN125	DN125	DN150	DN125	DN125	DN125	DN125	DN125	DN150
Water flow rate in cooling*	m^3/h	44	49	57	63	66	70	80	89	93	104
Water flow rate in heating*	m^3/h	81	89	103	115	120	128	145	162	169	189
Dimensions											
Length	mm	3505	3505	3505	3520	4005	4505	4505	4505	4560	4560
Width	mm	1280	1315	1375	1380	1415	1415	1415	1415	1460	1460
Height	mm	1970	1990	1980	1980	1975	2000	2000	2000	2090	2090
Net weight	kg	3500	3800	4000	4100	4210	4400	4740	5600	6600	6800
Noise level**	dB(A)	74	74	74	73	74	74	74	74	74	74

Model	Unit	1200	1250	1360	1470	1720	1840	2000	2350	2500
Cooling capacity*	kW	1200	1250	1360	1470	1720	1840	2000	2350	2500
Heating capacity*	kW	1176	1225	1333	1441	1686	1803	1960	2303	2450
Power supply		380-415V/3Ph/50Hz								
Compressor										
Qty/refrigerant circuit	Nr.	2/2	2/2	2/2	4/4	4/4	4/4	4/4	4/4	4/4
Cooling power input*	kW	222	231	252	272	319	341	370	435	463
Heating power input*	kW	399	415	452	488	571	611	664	781	831
Energy adjustment steps	step	12.5% - 100%					6.25% - 100%			
Max. current for wiring	A	2×357	2×357	2×378	4×185	4×258	4×258	4×302	4×357	4×357
Refrigerant charge	kg	213	222	242	261	306	327	356	418	444
Evaporator										
Water side pressure drop	kPa	46	46	46	45	45	46	46	47	47
Pipe size	mm	DN200	DN200	DN200	2×DN150	2×DN150	2×DN200	2×DN200	2×DN200	2×DN200
Water flow rate in cooling*	m^3/h	206	215	234	253	296	316	344	404	430
Water flow rate in heating*	m^3/h	84	87	95	102	120	128	139	164	174
Condenser										
Water side pressure drop	kPa	44	42	45	52	52	52	52	52	52
Pipe size	mm	DN150	DN150	DN150	2×DN200	2×DN200	2×DN200	2×DN200	2×DN200	2×DN200
Water flow rate in cooling*	m^3/h	111	116	126	136	159	170	185	218	232
Water flow rate in heating*	m^3/h	202	211	229	248	290	310	337	396	421
Dimensions										
Length	mm	4660	4660	4660	4600	4650	4690	4730	4780	4800
Width	mm	1585	1585	1585	2250	2270	2300	2340	2380	2400
Height	mm	2215	2215	2240	2350	2380	2410	2450	2470	2500
Net weight	kg	7000	7400	8000	8800	9000	9800	11600	12300	13000
Noise level**	dB(A)	74	74	76	80	80	81	81	82	82

* Performance values refer to the following conditions:
Cooling: condenser water inlet/outlet temperature: 18°C/29°C, evaporator water inlet/outlet temperature: 12°C/7°C.
Heating: condenser water inlet/outlet temperature: 40°C/45°C, evaporator water inlet/outlet temperature: 15°C/7°C.
** Noise level measured in free field condition at distance of 1 meter.