

## GSHP 150C÷3580C

Cooling capacity: 150÷3580 kW

Heating capacity: 191÷4547 kW

R407C



### FEATURES

- 25 sizes available ranging from 150 kW to 3580 kW cooling 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 CO2 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.
- Hermetic scroll compressor for mod. 150C÷180C, semi-hermetic screw compressor for mod. 220C÷3580C. 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.

### NOMENCLATURE

**GSHP 220 B H**

① ② ③ ④

① Ground source heat pump  
② Size

③ Refrigerant  
--: R22  
B: R134a  
C: R407c

④ --: Standard version  
H: with heat recovery

## TECHNICAL DATA

Model GSHP		150C	180C	220C	280C	310C	420C
<b>Cooling capacity*</b>	kW	150	178	220	278	310	418
<b>Heating capacity*</b>	kW	191	226	279	353	394	531
<b>Compressor</b>							
Qty/refrigerant circuit	Nr.	2/2	2/2	1/1	1/1	1/1	1/1
Cooling power input*	kW	28.8	34.2	42.3	53.5	59.6	80.4
Heating power input*	kW	42.6	50.6	62.5	79.0	88.1	118.8
Energy adjustment steps	step	2	2	4	4	4	4
Water flow rate in cooling*	m <sup>3</sup> /h	26	31	38	48	53	72
Water flow rate in heating*	m <sup>3</sup> /h	14	17	21	26	29	39
Water side pressure drop	kPa	50	51	45	46	45	44
<b>Condenser</b>							
Water flow rate in cooling*	m <sup>3</sup> /h	14	17	21	26	29	39
Water flow rate in heating*	m <sup>3</sup> /h	26	31	38	48	53	72
Water side pressure drop	kPa	60	55	48	45	47	46
<b>Desuperheater**</b>							
Heating capacity	kW	38	45	55	70	78	105
<b>Noise level***</b>	dB(A)	68	67	69	71	70	72
<b>Dimensions</b>							
Length	mm	3065	3075	2900	3190	2870	3020
Width	mm	925	1040	1140	1135	1285	1295
Height	mm	1530	1500	1585	1600	1705	1700
<b>Net weight</b>	kg	1640	1740	1940	2140	2440	2880

Model GSHP		540C	600C	660C	860C	920C	1020C
<b>Cooling capacity*</b>	kW	540	600	660	860	918	1020
<b>Heating capacity*</b>	kW	686	762	838	1092	1166	1295
<b>Compressor</b>							
Qty/refrigerant circuit	Nr.	1/1	1/1	1/1	1/1	2/2	2/2
Cooling power input*	kW	103.8	115.4	126.9	165.4	176.5	196.2
Heating power input*	kW	153.4	170.5	187.5	244.3	260.8	289.8
Energy adjustment steps	step	4	4	4	4	8	8
<b>Evaporator</b>							
Water flow rate in cooling*	m <sup>3</sup> /h	93	103	113	148	158	175
Water flow rate in heating*	m <sup>3</sup> /h	50	56	62	80	86	95
Water side pressure drop	kPa	46	48	45	47	47	50
<b>Condenser</b>							
Water flow rate in cooling*	m <sup>3</sup> /h	50	56	62	80	86	95
Water flow rate in heating*	m <sup>3</sup> /h	93	103	113	148	158	175
Water side pressure drop	kPa	45	47	46	48	46	50
<b>Desuperheater**</b>							
Heating capacity	kW	135	150	165	215	230	255
<b>Noise level***</b>	dB(A)	72	73	73	73	74	74
<b>Dimensions</b>							
Length	mm	3365	3635	3120	3520	3860	4160
Width	mm	1430	1400	1440	1507	1515	1515
Height	mm	1880	1925	1980	2060	2120	2120
<b>Net weight</b>	kg	3490	3790	3990	4230	4370	4590

\* 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/10°C.

\*\* Desuperheater is optional.

\*\*\* Noise level measured in free field condition at distance of 1 meter.

**Power supply: 380V/3N/50Hz**

## TECHNICAL DATA

Model	GSHP	1200C	1250C	1320C	1430C	1610C	1800C
<b>Cooling capacity*</b>	kW	1198	1250	1320	1430	1610	1798
<b>Heating capacity*</b>	kW	1521	1588	1676	1816	2045	2283
<b>Compressor</b>							
Qty/refrigerant circuit	Nr.	2/2	2/2	2/2	2/2	2/2	2/2
Cooling power input*	kW	230.4	240.4	253.8	275.0	309.6	345.8
Heating power input*	kW	340.4	355.1	375.0	406.3	457.4	510.8
Energy adjustment steps	step	8	8	8	8	8	8
<b>Evaporator</b>							
Water flow rate in cooling*	m <sup>3</sup> /h	206	215	227	246	277	309
Water flow rate in heating*	m <sup>3</sup> /h	112	117	123	133	150	168
Water side pressure drop	kPa	51	50	53	52	54	52
<b>Condenser</b>							
Water flow rate in cooling*	m <sup>3</sup> /h	112	117	123	133	150	168
Water flow rate in heating*	m <sup>3</sup> /h	206	215	227	246	277	309
Water side pressure drop	kPa	51	53	50	52	54	55
<b>Desuperheater**</b>							
Heating capacity	kW	300	313	330	358	403	450
<b>Noise level***</b>	dB(A)	74	75	75	76	78	81
<b>Dimensions</b>							
Length	mm	4360	4280	4380	4545	4630	4645
Width	mm	1515	1600	1580	1600	1630	1630
Height	mm	2120	2160	2135	2150	2275	2275
<b>Net weight</b>	kg	5220	5880	6880	7180	7380	8380

Model	GSHP	2160C	2450C	2570C	2720C	2860C	3220C	3580C
<b>Cooling capacity*</b>	kW	2160	2450	2570	2720	2860	3220	3580
<b>Heating capacity*</b>	kW	2743	3112	3264	3454	3632	4089	4547
<b>Compressor</b>								
Qty/refrigerant circuit	Nr.	4/4	4/4	4/4	4/4	4/4	4/4	4/4
Cooling power input*	kW	415.4	471.2	494.2	523.1	550.0	619.2	688.5
Heating power input*	kW	613.7	696.1	730.2	772.8	812.6	914.9	1017.1
Energy adjustment steps	step	Continues	Continues	Continues	Continues	Continues	Continues	Continues
<b>Evaporator</b>								
Water flow rate in cooling*	m <sup>3</sup> /h	371	421	442	468	492	554	616
Water flow rate in heating*	m <sup>3</sup> /h	201	228	240	254	267	300	334
Water side pressure drop	kPa	56	54	55	57	54	53	51
<b>Condenser</b>								
Water flow rate in cooling*	m <sup>3</sup> /h	201	228	240	254	267	300	334
Water flow rate in heating*	m <sup>3</sup> /h	371	421	442	468	492	554	616
Water side pressure drop	kPa	54	55	50	54	52	51	53
<b>Desuperheater**</b>								
Heating capacity	kW	540	613	643	680	715	805	895
<b>Noise level***</b>	dB(A)	81	80	81	81	81	83	83
<b>Dimensions</b>								
Length	mm	4600	4500	4650	4650	5000	4750	4850
Width	mm	2370	2430	2430	2480	2540	2480	2480
Height	mm	2415	2455	2465	2595	2565	2655	2675
<b>Net weight</b>	kg	9350	9950	11950	12650	13450	13950	15650

\* 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/10°C.

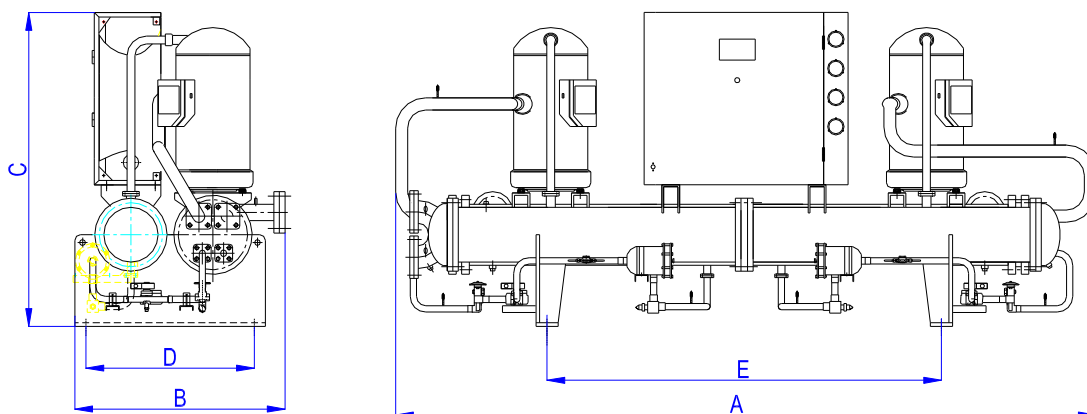
\*\* Desuperheater is optional.

\*\*\* Noise level measured in free field condition at distance of 1 meter.

**Power supply: 380V/3N/50Hz**

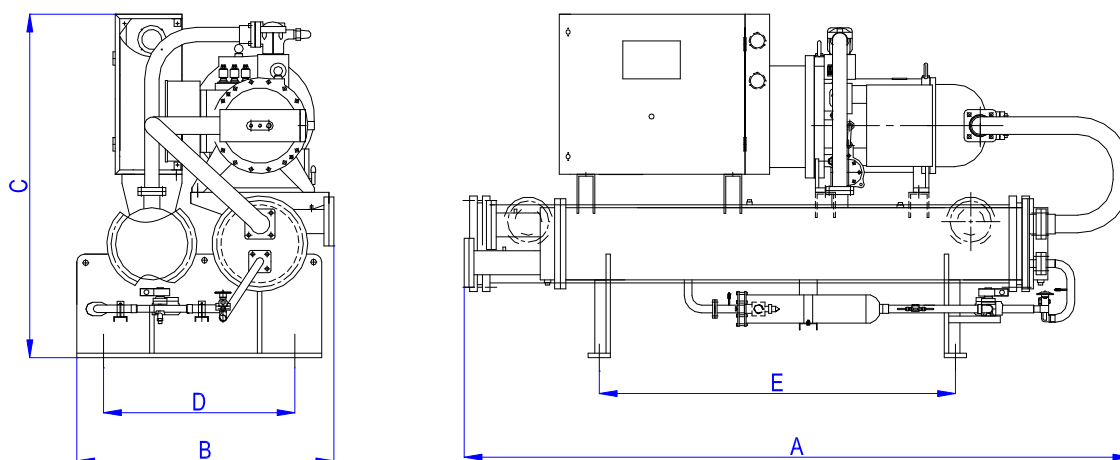
## OVERALL DIMENSIONS

### Mod. GSHP 150C÷180C



Model	A	B	C	D	E	Model	A	B	C	D	E
<b>150C</b>	3065	875	1460	700	1680	<b>150CH</b>	3065	925	1530	700	1680
<b>180C</b>	3075	990	1450	760	1780	<b>180CH</b>	3075	1040	1500	760	1780

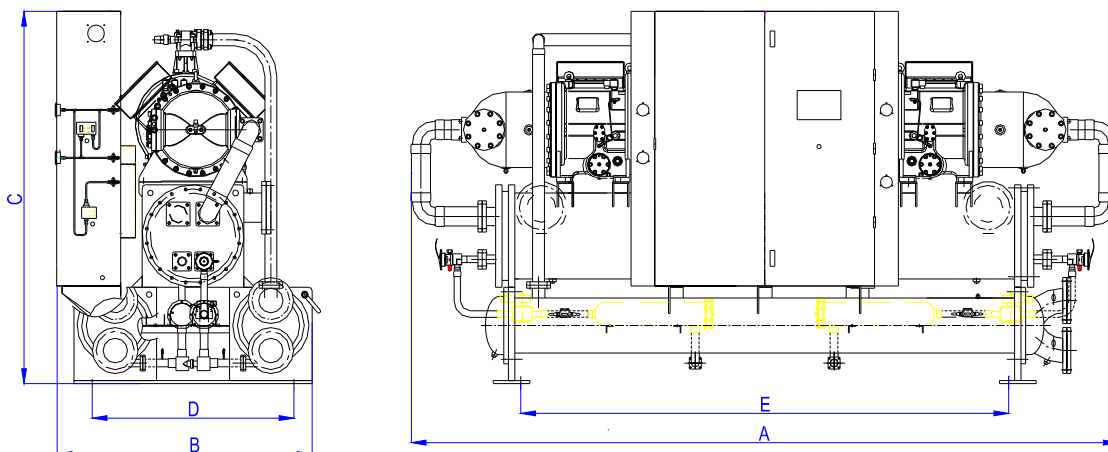
### Mod. GSHP 220C ÷ 860C



Model	A	B	C	D	E	Model	A	B	C	D	E
<b>220C</b>	2900	1090	1535	900	1450	<b>220CH</b>	2900	1140	1585	900	1450
<b>280C</b>	3190	1085	1540	900	1800	<b>280CH</b>	3190	1135	1600	900	1800
<b>310C</b>	2870	1235	1645	1000	1460	<b>310CH</b>	2870	1285	1705	1000	1460
<b>420C</b>	3020	1245	1650	1000	1650	<b>420CH</b>	3020	1295	1700	1000	1650
<b>540C</b>	3365	1380	1830	1020	1900	<b>540CH</b>	3365	1430	1880	1020	1900
<b>600C</b>	3635	1350	1865	1020	2300	<b>600CH</b>	3635	1400	1925	1020	2300
<b>660C</b>	3120	1390	1930	1200	1730	<b>660CH</b>	3120	1440	1980	1200	1730
<b>860C</b>	3600	1342	1990	1200	1760	<b>860CH</b>	3600	1507	2060	1200	1760

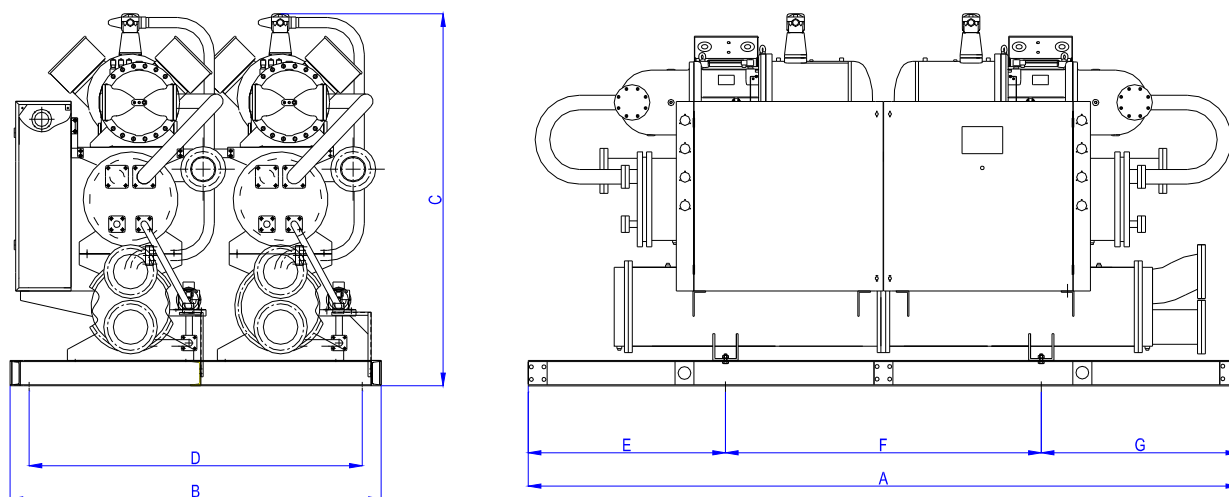
## OVERALL DIMENSIONS

### Mod. GSHP 920C ÷ 1800C



Model	A	B	C	D	E	Model	A	B	C	D	E
920C	3860	1495	2040	1101	2665	920CH	3860	1515	2120	1101	2665
1020C	4160	1495	2040	1101	2965	1020CH	4160	1515	2120	1101	2965
1200C	4360	1495	2040	1101	3165	1200CH	4360	1515	2120	1101	3165
1250C	4280	1520	2080	1101	3065	1250CH	4280	1600	2160	1101	3065
1320C	4380	1500	2055	1171	3165	1320CH	4380	1580	2135	1171	3165
1430C	4545	1520	2070	1191	3365	1430CH	4545	1600	2150	1191	3365
1610C	4630	1550	2195	1232	3365	1610CH	4630	1630	2275	1232	3365
1800C	4645	1550	2195	1232	3465	1800CH	4645	1630	2275	1232	3465

### Mod. GSHP 2160C ÷ 3580C



Model	A	B	C	D	E	F	G	Model	A	B	C	D	E	F	G
2160C	4600	2290	2335	2050	1300	2000	1300	2160CH	4600	2370	2415	2050	1300	2000	1300
2450C	4500	2350	2384	2210	1250	2000	1250	2450CH	4500	2430	2455	2210	1250	2000	1250
2570C	4650	2350	2384	2210	1325	2000	1325	2570CH	4650	2430	2465	2210	1325	2000	1325
2720C	4650	2400	2514	2160	1325	2000	1325	2720CH	4650	2480	2595	2160	1325	2000	1325
2860C	5000	2457	2485	2160	1500	2000	1500	2860CH	5000	2540	2565	2160	1500	2000	1500
3220C	4750	2415	2574	2160	1375	2000	1375	3220CH	4750	2480	2655	2160	1375	2000	1375
3580C	4850	2520	2594	2160	1295	2260	1295	3580CH	4850	2480	2675	2160	1295	2260	1295

The technical data in this document are not binding.  
Bright A/C reserves the right to make whatever modifications it deems necessary to improve the product at any time.

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