



CGWP

Water Cooled Cold Generator
Cooling Capacity: 61~352kW





Features and Benefits

With the cooling capacity ranging from 61-352kW, all the models are designed with multiple scroll compressors, thus bringing less operating vibration and lower running noise.

- Scroll compressors and durable system components designed by Trane fully exhibits Trane's leading technology in the industry.
- At least 30% EER higher and 3~5 dBA noise lower than air-cooled chiller under the same operating condition, therefore applicable to residential and especially to light commercial environments.
- Dual refrigerant circuit design brings higher part load efficiency.
- Easy installation and small unit's foot print

High Reliability

- Scroll compressor has 60% fewer parts and has only 30% of torque variation compared with reciprocating compressor; thus has longer lifecycles and more reliable operation.
- Scroll compressor prevents the liquid refrigerant and dirt from coming into the machine, thereby prevents compressor damage caused by liquid strike.
- Equipped with microprocessor controller, it provides fully protective functions and operation orientation.
- Over ten thousand hours testing proved unit performance and high reliability of the systems.

High Efficiency

- Scroll compressor features low friction loss and high efficiency.
- Designed with multiple scroll compressors, the unit can achieve outstanding efficiency at part load operation.

Safe and Reliable

- Water-proof design enables unit to be installed outdoor to meet customers' specific requirement.
- Flat top surface prevents water droplets from getting into the unit.
- All electrical components used waterproof design for operating safety.

Mechanical Specification

Compressor

Hermetic scroll compressor features high EER and low operating noise. Each refrigerant circuit can operate individually and switch over according to the loading demand, hence can extend operating life of the machine.

Condenser

Seamless external enhanced copper tube in shell design, refrigerant side is tested at 28.7kg/cm²(420psi) and 15kg/cm²(220psi) for waterside.

Evaporator

• 020~060
Compact size of brazed plate type heat exchanger with antifreeze protection allows the system to run more stably. 80-mesh Y-type strainer provided by the factory must be installed in the water inlet to prevent water circuitry to be blocked at jobsite.

• 080~120

The unit uses seamless internal enhanced copper tube in shell design. A 4" flange type strainer provided by the factory must be installed in the water inlet to prevent water circuitry to be blocked at jobsite.

Enclosure

- Powder painting enclosure, free of rust for longer period of time than normal treatment.
- Deform free frame design and symmetric internal layout.
- All panels are removable to facilitate maintenance.

System Control

Cooling or heating (80-120 only)

Memory setting function

On/off timer

Compressor re-start protection and delay startup

Compressor high/ low pressure cutout, overload protection

Compressors sequential startup

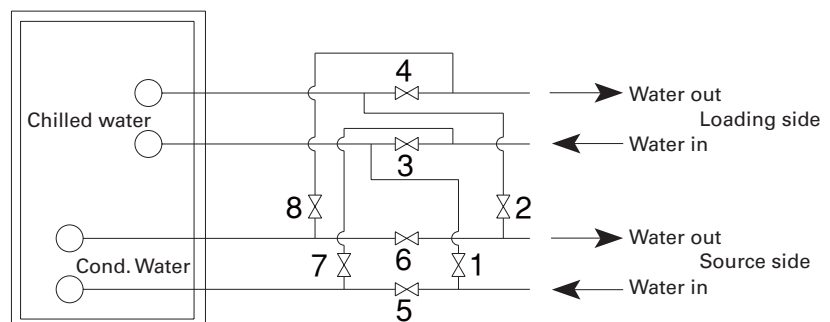
Self diagnosis and codes display

Working status display (water temperature and refrigerant pressure etc.)

Either inlet or outlet water temperature control

CGWP with hot water application

Cooling mode: open valves 5/6/3/4, close valves 1/2/7/8
Heating mode: open valves 1/2/7/8, close valves 3/4/5/6



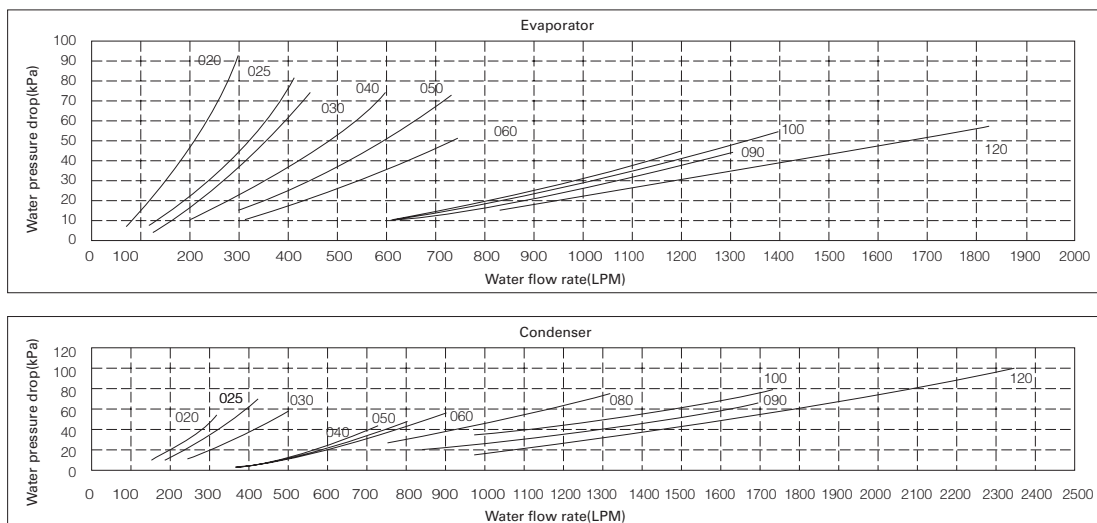
Note: Please refer to CGWP IOM for piping connection and valve operation.

Model Nomenclatures

C G W P 0 2 0 5 B K R M C R A A
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

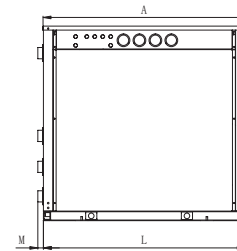
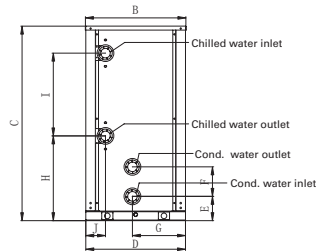
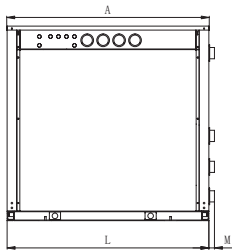
Digit 1,2,3,4	Chiller Type CGWP = Water-cooled Scroll Chiller		Digit 11	R = Heat pump(080,090,100 and 120 only) Pipe Connection R = Right Hand Side(Standard) L = Left Hand Side
Digit 5,6,7	Model (Nominal Cooling Capacity) 020 = 61kW 025 = 76kW 030 = 88.5kW 040 = 117.5kW 050 = 146.5kW 060 = 176kW 080 = 243.5kW 090 = 270.5kW 100 = 296.5kW 120 = 351.5kW		Digit 12	Control M = Microprocessor controller
			Digit 13	Origin C = China
			Digit 14	Insulation Accessories R = Rubber pads(Standard) S = Spring isolators
Digit 8	Voltage 5 = 380V/50Hz/3Ph		Digit 15	Service Sequence A = First
Digit 9	Design Sequence B = Second		Digit 16	Region A = APR B = MAIR
Digit 10	Control Mode K = Cooling only			

Water Flow and Water Pressure Drop Diagrams



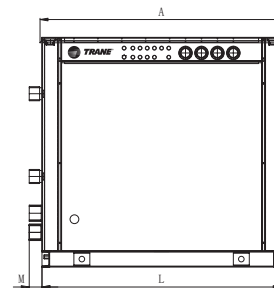
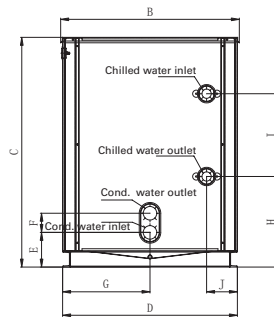
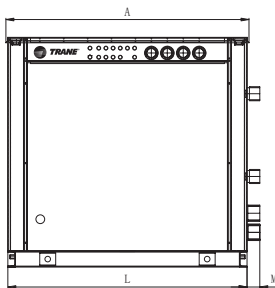
Dimensions

Right hand water connections CGWP020/025/030

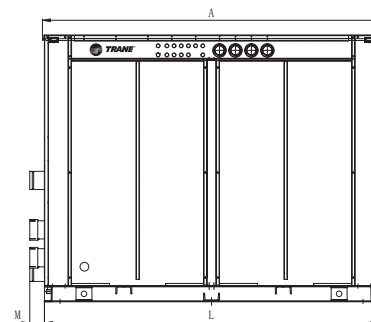
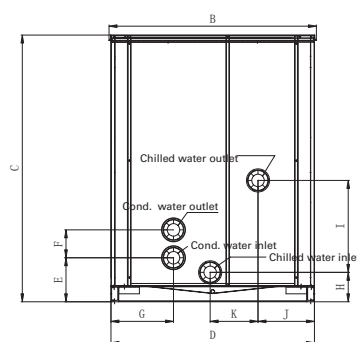
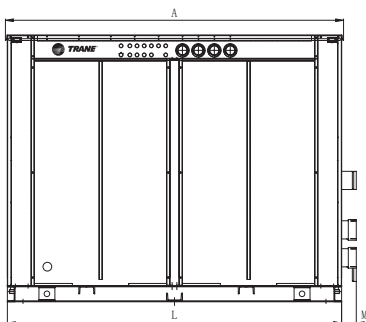


Left hand water connections

CGWP040/050/060



CGWP080/090/100/120



Model	A	B	C	D	E	F	G	H	I	J	K	L	M
020	1270	630	1220	625	152.2	185	333	513	466	127	-	1265	35
025	1270	630	1220	625	152.5	185	333	532	519	152	-	1265	35
030	1270	630	1220	625	152.5	185	333	532	519	124	-	1265	35
040/050/060	1525	1121	1441	1096	217.5	120	548	568	519	193	-	1500	80
080/090/100	2121	1171	1625	1146	272.5	175	355	184.5	525.5	310	250	2096	80
120	2121	1301	1673	1276	276	175	392	184.5	576.5	354	300	2096	80

Cooling Performance Data

Model	EWT°C	25		30		35		40	
	LWT°C	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
CGWP020	5	58.72	11.68	56.66	12.57	54.24	13.88	51.48	15.73
	7	63.1	11.68	61	12.56	58.55	13.85	55.74	15.69
	9	67.71	11.68	65.58	12.54	63.09	13.82	60.24	15.64
	11	72.57	11.68	70.4	12.53	67.87	13.79	66.51	15.59
CGWP025	5	73.82	16.16	70.45	16.2	67.29	19.85	63.72	22.04
	7	79.34	16.2	76	16.24	72.44	19.89	68.66	22.07
	9	85.16	16.24	81.63	16.29	77.87	19.93	73.87	22.1
	11	91.3	16.27	87.56	16.33	83.59	19.97	79.36	22.14
CGWP030	5	88.17	17.43	82.37	19.17	78.98	21.15	75.03	23.26
	7	94.83	17.56	88.49	19.4	86.88	21.2	80.52	23.4
	9	100.42	17.79	96.52	19.6	93.65	21.5	86.78	23.7
	11	107.05	17.84	100.95	19.75	99.96	21.55	92.7	23.75
CGWP040	5	113.12	22.68	109.14	26.47	104.49	28.24	99.16	31.61
	7	121.54	22.69	117.5	26.4	112.78	28.18	107.38	31.53
	9	130.43	22.68	126.32	26.32	121.53	28.12	116.04	31.44
	11	139.79	22.68	135.61	26.18	130.74	28.05	128.12	31.33
CGWP050	5	141.73	29.53	136.11	32.73	129.9	36.33	123.15	40.38
	7	152.36	29.59	146.5	32.03	140.04	36.36	133	40.4
	9	163.55	29.64	157.44	32.81	150.7	36.39	143.38	40.41
	11	175.31	29.68	168.94	32.84	161.92	36.41	155.73	40.42
CGWP060	5	170.81	37.01	163.54	39.88	155.78	45.2	147.59	50
	7	183.67	37.12	176	39.47	167.79	45.32	159.11	50.13
	9	197.19	37.23	189.1	39.22	180.42	45.44	171.25	50.25
	11	211.41	37.33	202.86	39.11	193.69	45.54	183.99	50.36
CGWP080	5	245.13	45.42	226.3	49.89	215.33	54.77	203.8	60.16
	7	254.5	45.8	243.5	50.28	231.84	55.14	219.58	60.53
	9	273.32	46.21	261.63	50.69	249.25	55.55	236.22	60.93
	11	293.14	46.66	280.72	51.13	267.58	55.98	253.76	61.35
CGWP090	5	267.02	51.35	251.19	56.17	238.66	61.48	225.59	67.42
	7	283.05	51.92	270.5	56.73	257.23	62.04	243.31	67.96
	9	304.35	52.54	290.99	57.34	276.87	62.64	262.05	68.55
	11	326.81	53.19	312.6	57.99	297.59	63.27	281.85	69.17
CGWP100	5	288.15	56.81	275.15	61.94	261.12	67.65	246.58	74.08
	7	310.54	57.58	296.5	62.68	281.69	68.38	266.17	74.79
	9	334.21	58.39	319.24	63.68	303.46	69.16	286.92	75.55
	11	359.22	59.24	343.28	64.32	326.48	69.99	308.88	76.36
CGWP120	5	341.55	66.92	327.61	74.7	313.67	82.83	299.73	92.27
	7	367.11	67.71	351.6	75.49	336.91	83.67	321.8	92.92
	9	393.83	68.58	377.57	76.28	361.3	84.46	346.2	93.83
	11	421.71	69.46	404.29	77.15	388.02	85.31	370.6	94.66

Note: EWT – Condenser side entering water temperature. LWT – Evaporator side chilled water leaving temperature.

Heating Performance Data

Model	LWT°C	35		40		45		50	
	EWT°C	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)
CGWP080	8	260.57	50.23	255.88	55.16	251.1	60.6	246.2	66.68
	11	285.54	50.8	279.9	55.73	274.12	61.16	268.13	67.24
	15	322.06	51.67	315.04	56.58	307.8	62	300.24	68.06
	20	373.25	52.95	364.32	57.82	355.06	63.2	345.34	69.21
	24	418.94	54.14	408.34	58.97	397.31	64.3	385.7	70.26
CGWP090	8	282.77	56.57	277.07	61.94	271.34	67.93	265.9	74.67
	11	310.42	57.43	303.62	62.79	296.71	68.76	290.05	75.47
	15	350.99	58.73	342.6	64.06	334	70	325.58	76.68
	20	408.04	60.58	397.46	65.88	386.56	71.78	375.75	78.41
CGWP100	8	321.64	61.85	315	67.61	308.27	74.08	302.14	81.38
	11	353.76	62.95	345.79	68.68	337.75	75.13	330.04	82.39
	15	401.05	64.6	394.05	73.08	381.1	76.7	371.28	83.93
	20	467.8	66.94	455.3	72.61	442.5	78.98	429.82	86.15
CGWP120	8	393.9	74.71	388.85	82.15	384.21	91.14	380.6	96.62
	11	430.45	75.5	424.67	83.32	419.64	91.93	416.04	97.4
	15	482.31	77.06	476.14	84.49	470	93.01	466.4	98.58
	20	553.94	79.41	546.66	86.84	539.01	95.06	534.29	100.53
	24	601.33	80.97	594.04	88.41	585.28	96.62	580.56	102.1

EWT – Evaporator side entering water temperature. LWT – Condenser side hot water leaving temperature.

General Data

Model		020	025	030	040	050	060	080	090	100	120	
Cooling capacity(kW)		61	76	88.5	117.5	146.5	176	243.5	270.5	296.5	351.6	
Heating capacity(kW)		-	-	-	-	-	-	307.8	334	381.1	470	
Compressor		Hermetic Scroll compressor										
Circuit		2										
Load (%)		100-50-0			100-75-50 -25-0	100-80-60 -30-0	100-75-50-25-0		100-80-60 -30-0	100-75-50-25-0		
Voltage-Phase-Hertz		380V-3Ph-50Hz										
Input(kW)	Cooling	12.56	16.24	19.4	26.4	32.03	39.47	50.28	56.73	62.68	75.49	
	Heating	-	-	-	-	-	-	62	70	76.7	93.1	
RLA (A)	Cooling	25	29.9	38.8	52.4	62.8	79.3	100.8	104	127.8	139.02	
	Heating	-	-	-	-	-	-	107	121	135	162.84	
LRA (A)		135	190	198	165	228	243	290	352	366	310	
Evaporator	Type	Braze plate heat exchanger						Shell and tube				
	Cooling	Water Flow(LPM)	175	218	254	337	420	505	698	776	850	1008
		WPD (kPa)	32.5	25	25	24	25	24	12	14	17.5	18.4
	Heating	Water Flow(LPM)	-	-	-	-	-	-	841	926	1026	1096
		WPD (kPa)	-	-	-	-	-	-	23	56.7	36.25	26.6
Condenser	Type	Shell and tube										
	Cooling	Water Flow(LPM)	211	265	309	413	512	628	843	938	1030	1255
		WPD (kPa)	21.2	25	25	10.5	16	21.5	29	24	31	26.9
	Heating	Water Flow(LPM)	-	-	-	-	-	-	841	926	1026	1096
		WPD (kPa)							28	23.2	31.68	19
Refrigerant		R-22										
R22 Charge (kg)		5/5	6/6	7/7	9/9	11/11	13/13	28/28	32/30	32/32	34/34	
Lubricating oil Charge (L) (SUNISO 4GS)		7.6	10.4	13.2	15.2	20.8	26.4	32	32	32	25.2	
Dimension	Length (mm)	1270			1525			2121			2121	
	Width (mm)	630			1121			1171			1301	
	Height (mm)	1220			1441			1625			1673	
Operating Weight (kg)		500	540	580	980	1060	1140	1900	2000	2100	2500	
Shipping Weight (kg)		475	513	551	931	1007	1083	1805	1900	1995	2375	
Protection		H/L pressure switches, Freezestat, Fusible plug, Current overload, Refrigerant safety valve, Phase reversal relay.										
Evap. Water Pipe in/out		1-1/4" FPT	2" FPT		2-1/2" FPT			4" Groove Type				
Cond. Water Pipe in/out		2" FPT			3" FPT			4" FPT				

- NOTE: 1. Cooling capacity rated conditions
a. Chiller water inlet/outlet temperature = 12°C/7°C
b. Condenser water inlet/outlet temperature = 30°C/35°C.
2. Heating capacity rated conditions
a. Hot water outlet temperature = 45°C.
b. Condenser water inlet temperature = 15°C.
3. Tolerance of the data as above is ±5% according with Standard ARI 590.



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Date November 2009

Supersedes New

www.trane.com

For more information, contact your local Trane office or e-mail us at comfort@trane.com

Trane has a policy of continuous product and data improvement and reserves the right to change design specifications without notice.