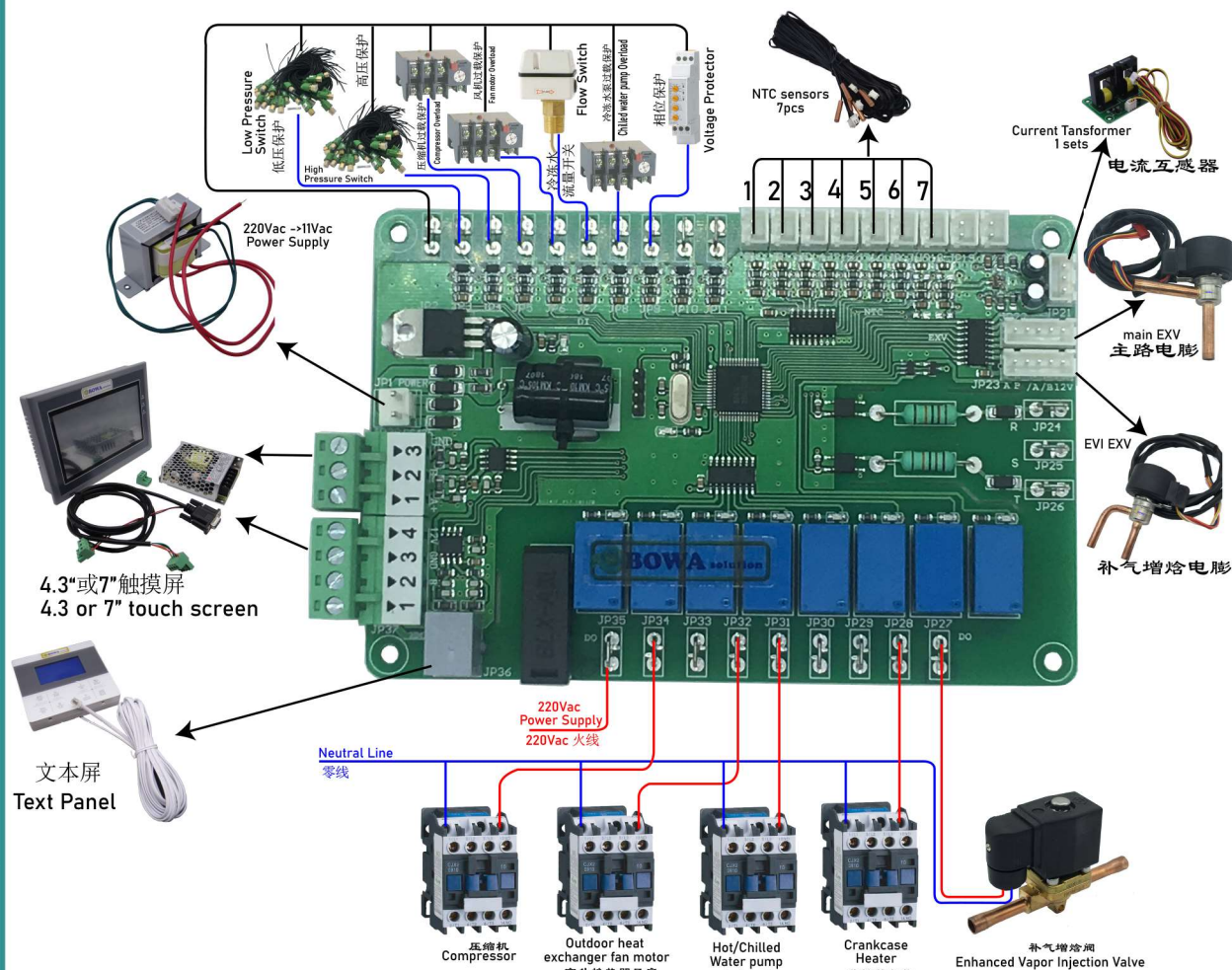


CCS-009S 标准型 Text Panel 文本屏	CCS-009P 轻奢型 4.3" Touch Screen 4.3"触摸屏	CCS-009D 顶配 7" Touch Screen 7"触摸屏	Qty. 数量	Remark 备注
			1	三者择其一 Choose one
Logic PCB board 逻辑板			1	
Voltage Transformer 变压器 (1.1A)			1	220Vac->11Vac
NTC Sensors NTC温感 (3m Length)			7	B3950,10K
Current Transformer 电流互感器 (1.5m cable)			1	2 channels

The BOWA SOLUTION standard application solutions for chillers/heat pumps with rotary, scroll & BLDC compressors are designed for various liquid temperature control. The application solution can manage both air/water and water/water units. The maximum configuration involves six compressors in each circuit, with up to two circuits.

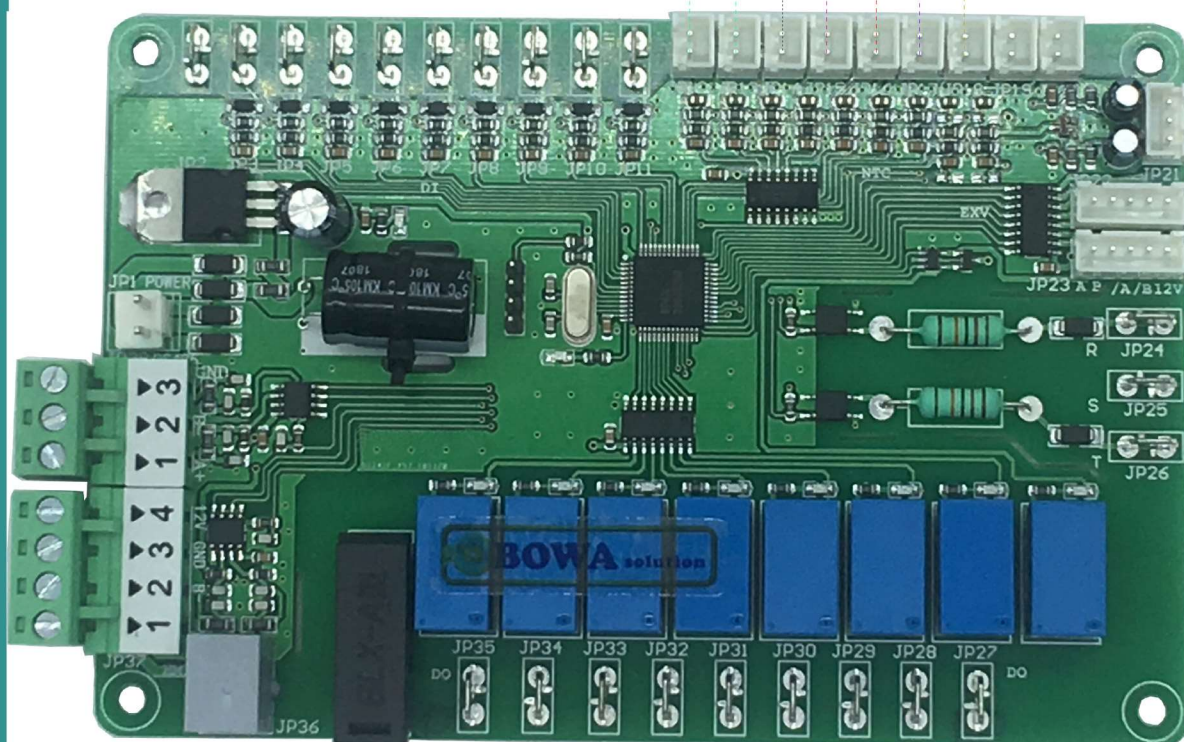
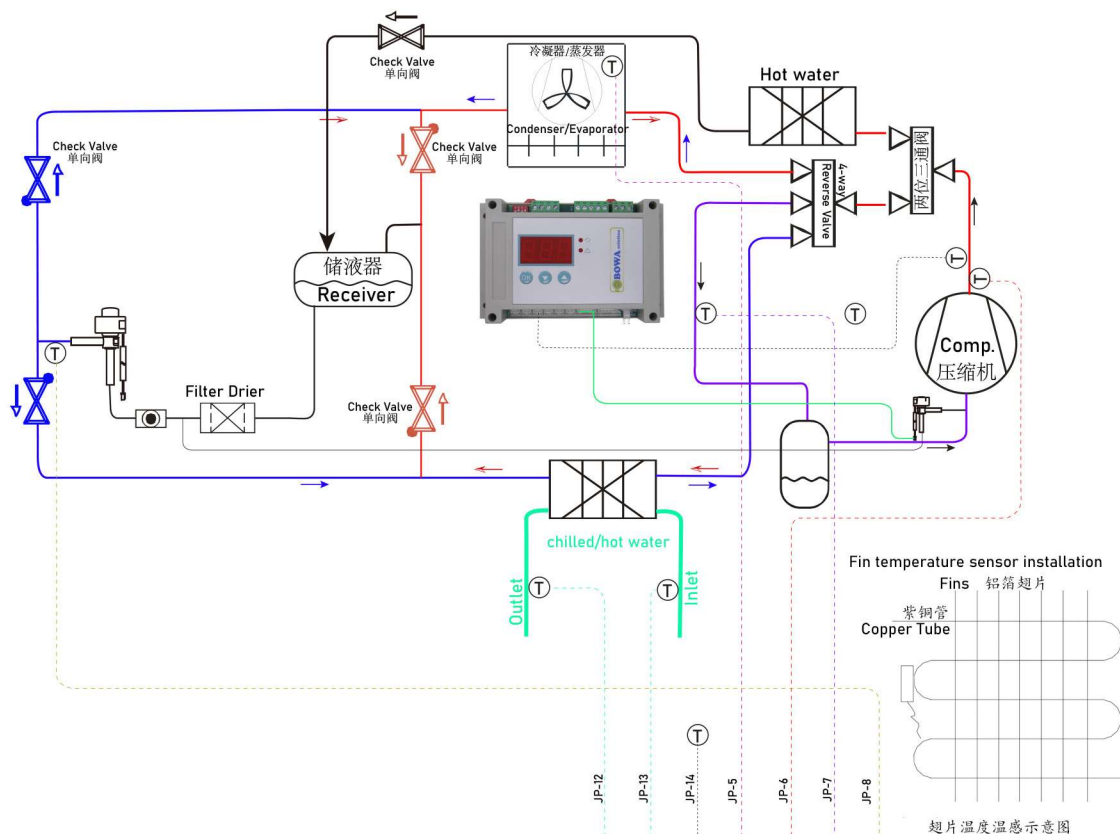
The built-in serial ports on the PCB board moreover allow information to be exchanged with the unit actuators (electronic valves, fan controllers, compressor inverter, etc.), thus optimising unit control and efficiency according to system requirements.

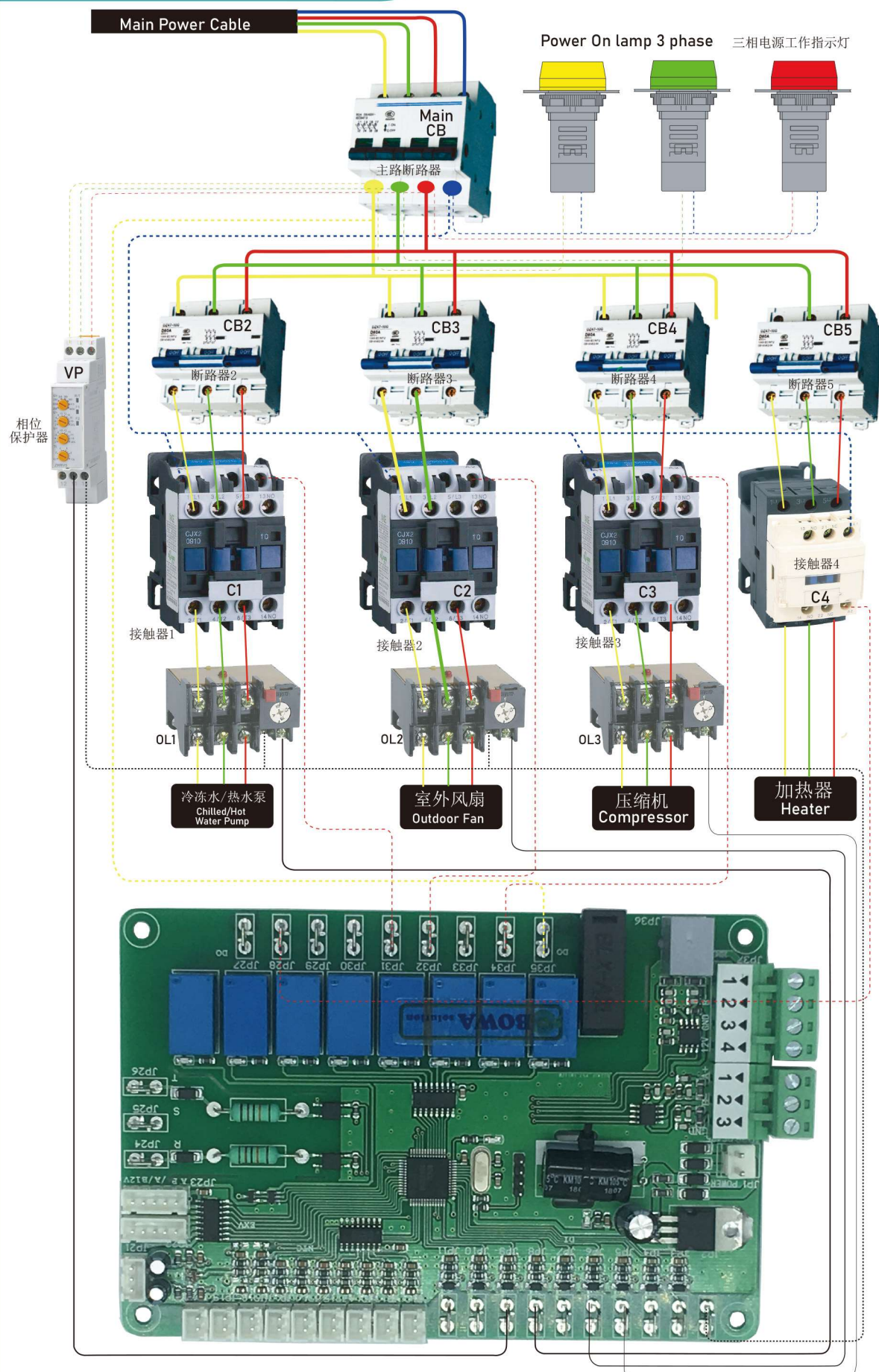
Complete management of the compressor envelope allows the device to in safe conditions at all times, thus guaranteeing the highest performance. Indeed, whenever the compressor working approaches one of the operating limits defined by the envelope, specific prevention actions are adopted, involving varying compressor capacity (for BLDC compressors), condenser fan speed of condensation (on air/water units) and the opening of the electronic valve. The protection function is available for both BLDC compressors and ON/OFF scroll compressors.

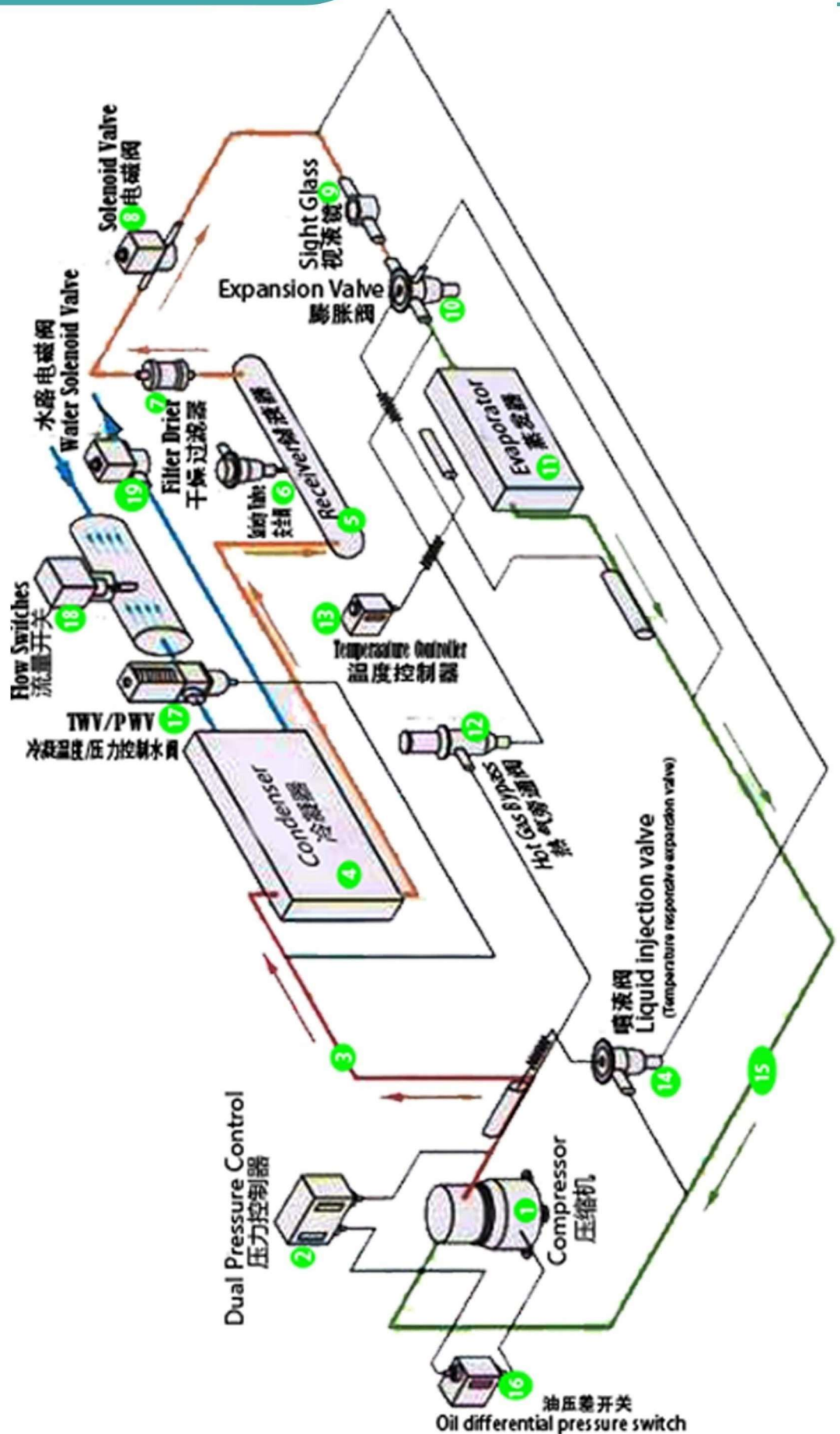


NTC sensor installation Guide

温感安装导图







管径(DN)	流速推荐值 m/s:														
	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400
闭式系统	0.5-0.6	0.6-0.7	0.7-0.9	0.8-1	0.9-1.2	1.1-1.4	1.2-1.6	1.3-1.8	1.5-2.0	1.6-2.2	1.8-2.5	1.8-2.6	1.9-2.9	1.6-2.5	1.8-2.6
开式系统	0.4-0.5	0.5-0.6	0.6-0.8	0.7-0.9	0.8-1.0	0.9-1.2	1.1-1.4	1.2-1.6	1.4-1.8	1.5-2.0	1.6-2.3	1.7-2.4	1.7-2.4	1.6-2.1	1.8-2.3

管径 (DN)	流量 m ³ /h Flow Rate															内面积 m ² Inner Square
	0.4m/s	0.6m/s	0.8m/s	1.0m/s	1.2m/s	1.4m/s	1.6m/s	1.8m/s	2.0m/s	2.2m/s	2.4m/s	2.6m/s	2.8m/s	3.0m/s		
20	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2.0	2.3	2.5	2.7	2.9	3.2	3.4	0.000314	
25	0.7	1.1	1.4	1.8	2.1	2.5	2.8	3.2	3.5	3.9	4.2	4.6	4.9	5.3	0.000491	
32	1.2	1.7	2.3	2.9	3.5	4.1	4.6	5.2	5.8	6.4	6.9	7.5	8.1	8.7	0.000804	
40	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	10.0	10.9	11.8	12.7	13.6	0.001257	
50	2.8	4.2	5.7	7.1	8.5	9.9	11.3	12.7	14.1	15.6	17.0	18.4	19.8	21.2	0.001963	
65	4.8	7.2	9.6	11.9	14.3	16.7	19.1	21.5	23.9	26.3	28.7	31.1	33.4	35.8	0.003318	
80	7.2	10.9	14.5	18.1	21.7	25.3	29.0	32.6	36.2	39.8	43.4	47.0	50.7	54.3	0.005027	
100	11.3	17.0	22.6	28.3	33.9	39.6	45.2	50.9	56.5	62.2	67.9	73.5	79.2	84.8	0.007854	
125	17.7	26.5	35.3	44.2	53.0	61.9	70.7	79.5	88.4	97.2	106.0	114.9	123.7	132.5	0.012272	
150	25.4	38.2	50.9	63.6	76.3	89.1	101.8	114.5	127.2	140.0	152.7	165.4	178.1	190.9	0.017671	
200	45.2	67.9	90.5	113.1	135.7	158.3	181.0	203.6	226.2	248.8	271.4	294.1	316.7	339.3	0.031416	
250	70.7	106.0	141.4	176.7	212.1	247.4	282.7	318.1	353.4	388.8	424.1	459.5	494.8	530.1	0.049087	
300	101.8	152.7	203.6	254.5	305.4	356.3	407.1	458.0	508.9	559.8	610.7	661.6	712.5	763.4	0.070686	
350	138.5	207.8	277.1	346.4	415.6	484.9	554.2	623.4	692.7	762.0	831.3	900.5	969.8	1039.1	0.096211	
400	181.0	271.4	361.9	452.4	542.9	633.3	723.8	814.3	904.8	995.3	1085.7	1176.2	1266.7	1357.2	0.125664	
450	229.0	343.5	458.0	572.6	687.1	801.6	916.1	1030.6	1145.1	1259.6	1374.1	1488.6	1603.2	1717.7	0.159043	
500	282.7	424.1	565.5	706.9	848.2	989.6	1131.0	1272.3	1413.7	1555.1	1696.5	1837.8	1979.2	2120.6	0.196349	
600	407.1	610.7	814.3	1017.9	1221.4	1425.0	1628.6	1832.2	2035.7	2239.3	2442.9	2646.5	2850.0	3053.6	0.282743	
700	554.176	831.264	1108.35	1385.44	1662.53	1939.62	2216.71	2493.79	2770.88	3047.97	3325.06	3602.15	3879.23	4156.32	0.384845	
800	723.822	1085.73	1447.64	1809.56	2171.47	2533.38	2895.29	3257.2	3619.11	3981.02	4342.93	4704.84	5066.75	5428.67	0.502654	
900	916.087	1374.13	1832.17	2290.22	2748.26	3206.31	3664.35	4122.39	4580.44	5038.48	5496.52	5954.57	6412.61	6870.65	0.636172	
1000	1130.97	1696.46	2261.94	2827.43	3392.92	3958.4	4523.89	5089.37	5654.86	6220.35	6785.83	7351.32	7916.8	8482.29	0.785397	
1200	1628.6	2442.9	3257.2	4071.5	4885.8	5700.1	6514.4	7328.7	8143	8957.3	9771.6	10585.9	11400.2	12214.5	1.130972	

冷冻水水管管径 chilling Water pipe diameter

管径(DN)	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"	10"
制冷量 KW Cooling Capacity	<5.5		5.5-10	10-30	30-40	40-65	65-120	120-210	210-410	410-750	750-1200	1200-2500	2035-3250
流量 m ³ /h Flow Rate		0.5-1	1-2	3-4	5-6	7-10	11-18	19-32	33-65	66-115	116-185	186-350	350-560
参照流速 m/s Velocity		0.6	0.7	0.8	1	1.1	1.2	1.4	1.6	1.9	2	2	2.6

冷却水水量计算公式 Cooling Water Flow rate calculate formula

$$L(m^3/h) = \frac{Q(Kw)}{(4.5 - 5) \times 1.163} \times (1.15 \sim 1.2) \quad Q: \text{制冷量 Cooling Capacity}$$

冷冻水量计算公式 Chilling Water Flow rate calculate formula

$$L(m^3/h) = \frac{Q(Kw)}{(4.5 - 5) \times 1.163} \quad Q: \text{制冷量 Cooling Capacity}$$

镀锌钢管	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250
外径OD	21.75	26.75	33.5	42.25	48	60	75.5	88.5	114	140	165	219	273
内径ID	16.25	21.25	27	35.75	41	53	68	80.5	106	131	156	203	257

通径 DN		DN20	DN25	DN32	DN40	DN50	DN63	DN75	DN90	DN110
PVC 给水管 1.25MPa Water Supply Pipe	外径 OD	20.00	25.00	32.00	40.00	50.00	63.00	75.00	90.00	110.00
	内径 ID	16.00	21.00	28.00	35.20	44.00	55.40	66.00	79.20	98.60
	壁厚 Thickness	2.00	2.00	2.00	2.40	3.00	3.80	4.50	5.40	5.70
PPR 冷给水管 1.25MPa Cold Water Supply Pipe	外径 OD	20.00	25.00	32.00	40.00	50.00	63.00	75.00	90.00	110.00
	内径 ID	16.00	20.40	26.00	32.60	40.80	51.40	61.20	73.60	90.00
	壁厚 Thickness	2.00	2.30	3.00	3.70	4.60	5.80	6.90	8.20	10.00
PPR 冷热水管 1.6MPa Cold & Hot Water Supply	外径 OD	20.00	25.00	32.00	40.00	50.00	63.00	75.00	90.00	110.00
	内径 ID	15.40	19.40	24.80	31.00	38.80	48.80	58.20	69.80	85.40
	壁厚 Thickness	2.30	2.80	3.60	4.50	5.60	7.10	8.40	10.10	12.30