

水冷式冷水机

"OCM-W" Orste Mold Cooling Machines (Water)



命名原则 NAMING PRINCIPLE

OCM – xxW

压缩机功率，W=水冷式
Power of Compressor (HP), W=Water-cooled

奥诗德模具冷水机
Orste Mold Cooling Machine



产品特点 FEATURES

冷却温度7–25℃。
保温水箱为不锈钢制作。
配备防结冰保护装置。
采用R22高效制冷剂，可选配环保冷媒R410A，制冷系统采用高、低压压力控制器保护，制冷效果好。
压缩机及泵都有超载保护。
采用高精度温控器，温度显示精度可达到 $\pm 1^{\circ}\text{C}$ 。
低压泵为标准配置。
采用品牌压缩机，噪音低、能效高，使用寿命长。
采用壳管式冷凝器，导热快，散热效果极佳。

Cooling range is from 7 to 25℃.
Insulated water tank is made of stainless steel.
Anti-freezing thermostat is standard equipped.
R22 high-efficient refrigerant (R410A is optional) is adopted in OMC-W series. Refrigeration loop controlled by high and low pressure switches ensures good cooling effect.
Overload protection is standard equipped for compressor and pump.
Precise temperature controller with an accuracy of $\pm 1^{\circ}\text{C}$ is adopted.
Low pressure pump is standard equipment.
Brand compressor with low noise level, low energy-consumption and long service life is employed.
Tube-in-shell condenser with excellent heat transfer and rapid cooling effect is adopted.

选配件 OPTIONS

中压或高压水泵，可满足不同送水压力要求。
Middle pressure or high pressure pump can meet various water pressure demand.
水箱液位镜，可观察水箱水位是否在正常范围之内。
Level sensor in water tank is available to supervise water level.
热气旁通阀，温控精度可达至 $\pm 1^{\circ}\text{C}$ 。
Hot-air bypass valve can reach the accuracy of $\pm 1^{\circ}\text{C}$.
液管电磁阀，停机后可即时切断制冷剂供应，防止停机后蒸发器结冰。
Solenoid valve can cut the refrigerant immediatel after downtime to prevent evaporator from freezing.
视液镜，可判断制冷剂填充是否合适，以确定制冷剂品质及含水率之高低。
Refrigerant indicator can be optional to detect the refrigerant and ensure its quality and water ratio.
流量开关，以检测冷冻水流量是否充足。
Flow switches can be opted to detect chilled water flow.

Central Conveying System
中央供料系统

Drying & Dehumidifying
除湿干燥

Feeding & Conveying
供料输送

Dosing & Mixing
混合拌料

Heating & Cooling
冷热交换

Granulating & Recycling
粉碎回收

水冷式冷水机

"OCM-W" Orste Mold Cooling Machines (Water)

应用范围 APPLICATION

冷水机用于冷却模具以缩短产品的成型周期，也可以用于冷却设备以保证设备维持在所需温度下，亦可用于其他有类似降温需求的工业领域。

Mold cooling machine is used to shorten the products molding cycle, it is also applicable in cooling of equipment in order to maintain a required temperature. Besides, it is suitable for other industry fields with similar cooling requirement.

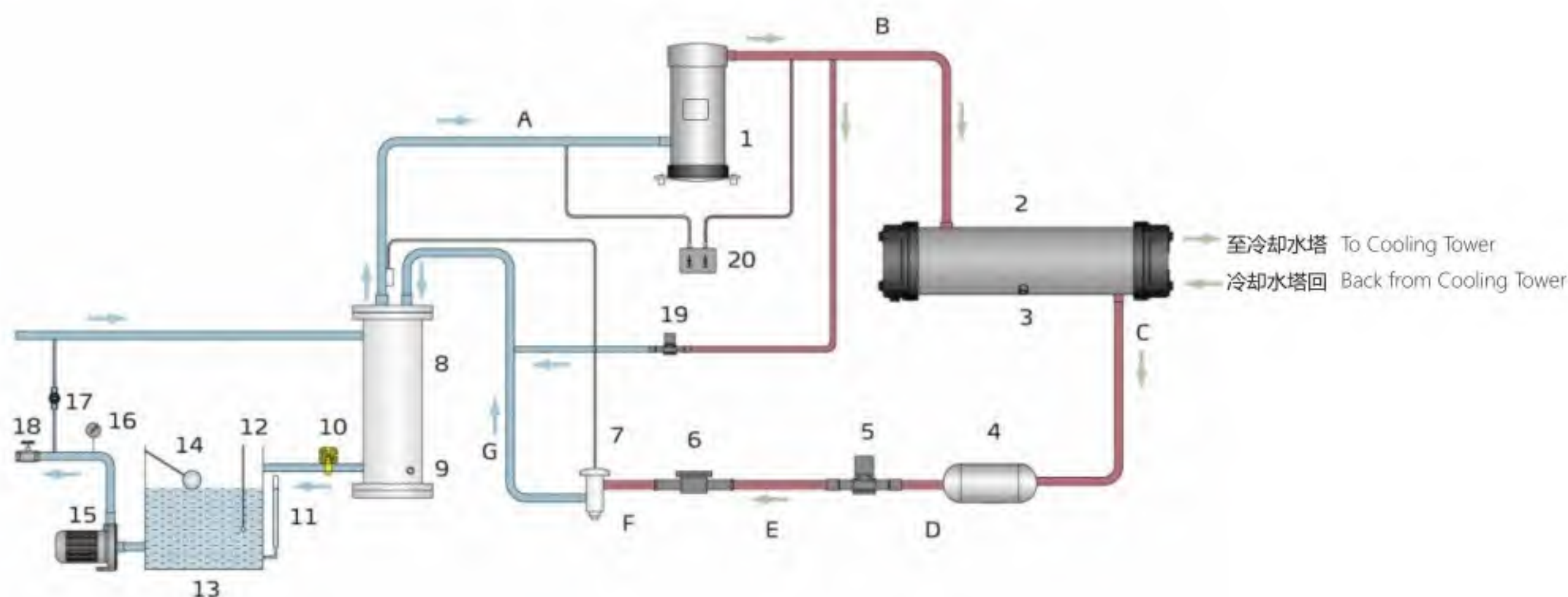
工作原理 FUNCTIONAL SCHEME

OCM-W系列冷水机启动后，压缩机1开始运转，制冷剂在压缩机的作用下变成高温高压气体，往BC方向运行，进入冷凝器2与冷却水进行热交换后变为液态，热量被冷却水带走；C-D-E-F过程，从冷凝器中出来的液态制冷剂经过干燥过滤器4，干燥、过滤杂质后通过液管电磁阀5、视液镜6后到达膨胀阀7，F-G过程中，高压液体制冷剂通过热力膨胀阀节流降压后，温度降低；G-A过程中，低温低压制冷剂经过蒸发器8与冷冻水发生热交换，将冷冻水冷却至设定温度；经蒸发后的低温气态制冷剂返回至压缩机1，如此循环，达到冷却效果。

热气旁通功能：当冷冻水温度达到设定温度时，压缩机继续运转，当温度下降到热气旁通阀的设定温度值，热气旁通阀开启，经压缩后的制冷剂有一部分通过热气旁通阀直接流到蒸发器，中和部分机器制冷量后回至压缩机(不经过冷凝器)，制冷系统通过热气旁通阀的方式达到负载与冷量的平衡，从而让压缩机一直运转的同时冷冻水控温精度达到 $\pm 1^{\circ}\text{C}$ 。

The compressor starts working when OCM-W mold cooling machine starts up. Refrigerant is compressed into high temperature high pressure gas in the process from B to C, and then be cooled when passing through condenser and changed into liquid. Heat is taken away by the cooling air. In the process from C to D to E and F, liquid refrigerant is dried and filtered by the drier filter. After that, it passes through solenoid valve, level sensor and then reaches the expansion valve. In the process from F to G, the high pressure liquid refrigerant is throttled and depressurized by heat expansion valve and temperature goes down. In the process from G to A, chilled water absorb the heat of process water in evaporator and returns back to the compressor. This heat exchange process repeats until process water is cooled down to the required temperature.

Hot-air bypass function: the compressor continues working when the process water is cooled down to the required temperature, then the hot-air bypass valve opens as the temperature drops to its set value. A part of the refrigerant from compressor passes through by-pass valve and then reaches evaporator, balancing out part of the machine refrigerating capacity and then goes back to compressor without passing through condenser. With the help of hot-air bypass valve, system can stay in balanced condition and can keep control accuracy within $\pm 1^{\circ}\text{C}$ in the meantime.



序号 No.	名称 Name	备注 Remark
1	压缩机 Compressor	
2	壳管式冷凝器 Tube-in-shell condenser	
3	易熔塞 Fusible plug	
4	干燥过滤器 Drier filter	
5	液管电磁阀 Solenoid valve	选配件 Option
6	视液镜 Refrigerant indicator	选配件 Option
7	膨胀阀 Expansion valve	
8	蒸发器 Evaporator	
9	防冻开关 Anti-freezing switch	
10	流量开关 Flow switch	选配件 Option
11	水箱液位计 Level sensor of water tank	选配件 Option
12	温度感应器 Temp. sensor	
13	水箱 Water tank	
14	浮球开关 Floating-ball valve	
15	泵浦 Pump	
16	水压表 Water pressure gauge	
17	旁通阀 By-pass valve	
18	闸阀 Sluice valve	中高压泵浦用 For medium and high pressure pumps
19	热气旁通阀 Hot-air by-pass valve	选配件 Option
20	压力控制器 Pressure controller	

冷水机选型参考

MODEL SELECTION REFERENCES

成型机锁模力 Mold Clamping Force (T)	成型能力 Molding Capacity (kg/hr)	制冷量 Refrigeration Capacity (kw)
≤250	≤25	6
≤450	≤45	11
≤650	≤65	14
≤850	≤85	18
≤1300	≤130	27
≤1800	≤180	38

成型机锁模力 Mold Clamping Force (T)	成型能力 Molding Capacity (kg/hr)	制冷量 Refrigeration Capacity (kw)
≤2500	≤250	52
≤3000	≤300	62
≤4000	≤400	84
≤5000	≤500	104
≤6000	≤600	126

技术参数 PARAMETERS

参数 Parameters		型号 Model						
项目 Item		OCM-5W	OCM-10W	OCM-15W	OCM-20W	OCM-25W	OCM-30W	OCM-40W
制冷量 Refrigeration Capacity	kcal/hr	13690	27370	43120	57748	70120	85303	110984
	kw	15.91	31.83	50.14	67.14	81.53	99.91	129.06
冷媒 Refrigerant		R22						
蒸发器 Evaporator	形式 Type	箱体式/壳管式 Box evaporator/Tube-in-shell type						
	水箱容量 Water Tank Capacity (L)	66	150	200	200	200	280	400
冷凝器 Condenser	形式 Type	高效壳管式 High-efficient copper tube-in-shell style						
压缩机 Compressor	类型 Type	全封闭涡旋式或活塞式 Entire seal vortex type or piston type						
	功率 Power (kw/hp)	3.75/5	7.5/10	11.25/15	15/20	18.75/25	22.5/30	30/40
水泵 Pump	功率 Power (kw)	0.37	1.5	1.5	2.25	2.25	3.75	5.6
	扬程 Head (m)	10	21	21	39	39	42	48
	流量 Flow (L/Min)	100	360	360	650	650	700	800
总功率 Total Power (kw)		4.12	9	12.75	17.25	21	26.25	35.6
机械尺寸 Dimension	L (mm)	1090	1400	2235	2235	2235	3050	3050
	W (mm)	490	740	1050	1050	1050	1100	1100
	H (mm)	920	1380	1450	1450	1450	1710	1710
机械重量 Weight (kg)		230	420	720	770	790	1430	1730

产品参数如有变更，恕不另行通知。We reserve the right to change parameters without prior notice.

注 Notes: 机器电压规格: 3 ϕ , 400VAC, 50Hz. Power: 3 ϕ , 230/400/460/575VAC, 50/60Hz.

Central Conveying System
中央供料系统

Drying & Dehumidifying
除湿干燥

Feeding & Conveying
供料输送

Dosing & Mixing
混合拌料

Heating & Cooling
冷热交换

Granulating & Recycling
粉碎回收