

油式模温机

"OMT-O" Orste Mold Temperature Controllers (Oil)

命名原则 NAMING PRINCIPLE

OMT - XXXX - XX

注 Notes
HTO: 油式高温 D: 双段
HTO: Medium is Oil with High temperature
D: Dual-heating Zones

前两码表示电热功率
First Two Numbers: Heater Power (kw)
后两码表示泵浦功率
Last Two Numbers: Pump Power (*10⁻¹ HP)

奥诗德模具控温机
Orste Mold Temperature Controller



产品特点 FEATURES

一周定时开关机功能，屏幕可中英文切换，温度显示摄氏华氏转换。
P. I. D分段式控温系统，可持续稳定模温，控温精度达±0.5℃。
高效水循环马达，适用于精密模具及小直径模具回路中的控温，能实现精密控温和高效热交换，马达内部不锈钢制造，高温防爆。
电源逆相保护、水泵过载保护、超温保护、低液位保护等多种安全装置，当故障发生时，本机可自动侦测到异常并发出警报。
标准型温度可达200℃，高温型温度可达350℃。
具有高压保护、安全泄压、自动补水及排气功能。
采用间接冷却，温控更准确，降温更快。

Equipped with the design of one week automatic start/stop timer, screen can be converted between Chinese and English. The unit of temperature can be converted between ° F and ° C.
P. I. D. multi-stage temperature control system can maintain a mold temperature with an accuracy of ±0.5°C.
Adopts high efficiency water cycle pump, which can meet the demands of temperature control for precise molds and mold loop with minor diameter to achieve precise temperature control and high efficiency heat exchange. Pump inside adopts stainless steel to avoid explosion.
Multiple safety devices including power reverse phase protection, pump overload protection, overheat protection and low level protection that can automatically detect abnormal performance and indicate this via visible alarm.
For standard OMT-O, the heating temperature can reach 200°C, while for OMT-HTO, it can reach 350°C.
Equipped with high pressure protection, safety pressure relieving, automatic water supplying and air exhausting.
Adopts indirect cooling makes temperature control more precise and make heat exchange faster.

选配件 OPTIONS

水流分布器及铁弗龙管、磁力泵浦(标准型)、模温及回油温度显示器。
Water manifolds and Teflon hose, magnetic pump (for standard), display of mold temperature and mold return water temperature.

应用范围 APPLICATION

OMT-O系列油式模温机广泛应用于塑胶产品的生产之中，主要用于给模具加热并使之保持恒温，也可用于有类似需求的领域。通过间接冷却的方式，从模具返回的油经冷却器冷却后由油泵加压经过电热管高温加热后送至模具，以达到加热与恒温的要求，加快产品成型周期提高生产效率。

OMT-O series oil heaters are widely used in the production of plastic product. They are mainly applied to heat up the mold and maintain temperature, also they can be used in other similar fields. Through the indirect cooling, the high temp. oil returned from the mold is cooled and then pressured and sent to the mold after being heated to meet the requirement of heating and maintaining temperature. They can shorten the product mold cycle and improve production efficiency.

中央供料系统
Central Conveying System

除湿干燥
Drying & Dehumidifying

供料输送
Feeding & Conveying

混合拌料
Dosing & Mixing

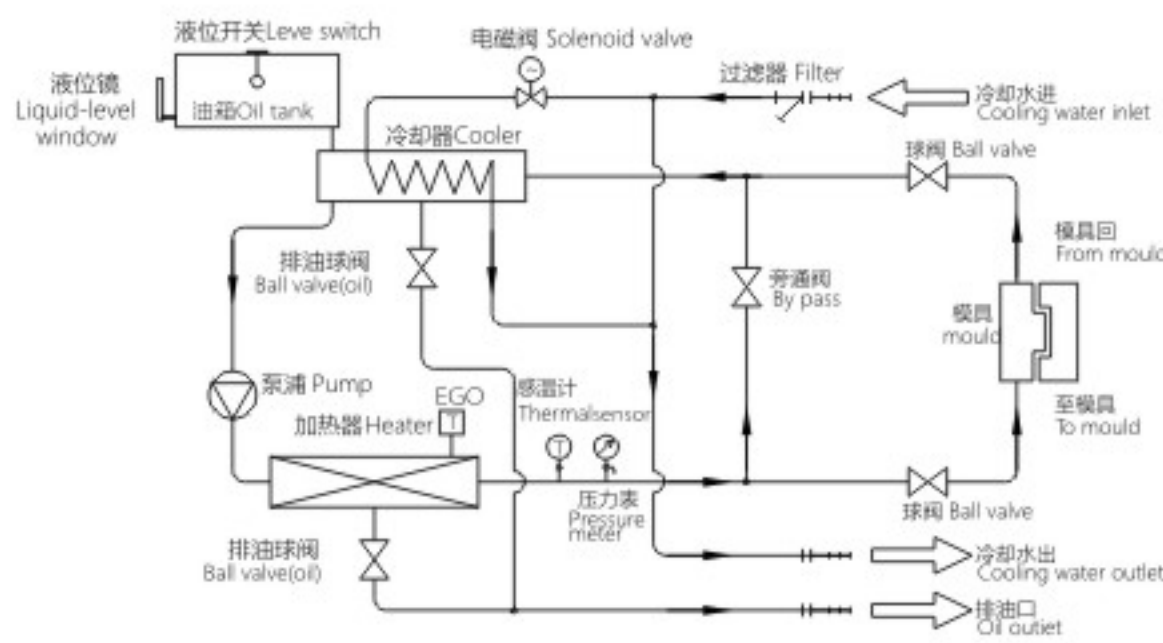
冷热交换
Heating & Cooling

粉碎回收
Granulating & Recycling

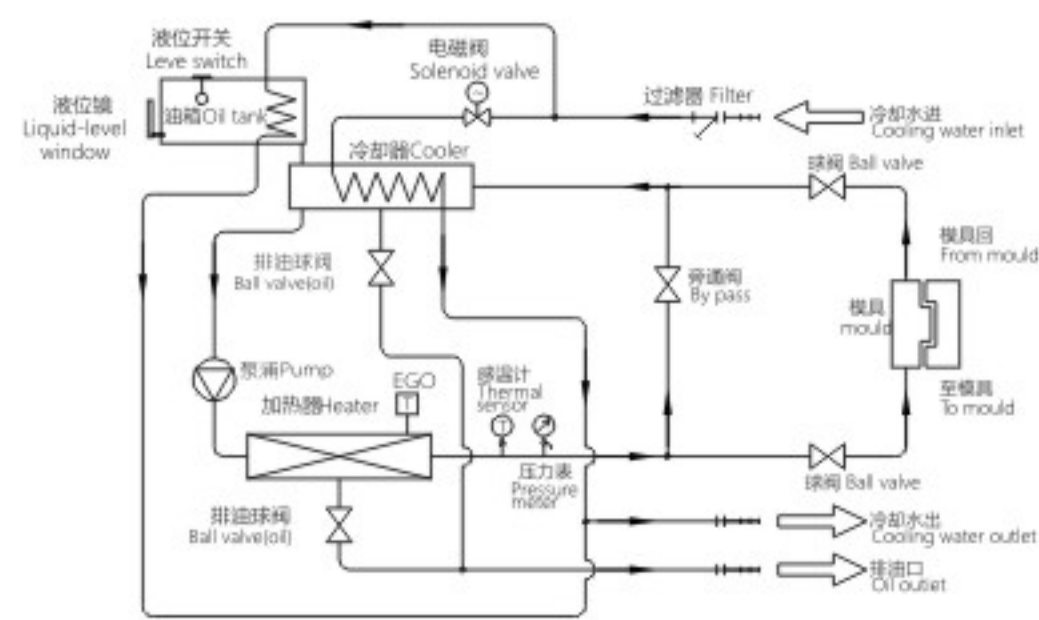
工作原理 FUNCTIONAL SCHEME

从模具回来的高温油经管道回到加热器，然后由泵浦输送至模具，如此循环。此过程中，如果高温油温度过高，系统启动电磁阀，冷却水流经冷却器对高温油进行间接冷却，降低高温油温度，从而实现恒温控制的目的；如果高温油的温度还是维持至EGO(超温保护器)的设定温度，系统启动高温报警并停止工作；当油箱内液面下降至一定位置时，安装于油箱上的液位开关，发出低液位信号，系统启动低液位报警。

The high temp. oil returns to the machine and then be pressured by pump to the heaters. After being heated, oil will be forced to the mold and continue the circle. In the process, if the oil temperature is too high, system will activate the solenoid valve to let cooling water cool down high temperature oil indirectly until the temperature is down to the system requirement. If the temperature keeps increasing and reaches to the set point of EGO, the system will sound alarm and stop operation. The system will have low level alarm and stop working if oil level falls down below the set point.



标准型 Standard



高温型 High-temperature

技术参数 PARAMETERS

| 机型 Model | 最高 温度 Max Temp. (°C) | 电热 Pipe Heater (kw) | 泵浦功率 Pump Power (kw) | 泵浦最 大流量 Max. Pump Flow (L/Min) | 压力 Max. Pump Pressure (bar) | 加热管 数量 Heating Tank Number | 冷却方式 Cooling Method | 冷却水 配管 Cooling Water Pipe (inch) | 循环水配管 Circulating Water pipe (inch) | 外形尺寸 Dimensions (H*W*D) (mm) | 净重 Weight (kg) |
|--------------|----------------------------------|------------------------------|-------------------------------|---|---|--|-----------------------------|---|--|---------------------------------------|----------------------|
| OMT-605-O | 200 | 6 | 0.375 | 42 | 2.5 | 1 | 间接冷却 Indirect Cooling | 1/2" | 3/8" | 730*300*660 | 36 |
| OMT-605-OD | 200 | 6*2 | 0.375*2 | 42*2 | | 2 | | | | 980*390*860 | 72 |
| OMT-910-O | 200 | 9 | 0.75 | 56 | | 1 | | | | 730*300*660 | 36 |
| OMT-910-OD | 200 | 6*2 | 0.75*2 | 56*2 | | 2 | | | | 980*390*860 | 72 |
| OMT-1220-O | 200 | 12 | 1.5 | 235 | | 1 | | | | 980*390*860 | 68 |
| OMT-2430-O | 200 | 24 | 2.2 | 315 | | 2 | | | | 980*390*860 | 75 |
| OMT-3650-O | 200 | 36 | 3.75 | 495 | | 3 | | | | 980*390*860 | 83 |
| OMT-1220-HTO | 300 | 12 | 1.5 | 230 | | 1 | | | | 980*390*860 | 72 |

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:

- "D" 表示双段，"HTO" 表示高温油式。
- 泵浦参数测试条件：50Hz，20°C 纯净水(最大流量和最大压力允许 ±10% 的偏差)。
- 机器电压规格为：3Φ，400VAC，50Hz。

"D" stands for dual-heating zones, "HTO" means that Medium is Oil with High temperature.
 Pump testing standard: Power of 50/60Hz, purified water 20°C.
 Power supply: 3Φ, 230/400/460/575VAC, 50/60Hz.

模温机选型参考公式:

$$\text{电热 (kw)} = \text{模具重量 (kg)} * \text{模具比热 (kcal/kg}^\circ\text{C)} * \text{模环温差 (}^\circ\text{C)} * \text{安全系数} / \text{加热时间 (h)} / 860.$$

注：安全系数在 1.3-1.5 之间选择。

Reference formula of Mold Controllers model selection:

$$\text{Heater Power (kw)} = \text{mold weight (kg)} * \text{mold specific heat (kcal/kg}^\circ\text{C)} * \text{temperature difference between mold and environment (}^\circ\text{C)} * \text{safety coefficient} / \text{heating duration (h)} / 860.$$

Notes: safety coefficient range 1.3 - 1.5

$$\text{流量 (L/min)} = \text{电热功率 (kw)} * 860 / [\text{热媒比热 (kcal/kg}^\circ\text{C)} * \text{热媒密度 (kg/L)} * \text{进出温差 (}^\circ\text{C)} * \text{时间 (60)}].$$

注:

$$\begin{aligned} \text{水比热} &= 1 \text{ kcal/kg}^\circ\text{C} & \text{热媒油比热} &= 0.49 \text{ kcal/kg}^\circ\text{C} \\ \text{水密度} &= 1 \text{ kg/L} & \text{热媒油密度} &= 0.843 \text{ kg/L} \end{aligned}$$

加热时间 = 常温加热至设定温度所需时间。

$$\text{Flow Rate (L/min)} = \text{heater power (kw)} * 860 / [\text{heating medium specific (kcal/kg}^\circ\text{C)} * \text{heating medium density (kg/L)} * \text{in/outlet temperature difference (}^\circ\text{C)} * \text{time (60)}]$$

Notes:

$$\begin{aligned} \text{Water specific heat} &= 1 \text{ kcal/kg}^\circ\text{C} & \text{Heating medium oil specific heat} &= 0.49 \text{ kcal/kg}^\circ\text{C} \\ \text{Water density} &= 1 \text{ kg/L} & \text{Heating medium oil density} &= 0.843 \text{ kg/L} \end{aligned}$$

Time for heating = the time needed to heat from room temperature to set temperature.