

# 全自動模具控溫機

AUTOMATIC MOLD TEMPERATURE CONTROLLER



ISO 9001:2000 品質保證  
An ISO 9001:2000  
Certified Company

晏邦電機工業有限公司

YANN BANG ELECTRICAL MACHINERY CO., LTD.

# 全自動模具控溫機

AUTOMATIC MOLD TEMPERATURE CONTROLLERS

## 一般控制面板系列

SERIES OF PRIMARY PANEL



Digital Temp. Indicator  
數字顯示溫度控制器



Heating Accuracy Controller  
偏差控制器



YBM-S  
經濟型



## 經濟型系列

SERIES OF ECONOMIC & COMPACT

## 模具配合各種塑料之參考溫度表

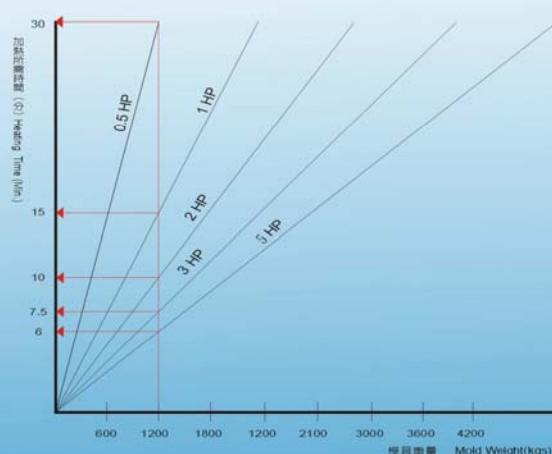
STANDARD RESIN AND MOLD TEMPERATURE

原 料 Material	成 型 溫 度 Melt Temp. (°C)	模 具 溫 度 Mold Temp. (°C)
ABS	200~260	40~60
ABS+20%GF	200~260	70~110
PA(Nylon)	200~320	80~120
PA+20%GF	200~320	90~100
PA+43%GF	200~320	90~120
PBT	230~270	90~120
PBT+30%GF	260~270	90~120
PC	280~320	90~120
PC+20%GF	280~320	100~150
PET	260~300	80~120
PET+35%GF	260~300	90~130
PMMA(Acrylic)	180~250	50~100
PCM(Acetal)	190~210	50~100
(POM+25%GF)	190~210	70~110
PP	160~260	55~65
(PP+20%GF)	160~260	60~70
(PPS)	300~340	60~140
(PPS+30%GF)	300~340	120~140
(PPS+50%GF)	300~340	140~160
PS	200~300	40~60
PVC	180~210	45~60

GF:GLASS FIBER 玻璃纖維

## 各機型功能表

PERFORMANCE CHART



# 專利斷熱式模具控溫機

PATENTED "HEAT-INSULATED" MOLD TEMP. CONTROLLER

大陸專利 CHINA PATENT  
01345946.5

晏邦專利斷熱式模具控溫機不僅有別於傳統死板生硬的機械外觀，新穎的控制箱與主機分離式設計，使機台更富生趣效果。此外，專利斷熱式設計更能有效地阻隔電路與過高溫主機的接觸，保障工作人員的安全及加長機台的壽命，進而節省成本和資源。先進的主控區域分離使安裝、維修和保養工作更有效率和安全。晏邦貼心地提供渦流式、摩擦式及無軸封式泵多種型號選擇，可依不同工作性質及需求選購；如有特殊規格亦可量身定作。採用最先進的微電腦觸控式面板（附迴油溫度顯示、七日型計時器、99小時倒數計時器等）；選配的PID智慧型自動演算的溫度控制器，能準確顯示和控制模具溫度於所需的溫度 $\pm 1^{\circ}\text{C}$ 內。

The patent which YANN BANG have named "Heat-insulated Mold Temperature Controller" (HIMTC) can effectively block the heat generated from the heating units of the HIMTC and protect the circuit inside HIMTC. In addition, the modern design of the HIMTC can improve users' safety, extend the HIMTC's lifetime, and save energy. The advanced structure design separates the control section from the mechanical parts that makes the installation, repair, and maintenance much easier than its competitors do. The optional PID temperature controller controls the heater which in turn, heats the mold rapidly and remains the mold with stable temperature (within  $\pm 1^{\circ}\text{C}$ ). For better usage, we provide different types of HIMTC based on the needs and requirements for you.

## 機型選擇方法

### HOW TO CHOOSE MODEL BY MEDIA ?

(1)傳熱介質的選擇：採用油或水為傳熱介質，則配合YBMD型，採用水為傳熱介質，則配合YBMD型，**立式泵型不適用於滾輪機械 (Roller)**。

Please choose the model according to the heating media used:

YBMD series are ideal for water.

YBMD series are ideal for both oil and water.

**Vertical pump model is unsuitable for rollers.**

(2)依照“各機型功能表”，在認可的最長加熱時間內(約25分)選擇最適合之機型。

Use PERFORMANCE CHART to choose the most suitable model by acceptable heating time (about 25 minutes).

### HOW TO CHOOSE MODEL BY DEGREE OR WATER WAY ?

1.溫控在 $150^{\circ}\text{C}$ 以下，建議選用水式模具控溫機

Choose Water-Type mold temperature controller when the required temperature lower than  $150^{\circ}\text{C}$ .

2.溫控在 $150^{\circ}\text{C}$ 以上，建議選用油式模具控溫機

Choose Oil-Type mold temperature controller when the required temperature higher than  $150^{\circ}\text{C}$ .

3.模具水道數 $3/8'' \times 2$ 組，建議選用0.5HP泵浦。

Choose 0.5HP pump as required the water way of mold is  $3/8'' \times 2$  sets.

4.模具水道數 $3/8'' \times 4$ 組，建議選用1HP泵浦。

Choose 1HP pump as required the water way of mold is  $3/8'' \times 4$  sets.

※以上規格僅供參考，歡迎與本公司業務人員洽談，我們將依您的需求，建議適合機型。

Welcome to contact us for your requirement in details, and we will suggest the suitable model for you.

備註/Remarks :

(1)模具需求溫度在 $30^{\circ}\text{C}$ 以下，必須與冷凍機串聯使用。詳細能量說明請參照“晏邦冷凍機目錄”

Must work with a chiller when the required temperature is lower than  $30^{\circ}\text{C}$ . Refer to YANN BANG chiller catalogue for the specification.

(2)以上參考對照表適用於射出成型機，其他機械如滾輪、押出機、攪拌機、加熱桶…等特殊需求，本公司專案設計並製造生產。

Above reference is suitable to an injection molding machine. We also provide other related machines for others such as rollers, extruders, mixers, heating tanks and more. Customized specification and requirement are available.

## 特點

### FEATURES

#### 一、提高成型效率：

- 1.成型前，模具控溫機自動控制模溫，迅速達到所需的溫度且始終保持恆溫，減少模具預熱所需之工時。
- 2.可連續操作而無模具溫度過高之虞，而中途停機也不致因模具溫度降低而需等待升溫，可提高生產效率。

#### 二、提升產品品質：

- 1.塑料有熱脹冷縮的物理性質，因此若溫度不穩定或控制不當，會產生成型品夾水紋、縮水、扭曲、變形及表面光澤不良等現象，而使用晏邦模具控溫機即可解決此類問題。
- 2.能促使模具保持適當的溫度，可大幅減少試模次數及降低成型品之不良率，確保產品品質。

#### 三、結構特性：

- 1.可視需要任意選擇以水或熱媒油當傳熱介質，一機兩用。
- 2.特殊結構設計改變了傳統所有傳熱介質皆需加熱或冷卻的觀念。**(立式泵型除外)**
- 3.選備的 PID 智慧型自動演算的溫度控制器，能準確顯示和控制模具溫度於所需要的溫度 $\pm 1^{\circ}\text{C}$ 內。
- 4.兩段式加熱結構設計，可視所需之溫度增減電力，並配合特殊的發熱構造，可省時省電。
- 5.採用不鏽鋼板 (SUS304) 製成之油箱，耐腐蝕、不漏油、壽命長。
- 6.設想遇到的各種保護裝置，如:無熔絲開關、缺水或缺油、溫度異常、馬達逆轉、超溫保護、自動補充及排氣、泵浦過負荷等自動警示系統，迴路能自動切斷，確保安全。

#### A. To improve the efficiency:

1. Automatical controls of mold temperature to give perfect moldings with every shot.
2. Keep mold at correct temperature even when machine is stopped thus eliminating start up delays in the morning or during daytime stops.
3. As mold temperature is kept at its optimized temperature, the injection molding machine can run at its maximum speed to suit the job.

#### B. To improve the quality:

1. Steady controlled temperature makes plastic molding accurate in size and consistent with quality.
2. Accurate mold temperature solves the problem of plastic flow patterns, reducing flow and weld lines, gloss appearance, record grooves effect, silver streaking, stress-whitening, warping, and etc..

#### C. Structure features:

1. Water/oil dual purpose design can use either water or oil as heating media.
2. Special compact construction means both heating and cooling of the medium being used is done within the unit. **(Exclude the model with a vertical pump)**
3. Optional PID temperature controllers are used for accurate control of temperature within  $\pm 1^{\circ}\text{C}$ .
4. Two-step-heating selector makes rapid temperature increasing possible when required thus saving time and power specially start up in the morning.
5. The stainless steel tank (SUS304) guards against corrosion to ensure leak-free and long-lasting.
6. Well thought of safety devices such as alarms for errors, circuit breakers, motor direction, overheat protector, auto-exhauster, and etc..

本公司產品榮獲多種獎項深受各方肯定  
Our product has won many awards of machinery.



# 規格表 Specification

\*產品規格若有變更,恕不另行通知。  
\*We reserve the right to change specifications without prior notice.

型號 MODEL		YBMD-120-05	YBMD-120-10	YBMD-120-20	YBMD-120-30	YBMD-120-50	YBMD-150-05	YBMD-150-10	YBMD-150-20	YBMD-180-10
最高溫度(°C) Max. Temp.		120	120	120	120	120	150	150	150	180
泵浦馬力 Pump Power	hp kw	0.5 0.37	1 0.75	1 0.75	2 1.5	3 2.2	0.5+0.2 0.48	1+0.2 0.86	2+0.2 1.62	1+0.5 1.05
加熱能量(kw) Heat Energy		6×1	8×1	10×2	10×2	14×2	7×1	7×1	8×2	9×1
總電力(kw) Total Power		6.37	8.758	20.75	21.5	30.2	7.48	7.86	17.62	10.05
泵浦流量(ℓ/min) Pump Max. Flow		40	80	160	180	300	60	60	65	60
泵浦壓力(kg/cm²) Pump Pressure		2	2.5	3.2	3.7	3.8	6	6	7	12
配管 Piping	熱水口徑 Hot Water Outlet	3/8"×2	3/8"×4	3/4"×4	3/4"×4	1"×4	3/8"×4	3/8"×4	3/8"×4	3/8"×4
	冷卻水出入口 Cooling Water Outlet	1/2"	1/2"	1/2"	3/4"	1"	1/2"	1/2"	1/2"	1/2"
冷卻水壓力(kg/cm²) Cooling Water Pressure		2.5↑	2.5↑	2.5↑	2.5↑	2.5↑	2.5↑	2.5↑	2.5↑	2.5↑
機械尺寸(L×W×H) Dimension(cm)		83×39×73	83×39×73	120×43×85	120×43×85	180×49×95	98×40×80	98×40×80	120×43×85	98×40×80
單機重量(kg) Approx. Weight		71	74	120	120	198	90	90	110	96

備註Remarks

1. 設定溫度在100~120°C時，冷卻水進水壓力需達2.5kg/cm³以上，才能正常控溫。Cooling water pressure must reach over 2.5kg/cm³ when temp. is 100~120°C.

2. 設定溫度在130~150°C時，冷卻水進水壓力需達5.5kg/cm³以上，才能正常控溫。Cooling water pressure must reach over 5.5kg/cm³ when temp. is 130~150°C.

3. 選擇配備 Options

(1) 多進多出分水器 Multi-inlet & outlet joints  
(2) 耐熱鐵弗龍軟管 Refractory teflon hoses

(3) 磁化水垢消除器 Limescale magnetizer

(5) 閃光警示燈 Flash guard lamp

(4) 流量器 Flow meter

(6) 自動回水裝置 Auto water scavenger

型號 MODEL		YBMI-120-05	YBMI-200-10	YBMI-200-20	YBMI-200-30	YBMI-260-10	YBMI-260-20	YBMI-260-30	YBMI-260-50
最高溫度(°C) Max. Temp.		120	200	200	200	260	260	260	260
泵浦馬力 Pump Power	hp kw	0.5 0.37	1 0.75	1 0.75	2 1.5	1 0.75	2 1.5	3 2.2	5 3.75
加熱能量(kw) Heat Energy		8×1	10×1	10×2	10×2	10×1	10×2	15×2	24×2
總電力(kw) Total Power		8.37	10.75	20.75	21.5	10.75	21.5	32.2	51.75
泵浦流量(ℓ/min) Pump Max. Flow		40	60	120	180	70	120	180	280
泵浦壓力(kg/cm²) Pump Pressure		2	2.5	3.2	3.7	2.5	4	5	8
配管 Piping	熱水口徑 Hot Water Outlet	3/8"×2	1/2"×2	3/4"×4	3/4"×4	1/2"×2	3/4"×1	3/4"×2	1"×2
	冷卻水出入口 Cooling Water Outlet	1/2"	1/2"	3/4"	3/4"	1/2"	3/4"	3/4"	3/4"
冷卻水壓力(kg/cm²) Cooling Water Pressure		1.5↑	1.5↑	1.5↑	1.5↑	1.5↑	1.5↑	1.5↑	1.5↑
機械尺寸(L×W×H) Dimension(cm)		83×39×73	83×39×73	120×43×85	120×43×85	83×39×123	120×43×135	120×43×135	180×47×145
單機重量(kg) Approx. Weight		89	95	145	145	89	95	145	198

備註Remarks

1. 設定溫度在150°C以上時，熱煤油請每三個月換油一次。Please change thermo oil every three months when desired temperature over 150°C.

2. 設定溫度在120°C以上時，冷卻水出口請使用橡膠鋼絲管。Choose rubber steel wire hose as cooling water outlet when required temperature over 120°C.

3. 選擇配備 Options

(1) 多進多出分水器 Multi-inlet & outlet joints

(3) 熱煤油 Thermo oil

(5) 閃光警示燈 Flash guard lamp

(2) 耐熱鐵弗龍軟管 Refractory teflon hoses

(4) 自動回水裝置 Auto water scavenger

※ 磁化水垢消除器 Limescale magnetizer

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## 規格表 Specification

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型號 MODEL	YBMI-150-05S	YBMI-150-10S	YBMI-200-05S	YBMI-200-10S	YBMD-120-05S	YBMD-120-10S
傳熱媒介 Medium	水或油 Water Or Oil			水 Water		
溫度範圍使用 Temp. Range(°C)	油(Oil):+30°C~150°C 水(Water):+30°C~95°C	油(Oil):+30°C~200°C 水(Water):+30°C~95°C			+10°C~120°C	
泵浦馬力(hp) Pump Power	0.5	1	0.5	1	0.5	1
加熱能量(kw) Heat Energy	4.5×2	4.5×2	5.1×2	5.1×2	4.5×2	4.5×2
水(油)箱容量(l) Tank Capacity	8			無 No Tank		
泵浦流量(l/min) Pump Max. Flow	35	40	35	40	35	40
泵浦壓力(kg/cm <sup>2</sup> ) Pump Max. Pressure	1.4	2	1.4	2	1.4	2
冷卻方式 Cooling	間接冷卻 Indirect Cooling			直接冷卻 Direct Cooling		
配管 Piping	熱油(水)口徑 Hot Oil(Water) Outlet	(3/8"×2)×2	(3/8"×4)×2	(3/8"×2)×2	(3/8"×2)×2	(3/8"×4)×2
	冷卻水口徑 Cooling Water Outlet	3/8"	3/8"	3/8"	3/8"	3/8"
機械尺寸 (L×W×H) Dimension(cm)	69×36×70	69×36×70	69×36×70	69×36×70	69×36×70	69×36×70
重量(kg) Approx. Weight	54	59	70	74	41	46

### 備註 Remarks

- 設定溫度在120°C時，冷卻水進水壓力需達1~2kg/cm<sup>3</sup>以上，才能正常控溫。Cooling water pressure must reach over 1 to 2kg/cm<sup>3</sup> when temp. is 120°C.
- 請依各機型標示規格之60~75%做為理想工作範圍，可達最經濟效益。

For the best working effect, please choose the suitable model according to 60~70% of total working capacity.

### 3. 安全保護系統 Security Protection

- |                                      |   |                              |
|--------------------------------------|---|------------------------------|
| (1)馬達逆向保護裝置 Motor reverse protection | (5)自動排氣裝置 Auto exhaust device             | (9)鎖定溫控上限 Max. temp. control |
| (2)馬達過載保護裝置 Motor overload protector | (6)出口壓力錶 Outlet pressure garter           | (10)調壓裝置 Pressure regulator  |
| (3)過熱超溫保護 Overheat protection        | (7)缺油(水)保護 Oil (water) shortage protector |                              |
| (4)警報蜂鳴器 Waring buzzer               | (8)電源無熔絲斷路器 Power no-fuse circuit breaker |                              |



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