

SANDSUN

山田順精機

快速換模/台車系統 QUICK MOLD CHANGE SYSTEM

壓鑄機

DIE CASTING MACHINE

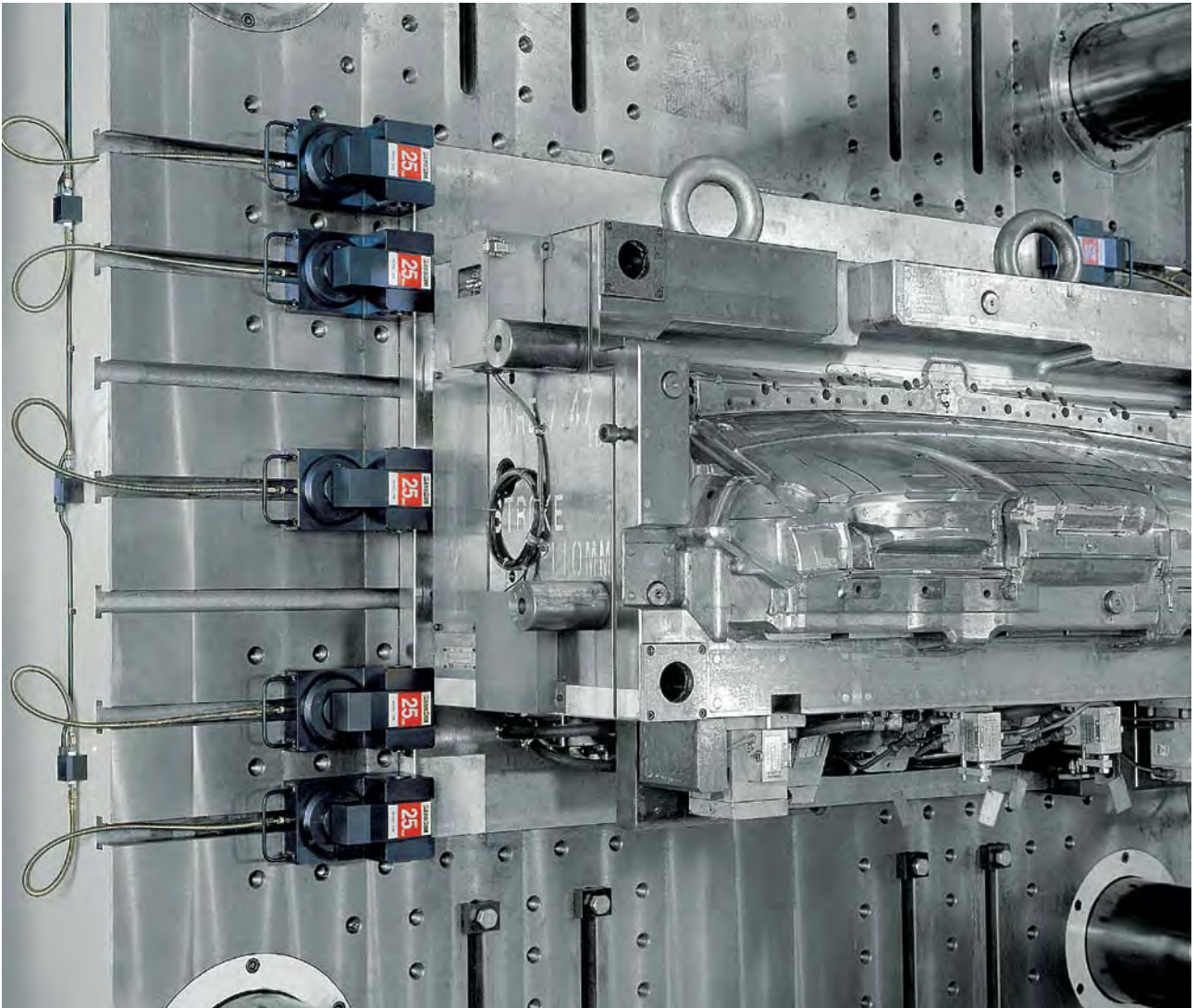
射出成型機

INJECTION MOLDING MACHINE



QUICK MOLD CHANGE SYSTEM

It is an era for making high frequency mold change with multiple patterns and small quantity. In order to save time for the mold change and ensure the safety of the operation, it is just in time to apply Quick Mold Change System.



Safety function of system

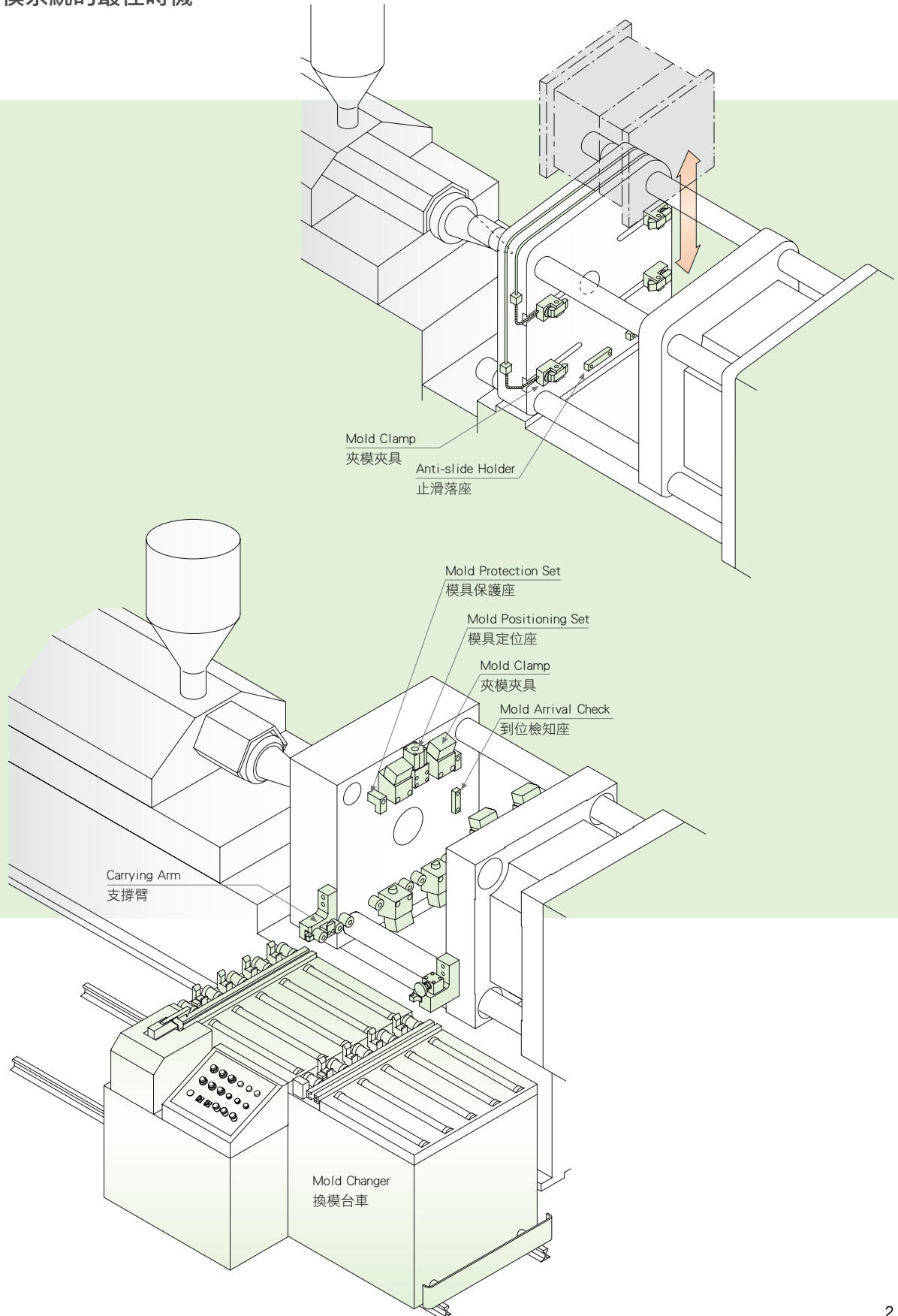
- Each hydraulic circuit has the function of check and avoiding oil leaking.
- This system can add pressure automatically when the pressure reduction.
- Each hydraulic circuit has the function of inspection pressure and can be interlocked with the machine.
- It adopts the intersecting direction to clamp the mold.
- There are several functions to avoid operation error.

系統安全功能

- 各油壓迴路具有逆止防漏功能。
- 此系統具壓降時自動補壓功能。
- 各油壓迴路具低於安全壓力檢知功能，並與機台連線。
- 夾模採對角交叉方向鎖模控制。
- 操控具多項防呆功能。

快速換模 / 台車系統

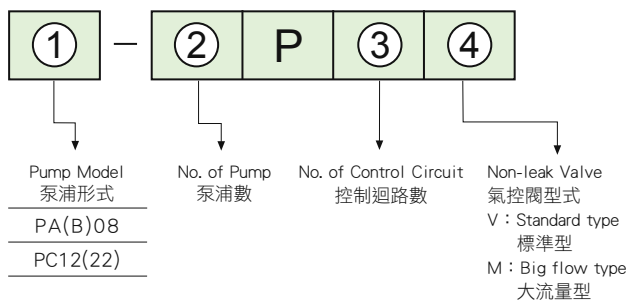
迎接少量多樣高頻率換模生產型態的時代，爭取換模時效、確保操作安全—正是導入快速換模系統的最佳時機。



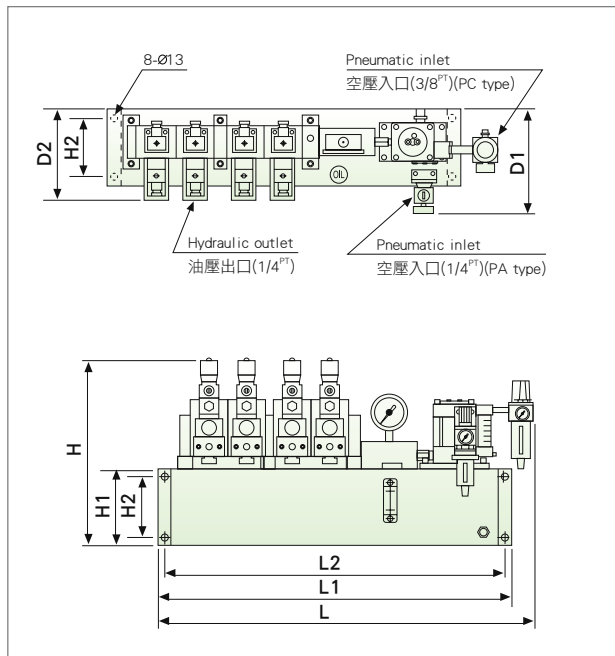


- Use the air driven hydraulic pump. Once the outlet hydraulic pressure reaches the setting pressure, it will stop driving which won't waste any energy. Or, it will add the pressure automatically if the outlet pressure is reducing. It consists of the function to keep the pressure continuously.
- 利用空氣壓力驅動泵浦，出口油壓達設定壓力即停止作動不需繼續消耗能源，出口壓力下降則自動補壓，具持續保持該壓力功能。

Model Selection 型式選定



Outline Dimensions 外型尺寸

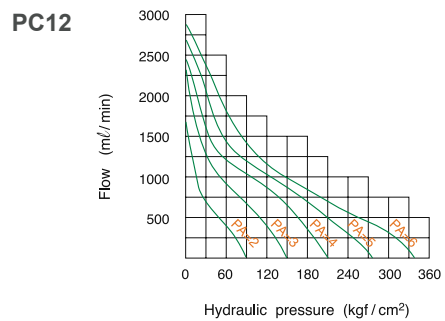
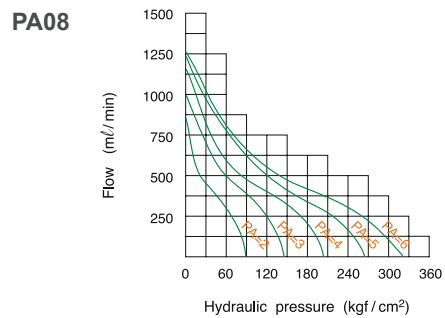


Unit : mm

MODEL 型式	L	L1	L2	H	H1	H2	D1	D2	V
PA08-1P4V	-	588	563	365	150	80	235	-	10ℓ
PC12-1P4V	650	588	563	365	150	80	-	175	10ℓ
PC12-1P4V	650	588	563	415	200	80	-	225	17ℓ
PC1222-2P4M	990	868	843	415	200	80	-	225	27ℓ

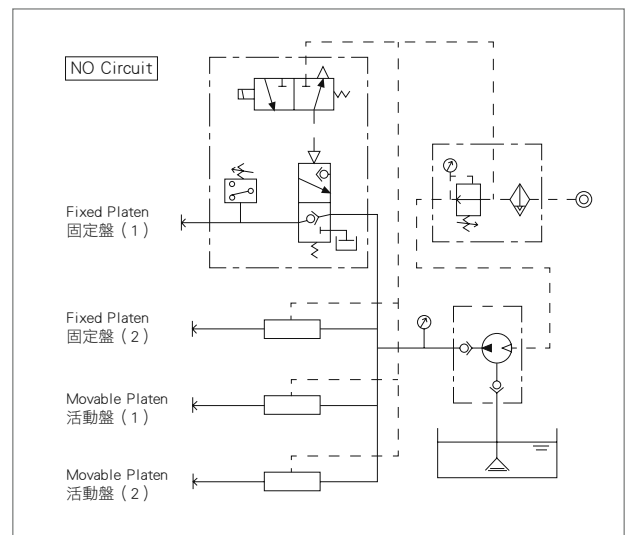
● V : Volume of oil tank (Liter) 油箱容量

Discharge Flow Characteristics 吐出量特性圖



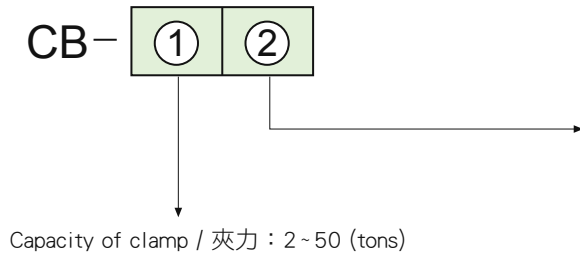
PA : Pneumatic Pressure 氣壓壓力

Circuit Control System 迴路控制系統



CLAMP SELECTION 夾具選用

Model Selection 型式選定



- ① **EMPTY** : Standard type
無 : 標準式
- ② **C** : Pneumatic cylinder movable type
氣缸移動式
- ③ **B** : Fixed type
固定式
- ④ **S** : Slide movable type
導座式
- ⑤ **V** : Heat-resistant type
耐高溫式
- ⑥ **VR** : Heat-resistant with cover type
耐高溫式 (加護蓋)



CB



CB-C



CB-B



CB-S



CB-VR

Instruction of Specification 規格說明

Unit : mm

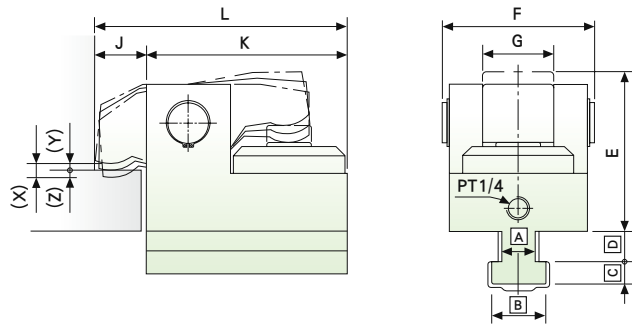
MODEL 型式			CB-2	CB-4	CB-6	CB-10	CB-16	CB-25	CB-50
Capacity of clamp	夾力	* tons	2	4	6	10	16	25	50
Total stroke (X)	總行程 (X)	mm	8	8	8	8	8	8	10
Stroke of clamp (Y)	夾具行程 (Y)	mm	3	3	3	3	3	3	4
Preserved stroke (Z)	預留行程 (Z)	mm	5	5	5	5	5	5	6
Total volume of cylinder	油缸總容量	cc	7.5	13	21	38	55	98	220

* Hydraulic Pressure 使用油壓壓力 : 250kgf/cm²

Selection of System Components 選用規範

MACHINE TONS 機台噸數	CLAMP 夾具	NO. OF CLAMP 夾具數量	PUMP UNIT 泵浦單元	HEIGHT OF TANK 油箱高度
100~150 (ton)	CB-2	8	PA08-1P4V	150
150~250	CB-4	8		
280~350	CB-6	8		
380~500	CB-10	8		
550~800	CB-16	8	PC12-1P4V	
850~1250	CB-16	12		
	CB-25	8		
1300~1600	CB-16	16		
	CB-25	12		
1800~2500	CB-25	16	PC1222-2P4M	200
2600~3200	CB-25	20		
	CB-50	12		
3300~4000	CB-50	16		

Model **CB**



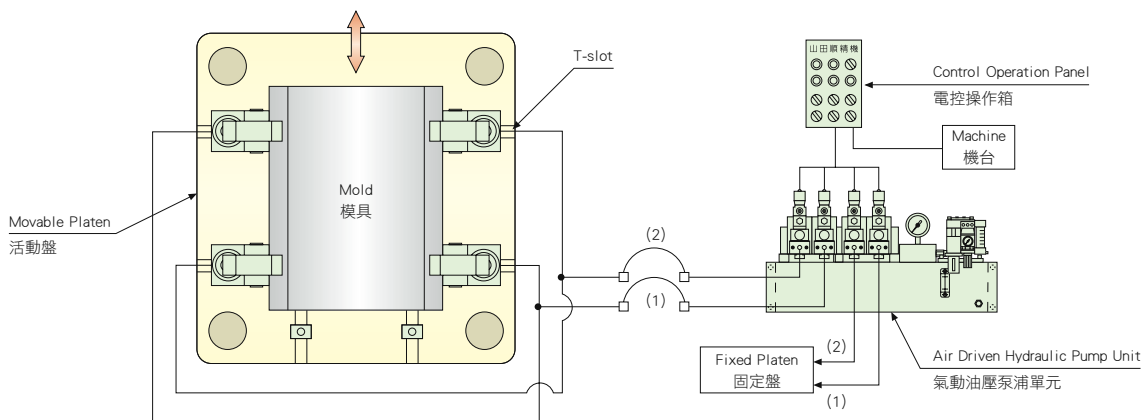
Outline Dimensions 外型尺寸

Unit : mm

MODEL 型式	L	K	J	min. E	F	G	min. C
CB-2	110	90	20	73	68	32	10
CB-4	134	110	24	77	79	40	12
CB-6	159	130	29	92	96	46	14
CB-10	189	159	30	114	117	54	16
CB-16	230	200	30	126	129	58	20
CB-25	265	235	30	148	156	70	23
CB-50	320	290	30	180	246	110	34

- The size of clamps **A** **B** **C** and **D** are made based on the size of T-slot.
- 夾具 **A** **B** **C** **D** 尺寸係配合T槽尺寸製作。

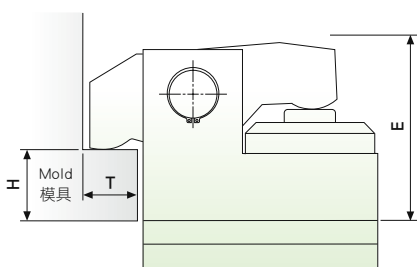
Vertical Loading / 上方換模 | Platen with T-slot 台盤有T型槽



- Optional for position checking sensor 可選配定位檢知配備

The Requirement of Mold Dimension / 模具配合尺寸

Flange Type of Mold 模具標準型

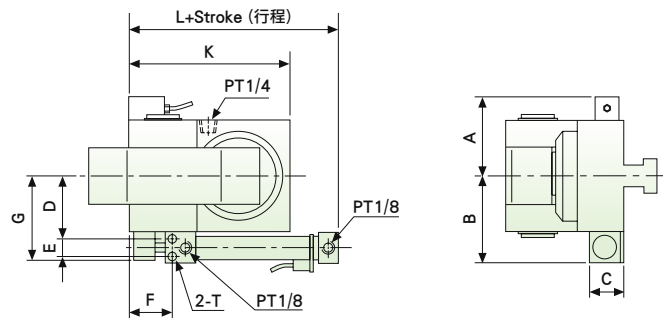


Unit : mm

MODEL 型式	E	T	H
CB-2	73	20	25
CB-4	77	24	25
CB-6	92	29	30
CB-10	114	30	40
CB-16	126	30	40
CB-25	148	30	45
CB-50	180	30	60

- The dimension is as minimum. 左側尺寸為min.
- If H < min size, it needs special design. H 如小於左述尺寸需特殊設計
- The template thickness : H±2mm 模板厚度 : H±2mm

Model CB-C



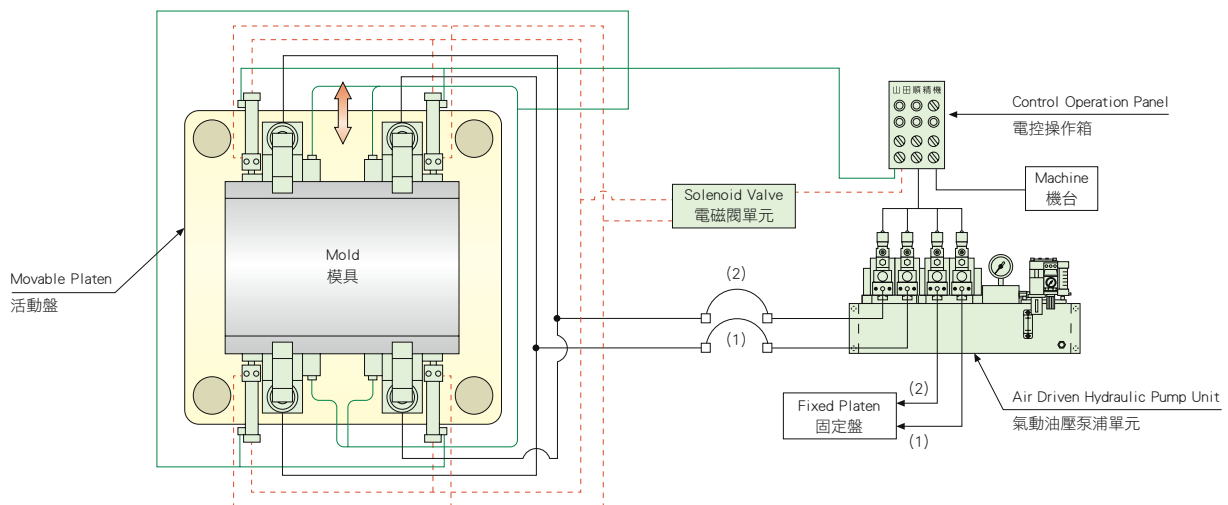
Outline Dimensions 外型尺寸

Unit : mm

MODEL 型式	A	B	C	D	E	F	G	K	L	Tapping(T) 台盤加工
CB-2C	56	68	28	41	20	57.5	66	90	137	M6×12D
CB-4C	61.5	73.5	28	46.5	20	57.5	71.5	110	137	M6×12D
CB-6C	70	86	34	55	24	61.5	82	130	137	M6×12D
CB-10C	80	104	40	66	30	48.5	101	159	129	M8×16D
CB-16C	86	119.5	50	73.5	36	49	117	200	140	M10×20D
CB-25C	99	133	50	87	36	49	130	235	140	M10×20D
CB-50C	145	263	100	138	110	62	220	290	192	M16×32D

Vertical Loading / 上方換模

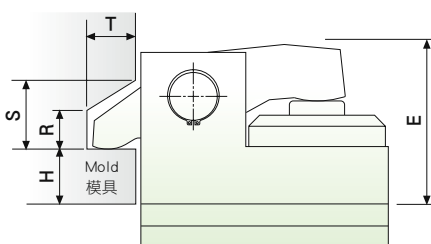
Platen with T-slot & clamps moved automatically by pneumatic cylinder
台盤有T型槽，夾具採氣缸自動進退



- Another selection of clamping direction : left-right 可改為左右方向夾模

The Requirement of Mold Dimension / 模具配合尺寸

Concave Type of Mold 模具凹入型

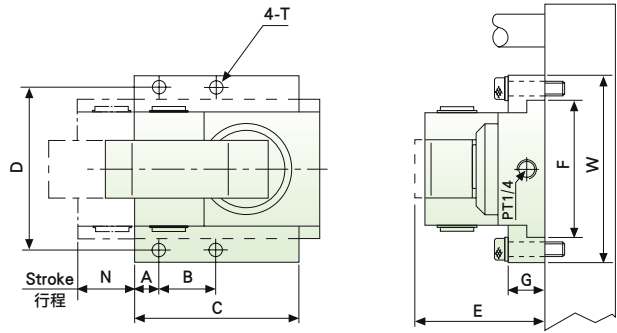


Unit : mm

MODEL 型式	R	S	T	H	E
CB-2	18	30	20	35	83
CB-4	18	32	24	35	87
CB-6	20	38	29	40	102
CB-10	22	40	30	50	124
CB-16	30	47	30	50	136
CB-25	45	62	30	55	160
CB-50	52	70	30	60	180

- The dimension is as minimum.
左側尺寸為min.
- If $H < \text{min size}$, the size of R and S need to be changed.
H 如小於左述尺寸則 R · S 尺寸需更改
- The template thickness : $H \pm 2\text{mm}$
模板厚度 : $H \pm 2\text{mm}$

Model **CB-S**



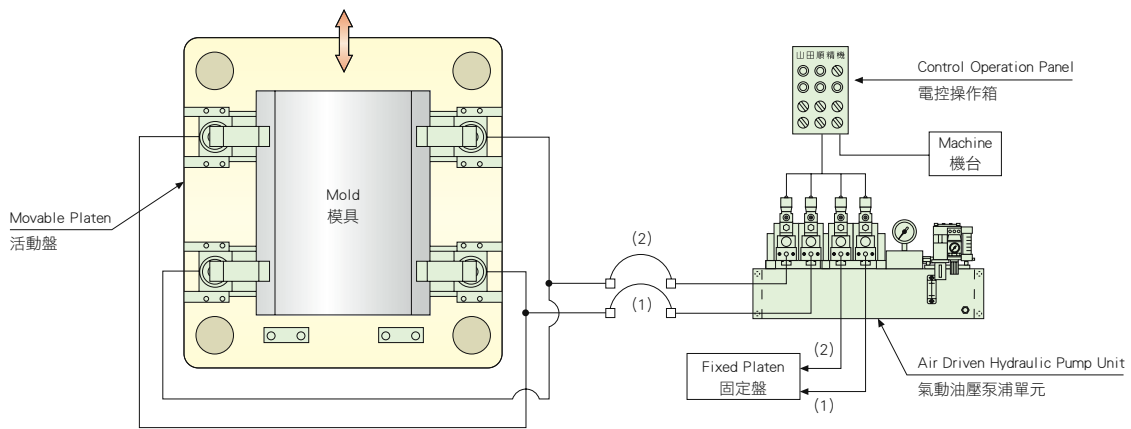
Outline Dimensions 外型尺寸

Unit : mm

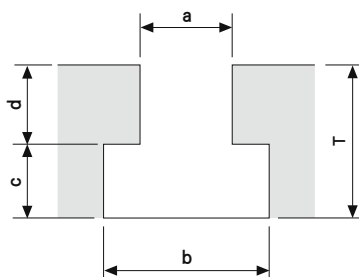
MODEL 型式	A	B	C	D	min. E	F	G	W	max. N	Tapping(T) 台盤加工
CB-2S	12	20	80	98	90	76	30	124	25	M10×20D
CB-4S	12	25	100	109	93	87	30	135	30	M12×24D
CB-6S	15	30	120	126	109	104	30	152	35	M12×24D
CB-10S	15	35	150	148	131	124	36	174	40	M14×28D
CB-16S	20	40	200	166	142	138	44	200	50	M18×36D
CB-25S	20	50	235	200	163	168	48	240	60	M22×45D

Vertical Loading / 上方換模

Platen without T-slot & the size of mold is variable.
台盤無T型槽，模具尺寸不統一



Suggested Dimension of T-slot / Additional T-slot Platen T型槽 / 附加台盤建議尺寸

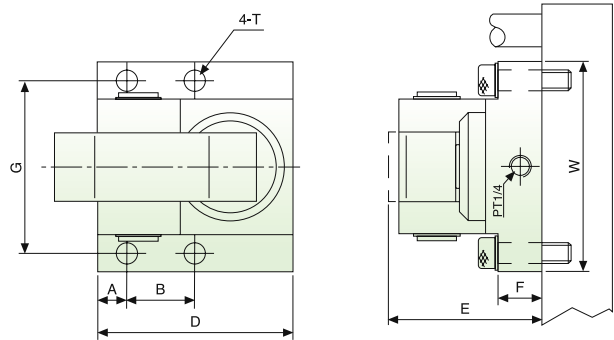


Unit : mm

	T	a	b	c	d
CB-2	32	18	32	14	18±0.2
CB-4	40	22	37	16	24±0.2
CB-6	40	22	37	16	24±0.2
CB-10	44	28	48	18	26±0.2
CB-16	52	28	48	22	30±0.2
CB-25	61	36	56	25	36±0.2
CB-50	84	48	80	36	48±0.2

● T : the thickness of additional T-slot platen (min.) 附加台盤最小厚度

Model CB-B



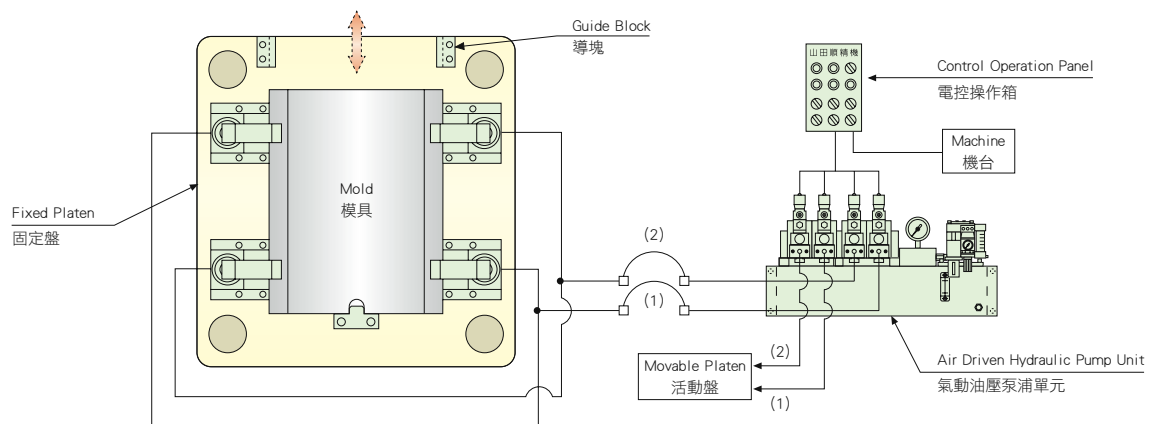
Outline Dimensions 外型尺寸

Unit : mm

MODEL 型式	A	B	D	F	G	min. E	W	Tapping(T) 台盤加工
CB-2B	12	35	90	20	84	90	106	M10×20D
CB-4B	12	40	110	25	95	93	117	M12×24D
CB-6B	15	45	130	30	115	109	140	M12×24D
CB-10B	15	55	159	30	135	131	160	M14×28D
CB-16B	20	65	200	30	158	142	192	M16×32D
CB-25B	20	80	235	30	184	163	218	M18×36D

Vertical Loading / 上方換模

Platen without T-slot & the size of mold is unified.
台盤無T型槽，模具尺寸統一



- Suggest CB-S for movable platen 活動盤建議搭配CB-S型使用

Accessories / 相關配件

Air Driven Hydraulic Pump
氣動油壓泵浦

PA



PC



Non-leak Valve
氣控閥



Pump cover
泵浦護罩



Model **CG**



- CG Clamp is characterized in mechanical locking system. The holder of clamp can be shrunk into the clamp when unclamping. It can avoid interference between the holder and mold template.
- It is only applied on Mold Changer System.
- CG 夾具具有自鎖機構之特性，壓板可縮入夾具本體內。能避免開模時壓板與模具底板間的干涉。
- 此型只適用於搭配換模台車使用。

Model Selection 型式選定

CG- ① B - ② - ③ - ④

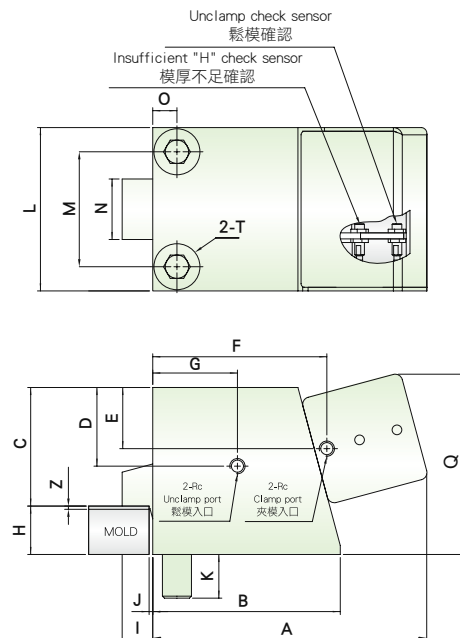
- ① The capacity of clamp (4-50 ton) / 夾具能力
- ② Thickness of template (H±0.5mm) / 模板厚度 (允許公差: H±0.5mm)
- ③ The direction of piping and wiring connection / 配管、配線接續方向
L : on the left side (as below drawing) / 在左側 (如下圖示)
R : on the right side / 在右側
- ④ Control voltage / 使用電壓
1 : 110V 2 : 220V 3 : DC24V(NPN) 4 : DC24V(PNP)

Instruction of Specification 規格說明

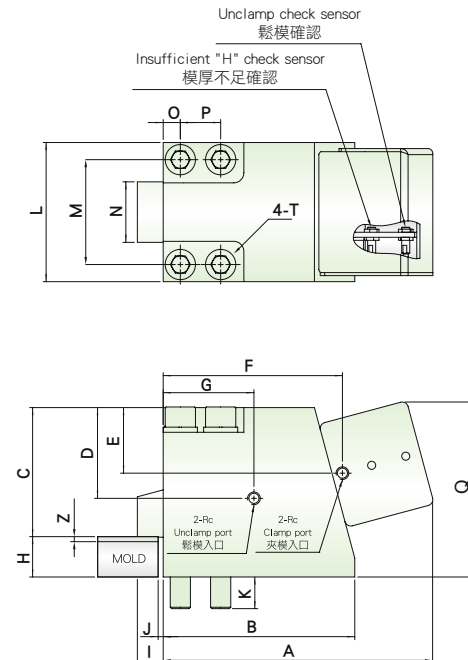
MODEL 型式		CG-4B	CG-6B	CG-10B	CG-16B	CG-25B	CG-50B
Clamping force	夾力 * tons	4	6	10	16	25	50
Retaining force	保持能力 ※ tons	0.8	1.2	2	3.2	5	10
Preserved stroke (Z)	預留行程 (Z) mm	1.5		2			
Working temperature	工作溫度 °C	Max 70°C					

* Hydraulic Pressure 使用油壓壓力: 140kg/cm² ※ No hydraulic pressure 在零壓力時

CG-4B~10B



CG-16B~50B



MODEL 型式	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	Q	Rc	H±0.5	T
CG-4B	200	125	70	40	36	120	55	12	2	27	90	62	35	14	—	123	1/4	30	M16
CG-6B	215	140	85	60	43	132	60	14	3	33	110	76	45	17	—	137	1/4	35	M20
CG-10B	230	155	98	65	51	144	70	17	3	36	135	95	50	20	—	150	1/4	40	M24
CG-16B	270	190	128	90	65	178	90	20	5	33	138	104	60	17	40	175	1/4	40	M20
CG-25B	325	240	155	105	78	227	120	24	5	40	170	130	75	20	50	205	1/4	45	M24
CG-50B	370	280	195	130	105	260	145	28	5	50	215	162	100	27	60	245	3/8	50	M33

• H is the min. size H為最小尺寸 • When H increase, the size of Q will increase the same value H增加時Q尺寸會等值增加

Model CH



- CH Clamp is characterized in mechanical locking system. The holder of clamp can be shrunk into the clamp when unclamping. It can avoid interference between the holder and mold template.
- It can be applied for T-slot and adopted manually moving.
- CH 夾具具有自鎖機構之特性，壓板可縮入夾具本體內，可避免開模時壓板與模具底板造成干涉。
- 此型可配合T槽改為移動式。

Model Selection 型式選定

CH - ① B - ② - ③

- ① The capacity of clamp (10~50 ton) / 夾具能力
- ② Thickness of template ($H \pm 0.5\text{mm}$)
模板厚度 (允許公差: $H \pm 0.5\text{mm}$)
- ③ The direction of piping and wiring connection
配管、配線接續方向
L: on the left side (as below drawing) / 在左側 (如下圖示)
R: on the right side / 在右側

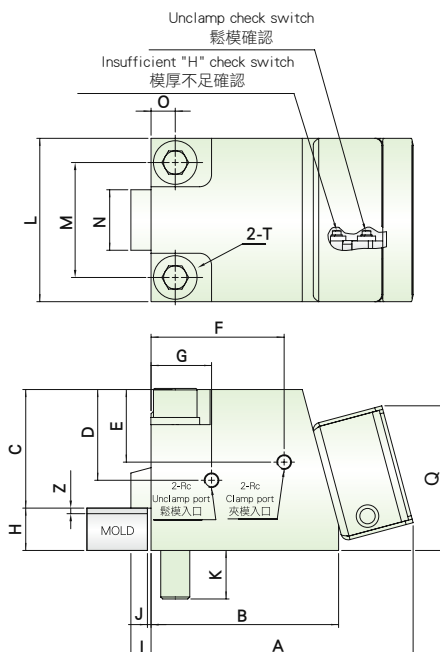
Instruction of Specification 規格說明

Unit: mm

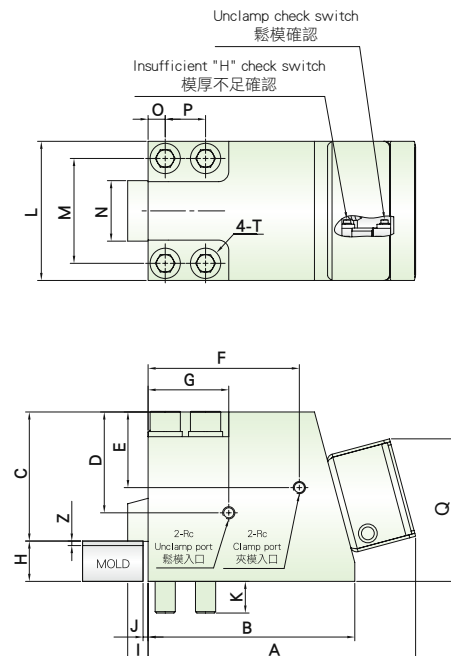
MODEL 型式		CH-10B	CH-16B	CH-25B	CH-50B
Clamping force	夾力 * tons	10	16	25	50
Retaining force	保持能力 ※ tons	4	6.4	10	20
Preserved stroke (Z)	預留行程 (Z) mm	2			
Working temperature	工作溫度 °C	Max 70°C			

* Hydraulic Pressure 使用油壓壓力: 140kg/cm^2 ※ No hydraulic pressure 在零壓力時

CH-10B



CH-16B~50B



Unit: mm

MODEL 型式	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	Q	Rc	H±0.5	T
CH-10B	220	155	98	75	60	110	50	17	3	36	135	95	50	20	—	120	1/4	35	M24
CH-16B	265	205	128	100	75	150	80	20	5	33	138	104	60	17	40	145	1/4	40	M20
CH-25B	305	240	155	110	90	180	100	24	5	40	170	130	75	20	50	165	1/4	50	M24
CH-50B	370	305	195	135	115	235	145	28	5	50	215	162	100	27	60	190	3/8	50	M33

• H is the min. size H為最小尺寸 • When H increase, the size of Q will increase the same value H增加時Q尺寸會等值增加



The operating function

1. Machine will be stopped automatically in case of operation error.
2. Mold change for single side is functioned with two-way operation and avoiding operation error.
3. It is equipped with a key switch for preventing operation error.
4. When in mold change, it will check the following steps automatically-Injection unit backward, ejector backward, manual mode, finishing mold closing, and forbidding mold opening / closing. These steps are the signals for unclamping. It can prevent operation error and machine damage. (Remark)
5. When the system is not in use, it can be departed from the machine control. It can prevent the mold clamp clamped without the existing mold and ensure the life of mold clamp.
6. This system adopts inbuilt non-voltage contact to interlock with the machine.

Remark : Please offer the signal contact of these steps when placing order.

操控功能

1. 具有誤操作停機保護功能。
2. 具有單側換模二道操作防呆功能。
3. 裝有鑰匙開關，避免人為誤操作。
4. 換模時會確認：機台射座後退、托模後退、手動模式、合模完成及禁止開關模等動作信號為鬆模依據，避免誤操作而造成機台損傷。(註)

5. 不使用時可與機台脫離，避免夾具空夾確保夾具壽命。
6. 與機台連線採用無電壓接點。

註：訂購時須配合提供機台動作信號之接點。

POWER CONTROL PANEL 動力控制箱

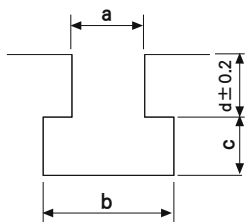
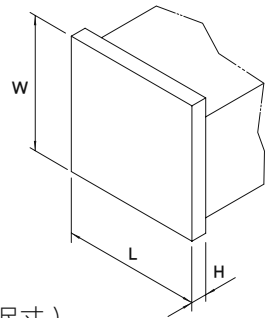


1. This panel is applied for clamp CB-C type.
2. Distribution of panel :
 - Air driven hydraulic pump unit.
 - Solenoid valve of air pressure.

1. 夾具採CB-C型時，搭配此控制箱。
2. 控制箱配置：
 - 氣動油壓泵浦單元。
 - 氣壓電磁閥組。

DATA REQUIRED FOR Q.M.C.S. 快速換模系統訂購所需資料

Company 訂購公司			
Machine Type 機台種類	<input type="checkbox"/> Injection molding machine / 射出機 <input type="checkbox"/> Vertical injection molding machine / 直立式射出機		<input type="checkbox"/> Die casting machine / 壓鑄機
Machine Brand 機台廠牌	Capacity 機型噸數	<input type="checkbox"/> New purchased / 新購 <input type="checkbox"/> Existing / 舊機	
Drawing 圖面	<input type="checkbox"/> Machine outline / 機台外型圖 <input type="checkbox"/> Platen drawing / 車壁圖		
Item 項目	Pump unit / 泵浦單元	Mold clamp / 夾模夾具	Remark / 備註
Model 型式			
Q'ty 數量			
Technical Data 技術資料	1 Control Voltage / 控制電壓： <input type="checkbox"/> AC110V <input type="checkbox"/> AC220V <input type="checkbox"/> DC24V		
	2 The thickness of template / 模具底板厚度 (H) : _____ mm		
	3 Mold size / 模具尺寸：Max : _____ (L) × _____ (W) Min : _____ (L) × _____ (W)		
	4 Mold type / 模具： <input type="checkbox"/> Flange type / 標準型 <input type="checkbox"/> Concave type / 凹入型 (Please offer the size of concave area / 需提供凹入尺寸)		
	5 Working temperature / 工作溫度： _____ °C		
	6 Mold with heating insulation platen / 模具附加隔熱板： <input type="checkbox"/> Yes (Please offer the thickness) / 有 (請提供厚度) <input type="checkbox"/> No / 沒有		
	7 Clamping direction / 夾模方向： <input type="checkbox"/> Up-Down / 上-下 <input type="checkbox"/> Left-Right / 左-右		
	8 When the clamping direction is up-down, is there any "Safety Pedal" ? 夾模方向為上-下時，機台是否有安全踏板？ <input type="checkbox"/> Yes (Please offer the installing drawing) / 有 (請提供安裝圖面) <input type="checkbox"/> No / 沒有		
	9 Platen with other equipment / 車臂加裝其他配置： <input type="checkbox"/> Robot / 機械手 <input type="checkbox"/> others / 其它		
	10 Please offer the following signal contact. / 請提供以下動作之訊號接點 <input type="checkbox"/> Injection unit backward / 射座後退 <input type="checkbox"/> Ejector backward / 托模後退 <input type="checkbox"/> Manual mode / 手動模式 <input type="checkbox"/> Finishing mold closing / 合模完成 <input type="checkbox"/> Forbidding mold opening/ closing/ 禁止開關模		
	11 T-slot / T槽尺寸： <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> Movable platen / 活動側 a : _____ b : _____ c : _____ d : _____ (±0.2) </div> <div style="text-align: center;"> Fixed platen / 固定側 a : _____ b : _____ c : _____ d : _____ (±0.2) </div> </div> <p style="font-size: small; margin-top: 5px;">*For existing machine, please offer "d" size with the first decimal digit. *舊機請提供d尺寸至小數點第一位。</p>		
Others 其他	CE certificated required / 產品是否須CE認證	<input type="checkbox"/> Yes / 需要	<input type="checkbox"/> No / 不需要
	Installation by Sandsun / 山田順需安裝	<input type="checkbox"/> Yes / 需要	<input type="checkbox"/> No / 不需要





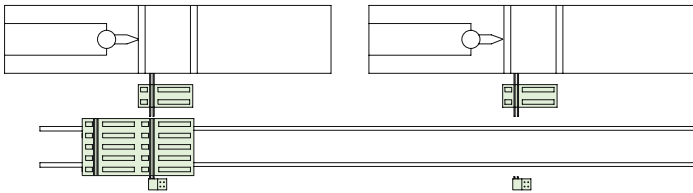
Feature

1. Shorten the operation time of mold change.
2. Auto position checking of mold cart moving.
3. Automatically check the stroke of mold open, arrival and positioning in the process of mold move-in.
4. Device for preventing mold sliding.

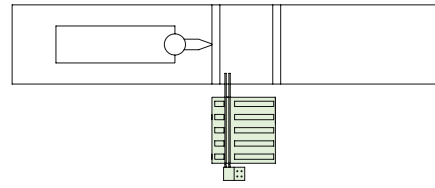
特色

1. 減少換模待機時間。
2. 台車移動自動對機台尋位。
3. 模具移入自動檢知開模行程、到位及定位裝置。
4. 模具滑落防呆保護裝置。

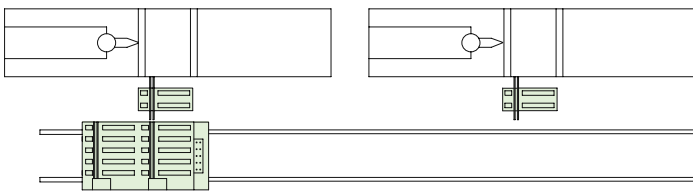
Multi-machines in one line (fixed hook set)
多機直列 (鈎模座固定)



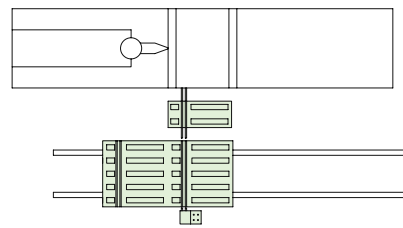
Single machine and mold / 單機單模



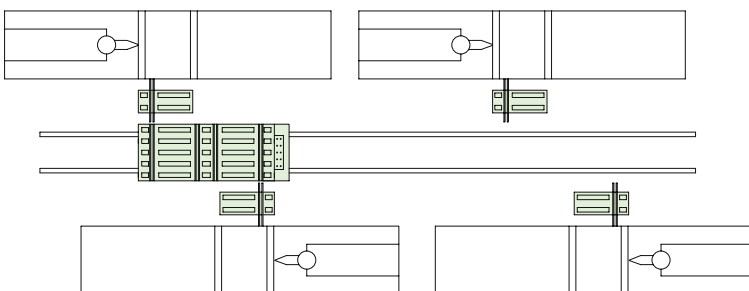
Multi-machines in one line (movable hook set)
多機直列 (鈎模座移動)



Single machine and twin molds / 單機雙模



Multi-machines juxtaposed / 多機並列



*** Customers are required to finish the following things before Mold Changer System installation.**

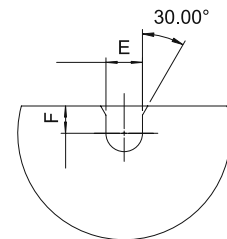
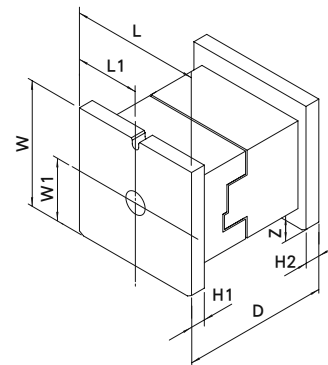
1. Rail construction.
2. Standardize the mold template.
3. Process the mold positioning slot, the hole of fixed plate for hook set, and mold template chamfering.

*** 裝機前客戶需完成以下事項**

1. 軌道埋設工程。
2. 模具底板規格化。
3. 模具定位槽、拉模座孔位、模板倒角加工。

DATA REQUIRED FOR M.C.S. 換模台車系統訂購明細資料

Company 訂購公司				
Machine Brand 機台廠牌	Capacity 機型噸數		Q'ty 數量	
Technical Data 技術資料	<p>1 Mold cart type / 台車所需型式：</p> <p><input type="checkbox"/> Single machine and mold / 單機單模 <input type="checkbox"/> Single machine and twin molds / 單機雙模</p> <p><input type="checkbox"/> Twin machines and molds / 雙機雙模 <input type="checkbox"/> Multi-machines and twin molds / 多機雙模</p> <p>2 IMM lying direction / 射出機放置方向：</p> <p><input type="checkbox"/> Multi-machines in on line (fixed hook set) / 多機直列 (勾模座固定)</p> <p><input type="checkbox"/> Multi-machines in on line (movable hook set) / 多機直列 (勾模座移動)</p> <p><input type="checkbox"/> Multi-machines juxtaposed / 多機並列</p> <p>3 The way of mold movement / 模具移動方式：</p> <p><input type="checkbox"/> Motor driven roller transmission / 滾輪馬達傳動 <input type="checkbox"/> Hook push-pull movement / 勾模推拉移動</p> <p>4 Working temperature of the mold / 模具工作溫度：_____°C</p> <p>5 Max. mold weight / 模具最大重量：_____ton</p> <p>6 Outline dimension of mold / 模具外型尺寸圖：</p> <p>H1 : _____mm (Fixed platen / 固定側)</p> <p>H2 : _____mm (Movable platen / 活動側)</p> <p>L : _____mm W : _____mm Z : _____mm</p> <p>D : Max : _____mm Min : _____mm</p> <p>7 Mold positioning slot / 模具定位槽：</p> <p>E : _____mm F : _____mm</p>			
	<p>Below data will be offered by IMM maker 以下資料需由射出機廠商提供</p> <p>8 System pressure of IMM / 射出機系統壓力：_____</p> <p>9 Max size of mold / 容模最大尺寸：_____mm</p> <p>10 Adjusting height range of machine / 機台調整高度範圍： Max : _____ ; Min : _____</p> <p>11 Related dimension and control software of IMM (based on IMM model) 機台相關配合尺寸及控制軟體 (視機型而定)</p>			
Others 其他	CE certificated required / 產品是否須CE認證 <input type="checkbox"/> Yes / 需要 <input type="checkbox"/> No / 不需要			
Remark 備註				





MANAGING PHILOSOPHY

Moderate & Reliable Aggressive & Creative
Demanding for Perfection Constant Operation

QUALITY POLICY

Quality Stability Customer Satisfaction

經營理念

穩健踏實 精進創新 止於至善 永續經營

品質政策

品質穩定 客戶肯定

山田順精機股份有限公司

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