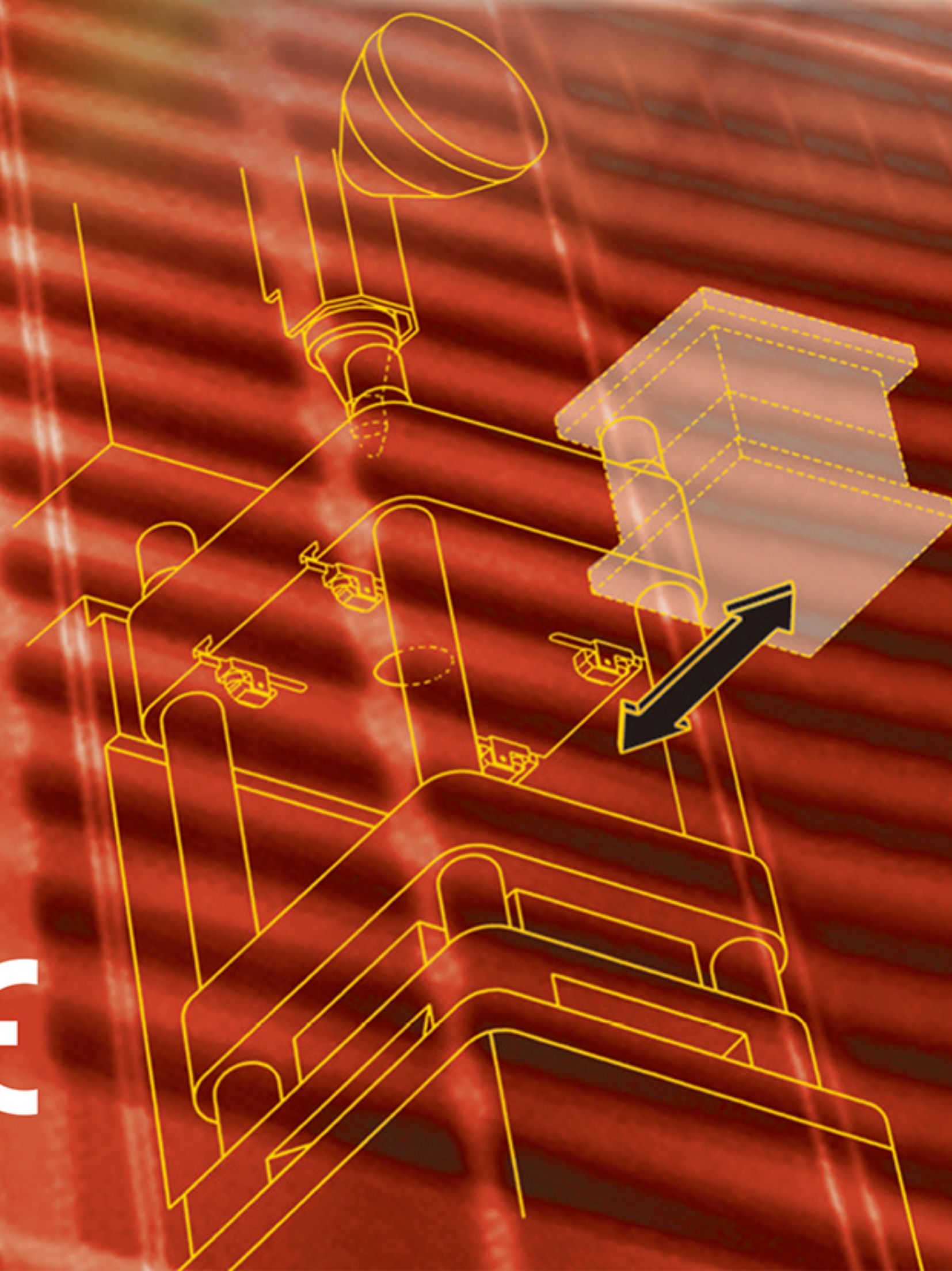
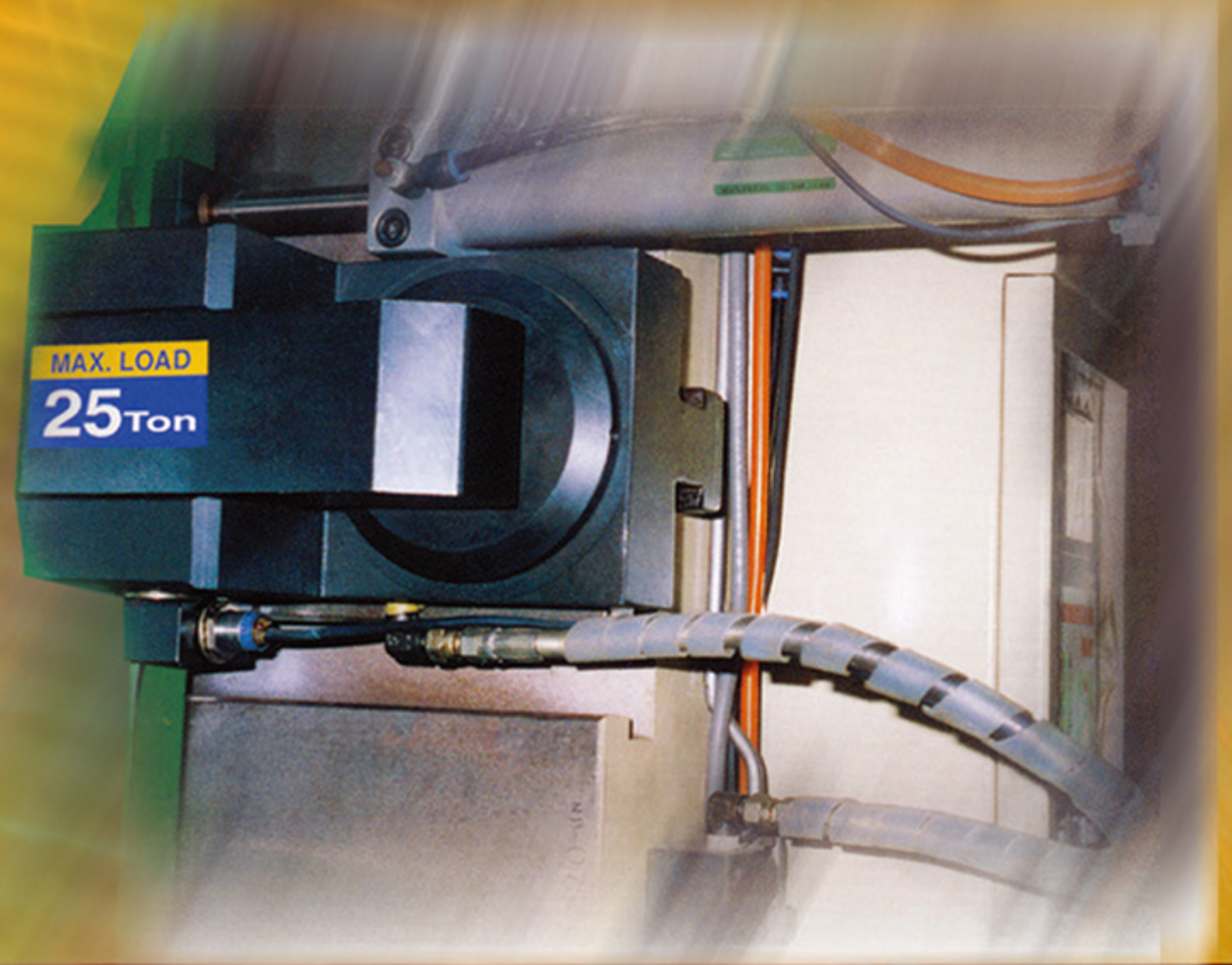


**FORWELL™**

射出機壓鑄機快速換模系統  
QUICK MOLD CHANGE SYSTEM.



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## 公司簡介 / INTRODUCTION

富偉公司成立於1987年，主要生產自動化、省力化之各式快速換模系統。如沖床快速換模系統、射出機及壓鑄機快速換模系統、印刷電路板沖孔脫料系統及各種自動化夾具快速換模系統。

在產品品質及功能方面已深獲使用客戶認同，在穩定成長的同時富偉仍不斷秉持著我們的經營理念 [ 品質榮譽、服務回饋、創新發展 ] 研究開發符合客戶需求的產品，以期能提供完整的產品給客戶。

### FORWELL PRECISION MACHINERY CO., LTD.

Was established in 1987, and are mainly engaged in automatic production, manpower saving of serving of QUICK DIE CHANGE SYSTEM, such as: QUICK DIE CHANGE SYSTEM for machanical press.

QUICK MOLD CHANGE SYSTEM to be adopted along with various kinds of mold clamping systems for automatic machines such as punch presses, injection molding machines and die casting machines, PCB FINE PIERCING SYSTEM, and various series die clamp system.

In the aspect of quality and function of out product, we have been acknowledged and manufactories. Under stable growth, FORWELL still adhere to our operation principle: [ Quality and Service and Innovation ] under constant development and research, we present our quality product completely to meet the demand of our customers.

 **CA19601** 中文版 (CHINESE)

 **EA19601** 英文版 (ENGLISH)

# FORWELL<sup>TM</sup>

The way of viewing Company Profile of FORWELL:  
Please visit website [www.machinesources.com](http://www.machinesources.com) and key in the video serial number  
to watch the FORWELL company profile.

 **EA19601**

# Q.M.C.S. 導入效益 & 選用指引 / Q.M.C.S. BENEFITS & SYSTEM COMPONENTS SELECT

## 直接效益 DIRECT BENEFITS

- 減少換模時間 Reduced Die Changing Time
- 多種少量的生產 Diverse Products in Small Batches
- 減少存貨 Reduced Stock Inventory
- 產量與品質改善 Improved Productivity and Quality
- 降低勞力成本 Reduced Labor Cost

## 間接效益 INDIRECT BENEFITS

- 間接效益 Indirect Benefits
- 模具標準化 Die standardization
- 作業標準化 Operation Standardization
- 增加操作安全 Improved Operation Safety
- 達成快速產銷 Shortened Delivery Time
- 改善工廠環境 Better Working Environment

↑ ※以上各種效益大大增進了企業競爭能力！ Increased Overall

## Q.M.C.S. 導入效益

FORWELL Q.M.C.S. 提供給各式射出機、壓鑄機模具多樣性的快速換模專用元件，此系統的使用，不僅減少了閒置時間，並且大大的促進了產能的提昇，使得生產管理更為合理化。

## Q.M.C.S. BENEFITS

FORWELL Q.M.C.S. provides different injection molding and hydraulic mold casting machinery with many types of efficient quick mold changing systems, which highlight time saving and enhanced productivity for more rationalized production management.

## Q.M.C.S. 選用指引

FORWELL Q.M.C.S. 為使您能依照模具尺寸，射出成形機、壓鑄機的規格來選定，準備有下列各種機種。請考慮工廠的佈局，將來的生產計畫，等標準化之後，選擇最合適的方式。

## Q.M.C.S. SELECTION

The following specifications are available for you to choose in accordance to your injection molding requirements and actual production situations. Make sure of your production plans, standard production procedure before choosing the product that suits you best.

模板 Mold Plate	換模方式 Mold Change	使用之夾模方式 Clamping type	條件、特徵 Condition . Character
不能統一情形時 No Union	吊車(垂直放入) Put Vertically	移動式夾模器 Moving Clamper	必須在盤面上加T溝，或者安裝T溝板 To Be With T-Slot
可以統一情形時 Union	吊車(垂直放入) Put Vertically	固定式移動式夾模器 Fixed & Moving Clamper	夾模器固定於盤面或在盤面上移動 Clamper Fixed Or Moving On Plate
	台車(水平放入) Put Horizontally	固定式夾模器 Fixed Clamper	將輸送滾輪(或滑軌)安裝於盤面。必須有台車或模具交換台，換模時間極短，作業最簡單，亦可全自動化。 Install roller or sliding rail upon the plate. Use cart or mold exchange table for the shortest possible mold changing time and easy operation.

## 射出成型機、壓鑄機快速換模系統標準型式選用表 / QMCS TYPICAL SECTIONS BY INJECTION MOLDING MACHINES & MOLD CASTING MACHINES

射出成型機、壓鑄機快速換模系統標準形式選用表

Q.M.C.S typical sections by injection molding machines & mold casting machines.

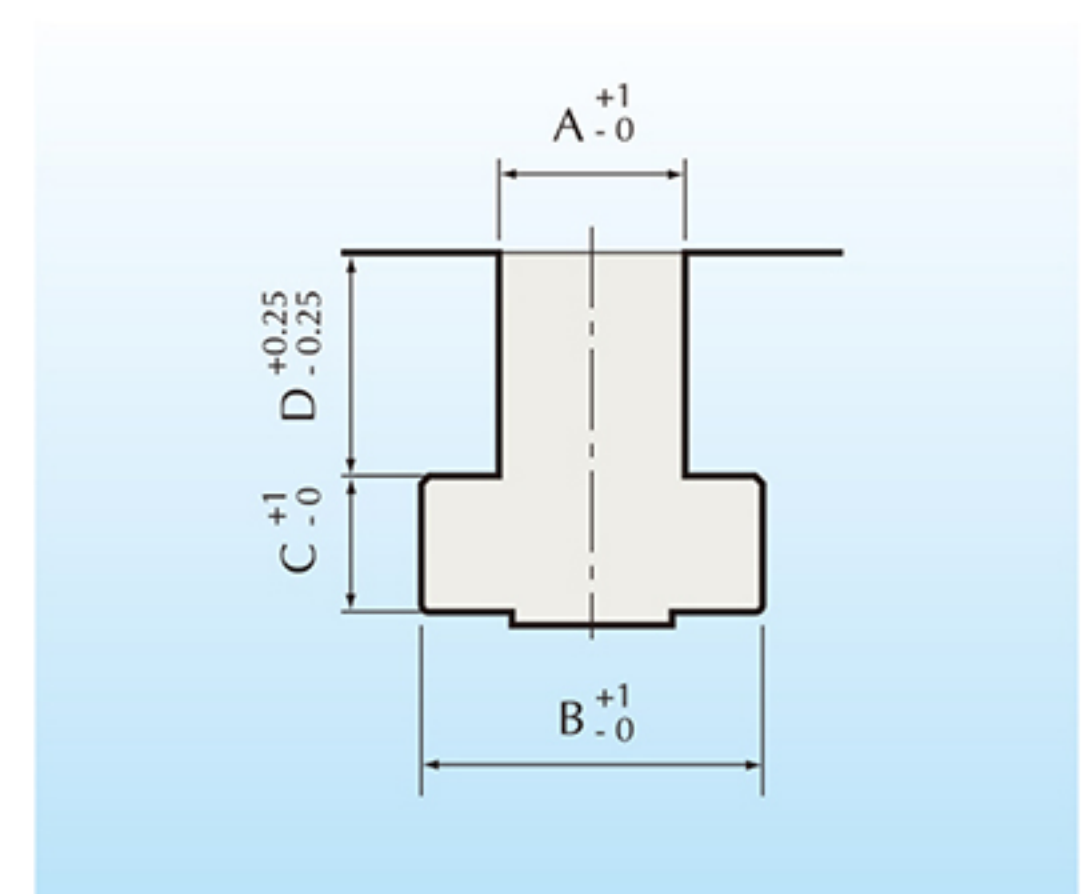
機台能力 TON	夾模器 CLAMPER					氣動泵組合 PUMP MODEL	建議模板厚度 PLATE THICKNESS		建議T槽尺寸 T-SLOT SIZE			
	活動側 MOVING	數量 PCS	固定側 FIXED	數量 PCS	總夾模力 TOTAL		活動側 MOVING	固定側 FIXED	A	B	C	D
150	TY-2	4	TY-2	4	16TON	FP6308U-□-□C	35	35	22 <sup>+1.0</sup> <sub>-0</sub>	37 <sup>+1.0</sup> <sub>-0</sub>	16 <sup>+1.0</sup> <sub>-0</sub>	24±0.25
250	TY-4	4	TY-4	4	32TON	FP6308U-□-□C	40	40	28 <sup>+1.0</sup> <sub>-0</sub>	48 <sup>+1.0</sup> <sub>-0</sub>	20 <sup>+1.0</sup> <sub>-0</sub>	28±0.25
350	TY-6	4	TY-6	4	48TON							
550	TY-10	4	TY-10	4	80TON	FP1014 U-□-□C	50	50	28 <sup>+1.0</sup> <sub>-0</sub>	48 <sup>+1.0</sup> <sub>-0</sub>	23 <sup>+1.0</sup> <sub>-0</sub>	28±0.25
850	TY-16	4	TY-16	4	128TON							
1000	TY-16	6	TY-16	6	192TON							
1300	TY-25	4	TY-25	4	200TON							
1600	TY-25	6	TY-25	6	300TON	FP1014 U-□-□C	50	50	36 <sup>+1.0</sup> <sub>-0</sub>	56 <sup>+1.0</sup> <sub>-0</sub>	25 <sup>+1.0</sup> <sub>-0</sub>	28±0.25



夾模器 Die Clamp



氣動泵組合 Power units



建議T槽尺寸 T-SLOT SIZE

The way of viewing Q.M.C.S. of FORWELL:

Please visit website [www.machinesources.com](http://www.machinesources.com) and key in the video serial number to watch the product running in actual production environment.



## 模具垂直放入圖例 / DEMONSTRATION OF PUT MOLD VERTICALLY

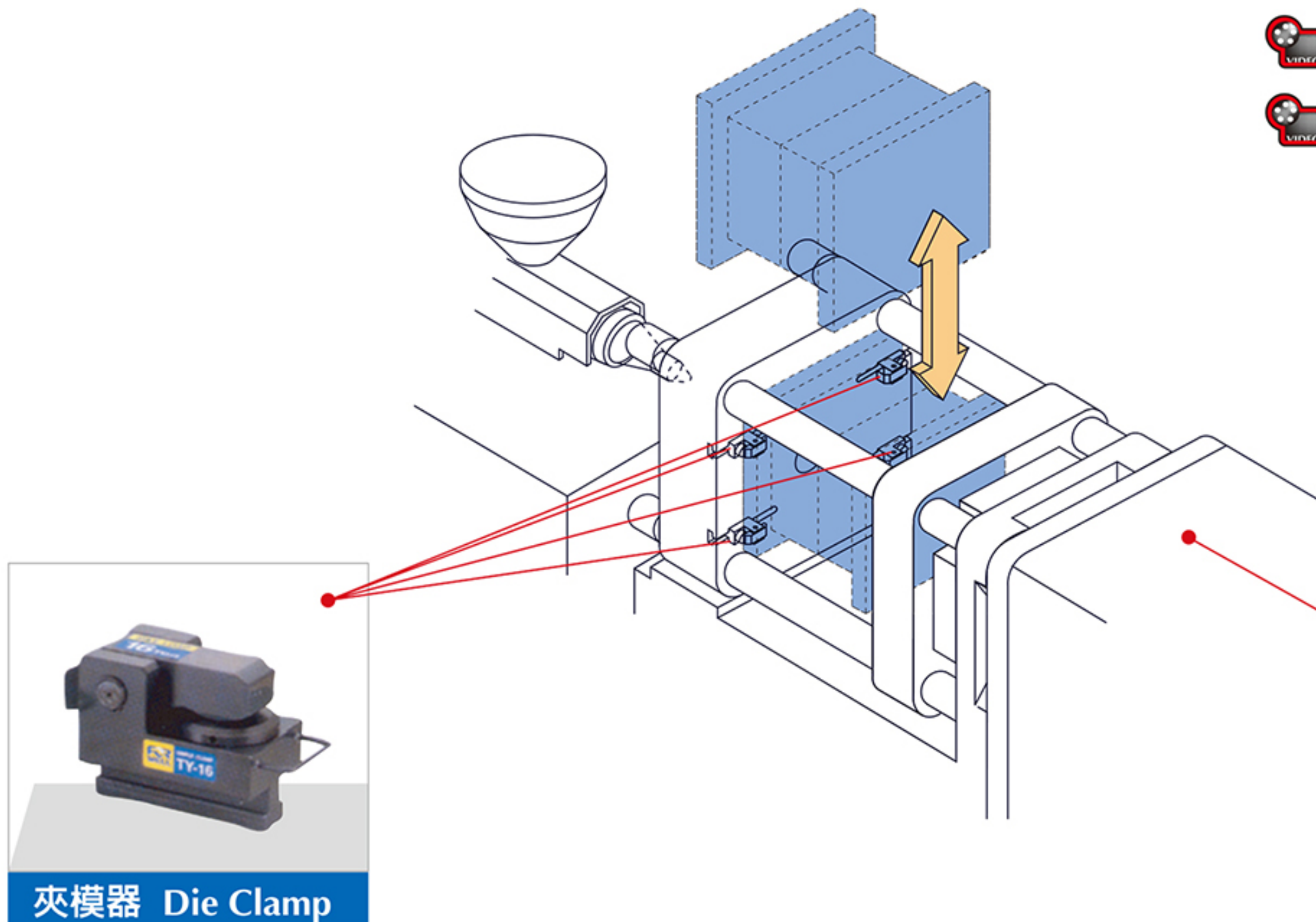
### 模具垂直放入時

一般射出成型機或壓鑄機模具垂直放入方式使用最多，FORWELL Q.M.C.S提供夾模器可移開方式換模系統，不僅減低機台的閒置時間，並且促進產能的提升，使得生產管理更為合理化、自動化。

### VERTICAL TYPE

Most of the molds for injection molding and mold casting machines are fitted vertically. FORWELL Q.M.C.S. however adopts removable mold changing system that not only saves idle time for enhanced production efficiency but also spurs even rationalized and automated production management.

### 交換方式 MOLD CHANGE



 **CA19603** 中文版 (CHINESE)

 **EA19603** 英文版 (ENGLISH)



夾模器 Die Clamp



氣動泵組合 Power units



## 模具水平放入圖例 / DEMONSTRATION OF PUT MOLD HORIZONTALLY

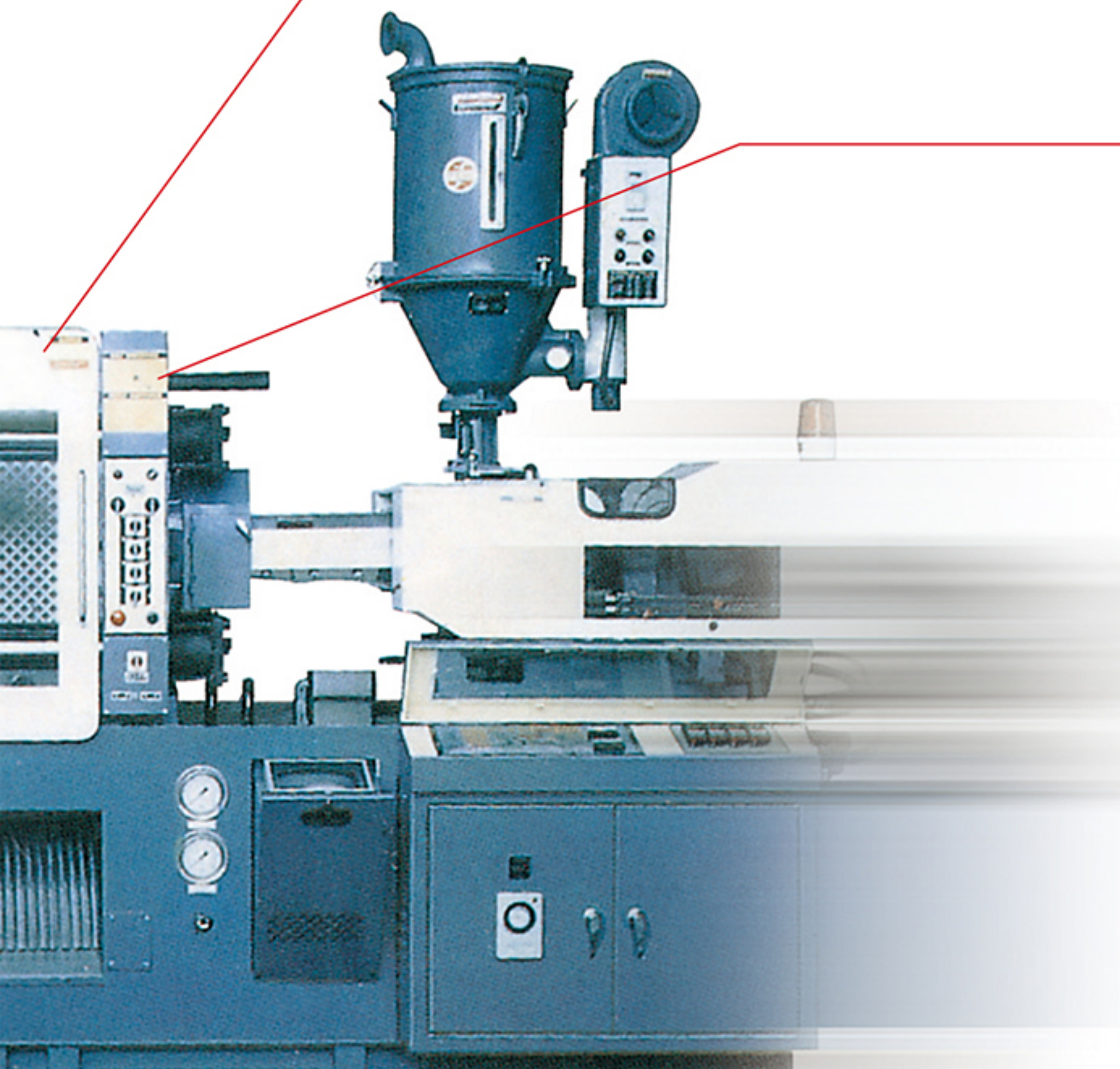
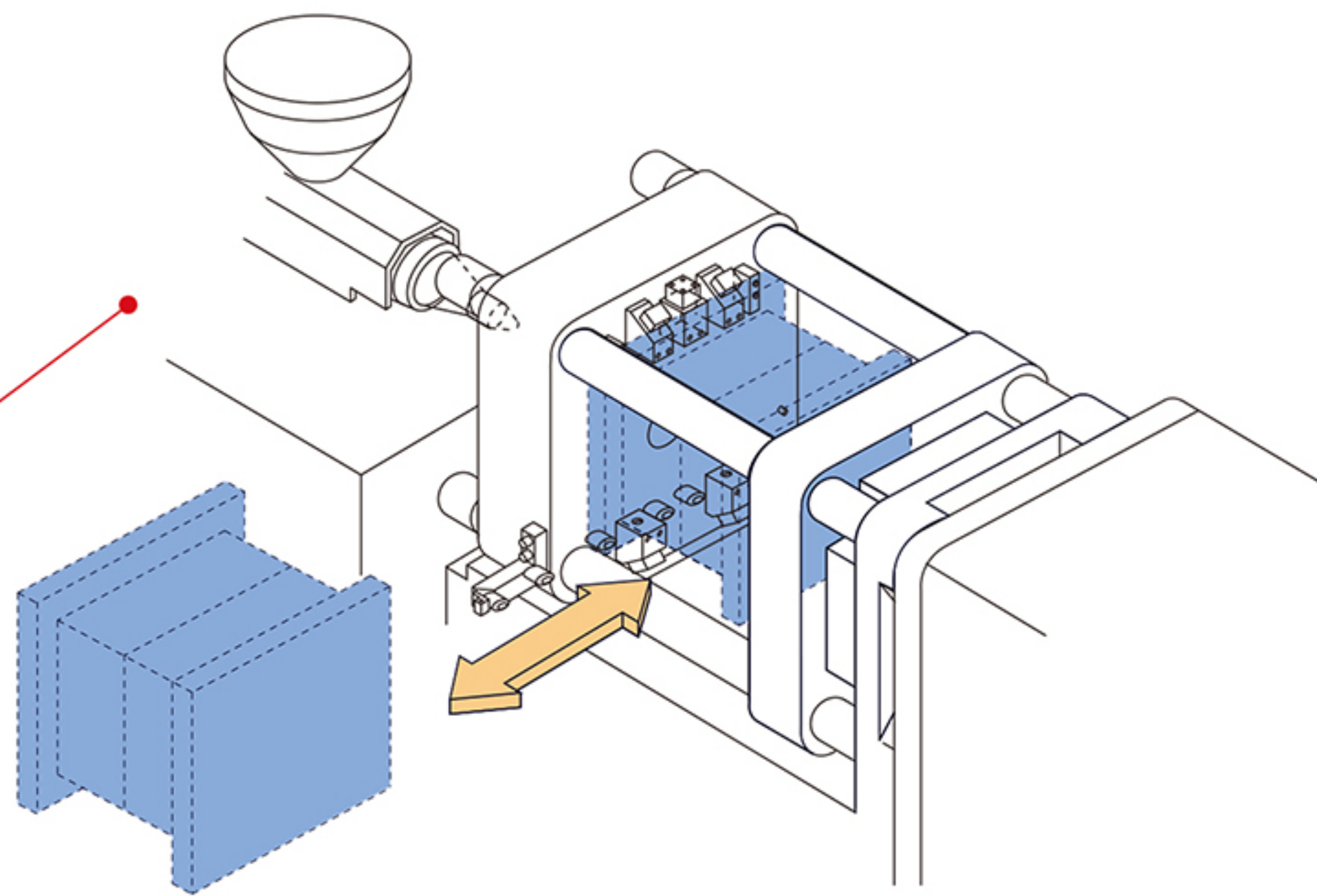
### 模具水平放入時

模具水平放入時，可使用換模台車方式，更換模具，更具安全性，並達成整廠快速換模系統之規劃，使得模具之輸送及儲存更具自動化。

### HORIZONTAL TYPE

When molds are fitted horizontally, mold changing cart may be used for safe operation and realization of quick mold changing for entire factory with increased automation of mold delivery and storage.

### 交換方式 MOLD CHANGE

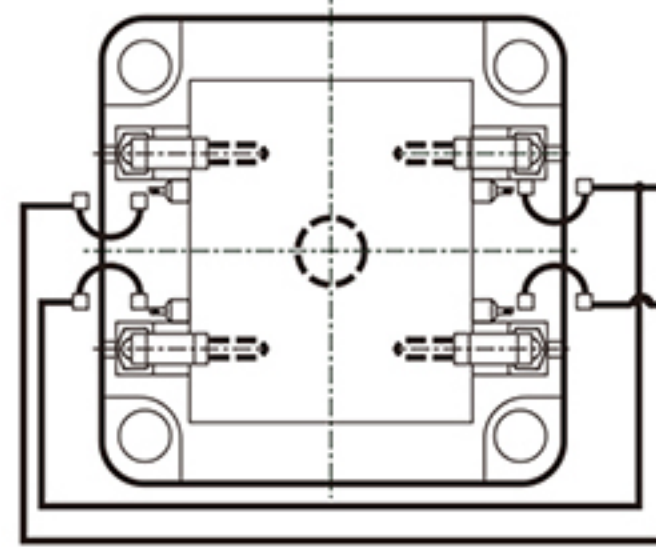


操作箱 Control box

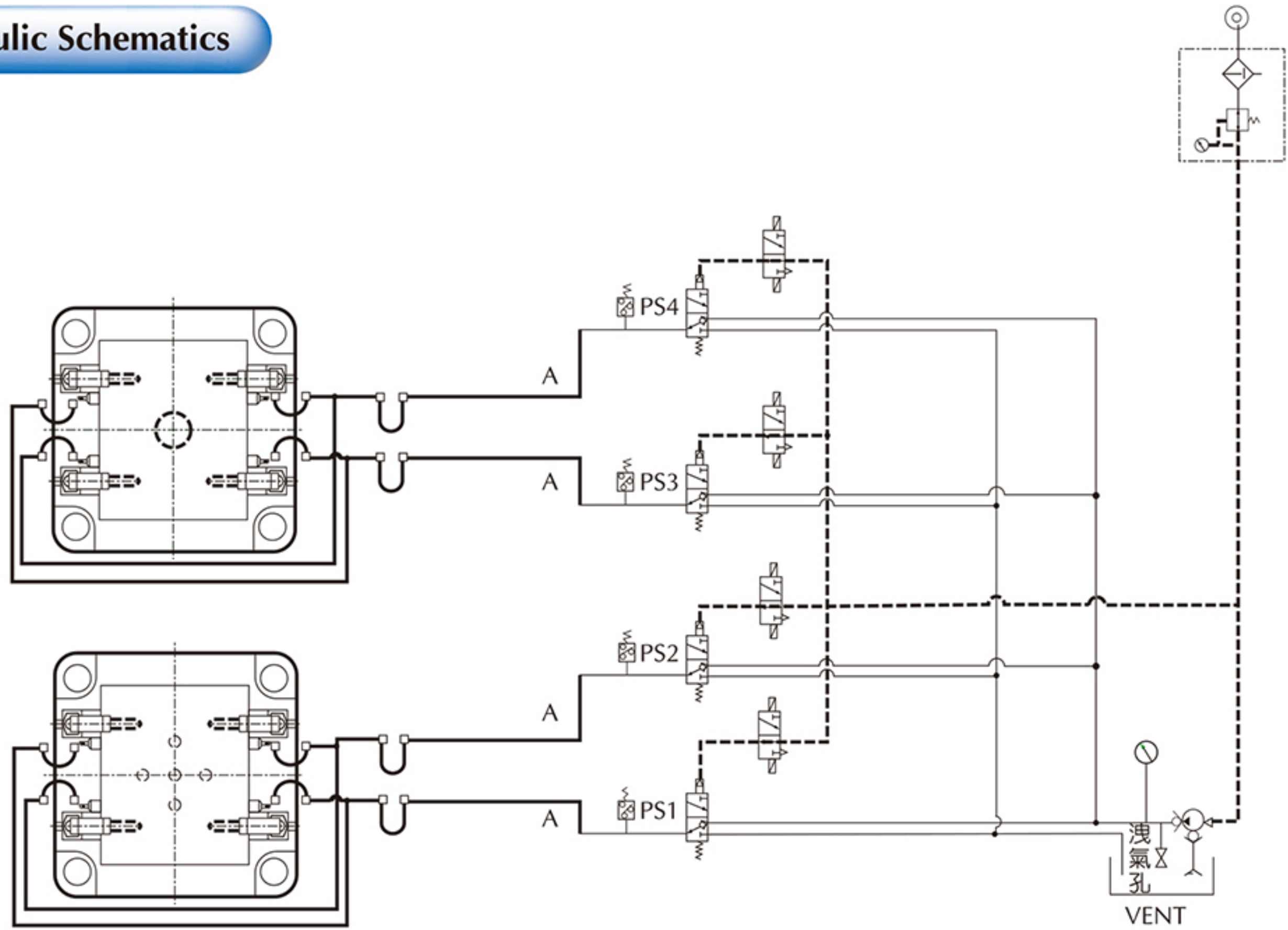
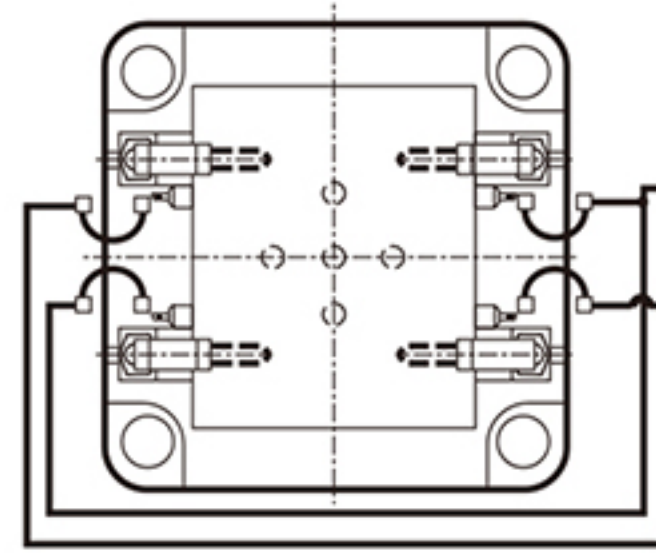
## 油壓系統迴路圖 / HYDRAULIC SCHEMATICS

### 油壓系統迴路圖 Hydraulic Schematics

固定盤面  
Fixed Bolster Plate

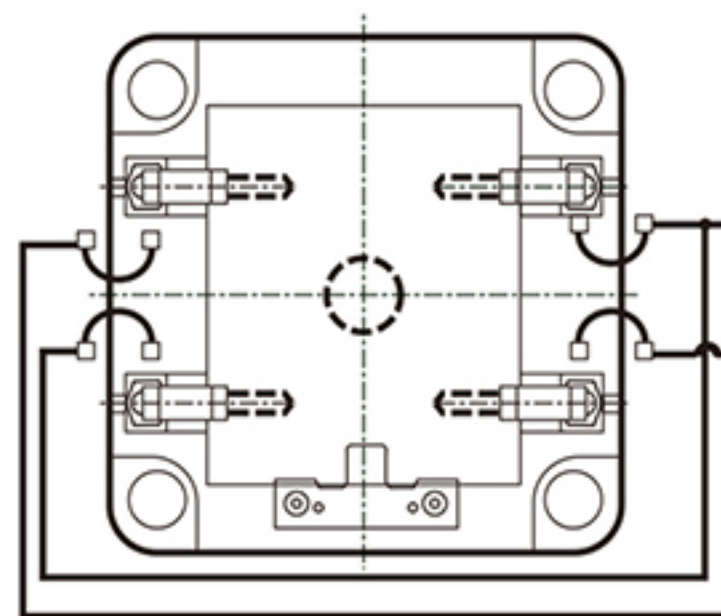


活動盤面  
Moving Bolster Plate

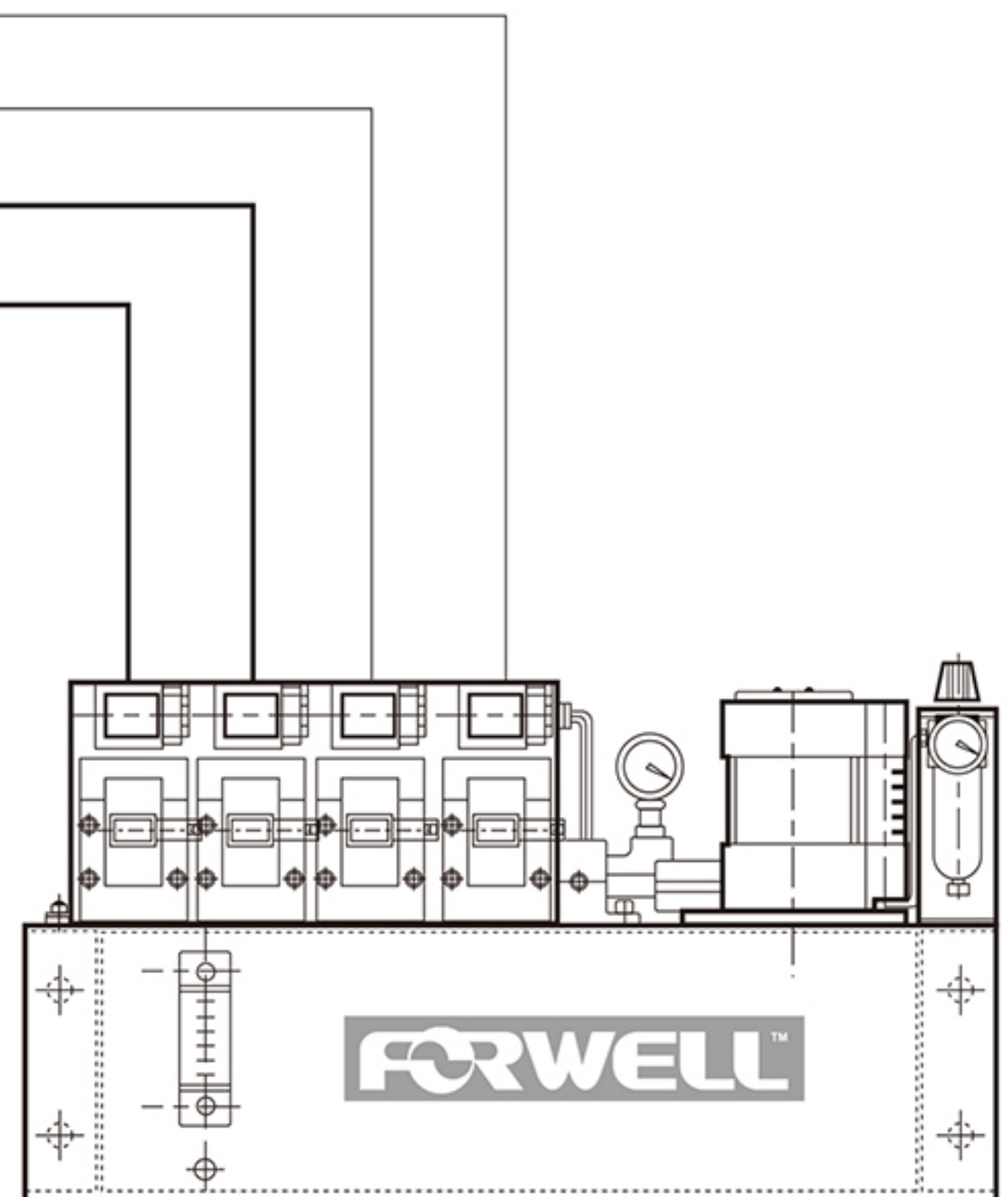
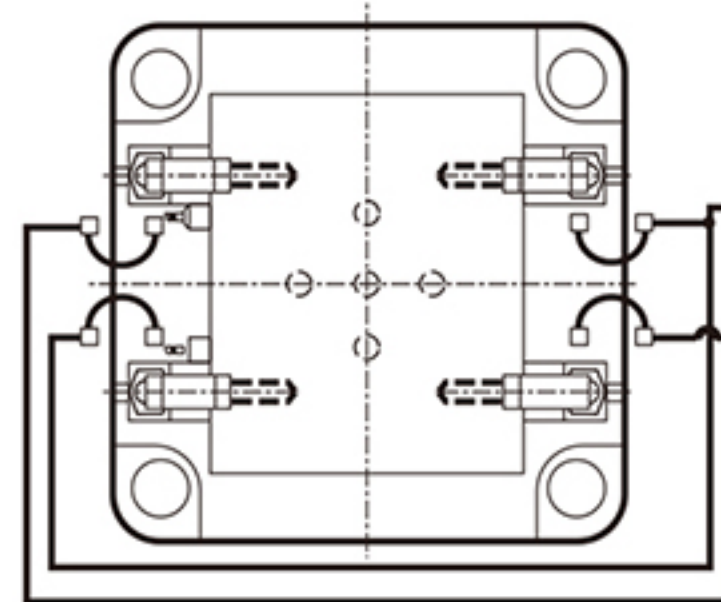


### 油壓系統迴路圖 Hydraulic Schematics

固定盤面  
Fixed Bolster Plate



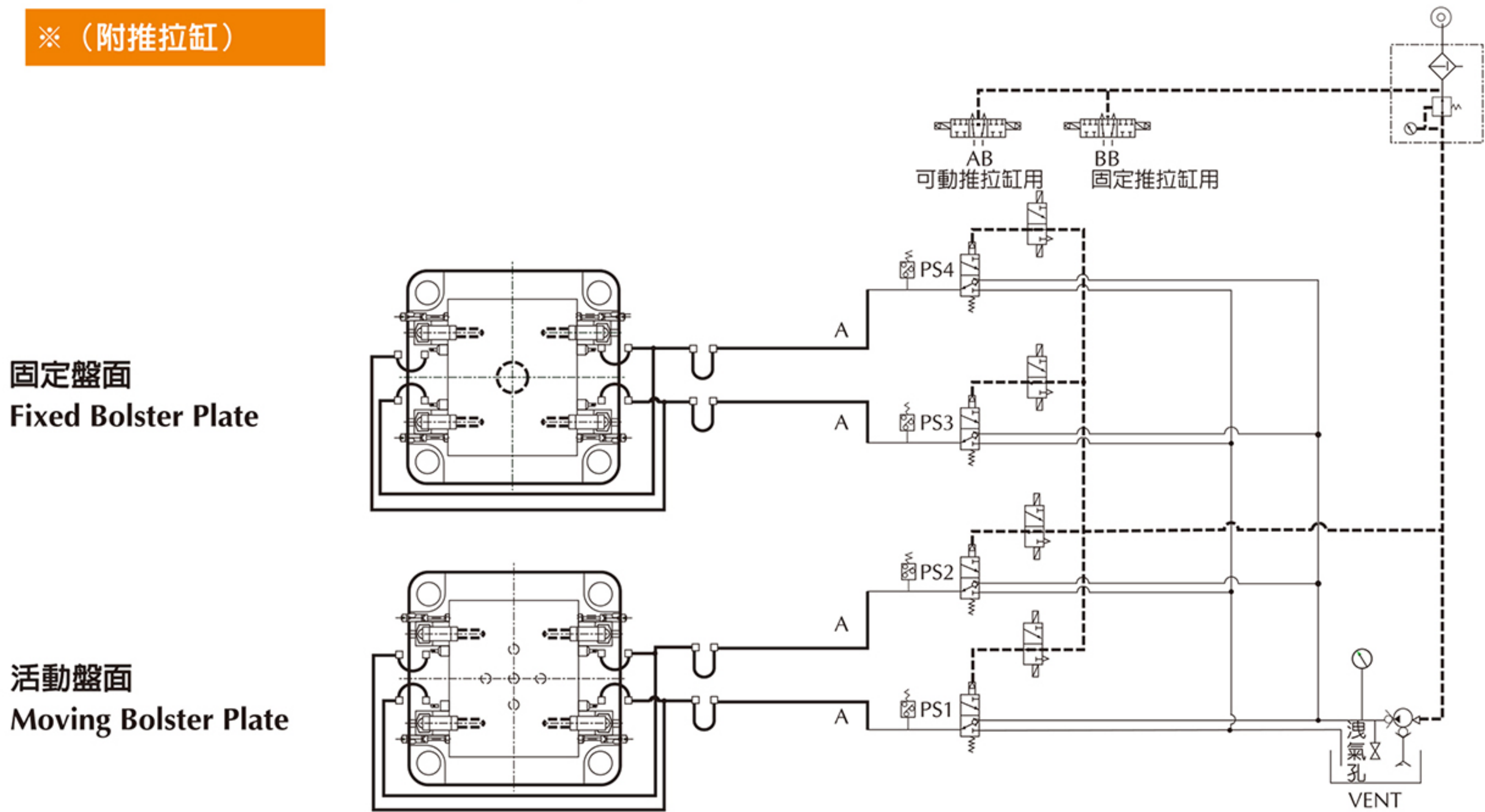
活動盤面  
Moving Bolster Plate



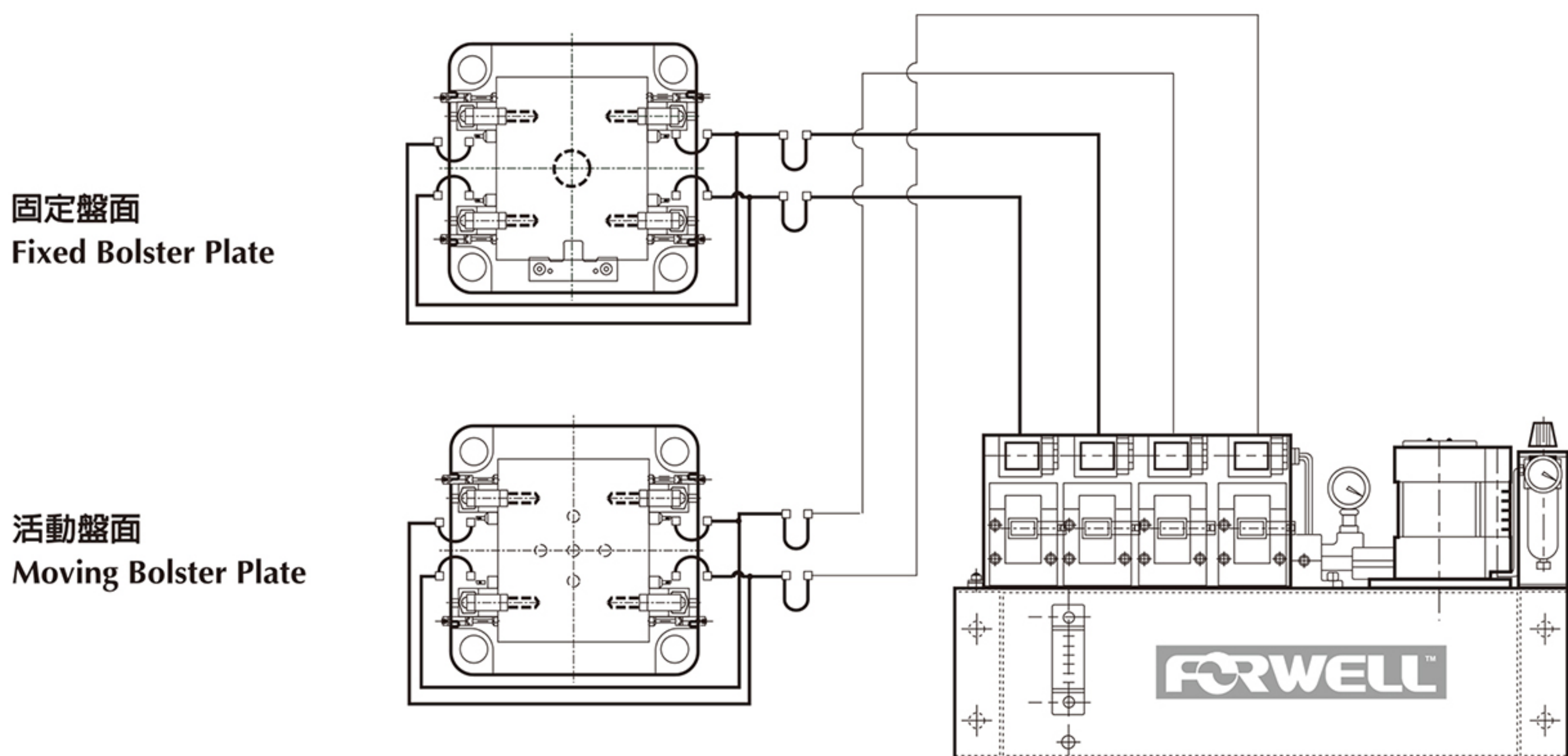
## 射出機/壓鑄機應用範例 / APPLICATION OF INJECTION & CASTING MACHINES

### 油壓系統迴路圖 Hydraulic Schematics

※ (附推拉缸)



### 油壓系統迴路圖 Hydraulic Schematics

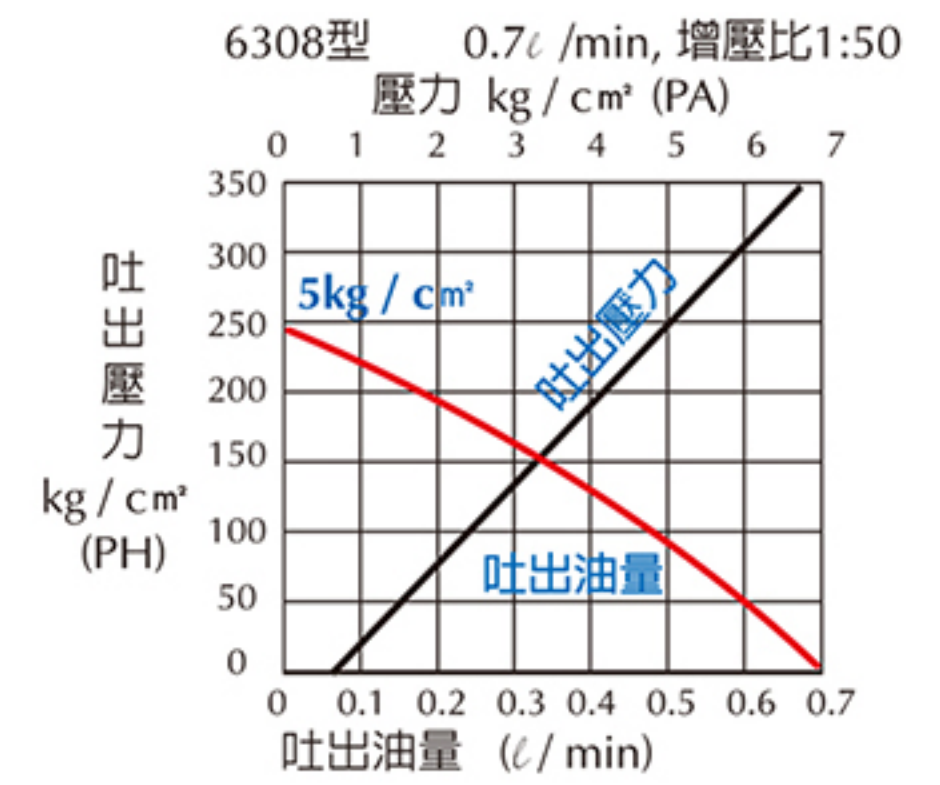
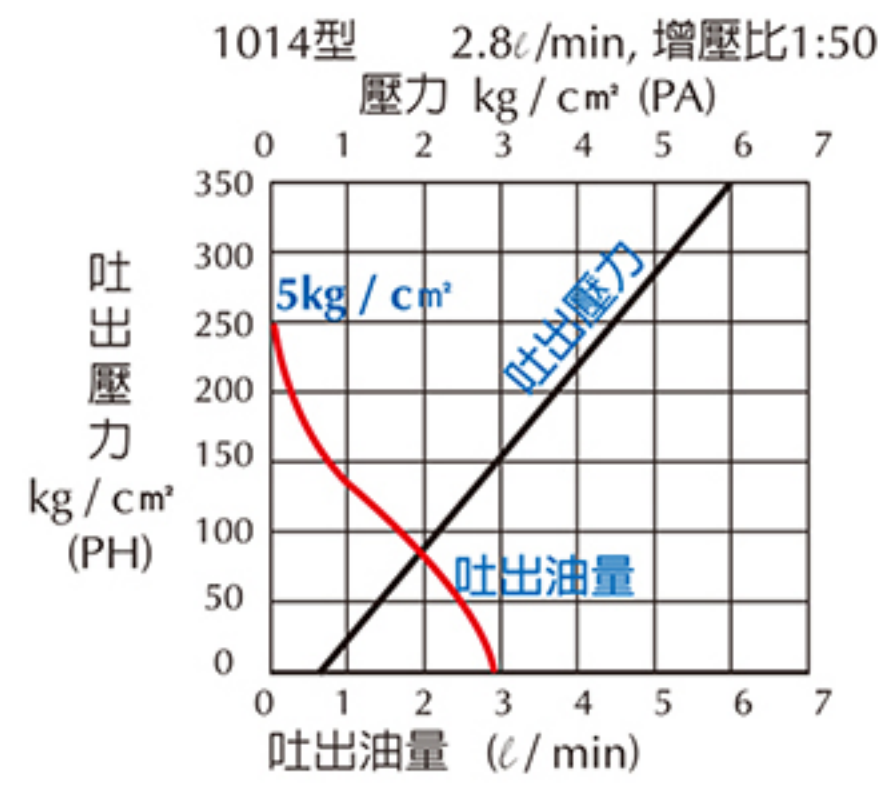


## 氣動泵組合外型尺寸 / AIR-DRIVING PUMP UNITS SELECTION



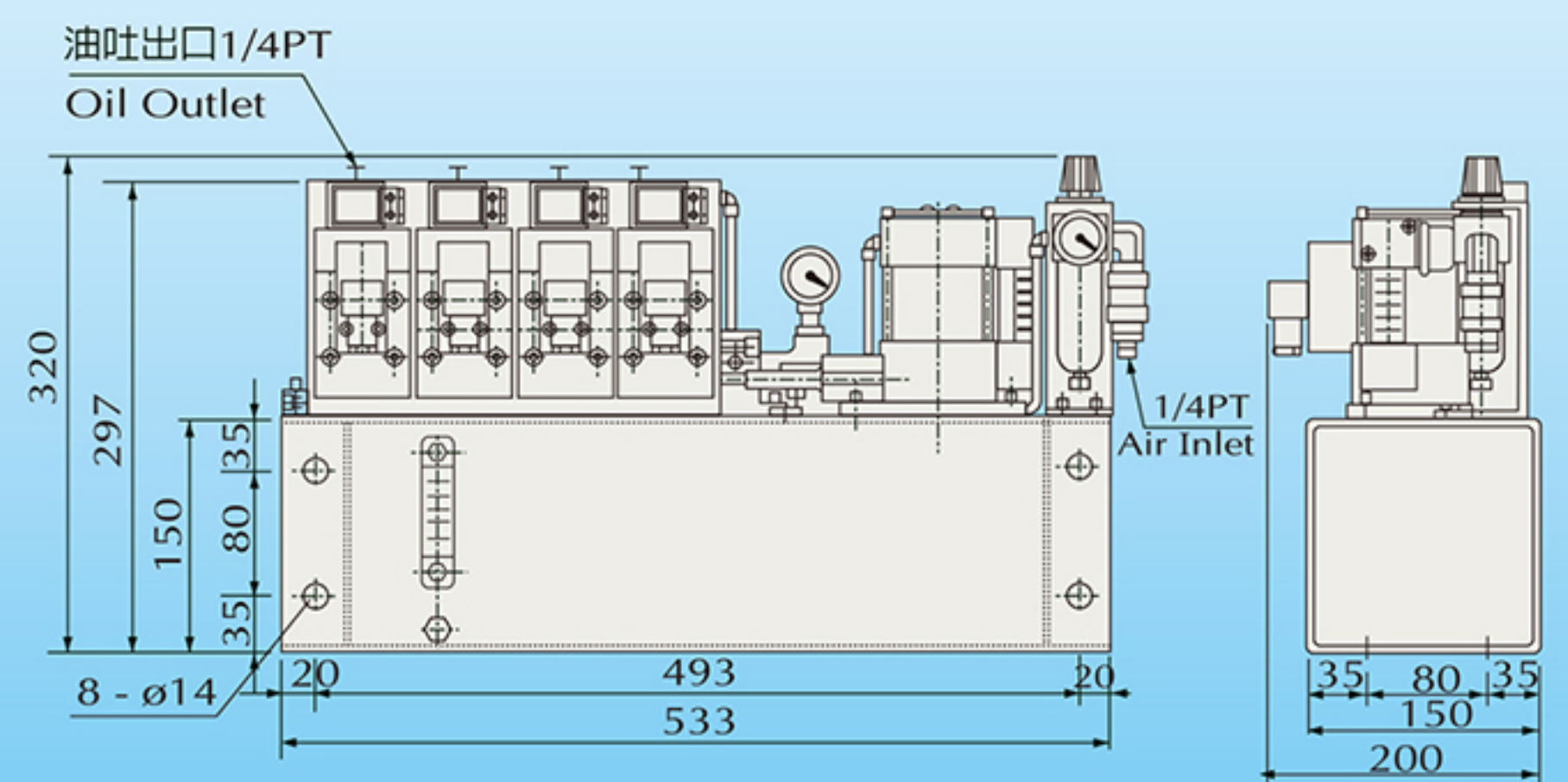
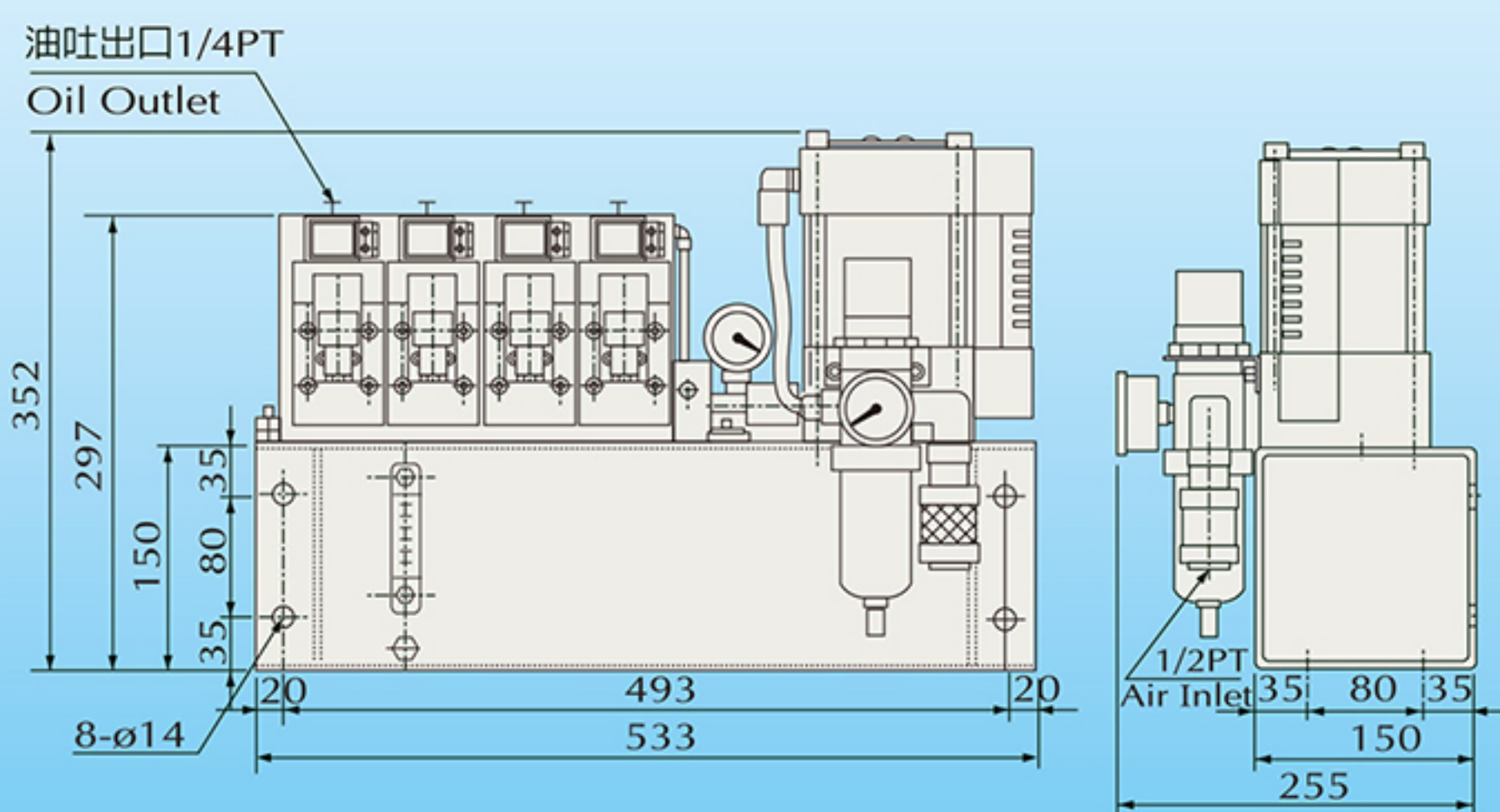
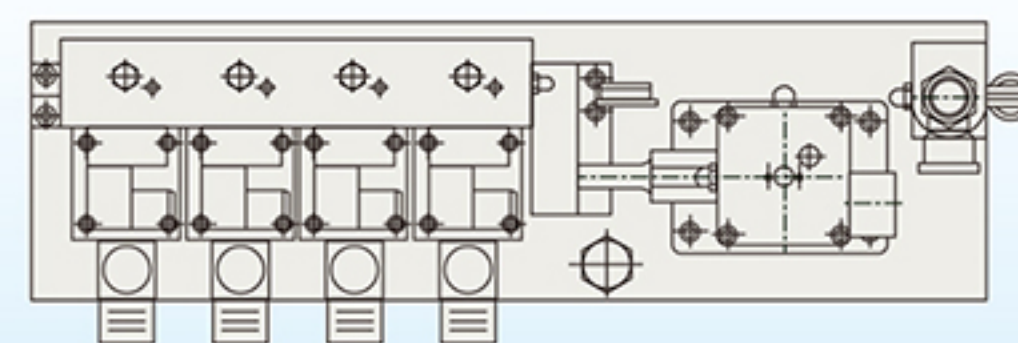
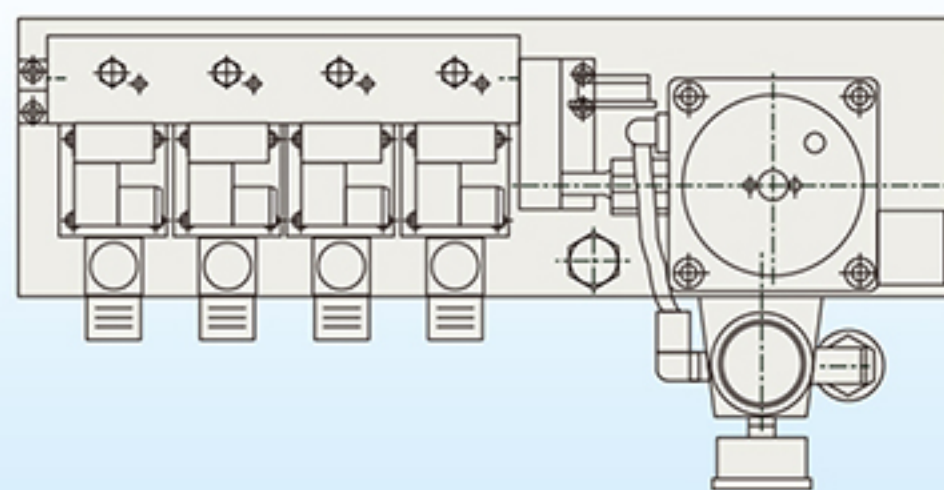
氣動泵組合 AIR DRIVING PUMP UNITS

\*大陸專利號：ZL 01 2 66203.8



FP1014U-4-4C

FP6308U-4-4C



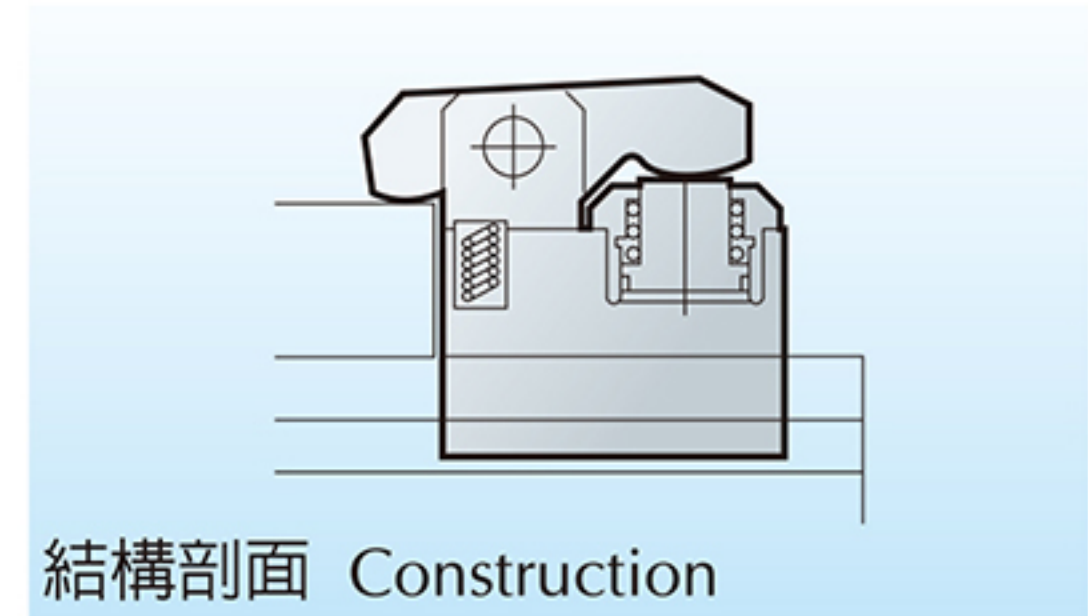
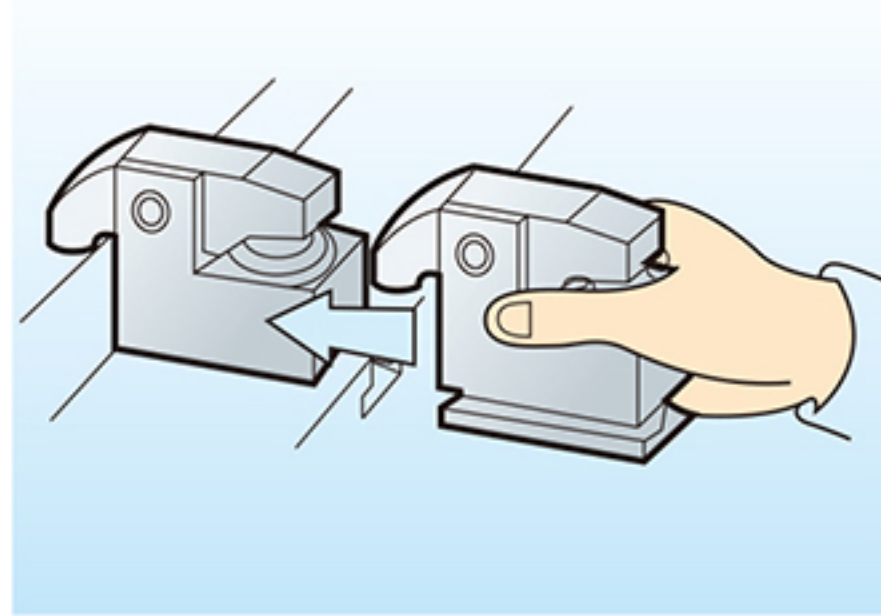
## TY型夾模器 / TY TYPE DIE CLAMP

此型夾模器以槓桿原理作用，夾持模沿，並不需"U"溝因此有更寬廣的適用範圍。

Because this lever-type clamp does not require a U-cut on the die shoe, it may be used in a wide range of applications. The base of the clamp is machine to fit the T-slot on the bolster. The flange-mount model clamp may be bolted onto the bolster. The automatic slider model makes remote control possible.



夾模器 DIE CLAMP



結構剖面 Construction

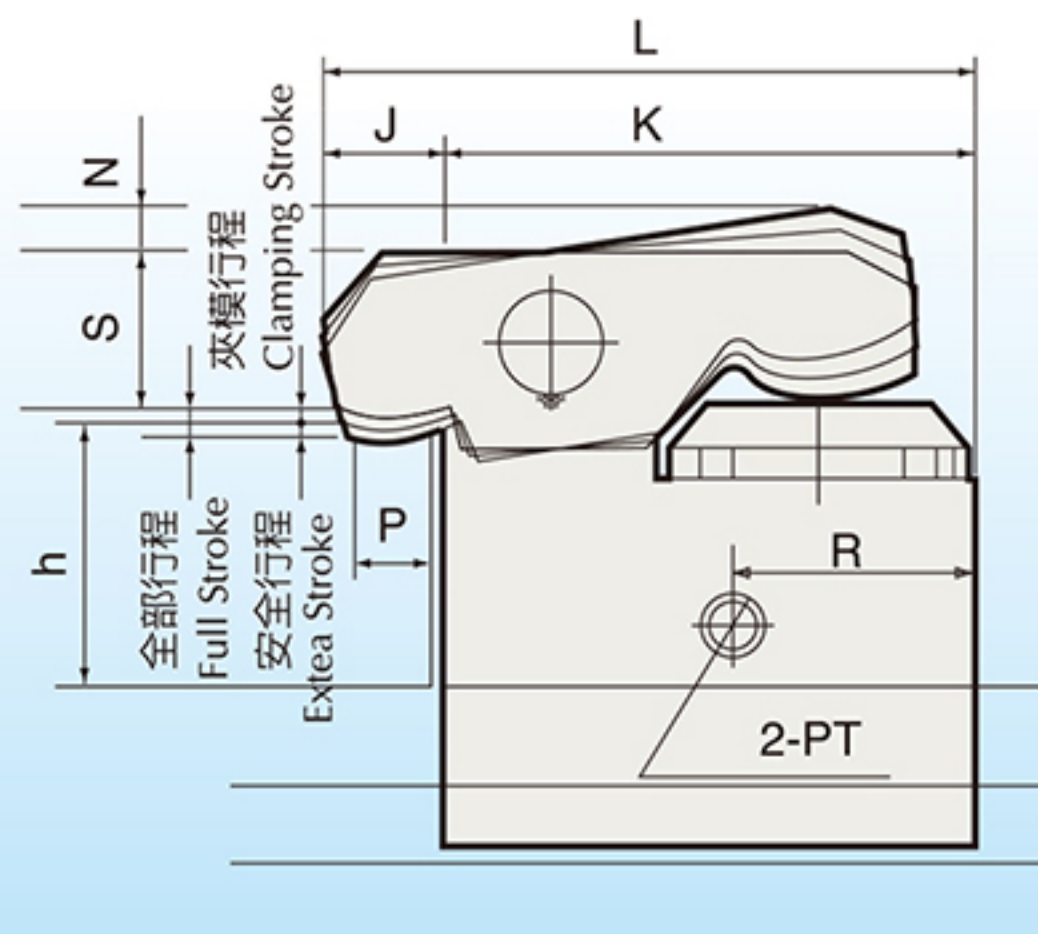
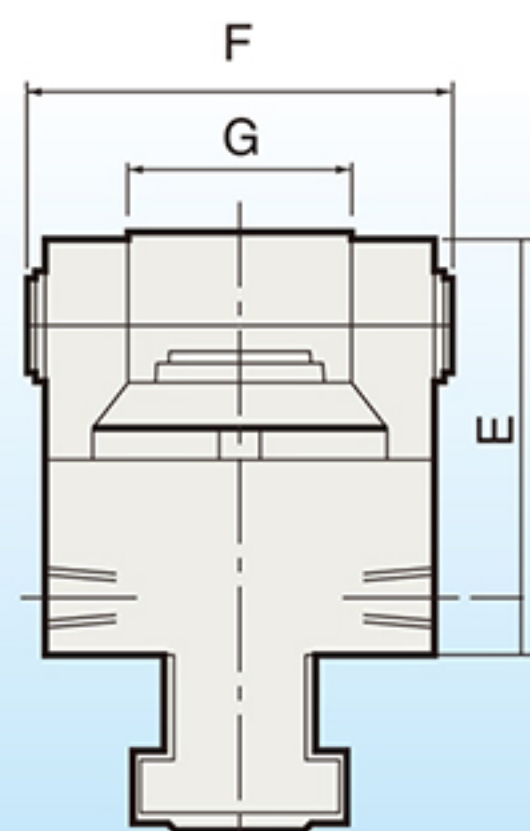
### 特性規格 Specifications

型號 Model	TY2	TY4	TY6	TY10	TY16	TY25
夾持力(於油壓250Kg/cm <sup>2</sup> )tons Clamping Force (at 250kgf/cm <sup>2</sup> )	2	4	6.3	10	16	25
全部行程(X)mm Full Stroke mm	7	7	8	8	8	8
夾模行程(Y)mm Clamping Stroke mm	2	3	4	3	3	3
安全行程(Z)mm Extra Stroke mm	5	4	4	5	5	5
夾模器缸體容量(全行程)cc Cylinder Capacity at Full Stroke cc	6.5	13.2	22.3	37	61	93

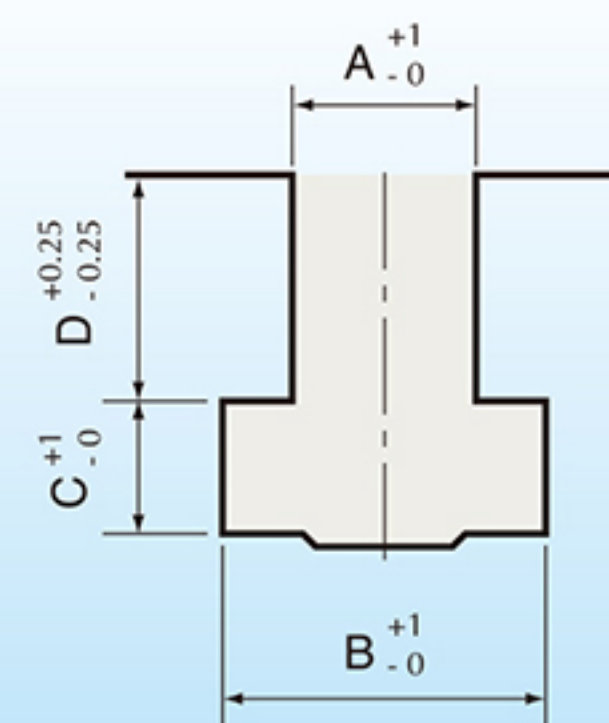
(註)：\*安全行程為全部行程與夾模行程之差值，為特別的安全裕留量。  
Extra Stroke is the difference value between full stroke and clamping stroke with the extra space for safe operation.

\*大陸專利號：ZL 01 2 67208.4

### 外型尺寸 / OUTLINE DIMENSIONS



"T"槽尺寸



型號 Model	MIN.E	F	G	J	K	L	MAX.N	P	R	MIN.S	PT	MIN.C
TY2	59	65	28	22	85	107	10	12.5	48	27	1/8	9.5
TY4	85	87	40	30	120	150	10	16	58	33	1/4	12
TY6	94	97	44	34.5	133	167.5	11	20	68	40	1/4	14
TY10	105	110	50	30	165	195	11	20	82	53	1/4	16.5
TY16	120	125	60	35	200	235	12	20	96	67	1/4	19
TY25	133	155	73	35	240	275	13	20	110	81	1/4	22

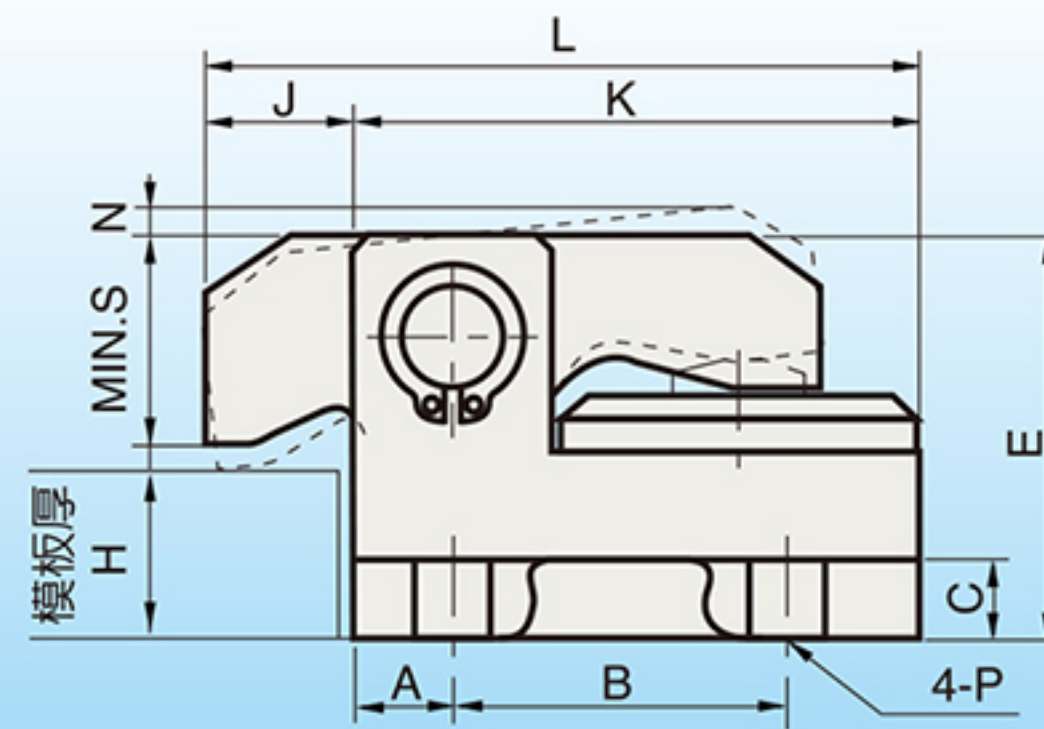
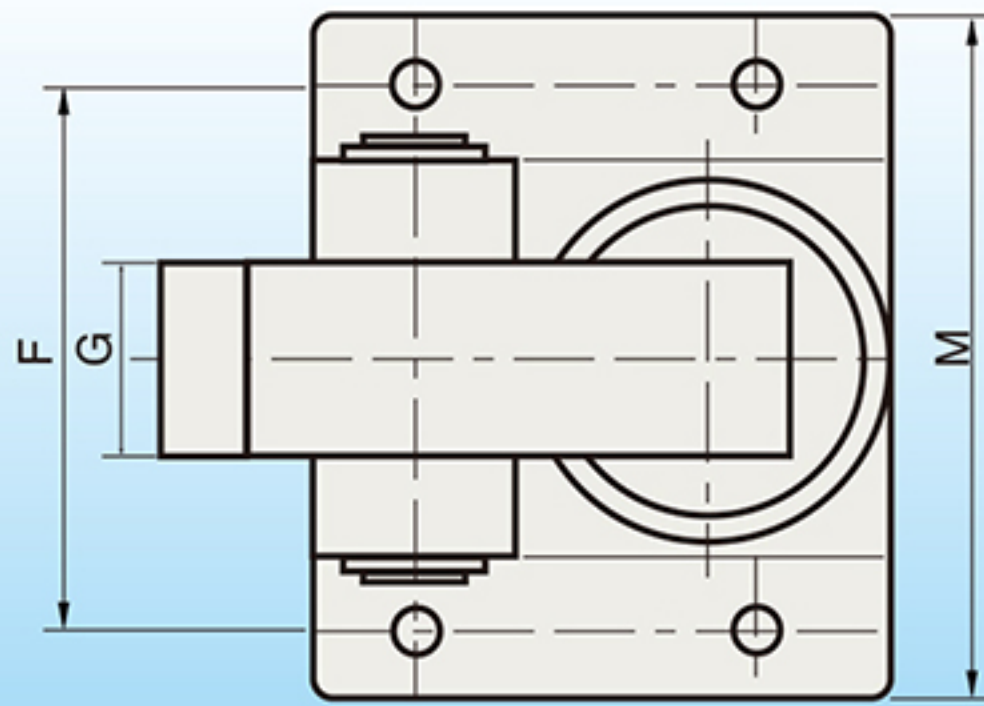
型號 Model	A	B	C	D	選用泵浦 Power units model
TY-2	22	37	16	24	FP6308U-□-□
TY-4	22	37	16	24	
TY-6	28	48	20	28	
TY-10	28	48	20	28	FP1014U-□-□
TY-16	28	48	23	28	
TY-25	36	56	25	28	

\*註：模沿厚度(h)及T槽 (A.B.C.D.) 尺寸如為既有(特殊)尺寸，請於訂購時確認之。

Before purchase, please verify mold edge thickness (h) and T Slot (A.B.C.D.) as standard or special dimensions.

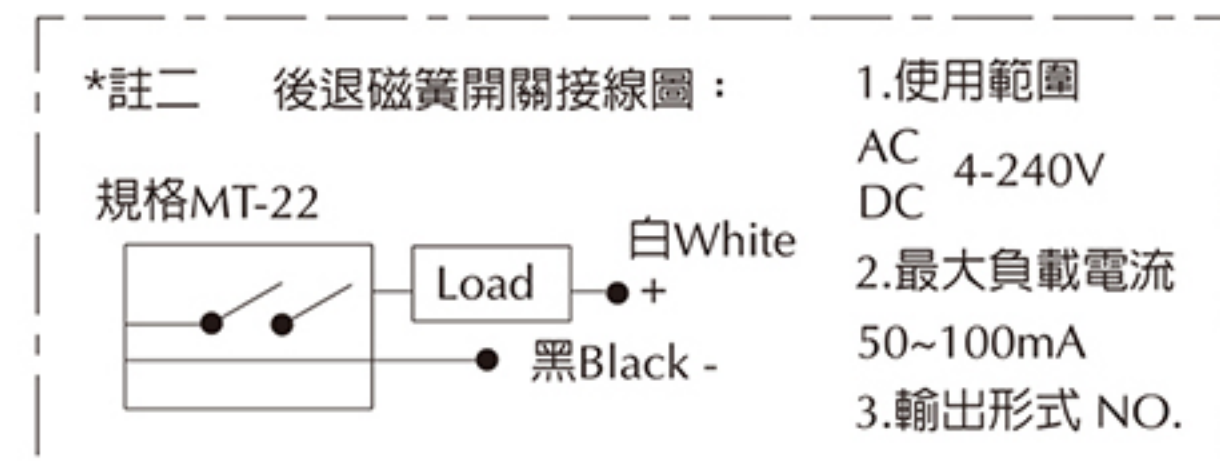
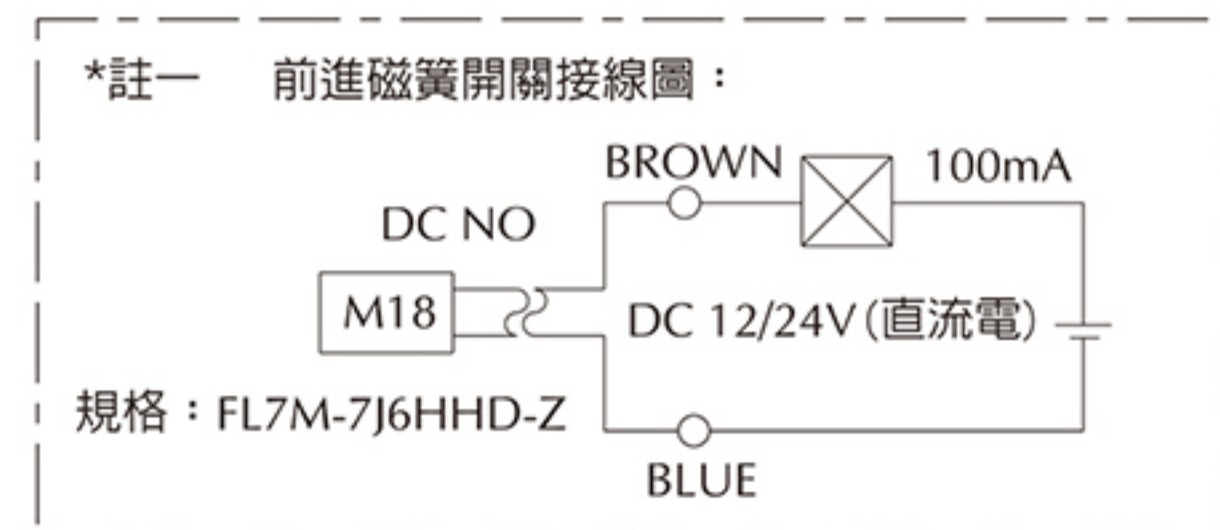
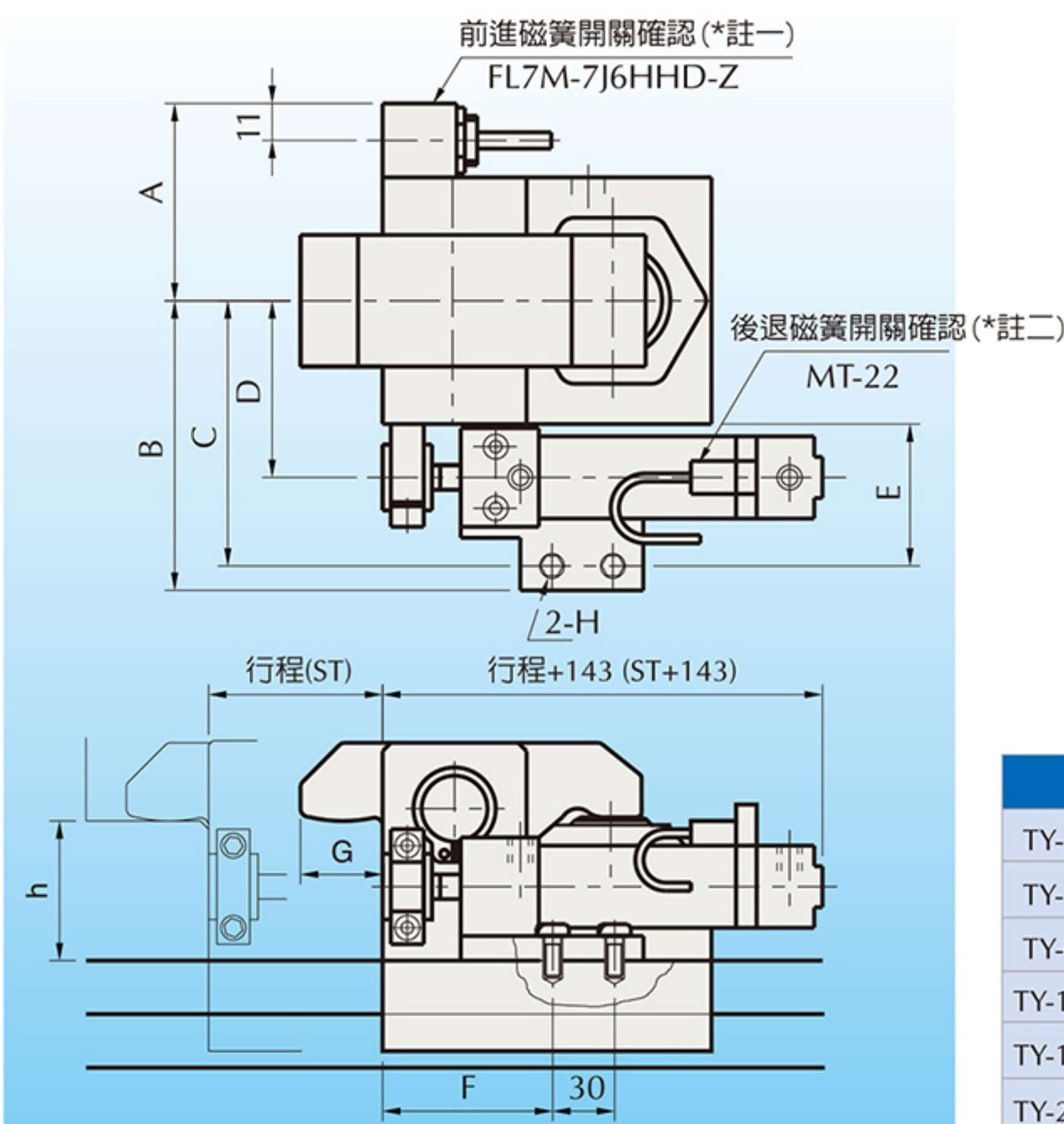
## TY-B型夾模器型號 / TY-B TYPE DIE CLAMP MODELS

### 外型尺寸 Outline Dimensions



型號 Model	A	B	C	MIN.E	F	G	M	J	K	L	N	MIN.S	P
TY-2B	15	50	12	59	80	28	100	22	85	107	10	27	M10X25L 螺絲 Screw
TY-4B	15	72	18	85	110	40	135	30	120	150	10	33	M12X40L 螺絲 Screw
TY-6B	28.5	76	25	94	120	44	150	34.5	133	167.5	11	40	M16X50L 螺絲 Screw

## TY-C型夾模器型號 / TY-C TYPE DIE CLAMP MODELS



	A	B	C	D	E	F	G	H (螺絲：台盤攻牙深度)	氣缸規格
TY-2C	51	93	86	54	57	82	22	M10X25L:ø8.6鑽X25深	MB32*行程
TY-4C	62	104	97	65	57	82	30	M10X25L:ø8.6鑽X25深	MB32*行程
TY-6C	67	127	115	75	70	85	30	M12X25L:ø10.3鑽X25深	MB40*行程
TY-10C	77	132	120	80	70	85	30	M12X25L:ø10.3鑽X25深	MB40*行程
TY-16C	82	142	130	90	70	85	35	M12X25L:ø10.3鑽X25深	MB40*行程
TY-25C	94.5	154.5	142.5	102.5	70	85	35	M12X25L:ø10.3鑽X25深	MB40*行程

## 操作箱 / CONTROL BOX



操作箱面板 CONTROL BOX PANEL

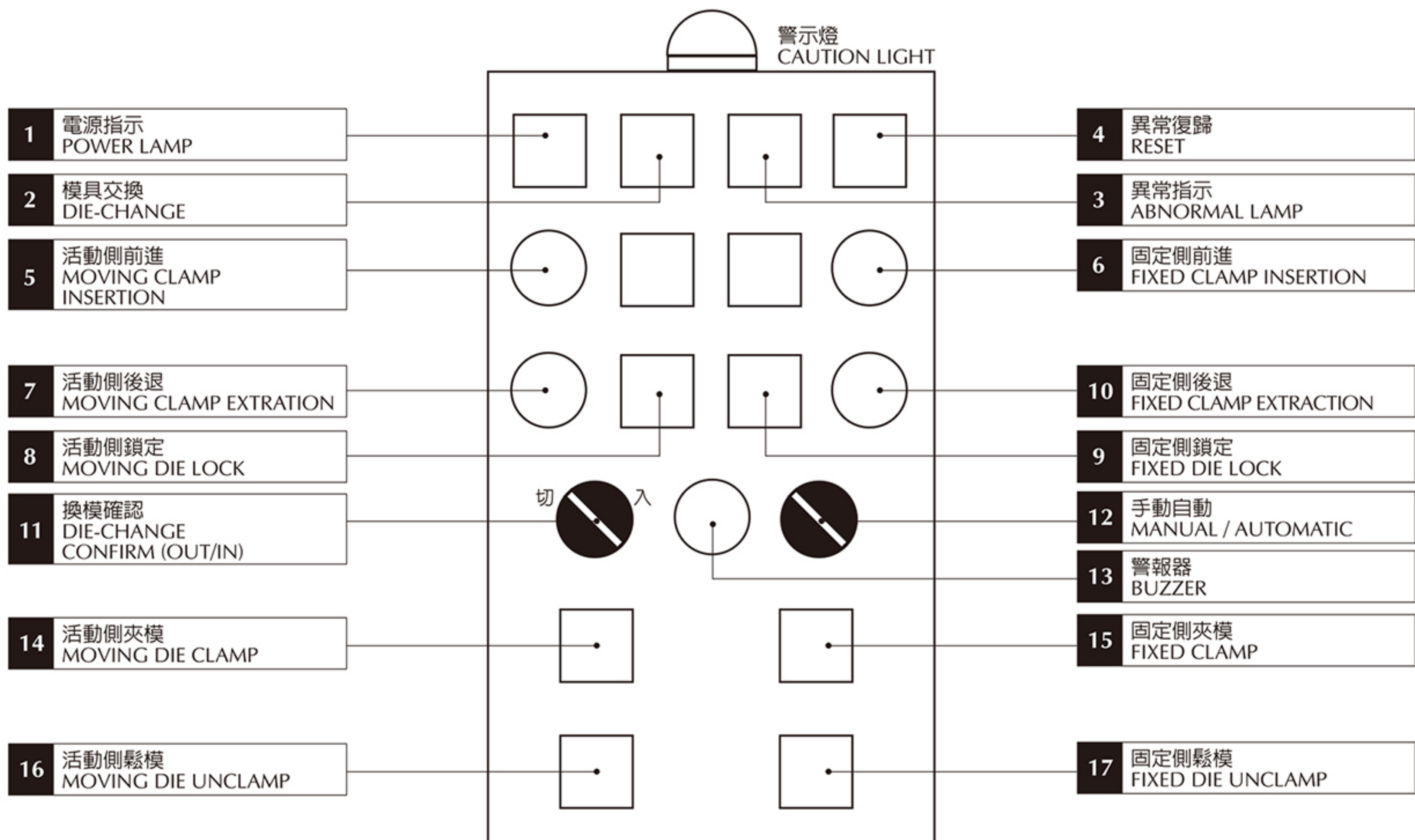
### 操作箱控制鍵說明

操作控制箱為本快速換模系統狀態顯示，與功能操作介面，上半部（1~10）為顯示與自動操作功能，下半部（11~17）為手動操作功能按鍵。

### THE CONTROL PANEL

The control panel offers an interface to monitor and control operations of the quick mold change system.

The upper half of the screen (lines 1-10) displays automatic functions while the lower half (lines 11-17) is used for operator-controlled functions.



## 模具交換方式 / THE WAYS OF MOLD CHANGE

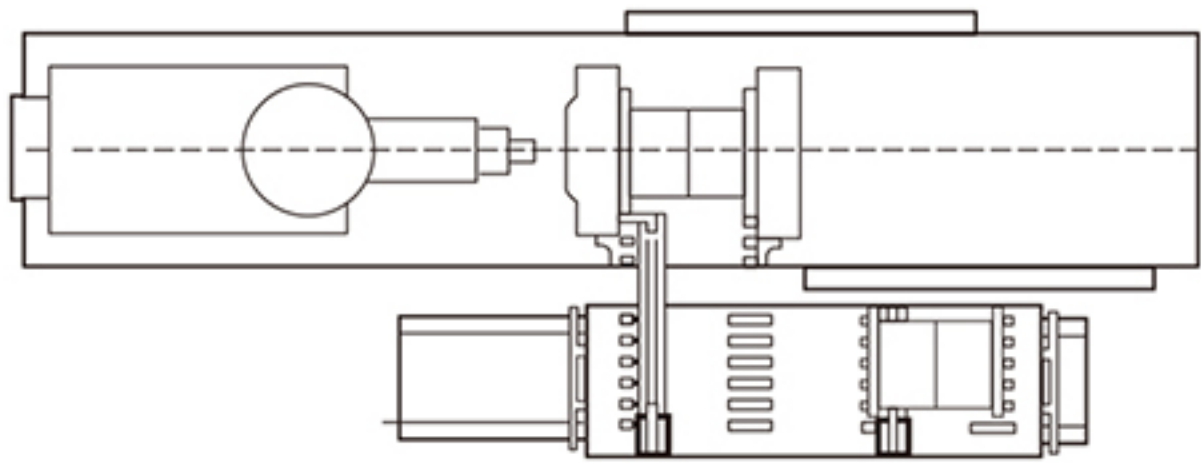
### 系統型：

台車系統能根據廠房型式：射出成型機的配置，模具置放方式等諸條件的不同個別設計之。因此，若新設立工廠時，初期階段即與本公司討論可規劃出更理想的Q.M.C.S換模系統。

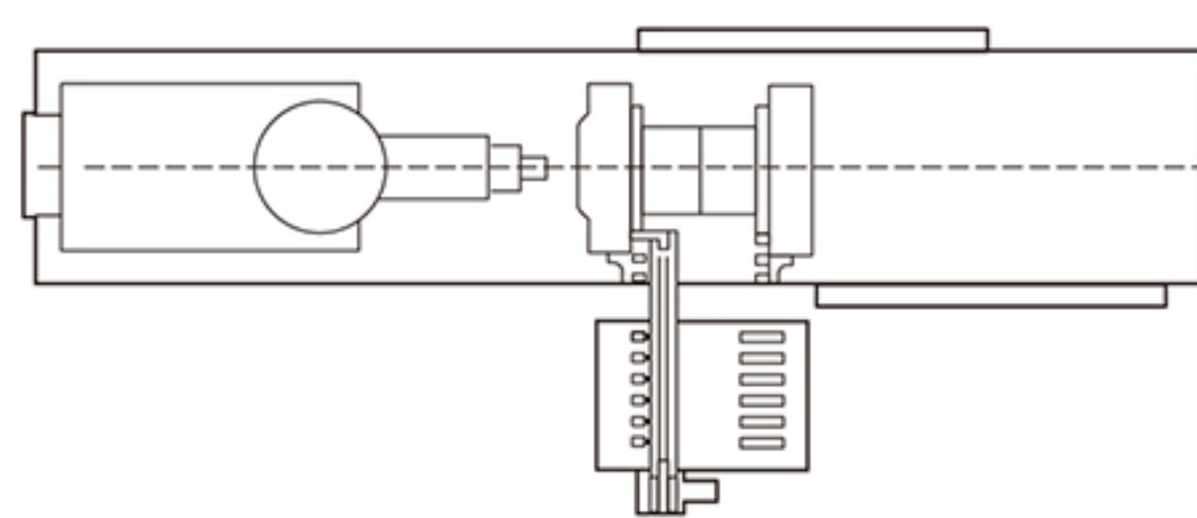
### Q.M.C.S. PLATE

Depend on plant equipments layout and mold store, we can design the best quick mold change system. When you establish new plant, please discuss with us.

#### A：雙模具移動台車 Double molds on moving cart

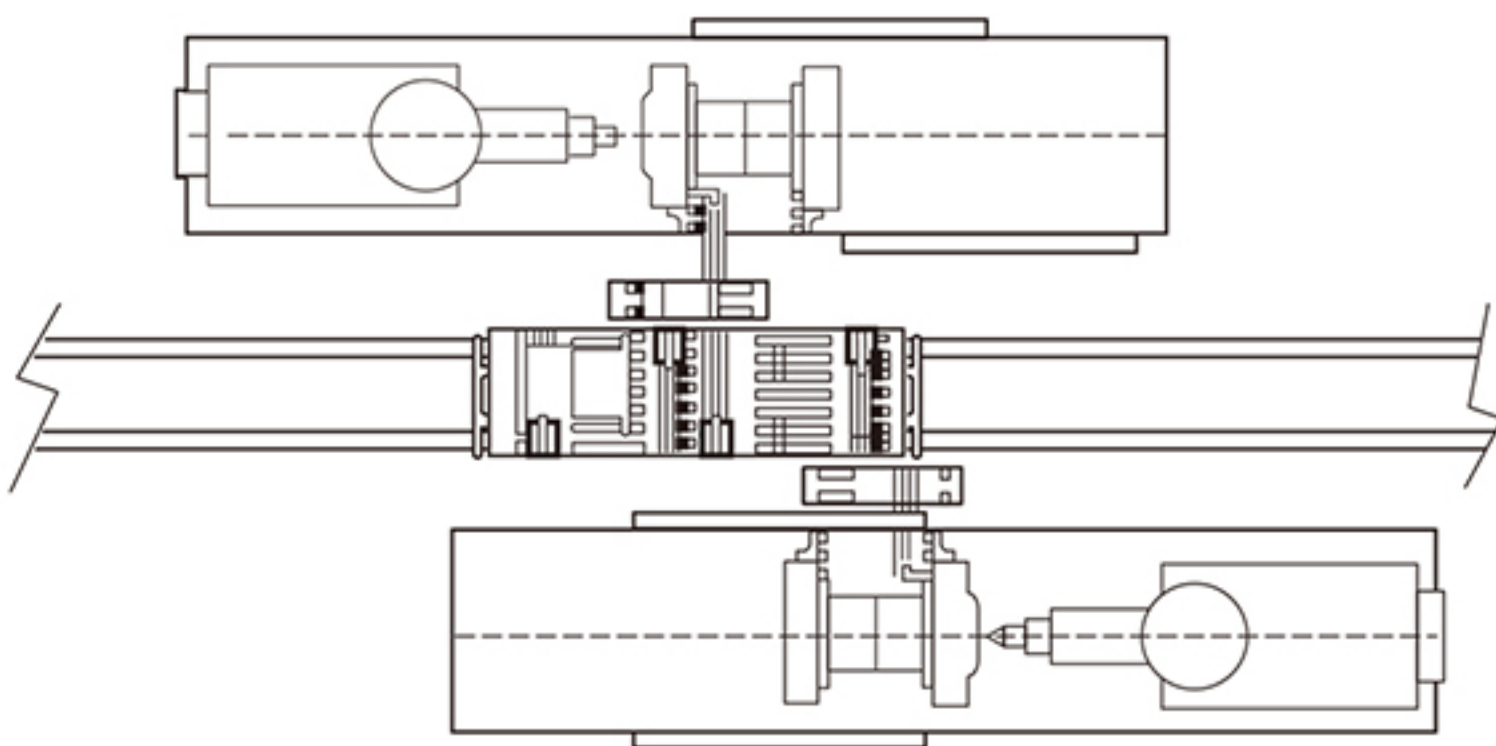


#### B：單模具固定台車 Single mold & Fixed cart

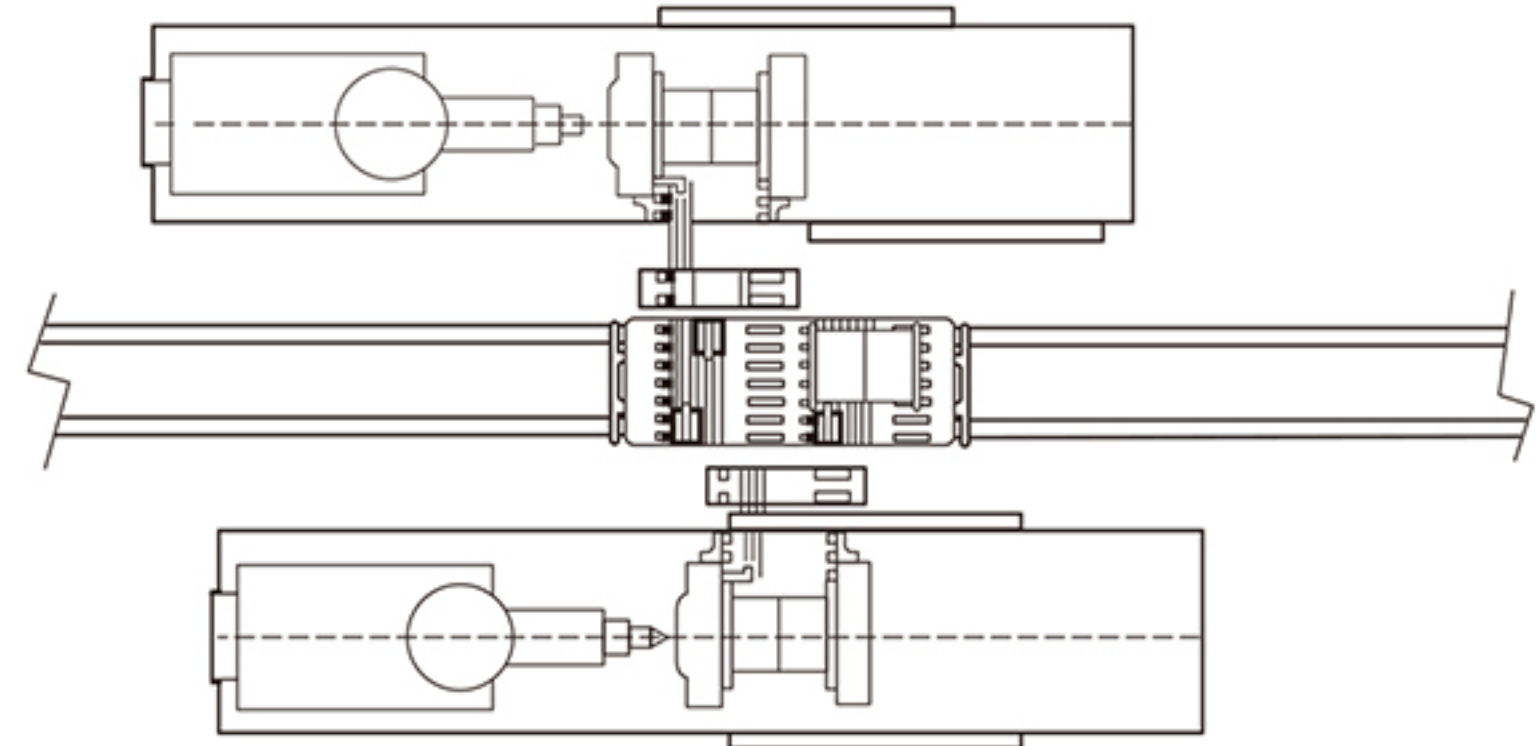


#### C：雙向移動台車 Two side moving cart

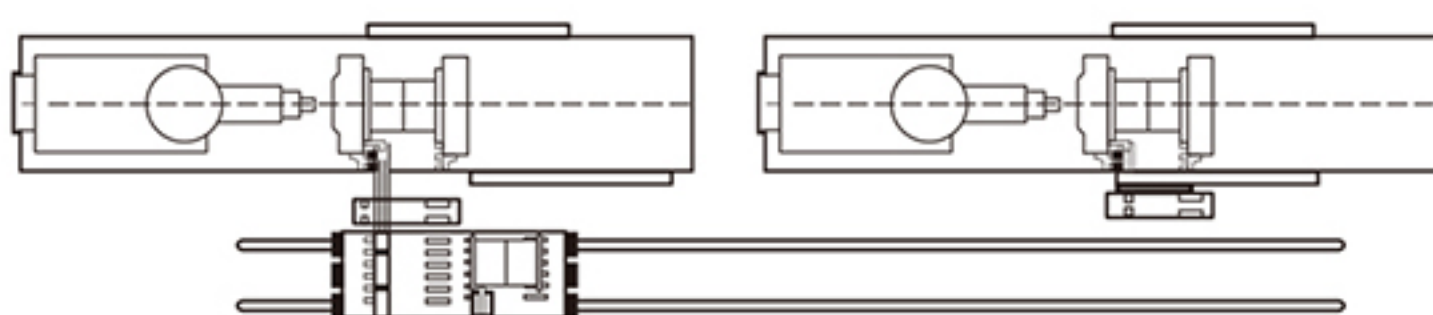
(設備相反方向) (Equipments are reverse direction)



(設備同一方向) (Equipments are same direction)

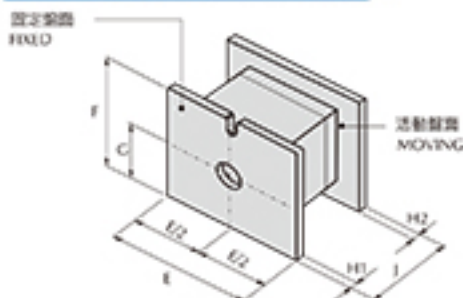


#### D：直列式共用移動台車 Parallel type with moving cart



## 訂購資料表 / QUOTATION INFORMATION FORM

## 模具外型尺寸圖 DIE DIMENSIONS



項目 ITEM	E	F	G	J	H1	H2
尺寸 (SIZE)						

mm

- 註：1. 未標示公差處，以一般公差加工  
2. 各鉗孔，以牙孔倒角基準。  
3. 未標示公差處，以一般公差加工

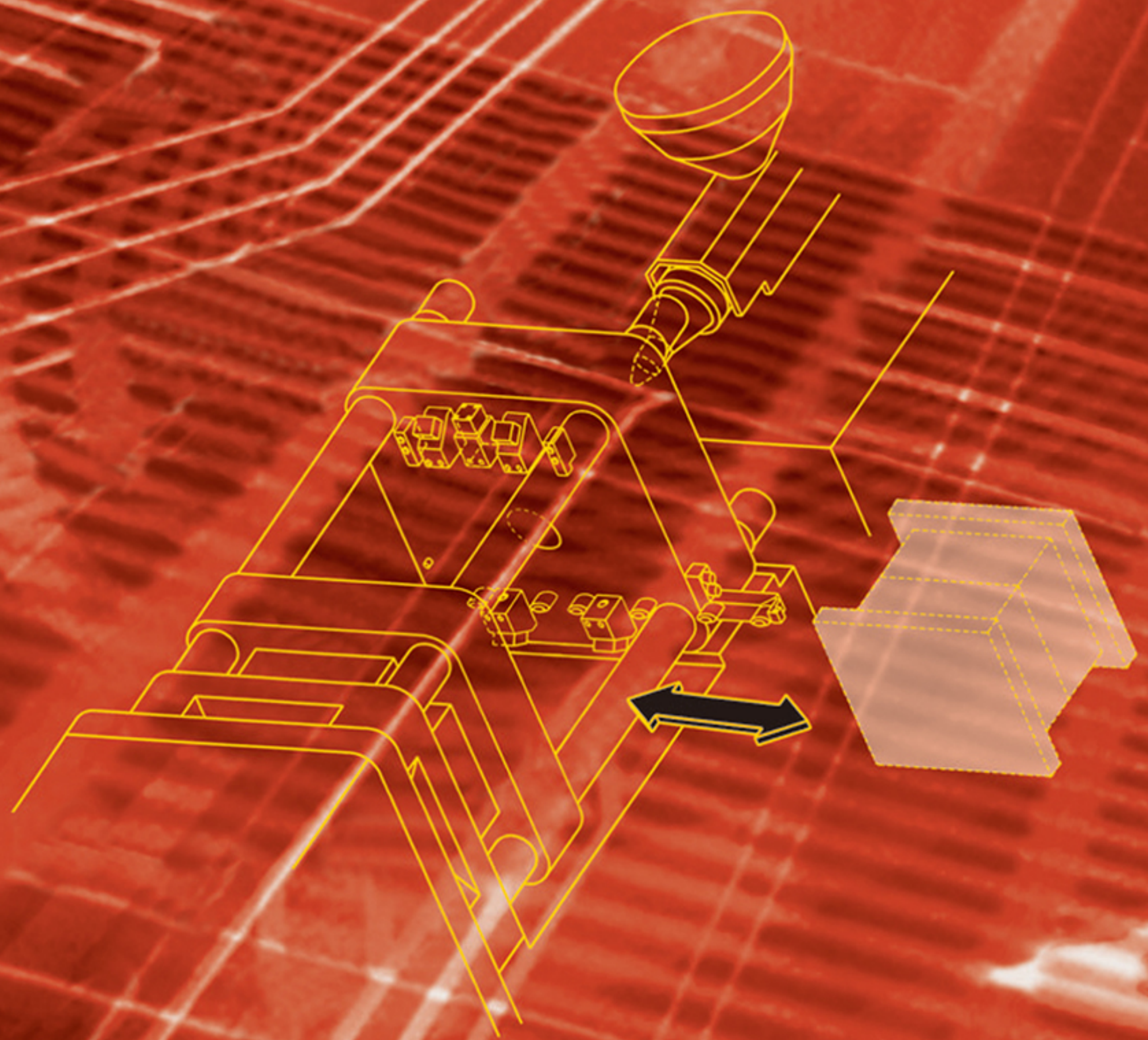
Clamps with a dimension greater than Max. hwd are also optionally available.

(如果您訂購二台以上射出成型機、壓鑄機換模系統，請明列每台射出成型機、壓鑄機資料) (請COPY使用)  
(if you require quotation for more than one press, please copy this form for each machine.)

PART A ABOUT PRESS  設備 部 份	A1	New or Existing 新購或舊有	<input type="checkbox"/> New 新購	<input type="checkbox"/> Existing 舊有		
	A2	Manufacturer and model 製造商及型號	Manufacturer 製造商	Model 型號		
	A3	Tonnage 射出壓鑄能力	<input type="checkbox"/> t	<input type="checkbox"/> US 美制	<input type="checkbox"/> Metric 公制	
	A4	Fixed dimensions 固定台盤尺寸	(E) <input type="text"/>	X(F) mm <input type="text"/>		
	A5	Moving dimensions 活動台盤尺寸	(E) <input type="text"/>	X(F) mm <input type="text"/>		
	A6	T-slot T槽 (詳細測量)	<input type="checkbox"/> Yes 有	<input type="checkbox"/> No 沒有	Dimension 尺寸 A: <input type="text"/> C: <input type="text"/> B: <input type="text"/> D: <input type="text"/>	
PART B ABOUT DIES 模 具 部 份	B1	Max. weight 最大重量	<input type="text"/>	kg (lbs)		
	B2	Max. dimensions 最大尺寸	(W) <input type="text"/>	x(L) <input type="text"/>	x(H) <input type="text"/>	mm (inch)
	B3	U-cut for bolting 螺栓用“U”槽	<input type="checkbox"/> Yes 有	<input type="checkbox"/> No 沒有		
	B4	Die shoe thickness 模具連錄厚度	<input type="text"/>	mm (inch)		
	B5	Bottom 模具底部	<input type="checkbox"/> Plain 平面	<input type="checkbox"/> Lattice 格子狀		
	B6	Special requirements 特殊需求	<input type="text"/>			

## FROM

公司名稱 / COMPANY: \_\_\_\_\_ | 連絡人 / ATTN: \_\_\_\_\_  
 地址 / ADD: \_\_\_\_\_  
 電話 / TEL: \_\_\_\_\_ | 傳真 / FAX: \_\_\_\_\_



**FORWELL**™

品質、服務、創新

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富偉公司最新國際行銷組員一覽表 International Marketing Staff of FORWELL

