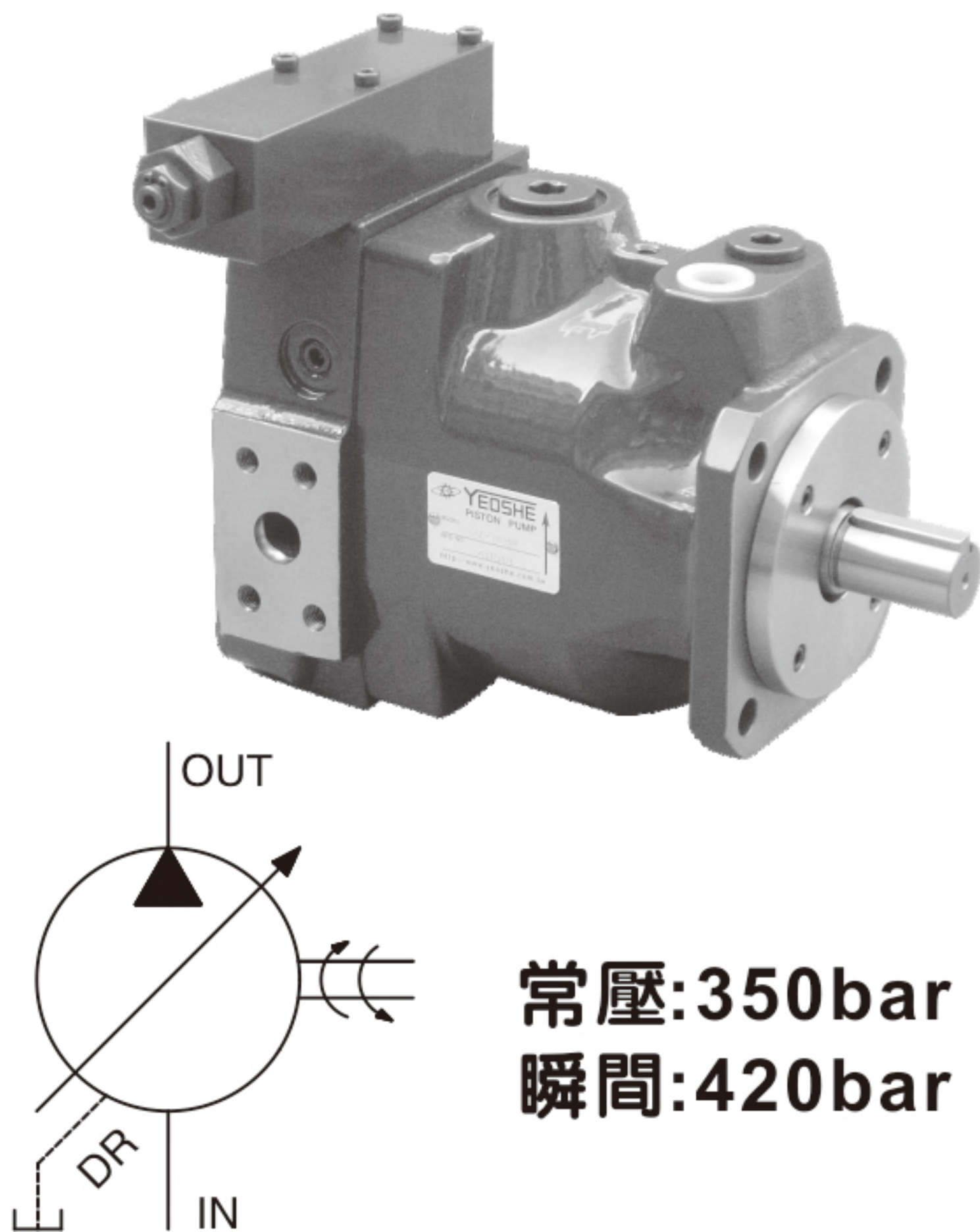


PV 系列可變量軸向柱塞泵
PV Series Axial Piston Pump



- 1.新式斜板轉軸結構、大型補償活塞、使震動噪音、流量震動大幅改善。
- 2.鋼性的結構和高轉速低摩擦的構造，使油泵的壽命、效率更佳理想化。
- 3.使用模組化設計，使控制機構更加多元化，設計者容易自行變化控制功能。
- 4.強力的通軸設計，可雙聯、多聯或與其他油泵連接。
- 5.經由省能源泵控制系統的應用，可大幅改善電力消耗、油溫的上升、系統精度與壽命。
- 6.廣泛應用於車輛工業、船舶、鍛壓、輪胎機、注塑機、機床、專用機。

- 1.New type of swash plate and large servo pistons with strong bias spring achieve fast response, reduce the noise due to active decompression of system at down stroke.
- 2.Nine piston and new precompression technology(precompression filter volume) result in unbeaten low outlet flow pulsation.
Complete compensator program.
- 3.Rigid and FEM-optimized body design for lowest noise level.
- 4.Thru drive for 100% nominal torque.
- 5.Pump combinations(tandem pumps) of same size and model and mounting interface for basically all metric or SAE mounting interfaces.

規格表 Quick Reference Data Chart

型式 Model	吐出量 Displacement		吐出量 Pump Delivery(7Bar)100 PSI						
			1200 RPM		1500 RPM		1800 RPM		
	cc/rev	ln3/rev	LPM	U.S.GPM	LPM	U.S.GPM	LPM	U.S.GPM	
PV016	16	0.98	19.2	5.1	24	6.3	28.8	7.6	
PV020	20	1.2	24	6.3	30	7.9	36	9.5	
PV023	23	1.4	27.6	7.3	34.5	9.1	41.4	10.9	
PV032	32	19	38.4	10.1	48	12.7	57.6	15.2	
PV040	40	2.4	48	12.7	60	15.9	72	19	
PV046	46	2.8	55.2	14.6	69	18.2	82.8	21.9	
PV063	63	3.8	75.6	20	94.5	25	113.4	30	
PV071	71	4.3	85.8	22.7	107	28.3	128.7	34	
PV080	80	4.8	96	25.4	120	31.7	144	38	
PV092	92	5.6	110.4	29.2	138	36.5	165.6	43.8	
PV140	140	8.5	168	44.4	210	55.5	252.1	66.6	
PV180	180	11	216	57.1	270	71.3	324	85.6	
PV270	270	16.5	324	85.6	405	107	486	128.4	
型式 Model	噪音等級 APPROX.Noise Levels Db(A)Full Flow and 1500 RPM			輸入馬力 Input House Power, Max.Displacement&345bar(5000PSI)		轉速 Operating Speed		重量 Weight	
	70 bar (1KSI)	207 bar (3KSI)	343 bar (5KSI)	1500RPM	1800RPM	Max.	Min.		
				KW(hp)	KW(hp)	RPM	RPM	KG	LB
PV016	56	60	68	15.5(20.8)	18.5(24.8)	2750	300	19	41.8
PV020				19.5(26.1)	23.4(31.4)				
PV023				22.5(30.2)	25.1(33.6)				
PV032	59	62	69	31(41.6)	35.1(47.1)	2400		30	66
PV040				39(52.3)	46.5(62.3)				
PV046				45(60.3)	50.2(67.3)				
PV063	66	70	74	61.5(82.4)	70.1(94)	2100		60	132
PV071				70(93.8)	80(107.2)	2100			
PV080				78(104.6)	89.2(119.6)	2000			
PV092				89.5(120)	136.8(183.4)	1900			
PV140	70	74	76	136(182.3)	149.4(200.3)	2200		90	198
PV180	71	75	77	175(235)	210(282)	2200			
PV270	77	79	81	263(353)	298(400)	1800		172	378.4

- 1.油泵使用安裝位置，洩油口朝上，管路背壓低於 2bar 單獨回油箱。
- 2.最高壓力使用，每一循環運轉時間不超過 6 秒、液壓油清潔規範，請參見使用說明書。
- 3.油昇提供多聯油泵，亦可與其他型式油泵連結，聯結方式採用標準的公制連接尺寸和 SAE 連接尺寸。

- 1. Installation outlet port top, the pipe have to less than 2bar.
- 2. The use of max. pressure override 6 min, hydraulic oil clean that see General Installation Information.
- 3. Yeoshe offer tandem pumps, and other pumps connection, the connection type use metric veesion and SAE version dimensions.

PV 軸向柱塞泵



型號說明
Order No.



PV 系列
Series

063 規格排量
Size and Displacement

GT 調節器
Compensator

R 旋轉方向
Rotation

M 連接
Mounting

1 螺紋
Threads

A 通軸裝配
Thru drive & 2nd pump

電壓
Voltage

油封
Seals

設計番號
Design No.

PV系列高壓型可變排量軸向柱塞泵
Axial piston pump variable displacement high pressure version

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代號 code	調節器 Compensator
標準型壓力調節器 Standard Type	
A2	10 ~ 140bar,心軸+鎖母
A3	40 ~ 210bar,心軸+鎖母
A4	70 ~ 350bar,心軸+鎖母
遙控型調節器 Remote Type	
GT	遙控型調節器 Remote Pressure compensator
GM	疊式遙控型調節器 Remote Pressure compensator allows a pilot valve
GA	疊式遙控型調節器(含溢流閥) Remote Pressure compensator allows a pilot valve(valve included)
GJ	疊式遙控型調節器(含比例閥) Layer Proportional pressure compensator(valve included)
電控卸載型調節器 Electrical unloading Type	
GR	電控卸載型調節器 Electrical unloading
GB	兩段壓力調節器Dual pressure control
GC	兩段壓力調節器+電控卸載調節器Dual pressure+electrical unloading
負載感應型調節器 Load-sensing Type	
HL	負載感應型調節器Load-sensing Type
HM	疊式負載感應型調節器Load-sensing Type
HJ	疊式雙閥負載感應型調節器2-valve load-sensing Type(valve included)
HA	疊式雙閥負載感應型調節器(含溢流閥)2-valve load-sensing Type
HK	負載感應+比例壓力比例流量調節器Proportional electro-hydraulic load sensing type
HQ	負載感應+比例流量調節器Load-sensing & Proportional flow control
比例流量調節器 Proportionable displacement Type	
FV	比例流量調節器Proportionable displacement control
FR	比例流量、壓力調節器Proportionable displacement control with pressure
FG	比例流量、壓力、壓力感應調節器Proportionable displacement control with pressure control
定馬力調節器Horse power Type	
PA ☐	疊式定馬力調節器Horse power compensator
PM ☐	疊式定馬力調節器(含溢流閥)Horse power compensator,pilot flow internal pressure pilot valv (valve included)
PG ☐	定馬力外接遙控調節器Horse power compensator,pilot flow internal
PL ☐	定馬力+外控壓力+負載感應調節器Horse power compensator, Load-sensing compensator
PH ☐	疊式定馬力+負載感應Horse power compensator,pilot flow external for load-sensing

代號 code	規格排量 Displacement cm3/rev(In3/rev)
016	16(0.98)
020	20(1.2)
023	23(1.4)
032	32(1.9)
040	40(2.4)
046	46(2.8)
063	63(3.8)
071	71(4.3)
080	80(4.8)
092	92(5.6)
140	140(8.5)
180	180(10.9)
270	270(16.5)

代號 code	旋轉方向 Rotation
R	clockwise
L	counterclockwise

代號 code	馬力 Horse power	PV016 ~ PV023	PV032 ~ PV046	PV063 ~ PV092	PV140	PV180	PV270
A	3KW	●					
B	4KW	●					
C	5.5KW	●	●				
D	7.5KW	●	●				
E	11KW	●	●	●			
F	15KW		●	●			
G	18.5KW		●	●	●		
H	22KW		●	●	●	●	
I	30KW			●	●	●	
J	37KW			●	●	●	●
K	45KW			●	●	●	●
L	55KW				●	●	●
M	75KW					●	●
N	90KW					●	●
O	110KW						●
P	132KW						●

PV Axial Piston Pump

YEOSHE

型號說明
Order No.

PV

系列

Series

063

規格排量

Size and Displacement

GT

調節器

Compensator

R

旋轉方向

Rotation

M

連接

Mounting

1

螺紋

Threads

A

通軸裝配

Thru drive& 2nd pump

電壓

Voltage

油封

Seals

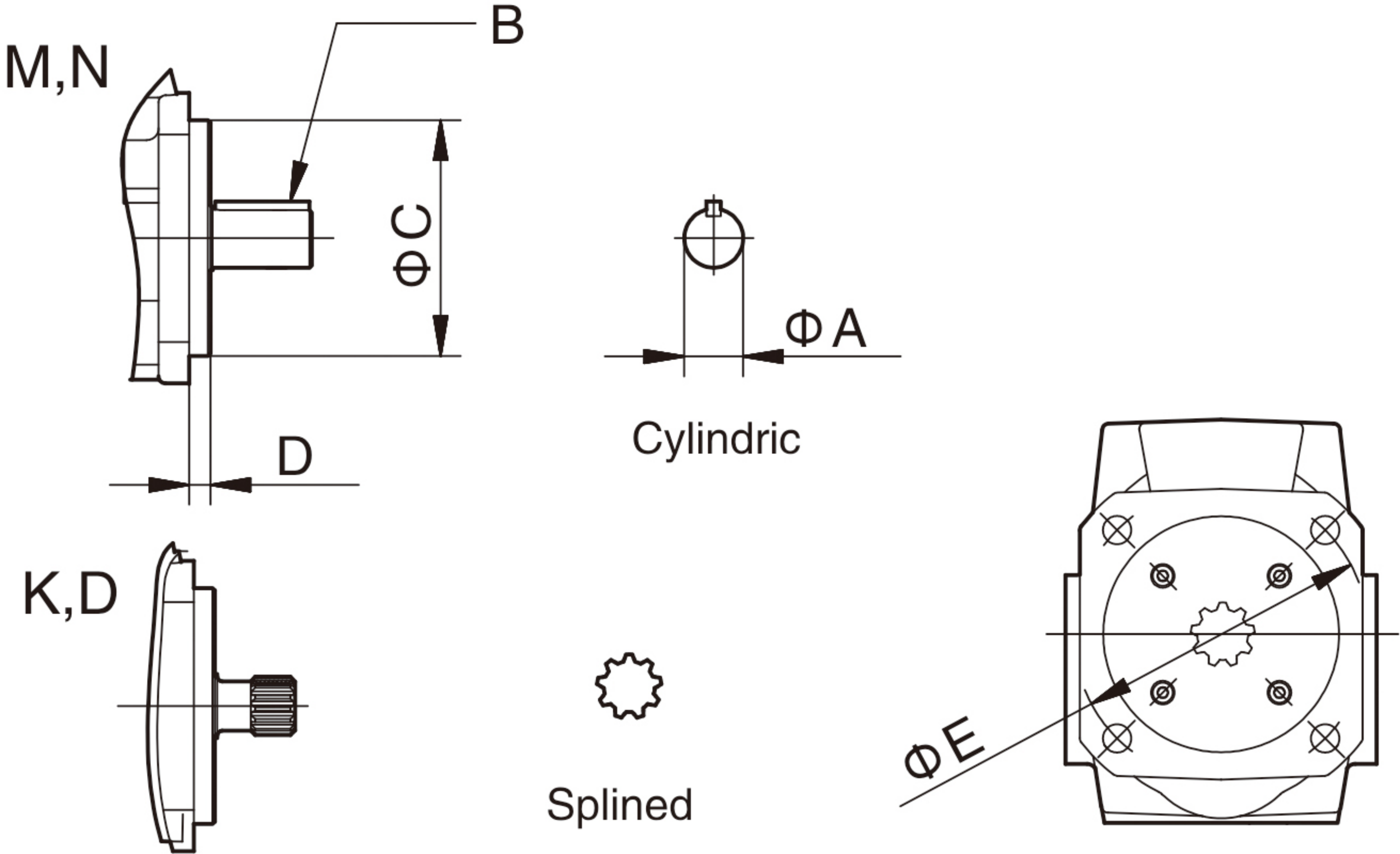
設計番號

Design No.

代號 code	連結方式 Mounting	
※ M(standard)	公制	ISO3019/2 Cylindric, key
K	Metric	ISO3019/2 Splined, DIN5480
N	英制	ISO3019/1 Cylindric, key
D	Inch	ISO3019/1 Splined, SAE

代號 code	螺紋 Threads
※ 1(standard)	BSPP(G)
2	PT(RC)
3	UNF
4	NPT
7	ISO6149

代號 code		型式 model	軸心 shaft		法蘭 flange		連接 mounting
			A	B	C	D	E
※ M	公制 Metric	PV016 ~ PV023	Φ25	8x7x40	Φ100	9	Φ125
		PV032 ~ PV046	Φ32	10x8x56	Φ125	9	Φ160
		PV063 ~ PV092	Φ40	12x8x80	Φ160	9	Φ200
		PV140 ~ PV180	Φ50	12x8x80	Φ160	9	Φ200
		PV270	Φ65	12x8x80	Φ200	9	Φ250
K	公制 Metric	PV016 ~ PV023	W25x1.5x15x8f DIN5480		Φ100	9	Φ125
		PV032 ~ PV046	W32x1.5x20x8f DIN5480		Φ125	9	Φ160
		PV063 ~ PV092	W40x1.5x25x8f DIN5480		Φ160	9	Φ200
		PV140 ~ PV180	W50x2x24x9g DIN5480		Φ160	9	Φ200
		PV270	W60x2x28x9g DIN5480		Φ200	9	Φ250
N	英制 Inch	PV016 ~ PV023	Φ1"	0.25" x0.25" x1.6"	Φ4"	3/8"	Φ5"
		PV032 ~ PV046	Φ1-1/4"	5/16" x5/16" x2.2"	Φ5"	1/2"	Φ6.37"
		PV063 ~ PV092	Φ1-3/4"	7/16" x7/16" x3.15"	Φ6"	1/2"	Φ9"
		PV140 ~ PV180	Φ2"	1/2" x1/2" x2.95"	Φ6"	1/2"	Φ9"
		PV270	Φ2"	1/2" x1/2" x2.95"	Φ6.5"	5/8"	Φ12.5"
D	英制 Inch	PV016 ~ PV023	Splined 15T 16/32DP ANSI B92.1		Φ4"	3/8"	Φ5"
		PV032 ~ PV046	Splined 14T 12/24DP ANSI B92.1		Φ5"	1/2"	Φ6.37"
		PV063 ~ PV092	Splined 13T 8/16DP ANSI B92.1		Φ6"	1/2"	Φ9"
		PV140 ~ PV180	Splined 15T 8/16DP ANSI B92.1		Φ6"	1/2"	Φ9"
		PV270	Splined 15T 8/16DP ANSI B92.1		Φ6.5"	5/8"	Φ12.5"



PV 軸向柱塞泵



型號說明
Order No.

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PV	063	GT	R	M	1	A			
系列	規格排量	調節器	旋轉方向	連接	螺紋	通軸裝配	電壓	油封	設計番號
Series	Size and Displacement	Compensator	Rotation	Mounting	Threads	Thru drive& 2nd pump	Voltage	Seals	Design No.

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代號 code	通軸方式 Thru drive&2nd pump	
A(standard)	單泵 Single pump	
B	單泵(附通軸孔) Prepared for thru drive	
單泵(附通軸孔、連結附件) With adaptor for 2nd pump		
C	英制 Inch	SAE AA,Φ2" (Φ50.8mm)
D		SAE A,Φ3-1/4" (Φ82.55mm)
E		SAE B,Φ4" (Φ101.6mm)
F		SAE C,Φ5" (Φ127mm)
G		SAE D,Φ6" (Φ152.4mm)
H		SAE E,Φ6.5" (Φ165.1mm)
I	公制 Metric	Metric,Φ63
J		Metric,Φ80
K		Metric,Φ100
L		Metric,Φ125
M		Metric,Φ160
N		Metric,Φ200
其他規格泵浦可接受訂購 Other pump are acceptable order		

代號 code	電壓 Voltage
0	無電壓控制
A	AC100V(50-60Hz)
B	AC110V(60Hz)
C	AC200V(50-60Hz)
D	AC220V(60Hz)
E	DC12V
F	DC24V

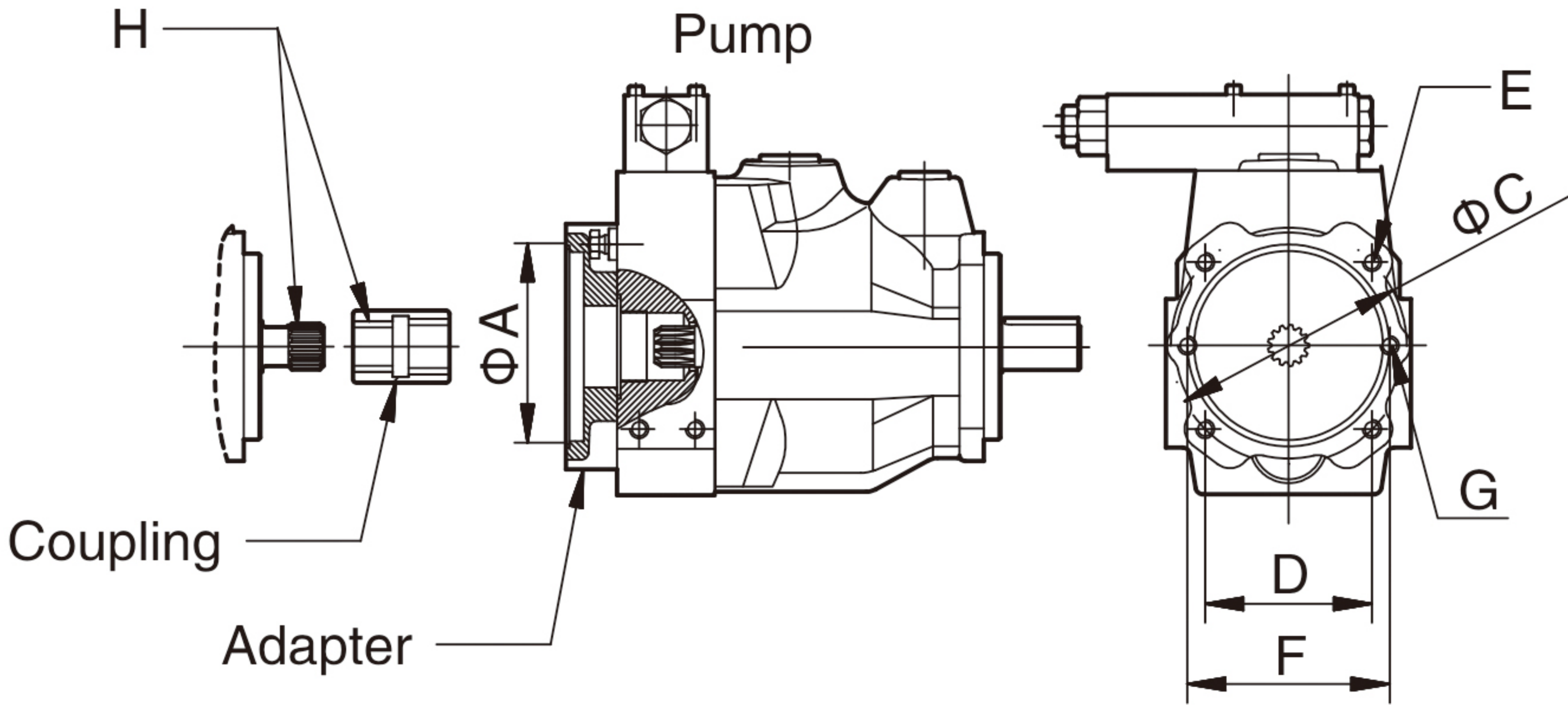
訂貨時不需要
Not require
for order

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代號 code	油封 Seals
N	丁腈橡膠 NBR
V	氟橡膠 FPM
E	乙烯-丙烯 Ethylene-propylene

單泵(附通軸孔、連結附件)Thru drive&2nd pump									
代號 code		型式 Model	ΦA	ΦC	D	E	F	G	H
C	英制 Inch	SAE AA, Φ2" (Φ50.8mm)	Φ2" (Φ50.8)				3.25" (82.55mm)	5/16" -18	9T 20/40 DP
D		SAE A, Φ3-1/4" (Φ82.55mm)	Φ3-1/4" (Φ82.55)				4.188" (106.3mm)	3/8" -16	9T 16/32 DP
E		SAE B, Φ4" (Φ101.6mm)	Φ4" (Φ101.6)		3.536" (89.8mm)	1/2" -13	5.75" (146.05mm)	1/2" -13	13T 16/32 DP 15T 16/32 DP
F		SAE C, Φ5" (Φ127mm)	Φ5" (Φ127)		4.508" (114.5mm)	1/2" -13	7.125" (180.98mm)	5/8" -11	14T 12/24 DP 15T 16/32 DP
G		SAE D, Φ6" (Φ152.4mm)	Φ6" (Φ152.4)		6.364" (161.6mm)	5/8" -11	9" (228.6mm)	5/8" -11	13T 8/16 DP 15T 8/16 DP
H		SAE E, Φ6.5" (Φ165.1mm)	Φ6.5" (Φ165.1)		8.839" (224.5mm)	3/4" -10			15T 8/16 DP
I	公制 Metric	Metric, Φ63	Φ63	Φ85		M8	100	M8	
J		Metric, Φ80	Φ80	Φ103		M8	109	M10	
K		Metric, Φ100	Φ100	Φ125		M10	150	M12	W25x1.5x15x8f
L		Metric, Φ125	Φ125	Φ160		M12	180	M16	W32x1.5x20x8f
M		Metric, Φ160	Φ160	Φ200		M16	224	M20	W40x1.5x25x8f W50x2x24x9g
N		Metric, Φ200	Φ200	Φ250		M20			W50x2x24x9g

聯軸器 Coupling			
代號 code	泵浦 pump	H	
A-D1	PV016 ~ PV023	D1	9T 20/40 DP
A-D2		D2	9T 16/32 DP
A-D3		D3	13T 16/32 DP
A-D4		D4	15T 16/32 DP
A-W1		W1	W25x1.5x15x8f
B-D2	PV032 ~ PV046	D2	9T 16/32 DP
B-D3		D3	13T 16/32 DP
B-D4		D4	15T 16/32 DP
B-D5		D5	14T 12/24 DP
B-W1		W1	W25x1.5x15x8f
B-W2	PV063 ~ PV092	W2	W32x1.5x20x8f
C-D2		D2	9T 16/32 DP
C-D3		D3	13T 16/32 DP
C-D4		D4	15T 16/32 DP
C-D5		D5	14T 12/24 DP
C-D6	PV140 ~ PV180	D6	13T 8/16 DP
C-D7		D7	15T 8/16 DP
C-W1		W1	W25x1.5x15x8f
C-W2		W2	W32x1.5x20x8f
C-W3		W3	W40x1.5x25x8f
C-W4	PV270	W4	W50x2x24x9g
D-D2		D2	9T 16/32 DP
D-D3		D3	13T 16/32 DP
D-D4		D4	15T 16/32 DP
D-D5		D5	14T 12/24 DP
D-D6	PV270	D6	13T 8/16 DP
D-D7		D7	15T 8/16 DP
D-W1		W1	W25x1.5x15x8f
D-W2		W2	W32x1.5x20x8f
D-W3		W3	W40x1.5x25x8f
D-W4	PV270	W4	W50x2x24x9g
E-D2		D2	9T 16/32 DP
E-D3		D3	13T 16/32 DP
E-D4		D4	15T 16/32 DP
E-D5		D5	14T 12/24 DP
E-D6	PV270	D6	13T 8/16 DP
E-D7		D7	15T 8/16 DP
E-W1		W1	W25x1.5x15x8f
E-W2		W2	W32x1.5x20x8f
E-W3		W3	W40x1.5x25x8f
E-W4	PV270	W4	W50x2x24x9g
E-W5		W5	W60x2x28x9g



調節器 Compensator

Stand Type 標準型

A	Standard Pressure compensator	標準型壓力調節器
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Remote Type 遙控型

GT	Remote Pressure compensator	遙控型調節器
GM	Remote Pressure compensator allows a pilot valve	疊式遙控型調節器
GA	Remote Pressure compensator allows a pilot valve with NG6 interface (Relief valve included) Pressure compensator	疊式遙控型調節器 + 溢流閥
GJ	Layer Proportional pressure compensator (Proportional valve included)	疊式遙控型調節器 + 比例閥

Electrical unloading Type 電控卸載型

GR	Electrical unloading	電控卸載型調節器
GD	Electrical unloading with remote	電控卸載型調節器 + 外接遙控
GB	Dual pressure control	電控兩段壓力調節器
GE	Dual pressure control with remote	電控兩段壓力調節器 + 外接遙控
GC	Dual pressure+ electrical unloading	兩段壓力+電控卸載調節器
L	Dual Flow compensator	電控兩段流量調節器

Load-sensing Type 負載感應型

HL	Load-sensing compensator	負載感應型調節器
HM	Load-sensing compensator with NG6 interface	疊式負載感應型調節器
HW	Load-sensing compensator (Relief valve included)	疊式負載感應型調節器 + 溢流閥
HP	Load-sensing compensator (Proportional valve included)	疊式負載感應型調節器 + 比例閥
HJ	2-valve load-sensing compensator with NG6 interface	疊式雙閥負載感應型調節器
HA	2-valve load-sensing compensator (Relief valve included)	疊式雙閥負載感應型調節器 + 溢流閥
HR	2-valve load-sensing compensator (Proportional Valve included)	疊式雙閥負載感應型調節器 + 比例閥

調節器 Compensator

Proportional Pressure, flow Type 比例壓力、流量型

HQ	Load-sensing & Proportional flow control	負載感應+比例流量調節器
HF	2-valve load-sensing & Proportional flow control	雙閥負載感應+比例流量調節器
HK	Load-sensing & Proportional Pressure ,Proportional flow control	負載感應+比例壓力+比例流量調節器
HZ	2-valve load-sensing & Proportional pressure ,Proportional flow control	雙閥負載感應+比例壓力+比例流量調節器
B	Multi-stage Flow & Single-stage Pressure Compensator Control (With Cylinder)	油壓缸型 無段流量變速控制

Horse power Type 恆功率、定馬力型

PA	Horse power compensator with NG6 interface	疊式定馬力調節器
PM	Horse power compensator with NG6 interface (Relief valve included)	疊式定馬力調節器 +溢流閥
PG	Horse power compensator with remote	定馬力+外控壓力調節器
PL	Horse power compensator with remote & Load-sensing compensator	定馬力+外控壓力+負載感應調節器
PH	Horse power compensator with NG6 interface (Relief valve included) & Load-sensing compensator	疊式定馬力 +溢流閥+負載感應調節器

Proportional compensation Type 比例回饋型

FV	Proportional displacement with flow compensation	比例流量+流量回饋控制
FR	Proportional pressure, proportional displacement with flow compensation	比例壓力+比例流量+流量回饋控制
FG	Proportional pressure, proportional displacement with pressure compensation & flow compensation	比例壓力+比例流量+壓力回饋控制+流量回饋控制

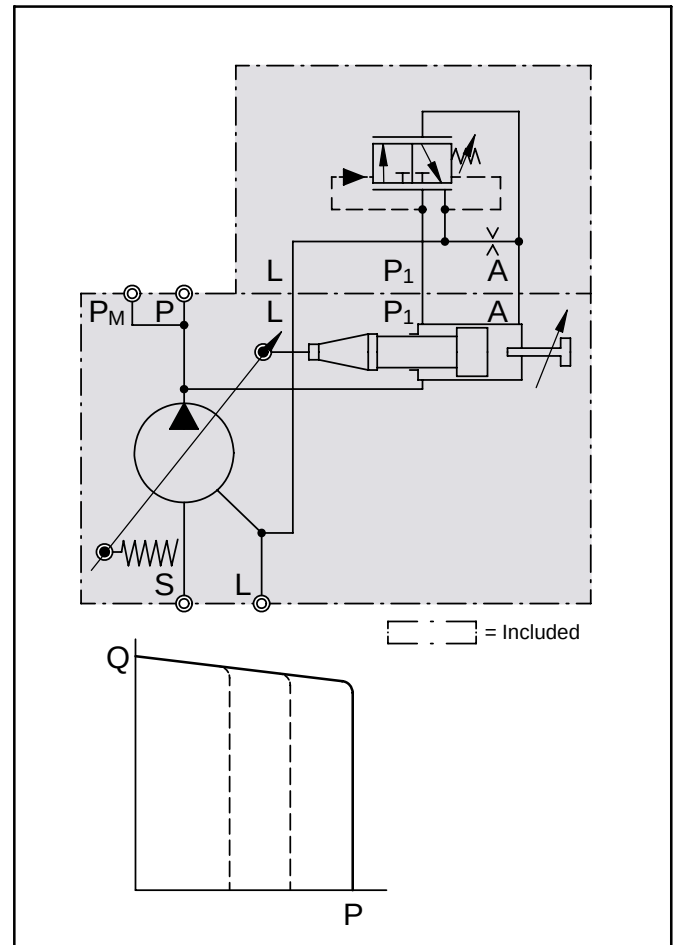
A 標準型壓力調節器 Standard Pressure compensator

標準的壓力調節器代號A
滿足泵浦排量的實際消耗並使預先設定的系統壓力保持不變。
只要泵的出口壓力P低於設定壓力（調節閥的彈簧所調定的值），調節閥的工作油口A就與油箱相通並且調節活塞面積大的一端失壓。重定彈簧使泵保持在全流量狀態。
當系統壓力達到調節器的彈簧所調定的值時，調節閥的P1與A相通並在調節活塞上產生一個壓力使擺角減小，從而調節排量直接地滿足系統要求的設定壓力。

The standard pressure compensator adjusts the pump displacement according to the actual need of the system in order to keep the pressure constant.

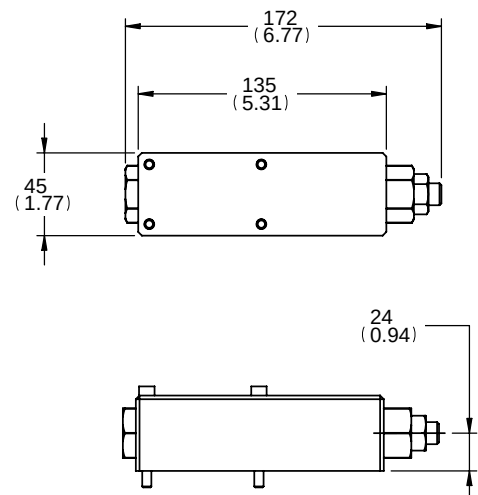
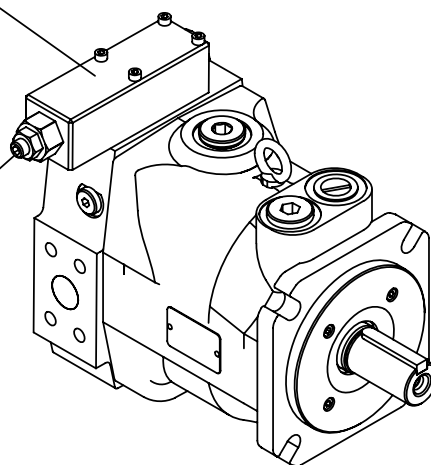
As long as the system pressure at outlet port P is lower than the set pressure (set as spring preload of the compensator spring) the working port A of the compensator valve is connected to the case drain and the piston area is unloaded. Bias spring and system pressure on the annulus area keep the pump at full displacement.

When the system pressure reaches the set pressure the compensator valve spool connects port P1 to A and builds up a pressure at the servo piston resulting in a down stroking of the pump. The displacement of the pump is controlled in order to match the flow requirement of the system.



標準型壓力調整器
Standard pressure compensator

壓力調整螺絲
Control screw



GT 遙控型調節器 Remote Pressure compensator

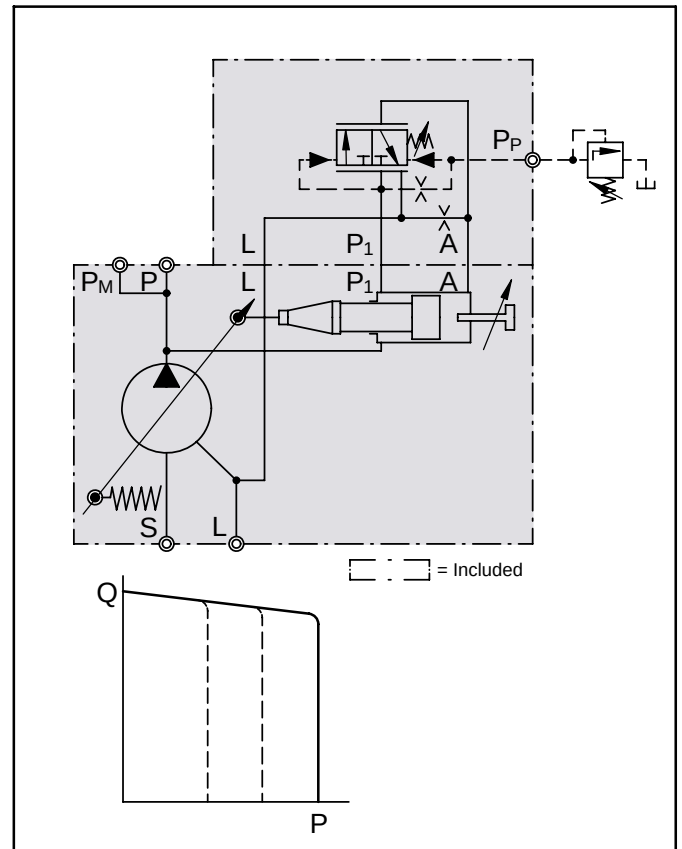
可遙控的壓力調節器代號GT
相對於標準的壓力調節器，在調節器上直接進行壓力調節。GT遙控型壓力調節器可以在調節器的遙控接口PP連接一個壓力先導閥來進行先導控制。控制壓力之液壓油來自調節器的內部。
控制油流約為1-1.5 l/min。

先導閥也可以距離調節器更遠地進行安裝，比如可以從系統控制台進行壓力調節。遙控型壓力調節器比標準型壓力調節器反應更快且精度更高，同時可以解決在臨界應用狀態時使用標準型壓力調節器出現的不穩定現象。
當然先導閥也可以採用電控式（比例-壓力閥）或者組合換向閥用於低壓操作（無壓回路）。

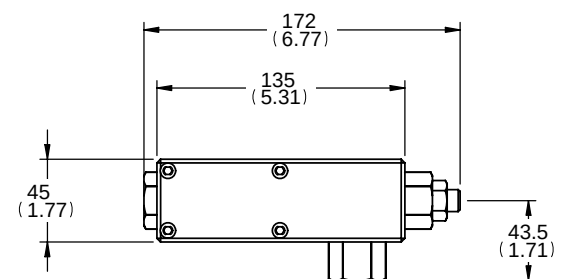
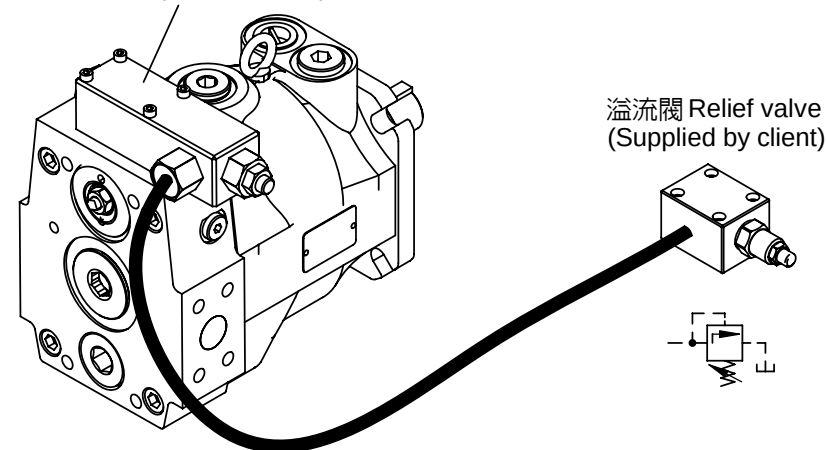
While at the standard pressure compensator the pressure is set directly at the compensator spring, the setting of the remote pressure compensator can be achieved by any suitable pilot pressure valve connected to pilot port PP. The pilot flow supply is internal through the valve spool.

The pilot flow is 1-1.5 l/min. The pilot valve can be installed remote from the pump in some distance. That allows pressure setting e.g. from the control panel of the machine. The remote pressure compensator typically responds faster and more precisely than the standard pressure compensator and is able to solve instability problems that may occur with a standard pressure compensator in critical applications.

The pressure pilot valve can also be electronically controlled (proportional pressure valve) or combined with a directional control valve for low pressure standby operation.

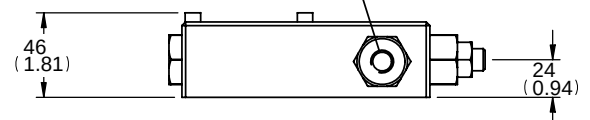


遙控型壓力調整器
Remote pressure compensator



遙控接口 Remote port

G 1/4 BSPP (threads code: 1)
7/16-20 UNF (threads code: 3)
M12xP1.5 ISO 6149-1 (threads code: 7)



GM 疊式遙控型調節器

Remote Pressure compensator allows a pilot valve with NG6 interface

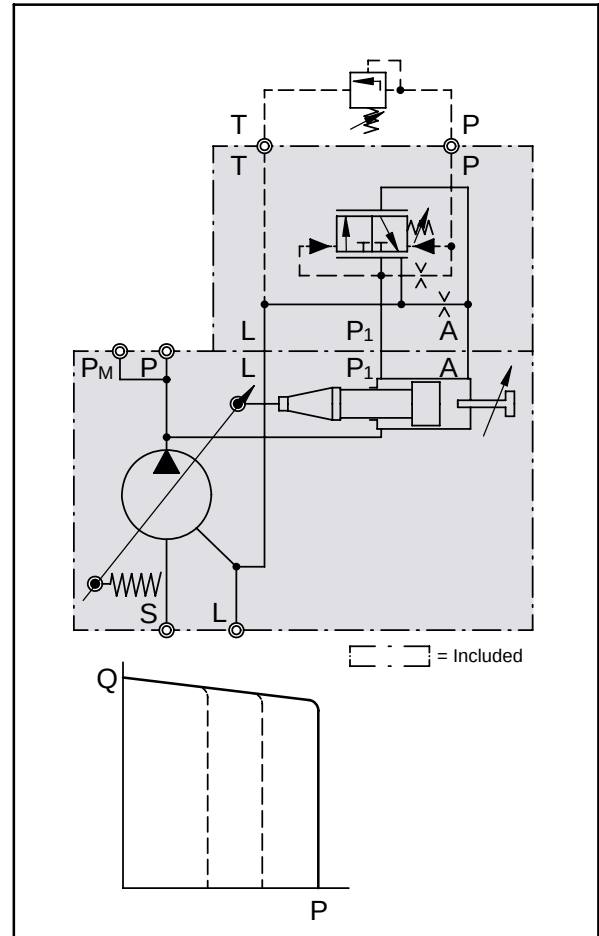
GM 疊式遙控型調節器

在其調節閥的上方預留一個NG6的介面。
在此介面上可以直接安裝一個先導閥。除了採用手動調節以外，電液調節也可以實現連續的壓力控制。
油昇提供多種配裝在調節器的附件。疊式遙控型調節器有約15bar的出廠設定壓力。在泵浦出油口的壓力會先導閥的調節值之上。

若在NG6介面配裝上油昇比例壓力閥，即可達成電控比例控制。

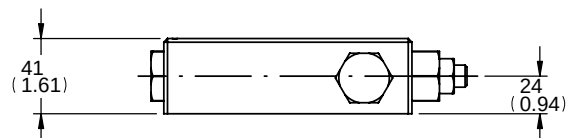
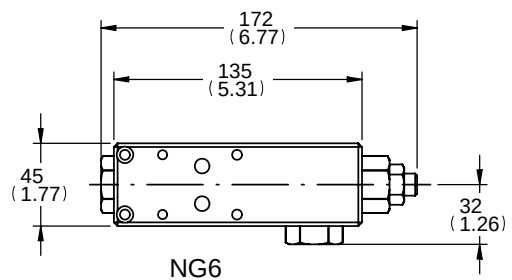
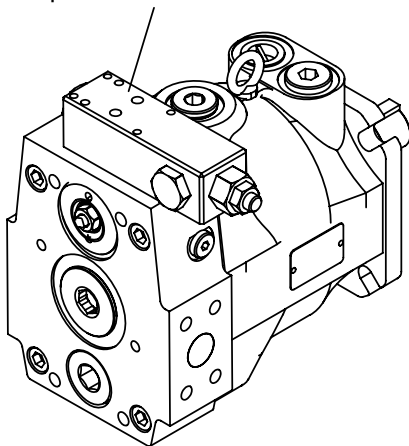
Version GM of the remote pressure compensator provides on its top side an interface NG6, DIN24340 (CETOP 03 at RP35H, NFPA D03).

This interface allows a direct mounting of a pilot valve. Beside manual or electrohydraulic operated valves it is also possible to mount complete multiple pressure circuits directly on the compensator body. YEOSHE offers a variety of these compensator accessories ready to install. All remote pressure compensator have a factory setting of 15 bar differential pressure. With this setting, the controlled pressure at the pump outlet is higher than the pressure controlled by the pilot valve.



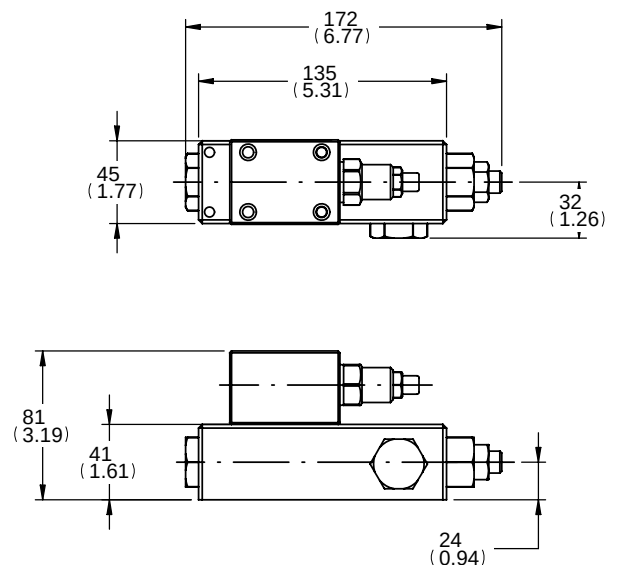
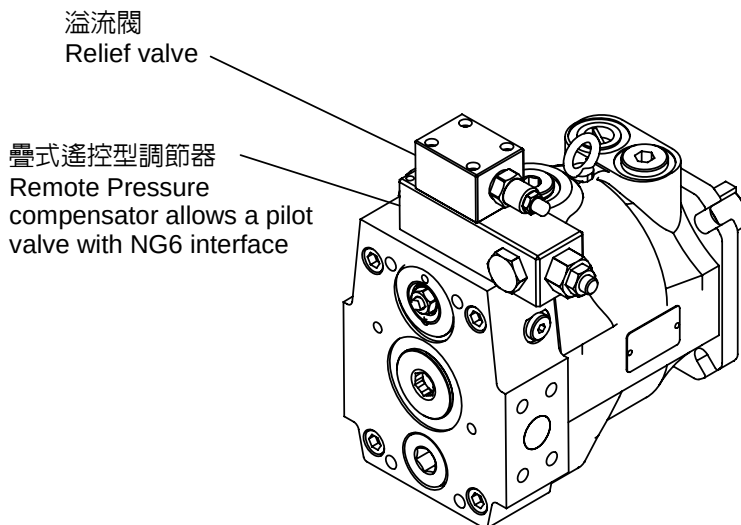
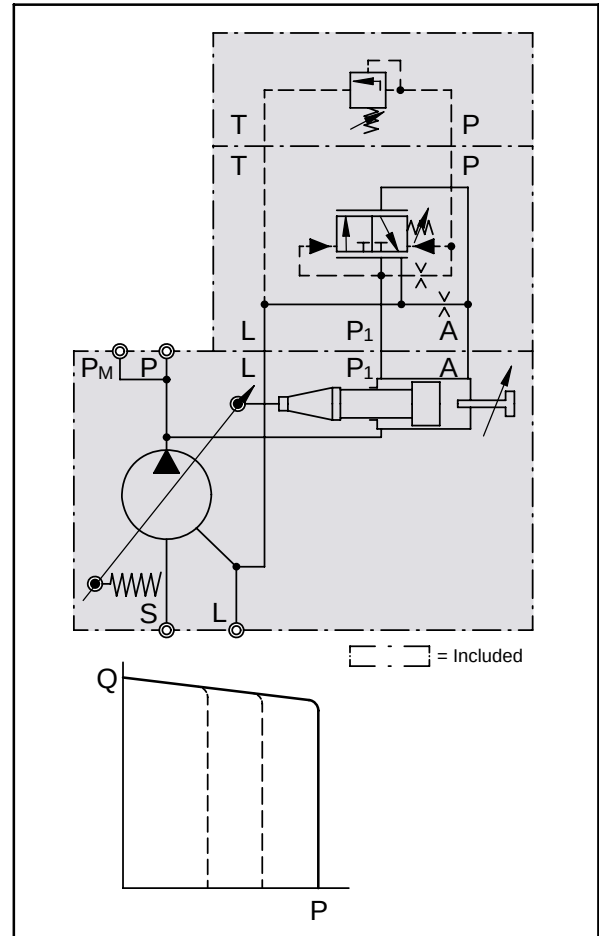
疊式遙控型調節器

Remote Pressure compensator allows a pilot valve with NG6 interface



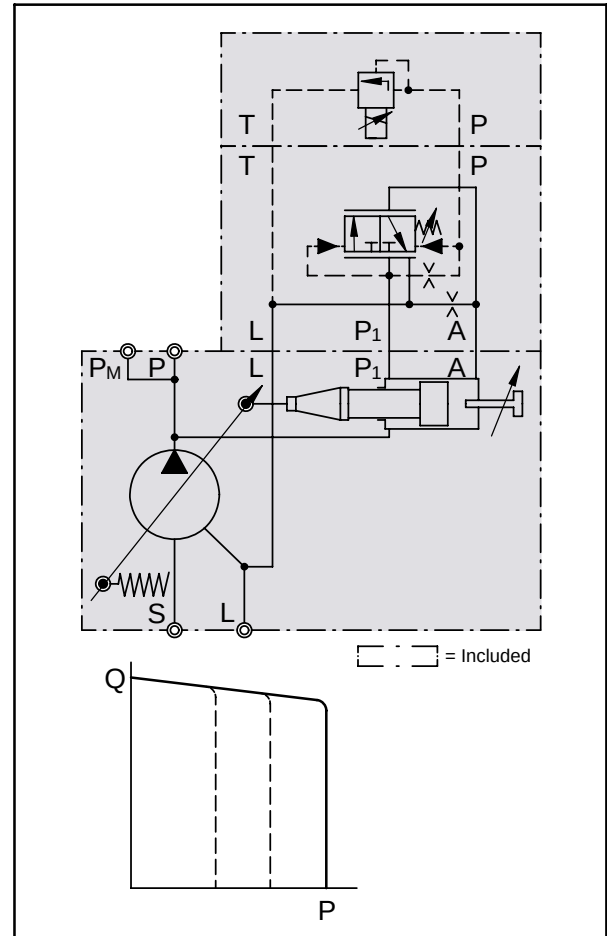
GA 疊式遙控型調節器 + 溢流閥 Remote Pressure compensator allows a pilot valve with NG6 interface (Relief valve included)

GA 疊式遙控型調節器+溢流閥
滿足泵浦排量的實際消耗並使預先設定的系統壓力
保持不變。並在其調節閥的上方安裝一個先導溢流
閥，增加一個壓力先導調節功能。



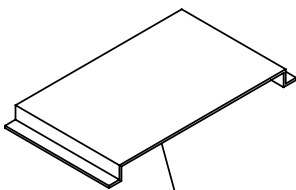
GJ 疊式遙控型調節器 +比例閥 Layer Proportional pressure compensator (Proportional valve included)

GJ疊式遙控型調節器+比例閥
滿足泵浦排量的實際消耗並使預先設定的系統壓力
保持不變。並在其調節閥的上方安裝一個油昇比例
壓力閥，實現電控比例壓力控制。

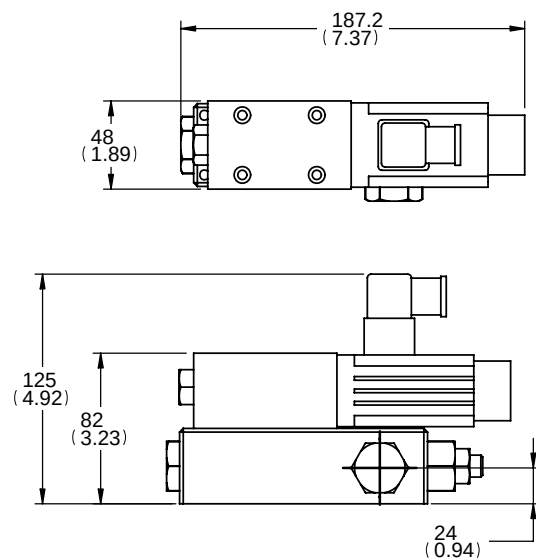


比例閥
Proportional Polot Relief valve

疊式遙控型調節器
Remote Pressure
compensator allows a pilot
valve with NG6 interface



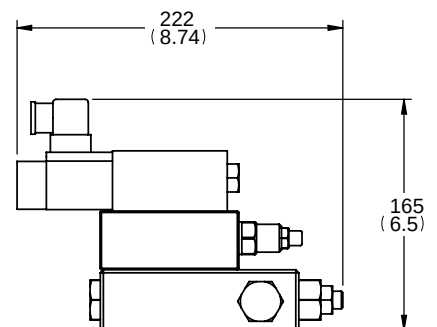
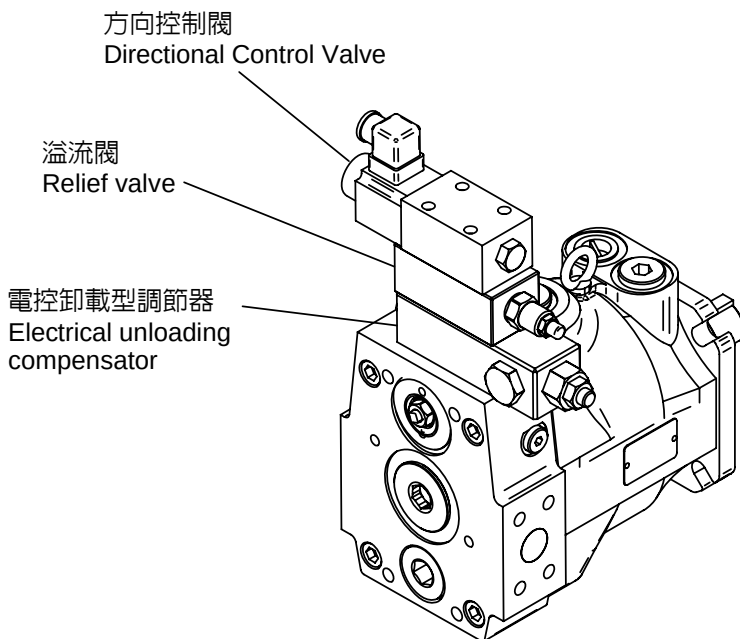
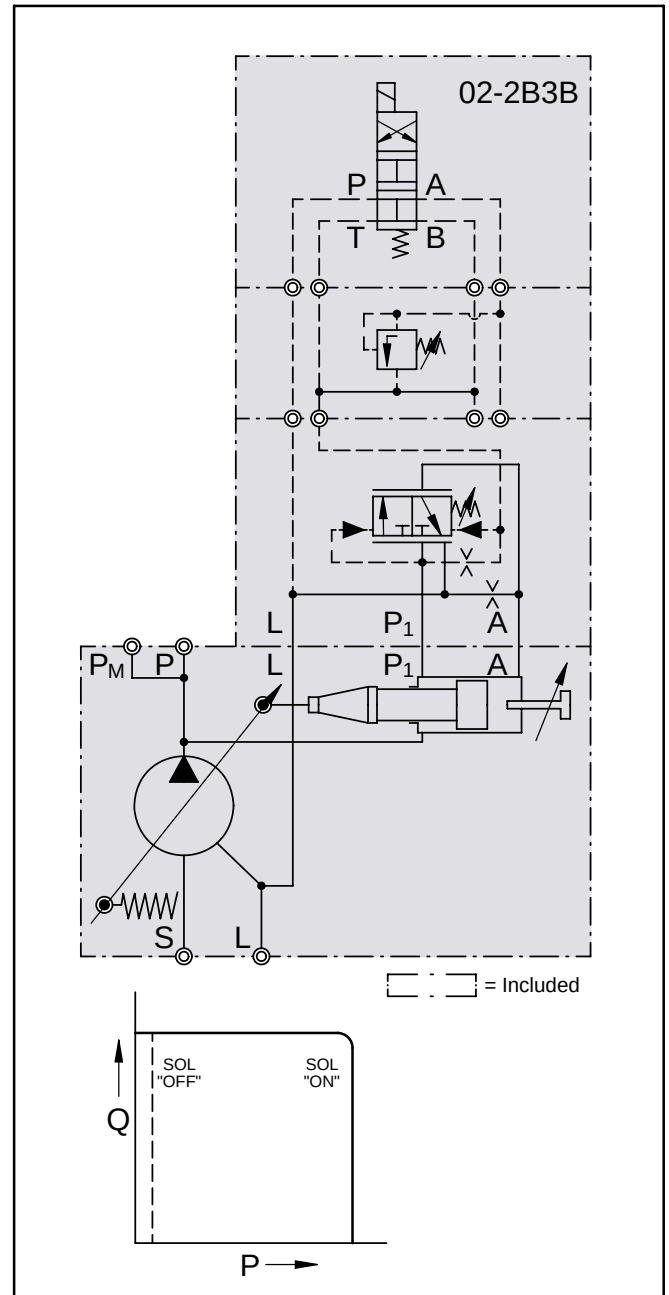
電子控制電路板(放大器)
Electronic Amplifier P-C Board



GR 電控卸載型調節器 Electrical unloading

GR電控卸載型調節器
在其調節器上方加裝一個溢流閥及電磁式方向控制閥，增加壓力先導調節功能，及電控卸載機能。

適用於卸壓時間長的情況。
系統停機時，通過泵的卸壓運轉，油溫和噪音可保持較低水平。



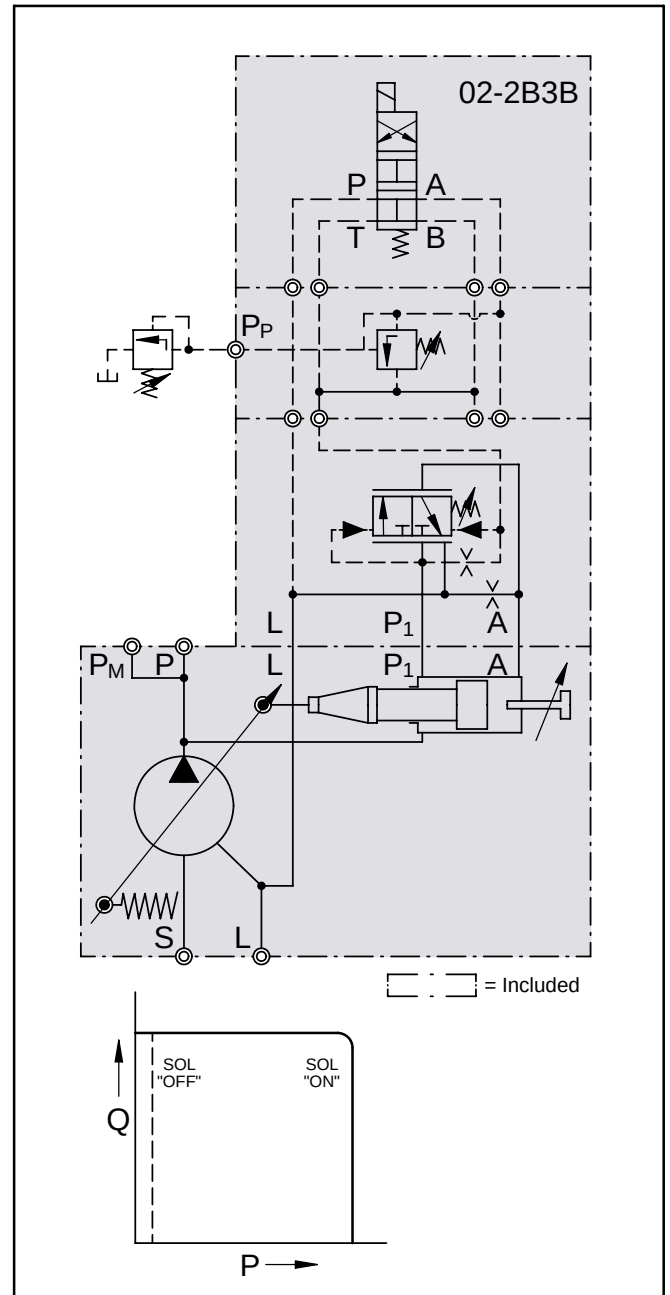
GD 電控卸載型調節器 + 外接遙控 Electrical unloading with remote

GD電控卸載型調節器+外接遙控

在其調節器上方加裝一個溢流閥及電磁式方向控制閥，增加壓力先導調節功能，及電控卸載機能。並可於PP遙控接口，連接一個先導閥，遠距離的進行壓力調節。

適用於卸壓時間長的情況。

系統停機時，通過泵的卸壓運轉，油溫和噪音可保持較低水平。

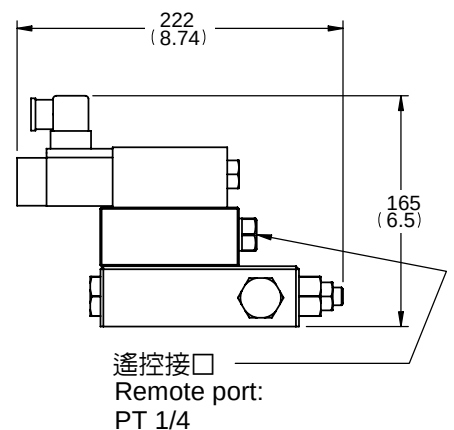
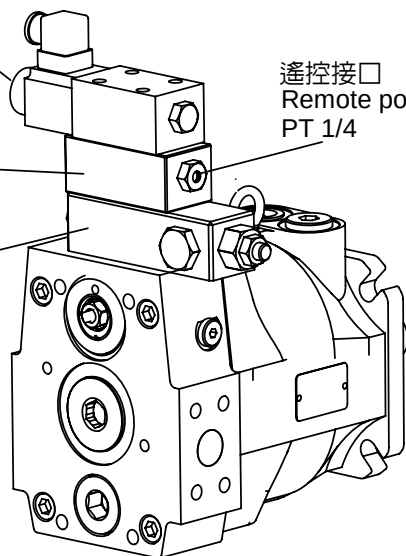


方向控制閥
Directional Control Valve

溢流閥
Relief valve

兩段壓力調節器
Dual pressure compensator

遙控接口
Remote port:
PT 1/4



GB 電控兩段壓力調節器
Dual pressure control

GB電控兩段壓力調節器

在其調節器上方加裝一個兩段壓力溢流閥及電磁式方向控制閥，可調節高低兩個不同的限壓壓力，並且達到電控兩段壓力變換。

適用於油壓缸在恒定速度下，設定兩段工作壓力時使用。

PL與PH閥可任選一方作為高壓。

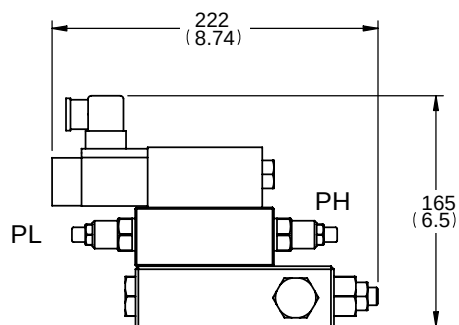
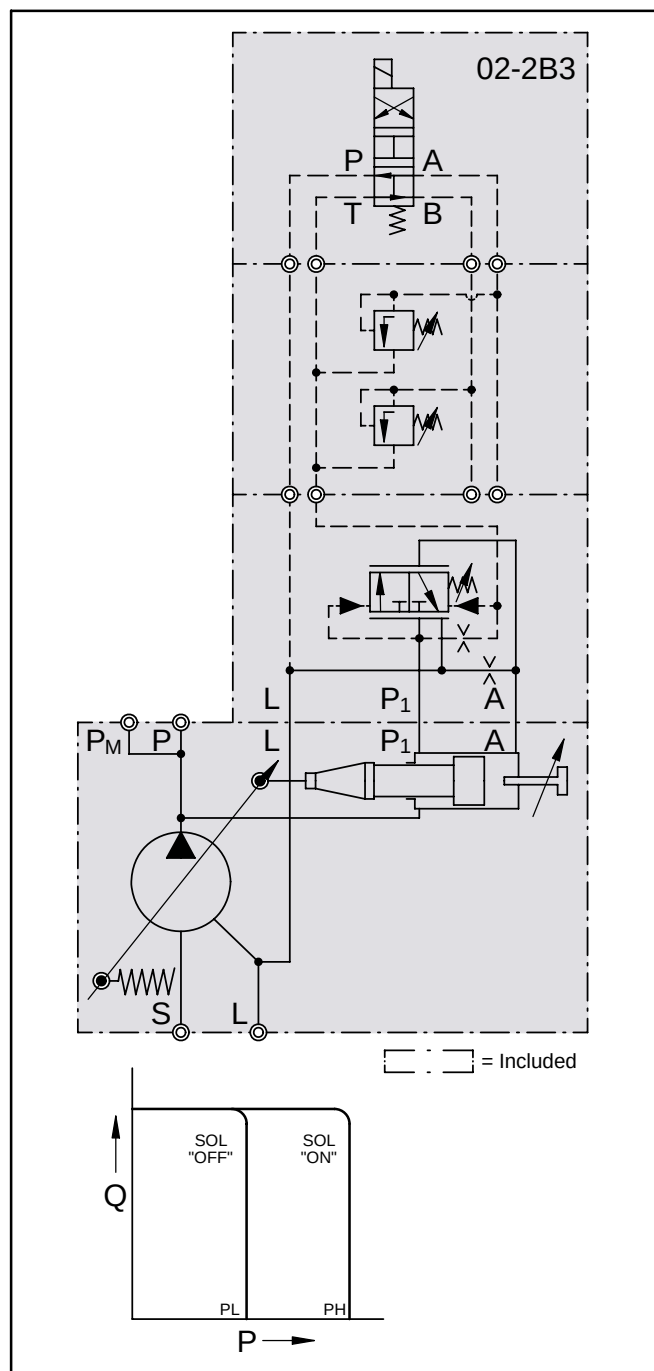
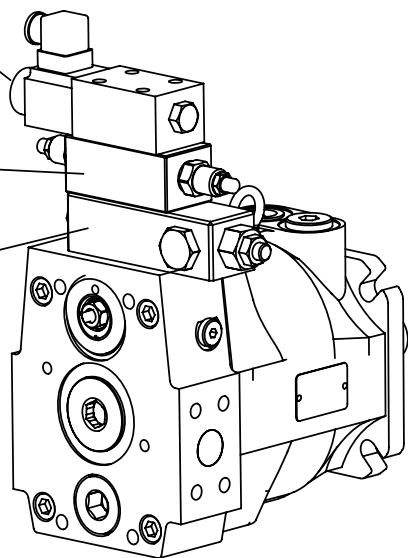
方向控制閥
Directional Control Valve

溢流閘

Relief valve

兩段壓力調節器

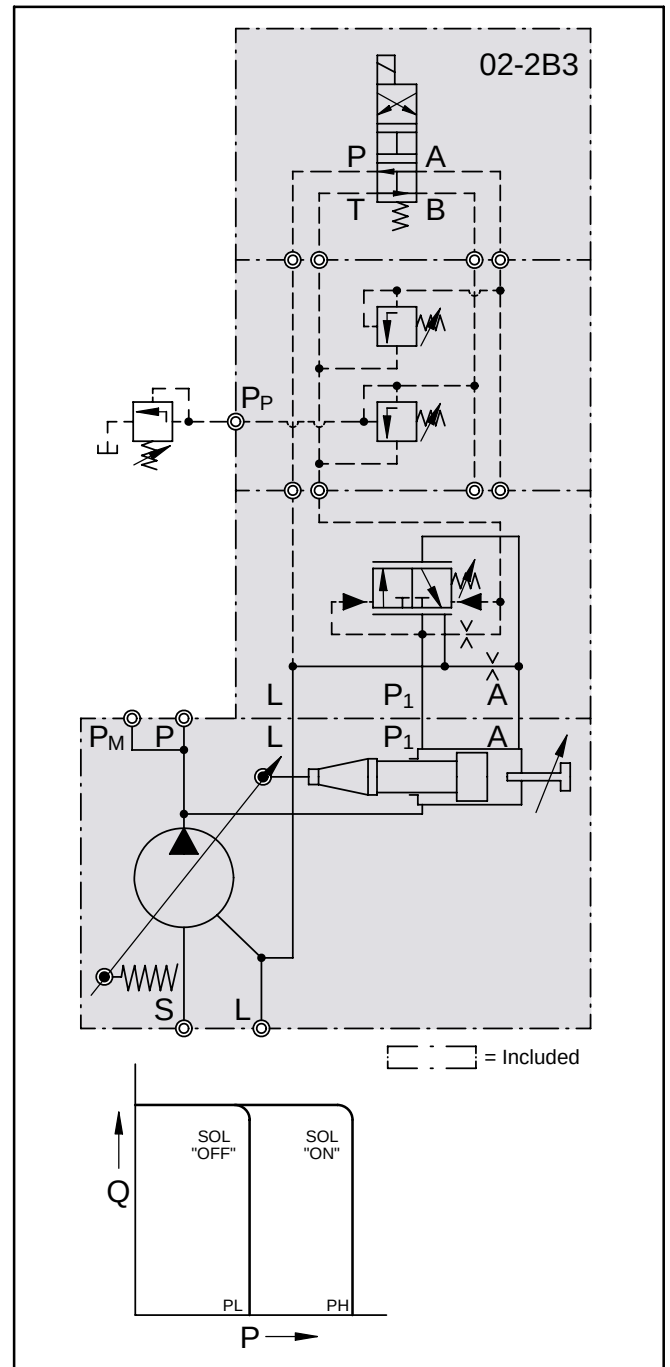
Dual pressure compensator



GE 電控兩段壓力調節器+外接遙控 Dual pressure control with remote

GE電控兩段壓力調節器+外接遙控
再其調節器上方加裝一個兩段壓力溢流閥及電磁
式方向控制閥，可調節高低兩個不同的限壓壓力
，達到電控兩段壓力變換，並可於PP遙控接口，
連接一個壓力先導閥來進行先導控制。

適用於油壓缸在恒定速度下，設定兩段工作壓力
時使用。
PL與PH閥可任選一方作為高壓。

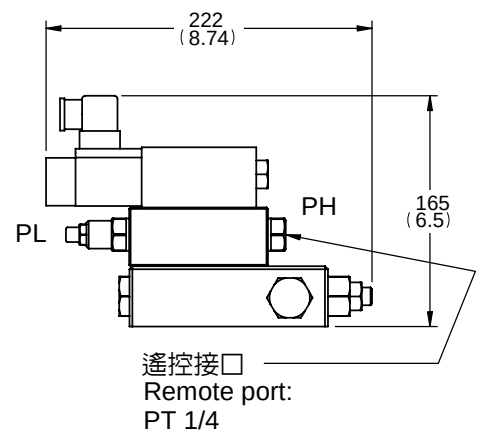
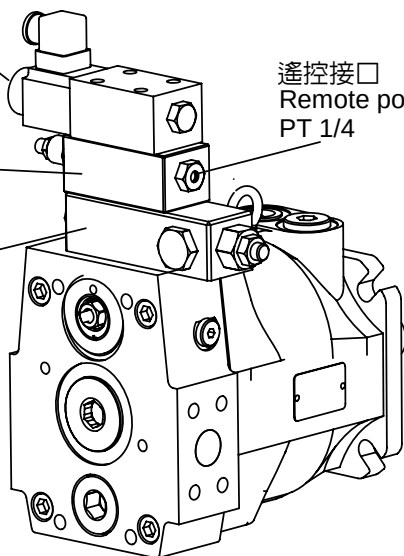


方向控制閥
Directional Control Valve

溢流閥
Relief valve

兩段壓力調節器
Dual pressure compensator

遙控接口
Remote port:
PT 1/4



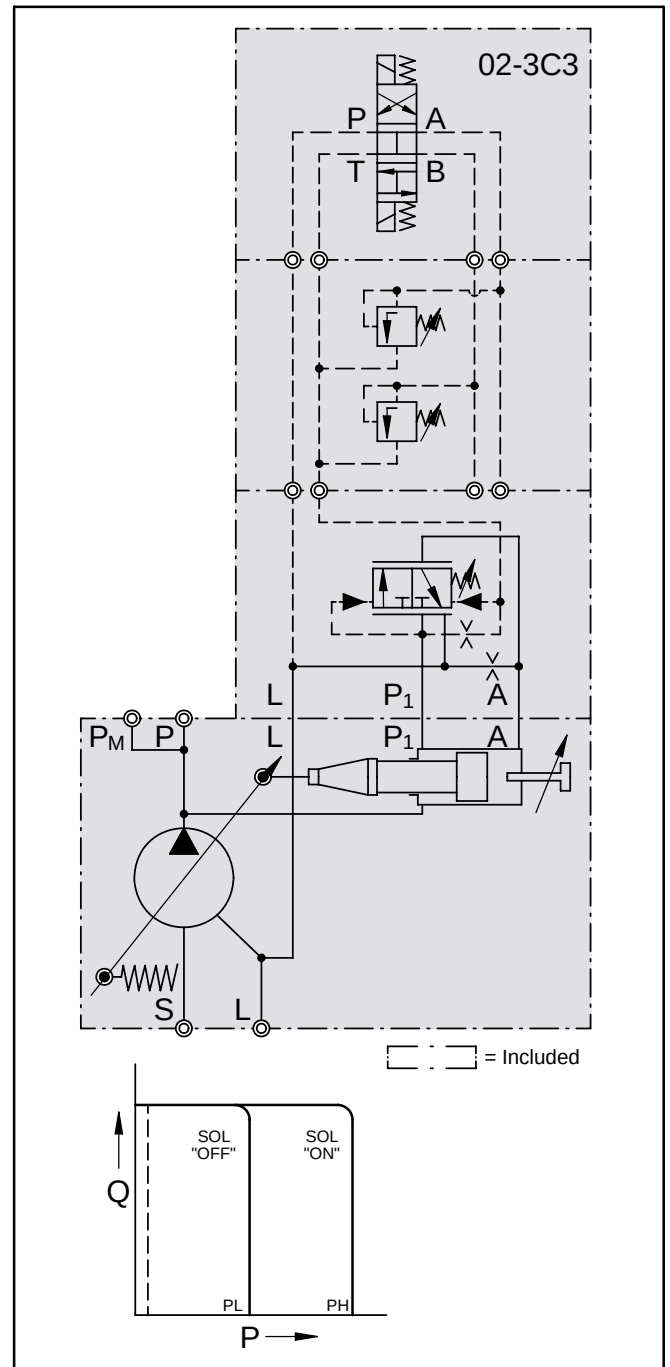
GC 兩段壓力+電控卸載調節器 Dual pressure +electrical unloading

GC兩段壓力+電控卸載調節器
利用電磁式方向控制閥，控制高低兩個不同的限壓壓力，並追加卸載機能，系統停機時，利用泵浦的卸載，可保持較低的油溫和噪音。

適用於油壓缸在恒定速度下，設定兩段工作壓力，及卸壓時間長的情況下使用。
PL與PH閥可任選一方作為高壓。

PV pump with fast response remote pressure control, relief valve with 2 pressure stages, electrical pressure selection, nitrile seals, spindle adjustment, 24 VDC solenoid, plug to DIN 46350 accessories fitted.

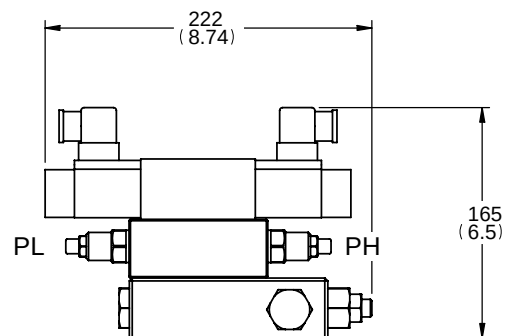
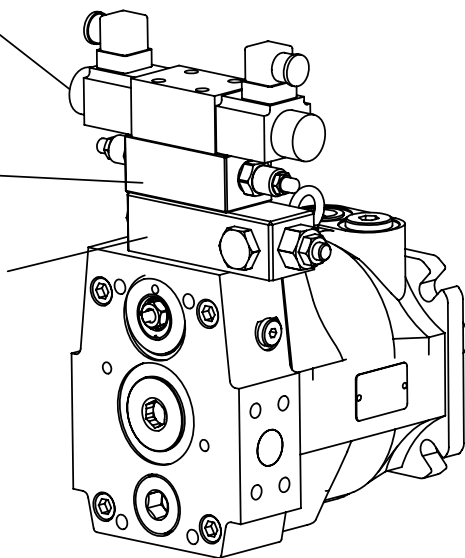
Usable for horsepower control and proportional volume control, too.



方向控制閥
Directional Control Valve

溢流閥
Relief valve

兩段壓力調節器
Dual pressure compensator



HL 負載感應型調節器 Load-sensing compensator

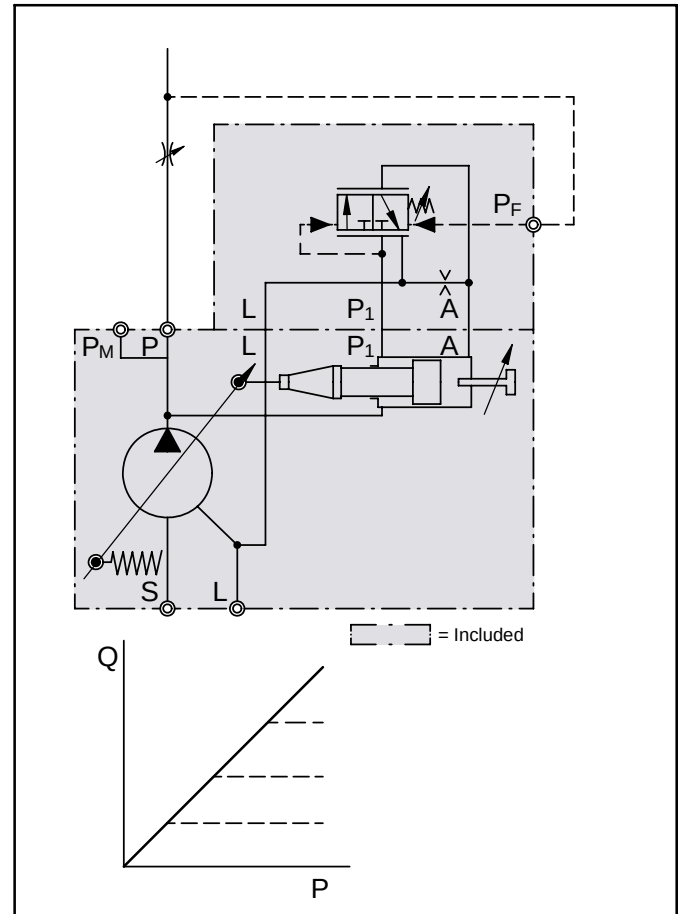
HL 負載感應型調節器

負載感應型調節器，控制壓力油從外部回饋。調節器有約10bar的由廠家調節的壓差。壓差可做為主回路上的控制信號。因為調節器的壓差保持主油路的阻力不變，以此實現在第一條管路上對泵的流量進行調節。

當傳動轉速發生變化或負載發生波動時，在一個較寬的工作範圍內不會影響執行元件的速度。

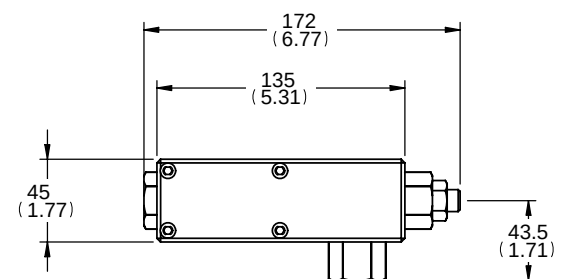
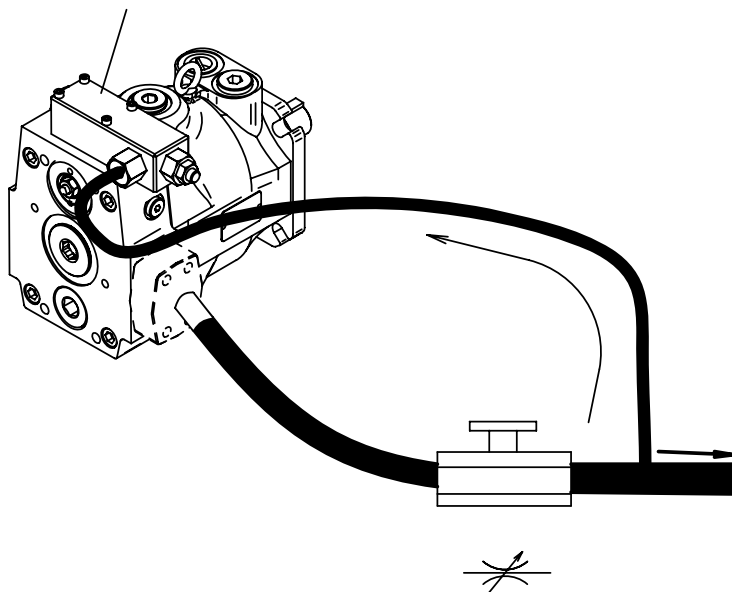
通過加一個節流孔（直徑0.8mm）和一個壓力-先導閥可增加一個壓力調節功能。此型式為簡單式之負載感應。

The load-sensing compensator has an external pilot pressure supply. Factory setting for the differential pressure is 10 bar. The input signal to the compensator is the differential pressure at a main stream resistor. A load-sensing compensator represents mainly a flow control for the pump output flow, because the compensator keeps the pressure drop at the main stream resistor constant. A variable input speed or a varying load (-pressure) has consequently no influence on the output flow of the pump and speed of the actuator. By adding a pilot orifice ($\psi 0.8\text{mm}$) and a pressure pilot valve pressure compensation can be added to the flow control function. See the circuit diagram below, left.



負載感應型調節器

Load-sensing compensator

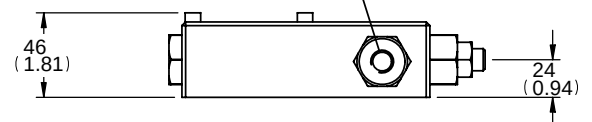


負載感應接口 Load-sensing port

G 1/4 BSPP (threads code: 1)

7/16-20 UNF (threads code: 3)

M12xP1.5 ISO 6149-1 (threads code: 7)

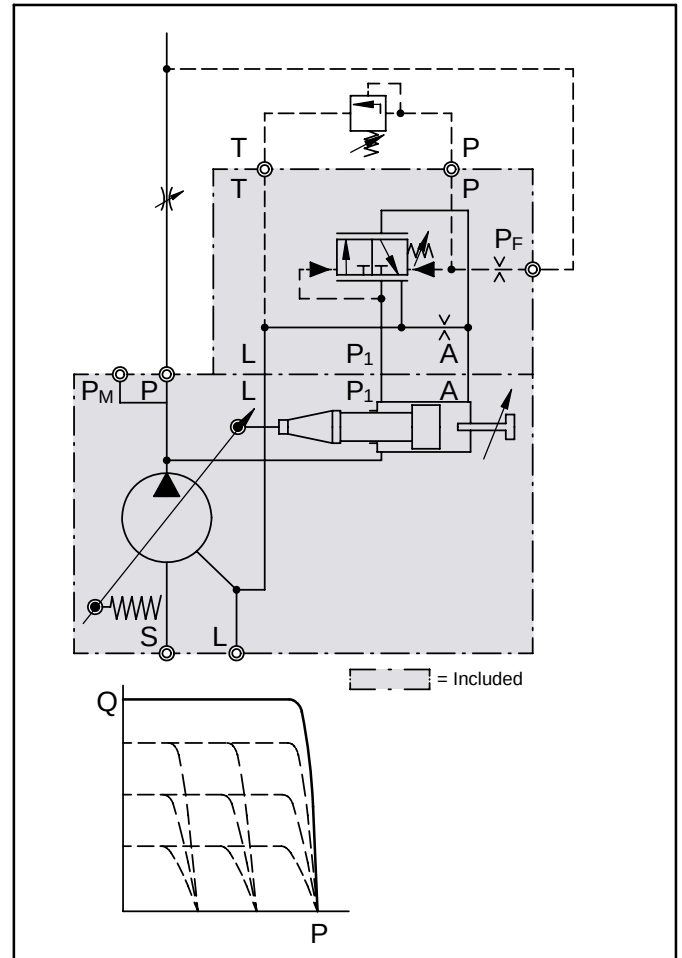


HM 疊式負載感應型調節器 Load-sensing compensator with NG6 interface

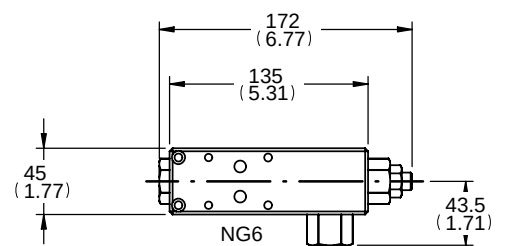
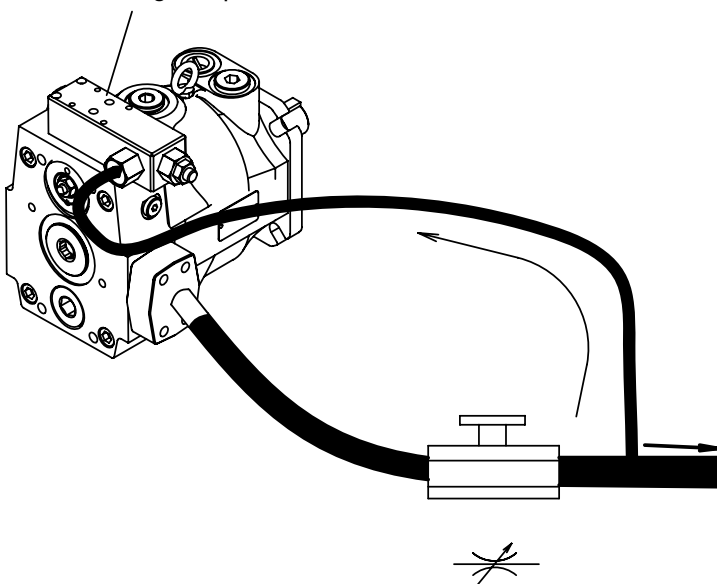
HM 疊式負載感應型調節器
在其調節閥的上方預留一個NG6的介面。

疊式負載感應型調節器，控制壓力油從外部回饋。調節器有約10bar的由廠家調節的壓差。壓差可做為主回路上的控制信號。因為調節器的壓差保持主油路的阻力不變，以此實現在第一條管路上對泵的流量進行調節。當傳動轉速發生變化或負載發生波動時，在一個較寬的工作範圍內不會影響執行元件的速度。

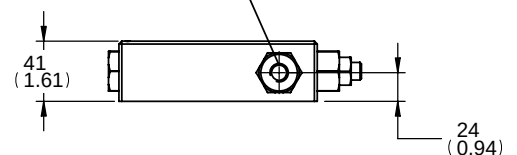
若在NG6介面加裝一個先導閥，則可增加一個壓力調節功能。
若在NG6介面加裝一個油昇比例壓力閥，則可達成電控比例壓力控制。



疊式負載感應型調節器
Load-sensing compensator with NG6 interface



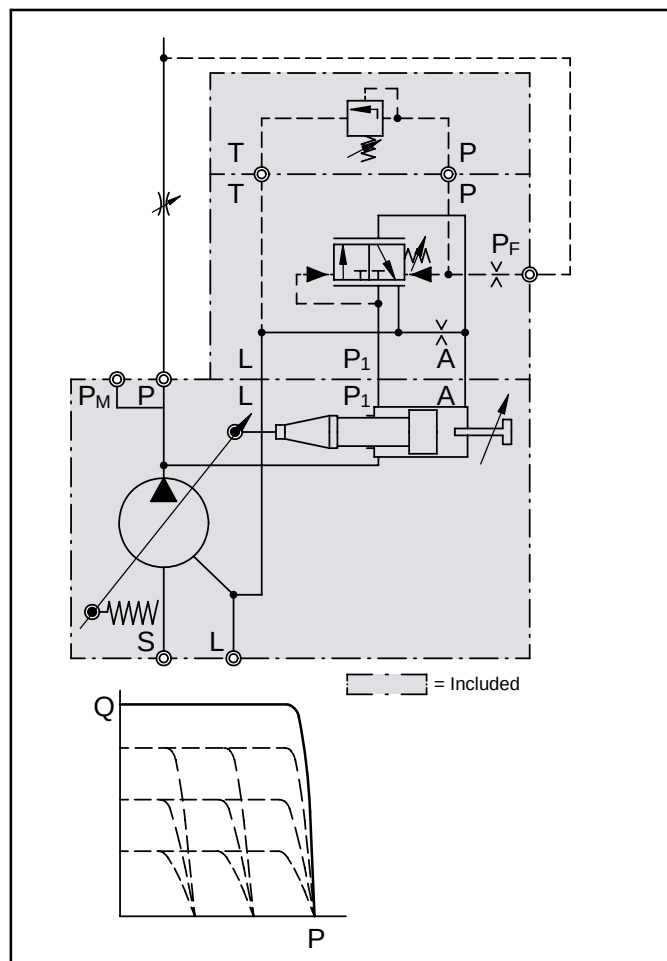
負載感應接口 Load-sensing port
G 1/4 BSPP (threads code: 1)
7/16-20 UNF (threads code: 3)
M12xP1.5 ISO 6149-1 (threads code: 7)



HW 疊式負載感應型調節器 + 溢流閥
Load-sensing compensator (Relief valve included)

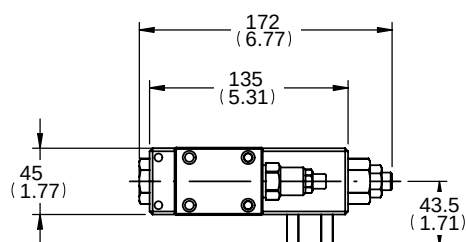
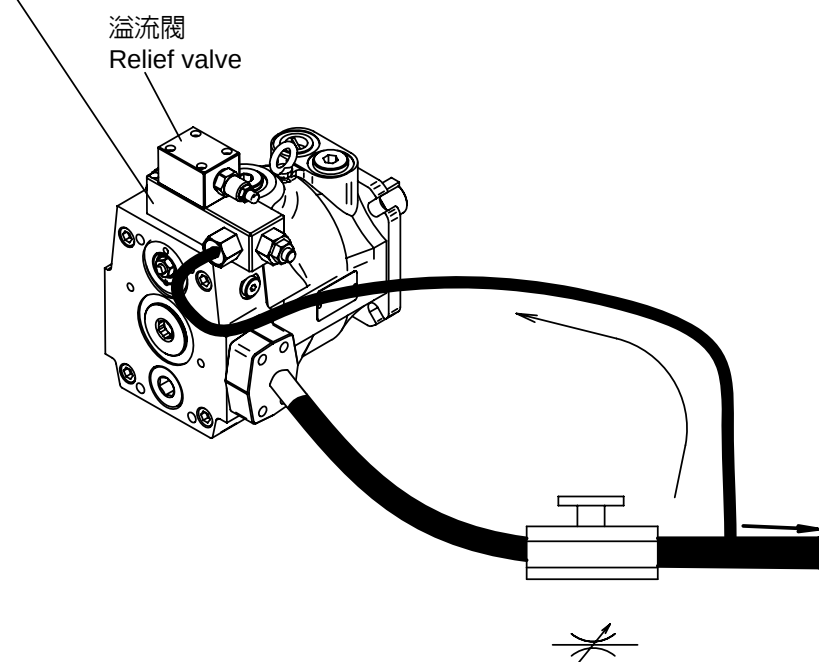
HW疊式負載感應型調節器+溢流閥

疊式負載感應型調節器，控制壓力油從外部回饋。調節器有約10bar的由廠家調節的壓差。壓差可做為主回路上的控制信號。因為調節器的壓差保持主油路的阻力不變，以此實現在第一條管路上對泵的流量進行調節。當傳動轉速發生變化或負載發生波動時，在一個較寬的工作範圍內不會影響執行元件的速度。先導溢流閥，可進行力調節功能。



疊式負載感應型調節器

Load-sensing compensator with NG6 interface

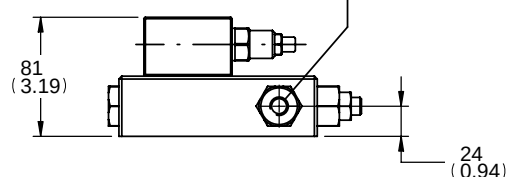


負載感應接□ Load-sensing port

G 1/4 BSPP(threads code: 1)

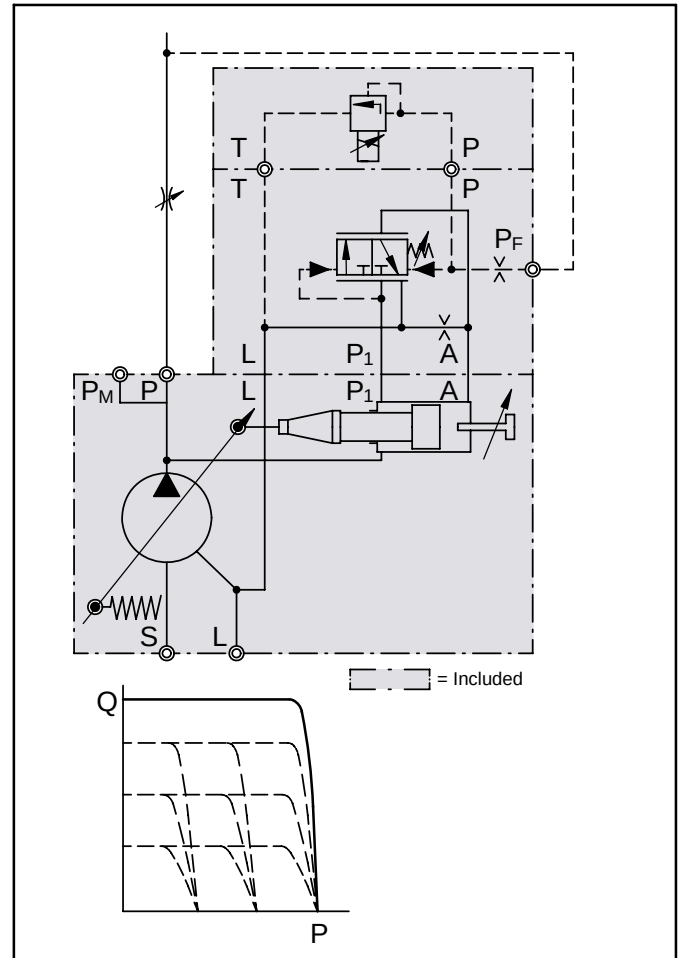
7/16-20 UNF (threads code: 3)

M12xP1.5 ISO 6149-1 (threads code: 7)



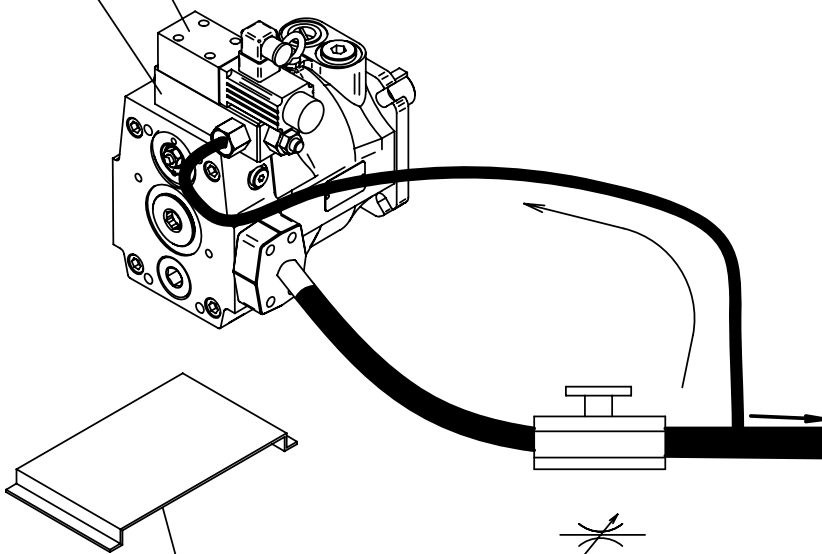
HP 疊式負載感應型調節器 +比例閥 Load-sensing compensator (Proportional valve included)

HP 疊式負載感應型調節器+比例閥
疊式負載感應型調節器，控制壓力油從外部回饋。調節器有約10bar的由廠家調節的壓差。壓差可做為主回路上的控制信號。因為調節器的壓差保持主油路的阻力不變，以此實現在第一條管路上對泵的流量進行調節。
當傳動轉速發生變化或負載發生波動時，在一個較寬的工作範圍內不會影響執行元件的速度。先導比例壓力閥，可進行電控比例壓力控制。

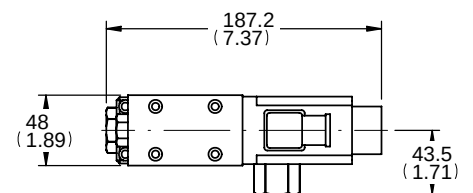


疊式負載感應型調節器
Load-sensing compensator with NG6 interface

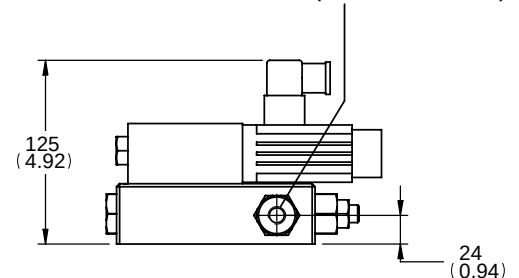
比例閥
Proportional valve



電子控制電路板(放大器)
Electronic Amplifier P-C Board



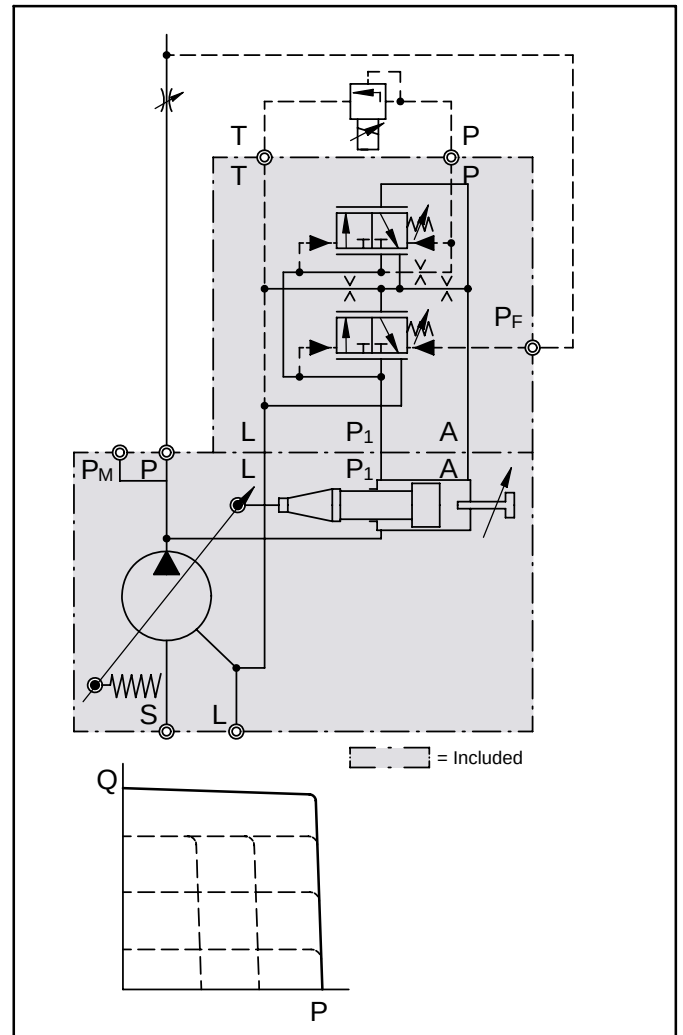
負載感應接口 Load-sensing port
G 1/4 BSPP(threads code: 1)
7/16-20 UNF (threads code: 3)
M12xP1.5 ISO 6149-1 (threads code: 7)



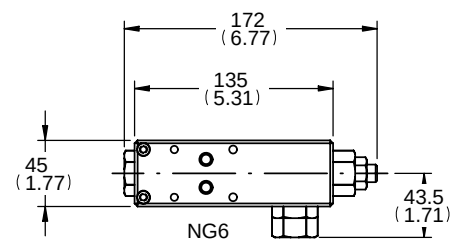
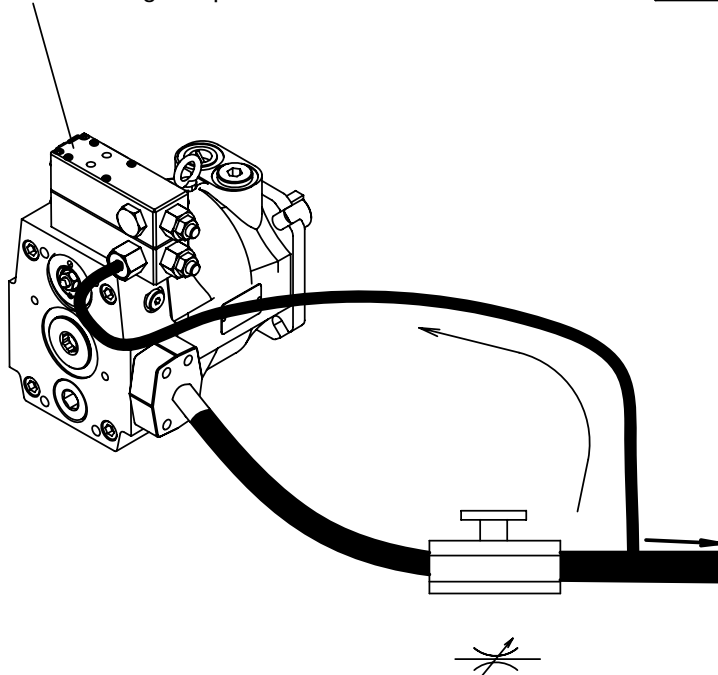
HJ 疊式雙閥負載感應型調節器 2-valve Load-sensing compensator with NG6 interface

HJ疊式雙閥負載感應型調節器
如果希望準確的限制壓力，可以選擇疊式雙閥負載傳感調節器。回路示意圖如右圖所示。
為了消除壓力與流量相互影響，使用兩個分開的調節閥用於流量調節和壓力調節。

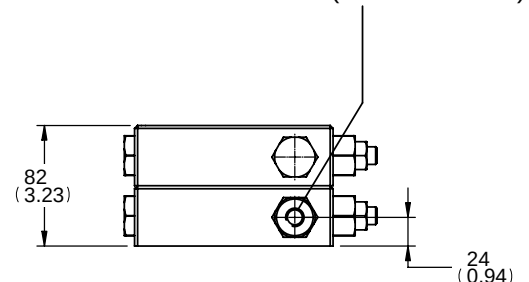
疊式雙閥負載感應型調節器，在其調節閥的上方，預留一個NG6的介面。
若在NG6介面加裝一個先導閥，則可增加一個壓力調節功能。
若在NG6介面加裝一個油昇比例壓力閥，則可達成電控比例壓力控制。



疊式雙閥負載感應型調節器
2-valve Load-sensing compensator with NG6 interface



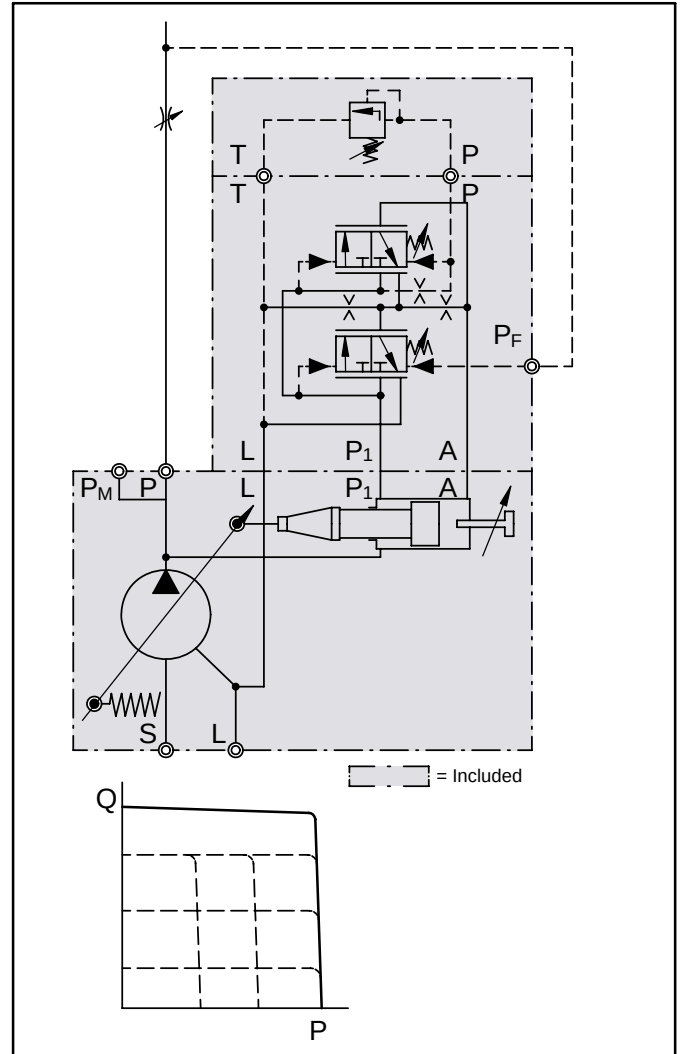
負載感應接口 Load-sensing port
G 1/4 BSPP (threads code: 1)
7/16-20 UNF (threads code: 3)
M12xP1.5 ISO 6149-1 (threads code: 7)



HA 疊式雙閥負載感應型調節器 + 溢流閥 2-valve Load-sensing compensator with NG6 interface (Relief valve included)

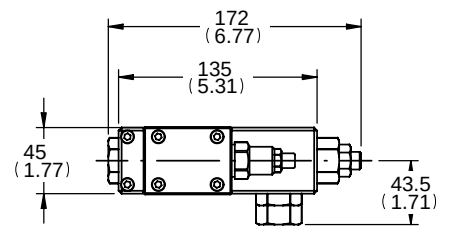
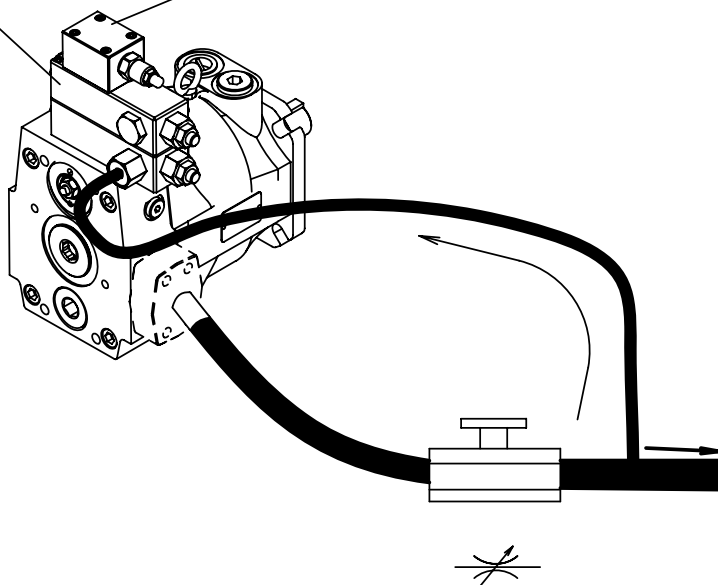
HA 疊式雙閥負載感應型調節器+溢流閥
如果希望準確的限制壓力，可以選擇疊式雙閥負載
傳感調節器。回路示意圖如右圖所示。
為了消除壓力與流量相互影響，使用兩個分開的調
節閥用於流量調節和壓力調節。

疊式雙閥負載感應型調節器，在其調節閥的上方，
加裝一個先導閥，增加一個壓力調節功能。

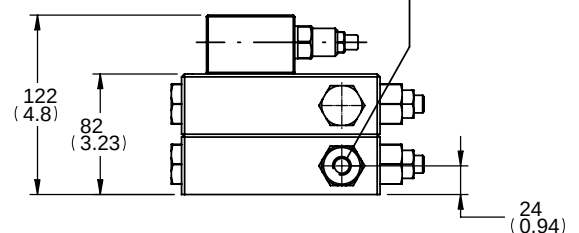


疊式雙閥負載感應型調節器
2-valve Load-sensing
compensator with NG6 interface

溢流閥
Relief valve



負載感應接口 Load-sensing port
G 1/4 BSPP (threads code: 1)
7/16-20 UNF (threads code: 3)
M12xP1.5 ISO 6149-1 (threads code: 7)

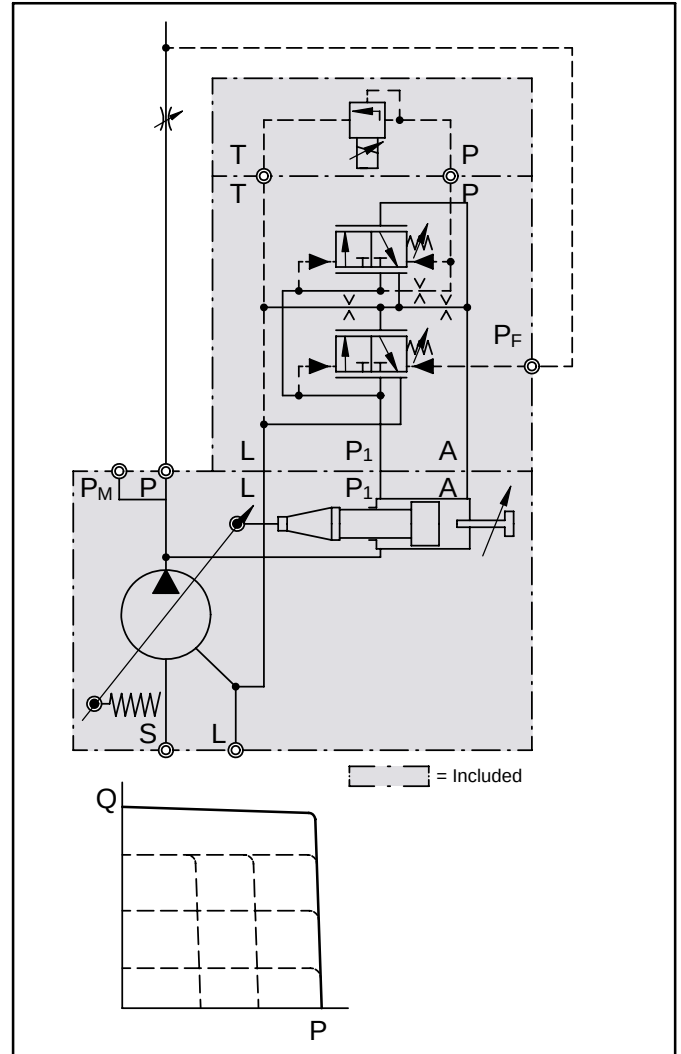


HR 疊式雙閥負載感應型調節器 +比例閥

2-valve Load-sensing compensator with NG6 interface (Proportional valve included)

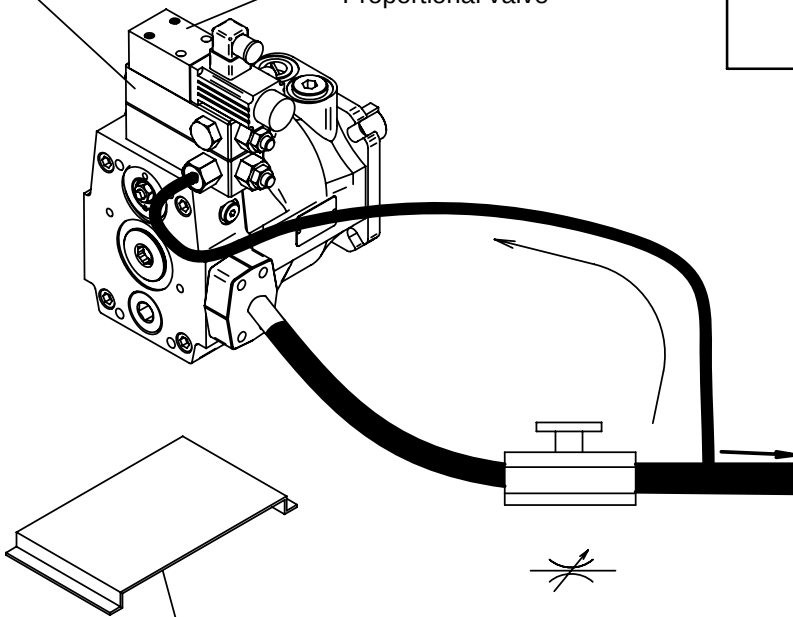
HY疊式雙閥負載感應型調節器+比例閥
如果希望準確的限制壓力，可以選擇疊式雙閥負載傳感調節器。回路示意圖如右圖所示。
為了消除壓力與流量相互影響，使用兩個分開的調節閥用於流量調節和壓力調節。

疊式雙閥負載感應型調節器，在其調節閥的上方，加裝一個油昇比例壓力閥，達到電控比例壓力控制的目的。

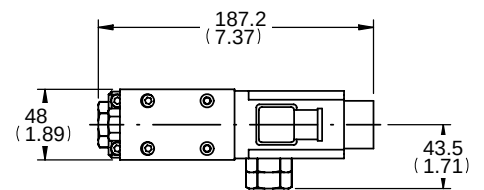


疊式雙閥負載感應型調節器
2-valve Load-sensing compensator with NG6 interface

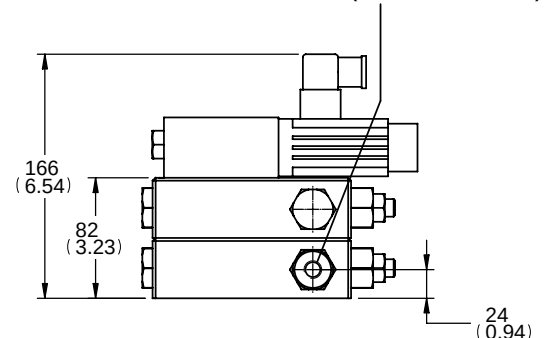
比例閥
Proportional valve



電子控制電路板(放大器)
Electronic Amplifier P-C Board



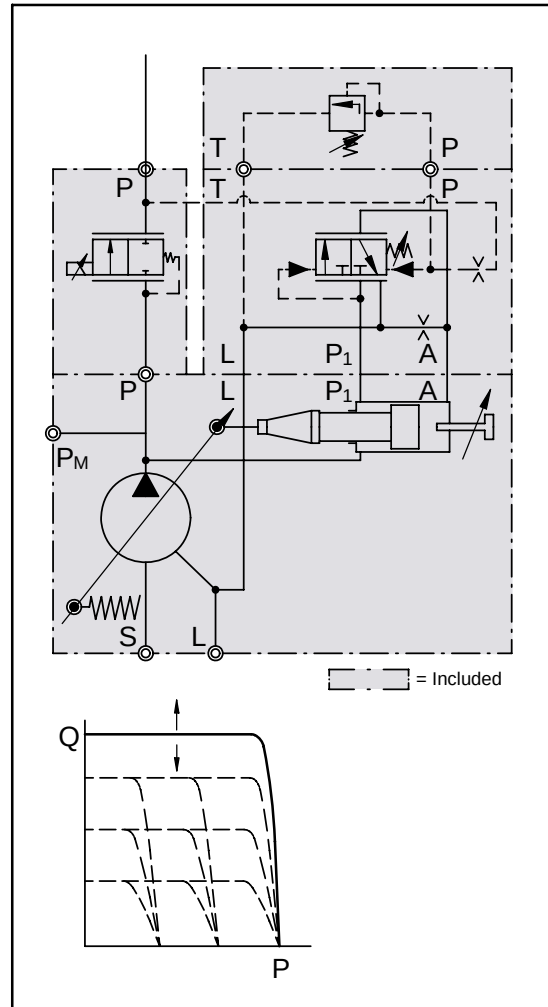
負載感應接口 Load-sensing port
G 1/4 BSPP (threads code: 1)
7/16-20 UNF (threads code: 3)
M12xP1.5 ISO 6149-1 (threads code: 7)



HQ 負載感應型 +比例流量調節器 Load-sensing & Proportional flow control

HQ負載感應型+比例流量調節器

負載感應型+比例流量調節器，控制壓力油從外部回饋。調節器有約10bar的由廠家調節的壓差。壓差可做為主回路上的控制信號。因為調節器的壓差保持主油路的阻力不變，以此實現在第一條管路上對泵的流量進行調節。
當傳動轉速發生變化或負載發生波動時，在一個較寬的工作範圍內不會影響執行元件的速度。
加裝一個油昇比例流量閥，可達成電控比例流量。



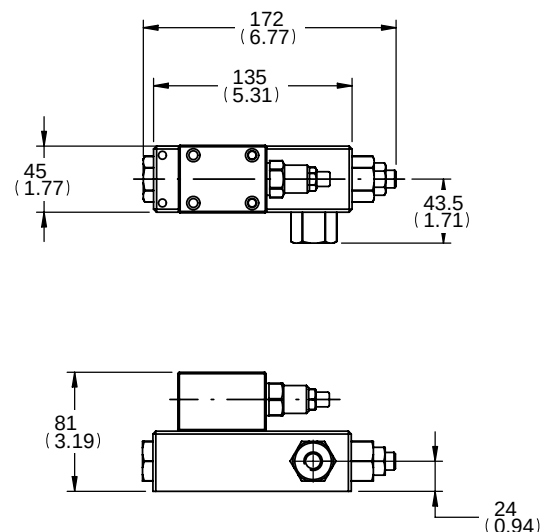
疊式負載感應型調節器

Load-sensing compensator with NG6 interface

溢流閥
Relief valve

比例流量閥
Proportional flow control

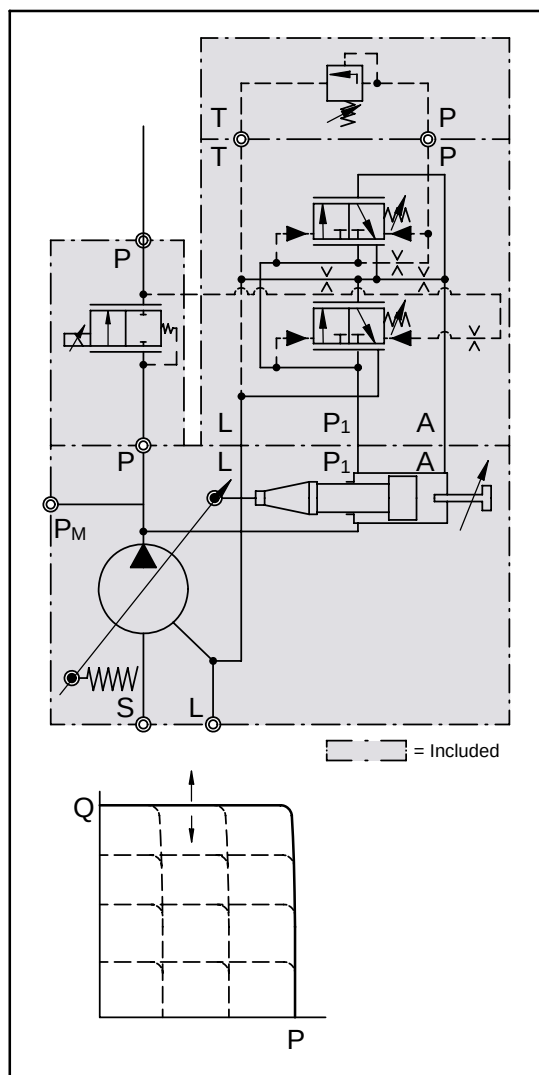
電子控制電路板(放大器)
Electronic Amplifier P-C Board



HF 雙閥負載感應型 + 比例流量調節器
2- Valve Load-sensing & Proportional flow control

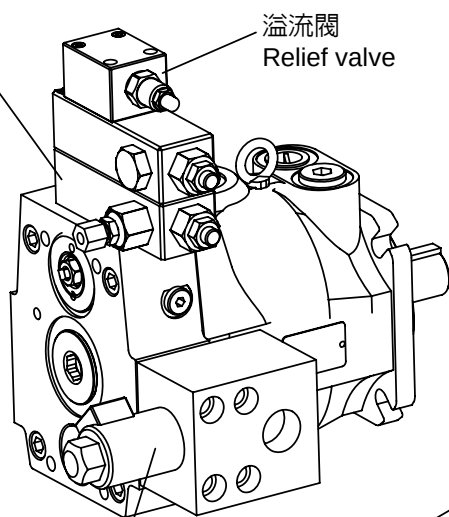
HF雙閥負載感應型+比例流量調節器

雙閥負載感應型比例流量調節器，能夠更精確的限制壓力。控制壓力油從外部回饋。調節器有約10bar的由廠家調節的壓差。壓差可做為主回路上的控制信號。因為調節器的壓差保持主油路的阻力不變，以此實現在第一條管路上對泵的流量進行調節。當傳動轉速發生變化或負載發生波動時，在一個較寬的工作範圍內不會影響執行元件的速度。加裝一個油壓比例流量閥，可達成電控比例流量。

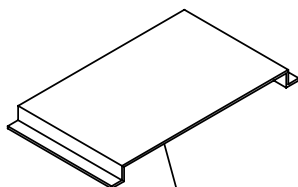


雙閥負載感應型調節器

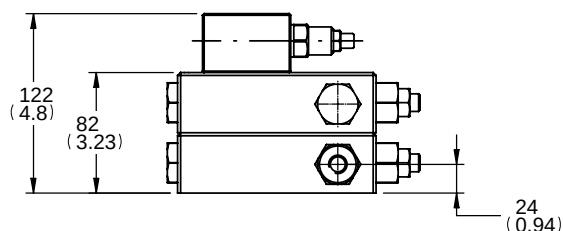
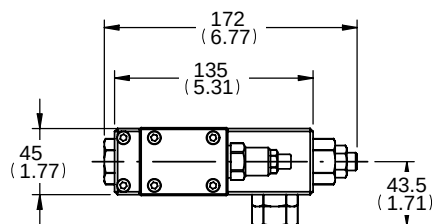
Load-sensing compensator with NG6 interface



比例流量閥
Proportional flow control



電子控制電路板(放大器)
Electronic Amplifier P-C Board



HK 負載感應型 +比例壓力 +比例流量調節器 Load-sensing & Proportional Pressure, Proportional flow control

HK負載感應型+比例壓力+比例流量調節器

HK型具有節能的特性，它可依系統要求，提供所需的最小壓力和流量，可節省不必要的能源耗費。

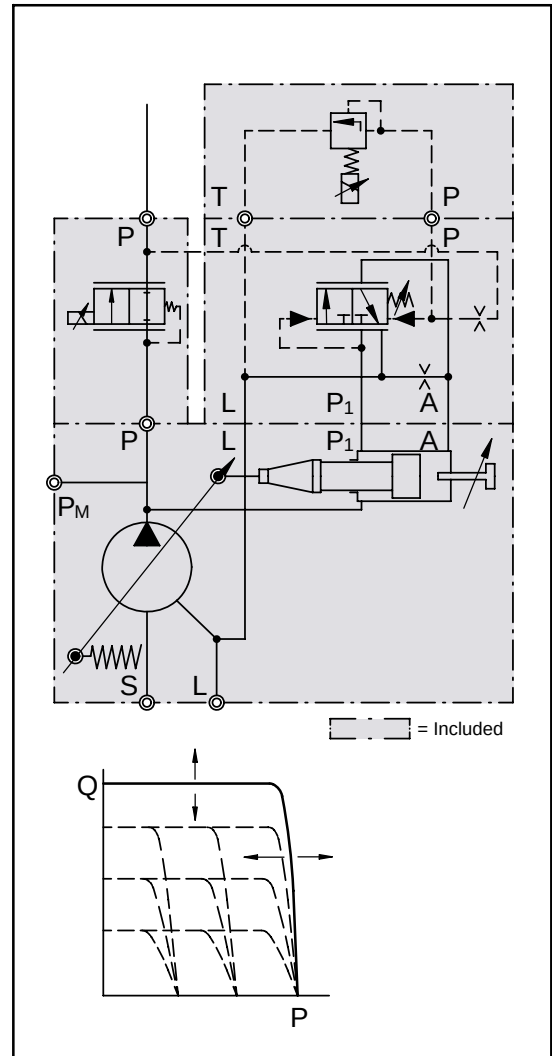
當待機時柱塞泵吐出流量近似零，電機功率損耗輸出近似零；當系統壓力升高到設定值時，柱塞泵的流量會自動減少，只補充系統所需流量，而壓力維持不變大幅減低油溫上升。

與一般葉片泵、齒輪泵+PQ閥所配合的油路相互比較約可節省電力30%~50%能源。油箱容積亦可較小。

負載感應型+比例流量調節器，控制壓力油從外部回饋。調節器有約10bar的由廠家調節的壓差。壓差可做為主回路上的控制信號。因為調節器的壓差保持主油路的阻力不變，以此實現在第一條管路上對泵的流量進行調節。

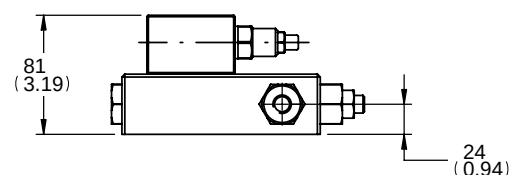
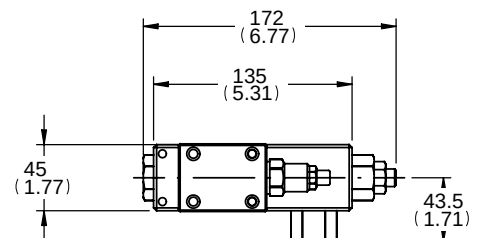
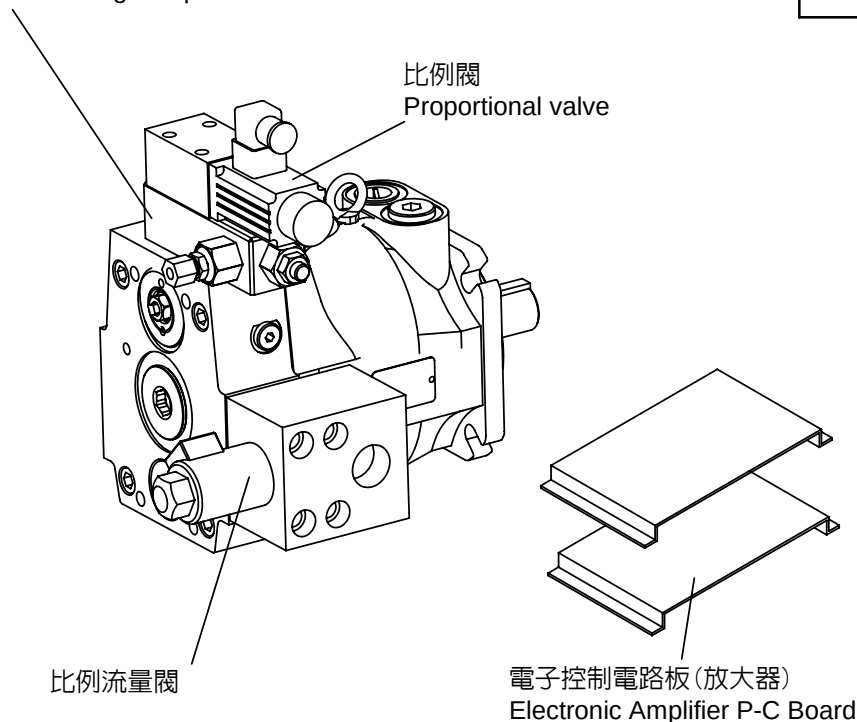
當傳動轉速發生變化或負載發生波動時，在一個較寬的工作範圍內不會影響執行元件的速度。

在調節器的上方，加裝一個油昇比例壓力調節器，達到電控比例壓力，P口加裝一個油昇比例流量閥可達成電控比例流量。



疊式負載感應型調節器

Load-sensing compensator with NG6 interface



HZ 雙閥負載感應型 +比例壓力 +比例流量調節器 2 Valve Load-sensing & Proportional Pressure, Proportional flow control

HZ 雙閥負載感應型+比例壓力+比例流量調節器
雙閥壓力調節器，能夠更精確的控制限制壓力。

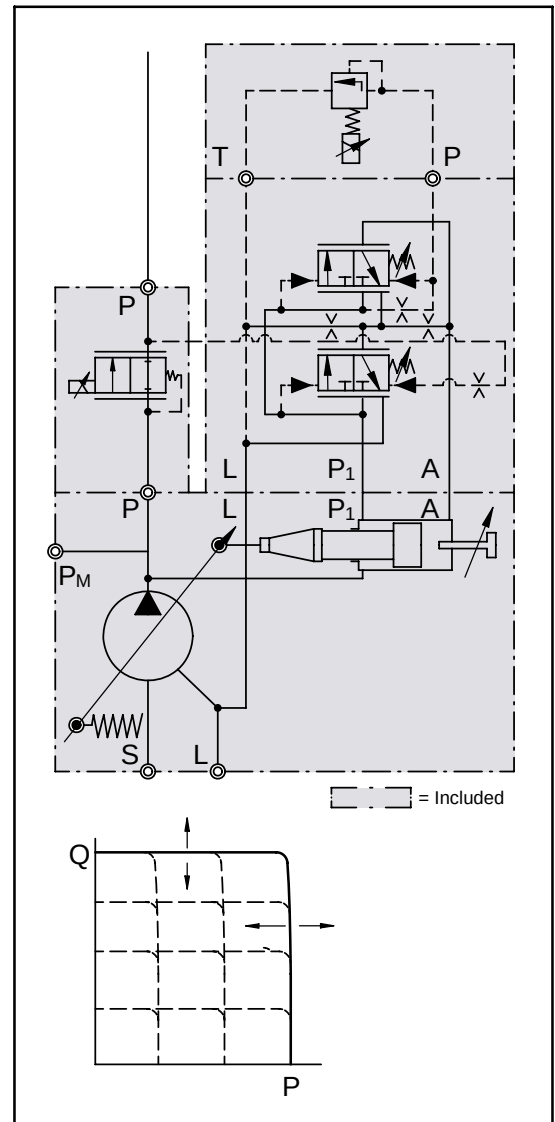
與HK型同樣具有節能的特性，它可依系統要求，提供所需求的最小壓力和流量，可節省不必要的能源耗費。

當待機時柱塞泵吐出流量近似零，電機功率損耗輸出近似零；當系統壓力升高到設定值時，柱塞泵的流量會自動減少，只補充系統所需流量，而壓力維持不變大幅減低油溫上升。

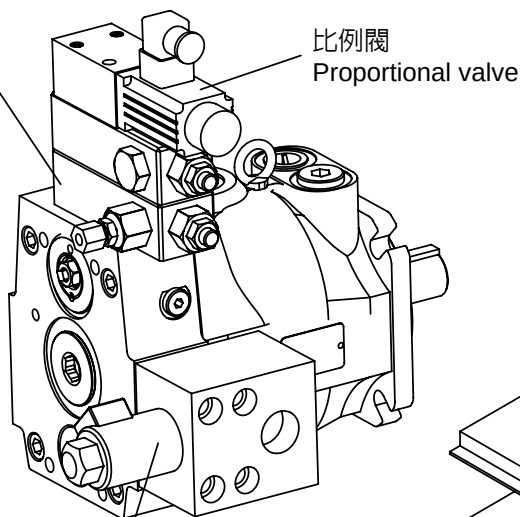
與一般葉片泵、齒輪泵+PQ閥所配合的油路相互比較約可節省電力30%~50%能源。油箱容積亦可較小。

負載感應型+比例流量調節器，控制壓力油從外部回饋。調節器有約10bar的由廠家調節的壓差。壓差可做為主回路上的控制信號。因為調節器的壓差保持主油路的阻力不變，以此實現在第一條管路上對泵的流量進行調節。
當傳動轉速發生變化或負載發生波動時，在一個較寬的工作範圍內不會影響執行元件的速度。

在調節器的上方，加裝一個油昇比例壓力調節器，達到電控比例壓力，P口加裝一個油昇比例流量閥可達成電控比例流量。

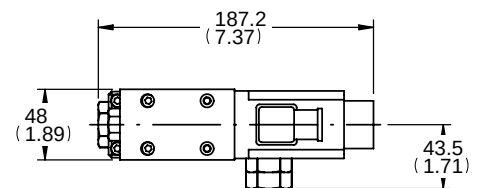


雙閥疊式負載感應型調節器
Load-sensing compensator with NG6 interface

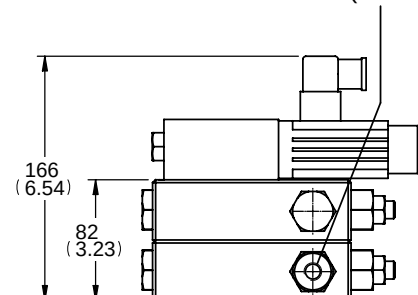


比例流量閥

電子控制電路板(放大器)
Electronic Amplifier P-C Board



負載感應接口 Load-sensing port
G 1/4 BSPP (threads code: 1)
7/16-20 UNF (threads code: 3)
M12xP1.5 ISO 6149-1 (threads code: 7)



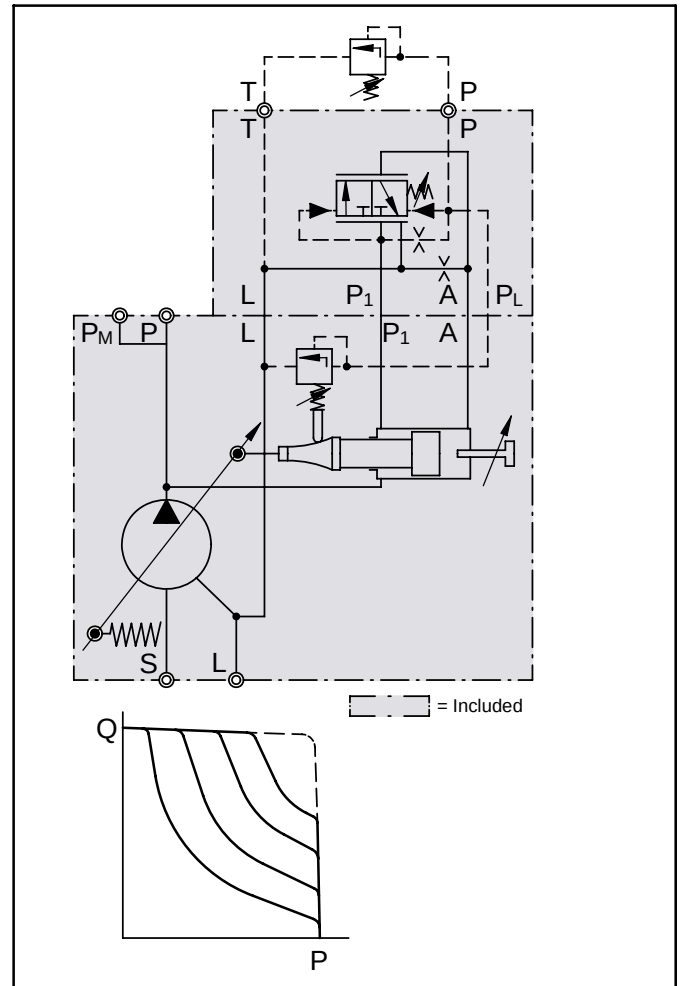
PA 疊式定馬力調節器 Horse power compensator with NG6 interface

PA疊式定馬力調節器

恆定馬達功率，是由定馬力調節器和先導閥進行調節，泵浦內部液壓做動產生機械式調節，泵浦排量與壓力之間產生穩定的聯繫。大排量時的作用壓力低於小排量時的作用壓力。進而達到恆定馬達功率的作用。

訂貨時可選擇所需的額定功率。（請參照訂購型號說明）

疊式定馬力調節器，於調節器上方預留一個NG6介面，可裝配油昇壓力先導閥，進行壓力調節。若裝配油昇比例壓力閥，則可達到電控比例壓力控制。

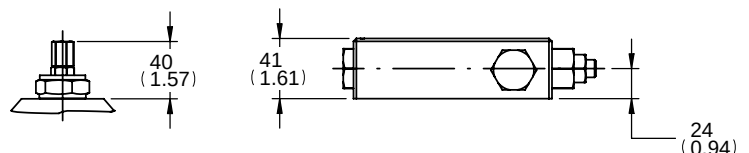
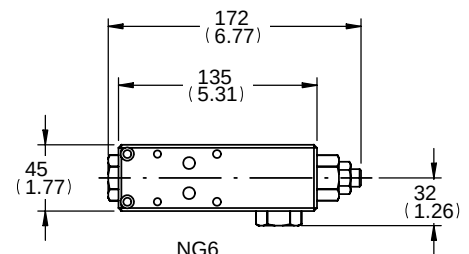
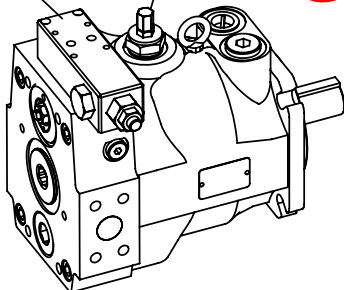


定馬力調節器
Horse power
compensator

馬力調節
Horse power control



嚴禁調整
Warning don't adjust



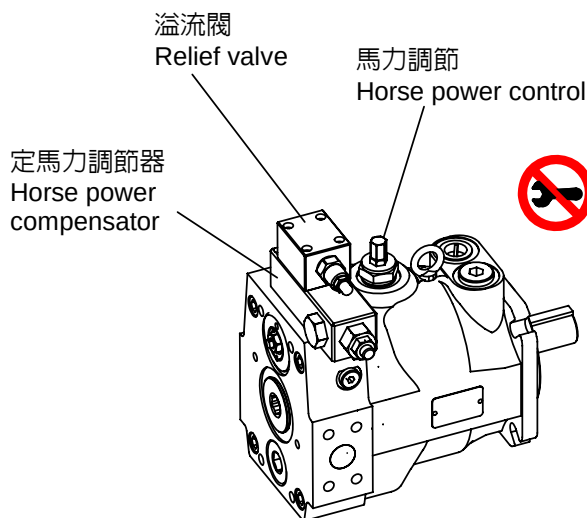
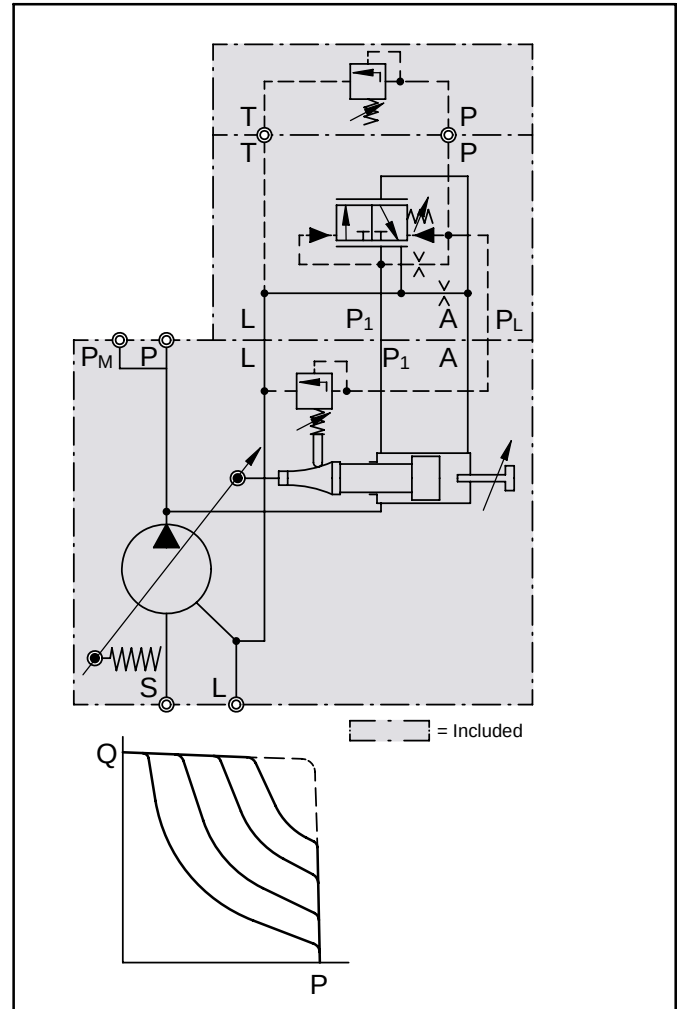
PM 疊式定馬力調節器 + 溢流閥 Horse power compensator with NG6 interface (Relief valve included)

PM 疊式定馬力調節器+溢流閥

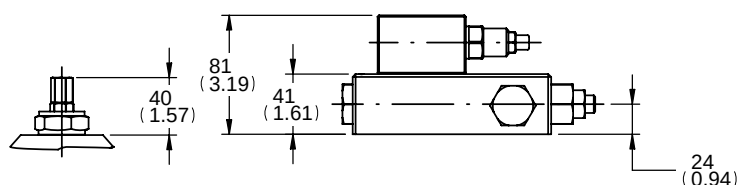
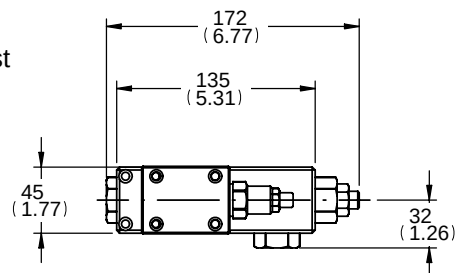
恆定馬達功率，是由定馬力調節器和先導閥進行調節，泵浦內部液壓做動產生機械式調節，泵浦排量與壓力之間產生穩定的聯繫。大排量時的作用壓力低於小排量時的作用壓力。進而達到恆定馬達功率的作用。

訂貨時可選擇所需的額定功率。（請參照訂購型號說明）

疊式定馬力調節器，於調節器上方裝配油昇壓力先導閥，可進行壓力先導調節。若裝配油昇比例壓力閥，則可達到電控比例壓力控制。



嚴禁調整
Warning don't adjust



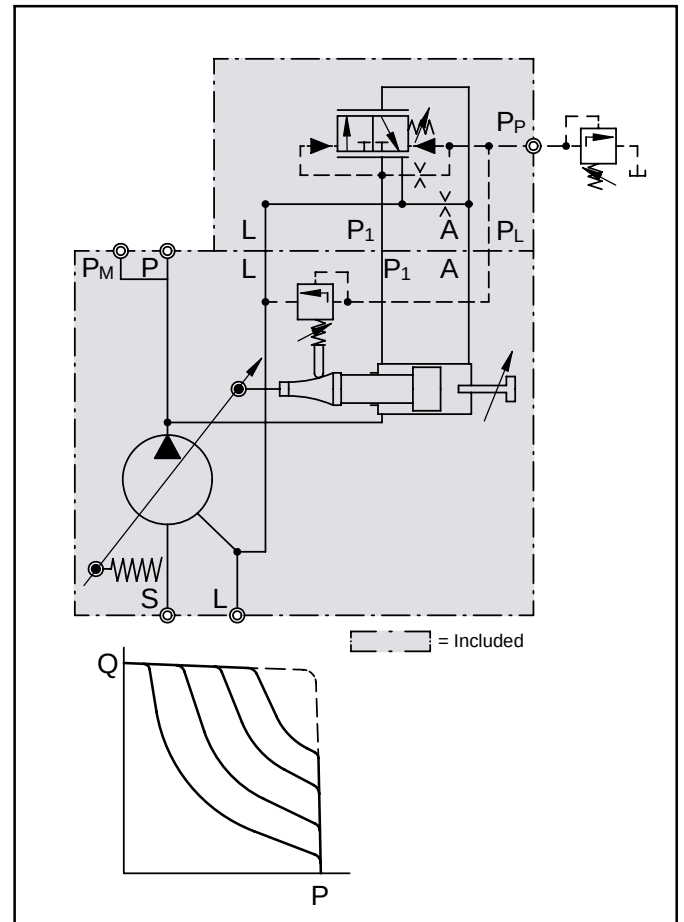
PG 定馬力 +外控壓力調節器 Horse power compensator with remote

PG定馬力外接遙控調節器

恆定馬達功率，是由定馬力調節器和先導閥進行調節，泵浦內部液壓做動產生機械式調節，泵浦排量與壓力之間產生穩定的聯繫。大排量時的作用壓力低於小排量時的作用壓力。進而達到恆定馬達功率的作用。

訂貨時可選擇所需的額定功率。(請參照訂購型號說明)

定馬力外接遙控調節器，可以在調節器的遙控接口PP，連接一個壓力先導閥來進行先導控制，可遠距離的安裝於機台上進行調節。



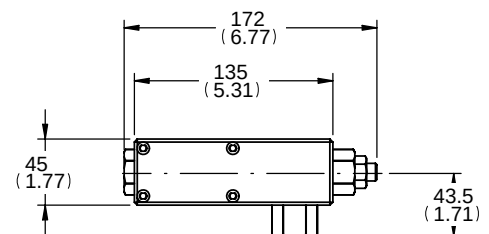
定馬力調節器
Horse power compensator

馬力調節
Horse power control



嚴禁調整

Warning don't adjust

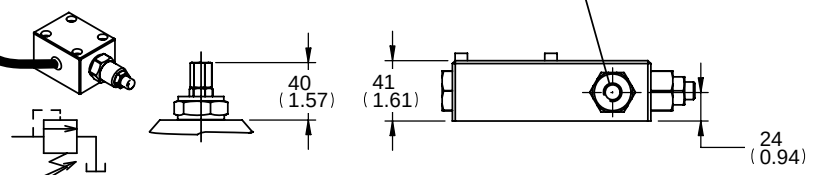


遙控接口 Remote port

G 1/4 BSPP (threads code: 1)

7/16-20 UNF (threads code: 3)

M12xP1.5 ISO 6149-1 (threads code: 7)



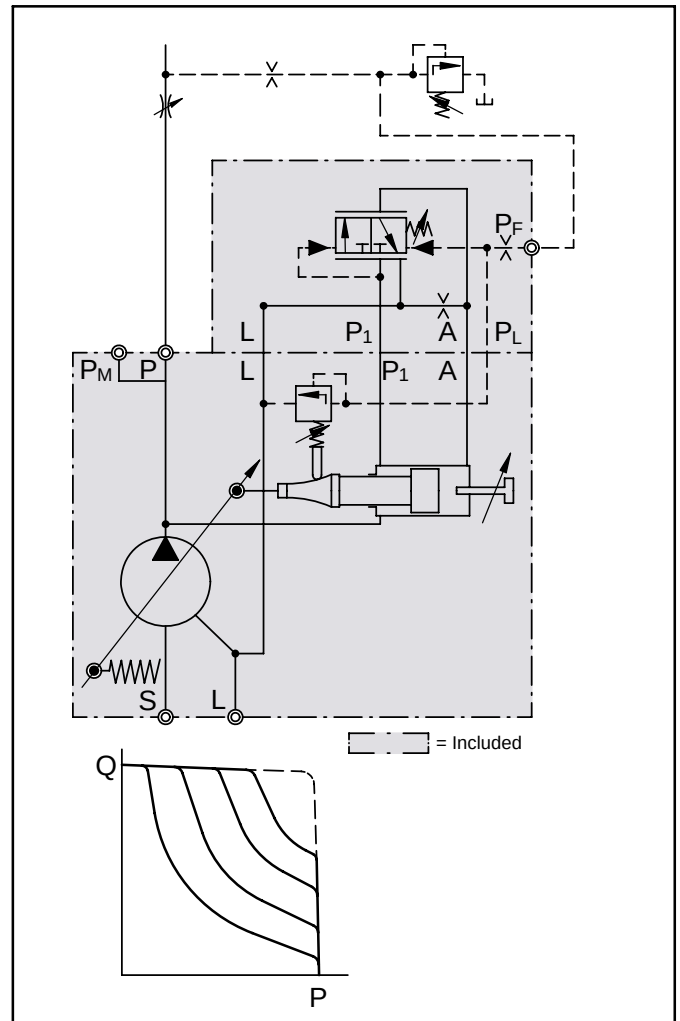
PL 定馬力+外控壓力+負載感應調節器 Horse power compensator with remote & Load-sensing compensator

PL 定馬力+外控壓力+負載感應調節器

恆定馬達功率，是由定馬力調節器和先導閥進行調節，泵浦內部液壓做動產生機械式調節，泵浦排量與壓力之間產生穩定的聯繫。大排量時的作用壓力低於小排量時的作用壓力。進而達到恆定馬達功率的作用。

訂貨時可選擇所需的額定功率。(請參照訂購型號說明)

定馬力+外控壓力+負載感應調節器，在調節器的負載感應接口PF，連接外部回饋，作為主回路上的控制信號實現在第一條管路上對泵的流量進行調節，並可在回饋管線上加裝一壓力先導閥來進行先導控制。

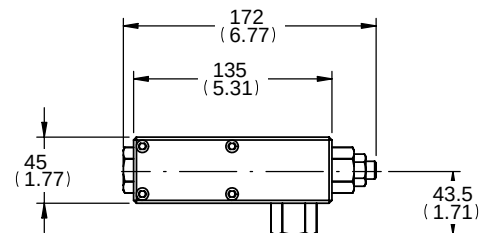


定馬力調節器
Horse power compensator

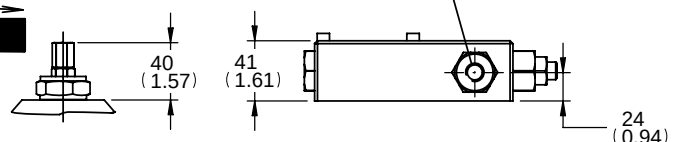
馬力調節
Horse power control



嚴禁調整
Warning don't adjust



負載感應接口 Load-sensing port
G 1/4 BSPP (threads code: 1)
7/16-20 UNF (threads code: 3)
M12xP1.5 ISO 6149-1 (threads code: 7)

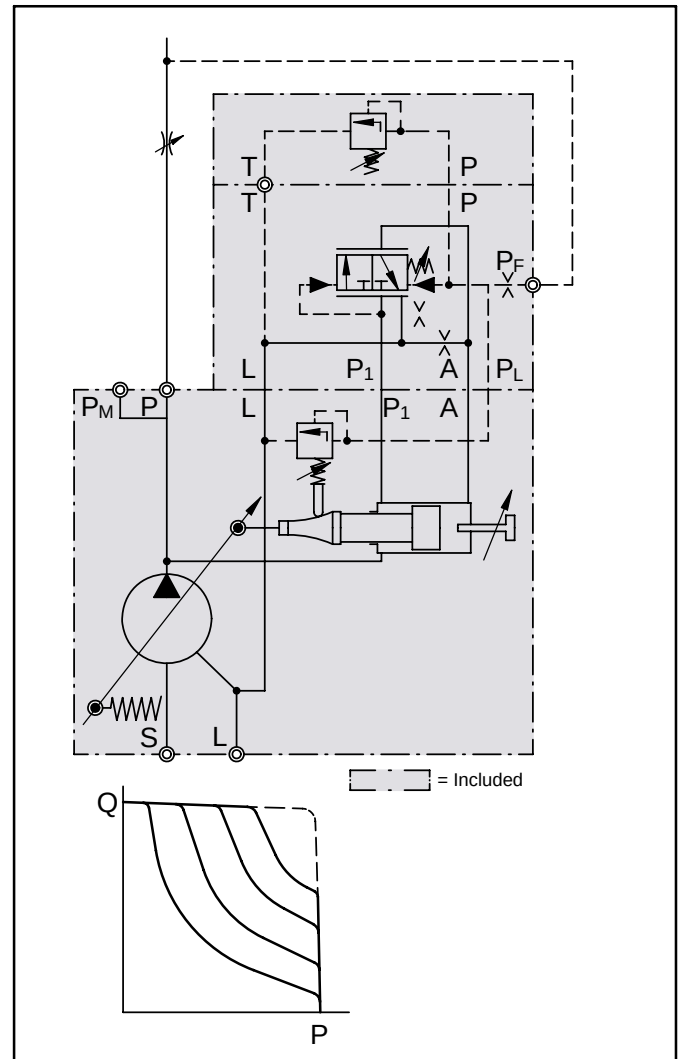


PH 疊式定馬力+溢流閥+負載感應調節器 Horse power compensator with NG6 interface (Relief valve included) & Load-sensing compensator

PH疊式定馬力+溢流閥+負載感應調節器
恆定馬達功率，是由定馬力調節器和先導閥進行調節，泵浦內部液壓做動產生機械式調節，泵浦排量與壓力之間產生穩定的聯繫。大排量時的作用壓力低於小排量時的作用壓力。進而達到恆定馬達功率的作用。

訂貨時可選擇所需的額定功率。(請參照訂購型號說明)

疊式定馬力+溢流閥+負載感應調節器，在其調節器的上方，加裝一個先導閥，增加壓力調節的功能。並在調節器的負載感應接口PF，連接外部回饋，作為主回路上的控制信號實現在第一條管路上對泵的流量進行調節。



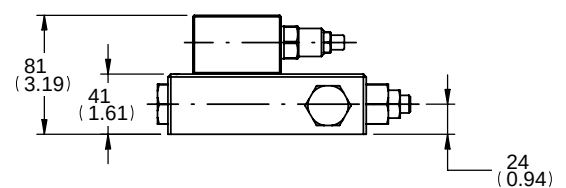
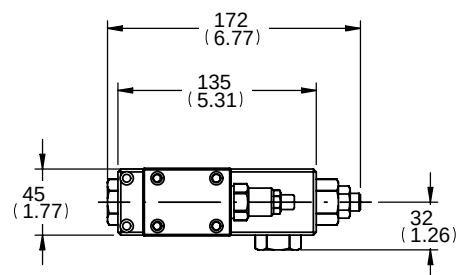
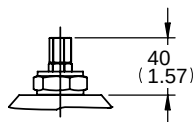
定馬力調節器
Horse power compensator

溢流閥
Relief valve

馬力調節
Horse power control



嚴禁調整
Warning don't adjust



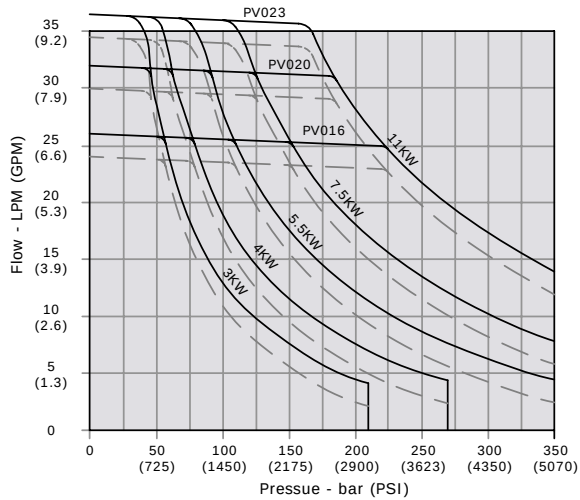
PV Axial Piston Pump

YEOSHE

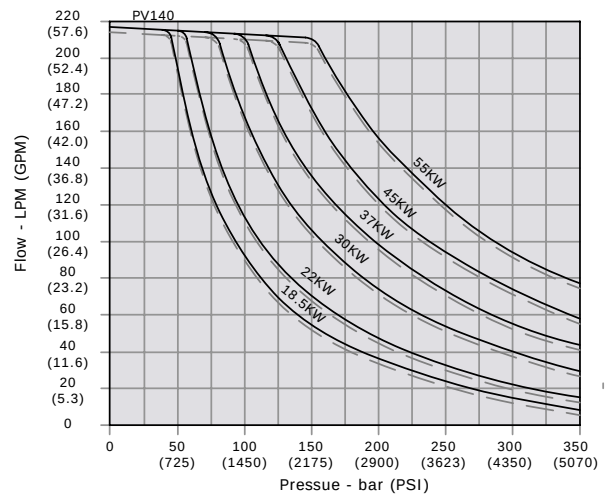
定馬力調節器/功率曲線圖

Horse Power Compensator, diagrams

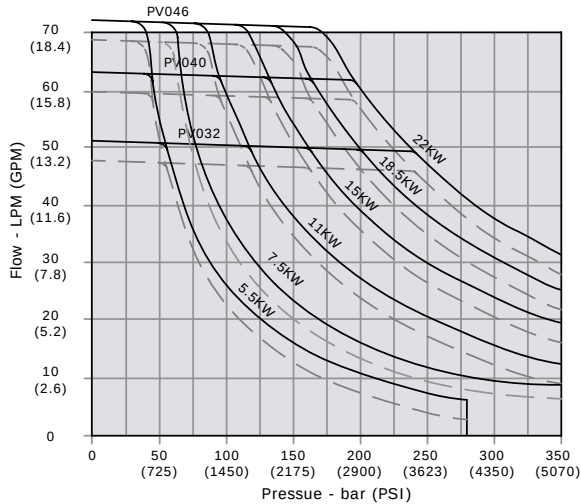
PV016 ~ PV023



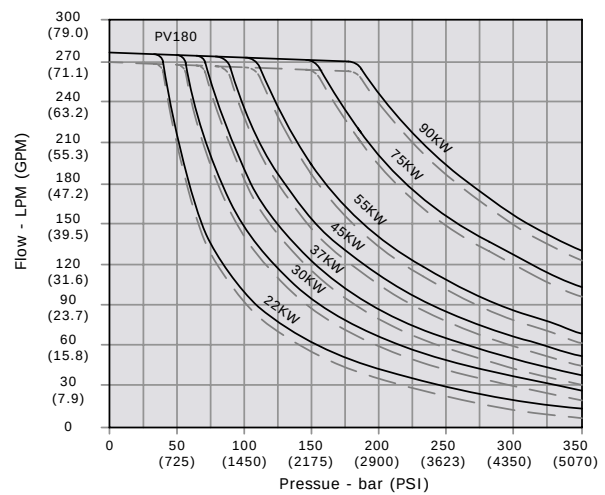
PV140



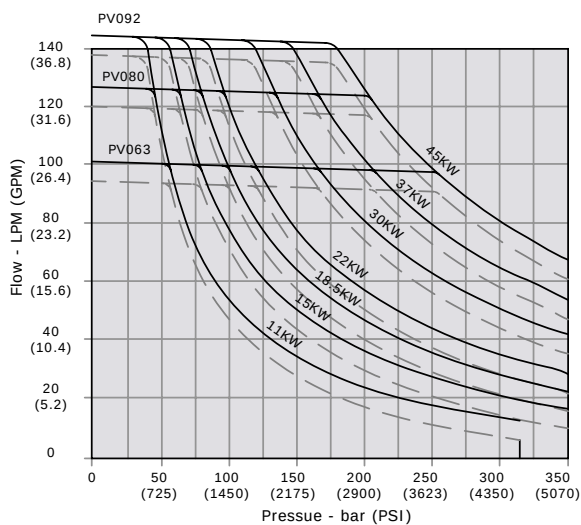
PV032 ~ PV046



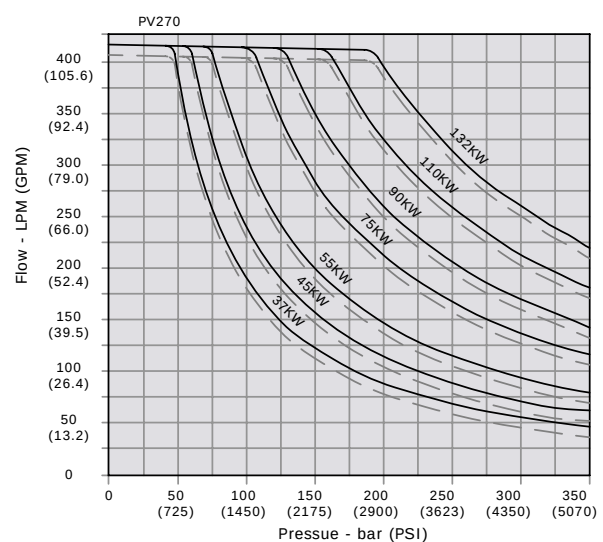
PV180



PV063 ~ PV092



PV270



所畫出的曲線適用於下列狀況：

速度：1500(---)和1800(——) rev/min

溫度：t=50℃

介質：HLP, ISO VG46

黏度：v=46mm²/s, 40℃時

The diagrams shown are only valid for the following working conditions:

speed: n=1500 (---) and 1800 (——) rev/min

temperature: t=50℃

fluid: mineral oil HLP, ISO VG46

viscosity: v=46 mm²/s at 40℃

FV 比例流量 + 流量回饋控制 Proportional displacement with flow compensation

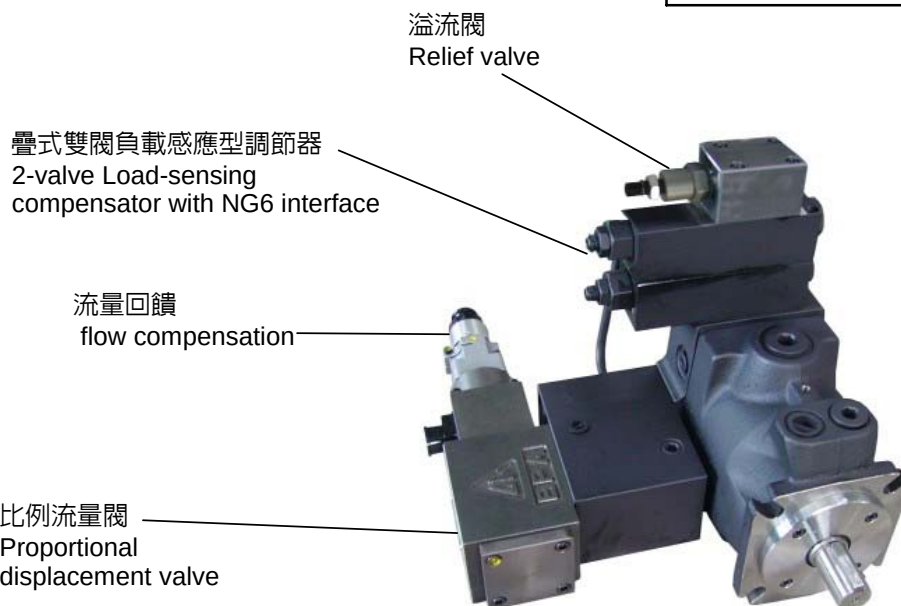
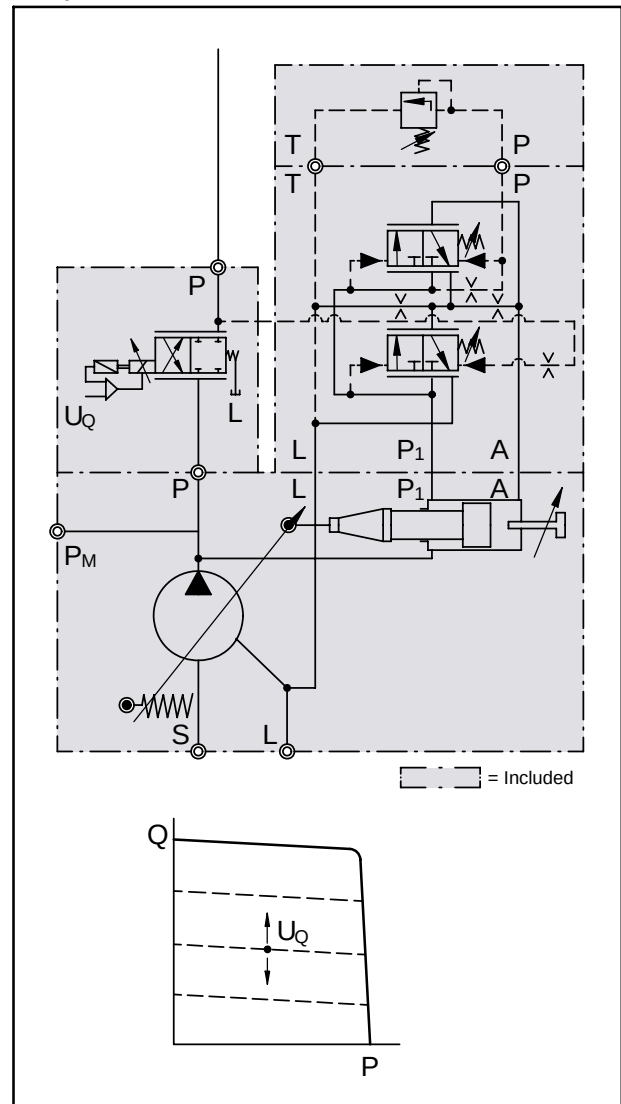
FV比例流量+流量回饋控制

準確的限制壓力，使用疊式雙閥負載傳感調節器。
回路示意圖如右圖所示。
為了消除壓力與流量相互影響，使用兩個分開的調節閥用於流量調節和壓力調節。

疊式雙閥負載感應型調節器，在其調節閥的上方，加裝一個先導閥，增加一個壓力調節功能。

採用超高響應電溢比例流量閥，除了可以無段電控流量外，可以感測流量控制器位置，連續不斷的將位置數據回饋予電控箱，與預先給定值進行比較，偏差值產生控制電流信號進行流量調節，達到實際流量準確符合給定流量。

此控制型式可使用在精確控制系統上，精準的流量控制可達到精密行程控制。



FR 比例壓力 +比例流量 +流量回饋控制 Proportional pressure, proportional displacement with flow compensation

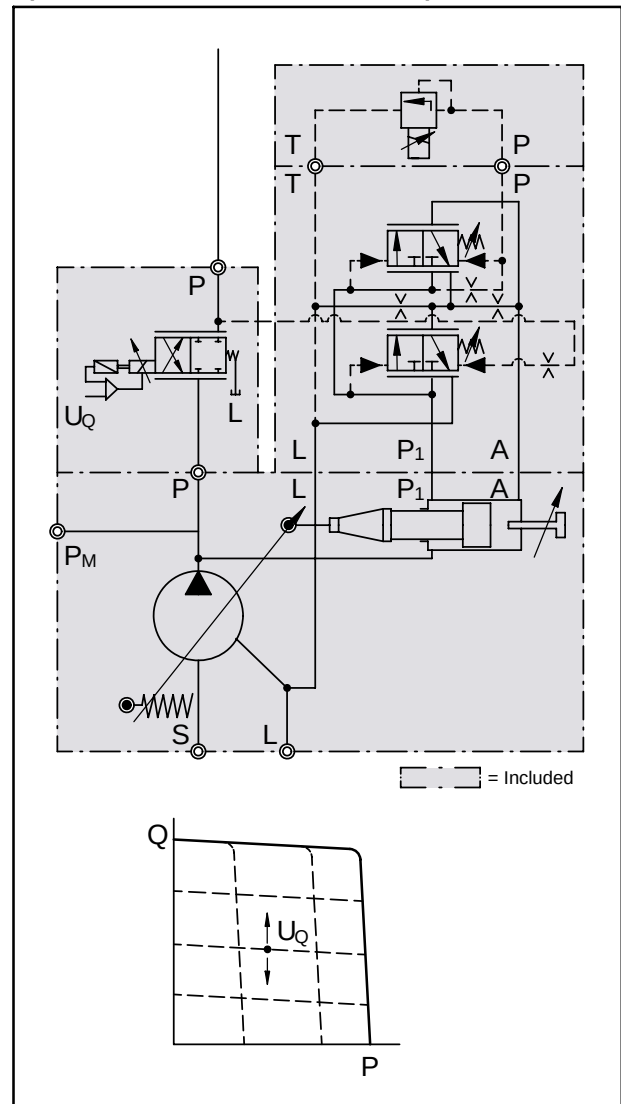
FR比例流量+流量回饋控制

準確的限制壓力，使用疊式雙閥負載傳感調節器。
回路示意圖如右圖所示。
為了消除壓力與流量相互影響，使用兩個分開的調節閥用於流量調節和壓力調節。

疊式雙閥負載感應型調節器，在其調節閥的上方，加裝一個油昇比例壓力閥，達到電控比例壓力控制的目的。

採用超高響應電溢比例流量閥，除了可以無段電控流量外，可以感測流量控制器位置，連續不斷的將位置數據回饋予電控箱，與預先給定值進行比較，偏差值產生控制電流信號進行流量調節，達到實際流量準確符合給定流量。

此控制型式可使用在精確控制系統上，精準的流量控制可達到精密行程控制。

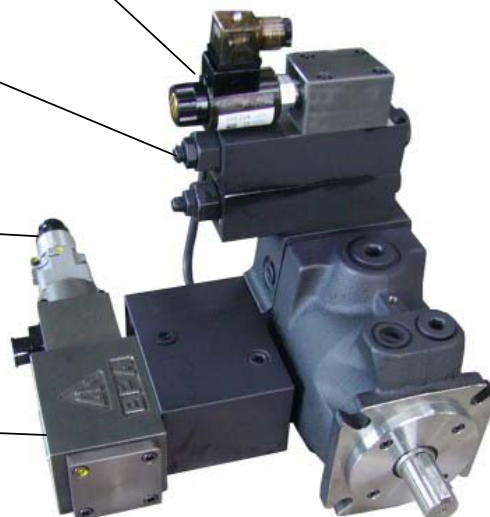


比例壓力閥
Proportional pressure valve

疊式雙閥負載感應型調節器
2-valve Load-sensing compensator with NG6 interface

流量回饋
flow compensation

比例流量閥
Proportional displacement valve



B 油壓缸型 無段流量變速控制 Multi-stage Flow & Single-stage Pressure Compensator Control (With Cylinder)

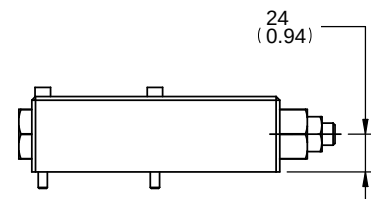
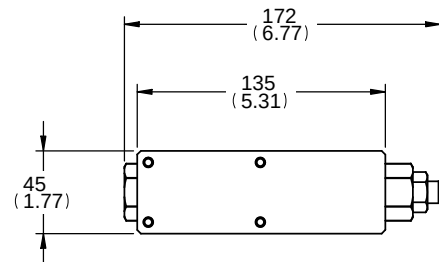
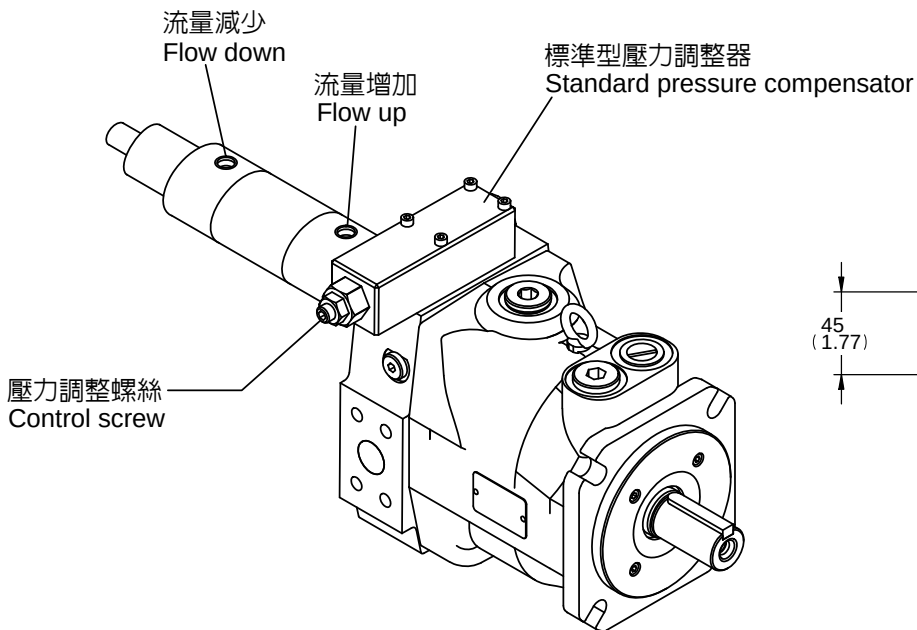
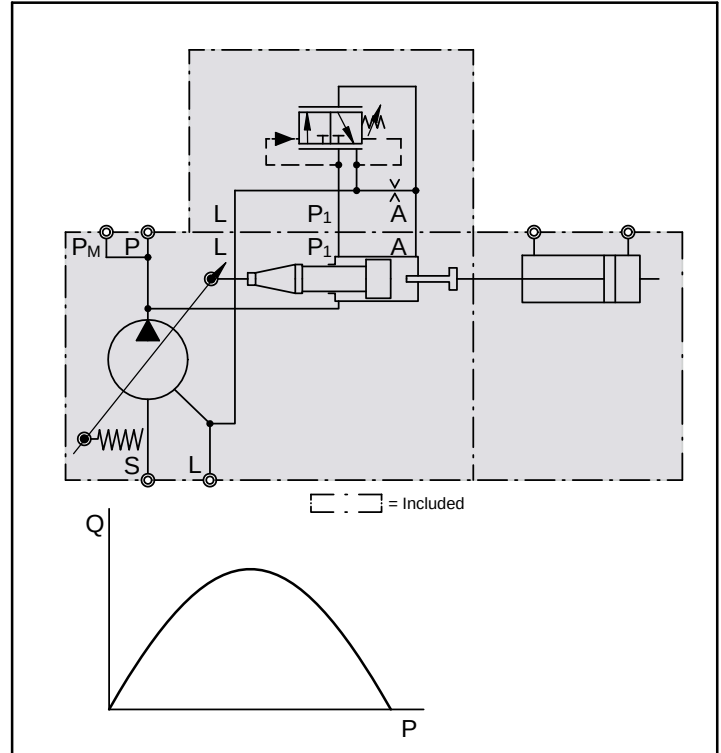
油壓缸型 無段流量變速控制代號B

利用加載油壓缸，由外部油壓缸控制前進後退，推動泵浦斜盤角度變化大小，可達到無變流量變速控制。

流量可從零調至最大，作多段變化，壓力保持在設定壓力。

機械作動的流量控制，相對於電磁式比例流量，價格較低，維護容易。

外部控制若利用電磁方向閥或手動換向閥，可使整個系統更自動化。

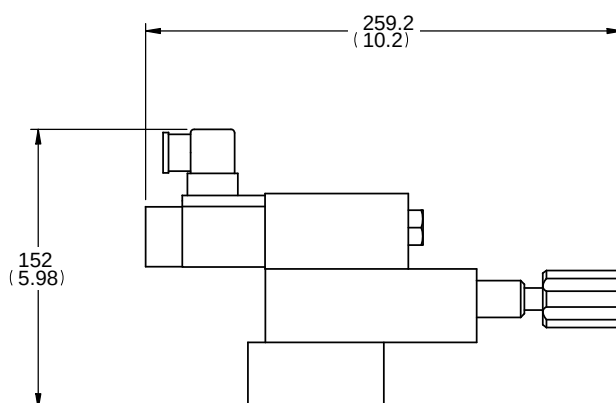
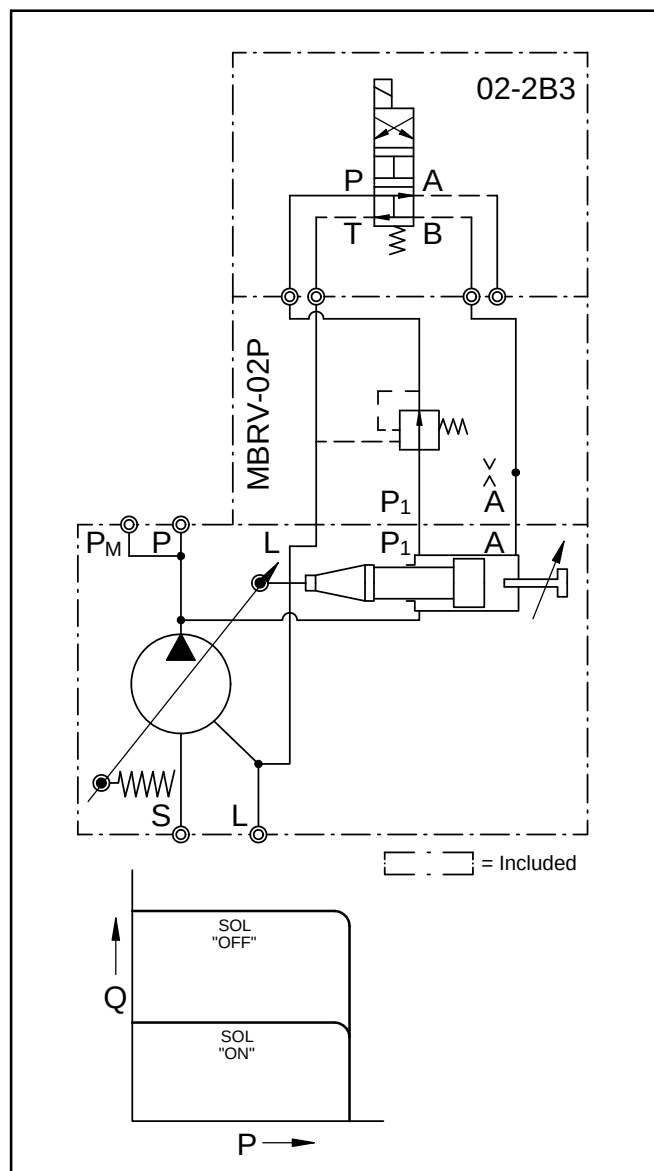
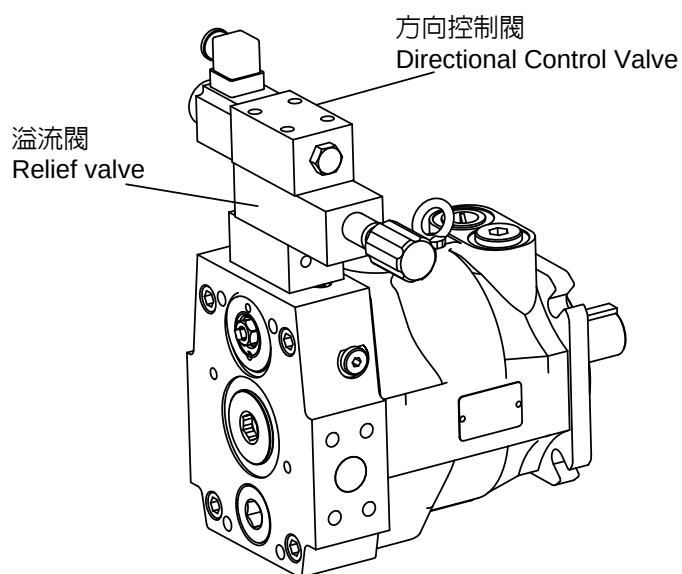


L 電控兩段流量調節器 Dual Flow compensator

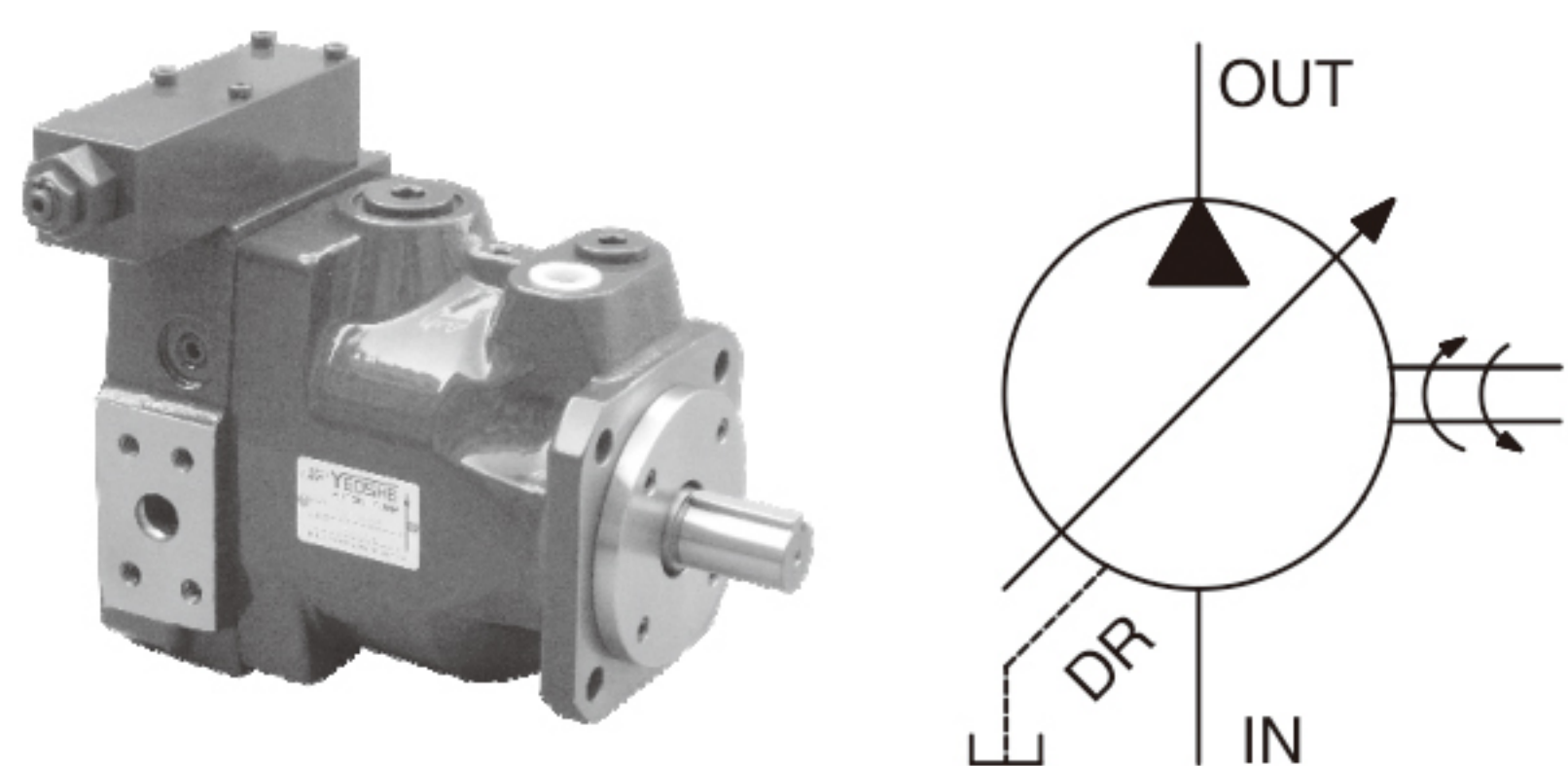
電控兩段流量調節器L

利用方向控制閥來控制油路改變，達到大流量與小流量的切換。

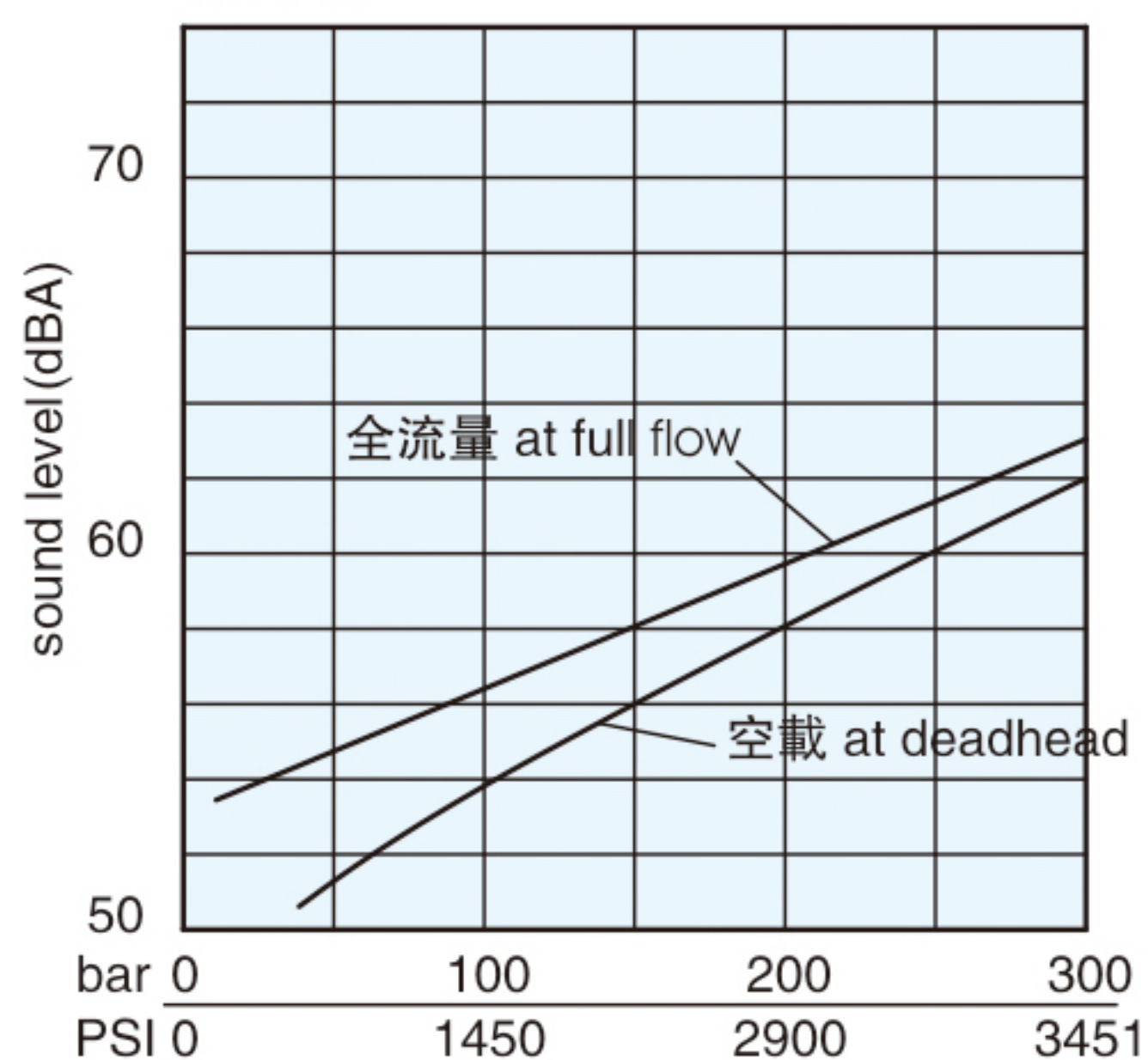
適用於兩段行程，速度不同的系統使用。



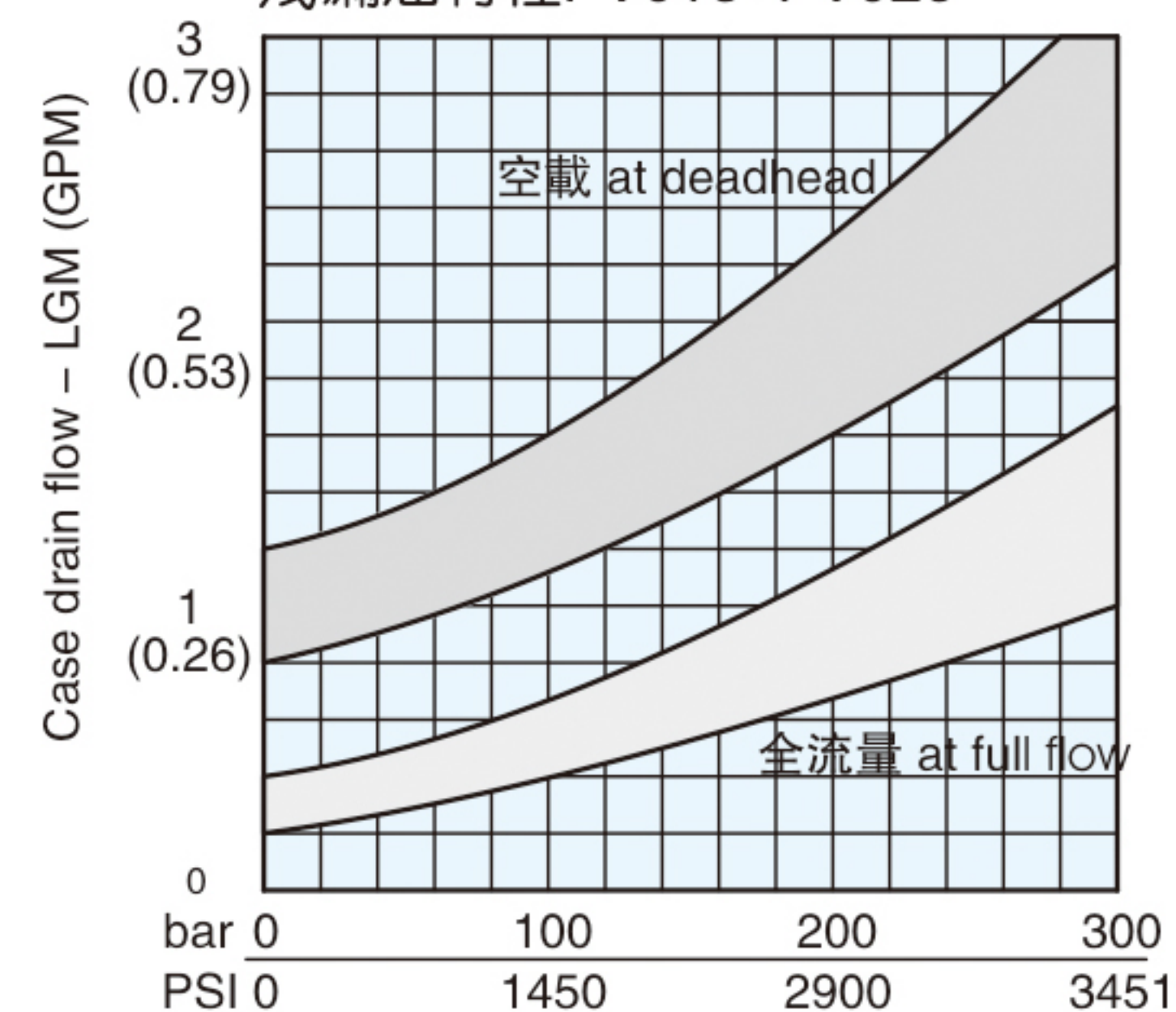
PV016~PV023



噪音級PV016~PV023



洩漏油特性PV016~PV023



效率和洩漏油特性

PV016, PV020, PV023

效率特性曲線是在傳動轉速 $n=1500\text{min}^{-1}$ ，溫度為 40°C 和油液粘度為 $46\text{mm}^2/\text{s}$ 時測定的。

泵體洩漏油和調節器的控制油流通過泵的洩漏油口流回油箱。對於先道式調節器（代號G*，H*，功率調節器和P-Q調節器）來講，如果先道閥的控制油也同樣地流入泵體的話，那麼所表示的值將高出1-1.2 l/min。

請您注意：下面所表示的洩漏值只適用於靜態。當為動態載荷時，通過快速調節器過程，控制活塞所排出的油液也同樣地經過泵的洩漏油口流回油箱。該動態調節的流量瞬時可達40 l/min。

所以洩漏油管路的橫截面應為所有接口的橫截面並盡可能直接及短地與油箱相連。

Efficiency and Case drain flows

PV016~ PV023

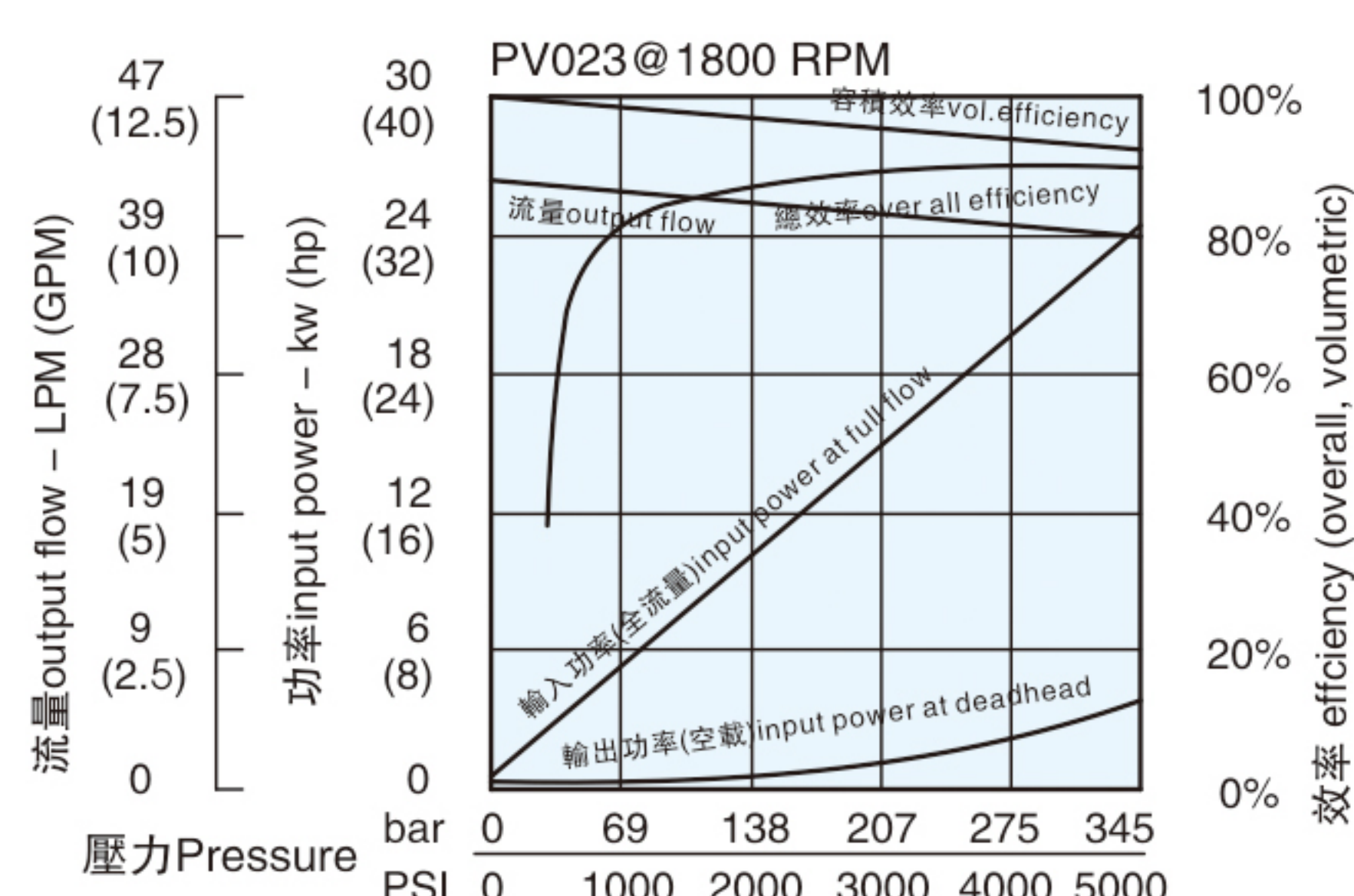
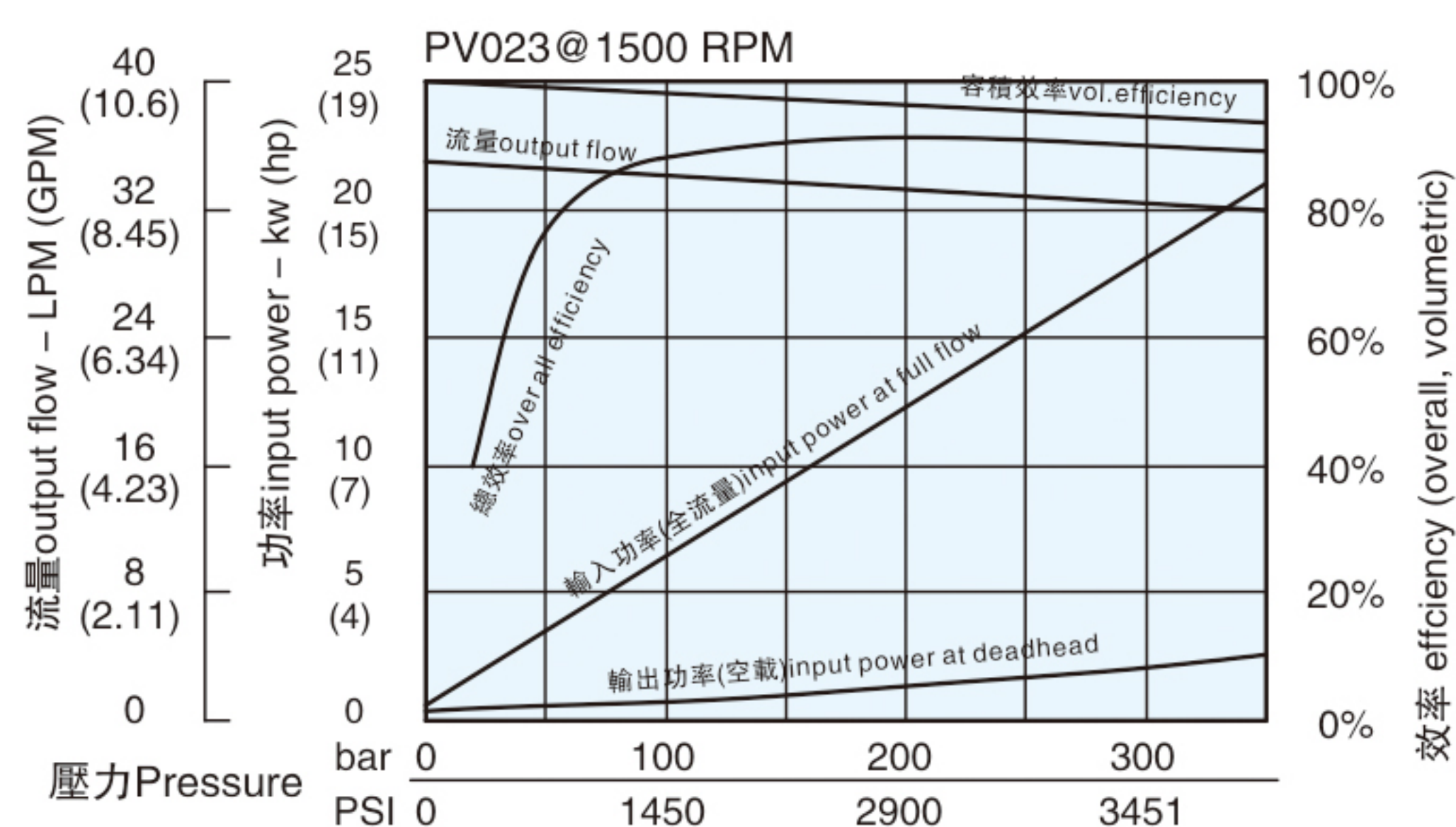
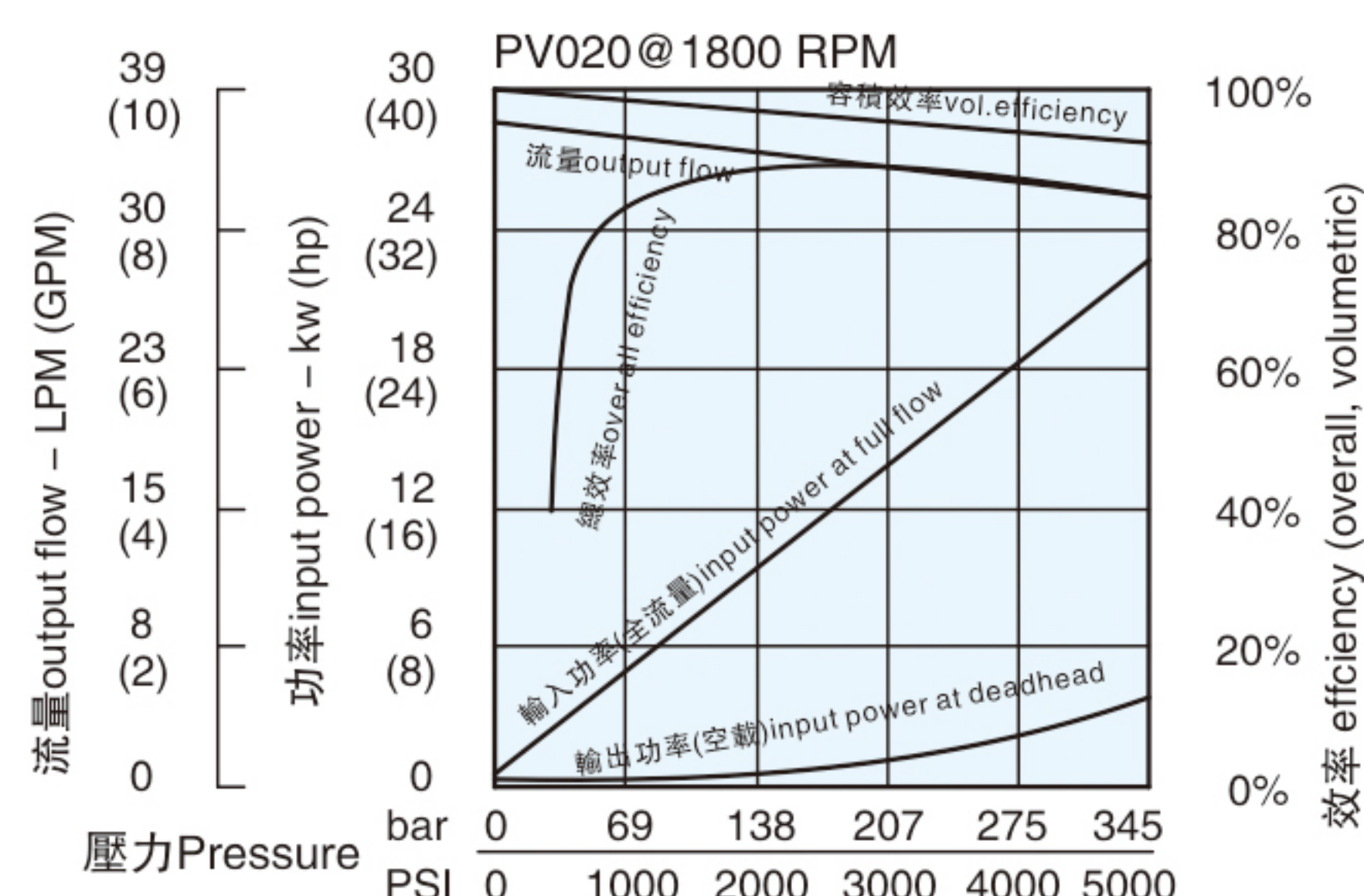
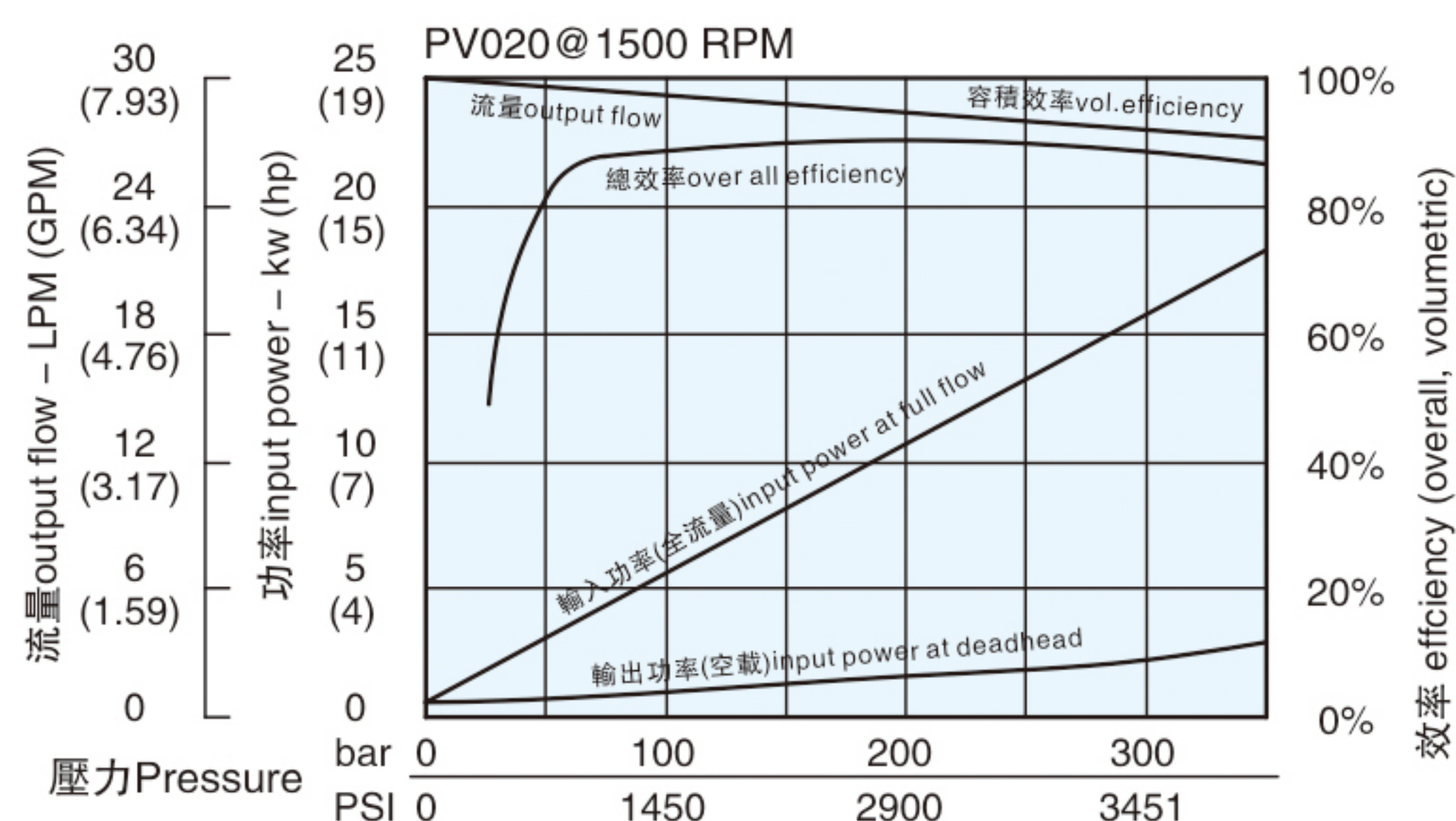
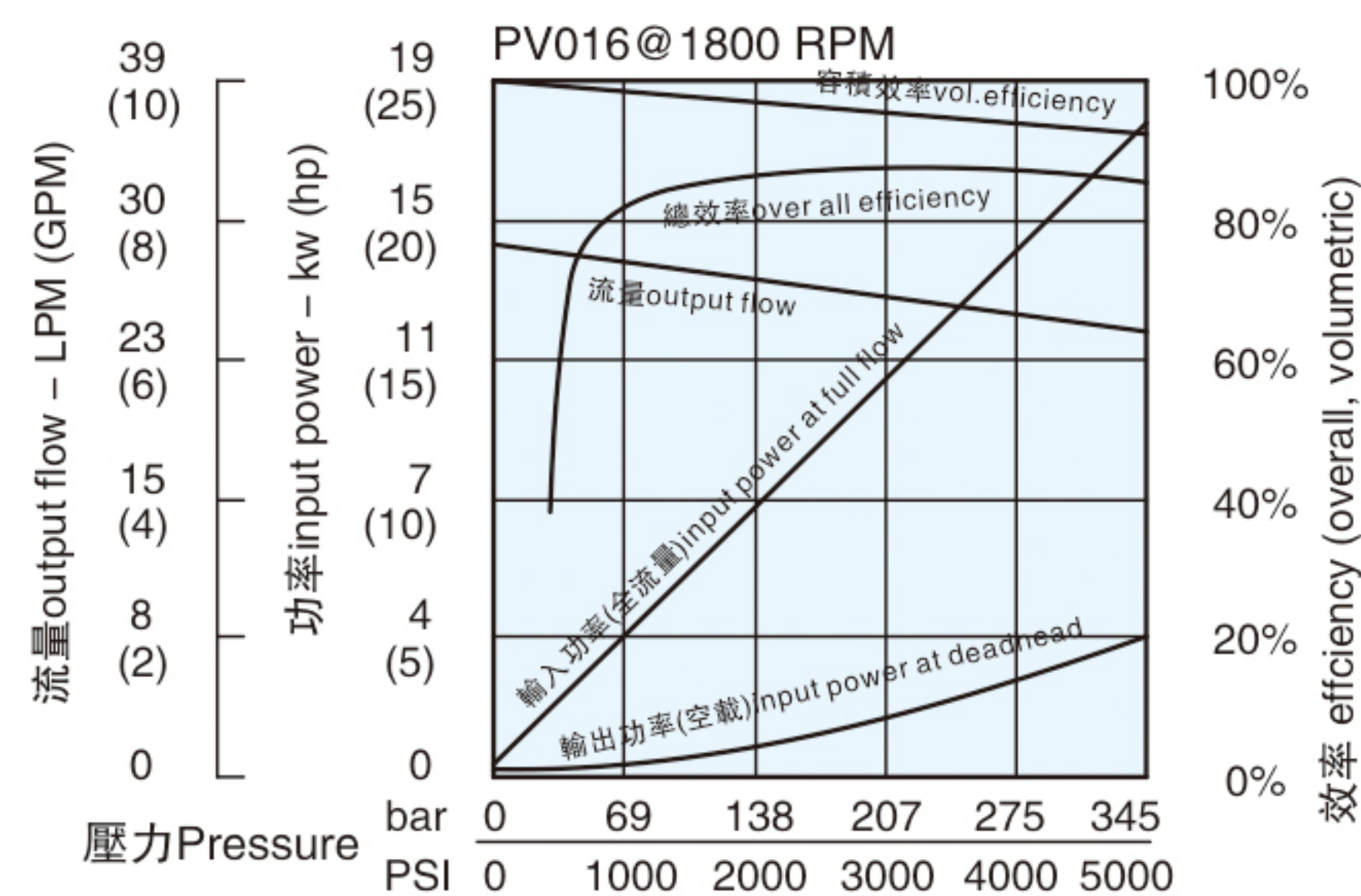
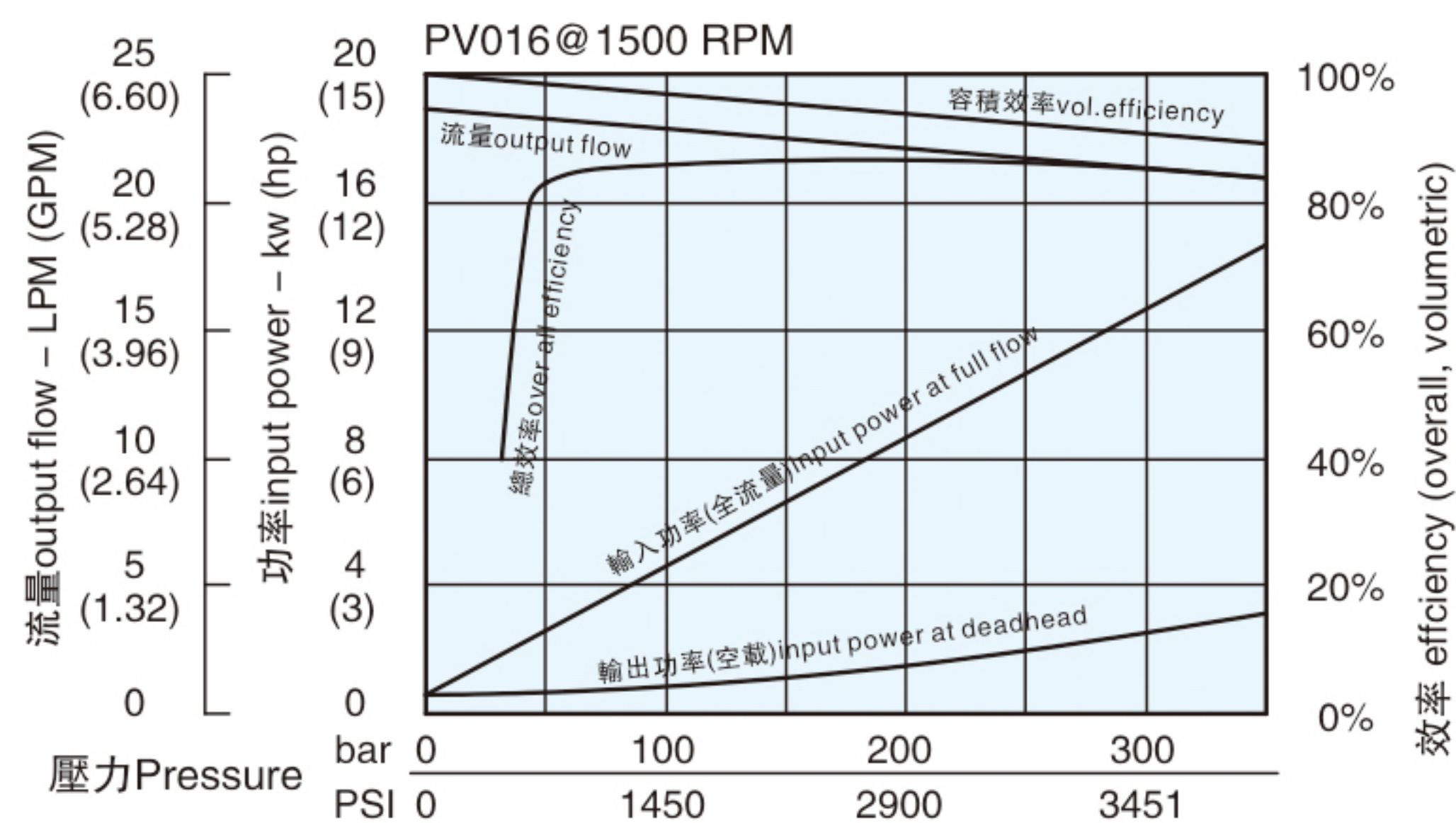
The efficiency and power graphs are measured at an input Speed of $n = 1500\text{min}^{-1}$, a temperature of 40°C and a fluid viscosity of $46\text{mm}^2/\text{s}$.

Case drain flow and compensator control flow leave via the drain port of the pump. To the valves shown are to be added 1 to 1.2l/min, if at pilot operated compensator (code G*, H* horse power compensator and P/Q-control) the control flow of the pressure pilot valve also goes through the pump.

Please note: The valves shown below are only valid for Static operation. Under dynamic conditions and at rapid compensator of the pump the volume displaced by the servo piston also leaves the case drain port.

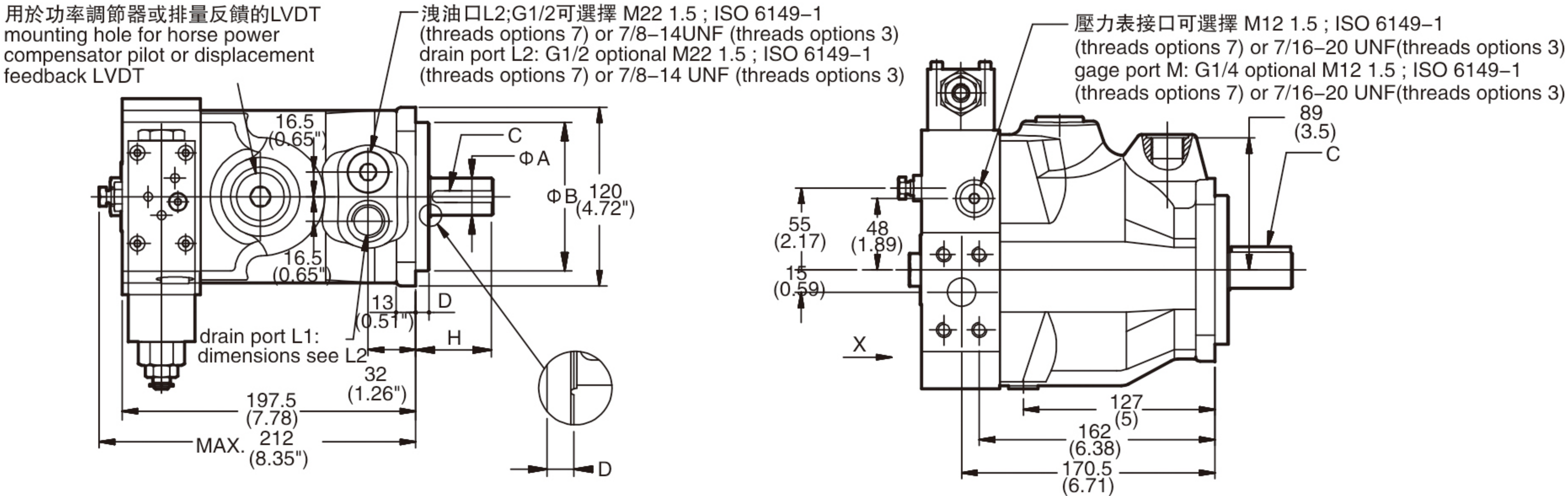
This dynamic control flow can reach up to 60l/min !

Therefore the case drain line is to lead to the reservoir at full size and without restrictions at short and direct as possible.

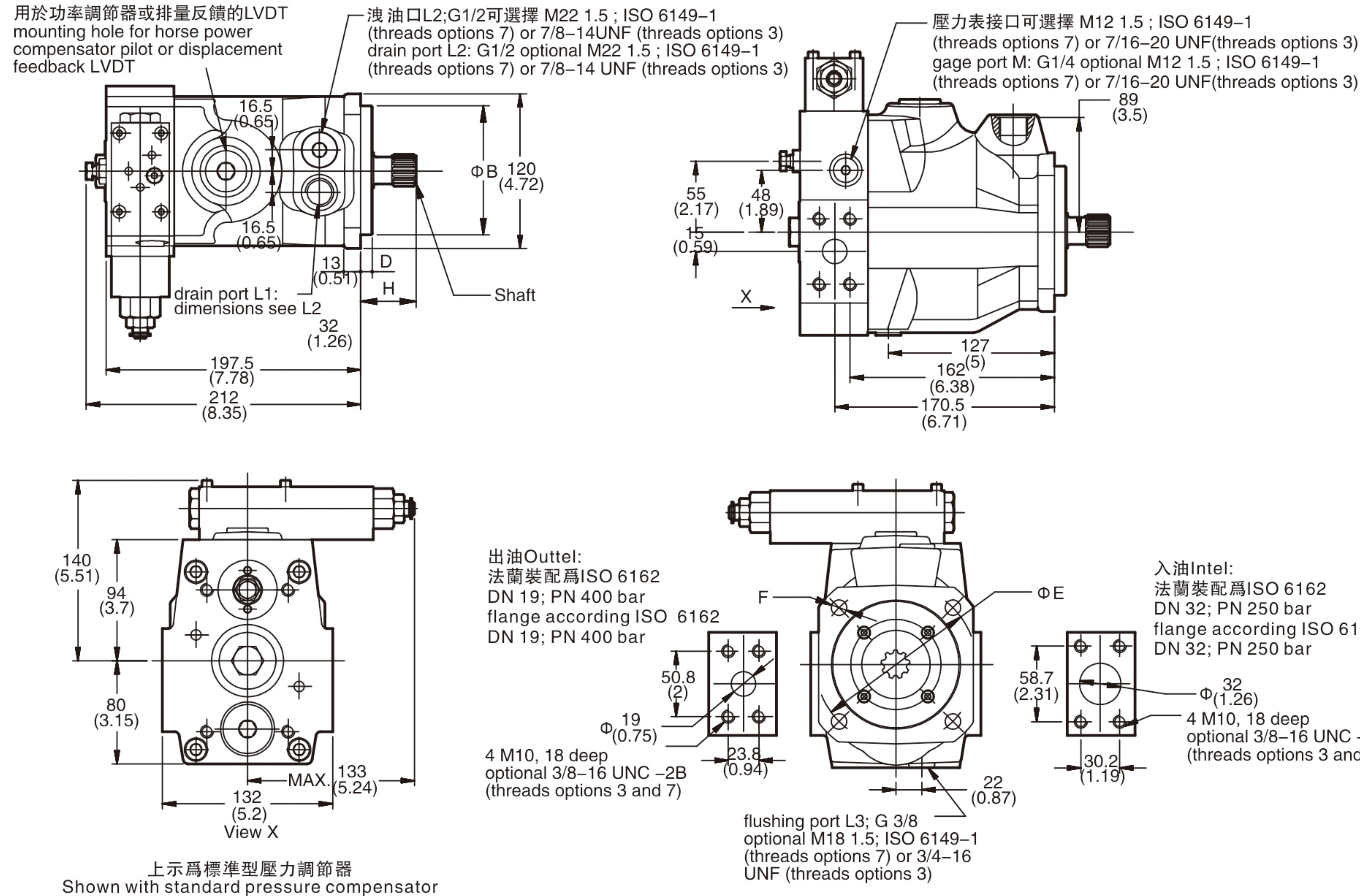


PV016~PV023

連結型式Mounting:M,N

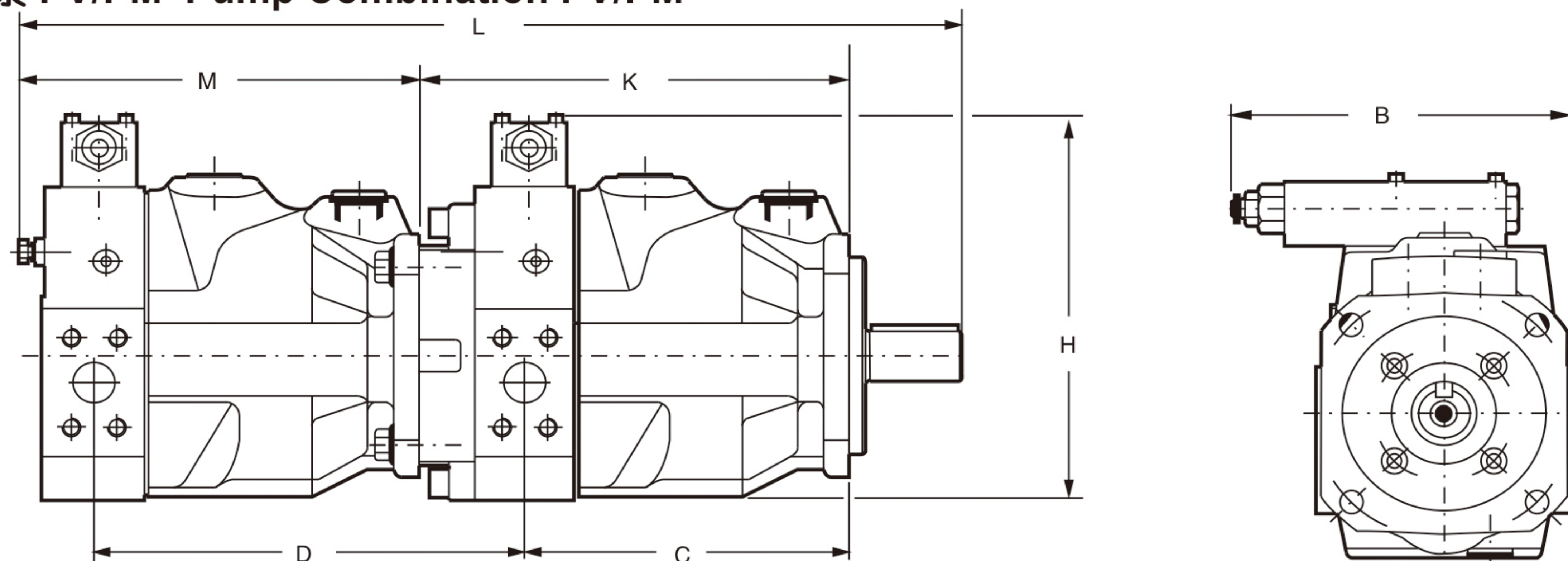


連結型式Mounting:K,D



PV016 ~ PV023 規格 Dimensions									
Mounting			Φ A	Φ B	C	D	Φ E	F	H
M(standard)	公制 Metric	ISO3019/2 Splined,DIN5480	Φ 25	Φ 100 h8	8x7x40	9	125	12	52
N	英制 Inch	ISO3019/2 Cylindric,key	Φ 25.4(1")	Φ 101.6(4")	6.35x6.35x40 (1/4")	9.4(0.37")	127(5")	12(0.47")	50(1.97")
Mounting			Shaft		Φ B	D	Φ E	F	H
K(standard)	公制 Metric	ISO3019/2 Cylindric,key	Splined W25x1.5x15x8f DIN 5480		Φ 100 h8	9	125	12	43
D	英制 Inch	ISO3019/1 Splined,SAE	Splined 15T 16/32 DP,flat root,side fit ANSI B92.1		Φ 101.6(4")	9.4(0.37")	127(5")	12(0.47")	46(1.81")

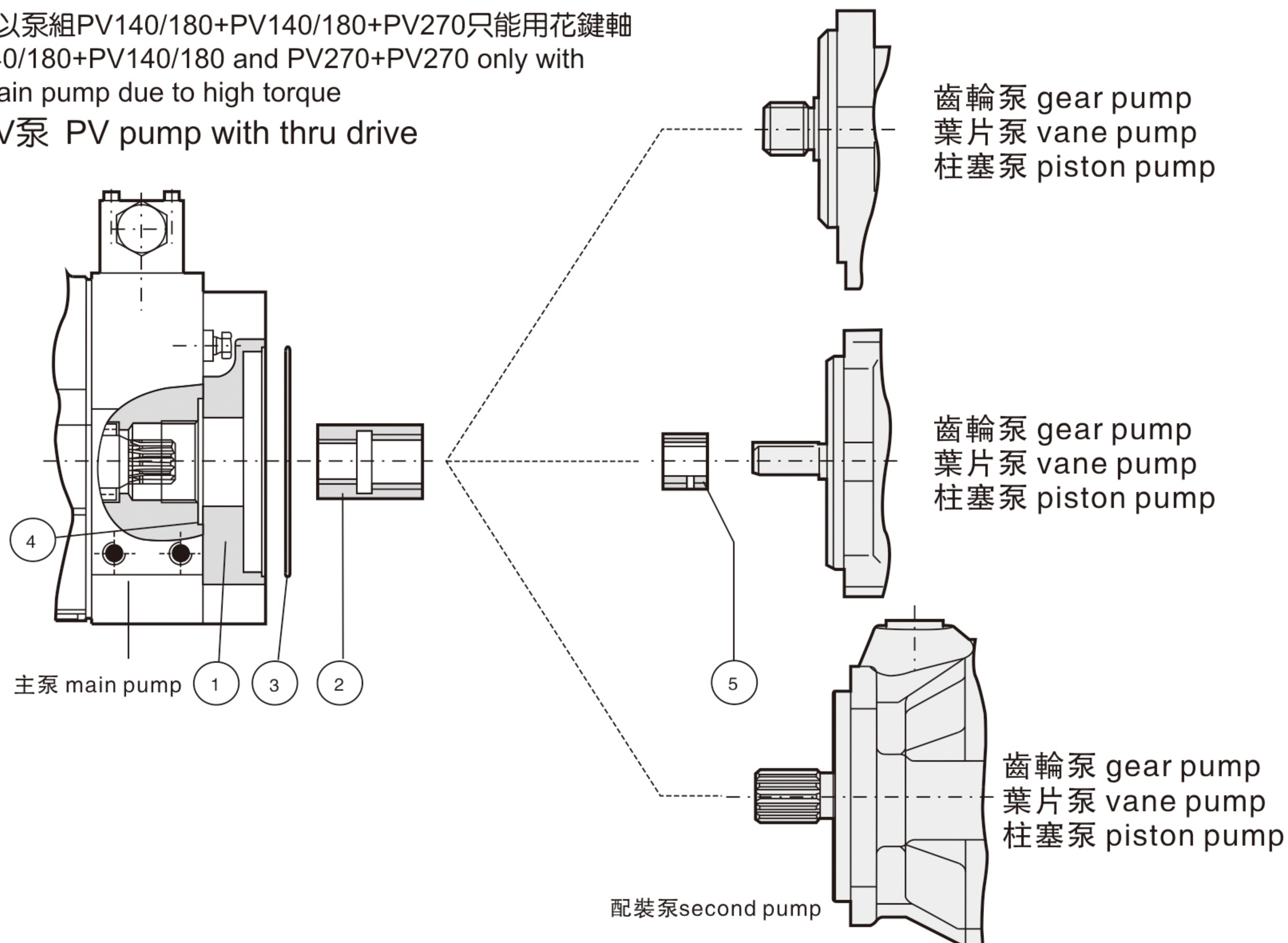
多聯泵 PV/PM Pump Combination PV/PM



主泵 main pump	配裝泵second pump	安裝法蘭inter face main pump	L	B	C	D	H	K	M
PV16,20或23	PV16,20或23	100 B4 HW	489	196	170.5	225	220	225	212
PV32,40或46	PV16,20或23 PV32,40或46	125 B4 HW	541 574	208 208	197 197	235.5 261	245 245	261 261	212 245
PV63,80或92	PV16,20或23 PV32,40或46 PV63,80或92	160 B4 HW	630 663 724	232 232 232	252 252 252	244.5 271 326	299 299 299	326 326 326	212 245 306
PV140或180	PV16,20或23 PV32,40或46 PV63,80或92 PV140或180	160 B4 HW	719 752 813 878	230 230 230 230	305 305 305 305	280.5 307 362 415	349 349 349 349	415 415 415 415	212 245 306 385
PV270	PV16,20或23 PV32,40或46 PV63,80或92 PV140或180 PV270	200 B4 HW	860 893 954 1033 1134	255 255 255 255 255	403 403 403 403 403	299 325.5 380.5 433.5 531.5	406 406 406 406 406	531.5 531.5 531.5 531.5 531.5	212 245 306 385 510

由於扭矩較大，所以泵組PV140/180+PV140/180+PV270只能用花鍵軸
Combination PV140/180+PV140/180 and PV270+PV270 only with
splined shaft on main pump due to high torque

帶通軸結構的PV泵 PV pump with thru drive



圖片表示出使用油昇泵可能的連接方式，對於絕大多數設備來說，聯系方式採用標準的公制連接尺寸和SAE連接尺寸。

通軸結構，軸上的載荷限制 Thru drive, shaft load limitations

不同的軸最大允許扭矩(Nm) 為 The max.transferable torque in Nm for the different shafts options are:

軸的代號 shaft code	PV 16-23	PV 32-46	PV 83-92	PV 140-180	PV 270
N	300	550	1320	2000	2000
D	300	610	1218	2680	2680
F	-	-	-	1320	-
G	-	-	-	1640	-
M	300	570	1150	1900	2850
K	405	675	1400	2650	3980

重要提示Important notice

不能超過傳動軸的最大允許扭矩。當為雙聯泵時沒有問題，為100%通軸傳動。然而，當為三聯（和多聯）組合時會超過傳動軸的扭矩。因此，必須弄清總載荷并與允許的極限值進行比較。

The max.allowable torque of the individual shaft must not be exceeded.For 2-pump combinations there is no problem because PV series offers 100% thru torque.For 3-pump combinations(and more)the limit torque could be reached or exceeded.

Therefore it is necessary to calculate the torque factor and compare it with the alloed torque limit factor in the table.

條件:所算出的載荷值 < 極限值勤
Required:calculated torque factor
< torque limit factor

為了盡可能簡便地對允許的總載荷進行必要的復核，所以在表中給出了各自的泵和軸的結構所規定的極限值。

To make the necessary calculations easier and more user friendly it is not required to calculate actual torque requirements in Nm and compare them with the shaft limitations.The table on the right shows limit factors that include material specification, safety factors and conversion factors.

所算出的總載荷應是各個泵載荷值的總和。
The total torque factor is represented by the sum of the individual torque factors of all pumps in the complete pump combination.

每一個單個泵的載荷值可以由最大工作壓力P(bar)乘以最大排量Vg(cm³/rev)而得到。

The torque factor of each individual pump is calculated by multiplying the max.operating pressure p of the pump (in bar)with the max.displacement Vg of the pump(in cm³/rev)

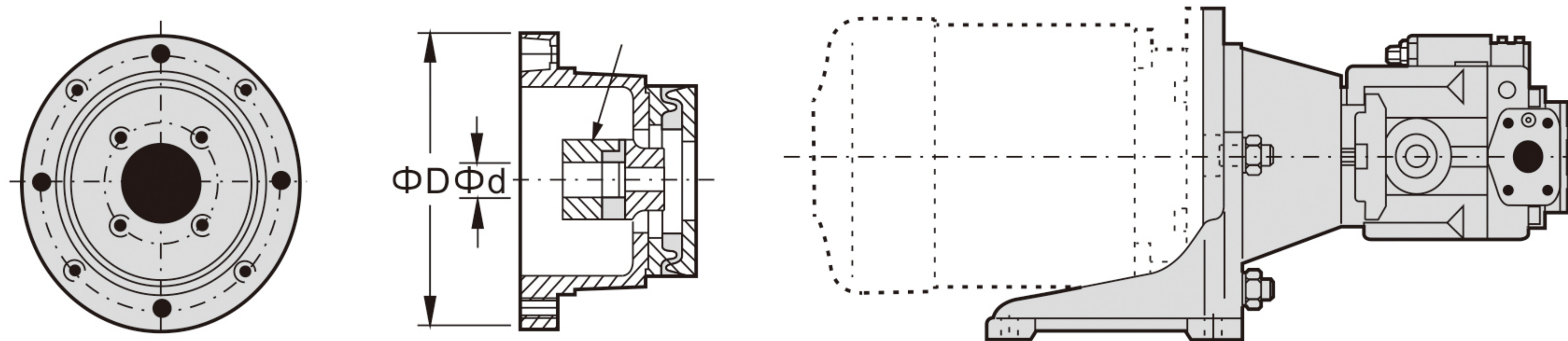
泵pump	軸shaft	極限值 torque limit factor
PV016-PV023	N	17700
	D	17700
	M	17700
	K	20130
PV032-PV046	N	32680
	D	36380
	M	33810
	K	40250
PV063-PV092	N	77280
	D	72450
	M	67620
	K	83720
PV140-PV180	N	118400
	D	158760
	F	78750
	G	97650
	M	113400
	K	157500
PV270	N	119000
	D	159700
	M	170100
	K	236250

多聯泵的總載荷=各個泵載荷的總和
Total torque factor of the comination=
sum of individual torque factors of all pumps

單個泵的載荷值=p x Vg
Torque factor of any pump=p x Vg
(pressure in bar x displacement in cm³/rev)

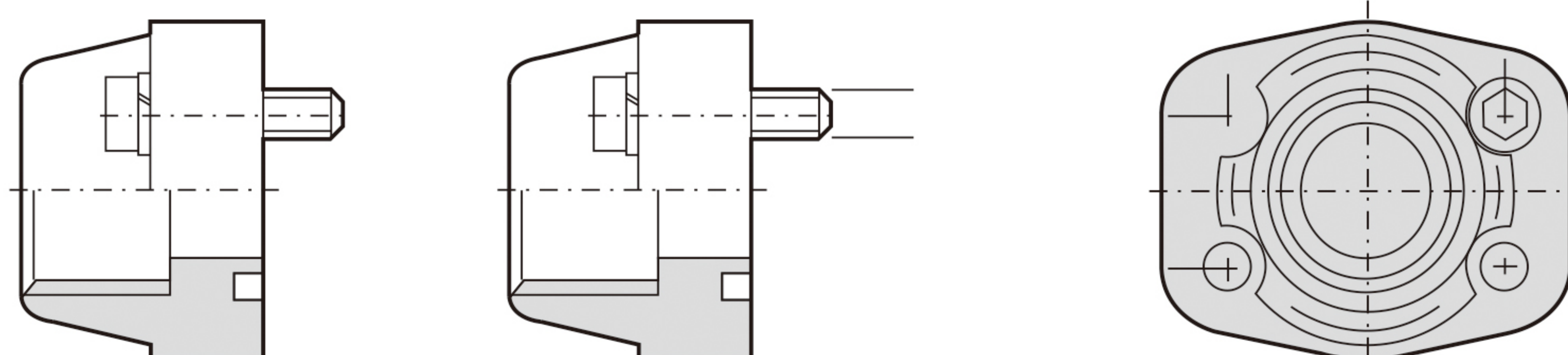
附件 Accessories

泵支架，聯軸器和腳架法蘭 Bell housing, coupling and foot flange



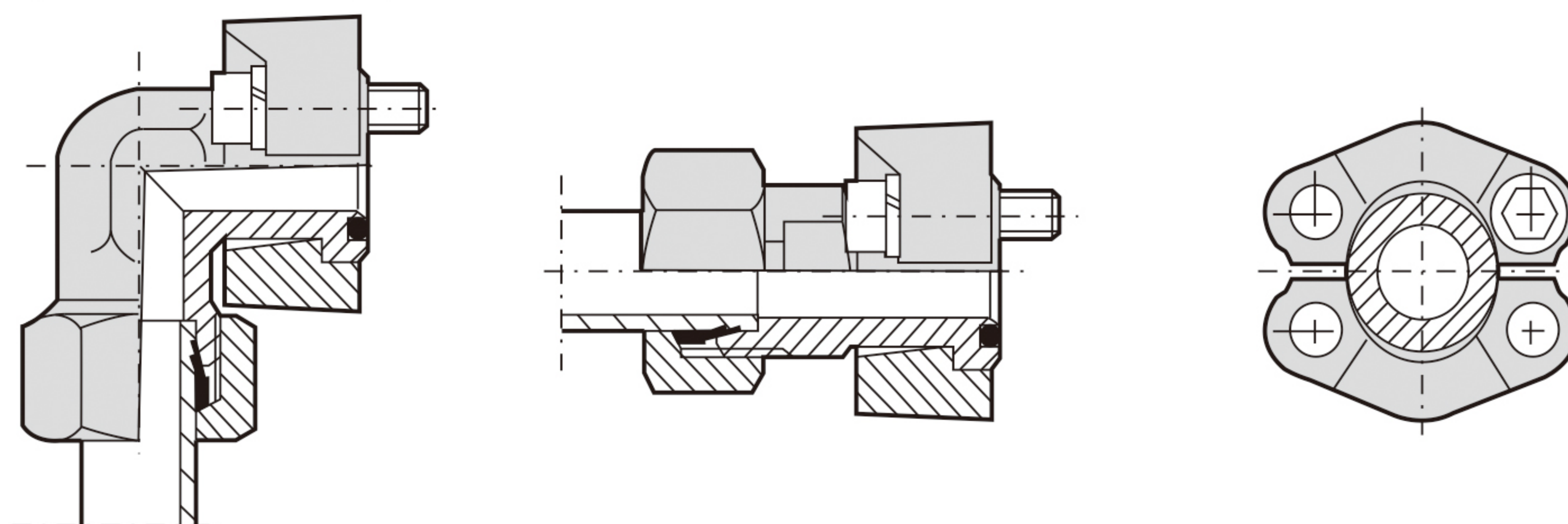
焊接式法蘭 Welding flange

螺栓緊固式法蘭 Threaded flange



SAE-法蘭連接，管接頭，依照DIN2353標準

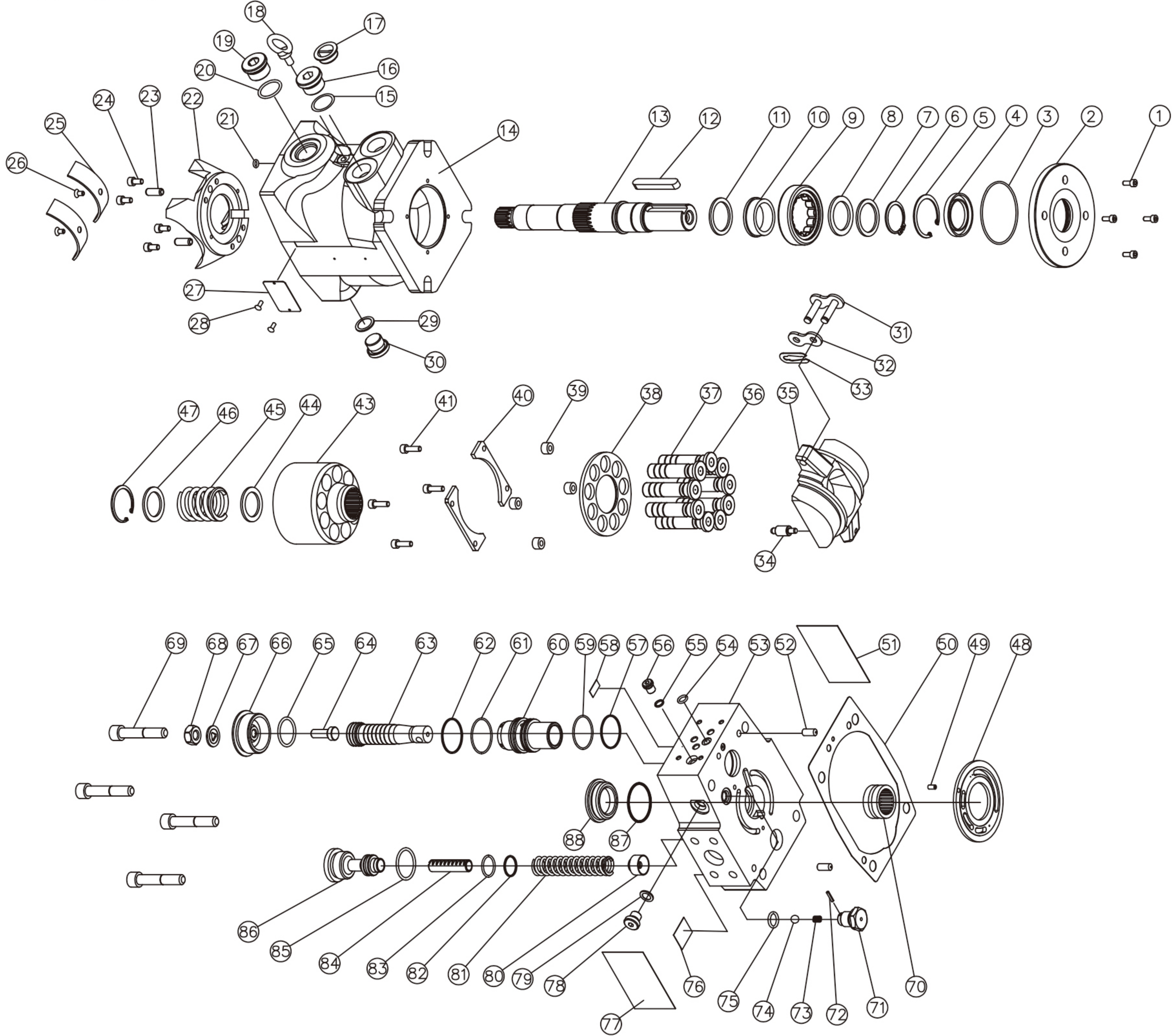
SAE-flange connections, pipe connection in accordance to DIN-2353



直角式SAE-法蘭連接 WFS
Elbow SAE-flange connection WFS

直角式SAE-法蘭連接 GFS
Straight SAE connection GFS

PV內部構造圖



No.	DescriptionIm	Quantity	No.	DescriptionIm	Quantity	No.	DescriptionIm	Quantity	No.	DescriptionIm	Quantity
1	軸蓋螺絲Head cap screw	4	23	彈簧銷Pin	2	46	九孔座上下頂片Washer	1	68	流量調整蓋螺帽Servo spring cover	1
2	軸蓋Pilot cover	1	24	曲柄螺絲Screw	4	47	C型扣環Snap ring	1	69	面蓋螺絲Screw	1
3	O型環O-ring	1	25	鐵福龍片Trunnion bearing	2	48	銅片Valve plate	1	70	軸承Trunnion bearing	1
4	軸蓋油封Shaft seal	1	26	鐵福龍片螺絲Screw	2	49	銅片定位銷Pin	1	71	螺栓Plug	1
5	C型扣環Snap ring	1	27	銘牌Rotation indicator	1	50	面蓋牛皮紙Seal	1	72	彈簧銷Pin	1
6	C型扣環Snap ring	1	28	銘牌螺釘Rivet	2	51	塑膠軟片Seal	1	73	彈簧Spring	1
7	軸心墊片Washer	1	29	O型環O-ring	1	52	面蓋鋼針Pin	1	74	鋼珠Ball	1
8	軸承墊片Washer	1	30	底螺栓Plug	1	53	面蓋Pump body	2	75	O型環O-ring	2
9	軸承(外環)Roller bearing	1	31	鏈子Chain link	1	54	O型環O-ring	1	76	貼紙Label	1
10	軸承(內環)Roller bearing	1	32	鏈子固定片Chain link	1	55	O型環O-ring	1	77	塑膠軟片Seal	1
11	軸心墊片Roller bearing	1	33	鏈子彈簧片Chain link	1	56	封螺栓Plug	1	78	蓋邊螺栓Plug	1
12	單頭圓鍵Key	1	34	頂針Connector servo spring	1	57	O型環O-ring	1	79	O型環O-ring	1
13	軸心Shaft	1	35	曲柄Swash plate	1	58	貼紙Label	1	80	頂子Washer	1
14	泵體Pump body	1	36	銅頭Piston	9	59	O型環O-ring	1	81	彈簧Spring	1
15	O型環O-ring	1	37	活塞Piston	9	60	上蓋套筒Servo piston sleeve	1	82	O型環O-ring	1
16	注油口螺栓Plug	1	38	九孔片Slipper segment	1	61	O型環O-ring	1	83	O型環O-ring	1
17	塑膠塞頭Plug	1	39	墊套Washer	4	62	O型環O-ring	1	84	彈簧銷Pin	1
18	吊環Ring	1	40	壓片Retainer segment	2	63	流量連桿活塞Servo spring plug	1	85	O型環O-ring	1
19	上螺栓Plug	1	41	壓片螺絲Screw	4	64	流量調整螺絲Servo spring plug	1	86	調整螺絲Screw	1
20	O型環O-ring	1	43	九孔座Cylinder block	1	65	O型環O-ring	1	87	O型環O-ring	1
21	O型環O-ring	1	44	九孔座上下頂片Washer	1	66	流量調整蓋Servo spring plug	1	88	螺帽蓋Spring cover	1
22	曲柄轉座Cradle	1	45	九孔彈簧Spring	1	67	流量調整蓋墊片Washer	1			