



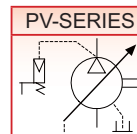
PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

(PV-SERIES)

※FEATURE

1. New type of swash plate and large servo piston with strong bias spring achieves 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 (multiple pumps) of same size and model and mounting interface for basically all metric or SAE mounting



※QUICK REFERENCE DATA CHART

Model	Displacement		Pump Delivery (7 Bar) 100 PSI						Input house power (350 Bar) 5000 PSI	
			1200 RPM		1500 RPM		1800 RPM		1500 RPM	
	cc/rev	in ³ /rev	LPM	U.S.GPM	LPM	U.S.GPM	LPM	U.S.GPM	LPM	U.S.GPM
PV016	16	0.98	19.2	5.1	24.0	6.3	28.8	7.6	15.5	4.1
PV020	20	1.2	24.0	6.3	30.0	7.9	36.0	9.5	19.5	5.2
PV023	23	1.4	27.6	7.3	34.5	9.1	41.4	10.9	22.5	5.9
PV032	32	1.9	38.4	10.1	48.0	12.7	57.6	15.2	31.0	8.2
PV040	40	2.4	48.0	12.7	60.0	15.9	72.0	19.0	39.0	10.3
PV046	46	2.8	55.2	14.6	69.0	18.2	82.8	21.9	45.0	11.9
PV063	63	3.8	75.6	20.0	94.5	25.0	113.4	30.0	61.5	16.2
PV071	71	4.3	85.8	22.7	107.0	28.3	128.7	34.0	70.0	18.5
PV080	80	4.8	96.0	25.4	120.0	31.7	144.0	38.0	78.0	20.6
PV092	92	5.6	110.4	29.2	138.0	36.5	165.6	43.8	89.5	23.6
PV140	140	8.5	168	44.4	210.0	55.5	252.1	66.6	136.0	35.9
PV180	180	11.0	216	57.1	270.0	71.3	324.0	85.6	175.0	46.2
PV270	270	16.5	324	85.6	405.0	107.0	486.0	128.4	263.0	69.5

Model	Approx. Noise Levels Db(A) Full Flow and 1500 RPM			Max. Displacement Power at 1800 RPM, & 345 bar (5000PSI)		Operating Speed RPM		Weight	
	70 bar (1KSI)	207 bar (3KSI)	343 bar (5KSI)	KW	HP	Max.	Min.	KG	lb
PV016	56	60	68	18.5	24.8	2750	300	19	41.8
PV020				23.4	31.4				
PV023				25.1	33.6				
PV032	59	62	69	35.1	47.0	2400	300	30	66
PV040				46.5	62.4				
PV046				50.2	67.3				
PV063	66	70	74	70.1	94.0	2100	300	60	132
PV071				80.0	106.8	2100			
PV080				89.2	119.6	2000			
PV092				136.8	183.5	1900			
PV140	70	74	76	149.4	200.4	2200	300	90	198
PV180	71	75	77	210.0	282.0	2200			
PV270	77	79	81	298.0	400.0	1800			

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

F



※MODEL NUMBER DESIGNATION

PV-	063-	A-	1-	R-	M-	1-	A-	(A25)-	(V)-	10
I	II	III	IV	V	VI	VII	VIII	IX	X	X I

I : Axial piston pump variable displacement high pressure version

II : Displacement cc/rev(in³/rev)
 16(0.98), 20(1.2), 23(1.4), 32(1.9), 40(2.4)
 46(2.8), 63(3.8), 71(4.3), 80(4.8), 92(5.6)

III : Control Type

A : Standard Pressure compensator
 G T : Remote Pressure compensator
 G P : Remote Pressure compensator allows a pilot valve & Load-sensing compensator
 G A : Remote Pressure compensator allows a pilot valve
 G M : Remote Pressure compensator allows a pilot valve
 G J : Layer Proportional pressure compensator
 G B : 2 pressure electrical selection
 G R : Electrical unloading
 G C : 2 pressure+ electrical unloading
 H L : Load-sensing compensator
 H M : Load-sensing compensator
 H A : 2-vavle load-sensing compensator
 H J : 2-vavle load-sensing compensator
 H K : Proportional electro-hydraulic load sensing type
 H Q : Load-sensing & Proportional flow control
 PA□ : Horse power compensator
 PH□ : Horse power compensator, pilot flow external for load-sensing
 PM□ : Horse power compensator, pilot flow internal pressure pilot valve included
 PL□ : Horse power compensator, Load-sensing compensator
 PG□ : Horse power compensator, pilot flow internal

V : Shaft Rotation(View from Shaft End)
 R: Clockwise(CW)
 L: Counter-Clockwise(CCW)

VI : Mounting
 M(Standard): ISO3019/2 Cylindric, key, Metric
 K: ISO3019/2 Splined, DIN5480, Metric
 N: ISO3019/1 Cylindric, key, Inch
 D: ISO3019/1 Splined, SAE, Inch

VII : Threads
 1(Standard): BSPP, Metric
 2: PT/RC, Pipe Taps
 3: UNF, UNC
 4: NPT, Inch
 7: ISO 6149, UNC

VIII : Thru drive & 2nd pump(Refer to next page)
 A(Standard): Single Pump
 B: Prepared for thru driver
 C: SAE AA, ø2" (ø50.8mm)
 D: SAE A, ø3-1/4" (ø82.55mm)
 E: SAE B, ø4" (ø101.6mm)
 F: SAE C, ø5" (ø127mm)
 G: SAE D, ø6" (ø152.4mm)
 H: SAE E, ø6.5" (ø165.1mm)
 I: Metric, ø63
 J: Metric, ø80
 K: Metric, ø100
 L: Metric, ø125
 M: Metric, ø160
 N: Metric, ø200

Code	Horse	PV016~	PV032~	PV063~	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						✓

IX : Voltage
 None: (Standard)
 A15: AC 110V/50HZ
 A16: AC 110V/60HZ
 A24: AC 240V/50HZ
 A25: AC 220V/50HZ
 A26: AC 220V/60HZ
 D1: DC 12V
 D2: DC 24V

X : Seals
 Omit(Standard): NBR
 V: FPM
 E: Ethylen -propylen

X I : Design Number

IV : Pressure Adjustable range

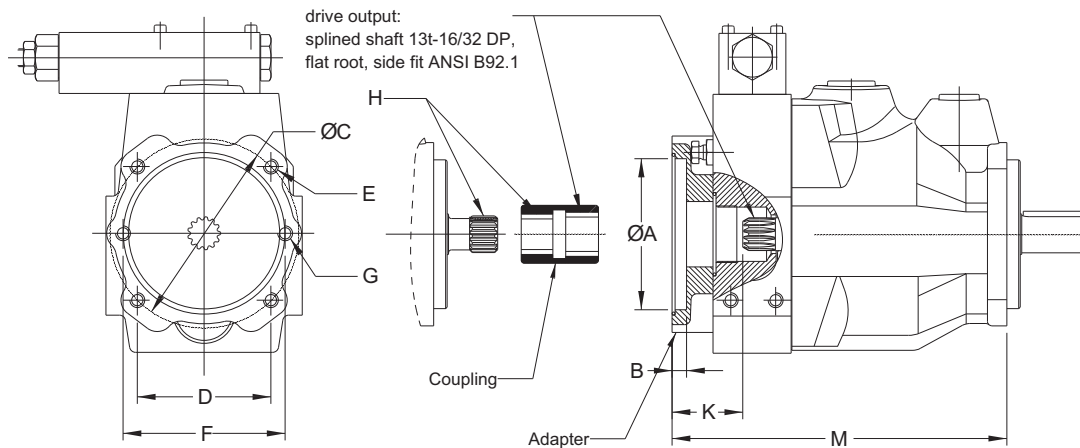
- 1 : 10~140 bar
- 2 : 10~140 bar, spindle+lock nut
- 3 : 30~250 bar, spindle+lock nut
- 4 : 70~350 bar, spindle+lock nut



PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

Sale						Thru drive & 2nd pump						
Code	PV016~PV023	PV032~PV046	PV063~PV092	PV140~PV180	PV270	øA	øC	D	E	F	G	H
C	✓				✓	ø2" (ø50.8mm)	---	---	---	3.25" (82.55mm)	5/16"-18	9T 20/40 DP
D	✓	✓	✓	✓	✓	ø3-1/4" (ø82.55mm)	---	---	---	4.188" (106.3mm)	3/8"-16	9T 16/32 DP
E	✓	✓	✓	✓	✓	ø4" (ø101.6mm)	---	3.536" (89.8mm)	1/2"-13	5.75" (146.05mm)	1/2"-13	13T 16/32 DP 15T 16/32 DP
F		✓	✓	✓	✓	ø5" (ø127mm)	---	4.508" (114.5mm)	1/2"-13	7.125" (180.98mm)	5/8"-11	14T 12/24 DP
G			✓	✓	✓	ø6" (ø152.4mm)	---	6.364" (161.6mm)	5/8"-11	9" (228.6mm)	5/8"-11	13T 8/16 DP 15T 8/16 DP
H					✓	ø6.5" (ø165.1mm)	---	8.839" (224.5mm)	3/4"-10	---	---	15T 8/16 DP
I	✓	✓	✓			ø63	ø85	---	M8	100	M8	---
J	✓	✓	✓	✓	✓	ø80	ø103	---	M8	109	M10	---
K	✓	✓	✓	✓	✓	ø100	ø125	---	M10	140	M12	W25×1.5×15×8f
L		✓	✓	✓	✓	ø125	ø160	---	M12	180	M16	W32×1.5×20×8f
M			✓	✓	✓	ø160	ø200	---	M16	224	M20	W40×1.5×25×8f W50×2×24×9g
N					✓	ø200	ø250	---	M20	---	---	W60×2×28×9g



The max. transferable torque in Nm for the different shafts options are(Nm):

Shaft code	PV016~PV023	PV023~PV046	PV063~PV092	PV140~PV180	PV270
M	300	550	1320	2000	2000
K	300	610	1218	2680	2680
N	300	570	1150	1900	2850
D	405	675	1400	2650	3980

Important notice

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 allowed torque limit factor in the table.

Require: $\text{calculated torque factor} < \text{torque limit factor}$

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.

The total torque factor is represented by the sum of the individual torque factors of all pumps in the complete pump combination.

Total torque factor of the combination= sum of individual torque factors of all pumps

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

Torque factor of any pump= $p \times Vg$ (pressure in bar × displacement in cm³/rev)

Torque limit factor:

Shaft code	PV016~PV023	PV023~PV046	PV063~PV092	PV140~PV180	PV270
M	17700	32680	77280	118400	119000
K	17700	36380	72450	158760	159700
N	17700	33810	67620	113400	170100
D	20130	40250	83720	157500	236250



※COMPENSATOR

F

Type	JIS Symbol	Characteristic	Feature
A (A1~A4)			<ul style="list-style-type: none"> ● Standard Pressure Compensator <p>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.</p>
GT			<ul style="list-style-type: none"> ● Remote Pressure Compensator <p>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.</p>
GP			<ul style="list-style-type: none"> ● Remote Pressure Compensator Allows a Pilot Valve & Load-Sensing Compensator
GA			<ul style="list-style-type: none"> ● Remote Pressure Compensator Allows a Pilot Valve
GM			<ul style="list-style-type: none"> ● Remote Pressure Compensator Allows a Pilot Valve <p>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.</p>
GB			<ul style="list-style-type: none"> ● 2 Pressure Electrical Selection <p>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.</p>
GR			<ul style="list-style-type: none"> ● Electrical Unloading <p>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.</p>



PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

Type	JIS Symbol	Characteristic	Feature
GC			<p>● 2 Pressure + Electrical Unloading</p> <p>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.</p>
HL			<p>● Load-Sensing Compensator</p> <p>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 ($\varnothing 0.8\text{mm}$) and a pressure pilot valve pressure compensation can be added to the flow control function. See the circuit diagram below, left.</p>
HM			<p>● Load-Sensing Compensator</p> <p>Shown above is load sensing compensator code HM with an NG6 interface on top of the control valve. That allows direct mounting of a pilot valve for pressure compensation. This version includes the pilot orifice. Due to the interaction of flow and pressure compensation this package has not the "ideal" control characteristic. The deviation is caused by the pilot valves characteristic.</p>
HJ			<p>● 2-Valve Load-Sensing Compensator</p> <p>If a more accurate pressure compensation is required, the 2-valve load-sensing compensator code HJ can be used. The circuit diagram of this version is shown left. Here the interaction of the two control functions is avoided by using two separate control valves for flow and pressure compensation. The 2-valve compensator is equipped with an interface NG6 on the compensators top side.</p>
FV			<p>● Proportionable displacement control</p> <p>The proportional displacement control allows the adjustment of the pumps output flow with an electrical input signal. The electronic control compares permanently input command and actual displacement and powers the proportional solenoid of the control valve. A deviation from the commanded displacement leads to a modulation of the input current to the solenoid. The control valve then changes the control pressure (port A) until the correct displacement is adjusted. Version FV of the proportional control does not provide a pressure compensation. The hydraulic circuit must be protected by a pressure relief valve.</p>
FR			<p>● Proportionable displacement control with pressure</p> <p>In version FR an additional pressure compensator valve can override the electrohydraulic displacement control. That adds pressure compensation to this control. The compensator valve has an NG6/D03 interface on top to mount a pressure pilot valve. When using a proportional pressure pilot valve an electro-hydraulic p/Q-control can be realized. The electronic driver modules are tuned for the valve types DSAE1007P07KLAF or RE06M35W2NXP to give best performance. The electronic control module PQ0*-P.. (see opposite page) contains, beside the displacement control unit, also the driver electronics for the a.m. proportional pressure valves.</p>

F



※COMPENSATOR

Type	JIS Symbol	Characteristic	Feature
FG			<p>Proportionable displacement control with pressure control</p> <p>With ordering code FG the proportional pressure pilot valve and a pressure transducer (SOLTECH SCP 8181 CE) are included with the pump control. In combination with control module PQ0*-Q... a closed loop pressure control of the pump outlet pressure is available. Module PQ0*-L... offers an electronic horse power limiter in addition to the closed loop pressure control.</p> <p>SOLTECH variable displacement pumps have a large servo piston. That leads to a extremely robust and stable pump control. On the other hand that requires high control flows (up to >100 l/min). SOLTECH has therefore chosen the 2-valve-p/Q-control concept, because in this case a hydraulic mechanical compensator valve takes care of the pressure compensation of the pump. That allows a very fast pressure compensation and makes this the control unresponsive to fluid contamination. We see the 2-valve-concept as a contribution to system and pressure control safet</p>
PA□			<ul style="list-style-type: none"> • Horse power compensator
PH□			<ul style="list-style-type: none"> • Horse power compensator pilot flow external for load-sensing <p>The hydraulic-mechanical horse power compensator consists of a modified remote pressure compensator (Code PG*-PM*) or of a modified load-sensing compensator (Code PH*) and a pilot valve. This pilot valve is integrated into the pump and is adjusted by a cam sleeve. The cam sleeve has a contour that is designed and machined for the individual displacement and the nominal horse power setting.</p> <p>At a large displacement the opening pressure (given by the cam sleeve diameter) is lower than at small displacements. This makes the pump compensate along a constant horse power (torque) curve.</p> <p>For all nominal powers of standard electrical motors SOLTECH offers a dedicated cam sleeve. The exchange of this cam sleeve (e.g.: to change horse power setting) can easily be done without disassembly of the pump.</p> <p>On top of that an adjustment of the horse power setting can be done within certain limits by adjustment the preload of the pilot control cartridge spring. That allows an adjustment of a constant horse power setting for other than the nominal speeds (1500 min-1) or for other horse power.</p>
PM□			<ul style="list-style-type: none"> • Horse power compensator pilot flow internal pressure pilot valve included <p>Same as PH</p>
PL□			<ul style="list-style-type: none"> • Horse power compensator, Load-sensing compensator
PG□			<ul style="list-style-type: none"> • Horse power compensator pilot flow internal <p>Same as PH</p>





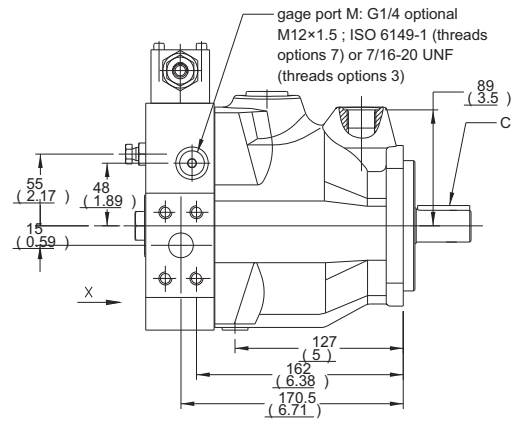
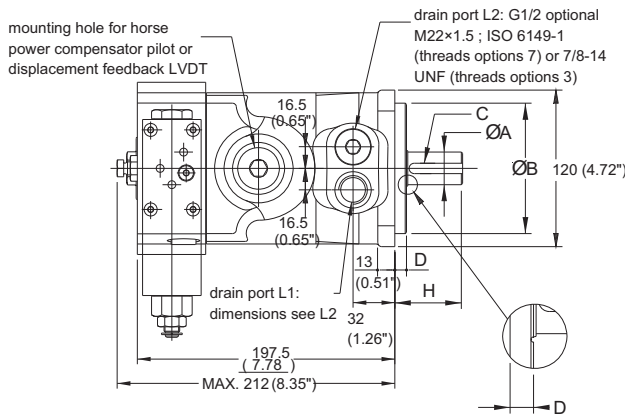
PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

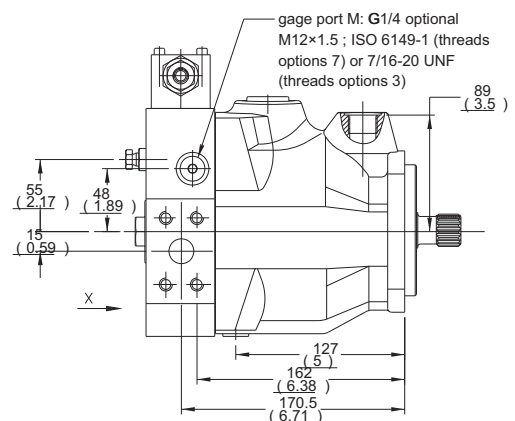
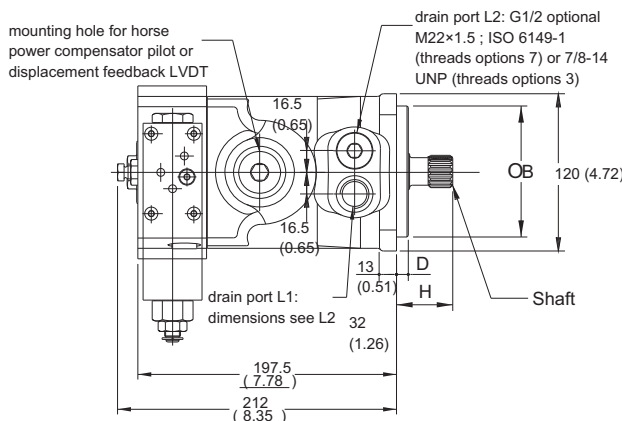
※DIMENSIONS

PV016~PV023

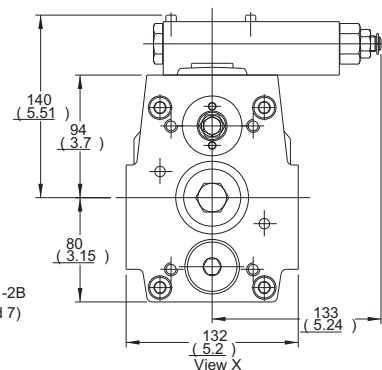
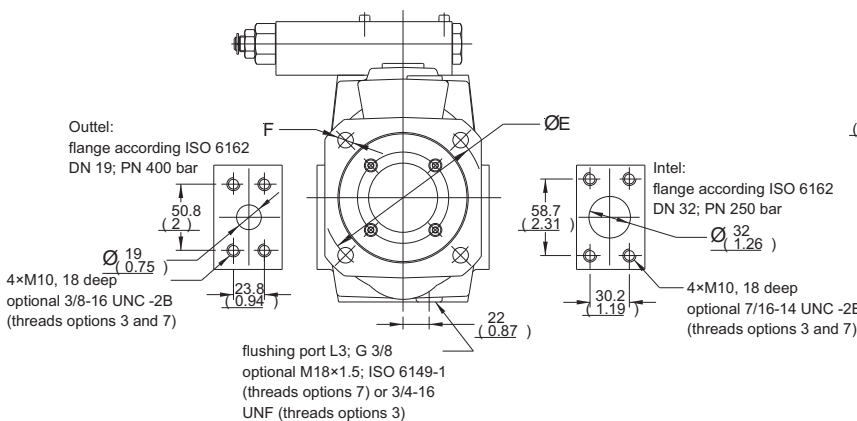
M.M.(INCHES)



Mounting Type	øA	øB	C	D	øE	F	H
M	25	ø100 h8	8x7x40	9	125	12	52
N	25.4(1")	101.6(4")	6.35x6.35x40(1/4")	9.4(0.37")	127(5")	12(0.47")	50(1.97")



Mounting Type	Shaft	øB	D	øE	F	H
K	Splined W25x1.5x15x8f DIN 5480	100 h8	9	125	12	43
D	Splined 15T 16/32 DP, flat root, side fit ANSI B92.1	101.6(4")	9.4(0.37")	127(5")	12(0.47")	46(1.81")



Shown with standard pressure compensator

F



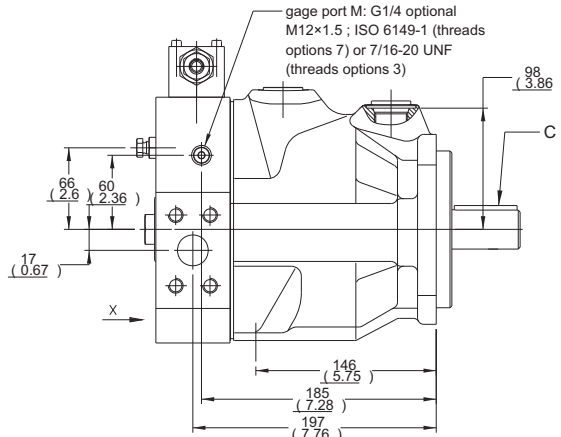
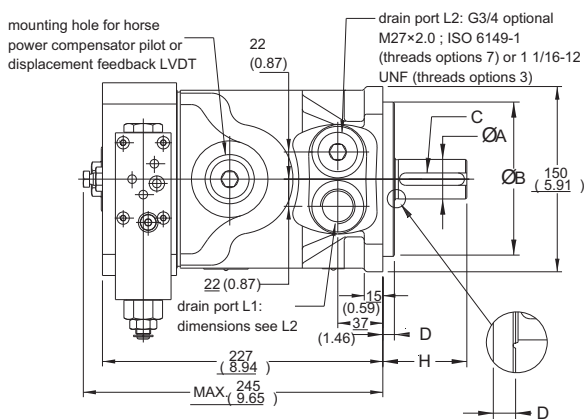
PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

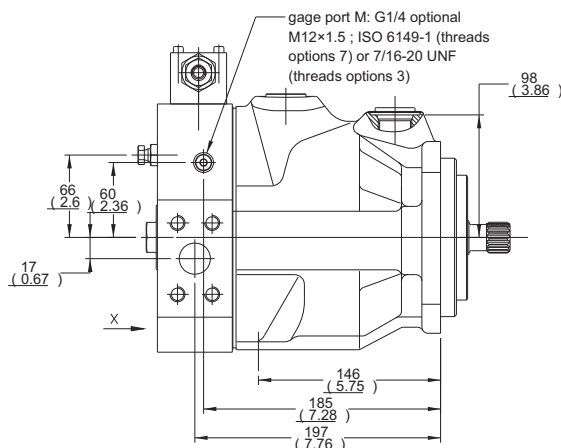
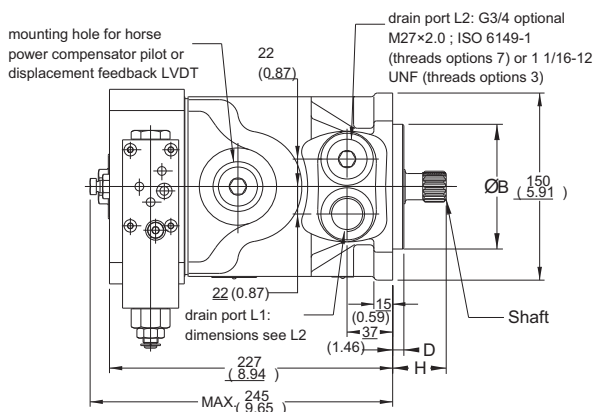
※DIMENSIONS

PV032~PV046

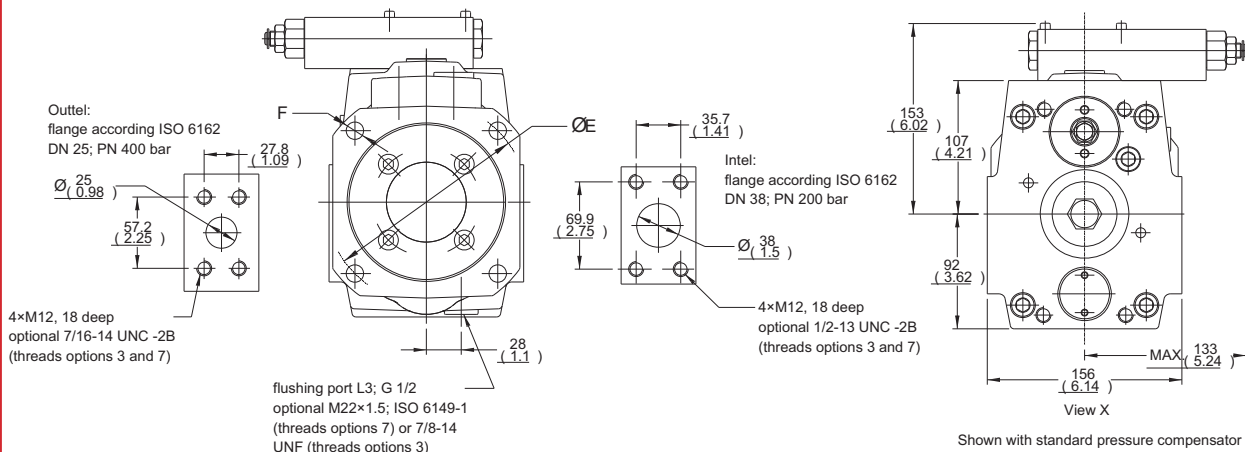
M.M.(INCHES)



Mounting Type	øA	øB	C	D	øE	F	H
M	32	125 h8	10x8x56	9	160	14	68
N	31.75(1.25")	127(5")	7.94x7.94x56(5/16")	12.7 (0.5")	161.93 (6.38")	14 (0.55")	68 (2.68")



Mounting Type	Shaft	øB	D	øE	F	H
K	Splined W32x1.5x20x8f DIN 5480	100 h8	9	125	12	43
D	Splined 14T 12/24 DP, flat root, side fit ANSI B92.1	127(5")	12.7 (0.5")	161.93 (6.38")	14 (0.55")	56 (2.31")





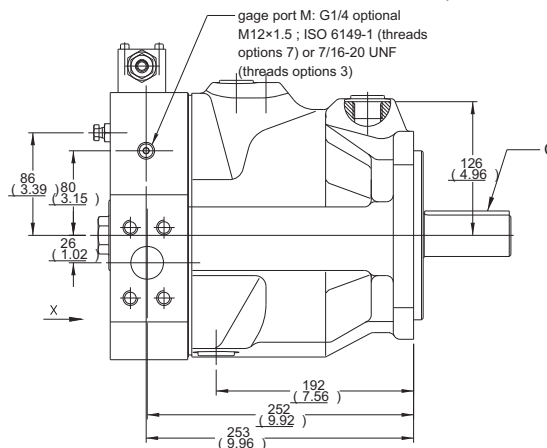
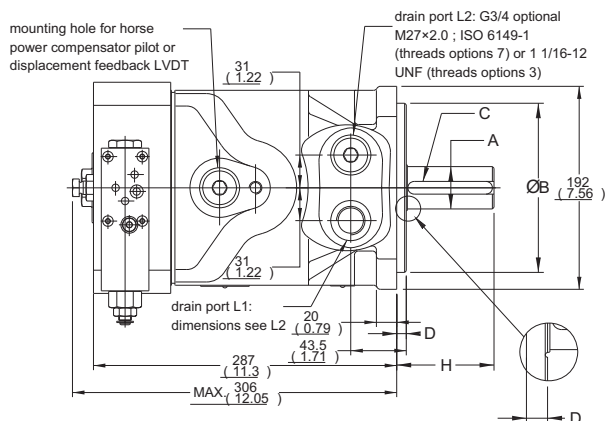
PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

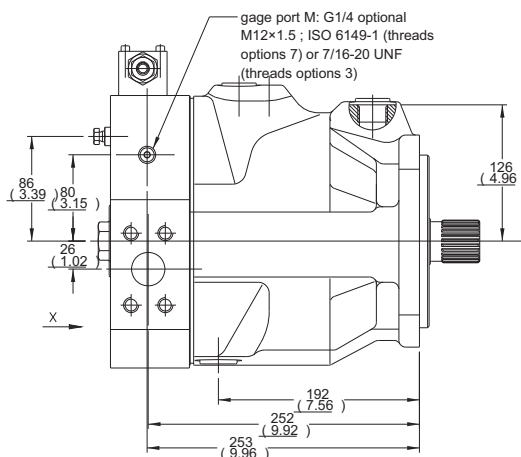
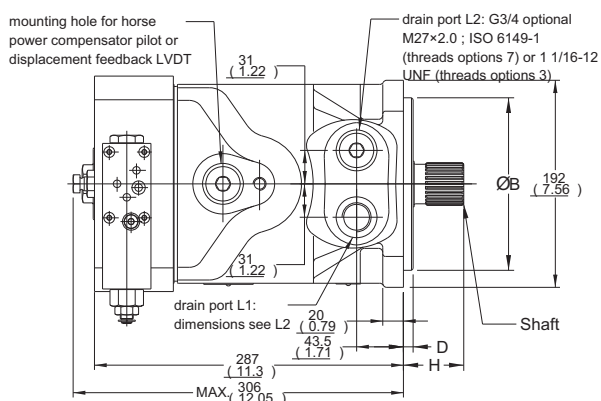
※DIMENSIONS

PV063~PV092

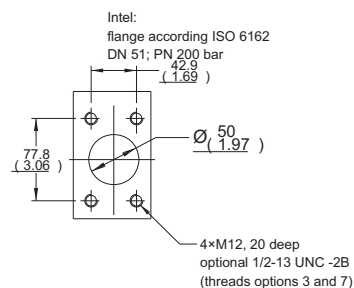
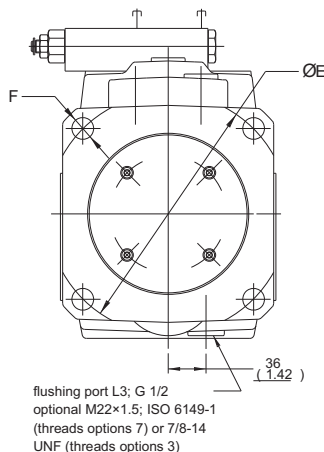
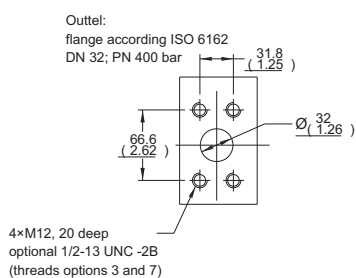
M.M.(INCHES)



Mounting Type	øA	øB	C	D	øE	F	H
M	40	160 h8	12x8x80	9	200	18	92
N	44.45(1.75")	152.4(6")	11.11x11.11x80 (7/16")	12.7 (0.5")	228.6 (9")	20.6 (0.81")	90 (3.54")



Mounting Type	Shaft	øB	D	øE	F	H
K	Splined W40x1.5x25x8f DIN 5480	160 h8	9	200	18	56
D	Splined 13T 8/16 DP, flat root, side fit ANSI B92.1	152.4(6")	12.7 (0.5")	228.6 (9")	20.6 (0.81")	75 (2.95")





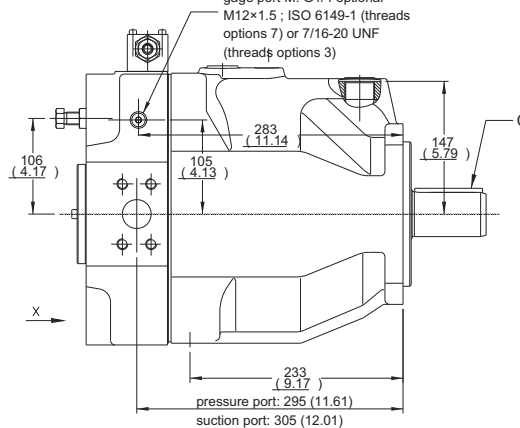
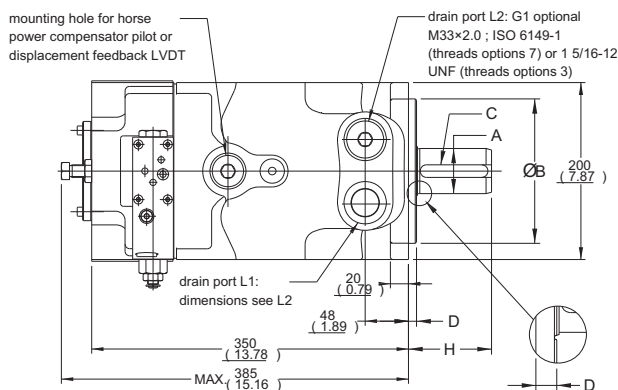
PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

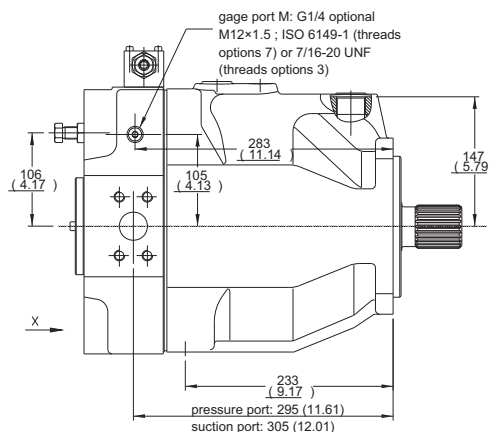
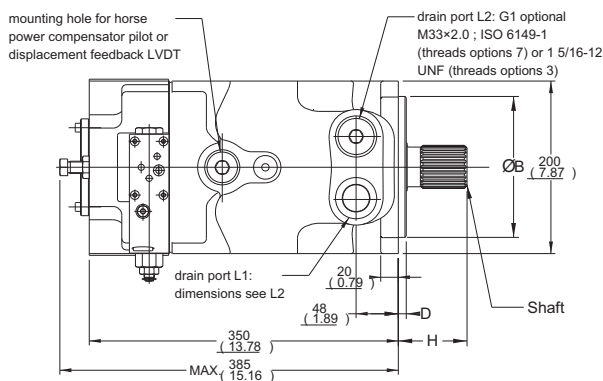
※DIMENSIONS

PV 140~PV 180

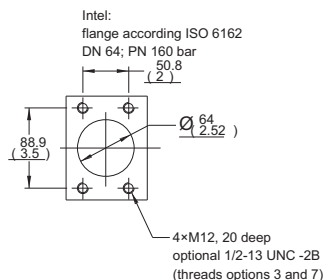
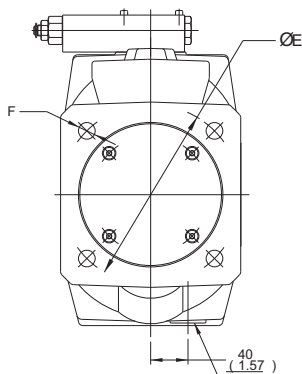
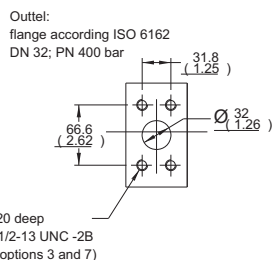
M.M.(INCHES)



Mounting Type	øA	øB	C	D	øE	F	H
M	50	160 h8	14x9x75	9	200	18	92
N	50.8(2")	152.4(6")	12.7x12.7x75(1/2")	12.7 (0.5")	228.6 (9")	20.6 (0.81")	99.4 (3.91")



Mounting Type	Shaft	øB	D	øE	F	H
K	Splined W50x2x24x8f DIN 5480	160 h8	9	200	18	78
D	Splined 13T 8/16 DP, flat root, side fit ANSI B92.1	152.4(6")	12.7 (0.5")	228.6 (9")	20.6 (0.81")	88 (3.46")





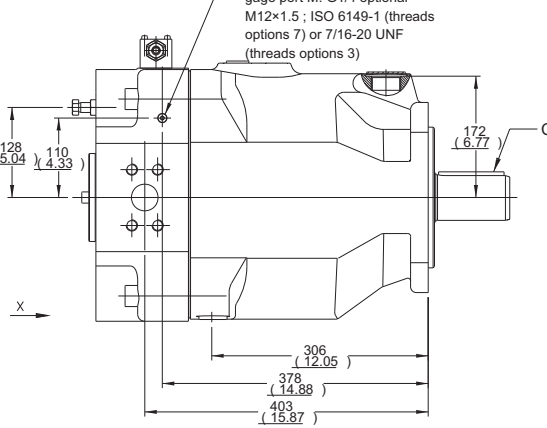
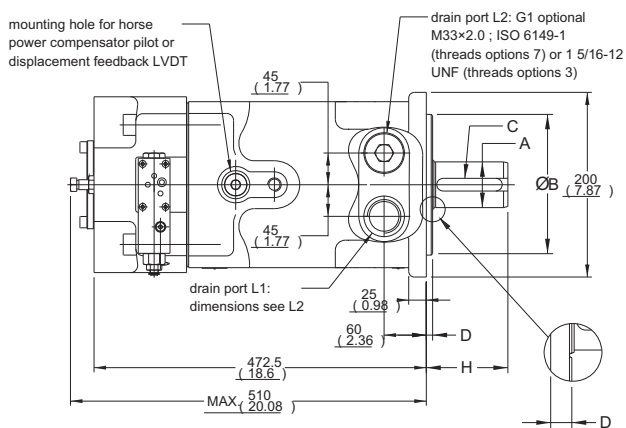
PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

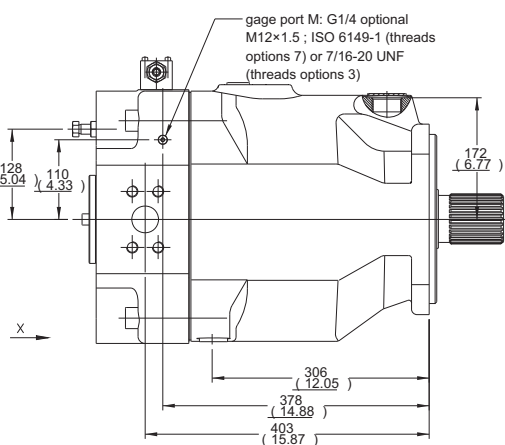
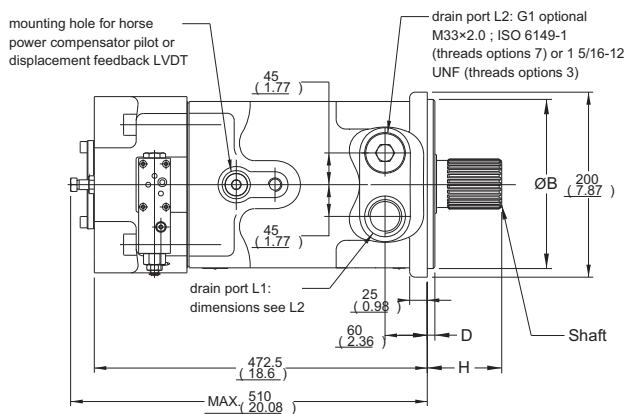
※ DIMENSIONS

PV270

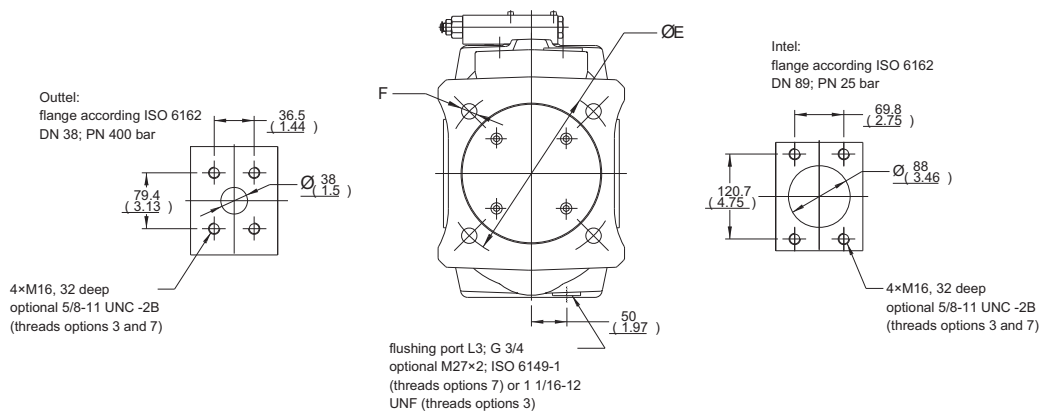
M.M.(INCHES)



Mounting Type	øA	øB	C	D	øE	F	H
M	65	200 h8	18x11x98	9	250	22	115
N	50.8(2")	165.1(6.5")	12.7x12.7x75(1/2")	15.9 (0.37")	317.5 (12.5")	20.6 (0.81")	97.5 (3.84")



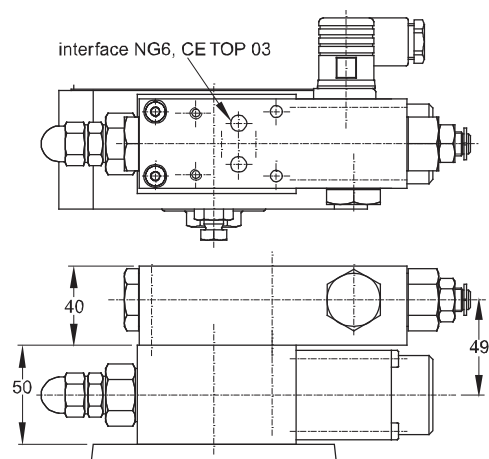
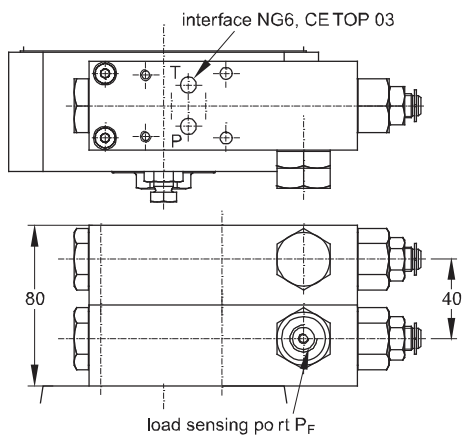
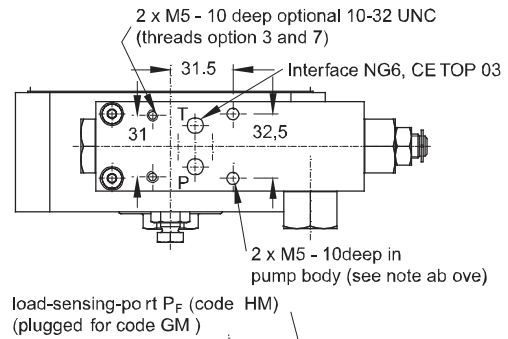
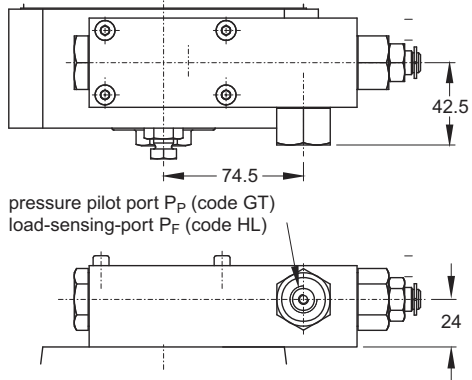
Mounting Type	Shaft	øB	D	øE	F	H
K	Splined W60x2x28x8f DIN 5480	200 h8	9	250	22	80
D	Splined 15T 8/16 DP, flat root, side fit ANSI B92.1	165.1(6.5")	15.9 (0.37")	317.5 (12.5")	20.6 (0.81")	88 (3.46")



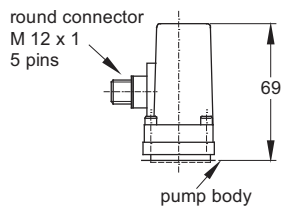


※COMPENSATORS DIMENSIONS

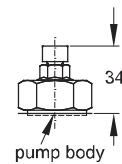
All control ports G1/4 optional M 12 x 1.5; ISO 6149-1 (threads options 7 and 8) or 7/16-20 UNF (threads option 3)



LVDT for proportional compensator



Pilot valve for horse power compensator



F



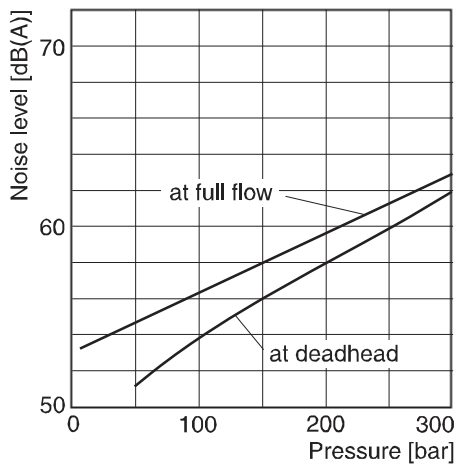
PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

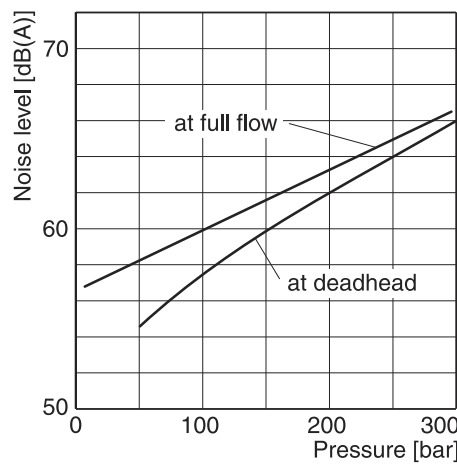
※NOISE LEVEL

F

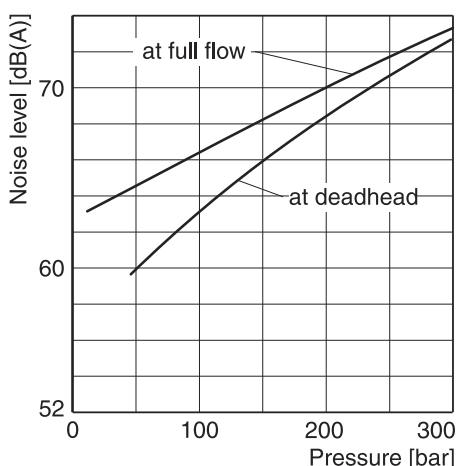
PV016~023



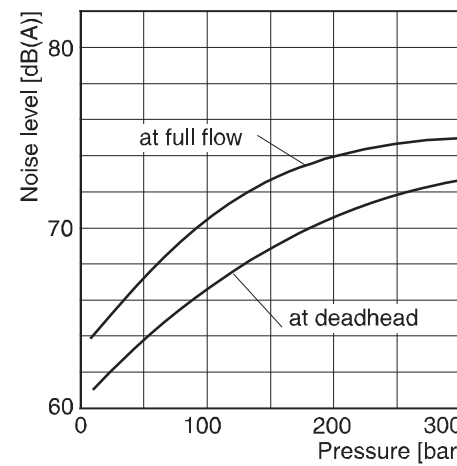
PV032~046



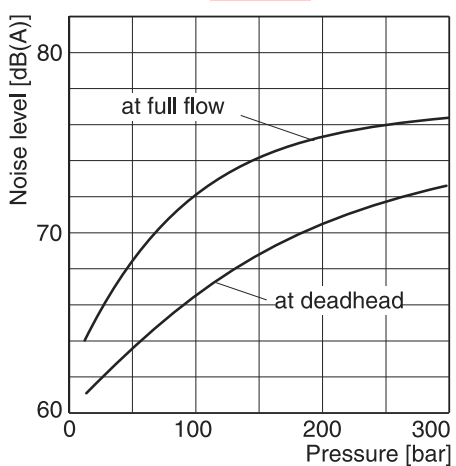
PV063~092



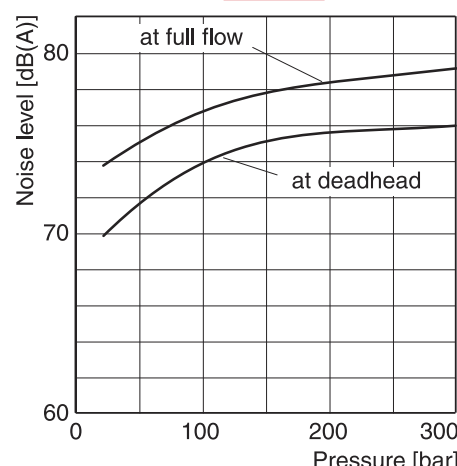
PV140



PV180



PV270





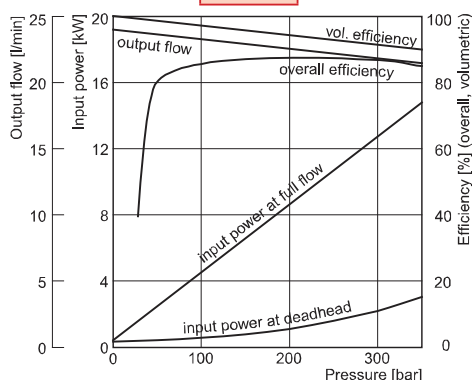
SOLTECH

PUMPS

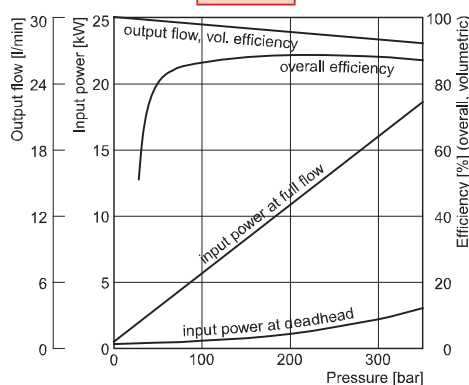
VARIABLE DISPLACEMENT PISTON PUMPS

※EFFICIENCY, POWER CONSUMPTION

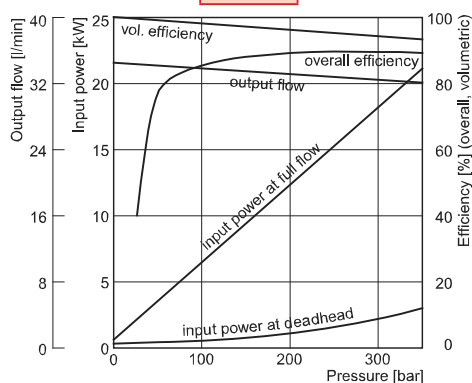
PV016



PV020

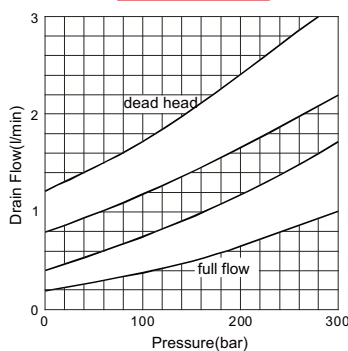


PV023

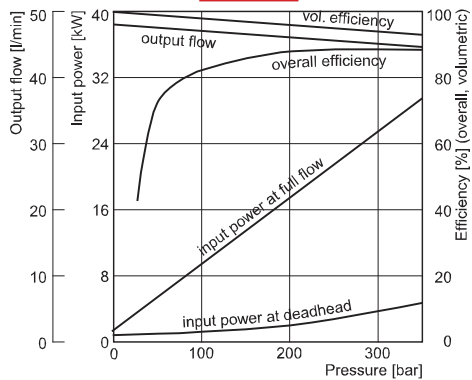


■ Case drain flows

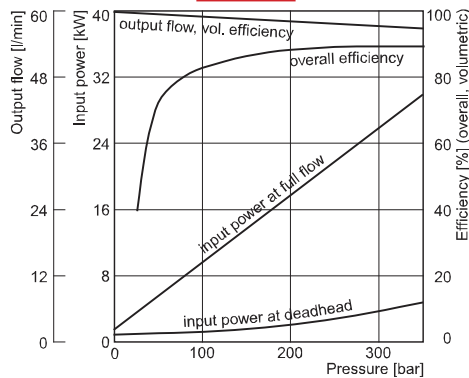
PV016~023



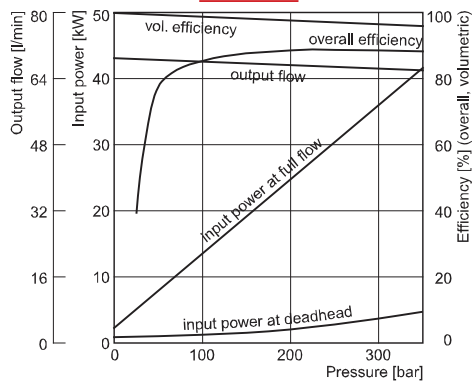
PV032



PV040

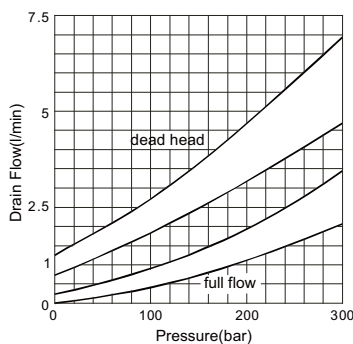


PV046



■ Case drain flows

PV032~046



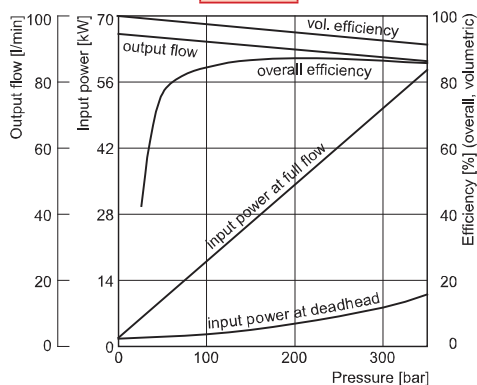


PUMPS

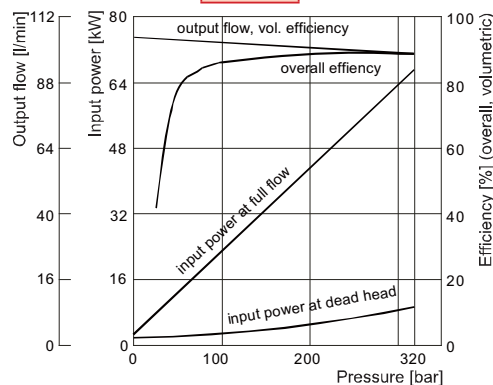
VARIABLE DISPLACEMENT PISTON PUMPS

EFFICIENCY, POWER CONSUMPTION

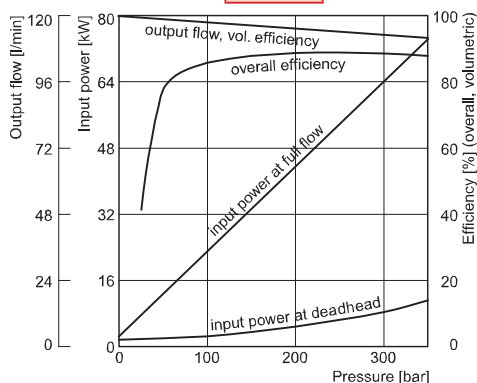
PV063



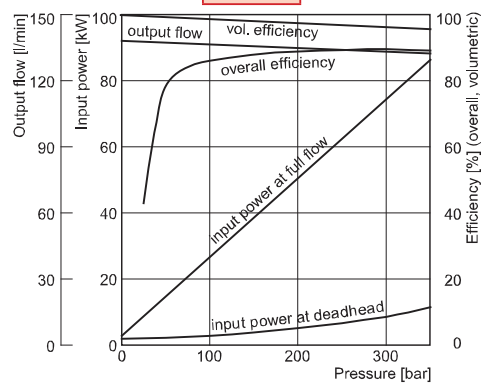
PV071



PV080

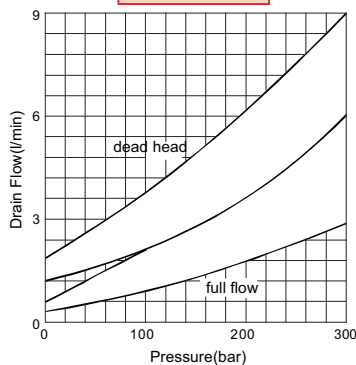


PV092

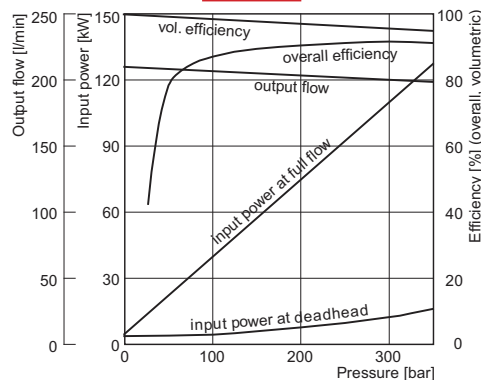


Case drain flows

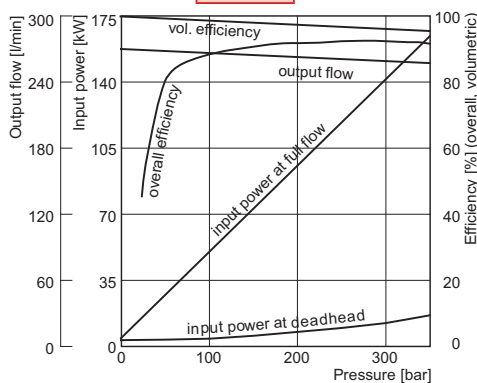
PV016~023



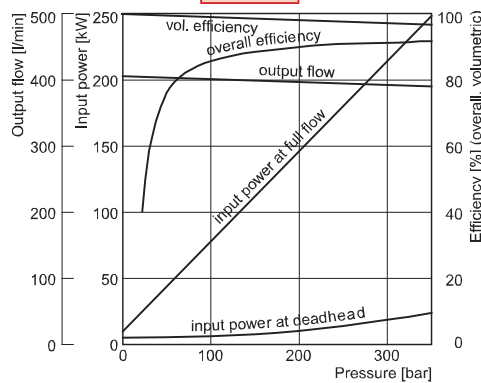
PV140



PV180



PV270



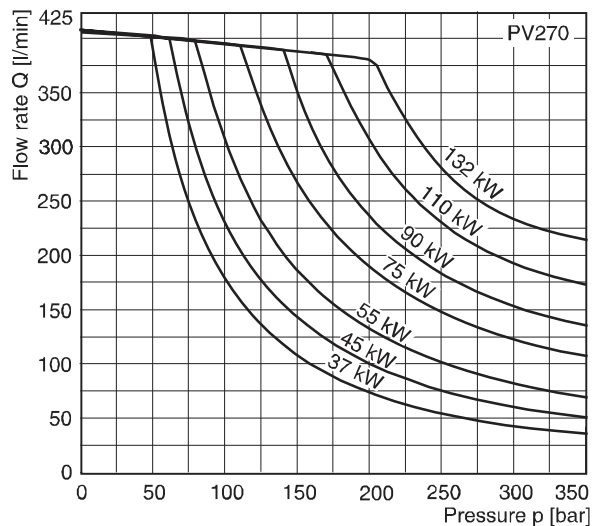
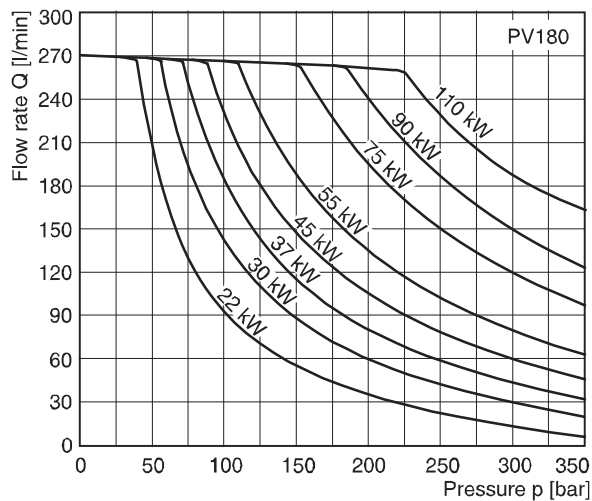
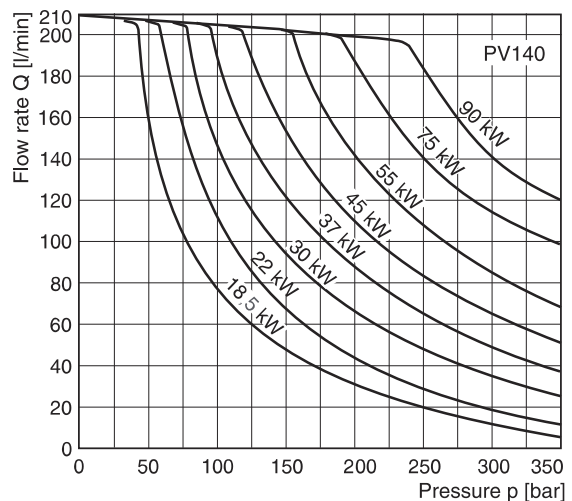
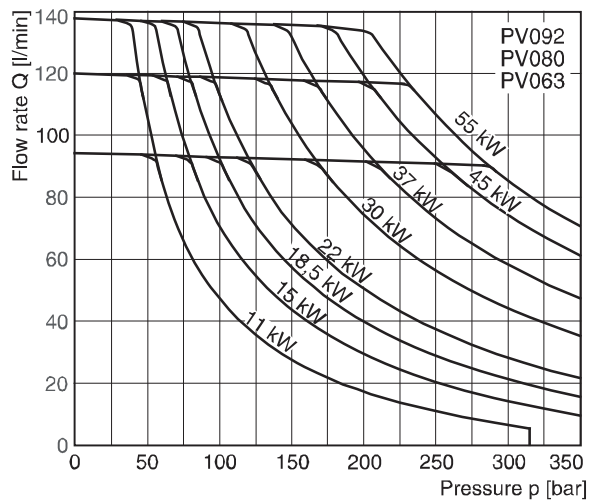
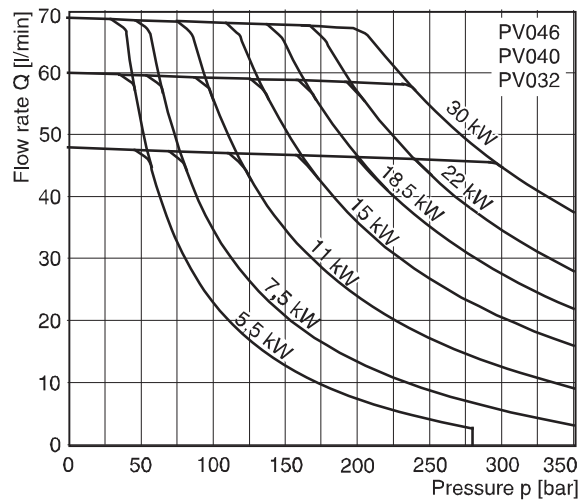
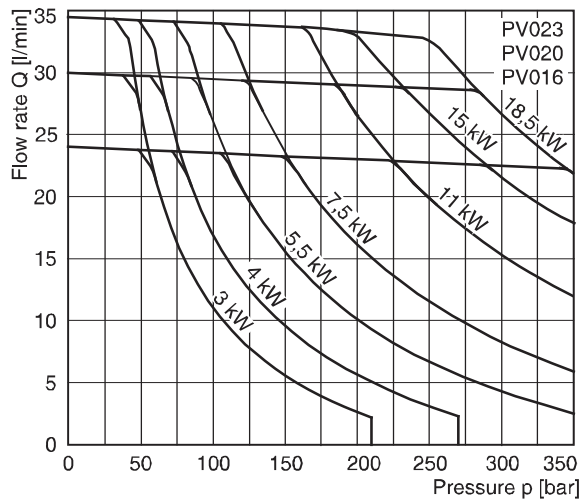
F



PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

✧ CHARACTERISTIC CURVES, HORSE POWER COMPENSATORS

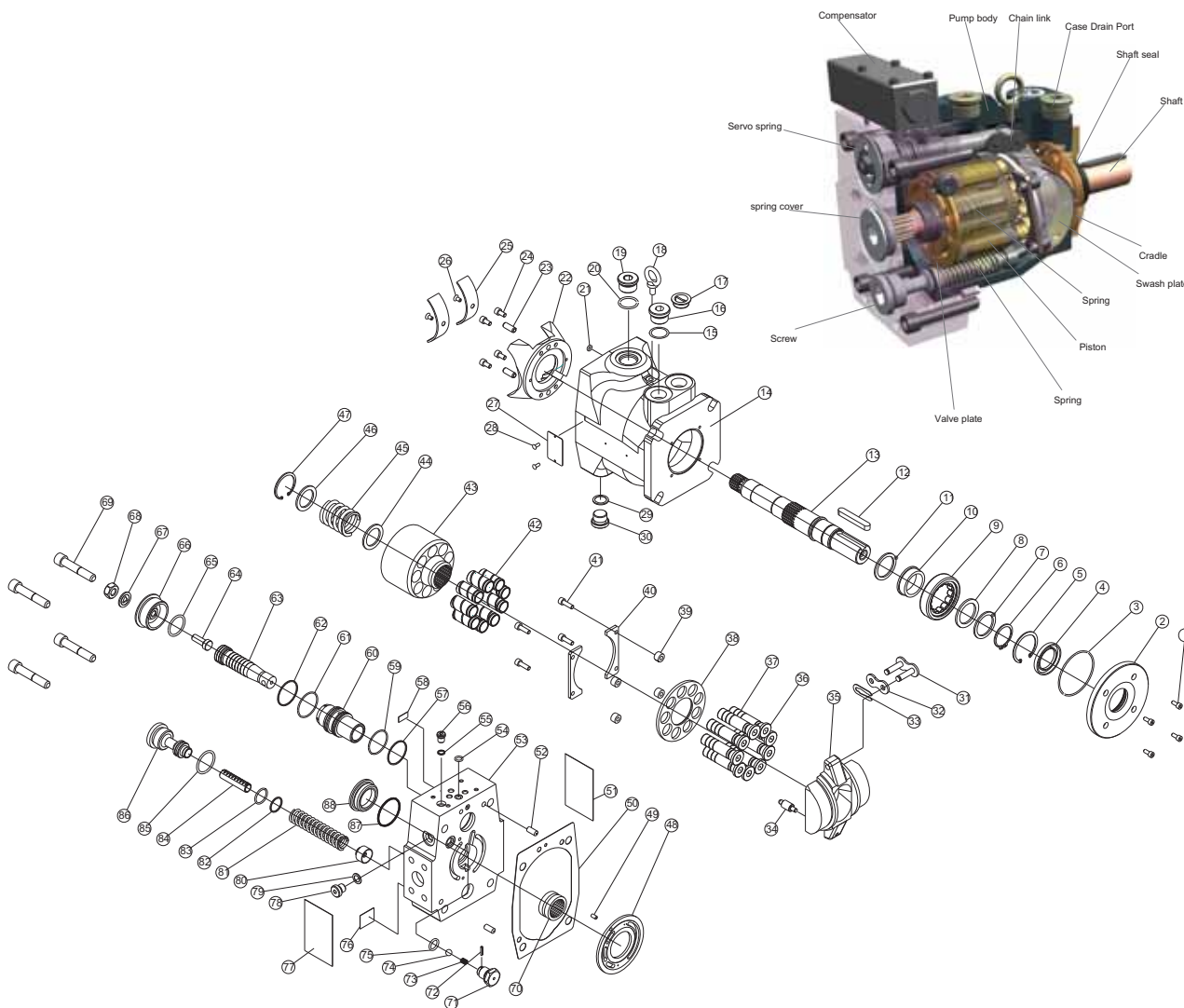




PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

[ASSEMBLY]



PARTS LIS

NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION
1	Hexagon socket head cap screw	23	Pin	45	Spring	67	Washer
2	Pilot cover	24	Screw	46	Washer	68	Servo piston sleeve
3	O-ring	25	Trunnion bearing	47	Snap ring	69	Screw
4	Shaft seal	26	Screw	48	Valve plate	70	Trunnion bearing
5	Snap ring	27	Rotation indicator	49	Pin	71	Plug
6	Snap ring	28	Rivet	50	Seal	72	Pin
7	Washer	29	O-ring	51	Seal	73	Spring
8	Washer	30	Plug	52	Pin	74	Ball
9	Roller bearing	31	Chain link	53	Pump body	75	O-ring
10	Roller bearing	32	Chain link	54	O-ring	76	Label
11	Roller bearing	33	Chain link	55	O-ring	77	Seal
12	Key	34	Connector servo spring	56	Plug	78	Plug
13	Shaft	35	Swash plate	57	O-ring	79	O-ring
14	Pump body	36	Piston	58	Label	80	Washer
15	O-ring	37	Piston	59	O-ring	81	Spring
16	Plug	38	Slipper segment	60	Servo piston sleeve	82	O-ring
17	Plug	39	Washer	61	O-ring	83	O-ring
18	Ring	40	Retainer segment	62	O-ring	84	Pin
19	Plug	41	Screw	63	Servo piston sleeve	85	O-ring
20	O-ring	42	Spring	64	Servo piston sleeve	86	Screw
21	O-ring	43	Cylinder block	65	O-ring	87	O-ring
22	Cradle	44	Washer	66	Servo piston sleeve	88	Spring cover



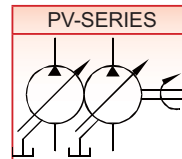
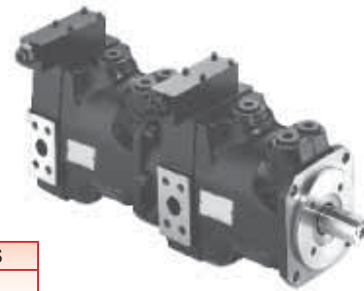
PUMPS

VARIABLE DISPLACEMENT PISTON PUMPS

(PV-SERIES)

※FEATURE

1. New type of swash plate and large servo piston with strong bias spring achieves 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 (multiple pumps) of same size and model and mounting interface for basically all metric or SAE mounting



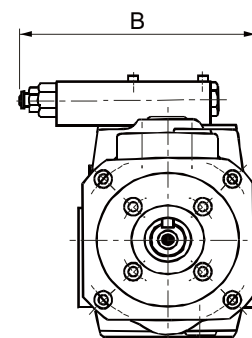
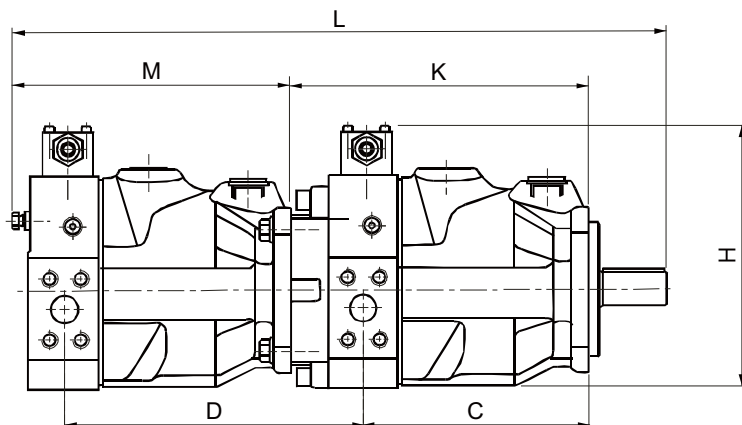
※MODEL NUMBER DESIGNATION

PV-	063-	063-	A1-	A1-	R-	M-	1-	A-	(A25)-	(V)-	10
I	II	III	IV	V	VI	VII	VIII	IX	X	X I	X II

- II : Main pump(Shaft Side) displacement, Refer to PV model number designation.
 III : Second pump(Rear Side) displacement, Refer to PV model number designation.
 IV : Main pump(Shaft Side) control type, Refer to PV model number designation.
 V : Second pump(Rear Side) control type, Refer to PV model number designation.
 I , VI- X II : Refer to PV model number designation.

※DIMENSIONS

Main pump	Second pump	Interface main pump	L	B	C	D	H	K	M
PV016~PV023	PV016~PV023	K: Metric, ø100	489	196	170.5	225	220	225	212
PV032~PV046	PV016~PV023	L: Metric, ø125	541	208	197	235.5	245	261	212
	PV032~PV046		574	208	197	261	245	261	245
PV063~PV092	PV016~PV023	M: Metric, ø160	630	232	252	244.5	301	326	212
	PV032~PV046		663	232	252	271	301	326	245
	PV063~PV092		724	232	252	326	301	326	306
PV140~PV180	PV016~PV023	M: Metric, ø160	719	230	305	280.5	349	415	212
	PV032~PV046		752	230	305	307	349	415	245
	PV063~PV092		813	230	305	362	349	415	306
	PV140~PV180		878	230	305	415	349	415	385
PV270	PV016~PV023	N: Metric, ø200	860	255	403	299	406	531.5	212
	PV032~PV046		893	255	403	325.5	406	531.5	245
	PV063~PV092		954	255	403	380.5	406	531.5	306
	PV140~PV180		1033	255	403	433.5	406	531.5	385
	PV270		1134	255	403	531.5	406	531.5	510



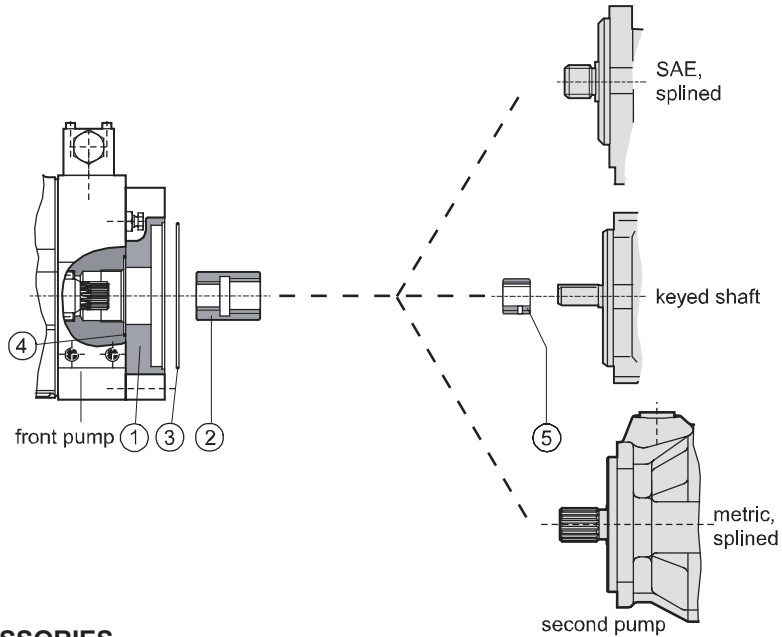
M.M.(INCHES)



PUMPS

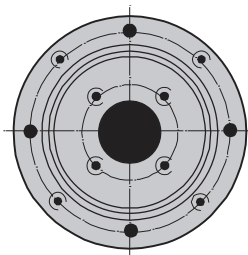
VARIABLE DISPLACEMENT PISTON PUMPS

※PV PUMP WITH THRU DRIVE

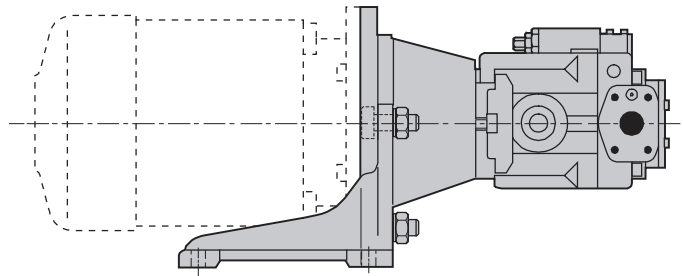
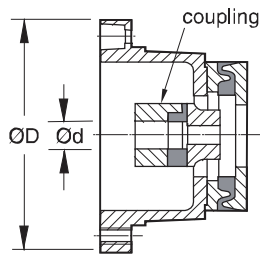


※PV PUMP ACCESSORIES

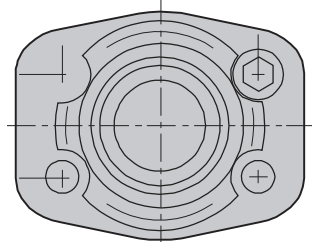
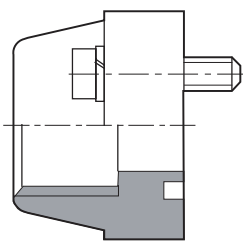
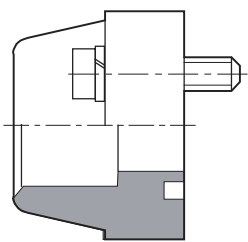
BELL HOUSING, COUPLING AND FOOT FLANGE



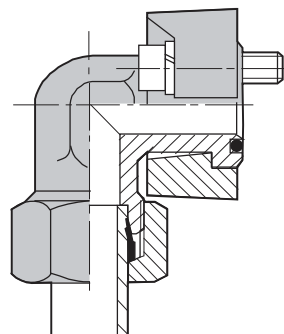
WELDING FLANGE



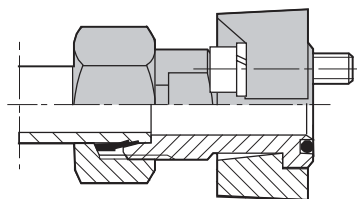
THREADED FLANGE



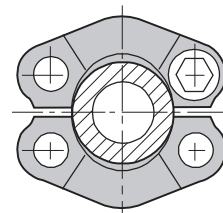
SAE FLANGE CONNECTIONS, PIPE CONNECTION IN ACCORDANCE TO DIN-2353



ELBOW SAE-FLANGE CONNECTION WFS



STRAIGHT SAE CONNECTION GFS



F