



Hydraulic Piston Pump PV Series



Efficient Performance
Innovative Technology
Reliable Quality and Service

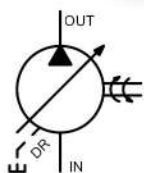
www.yeoshehydraulic.com

YEOSHE HYDRAULICS CO.,LTD.

PV Axial piston pump



PV Series axial piston pump



nominal pressure: 350 bar
max. pressure: 420 bar

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 pistons and new precompression technology (precompression filter volume) result in unbeaten low outlet flow pulsation.

3. Complete compensator program offers multiple controls.

4. Rigid and FEM-optimized body design for lowest noise level.

5. Thru drive for 100% nominal torque.

6. Pump combinations (multiple pumps) of same size and model and mounting interface for basically all metric or SAE mounting interfaces.

7. Wide application in automobile industrial, ships, forging machines, tire machines, injection molding machines, machine tools, special-purpose machine.

A

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PV Axial piston pump

Quick Reference Data Chart

Size	Model	Pressure		Displacement		Pump Delivery (7 bar) 100 PSI				APPROX. Noise Levels			Speed		Weight
		nominal pressure	max. pressure	cm ³ /rev	in ³ /rev	1500 RPM		1800 RPM		dBA Full Flow and 1500 RPM			Max. RPM	Min. RPM	KG (LB)
						LPM	U.S. GPM	LPM	U.S. GPM	70 bar (1 KSI)	207 bar (3 KSI)	343 bar (5 KSI)			
1	PV016	350	420	16	0.98	24	6.3	28.8	7.6	56	60	68	2750		19 (42)
	PV020			20	1.2	30	7.9	36	9.5						
	PV023			23	1.4	34.5	9.1	41.4	10.9						
	PV028	315	350	28	1.7	42	11	50.4	13.2						
2	PV032	350	420	32	1.9	48	12.7	57.6	15.2	59	62	69	2400		30 (66)
	PV040			40	2.4	60	15.9	72	19						
	PV046			46	2.8	69	18.2	82.2	21.9						
	PV056	280	350	56	3.41	84	22.1	100.8	26.6						
	PV065	250	315	65	3.96	97.5	25.7	117	30.9						
3	PV063	350	420	63	3.8	94.5	25	113.4	30	66	70	74	2100	300	60 (132)
	PV071			71	4.3	107	28.3	128.7	34				2100		
	PV080			80	4.8	120	31.7	144	38				2000		
	PV092			92	5.6	138	36.5	165.6	43.8				1900		
	PV110	250	280	110	6.7	165	43.6	198	52.3				1900		
	PV123			123	7.5	184.5	48.7	221.4	58.4				1900		
4	PV125	350	420	125	7.6	187.5	49.5	225	59.4	70	74	76	2200		90 (198)
	PV140			140	8.5	210	55.5	252.1	66.6						
	PV180			180	11	270	71.3	324	85.6						
	PV210	300	350	210	12.8	315	83.1	378	99.8				2100		
5	PV270	350	420	270	16.5	405	107	486	128.4	77	79	89	1800		172 (379)

1. Outlet port is on the top, the pipe pressure should be less than 2 bar.

2. The usage of max. Pressure for each circle never exceed 6 seconds. Please see the General Installation Information for hydraulic oil cleanliness manual.

3. YEOSHE offers tandem pump or other types of pump connection. The mounting has Metric and SAE dimensions.



Type code for standard program

A

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PV Axial piston pump

PV	063	GA	3	R	M	1	A	0	N	
1	2	3	4	5	6	7	8	9	10	11
Series	Size and displacement	Control device Pressure adjusting	Rotation	Mounting	Threads	Thru drive & 2nd pump	Voltage	Seals	Design No.	
		E								
		4								

Horse power for horse power control ("P" prefix)

Series

1	Axial piston pump variable displacement high pressure version	nominal pressure : 350 bar max. pressure : 420 bar	PV
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Size and displacement

2	Code		016	020	023	028	032	040	046	056	065	063	071	080	092	110	123	125	140	180	210	270
	Size		Body 1				Body 2				Body 3				Body 4				Body 5			
	Displacement	cm ³ / rev	16	20	23	28	32	40	46	56	65	63	71	80	92	110	123	125	140	180	210	270
In ³ / rev		0.98	1.2	1.4	1.7	1.9	2.4	2.8	3.41	3.96	3.8	7.3	4.8	5.6	6.6	7.5	7.6	8.5	11	12.6	16.5	

Control device

3	Standard pressure compensator	A0
	None pressure compensator (fixed displacement) (pressure protection required)	LN
	Electrical 2-stage flow compensator (pressure protection required)	LS
	Fixed displacement 2-stage flow compensator (pressure protection required)	LC
	Remote type	
	Remote pressure compensator with NG6 interface	GM
	Remote pressure compensator + Relief valve	GA
	Remote pressure compensator + Proportional pressure valve	GJ
	Electrical unloading type	
	Remote pressure compensator + Electrical unloading	GR
	Remote pressure compensator + 2-stage pressure control	GB
	Remote pressure compensator + Electrical unloading + 2-stage pressure control	GC
	Load-sensing type	
	Load-sensing compensator with NG6 interface	HM
	Load-sensing compensator + Relief valve	HA
	Load-sensing compensator + Proportional pressure valve	HJ
	Load-sensing + Electrical unloading type	
	Load-sensing compensator + Electrical unloading	HR
	Load-sensing compensator + 2-stage pressure control	HB
	Load-sensing compensator + Electrical unloading + 2-stage pressure control	HC
	Proportional pressure, flow type	
	Load-sensing compensator + Proportional flow valve + Relief valve	HQ
	Load-sensing compensator + Proportional pressure valve + Proportional flow valve	HK
	Horse power type	
	Horse power compensator with NG6 interface	PM
	Horse power compensator + Relief valve	PA
	Horse power compensator + Proportional pressure valve	PJ
	Horse power compensator + Electrical unloading	PR
	Horse power compensator + Electrical unloading+2-stage pressure control	PC
	Horse power load-sensing compensator + Relief valve	PH
	Horse power load-sensing compensator + Proportional flow valve + Relief valve	PQ
	Horse power load-sensing compensator + Proportional pressure valve	PS

Type code for standard program

PV	063	GA	3	R	M	1	A	0	N	
1	2	3	4	5	6	7	8	9	10	11
Series	Size and displacement	Control device	Pressure adjusting	Rotation	Mounting	Threads	Thru drive & 2nd pump	Voltage	Seals	Design No.
			E							
			4							

Horse power for horse power control ("P" prefix)

Pressure adjustment

4	10~140 bar (145~2030 PSI)	2
	35~250bar (507~3625 PSI)	3
	35~280bar (580~4060 PSI)	4
	35~315bar (725~4567 PSI)	5
	35~350bar (1015~5075 PSI)	6

Pressure range for each displacement:

Pressure range for each displacement:		2	3	4	5	6
4	PV016~PV023	■	■	■	■	■
	PV028	■	■	■	-	-
	PV032~PV046	■	■	■	■	■
	PV056	■	■	■	-	-
	PV065	■	■	-	-	-
	PV063~PV092	■	■	■	■	■
	PV110~PV123	■	■	-	-	-
	PV125~PV180	■	■	■	■	■
	PV210	■	■	■	-	-
	PV270	■	■	■	■	■

Pressure range for each control device:

Pressure range for each control device:		2	3	4	5	6
4	A0 Standard pressure compensator	■	■	■	■	■
	LN None pressure compensator (fixed displacement) (pressure protection required)	■	■	■	■	■
	LS Electrical 2-stage flow compensator (pressure protection required)	■	■	■	■	■
	LC Fixed displacement 2-stage flow compensator (pressure protection required)	■	■	■	■	■
	Remote type					
	GM Remote pressure compensator with NG6 interface	■	■	■	■	■
	GA Remote pressure compensator + Relief valve	■	■	■	■	■
	GJ Remote pressure compensator + Proportional pressure valve	■	■	△	△	△
	Electrical unloading type					
	GR Remote pressure compensator + Electrical unloading	■	■	■	■	■
	GB Remote pressure compensator + 2-stage pressure control	■	■	■	■	■
	GC Remote pressure compensator + Electrical unloading + 2-stage pressure control	■	■	■	■	■
	Load-sensing Type					
	HM Load-sensing compensator with NG6 interface	■	■	■	■	■
HA Load-sensing compensator + Relief valve	■	■	■	■	■	
HJ Load-sensing compensator + Proportional pressure valve	■	■	△	△	△	

■ = available - = on request ※ = standard type △ = custom made



Type code for standard program

A

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PV Axial piston pump

PV	063	GA	3	R	M	1	A	0	N	
1	2	3	4	5	6	7	8	9	10	11
Series	Size and displacement	Control device	Pressure adjusting	Rotation	Mounting	Threads	Thru drive & 2nd pump	Voltage	Seals	Design No.
			E							
			4							

Horse power
for horse power control ("P" prefix)

Pressure range for each control device:

2 3 4 5 6

4	Load-sensing + Electrical unloading type				
	HR	Load-sensing compensator + Electrical unloading	■	■	■
	HB	Load-sensing compensator + 2-stage pressure control	■	■	■
	HC	Load-sensing compensator + Electrical unloading + 2-stage pressure control	■	■	■
	Proportional pressure, flow type				
	HQ	Load-sensing compensator + Proportional flow valve + Relief valve	■	■	■
	HK	Load-sensing compensator + Proportional pressure valve + Proportional flow valve	■	■	△
	Horse power type				
	PM	Horse power compensator with NG6 interface	■	■	■
	PA	Horse power compensator + Relief valve	■	■	■
	PJ	Horse power compensator + Proportional pressure valve	■	■	△
	PR	Horse power compensator + Relief valve + Electrical unloading	■	■	■
	PC	Horse power compensator + Electrical unloading + 2-stage pressure control	■	■	■
	PH	Horse power load-sensing compensator + Relief valve	■	■	■
	PQ	Horse power load-sensing compensator + Proportional flow valve + Relief valve	■	■	■
	PS	Horse power load-sensing compensator + Proportional pressure valve	■	■	△

Pressure adjusting (Please following page A-34~36)

Displacement		Horse power									
4	PV016~PV023,28	A 3KW	B 4KW	C 5.5KW	D 7.5KW	E 11KW					
	PV032~PV046,56,65			C 5.5KW	D 7.5KW	E 11KW	F 15KW	G 18.5KW	H 22KW		
	PV063~PV092,110	E 11KW	F 15KW	G 18.5KW	H 22KW	I 30KW	J 37KW	K 45KW			
	PV125,140			G 18.5KW	H 22KW	I 30KW	J 37KW	K 45KW	L 55KW		
	PV180,210	H 22KW	I 30KW	J 37KW	K 45KW	L 55KW	M 75KW	N 90KW			
	PV270			J 37KW	K 45KW	L 55KW	M 75KW	N 90KW	O 110KW	P 132KW	

Rotation

5	↻ Clockwise	R
	↺ Counter clockwise	L

■ = available - = on request ※ = standard type △ = custom made

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PV Axial piston pump

PV Axial piston pump

(Dimensions refer to dimension diagram)



PV Axial piston pump

PV Axial piston pump

PV Axial piston pump

PV Axial piston pump

PV Axial piston pump

PV Axial piston pump



Type code for standard program

A

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PV Axial piston pump

PV	063	GA	3	R	M	1	A	0	N	
1	2	3	4	5	6	7	8	9	10	11
Series	Size and displacement	Control device	Pressure adjusting	Rotation	Mounting	Threads	Thru drive & 2nd pump	Voltage	Seals	Design No.
			E							
			4							

Horse power
for horse power control ("P" prefix)

Voltage

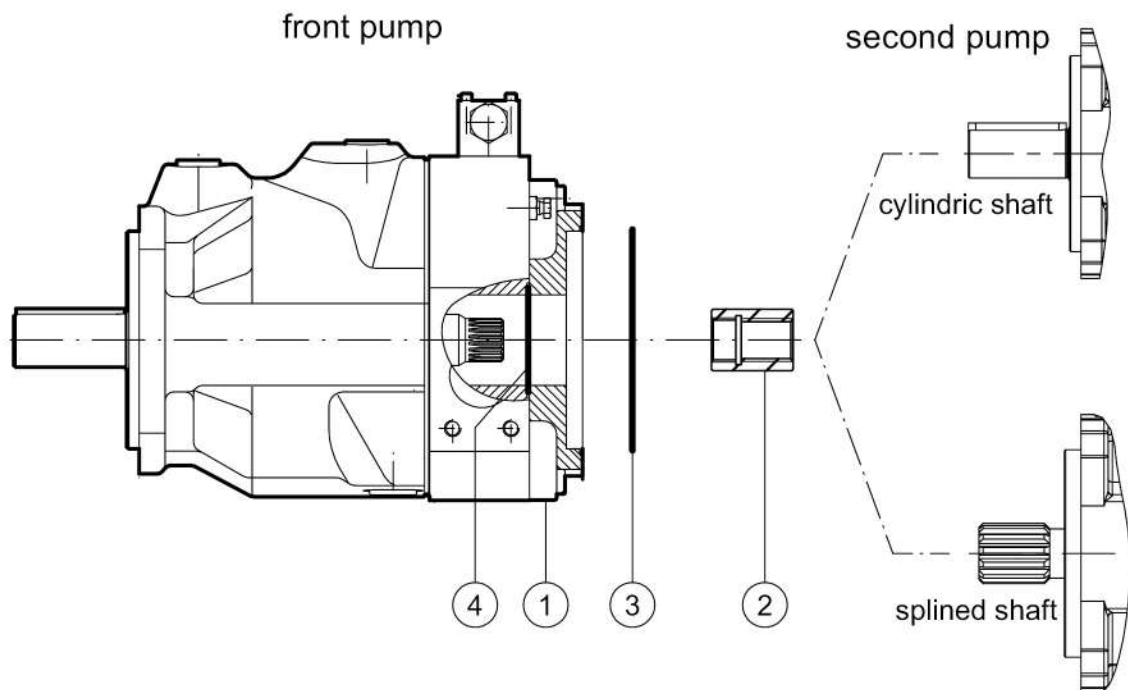
	None	0
	AC100V (50/60HZ)	A
	AC110V (60HZ)	B
9	AC200V (50/60HZ)	C
	AC220V (60HZ)	D
	DC 12V	E
	DC 24V	F

Seals

	NBR	N	※
10	VITON, FKM	V	
	Ethylen-propylene	E	

■ = available - = on request ※ = standard type △ = custom made

Pump combination



NO.	Name
1	adapter
2	coupling
3	front pump o-ring
4	second pump o-ring

Order code refers to next page



Pump combination

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PV Axial piston pump

② coupling order no.

second pump		fornt pump Size				
second pump shaft	model	Body 1 (PV016~023, 028)	Body 2 (PV032~046, 056,065)	Body 3 (PV063~092, 110~123)	Body 4 (PV125~180, 210)	Body 5 (PV270)
SAE splined shaft						
9T 16/32 DP		4A505032	4A505037	4A505051	4A505058	4A505069
11T 16/32 DP		--	--	--	--	--
13T 16/32 DP		4A505033	4A505034	4A505047	4A505059	4A505070
15T 16/32 DP	(PV016~023,PV028) (PV032~046,056,065)	--	4A505040	4A505120	4A505060	4A505071
14T 12/24DP	(PV032~046,056,065)	--	4A505036	4A505052	4A505061	4A505072
17T 12/24DP		--	--	--	--	--
13T 8/16 DP	(PV063~092,110~123) (PV125~180,210)	--	--	--	4A505062	4A505073
15T 8/16 DP	(PV125~180,210) (PV270)	--	--	--	4A505063	4A505074
splined shaft DIN 5480						
15T W25x1.5x15	(PV016~023,PV028)	4A505031	4A505038	4A505049	4A505057	4A505068
20T W32x1.5x20	(PV032~046,056,065)	--	4A505039	4A505048	4A505056	4A505067
25T W40x1.5x25	(PV063~092,110~123)	--	--	4A505050	4A505055	4A505066
24T W50x2.0x24	(PV125~180,210)	--	--	--	4A505054	4A505065
28T W60x2.0x28	(PV270)	--	--	--	--	4A505075
cylindric shaft						
Ø19.05*4.76		--	--	--	--	--
Ø22.22*4.76		--	4A505042	4A505043	4A505053	4A505064
Ø22.22*6.35		--	4A505042	4A505043	4A505053	4A505064
Ø25.4*6.35	(PV016~023,PV028)	--	4A505041	--	--	--
Ø31.75*7.94	(PV032~046,056,065)	--	--	--	--	--
Ø44.45*11.11	(PV063~092,110~123) (PV125~180,210)	--	--	--	--	--
Ø50.8*12.7	(PV125~180,210) (PV270)	--	--	--	--	--
cylindric shaft						
Ø25*8	(PV016~023,028)	--	4A505035	--	--	--
Ø32*10	(PV032~046,056,065)	--	--	--	--	--
Ø40*12	(PV063~092,110~123)	--	--	--	--	--
Ø50*14	(PV125~180,210)	--	--	--	--	--
Ø65*18	(PV270)	--	--	--	--	--

Pump combination

order no.

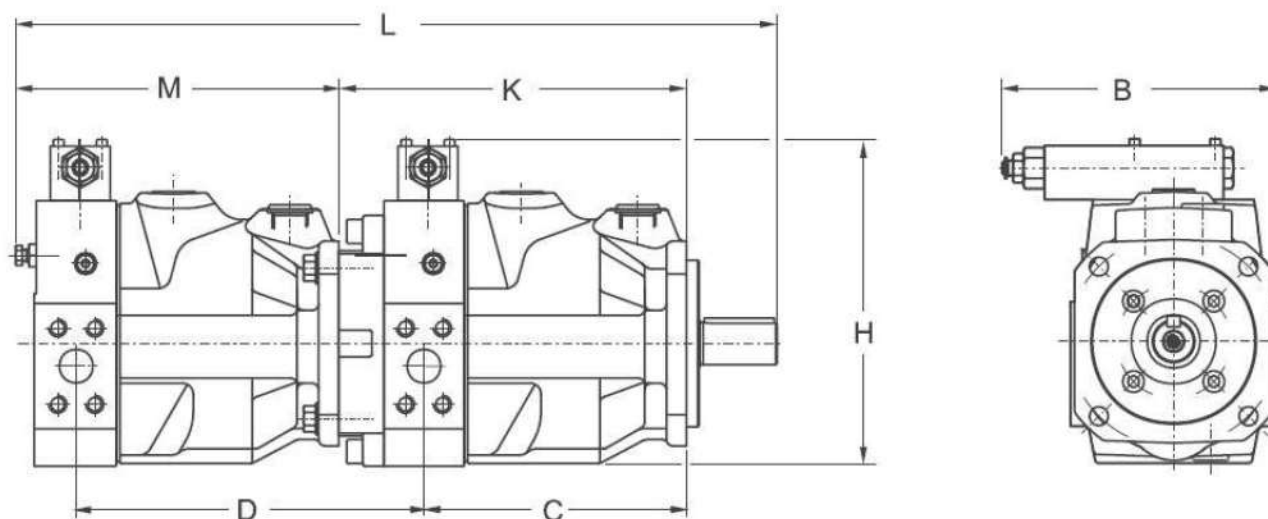
		①	③	④
Fornt pump	Thru drive code	Adapter	Fornt pump o-ring	Second pump o-ring
Body 1 (PV016~023,028)	I $\varnothing$ 63	4A504012	3AAA1BA134	3AAC1AA065
	J $\varnothing$ 80	4A504013	3AAA1BA134	3AAC1AA085
	K $\varnothing$ 100	4A504014	3AAA1BA134	3AAC1AA105
	C $\varnothing$ 50.8	4A504015	3AAA1BA134	3AAC1AA055
	D $\varnothing$ 82.55	4A504016	3AAA1BA134	3AAC1AA085
	E $\varnothing$ 101.6	4A504017	3AAA1BA134	3AAC1AA105
Body 2 (PV032~046,056,065)	I $\varnothing$ 63 (261L)	--	3AAA1BA146	--
	J $\varnothing$ 80 (261L)	--	3AAA1BA146	3AAD1AA080
	K $\varnothing$ 100 (261L)	4A504023	3AAA1BA146	3AAD1AA100
	L $\varnothing$ 125 (261L)	4A504024	3AAA1BA146	3AAD1AA125
	D $\varnothing$ 82.55 (261L)	4A504020	3AAA1BA146	3AAD1AA085
	E $\varnothing$ 101.6 (261L)	4A504021	3AAA1BA146	3AAD1AA100
	S $\varnothing$ 101.6 (276L)	4A504018	3AAA1BA146	3AAD1AA100
	F $\varnothing$ 127 (276L)	4A504019	3AAA1BA146	3AAD1AA130
Body 3 (PV063~092,110~123)	I $\varnothing$ 63	--	3AAA1BA146	--
	J $\varnothing$ 80	4A504030	3AAA1BA146	3AAD1AA080
	K $\varnothing$ 100	4A504031	3AAA1BA146	3AAD1AA100
	L $\varnothing$ 125	4A504032	3AAA1BA146	3AAD1AA125
	M $\varnothing$ 160	4A504033	3AAA1BA146	3AAF1AA316
	D $\varnothing$ 82.55	4A504025	3AAA1BA146	3AAD1AA085
	E $\varnothing$ 101.6	4A504026	3AAA1BA146	3AAD1AA100
	F $\varnothing$ 127	4A504027	3AAA1BA146	3AAD1AA130
	G $\varnothing$ 152.4	4A504028	3AAA1BA146	3AAA1AA163
Body 4 (PV125~180,210)	J $\varnothing$ 80	4A504039	3AAA1BA153	3AAD1AA080
	K $\varnothing$ 100	4A504040	3AAA1BA153	3AAD1AA100
	L $\varnothing$ 125	4A504041	3AAA1BA153	3AAD1AA125
	M $\varnothing$ 160	4A504042	3AAA1BA153	3AAF1AA316
	D $\varnothing$ 82.55	4A504035	3AAA1BA153	3AAD1AA085
	E $\varnothing$ 101.6	4A504036	3AAA1BA153	3AAD1AA100
	F $\varnothing$ 127	4A504037	3AAA1BA153	3AAD1AA130
	G $\varnothing$ 152.4	4A504038	3AAA1BA153	3AAA1AA163
Body 5 (PV270)	J $\varnothing$ 80	4A504049	3AAA1BA153	3AAD1AA080
	K $\varnothing$ 100	4A504050	3AAA1BA153	3AAD1AA100
	L $\varnothing$ 125	4A504051	3AAA1BA153	3AAD1AA125
	M $\varnothing$ 160	4A504052	3AAA1BA153	3AAF1AA316
	N $\varnothing$ 200	4A504053	3AAA1BA153	3AAF1AA320
	D $\varnothing$ 82.55	4A504044	3AAA1BA153	3AAD1AA085

Dimensions

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Double pump dimensions

PV Axial piston pump



Main pump	Second pump	Interface main pump	L	B	C	D	H	K	M
PV016,020,023,028	PV016,020,023,028	100 B4 HW	489	196	170.5	225	220	225	212
PV032,040,046, 056,065	PV016,020,023,028	125 B4 HW	541	208	197	235.5	245	261	212
	PV032,040,046,056,065		574	208	197	261	245	261	245
PV063,071,080,092 110,123	PV016,020,023,028	160 B4 HW	630	232	252	244.5	299	326	212
	PV032,040,046,056,065		663	232	252	271	299	326	245
	PV063,071,080,092,110,123		724	232	252	326	299	326	306
PV125,140,180,210	PV016,020,023,028	160 B4 HW	719	230	305	208.5	349	415	212
	PV032,040,046,056,065		752	230	305	307	349	415	245
	PV063,071,080,092,110,123		813	230	305	362	349	415	306
	PV125,140,180,210		878	230	305	415	349	415	385
PV270	PV016,020,023,028	200 B4 HW	860	255	403	299	406	531.5	212
	PV032,040,046,056,065		893	255	403	325.5	406	531.5	245
	PV063,071,080,092,110,123		954	255	403	380.5	406	531.5	306
	PV125,140,180,210		1033	255	403	433.5	406	531.5	385
	PV270		1134	255	403	531.5	406	531.5	510

Thru drive, shaft load limitations

The max. Transferable torque in Nm for the different shafts options are:

Shaft code	PV016-023 PV028	PV032-046 PV056,065	PV063-092 PV110-123	PV125-PV180 PV210	PV270
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

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 (or more), the limit torque will be reached or exceeded.

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

Requirement: calculated torque factor
< torque 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.

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 V_g of the pump(in cm^3/rev).

pump	shaft	torque limit factor
PV016-023 PV028	N	17700
	D	17700
	M	17700
	K	20130
PV032-046 PV056,065	N	32680
	D	36380
	M	33810
	K	40250
PV063-092 PV110-123	N	77280
	D	72450
	M	67620
	K	83720
PV125-180 PV210	N	118400
	D	158760
	F	78750
	G	97650
	M	113400
	K	157500
PV270	N	119000
	D	159700
	M	170100
	K	236250

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

Torque factor of any pump= $p \times V_g$ (pressure in bar x displacement in cm^3/rev)

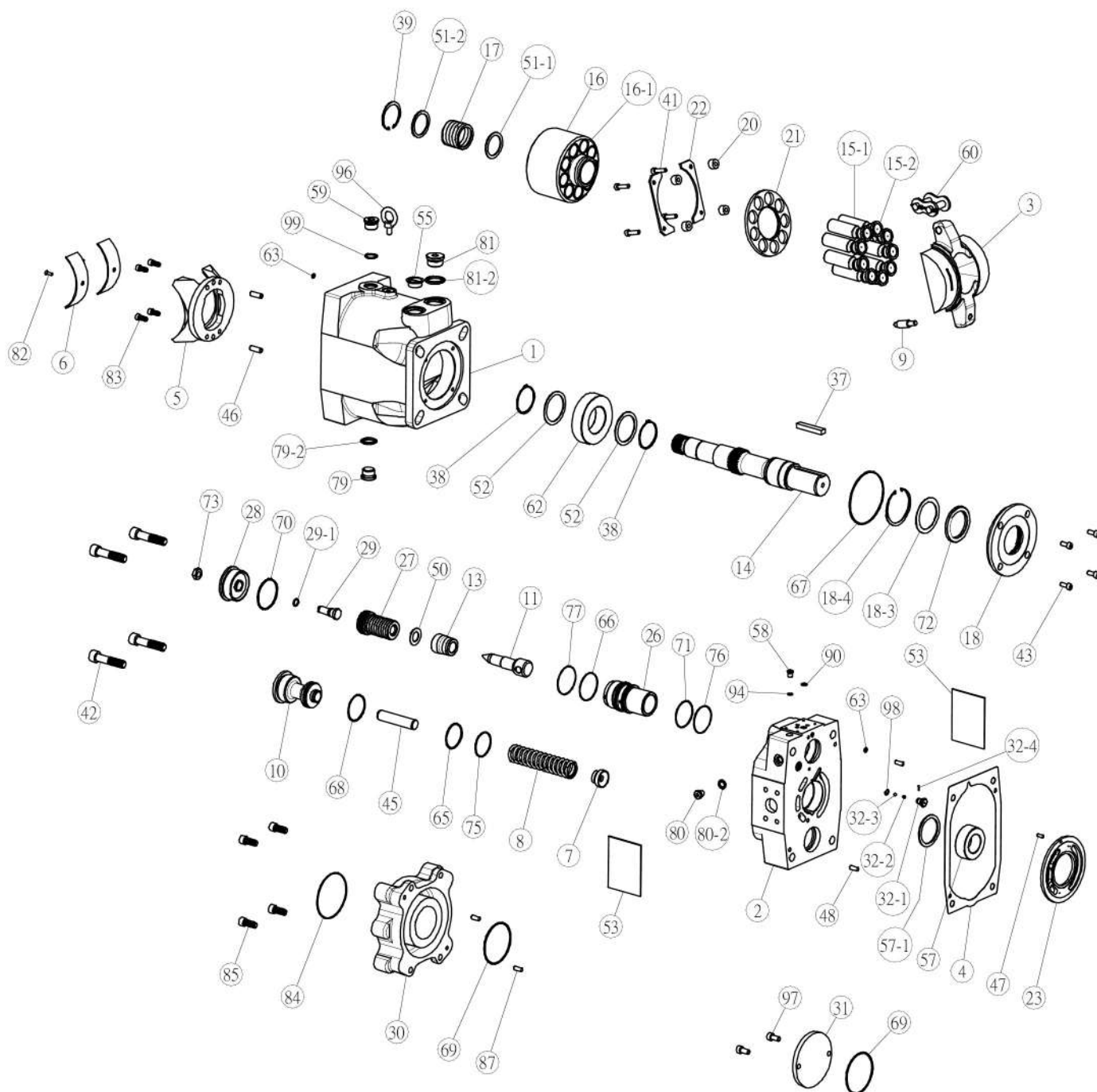
PV Axial piston pump exploded view

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(E.g.Body 4)

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PV Axial piston pump



Remark: Body 1 without (16-1)
 Body 1~3 without (18-3)
 Body 1~3, 5 without (57-1)

※YEOSHE product specifications are subject to change without prior notice.

PV Axial piston pump exploded view

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PV Axial piston pump

NO	Item	NO	Item
1	Pump body	51-1	Washer-cylinder block
2	Pump cover	51-2	Washer-cylinder block
3	Swash plate	52	Washer-shaft
4	Body seal	53	Seal
5	Trunnion carrier	55	Plug
6	Trunnion bearing	57	Needle bearing
7	Guide-servo spring	57-1	Washer
8	Servo spring	58	Plug-comp.interface
9	Locator-servo spring	59	Plug-feedback
10	Plug-servo spring	60	Chain link
11	Connector-swash plate	62	Roller bearing
13	Contour sleeve	63	O-ring
14	Shaft	65	O-ring
15-1	Piston assembly	66	O-ring
15-2	Piston shose	67	O-ring
16	Cylinder block	68	O-ring
16-1	Cylinder block washer	69	O-ring
17	Spring-cylinder block	70	O-ring
18	Pilot cover	71	O-ring
18-3	Pilot cover washer	72	Shaft-seal
18-4	Snap ring	73	Lock nut with seal
20	Distance washer	75	B/U ring
21	Slipper retainer	76	B/U ring
22	Retainer segment	77	B/U ring
23	Valve plate	79	Plug
26	Servo piston sleeve	79-2	Washer
27	Servo piston	80	Plug
28	Servo piston cover	80-2	Washer
29	Spindle	81	Plug
29-1	O-ring	81-2	Washer
30	Adaptor	82	Screw
31	Cover plate	83	Screw
32-1	Air bleed valve	84	O-ring
32-2	Spring	85	Adaptor-screw
32-3	Ball	87	Adaptor-pin
32-4	Pin	90	O-ring
37	Key	94	O-ring
38	Snap ring-shaft	96	Lift eye
39	Snap ring-cyl.block	97	Screw
41	Retainer screw	98	O-ring
42	Screw	99	O-ring
43	Head cap screw		
45	Guide pin-servo		
46	Loc.pin-cradle		
47	Loc.pin-valve plate		
50	Washer-servo piston		



General installation information

A

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PV Axial piston pump

A. Fluid recommendations

Premium quality hydraulic mineral oil fluids are recommended, like H-LP oils to DIN 51524, part2. The viscosity range should be 25 to 50 mm²/s (cSt) at 50° C. Operating temperatures –10 to +70°C. For other fluids such as phosphoric acid esters or for other operating conditions, please consult with YEOSHE for assistance.

B. Seals

NBR (Nitrile) seals are used for operation with hydraulic fluids based on mineral oil. For synthetic fluid, as perhaps phosphoric acid esters, Fluorocarbon seals are required. Please consult with YEOSHE for assistance.

C. Filtration

For maximum pump and system component functionality and life, the system should be protected from contamination by effective filtration.

Fluid cleanliness should be in accordance with ISO classification ISO 4406.

The quality of filter elements should be in accordance with ISO standards.

(1) Minimum requirement for filtration rate $\times$ (mm):

General hydraulic systems for satisfactory operation:

Class 19/15, to ISO 4406 $X=25\mu\text{m}$ ($\beta_{25} \geq 75$) to ISO 4572

(2) Hydraulic systems with maximum component life and functionality:

Class 16/13, to ISO 4406 $X=10\mu\text{m}$ ($\beta_{10} \geq 75$) to ISO 4572

It is recommended to use return line or pressure filters.

YEOSHE Filter Division offers a wide range of these filters for all common applications and mounting styles.

The use of suction filters should be avoided, especially with fast response pumps.

Bypass filtration is a good choice for best filter efficiency.

D. Installation and mounting

Horizontal mounting:

Outlet port-side or top. Inlet port-side or bottom, drain port always uppermost.

Vertical mounting: Shaft pointing upwards.

Install pump and suction line in such way that the maximum inlet vacuum never exceeds 0.8 bar absolute.

The inlet line should be as short and as straight as possible.

A short suction line cut to 45° is recommended when the pump is mounted inside the reservoir, to improve the inlet conditions. All connections should be leak-free, otherwise the air in the suction line will cause cavitations, noise, and damage to the pump.

E. Shaft rotation and alignment

Pump and motor shafts must be aligned within 0.25mm T.I.R. maximum. A floating coupling must be used.

Bellhousings and couplings can be ordered at manufacturers listed in this catalog.

Please follow the coupling manufacturer's installation instructions.

Please consult with YEOSHE for assistance on radial load type drives.

F. Start up

Prior to start up, the pump case must be filled with hydraulic fluid (use case drain port).

Initial start up should be at zero pressure with an open circuit to enable the pump to prime.

Pressure should only be increased once the pump has been fully primed.

Attention: Check motor rotation direction.

G. Operating noise of pumps

The normal operating noise of a pump and constantly-operation noise of the entire hydraulic system is largely determined by where and how the pump is mounted and how it is connected to the down stream hydraulic system. Besides, size, style, and installation of hydraulic tube are the major influence on the overall noise emitted by a hydraulic system.

General installation information

H. Noise reduction measures

Flexible elements help to prevent pump body vibration from being transmitted to other construction elements, where amplification may occur. Such elements can be:

Bell housing with elastic dampening flange with vulcanized labyrinth

- (1) Floating and flexible coupling
- (2) Damping rails
- (3) Or silent blocks for mounting the electric motor or the foot mounting flange
- (4) Flexible tube connections (compensators) or hoses on inlet, outlet, and drain port of the pump.
- (5) Exclusive use of gas tight tube fittings for inlet connections to avoid ingress of air causing cavitations and excessive noise.

I. Drain line

The drain line must lead directly to the reservoir without restriction. The drain line must not be connected to any other return line.

The end of the drain line must be below the lowest fluid level in the reservoir and as far away as possible from the pump inlet line. This ensures that the pump is not empty itself when it's not in operation and the hot aireated oil will not be recirculated.

For the same reason, when the pump is mounted inside the reservoir, the drain line should be arranged in such a way that a siphon is created. This ensures that the pump is always filled with fluid.

The drain pressure must not exceed 1 bar.

Drain line length should not exceed 2 meters.

Minimum diameter should be selected according to the port size and a straight low pressure fitting with maximized bore should be used.

	PV016~PV023 PV028	PV032~PV046 PV056/PV065	PV063~092 PV110~PV123	PV125~180 PV210	PV270
Size of pipe joints	3/8"	1/2"	3/4"	1"	1-1/4"
I.D. of pipes	Ø12 more	Ø15 more	Ø19 more	Ø25 more	Ø32 more
Length of drain	Under 1m	Under 1m	Under 1m	Under 1m	Under 1m



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