

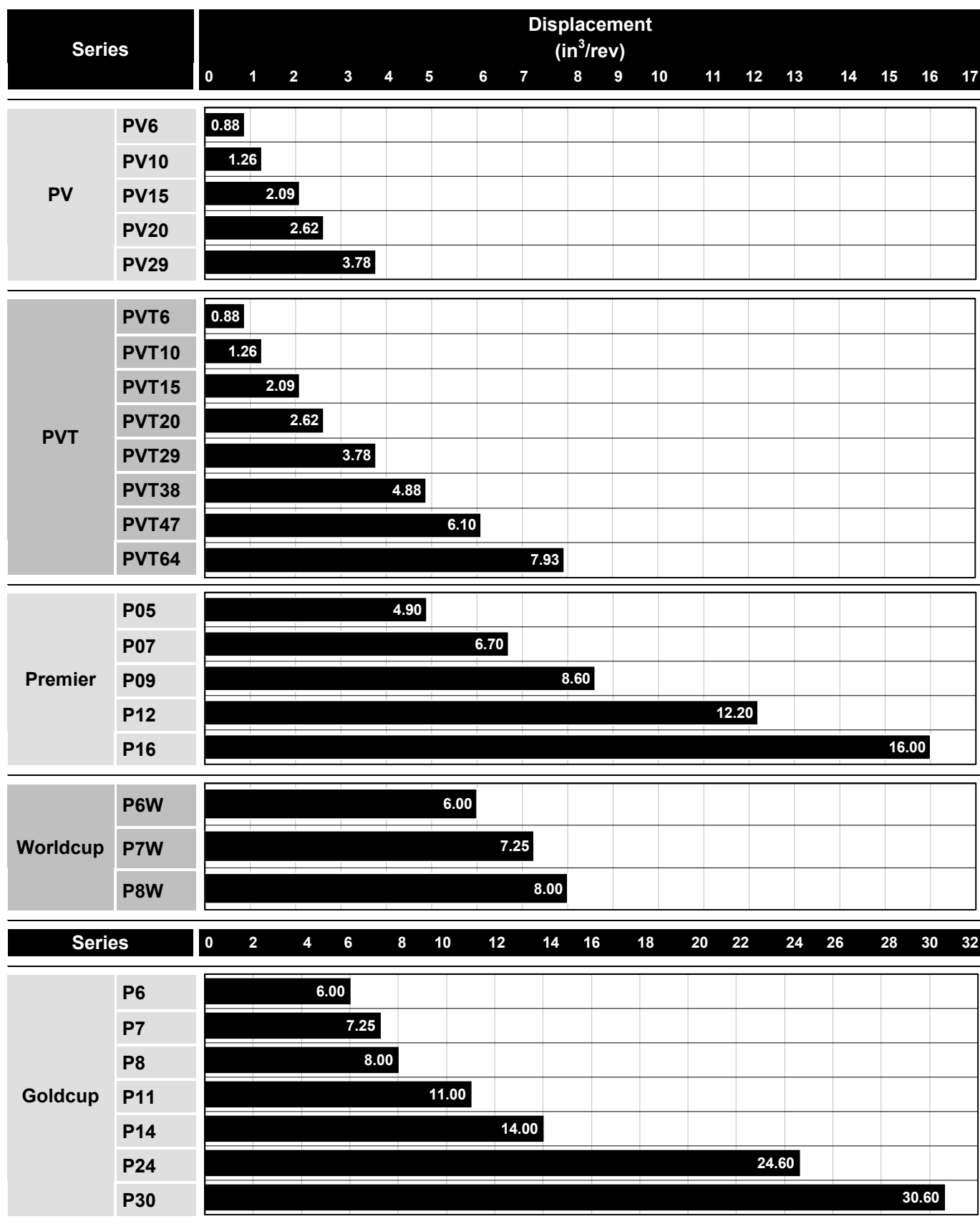
1. Axial Piston Pumps

Series	Model	Maximum Operating Pressure	Maximum Displacement	Remarks	Page
		PSI	ln ³ /rev		
PV & PVM	PV6	4500	0.88	• Threaded rear ports. • PV : Industrial • PVM : Mobile (high speed)	1 - 4
	PV10	4500	1.26		
	PV15	4500	2.09		
	PV20, PVM20 ¹	4500	2.62		
	PV29	4000	3.78		
PVT & PVR	PVT6	4500	0.88	• Open loop. • Side ports, SAE 4 bolts. • Optional rear drive. • PVT : Industrial • PVR : Mobile (high speed)	1 - 6
	PVT10	4500	1.26		
	PVT15	4500	2.09		
	PVT20, PVR20 ¹	4500	2.62		
	PVT29	4000	3.78		
	PVT38	4350	4.88		
	PVT47	4350	6.10		
	PVT64	4350	7.93		
Premier	P05	7200	4.90	• Open loop. • Metric dimensions. • Optional rear drive (full torque capability).	1 - 10
	P07	7200	6.70		
	P09	7200	8.60		
	P12	7200	12.20		
	P16	7200	16.00		
Worldcup	P6W	6000	6.00	• Open loop. • Optional rear drive.	1 - 14
	P7W	6000	7.25		
	P8W	4500	8.00		
Goldcup	P6	6000	6.00	• Transmission pumps. • Integrated package. • Optional rear drive (full torque capability). • Other versions² available.	1 - 16
	P7	6000	7.25		
	P8	4500	8.00		
	P11	6000	11.00		
	P14	6000	14.00		
	P24	5000	24.60		
	P30	5000	30.60		

¹ Higher speed capability : consult Denison Hydraulics.

² Open loop (P6V, P7V, P11V, P14V) : consult Denison Hydraulics.
Fixed displacement (P6F, P7F, P8F) : consult Denison Hydraulics.

Axial Piston Pumps - Product Range Overview

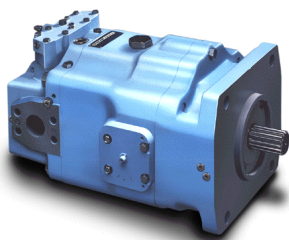


Size	Maximum Pressure ¹			Maximum speed ² <i>rpm</i>	Weight <i>lbs.</i>	Mounting	Page
	Intermittent	Continuous	Case				
	<i>PSI</i>	<i>PSI</i>	<i>PSI</i>				
PV6	4500	3500	10	3000	24	SAE-A - 2 bolts	1 - 4
PV10	4500	3500	10	2800	35	SAE-B - 2 bolts	
PV15	4500	3500	10	2500	44	SAE-B - 2 bolts	
PV20	4500	3500	10	2300 ³	57	SAE-C - 2 bolts	
PV29	4000	3000	10	2300	73	SAE-C - 2 bolts	
PVT6	4500	3500	10	3000	31	SAE-A - 2 bolts	1 - 6
PVT10	4500	3500	10	2800	44	SAE-B - 2 bolts	
PVT15	4500	3500	10	2500	55	SAE-B - 2 bolts	
PVT20	4500	3500	10	2300 ³	71	SAE-C - 2 bolts	
PVT29	4000	3000	10	2300	93	SAE-C - 2 bolts	
PVT38	4300	4000	7	1800	110	SAE-C - 4 bolts	
PVT47	4300	4000	7	1800	157	SAE-C - 4 bolts	
PVT64	4300	4000	7	1800	209	SAE-D - 4 bolts	
P05	7200	6000	25	2550	157	SAE-D - 4 bolts	1 - 10
P07	7200	6000	25	2450	176	SAE-D - 4 bolts	
P09	7200	6000	25	2300	221	SAE-D - 4 bolts	
P12	7200	6000	25	2100	300	SAE-E - 4 bolts	
P16	7200	6000	25	1850	324	SAE-E - 4 bolts	
P6W	6000	5000	25	2050	179	SAE-D - 4 bolts	1 - 14
P7W	6000	5000	25	1950	179	SAE-D - 4 bolts	
P8W	4500	4500	25	1800	179	SAE-D - 4 bolts	
Size	PSI	PSI	PSI	rpm	Lbs.	Mounting	Page
P6	6090	5000	75	3000	154	SAE-C - 2 bolts, SAE-D - 4 bolts	1 - 16
P7	6090	5000	75	3000	154	SAE-C - 2 bolts, SAE-D - 4 bolts	
P8	4500	3600	75	2100	154	SAE-C - 2 bolts, SAE-D - 4 bolts	
P11	6000	5000	75	2400	300	SAE-E - 4 bolts	
P14	6000	5000	75	2400	300	SAE-E - 4 bolts	
P24	5000	5000	75	2100	650	SAE-F - 4 bolts	
P30	5000	5000	75	1800	670	SAE-F - 4 bolts	

¹ For use with mineral oil. Other fluids, consult Denison Hydraulics.

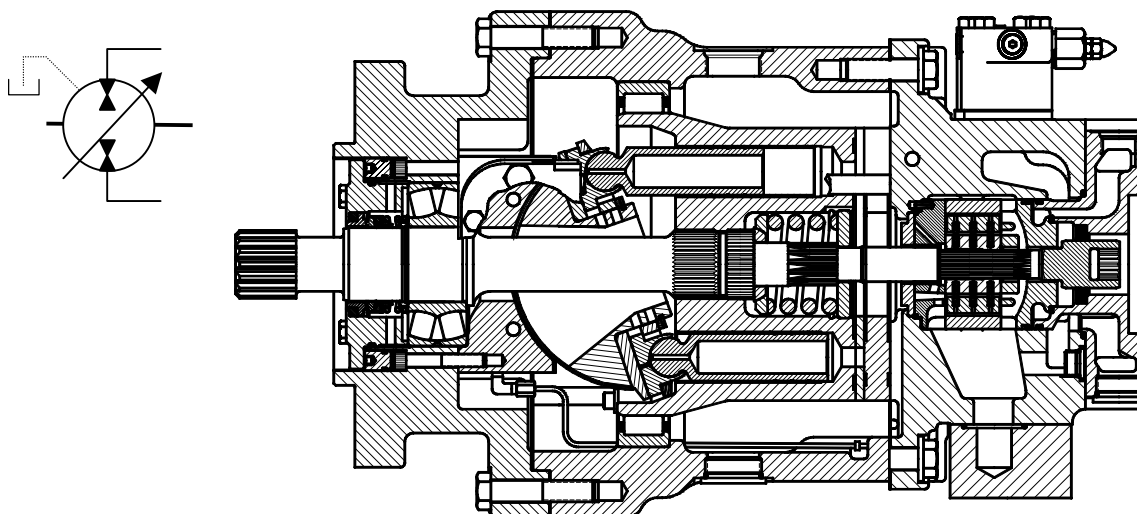
² At atmospheric inlet pressure (15 PSI absolute). For higher speed operation, consult Denison Hydraulics.

³ PVM20, PVR20 : 2600 rpm.



GC Series - HST Pumps

P6 - 6.00 in ³ /rev, 6000 PSI	P11 - 11.00 in ³ /rev, 6000 PSI
P7 - 7.25 in ³ /rev, 6000 PSI	P14 - 14.00 in ³ /rev, 6000 PSI
P8 - 8.00 in ³ /rev, 4500 PSI	P24 - 24.60 in ³ /rev, 4500 PSI
	P30 - 30.60 in ³ /rev, 4500 PSI



Key Sheet Example : P24P-2R1E-9A2-A-00-0B0

1. P24P-2R1E-9A2-A00-0B0 Series

Series		Displacement (in ³ /rev)						
		6.00	7.25	8.00	11.00	14.00	24.60	30.60
Basic unit		P6P	P7P	P8P	P11P	P14P	P24P	P30P
Rear drive	Basic	P6R	P7R	P8R	P11R	P14R	P24R	P30R
	Shuttle valve	P6L	P7L	P8L	P11L	P14L	P24L	P30L
Rear aux. pump		P6S	P7S	P8S	P11S	P14S	P24S	P30S
Open loop version		P6V	P7V	P8V	P11V	P14V		
Fixed displacement		P6F	P7F	P8F				

2. P24P-2R1E-9A2-A00-0B0 Shaft

Series	SAE	P♦P		P♦R		Mechanical Seal		Double Lip Seal	
		P♦S	P♦L	P♦S	P♦L	Key	Spline	Key	Spline
P6/7/8	C	●	○	●	○	2	3	7	8
	D	○	●	○	●	4	5	-	-
P11/14	E	●	●	●	●	2	3	7	8
P24/30	F	●	●	●	●	2	3	7	8

3. P24P-2R1E-9A2-A00-0B0 Rotation

CW	R
CCW	L

4. P24P-2R1E-9A2-A00-0B0 Seal Class

Buna N : mineral oil	1
Viton : mineral oil & fire resistant fluid	5

5. P24P-2R1E-9A2-A00-0B0 Design

6. P24P-2R1E-9A2-A00-0B0 Control

7. P24P-2R1E-9A2-A00-0B0 Control Options

Displacement indicator		2
Torque Limiter		4
Cam position feedback	Potentiometer	6
	RVDT (AC / DC)	7 / 8

8. P24P-2R1E-9A2-A00-0B0 Control pump side

Control : port A side / port B side	A / B
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9. P24P-2R1E-9A2-A00-0B0 Control Feature

10. P24P-2R1E-9A2-A00-0B0 Servo & Replenish.

Series		Code	Remark	Servo	Replenishing
P♦P P♦S	P6, P7, P8	0	Included in pump	1.07 in³/rev.	
	P11, P14			1.07 in³/rev.	1.07 in³/rev.
	P24, P30			2.80 in³/rev.	
P♦R, P♦L		X	To be supplied externally		

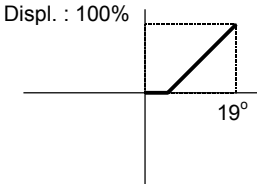
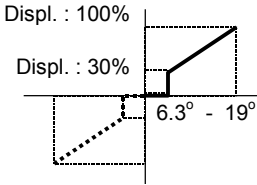
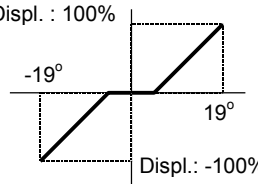
11. P24P-2R1E-9A2-A00-0B0 Rear Drive

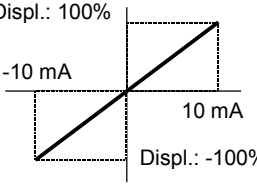
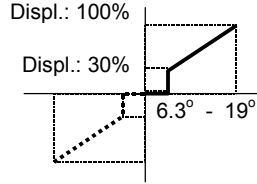
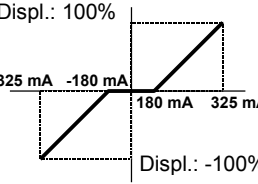
Rear drive		None	SAE		Torque (in.lbs)
P6 P7 P8	P	0	A	B	1750
	R / L	-	A	B C	7130
	S	-	A		1750
P11 P14	P	0	A	B	2400
	R / L	-	A	B C D E	13600
	S	-	A		2400
P24 P30	P	0	B	C	2700
	R / L	-	B	C D E F	33550
	S	-	B		2700

12. P24P-2R1E-9A2-A00-0B0 Optional rear pump

P♦R, P♦L	0
P♦S (rear auxiliary pump included)	1

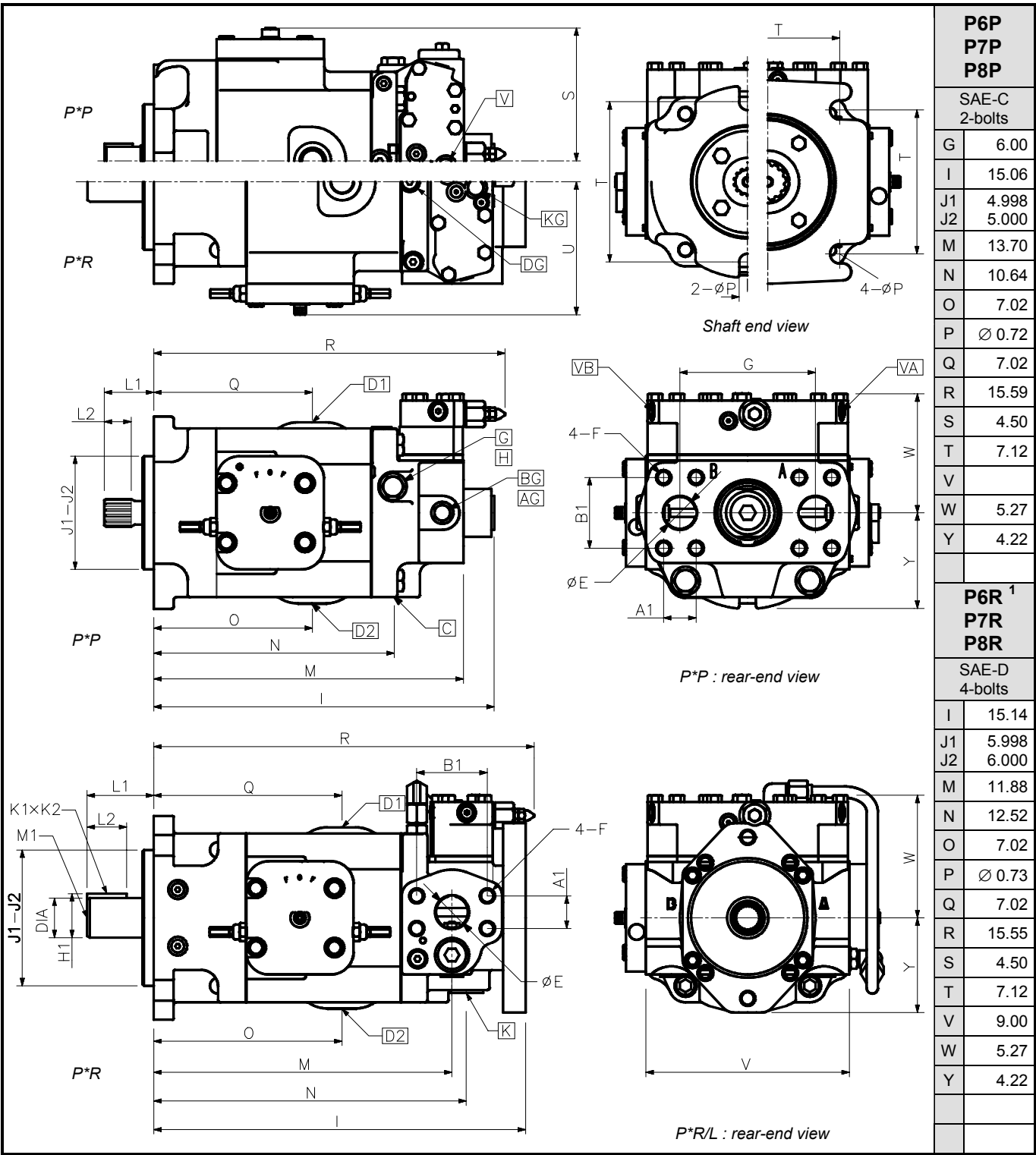
Allowable controls & options combinations.....(P24P-2R1E-9A2-A00-0B1)

Compensator response time, off stroke :	1♦♦ : Screw Adjustment	2♦♦ : Cylinder Control	4♦♦ : Rotary Servo
	 Displ. : 100% 19° Displ. : 30% 6.3° - 19° Pump held to maximum set displacement. Manual override with rotary servo shaft.	 Displ. : 100% Displ. : 30% 6.3° - 19° Pilot pressure in control Y port for maximum displacement. Pilot pressure in control X port for minimum displacement.	 Displ. : 100% -19° 19° Displ.: -100% Manual servo control, spring centered. On stroke response time : • P6, P7, P8 0.9 sec. • P11, P14 1.5 sec. • P24, P30 1.8 sec.
None	10♦	-	40♦
Maximum volume stop	-	2A♦	4A♦
Automatic brake control	-	-	4B♦
A+B options	-	-	4C♦
3 positions spring centering	-	2H♦	-
Electric 4D01, 2 positions	-	2M♦	-
Electric 4D01, 3 positions	-	2N♦	-

Compensator response time, off stroke :	7♦♦ : Servo valve	8♦♦ : Hydraulic stroker	9♦♦ : Electro-hydraulic stroker
	 Displ.: 100% -10 mA 10 mA Displ.: -100% Hi-IQ fast response time control (4DC01 valve). On stroke response time : • P6, P7, P8 180 ms • P11, P14 300 ms • P24, P30 360 ms Driver card : 701-00801-8 Power supply : 701-00023-8 Card holder : 701-00066-8	 Displ.: 100% Displ.: 30% 6.3° - 19° Pump stroke according to pilot pressure. Spring centered. Recommended valve : 4RP01	 Displ.: 100% -325 mA -180 mA 180 mA 325 mA Displ.: -100% Pump stroke according to electric current. Spring centered. On stroke response time : • P6, P7, P8 0.9 sec. • P11, P14 1.5 sec. • P24, P30 1.8 sec. Driver card : S20-14078-0 Option card : S20-11716-0 Power supply : S20-11715-0 Card holder : 701-00007-8
Max. volume stop	-	8A♦	9A♦
Max. Vol. Stop + brake control	-	8C♦	9C♦
Cam feed back	RVDT	7J2	-
	RVDT + man. override	7L2	-
	Potent.	7P2	-
	Potent. + man. override	7K2	-

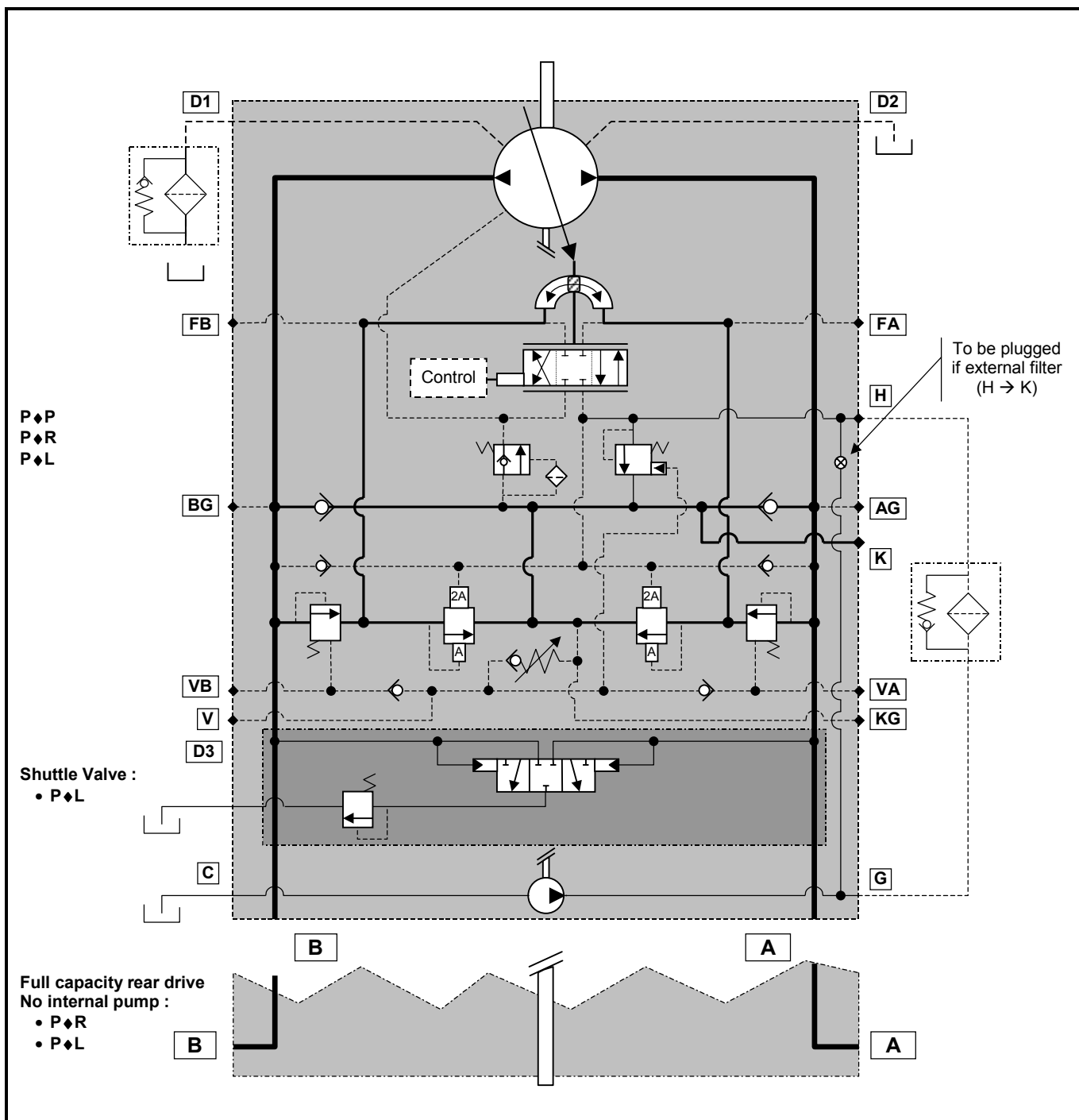
Control Features(P24P-2R1E-9A2-A00-0B1)

Code	Controls						
	1♦♦	2M♦ / 2N♦	2A♦ / 2H♦	4♦♦	7♦♦	8♦♦	9♦♦
00	Standard	110VAC / 60 Hz, DIN connector	Standard	Standard	No manual override	72 - 350 PSI	24 VDC
01	-	12 VDC, DIN connector	-	-	With manual override	72 - 435 PSI	12 VDC
02	-	240VAC / 50 Hz, DIN connector	-	-	-	100 - 380 PSI	-
03	-	110VAC / 60 Hz, Wiring Box	-	-	-	150 - 400 PSI	-
04	-	12 VDC, Wiring Box	-	-	-	72 - 250 PSI	-
05	-	No valve	-	-	-	-	-
06	-	24 VDC, DIN connector	-	-	-	-	-
07	-	110 VAC / 50 Hz, DIN connector	-	-	-	-	-

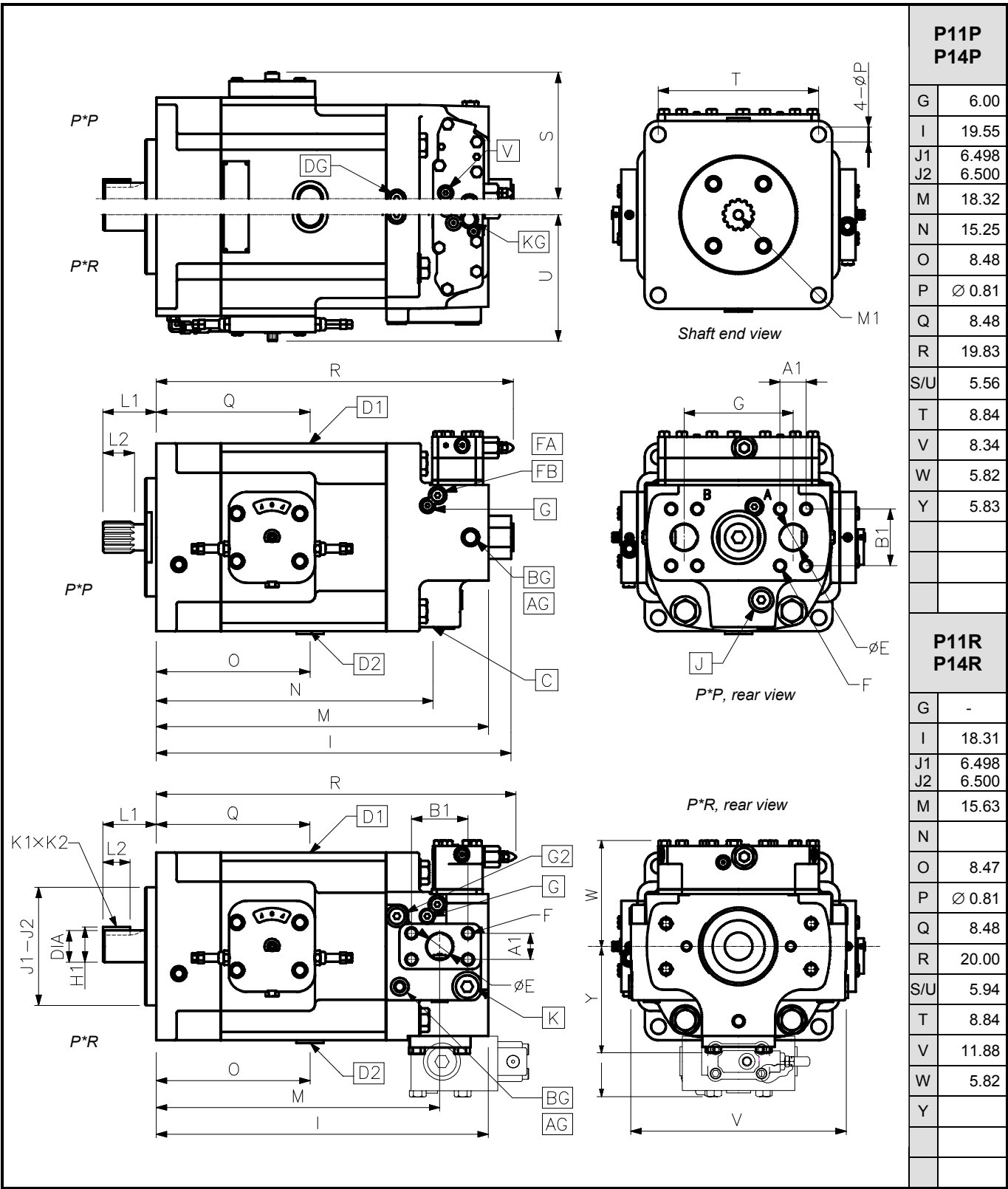


Shafts	Code	Torque limits (in-lbs.)	Dimensions					
			L1	L2	DIAMETER	K1 x K2	H1	
Keyed : SAE-C	2, 7		2.23	1.25	1.250 - 1.249	0.312 x 0.310	1.39	
Keyed : SAE-D	4		2.97	1.75	1.750 - 1.748	0.438 x 0.437	1.94	
Splined : SAE-C	3, 8		2.23		Class 1-J498b, 12/24 d.p. - 14 teeth			
Splined : SAE-D	5		2.97		Class 1-J498b, 8/16 d.p. - 13 teeth			

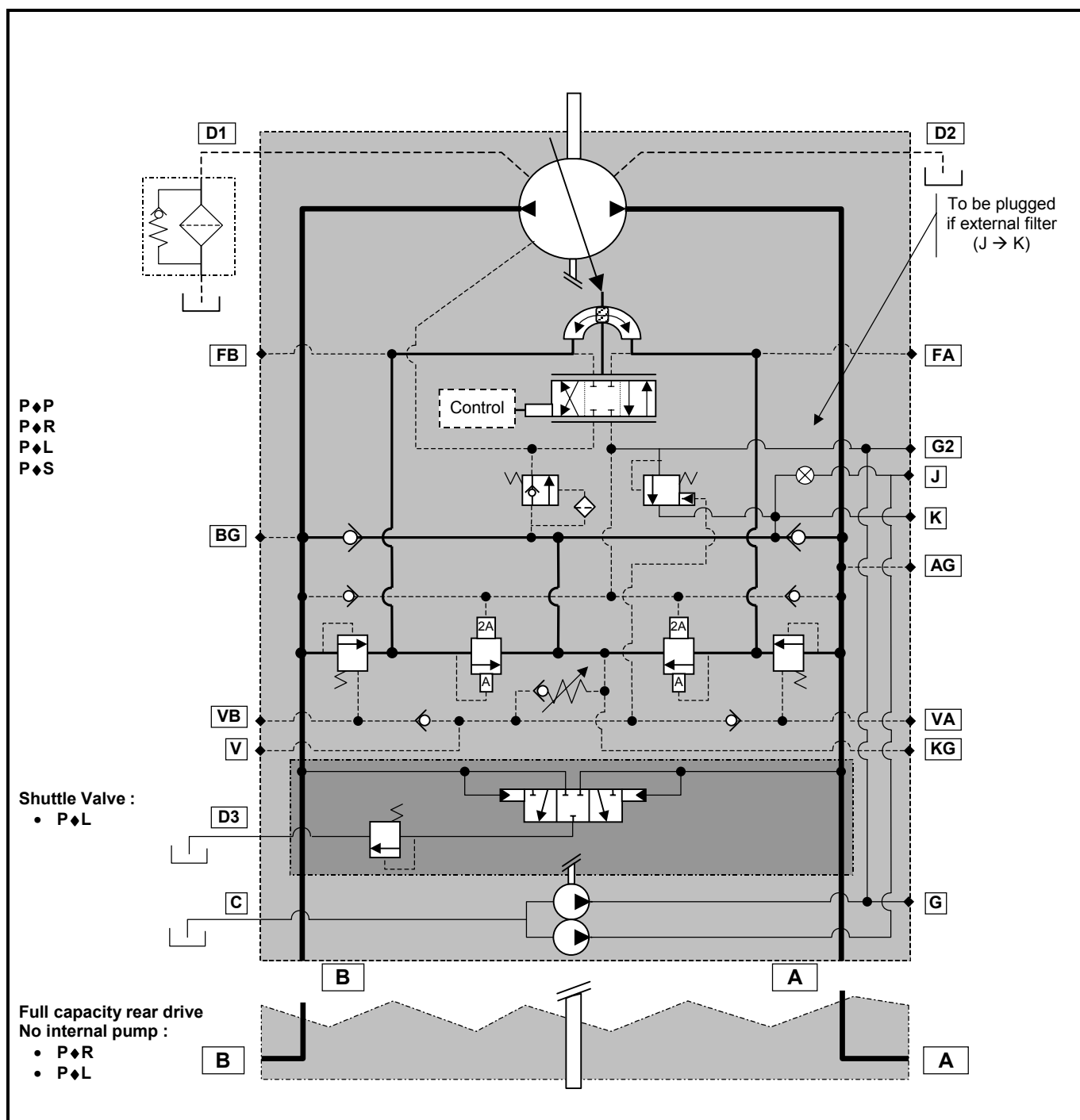
¹ P6/7/8L dimensions : consult Denison Hydraulics.



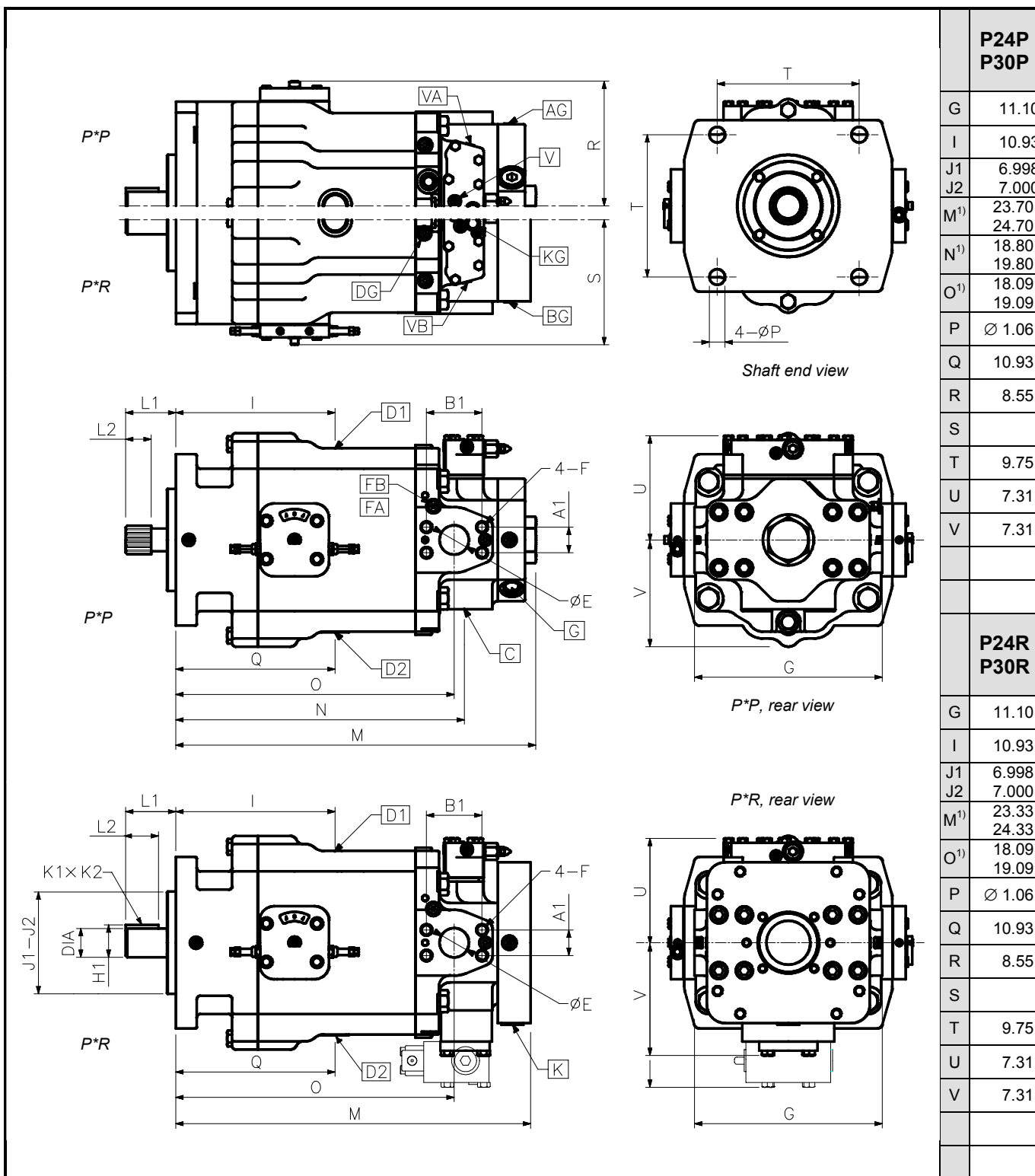
Ports		Pump type			Dimensions (in)			
		P♦P	P♦R	P♦L	A1	B1	Ø E	F
Main lines	A, B : SAE-62, 1½"	●	●	●	1.44	3.12	1.50	5/8"-11UNC x 1.38
Auxiliary Pump inlet port	C	●			SAE - 16			
Auxiliary pump outlet (external filtration)	G	○			SAE - 8			
External replenishing inlet	K	○	○	○	SAE - 16			
External servo & replenishing flow inlet	H		●	●	SAE - 4			
Drain ports	D1, D2	●	●	●	SAE - 12			
Shuttle valve drain port	D3			●				
Vent ports	V,VA,VB	○	○	○	SAE - 4			
Gauge ports	AG,BG,DG,KG	○	○	○	SAE - 6			



Shafts	Code	Torque limits (in-lbs.)	Dimensions					
			L1	L2	Diameter	K1 x K2	H1	
Keyed : SAE-E	2, 7	26590	2.97	1.50	1.750 - 1.749	0.438 x 0.437	1.94	
Splined : SAE-E	3, 8	19100	2.97		Class 1-J498b, 8/16 d.p. - 13 teeth			

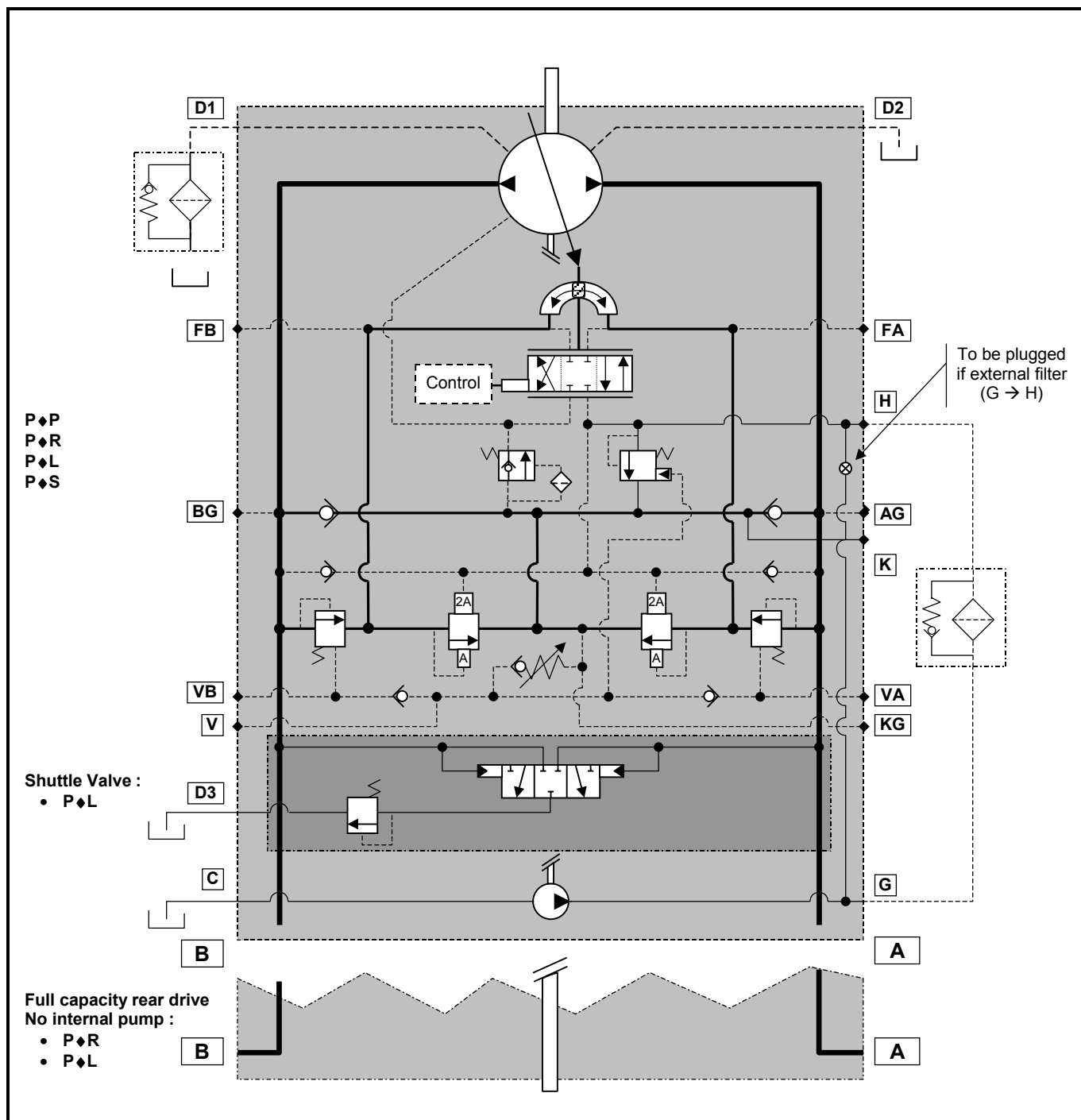


Ports		Pump type			Dimensions (in)			
		P♦P	P♦R	P♦L	A1	B1	Ø E	F
Main lines	A, B : SAE-62, 1½"	●	●	●	1.44	3.12	1.50	5/8"-11UNC x 1.38
Auxiliary servo & replenishing pump inlet port	C	●			SAE - 20			
Auxiliary servo pump outlet (external filter)	G	○			SAE - 4			
Auxiliary replenishing pump outlet (external filter)	J	○	○	○	SAE - 10			
External replenishing inlet	K	○	○	○	SAE - 16			
External servo & replenishing flow inlet	G2		●	●	SAE - 8			
Drain ports	D1 & D2	●	●	●	SAE - 16			
Shuttle valve drain port	D3			●	SAE - 16			
Vent ports	V,VA,VB	○	○	○	SAE - 4			



Shafts	Code	Torque limits (in-lbs.)	Dimensions					
			L1	L2	DIAMETER	K1 x K2	H1	
Keyed : SAE-F	2, 7	30780	3.47	2.25	2.000 - 1.998	0.500 x 0.498	2.22	
Splined : SAE-F	3, 8	50650	3.47		Class 1-J498b, 8/16 d.p. - 15 teeth			

¹⁾ Upper value : P24 - Lower value : P30



Ports		Pump type			Dimensions (in)			
		P♦P	P♦R	P♦L	A1	B1	Ø E	F
Main lines	A, B : SAE-62, 2"	●	●	●	1.75	3.82	2.00	¾" -10 UNC x 1.50
Auxiliary Pump inlet port	C : SAE-61, 2"	●			1.68	3.06	2.00	½" -13 UNC x 1.06
Auxiliary pump outlet (external filtration)	G	○			SAE - 12			
External replenishing inlet	K	○	○	○	SAE - 32			
External servo & replenishing flow inlet	H		●	●	SAE - 12			
Drain ports	D1, D2	●	●	●	SAE - 20			
Shuttle valve drain port	D3			●	SAE - 16			
Vent ports	V,VA,VB	○	○	○	SAE - 4			
Gauge ports	AG,BG,DG,KG	○	○	○	SAE - 4			