

Series	Terms	P6	P7	P8	P11	P14	P24	P30	
Displacement	<i>Max. displacement</i>	in ³ /rev.	6.00	7.25	8.00	11.00	14.00	24.60	30.60
		cm ³ /rev.	98,3	118,8	131,1	180,3	229,5	403,2	501,5
Pressure	<i>Continuous</i>	psi	5000	5000	5000	5000	5000	5000 ¹⁾	5000 ¹⁾
		bar	350	350	350	350	350	350 ¹⁾	350 ¹⁾
	<i>Intermittent</i>	psi	6000 ⁷⁾	6000 ⁷⁾	5000	6000 ⁷⁾	6000 ⁷⁾	5500 ¹⁾⁷⁾	5500 ¹⁾⁷⁾
		bar	420 ⁷⁾	420 ⁷⁾	350	420 ⁷⁾	420 ⁷⁾	370 ¹⁾⁷⁾	370 ¹⁾⁷⁾
Speed (Pump)	<i>max. @ full stroke</i>	rpm	3000	3000	2700	2400	2400	2100 ²⁾	1800
		(Motor)	rpm	3000	3000	2700	2400	2400	2100 ²⁾
Mounting	<i>max. @ 50% stroke</i>	rpm	3600	3600	3000	2800	2800	2100 ²⁾	1800
		<i>Flange -2 bolt</i>	SAE	127-2 (C)	127-2 (C)	127-2 (C)	-	-	-
<i>Flange -4 bolt (opt. on 6,7 & 8)</i>	SAE		152-4 (D)	152-4 (D)	152-4 (D)	165-4 (E)	165-4 (E)	177-4 (F)	177-4 (F)
	<i>Shaft - keyed</i>	SAE	32-1 (C)	32-1 (C)	32-1 (C)	44-1 (E)	44-1 (E)	50-1 (F)	50-1 (F)
<i>keyed</i>		SAE	44-1 (D)	44-1 (D)	44-1 (D)	-	-	-	-
	<i>Shaft - splined</i>	SAE	32-4 (C)	32-4 (C)	32-4 (C)	44-4 (E)	44-4 (E)	50-4(F)	50-4 (F)
<i>splined</i>		SAE	44-4 (D)	44-4 (D)	44-4 (D)	-	-	-	-
	Weight (Pump) less controls	lbs	175-300	175-300	175-300	325-530	325-530	750-835	750-835
<i>Mass</i>		kg.	80-135	80-135	80-135	145-240	145-240	340-375	340-375
Weight (Motor Fixed)	lbs	110	110	110	250	250	510	600	
	<i>Mass</i>	kg.	50	50	50	110	110	230	270
Weight (Motor Variable) less controls	lbs	110	110	110	300	300	650	670	
	<i>Mass</i>	kg.	50	50	50	135	135	290	300
Rotating inertia	lbs-in ²	92	92	92	290	290	821	977	
	kg.m ²	0,027	0,027	0,027	0,085	0,085	0,240	0,286	
Torque (Motor) theo. max.	<i>per 100 psi</i>	lbs-in	95.5	115.4	127	175	222	392	487
		per 100 bar	Nm	157	189	208	287	362	623
	<i>at 5000 psi</i>	lbs-in	4774	5769	6366	8750	11100	19576	24351
		at 350 bar	Nm	539,5	651,9	717	990	1250	2158
Power (Motor) theo. max. at 5000 psi, 350 bar	<i>per 100 rpm</i>	hp	7.6	9.2	10	13.8	17.6	31.1	38.6
		kW	5,7	6,8	7,5	10,3	13,1	23,1	28,8
	<i>at 2000 rpm</i>	hp	151.5	183.1	201,5	277.8	353.5	621.3	695
		kW	113,0	136,6	152	207,0	263,7	463,5	518,2
Torque (Motor) efficiency - approx. stalled	<i>running</i>	% theo.	81	81	81	81	81	81	81
	<i>running</i>	% theo.	93	93	93	93	93	93	93
Case pressure: max. allowable	<i>continuous</i>	psi	75	75	75	75	75	75	
		bar	5,2	5,2	5,2	5,2	5,2	5,2	5,2
	<i>intermittent</i>	psi	125	125	125	125	125	125	125
		bar	8,6	8,6	8,6	8,6	8,6	8,6	8,6
<i>(Not to exceed 25 psi, 1,7 bar above inlet in open circuit units)</i>									
Flow (Pump) theo. at max. displ. @ 1500 rpm		gpm	39	47	52	71	91	160	199
		lpm	148	178	197	269	344	606	753
	<i>@1800 rpm</i>	gpm	47	57	62	86	109	192	238
		lpm	178	216	235	326	413	727	901
Displacement	<i>(Internal aux. pump)</i>	P6,7,8P,S,V	P11,14P,S	P11,14V	P24P	P24S³⁾	P30P	P30S³⁾	
		in ³ /rev.	1.07	(2) 1.07 ⁴⁾	1.07 ⁵⁾	2.81 ⁶⁾	2.81 ⁶⁾	2.81 ⁶⁾	2.81 ⁶⁾
		cm ³ /rev.	17,5	(2) 17,5	17,5	46,1	46,1	46,1	46,1
Flow (Internal aux. pump)	<i>@1500 rpm</i>	gpm	6.9	(2) 6.9	6.9	18.2	6.5	18.2	6.5
		lpm	26,1	(2) 26,1	26,1	68,9	24,6	69,1	24,6
	<i>@1800 rpm</i>	gpm	8.3	(2) 8.3	8.3	21.9	7.8	21.9	7.8
		lpm	31,4	(2) 31,4	31,4	82,9	29,5	82,9	29,5

1) Max. pressure 5000 psi, (350 bar) for M24 and 30 series variable motors. Higher servo pressure may be required - consult Parker.

2) On HF-1 fluids, 1800 RPM Max. on HF-0 fluids.

3) Internal cartridge provides servo flow and must be supercharged from external replenishing flow, from external auxiliary pump.

4) One servo cartridge and one replenishing cartridge.

5) Servo cartridge only.

6) Standard, other sizes available, see ordering code.

7) 10% of operation time, not exceeding 6 successive seconds.



Technical Data**Hydrostatic Transmission Piston Pumps
GOLD CUP® Series - Open & Closed Circuits**

		P6,7,8,11,14,24P	P6,7,8,11,14,24S	P30P	P30S
Replenishing pressure (<i>Internal aux. pump</i>)		180-220	*180-220	180-220	*180-220
<i>Replenish pressure minus case pressure</i>	psi	12,4-15,2	12,4-15,2	12,4-15,2	12,4-15,2
	bar	308-420	308-420	308-420	308-420
Servo pressure (<i>Internal aux. pump</i>)	psi	21,2-29,0	21,2-29,0	21,2-29,0	21,2-29,0
<i>Servo pressure minus case pressure</i>	bar	500-650	500-650	500-650	500-650
<i>at 0 psi, 0 bar discharge pressure</i>		34,5-44,8	34,5-44,8	34,5-44,8	34,5-44,8
Servo pressure (<i>Internal aux. pump</i>) ^(Above repl.)	psi				
<i>for HI-IQ control units. Servo pressure minus case pressure at 5000 psi, 350 bar discharge pressure - at system pressure range 0 to 5000 psi, 350 bar.</i>	bar				

*Note: Nominal setting, may be increased if required.

Series	Terms	P6	P7	P8	P11	P14	P24	P30
Controls								
Compensator response (per SAE J497 @ 5000 psi , 350 bar)	off-stroke sec.	0.05	0.05	0.05	0.07	0.07	0.10	0.10
	on-stroke sec.	0.9	0.9	0.9	1.5	1.5	1.8	1.8
Compensator adjustment	psi/turn	2000	2000	2000	2000	2000	2000	2000
	bar/turn	138	138	138	138	138	138	138
Torque to turn rotary servo shaft	in.-lbs	20	20	20	20	20	20	20
	Nm	2,3	2,3	2,3	2,3	2,3	2,3	2,3

The maximum inlet at the auxiliary pump inlet is 200 psi. (13,8 bar)

Minimum compensating pressure will always be 100-200 psi. (6,9-13,8 bar) over servo pressure.

Any inlet pressures above atmospheric will increase noise levels and decrease efficiencies noted in this literature. Exact measurements depend on each application and operating conditions. Please consult your nearest Parker Office for further details.

*Standard factory compensating pressure is 1,000 psi. (69,0 bar).

REAR DRIVE TORQUE CAPACITY

SERIES	FRONT INPUT SHAFT		REAR MOUNTINGS SAE						REAR OUTPUT SHAFT TORQUE CAPACITY
	TYPE	TORQUE CAPACITY	A	B	C	D	E	F	
P6,7,8	P, V, F, D	6920 in-lbs (780 Nm)							N/A
M6,7,8	F, G, V, H	6920 in-lbs (780 Nm)							N/A
P6,7,8	S, X	6920 in-lbs (780 Nm)	●	●					1750 in-lbs (195 Nm)
P6,7,8	M, R, L	13845 in-lbs (1565 Nm)	●	●	●				6920 in-lbs (780 Nm)
M6,7,8	M, N, R, L	13845 in-lbs (1565 Nm)	●	●	●				6920 in-lbs (780 Nm)
P11,14	P, V, F	13370 in-lbs (1510 Nm)							N/A
M11,14	F, G, V, H	13370 in-lbs (1510 Nm)							N/A
P11,14	S, X	13370 in-lbs (1510 Nm)	●	●	●				2400 in-lbs (270 Nm)
P11,14	M, R, L	26735 in-lbs (3020 Nm)	●	●	●	●		●	13370 in-lbs (1510 Nm)
M11,14	M, N, R, L	26735 in-lbs (3020 Nm)	●	●	●	●	●	●	13370 in-lbs (1510 Nm)
P24,30	P, F	24350 in-lbs (2750 Nm)							N/A
M24,30	F, G, V, H	24350 in-lbs (2750 Nm)							N/A
P24,30	S, X	24350 in-lbs (2750 Nm)		●	●				2700 in-lbs (305 Nm)
P24,30	M, R, L	48700 in-lbs (5500 Nm)		●	●	●	●	●	24350 in-lbs (2750 Nm)
M24,30	M, N, R, L	48700 in-lbs (5500 Nm)		●	●	●	●	●	24350 in-lbs (2750 Nm)

Notes: Torque valves above cover shaft options 2, 3, 4, 5, 7, 8, 9, and 10; Coupling for keyed shaft must be pressed fit for full torque capability.

P6/7/8 SAE 127-2 Mtg., 32-1, 4 Shaft Bearing 230-82140 (6007)

Speed (rpm)	1000	1000	1000	1000	1200	1200	1200	1200	1500	1500	1500	1500	1800	1800	1800	1800
Shaft Load (lbs) *	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000
Shaft Load (N) *	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448
Case Pressure (psi)	0	25	0	25	0	25	0	25	0	25	0	25	0	25	0	25
Case Pressure (bar)	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7
B-10 Life (hours x 1000)	8E+08	1833	0.778	0.778	6E+08	1528	0.648	0.648	5E+08	1222	0.518	0.518	4E+08	1018	0.432	0.432

P6/7/8 SAE 152-4 Mtg., 44-1, 4 Shaft Bearing 230-00207-0 (6207)

Speed (rpm)	1000	1000	1000	1000	1200	1200	1200	1200	1500	1500	1500	1500	1800	1800	1800	1800
Shaft Load (lbs) *	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000
Shaft Load (N) *	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448
Case Pressure (psi)	0	25	0	25	0	25	0	25	0	25	0	25	0	25	0	25
Case Pressure (bar)	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7
B-10 Life (hours x 1000)	3E+09	7394	3.136	3.136	3E+09	6161	2.613	2.613	2E+09	4929	2.09	2.09	2E+09	4170	1.742	1.742

P11/14 SAE 165-4 Mtg., 44-1, 4 Radial Shaft Bearing 230-82148-0 (6010) (2 & 3 Shaft Codes)

Speed (rpm)	1000	1000	1000	1000	1200	1200	1200	1200	1500	1500	1500	1500	1800	1800	1800	1800
Shaft Load (lbs) *	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000
Shaft Load (N) *	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448
Case Pressure (psi)	0	25	0	25	0	25	0	25	0	25	0	25	0	25	0	25
Case Pressure (bar)	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7
B-10 Life (hours x 1000)	2E+09	535	1.907	1.907	2E+09	446	1.589	1.589	1E+09	356	1.272	1.272	1E+09	297	1.06	1.06

P11/14 SAE 165-4 Mtg., 44-1, 4 Spherical Roller Shaft Bearing 230-82214-0 (22208) (7 & 8 Shaft Codes)

Speed (rpm)	1000	1000	1000	1000	1200	1200	1200	1200	1500	1500	1500	1500	1800	1800	1800	1800
Shaft Load (lbs) *	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000
Shaft Load (N) *	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448
Case Pressure (psi)	0	25	0	25	0	25	0	25	0	25	0	25	0	25	0	25
Case Pressure (bar)	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7
B-10 Life (hours x 1000)	16856	2452	275	172	14046	2043	230	143	11237	1635	184	114.8	9364	1363	153	95.7

P24 SAE 177-4 Mtg., 50-1, 4 Shaft Bearing 230-82213-0 (22311)

Speed (rpm)	1000	1000	1000	1000	1200	1200	1200	1200	1500	1500	1500	1500	1800	1800	1800	1800
Shaft Load (lbs) *	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000
Shaft Load (N) *	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448
Case Pressure (psi)	0	25	0	25	0	25	0	25	0	25	0	25	0	25	0	25
Case Pressure (bar)	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7
B-10 Life (hours x 1000)	591.6	428.5	276.7	213.5	493	357	230.5	178	394.4	991.6	184.4	142.3	328.7	238	153.7	118.6

P30 SAE 177-4 Mtg., 50-1, 4 Shaft Bearing 230-82213-0 (22311)

Speed (rpm)	1000	1000	1000	1000	1200	1200	1200	1200	1500	1500	1500	1500	1800	1800	1800	1800
Shaft Load (lbs) *	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000	0	0	1000	1000
Shaft Load (N) *	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448	0	0	4448	4448
Case Pressure (psi)	0	25	0	25	0	25	0	25	0	25	0	25	0	25	0	25
Case Pressure (bar)	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7	0.0	1.7
B-10 Life (hours x 1000)	227	177.7	126.4	102.8	189.2	148	105.3	85.6	151.3	118.4	84.2	68.5	126.1	98.7	70.2	57.1

*radial load at center of key or spline

Note: Variation in life is due to variations in tolerances within the pump.
Contact Parker Hydraulics for B-10 with other operating conditions and with other case pressure values.
Consult Parker Hydraulics for shaft side loads of P*R units.



Features

**Hydrostatic Transmission Piston Pumps
GOLD CUP® Series - Open & Closed Circuits**

- 1 Quick change valve block - easy to service or replace
- 2 Quick change controls - easy to service and change
- 3 Dampened low inertia rocker cam - more stable, quieter and faster than other designs
- 4 Exclusive zero-backlash rotary servo design - lifetime accuracy
- 5 Field adjustable compensator override - easily adjusted without removing from machinery
- 6 Precision barrel bearing, a distinctive Denison Hydraulics feature for over 30 years - permits high speeds, high pressure and provides long life
- 7 Versatile controls - can be located on either side of pump or motor for maximum freedom of design
- 8 Ring style replenishing checks fastest operation with no sliding poppets or parts and low pressure drop
- 9 Hot oil shuttle available - fast, reliable operation
- 10 Auxiliary pump can be changed without disassembling the transmission
- 11 Standard SAE keyed or splined drive shafts are available
- 12 High pressure mechanical shaft seals can be changed without disassembling the transmission. Double lip seals are also available
- 13 One piece stroking vane/cam means no lost motion, zero backlash, better control, and no linkages to wear out
- 14 Stroking vane seals are pressure loaded for longer life
- 15 Standard compensator vent ports allow for a wide variety of controls (See Applications Manual)
- 16 Rocker cam displacement indicator helps troubleshoot the system
- 17 Modulated servo pressure saves power
- 18 Standard Code 62 SAE split flange connections
- 19 Conforms to SAE mounting standards.
- 20 Fast compensator response. See page 5
- 21 Variable motors available for multiple speed ranges or constant power

Note: 1. These products, with exception of 8 cubic inch units, are qualified to meet Military specifications MIL-P-17869A and MIL-S-901-C Grade A.
 2. All GOLD CUP® Pumps and Motors* have ATEX approval.
 *See ordering code for availability.
 3. Consult factory for other approvals such as ABS and Lloyd's Registry.

