

Series	Terms	P05/080	P07/110	P09/140	P12/200	P16/260	
Displacement	Max. displacement	in³/rev.	4.9	6.7	8.6	12.2	16.0
		cm ³ /rev.	80,3	109,8	140,9	200,0	262,2
Pressure	Continuous	psi	6000	6000	6000	6000	6000
		bar	414	414	414	414	414
	1) Intermittent	psi	7250	7250	7250	7250	7250
		bar	500	500	500	500	500
Speed	@ atmospheric inlet	rpm	2550	2450	2300	2100	1850
	max. with boost	rpm	3200	3000	2800	2700	2100*
Mounting	Flange-4 bolt	SAE	152-4 (D)	152-4 (D)	152-4 (D)	165-4 (E)	165-4 (E)
		ISO3019/2B4HW	180	180	180	224	250
	Shaft - <i>keyed</i>	SAE	44-1 (D)	44-1 (D)	44-1 (D)	44-1 (E)	44-1 (E)
		ISO 3019/2	40mm	40mm	50mm	50mm	50mm
		DIN 6885	40mm	40mm	50mm	50&60mm	60mm
	Shaft - <i>splined</i>	SAE	44-4 (D)	44-4 (D)	44-4 (D)	44-4 (E)	44-4 (E)
		ISO 4156	40mm	40mm	50mm	50mm	50mm
		DIN 5480	40mm	40mm	50mm	50&60mm	60mm
Shaft - <i>splined</i> (Hi-Torque P16 only)	SAE	N/A	N/A	N/A	N/A	50-4 (F)	
Weight	lbs	156	177	220	300	325	
Mass	kg.	71	80	100	136	147	
Rotating inertia	lbs/in²	65	92	152	245	see below	
	kg.m ²	0,019	0,027	0,044	0,072	see below	
Rotating inertia	(P16/260H) lbs/in²	-	-	-	-	349	
	kg.m ²	-	-	-	-	0,102	
Rotating inertia	(P16/260Q) lbs/in²	-	-	-	-	360	
	kg.m ²	-	-	-	-	0,105	
Case pressure: maximum allowable	continuous	psi	25	25	25	25	25
		bar	1,7	1,7	1,7	1,7	1,7
	intermittent	psi	50	50	50	50	50
		bar	3,4	3,4	3,4	3,4	3,4

Controls

Compensator response (per SAE J497 @ 5000 psi , 345 bar)							
	off-stroke	sec.	0.06	0.07	0.06	0.09	0.10
	on-stroke	sec.	0.11	0.13	0.11	0.15	0.15
Compensator adjustment	psi/turn	2000	2000	2000	2000	2000	
	bar/turn	138	138	138	138	138	
Minimum compensating pressure (compensator, torque limiter, or load sensing)	psi	250	250	250	250	250	
	bar	17,2	17,2	17,2	17,2	17,2	
Minimum servo pressure	psi	800	800	700	700	700	
	bar	55	55	48	48	48	
Maximum servo pressure	psi	1500	1500	1500	1500	1500	
	bar	103	103	103	103	103	
Min. comp. override pressure at above listed min. servo. (servo, electric & hydraulic stroker)	psi	1500	1500	1050	1050	1050	
	bar	103	103	72,4	72,4	72,4	
Handwheel turns, full to zero stroke	turns	9.0	9.3	8.1	9.5	10.2	
Torque to turn handwheel at 1000 psi , 70 bar	in.-lbs	75	100	125	140	150	
	Nm	9	11	15	16	17	
Torque to turn handwheel at 7250 psi , 500 bar	in.-lbs	175	225	275	315	350	
	Nm	20	25	32	36	40	
Servo shaft rotation, 0 to full stroke	degrees	47-52°	47-52°	52-57°	60-65°	65-70°	
Torque to turn rotary servo shaft	in.-lbs	20	20	20	20	20	
	Nm	2,3	2,3	2,3	2,3	2,3	

*P16H, P260H only

1) 10% of operation time, not exceeding 6 consecutive seconds.

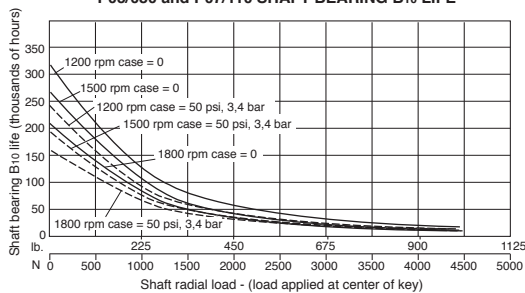


REAR DRIVE TORQUE CAPACITY

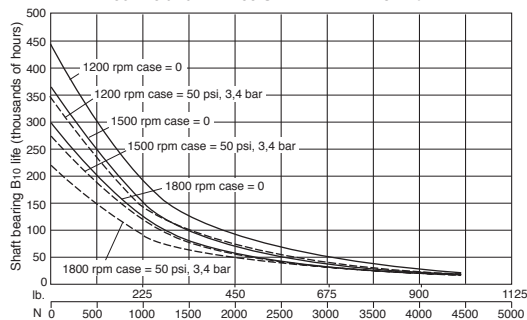
SERIES	FRONT INPUT SHAFT		REAR MOUNTINGS								REAR OUTPUT SHAFT TORQUE CAPACITY								
	TYPE	TORQUE CAPACITY	SAE					ISO											
			A	B	C	D	E	100	125	160		180	200	224	250				
P05	Keyed SAE 44-1(D) Spline SAE 44-4(D)	11300 in-lbs. (1278 Nm)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	5650 in-lbs. (639 Nm)
P080	Keyed ISO 40mm Keyed DIN 40mm Spline ISO 40mm Spline DIN 40mm	1292 Nm (11435 in-lbs.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	646 Nm (5718 in-lbs.)
P07	Keyed SAE 44-1(D) Spline SAE 44-4(D)	15924 in-lbs. (1800 Nm)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7962 in-lbs. (900 Nm)
P110	Keyed ISO 40mm Spline ISO 40mm Keyed DIN 40mm Spline DIN 40mm	1800 Nm (15924 in-lbs.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	900 Nm (7962 in-lbs.)
P09	Keyed SAE 44-1(D) Spline SAE 44-4(D)	19800 in-lbs. (2237 Nm)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	9900 in-lbs. (1118 Nm)
P140	Keyed ISO 50mm Spline ISO 50mm Keyed DIN 50mm Spline DIN 50mm	2237 Nm (19800 in-lbs.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	1118 Nm (9900 in-lbs.)
P12	Keyed SAE 44-1(E) Spline SAE 44-4(E)	2288 Nm (20250 in-lbs) 2825 Nm (25000 in-lbs)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	13800 in-lbs. (1559 Nm)
P200	Keyed ISO 50mm Spline ISO 50mm Keyed DIN 50mm Spline DIN 50mm Keyed DIN 60mm Spline DIN 60mm	2288 Nm (20250 in-lbs) 3163 Nm (27996 in-lbs) 2288 Nm (20250 in-lbs) 3163 Nm (27994 in-lbs) 2288 Nm (20250 in-lbs) 4384 Nm (38800 in-lbs)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	1559 Nm (13800 in-lbs.)
P16	Keyed SAE 44-1(E)	20250 in-lbs. (2288 Nm)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	13600 in-lbs. (1537 Nm)
	Spline SAE 44-4(E)	25000 in-lbs. (2825 Nm)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	13600 in-lbs. (1537 Nm)
	Spline SAE 50-4(F)	38800 in-lbs. (4384 Nm)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	19400 in-lbs. (2192 Nm)
P260	Keyed ISO 50mm Spline ISO 50mm Keyed DIN 60mm Spline DIN 60mm	2288 Nm (20250 in-lbs) 4384 Nm (38800 in-lbs) 2288 Nm (20250 in-lbs) 4384 Nm (38800 in-lbs)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	1537 Nm (13600 in-lbs) 2192 Nm (19400 in-lbs) 1537 Nm (13600 in-lbs) 2192 Nm (19400 in-lbs)

SHAFT BEARING LIFE

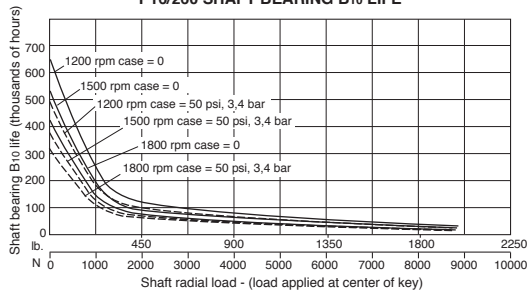
P05/080 and P07/110 SHAFT BEARING B₁₀ LIFE

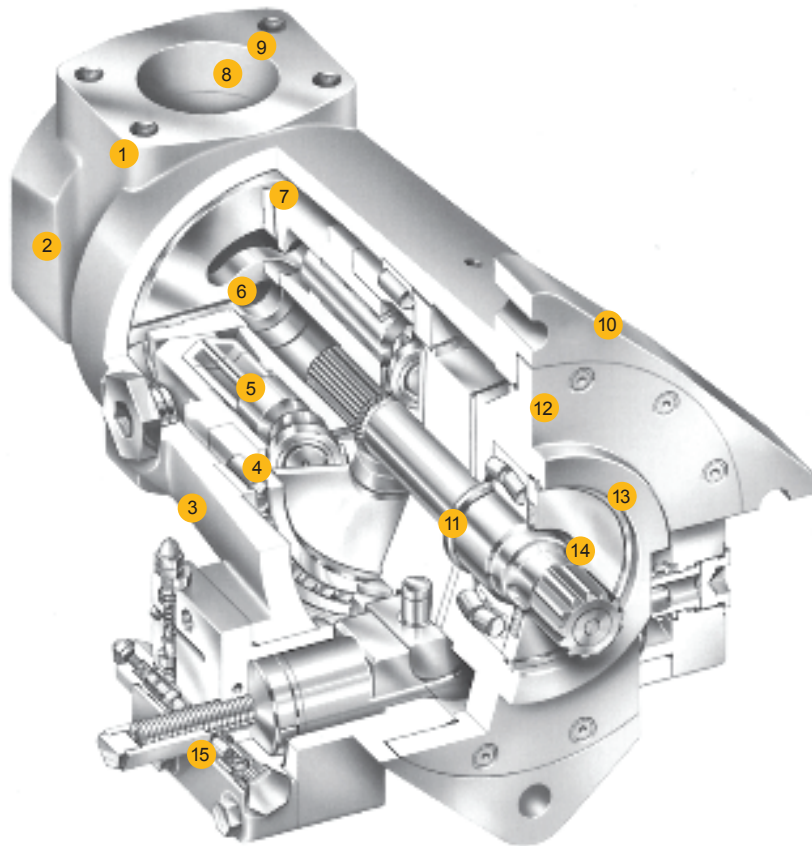


P09/140 and P12/200 SHAFT BEARING B₁₀ LIFE



P16/260 SHAFT BEARING B₁₀ LIFE





- 1 Highest rated pressure** of any comparable pump available in the market place today.
- 2 Full power through drive capability** allows two (2) pumps of the same displacement to be run in tandem at full rated pressure and flow, simultaneously.
- 3 Fast, compensator** response minimizes pressure overshoot. Two stage, pilot operated compensator provides sharp pressure cutoff at compensator setting, typically regulating pressure within 50 psi (3.5 bar). Compensator may easily be remotely controlled or used in load sensing circuits.
- 4 Precision barrel bearing** absorbs radial forces, allowing longer operation at higher pressure and higher speeds.
- 5 Piston design** minimizes trapped oil volume to maximize efficiency.
- 6 Angled barrel ports** reduce the piston circle diameter, which allows oil to enter at reduced velocity. This allows the pump to run faster, with atmospheric inlet pressure.
- 7 Spherical port plate and barrel face** provides support to barrel to offset forces from angled ports.
- 8 Large suction port** reduces inlet flow velocity to allow the pumps to run at higher speeds with atmospheric inlet.
- 9 Standard SAE split flange with inch or metric bolts, depending on pump version (SAE or metric).**
- 10 Conforms to SAE or ISO mounting standards.**
- 11 Damped low inertia rocker cam** allows very quick compensation, resulting in more stable and quieter pump.
- 12 Heavy duty shaft bearing** to absorb side and thrust loads.
- 13 High pressure shaft seal** allows higher case pressure without external leakage. Note: it is always advisable to maintain the lowest possible case pressure.
- 14 Drive shaft options** include keyed or splined in SAE, ISO and DIN.
- 15 Optional controls** A wide variety of optional controls are available and are designed with simplicity and a maximum of common elements.

Description**GENERAL**

The open loop Premier Series pumps are variable displacement piston pumps with emphasis on superior design with few maintenance requirements. Low inlet velocity requirements allow the pumps to run faster than competitive models without the added expense of boosting the inlet. Modified pistons that reduce the amount of trapped fluid volume result in improved efficiency.

The Premier Series pumps have been designed to operate in a wide range of industries where variable flow, high pressure and/or high speeds are required; such as: presses, construction machinery, injection molding, wood, aircraft, drilling, mining, steel and cranes.

MOUNTING

This pump is designed to operate in any position. For vertical mounting with shaft upward, it is recommended that a 5 psi (0,3 bar) check valve be installed in the case drain port and that the air bleed port (DG on page 36) be connected to the reservoir in order to circulate oil past the shaft bearing. The mounting hub and four bolt mounting flange are in full conformance with SAE/ISO standards. The pump shaft must be in alignment with the shaft of the source driver and should be checked with a dial indicator. The mating pilot bore and coupling must be concentric.

INPUT SHAFT INFORMATION

Splined: The shafts must be aligned within a max. 0.006" , 0,15 mm TIR relative to pilot diameter. Angular misalignment at the external and internal spline axis must be less than \pm .002" per inch , .002 mm per mm radius relative to pilot face. The coupling interface must be lubricated. Parker recommends lithium molydisulfide or similar grease. The internal coupling should be hardened to 27-34 Rc. and must conform to SAE J498B (1971) class 1 flat root side fit, ISO 4156 and DIN 5480.

Keyed: High strength heat treated keys must be used. Replacement keys must be hardened to 27-34 Rc. The key corners must be chamfered .030" - .040", 075 - 1 mm at 45° to clear radii that exist in the keyway. If a flexible coupling is not used, the alignment of keyed shafts must be within tolerances given for splined shafts.

CASE PRESSURE/PLUMBING

The case drain line should be as large as the drain port on the pump. The return to the reservoir must be below the surface of the oil and as far from the suction as possible.

The maximum case pressure is 25 psi (1,7 bar) continuous, 50 psi (3,4 bar) intermittent. Case pressure must never exceed inlet pressure by more than 25 psi (1,7 bar).

When connecting the case drain line, make certain that the drain plumbing passes above the highest point of the pump before returning to the reservoir. If not, install a 5 psi, 0,3 bar case pressure check valve to ensure the case is filled with oil at all times.

All fluid lines, whether pipe, tubing, or hose, must be of adequate size and strength to assure proper operation.

Caution: Do not use galvanized pipe. The coating can flake off with continued use.

MAINTENANCE & SERVICE

Make sure the entire hydraulic system is free of dirt, lint, or other foreign material. This pump is self-lubricating and preventative maintenance is limited to keeping system fluid clean. Do not operate at pressures and speeds in excess of the recommended limit.

For spare parts, reference document numbers, use spare parts manual number HY28-2700-03/PRE/US.

RECOMMENDED FLUIDS

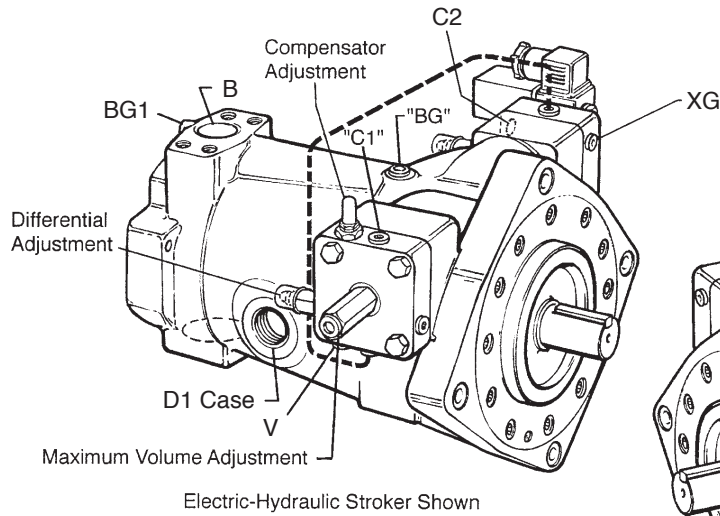
Contact tech support at: pumptechsupport@parker.com

TEMPERATURE

Maximum temperature is limited by the viscosity characteristics of the fluid used. Because high temperatures degrade seals, reduce the service life of the fluid, and create hazards, fluid temperatures should not exceed 180° F, 82° C at the case drain.

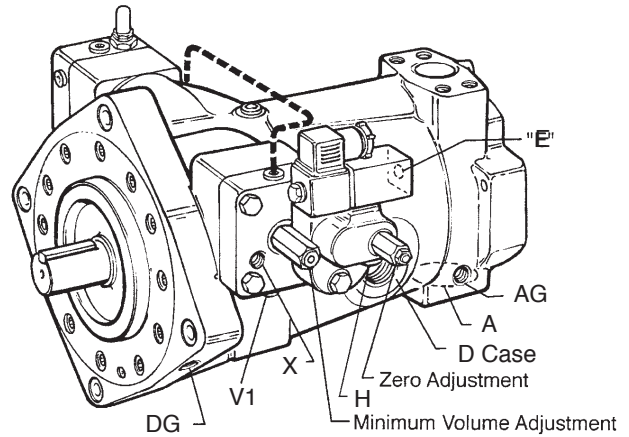
FLUID CLEANLINESS

Fluid must be cleaned before adding to the system, and continuously during operation by filters that maintain a cleanliness level of ISO 20/17/14 or better.



Electric-Hydraulic Stroker Shown

CCW ROTATION



Electric-Hydraulic Stroker Shown

FLUID CONNECTIONS

DESCRIPTION

PORT A	INLET
PORT B	SYSTEM
PORT C1	OFF-STROKE CYL. GAGE
PORT C2	ON-STROKE CYL. GAGE
PORT D	CASE DRAIN
PORT D1	CASE DRAIN
PORT DG.....	DRAIN GAGE, AIR BLEED PORT
PORT AG.....	INLET GAGE
PORT BG.....	SYSTEM GAGE
PORT BG1.....	ALT. SYS. GAGE
PORT E	ELECTROHYDRAULIC STROKER SERVO SUPPLY
PORT H	HYDRAULIC STROKER SIGNAL
PORT LS	LOAD SENSING LINE
PORT V	COMPENSATOR, TORQUE LIMITER, LOAD SENSING VENT
PORT V	OVERRIDE COMP, OVERRIDE TORQUE LIMITER VENT
PORT V1	SERVO VENT
PORT X	SERVO SUPPLY
PORT XG.....	SERVO GAGE

Premier pumps		Model number sheet											
Example model code:		P	16	H	-02	R	1	*	-C	0	0	-C	0
		P											
Pump													
Displacement													
4.9 cu.in./rev.	05												
80.3 cc/rev.	080												
6.7 cu.in./rev.	07												
109.8 cc/rev.	110												
8.6 cu.in./rev.	09												
140.9 cc/rev.	140												
12.2 cu.in./rev.	12												
200.0 cc/rev.	200												
16.0 cu.in./rev.	16												
262.2 cc/rev.	260												
Style													
High speed (>1800 RPM)(P16, P260, P12, P200, P09 & P140 only)	H												
Low Speed (=/ $<$ 1800 rpm)(P16, P260, P12, P200, P09 & P140 only)	L												
High Speed Stand-By Option (>1800 rpm)(P16, P260, P12, P200, P09 & P140 only)	M												
Low Speed Stand-By Option (=/ $<$ 1800 rpm)(P16, P260, P12, P200, P09 & P140 only)	N												
P07, P110, P05 & P080	leave blank												
Shaft													
Keyed - SAE or ISO	2												
Splined - SAE or ISO	3												
Splined - SAE high torque (P16 only)	5												
Keyed - DIN (metric pumps only) (DIN 40mm for sizes 080 & 110, DIN 50mm for sizes 140 & 200)	6												
Splined - DIN (metric pumps only) (DIN 40mm for sizes 080 & 110, DIN 50mm for sizes 140 & 200)	7												
Keyed - DIN (DIN 60mm for size 200 only)	8												
Splined - DIN (DIN 60mm for size 200 only)	9												
Rotation													
Clockwise	R												
Counter-clockwise	L												
Seals													
Nitrile (Buna-N)	1												
EPR (pump will be unpainted unless otherwise specified)*	4												
Fluorocarbon (Viton)	5												
Design letter (assigned by manufacturer)													
Primary controls													
Compensator	-C												
Load sensing compensator (50 PSI pressure drop)	-L												
Load sensing compensator (200 PSI pressure drop)	-M												
Rotary servo	-R												
Hydraulic servo	-H												
Electro-hydraulic servo**	-E												
Low torque limiter	-J												
High torque limiter	-K												
Load sensing (L) + low torque limiter (J)	-V												
Load sensing (L) + high torque limiter (K)	-W												
Load sensing (M) + low torque limiter (J)	-Y												
Load sensing (M) + high torque limiter (K)	-Z												
Primary control options													
Max. volume screw without indicator	1												
Handwheel max. volume control without indicator (not available w/ R, H & E primary controls)	2												
Max. volume screw with LVDT**	4												
Max. volume screw with mechanical cam angle indicator	5												
Handwheel max. volume control with LVDT (not available w/ R, H & E primary controls)**	7												
Handwheel max. volume control with mechanical cam angle indicator (not available w/ R, H & E primary controls)	8												
Secondary controls													
None	0												
Compensator override (for E, H & R primary controls only)	P												
Low torque limiter override (for E, H & R primary controls only)	J												
High torque limiter override (for E, H & R primary controls only)	K												
External drive													
None	-0												
Rear blanking plate	-M												
SAE-A (SAE 82-2) with SAE-A (SAE 16-4) coupling	-A												
SAE-A (SAE 82-2) with SAE-B (SAE 22-4) coupling	-G												
SAE-B (SAE 101-2 & SAE 101-4) with SAE-B (SAE 22-4) coupling	-B												
SAE-B (SAE 101-2 & SAE 101-4) with SAE-BB (SAE 25-4) coupling	-Q												
SAE-C (SAE 127-2 & SAE 127-4) with SAE-C (SAE 32-4) coupling	-C												
SAE-C (SAE 127-2 & SAE 127-4) with SAE-CC (SAE 38-4) coupling	-N												
SAE-D (SAE 152-2 & SAE 152-4) with SAE-D & SAE-E (SAE 44-4) coupling	-D												
SAE-E (SAE 165-2 & SAE 165-4) with SAE-D & SAE-E (SAE 44-4) coupling (P12/200 and P16/260 only)	-E												
ISO 180 B4HW Flange, K40N coupling	-T												
ISO 180 B4HW Flange, K50N coupling	-U												
ISO 180 B4HW Flange, DIN 40-18 coupling (P16/260 only)	-L												
ISO 180 B4HW Flange, DIN 50-24 coupling (P16/260 only)	-S												
ISO 224 B4HW Flange, K50N coupling (P12/200 and P16/260 only)	-R												
ISO 250 B4HW Flange, K50N coupling (P16/260 only)	-V												
ISO 200 B4HW Flange, K50N coupling (P12/200 and P16/260 only)	-W												
ISO 160 B4HW Flange, K40N coupling	-X												
ISO 125 B4HW Flange, K32N coupling	-Y												
ISO 100 B4HW Flange, K25N coupling	-Z												
External mounting													
No external pump mounted	0												
External pump mounted (requires special modification "-M2")(must be separately specified)	1												
Special modification													
No paint*	-NP												
Painted black	-PB												
ATEX APPROVED PUMP	-EX												
Other special modification (examples: bronze caged barrel bearing for low viscosity fluids, mechanical shaft seal, hydrostatic cam, tandem pumps, etc.)*	-M2												
Allowable controls**													
C10, C20, C40, C50, C70, C80, E10, E40, E50, E1P, E4P, E5P, E1J, E4J, E5J, E1K, E4K, E5K, H10, H40, H50, H1P, H4P, H5P, H1J, H4J, H5J, H1K, H4K, H5K, J10, J20, J40, J50, J70, J80, K10, K20, K40, K50, K70, K80, L10, L20, L40, L50, L70, L80, M10, M20, M40, M50, M70, M80, R10, R40, R50, R1P, R4P, R5P, R1J, R4J, R5J, R1K, R4K, R5K, V10, V20, V40, V50, V70, V80, W10, W20, W40, W50, W70, W80, Y10, Y20, Y40, Y50, Y70, Y80, Z10, Z20, Z40, Z50, Z70, Z80													

* ATEX NOTES:
 THESE OPTIONS ARE NOT APPROVED FOR ATEX APPLICATIONS

** THE FOLLOWING CONTROL OPTIONS ARE NOT AVAILABLE FOR ATEX 2014/34/EU: Electro-Hydraulic Servo(E**), and use of LVDT position feedback (*4* or *7*)

