

ALUMINUM HIGH PERFORMANCE GEAR PUMPS



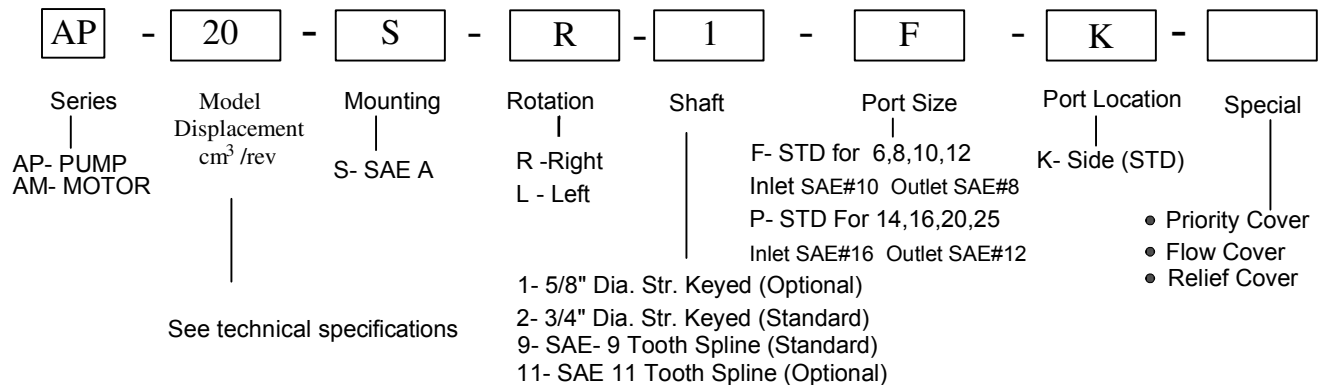
FEATURES

- EXTRUDED ALUMINUM DIE CAST BODY
- ALUMINUM MOUNTING FLANGE / COVER
- FLOATING AXLE SLEEVE AND DU BEARINGS
- DOUBLE LIP SHAFT SEAL TO PREVENT CAVITATION AND LEAKAGE
- PRESSURES TO 3600 PSI
- SPEED 600 TO 3000 RPM
- HIGH TEMPERATURE SEALS AND GASKETS
- ALL UNITS 100% FACTORY TESTED



OPTIONS

- * MOUNTING - S.A.E. EUROPEAN, DIN
- * PORTS AVAILABLE - S.A.E. NPT, BSP, METRIC
- * ONE PIECE SHAFT & GEAR ASSEMBLY
- * INTEGRAL RELIEF / PRIORITY CONTROL
- * SINGLE / TANDEM UNITS
- * VITON SEALS
- * SIDE OR REAR PORTS



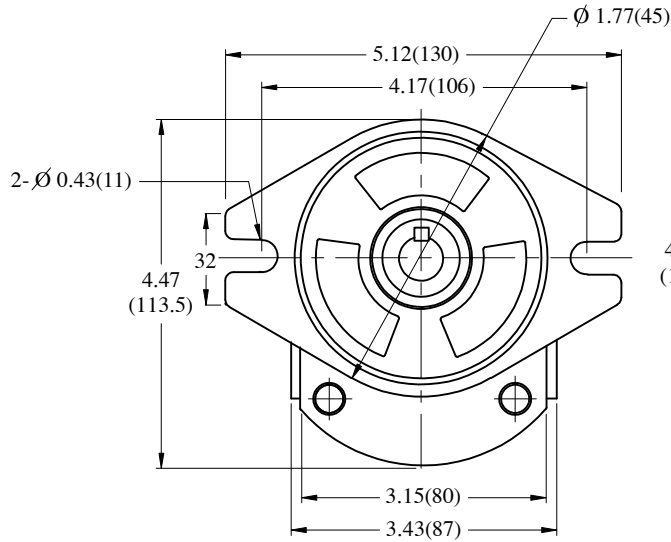
Technical Specifications

RIO CODE	Model	Theoretical Displacement		Pump Flow GPM @ 1800 RPM/3000 PSI	Minimum RPM	Maximum RPM	Max. Continuous Pressure (PSI)	Approx. Weight lbs (kg)
		in ³ /rev.	cm ³ /rev.					
AP: Pump	6	0.38	6	2.78	600	3000	3600	4.4 (2.0)
	8	0.52	8	3.81		3000	3600	4.6 (2.1)
AM: Motor	10	0.62	10	4.38		3000	3600	4.8 (2.2)
	12	0.76	12	5.39		3000	3600	5.0 (2.3)
	14	0.85	14	6.32		3000	3600	5.3 (2.4)
	16	0.98	16	7.21		3000	3000	5.5 (2.5)
	20	1.22	20	9.18		3000	3000	5.7 (2.6)
	25	1.53	25	11.20		3000	3000	5.9 (2.7)

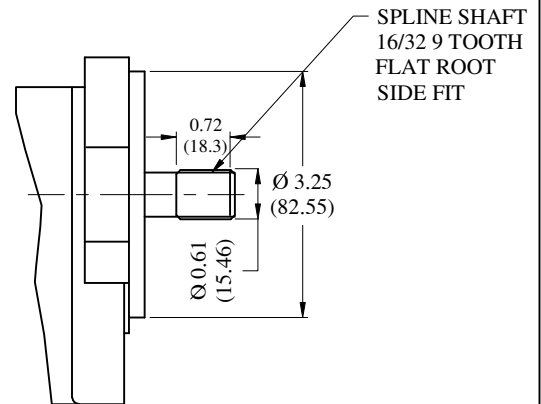
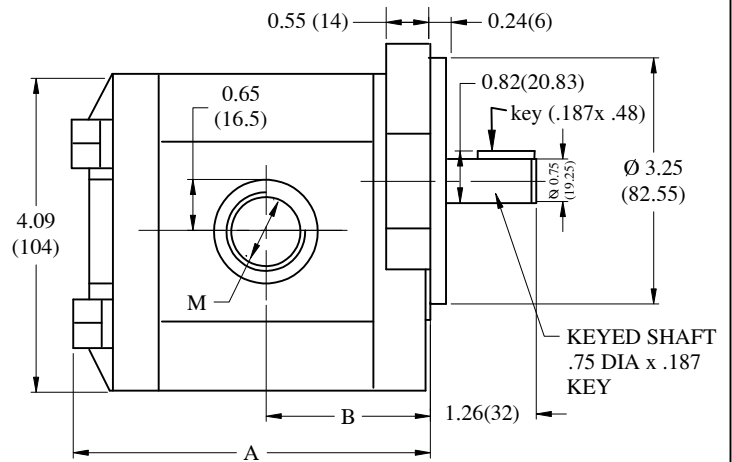
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FRONT VIEW



SIDE VIEW



DIMENSIONAL INFORMATION

MODEL	A in(mm)	B in(mm)	M Thread IN/OUT	
			INLET	OUTLET
AP06	4.06 (103)	1.77 (45)	7/8-14 SAE-10	3/4-16 SAE-8
AP08	4.19 (106.5)	1.85 (47)		
AP10	4.29 (109)	1.89 (48)		
AP12	4.45 (113)	1.97 (50)	1 5/16-12 SAE-16	1 1/16-12 SAE-12
AP14	4.53 (115)	2.01 (51)		
AP16	4.69 (119)	2.07 (52.5)		
AP20	4.92 (125)	2.20 (56)		
AP25	5.24 (133)	2.36 (60)		

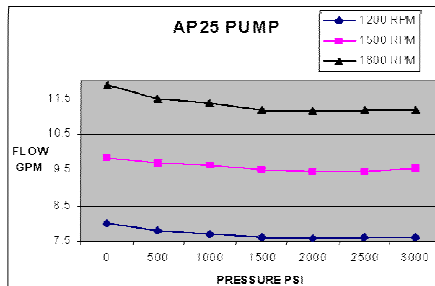
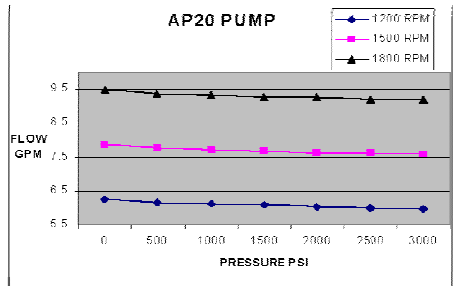
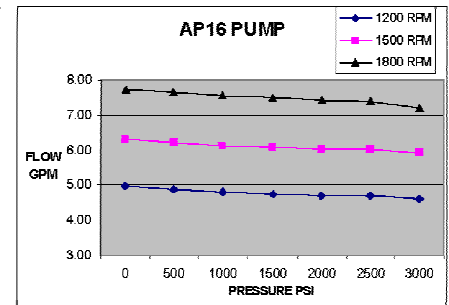
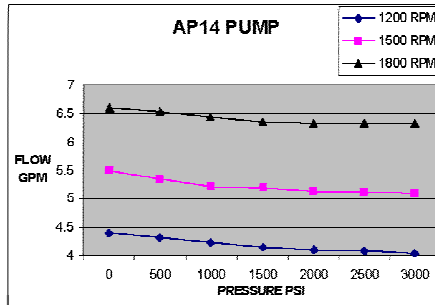
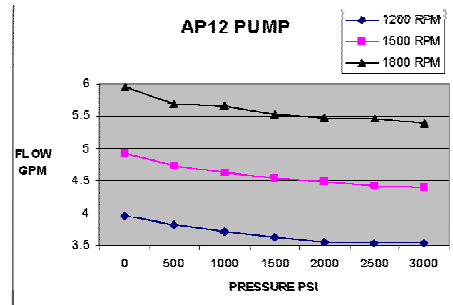
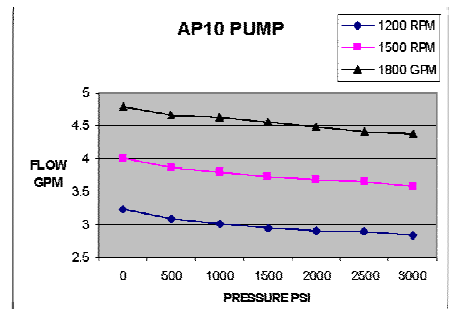
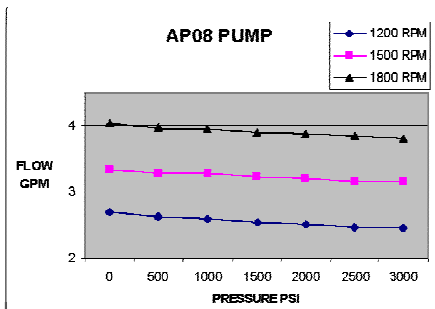
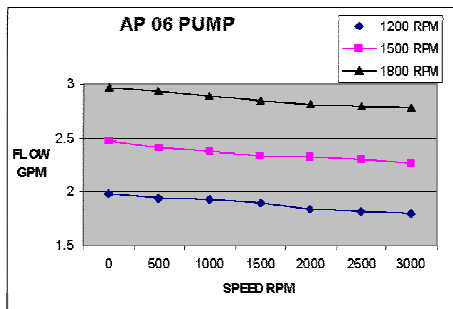
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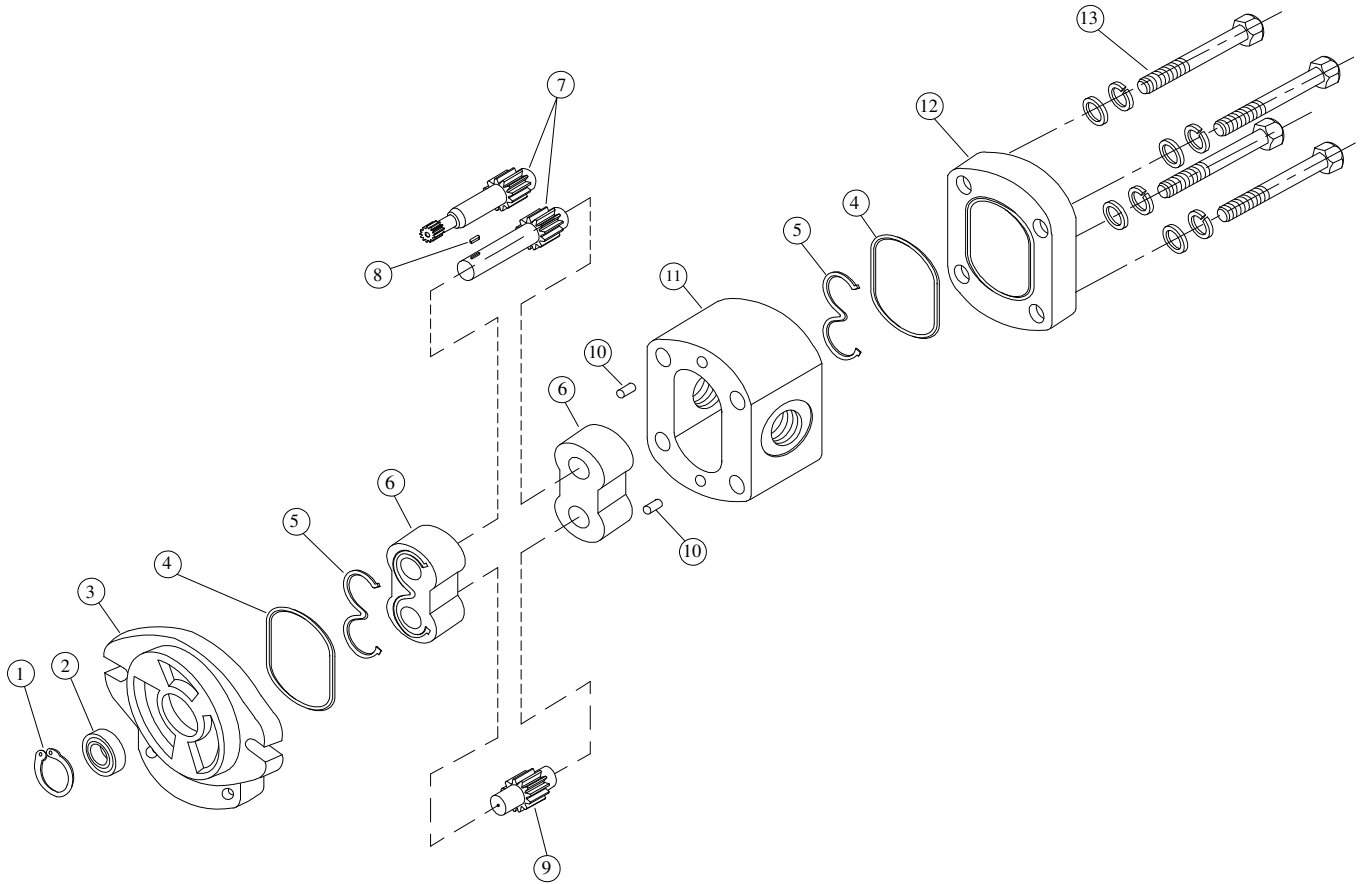
Performance Data - Typical Flows at 120° F, 10 W oil (128SUS), 0 PSI inlet

Flow in Gallons Per Minute (GPM).

Model	Displacement in ³ /rev (cm ³ /rev)	RPM	0 PSI	500 PSI	1000 PSI	1500 PSI	2000 PSI	2500 PSI	3000 PSI
AP6	0.38 (6)	1200	1.98	1.94	1.93	1.89	1.84	1.82	1.80
		1500	2.47	2.41	2.38	2.33	2.32	2.30	2.27
		1800	2.97	2.93	2.89	2.85	2.81	2.79	2.78
AP8	0.52 (8)	1200	2.70	2.63	2.60	2.55	2.51	2.48	2.45
		1500	3.34	3.29	3.28	3.24	3.22	3.17	3.16
		1800	4.04	3.98	3.95	3.90	3.89	3.85	3.81
AP10	0.62 (10)	1200	3.23	3.09	3.02	2.94	2.90	2.89	2.84
		1500	4.00	3.87	3.8	3.73	3.68	3.65	3.59
		1800	4.79	4.66	4.62	4.55	4.48	4.41	4.38
AP12	0.76 (12)	1200	3.96	3.81	3.72	3.62	3.56	3.53	3.54
		1500	4.93	4.73	4.62	4.54	4.49	4.42	4.40
		1800	5.94	5.68	5.64	5.52	5.47	5.45	5.39
AP14	0.85 (14)	1200	4.39	4.32	4.23	4.14	4.10	4.09	4.04
		1500	5.48	5.34	5.21	5.20	5.14	5.11	5.10
		1800	6.60	6.54	6.43	6.36	6.33	6.33	6.32
AP16	0.98 (16)	1200	4.97	4.87	4.82	4.74	4.72	4.70	4.61
		1500	6.32	6.21	6.13	6.08	6.02	6.02	5.91
		1800	7.73	7.68	7.58	7.51	7.43	7.40	7.21
AP20	1.22 (20)	1200	6.23	6.15	6.11	6.08	6.04	6.00	5.98
		1500	7.85	7.76	7.70	7.67	7.60	7.60	7.59
		1800	9.47	9.36	9.31	9.24	9.24	9.18	9.18
AP25	1.53 (25)	1200	8.00	7.80	7.70	7.63	7.60	7.61	7.61
		1500	9.83	9.70	9.64	9.51	9.44	9.46	9.53
		1800	11.87	11.5	11.36	11.19	11.15	11.19	11.2



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DESCRIPTION

ITEM	DESCRIPTION	REQ'S
1	SNAP RING	1
2	SHAFT SEAL	1
3	SHAFT END COVER	1
4	GASKET SEAL	2
5	ANTI-EXTRUSION SEAL	2
6	BUSHING	2
7	DRIVE GEAR	1
8	KEY	1
9	DRIVEN GEAR	1
10	PIN	2
11	BODY	1
12	COVER	1
13	BOLTS	4

AP ALUMINUM PUMP ROTATION CHANGE PROCEDURE



Direction of Rotation

The direction of rotation is indicated by an arrow etched on the body adjacent to the drive shaft. Rotation is always specified as viewed on the drive shaft

Dismantling the unit

Before starting work ensure that the unit, work area and all tools are thoroughly clean to prevent contaminant entering the unit.

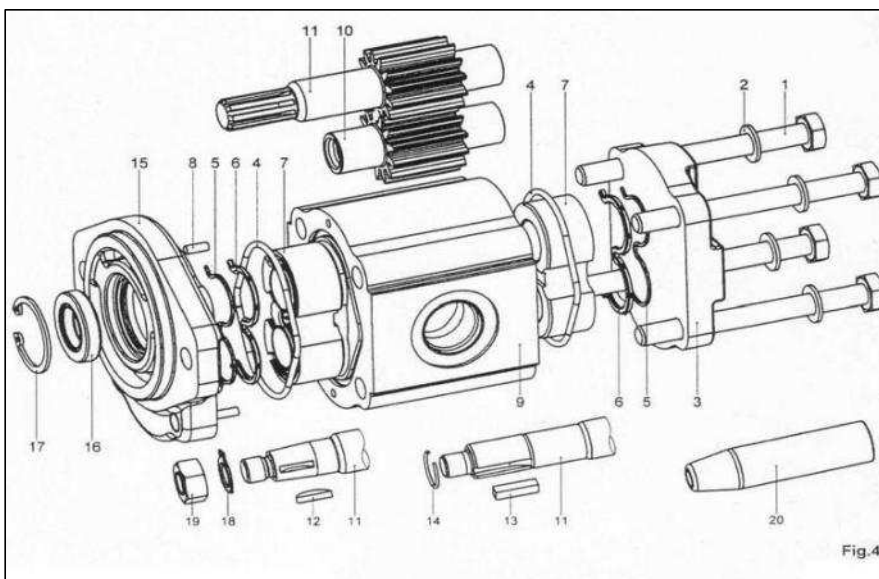
1. Withdraw drive coupling from the drive shaft using a suitable puller. The coupling must not be levered or hammered off the shaft as this will result in internal damage.
2. Remove key (12, 13) and wire circlip (14), where fitted, from the drive shaft (11).
3. Lightly mark the end cover, body and mounting flange (3, 9 and 15) to ensure re-assembly in the correct position.
4. Stand the unit on the mounting flange (15), drive shaft down most in a suitable fixture. Remove the bolts / screws and spring washers (1;2).
5. Remove the end cover (3).
6. Slide the Housing (9) squarely off the drive shaft (11).
7. Remove the upper thrust block (7), drive shaft (11), driven gear (10). Remove the below thrust block. Keep the mounting flange (15) in this position.

Re-Assembling the unit

Ensure all parts are perfectly clean and lubricate bushes and gears with clean hydraulic fluid (ensure 'O' ring recess and end faces of body remain dry).

This will assist assembly of components into the body bores.

1. Fit the thrust block (7) 180° turned on the mounting flange, the seals (5, 6) facing to the mounting flange (15)
2. Refit the drive shaft and the driven gear (11,10) and. Fit the other thrust block (7) 180° turned on the shafts. Fit the sleeve assembly tool or the assembly sleeve (20,21) to the drive shaft (11).
3. Fit the thrust blocks (7) and the gears (10,11) with the assembly sleeve (20) to the mounting flange (15). Make sure that the seals are uppermost. See Fig. 2. Remove the assembly tool
4. Carefully refit the housing (9) 180° turned, the pins facing the mounting flange (15). Make sure that the Inlet side from housing and thrust block (9, 7) are in the right position and the "O"-ring (4) is correctly fitted. See Fig. 3.
5. Fit end cover (3), taking care not to dislodge the back up seal (5), seal element (6) and body "O" ring (4) and bolt the unit together. Tighten the bolts / screws (1)
6. Pour a small amount of hydraulic oil into the inlet port and check that the drive shaft can be rotated.
7. Where applicable, refit wire circlip (17) and key (12, 13) to the shaft.



No.: Description

1. Screw 1 Bolt
2. Spring washer
3. End cover
4. Body O - ring
5. Back up seal
6. Seal element
7. Thrust block
8. Pin
9. Body
10. Driven Gear
11. Drive shaft
12. Woodruff key
13. Square key
14. Circlip
15. Mounting flange
16. Shaft seal
17. Circlip
18. Tab washer
19. Nut
20. Sleeve assembly tool
21. Assembly sleeve (not shown)

Fig.4

AP ALUMINUM PUMP ROTATION CHANGE PROCEDURE

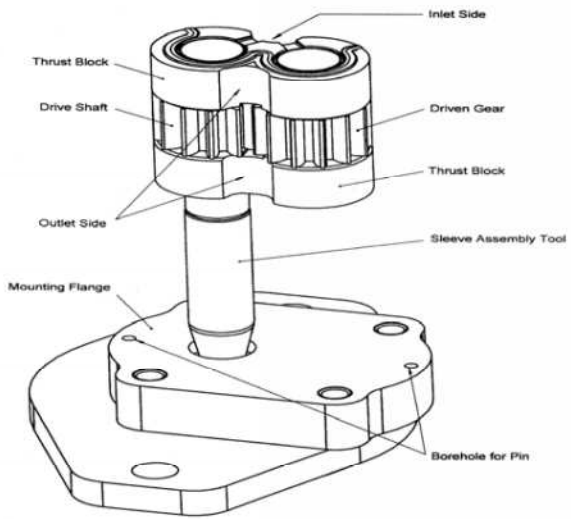


Fig. 2

