FluiDyne™

FLUID POWER

FM1 Hydraulic Motor

- Low Speed-High Torque
- Compact
- ISO 9001:2000
- 18 Month Warranty

www.FluiDyneFP.com

The FM1 Geroter™ gear set and spool valve flow distribution, hydraulic motors are a compact, highly efficient, low speed high torque design which can be used in either parallel or series systems. These low weight advanced construction design motors are manufactured in accordance with the requirements of the ISO 9001:2000 quality system.

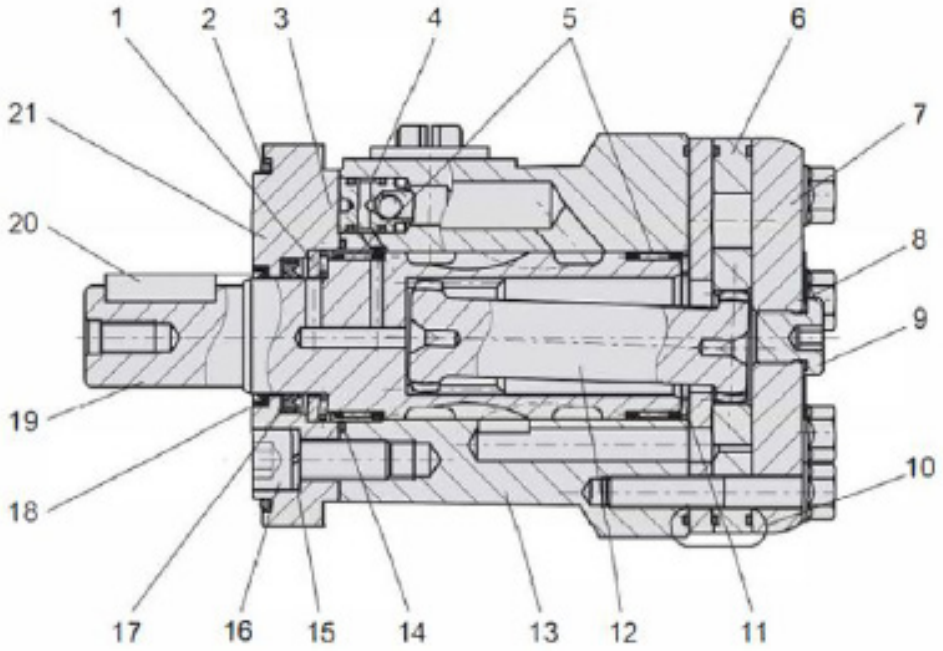

Diagram Key

1. Thrust Washer
2. O-Ring
3. Pin
4. Check Valve
5. Needle Bearings
6. Displacement Ring
7. End Cover
8. Seal *
9. Case Drain Plugged
10. O-Ring *
11. Thrust Needle Bearing
12. Drive Shaft (Dog Bone)
13. Flange Housing
14. O-Ring *
15. Lock Washer
16. Bolt
17. Shaft Seal *
18. Dust Seal *
19. Output Shaft
20. Shaft Key
21. Flange Housing
* Included in Seal Kit

Technical Specifications

Displacement cc (IN^3)		50 (3.05)	63 (3.84)	80 (4.88)	100 (6.10)	125 (7.63)	160 (9.76)	200 (12.2)	250 (15.25)	315 (19.22)	400 (24.4)
Max Speed *RPM*	Cont.	879	720	740	589	475	370	296	237	189	149
	Int.	*975*	*755*	*827*	*673*	*594*	*463*	*370*	*297*	*236*	*185*
Max Torque *lbf-in*	Cont.	717	894	1142	1425	1788	2168	2531	3186	3593	3850
	Int.	*956*	*1186*	*1513*	*1885*	*2372*	*3027*	*3452*	*4036*	*4470*	*4717*
Max Pressure *PSI*	Cont.	1813	1813	1813	1813	1813	1813	1595	1595	1450	1233
	Int.	*2393*	*2393*	*2393*	*2393*	*2393*	*2393*	*2393*	*2031*	*1813*	*1523*

Continuous (Cont.) = maximum of continuous operation. Intermittent (Int.) = maximum operating range for 6 seconds per minute.

Model Crossover

FluiDyne	Eaton Charlynn	Danfoss	Ross TRW	White Cross	Bosch Rexroth	Parker	Young Powertech	Dynamic
FM1	H, A, 101	OMP, DH	MF, MG	WP, RS, 200	MGP, GMP	TC, TE, TB	YMPH	BMPH

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Model Code Breakdown

FM1 4SQ 01K 050 S B N R

Series FM1
FluiDyne Motor Series

Mounts
- **4SQ** - 4 Bolt Square
- **SA2** - SAE 2 Bolt A

Shafts
- **01K** - 1" Keyed
- **06B** - 6B Splined
- **25K** - 25 mm Keyed
- **13T** - 7/8"-13T
- **32K** - 32 mm Keyed - ***not available at this time***
- **CHX** - See Below Chart

CH1	1" Crosshole 25-33	Example 25-33 0.25" Crosshole 0.53" from end of shaft
CH2	1" Crosshole 316-44	
CH3	1" Crosshole 375-45	
CH4	1" Crosshole 38-62	
CH5	1" Crosshole 40-62	

Displacements cc

050	**200**
063	**250**
080	**315**
100	**400**
125	
160	

Options
- **R** - Reverse Rotation (STD is CW)
- **F** - Free Turning (Special Order. Factory Lead Time)
- **90** - Mounting Flange Rotated 90°
- **S**- Nickel Plated Shaft

Seals
- **N** - Buna (Nilrile)
- **V** - Viton

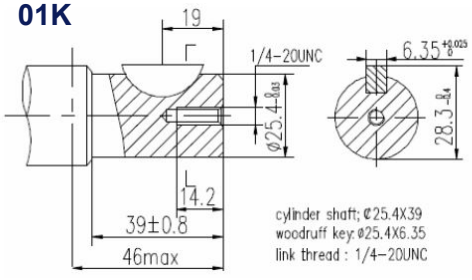
Paint
- **B** - Black
- **W** - White
- **Y** - Yellow
- **O** - None
- **U** - Blue
- **K** - Nickel Plated Body

Ports

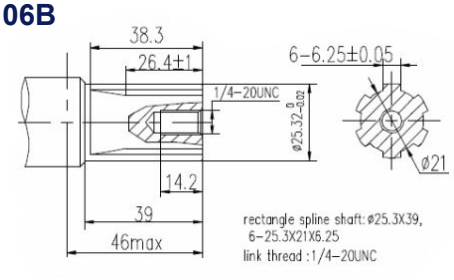
	Drain
S - 7/8"-14	SAE #4
N - 1/2" NPT	SAE #4
G - G 1/2	G 1/4
M - Manifold	SAE #4
M8 - Manifold	SAE#4

Shaft Options

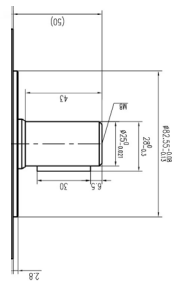
01K



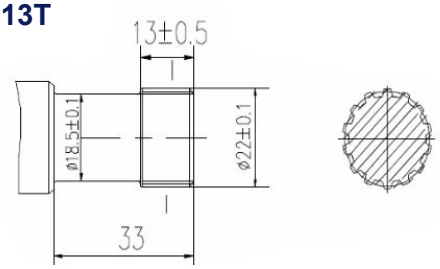
06B



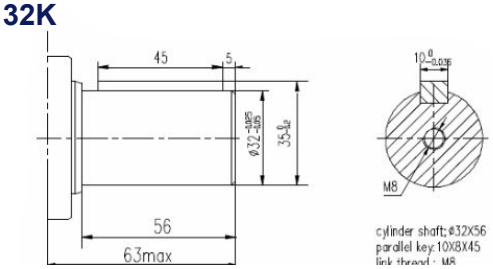
25K



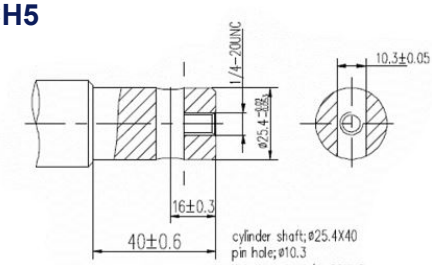
13T



32K



CH5



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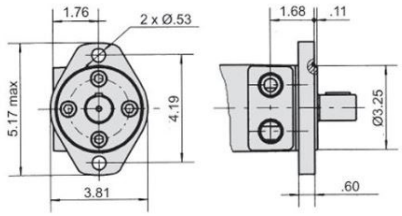
Motor Drawings

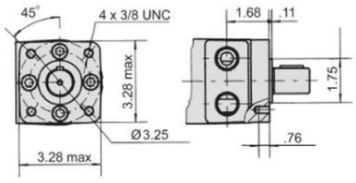
Mounting Options

SA2



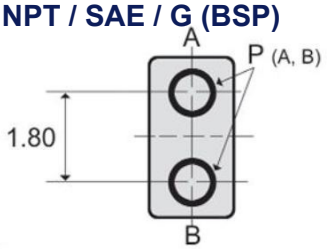
4SQ

H4 - 4-Bolt



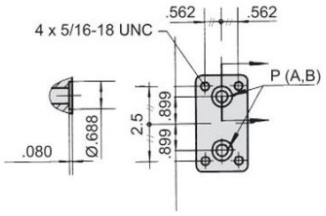
Porting Options

NPT / SAE / G (BSP)

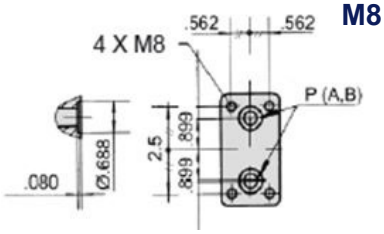


Manifolds

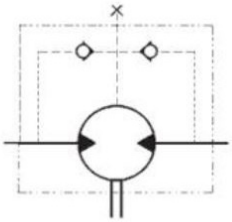
M

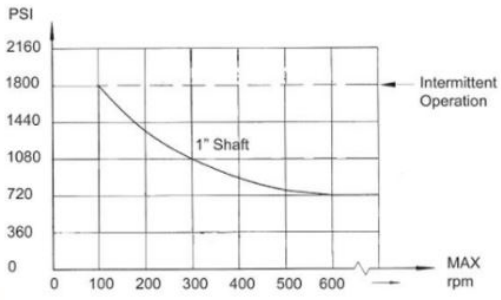


M8



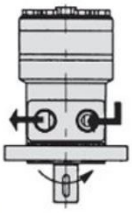
Shaft Seal





In applications without a motor drain line, the pressure exerted on the shaft seal is marginally in excess of the return line pressure. When the drain line is used the pressure exerted on the shaft seal is equal to the return line pressure.

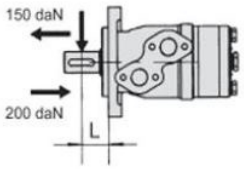
FMI Shaft Rotation



Standard rotation viewed from shaft end.
Port A pressurized = CW rotation
Port B pressurized = CCW rotation

Radial Force

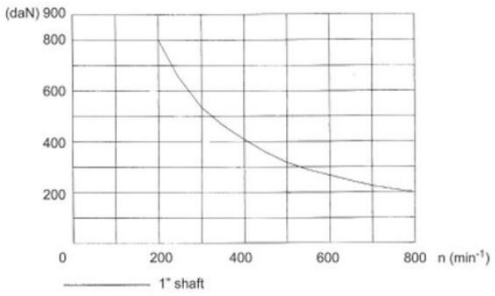
$$Fr = \frac{800}{n} * \frac{25000}{95 + L}$$



Fr = Radial Force (daN)
L = Distance (mm)
n = Speed (rpm)

Rhomb Flange L = 30mm
Square Flange L = 24mm

Status of the Shaft's Radial Force



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- Identification of parts within units
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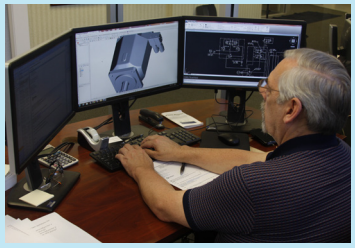

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QMS INTERNATIONAL ISO 9001:2015 REGISTERED FIRM

04/2023