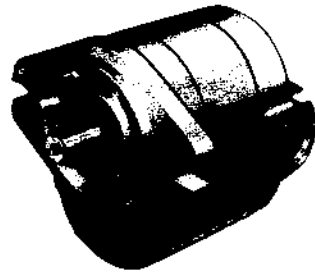
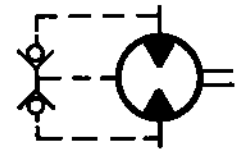




HYDRAULIC MOTORS

GEAR MOTORS 50 Series Specification Sheet



The Series 50 gear motors feature a Cross gear tooth design that provides more displacement within a given package design. Pressure balanced loading plates provide high volumetric and overall efficiency. Available in 7 sizes, with displacements from 1.52 to 5.20 cubic inches per revolution, the compact design permits locating up to a 100 horsepower unit in a space less than 6½" x 7" x 7½". Side or rear ports permit versatility for positioning the motor anywhere in the system design.

GENERAL SPECIFICATIONS

Displacement sizes:

1.52	1.95	2.32	2.74	3.30	3.80	5.20	cu.in./Rev.
24.9	32.0	38.0	44.9	54.1	62.3	85.2	cc/Rev.

Rated working pressure (Max. relief valve setting at full flow)3000 psi (207 Bar)
 Maximum shock and surge pressure3500 psi (242 Bar)
 Maximum flow rate (input)up to 56 gpm (227 l/m)
 Maximum speed (continuous)up to 3000 rpm
 Maximum horsepower (at rated speed and pressure)up to 100 hp (74.6 Kw)
 Mounting (any position)SAE "B" size 2-bolt
 WeightApprox. 19 lbs. (8.6 Kg)

MATERIAL SPECIFICATIONS

End covers Die cast aluminum alloy
 Gears and shaft Hardened steel
 Bearings Pressure lubricated, Teflon impregnated sleeve
 Seals Buna N
 Body Permold aluminum alloy

STANDARD FEATURES

- Rotation: Bi-directional (dual rotation) • Internal Check Valves (no external drain required if back pressure is below shaft seal rating)
- Ports: 1" SAE #16 (1⁵/₁₆ - 12) side location; inlet and outlet
- Shaft: 7/8" dia. Woodruff keyed • Shaft Seal: 250 psi (17 bar)

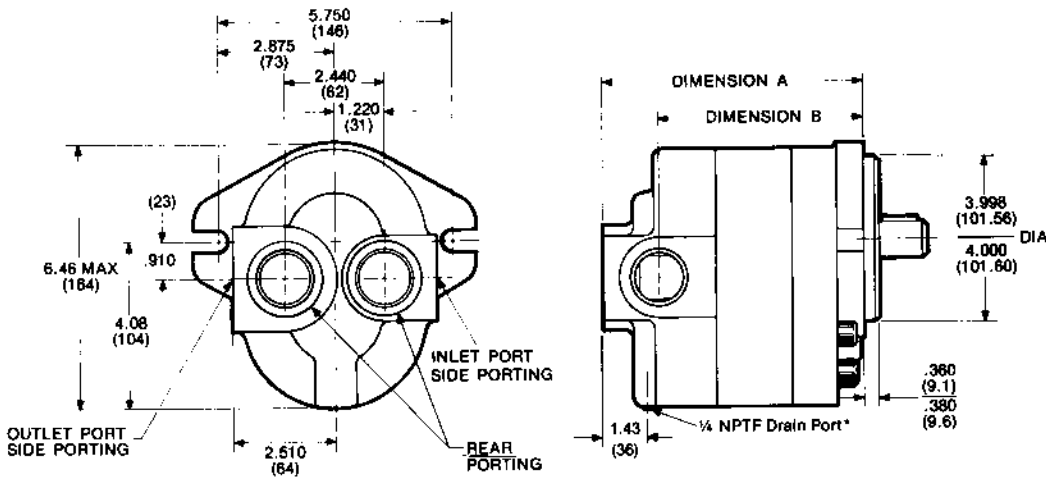
OPTIONAL FEATURES AVAILABLE

- Rotation: Right hand (clockwise); Left hand (counterclockwise)
- Ports: Rear inlet and outlet location
- Shafts: SAE 7/8" dia. splined (13 tooth); SAE 1" dia. splined (15 tooth)
7/8" dia. Woodruff keyed (long)

NOTE: Refer to CROSS pump and motor Technical Service Sheet for side and end load limitations, oil recommendations and other recommendations.



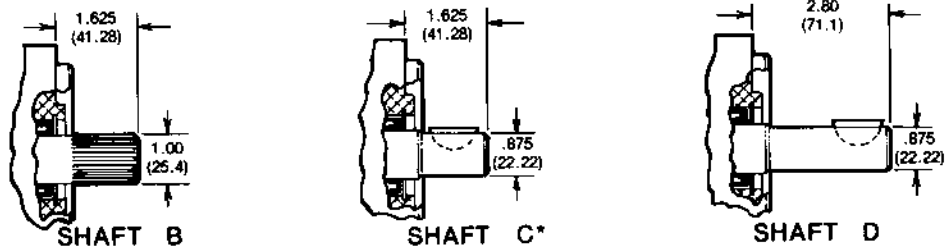
DIMENSIONAL DATA: in inches and (millimeters)



Displacement cu.in./Rev. (cc/Rev.)	Dim. "A" inches (mm)	Dim. "B" inches (mm)
1.52 (24.9)	5.60 (142)	4.23 (107)
1.95 (32.0)	5.80 (147)	4.43 (113)
2.32 (38.0)	5.96 (151)	4.56 (116)
2.74 (44.9)	6.15 (156)	4.78 (121)
3.30 (54.1)	6.40 (163)	5.03 (128)
3.80 (62.3)	6.62 (168)	5.25 (133)
5.20 (85.2)	7.21 (183)	5.84 (148)

*Drain port must be used when back pressure exceeds Shaft seal pressure rating.

OUTPUT SHAFT



Shaft "A"	13 Tooth, 16/32 pitch, 30° pressure angle, flat root side fit, Class I
"B"	15 Tooth, 16/32 pitch, 30° pressure angle, flat root side fit, Class I
*"C"	Woodruff key: 1" Dia. x 1/4"
"D"	Woodruff key: 1" Dia. x 1/4"

ORDERING DATA

* Standard

Series	Type	Special Options	Size cu.in./Rev. x 10	Rotation	Mounting	Shaft Size & Type	Ports Location & Size		
							Inlet	Outlet	
50	M Motor	H* 250 psi Shaft Seal	15	D* Dual	B SAE "B" 2-Bolt	A 7/8 dia. spline	SC* 15/16	15/16	Side Ports
			19			B 1" Dia. spline			
			23			C* 7/8" Dia. Keyed			
			27	L Left Hand	D 7/8" Dia. Keyed (Long)	RF 15/16	15/16	Rear Ports	
			33						
			38						
52	R Right Hand								

EXAMPLE: 50MH15DBCSC is a 50 Series motor, 250 psi shaft seal, 1.52 displacement per rev., dual rotation, SAE "B" 2-bolt mounting, 7/8" dia. keyed shaft and 1 5/16" inlet and outlet side ports.



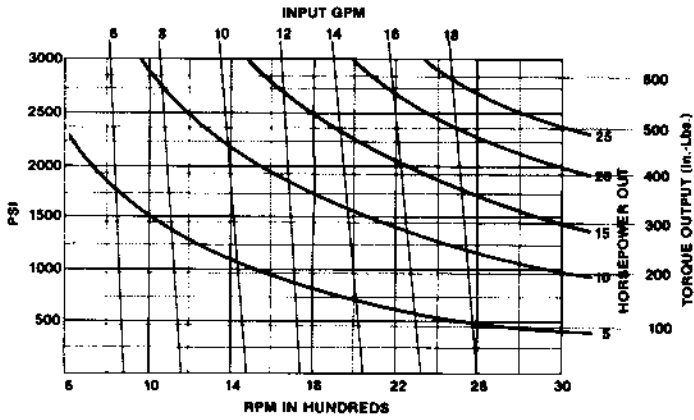
HYDRAULIC MOTORS

GEAR MOTORS 50 Series

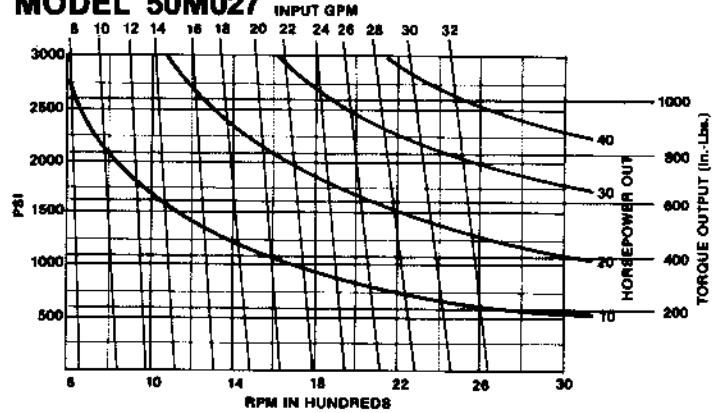
TYPICAL PERFORMANCE DATA

(FOR SPECIFIC PERFORMANCE DATA,
CONTACT CROSS ENGINEERING)

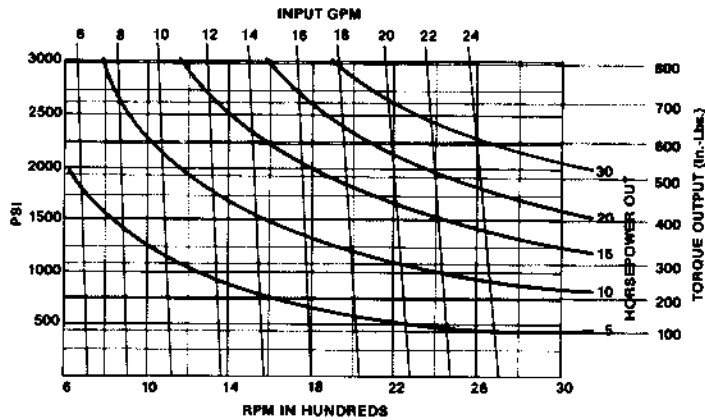
MODEL 50M015



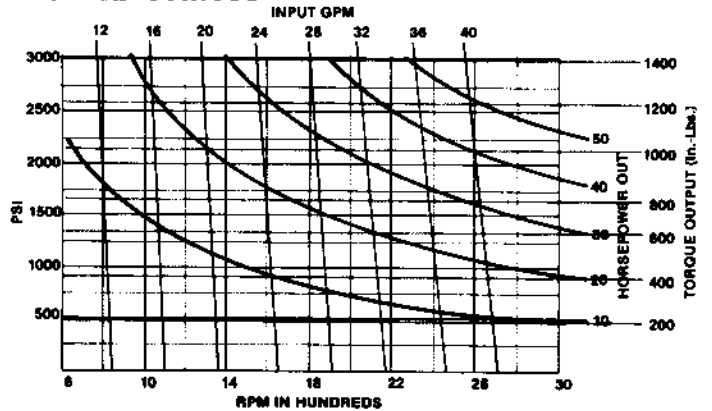
MODEL 50M027



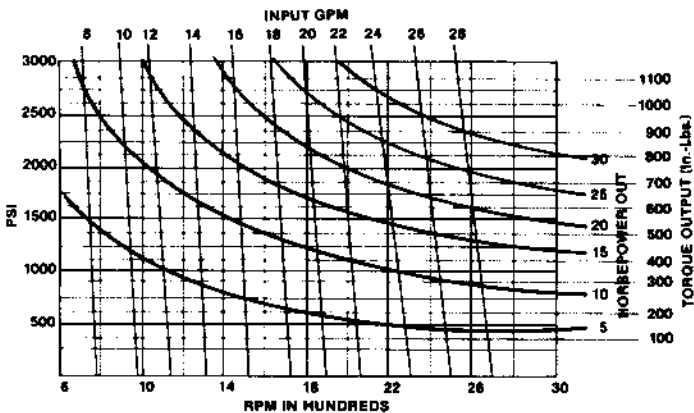
MODEL 50M019



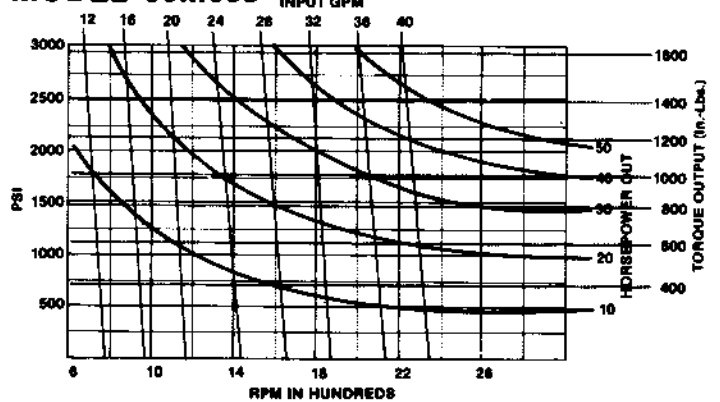
MODEL 50M033



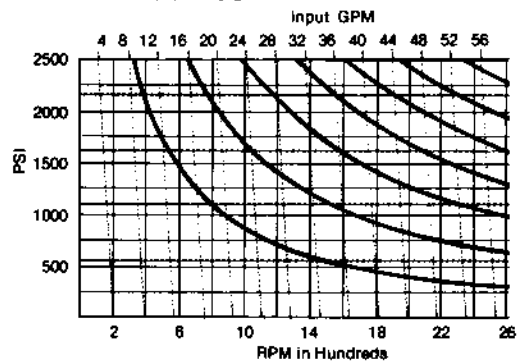
MODEL 50M023



MODEL 50M038

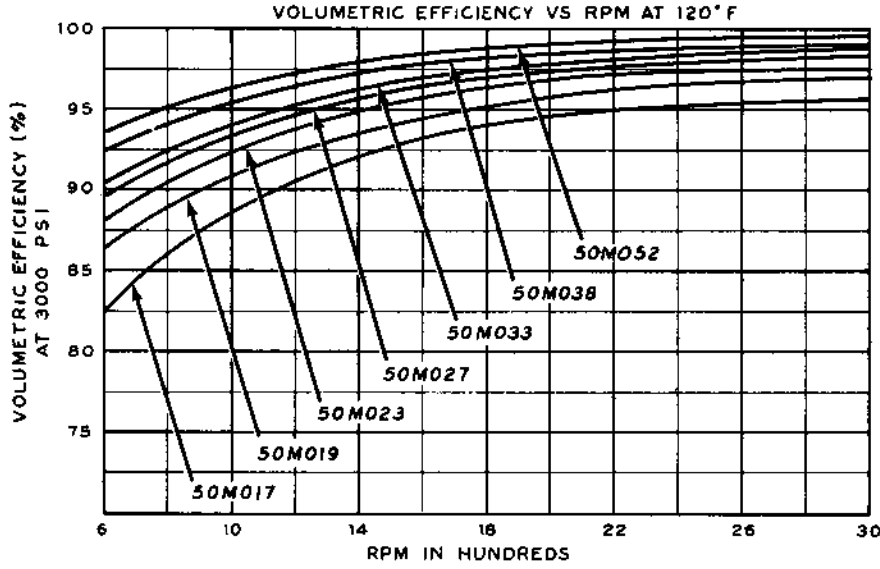


MODEL 50M052

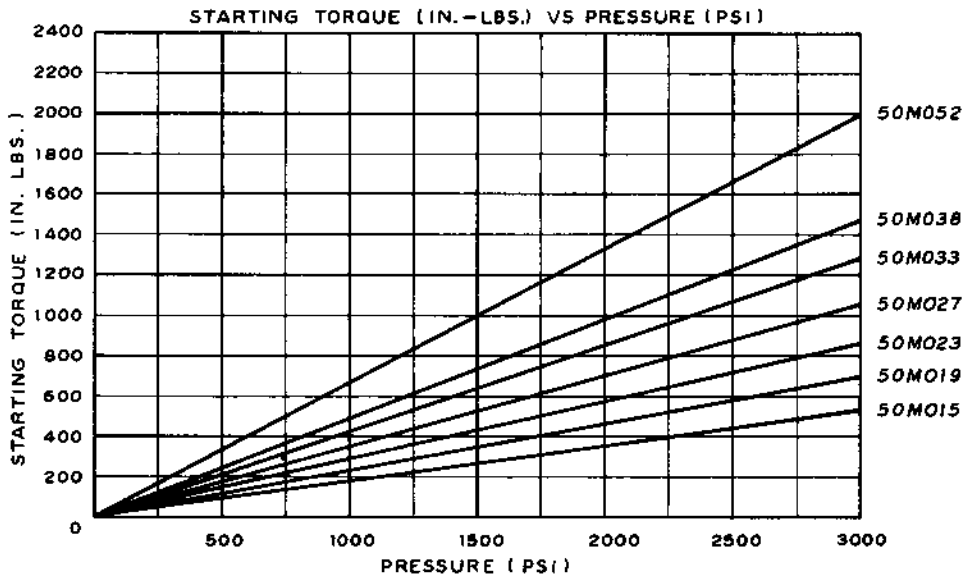




TYPICAL PERFORMANCE



VOLUMETRIC EFFICIENCY



STARTING TORQUE

(FOR SPECIFIC PERFORMANCE DATA
CONTACT CROSS ENGINEERING)



CROSS MANUFACTURING, INC.
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Lewis, Kansas 67552
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