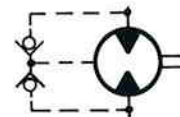




HYDRAULIC MOTORS

GEAR MOTORS 40 SERIES Specification Sheet



The CROSS series 40 hydraulic gear type motors feature advanced design concepts which produce long service life and high reliability when operated up to rated speeds and pressures. Improved gear tooth design and pressure-balanced loading plates provide for a high volumetric and overall efficiency, while operating at a low noise level.

GENERAL SPECIFICATIONS

Displacement sizes

0.50	0.75	1.00	1.25	1.50	1.80	cu.in./Rev.
8.2	12.3	16.4	20.5	24.6	29.5	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)34 gpm (129 l/m)
Maximum speed (continuous)up to 4000 rpm
Maximum horsepower (at rated speed and pressure)49 hp (36.5 Kw)
Mounting (any position)SAE "A" size, 2-bolt
WeightApprox. 7 lbs. (3.2 Kg)

MATERIAL SPECIFICATIONS

Body and end covers Die cast aluminum alloy
Gears Sintered metal
Shaft Hardened steel
Bearings Pressure lubricated, Teflon impregnated sleeve
Seals Buna N

STANDARD FEATURES

- Rotation: Bi-directional (Dual Rotation)
- Ports: $\frac{3}{4}$ " SAE #12 straight thread o-ring ($1\frac{1}{16}$ - 12) • $\frac{1}{4}$ " NPTF Drain port
- Internal check valves (no external drain required if back pressure is below shaft seal rating)
- Shaft: $\frac{5}{8}$ " dia. Woodruff keyed (short) • Shaft Seal: 250 psi (17 bar)

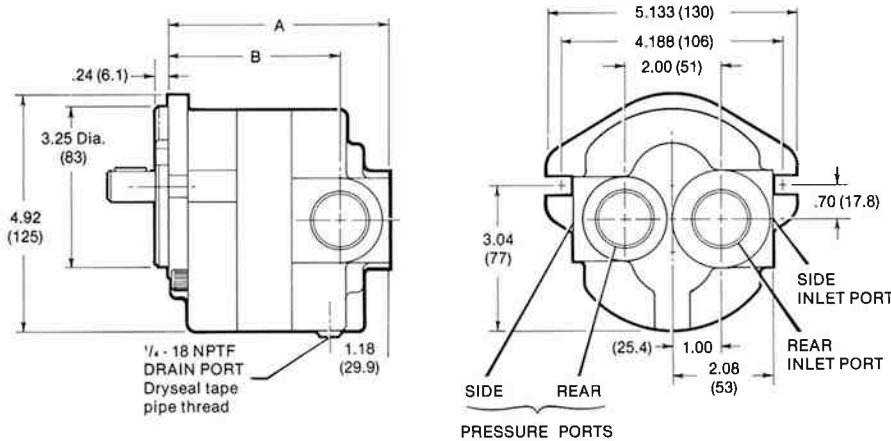
OPTIONAL FEATURES AVAILABLE

- Rotation: Right hand (clockwise); Left hand (counterclockwise)
- Ports: Rear inlet and outlet location
- Shafts: $\frac{5}{8}$ " dia. splined (9 tooth); $\frac{5}{8}$ " dia. keyed (long); $\frac{3}{4}$ " dia. keyed (long)

NOTE: Refer to CROSS pump and motor technical/service sheet for side and end load limitations, oil and filter recommendations, start-up procedures, etc.

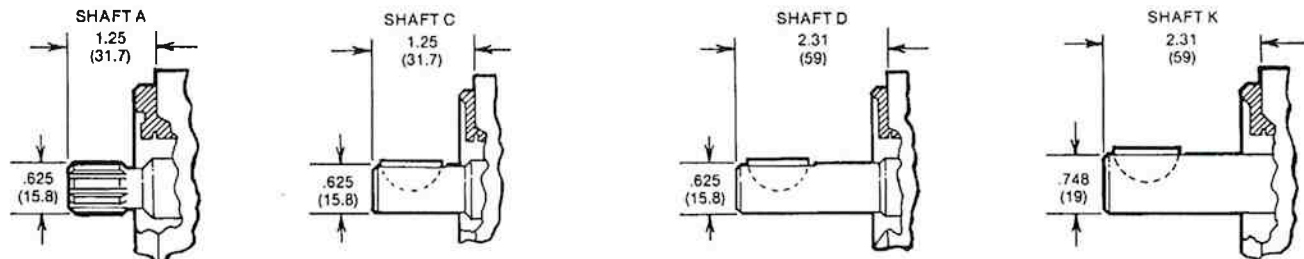


DIMENSIONAL DATA in inches and (millimeters)



Displacement cu.in./Rev. (cc/Rev.)	Dim. "A" inches (mm)	Dim. "B" inches (mm)
.50 (8.2)	4.25 (107)	3.23 (82)
.75 (12.3)	4.44 (112)	3.42 (86)
1.00 (16.4)	4.62 (117)	3.60 (91)
1.25 (20.5)	4.81 (122)	3.79 (96)
1.50 (24.6)	4.99 (126)	3.97 (100)
1.80 (29.5)	5.22 (132)	4.20 (106)

OUTPUT SHAFT



SHAFT "A": 9 tooth, 16/32 pitch, 30° pressure angle, flat root side fit, Class 1.
 SHAFT "C", "D" and "K" : Woodruff key - 3/4" dia. x 5/32.

ORDERING DATA

Series	Type	Special Options	Size cu.in./R x 10	Rotation	Mounting	Shaft Size & Type		PORTS LOCATION and SIZE			
						Inlet	Outlet				
40	M motor	H 250 psi shaft seal	5	D	A	A	K	SC	1' 1/16	1' 1/16	SIDE PORTS
			7	dual	SAE "A" 2-bolt	5/8" spline	3/4" dia.				
			10			C	keyed	RD	1' 1/16	1' 1/16	REAR PORTS
			12	L		5/8" dia.	(long)				
15	left		keyed								
18	R		D	5/8" dia.							
	right			keyed							
				(long)							

*Standard

EXAMPLE: 40MH12DACSC

Describes a Series 40 Gear Motor, 250 psi shaft seal, displacement of 1.2 cu. in. per revolution; bi-directional rotation; SAE "A" 2-Bolt Mount; 5/8" dia. keyed shaft and 1 1/16-12 side ports.



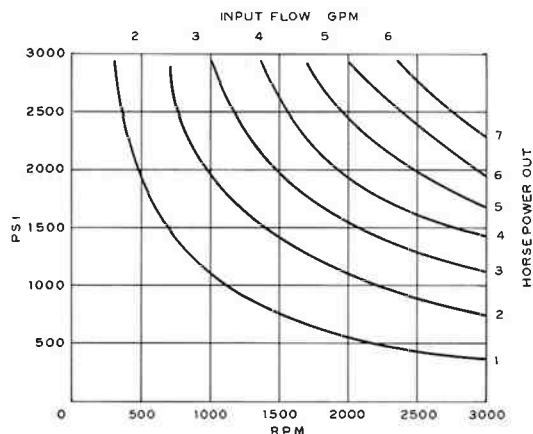
HYDRAULIC MOTORS

GEAR MOTORS 40 SERIES

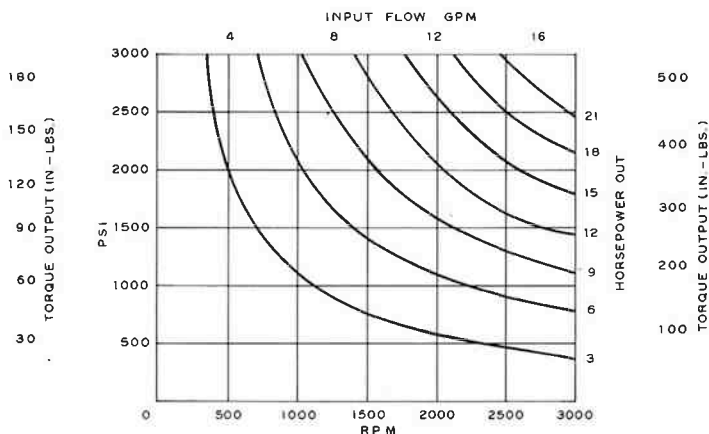
TYPICAL PERFORMANCE DATA

(FOR SPECIFIC PERFORMANCE DATA,
CONTACT CROSS ENGINEERING)

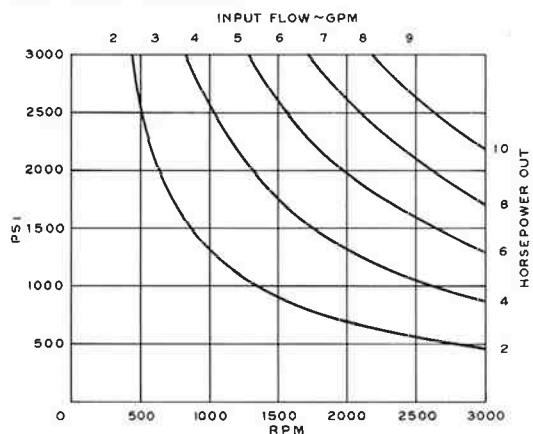
MODEL 40M005



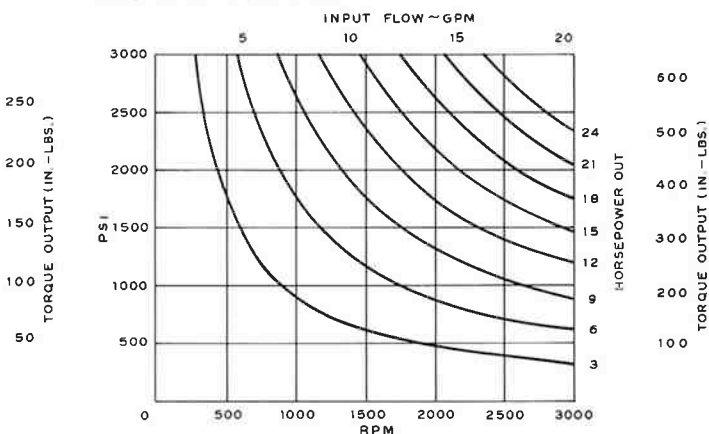
MODEL 40M012



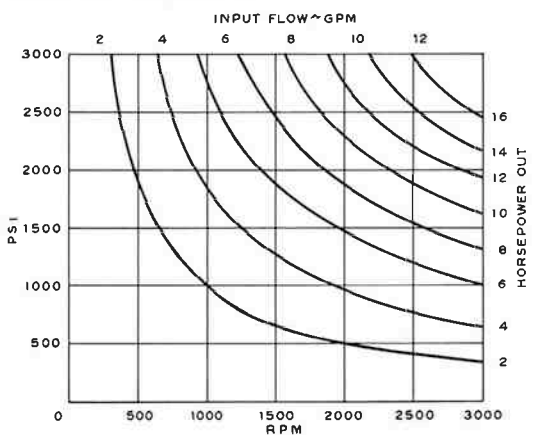
MODEL 40M007



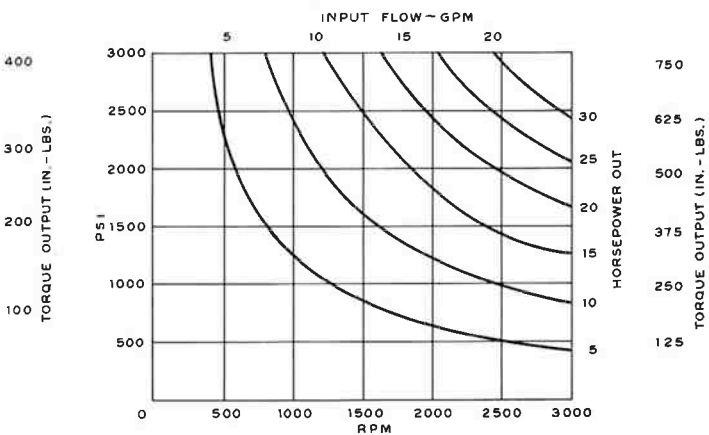
MODEL 40M015



MODEL 40M010



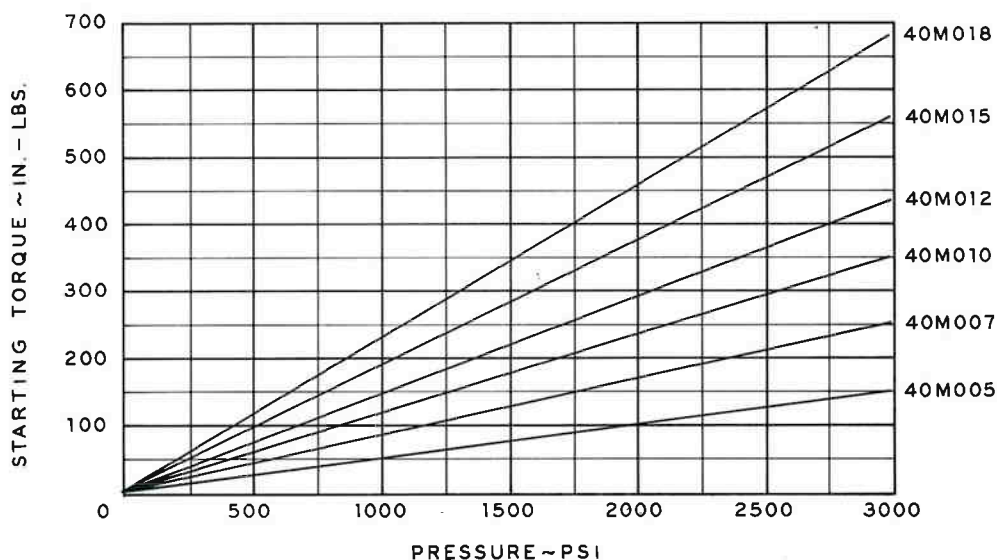
MODEL 40M018



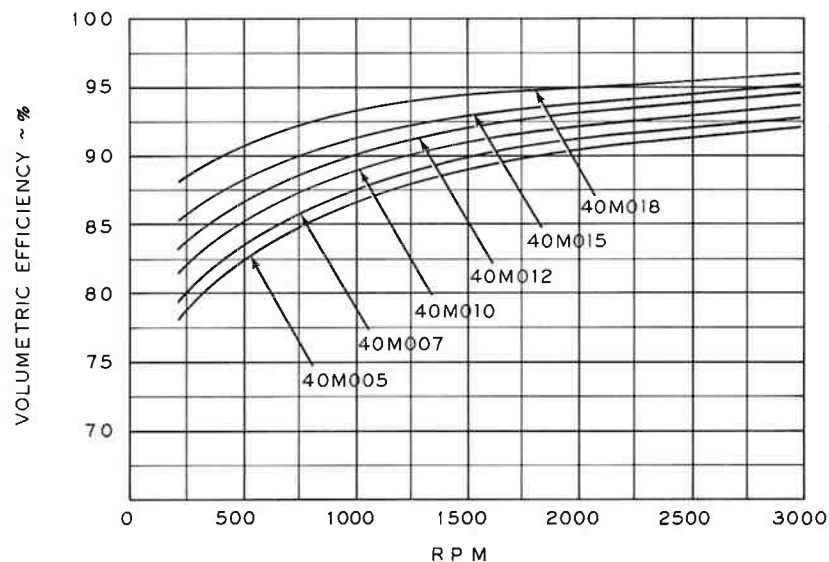


TYPICAL PERFORMANCE DATA

STARTING ENGINE TORQUE (in.-lbs.) vs. PRESSURE (PSI)



VOLUMETRIC EFFICIENCY (%) vs. RPM
(TYPICAL)



(FOR SPECIFIC PERFORMANCE DATA,
CONTACT CROSS ENGINEERING)

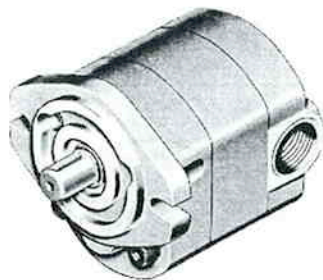


CROSS MANUFACTURING, INC.
100 James H. Cross Blvd.
Lewis, Kansas 67552
Phone 620/324-5525; FAX 620/324-5737; e-mail: info@crossmfg.com



HYDRAULIC PUMPS

GEAR PUMPS 40 SERIES Specification Sheet



The CROSS Series 40 gear pumps feature a gear tooth design that provides more displacement within a given package size. Available in 6 sizes, with displacements from .50 to 1.80 cubic inches per revolution, this compact pump can deliver up to 17.5 gpm in a space less than 5" x 5 1/4" x 5 1/4". Gear tooth design and pressure-balanced loading plates provide high volumetric and overall efficiency while operating at a low noise level.

GENERAL SPECIFICATIONS

Displacement Sizes:	0.50	0.75	1.00	1.25	1.50	1.80	cu.in./Rev.
	8.2	12.3	16.4	20.5	24.6	29.5	cc/Rev.

Rated working pressure (max. relief valve setting at full flow) 3000 psi (207 Bar)
Maximum shock and surge pressure 3500 psi (242 Bar)
Maximum flow rate (delivery) 17.5 gpm (66 l/m)
Maximum speed (continuous - see Inlet Vacuum Curves) 3600 RPM
Maximum horsepower (at rated speed and pressure) 41 hp (30.5 kw)
Mounting (any position) SAE "A" size, 2-Bolt
Weight Approx. 7 lbs. (3.2 kg)

MATERIAL SPECIFICATIONS

Body and end covers Die cast aluminum alloy
Gears Sintered metal
Shafts Hardened steel
Seals Buna N
Bearings Pressure lubricated, Teflon impregnated sleeve

STANDARD FEATURES

- Rotation: Right hand (clockwise)
- O-ring ports: 1" SAE #16 (1 5/16 - 12) inlet, 3/4" SAE #12 (1 1/16 - 12) outlet
- Shaft: 5/8" diameter, Woodruff keyed • Shaft Seal: 20 psi (1.4 bar)*

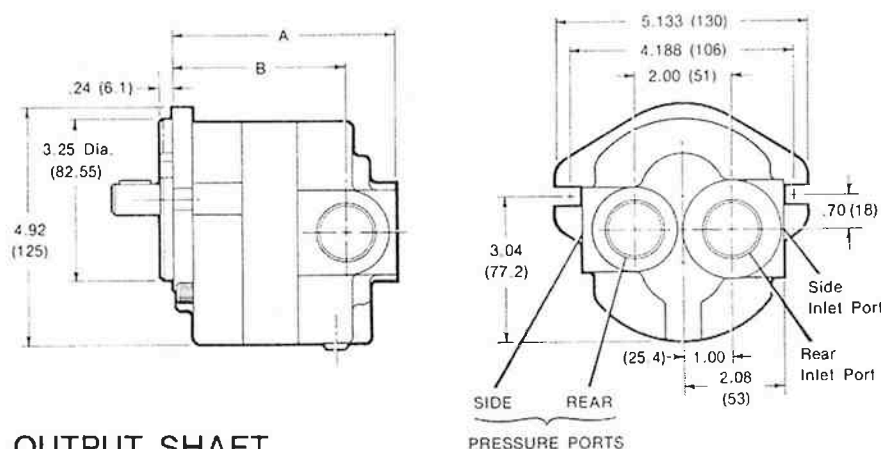
OPTIONAL FEATURES AVAILABLE

- Rotation: Left hand (counterclockwise); Bi-directional (Dual Rotation)
- Ports: SAE #12 (3/4") o-ring inlet (1 1/16 - 12); rear inlet and outlet location
- Shafts: 5/8" Dia. SAE splined (9 tooth, 16/32 pitch, 30° P.A. flat root side fit Class I); 5/8" Dia. with Woodruff key (long); 3/4" Dia. with Woodruff key (short); 3/4" Dia. with Woodruff key (long)
- Shaft Seal: High pressure, 250 psi (17.2 bar)*

NOTE: Refer to CROSS pump and motor technical service sheet for side and end load limitations, oil recommendations, start-up procedures, etc.

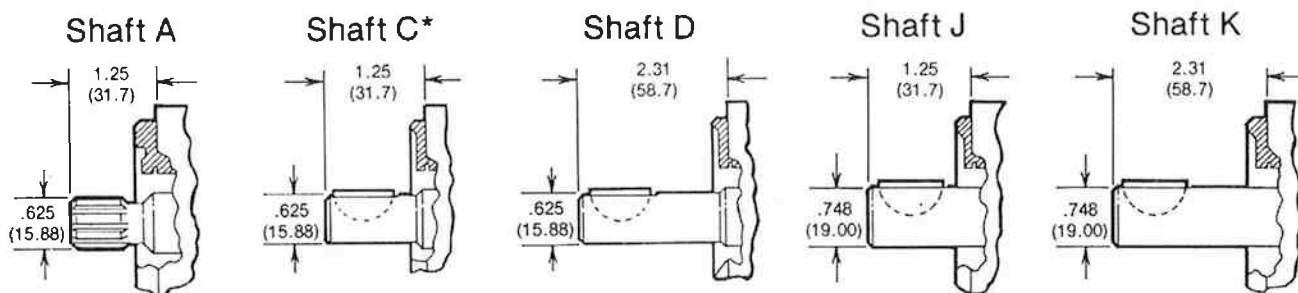
* Dual rotation pumps are provided with 250 psi shaft seals.

DIMENSIONAL DATA in inches and (millimeters)



Displacement cu.in./Rev. (cc/Rev.)	Dim. "A" inches (mm)	Dim. "B" inches (mm)
.50 (8.2)	4.25 (108)	3.23 (82)
.75 (12.3)	4.44 (113)	3.42 (87)
1.00 (16.4)	4.62 (117)	3.60 (91)
1.25 (20.5)	4.81 (122)	3.79 (96)
1.50 (24.6)	4.99 (127)	3.97 (101)
1.80 (29.5)	5.22 (133)	4.20 (107)

OUTPUT SHAFT



Shaft "A": 9 Tooth, 16/32 pitch, 30° pressure angle, flat root side fit, Class I.

Shaft "C" and "D": Woodruff key - 3/4" dia. x 5/32.

Shaft "J" and "K": Woodruff key - 3/4" dia. x 5/32.

ORDERING DATA

Series	Type	Special Options	Size cu.in./R x 10	Rotation	Mounting	Shaft Size & Type	Ports Location and Size Inlet Outlet		
40	P pump	O 20 psi Pump Seal H 250 psi Shaft Seal (Standard for dual rotation)	5	D Dual L Left R Right	A SAE "A" 2-Bolt	A 5/8" spline	SA	1 5/16	1 1/16
			7			C*		1 1/16	1 1/16
			10			D		1 1/16	1 1/16
			12			J*		1 1/16	1 1/16
			15			K	RB	1 5/16	1 1/16
			18			Long		1 1/16	1 1/16
						Long		1 1/16	1 1/16
						Long		1 1/16	1 1/16

* Not available in 40 P007 model.

EXAMPLE: 40P05RACSA is a standard Series 40 pump with a 20 psi shaft seal, 0.50 cu./in./Rev. displacement, right rotation, SAE "A" 2-bolt mounting, 5/8" dia. keyed shaft and side ports with 1 5/16" inlet and 1 1/16" outlet.

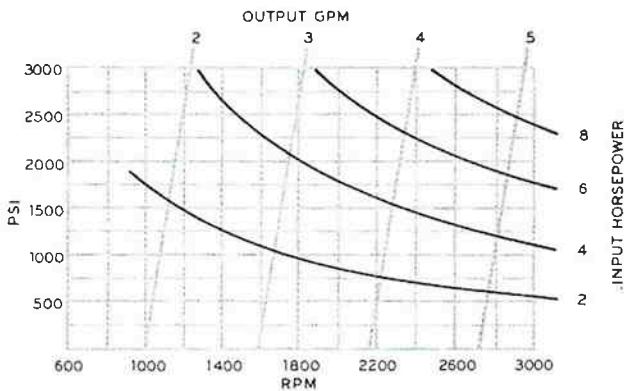


HYDRAULIC PUMPS

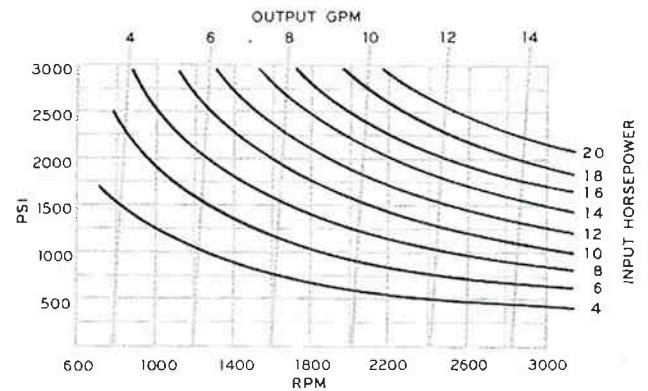
GEAR PUMPS 40 SERIES Specification Sheet

TYPICAL PERFORMANCE DATA

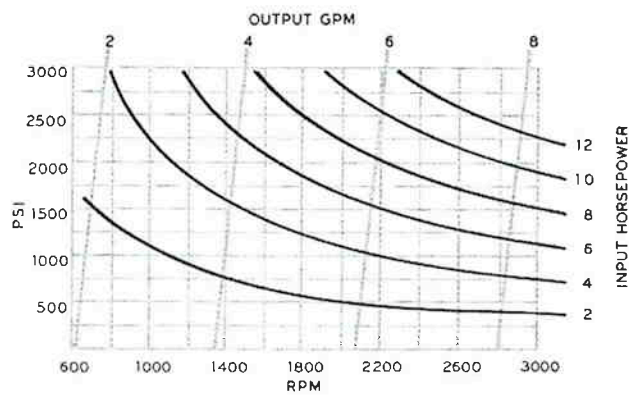
MODEL 40P005



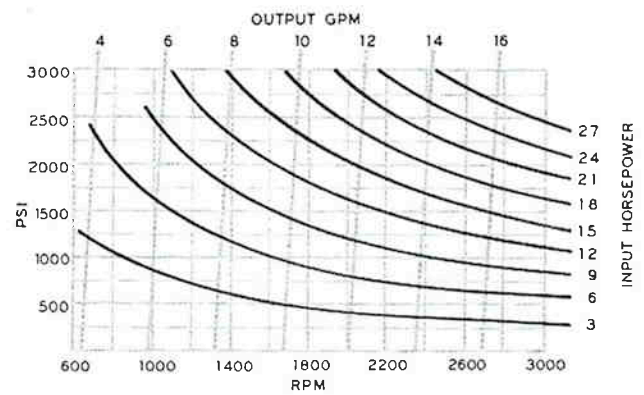
MODEL 40P012



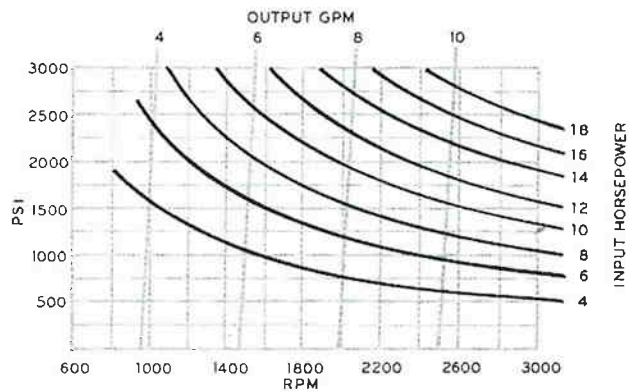
MODEL 40P007



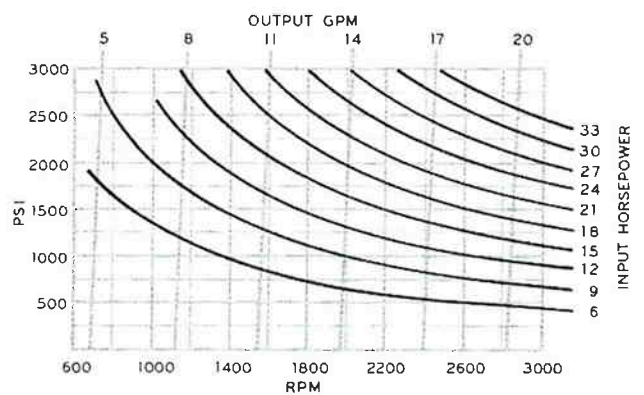
MODEL 40P015



MODEL 40P010



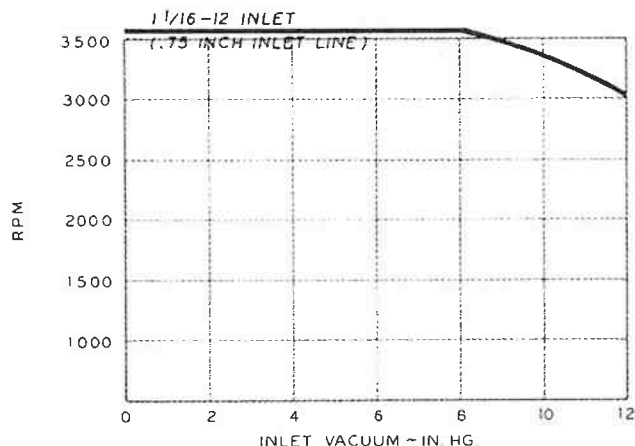
MODEL 40P018



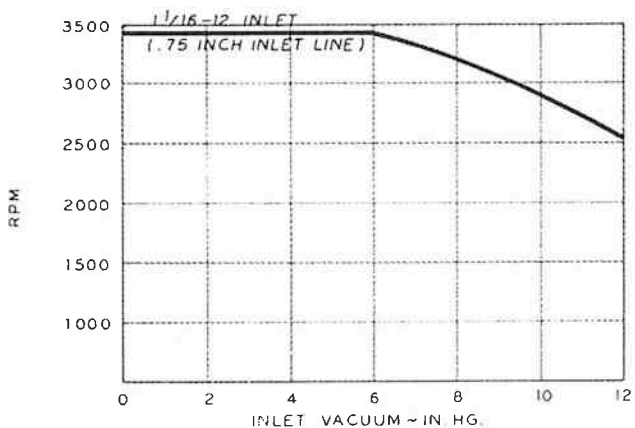


TYPICAL PERFORMANCE DATA

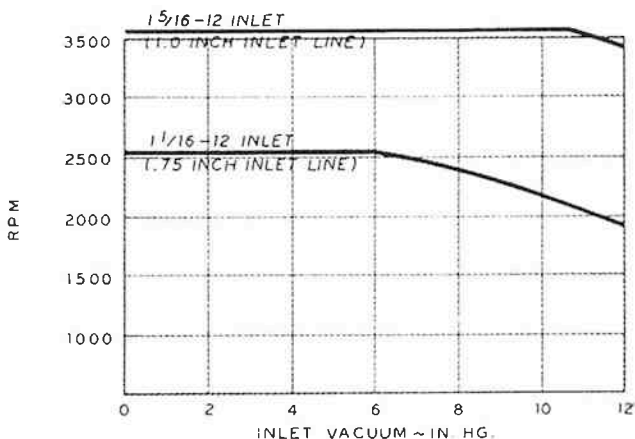
MODEL 40P005



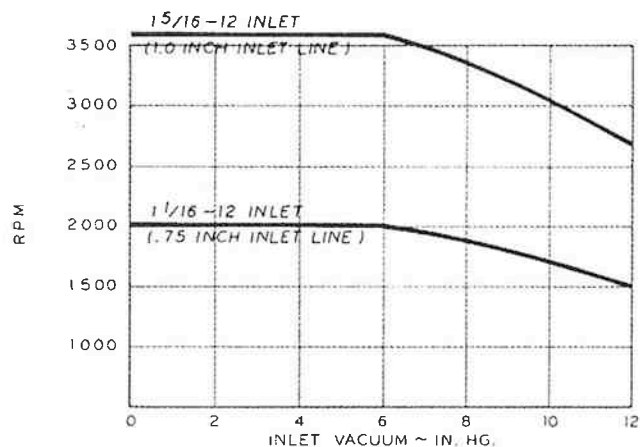
MODEL 40P007



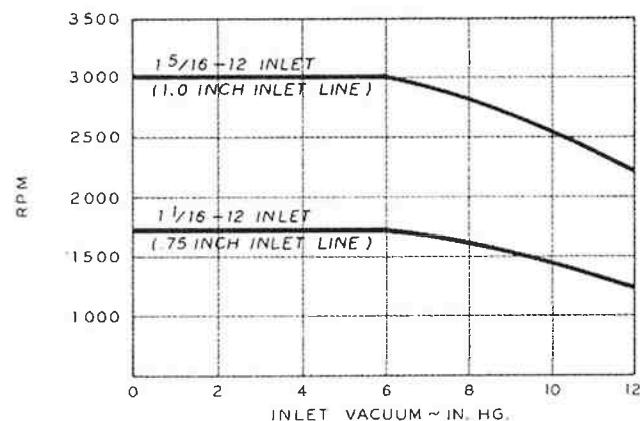
MODEL 40P010



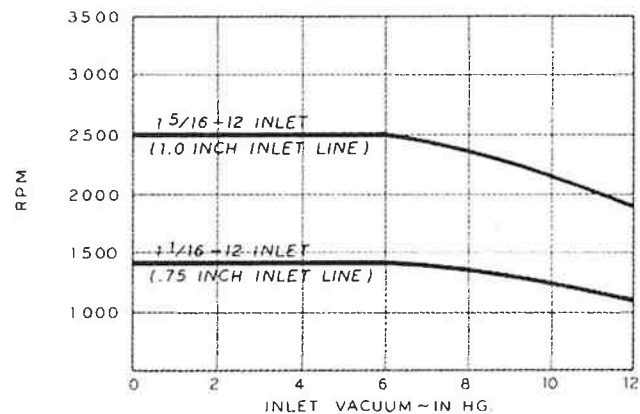
MODEL 40P012



MODEL 40P015



MODEL 40P018



DO NOT operate above the RPM-inlet vacuum curve or 8 in. Hg. for specific inlet port sizes shown.



CROSS MANUFACTURING, INC.
 100 James H. Cross Blvd.
 Lewis, Kansas 67552
 Phone 620/324-5525; FAX 620/324-5737; e-mail: info@crossmfg.com