



Gerotor Pump & Motor

Aluminum High Speed, Low Torque Series

Catalog HY09-PGG/MGG/US



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- Consistent quality
- Technical innovation
- Premier customer service

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- Refuse/dump truck
- Material handling
- Forestry
- Agriculture
- Industrial



WARNING

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Parker Hannifin Corporation
Gear Pump Division
Youngstown, Ohio USA

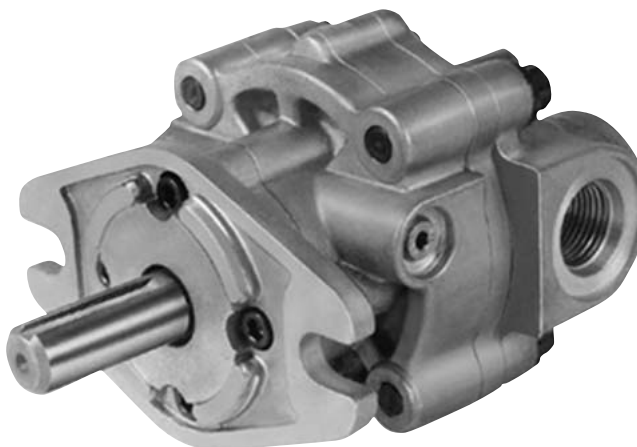
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Specifications for Gerotor Pumps & Motors

- Gerotor design (HSLT)*
- Aluminum construction for optimum power to weight ratio
- Bi-directional
- High-pressure mechanical seals available for series application to 1000 PSI back pressure
- Roller bearings for long life
- Buna-N Seals are standard for petroleum and glycol based fluids.
- MGG — Motor
 - Shaft speeds to 5000 RPM
- PGG — Pump
 - Shaft speeds to 3500 RPM
- Up to 17 HP output for motors

**High Speed / Low Torque*



How to Order Gerotor Pumps & Motors:

Select the desired symbol (in the correct position) to construct a model code.

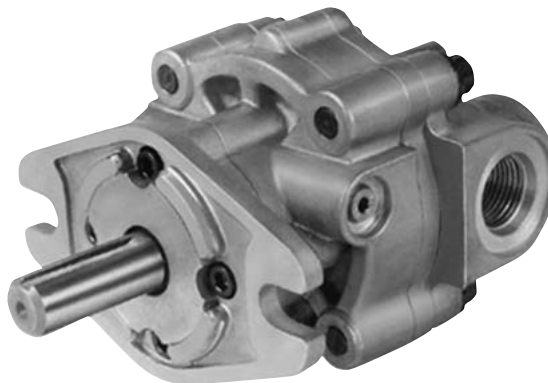
Assembly Example:

Options	Type	Model/ Pump	Section Size	Design	Flange	Shaft	Ports	Rotation																															
[]	[]	GG2	[]	[]	[]	[]	[]	[]																															
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">OPTIONS</th> </tr> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>V</td> <td>Viton®</td> </tr> </tbody> </table>			OPTIONS		Code	Description	V	Viton®	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">DESIGN</th> </tr> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>B</td> <td>Standard seal</td> </tr> <tr> <td>C</td> <td>Standard seal w/ dust seal</td> </tr> <tr> <td>D</td> <td>External drain w/ dust seal</td> </tr> <tr> <td>E</td> <td>External drain</td> </tr> </tbody> </table>						DESIGN		Code	Description	B	Standard seal	C	Standard seal w/ dust seal	D	External drain w/ dust seal	E	External drain													
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Note: Add prefix 'V' to pump model number (VMGG2) when ordering pumps with Viton® Seals.

Specifications for MGG2 Series

Description Hydraulic Motors
 Flow Range To 15 GPM (56.7 LTR)
 Displacements To .700 C.I.R.(11.47 CC's/REV.)
 Maximum Pressure to 2000 PSI (137 BAR)
 Maximum Speed to 5000 RPM
 Rotation Bi-Directional
 Bearings Roller
 Construction Aluminum



Performance Data

Pump Model	Displacement/Revolution (Theoretical)					Maximum Continuous Pressure		Maximum Speed
	US Gallons	Cubic Inches	Liters	Cubic Centimeters	Imperial Gallons	PSI	BAR	RPM
MGG20010	.0010	.218	.0039	3.572	.0008	2000	138	5000
MGG20016	.0016	.372	.0062	6.096	.0013	2000	138	5000
MGG20020	.0020	.450	.0078	7.374	.0016	2000	138	5000
MGG20025	.0025	.580	.0097	9.505	.0021	2000	138	5000
MGG20030	.0030	.700	.0116	11.471	.0025	1500	104	5000

When used in series circuits, back pressure is not to exceed 1000 (69.0 BAR) PSIG.

MGG Displacement

MODEL NO.	MGG20010	MGG20016	MGG20020	MGG20025	MGG20030
DISPLACEMENT PER REVOLUTION	.218 in. ³ (3.57 cm ³)	.372 in. ³ (6.094 cm ³)	.450 in. ³ (7.374 cm ³)	.580 in. ³ (9.50 cm ³)	.700 in. ³ (11.471 cm ³)
MAXIMUM RATED RPM	5000	5000	5000	5000	5000
RATED FLOW PER 1000 RPM (NOMINAL)	.95 GPM (3.6 liters/min)	1.61 GPM (6.1 liters/min)	1.95 GPM (7.4 liters/min)	2.51 GPM (9.5 liters/min)	3.03 GPM (11.5 liters/min)
MAXIMUM RATED PRESSURE	CONTINUOUS 2000 PSI (138.0 bar)	CONTINUOUS 2000 PSI (138.0 bar)	CONTINUOUS 2000 PSI (138.0 bar)	CONTINUOUS 2000 PSI (138.0 bar)	CONTINUOUS 1500 PSI (103.5 bar)
	INTERMITTENT 2500 PSI (172.5 bar)	INTERMITTENT 2500 PSI (172.5 bar)	INTERMITTENT 2500 PSI (172.5 bar)	INTERMITTENT 2500 PSI (172.5 bar)	INTERMITTENT 2000 PSI (138.0 bar)
OUTPUT TORQUE PER 1000 PSI* (69.0 bar)	35 in.-lbs. (40 kg-cm)	59 in.-lbs. (68 kg-cm)	72 in.-lbs. (83 kg-cm)	92 in.-lbs. (107 kg-cm)	111 in.-lbs. (128 kg-cm)
WEIGHT	2.8 pounds (1.25 kg)	3.0 pounds (1.36 kg)	3.1 pounds (1.41 kg)	3.3 pounds (1.50 kg)	3.5 pounds (1.59 kg)
SHAFT SIDE LOAD**	170 lbs. (77.0 kg)	130 lbs. (59.0 kg)	110 lbs. (50.0 kg)	70 lbs. (31.7 kg)	30 lbs. (13.5 kg)

* THEORETICAL

** SIDE LOAD: Maximum Permissible Shaft Side Load at 2500 RPM and 1000 PSI (69.0 bar) (B-10 Bearing Life of 1000 Hrs.)

OIL TEMPERATURE: Maximum recommended oil temperature 180° F (82.2° C)

OIL VISCOSITY: Recommended viscosity 150 SUS (3.65 engler). (32 centistokes) Minimum recommended viscosity 60 SUS (2.1 engler) (13 centistokes)

FILTRATION: Minimum recommended filtration 10 Micron.

END THRUST: 80 LBS. (36.3 kg.) maximum.

⚠ WARNING
 Never exceed the INTERMITTENT pressure rating or 5000 RPM

Mounting Dimensions

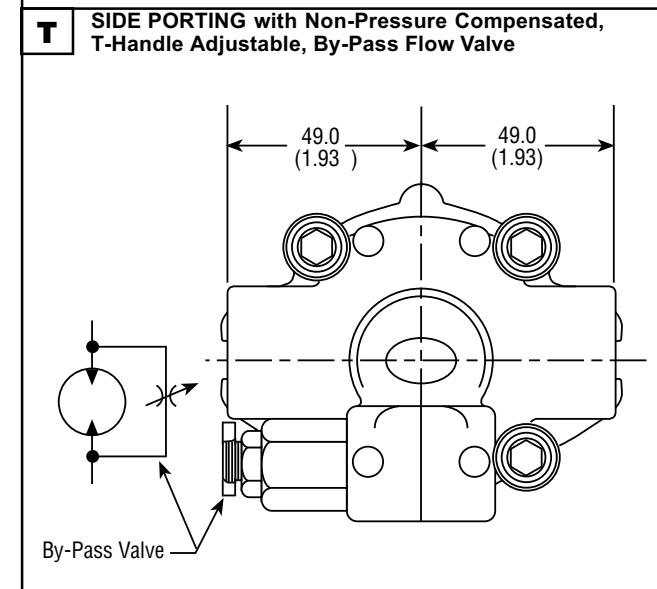
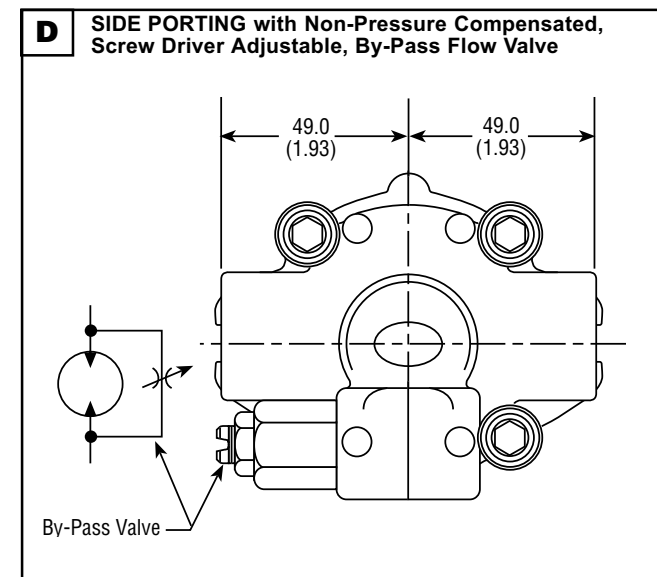
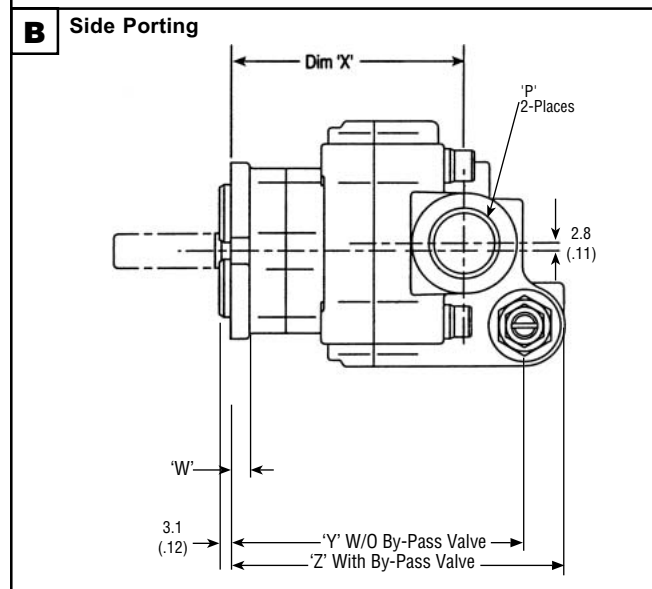
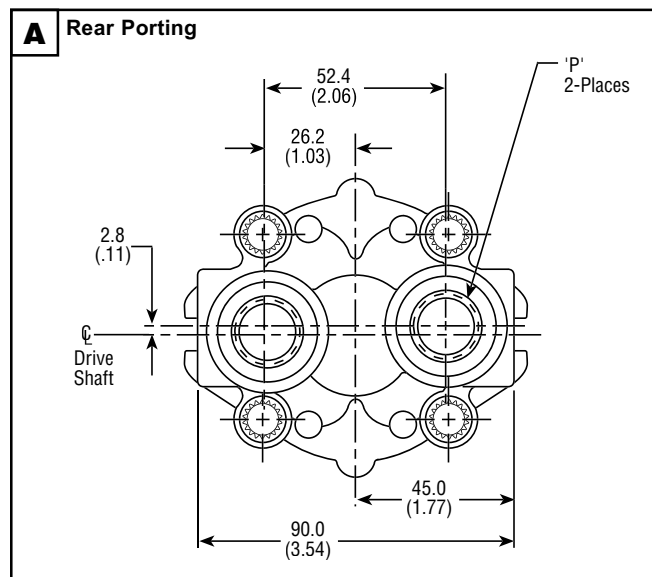
MODEL NO.	DIMENSIONS		
	'X'	'Y'	'Z'
MGG20010	72.6 (2.86)	91.9 (3.62)	105.7 (4.16)
MGG20016	76.7 (3.02)	96.0 (3.78)	109.7 (4.32)
MGG20020	78.7 (3.10)	98.3 (3.87)	112.0 (4.41)
MGG20025	82.5 (3.25)	101.6 (4.00)	115.3 (4.54)
MGG20030	85.8 (3.38)	105.1 (4.14)	118.9 (4.68)

Inch equivalents for millimeter dimensions are shown in (**).

FLANGE	'W'
2-BOLT 'A-A'	6.3 (.25)
4-BOLT	6.3 (.25)
2-BOLT 'A'	9.5 (.38)

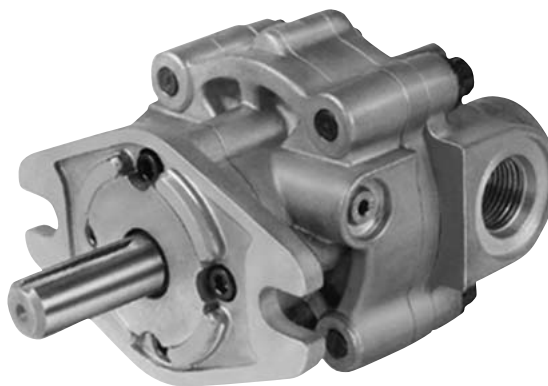
MODEL NO.	'P' STRAIGHT TH'D O-RING PORT PER SAE SPEC. 514d
MGG20010	SAE 8
MGG20016	SAE 8
MGG20020	SAE 8
MGG20025	SAE 10
MGG20030	SAE 10

Cover Plates Available



Specifications for PGG2 Series

Description Hydraulic Pumps
 Flow Range To 10 GPM (37.8 LTR)
 Displacements To .700 C.I.R. (11.47 CC's/REV)
 Maximum Pressure to 2000 PSI (138 BAR)
 Maximum Speed to 3500 RPM
 Rotation Bi-Directional
 Bearings Roller
 Construction All Aluminum



Performance Data

Pump Model	Displacement/Revolution (Theoretical)					Maximum Pressure		Maximum Speed
	US Gallons	Cubic Inches	Liters	Cubic Centimeters	Imperial Gallons	PSI	BAR	RPM
PGG20010	.0010	.218	.0039	3.572	.0008	2000	138	3500
PGG20016	.0016	.372	.0062	6.096	.0013	2000	138	3500
PGG20020	.0020	.450	.0078	7.374	.0016	2000	138	3500
PGG20025	.0025	.580	.0097	9.505	.0021	2000	138	3500
PGG20030	.0030	.700	.0116	11.471	.0025	1500	104	3000

⚠ CAUTION: "Inlet vacuum" should not exceed 5" Hg at normal operating speed and temperature. Operation of pumps in excess of 5" Hg requires factory approval. Back pressure is limited to 20 PSIG maximum.

PGG2 Displacement

MODEL NO.	PGG20010	PGG20016	PGG20020	PGG20025	PGG20030
DISPLACEMENT PER REVOLUTION	.218 in. ³ (3.57 cm ³)	.372 in. ³ (6.096 cm ³)	.450 in. ³ (7.374 cm ³)	.580 in. ³ (9.50 cm ³)	.700 in. ³ (11.471 cm ³)
MAXIMUM RATED RPM	3500	3500	3500	3500	3000
RATED FLOW PER 1000 RPM (NOMINAL)	.95 GPM (3.6 liters/min)	1.61 GPM (6.1 liters/min)	1.95 GPM (7.4 liters/min)	2.51 GPM (9.5 liters/min)	3.03 GPM (11.5 liters/min)
MAXIMUM RATED PRESSURE	CONTINUOUS 2000 PSI (138.0 bar)	CONTINUOUS 2000 PSI (138.0 bar)	CONTINUOUS 2000 PSI (138.0 bar)	CONTINUOUS 2000 PSI (138.0 bar)	CONTINUOUS 1500 PSI (103.5 bar)
	INTERMITTENT 2500 PSI (172.5 bar)	INTERMITTENT 2500 PSI (172.5 bar)	INTERMITTENT 2500 PSI (172.5 bar)	INTERMITTENT 2500 PSI (172.5 bar)	INTERMITTENT 2000 PSI (138.0 bar)
HORSEPOWER HP (KgM/sec)* REQUIRED PER 1000 PSI	.50 HP (38.0 KgM/sec)	.94 HP (71.4 KgM/sec)	1.14 HP (86.6 KgM/sec)	1.46 HP (111.0 KgM/sec)	1.77 HP (134.6 KgM/sec)
WEIGHT	2.8 pounds (1.25 kg)	3.0 pounds (1.36 kg)	3.1 pounds (1.41 kg)	3.3 pounds (1.50 kg)	3.5 pounds (1.59 kg)
SHAFT SIDE LOAD**	170 lbs. (77.0 kg)	130 lbs. (59.0 kg)	110 lbs. (50.0 kg)	70 lbs. (31.7 kg)	30 lbs. (13.5 kg)

* THEORETICAL

** **SIDE LOAD:** Maximum Permissible Shaft Side Load at 2500 RPM and 1000 PSI (69.0 bar) (B-10 Bearing Life of 1000 Hrs.)

OIL TEMPERATURE: Maximum recommended oil temperature 180° F (82.2° C)

OIL VISCOSITY: Recommended viscosity 150 SUS (3.65 engler). (32 centistokes) Minimum recommended viscosity 60 SUS (2.1 engler) (13 centistokes)

FILTRATION: Minimum recommended filtration 10 Micron.

END THRUST: 80 LBS. (36.3 kg.) maximum.

⚠ WARNING
 Never exceed the INTERMITTENT pressure rating or 3500 RPM

Mounting Dimensions

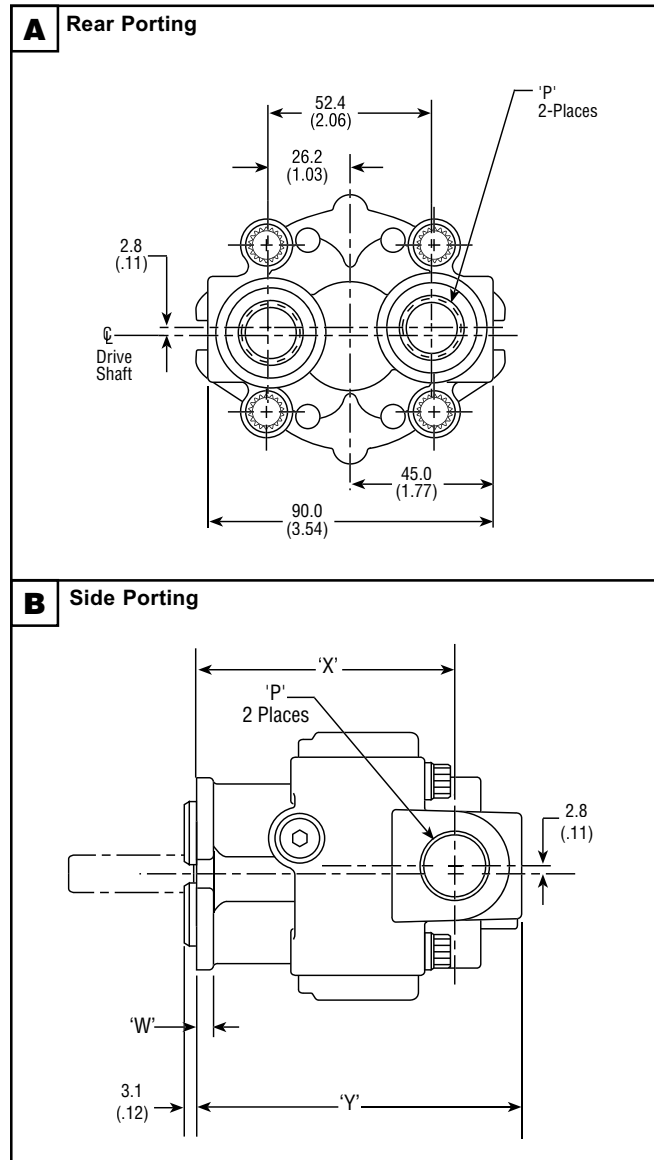
Inch equivalents for millimeter dimensions are shown in (**).

MODEL NO.	DIMENSIONS	
	'X'	'Y'
PGG20010	2.86 (72.6)	3.62 (91.9)
PGG20016	3.02 (76.7)	3.78 (96.0)
PGG20020	3.10 (78.7)	3.87 (98.3)
PGG20025	3.25 (82.5)	4.00 (101.6)
PGG20030	3.38 (85.8)	4.14 (105.1)

FLANGE	'W'
2-BOLT 'A-A'	.25 (6.3)
4-BOLT	.25 (6.3)
2-BOLT 'A'	.38 (9.5)

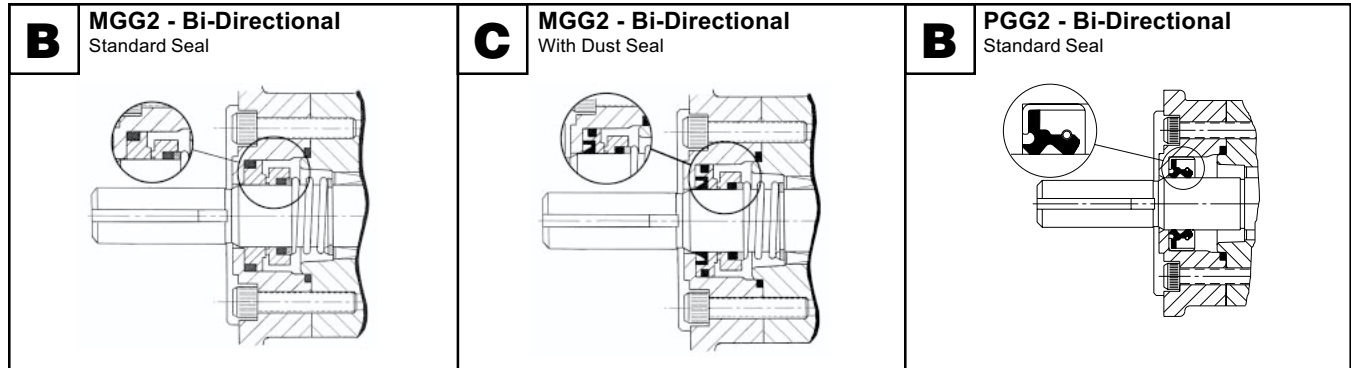
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Cover Plates Available

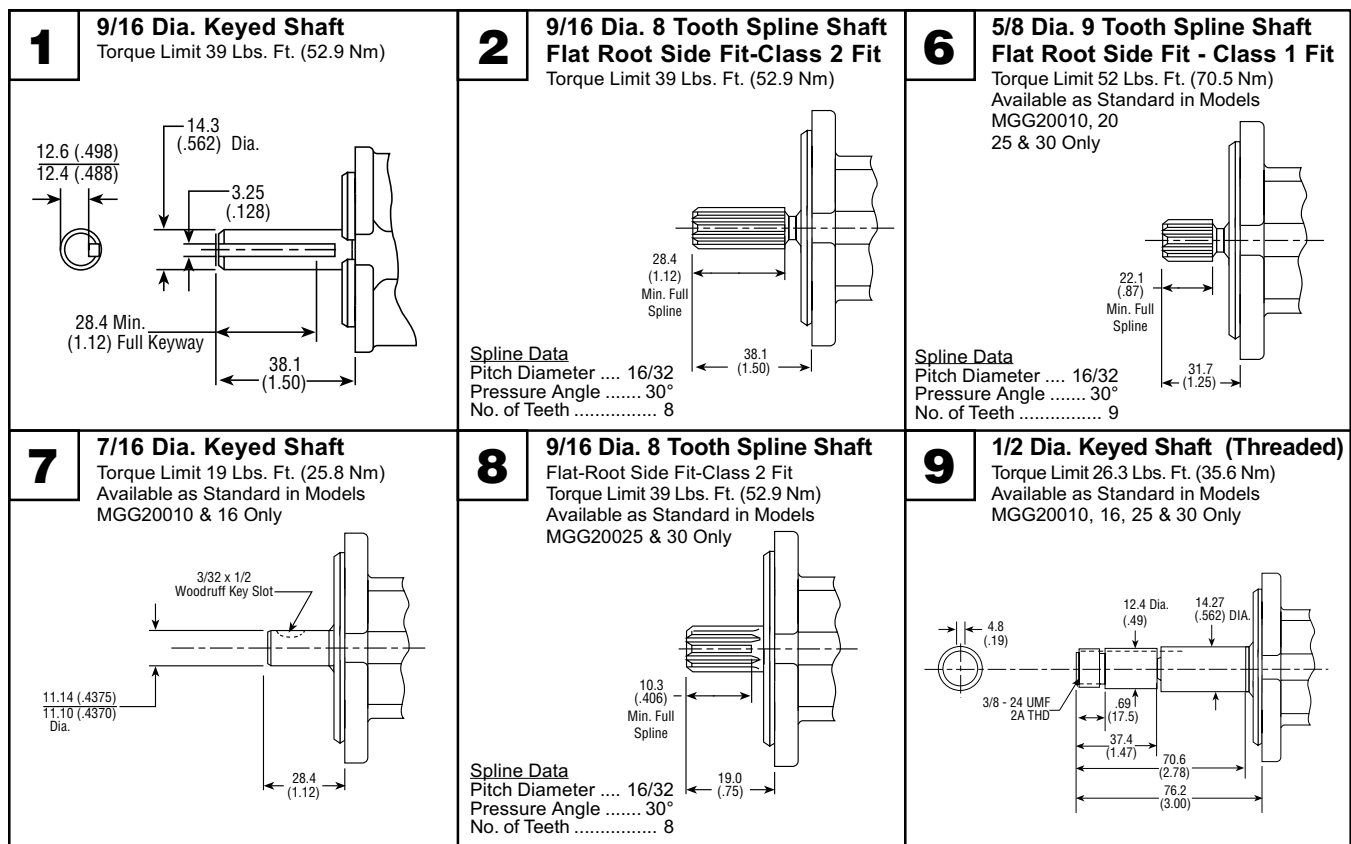


Designs Available

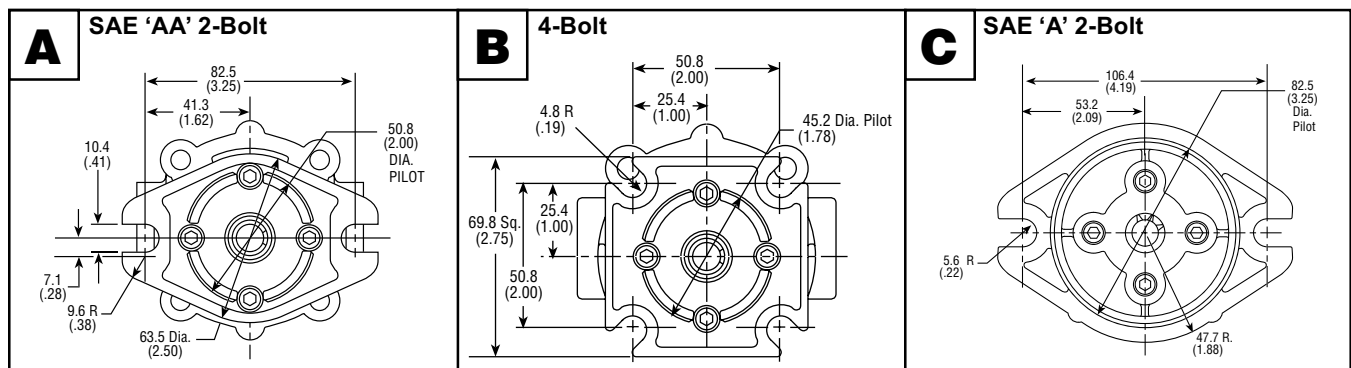
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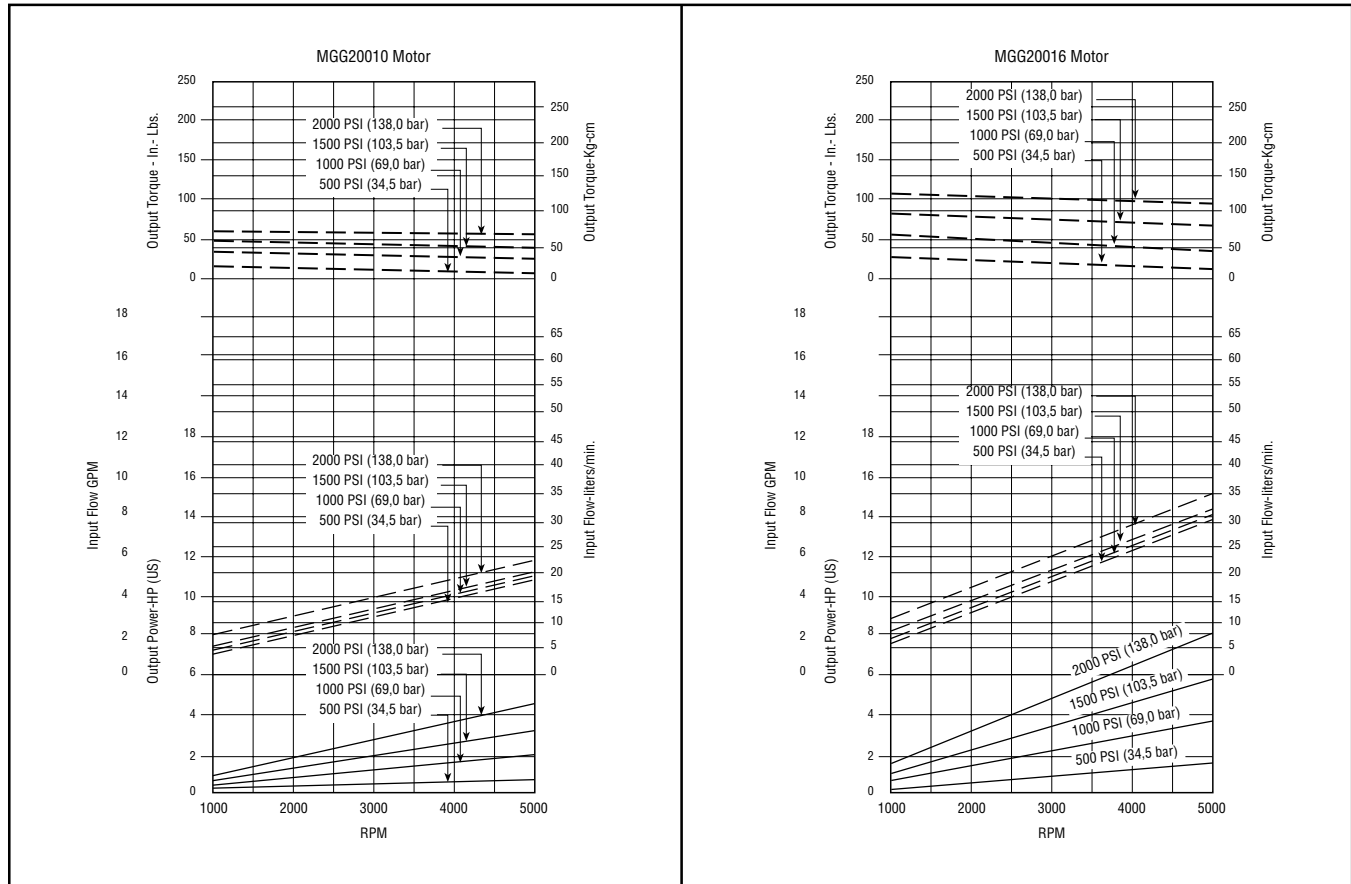


Shafts Available (Consult Factory for Shaft Models Not Listed.)



Mounting Flanges Available



MGG2 Torque and Speed Selection Charts**Motor Selection**

MGG2 Hydraulic Motors are available in five basic models—each with its own input/output characteristics. To properly select a motor, two things must first be determined—the output torque (inch-pound) that the motor is to produce, and the speed requirement (RPM).

Example: It is required that a motor will deliver an output torque of 150 inch-pounds at a speed of 2500 RPM.

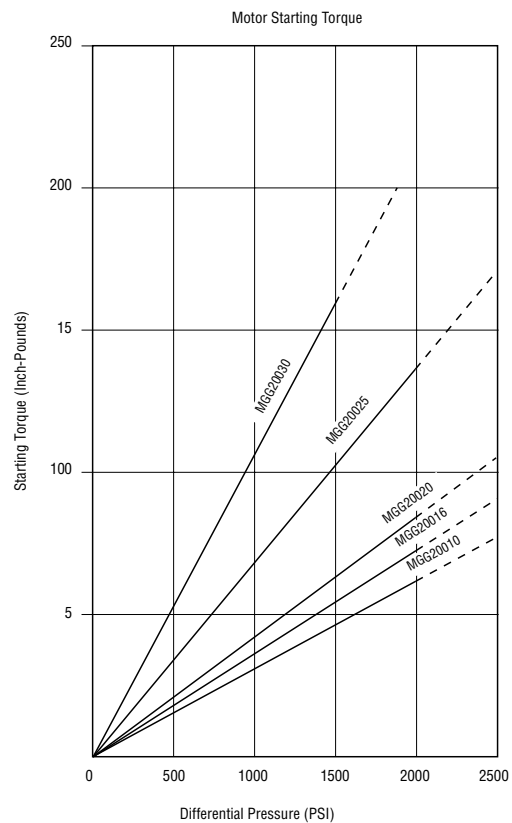
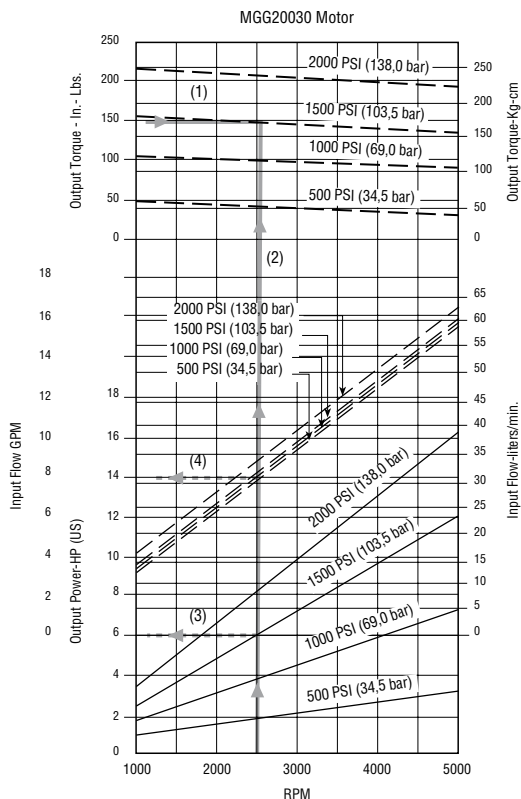
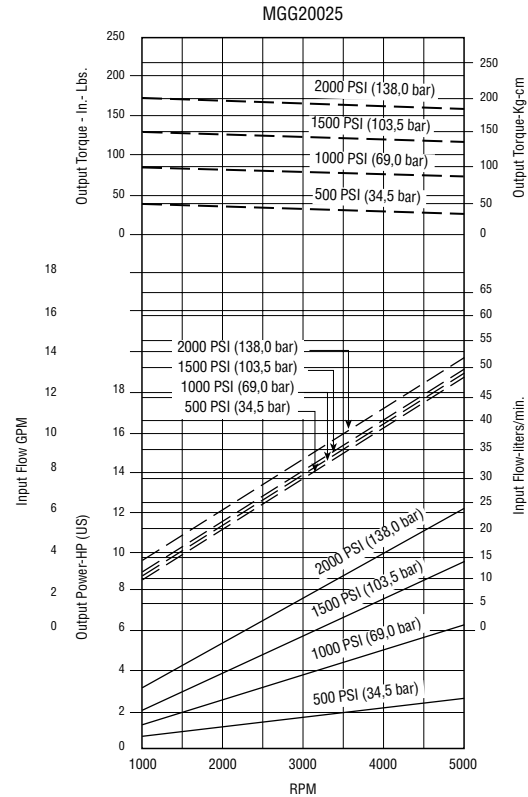
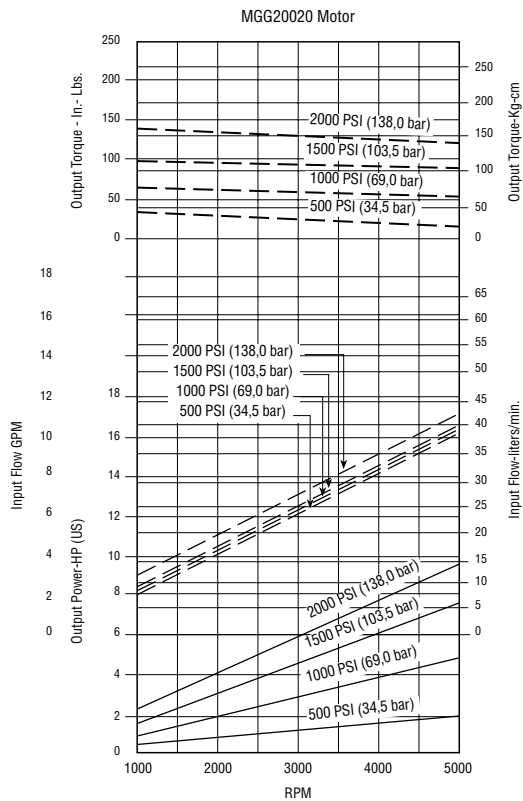
To select the motor (refer to MGG20030 chart):

1. Draw a horizontal line (1) at 150 inch-pounds output torque. The MGG20025 and MGG20030 will both develop the required torque.
2. Draw a vertical line (2) up from 2500 RPM. The point of intersection of the 2 lines indicates the working pressure required at the motor to develop 150 inch-pounds at 2500 RPM.

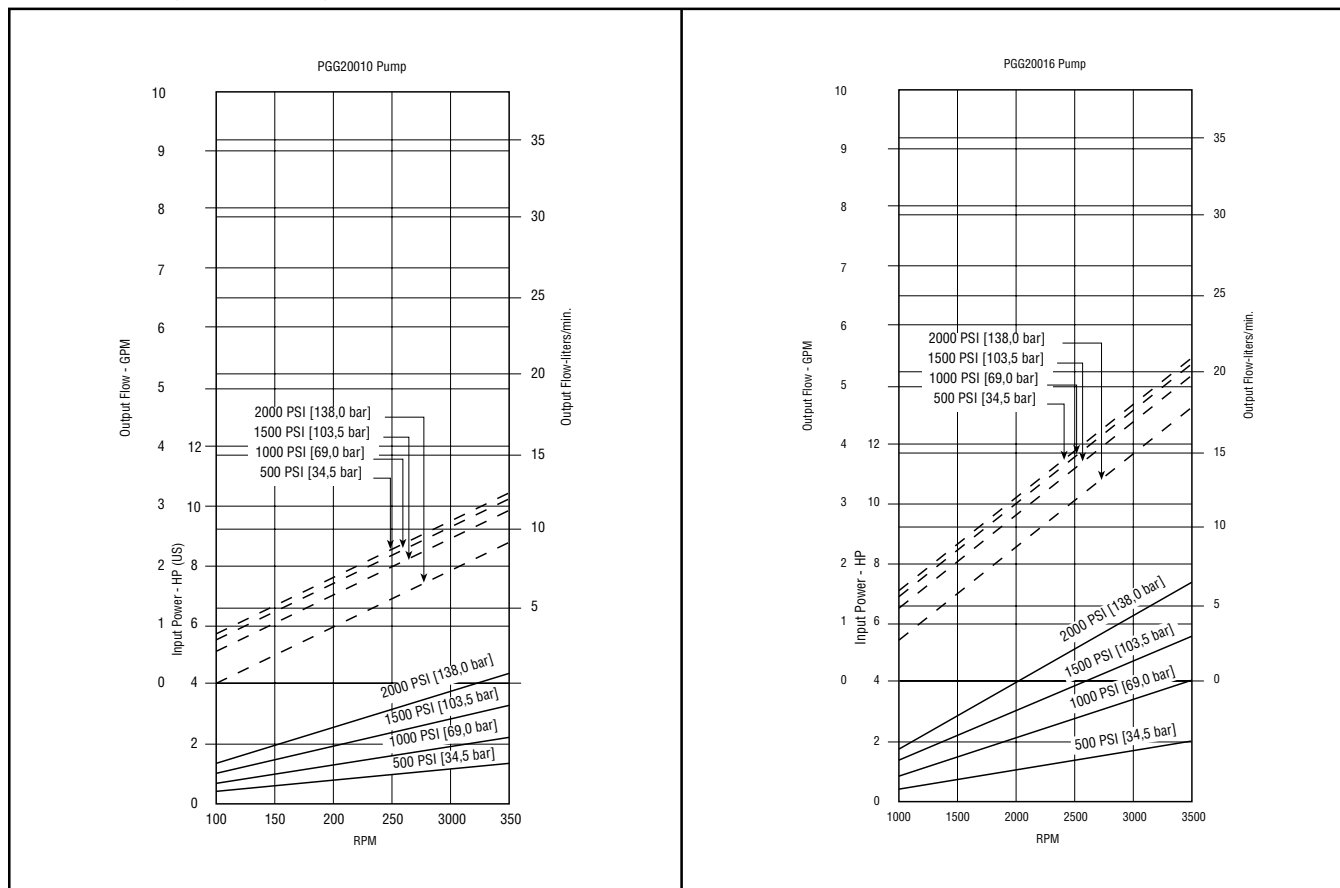
3. The output horsepower is determined by drawing a horizontal line (3) from the intersection of 2500 RPM and the working pressure required at the bottom of the charts.
4. The input flow to the motor is determined by drawing a horizontal line (4) from the intersection of 2500 RPM and working pressure required in the middle of the chart.

In this example, either the MGG20025 or the MGG20030 can be used. The MGG20025 will develop 150-inch pounds of output torque at 2500 RPM with a pump output (motor input) of 7 GPM at 1800 PSI. The output horsepower is 6.

The MGG20030 will develop 150 inch-pounds of output torque at 2500 RPM with a pump output (motor input) of 8 GPM at 1500 PSI. The output horsepower is 6.

MGG2 Torque and Speed Selection Charts

PGG2 Flow, Pressure, Horsepower & RPM Selection Charts



Pump Selection

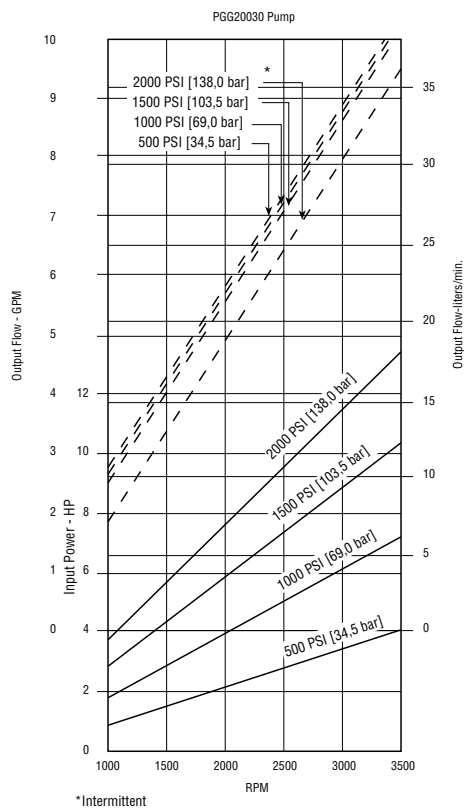
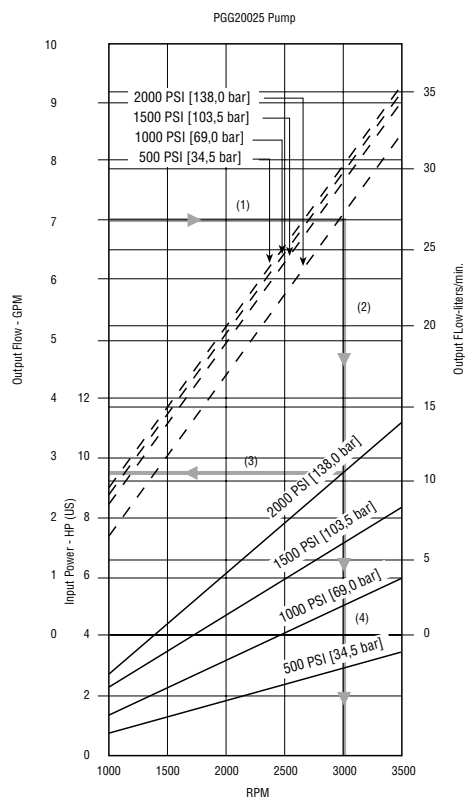
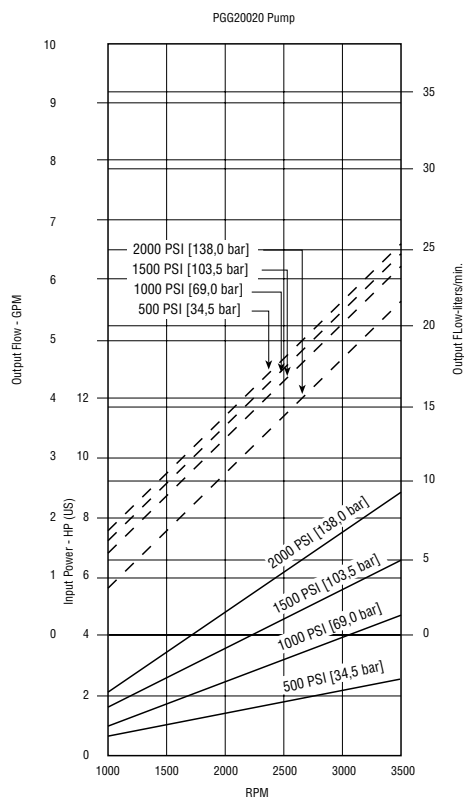
Hydraulic pumps are available in five basic models—each with its own input/output characteristics. To properly select a pump, four things must first be determined:

1. The desired output flow rate.
2. The maximum continuous pressure in the hydraulic system.
3. The input horsepower required to drive the pump.
4. The RPM at which the pump is to operate.

Example: It is required that a pump deliver 7GPM at 2000 PSI, maximum continuous pressure.

1. From the PGG2 Hydraulic Pump Performance Characteristics Charts, it is shown that only the model PGG20025 delivers 7GPM at a continuous pressure of 2000 PSI. NOTE: PGG20030 is limited to 1500 PSI continuous.
2. Draw line (1) from 7 GPM output flow to where it intersects the line representing 2000 PSI.
3. At the point of intersection, extend line (2) vertically down where it intersects 2000 PSI.
4. By drawing line (3) horizontally across from point of intersection, it is shown that input power requirement is approximately 9.75 HP.
5. By continuing line (4) vertically down, it is shown that input RPM must be 3000.

PGG2 Flow, Pressure, Horsepower & RPM Selection Charts



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Parker Hannifin Corporation

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