

Ranger Pumps

**WE DO IT
BETTER!**

**We specialize in manufacturing
precision pumps for
industrial applications**

Made in the USA

Ranger, Inc. manufactures a precision built helical gear pump for industrial applications. The capacity range is available from 25 GPM to 360 GPM and pressures to 125 PSI. Both low viscosity and high viscosity liquids can be efficiently pumped. Viscosities of upwards to 1,000,000 SSU can be handled. Built-in gear reducers with several gear ratio's are available as a standard option.

Quality

Ranger's quality assurance program continuously promotes top quality products.

Value

Ranger offers quality, service, and value as a winning combination.

Quick Shipments

Ranger's Quick Ship Program is standard — no additional costs.

RANGER, INC.

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Ranger Close-Coupled Gear Reduction Option (GB)

This series of Ranger pumps is designed to operate at reduced motor speeds.

This allows the pump to operate equally well for both high and low viscosity liquids. Low pump speeds also increase pump life. Ranger gear boxes are self contained with oil lubricated antifriction bearings and hardened steel gears standard for maximum sever duty. One gear box has three interchangeable ratios that fit the 11, 17, and 22 Series pumps.

The charts on this page are intended as a guide only. All the application factors must be considered to select the correct pump and reduction speed. Other factors include temperature, liquid characteristics and inlet conditions.

Ranger gear boxes are not intended for the Series 48. Speeds shown for the 48 Series are for reference with independent gear reductions. Contact Ranger for information.

Typical Liquids/Viscosity List

(APPROXIMATE VISCOSITY RANGE SHOWN IN SSU @ 75°F/24°C)

30 to 100	100 to 250	250 to 800	800 to 2,500
• Alcohols	• SAE #5 Oil	• SAE #10 Oil	• SAE #20-30 Oil
• Gasoline	• Corn Oil	• Soybean Oil	• Paint Primer
• Turpentine	• Olive Oil	• Light Crude	• Spar Varnish
2,500 to 8,000	8,000 to 25,000	25,000 to 75,000	75,000 to 300,000
• SAE 40# Oil	• SAE #50 Oil	• Asphalt	• Tar
• Heavy Turbine Oil	• Ink	• Shampoo	• Molasses
• Enamel Paint	• Heavy Crude	• Gear Lube	• Chocolate

GEAR RATIOS FOR GB UNITS

	MOTOR RPM	GEAR RATIO	PUMP RPM	MAXIMUM PERMISSIBLE HP
11 through 22	1150	4.60:1	250	5.5
		3.94:1	290	6.5
		3.20:1	360	8.0
	1750	4.60:1	380	8.5
		3.94:1	445	10.0
		3.20:1	545	10.0
	3450	4.60:1	750	10.0

Note: Do not exceed maximum allowable HP shown
 Series 1711 gallons per revolution
 Series 1117 gallons per revolution
 Series 2222 gallons per revolution
 Series 4852 gallons per revolution

SERIES	RPM	250 RPM	290 RPM	360 RPM	380 RPM	445 RPM	545 RPM	750 RPM
Pump	PSI	SSU	30 100 1000 10,000	30 100 1000 10,000	30 100 1000 10,000	30 100 1000 10,000	30 100 1000 10,000	30 100 1000 10,000
11	25	GPM	25 26 27 29	30 31 31	37 38 39 39	40 41 42 42	47 48 49	58 59 60
		HP	7 7 9 1.3	9 9 1.2 1.5	1.1 1.1 1.4 2.2	1.1 1.1 1.5 2.3	1.4 1.4 2.0	1.9 1.9 2.7
	50	GPM	23 25 27 27	27 29 31	31 35 37 39	39 40 42 42	45 47 48	56 58 60
		HP	1.1 1.1 1.3 1.7	1.3 1.3 1.5 1.9	1.7 1.7 2.0 2.8	1.7 1.7 2.1 2.9	2.1 2.1 2.6	2.7 2.7 3.5
11	100	GPM	23 26 27	27 30 31	35 38 39	33 38 41	42 40 45 48	51 56 59
		HP	1.9 2.1 2.5	2.2 2.4 3.0	2.8 3.1 3.9	2.9 2.9 3.3	4.1 3.5 3.5 4.0	4.4 4.4 5.2
	125	GPM	22 26 27	26 30 31	34 38 39	37 41 42	44 48	48 55 59
		HP	2.2 2.4 2.8	2.7 2.9 3.5	3.3 3.6 4.4	3.5 3.9 4.7	4.2 4.7	5.4 5.4 6.2
17	25	GPM	38 40 41	42 45 47	48 49	57 59 60	61 60	62 63 64
		HP	6 6 1.1 1.8	1.0 1.0 1.3 2.2	1.2 1.2 1.4 1.8	3.0 3.1	3.2 3.3 3.4	3.7 3.7 4.4
	50	GPM	35 38 41	42 40 45	48 49	52 57 60	61 55	60 63 64
		HP	1.4 1.4 1.7 2.4	1.6 1.6 1.9 2.8	2.1 2.1 2.7 3.9	2.3 2.3 2.9	4.3 2.9 2.9 3.7	3.8 3.8 4.9
17	100	GPM	34 40 41	41 47 48	49	53 59 60	62 56	62 63 67
		HP	2.6 2.9 3.6	3.0 3.2 3.8 4.4	5.6 4.2 4.2 4.8	6.2 5.0 5.0 5.8	6.3 6.3 7.6	8.0 8.0 9.0
	125	GPM	39 41	46 48	49 51 58	60 52	54 61	63 65 72
		HP	3.4 4.1	4.0 4.9	4.8 4.6 5.2 6.4	5.0 5.0 5.6 7.0	6.0 6.0 6.8	7.5 7.5 8.8
22	25	GPM	52 53 55	55 60	61 63	63 76 77	79 81	83 83
		HP	1.1 1.1 1.4 1.9	1.3 1.3 1.7	2.5 2.0 2.0 2.6	3.9 2.2 2.2 3.0	4.3 2.7 2.7 3.5	3.2 3.2 4.4
	50	GPM	50 52 54	55 58	60 62	63 74 76	79 78	80 82
		HP	2.0 2.0 2.3 2.8	2.3 2.3 2.6 3.4	3.1 3.1 3.7	5.0 3.3 3.3 4.1	5.4 4.1 4.1 4.9	4.8 4.8 5.0
22	100	GPM	44 50 53	55 58	61 63	68 74 77	79 72	78 81
		HP	3.5 3.5 3.8 4.3	4.2 4.2 4.5 5.3	5.4 5.4 6.0	7.3 5.7 5.7 6.5	7.8 6.6 6.8 7.6	8.2 8.2 9.4
	125	GPM	49 53 55	50 57	61 63	66 73 77	79 70	77 81
		HP	4.2 4.5 5.0	5.2 5.2 5.5	6.3 6.5 6.5	7.1 8.4 6.9	6.9 8.3 8.1	10.2 10.2 11.4
48	25	GPM	118 122 127	129 140	142 146	150 164 167	171 175	189 192
		HP	3.8 4.0 4.2 4.8	4.3 4.3 5.5 6.3	5.0 5.5 6.0 7.0	6.1 6.8 8.0 10.0	8.3 9.0 10.9 13.8	10.7 11.7 14.6 19.2
	50	GPM	98 102 112	123 130	133 148	150 163 164	172 180	189 194
		HP	5.1 5.9 6.6 7.2	6.8 6.8 8.3 9.7	7.3 7.8 9.5 10.9	9.6 10.2 11.5 13.5	12.6 14.6 17.5 15.5	16.1 18.1 22.5 28.8
48	100	GPM	102 114	122 134	148 159	165 175	195	210 222
		HP	8.9 10.8	12.5 13.5	14.8 16.0	17.5 19.5	20.2 22.1 25.0	24.0 27.7 28.9
	125	GPM	108 110	130 134	155 166	182 188	205 243	267 285
		HP	12.2 12.2	17.0 17.0	18.6 18.6	20.1 22.1	25.5 28.5	32.4 36.0

VERSATILITY • THICK-N-THIN • BLENDING • MIXING • TRANSFER SOLVENTS • MOLASSES • GASOLINE • RESINS • OIL • ASPHALT • CHEMICALS

Maximum Pump Ratings

125 PSI (862 KPA) maximum inlet and discharge pressure
750 RPM maximum. (See speed vs. viscosity curve for maximum RPM).
350°F (177°C) maximum temperature for standard packing.
212°F (100°C) maximum temperature for BUNA-N mechanical seal
400°F (204°C) maximum temperature for Viton mechanical seal

Consult Ranger for any application over 350°F (177°C)

Standard Fitted Materials of Construction

Housing & Backplates *ASTM A48*
Class 30 Cast Iron
Iron Alloy
Carbon Steel
Bronze

Gears
Shafts
Bearing Bushings

R.V. Parts
Gaskets
Hardware

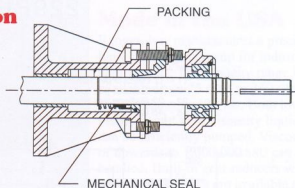
Carbon Steel
Fiber
Zinc Plated Steel

Options

440 Stainless Steel
Carbon
Iron
TFE/Graphite
Stainless Steel
Aluminum

Stuffing Box

Ranger Pumps can be supplied as standard with stuffing box packing or single mechanical seals. They can be easily converted from one arrangement to the other. Several types of both packing and seals are available for various applications; for example – high temperatures or corrosive conditions. Contact Ranger for application assistance.



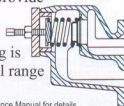
Construction Advantages

- Positive shaft and gear support with four internal bearings
- Dowel pins insure positive pump alignment
- Hardened gears and shafts for long service life
- Integral speed reducer available as option
- Field adjustable relief available
- Fabrication options include Base, Coupling, and Drives

Field Adjustable Relief Valve

A relief valve is needed for the pump system to protect the pump from over-pressure. The valve can be positioned to provide protection for the discharge.*

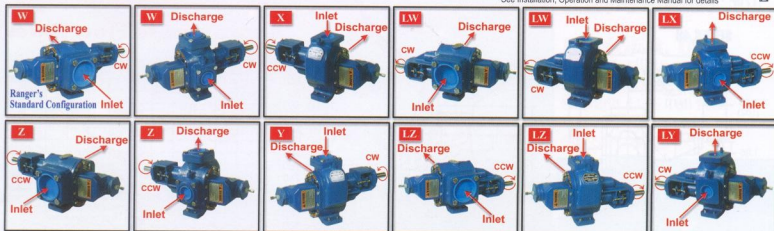
A high pressure spring is available to give a full range of relief settings.



WARNING

Read Installation, Operation, and Maintenance Manual before installing, performing maintenance, or operating a Ranger Pump.

Optional Direction of Rotation



*See Installation, Operation and Maintenance Manual for details

Identifying Direction of Rotation Mounting

Hi-Drive Pumps

Y: Clockwise Rotation

Z: Counterclockwise Rotation

W: Clockwise Rotation

X: Counterclockwise Rotation

Lo-Drive Pumps

LY: Clockwise Rotation

LZ: Counterclockwise Rotation

LW: Clockwise Rotation

LX: Counterclockwise Rotation

Rotation is determined by facing the end of driveshaft



Piping Direction

Piping direction is determined when facing the drive shaft. These diagrams will serve as a helpful basis for you to determine the direction of rotation wanted according to your piping system.

Ranger Pumps

Pump Identification

9 - Ports 90°
8 - Ports 180°

HB - Outboard bearing
HH - Pump with hydraulic adaptor and rigid coupling
BH - Replacement pump for HH Pump without adaptor
GO - Replacement pump for GHB unit without gear reduction
GB - Pump with gear reduction

RV - Relief valve
No letter - No relief valve

C - Carbon graphite bushing
X - or no letter bronze bushing
T - TFE & graphite bushing
I - Iron Bushing
H - Hi Temperature bronze bushing

G - TFE & graphite packing
X - or no letter - standard packing
T - Pure TFE packing
D - DSA 8093 packing
C - Carbon/Graphite packing

SS - Stainless steel shafts
No letter or XX - Steel shafts

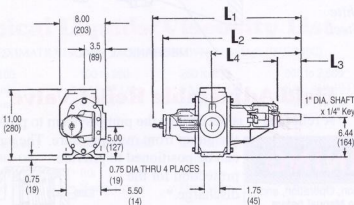
Rotation & Shaft position (See Installation Manual pg. 4)
No letter - W position (See Installation Manual pg. 4)

F - Flange
No letter - Pipe port

P - Packing
M - Mechanical Seal

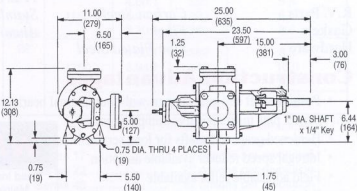
229PHBFRVLX-SSCG

11 - .11 Gallons per rev.
17 - .17 Gallons per rev.
22 - .22 Gallons per rev.
48 - .48 Gallons per rev.



SERIES	HBRV	L1	L2	L3	L4
119P - 119M	22.88 (581)	21.25 (540)	3.75 (95)	13.50 (343)	
179P - 179M	23.63 (600)	22.00 (559)	3.13 (80)	14.25 (362)	

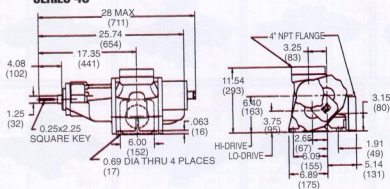
XXXX = DIM. IN INCHES
(XXX) = DIM. IN MM.



SERIES 229P - 228M HBRV

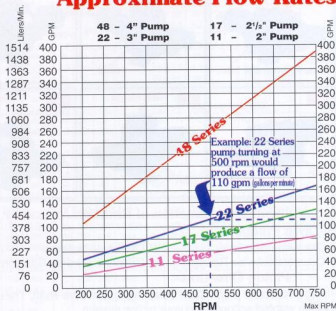
XXXX = DIM. IN INCHES
(XXX) = DIM. IN MM.

SERIES 48



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Approximate Flow Rates



Based on 50 P.S.I., 100 SSU