

BRONZE PEDESTAL ROTARY GEAR PUMPS

GEAR PUMPS SERIES N7000



FEATURES

- Bronze Corrosion Resistant Castings
- Special Cast Bronze Gears
- Stainless Steel Shafts & Fasteners
- Formed Ring Seal Packing (Lip & Mechanical Seals on Special Order)
- Heavy Duty Carbon Bearings (Self Lubricating)
- Positive Displacement Flow

DRIVE

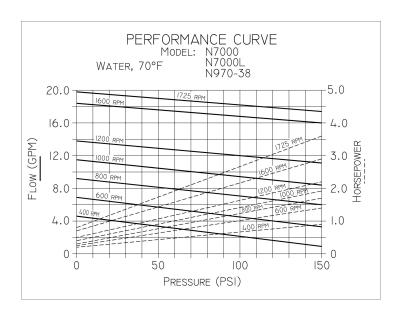
Either direct drive with flexible coupling or pulley drive can be used. Make sure both flexible coupling halves are properly aligned. When using a pulley, do not over tighten the belt. Also, to absorb belt side thrust at higher pressures and larger size pumps, an external ball bearing support is recommended -- consult factory.

LIQUIDS AND TEMPERATURE

Service life will be increased substantially if the liquid pumped is clean and has some degree of lubricity. These positive displacement pumps have tight tolerances. Fine abrasives like sand, silt, or powders in suspension will accelerate pump wear and reduce throughput. Liquids compatible with bronze and stainless steel can be pumped providing proper seal has been specified (see chemical compatibility or check factory). When possible, flush the pump after each usage. Temperature extremes are detrimental to service life and should be avoided. Basic metals of construction allow a temperature range of -40 to 400oF. Some lip and mechanical seal elastomers have a limit of 212oF. (see engineering data or check factory). Allowing a liquid to freeze in the pump can cause damage.

*For pressures over 100 psi, the above selections are suitable for pumping fluids with lubricity (e.q. oils, polymers). Service life will decrease for fluids without lubricity (e.q. water, solvents).

PERFORMANCE



CAPACITY - WATER 70° F												
FT.HD.	0	46	92	138	184	231	290	346				
P.S.I.	0	20	40	60	80	100	125*	150*				
GPM	4.00	3.45	2.90	2.35	1.50	1.30	1.20	1.00				
HP	0.20	0.23	0.30	0.39	0.55	0.65	0.70	0.90				
MOTOR	1/4	1/4	1/3	1/2	1/2	3/4	3/4	1				
GPM	6.30	5.78	5.26	4.74	4.22	3.95	3.50	3.10				
HP	0.25	0.30	0.40	0.65	0.75	0.95	1.15	1.40				
MOTOR	1/4	1/3	1/2	3/4	3/4	1	1 1/2	1 1/2				
GPM	8.58	8.18	7.78	7.38	6.98	6.57	6.40	6.20				
HP	0.30	0.40	0.58	0.85	0.93	1.15	1.40	1.70				
MOTOR	1/3	1/2	3/4	1	1	1 1/2	1 1/2	2				
GPM	10.90	10.51	10.12	9.72	9.33	8.93	8.00	7.90				
HP	0.40	0.60	0.70	0.90	1.10	1.38	1.60	1.92				
MOTOR	1/2	3/4	3/4	1	1	1 1/2	2	2				
GPM	13.33	12.94	12.55	12.16	11.76	11.37	11.20	11.10				
HP	0.50	0.70	0.85	1.08	1.35	1.65	1.90	2.20				
MOTOR	1/2	3/4	1	1	1 1/2	2	2	3				
GPM	18.17	17.79	17.41	17.03	16.65	16.28	16.10	16.00				
HP	0.70	0.91	1.20	1.50	1.80	2.14	2.50	2.90				
MOTOR	3/4	1	1 1/2	1 1/2	2	2	3	3				
GPM	19.85	19.48	19.11	18.74	18.37	18.00	17.70	17.40				
HP	0.80	1.10	1.42	1.85	2.18	2.65	3.00	3.60				
MOTOR 1		1	1 1/2	2	2 1/2	3	3	3				
MOTOR	'	'	1 1/2		2 1/2	3	3	3				
	FT.HD. P.S.I. GPM HP MOTOR GPM HP	FT.HD. 0 P.S.I. 0 GPM 4.00 HP 0.20 MOTOR 1/4 GPM 6.30 HP 0.25 MOTOR 1/4 GPM 8.58 HP 0.30 MOTOR 1/3 GPM 10.90 HP 0.40 MOTOR 1/2 GPM 13.33 HP 0.50 MOTOR 1/2 GPM 18.17 HP 0.70 MOTOR 3/4 GPM 19.85 HP 0.80	FT.HD. 0 46 P.S.I. 0 20 GPM 4.00 3.45 HP 0.20 0.23 MOTOR 1/4 1/4 GPM 6.30 5.78 HP 0.25 0.30 MOTOR 1/4 1/3 GPM 8.58 8.18 HP 0.30 0.40 MOTOR 1/3 1/2 GPM 10.90 10.51 HP 0.40 0.60 MOTOR 1/2 3/4 GPM 13.33 12.94 HP 0.50 0.70 MOTOR 1/2 3/4 GPM 18.17 17.79 HP 0.70 0.91 MOTOR 3/4 1 GPM 19.85 19.48 HP 0.80 1.10	FT.HD. 0 46 92 P.S.I. 0 20 40 GPM 4.00 3.45 2.90 HP 0.20 0.23 0.30 MOTOR 1/4 1/4 1/3 GPM 6.30 5.78 5.26 HP 0.25 0.30 0.40 MOTOR 1/4 1/3 1/2 GPM 8.58 8.18 7.78 HP 0.30 0.40 0.58 MOTOR 1/3 1/2 3/4 GPM 10.90 10.51 10.12 HP 0.40 0.60 0.70 MOTOR 1/2 3/4 3/4 GPM 13.33 12.94 12.55 HP 0.50 0.70 0.85 MOTOR 1/2 3/4 1 GPM 18.17 17.79 17.41 HP 0.70 0.91 1.20 MOTOR <t< td=""><td>FT.HD. 0 46 92 138 P.S.I. 0 20 40 60 GPM 4.00 3.45 2.90 2.35 HP 0.20 0.23 0.30 0.39 MOTOR 1/4 1/4 1/3 1/2 GPM 6.30 5.78 5.26 4.74 HP 0.25 0.30 0.40 0.65 MOTOR 1/4 1/3 1/2 3/4 GPM 8.58 8.18 7.78 7.38 HP 0.30 0.40 0.58 0.85 MOTOR 1/3 1/2 3/4 1 GPM 10.90 10.51 10.12 9.72 HP 0.40 0.60 0.70 0.90 MOTOR 1/2 3/4 3/4 1 GPM 13.33 12.94 12.55 12.16 HP 0.50 0.70 0.85 1.08</td><td>FT.HD. 0 46 92 138 184 P.S.I. 0 20 40 60 80 GPM 4.00 3.45 2.90 2.35 1.50 HP 0.20 0.23 0.30 0.39 0.55 MOTOR 1/4 1/4 1/3 1/2 1/2 GPM 6.30 5.78 5.26 4.74 4.22 HP 0.25 0.30 0.40 0.65 0.75 MOTOR 1/4 1/3 1/2 3/4 3/4 GPM 8.58 8.18 7.78 7.38 6.98 HP 0.30 0.40 0.58 0.85 0.93 MOTOR 1/3 1/2 3/4 1 1 GPM 10.90 10.51 10.12 9.72 9.33 HP 0.40 0.60 0.70 0.90 1.10 MOTOR 1/2 3/4 3/4 1</td><td>FT.HD. 0 46 92 138 184 231 P.S.I. 0 20 40 60 80 100 GPM 4.00 3.45 2.90 2.35 1.50 1.30 HP 0.20 0.23 0.30 0.39 0.55 0.65 MOTOR 1/4 1/4 1/3 1/2 1/2 3/4 GPM 6.30 5.78 5.26 4.74 4.22 3.95 HP 0.25 0.30 0.40 0.65 0.75 0.95 MOTOR 1/4 1/3 1/2 3/4 3/4 1 1 GPM 8.58 8.18 7.78 7.38 6.98 6.57 HP 0.30 0.40 0.58 0.85 0.93 1.15 MOTOR 1/3 1/2 3/4 1 1 1/2 GPM 10.90 10.51 10.12 9.72 9.33 8.93 <</td><td>FT.HD. 0 46 92 138 184 231 290 P.S.I. 0 20 40 60 80 100 125* GPM 4.00 3.45 2.90 2.35 1.50 1.30 1.20 HP 0.20 0.23 0.30 0.39 0.55 0.65 0.70 MOTOR 1/4 1/4 1/3 1/2 1/2 3/4 3/4 GPM 6.30 5.78 5.26 4.74 4.22 3.95 3.50 HP 0.25 0.30 0.40 0.65 0.75 0.95 1.15 MOTOR 1/4 1/3 1/2 3/4 3/4 1 1 1/2 GPM 8.58 8.18 7.78 7.38 6.98 6.57 6.40 HP 0.30 0.40 0.58 0.85 0.93 1.15 1.40 MOTOR 1/3 1/2 3/4 1 1</td></t<>	FT.HD. 0 46 92 138 P.S.I. 0 20 40 60 GPM 4.00 3.45 2.90 2.35 HP 0.20 0.23 0.30 0.39 MOTOR 1/4 1/4 1/3 1/2 GPM 6.30 5.78 5.26 4.74 HP 0.25 0.30 0.40 0.65 MOTOR 1/4 1/3 1/2 3/4 GPM 8.58 8.18 7.78 7.38 HP 0.30 0.40 0.58 0.85 MOTOR 1/3 1/2 3/4 1 GPM 10.90 10.51 10.12 9.72 HP 0.40 0.60 0.70 0.90 MOTOR 1/2 3/4 3/4 1 GPM 13.33 12.94 12.55 12.16 HP 0.50 0.70 0.85 1.08	FT.HD. 0 46 92 138 184 P.S.I. 0 20 40 60 80 GPM 4.00 3.45 2.90 2.35 1.50 HP 0.20 0.23 0.30 0.39 0.55 MOTOR 1/4 1/4 1/3 1/2 1/2 GPM 6.30 5.78 5.26 4.74 4.22 HP 0.25 0.30 0.40 0.65 0.75 MOTOR 1/4 1/3 1/2 3/4 3/4 GPM 8.58 8.18 7.78 7.38 6.98 HP 0.30 0.40 0.58 0.85 0.93 MOTOR 1/3 1/2 3/4 1 1 GPM 10.90 10.51 10.12 9.72 9.33 HP 0.40 0.60 0.70 0.90 1.10 MOTOR 1/2 3/4 3/4 1	FT.HD. 0 46 92 138 184 231 P.S.I. 0 20 40 60 80 100 GPM 4.00 3.45 2.90 2.35 1.50 1.30 HP 0.20 0.23 0.30 0.39 0.55 0.65 MOTOR 1/4 1/4 1/3 1/2 1/2 3/4 GPM 6.30 5.78 5.26 4.74 4.22 3.95 HP 0.25 0.30 0.40 0.65 0.75 0.95 MOTOR 1/4 1/3 1/2 3/4 3/4 1 1 GPM 8.58 8.18 7.78 7.38 6.98 6.57 HP 0.30 0.40 0.58 0.85 0.93 1.15 MOTOR 1/3 1/2 3/4 1 1 1/2 GPM 10.90 10.51 10.12 9.72 9.33 8.93 <	FT.HD. 0 46 92 138 184 231 290 P.S.I. 0 20 40 60 80 100 125* GPM 4.00 3.45 2.90 2.35 1.50 1.30 1.20 HP 0.20 0.23 0.30 0.39 0.55 0.65 0.70 MOTOR 1/4 1/4 1/3 1/2 1/2 3/4 3/4 GPM 6.30 5.78 5.26 4.74 4.22 3.95 3.50 HP 0.25 0.30 0.40 0.65 0.75 0.95 1.15 MOTOR 1/4 1/3 1/2 3/4 3/4 1 1 1/2 GPM 8.58 8.18 7.78 7.38 6.98 6.57 6.40 HP 0.30 0.40 0.58 0.85 0.93 1.15 1.40 MOTOR 1/3 1/2 3/4 1 1				

H.P. = Actual Horsepower
G.P.M. = Gallons per Minute
R.P.M. = Revolutions per Min.

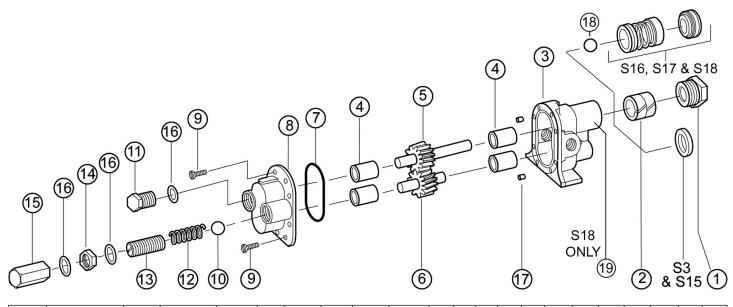
Motor = Convenient Fractional Size
P.S.I. = Lbs. Per Square Inch Pressure
Ft. Hd. = Equiv. Press. in Ft of Water

SUCTION LIFT

Close tolerances and the positive pumping action make the rotary gear pump capable of lifting water on the suction side as high as 20 feet. Though gear pumps are self priming, a foot valve is recommended. If possible, wet the gears with liquid to be pumped for the first dry start. Liquid retained in the system and gear chambers serves to "wet" the pump on subsequent starts.

EXPLODED VIEW AND PARTS LIST

The pump by-pass is not intended to be a metering or flow control device. Its main purpose is to function as a pressure relief when the desired set point is exceeded, overheating can occur within 5 -10 minutes if the discharge line is completely shut off for extended periods. Reversing rotation reverses the "IN" and "OUT" ports and the location of the by-pass ports have to be reversed. The by-pass valve is factory set at 50 p.s.i. To increase the set point, turn the bypass valve adjusting screw in a clockwise direction.

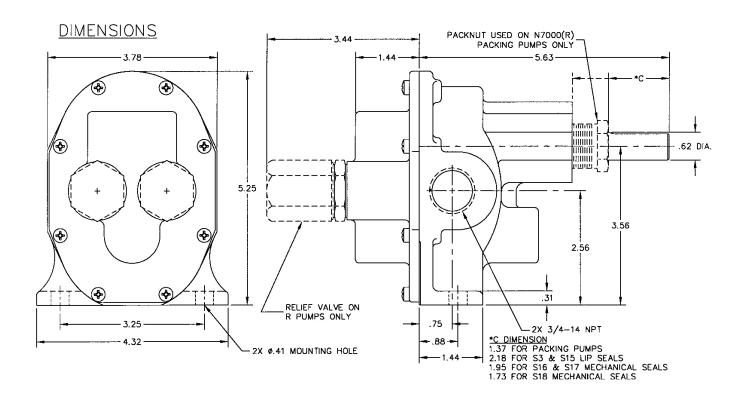


Pump No	Seal Arrangement	1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		Packnut or Retaining Ring	Packing	Seal	Body	Bearing	Drive Gear Ass'y	Idle Gear Ass'y	O-ring	Cover	Screw	Ball	Plug Nut	Spring	Adj. Screw	Locknut	Bypass Nut	Fiber Washer	Dowel Pin	Retaining Ring	Pipe Plug	Repair Kit
		1 req'd	2 req'd	1 req'd	1 req'd	4 req'd	1 req'd	1 req'd	1 req'd	1 req'd	8 req'd	1 req'd	1 req'd	1 req'd	1 req'd	1 req'd	1 req'd	3 req'd	2 req'd	1 req'd	1 req'd	
N7000	Packing	1762	5479	NA	9324NE1N	5091	33015	32959	9797-045	9326NN5N	5385								8885			10638
N7000S3	Buna Lip	NA	NA	5463	9324NE2N	5091	33015	32959	9797-045	9326NN5N	5385								8885			11258
N7000S15	Viton Lip	NA	NA	9997	9324NE2N	5091	33015	32959	9797-045	9326NN5N	5385								8885			12107
N7000S16	Buna Bellows Mech.	5374	NA	32202	9374NE9N	5091	33043	32959	9797-045	9326NN5N	5385								8885	5382		12128
N7000S17	Viton Bellows Mech.	5374	NA	32235	9374NE9N	5091	33043	32959	9797-045	9326NN5N	5385								8885	5382		12129
N7000S18	Teflon Wedge Mech.	5374	NA	32923	9374NE6N	5091	33043	32959	9355-045	9326NN5N	5385								8885	5382	6052	12130
Relief Valve Ve	ersions: N7000R, N7000RS3, N	N7000RS15, N	7000RS16,	N7000RS1	7, N7000RS18					9327NN5B		6217	5278	5277	5275	1642	5276	6965				

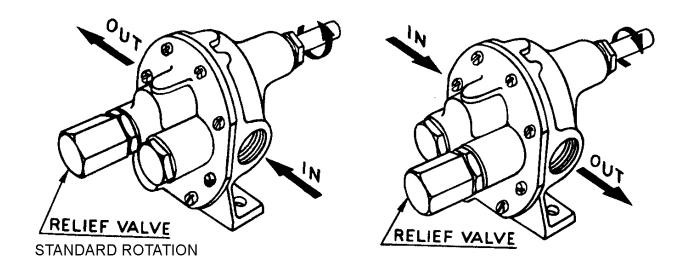
All Repair Kits contain items 2, 4, 5, 6 and 7.

Repair Kits contain items 2, 4, 5, 6, & 7, Repair Kit for N7000(R) is #10638.																	
N7000R	1762	5479	9324NE1N	5091	33015	32959	9797-045	9327NN5B	5385	6217	5278	5277	5275	1642	5276	6965	8885
N7000	1762	5479	9324NE1N	5091	33015	32959	9797-045	9326NN5N	5385	1						1	8885
	1 Req'd	2 Req'd	1 Req'd	2 Req'd	1 Req'd	1 Req'd	1 Req'd	1 Req'd	8 Req'd	1 Req'd	3 Req'd	2 Req'd					
		Packing			Assy.	Assy.					Nut		Screw		Nut	Washer	Pin
	Packnut	Seal/	Body	Bearing	Drive Gear	Idle Gear	O-Ring	Cover	Screw	Ball	Plug	Spring	Adj.	Locknut	Bypass	Fiber	Dowel
Pump No	1	2 ^{1,2}	3	4 ¹	5 ¹	6 ¹	7 ¹	8	9	10	11	12	13	14	15	16	17

DIMENSIONS



ROTATION



SEALS

² Seals												
Number	Description	Part #	Reqd	Repair Kit		Number	Description	Part	Reqd	Repair		
S3	Buna N Lipseal	5463	1	11258				Number		Kit		
S15	Viton(R)*-Teflon(R)* Lipseal	9997	1	12107		S6	Buna N Mech. Seal	32202	1	11061		
Note: For se	Note: For seals S3 & S15 part #3 is 9324NE2N.					S7	Viton(R)* Mech. Seal	32235	1	11448		
						Note: For seals S6 & S7 part #5 is 333016 & part #3 is 9324NE4N.						

Pump No.	Α	В	С	C*	C**	D	Е	F	G	Н
N7000, N7000R N7000B, N7000BR	3/4	0.625	1.31	2.00	1.25	5.63	0.75	0.88	1.44	0.31
C - Packing		C* - Lip	Seal		C** - M	echani	cal Sea	ıl		
		J	K	L	М	Z	0	Р	R	S
		0.41	3.56	1.44	3.38	3.78	5.25	2.56	3.25	4.25