A Gardner Denver Product

MODEL N9000L N9000LR **SERIES** 

# **BRONZE PEDESTAL ROTARY GEAR PUMPS**

#### MODEL N9000L - 1" NPT PORTS



# MODEL N9000LR



# 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 pro-

viding proper seal has been specified, (see chemical compatibility or check factory). No carbon bearings used. 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 400°F. Some lip seal elastomers have a limit of 212°F, (see engineering data or check factory). Allowing a liquid to freeze in the pump can cause damage.

#### **FEATURES**

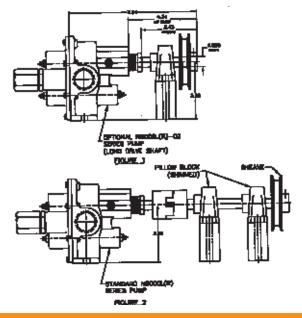
- · Bronze corrosion resistant castings
- · Special cast bronze helical gears for quiet operation
- · Stainless steel shafts & fasteners
- Synthetic braided compression packing (with Teflon® dispersion) is standard
- · Optional lip seals are available
- · Positive displacement flow
- · Bronze bearing surfaces with grease fittings

#### **MOUNTING AND DRIVE ARRANGEMENT**

Pumps should be mounted on a rigid base and properly aligned with the motor. Direct drive via flexible shaft coupling is the preferred method. When a belt drive is needed, additional support is necessary to absorb the added pulley load. this can be accomplished in two ways:

1) Use the standard pump arrangement by adding an independently supported jackshaft (see figure 2 below) or use kit 79P

2) When space is an issue, use an optional "long shafted" pump and add a properly shimmed pillow block bearing (see figure1).



#### **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.

CAPACITY - WATER 70 F

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R.P.M.	FT.HD.	0	46	92	138	184	231	290	346
	P.S.I.	0	20	40	60	80	100	125*	150*
	GPM	5.00	4.49	3.99	3.48	2.98	2.48	2.05	1.60
400	HP	0.25	0.33	0.40	0.50	0.65	0.75	1.00	1.25
	MOTOR	1/4	1/3	1/2	1/3	3/4	3/4	1	1 1/2
	GPM	7.50	7.08	6.65	6.23	5.80	5.38	4.90	4.05
600	HP	0.35	0.40	0.55	0.75	0.90	1.10	1.32	1.60
	MOTOR	1/3	1/2	1/2	3/4	1	1	1 1/2	2
	GPM	10.17	9.82	9.47	9.12	8.77	8.41	7.80	7.30
800	HP	0.40	0.60	0.70	1.00	1.15	1.40	1.75	2.05
	MOTOR	1/2	3/4	3/4	1	1 1/2	1 1/2	2	2
	GPM	13.00	12.65	12.30	11.94	11.58	11.22	10.40	9.90
1000	HP	0.50	0.70	0.90	1.20	1.45	1.72	2.10	2.50
	MOTOR	1/2	3/4	1	1 1/2	1 1/2	2	2	3
	GPM	16.00	15.67	15.34	15.00	14.67	14.33	13.60	13.00
1200	HP	0.60	0.80	1.14	1.45	1.85	2.20	2.70	3.20
	MOTOR	3/4	3/4	1	1 1/2	2	3	3	5
	GPM	21.50	21.12	20.74	20.35	19.97	19.58	18.70	18.00
1600	HP	0.80	1.70	1.38	1.70	2.03	2.41	2.90	3.40
	MOTOR	1	1	2	2	2	3	3	5
	GPM	23.33	22.93	22.52	22.11	21.71	21.30	20.50	20.10
1725	HP	0.90	1.19	1.53	1.92	2.25	2.70	3.15	3.70
	MOTOR	1	1 1/2	1 1/2	2	3	3	3	5

H.P. = Actual Horsepower

Motor = Convenient Fractional Size P.S.I. = Lbs. Per Square Inch Pressure

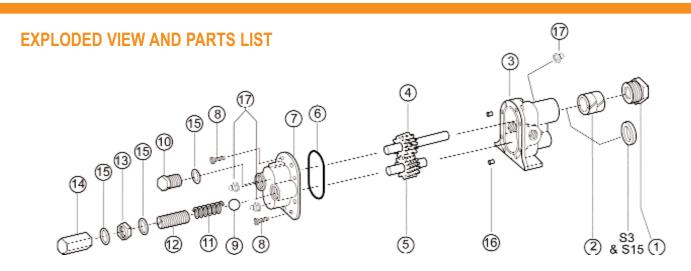
G.P.M. = Gallons per Minute R.P.M. = Revolutions per Min.

Ft. Hd. = Equiv. Press. in Ft of Water

\*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).



# BRONZE PEDESTAL ROTARY GEAR PUMPS



	1	2*	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Packnut	Packing	Body	Drive Gear Assy	Idle Gear Assy	O-Ring	Cover	Screw	Ball	Plug Nut	Spring	Adj. Screw	Locknut	Bypass Nut	Fiber Washer	Dowel Pin	Grease Fitting	Tag	Stick Screw	Repair Kit
Pump No.	Qty. 1.00	Qty. 2.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 8.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 3.00	Qty. 2.00	Qty. 3.00	Qty. 1.00	Qty. 2.00	NIL
N9000L	1762	5479	9325PF1N-1	33019	33020	9797-045	9326PN5N-1	5385	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8885	5390	9344	9345	12226
N9000LR	1762	5479	9325PF1N-1	33019	33020	9797-045	9327PN5B-1	5385	6217	5278	5277	5275	1642	5276	6965	8885	Qty. 4.00 5390	9344	9345	12226

Repair Kits contain items 2, 4, 5 and 6. Items 18 and 19 not shown above

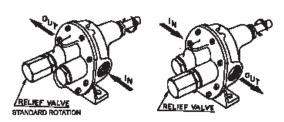
		1	2	3	20
*Lipseals		Packnut	Lipseal	Body	Repair Kit
Number	Description	Qty. 1.00	Qty. 1.00	Qty. 1.00	rtepaii rtit
<b>S</b> 3	Buna Lipseal	N/A	5463	9325PF2N-1	12227
S15	Viton-Teflon Lipseal	N/A	9997	9325PF2N-1	12228

## **BY-PASS AND ROTATION**

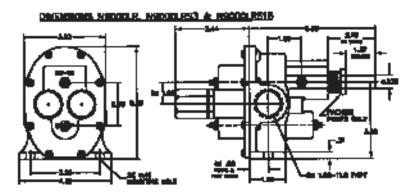
The pump by-pass is not intended to be a metering or flow control device. Its main purpose is to function as a pressure relief when the desired set point is exceeded, overheating can occur within 5 -10 minutes if the discharge line is completely shut off for extended periods.

Reversing rotation reverses the "IN" and "OUT" ports and the location of the by-pass ports have to be reversed.

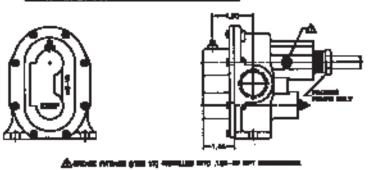
The by-pass valve is factory set at 50 p.s.i. To increase the setpoint, turn the by-pass valve adjusting screw in a clockwise direction.



## **DIMENSIONS**



#### DESENSIONS MODOCE, MEDICENS & MEDICENSIS



\* Viton(® or equivalent FKM will be used. Viton® is a registered trademark of DuPont Dow Elastomers. Teflon® or equivalent PTFE will be used. Teflon® is a registered trademark of DuPont.