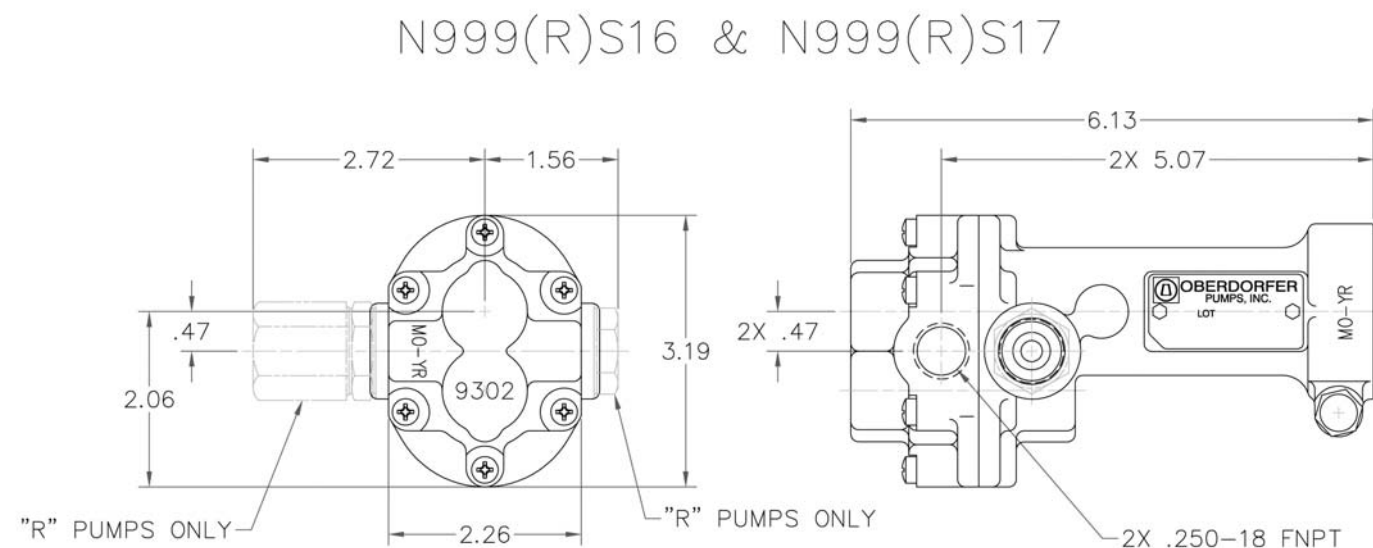
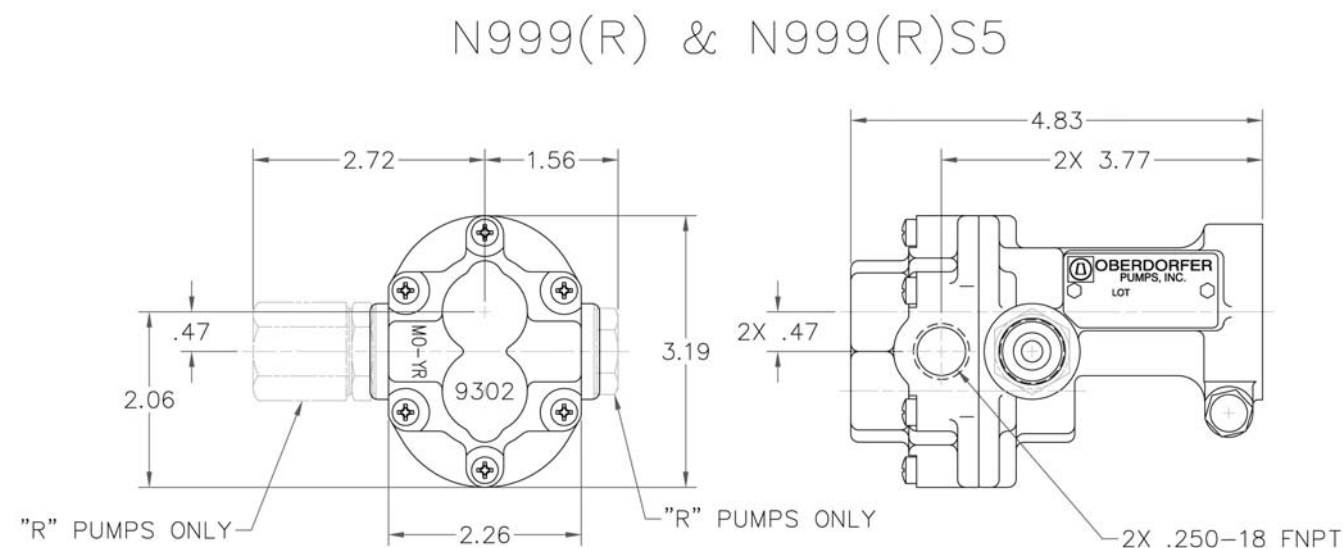


BRONZE CLOSE COUPLED ROTARY GEAR PUMPS

DIMENSIONS



*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.

BRONZE CLOSE COUPLED ROTARY GEAR PUMPS

MODEL N999 - 1/4" NPT PORTS STANDARD

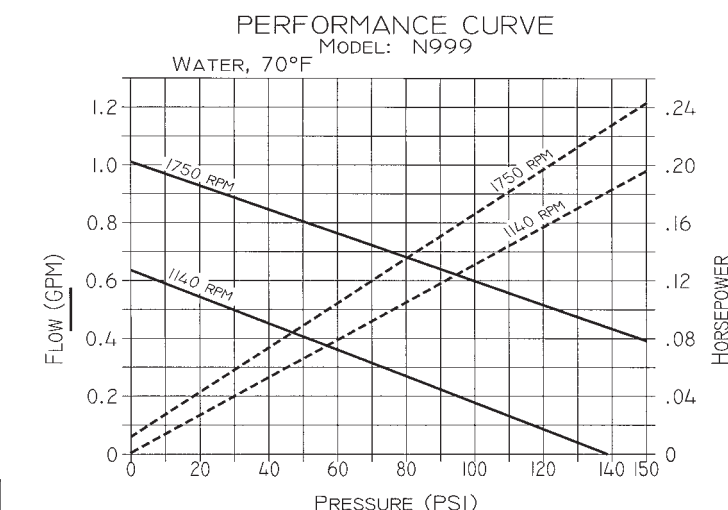


PUMP	DESCRIPTION
N999	Standard Pump with 1/4" Ports
N999R	Pump with 1/4" ports & relief valve
N999S5	Pump with Viton® lipseal
N999RS5	Pump with Viton® lipseal & relief valve
N999S16	Pump with Buna N mechanical seal
N999RS16	Pump with Buna N mech. seal & relief valve
N999S17	Pump with Viton® mechanical seal
N999RS17	Pump with Viton® mech. seal & relief valve

FEATURES

- Rugged corrosion resistant bronze construction
- Compact close-coupled design
- Stainless steel shafts
- Durable bronze spur gears
- Process lubricated carbon graphite bearings
- O-ring cover seal for maximum leak protection
- Lip Seal or Mechanical Seal
- Easy field assembly to a variety of motor frames
 - For compact AC motor pump units - see *Close Coupled Bronze Adapterless Rotary Gear Pumps*
- For carbonator styles see N95 series

PERFORMANCE



GENERAL DESCRIPTION

Pump housings and gears are made of top quality bronze, shafts are 303 stainless steel. Bearings are designed of high performance carbon-graphite material selected for wear resistance and long service life.

Gear pumps are positive displacement pumps. Each shaft revolution displaces a definite amount of liquid relatively unaffected by the back pressure in the discharge line. Shaft speed and flow are directly proportional. Recommended pressure limits are 100 PSI for water and non-lubricants, 150 PSI for oil and other lubricants. The maximum shaft speed is 1750 RPM.

SHAFT SEALS

Close coupled gear pumps are normally supplied with a Buna N lip seal. For a Viton® Seal, add S5 to the pump model number. For Buna Mechanical add S16 and for Viton Mechanical add S17.

LIQUIDS AND TEMPERATURE

These pumps are suitable for all liquids that are compatible with bronze. Most common liquids are water, oil, and mild chemicals in the pH range of 4 to 11. Viscous liquids require reduced shaft speeds of 1150 RPM or lower. (Consult factory.)

Liquids containing solids, abrasives, powders, or paint pigments are definitely not recommended for gear pumps. If abrasives are unavoidable, use a very low shaft speed.

See pricebook for the recommended liquid temperature range of lip and mechanical seals. Freezing of water-filled pumps can cause damage and must be avoided. Oils at low temperatures are very viscous requiring a lower speed or extra power.

BRONZE CLOSE COUPLED ROTARY GEAR PUMPS

MODEL N999 SERIES

SUCTION LIFT

As a general rule, the suction lift should be kept at an absolute minimum by placing the pump as close to the liquid source as possible. A gear pump in new condition can lift 20 feet of water in the suction line. A foot valve (preferably with built-in strainer) is recommended at the beginning of the suction line. For a first start-up, the pump should be primed to avoid dry running. Minimum size of the suction pipe is the size of the pump inlet port. For longer suction lines (over 3 feet) or for viscous liquids, the pipe should be at least one size or two sizes larger than the pump inlet port.

OPTIONAL RELIEF VALVE

If the discharge line contains any throttling devices such as a shut-off valve, a spray nozzle or other restrictive device, it is necessary to have a relief valve in the system which returns the liquid to the suction side or to the tank. The

relief valve is also available as part of the pump itself (R-model pumps). However, built-in relief valves are only good for intermittent service. If used continuously, the pump will overheat. A built-in relief valve is strictly a safety device against overpressure. It will not work successfully as a pressure or flow control device. For this purpose a separate relief valve in the pressure line must be used.

Unless otherwise specified, the pump motor unit is supplied by the factory for shaft rotation counterclockwise from shaft end. Reversing motor will reverse "in" and "out" ports and also requires changing relief valve location. The relief valve is always on the inlet side of this pump series. The factory pressure setting is 50 PSIG. To increase pressure, turn the relief valve adjusting screw in a clockwise direction.

EXPLODED VIEW (FOR PICTURE SEE RIGHT)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Repair Kits			
	Screw	Body	Bearing	Drive Gear Assy	Idle Gear Assy	Dowel Pin	O-Ring	Cover	Tag	Tag Screw	Screw	Lipseal	Mechanical Seal	Coupling Half	Retaining Ring	Retaining Ring	Ball	Spring	Fiber Washer	Nut Plug	Adjust. Screw	Lock Nut	Nut Bypass			
Pump No.	Qty. 6.00	Qty. 1.00	Qty. 4.00	Qty. 1.00	Qty. 1.00	Qty. 2.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 2.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 3.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00			
N999	5013	9302NBSN	5024	32198	32199	8885	9797-033	9303NN2N	9344	9345	5595	5007	N/A	5604	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10873	
N999R	5013	9302NBSN	5024	32198	32199	8885	9797-033	9303NN2B	9344	9345	5595	5007	N/A	5604	N/A	N/A	5803	1840	6533	1838	5237	5240	5239	N/A	12109	
N999S5	5013	9302NBSN	5024	32198	32199	8885	9797-033	9303NN2N	9344	9345	5595	7580	N/A	5604	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12109
N999RS5	5013	9302NBSN	5024	32198	32199	8885	9797-033	9303NN2B	9344	9345	5595	7580	N/A	5604	N/A	N/A	5803	1840	6533	1838	5237	5240	5239	N/A	12109	
N999S16	5013	9302NBSN	5024	33291	32199	8885	9797-033	9304PN4N	9344	9345	5595	N/A	32584	5604	5373	7639	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	TBD	
N999RS16	5013	9302NBSN	5024	33291	32199	8885	9797-033	9304PN4B	9344	9345	5595	N/A	32584	5604	5373	7639	5803	1840	6533	1838	5237	5240	5239	N/A	TBD	
N999S17	5013	9302NBSN	5024	33291	32199	8885	9797-033	9304PN4N	9344	9345	5595	N/A	32585	5604	5373	7639	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	TBD	
N999RS17	5013	9302NBSN	5024	33291	32199	8885	9797-033	9304PN4B	9344	9345	5595	N/A	32585	5604	5373	7639	5803	1840	6533	1838	5237	5240	5239	N/A	TBD	

Repair Kits contain items 3, 4, 5, 7 & 12.

Adapter Kits		
Adapter Kit	Part Number	Description
M	10562	48 Frame
N	10816	56 Frame
P	11722	S56 Frame
Q	11331	56C Frame (to 3/4 HP)
F	11332	IEC71
N/A	N/A	Adapterless - Modified 48

Pump	Description
N999	Standard Pump w/ 1/4" ports
N999R	Pump w/ 1/4" ports & relief valve
N999S5	Pump w/ Viton(R) lipseal
N999RS5	Pump w/ Viton(R) lipseal & relief valve
N999S16	Pump w/ Buna N mechanical seal
N999RS16	Pump w/ Buna N mech. seal & relief valve
N999S17	Pump w/ Viton mechanical seal
N999RS17	Pump w/ Viton mech. seal & relief valve

VARIATIONS

Pump No.	91.2	
	Lip Seal	Repair Kit ²
N999S5	7580	12109
N999RS5	7580	12109

Adapter Kit	Kit Number	Description
M	10562	48 Frame
N	10816	56 Frame
P	11722	S56 Frame
Q	11331	56C Frame (to 3/4 HP)
F	11332	IEC71
—	—	Adapterless-Modified 48

EXPLODED VIEW

MODEL N999 SERIES

