

# DUCTILE IRON CLOSE COUPLED ROTARY GEAR PUMPS

## MODEL C999 - 3/8" NPT PORTS STANDARD



### FEATURES

- Ductile Iron Construction
- Stainless Steel Shafts
- Steel Gears
- Buna Mechanical Seal (Optional Viton or EPDM Mechanical Seal)
- Process lubricated carbon bearings
- O-ring cover seal for maximum leak protection
- Durable paint finish
- Easy Field Assembly to a variety of motor frames
- Compact dimensions

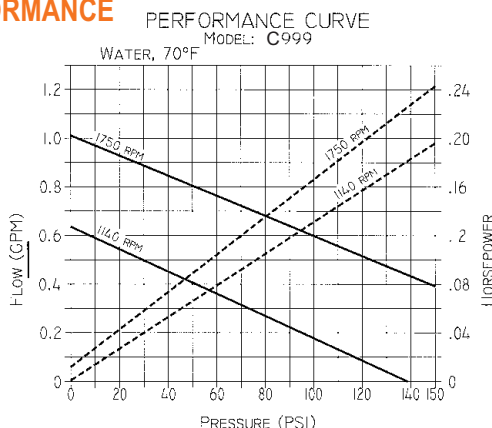
### GENERAL DESCRIPTION

Tailored specifically for wear resistance and long life in lubricating fluid service. They are designed to handle a wide range of fluids at temperatures to 400°F, at pressures up to 150 psi, and at shaft speeds to 1750 RPM. Viscous liquids require reduced shaft speeds.

**Standard Lubricating Fluid Service:** Shafting is 303 stainless steel, gearing is steel. Rugged ductile iron housings. High grade carbon-graphite bushing style bearings are used. The Standard Mechanical Shaft seal is a stainless cased buna elastomer bellows and o-ring with carbon and ceramic wear faces. An optional Viton mechanical seal with carbon and ceramic wear faces is also available. Recommended liquid temperature range is 32°F to 225°F (BUNA) or 400°F(VITON).

As with all external gear rotary pumps which operate based upon close running clearances, the presence of solid particles and abrasives can lead to premature wear and damage. Use suction screens or start-up strainers when necessary.

### PERFORMANCE



C999 M 3 IE

### SUCTION LIFT

Whenever possible, place the pump at an elevation below the liquid source. However since these positive displacement external gear pumps will generate 20" HG lift, this is not a requirement. As a general rule, place the pump as close to the liquid source as possible. 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), the pipe size should be at least one size or two sizes larger than the pump inlet port.

### DRIVE ARRANGEMENT

These close-coupled pumps mount directly to a full range of NEMA and IEC C-face motors by means of a suitable adapter bracket. The clamp style cover also allows adapterless close coupling to modified 48 Frame 1/3rd and 1/2 HP motors. The pump drive shaft is connected to the motor shaft by a flexible coupling. Complete pump and motor units are available.

#### Gear Material

Code		Gear Material
3	-	Ferrous

#### Bearings

Code		Style
E	-	Carbon Radial Bishings

#### Shaft Material/Seal Option

Code		Seal Type	Seal Materials				
			Design	Rotary		Stationary	
				Face	Elastomer	Face	O-Ring
1	-	Elastomer Bellows	Carbon	VITON	Ceramic	VITON	
5	-	Elastomer Bellows	Carbon	Buna	Ceramic	Buna	
8	-	Elastomer Bellows	Carbon	EPDM	Ceramic	EPDM	

#### Mounted Close Coupled Adapter (for Factory supplied pump and motor combinations)

Code		Option
M	-	48 Frame
N	-	56 Frame
P	-	S56 Frame
Q	-	56C Frame
F	-	IEC 71 Frame
Blank	-	Adapterless

#### Additional Options

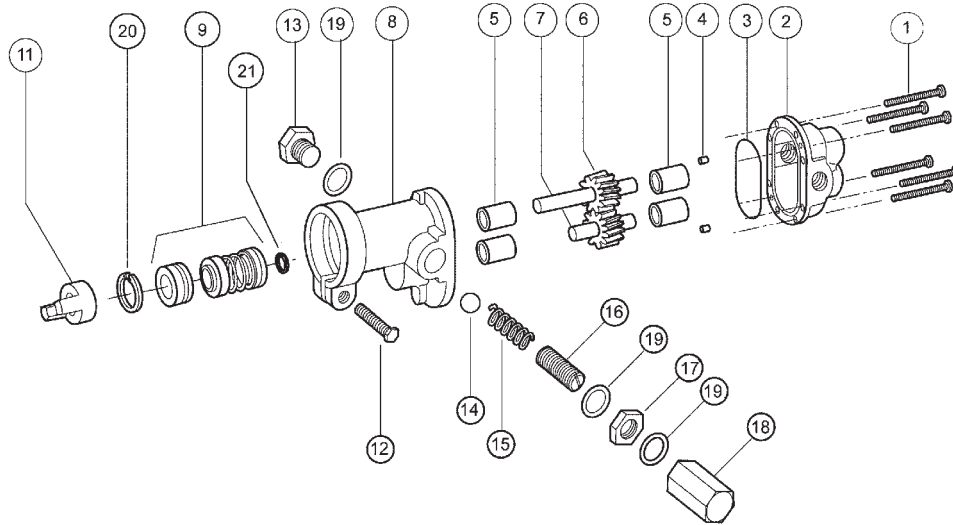
Code		Option
BLANK	-	standard port size (by default)
E	-	BSPT Ports

#### Mounted Motor Codes (samples)

Code		Option
F41	-	
N26	-	see motor listing for wide selection range
J16	-	

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## EXPLODED VIEW AND PARTS LIST

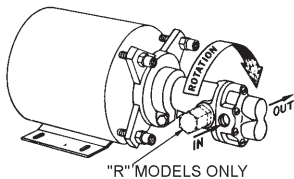


	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17	18	19	20	21	Repair Kit	
	Screw	Body	O-Ring	Dowel Pin	Bearings	Drive Gear Assy	Idle Gear Assy	Cover Bracket	Seal	Coupling Half	Screw	Plug Nut	Ball	Spring	Adj. Screw	Lock Nut	Bypass Nut	Fiber Washer	Ret. Ring	Ret. Ring		
Pump No.	Qty. 6.00	Qty. 1.00	Qty. 1.00	Qty. 2.00	Qty. 4.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	Qty. 1.00	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	
C999M3E1	5013	9302UC5N	9797-033	8885	5024	33064	33265	9304UN4N	32585	5604	5595	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7639	5373	12358
C999RM3E1	5013	9302UC5N	9797-033	8885	5024	33064	33265	9304UN4B	32585	5604	5595	1838	5803	6302	5237	5240	5239	6533	7639	5373	12358	
C999M3E5	5013	9302UC5N	9797-033	8885	5024	33064	33265	9304UN4N	32585	5604	5595	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7639	5373	12358
C999RM3E5	5013	9302UC5N	9797-033	8885	5024	33064	33265	9304UN4B	32585	5604	5595	1838	5803	6302	5237	5240	5239	6533	7639	5373	12358	

### ROTATION AND RELIEF VALVE

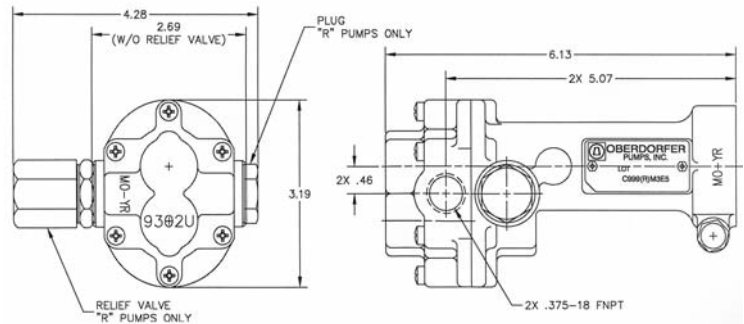
(CONTINUED FROM FRONT PAGE) These pumps are bidirectional. The standard pump motor unit is set up for normal rotation (counter clockwise when viewing the pump from the shaft end). Reversing the motor rotation will reverse the "in" and "out" ports and also requires changing the relief valve location.

C999R is equipped with an integrated relief valve set up for internal bypassing. The relief valve must always be located on the inlet side of the pump. This relief valve is not intended to be a metering or flow control device. Its purpose is to function as a discharge pressure relief to guard against intermittent down stream system restrictions. Overheating can occur within 5 to 10 minutes if the discharge line is completely shut off. The pressure relief setting is not set at the factory. To increase pressure, turn the relief valve adjusting screw in a clockwise direction.



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)
C	11331H	56C Frame (above 3/4 HP)
F	11332	IEC71
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### DIMENSIONS



Viton® or an equivalent fluoroelastomer may be used. Viton® is a registered trademark of DuPont Dow Elastomers.