



HEAVY DUTY GEAR PUMPS

EXPERIENCE

RELIABILITY

SAFETY

HEAVY DUTY GEAR PUMPS

INNOVATIVE ENGINEERING

Designed to Handle Extremes

Northern Pumps are positive displacement rotary gear pumps. Designed for nearly any liquid transfer application, particularly those involving extremes of temperature, viscosity, pressure, and inlet conditions; Northern Pump emerges as the pump of choice in many applications. With few exceptions, liquids containing high concentrations of abrasives, poor lubricity, or high corrosivity, the application of the Northern precision rotary gear pump is broad.

The life of the Northern Pump far exceeds that of competing pumps due to its superior design and attention to detail. The careful choice of materials coupled with high manufacturing precision allows for tight clearance control to minimize slip and improve pump life. This attention to detail enhances its tolerance to liquids with limited lubricity. This is often the key factor in selecting the Northern Pump over other gear pumps.

SUPERIOR QUALITY

Tested and Proven

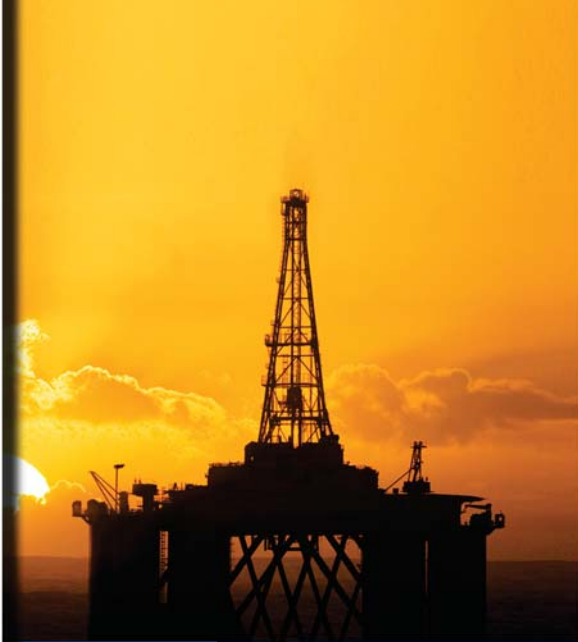
Prior to shipment to your site, every Northern Pump is tested under conditions simulated to match the conditions of the intended application. The performance test simulates the viscosity, speed, discharge pressure, and inlet conditions of the application. Flow rate and horsepower required are also verified. This quality control program ensures every Northern Pump will start up and perform exactly as designed.

HEAVY DUTY

Gear Pumps for Tough Applications

Northern Pumps are built to meet exacting requirements in nearly every industry, pumping diverse materials such as tar, molten lead, peanut butter, adhesives, hot polymers, and crude oil. For decades, Northern Pump has built reliable rotary gear pumps to handle industry's toughest applications, placing Northern at the forefront of the gear pump industry.

VISCOSITY RANGE: 0.5 TO 1,500,000 cP
TEMPERATURE RANGE: -65° F TO 850° F
INLET CAPACITY: 28" Hg lift to 1200 psig



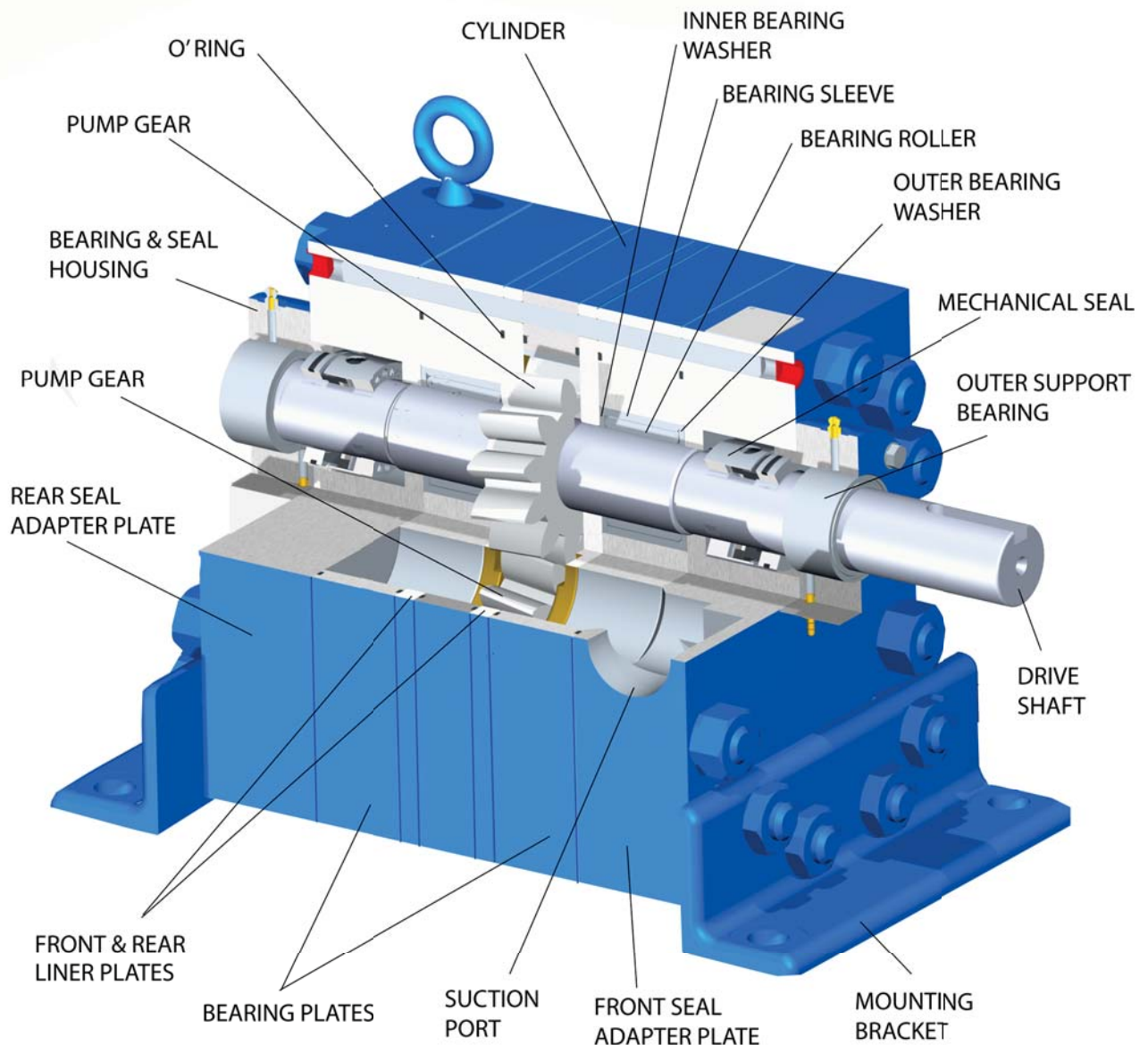
**HEAVY DUTY
GEAR PUMPS**
Factory-Engineered
for Your Application

**INNOVATIVE
ENGINEERING**

**SUPERIOR
QUALITY**

HEAVY DUTY

Hydraulically Balanced 4900 Series



Pump Series	GPM at 0 Diff. Press. and 1750 RPM	RPM Max	Differential Pressure MAX
4900	67.3 - 336.1	1750	Up to 2000 PSI, dependent upon bearing life
4800	36.0 - 216.0	1750	
4600	10.2 - 81.4	3450	
4500	4.4 - 26.6	3450	
4400	2.82 - 17.0	3450	
4300	0.36 - 4.65	3450	

*Flow, RPM and Differential Pressure are highly dependent on each specific application.

FEATURES

GEARS

Carburized and case hardened (60 Rockwell C) alloy steel is standard. Gear options to include: 8620 alloy steel, nitriding steel and 440-C stainless steel in either helical or herribone configuration. Optional nitrided Nitralloy available for high temperature applications. All gears are ground after heat treating to achieve a precision gear tooth form. Extreme hardness offers greater resistance to wear when pumping liquids with low lubricity. Helical configuration assures smooth, quiet performance.

SHAFTS

Carburized steel, 440-C stainless steel, or nitrided Nitralloy, hardened and ground. Through-shaft available for hydraulic balancing of high inlet pressures, or for driving a second pump.

BEARINGS

Large, full complement, roller-type bearings high load capacity. Optional sleeve bearings are available in carbon graphite, tungsten carbide, bronze, and other special materials.

MECHANICAL SEALS

Several mechanical seal and packing configurations are available for inlet conditions of 27 inches of Mercury vacuum to 1200 PSI. Seal configurations are determined based upon individual pumping applications and customer needs.

PLATES

The pump housing is a modular design with each of the plates having mated surfaces precision ground to seal without conventional gaskets. The components are typically made of steel, cast iron and bronze in multiple configurations.

CYLINDER

Cast iron cylinder is standard. When an all-steel housing is required, a steel cylinder with cast iron liner is furnished.

SUCTION AND DISCHARGE PORTS

Inlet and discharge connections are available to include but not limited to: bolt-on sanitary flanges, NPT ports, cast flanges, welded steel flanges of which are all typically located on the sides of the cylinder or seal adapter plates.

MOUNTING BRACKETS

Angle brackets are standard. Special brackets for elevation to the driver shaft, and flanges for horizontal or vertical mounting are available. Mounting holes may also be tapped directly into the pump case to eliminate brackets.



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WORLD CLASS

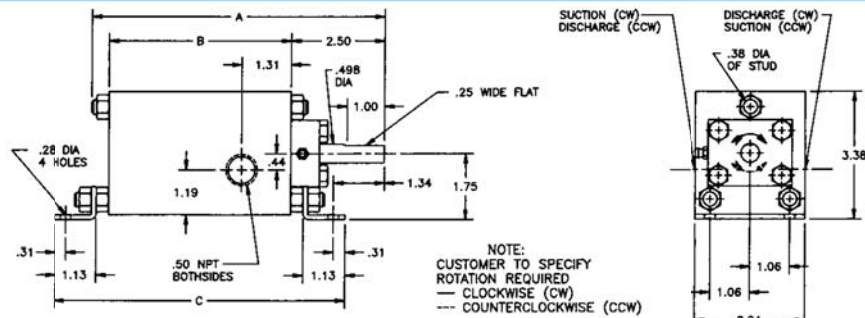
QUALITY

PERFORMANCE

FEATURES

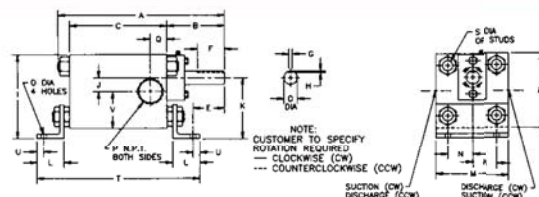
DIMENSION DATA – MODEL 4300

Pump Size	A	B	
4300-01	6.82	3.98	6.91
4300-02	6.89	4.05	6.99
4300-03	6.99	4.15	7.09
4300-04	7.09	4.25	7.19
4300-06	7.29	4.45	7.39
4300-08	7.49	4.65	7.59
4300-10	7.69	4.85	7.79
4300-12	7.89	5.05	7.99



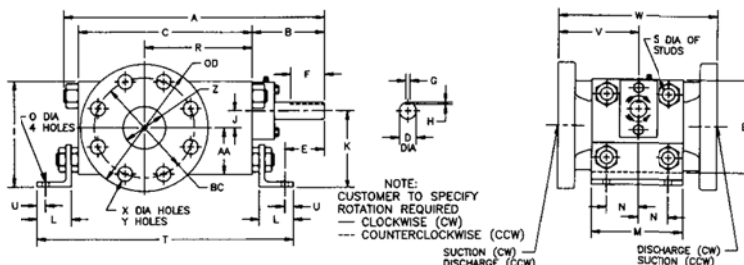
DIMENSION DATA – MODEL 4400 THRU 4900

TAPPED CONNECTIONS



PUMP SIZE	DIMENSIONS IN INCHES																				Approx Weight Lbs.
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
4400-05	9.44	3.25	5.63	.623	1.66	1.25	3/16	3/32	4.56	.63	3.13	1.75	4.00	1.31	.41	3/4	.97	4.00	.56	9.81	27
4400-07	9.69	3.25	5.88	.623	1.66	1.25	3/16	3/32	4.56	.63	3.13	1.75	4.00	1.31	.41	3/4	.97	4.00	.56	10.06	28
4400-10	9.94	3.25	6.13	.623	1.66	1.25	3/16	3/32	4.56	.63	3.13	1.75	4.00	1.31	.41	3/4	.97	4.00	.56	10.31	29
4400-15	10.44	3.25	6.63	.623	1.66	1.25	3/16	3/32	4.56	.63	3.13	1.75	4.00	1.31	.41	3/4	.97	4.00	.56	10.81	30
4500-05	9.94	3.50	5.81	.747	1.63	1.50	3/16	3/32	5.00	.75	3.50	2.00	4.50	1.50	.41	1	.84	4.50	.63	10.56	33
4500-07	10.19	3.50	6.06	.747	1.63	1.50	3/16	3/32	5.00	.75	3.50	2.00	4.50	1.50	.41	1	.84	4.50	.63	10.81	36
4500-10	10.44	3.50	6.31	.747	1.63	1.50	3/16	3/32	5.00	.75	3.50	2.00	4.50	1.50	.41	1	.84	4.50	.63	11.06	37
4500-15	10.94	3.50	6.81	.747	1.63	1.50	3/16	3/32	5.00	.75	3.50	2.00	4.50	1.50	.41	1	.84	4.50	.63	11.56	39
4600-05	11.69	4.25	6.69	.997	2.31	2.00	1/4	1/8	5.75	1.00	4.00	2.00	5.50	1.88	.41	1 1/2	1.22	5.50	.75	11.56	51
4600-07	11.94	4.25	6.94	.997	2.31	2.00	1/4	1/8	5.75	1.00	4.00	2.00	5.50	1.88	.41	1 1/2	1.22	5.50	.75	11.81	53
4600-10	12.19	4.25	7.19	.997	2.31	2.00	1/4	1/8	5.75	1.00	4.00	2.00	5.50	1.88	.41	1 1/2	1.22	5.50	.75	12.06	56
4600-15	12.69	4.25	7.69	.997	2.31	2.00	1/4	1/8	5.75	1.00	4.00	2.00	5.50	1.88	.41	1 1/2	1.22	5.50	.75	12.56	61
4600-20	13.19	4.25	8.19	.997	2.31	2.00	1/4	1/8	5.75	1.00	4.00	2.00	5.50	1.88	.41	1 1/2	1.22	5.50	.75	13.06	66
4800-10	15.19	5.00	9.31	1.371	2.75	2.50	3/8	3/16	8.50	1.50	6.00	2.50	6.00	2.00	.53	2	1.47	8.00	.88	15.31	125
4800-15	15.69	5.00	9.81	1.371	2.75	2.50	3/8	3/16	8.50	1.50	6.00	2.50	6.00	2.00	.53	2	1.47	8.00	.88	15.81	132
4800-20	16.19	5.00	10.31	1.371	2.75	2.50	3/8	3/16	8.50	1.50	6.00	2.50	6.00	2.00	.53	2	1.47	8.00	.88	16.31	138
4900-10	18.28	6.00	11.30	1.875	3.89	2.50	1/2	1/4	12.50	2.00	8.63	2.50	15.00	5.50	.94	2	1.50	11.75	.88	17.27	335
4900-20	19.28	6.00	12.30	1.875	3.89	2.50	1/2	1/4	12.50	2.00	8.63	2.50	15.00	5.50	.94	2	1.50	11.75	.88	18.27	363

FLANGED CONNECTIONS



PUMP SIZE	DIMENSIONS IN INCHES																				Approx Weight Lbs.
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	R	S	T	U	V	
4400-20	10.94	3.25	7.13	.623	1.66	1.25	3/16	3/32	4.56	.63	3.13	1.75	4.00	1.31	.41	4.25	.56	11.31	.50	3.50	38
4400-25	11.44	3.25	7.63	.623	1.66	1.25	3/16	3/32	4.56	.63	3.13	1.75	4.00	1.31	.41	4.55	.56	11.81	.50	3.50	40
4500-20	11.44	3.50	7.31	.747	1.63	1.50	3/16	3/32	5.00	.75	3.50	2.00	4.50	1.50	.41	4.00	.63	12.06	.50	4.00	51
4500-25	11.94	3.50	7.81	.747	1.63	1.50	3/16	3/32	5.00	.75	3.50	2.00	4.50	1.50	.41	4.25	.63	12.56	.50	4.00	55
4600-25	13.69	4.25	8.69	.997	2.31	2.00	1/4	1/8	5.75	1.00	4.00	2.00	5.50	1.88	.41	5.06	.75	13.56	.50	4.75	85
4600-30	14.19	4.25	9.19	.997	2.31	2.00	1/4	1/8	5.75	1.00	4.00	2.00	5.50	1.88	.41	5.31	.75	14.06	.50	4.75	91
4800-25	16.69	5.00	10.81	1.371	2.75	2.50	3/8	3/16	8.50	1.50	6.00	2.50	6.00	2.00	.53	6.06	.88	16.81	.75	5.75	165
4800-30	17.19	5.00	11.31	1.371	2.75	2.50	3/8	3/16	8.50	1.50	6.00	2.50	6.00	2.00	.53	6.31	.88	17.31	.75	5.75	177
4800-40	18.19	5.00	12.31	1.371	2.75	2.50	3/8	3/16	8.50	1.50	6.00	2.50	6.00	2.00	.53	6.81	.88	18.31	.75	5.75	188
4800-50	19.19	5.00	13.31	1.371	2.75	2.50	3/8	3/16	8.50	1.50	6.00	2.50	6.00	2.00	.53	7.31	.88	19.31	.75	5.75	207
4800-60	20.19	5.00	14.31	1.371	2.75	2.50	3/8	3/16	8.50	1.50	6.00	2.50	6.00	2.00	.53	7.81	.88	20.31	.75	5.75	215
4900-35	20.78	6.00	13.80	1.875	3.89	2.50	1/2	1/4	12.50	2.00	8.63	2.50	15.00	5.50	.94	7.53	.88	19.77	.88	7.75	476
4900-50	22.28	6.00	15.30	1.875	3.89	2.50	1/2	1/4	12.50	2.00	8.63	2.50	15.00	5.50	.94	8.28	.88	21.27	.88	7.75	525



GUARANTEED FACTORY REPAIR SERVICE

All NORTHERN pumps can be returned to NORTHERN's factory for repair and refurbishment. No matter when your NORTHERN pump was built or what condition it is in when you take it out of service, NORTHERN's engineers and craftsmen can make your NORTHERN pump work like it did when it was new.

When you return your pump to NORTHERN's factory, it will be completely disassembled, cleaned, and thoroughly inspected to determine any departures from the original manufacturing requirements. A quotation will be prepared detailing the parts to be replaced, the parts to be remanufactured, the cost of the repair, and the cost of a new, exact duplicate pump. This gives you all of the information that you need to make an informed decision regarding your pump.

NORTHERN pumps that are repaired at the factory are always returned to you in a like new condition. They will perform and last just like the original pump when placed in an identical service application. Parts which can be refurbished to the same design requirements as new parts will be refurbished. Those which cannot be refurbished will be replaced with new parts meeting the same design requirements as the original parts. Each pump is tested to the same requirements as the original pump and will pass the original performance requirements.



FACTORY QUALITY

SUPERIOR CRAFTSMENSHIP

GUARANTEED FACTORY REPAIR





NORTHERN PUMP

Manufacturing the Highest Quality Pumps for over 85 years



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