



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 fluid 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, fluid 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 thin fluids. 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



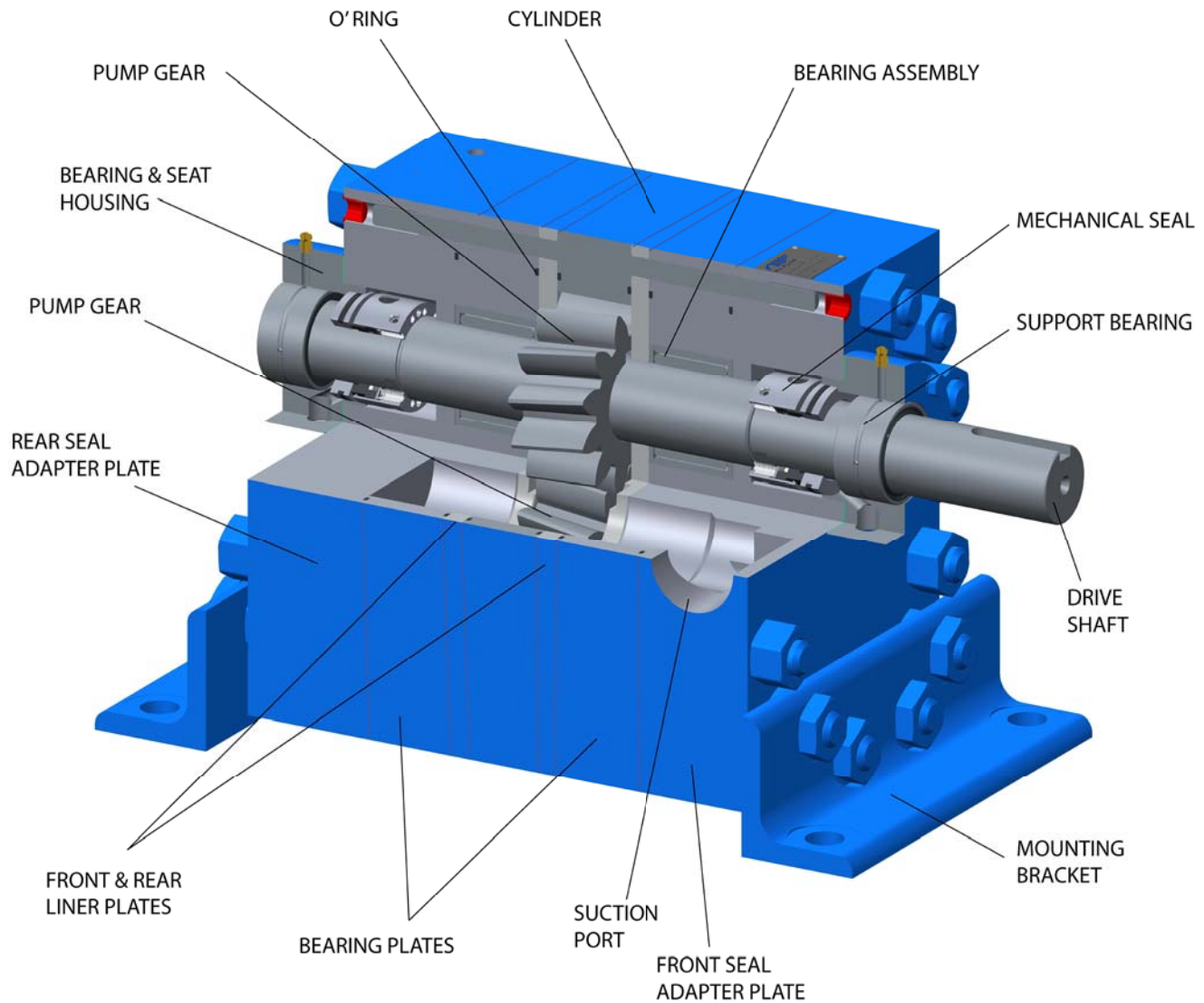
**HEAVY DUTY
GEAR PUMPS**
Factory-Engineered
for Your Application

**INNOVATIVE
ENGINEERING**

**SUPERIOR
QUALITY**

HEAVY DUTY

Hydraulically Balanced 4900 Series



Pump Series	Max Flow (GPM)	Max Speed (RPM)	Max ΔP (PSI)
4902	404	1750	Up to 2000 PSI
4900	221	1750	
4800	146	1750	
4600	83	3550	
4500	27	3550	
4400	17	3550	
4300	5	3550	

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

FEATURES

GEARS

Carburized 8620 alloy steel is our standard material of construction for most applications, 440-C stainless steel is available for corrosive applications, and nitrided steel is available for high temperature applications. Other materials are available depending on the application requirements. Pump gear configurations are helical, spur, or herringbone. All gears are ground after heat treating to achieve a precision gear tooth form. Extreme hardness offers greater resistance to wear when pumping fluids with low lubricity. Helical gear configuration assures smooth, quiet performance.

SHAFTS

Carburized 8620 alloy steel, 440-C stainless steel, or nitrided steel, 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, ductile iron, tool steel, tungsten carbide, stainless steel, and bronze in multiple configurations.

CYLINDER

Ductile 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. Custom brackets are available to adjust pump shaft drop height or port locations. Mounting holes may also be tapped directly into the pump case to eliminate brack-



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WORLD CLASS

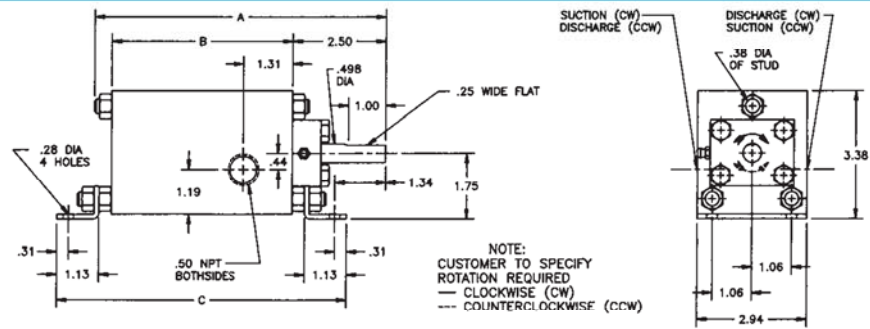
QUALITY

PERFORMANCE

FEATURES

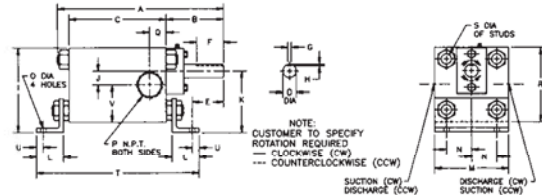
DIMENSION DATA – MODEL 4300

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



DIMENSION DATA – MODEL 4400 THRU 4900

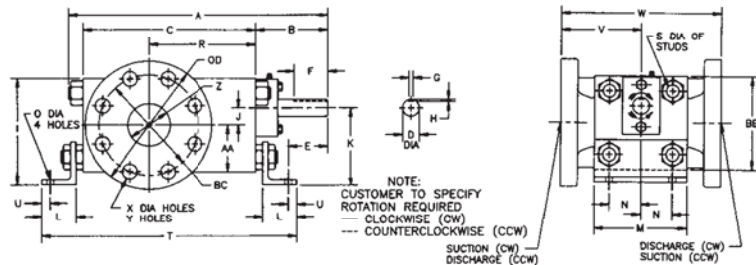
TAPPED CONNECTIONS



DIMENSIONS IN INCHES

PUMP SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	Approx Weight Lbs.
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	.50	2.00	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	.50	2.00	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	.50	2.00	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	.50	2.00	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	.50	2.25	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	.50	2.25	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	.50	2.25	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	.50	2.25	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	.50	2.75	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	.50	2.75	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	.50	2.75	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	.50	2.75	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	.50	2.75	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	.75	4.00	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	.75	4.00	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	.75	4.00	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	.88	5.88	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	.88	5.88	363

FLANGED CONNECTIONS



DIMENSIONS IN INCHES

PUMP SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	R	S	T	U	V	W	X	Y	Z	OD	BC	AA	BB	Approx Weight Lbs.
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	7.00	.75	4	1.00	4.88	3.50	2.00	4.00	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	7.00	.75	4	1.25	5.25	3.88	2.00	4.00	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	8.00	.75	4	1.25	5.25	3.88	2.25	4.50	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	8.00	.88	4	1.50	6.13	4.50	2.25	4.50	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	9.50	.75	8	2.00	6.50	5.00	2.75	5.50	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	9.50	.88	8	2.50	7.50	5.88	2.75	5.50	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	11.50	.88	8	2.50	7.50	5.88	4.00	8.00	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	11.50	.88	8	3.00	8.25	6.63	4.00	8.00	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	11.50	.88	8	3.00	8.25	6.63	4.00	8.00	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	11.50	.88	8	4.00	10.00	7.88	4.00	8.00	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	11.50	.75	8	4.00	9.00	7.50	4.00	8.00	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	2.00	.94	7.53	.88	19.77	.88	7.75	15.50	.88	8	4.00	10.00	7.88	5.88	11.75	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	2.00	.94	8.28	.88	21.27	.88	7.75	15.50	.88	12	6.00	12.50	10.63	5.88	11.75	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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