



**VERTICAL  
CRUDE OIL  
PIPELINE  
Injection  
Pumps**

**Heavy Duty  
Gear Pumps**

**EXPERIENCE**

**RELIABILITY**

**SAFETY**

## FEATURES & BENEFITS

- A single unit simplifies the system
- A single unit reduces cost
- Discharge pressure up to 1440 PSI
- Smooth pulse free flow increases piping life cycle
- Eliminates the need for accessory components
- Easily varied flow output using a VFD
- Competitively priced
- Short lead times
- Environmentally friendly



For over 85 years Northern has been manufacturing the most reliable gear pump in the industry. We pride ourselves on regularly accomplishing for our customers what no other pump company can achieve. Northern's ability to produce discharge pressures up to 1440 psig and a broad turn-down ratio has made it the ideal pump for crude oil injection for pipeline applications. Whether the application is discharging from a LACT unit or providing boost for systems that have become inadequate due to increasing line pressures, Northern has performed flawlessly and we have now adopted our technology into a vertical configuration.

Evacuating crude oil sumps has traditionally been accomplished by a legacy system that uses a vertical centrifugal pump as a feed pump to a triplex piston pump which injects the oil into the pipeline. This system is not only complicated but expensive. The legacy system also contains inherent environmental concerns from leaks. Accessory equipment like pulsation dampeners are needed adding cost and complexity to the system as well.

Northern's Vertical Pump can simply be placed in your sump and piped directly into your pipeline. The simplicity offered by Northern's Vertical Pump reduces your system to one pump with no accessory equipment. The Northern pump is also always fully contained in your sump eliminating any environmental risk. This combination of benefits makes Northern the BEST CHOICE when selecting a pump for crude oil sump evacuation.



## VERTICAL CRUDE OIL PUMPS



EXPERIENCE  
RELIABILITY  
SAFETY



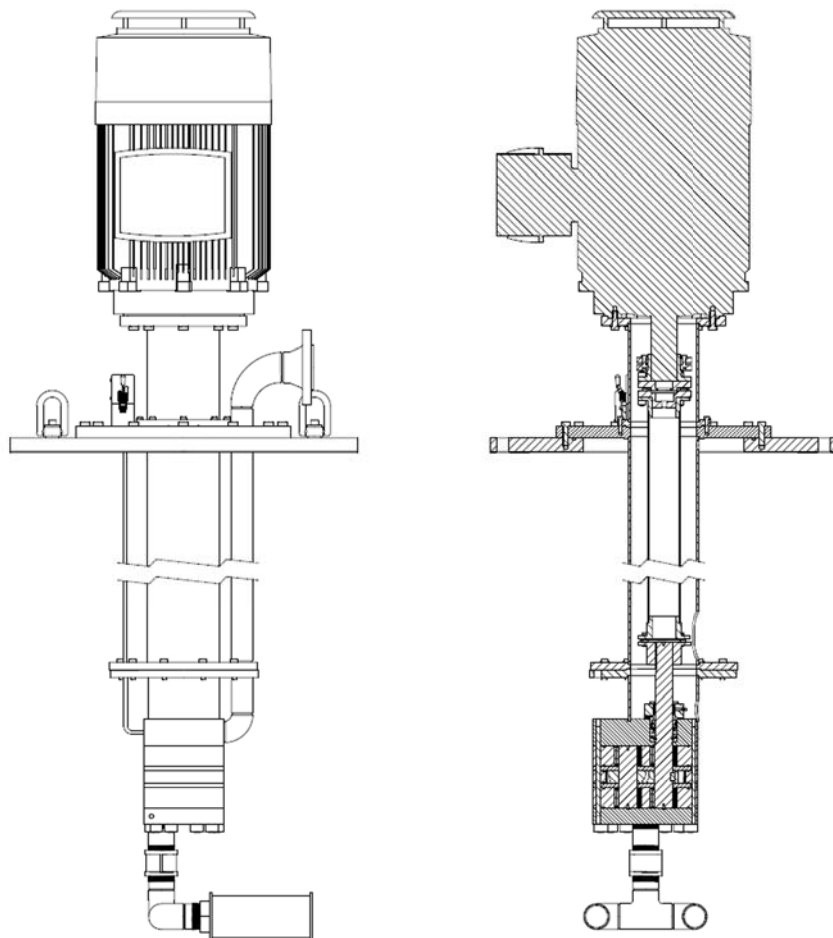
## Specifications:

Flow: Up to 195 GPM / 6686 BPD

Pressure: Up to 1440 PSI

Pressure Differential	Flow Rates									
	4900-10		4900-15		4900-20		4900-25		4900-30	
PSI	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD
200	64	2194	96	3291	129	4423	162	5554	195	6686
400	60	2057	92	3154	124	4251	156	5349	188	6446
600	56	1920	88	3017	119	4080	150	5143	-	-
800	52	1783	83	2846	114	3909	-	-	-	-
1000	49	1680	79	2709	-	-	-	-	-	-
Max $\Delta$ Pressure	1440 PSI		1165 PSI		875 PSI		700 PSI		580 PSI	

*\*Flow calculations are at 1750 RPM, assuming 4 cP crude oil.*



## Materials of Construction:

**Gears:** Hardened and Ground 8620 Alloy Steel

**Shafts:** Hardened and Ground 8620 Alloy Steel

**Bearings:** AISI 52100 Roller Bearings

**Shaft Seal:** Type 21 Mechanical Seal

**Inlet/Outlet Connections:** NPT or Flanged available.

Northern is 100% US manufactured which provides for quick deliveries and easy serviceability.

*Contact us with your application today!*



HIGH PRESSURE  
DIFFERENTIAL

RUGGED  
DESIGN

PRECISION  
MANUFACTURING

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Made in the USA



# NORTHERN PUMP

Manufacturing the Highest Quality Pumps for over 85 years



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