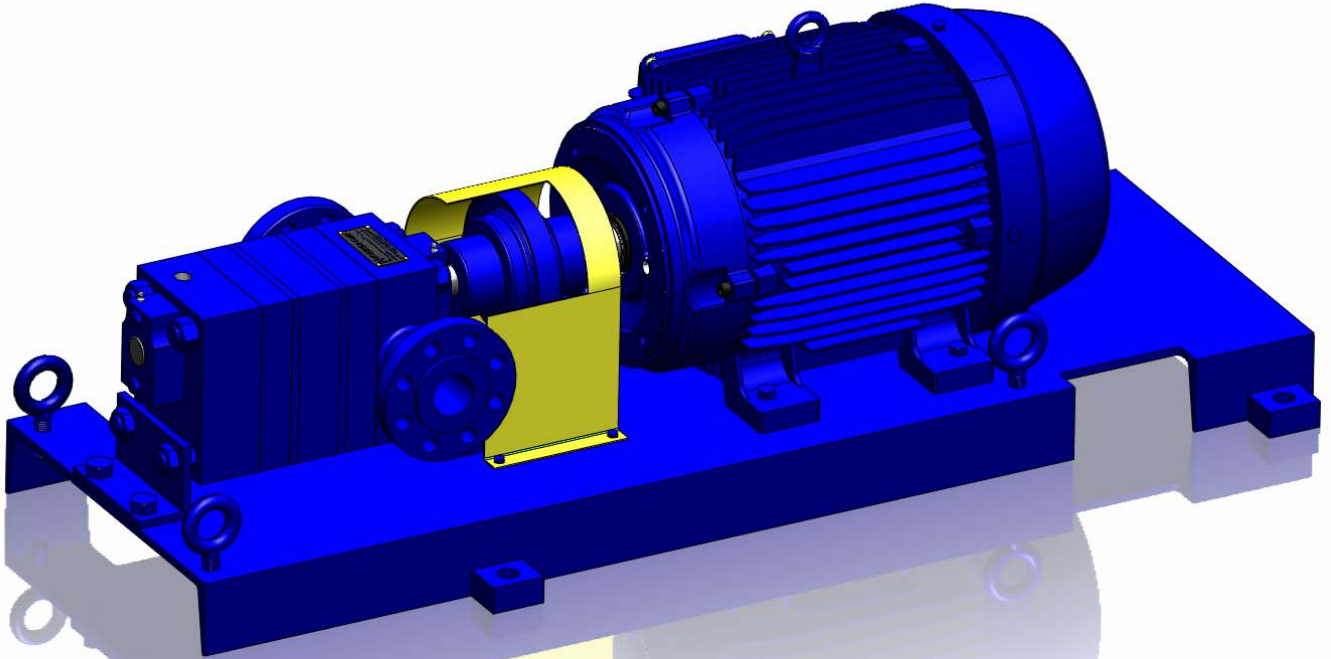


Northern[®] Pump Model 4800-20-D1765



- Pump Gears Aircraft Quality 8620 Alloy Steel**
- Pump Shafts Aircraft Quality 8620 Alloy Steel**
- Pump Cylinder Cast Iron**
- Bearing Plates Steel**
- Liner Plates Hardened and Ground D2 Tool Steel**
- Shaft Bearings AISI 52100 Steel Roller Type**
- Mounting Brackets ASTM A36 Structural Steel**
- Shaft Seal 2 JC Type 8-1 Mechanical Seals**
- End Plate Carbon Steel**
- Pump Studs Carbon Steel**

- Electric Motor WEG 15HP Explosion Proof**

NORTHERN® PUMP HELPS KEEP ATLANTA COOKING

Northern® Pump is proud to announce successful delivery of three custom pump unit assemblies to the Atlanta Gas Light Riverdale natural gas facility. Atlanta Gas Light delivers environmentally friendly natural gas to approximately 1.5 million customers throughout Georgia. These gear pumps replaced a competitor's product on the lube oil system for a General Electric Turbo Expander Unit used to liquefy natural gas. These units assemblies were delivered as a result of a coordinated effort between Northern® Pump, and its Gainesville, GA based distributor; Pump Technology & Solutions.

Northern Pump was chosen due to several available design improvements over the pump assemblies that were installed by the original equipment manufacturer. The first was our ability to comfortably handle high suction and discharge pressures. With an estimated 200 pound per inch² suction pressure, the pump's drive shaft was designed to be hydraulically balanced. This design dramatically improves the lifespan and overall lifecycle cost of the pump. The result is a pump with an estimated B-10 bearing life of over thirteen thousand hours!

The Northern® gear pump also featured a special flange dimension and unit base configured to fit into the existing lube oil system. The cost to move piping and other associated items when selecting a replacement pump can be staggering. Northern® Pump's ability to offer a drop-in replacement for a complex system will save the customer time and money.

The commitment of Northern® Pump and Pump Technology and Solutions to support the customer with spare parts and service is always a factor in selecting our product. We always offer spare parts for all of our custom products within a reasonable amount of time. Northern® Pump also offers a factory rebuild program that refurbishes your investment back to the original condition, and carries a full factory warrantee.

Northern® Pump is a premier provider of custom gear pumps and pumping solutions. Contact us today and see what we can design and build for you!

Pump Duty Conditions

Liquid: MOBIL DTE HEAVY MEDIUM ISO VG-68

Viscosity: 13 TO 160 cP

Flow Rate: 45 GPM

Pump Speed: 1150 RPM

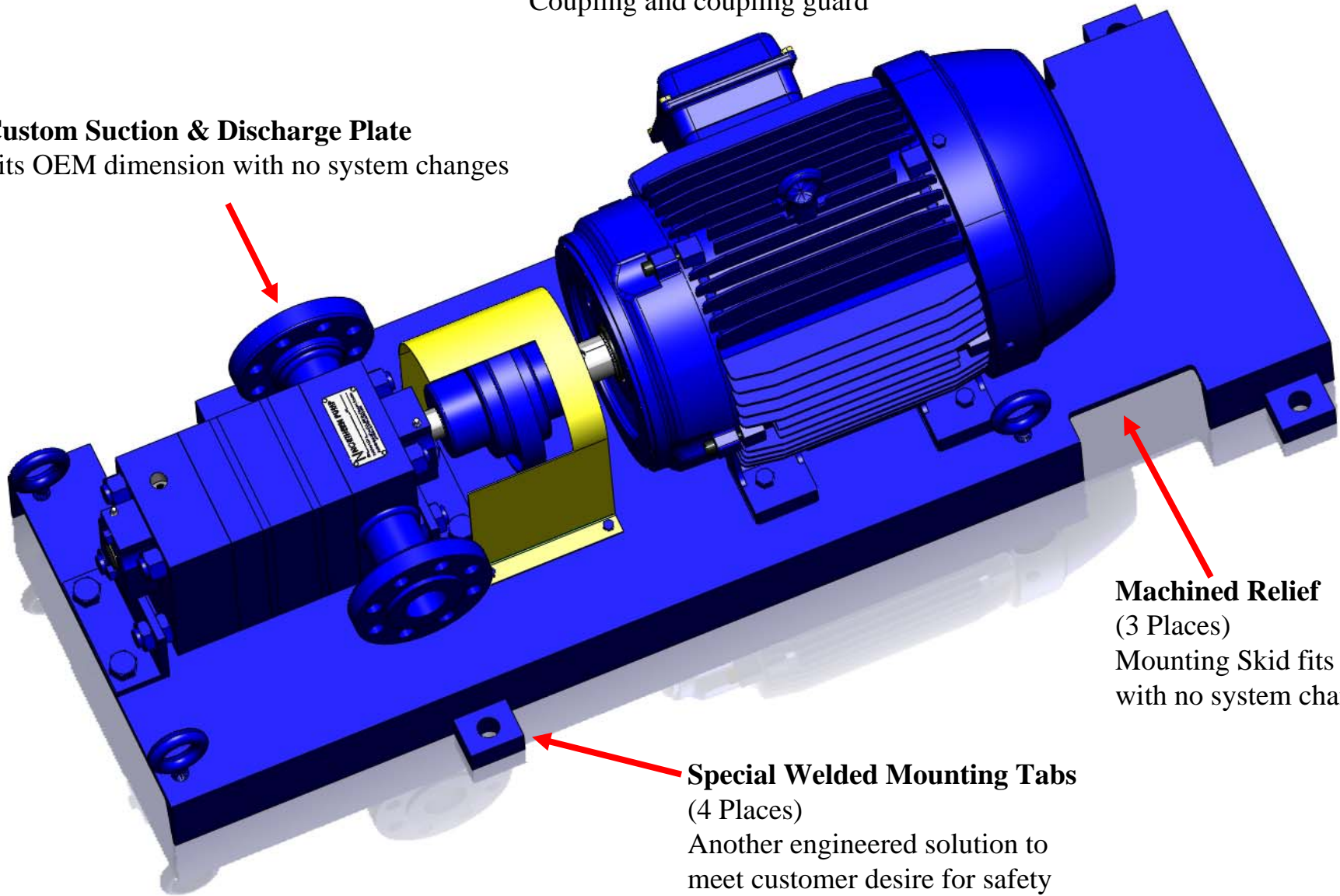
Pump Inlet Pressure: 200 PSI

Pump Discharge Pressure: 600 PSI

Operating Temperature: 180°F

15 Horsepower Explosion Proof Motor
Aligned with the pump at the factory
Coupling and coupling guard

Custom Suction & Discharge Plate
Fits OEM dimension with no system changes

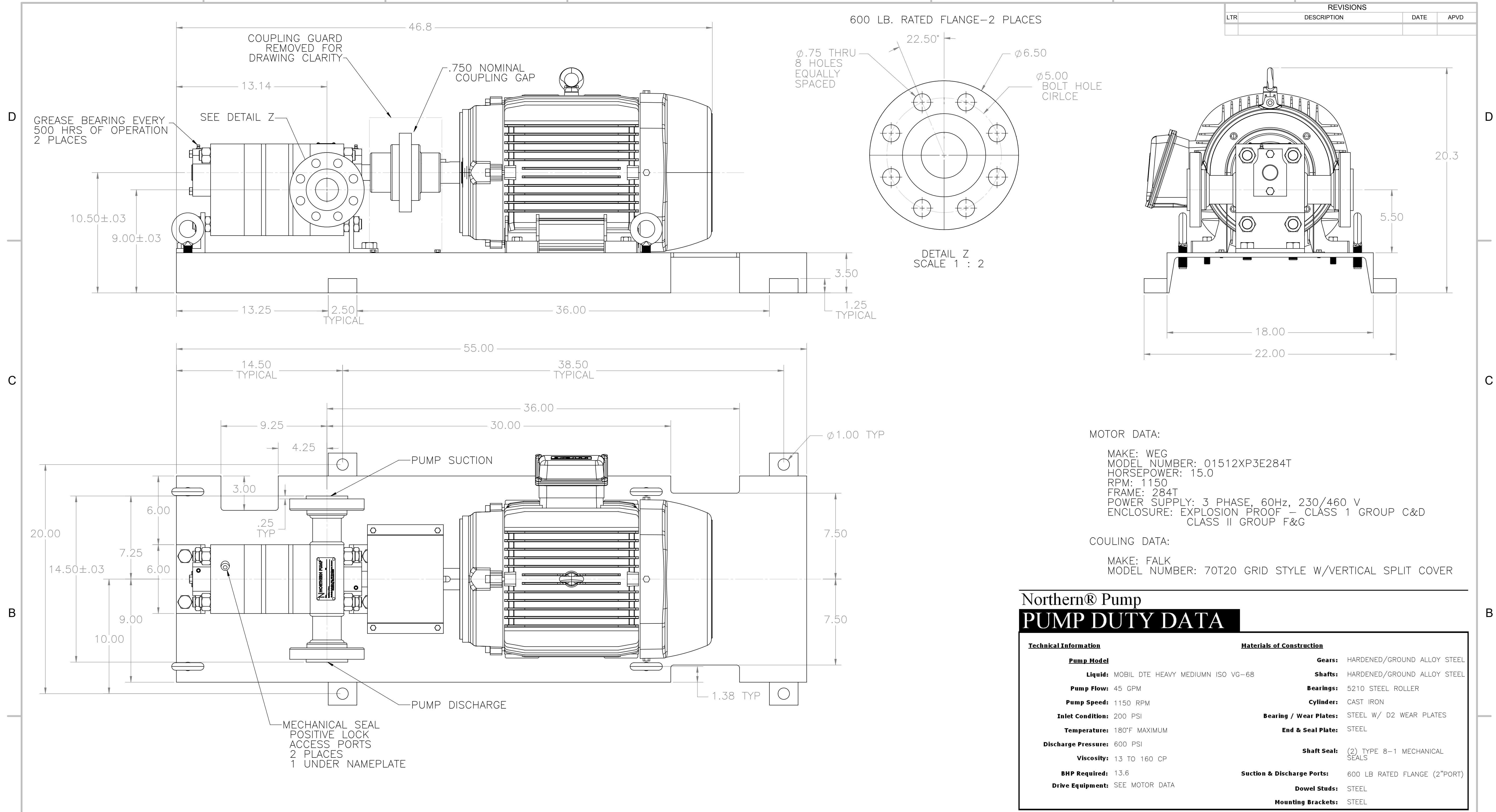


Machined Relief
(3 Places)
Mounting Skid fits OEM
with no system changes

Special Welded Mounting Tabs
(4 Places)
Another engineered solution to
meet customer desire for safety

8 7 6 5 4 3 2 1

REVISIONS			
LTR	DESCRIPTION	DATE	APVD



Northern® Pump	
PUMP DUTY DATA	
Technical Information	Materials of Construction
Pump Model	Gears: HARDENED/GROUND ALLOY STEEL
Liquid: MOBIL DTE HEAVY MEDIUM ISO VG-68	Shafts: HARDENED/GROUND ALLOY STEEL
Pump Flow: 45 GPM	Bearings: 5210 STEEL ROLLER
Pump Speed: 1150 RPM	Cylinder: CAST IRON
Inlet Condition: 200 PSI	Bearing / Wear Plates: STEEL W/ D2 WEAR PLATES
Temperature: 180°F MAXIMUM	End & Seal Plate: STEEL
Discharge Pressure: 600 PSI	Shaft Seal: (2) TYPE 8-1 MECHANICAL SEALS
Viscosity: 13 TO 160 CP	Suction & Discharge Ports: 600 LB RATED FLANGE (2"PORT)
BHP Required: 13.6	Dowel Studs: STEEL
Drive Equipment: SEE MOTOR DATA	Mounting Brackets: STEEL

COUNTERCLOCKWISE ROTATION PUMP DESIGN

8 7 6 5 4 3 2 1

DWN R. ANTONICH 3/18/10	 McNALLY INDUSTRIES, LLC. 340 WEST BENSON AVE, GRANTSBURG, WI 54840 (715)463-8300	PUMP UNIT ASSEMBLY			
CHK J. HOFFLAND 3/18/10					
MET		CAGE CODE	NORTHERN DWG.	SIZE	FILE NO
STD		96953	4800-20	D	1765
APVD	SCALE: 1:4	UNIT WT.	SHEET 1 OF 1		

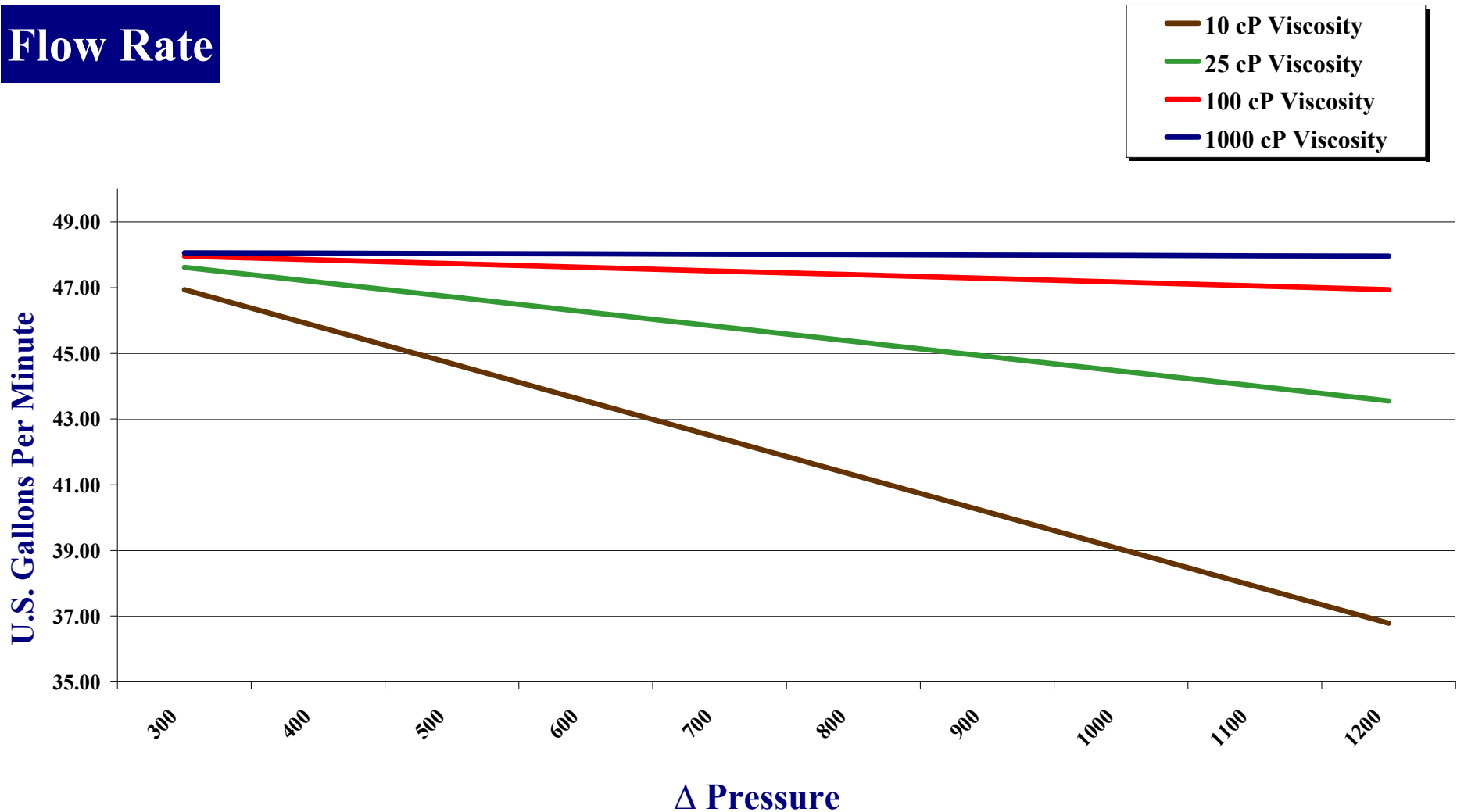
THIS DATA IS THE PROPERTY OF NORTHERN PUMP DIVISION OF McNALLY INDUSTRIES, LLC. AND SHALL NOT BE USED, DUPLICATED, OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF NORTHERN PUMP DIVISION OF McNALLY INDUSTRIES, LLC.

EXPECTED NORTHERN GEAR PUMP PERFORMANCE CALCULATION

Northern Pump - A Division of McNally Industries LLC
340 W Benson Rd. Grantsburg, WI 54840
www.northern-pump.com
(800) 366-1410

PUMP SIZE: 4800-20 1150 RPM

Flow Rate



For an explanation of pumping terms please visit: <http://www.northern-pump.com/PDFs/gear101/Pump%20101%20Lesson%202.pdf>

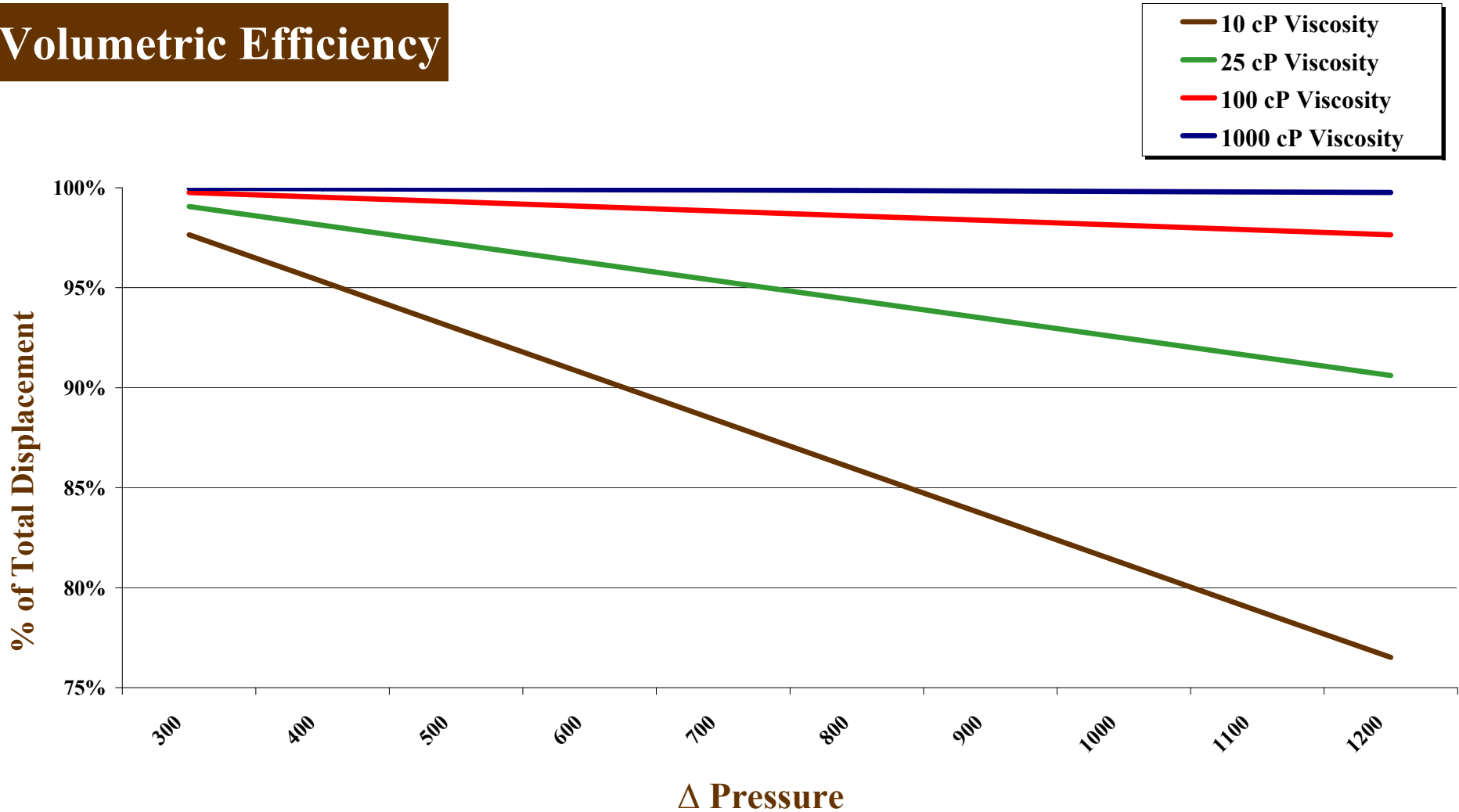
Limitations exist that may prevent pumps from operating effectively within the entire range listed on this chart. Contact the factory to verify the duty conditions for any Northern® Pump application.

EXPECTED NORTHERN GEAR PUMP PERFORMANCE CALCULATION

Northern Pump - A Division of McNally Industries LLC
340 W Benson Rd. Grantsburg, WI 54840
www.northern-pump.com
(800) 366-1410

PUMP SIZE: 4800-20 1150 RPM

Volumetric Efficiency



For an explanation of pumping terms please visit: <http://www.northern-pump.com/PDFs/gear101/Pump%20101%20Lesson%202.pdf>

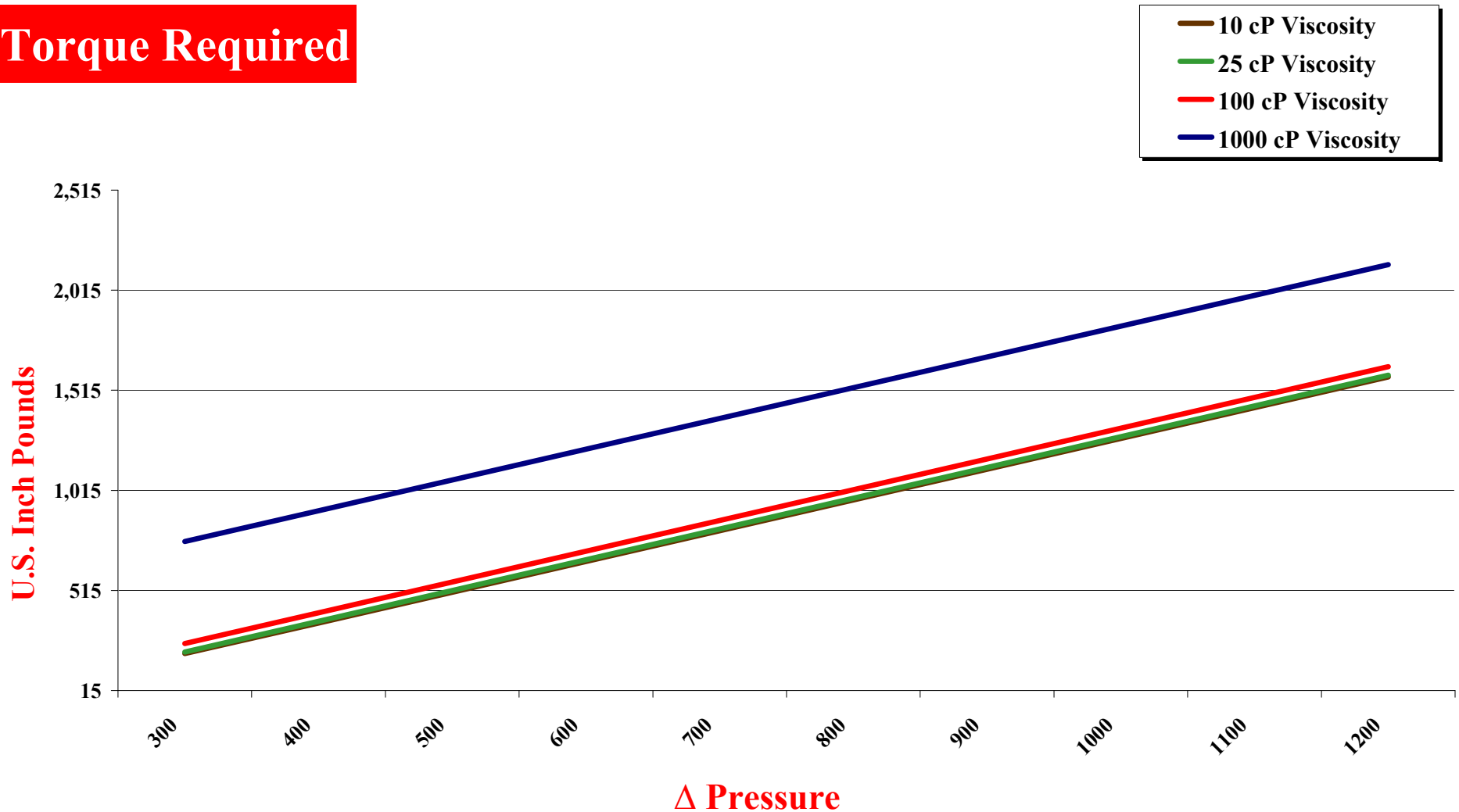
Limitations exist that may prevent pumps from operating effectively within the entire range listed on this chart. Contact the factory to verify the duty conditions for any Northern® Pump application.

EXPECTED NORTHERN GEAR PUMP PERFORMANCE CALCULATION

Northern Pump - A Division of McNally Industries LLC
340 W Benson Rd. Grantsburg, WI 54840
www.northern-pump.com
(800) 366-1410

PUMP SIZE: 4800-20 1150 RPM

Torque Required



For an explanation of pumping terms please visit: <http://www.northern-pump.com/PDFs/gear101/Pump%20101%20Lesson%202.pdf>

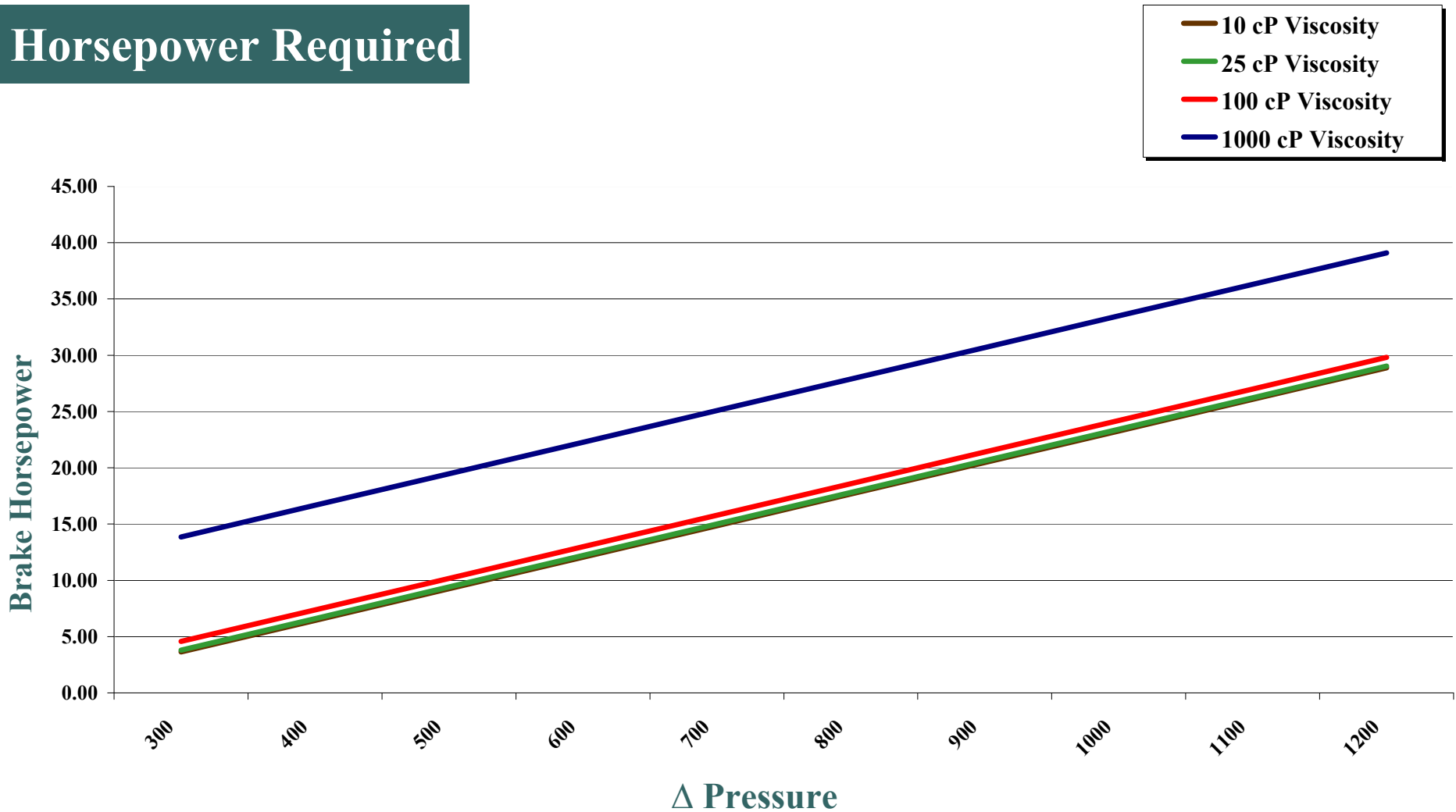
Limitations exist that may prevent pumps from operating effectively within the entire range listed on this chart. Contact the factory to verify the duty conditions for any Northern® Pump application.

EXPECTED NORTHERN GEAR PUMP PERFORMANCE CALCULATION

Northern Pump - A Division of McNally Industries LLC
340 W Benson Rd. Grantsburg, WI 54840
www.northern-pump.com
(800) 366-1410

PUMP SIZE: 4800-20 1150 RPM

Horsepower Required



For an explanation of pumping terms please visit: <http://www.northern-pump.com/PDFs/gear101/Pump%20101%20Lesson%202.pdf>

Limitations exist that may prevent pumps from operating effectively within the entire range listed on this chart. Contact the factory to verify the duty conditions for any Northern® Pump application.