

High Performance Gear Pumps



SHERTECH[®]

Delivering Solutions

In doing business with our team, you'll find that our SherTech self-priming, positive displacement, external gear pumps are ideal for a wide range of Industrial, Marine, Agricultural and Commercial applications.

Performance

SherTech gear pumps have various capabilities including flow rates up to 24 gpm, pressures up to 200 psi, fluid temperatures up to 400° F and viscosities up to 100,000 SSU.

Flexibility

Both close-coupled and pedestal-mounted pumps are offered in three materials of construction. 316 Stainless Steel can be specified for pumping clean, hard-to-transfer, high-temperature and/or highly-corrosive liquids. Cast iron and bronze meet the requirements of transferring a broad range of non-abrasive fluids, including oil and water-based fluids, respectively.

Two gear types are available, spur (or straight) and helical. Spur gears provide excellent suction lift and are great for water or light oils. Helical gears have a non-clogging design and are capable of handling higher viscosity fluids.

Durability

SherTech pumps are simple in construction, with a minimum number of moving parts for less maintenance and longer life. Design features include mechanical seals, seal chambers with flush ports, oversized carbon graphite bushings, integral ball bearings and piston relief valves.

Regardless of the SherTech pump series you select from, our team of customer service representatives and engineers are available to provide innovative solutions to your most complex pumping problems. We want to maximize your success. If you have any questions, you can reach our staff at **800-471-0460** or feel free to visit our website at www.shertech.com.

Hypro
Industrial
Products Group
is excited to
bring you the
complete gear
pump line from
SherTech,
to provide
your customers
with innovative
systems solutions.



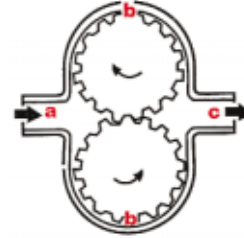
Gear Pump Technology

SherTech® gear pumps are positive displacement external style. Positive displacement indicates that for every revolution of the gear, a predefined volume of fluid will be transferred. This allows for a limited self-priming capability. External style refers to the pump being constructed of two gears, side-by-side, with teeth meshed together. One gear drives the other to provide a nearly pulseless flow, due to the small volume of fluid being transferred through multiple cavities at a high rate. The diagram below shows how the external gear pump operates.

“a” - As the gears separate on the inlet side of the pump, cavities are created between the gear teeth, which create a vacuum that draws in the liquid.

“b” - Once the teeth clear the inlet port, the liquid is captured between the gear teeth and the housing.

“c” - As the teeth mesh, the liquid is squeezed out of the cavity and forced out the discharge port.



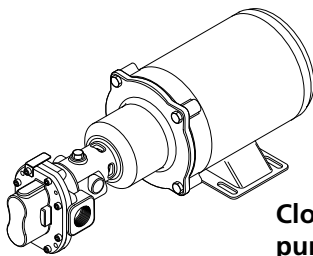
Note: Most gear pumps are reversible and can be operated in either direction by changing the drive shaft rotation. To operate pumps with relief valves in reverse direction, the cover must be removed and rotated 180° to maintain the relief valve location on the discharge side of the pump.

Gear Pump Applications

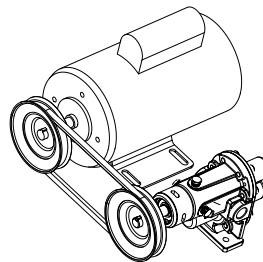
Gear pumps are recommended for non-abrasive, non-flammable liquids compatible with pump component materials. They can be used for liquid circulation, lubrication, pressure boosting, filtering, medium pressure spraying, sump draining, drum and vat filling and general fluid transfer applications. Gear pumps are ideal for pumping viscous fluids (see back page). They are not suitable for pumping fluids with suspended solids.

Gear pumps are capable of self-priming. Pumps with lubricated gears are capable of a 17 ft. vertical lift, depending on pump size, speed and fluid.

Pump Configurations & Drive Types



Close-Coupled pump w/ motor



Pedestal pump driven by pulley, belt and motor

Gear Pumps are available in two mounting configurations: motor mount and pedestal (or foot). Motor mounted pumps can be directly coupled to electric motors and are referred to as close-coupled pumps. Their design allows flexibility where space is limited. Pedestal-mounted pumps can be driven by electric motors, gasoline/diesel engines or pneumatic motors using pulleys/belts, gear boxes or other coupling devices. Pedestal pumps are ideal for reduced speed applications, such as with viscous fluids or to meet specific flow requirements.

Relief Valves

Pressure relief valves integral to pumps are intended to be used as safety devices to prevent pump and motor damage, which can occur when the discharge line is closed. Extended operation (over one minute) under shut-off conditions may cause the pump to overheat, leak or damage itself. The pressure relief valves are not factory set.

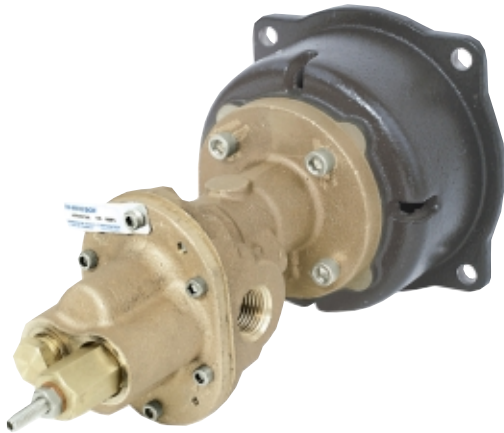
All integral relief valves in this brochure can be ported for either internal or external relief.

Pump Accessories

Hypro Industrial Products Group also offers Vacuum Switches and Strainers to help protect your investment from damage caused by running dry or pumping solids. See page 9.



"AK" Series



Model Number: AMBN2VA



Model Number: AMCV11A

Features

- Close coupled to NEMA motors Compact mounting
- Spline driven shaft assembly High torque capabilities and withstands frequent start/stop operations
- Oversized ball bearings Ensures pump concentricity, and allows for "floating gear design"
- Anti-friction carbon bearings Reduces wear for added longevity
- Type 21 Mechanical seals High vacuum, long-term reliability
- Buna-N or Viton® elastomers Chemical compatibility options
- Bronze or Steel spur gears High suction lift capability
- Bi-rotational Allows for flow direction reversal
- Optional adjustable relief valve Safeguards against pressure buildup

Benefits

MODEL ORDERING CODES AND OPTIONS

Example Model: **AMCV7VA4T**

(1) **A** (2) **M** (3) **C** (4) **V** (5) **7** (6) **V** (7) **A** (8) **4** (9) **T**

1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Series	Mounting	Material	Seal (Mech)	Gear Size (Ports)	Options	Motor Mounted Only		
						Brackets	HP	Type
A: AK Series	M: Motor Mount	C: Cast Iron B: Bronze*	N: Buna-N V: Viton	1: 3/8" 2: 1/2" 7: 1/2" 11: 3/4"	V: Relief Valve	A: 56C	1: 1/3 2: 1/2 3: 3/4 4: 1 5: 1 1/2	"Blank": no code single phase ODP motor 3: 3 phase ODP motor T: 1 phase TEFC 3T: 3 phase TEFC

* Size 7 and 11 gear pumps available only in cast iron.
 Note: Maximum motor speed 1725 RPM. See performance on page 10.



NSF Listed NG Series



Model Number: NG5V

Features

Benefits

- ⚙️ Helical gears Quiet, non-clogging operation
- ⚙️ Cast Iron construction Long life at high temperatures (up to 400° F)
- ⚙️ Mechanical seals High vacuum, long-term reliability
- ⚙️ Oversized bearings Reduces wear to pump internals
- ⚙️ Thermal overload Protects motor
- ⚙️ Optional relief valve Safeguards against pressure buildup
- ⚙️ NEMA 48YZ or 56C mounting Convenient, close-coupled mounting
- ⚙️ Stainless Steel gears/shafts Prevents corrosion from contaminated waste oil (size 7 & 11 only)



NG SERIES MODEL INFORMATION

Model	Port Sizes (NPT)	Max Flow (GPM)	Max Pressure (psi)	Gear Material	HP	Motor Type	Motor Voltage	Motor Frequency (Hz)
NG3	3/8"	3.2	50	Steel	1/3	ODP	115	60
NG3V*	3/8"	3.2	50	Steel	1/3	ODP	115	60
NG5	1/2"	5.8	50	Steel	1/2	ODP	115	60
NG5V*	1/2"	5.8	50	Steel	1/2	ODP	115	60
NG7	1/2"	7.2	50	SS	3/4	ODP	115/230	60
NG11	3/4"	10.8	50	SS	3/4	ODP	115/230	60
NG11V*	3/4"	10.8	50	SS	3/4	ODP	115/230	60

* Models with integral relief valve.
 Note: See performance on page 10.

316 Stainless Steel Series



Model Number: PSV2



Model Number: MSV4A

Features

- ⚙️ Pedestal mount or close coupled Compact size/multiple options to NEMA motors
- ⚙️ Polyphenylene Sulfide (PPS) spur gears Inert to most chemicals, quieter operation, longer life, and prevents galling
- ⚙️ Investment cast 316 SS construction Maximum chemical resistance for aggressive and high-purity fluids
- ⚙️ Integral self-lubricating, ball bearing Extra support for all applications assembly
- ⚙️ Oversized oil-less carbon graphite bushings Increased durability and longevity
- ⚙️ Mechanically sealed High vacuum, long-term reliability
- ⚙️ Viton or Teflon® elastomers Chemical compatibility options
- ⚙️ Standard flush ports Allows for prefill and decontamination of chemicals on elastomers and seal faces
- ⚙️ Bi-rotational Allows for flow direction reversal

Benefits



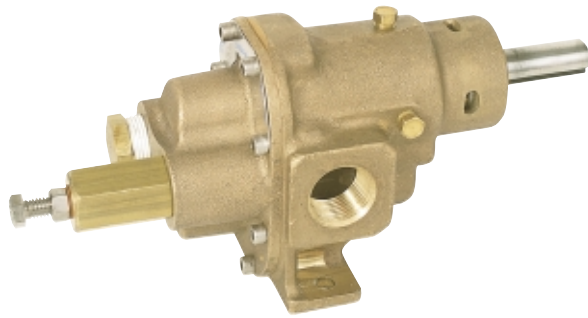
MODEL ORDERING CODES AND OPTIONS

Example Model: **MSV4A53T**

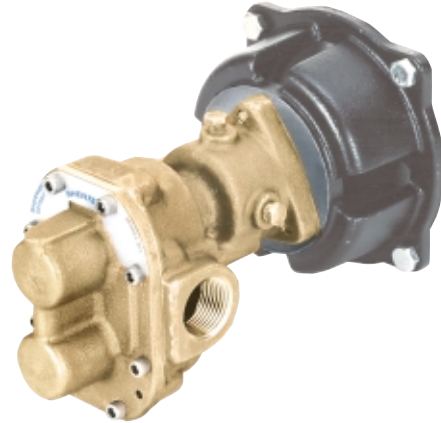
		(1) M	(2) S	(3) V	(4) 4	(5) A	(6) 5	(7) 3T
1st	2nd	3rd	4th	Motor Mounted Only			6th	7th
Mounting	Material	Seal (Mech)	Gear Size (Ports)	Brackets	HP	Type		
P: Pedestal M: Motor Mount	S: Stainless Steel	V: Viton T: Teflon	2: 3/8" 4: 1/2" 6: 1"	A: 56C B: 56C/145TC C: 182/184TC	1: 1/3 2: 1/2 3: 3/4 4: 1 5: 1 1/2 6: 2 7: 3	"Blank": no code single phase ODP motor 3: 3 phase ODP motor T: 1 phase TEFC 3T: 3 phase TEFC		

Note: Maximum rated pump speed 1725 RPM. See performance on page 11.

Bronze Series



Model Number: PBN6V



Model Number: MBN6B

Features

- ⚙️ Pedestal mount or close coupled Compact size/multiple options to NEMA motors
- ⚙️ Polyphenylene Sulfide (PPS) spur gears Inert to most chemicals, quieter operation and longer life
- ⚙️ Rugged cast bronze construction Suitable for water, water-based fluids and mild chemicals
- ⚙️ Ball bearing support (pedestal only) Extra support for all applications
- ⚙️ Carbon graphite bushings Increased durability and longevity
- ⚙️ Mechanically sealed High vacuum, long-term reliability
- ⚙️ Buna-N or Viton elastomers Chemical compatibility options
- ⚙️ Standard flush ports Allows for prefill and decontamination of chemicals on elastomers and seal faces
- ⚙️ Bi-rotational Allows for flow direction reversal
- ⚙️ Optional adjustable relief valve Safeguards against pressure buildup

Benefits



MODEL ORDERING CODES AND OPTIONS

Example Model: **MBN5VB63T**

	(1) M	(2) B	(3) N	(4) 5	(5) V	(6) B	(7) 6	(8) 3T
1st	2nd	3rd	4th	5th	6th			8th
Mounting	Material	Seal (Mech)	Gear Size (Ports)	Options	Motor Mounted Only			
					Brackets	HP	Type	
P: Pedestal M: Motor Mount*	B: Bronze	N: Buna-N V: Viton	* 2: 1/4" 3: 3/8" 4: 1/2" 5: 3/4" 6: 1"	V: Relief Valve	A: 56C B: 56C/145TC C: 182/184TC	1: 1/3 2: 1/2 3: 3/4 4: 1 5: 1 1/2 6: 2 7: 3	"Blank": no code single phase ODP motor 3: 3 phase ODP motor T: 1 phase TEFC 3T: 3 phase TEFC	

* Size 2 not available in motor-mounted configuration.
Note: Maximum rated pump speed 1725 RPM. See performance on page 11.

Cast Iron Series



Model Number: PCN6



Model Number: MCN5B

Features

- ⚙️ Pedestal mount or close coupled to NEMA motors
- ⚙️ Rugged cast iron construction
- ⚙️ Steel spur gears
- ⚙️ Ball bearing support (pedestal only)
- ⚙️ Mechanically sealed
- ⚙️ Buna-N or Viton elastomers
- ⚙️ Standard flush ports
- ⚙️ Bi-rotational
- ⚙️ Optional adjustable relief valve

Benefits

- Compact size/multiple options
- Suitable for heavy-duty lubricating fluid applications
- High suction lift capability
- Extra support for all applications
- High vacuum, long-term reliability
- Chemical compatibility options
- Allows for prefill and decontamination of chemicals on elastomers and seal faces
- Allows for flow direction reversal
- Safeguards against pressure buildup



MODEL ORDERING CODES AND OPTIONS

Example Model: **MCN5VB63T**

	(1) M	(2) C	(3) N	(4) 5	(5) V	(6) B	(7) 6	(8) 3T
1st	2nd	3rd	4th	5th	6th			8th
Mounting	Material	Seal (Mech)	Gear Size (Ports)	Options	Motor Mounted Only			
					Brackets	HP	Type	
P: Pedestal M: Motor Mount*	C: Cast Iron	N: Buna-N V: Viton	* 2: 1/4" * 3: 3/8" * 4: 1/2" 5: 3/4" 6: 1"	V: Relief Valve	A: 56C B: 56C/145TC C: 182/184TC	1: 1/3 2: 1/2 3: 3/4 4: 1 5: 1 1/2 6: 2 7: 3	"Blank": no code single phase ODP motor 3: 3 phase ODP motor T: 1 phase TEFC 3T: 3 phase TEFC	

* Size 2, 3 and 4 not available in motor-mounted configuration. See AK Series sizes 2, 7 and 11.

Note: Maximum rated pump speed 1725 RPM. See performance on page 11.

Accessories

In-Line Strainers

Features

- Full-flow filtering with ultra-low pressure
- Easy, in-line cleaning
- Stainless Steel screens
- Standard Buna-N O-ring gasket & Viton option
- Clear polyamide bowl & nylon cap



Strainer Part Number	Port Size	Screen Mesh	Optional Parts	
			Bracket	Viton Gasket
15935	1/2"	20	N/A	11806
18004	1/2"	50	N/A	11806
18001	3/4"	20	14240	11806
18005	1"	20	14239	11804
18016	1 1/4"	20	14238	11804
18029	1 1/2"	20	21930	11804

Note: 20 Mesh = 840 Micron
 50 Mesh = 297 Micron
 1 Micron = .0000394 Inch



Vacuum Switches

Features

- Automatically shuts off electric motors on loss of vacuum to protect pump from running dry
- Designed for temperatures up to 140° F
- Operates with AC or DC motors

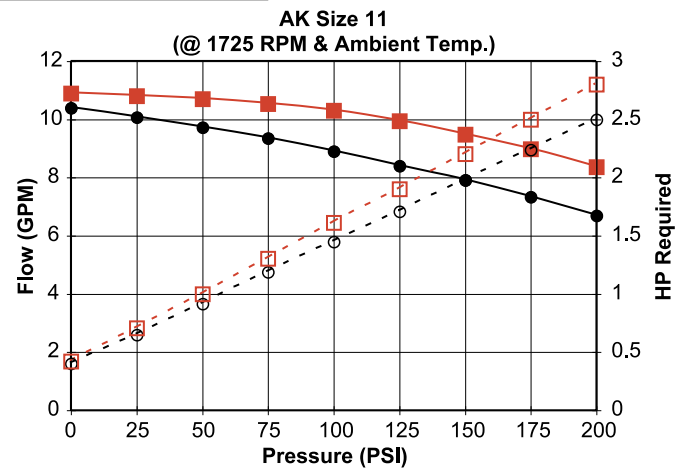
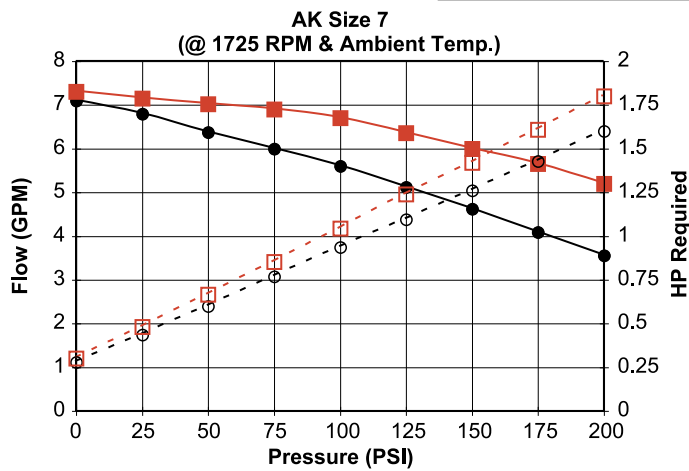
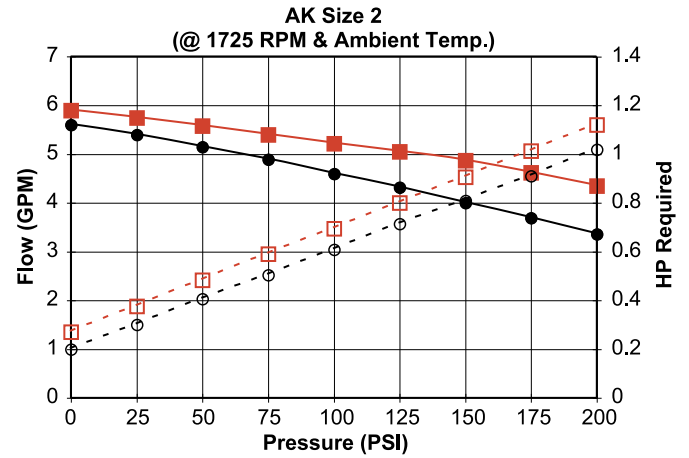
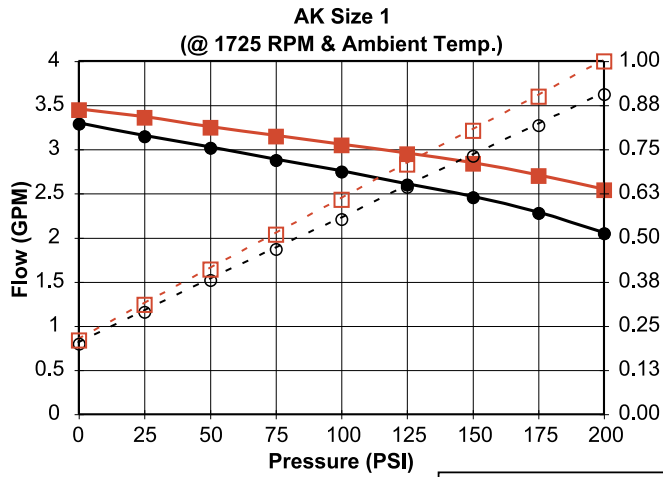


Part Number	Description	Vacuum Required	Elastomer	Construction
13217	Vac-On Switch	2 1/2" mercury	Neoprene	Plated steel (yellow zinc dichromate)
21971	Vac-On Switch	1 1/2" mercury	Buna-N	300 series SS wetted components
18204	Vac-On Switch Kit (includes 13217 switch, wire, close brass nipple, Sta-Kon forked terminals)	2 1/2" mercury	Neoprene	Plated steel (yellow zinc dichromate)

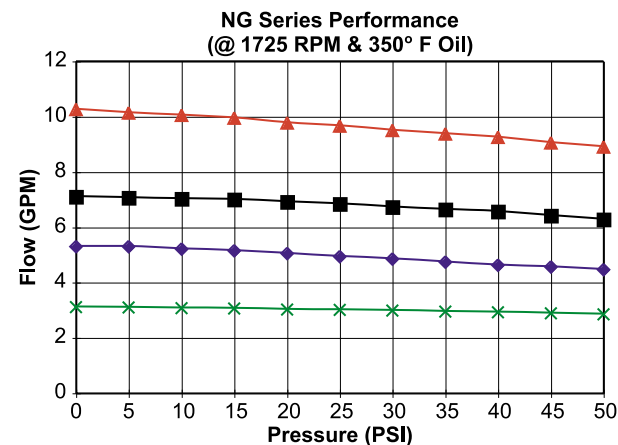
Max Amp draw
 12-24V DC = 16A
 36V DC = 10A
 110V-230V AC = 16A Resistive/10A Inductive

Performance Data—SherTech Gear Pumps

AK Series Gear Pumps



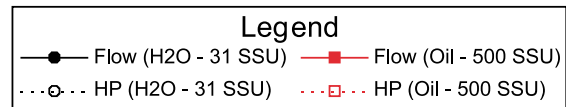
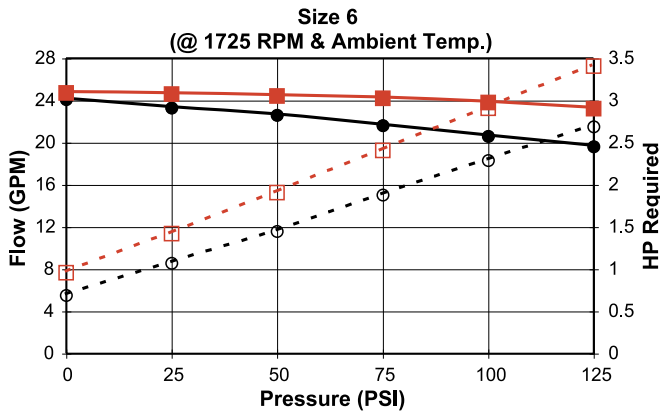
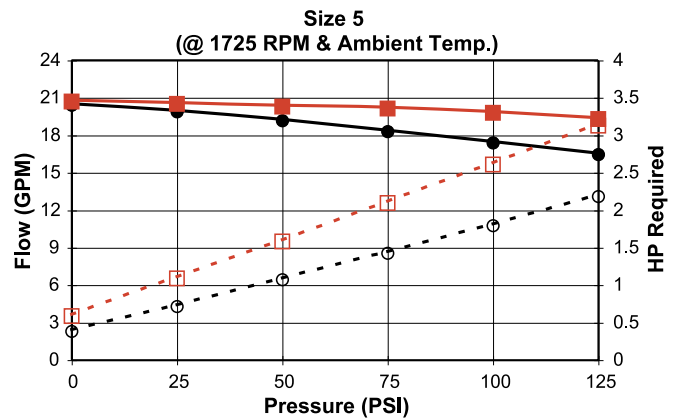
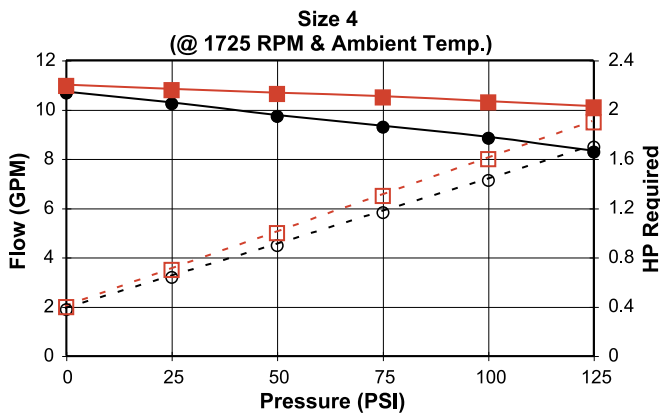
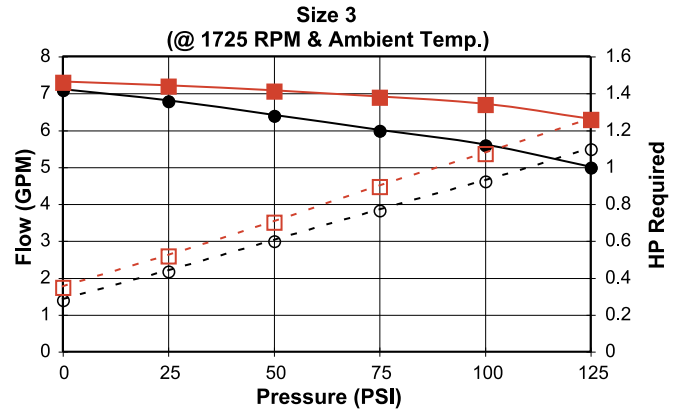
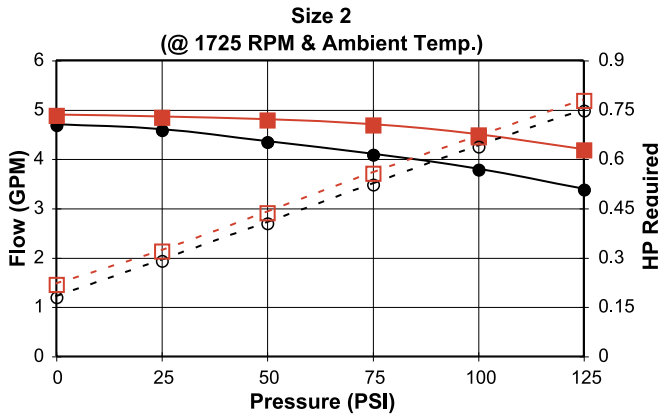
NG Series Gear Pumps



Performance Data—SherTech Gear Pumps

316 Stainless Steel Series, Bronze Series and Cast Iron Series

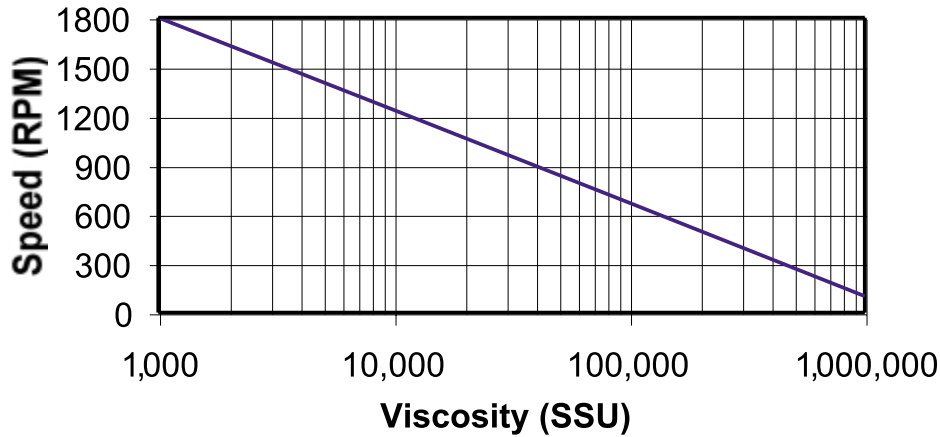
(Non "AK" Series)



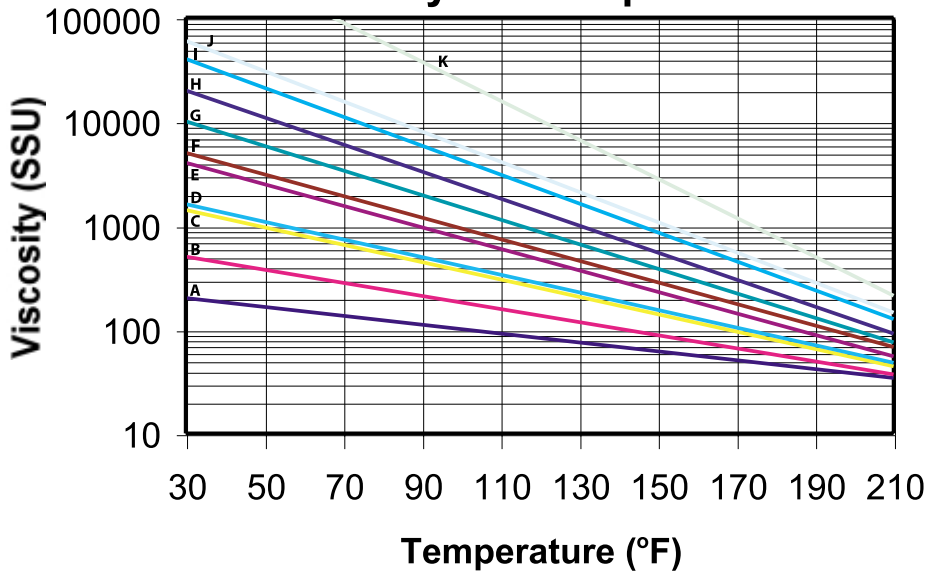
Pumping High Viscosity Fluids

SherTech® High Performance Gear Pumps are capable of handling high viscosity fluids (up to 100,000 SSU). The maximum pump speed is 1800 RPM for fluids up to 2000 SSU. The pump speed must be reduced for viscosities greater than 2000 SSU in order to prevent cavitation. (Increasing the pump size and piping size will also help). Below is a Speed vs. Viscosity Chart, which can be used as a guide to determine speed reduction. An Oil Viscosity Chart is also shown for your reference.

Speed vs. Viscosity



Viscosity vs. Temperature



- A #2 Fuel Oil
- B #4 Fuel Oil
- C Light Hydraulic Oil
- D SAE #10 Oil
- E SAE #20 Oil
- F SAE #30 Oil
- G SAE #40 Oil
- H SAE #50 Oil
- I SAE #60 Oil
- J SAE #70 Oil
- K #6 Fuel Oil

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