

# Commercial-Duty Filter and Rendering Oil Rotary Close-Coupled External Gear Pumps



## Description

SherTech self-priming, positive displacement, external gear, hot oil pumps feature cast-iron construction, with Viton mechanical seal for high temperature use. This series of non-clogging pumps are highly recommended for high flow waste oil rendering because they are able to pass small non-abrasive particles and reduce oil shear. Features include heavy-duty stainless steel helical non-corrosive gears for quiet and long-life pumping action, carbon graphite bushings and ball bearing drive for continuous use, with a stainless steel adjustable pressure relief valve as standard equipment. This series of pumps can also be used for hot oil or frying oil filtration up to 375° F., meeting NSF-listing requirements. Pumps are configured with motors specifically for hot oil applications where oil is heated prior to pumping and discharge pressure limitations do not exceed 50 PSI with supplied motors. They provide a nearly pulseless flow in applications where small or non-particulate and non-abrasive fluids are pumped. AC ODP single-phase motors have thermal overload protection. Complete package is easy to install, or optional pump heads only can be purchased for custom installations.

Uses: Ideal for a wide range of commercial fat fryer hot oil cooking, filtering, or waste oil rendering applications. This pump can also be used in non-NSF hot oil applications with non-particulate and non-abrasive fluids compatible with pump wet-end construction component materials. Not for use with water-based fluids.

- Pumps meet NSF-listed standards including NSF-accepted paint for hot oil cooking applications.
- Pumps can operate bi-directionally (reverse operation should be used intermittently).
- Pressures to 125 PSI with pump heads.
- Pressures to 50 PSI, maximum viscosity of 100 SSU and maximum specific gravity of 1.1 with configured motors.
- Flows to 10.8 GPM.
- Operating temperatures to 375° F.
- Maximum viscosity of 1000 SSU and maximum specific gravity of 1.1 with pump heads and optional motors at 1725 RPM, and viscosities up to 100,000 SSU at reduced motor speeds.
- Suction lift capabilities up to 12.3 feet of head.
- Maximum RPM: 1725.
- Stainless steel adjustable pressure relief valve standard.
- Port size: 1/2" and/or 3/4".
- ODP single-phase 56C frame motors with 1/2 or 3/4 HP with thermal overload protection.
- 416 SS helical gear set for handling high viscosity fluids and low oil shear.
- 303 SS drive shaft and idler shaft with carbon graphite bushings and a ball bearing drive.
- Seal flush ports for handling fluids of viscosities greater than 2000 SSU.
- Maximum case pressure of 200 PSI.

Wet-end parts are constructed from cast iron, steel, stainless steel (303, 17-7, 18-8, 416, 15-7MO), carbon, graphite, ceramic, and Viton.

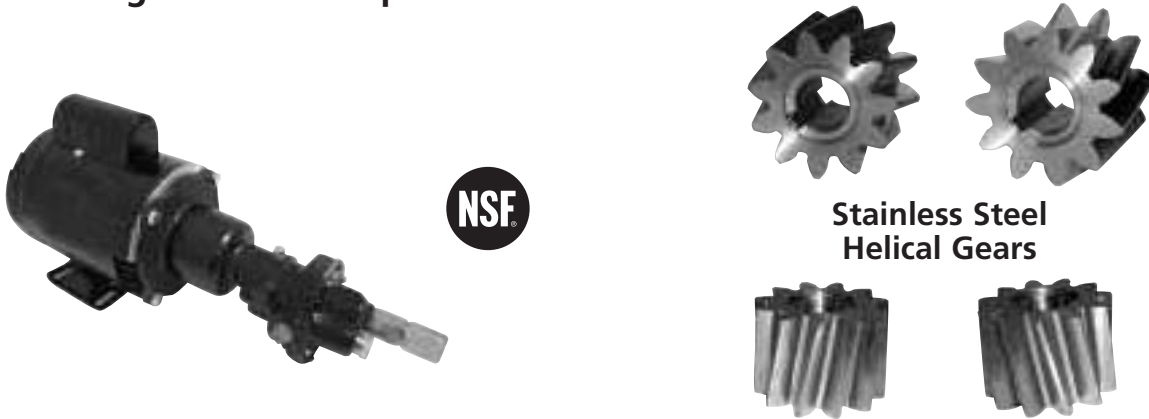
Optional Close-Coupled Gear Speed Reducers are available that mount directly between pump and motor to reduce pump speed for high viscosity or high specific gravity applications (See Appendix 1 in the owner's manual).



**WARNING:** Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Do not use in flammable and/or explosive atmospheres. When pumping hazardous or dangerous materials, use only in room or area designated for that purpose. For your protection, always wear proper clothing, eye protection, etc. in case of any malfunction. For proper handling techniques and cautions, contact your chemical supplier, insurance company and local agencies (fire dept., etc.). Failure to comply with this warning could result in personal injury and/or property damage.

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## Model Ordering Codes and Options



Example Model: NG7V

1st	2nd	3rd	4th
<b>Mounting</b>	<b>Pump Size (Ports)/AC Motor</b>	<b>Options</b>	
(1) NG NG: Motor Mounting (NSF Cast Iron Gear Pump with Viton Seals)	(2) 7 7: 7 GPM (1/2") / 1/2 HP 11: 10.8 GPM (3/4") / 3/4 HP NOTE: 1725 RPM ODP motor Stainless Steel Helical Gears	(3) V V: Pressure Relief Valve	(4) -PH: Pump Head Only (no motor)

**NOTE:** Not all order code combinations (configurations) are standard models available from the manufacturer. Custom model configurations may require ordering standard components and/or optional parts that will need to be assembled by the customer.

Manufacturer reserves the right to change model order codes, standard models, specifications, and performance without notification.

Maximum motor speed is 1725 RPM.

Cast iron is not for use with water-based fluids.

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## Performance

Models	Port Size*	RPM	Max. Input Torque in.-lbs.	Suction Lift (ft)**	GPM Pumping Free Flow	Cooking Oil at 300° F 25 PSI	50 PSI***
<b>Pumps with Motors</b>							
NG7V	1/2"	1725	90	7.9	7.0	6.9	6.8
NG11V	3/4"	1725	90	12.3	10.8	10.7	10.6
<b>Pumps without Motors</b>							
NG7V-PH	1/2"	1725	90	7.9	7.0	6.9	6.8
NG11V-PH	3/4"	1725	90	12.3	10.8	10.7	10.6

Test data taken on cooking oil at 300° F. Do not use with water.

Pump performance when pump is new. As pump wears, the performance will decrease.

(\*) Female NPT inlet and outlet (in inches).

(\*\*) Suction lift requires wetted gears and primed seal chamber.

(\*\*\*) Max. PSI = 50 based on HP of motors supplied (rating may vary based on application; check motor amps on start-up).

**NOTES:** Consult tables in form L-4082 (General Operating and Safety Instructions) on HP adders and speed recommendations for high viscosity fluids.

Pumps with motors are HP rated to handle up to 50 SSU at 50 PSI and specific gravity of 1.0.

Max. Viscosity = 100 SSU at 1725 RPM with the motor supplied.

Max. Input Torque = See chart above.

Max. RPM = 1725

Max. Specific Gravity = 1.1 at 50 PSI, up to 1.6 at lower PSI & viscosity.

Reverse Rotation = Pumps can be run in reverse rotation. Pressure relief valve will only function if installed on the discharge side of the pump. For continuous reverse rotation, gears need to be reversed and pump head cover rotated 180°.

Flush porting is required beyond 2000 SSU.

Pump heads with optional motors can pump to 1000 SSU at 1725 RPM.

Pumping greater than 1000 SSU requires reduced motor speeds. Max. viscosity is 100,000 SSU at reduced speeds.

Manufacturer reserves the right to change performance without notification.

## Price List and Specifications

List Price	AC Motor										PUMP CONSTRUCTION (Wet End)								Ship Wt. (lbs.)		
	Model	HP	Type	NEMA Frame	Motor Voltage	Amps	PH	HZ	Thermal Overload Protection**	Motor RPM	Pump Shaft Size	Motor Shaft	Port & Cover ***	Body/Adapter Castings	Helical Gears	Shaft ****	Bushing Material	Pressure Relief Valve†		Seal & O-Rings*	
<b>Models with Motors</b>																					
\$	NG7V	1/2	ODP	56C	115/230	8.2/4.1	1	60	Yes	1725	5/8 Spline	5/8 Keyed	1/2	CI	416 SS	303 SS	CG	Steel & SS	Viton	28	
\$	NG11V	3/4	ODP	56C	115/208-230	13.0/5.8-6.5	1	50/60	Yes	1450/1725	5/8 Spline	5/8 Keyed	3/4	CI	416 SS	303 SS	CG	Steel & SS	Viton	37	
<b>Models without Motors</b>																					
\$	NG7V-PH	-	-	-	-	-	-	-	-	-	5/8 Spline	-	1/2	CI	416 SS	303 SS	CG	Steel & SS	Viton	8	
\$	NG11V-PH	-	-	-	-	-	-	-	-	-	5/8 Spline	-	3/4	CI	416 SS	303 SS	CG	Steel & SS	Viton	11	

CG = Carbon Graphite SS = Stainless Steel CI = Cast Iron ODP = Open Drip-Proof

(\*) Standard Shaft Seals have carbon on ceramic faces and 18-8 SS components.

(\*\*) Manual or Automatic (check motor supplied).

(\*\*\*) NPT inlet and outlet (in inches).

(\*\*\*\*) Retaining rings on drive and idler shafts are 15-7 MO SS.

(†) Models are made of steel and stainless steel (17-7, 303 and/or 18-8).

**NOTES:** Driver data is subject to change without notice; see label on driver for specifications and wiring information.

All dimensions in inches unless otherwise specified.

Manufacturer reserves the right to change specifications without notification.

## To Order Optional Motors

For custom applications or configurations, select a pump head from above and a 56C Frame motor from the motor section of this catalog.

Source: Owner's Manual L-4092 (11/07)