316 Stainless Steel Close-Coupled Self-Priming Flexible Impeller Pumps

Description

Shertech 316 stainless steel self-priming, positive displacement, flexible impeller pumps provide a nearly pulseless flow with no metal-to-metal contact. Features 316 stainless steel pump body (impregnated with Teflon®), cover and wear plates, stainless steel shaft, Viton mechanical-type seal and o-rings with Nitrile impellers. Models have built-in cam profile for extended impeller life, concave manifold protects the impeller from intermittent dry run damage and increased startup suction lift. Mounted directly to NEMA frame AC Totally-Enclosed Fan-Cooled (TEFC) motors using an easy-installation package, or as pump heads only for custom installations. Single-phase motors are thermally-overload protected.

Uses: Handle a wide range of industrial, marine, agricultural and commercial applications where non-abrasive fluids compatible with pump wet-end construction component materials are pumped. Pumps are suitable for the transfer of non-lubricating fluids, mild abrasives, fluids containing small particles in suspension, and a wide variety of viscous fluids such as petroleum-based oils, silicone greases, and hydraulic fluids. The portable transfer units are ideal for water drainage transfer, barrel emptying, machine coolant recycling, and an assortment of related utility activities.

NOTE: Flexible impeller failure will occur immediately if pump is run dry, and this is not covered under warranty. Use caution to not touch the pump if you have dry run it, because it will be extremely hot.

- Pumps are supplied with 56C face motors and totally-enclosed fan-cooled (TEFC) construction.
- Capacities up to 22.8 GPM at 1725 RPM.
- Maximum discharge pressure is 25 PSI (60 ft. of head).
- Max. RPM: 3450 (1725 with supplied motors).
- Suction lift to 12 ft.
- Features 316 stainless steel pump body (impregnated with Teflon®), cover and wear plates, stainless steel shaft, Viton mechanical-type seal and o-rings with Nitrile impellers. Models have built-in cam profile for extended impeller life, concave manifold protects the impeller from intermittent dry run damage and increased startup suction lift.
- Maximum viscosity for pumps with standard electric motors up to 500 SSU and 25 PSI (60 ft. of head) at 1725 RPM or run at reduced speeds to handle a wide range of pump fluid viscosities (up to 2500 SSU) and specific gravity (up to 1.3). DO NOT pump oils or petroleum derivatives with optional neoprene impellers. (Maximum torque loads are found in the performance chart.)
- Pumps can operate bi-directionally (reversible).
- Temperature range with Nitrile impellers is 0°F - 180°F (optional neoprene impeller is 15°F - 130°F).
- NPT ports (3/4" to 1¼").
- Accessory NPT ports (1/8") for priming, vacuum switch (pump protector) installation (to allow for dry run protection) or pressure gauge installation.

316 STAINLESS STEEL MODELS – Excellent for water-based fluids. Features 316 stainless steel pump body (impregnated with Teflon®), cover and wear plates, stainless steel shaft, Viton mechanical-type seal and o-rings with Nitrile impellers. Wet-end parts are constructed from 316 stainless steel, Teflon®, Viton, carbon, ceramic and Nitrile.

REPAIR IMPELLERS AND OPTIONS – Standard impellers are Nitrile, and they and the optional neoprene impeller can be located in the repair parts list pages of the owner's manual.

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 2 in the owner's manual).

NOTE: Bronze flexible impeller pumps are also available as pedestal models or close-coupled for custom installation. Pedestal models are not equipped with motors.

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 a 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.

Source: Owner's Manual L-4093 (4/06)

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Model Ordering Codes and Options

Example Model: MRS9901

(1)	(2)	(3)	(4)	(5)	(6)
M	R	S	9 9	0	1

1st	2nd	3rd	4th	5th	6th
Mounting	**Type**	**Material**	**Impeller Size (Ports)**	**Impeller Material**	**AC Motor Options***
M: Motor Mount	R: Flexible (Rubber) Impeller	S: 316 Stainless Steel	90 (3/4") - 3/4 HP 99 (1") - 1 HP 150 (1¼") - 1½ HP	0: Nitrile 1: Neoprene	0: Pump only 1: 1725 RPM 2: 3450 RPM

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.

Standard motor speed is 1725 RPM. Maximum motor speed is 3450 RPM.

(*) Standard motors are single phase, 1725 RPM, totally-enclosed fan-cooled.

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Performance (with Water)

Model	Port Size*	HP	Max. Input Torque in.-lbs.	RPM	Suction Lift**	GPM Pumping Water at 70° F @ Total Feet of Head						
						Free Flow	10	20	30	40	50	60†
Models with Motors												
MRS9001	3/4	3/4	28	1725	8	7.4	7.1	6.7	6.2	5.5	4.8	3.8
MRS9901	1	1	37	1725	10	11.9	11.6	10.5	10.0	8.6	6.7	4.8
MRS15001	1¼	1½	55	1725	12	22.8	21.2	20.9	20.0	19.0	17.1	14.3
Models without Motors												
MRS9000	3/4	3/4	28	1725	8	7.4	7.1	6.7	6.2	5.5	4.8	3.8
MRS9900	1	1	37	1725	10	11.9	11.6	10.5	10.0	8.6	6.7	4.8
MRS15000	1¼	1½	55	1725	12	22.8	21.2	20.9	20.0	19.0	17.1	14.3

Test data taken with water at 70° F (to convert data to PSI, divide feet of head by 2.31).
Pump performance when pump is new. As pump wears, the performance will decrease.
(†) Extended operation beyond 60 feet of head will result in immediate impeller failure.
(*) Female NPT inlet and outlet (in inches).
(**) Suction lift requires wetted impellers and seal chamber.

NOTES: Consult tables on HP adders and speed recommendations for high viscosity fluids. The pump relationship between volume (GPM), pressure (PSI), speed (RPM) and horsepower is shown on Performance Chart in Shertech Motor Manual form L-4082. When pumping a more viscous liquid, a slower speed, a larger pipe size pump, and possibly a larger motor should be selected.
Max. Viscosity = 500 SSU at 1725 RPM with the motor supplied (at 1.0 specific gravity).
Max. Input Torque = see chart above.
Max. RPM = 3450
Max. Specific Gravity = 1.0 at 25 PSI, up to 1.3 at lower PSI & viscosity.
Do not use Neoprene impellers with oil.
Manufacturer reserves the right to change performance without notification.

Price List and Specifications

List Price	Model	Motor HP	AC Motor Type	NEMA Frame	Motor Voltage	Amps	PH	HZ	Overload Protection**	Motor RPM	Pump Shaft Size	Motor Shaft	Motor Adapter	PUMP CONSTRUCTION (Wet End) Port Size (in.)	Pump Body & Cam	Flexible Impeller ***	Wear Plates†	Shaft	Seal & O-Rings*	Ship Wt. (lbs.)
	Models with Motors																			
$	MRS9001	3/4	TEFC	56C	115/230	10.8/5.4	1	60	Yes	1725	5/8 Keyed	5/8 Keyed	CI	3/4	316 SS	Nitrile	316 SS	316 SS	Viton	44
$	MRS9901	1	TEFC	56C	115/230	12.8/6.4	1	60	Yes	1725	5/8 Keyed	5/8 Keyed	CI	1	316 SS	Nitrile	316 SS	316 SS	Viton	45
$	MRS15001	1½	TEFC	56C	115/230	17.2/8.6	1	60	Yes	1725	5/8 Keyed	5/8 Keyed	CI	1¼	316 SS	Nitrile	316 SS	316 SS	Viton	59
	Models without Motors																			
$	MRS9000	-	-	-	-	-	-	-	-	-	5/8 Keyed	-	-	3/4	316 SS	Nitrile	316 SS	316 SS	Viton	5
$	MRS9900	-	-	-	-	-	-	-	-	-	5/8 Keyed	-	-	1	316 SS	Nitrile	316 SS	316 SS	Viton	6
$	MRS15000	-	-	-	-	-	-	-	-	-	5/8 Keyed	-	-	1¼	316 SS	Nitrile	316 SS	316 SS	Viton	7

SS = Stainless Steel CI = Cast Iron TEFC = Totally Enclosed Fan-Cooled
(*) Viton mechanical seals have 316 Stainless Steel series components and carbon and ceramic wear surfaces.
(**) Manual or Automatic - Check motor supplied.
(***) Impeller has a 316 Stainless Steel insert.

NOTES: Driver data is subject to change without notice; see label on driver for actual information.
All dimensions in inches unless otherwise specified.
To prevent dry run operation a vacuum switch (pump protector) is recommended.
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-4093 (4/06)