

Please read and save this Repair Parts Manual. Read this manual and the General Operating Instructions carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. The Safety Instructions are contained in the General Operating Instructions. Failure to comply with the safety instructions accompanying this product could result in personal injury and/or property damage! Retain instructions for future reference.

SHURflo Close-Coupled Centrifugal Pumps

316 Stainless Steel, Bronze and Cast Iron Models

Refer to form L-4077 for General Operating and Safety Instructions and Applicable Warranty.

Description

SHURflo close-coupled cast iron, bronze or 316 stainless steel units pump continuously, producing high flow rates under low-head conditions. Designed for continuous low-pressure circulation and transfer of non-flammable liquids, utility, boiler feed, general transfer, filtration, cooling towers, condensate return, marine applications, fountains, boosters, water circulation, irrigation, spraying systems, jockey pump service, chemical processing, aggressive liquid applications and other general-purpose pumping compatible with pump component materials where no suction lift or no self-priming is required.

- Capacities to 170 GPM, heads to 74 ft.
- 1/3 to 3 HP AC, NEMA 56J frame and base, ODP and TEFC, single and three-phase motors. Single-phase motors are equipped with thermal overload protection. Overload protection not supplied on three-phase units and must be provided in starter units. Pump control box must be ordered separately.
- Clog-resistant, semi-open metallic impellers.
- Pumps feature maintenance-free ball bearings and an easily accessible front drain plug for draining liquid.
- Maximum casing working pressure is 200 PSI.
- Standard pump models (at 3450 RPM) will handle specific gravities to 1.1 (at 100 SSU or less). For specific gravities to 1.4 (at 100 SSU or less), increase motor HP by one size but not to exceed standard 3 HP motor at 3450 RPM or 65 in.-lbs. of torque maximum. Higher specific gravity fluids are not recommended.
- Standard pump models (at 3450 RPM) will handle viscosity to 100 SSU (at 1.1 specific gravity or less) and up to 200 SSU (specific gravity of 1.0 or less). For viscosity up to 400 SSU (specific gravity of 1.0 or less), increase motor HP by one size but not to exceed standard 3 HP motor at 3450 RPM or 65 in.-lbs. of torque. For fluids with a viscosity greater than 400 SSU, pump speed must be reduced below 3450 RPM.
- 3/4" to 2" female NPT inlet and outlet ports.
- Discharge port can be rotated at 90-degree intervals.
- Cast Iron and Bronze units handle temperatures to 200° F; Stainless Steel units handle temperatures to 250° F.
- Seals: Pumps are equipped with a carbon ceramic mechanical seal having 316 stainless steel components. These seals protect the motor shaft, which is 300 series stainless steel, from chemical exposure. Buna-N seal and o-ring in cast iron and bronze models, with Viton seal and o-ring in 316 stainless steel models. Aftermarket options listed below.

REPAIR SEALS AND OPTIONS – Standard (Viton & Buna-N) and an upgraded (Silicon Carbide) seal are available. If abrasive or small, particulated fluids are being pumped, upgrade to the silicon carbide mechanical seal with Viton elastomers is recommended. Standard and upgraded seals can be located in the repair parts list pages in this manual.

PEDESTAL MODELS – SHURflo pedestals are available and can be long coupled or pulley driven.

CLOSE-COUPLED PUMP HEADS AND PEDESTAL MOUNT BASE – Complete pump heads can be ordered from SHURflo Parts. Pump head model numbers and optional pedestal base are called out in the repair parts list pages in this manual.



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.

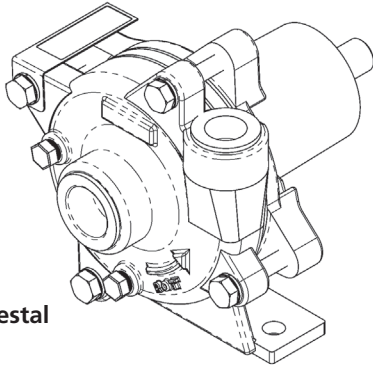
CAUTION

Pumps are not self-priming and cannot suction lift, flooded inlet is required. If inlet is not flooded when the pump is running, seal failure will result and is not covered under the manufacturer's warranty.

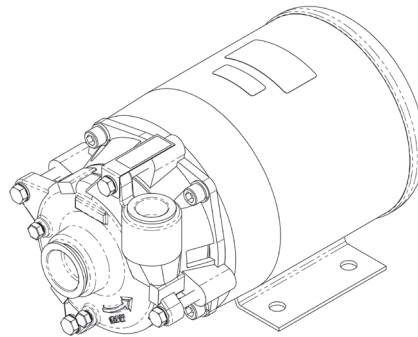
SHURflo Close-Coupled Centrifugal Pumps

316 Stainless Steel, Bronze and Cast Iron Models

Model Ordering Codes and Options



P: Pedestal

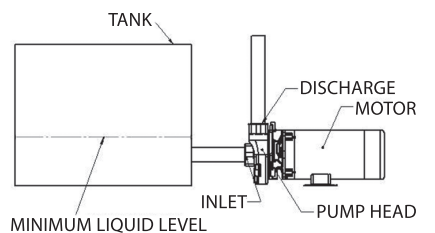


M: Motor (with base)

Example Model:

COMSV44 (1 HP ODP motor with >1.15 Service Factor*)
 or **COMSV45T** (1.5 HP TEFC motor with 1.0 Service Factor*)

| | (1) CO | (2) M | (3) S | (4) V | (5) 4 | (6) 5 | (7) T |
|------------------------------------|-------------------------------------|--|--|---|--|---|---|
| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th |
| Series | Mounting | Material | Seal** (Mech) | Impeller Sz. (NPT Ports) | Motor-Mounted Only | | |
| | | | | | HP | AC Type | |
| CO: Centrifugal Semi-Open Impeller | M: Motor (with Base) P: Pedestal | S: 316 SS Body and Impeller B: Bronze Body and Impeller C: Cast Iron Body and Impeller | B: Buna-N (Stainless Steel Case) C: Viton (Stainless Steel Case) (Silicon Carbide Seal and Seat Faces) V: Viton (Stainless Steel Case) | 1 (3/4" - 1") 2 (1" - 1 1/4") 3 (1" - 1 1/4") 4 (1 1/4" - 1 1/2") 5 (1 1/4" - 1 1/2") 6 (1 1/4" - 1 1/2") 7 (1 1/2" - 2") | 1: 1/3 2: 1/2 3: 3/4 4: 1 5: 1 1/2 6: 2 7: 3 | X: 56J Frame Motor "wet-end kit" Example: COMSV1X | Blank: no code single phase ODP motor 3: 3 phase ODP motor T: 1 phase TEFC 3T: 3 phase TEFC |



CENTRIFUGAL PUMP WITH FLOODED SUCTION
 NON-SELF PRIMING
 DO NOT RUN DRY

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.

(*) ODP motors have > 1.15 service factors. Due to service factor, it is recommended TEFC motors are oversized by one HP increment. Pedestal Pumps are not supplied with a motor.

(**) Unless otherwise noted, seal faces are carbon on ceramic.

316 Stainless Steel, Bronze and Cast Iron Models

Performance – Standard Models (Water at 70°)

| Impeller Size | 316 Stainless Steel Models | Bronze Models | Cast Iron Models | HP** | GPM of Water at Total Head in Feet* | | | | | | | | | Max. Head |
|---------------|----------------------------|---------------|------------------|------|-------------------------------------|-----|-----|-----|-----|-----|-----|----|----|-----------|
| | | | | | 10 | 15 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | |
| 1 | COMSV1X | COMBB1X | COMCB1X | 1/3 | 41 | 37 | 34 | 25 | 10 | - | - | - | - | 44 |
| 2 | COMSV2X | COMBB2X | COMCB2X | 1/2 | 55 | 50 | 45 | 33 | 10 | - | - | - | - | 42 |
| 3 | COMSV3X | COMBB3X | COMCB3X | 3/4 | 72 | 68 | 63 | 53 | 41 | 22 | - | - | - | 55 |
| 4 | COMSV4X | COMBB4X | COMCB4X | 1 | 108 | 104 | 98 | 86 | 71 | 47 | - | - | - | 58 |
| 5 | COMSV5X | COMBB5X | COMCB5X | 1½ | 115 | 110 | 104 | 94 | 81 | 64 | 40 | - | - | 67 |
| 6 | COMSV6X | COMBB6X | COMCB6X | 2 | 124 | 117 | 110 | 95 | 80 | 74 | 60 | 34 | - | 80 |
| 7 | COMSV7X | COMBB7X | COMCB7X | 3 | 168 | 164 | 155 | 148 | 137 | 124 | 110 | 80 | 40 | 83 |

(* Test data is taken with water at 70°F for pumps on 60 Hz motors at 3450 RPM motors (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.

(**) AC HP required at specified RPM is HP rated to handle up to 100 SSU at full flow, with a maximum specific gravity of 1.1, or up to 200 SSU at 1.0 specific gravity or less.

NOTES: Max. Viscosity = For viscosity up to 400 SSU (at 1.0 specific gravity or less), increase motor HP by one size but not to exceed standard 3 HP motor at 3450 RPM or 65 in.-lbs. of torque. For fluids with a viscosity greater than 400 SSU, pump speed must be reduced below 3450 RPM.

Max. Casing PSI = 200 Max. RPM = 3450

Max. Specific Gravity = up to 1.1 for standard models (at 100 SSU or less); HP must be increased by one size for specific gravities up to 1.4.

Driver data is subject to change without notice; see label on driver for actual specifications.

Manufacturer reserves the right to change performance without notification.

Specifications (Pump heads only)

| SUGGESTED DRIVER (Motor Not Included) | | | | | PUMP CONSTRUCTION (Wet End) | | | | | Ship Wt. (lbs.) |
|---------------------------------------|-----|------------|------|----------------|-----------------------------|--------|----------|---------------|--------|-----------------|
| Model Number | HP | NEMA Frame | RPM | Shaft Material | Port Size FNPT | Body | Impeller | Motor Adapter | Seals* | |
| 316 SS Models | | | | | | | | | | |
| COMSV1X | 1/3 | 56J | 3450 | NA | 1" x 3/4" | 316 SS | 316 SS | 316 SS | Viton | 10 |
| COMSV2X | 1/2 | 56J | 3450 | NA | 1¼" x 1" | 316 SS | 316 SS | 316 SS | Viton | 12 |
| COMSV3X | 3/4 | 56J | 3450 | NA | 1¼" x 1" | 316 SS | 316 SS | 316 SS | Viton | 12 |
| COMSV4X | 1 | 56J | 3450 | NA | 1½" x 1¼" | 316 SS | 316 SS | 316 SS | Viton | 16 |
| COMSV5X | 1½ | 56J | 3450 | NA | 1½" x 1¼" | 316 SS | 316 SS | 316 SS | Viton | 16 |
| COMSV6X | 2 | 56J | 3450 | NA | 1½" x 1¼" | 316 SS | 316 SS | 316 SS | Viton | 19 |
| COMSV7X | 3 | 56J | 3450 | NA | 2" x 1½" | 316 SS | 316 SS | 316 SS | Viton | 24 |
| Bronze Models | | | | | | | | | | |
| COMBB1X | 1/3 | 56J | 3450 | NA | 1" x 3/4" | BR | BR | BR | Buna-N | 11 |
| COMBB2X | 1/2 | 56J | 3450 | NA | 1¼" x 1" | BR | BR | BR | Buna-N | 13 |
| COMBB3X | 3/4 | 56J | 3450 | NA | 1¼" x 1" | BR | BR | BR | Buna-N | 13 |
| COMBB4X | 1 | 56J | 3450 | NA | 1½" x 1¼" | BR | BR | BR | Buna-N | 17 |
| COMBB5X | 1½ | 56J | 3450 | NA | 1½" x 1¼" | BR | BR | BR | Buna-N | 17 |
| COMBB6X | 2 | 56J | 3450 | NA | 1½" x 1¼" | BR | BR | BR | Buna-N | 20 |
| COMBB7X | 3 | 56J | 3450 | NA | 2" x 1½" | BR | BR | BR | Buna-N | 25 |
| Cast Iron Models | | | | | | | | | | |
| COMCB1X | 1/3 | 56J | 3450 | NA | 1" x 3/4" | CI | CI | CI | Buna-N | 10 |
| COMCB2X | 1/2 | 56J | 3450 | NA | 1¼" x 1" | CI | CI | CI | Buna-N | 12 |
| COMCB3X | 3/4 | 56J | 3450 | NA | 1¼" x 1" | CI | CI | CI | Buna-N | 12 |
| COMCB4X | 1 | 56J | 3450 | NA | 1½" x 1¼" | CI | CI | CI | Buna-N | 16 |
| COMCB5X | 1½ | 56J | 3450 | NA | 1½" x 1¼" | CI | CI | CI | Buna-N | 16 |
| COMCB6X | 2 | 56J | 3450 | NA | 1½" x 1¼" | CI | CI | CI | Buna-N | 18 |
| COMCB7X | 3 | 56J | 3450 | NA | 2" x 1½" | CI | CI | CI | Buna-N | 23 |

SS = Stainless Steel BR = Bronze CI = Cast Iron

(*) Viton shaft seals also contain 316 stainless steel, ceramic and carbon components. Buna-N shaft seals also contain 18-8 stainless steel, ceramic and carbon components.

NOTE: Manufacturer reserves the right to change specifications without notification.

SHURflo Close-Coupled Centrifugal Pumps

316 Stainless Steel, Bronze and Cast Iron Models

Specifications for Standard Pump and Motor Models

| Model Number | HP | AC Motor Type | NEMA Frame | Motor Voltage | DRIVER Full Load Amps | Service Factor Amps ** | Phase | Hertz | Overload Protection | RPM | Shaft | PUMP CONSTRUCTION (Wet End) | | | | | Ship Wt. (lbs.) |
|----------------------|-------|---------------|------------|-----------------|-----------------------|------------------------|-------|-------|---------------------|------|--------|-----------------------------|-------|----------|---------------|--------|-----------------|
| | | | | | | | | | | | | Port Size FNPT | Body | Impeller | Motor Adapter | Seals* | |
| 316 SS Models | | | | | | | | | | | | | | | | | |
| COMSV11 | 1/3 | ODP | 56J | 115/208-230 | 7.20/4.00-3.60 | 8.68/4.78-4.33 | 1 | 60 | Yes | 3450 | 303 SS | 1" x 3/4" | 316SS | 316SS | 316SS | Viton | 27 |
| COMSV22 | 1/2 | ODP | 56J | 115/208-230 | 11.10/6.50-5.55 | 12.4/6.80-6.20 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/4" x 1" | 316SS | 316SS | 316SS | Viton | 30 |
| COMSV223 | 1/2 | ODP | 56J | 208-230/460 | 1.85-1.85/0.92 | 2.53/1.27 | 3 | 60 | No | 3450 | 303 SS | 1 1/4" x 1" | 316SS | 316SS | 316SS | Viton | 30 |
| | | | | 190/380 | 2.04/1.02 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMSV33 | 3/4 | ODP | 56J | 115/208-230 | 13.00/7.20-6.50 | 15.30/8.45-7.65 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1" | 316SS | 316SS | 316SS | Viton | 33 |
| COMSV333 | 3/4 | ODP | 56J | 208-230/460 | 2.45-2.39/1.20 | 3.59/1.80 | 3 | 60 | No | 3450 | 303 SS | 1 1/4" x 1" | 316SS | 316SS | 316SS | Viton | 32 |
| | | | | 190/380 | 2.88/1.44 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMSV44 | 1 | ODP | 56J | 115/208-230 | 12.40/6.85-6.20 | 15.70/8.70-7.85 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | 316SS | 316SS | 316SS | Viton | 40 |
| COMSV443 | 1 | ODP | 56J | 208-230/460 | 3.17-3.11/1.55 | 4.07/2.03 | 3 | 60 | No | 3450 | 303 SS | 1 1/2" x 1 1/4" | 316SS | 316SS | 316SS | Viton | 40 |
| | | | | 190/380 | 3.70/1.83 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMSV55 | 1 1/2 | ODP | 56J | 115/208-230 | 17.00/9.35-8.50 | 21.00/10.40-10.50 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | 316SS | 316SS | 316SS | Viton | 44 |
| COMSV553 | 1 1/2 | ODP | 56J | 208-230/460 | 4.50-4.26/2.13 | 5.55/2.77 | 3 | 60 | No | 3450 | 303 SS | 1 1/2" x 1 1/4" | 316SS | 316SS | 316SS | Viton | 42 |
| | | | | 190/380 | 5.18/2.59 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMSV66 | 2 | ODP | 56J | 115/208-230 | 23.00/12.60-11.50 | 24.5/13.5-12.25 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | 316SS | 316SS | 316SS | Viton | 56 |
| COMSV66T | 2 | TEFC | 56J | 115/208-230 | 19.40/10.70-9.70 | 22.16/11.08 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | 316SS | 316SS | 316SS | Viton | 65 |
| COMSV663 | 2 | ODP | 56J | 208-230/460 | 5.80-5.20/2.60 | 6.20/3.10 | 3 | 60 | No | 3450 | 303 SS | 1 1/2" x 1 1/4" | 316SS | 316SS | 316SS | Viton | 56 |
| | | | | 190/380 | 6.40/3.20 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMSV663T | 2 | TEFC | 56J | 208-230/460 | 5.46-4.94/2.47 | 5.68/2.84 | 3 | 60 | No | 3520 | 304 SS | 1 1/2" x 1 1/4" | 316SS | 316SS | 316SS | Viton | 65 |
| | | | | 190-220/380-415 | 5.94-5.23/2.97-2.77 | ** | 3 | 50 | No | 2875 | | | | | | | |
| COMSV77 | 3 | ODP | 56J | 208-230 | 15.30-13.50 | ** | 1 | 60 | Yes | 3450 | 303 SS | 2" x 1 1/2" | 316SS | 316SS | 316SS | Viton | 70 |
| COMSV77T | 3 | TEFC | 56J | 208-230 | 13.30-12.20 | ** | 1 | 60 | Yes | 3450 | 303 SS | 2" x 1 1/2" | 316SS | 316SS | 316SS | Viton | 75 |
| COMSV773 | 3 | ODP | 56J | 208-230/460 | 8.42-7.65/3.83 | 9.00/4.50 | 3 | 60 | No | 3450 | 303 SS | 2" x 1 1/2" | 316SS | 316SS | 316SS | Viton | 70 |
| | | | | 190/380 | 6.32/3.16 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMSV773T | 3 | TEFC | 56J | 208-230/460 | 7.76-7.02/3.51 | 8.07/4.03 | 3 | 60 | No | 3500 | 304 SS | 2" x 1 1/2" | 316SS | 316SS | 316SS | Viton | 75 |
| | | | | 190-220/380-415 | 8.50-7.38/4.25-3.91 | ** | 3 | 50 | No | 2870 | | | | | | | |
| Bronze Models | | | | | | | | | | | | | | | | | |
| COMBB11 | 1/3 | ODP | 56J | 115/208-230 | 7.20/4.00-3.60 | 8.68/4.78-4.33 | 1 | 60 | Yes | 3450 | 303 SS | 1" X 3/4" | BR | BR | BR | Buna-N | 27 |
| COMBB22 | 1/2 | ODP | 56J | 115/208-230 | 11.10/6.50-5.55 | 12.4/6.80-6.20 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/4" x 1" | BR | BR | BR | Buna-N | 30 |
| COMBB223 | 1/2 | ODP | 56J | 208-230/460 | 1.85-1.85/0.92 | 2.53/1.27 | 3 | 60 | No | 3450 | 303 SS | 1 1/4" x 1" | BR | BR | BR | Buna-N | 30 |
| | | | | 190/380 | 2.04/1.02 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMBB33 | 3/4 | ODP | 56J | 115/208-230 | 13.00/7.20-6.50 | 15.30/8.45-7.65 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/4" x 1" | BR | BR | BR | Buna-N | 33 |
| COMBB333 | 3/4 | ODP | 56J | 208-230/460 | 2.45-2.39/1.20 | 3.59/1.80 | 3 | 60 | No | 3450 | 303 SS | 1 1/4" x 1" | BR | BR | BR | Buna-N | 32 |
| | | | | 190/380 | 2.88/1.44 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMBB44 | 1 | ODP | 56J | 115/208-230 | 12.40/6.85-6.20 | 15.70/8.70-7.85 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | BR | BR | BR | Buna-N | 40 |
| COMBB443 | 1 | ODP | 56J | 208-230/460 | 3.17-3.11/1.55 | 4.07/2.03 | 3 | 60 | No | 3450 | 303 SS | 1 1/2" x 1 1/4" | BR | BR | BR | Buna-N | 40 |
| | | | | 190/380 | 3.70/1.83 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMBB55 | 1 1/2 | ODP | 56J | 115/208-230 | 17.00/9.35-8.50 | 21.00/10.40-10.50 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | BR | BR | BR | Buna-N | 44 |
| COMBB553 | 1 1/2 | ODP | 56J | 208-230/460 | 4.50-4.26/2.13 | 5.55/2.77 | 3 | 60 | No | 3450 | 303 SS | 1 1/2" x 1 1/4" | BR | BR | BR | Buna-N | 42 |
| | | | | 190/380 | 5.18/2.59 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMBB66 | 2 | ODP | 56J | 115/208-230 | 23.00/12.60-11.50 | 24.5/13.5-12.25 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | BR | BR | BR | Buna-N | 56 |
| COMBB66T | 2 | TEFC | 56J | 115/208-230 | 19.40/10.70-9.70 | 22.16/11.08 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | BR | BR | BR | Buna-N | 65 |
| COMBB663 | 2 | ODP | 56J | 208-230/460 | 5.80-5.20/2.60 | 6.20/3.10 | 3 | 60 | No | 3450 | 303 SS | 1 1/2" x 1 1/4" | BR | BR | BR | Buna-N | 56 |
| | | | | 190/380 | 6.40/3.20 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMBB663T | 2 | TEFC | 56J | 208-230/460 | 5.46-4.94/2.47 | 5.68/2.84 | 3 | 60 | No | 3520 | 304 SS | 1 1/2" x 1 1/4" | BR | BR | BR | Buna-N | 65 |
| | | | | 190-220/380-415 | 5.94-5.23/2.97-2.77 | ** | 3 | 50 | No | 2875 | | | | | | | |
| COMBB77 | 3 | ODP | 56J | 208-230 | 15.30-13.50 | ** | 1 | 60 | Yes | 3450 | 303 SS | 2" x 1 1/2" | BR | BR | BR | Buna-N | 70 |
| COMBB77T | 3 | TEFC | 56J | 208-230 | 13.30-12.20 | ** | 1 | 60 | Yes | 3450 | 303 SS | 2" x 1 1/2" | BR | BR | BR | Buna-N | 75 |
| COMBB773 | 3 | ODP | 56J | 208-230/460 | 8.42-7.65/3.83 | 9.00/4.50 | 3 | 60 | No | 3450 | 303 SS | 2" x 1 1/2" | BR | BR | BR | Buna-N | 70 |
| | | | | 190/380 | 6.32/3.16 | ** | 3 | 50 | No | 2830 | | | | | | | |
| COMBB773T | 3 | TEFC | 56J | 208-230/460 | 7.76-7.02/3.51 | 8.07/4.03 | 3 | 60 | No | 3500 | 304 SS | 2" x 1 1/2" | BR | BR | BR | Buna-N | 75 |
| | | | | 190-220/380-415 | 8.50-7.38/4.25-3.91 | ** | 3 | 50 | No | 2870 | | | | | | | |

Continued on page 5

SS = Stainless Steel BR = Bronze CI = Cast Iron ODP = Open Drip-Proof TEFC = Totally-Enclosed Fan-Cooled

(*) Viton Shaft Seal also contains 316 stainless steel, ceramic, and carbon components. Buna-N shaft seals also contains 18-8 stainless steel, ceramic, and carbon components.

(**) At 208 volts or 50 hertz, the Service Factor Amps are the same as the Full Load Amps.
 NOTES: Driver data is subject to change without notice, see label on driver for actual specifications. All motors include a base (the base may be removable, movable or welded). Motors are not supplied with power cords. Manufacturer reserves the right to change specifications without notification. Standard motors listed above are not wash-down or explosion-proof (manufacturer does not stock wash-down or explosion-proof motors). Thermal overload protection is standard on all single-phase motors (overload protector may have automatic or manual reset); three-phase motors are not provided with thermal overload protection. Manufacturer does not specify regulatory compliance for UL, UR, CSA or CE; however most models do comply to UL, UR, CSA and CE.

316 Stainless Steel, Bronze and Cast Iron Models

| Model Number | AC Motor HP | Motor Type | NEMA Frame | Motor Voltage | DRIVER Load Amps | Service Factor Amps ** | Phase | Hertz | Overload | | | Port Size FNPT | PUMP CONSTRUCTION (Wet End) | | | | | Ship Wt (lbs.) |
|--------------|-------------|------------|------------|-----------------|---------------------|------------------------|-------|-------|------------|------|--------|-----------------|-----------------------------|----------|---------|--------|--------|----------------|
| | | | | | | | | | Protection | RPM | Shaft | | Body | Impeller | Adapter | Motor | Seals* | |
| COMCB11 | 1/3 | ODP | 56J | 115/208-230 | 7.20/4.00-3.60 | 8.68/4.78-4.33 | 1 | 60 | Yes | 3450 | 303 SS | 1" X 3/4" | CI | CI | CI | Buna-N | 27 | |
| COMCB22 | 1/2 | ODP | 56J | 115/208-230 | 11.10/6.50-5.55 | 12.4/6.80-6.20 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/4" x 1" | CI | CI | CI | Buna-N | 30 | |
| COMCB223 | 1/2 | ODP | 56J | 208-230/460 | 1.85-1.85/0.92 | 2.53/1.27 | 3 | 60 | No | 3450 | 303 SS | 1 1/4" x 1" | CI | CI | CI | Buna-N | 30 | |
| | | | | 190/380 | 2.04/1.02 | ** | 3 | 50 | No | 2830 | | | | | | | | |
| COMCB33 | 3/4 | ODP | 56J | 115/208-230 | 13.00/7.20-6.50 | 15.30/8.45-7.65 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/4" x 1" | CI | CI | CI | Buna-N | 33 | |
| COMCB333 | 3/4 | ODP | 56J | 208-230/460 | 2.45-2.39/1.20 | 3.59/1.80 | 3 | 60 | No | 3450 | 303 SS | 1 1/4" x 1" | CI | CI | CI | Buna-N | 32 | |
| | | | | 190/380 | 2.88/1.44 | ** | 3 | 50 | No | 2830 | | | | | | | | |
| COMCB44 | 1 | ODP | 56J | 115/208-230 | 12.40/6.85-6.20 | 15.70/8.70-7.85 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | CI | CI | CI | Buna-N | 40 | |
| COMCB443 | 1 | ODP | 56J | 208-230/460 | 3.17-3.11/1.55 | 4.07/2.03 | 3 | 60 | No | 3450 | 303 SS | 1 1/2" x 1 1/4" | CI | CI | CI | Buna-N | 40 | |
| | | | | 190/380 | 3.70/1.83 | ** | 3 | 50 | No | 2830 | | | | | | | | |
| COMCB55 | 1 1/2 | ODP | 56J | 115/208-230 | 17.00/9.35-8.50 | 21.00/10.40-10.50 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | CI | CI | CI | Buna-N | 44 | |
| COMCB553 | 1 1/2 | ODP | 56J | 208-230/460 | 4.50-4.26/2.13 | 5.55/2.77 | 3 | 60 | No | 3450 | 303 SS | 1 1/2" x 1 1/4" | CI | CI | CI | Buna-N | 42 | |
| | | | | 190/380 | 5.18/2.59 | ** | 3 | 50 | No | 2830 | | | | | | | | |
| COMCB66 | 2 | ODP | 56J | 115/208-230 | 23.00/12.60-11.50 | 24.5/13.5-12.25 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | CI | CI | CI | Buna-N | 56 | |
| COMCB66T | 2 | TEFC | 56J | 115/208-230 | 19.40/10.70-9.70 | 22.16/11.08 | 1 | 60 | Yes | 3450 | 303 SS | 1 1/2" x 1 1/4" | CI | CI | CI | Buna-N | 65 | |
| COMCB663 | 2 | ODP | 56J | 208-230/460 | 5.80-5.20/2.60 | 6.20/3.10 | 3 | 60 | No | 3520 | 303 SS | 1 1/2" x 1 1/4" | CI | CI | CI | Buna-N | 56 | |
| | | | | 190/380 | 6.40/3.20 | ** | 3 | 50 | No | 2875 | | | | | | | | |
| COMCB663T | 2 | TEFC | 56J | 208-230/460 | 5.46-4.94/2.47 | 5.68/2.84 | 3 | 60 | No | 3520 | 304 SS | 1 1/2" x 1 1/4" | CI | CI | CI | Buna-N | 65 | |
| | | | | 190-220/380-415 | 5.94-5.23/2.97-2.77 | *** | 3 | 50 | No | 2875 | | | | | | | | |
| COMCB77 | 3 | ODP | 56J | 208-230 | 15.30-13.50 | ** | 1 | 60 | Yes | 3450 | 303 SS | 2" x 1 1/2" | CI | CI | CI | Buna-N | 70 | |
| COMCB77T | 3 | TEFC | 56J | 208-230 | 13.30-12.20 | ** | 1 | 60 | Yes | 3450 | 303 SS | 2" x 1 1/2" | CI | CI | CI | Buna-N | 75 | |
| COMCB773 | 3 | ODP | 56J | 208-230/460 | 8.42-7.65/3.83 | 9.00/4.50 | 3 | 60 | No | 3450 | 303 SS | 2" x 1 1/2" | CI | CI | CI | Buna-N | 70 | |
| | | | | 190/380 | 6.32/3.16 | ** | 3 | 50 | No | 2830 | | | | | | | | |
| COMCB773T | 3 | TEFC | 56J | 208-230/460 | 7.76-7.02/3.51 | 8.07/4.03 | 3 | 60 | No | 3500 | 304 SS | 2" x 1 1/2" | CI | CI | CI | Buna-N | 75 | |
| | | | | 190-220/380-415 | 8.50-7.38/4.25-3.91 | ** | 3 | 50 | No | 2870 | | | | | | | | |

See footnotes and notes on the bottom of page 4.

Dimensions (Inches)

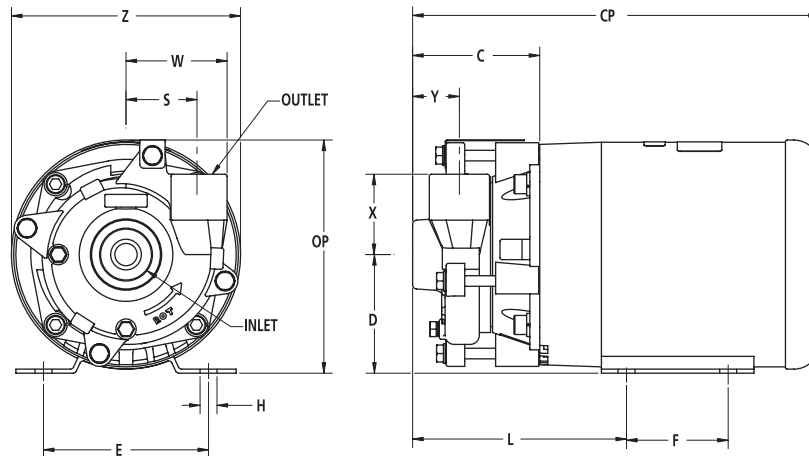


Figure 1 - Dimensions

| Models | Inlet-NPT | Outlet-NPT | C | CP† | D | E | F | H | L | OP | S | W | X | Y | |
|----------------------|-----------|------------|------|-------|-----|------|---|------|------|------|------|------|------|------|------|
| COMSV1/COMBB1/COMCB1 | 1" | 3/4" | 3.75 | 12 | 3.5 | 4.88 | 3 | 0.34 | 6.31 | 6.56 | 1.88 | 2.63 | 1.88 | 1.44 | 5.63 |
| COMSV2/COMBB2/COMCB2 | 1-1/4" | 1" | 3.75 | 12.38 | 3.5 | 4.88 | 3 | 0.34 | 6.31 | 6.88 | 2.09 | 3 | 2.38 | 1.38 | 5.63 |
| COMSV3/COMBB3/COMCB3 | 1-1/4" | 1" | 3.75 | 12.88 | 3.5 | 4.88 | 3 | 0.34 | 6.31 | 6.88 | 2.09 | 3 | 2.38 | 1.38 | 5.63 |
| COMSV4/COMBB4/COMCB4 | 1-1/2" | 1-1/4" | 3.75 | 13.75 | 3.5 | 4.88 | 3 | 0.34 | 6.31 | 6.88 | 2.03 | 3.18 | 2.5 | 1.41 | 5.63 |
| COMSV5/COMBB5/COMCB5 | 1-1/2" | 1-1/4" | 3.75 | 15 | 3.5 | 4.88 | 3 | 0.34 | 6.31 | 6.88 | 2.03 | 3.18 | 2.5 | 1.41 | 5.63 |
| COMSV6/COMBB6/COMCB6 | 1-1/2" | 1-1/4" | 4.56 | 14.19 | 3.5 | 4.88 | 3 | 0.34 | 7.13 | 7 | 2.88 | 3.84 | 3.5 | 1.56 | 5.63 |
| COMSV7/COMBB7/COMCB7 | 2" | 1-1/2" | 4.78 | 15.75 | 3.5 | 4.88 | 3 | 0.34 | 7.34 | 7 | 2.88 | 4.25 | 3.5 | 1.59 | 6.88 |

All dimensions have a tolerance of $\pm 1/8"$.

(†) This dimension may vary due to motor manufacturer's specifications.

NOTE: Driver data is subject to change without notice; see label on driver for actual specifications.

To order parts, contact a SHURflo Distributor or Order Direct.
Distributors can be found at www.shurfloindustrial.com.

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

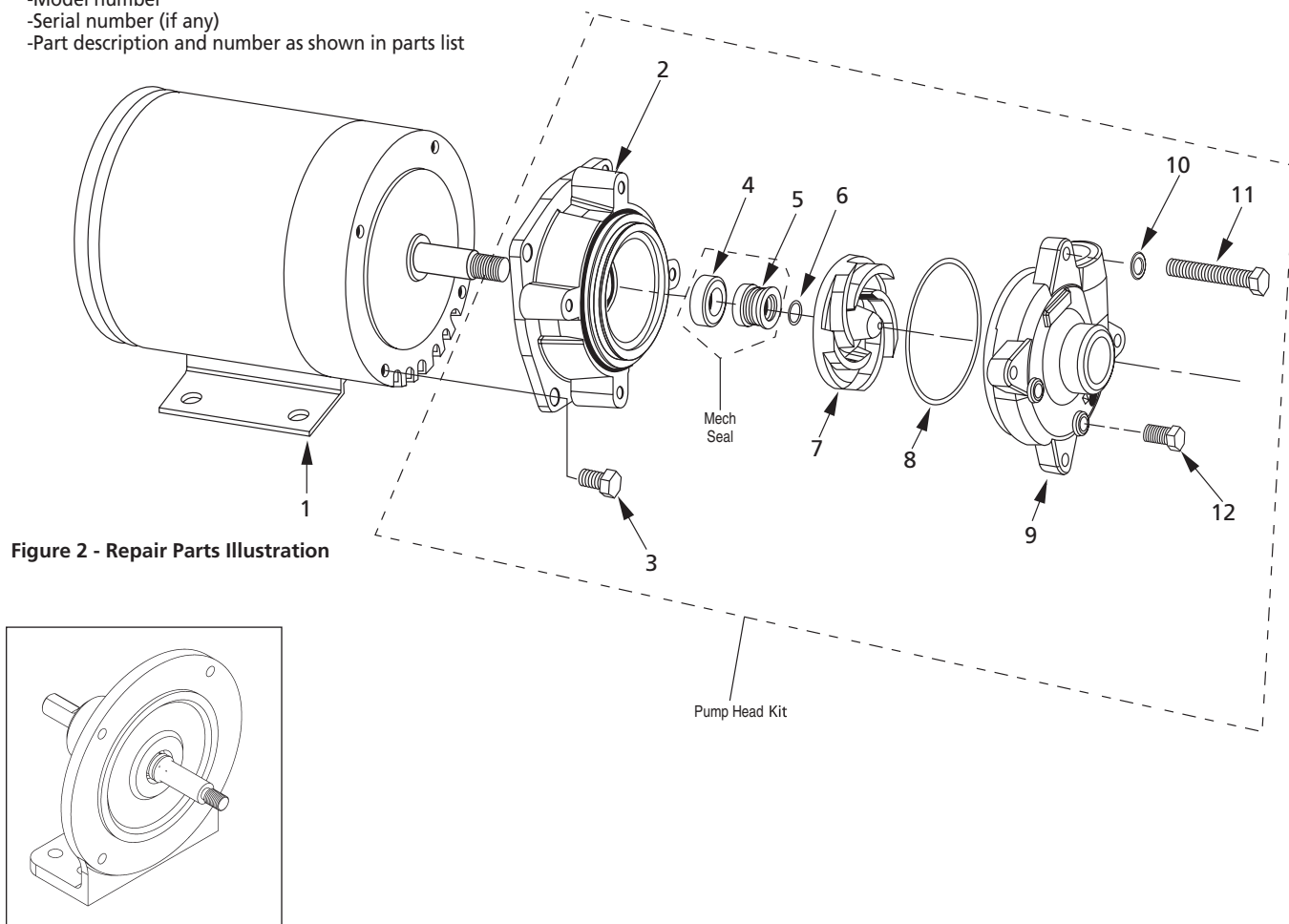
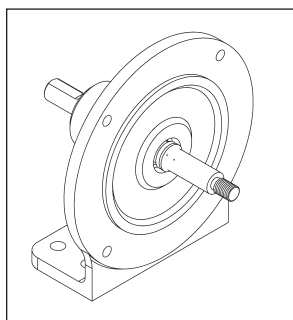


Figure 2 - Repair Parts Illustration



Optional Pedestal Base

ODP and TEFC Replacement Motors

| HP | 1 Phase ODP P/N | Motor Suffix | 3 Phase ODP P/N | Motor Suffix | 1 Phase TEFC P/N | Motor Suffix | 3 Phase TEFC P/N | Motor Suffix |
|-----|--------------------|-----------------|--------------------|-----------------|---------------------|-----------------|---------------------|-----------------|
| 1/3 | 14010H | 1 | NA | 13 | NA | 1T | NA | 13T |
| 1/2 | 14011H | 2 | 24361H | 23 | 24499H | 2T | 13431H | 23T |
| 3/4 | 14012H | 3 | 14015H | 33 | 13409H | 3T | 14017H | 33T |
| 1 | 14013H | 4 | 12991H | 43 | 24500H | 4T | 18741H | 43T |
| 1½ | 14014H | 5 | 14016H | 53 | 13410H | 5T | 14018H | 53T |
| 2 | 12985H | 6 | 13341H | 63 | 13411H | 6T | 19495H | 63T |
| 3 | 24364H | 7 | 24365H | 73 | 24366H | 7T | 23424H | 73T |

NA = Not Available ODP = Open Drip-Proof Motor TEFC = Totally-Enclosed Fan-Cooled Motor

NOTES: The standard pump and motor combinations are offered with ODP motors which have larger service factors than the same TEFC motor. When mating a TEFC motor to a pump head or replacing an ODP motor with a TEFC motor, use one HP rating higher for 1/3, 1/2, 3/4, 1 and 1-1/5 HP motors. Example: Use a 1/2 HP TEFC motor on a COMC1X pump head. The standard model is a COMC11, which uses a 1/3 HP ODP motor.

Do not use TENV motors — Totally-Enclosed Non-Ventilated motors.
Replacement motors come standard with slinger.

316 Stainless Steel, Bronze and Cast Iron Models

Repair Parts List for 316 Stainless Steel Pumps

| Ref. No. | Description | Part Number for Models without the Motor Suffix: | | | | | | | Qty. |
|-------------|--|--|--|-------------|-------------|-------------|-------------|-------------|------|
| | | COMSV11 | COMSV22 | COMSV3 | COMSV4 | COMSV5 | COMSV6 | COMSV7 | |
| 1 | Motor *** (See motor chart) | Motor Chart | Motor Chart | Motor Chart | Motor Chart | Motor Chart | Motor Chart | Motor Chart | 1 |
| 2 | Centrifugal body | 22867S | 22868S | 22868S | 22888S | 22888S | 24498S | 24498S | 1 |
| 3 | Bolt, 3/8-16 UNC x 1", 18-8 SS * | 2220-0025 | 2220-0025 | 2220-0025 | 2220-0025 | 2220-0025 | 23393 | 23393 | 4 |
| | Lockwasher, 3/8", 18-8 SS * | 2260-0012 | 2260-0012 | 2260-0012 | 2260-0012 | 2260-0012 | N/A | N/A | 4 |
| 4 & 5 | Viton mechanical seal & seat assy Option seals available ** | 24276S | 24276S | 24276S | 24276S | 24276S | 24276S | 24276S | 1 |
| | † Buna-N mechanical seal & seat assy | 24275S | 24275S | 24275S | 24275S | 24275S | 24275S | 24275S | 1 |
| | † Silicon Carbide seal & seat assy | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 1 |
| 6 | Impeller shim kit | 11933 | 11933 | 11933 | 11933 | 11933 | 11933 | 11933 | 1 |
| 7 | Impeller | 24444S | 24445S | 24446S | 24447S | 24448S | 23311 | 23312 | 1 |
| 8 | Viton O-ring | 23361 | 23362 | 23362 | 23543 | 23543 | 18047 | 18047 | 1 |
| | † Buna-N O-ring | 22848 | 22849 | 22849 | 22889 | 22889 | 18046 | 18046 | 1 |
| 9 | Centrifugal housing | 22858S | 22859S | 22859S | 22860S | 22860S | 23309 | 23364 | 1 |
| 10 | Lockwasher, 5/16, 316SS * | 23402 | 23402 | 23402 | 23402 | 23402 | N/A | N/A | 4 |
| | Lockwasher, 7/16, 316SS * | N/A | N/A | N/A | N/A | N/A | 23428 | 23428 | 3 |
| 11 | 5/16-18 Hex head bolt, 316 SS * | 23389 | 23389 | 23389 | 23389 | 23389 | N/A | N/A | 4 |
| | 7/16-14 Long hex head bolt, 316 SS * | N/A | N/A | N/A | N/A | N/A | 23392 | 23426 | 2 |
| | 7/16-14 Short hex head bolt, 316 SS * | N/A | N/A | N/A | N/A | N/A | 23391 | 23392 | 1 |
| 12 | Pipe Plug, 1/8 NPTF, 316 SS * | 24441 | 24441 | 24441 | 24441 | 24441 | 24441 | 24441 | 2 |
| | Pipe Plug, 1/8 NPTF, 316 SS * | N/A | N/A | N/A | N/A | N/A | 23394 | 23394 | 3 |
| | Pump Head (less motor) | COMSV1X | COMSV2X | COMSV3X | COMSV4X | COMSV5X | COMSV6X | COMSV7X | 1 |
| | Optional Pedestal Bracket | 24479 | (Can be substituted for any motor when a pulley drive or long coupled pump is desired) | | | | | | |

SS = Stainless Steel

(*) Standard hardware item, available locally.

(**) Viton and Buna-N seals have carbon on ceramic faces. Silicon carbide seals have Viton bellows. All seals have 316 SS metal components.

(***) Driver data is subject to change without notice; see label on driver for actual specifications.

(†) Optional

Repair Parts List for Bronze Pumps

| Ref. No. | Description | Part Number for Models without the Motor Suffix: | | | | | | | Qty. |
|-------------|---|--|--|-------------|-------------|-------------|-------------|-------------|------|
| | | COMBB1 | COMBB2 | COMBB3 | COMBB4 | COMBB5 | COMBB6 | COMBB7 | |
| 1 | Motor *** (See motor chart) | Motor Chart | Motor Chart | Motor Chart | Motor Chart | Motor Chart | Motor Chart | Motor Chart | 1 |
| 2 | Centrifugal body | 22867B | 22868B | 22868B | 22888B | 22888B | 24498B | 24498B | 1 |
| 3 | Bolt 3/8-16 x 1", 18-8 SS * | 2220-0025 | 2220-0025 | 2220-0025 | 2220-0025 | 2220-0025 | 11633 | 11633 | 4 |
| | Lockwasher 3/8", 18-8 SS * | 2260-0012 | 2260-0012 | 2260-0012 | 2260-0012 | 2260-0012 | N/A | N/A | 4 |
| 4 & 5 | Buna-N mechanical seal & seat assy Option seals available ** | 24275S | 24275S | 24275S | 24275S | 24275S | 24275S | 24275S | 1 |
| | † Viton mechanical seal & seat assy | 24276S | 24276S | 24276S | 24276S | 24276S | 24276S | 24276S | 1 |
| | † Silicon Carbide seal & seat assy | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 1 |
| 6 | Impeller shim kit | 11933 | 11933 | 11933 | 11933 | 11933 | 11933 | 11933 | 1 |
| 7 | Impeller | 24444B | 24445B | 24446B | 24447B | 24448B | 18021 | 15847 | 1 |
| 8 | Buna-N O-ring | 22848 | 22849 | 22849 | 22889 | 22889 | 18046 | 18046 | 1 |
| | † Viton O-ring | 23361 | 23362 | 23362 | 23543 | 23543 | 18047 | 18047 | 1 |
| 9 | Centrifugal housing | 22858B | 22859B | 22859B | 22860B | 22860B | 18020 | 15968 | 1 |
| 10 | Lockwasher, 5/16, Steel, Zinc plated * | 2260-0002 | 2260-0002 | 2260-0002 | 2260-0002 | 2260-0002 | N/A | N/A | 4 |
| | Lockwasher, 7/16, Steel, Zinc plated * | N/A | N/A | N/A | N/A | N/A | 2260-0010 | 2260-0010 | 3 |
| 11 | 5/16-18 Hex head bolt, Steel, Zinc Plated * | 2210-0008 | 2210-0008 | 2210-0008 | 2210-0008 | 2210-0008 | N/A | N/A | 4 |
| | 7/16-14 Long hex head bolt, Steel Zinc Plated * | N/A | N/A | N/A | N/A | N/A | 18043 | 18045 | 2 |
| | 7/16-14 Short hex head bolt, Steel, Zinc Plated * | N/A | N/A | N/A | N/A | N/A | 18044 | 18043 | 1 |
| 12 | Pipe Plug, 1/8 NPTF, Brass * | 00336 | 00336 | 00336 | 00336 | 00336 | 00336 | 00336 | 2 |
| | Pipe Plug, 1/4 NPTF, Brass * | N/A | N/A | N/A | N/A | N/A | 2406-0019 | 2406-0019 | 3 |
| | Pump Head (less motor) | COMBB1X | COMBB2X | COMBB3X | COMBB4X | COMBB5X | COMBB6X | COMBB7X | 1 |
| | Optional Pedestal Bracket | 24479 | (Can be substituted for any motor when a pulley drive or long coupled pump is desired) | | | | | | |

SS = Stainless Steel

(*) Standard hardware item, available locally.

(**) Viton and Buna-N seals have carbon on ceramic faces. Silicon carbide seals have Viton bellows. All seals have 316 SS metal components.

(***) Driver data is subject to change without notice; see label on driver for actual specifications.

(†) Optional

SHURflo Close-Coupled Centrifugal Pumps

316 Stainless Steel, Bronze and Cast Iron Models

Repair Parts List for Cast Iron Pumps

| Ref. No. | Description | Part Number for Models without the Motor Suffix: | | | | | | | Qty. |
|----------|---|--|--|-------------|-------------|-------------|-------------|-------------|------|
| | | COMCB1 | COMCB2 | COMCB3 | COMCB4 | COMCB5 | COMCB6 | COMCB7 | |
| 1 | Motor *** (See motor chart) | Motor Chart | Motor Chart | Motor Chart | Motor Chart | Motor Chart | Motor Chart | Motor Chart | 1 |
| 2 | Centrifugal body | 22867C | 22868C | 22868C | 22888C | 22888C | 24498C | 24498C | 1 |
| 3 | Bolt, 3/8-16 x 1", Steel, Zinc Plated * | 2260-0006 | 2260-0006 | 2260-0006 | 2260-0006 | 2260-0006 | N/A | N/A | 4 |
| | Lockwasher, 3/8", Steel, Zinc plated * | 2220-0004 | 2220-0004 | 2220-0004 | 2220-0004 | 2220-0004 | 11633 | 11633 | 4 |
| 4 & 5 | Buna-N mechanical seal & seat assy Option seals available ** | 242755 | 242755 | 242755 | 242755 | 242755 | 242755 | 242755 | 1 |
| | †Viton mechanical seal & seat assy | 242765 | 242765 | 242765 | 242765 | 242765 | 242765 | 242765 | 1 |
| | †Silicon Carbide seal & seat assy | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 2120-0039S | 1 |
| 6 | Impeller shim kit | 11933 | 11933 | 11933 | 11933 | 11933 | 11933 | 11933 | 1 |
| 7 | Impeller | 24444C | 24445C | 24446C | 24447C | 24448C | 15969 | 15970 | 1 |
| 8 | Buna-N O-ring | 22848 | 22849 | 22849 | 22889 | 22889 | 18046 | 18046 | 1 |
| | †Viton O-ring | 23361 | 23362 | 23362 | 23543 | 23543 | 18047 | 18047 | 1 |
| 9 | Centrifugal housing | 22858C | 22859C | 22859C | 22860C | 22860C | 15966 | 15968 | 1 |
| 10 | Lockwasher, 5/16, Steel, Zinc plated * | 2260-0002 | 2260-0002 | 2260-0002 | 2260-0002 | 2260-0002 | N/A | N/A | 4 |
| | Lockwasher, 7/16, Steel, Zinc plated * | N/A | N/A | N/A | N/A | N/A | 2260-0010 | 2260-0010 | 3 |
| 11 | 5/16-18 Hex head bolt, Steel, Zinc Plated * | 2210-0008 | 2210-0008 | 2210-0008 | 2210-0008 | 2210-0008 | N/A | N/A | 4 |
| | 7/16-14 Long hex head bolt, Steel, Zinc Plated * | N/A | N/A | N/A | N/A | N/A | 18043 | 18045 | 2 |
| | 7/16-14 Short hex head bolt, Steel, Zinc Plated * | N/A | N/A | N/A | N/A | N/A | 18044 | 18043 | 1 |
| 12 | Pipe Plug, 1/8 NPT, Steel, Zinc Plated* | 23182 | 23182 | 23182 | 23182 | 23182 | 23182 | 23182 | 2 |
| | Pipe Plug, 1/4 NPT, Steel, Zinc Plated* | N/A | N/A | N/A | N/A | N/A | 2406-0019 | 2406-0019 | 3 |
| | Pump Head (less motor) | COMCB1X | COMCB2X | COMCB3X | COMCB4X | COMCB5X | COMCB6X | COMCB7X | 1 |
| | Optional Pedestal Bracket | 24479 | (Can be substituted for any motor when a pulley drive or long coupled pump is desired) | | | | | | |

SS = Stainless Steel

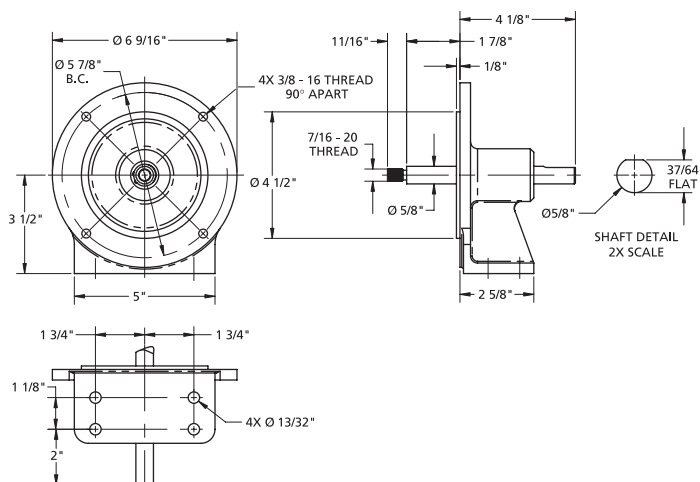
(*) Standard hardware item, available locally.

(**) Viton and Buna-N seals have carbon on ceramic faces. Silicon carbide seals have Viton bellows. All seals have 316 SS metal components.

(***) Driver data is subject to change without notice; see label on driver for actual specifications.

(†) Optional

(Optional) Pedestal Pump Mount
Part Number 24479
(Replaces 56J frame motor)
(When long coupling or pulley drive is required)



NOTE: Dimensions have a tolerance of $\pm 1/8''$.
 (Ø) Diameter.

316 Stainless Steel, Bronze and Cast Iron Models

Maintenance

▲ WARNING *Make certain that the unit is disconnected from the power source before attempting to service or remove any components!*

REMOVAL OF OLD SEAL ASSEMBLY

Should the mechanical seal assembly (Ref. No. 4 & 5) require repair, proceed as follows and refer to Figures No. 2 thru 7.

IMPORTANT: Always replace both the seal seat and seal to ensure proper mating of components!

1. Remove bolts (Ref. No. 11) connecting the casing (Ref. No. 9) to the body adapter (Ref. No. 2).
- 2.

▲ CAUTION Remove the casing.

Care should be taken not to pinch or "shave" the O-ring gasket (Ref. No. 8) between the body adapter and the casing.

NOTE: Motor shaft must be held in place to remove impeller. Back of the motor either has slot in shaft (use large screwdriver to hold) or has 2 flats on motor shaft (use 7/16" open end wrench to hold). Impeller (Ref. No. 7) unscrews CCW when looking at the front of the pump.

IMPORTANT: Care should be taken to ensure that the same number and thickness of shim washers (Ref. No. 6) are replaced behind the impeller as were removed. The shim washers are located directly behind the impeller and become loose as the impeller is removed.

3. The seal (Ref. No. 5) can now be pulled from the shaft. (see Figure 4).
4. Remove the motor body adapter (Ref. No. 2) from the motor by removing the adapter bolts (Ref. No. 3).
5. Use a wooden dowel to push out the seal seat (Ref. No. 4) from the body adapter (Ref. No. 2) (see Figure 5).

▲ CAUTION **INSTALLATION OF NEW SEAL**

ASSEMBLY

The precision carbon/ ceramic faces on the mechanical seal are easily damaged. Handle

your repair seal carefully. Do not touch the carbon/ceramic seal faces.

IMPORTANT: Be sure that shaft shoulder does not damage carbon face.

1. Thoroughly clean all surfaces of the seal seat cavity in body adapter (Ref. No. 2).
2. Using a clean cloth, wipe the shaft and shaft sleeve and make certain that they are perfectly clean.

NOTE: Inspect the motor shaft for scratches or spiral grooves. If they exist, replace motor.

3. Wet the rubber portion of the new seal seat (Ref. No. 4) with a light coating of soapy water. While wearing clean gloves or using a clean light rag, press seal seat squarely into adapter recess. Use the cardboard washer (usually supplied with new seal) to place over the polished surface and use a piece of pipe or dowel rod to press in firmly but gently. Avoid scratching the white ceramic face. (See Figure 6).

4. Dispose of cardboard washer. Check again to see that ceramic surface is free of dirt and all other foreign particles and that it has not been scratched or damaged.

5. Wet the inside rubber portion of the new seal (Ref. No. 5) with a light coating of soapy water. Slide seal onto the motor shaft with the sealing surface (carbon) facing the seal seat (see Figure 7). This completes seal installation.

NOTE: A short "run-in" period may be necessary to provide completely leak-proof seal operation.

6. Screw impeller (Ref. No. 7) onto shaft. Use screwdriver slot at rear of motor shaft (opposite the threaded end) to tighten impeller. Removable thread fastener should be applied to the impeller threads. Impeller should be torqued to 15 to 18 ft-lbs. (180 to 210 in-lbs.)

NOTE: It may be necessary to remove plug in motor end cap to expose slot. If removed, be sure to reinstall plug AFTER pump is completely assembled.

7. By replacing the original shims that came with the pump the impeller height should be properly set. The chart accompanying Figure 3 gives the correct adapter to motor height dimension for optimum pump performance. After installing check if shaft turns freely by spinning impeller. If rubbing or binding is found, remove impeller and add a shim (Ref. No. 6) to shaft, then recheck. Repeat procedure until all rubbing is eliminated.
8. Place o-ring (Ref. No. 8) on adapter mounting flange. Attach housing using bolts (Ref. No. 11) being careful not to pinch or "shave" o-ring.

▲ CAUTION As the housing is being tightened, periodically spin impeller to check for interference with housing.

Seal will produce minor drag when spinning motor shaft, but rubbing anywhere

IMPELLER CLEARANCE DIMENSIONS

| Impeller # | Position "A" |
|------------|---------------|
| 1 | 0.634"-0.674" |
| 2 | 0.742"-0.782" |
| 3 | 0.755"-0.795" |
| 4 | 0.873"-0.913" |
| 5 | 0.874"-0.914" |
| 6 | 0.592"-0.617" |
| 7 | 0.840"-0.870" |

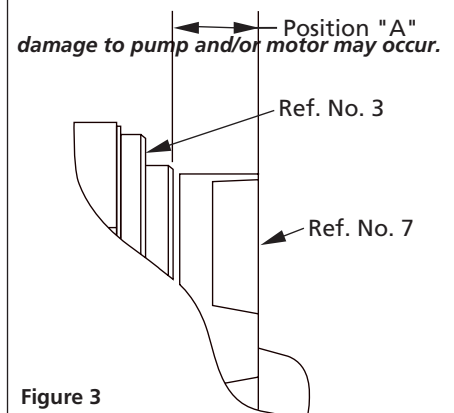


Figure 3

SHURflo Close-Coupled Centrifugal Pumps

316 Stainless Steel, Bronze and Cast Iron Models

Seal Assembly Removal and Installation (Figures 4 thru 7)

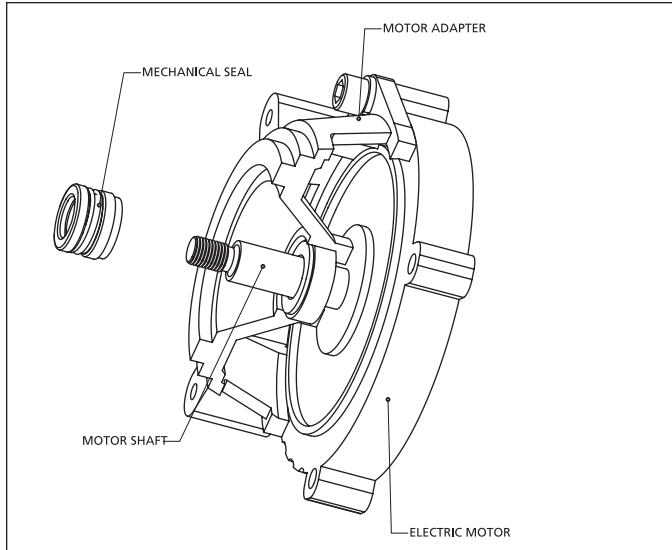


Figure 4 - Seal Removal

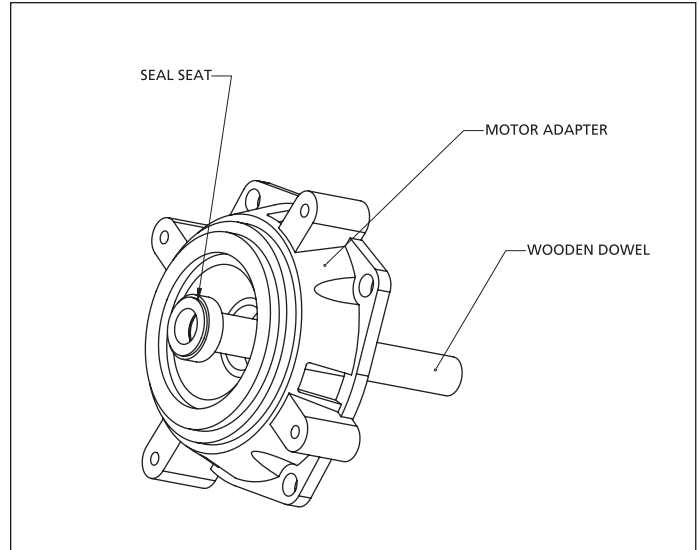


Figure 5 - Seal Seat Removal

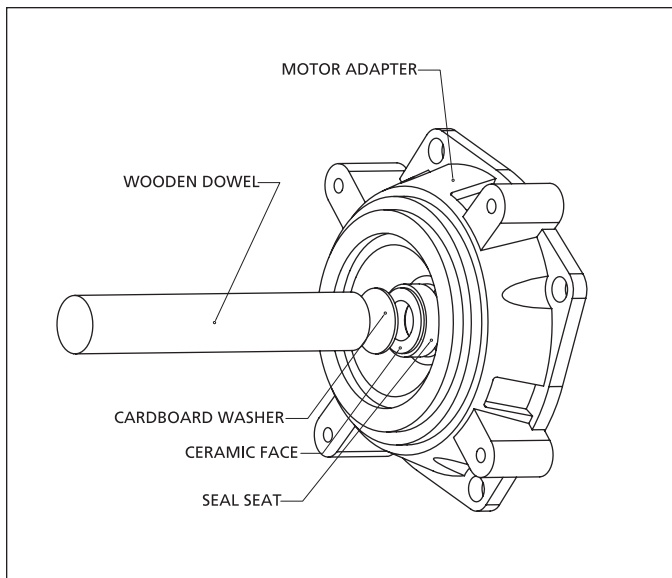


Figure 6 - Seal Seat Installation

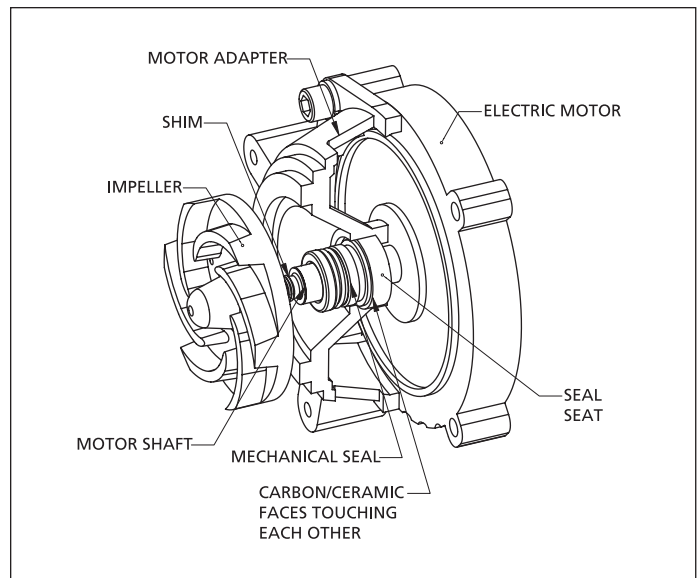


Figure 7 - Seal and Impeller Installation

316 Stainless Steel, Bronze and Cast Iron Models

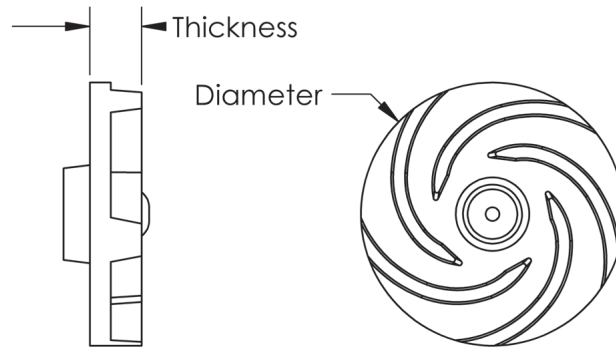
Troubleshooting Chart

| Symptom | Possible Causes (s) | Corrective Action |
|---|--|--|
| Pump runs but no fluid | <ol style="list-style-type: none"> 1. Faulty suction piping 2. Pump located too far from fluid source 3. Gate valve closed 4. Clogged strainer 5. Fouled foot valve 6. Discharge height too great, or long | <ol style="list-style-type: none"> 1. Replace piping 2. Relocate pump 3. Open valve 4. Clean or replace strainer 5. Clean or replace valve 6. Lower the discharge point shorten piping |
| Pump will not prime or retain prime after operating | <ol style="list-style-type: none"> 1. Air leak in suction line 2. Clogged foot valve or strainer 3. Leaking foot valve | <ol style="list-style-type: none"> 1. Repair or replace 2. Clean or replace 3. Repair or replace foot valve |
| Flow rate is low | <ol style="list-style-type: none"> 1. Piping is fouled or damaged 2. Clogged impeller or worn impeller 3. Discharge line restricted or undersized 4. Plumbing restriction | <ol style="list-style-type: none"> 1. Clean or replace 2. Clean or replace 3. Flush out piping or replace 4. Remove restrictions |
| Pump starts and stops pumping | <ol style="list-style-type: none"> 1. Fouled impeller 2. Faulty mechanical seal 3. Leak in suction line 4. Leak in foot valve | <ol style="list-style-type: none"> 1. Clean impeller and pump 2. Replace seal 3. Repair or replace suction line 4. Repair or replace foot valve |
| Excessive noise while pump in operation | <ol style="list-style-type: none"> 1. Pump not secured to firm foundation 2. Piping not supported to relieve any strain on pump assembly 3. Restricted suction line | <ol style="list-style-type: none"> 1. Secure pump properly 2. Make necessary adjustments 3. Clean and correct suction line |
| 4. Cavitation (noise like marbles in pump) | | <ol style="list-style-type: none"> 4. a. Reduce speed b. Increase inlet size c. Too viscous (thickness of material being pumped too large) |
| Liquid drips from point where shaft enters the pump casing, when pump is full of liquid | <ol style="list-style-type: none"> 1. Damaged mechanical seal 2. Temperatures over 210°F – liquid not compatible with seat | <ol style="list-style-type: none"> 1. Replace (See Mechanical Seal Replacement) 2. Replace with Viton 24276, if suitable |
| Pump runs but poor performance | <ol style="list-style-type: none"> 1. Check pump rotation to see if it is CCW as viewed from motor face. On three-phase motors, rotation must be checked prior to running pump under load. | <ol style="list-style-type: none"> 1. On three-phase motors, switch any two motor wire leads to reverse rotation. |
| | <p>▲WARNING Failure to check rotation before pump is run can result in severe damage to the pump and motor unit.</p> | |

SHURflo Close-Coupled Centrifugal Pumps

316 Stainless Steel, Bronze and Cast Iron Models

Impeller Identification Chart



Impeller Identification Chart

| Impeller Number | HP Required | 316SS Part# | Bronze Part# | Cast Iron Part# | Diameter inches | Thickness inches |
|-----------------|-------------|-------------|--------------|-----------------|-----------------|------------------|
| 1 | 1/3 | 24444S | 24444B | 24444C | 3.38 | 0.60 |
| 2 | 1/2 | 24445S | 24445B | 24445C | 3.50 | 0.71 |
| 3 | 3/4 | 24446S | 24446B | 24446C | 3.63 | 0.71 |
| 4 | 1 | 24447S | 24447B | 24447C | 3.90 | 0.83 |
| 5 | 1-1/2 | 24448S | 24448B | 24448C | 4.25 | 0.83 |
| 6** | 2 | 23311 | 18021 | 19569 | 4.57 | 0.52 |
| 7** | 3 | 23312 | 15847 | 15970 | 4.63 | 1.11 |

NOTES: (**) Tapered impellers
All impellers are semi-open.

