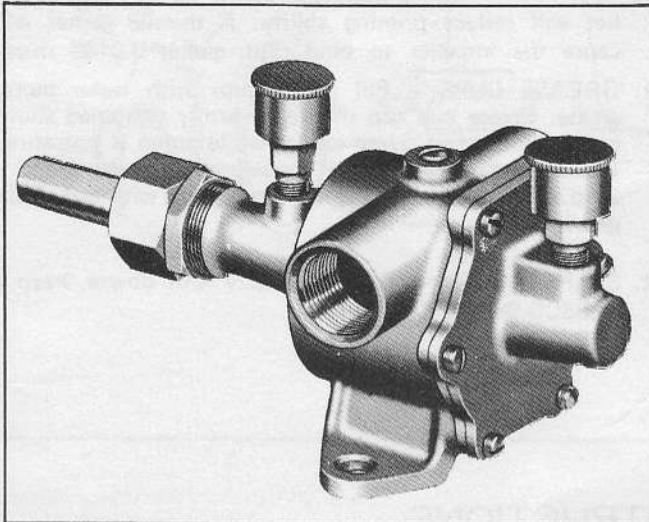


**JABSCO®**

# Models 4560-SERIES 4590-SERIES 4620-SERIES

Models 4560-SERIES, 4590-SERIES, 4620-SERIES



Other JABSCO models are also available in bronze, plastic and stainless steel. JABSCO Pureflo® pumps are also available for sanitary applications.

## SELF-PRIMING PUMPS FEATURES

|             |   |
|-------------|---|
| Body:       | Bronze Construction   |
| Impeller:   | Neoprene or Nitrile   |
| Shaft:      | Stainless Steel   |
| Shaft Seal: | Packing Type  |
| Bearings:   | Plain   |
| Ports:      | Model 4560-Series 1/2" NPT<br>Model 4590-Series 3/4" NPT<br>Model 4620-Series 1" NPT                          |
| Weight:     | Model 4560-Series 3-3/4 lb (1,7 kg)<br>Model 4590-Series 5 lb (2,3 kg)<br>Model 4620-Series 5-1/4 lb (2,4 kg) |

## VARIATIONS AVAILABLE

| MODEL     | VARIATION INCORPORATED |
|-----------|------------------------|
| 4560-0001 | Neoprene Impeller      |
| -0003     | Nitrile Impeller       |
| 4590-0001 | Neoprene Impeller      |
| -0003     | Nitrile Impeller       |
| 4620-0001 | Neoprene Impeller      |
| -0003     | Nitrile Impeller       |

## APPLICATIONS & OPERATING INSTRUCTIONS

**MARINE:** Pumping bilges, Washdowns, Circulating water in bait tanks, Utility dock side pump, Engine cooling.

**INDUSTRIAL:** Circulating and transferring, Velocity-mixing, Pumping machine tool coolants, Return spill, Sump drainage, Chemicals, Pharmaceuticals, Soap, Liquors, Ink, Dyes, Alcohol, Various acids, Tanning liquors, Glycerine, Brine, etc.

**FARMING:** Pumping water for stock, Pumping water from shallow wells and cisterns, Pumping liquid ballast into tractor tires.

**PLUMBING & HOME EMERGENCY USE:** Pumping out flooded basements, Cesspools, Sumps, Water heaters and water closets, Drains and sinks, Draining fishponds and pools.

- 1. INSTALLATION** – Pump may be mounted in any position. Intake and discharge ports are determined by the direction of shaft rotation (refer to Dimensional Drawing). Before installing, turn the pump shaft in the direction of the operating rotation.
- 2. DRIVE** – Belt or Direct with flexible coupling.  
Belt Drive – Overtight belt load will reduce pump bearing life. Direct Drive is recommended for operating speeds above 1750 RPM

Direct Drive – Clearance should be left between drive shaft

and pump shaft when installing coupling. Always mount and align pump and drive shaft before tightening the coupling set screw.

**NOTICE:** If the drive pulley or coupling must be pressed on the shaft, remove the end cover and impeller and support the shaft from the impeller end during the press operation. Do not hammer a pulley or coupling on the shaft. Failure to follow the above instructions can damage the pump.

- 3. SPEEDS** – 100 RPM to the maximum shown in the performance table. Consult the factory for operation at speeds above those shown. For longer pump life, operate at lowest possible speeds.
- 4. SELF-PRIMING** – Primes at low or high speeds. For vertical dry suction lift of 10 feet, a minimum of 800 RPM is required. Pump will produce suction lift up to 22 feet when wetted. **BE SURE SUCTION LINES ARE AIRTIGHT OR PUMP WILL NOT SELF-PRIME.**
- 5. RUNNING DRY** – Unit depends on liquid pumped for lubrication. **DO NOT RUN DRY** for more than 30 seconds. Lack of liquid will damage the impeller.

## OPERATING INSTRUCTIONS (Cont.)

6. NOTICE — If pumping light fraction petroleum derivatives, solvents, thinners, highly concentrated or organic acids, consult Jabsco Chemical Resistance Table (which is available upon request from ITT Jabsco) for proper body materials and impeller compounds. If corrosive fluids are handled, pump life will be prolonged if pump is flushed with water after each use or after each work day.
7. PRESSURES — Consult Head Capacity Table for recommended maximum for continuous operation. If pressures exceed those shown, consult the factory.
8. TEMPERATURE - Neoprene 45° — 180°F (7°-82°C)  
Nitrile 50° — 180°F (10° — 82°C).
9. FREEZING WEATHER — Drain unit by loosening end cover. The following anti-freeze compounds can be used without any adverse effects to the neoprene impeller: Atlas "Permaguard", DuPont "Zerex" and "Telar", Dow Chemical "Dowguard" and Olin Mathison "Pyro Permanent". Most Methyl alcohol (methanol) based anti-freeze can be used.  
**DO NOT USE PERTROLEUM BASED ANTI-FREEZE COMPOUNDS OR RUST INHIBITORS.**
10. GASKET — Use a standard pump part. Thicker gasket will reduce priming ability. A thinner gasket will cause the impeller to bind. Std. gasket 0.010" thick.
11. GREASE CUPS — Fill grease cups with water pump grease. Grease cup cap should be firmly tightened about every 50 hours of pump service while pump is operating. Leakage may occur through grease cups at pressures above 20 p.s.i. If this occurs, replace grease cups with ball check grease cups.
12. SPARE PARTS — To avoid costly shut downs, keep a JABSCO Service Kit on hand.

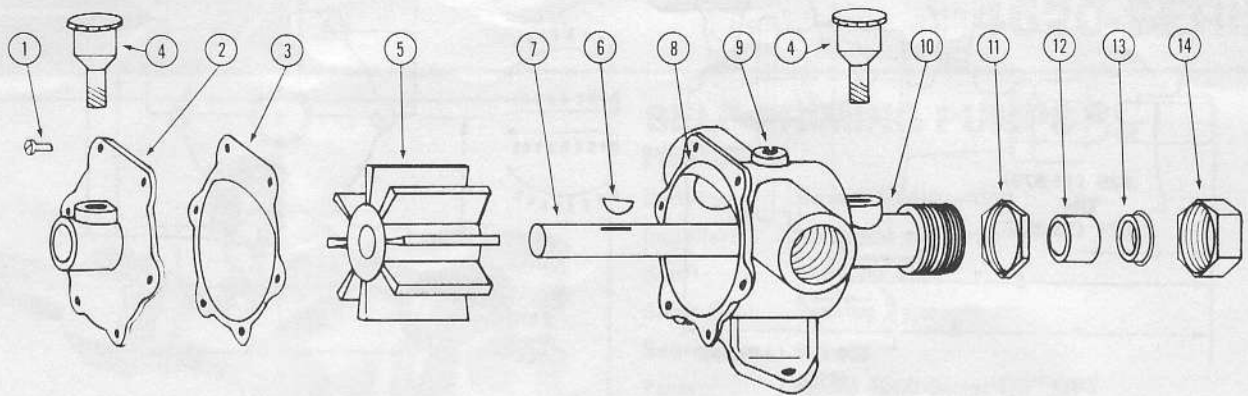
## SERVICE INSTRUCTIONS DISASSEMBLY

1. Remove end cover screws, end cover and gasket.
2. Remove drive coupling or pulley and loosen packing nut.
3. Remove shaft and impeller assembly from body.
4. Slide impeller off shaft towards pump drive end.
5. Remove cam screw and cam; clean off Permatex.
6. Remove packing nut and gland.
7. Remove packing with pick or screwdriver.
8. Remove grease cup caps and clean grease cups. Use a small wire to ensure grease passage is open to shaft bore.
9. Inspect all parts for wear or damage and replace if necessary.

## ASSEMBLY

1. Dip new packing in SAE 10 or 20 weight oil and install packing, packing gland and packing nut.
2. Apply sealant to cam screw threads and top and back end of cam and install in body with cam screw.
3. Install impeller key in shaft (dress if necessary) and slide the impeller on the shaft **from the pump drive end**.  
*Impeller can be installed in only one direction; pinned end of keyway toward drive end of pump.*
4. Install shaft and impeller assembly in body. (Dip shaft in SAE 10 or 20 weight oil and lube impeller bore with water pump grease prior to assembly).
5. Install gasket and end cover with end cover screws.
6. Fill grease cups full and grease cup caps 3/4 full with water pump grease. Install grease cup caps and tighten firmly.
7. Hand tighten packing nut. During operation, tighten packing nut until pump stops dripping; set locking nut. NOTE: Packing and shaft life will be improved if pump is allowed to drip about 3 drops per minute. After a few minutes of operation, re-tighten grease cup caps.

## EXPLODED VIEW



## PARTS LIST

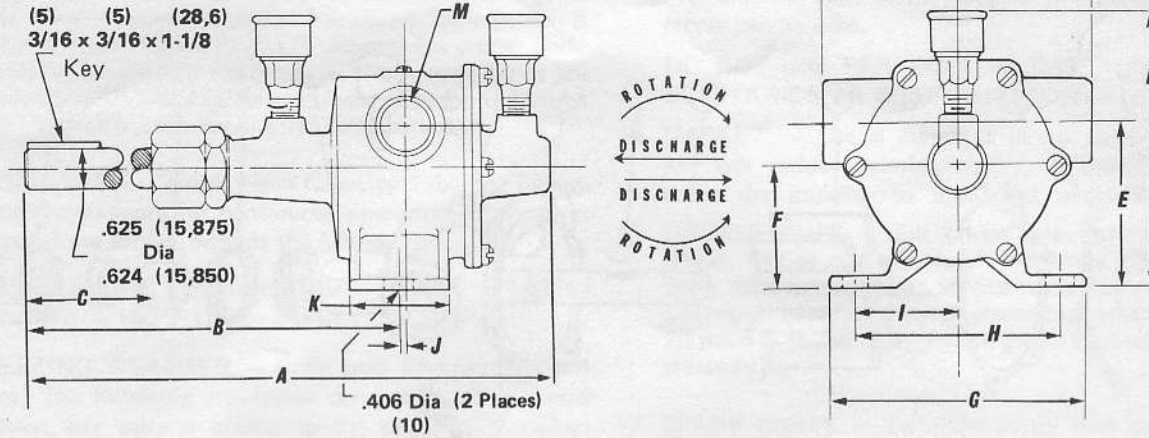
| Key | DESCRIPTION  | Model 4560 Series        | Model 4590 Series        | Model 4620 Series        | Qty Req. |
|-----|--|--------------------------|--------------------------|--------------------------|----------|
| 1   | Screw (End Cover)  | 91002-0020               | 91003-0010               | 91003-0010               | 6        |
| 2   | End Cover  | 4565-0000                | 4595-0000                | 4595-0000                | 1        |
| 3   | *Gasket  | 7083-0000                | 706-0010                 | 706-0010                 | 1        |
| 4   | Grease Cup   | 91501-0010               | 91501-0010               | 91501-0010               | 2        |
| 5   | *Impeller<br>Neoprene<br>Nitrile                                       | 4568-0001<br>4568-0003   | 4598-0001<br>4598-0003   | 4598-0001<br>4598-0003   | 1        |
| 6   | *Key (Impeller Drive)  | 91402-0010               | 91402-0010               | 91402-0010               | 1        |
| 7   | Shaft  | 4567-0000                | 4597-0000                | 4597-0000                | 1        |
| 8   | Cam  | 490-0001                 | 17612-0000               | 17612-0000               | 1        |
| 9   | Screw (Cam)  | 91003-0070               | 91004-0010               | 91004-0010               | 1        |
| 10  | Body   | 4564-0000                | 4594-0000                | 4624-0000                | 1        |
| 11  | Lock Nut   | 4517-0000                | 4517-0000                | 4517-0000                | 1        |
| 12  | *Packing (ring)  | 3791-0000                | 3791-0000                | 3791-0000                | 1        |
| 13  | Packing (Gland)  | 4518-0000                | 4518-0000                | 4518-0000                | 1        |
| 14  | Packing Nut  | 4583-0000                | 4583-0000                | 4583-0000                | 1        |
|     | Key (Pump Drive)<br>not shown  | 9215-0000                | 9215-0000                | 9215-0000                | 1        |
|     | Service Kit (not shown)<br>w/ Neoprene Impeller<br>w/ Nitrile Impeller | 90003-0001<br>90003-0003 | 90004-0001<br>90004-0003 | 90004-0001<br>90004-0003 |          |

\*Parts Supplied in Service Kit



# DIMENSIONAL DRAWING

INCHES (MILLIMETRES)



TABULATIONS FROM ABOVE DRAWING

| Model       | A               | B                  | C                     | D                  | E                | F                  | G                 | H                | I                 | J              | K                 | L                 | M                           |
|-------------|-----------------|--------------------|-----------------------|--------------------|------------------|--------------------|-------------------|------------------|-------------------|----------------|-------------------|-------------------|-----------------------------|
| 4560-Series | 7-1/8"<br>(181) | 5-1/8"<br>(130,2)  | 1-7/8" Min.<br>(47,6) | 4"<br>(101,6)      | 2-1/2"<br>(63,5) | 1-15/16"<br>(49,2) | 3-3/4"<br>(95,3)  | 3"<br>(76,2)     | 1-1/2"<br>(38,1)  | 3/16"<br>(4,8) | 1-3/16"<br>(30,2) | 4-1/8"<br>(104,8) | 1/2" NPT Int.<br>(2 Places) |
| 4590-Series | 7-7/8"<br>(200) | 5-9/16"<br>(141,3) | 1-3/4" Min.<br>(44,5) | 4-3/16"<br>(106,4) | 2-1/2"<br>(63,5) | 1-7/8"<br>(47,6)   | 3-15/16"<br>(100) | 3-1/8"<br>(79,4) | 1-9/16"<br>(39,7) | 3/32"<br>(2,4) | 1-1/2"<br>(38,1)  | 4-1/8"<br>(104,8) | 3/4" NPT Int.<br>(2 Places) |
| 4620-Series | 7-7/8"<br>(200) | 5-5/8"<br>(142,9)  | 1-3/4" Min.<br>(44,5) | 4-3/16"<br>(106,4) | 2-1/2"<br>(63,5) | 1-7/8"<br>(47,6)   | 3-15/16"<br>(100) | 3-1/8"<br>(79,4) | 1-9/16"<br>(39,7) | 1/8"<br>(3,2)  | 1-1/2"<br>(38,1)  | 4-3/4"<br>(120,7) | 1" NPT Int.<br>(2 Places)   |

## HEAD CAPACITY TABLES

### MODEL 4560-0001

| TOTAL HEAD           |                          | 500 RPM        |     | 1160 RPM       |     | 1750 RPM       |     | 2100 RPM       |     | 2450 RPM       |     | 3000 RPM       |     | 3600 RPM       |     |
|----------------------|--------------------------|----------------|-----|----------------|-----|----------------|-----|----------------|-----|----------------|-----|----------------|-----|----------------|-----|
| p.s.i.<br>(kg/sq cm) | ft. of water<br>(metres) | GPM<br>(l/min) | hp  | GPM<br>(l/min) | hp  | GPM<br>(l/min) | hp  | GPM<br>(l/min) | hp  | GPM<br>(l/min) | hp  | GPM<br>(l/min) | hp  | GPM<br>(l/min) | hp  |
| 4.3<br>(0,3)         | 10<br>(3,0)              | 3.0<br>(11,3)  | 1/6 | 7.6<br>(28,8)  | 1/4 | 11.0<br>(41,6) | 1/2 | 13.0<br>(49,2) | 1/2 | 15.2<br>(57,5) | 1/2 | 18.0<br>(68,1) | 3/4 | 19.6<br>(74,2) | 3/4 |
| 8.7<br>(0,6)         | 20<br>(6,1)              | 1.8<br>(6,8)   | 1/6 | 6.4<br>(24,2)  | 1/4 | 10.0<br>(37,9) | 1/2 | 11.5<br>(43,5) | 1/2 | 13.7<br>(51,9) | 1/2 | 17.0<br>(64,3) | 3/4 | 18.8<br>(71,2) | 3/4 |
| 13<br>(0,9)          | 30<br>(9,1)              | -              | -   | 4.8<br>(18,2)  | 1/3 | 8.5<br>(32,2)  | 1/2 | 10.0<br>(37,9) | 1/2 | 12.0<br>(45,4) | 1/2 | 15.3<br>(57,9) | 3/4 | 17.5<br>(66,2) | 3/4 |
| 21.6<br>(1,5)        | 50<br>(15,2)             | -              | -   | -              | -   | 5.0<br>(18,9)  | 1/2 | 6.7<br>(25,4)  | 3/4 | 8.5<br>(32,2)  | 3/4 | 11.8<br>(44,7) | 3/4 | 14.5<br>(54,9) | 1   |

### MODELS 4590-0001, 4620-0001

| TOTAL HEAD           |                          | 500 RPM        |     | 1160 RPM       |     | 1750 RPM       |     | 2100 RPM        |     | 2450 RPM        |       | 3000 RPM        |       |
|----------------------|--------------------------|----------------|-----|----------------|-----|----------------|-----|-----------------|-----|-----------------|-------|-----------------|-------|
| p.s.i.<br>(kg/sq cm) | ft. of water<br>(metres) | GPM<br>(l/min) | hp  | GPM<br>(l/min) | hp  | GPM<br>(l/min) | hp  | GPM<br>(l/min)  | hp  | GPM<br>(l/min)  | hp    | GPM<br>(l/min)  | hp    |
| 4.3<br>(0,3)         | 10<br>(3,0)              | 7.0<br>(26,5)  | 1/4 | 16.5<br>(62,5) | 1/3 | 25.0<br>(94,6) | 3/4 | 29.0<br>(109,8) | 3/4 | 31.0<br>(117,3) | 1     | 33.0<br>(124,9) | 1-1/2 |
| 8.7<br>(0,6)         | 20<br>(6,1)              | 6.5<br>(24,6)  | 1/4 | 16.0<br>(60,6) | 1/3 | 24.5<br>(92,7) | 3/4 | 28.5<br>(107,9) | 3/4 | 30.5<br>(115,4) | 1     | 32.5<br>(123,0) | 1-1/2 |
| 13<br>(0,9)          | 30<br>(9,1)              | 6.0<br>(22,7)  | 1/4 | 15.0<br>(56,8) | 1/3 | 23.0<br>(87,1) | 3/4 | 27.0<br>(102,2) | 1   | 29.0<br>(109,8) | 1     | 32.0<br>(121,1) | 1-1/2 |
| 21.6<br>(1,5)        | 50<br>(15,2)             | -              | -   | 11.5<br>(43,5) | 1/2 | 19.0<br>(71,9) | 3/4 | 22.5<br>(85,2)  | 1   | 25.0<br>(94,6)  | 1-1/2 | 30.5<br>(115,4) | 2     |

NOTE: Progressively longer life may be expected as operating pressures and speeds are reduced. Factory Application Engineering assistance suggested for operation in light shaded areas and recommended for heavy shaded areas. Capacitor type motor required. Table shows approximate Head-Flow for new pump in U.S. gallons per minute and litres per minute, for neoprene compound impeller.

**ITT Jabsco**

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THE PRODUCTS DESCRIBED HEREIN ARE SUBJECT TO THE JABSCO ONE YEAR LIMITED WARRANTY, WHICH IS AVAILABLE FOR YOUR INSPECTION UPON REQUEST.