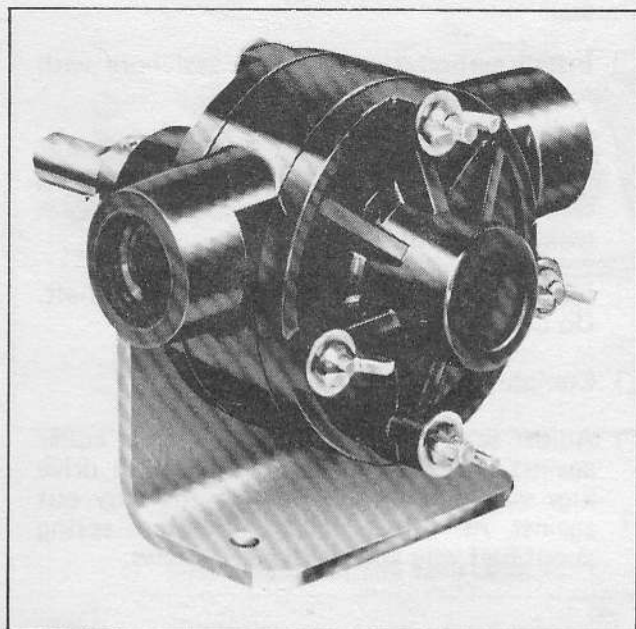


**JABSCO**[®]

Models 12850-SERIES 12860-SERIES



SELF-PRIMING PUMPS

DESIGN FEATURES

| | |
|-------------|--|
| Body: | Phenolic Plastic |
| Impeller: | Neoprene or Nitrile |
| Shaft: | 316 Stainless Steel |
| Shaft Seal: | Carbon-Ceramic Face Type, Nitrile |
| Bearings: | Carbon |
| Ports: | Model 12850-Series – 1/2" NPT Model 12860-Series – 1" NPT |
| Weight: | Model 12850-Series – 3 3/4 lbs (1,7 kg) Model 12860-Series – 5 1/2 lbs (2,5 kg) |

| Model | Description |
|------------|-------------------|
| 12850-0001 | Neoprene Impeller |
| 12850-0003 | Nitrile Impeller |
| 12860-0001 | Neoprene Impeller |
| 12860-0003 | Nitrile Impeller |

NOTE: Carbon/Carpenter 20 seal available as a spare part.

APPLICATIONS

Designed as a low cost pump for: transfers, circulation, spill returns, filtration and filling line use. Easily handles pure solutions, foaming liquids, emulsions, suspended solids, gels and ferments. Because the plastic pump is resistant to corrosion and metallic contamination, it is widely used for pumping photo chemicals, plating compounds, lab solutions, pharmaceuticals, cosmetics, weak acids, alkalies, liquid fertilizers, insecticides, dyes, detergents, waxes and many more.

See the Jabsco Chemical Resistance Table (available upon request from ITT Jabsco). It has been prepared to help you select the most suitable impeller and pump material.

OPERATING INSTRUCTIONS

1. **INSTALLATION** – Pump may be mounted in any position. The rotation of the pump shaft determines the location of the pump's intake and discharge ports. Refer to dimensional drawing. Before starting, turn the pump shaft in the direction of the operating rotation.

2. **DRIVE** – Belt or Direct with flexible coupling.

NOTICE: Do not press a pulley or coupling on the shaft without supporting the shaft to prevent its movement into the impeller bore.

BELT DRIVE – Overtight belt load will reduce pump bearing life.

DIRECT DRIVE – Clearance should be left between drive shaft and pump shaft when installing coupling. Always mount pump and align drive shaft before tightening the coupling set screw.

3. **SPEEDS** – 100 RPM to the maximum shown in the performance table. 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 lifts 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 and other components.

6. **CAUTION** – **Do not pump petroleum derivatives, solvents, thinners, highly concentrated or organic acids. If corrosive fluids are handled, pump life will be prolonged if flushed with water after each use or after each work day. Consult Jabsco Chemical Resistance Table in Industrial Catalog. For further information contact factory.**

7. **PRESSURES** – For continuous operation, pressure should not exceed 20 PSI for 12850-Series and 30 PSI for 12860-Series.

8. **TEMPERATURES** – Recommended temperature range with neoprene impeller 45° to 180° F (7° to 82°C), and with nitrile impeller 50° to 180° F (10° to 82°C).

9. **SPARE PARTS** – A Jabsco Service Kit should be kept on hand to maintain all but the most badly worn pumps.

Models 12850-Series, 12860-Series

SERVICE INSTRUCTIONS

● Disassembly Steps

□ Assembly Steps

To Replace Impeller:

- 1 ● Remove wing nuts, washers, and end cover.
- 2 ● Remove pump head from seal housing. Remove O-rings from body grooves.
- 3 ● Push impeller from body bore.
- 4 □ Grasp hub of impeller and with a rotary motion push it into the lubricated body bore. Replace O-rings in body grooves. (Before putting body-impeller assembly on shaft, push impeller up so blades bend under cam located in top of body.)
- 5 □ Install body-impeller assembly on shaft, lining up double-flat drives of impeller. Install top thru-bolt and washer.
- 6 □ Install bottom three bolts through mounting bracket and body; install end cover, securing with washers and wing nuts.

- 11 □ Lubricate seal spring with silicone grease and install spring and O-ring onto carbon face seal.
- 12 □ Install carbon face seal into seal bore with seal face outwards.
- 13 □ Install shaft sub-assembly into bearing housing, push ceramic seal seat down onto shaft until it rides on carbon face, and seal seat gasket faces out.
- 14 □ Install collar with two set screws onto shaft. Do not tighten.
- 15 □ Complete steps 4, 5, and 6 □ .
- 16 □ Adjust seal force by sliding set screw collar against seal and lining up slots with drive lugs while shaft is pulled all the way out against its thrust collar. Compress spring about half way and tighten set screws.

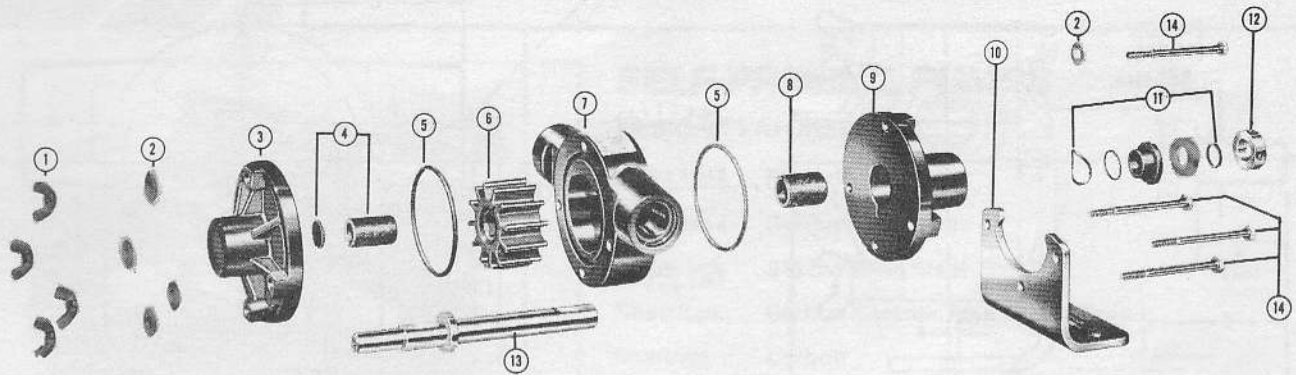
To Replace Seal Assembly:

- 7 ● Follow steps 1 ● , 2 ● , and 3 ●
- 8 ● Loosen set screws and remove seal collar assembly.
- 9 ● Pull shaft from impeller end of bearing housing, which will remove seal gasket and seal seat from shaft.
- 10 ● Remove seal face piece, O-ring and seal spring from rear of bearing housing.

To Replace Bearings:

- 17 ● Follow steps 7 ● , 8 ● and 9 ● .
- 18 ● Remove bearing sleeve from bearing housing.
- 19 ● Remove bearing sleeve and thrust plate from end cover piece.
- 20 □ Install thrust plate and bearing sleeve in end cover.
- 21 □ Install bearing sleeve into bearing housing.
- 22 □ Follow assembly steps 11 □ , 12 □ , 13 □ , 14 □ , 15 □ , and 16 □ .

EXPLODED VIEW



PARTS LIST

MODEL 12850-0001 AND VARIATIONS

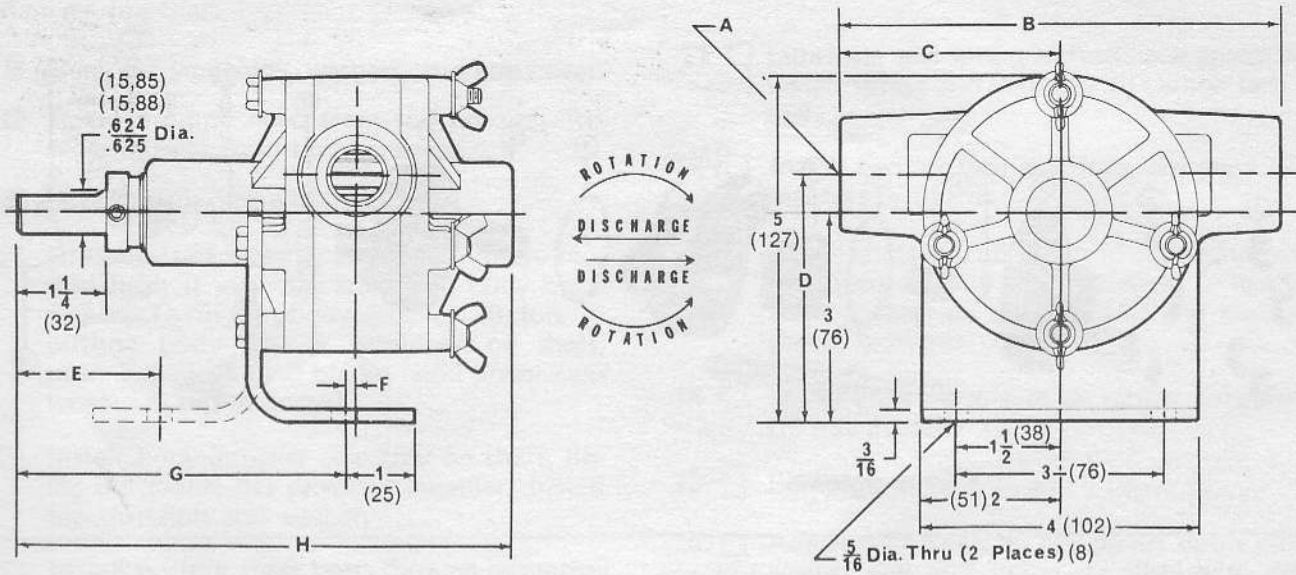
| Key | Description | Part Number | Qty. Req. |
|-----|--|--------------------------|------------------------------------|
| 1 | Wing Nut 1/4-20 | 91107-0030 | 4 |
| 2 | Flat Washer | 91601-0040 | 5 |
| 3 | End Cover | 12854-0000 | 1 |
| 4 | Thrust Plate and Bearing | 12875-0000 | 1 |
| 5 | *O-Ring (Body) | 92000-0310 | 2 |
| 6 | *Impeller (Neoprene) (Nitrile) | 14281-0001 14281-0003 | 1 |
| 7 | Body | 4974-0010 | 1 |
| 8 | Carbon Bearing (Housing) | 12863-0000 | 1 |
| 9 | Bearing Housing | 12853-0000 | 1 |
| 10 | Bracket (Mounting) | 12855-0000 | 1 |
| 11 | *Seal Assembly Carbon/Ceramic Carbon/Carpenter | 12865-0000 12865-0600 | 1 Available as Optional Part |
| 12 | Seal Collar | 12938-0000 | 1 |
| 13 | Shaft Assembly Stainless Steel | 12857-0010 | 1 |
| 14 | Bolt 1/4-20x3-1/4 | 91094-0170 | 4 |
| | Service Kit With Neoprene Impeller With Nitrile Impeller | 90130-0001 90130-0003 | |

MODEL 12860-0001 AND VARIATIONS

| Key | Description | Part Number | Qty. Req. |
|-----|--|--------------------------|------------------------------------|
| 1 | Wing Nut 1/4-20 | 91107-0030 | 4 |
| 2 | Flat Washer | 91601-0040 | 5 |
| 3 | End Cover | 12854-0000 | 1 |
| 4 | Thrust Plate and Bearing | 12875-0000 | 1 |
| 5 | *O-Ring (End Cover) | 92000-0310 | 2 |
| 6 | *Impeller (Neoprene) (Nitrile) | 14282-0001 14282-0003 | 1 |
| 7 | Body | 5170-0010 | 1 |
| 8 | Carbon Bearing (Housing) | 12863-0000 | 1 |
| 9 | Bearing Housing | 12853-0000 | 1 |
| 10 | Bracket (Mounting) | 12855-0000 | 1 |
| 11 | *Seal Assembly Carbon/Ceramic Carbon/Carpenter | 12865-0000 12865-0600 | 1 Available as Optional Part |
| 12 | Seal Collar | 12938-0000 | 1 |
| 13 | Shaft Assembly Stainless Steel | 12867-0010 | 1 |
| 14 | Bolt 1/4-20x4 | 91094-0050 | 4 |
| | Service Kit With Neoprene Impeller With Nitrile Impeller | 90132-0001 90132-0003 | |

*PARTS CONTAINED IN SERVICE KIT.

DIMENSIONAL DRAWING
INCHES (millimetres)



| | A | B | C | D | E | F | G | H |
|-------------------|-----------------------------|-----------------|-----------------|-----------------|-----------------|--------------|-------------------|-------------------|
| 12850-0001 | 1/2" NPT Int. (2 Places) | 6-3/8" (162) | 3-3/16" (81) | 3-9/16" (90) | 2-5/32" (55) | 1/8" (3) | 4-27/32" (123) | 7-7/32" (183) |
| 12860-0001 | 1" NPT Int. (2 Places) | 6" (152) | 3" (76) | 3-5/8" (92) | 2-3/16" (56) | 1/2" (13) | 4-7/8" (124) | 7-31/32" (202) |

CAPACITY CHART

MODEL 12850-0001

| TOTAL HEAD | | | | 500 RPM | | | 1160 RPM | | | 1750 RPM | | |
|------------|--------------------|--------------|-----------------|---------|-------|-----|----------|-------|-----|----------|-------|-----|
| PSI | kg/cm ² | ft. of water | meters of water | GPM | ℓ/min | hp | GPM | ℓ/min | hp | GPM | ℓ/min | hp |
| 4.3 | 0,3 | 10 | 3,0 | 3.0 | 11,4 | 1/6 | 7.6 | 28,8 | 1/4 | 11.0 | 41,6 | 1/2 |
| 8.7 | 0,6 | 20 | 6,1 | 1.8 | 6,8 | 1/6 | 6.4 | 24,2 | 1/4 | 10.0 | 37,9 | 1/2 |
| 13.0 | 0,9 | 30 | 9,1 | — | — | — | 4.8 | 18,2 | 1/3 | 8.5 | 32,2 | 1/2 |
| 21.6 | 1,5 | 50 | 15,2 | — | — | — | — | — | — | 5.0 | 18,9 | 1/2 |

MODEL 12860-0001

| TOTAL HEAD | | | | 500 RPM | | | 1160 RPM | | | 1750 RPM | | |
|------------|--------------------|--------------|-----------------|---------|-------|-----|----------|-------|-----|----------|-------|-----|
| PSI | kg/cm ² | ft. of water | meters of water | GPM | ℓ/min | hp | GPM | ℓ/min | hp | GPM | ℓ/min | hp |
| 4.3 | 0,3 | 10 | 3,0 | 6.8 | 25,7 | 1/6 | 16.5 | 62,5 | 1/3 | 26.0 | 98,4 | 3/4 |
| 8.7 | 0,6 | 20 | 6,1 | 6.3 | 23,8 | 1/4 | 15.9 | 60,2 | 1/3 | 24.5 | 92,7 | 3/4 |
| 17.3 | 1,2 | 40 | 12,2 | 4.7 | 17,8 | 1/4 | 13.5 | 51,1 | 1/3 | 21.0 | 79,5 | 3/4 |
| 26.0 | 1,8 | 60 | 18,3 | — | — | — | 9.5 | 36,0 | 1/2 | 16.5 | 62,5 | 1 |

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