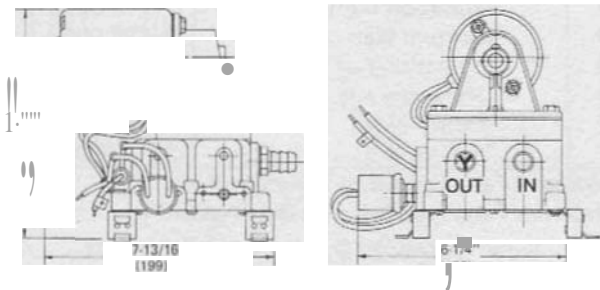


# PAR™

ORIGINAL EQUIPMENT  
ELECTRIC WATER SYSTEM PUMP

## PUMP DIMENSIONS



Dimensions in parenthesis are in millimeters.

## OPERATION

- Check level of water in tank.
- Check all strainers or any aerators and clean thoroughly.
- Open all faucets, hot and cold.
- Turn on power to pump and wait for hot water tank and water lines to fill.
- **Close** each faucet when it starts to deliver a steady stream of water (close cold water faucet first).
- Observe the pump. Check to be sure pump stops soon after closing last faucet.
- Pump is now ready for automatic operation. IT will start when a faucet is opened and stop when the faucet is closed.
- Relieve system pressure before hooking up to city water.

## MAINTENANCE

**WINTER STORAGE.** PAA pumps, with their unique pulsation dampener, will withstand frozen water without damage, provided the system is not under pressure prior to freezing. To prevent **accidental** damage, the entire water system should be protected from freezing during winter storage. This requires complete draining, using the following directions and/or vehicle manufacturers instructions:

1. Open all faucets and drains and allow pump to empty water tank and intake line. Run the pump dry for 1 to 2 minutes before turning off.
2. With all drains open, blow air through city water entry. Allow time for the water heater to empty.
3. Disconnect discharge and intake hoses from the pump. Start the pump and allow to run until all water is expelled from unit. (Running dry will not harm the pump.)
4. Reconnect the hoses, close the drains but leave faucets open. The water distribution system is now dry and ready for winter **storage**.

An alternate method is to use potable water system anti-freeze solution. Follow directions of anti-freeze manufacturer, and use a PAR Winter Protection **Kit** Model 44610-0000.

**DO NOT USE AUTOMOTIVE TYPE RADIATOR ANTI-FREEZE. IT IS POISONOUS.**

MODELS: 36970 1030  
36970 1060  
36970 2060  
36970 3030  
36970 3060

MODEL 36970-SERIES  
AUTOMATIC AUTOMOTIVE MULTI-FUNCTION PUMP

## FEATURES

- Self-Priming
- **Diaphragm** Design Allows Dry Running
- Built-in Discharge Check Valve
- low Current Draw
- Built-in Hydraulic Pulsation Dampener
- large **Vibration** Absorbing Pads
- Available with Barb or Threaded Ports
- IAPMO Approved
- CSA Certified

## SPECIFICATION

	U.S. GPM	liters/Min.	Can. GPM
Open <b>Flow</b> :	2.8	10.6	2.3
Cut-in <b>Pressure</b> :	16 PSI Nom.	(1,1 kg/cm	
<b>Cut-off</b> Pressure:	30 PSI Nom.	(2,1 kg/cm	
Voltage:	12VDC		
Current:	5 Amps Nominal		
Fuse Rating:	5 Amp "Slo-Blo"/7½ Amp Normal		
Ports:	Slip-on 1/2" or 5/8" to Hose or 1/2" Threads		

Vert. Dry Suction **Lift**: 5 feet (1,52M)

**Approvals**: IAPMQ Type IV & CSA

Weight: 7lbs. (3.2 kgs.)

## TROUBLE SHOOTING

Problems	Causes
Pump operates but no water <b>flows</b> through faucet	- Low water level in tank. - Suction line clogged or kinked. - loose hose clamps or fittings in suction line. - Defective valves or check valve.
Pump cycles on and off although all faucets are closed.	- Water leak in plumbing. - Water leak in flush toilet valve. - Internal leak in pump. - Outlet <b>valve</b> not sealing.
Pump operates roughly and has excessive noise and vibration.	- Flow through intake line is restricted, kink in hose. - <b>Pump</b> mounted on flimsy board. - Deformed or ruptured pulsation dampener in pump. - Worn connecting rod bearing.
Pump fails to start when faucet is opened.	- No voltage to pump. - Blown fuse. - Clogged piping. - Kink in outlet line. - Defective pressure switch or check valve.
Pump fails to SLOP when faucets are closed.	- Empty water tank. - Outlet valve not seating. - Air in system. - Very low voltage. - Defective pressure switch.

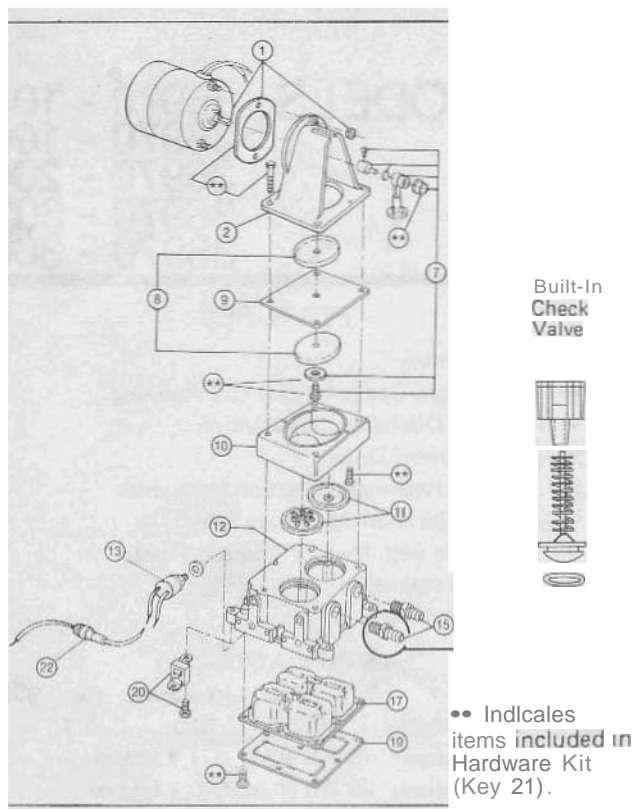
**CAUTION:** Before servicing pump, turn off power and open faucets to relieve pressure in water system.

# ITT JABSCO

Form 43000-0254 11/81

## PARTS LIST

### 36970-Series



K.y	Description	Part Number	Qty.
1	Motor Kit 12 Volt D.C.	30201-0000	1
2	Motor Mount	35452-0000	1
7	Connecting Rod Assembly	30033-0000	1
8	Diaphragm Plates	35479-0000	2
9	Diaphragm	30015-0000	1
10	Retainer	35454-0000	1
11	Valve Set (inlet & Outlet)	30004-0000	1 Set
12	Base Assembly	35620-1100	1
13	Pressure Switch	44814-0000	1
15	Ports (inlet & Outlet) Barb	37176-00(0)	1 Set
	(See Note)		
17	Pulsation Dampener	37178-0000	1
19	Bottom Plate	35686-0000	1
20	Vibration Pad Kit	37180-0000	1 Set
21	Hardware Kit	37167-0000	1 Set
22	Fuse Holder	35578-0000	1
	Service Kit	30123-0000	

\* Indicates Parts Contained in Service Kit.

t Indicates Parts Supplied with Base Assembly.

Note: Threaded Outlet Port 37050-0001  
Threaded Inlet Port 37050-0000

## SERVICE

### VALVE REPLACEMENT

1. Remove four tie down screws.
2. Lift off motor and diaphragm assembly from the pump base.
3. Lift valve assemblies from pockets and clean all foreign materials from valve and seat.
4. Reinstall valve assemblies into same pockets, being sure rubber valve with small hole is UP on intake and rubber valve without the small hole is DOWN on discharge.  
CAUTION. Do not use valve with small hole in rubber on discharge side of pump.

### DIAPHRAGM AND CONNECTING ROD REPLACEMENT

1. Remove four tie down screws.
2. Lift off motor and diaphragm assembly from the pump base.
3. Remove two diaphragm retainer screws and detach diaphragm retainer.
4. Remove two motor nuts. Pull motor and eccentric from connecting rod.
5. Remove diaphragm screw to separate diaphragm from connecting rod assembly.
6. Inspect diaphragm for cuts and cracks.
7. Check connecting rod assembly for breaks, cracks or excessive wear on eccentric rod and bearing if connecting rod is to be reused, open cover and relubricate by packing built-in reservoir with a water pump grease. Original lubricant normally lasts the lifetime of the pump.
8. When reassembling connecting rod to diaphragm, be sure to align. Proper alignment is achieved when the rod slips straight onto motor shaft and the diaphragm rests squarely on the motor mount pad. Misalignment will create a strain on diaphragm and significantly shorten its life.

### PULSATION DAMPENER REPLACEMENT

1. Remove pump from installation.
2. Remove nine screws from bottom of base and the bottom plate.
3. Pull out rubber pulsation dampener from base.
4. Inspect dampener for excessive deformation, ruptures and leaks.
5. When installing new pulsation dampener, make sure flange is correctly seated to effect a proper water and air seal.

### PRESSURE SWITCH REPLACEMENT

1. Disconnect wires from pressure switch.
2. Unscrew switch from base.
3. Thread new switch with seating washer into pump base, metallic side of washer facing switch. Tighten securely.
4. Rewire one lead to motor, other to fuse holder.

### MOTOR REPLACEMENT

1. Disconnect one motor wire from pressure switch, the other from splice connector.
2. Loosen eccentric set-screw on motor shaft.
3. Remove two motor nuts and pull motor away from motor mount, while holding back eccentric/connecting rod assembly.
4. When installing new motor, adjust eccentric on motor shaft so little or no contact is made between teflon washer and connecting rod bearing.
5. Rewire motor leads to pressure switch, and splice connector.

### CHECK VALVE REPLACEMENT

1. Remove water line from output port.
2. Pull poppet retainer from pan using wire hook or long-nosed pliers.
3. Inspect poppet with "O"-ring, stainless steel spring and retainer-guide. Clean and reinstall or replace.



STO 2240.3.2

## ITT JABSCO

MARC Division

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Telephone: (714) 545-8251

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For technical advice or service please take your pump into your local pump service center.  
To order pump or parts or for pricing please go to the following links :

[Jabsco Pumps Home >>](#)

[Jabsco Pumps stock list >>](#)