

FLOJET

Duplex Diaphragm 2100 Series Automatic Water System Pump Single Fixture Type II

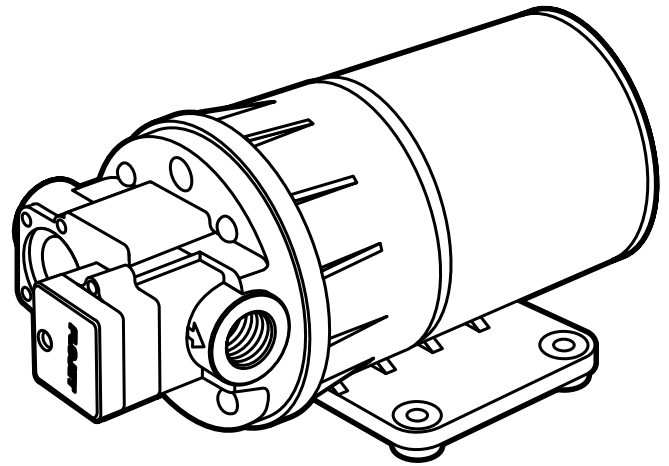
FEATURES

- Self-Priming
- Dry Running
- Meet U.S.C.G. Electric Standards
- IAPMO listed, 12V (-919) Model
- CSA listed, 12V (-919) Mode

SPECIFICATIONS

Motor: Permanent Magnet, Ball Bearing, and Thermal Overload Protection.

Pump: Dual chamber positive displacement diaphragm design; Self-priming up to 6 ft. suction lift; Pump able to run dry without damage.



Pump Series	Dimensions - Inches (mm)			Weight lb. (kg)
	Height	Width	Length	
2100-916	3.5 (89)	3.88 (99)	8.0 (203)	3.8 (1.7)
2100-919	3.5 (89)	3.88 (99)	8.0 (203)	3.8 (1.7)

MODEL*	VOLTS	AMP DRAW @ 10 psi (0.7 bar)	FUSE AMPS	FLOW GPM (l/min)	PRESSURE SWITCH PSI (BAR)
2100-916 (Low Pressure)	12V dc	1.9	7A	1.4 (5.3)	8 - 12 (0.5 - 0.8)
2100-919 (IAPMO/CSA)	12V dc	2.5	7A	1.3 (4.9)	30 - 45 (2.1 - 3.2)

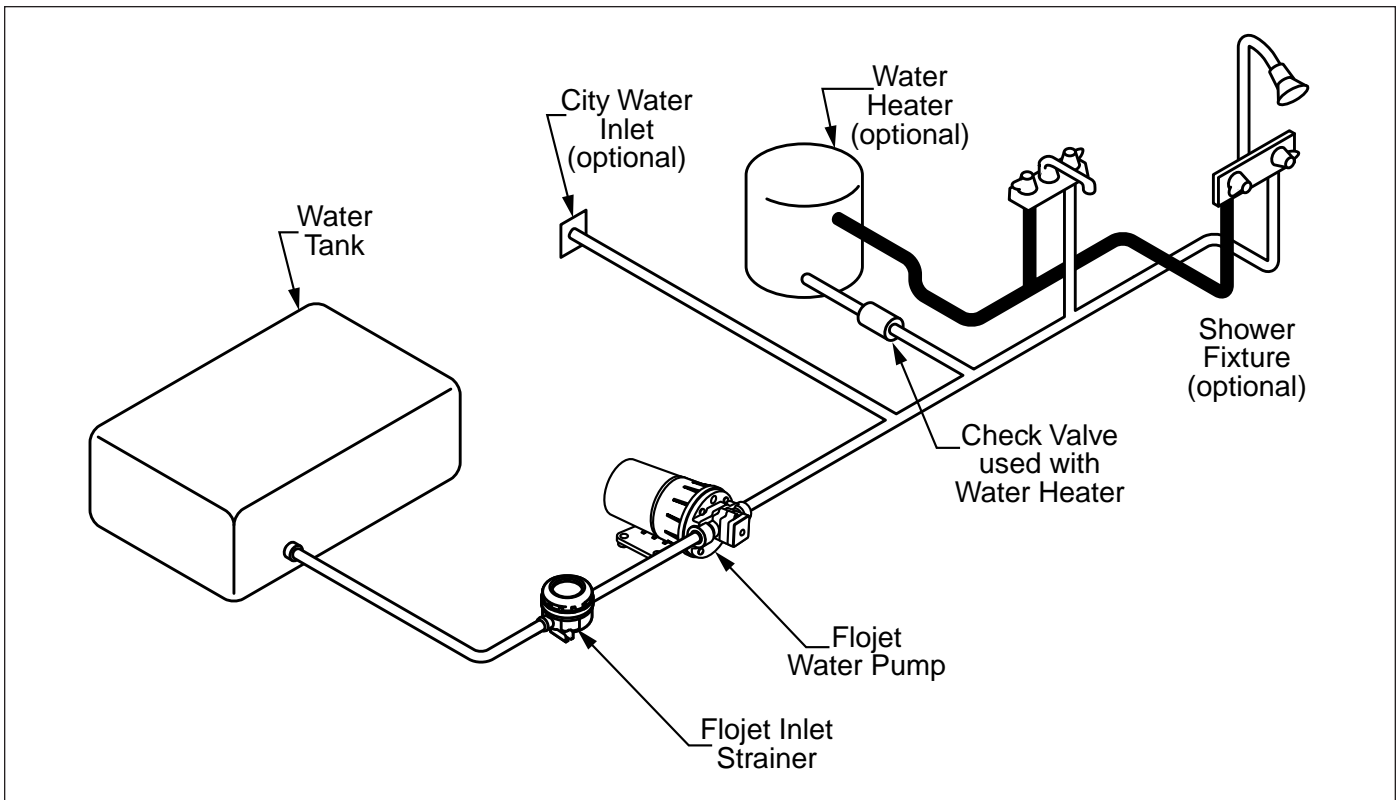
*CE fully suppressed models are identified by a prefix "R" and a CE mark on the label. (i.e. R2100-740)
Self Declaration Of Conformance (SDOC) is available upon request.

OPERATION

With pump switch off, and battery fully charged, fill water tank, open all faucets then turn pump switch on. Water will begin to flow, when water is free of air, turn faucets off, remember you are filling the water heater and the toilet and shower lines. When all valves are shut off pump will stop. Should pump fail to stop, turn switch off

and see the trouble shooting guide.

This motor pump unit is equipped with a thermal overload protection device. In the unlikely event the motor overheats, the pump will shut off. Turn off power to pump until motor cools.



INSTALLATION

STEP 1

Remove shipping plugs from ports.

STEP 2

Install inlet and discharge port connectors.

STEP 3

Insert rubber mounting grommets onto baseplate.

STEP 4

Mount pump (Please see Mounting Section).

STEP 5

Use 1/2" flexible tubing for main line and 3/8" flexible for branch lines to individual fixtures (Recommended tubing is braided or reinforced).

STEP 6

Install a FLOJET 40 mesh strainer in accessible location between tank and pump inlet. Order P/N 1600-002 which is a 40 mesh strainer with 1/2" hose barb ports.

WIRING

STEP 1

Install a switch to control electricity to the positive (+ Red) lead of the pump.

STEP 2

Install 7 amp fuse protection on the positive lead (between switch and pump). Turn pump off when not in use.

Wires - Use separate wire for pump circuit.

0 - 20 ft.	#16 AWG
20 - 50 ft.	#14 AWG
50 - 80 ft.	#12 AWG

MOUNTING

The FLOJET 2100-916/919 is a self-priming pump. It may be located away from tank, above or below the liquid level.

For vertical pump mounting, place the motor on top. This will prevent water from entering the motor chamber in the event of a leak.

Rubber grommets are provided for the pump base to absorb pump vibration. In order to be effective, they must not be compressed by the mounting screws.

Pump inlet and outlet hoses may transmit hydraulic vibration and create noise. To correct this problem, wrap the hose in foam rubber where it contacts walls or floors near the pump.

When starting from a completely drained system, allow time for the pump to fill the hot water tank if fitted. After refilling the tank, the pump is reprimed by opening a fixture. Allow air to vent. Close fixture valve when water flows.

TROUBLESHOOTING

WARNING: BEFORE SERVICING PUMP, TURN OFF PUMP AND DRAIN WATER FROM SYSTEM!!

Pulsating Flow - Pump cycles on and off

- Restricted pump delivery. Check discharge lines, fittings and valves for clogging or undersizing.

Failure to Prime - Motor operates, but no pump discharge

- Restricted intake or discharge line. Open all fixtures, check for “jammed” check valve poppets and clean clogged lines
- Air leak in intake line
- Punctured pump diaphragm
- Defective pump check valve
- Crack in pump housing
- Debris in check valves

Motor Falls To Turn On

- Pump switch in off position
- Loose wiring connection
- Blown fuse or open thermal protector

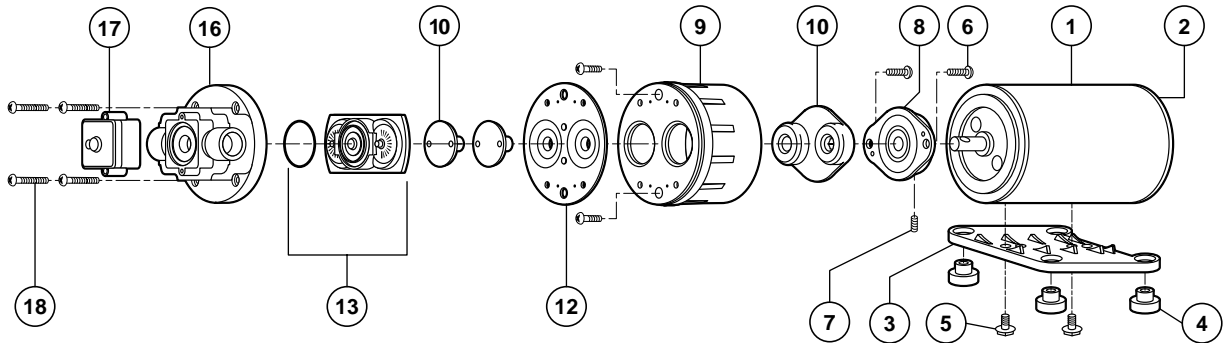
- Pressure switch failure
- Defective motor

Pump Fails to Turn Off After All Fixtures Are Closed

- Empty water tank
- Insufficient voltage to pump (low battery)
- Discharge line leak
- Defective pressure switch
- Punctured pump diaphragm (pump leaking)

Low Flow and Pressure

- Air leak at pump intake
- Accumulation of debris inside pump and plumbing
- Worn pump bearing (excessive noise)
- Punctured pump diaphragm (pump leaking)
- Defective motor



Quite often when a pump is worn or defective the one failed component has overburdened others. To avoid frequent aggravating repairs, Flojet offers service kit assemblies making repairs as quick and easy as possible.

DISASSEMBLE

Pressure Switch

1. Disconnect switch wires and remove switch (17).

Upper Housing

2. Loosen four pump head screws (18) and carefully remove upper housing assembly (16)
3. Inspect check valve (13) for debris
4. Reassemble new upper housing (16)

Check Valve Assembly

Follow steps 2 and 3

3. Replace check valve (13)
4. Reassemble upper housing (16)

Lower Housing, Diaphragm, Motor

Follow step 2, then slide rubber foot from mounting track.

3. Rotate lower housing (4) so mounting notch opening on lower housing exposes set screw which holds bearing housing to shaft.
4. Loosen this set screw by inserting wrench 1/8" Aflen wrench into mounting notch opening. Then, slide lower housing (4) off motor shaft.

Diaphragm Cont'd

5. Loosen two cam piston screws with Phillips head screw driver and pull apart cam (8) from inner pistons (10). (Pistons should always be replaced when a new diaphragm (12) is installed.)

Motor Cont'd

5. Replace Motor (1)

REASSEMBLE

Motor

1. Reassemble lower housing assembly (6, 7, 8, 9, 10, 12) to motor. (Follow steps #4 to #10 below.)

Diaphragm

2. Lower housing is assembled with:
 - Flat side of diaphragm and outer pistons facing motor
 - Hex stem of inner pistons must be aligned into hex holes in outer pistons (10).
 - Outer pistons must be aligned with alignment slots on cam assembly making sure screw holes align in cam assembly, otherwise diaphragm will leak.
3. Tighten cam piston screws partially (6), center piston in diaphragm, then tighten screws (6) securely (18 in. lbs. torque)

Lower Housing

4. Reassemble lower housing assembly (6, 7, 8, 9, 10, 12) to motor.
5. Retighten set screw (7) securely. Set screw head must be positioned facing motor covering seam (indentation). (Positioning of this screw is critical to avoid misalignment and subsequent diaphragm damage.)

Upper Housing, Check Valve

6. Reassemble upper housing (16, 18)
7. Properly seat O-Ring in check valve assembly (13) and check if ferrules and screen are in place on upper housing (16)
8. Install check valve (13) into upper housing (16)
9. Assemble on to lower housing (6-12), align 4 screws on to motor by rotating lower housing (6-12) if necessary.
10. Tighten screws evenly to 30 in. lbs. torque.

Pressure Switch

1. Place switch against front of pump (17), insert screws and take care not to cross thread or strip out threads in housing.
2. Reconnect wires.

AUTOMATIC WATER SYSTEM PUMP SERVICE PARTS

KEY	DESCRIPTION	MODEL#	
		2100-916	2100-919
1	Motor 12 Volt d.c.	02009-043A	02009-083A
	Motor CE Models	R2009-043A	R2009-083A
3	Motor Base Plate Assembly	11028-101	11028-101
4	Grommets (4)	20132-000	20132-000
5	Baseplate Screws (2)	20131-002	20131-002
6*	Cam/Bearing Screws (2) & Piston Screws (2)	21131-000	21131-000
7	Cam/Bearing Set Screw	20552-000	20552-000
8*	Cam/Bearing Assembly w/Set Screw	21033-005	21033-005
9	Bearing Cover	20428-100	20428-100
10	Piston (inner & Outer)	21041-001	21041-001
12*	Diaphragm Kit	21195-003	21195-003
13*	Check Valve Assembly	20028-008	20028-009
16	Pump Housing	20500-507	20500-507
17	Pressure Switch Assembly	02095-108	02095-103
18	Pump Screws (6)	20131-001	20131-001
	Brush Kit	20097-001	20097-001
	Pump Service Kit (includes #6, 8,10,12,13)	21046-057	21046-187

*Parts included in Service Kit

ACCESSORIES

STRAINERS

Pump Series	Strainer Number	Inlet	Outlet	Screen
2100-XXX	1740-003	3/8" Barb	3/8" Barb	40 Mesh

WARRANTY

FLOJET warrants this product to be free of defects in material and/or workmanship for a period of one year after purchase by the customer from FLOJET. During this one year warranty period, FLOJET will at its option, at no charge to the customer, repair or replace this product if found defective, with a new or reconditioned product, but not to include costs of removal or installation.

This is only an overview of our limited warranty. If you would like a copy of our warranty, please call or write FLOJET.

RETURN PROCEDURE

Prior to returning any product to FLOJET, call customer service for an authorization number. This number must be written on the outside of the shipping package. Place a note inside the package with an explanation regarding the reason for return as well as the authorization number. Include your name, address and phone number.

Flojet



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