

# FLOJET

a xylem brand

## Quad II Diaphragm 4105 Series Circulation/Feeder Pump

### FEATURES

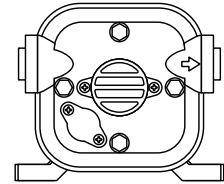
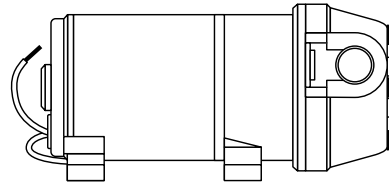
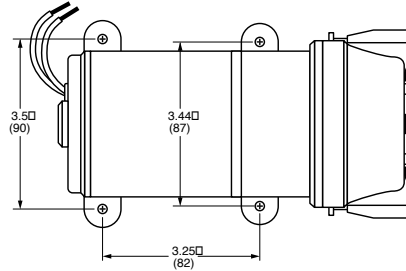
- Self-Priming
- Dry Running
- Soft, Noise Absorbing Mounts
- Corrosion Resistant Materials
- Meet U.S.C.G. Electric Standards
- Continuous Duty

### SPECIFICATIONS

**Motor:** Permanent Magnet, Ball Bearing, O-Ring sealed, CE Models are fully suppressed.

**Pump:** Four chamber positive displacement diaphragm design; Self-priming up to 6 ft. suction lift; Pump able to run dry without damage; Removable port to hose connectors.

Solenoid may be used to operate 12 or 24 Vdc motor with 115 Vac/230 Vac system. A plug-in transformer/converter may also be used to operate these pumps.



Pump Series	Dimensions - Inches (mm)			Weight lb. (kg)
	Height	Width	Length	
4105-XXX	3.75 (95)	6.3 (160)	8.2 (208)	3.9 (1.8)

MODEL*	VOLTS	AMP DRAW @ 10 psi (0.7 bar)	FLOW GPM (l/min)
4105-512	12V dc	1.2	1.5 (5.7)
4105-524	24V dc	1.0	2.0 (7.5)

\* CE fully suppressed models are identified by a prefix "R" and a CE mark on the label. (i.e. R4105-512). Self Declaration Of Conformance (SDOC) is available upon request.

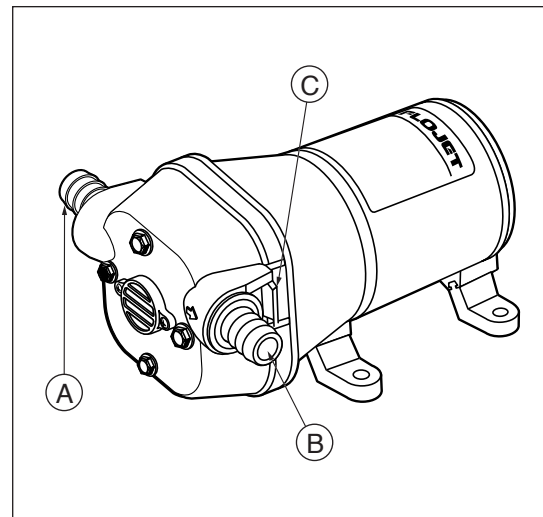
### OPERATION

Your "Quad II" continuous duty low flow/low amp pump is designed to self-prime up to 6 feet suction lift. This pump is quiet running. It is recommended you utilize a "lighted" on-off switch so that the pump is turned off

when not in use. The "Quad II" is able to run dry (no liquid) for extended periods with no damage to the pump. However, this could cause needless battery drain.



As a self-priming feeder pump, the 4105-512 and 4105-524 are designed to maintain a steady supply of water to an R.O. unit. As a self-priming low flow refrigeration circulation pump the 4105-512 and 4105-524 are designed to eliminate air locks and loss of prime when the boat heels or is in rough seas.



## INSTALLATION

### STEP 1

Remove shipping plugs from Quad pump ports. Some water from factory testing may spill out.

### STEP 2

Install inlet A and discharge B port connectors. Firmly push slide clips C forward to lock port connectors in place.

### STEP 3

Slide rubber mounts fully into 4 mounting tracks.

### STEP 4

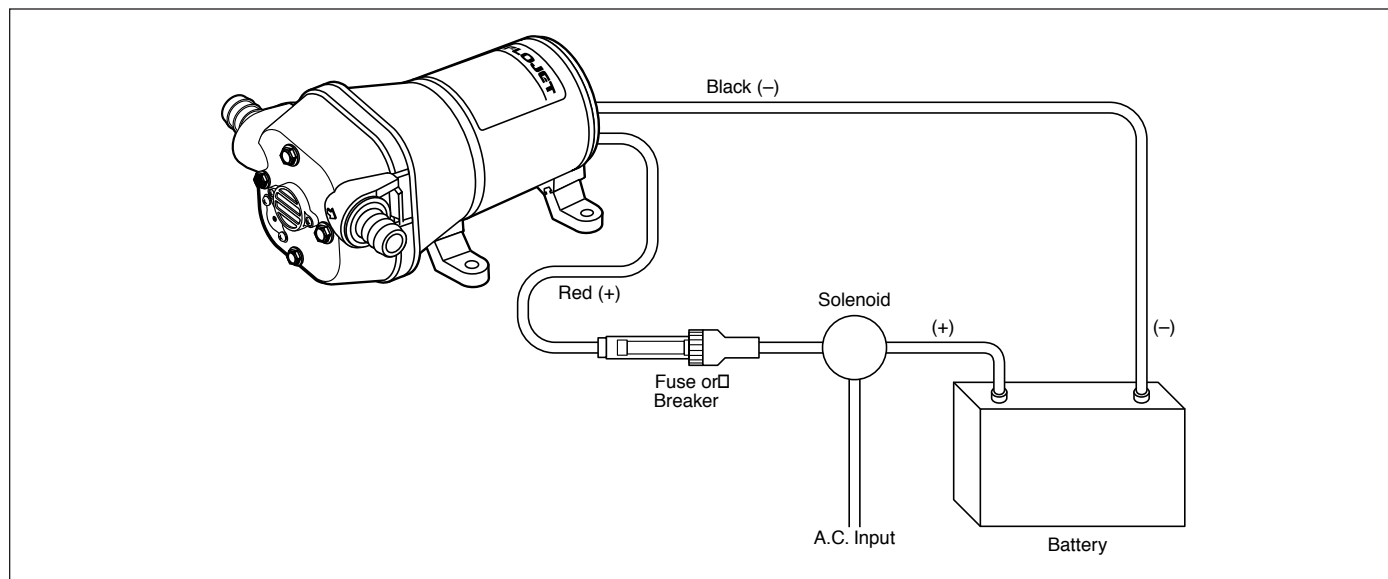
Mount pump vertically, with pump head down or horizontally in an accessible location. If mounting vertically, motor up, attach motor mounts first, then pump head mounts, while supporting weight of pump.

### STEP 5

Use flexible hose (preferably braided or reinforced). Use hose clamps on the slip-on barb hose connections.

### STEP 6

Install an inline strainer in accessible location before pump inlet. This strainer is required for pump warranty to be valid. See page 4, Strainers



## WIRING

### STEP 1

Use 16 gauge stranded wire to 20', 14 gauge to 50', from power source.

### STEP 2

Use a 10-amp rated (lighted) on-off switch on the (+) positive (red) motor lead.

### STEP 3

Install 5 amp fuse protection on the positive lead.



## TROUBLESHOOTING

### **WARNING: BEFORE SERVICING PUMP, TURN OFF PUMP AND DRAIN WATER FROM HOSES!!**

#### Failure to Prime - Motor operates, but no pump discharge

- Restricted intake or discharge line
- Air leak in intake line
- Debris in pump
- Punctured pump diaphragm (water leak)
- Crack in pump housing

#### Motor fails to turn on

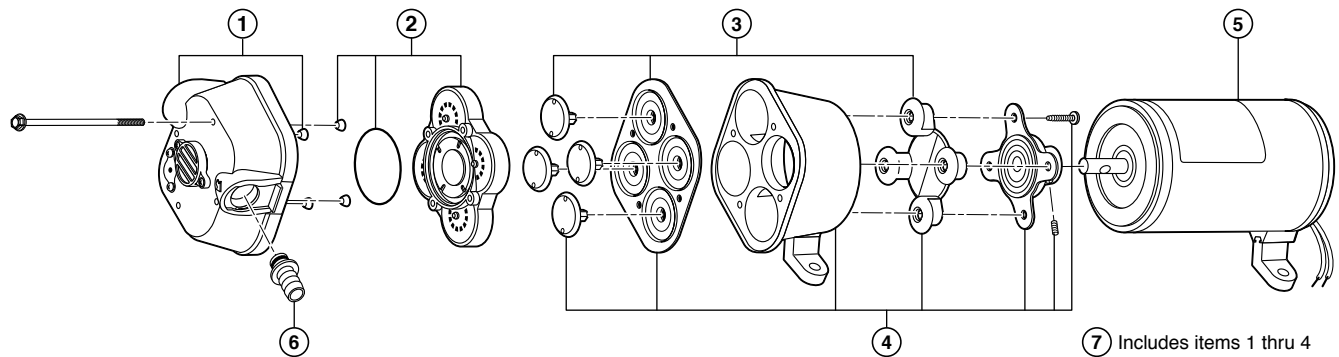
- Blown fuse
- Pump circuit has no power
- Loose wiring connection
- Defective motor

#### Low Flow and Pressure

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

#### Pulsating Flow

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



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

#### Upper Housing

1. Loosen but do not remove four pump head screws and carefully remove upper housing assembly (1)
2. Inspect check valve (2) for debris
3. Reassemble new upper housing (1)

#### Check Valve Assembly

Follow step 1

3. Replace check valve (2)
4. Reassemble upper housing (1)

#### Lower Housing, Diaphragm, Motor

Follow step 1, 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 setscrew by inserting wrench 1/8" Allen wrench into mounting notch opening. Then, slide lower housing (4) off motor shaft.

#### Diaphragm Cont'd

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

#### Motor Cont'd

5. Replace Motor  
NOTE: Motor may be marked 24/32 Vdc.

## REASSEMBLE

#### Motor

1. Reassemble lower housing assembly (4) to motor. (Follow steps 4 to 10.)

#### 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 (4).
  - 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, center piston in diaphragm, then tighten screws securely (18 in. lbs. torque)

#### Lower Housing

4. Reassemble lower housing assembly (4) to motor.
5. Retighten set screw 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 (1)
7. Properly seat O-Ring in check valve assembly (2) and check if ferrules and screen are in place on upper housing (1)
8. Install check valve (2) into upper housing (1) and push in.
9. Assemble on to lower housing (4), align 4 screws on to motor by rotating lower housing (4) if necessary to align feet
10. Tighten screws evenly to 30 in. lbs. torque.

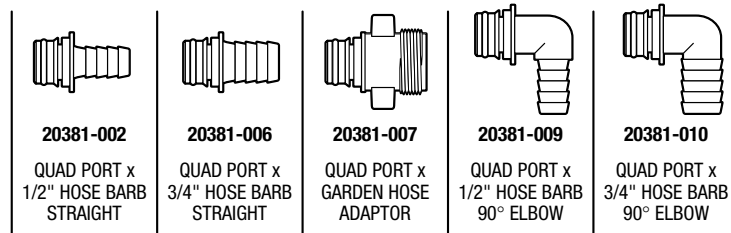
## CONTINUOUS DUTY PUMP SERVICE PARTS

KEY#	DESCRIPTION	MODEL#	
		4105-512	4105-524
0	Service Kit*	20409-043	20409-043
1	Upper Housing With Clips	20404-004	20404-004
2	Check Valve Assembly	20407-030	20407-030
3	Diaphragm Assembly (includes screws)	20403-040	20403-040
4	Lower Housing Assembly	20419-001	20419-001
5	Motors	02019-025A	02049-025A
	Motors CE Models	R2019-025A	R2049-025A
7	Pump Head Assembly	20406-004	20406-004

\*Service Kit includes #2, #3, side clips and drive cam assembly.

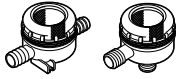
## ACCESSORIES

### QUICK CONNECT PORT SYSTEM



The above part numbers are packaged with 2 fittings per bag.

## STRAINERS

Pump Series	Strainer Number	Inlet	Outlet	Screen
	4105-512/-524	3/4 Barb	3/4 Barb	40 Mesh
	1740-000	3/4 Barb	3/4 Barb	40 Mesh
	1740-002	1/2 Barb	1/2 Barb	40 Mesh
	1740-003	3/8 Barb	3/8 Barb	40 Mesh
	1740-010	3/4 Barb	Quad Port	40 Mesh
	1740-012	1/2 Barb	Quad Port	40 Mesh
	1740-375	3/8 NPT (f)	3/8 NPT (f)	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 in material or workmanship, 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.

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[www.xylemflowcontrol.com](http://www.xylemflowcontrol.com)

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