Operating Instructions for

Spot-Free Rinse Production Unit

SET UP INSTRUCTIONS FOR SPOT FREE RINSE:
PRODUCTION UNIT

Pump motor for production system is 120V. Cord with male plug provided.
Transfer motor is 120V. Transfer pump also has 120V cord supplied.

1) Connect soft water line with regulator (35-40 PSI) to inlet on carbon pre-filter (for booster pump only) with hose and fittings supplied. Run a 5/8" ID flexible tube to drain. Run both lines of carbon pre-filter to drain for 1-2 cycles or until lines are clear of any carbon particles (Refer to "Programming Carbon Filter Controller" page at this time). Connect line from discharge of carbon pre-filter to inlet of solids pre-filter on production unit with hose and fittings supplied. Run concentrate (reject) water hose on production system to drain.

2) Install Controller Hood.

- Remove stud from plastic bag and screw it into the tapped hole in the center of the lid of the control valve.

3) Attach the solenoid harness to the control valve.

- Connect the red and white cable to the top solenoid coil.
- Connect the green and white cable to the middle solenoid coil.
- Connect the black and white cable to the bottom solenoid cable.

4) Complete installation of controller hood.

- Place the hood over the top of the control valve and allow the stud to stick through the small hole in the top of the hood. Secure the hood with the black knob.

5) Attach power cable to the outside two connections of the 12 volt transformer.

- Plug transformer into a continuously hot 120 volt electrical outlet.

6) Permeate (spot-free) water tube goes to barbed fitting towards top of storage tank. Connect with clear braided hose and clamp provided.

7) Mount high level float through hole provided on tank and place tie straps on either side of hole. Allow two feet of cord inside tank. High level float in storage tank must be wired to terminal block on production unit. 15' wire is provided. Level may be adjusted by pushing cord into lower level - and pull out to raise level.

8) Activate power to production unit and unit will run in flush for approximately 3 minutes. Then run until storage tank is full. High level float shuts down production unit and unit will run whenever tank is drawn down. Unit is preset for ideal pressure (190 PSI). If adjustment is needed to maintain 190 PSI adjust concentrate line pressure regulator.

TRANSFER SYSTEM

1) Connect discharge of storage tank with ball valve to inlet of transfer pump with hose and fittings provided.

2) Connect by-pass line on transfer system to barb provided near top of storage tank with hose and fittings supplied.

3) Run tubing from discharge of each solenoid valve on transfer system to corresponding discharge on high pressure bay pump. There is a check valve at this point to prevent high pressure line from going back into spot-free system.

4) Single wire from spot-free position on rotary switch in coin meter runs to one side of each solenoid valve on discharge of transfer pump and common side of solenoid must be wired to common on transformer in corresponding main pump station electrical panel. There is terminal block on transfer unit with bay numbers marked for easy wiring.

5) **CAUTION! A gravity feed booster pump may sometimes need help priming!** Be sure pump is operating properly or damage will occur. After the storage tank is at least half full, back out the pressure regulator (CCW) until the tee handle is loose. Activate power to the transfer unit and place the bay menu switch in the coin meter to Spot Free. When full flow is achieved through the by-pass line, slowly increase the pressure regulator to the desired pressure (200 PSI Max.). Make sure pressure does not drop off at any time or repriming may be necessary. Do not let the pump run too long without full flow as pump damage may occur. Please call with any questions if you have any problems priming this system (1-800-228-9666).

PROGRAMMING CARBON FILTER CONTROLLER

- Standard Braswell control valve modified to eliminate brining functions. Number 13 backwash flow control is used to provide 5 gpm backwash flow rate.
- Carbon filter start up.
- Remove acrylic door from front of controller hood.

STEP 1 Set the clock:

Press the scroll button. A red light will appear next to “Set clock” press the up or down button under change value to set proper 24 hour time. The speed increases with the length of time the button is depressed.

STEP 2 Set backwash time:

Press scroll. The red light will move to “Set regeneration time” (Backwash).
Press the up or down button to set the proper 24 hour backwash time.

STEP 3 Set regeneration interval (Backwash):

Press scroll. The red light will move to “Set regeneration (Backwash) interval in days.”
Press the up or down button to set proper backwash interval (3 days).

STEP 4 Select tank size:

Press scroll. The red light will move to “Select tank size.”
Press the up or down button to select tank size. Leave the setting on 8X35 regardless of the size of the tank being programmed. This setting will provide approximately 15 minutes of backwash time.

STEP 5 Select pulse or non-pulse:

Press scroll. The red light will move to “Select pulse or non-pulse.”
Press the up or down button to select NO for non-pulse.

STEP 6 Set compensated hardness:

Press scroll. The red light will move to set compensated hardness.
Press up or down button to set compensated hardness on 200. The display will read 11. This reading is not relevant.

STEP 7 Purge air from resin tank:

Press manual activate button to initiate a backwash cycle. It is very important to eliminate the air and fines from the resin tank to prevent color throw. When the system has completed the backwash cycle it will automatically return to service.

STEP 8 Return to service:

Press scroll to return to service at any time. Continue to press scroll until the display reads “end.” during service the system will display gallons and time of day alternately every 5 seconds.

MAINTENANCE INSTRUCTIONS FOR SPOT FREE RINSE

Check unit daily to insure that pressure setting or flow rates through meters have not changed.

Quality of permeate water should be tested for TDS level daily with pocket meter provided or other device.

This system is equipped with an automatic flush feature designed to enhance the life of main membrane. When power is applied system will flush for approximately three minutes and then begin fill. If power is interrupted, system will go into flush when power is returned. System will flush for three minutes every 24 hours from time power is applied.

Water should be checked monthly(with strips provided) between carbon pre-filter and production unit for chlorine presence. If chlorine is present, carbon filter will need to be serviced. Bedding in carbon filter may need to be replaced. Standard 1.5 cubic foot pre-filter is capable of servicing 1,500,000 gallons of water.

Solids pre-filter on production system should be replaced after one tank is filled, then filter should be inspected and replaced every 1 to 2 months.

Most thin film composite membranes are capable of eliminating 96 to 99 percent of totally dissolved solids. Cleaning or replacing of membrane is necessary if parts per million TDS exceeds 90 to 95 percent of water source.

Example: If source water reads 1000 parts per million TDS with membrane performing at 99% rejection, permeate should read 10 parts per million TDS. At 95% rejection permeate would read 50 parts per million TDS.

System should be serviced if permeate water reads 40 parts per million TDS or higher or if result on vehicle is unsatisfactory.

Increase in concentrate flow with increase in system pressure may indicate fouling of membrane. Water should be tested before membrane to identify cause of fouling. Various cleaning packages are available. Membrane may need to be replaced.

Increase in permeate flow with decrease in system pressure may indicate destruction of membrane surface by chlorine or other oxidant. Membrane may need to be replaced.

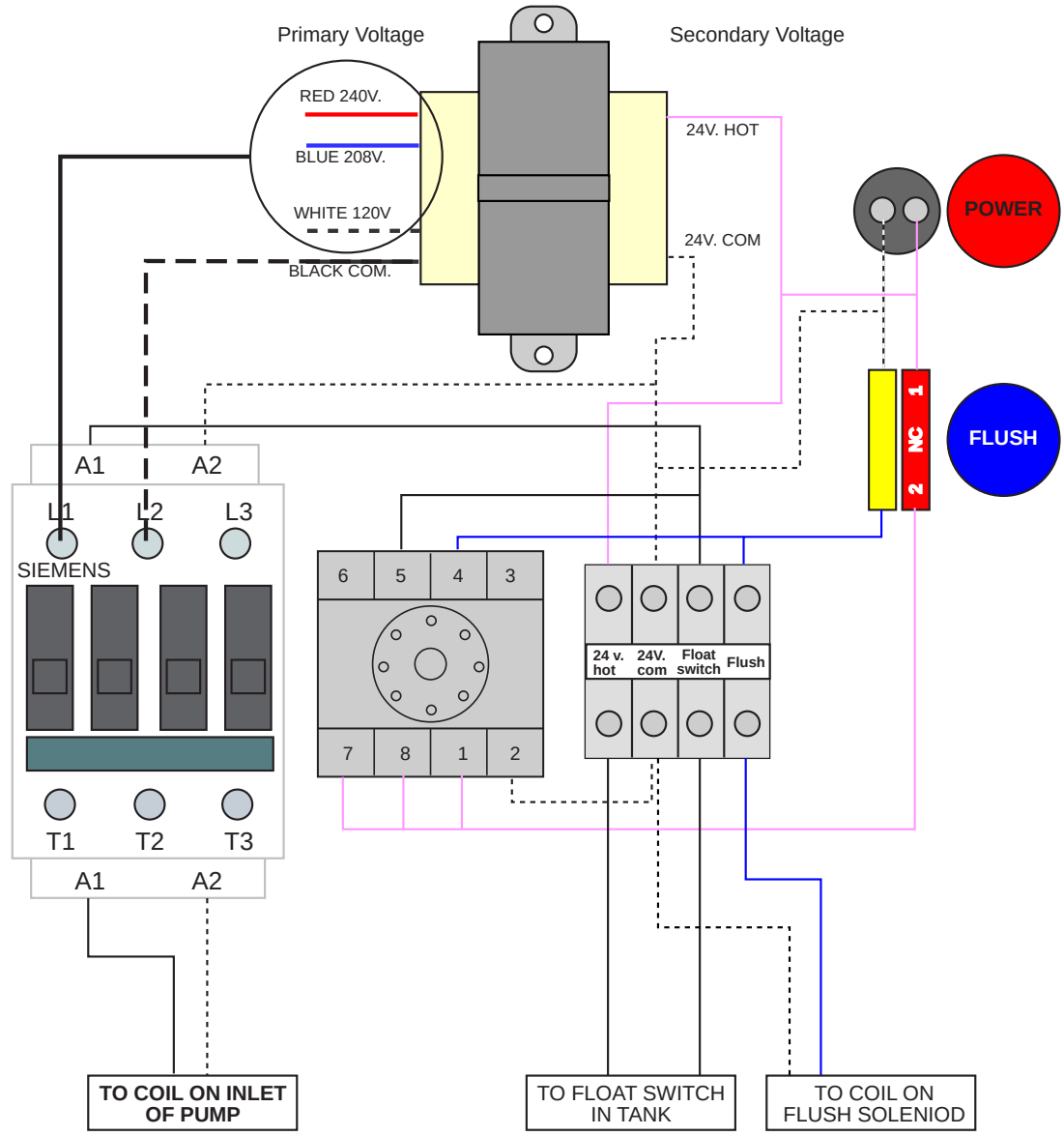
Please feel free to call 800-228-9666 if you have any questions on set up, operation or maintenance of this system. Car wash technical help is #3 on phone menu.

TROUBLESHOOTING TIPS FOR ROTOFLOW PUMPS

WARNING! Before intervening on the pump or on the systems, turn the motor off and disconnect it from power!

PROBLEM	CAUSE	REMEDY
Pump is Leaking	Rubber O-ring or mechanical shaft seal is failing.	Return the pump to Fluid-O-Tech for repair.
	Inlet or outlet port fittings are loose or sealant failed.	Apply new sealant or tape and fix the fittings. Ensure sealant does not fall into pump.
	Relief valve cap or strainer cap is loose.	Tighten the cap.
	Strainer cap O-ring or gasket or relief valve cap are damaged.	Contact Fluid-O-Tech for spare parts.
Motor is stalling or overloads are tripping out.	Lime and mineral deposits in the pump have caused it to stop.	Return the pump to Fluid-O-Tech for repair.
	The pump and the motor are misaligned.	Turn off the motor and disconnect it from power. Remove the pump from the motor. After remounting the pump into the motor, ensure it is properly aligned.
	Motor may be defective.	Contact your motor supplier.
	Motor may be wired for wrong voltage.	Ensure wiring is correct by checking it against wiring diagram.
Pump is working below capacity.	Inlet is obstructed or restricted.	Clean out the inlet line. Thoroughly clean or replace line or inlet filter, if present. Ensure no debris falls into pump.
	Pump is rotating in the wrong direction.	Change motor rotation by rewiring it.
	Relief valve setting is not correct.	Contact your Fluid-O-Tech Agent or Distributor for resetting.
	Wear and tear to internal components.	Have the pump rebuilt by Fluid-O-Tech. Consider a filter on the inlet line.
	Low motor RPM.	Ensure your motor works properly and check frequency rating (50 or 60 Hz).
Pump is Noisy	The pump and motor shaft are misaligned.	Turn off the motor and disconnect it from power. Remove the pump from the motor. After remounting the pump into the motor, ensure it is properly aligned.
	O-ring or gasket on the domed nut or strainer cap is defective.	Replace the O-ring or the gasket. Do not tamper with the relief valve setting. Contact Fluid-O-Tech for spare parts.
	Coupling, mounting bolt or V-band clamp is loose.	Turn off the motor and disconnect it from power. Ensure the pump is correctly aligned and tighten the component.
	Inlet is obstructed or restricted.	Clean out the inlet line.
	Strainer cap or domed nut on the relief valve is loose.	Tighten the component involved.

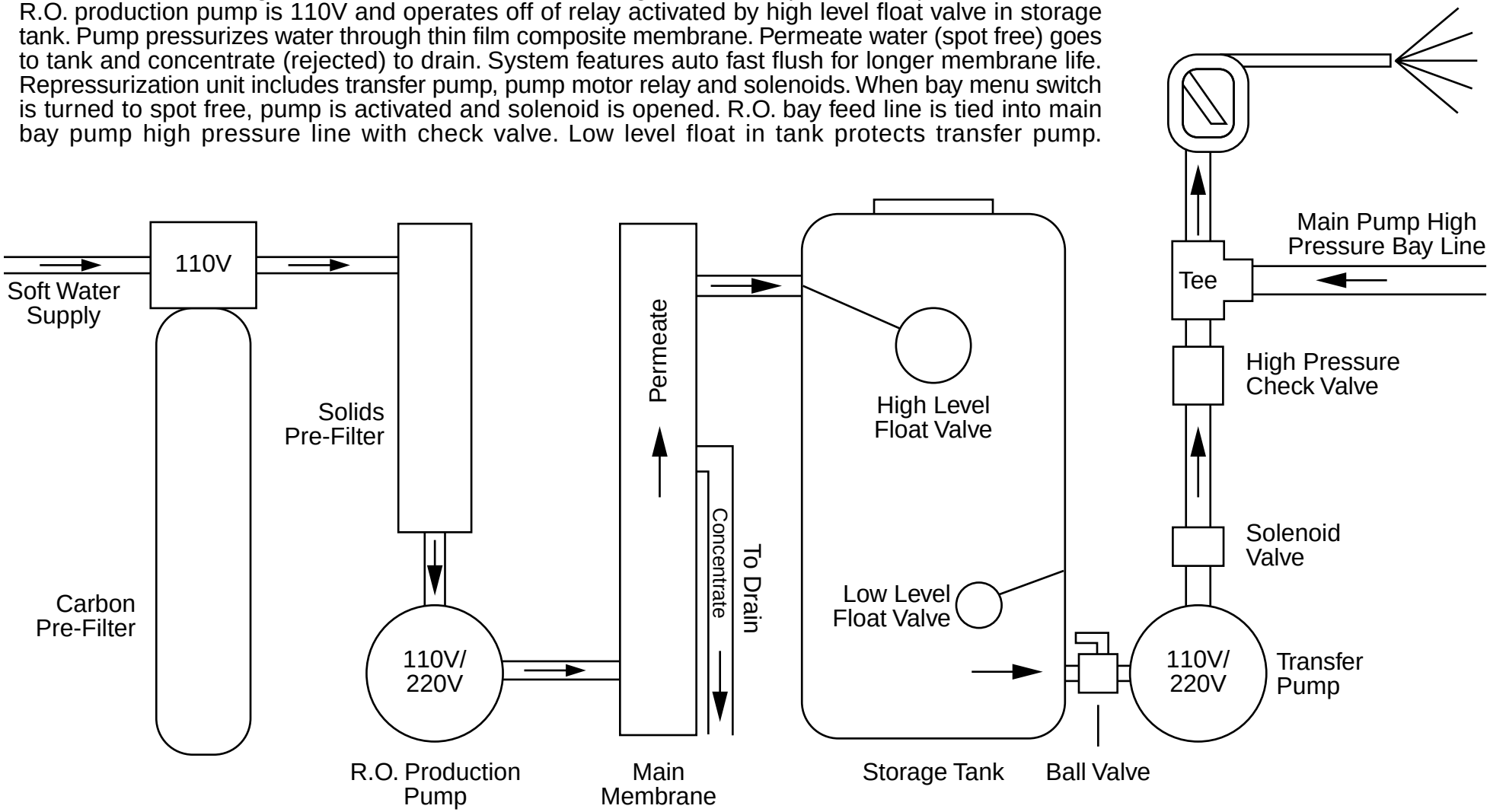
DU RO250 ELECTRIC



Consult qualified electrician for any local codes or requirements	
Electrical DU RO250 Form 789	4/05 JC

Typical Car Wash Reverse Osmosis Spot Free Rinse System

Soft water supply connects to carbon pre-filter required to remove chlorine. This unit is a free standing tank with time clock regeneration and is 110V. Water then goes to solids pre-filter on production stand. R.O. production pump is 110V and operates off of relay activated by high level float valve in storage tank. Pump pressurizes water through thin film composite membrane. Permeate water (spot free) goes to tank and concentrate (rejected) to drain. System features auto fast flush for longer membrane life. Repressurization unit includes transfer pump, pump motor relay and solenoids. When bay menu switch is turned to spot free, pump is activated and solenoid is opened. R.O. bay feed line is tied into main bay pump high pressure line with check valve. Low level float in tank protects transfer pump.



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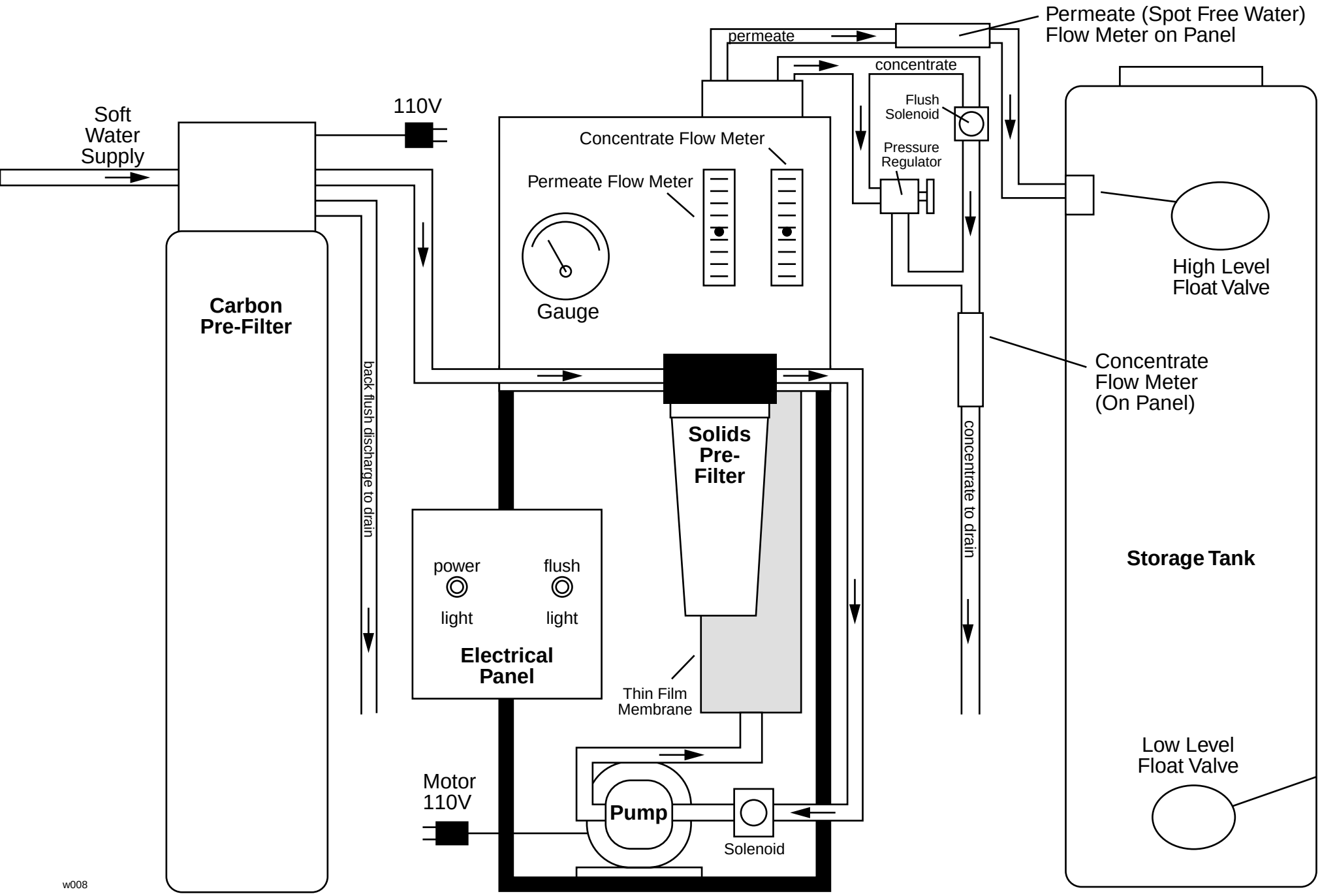
Reverse Osmosis Spot Free Rinse Production System



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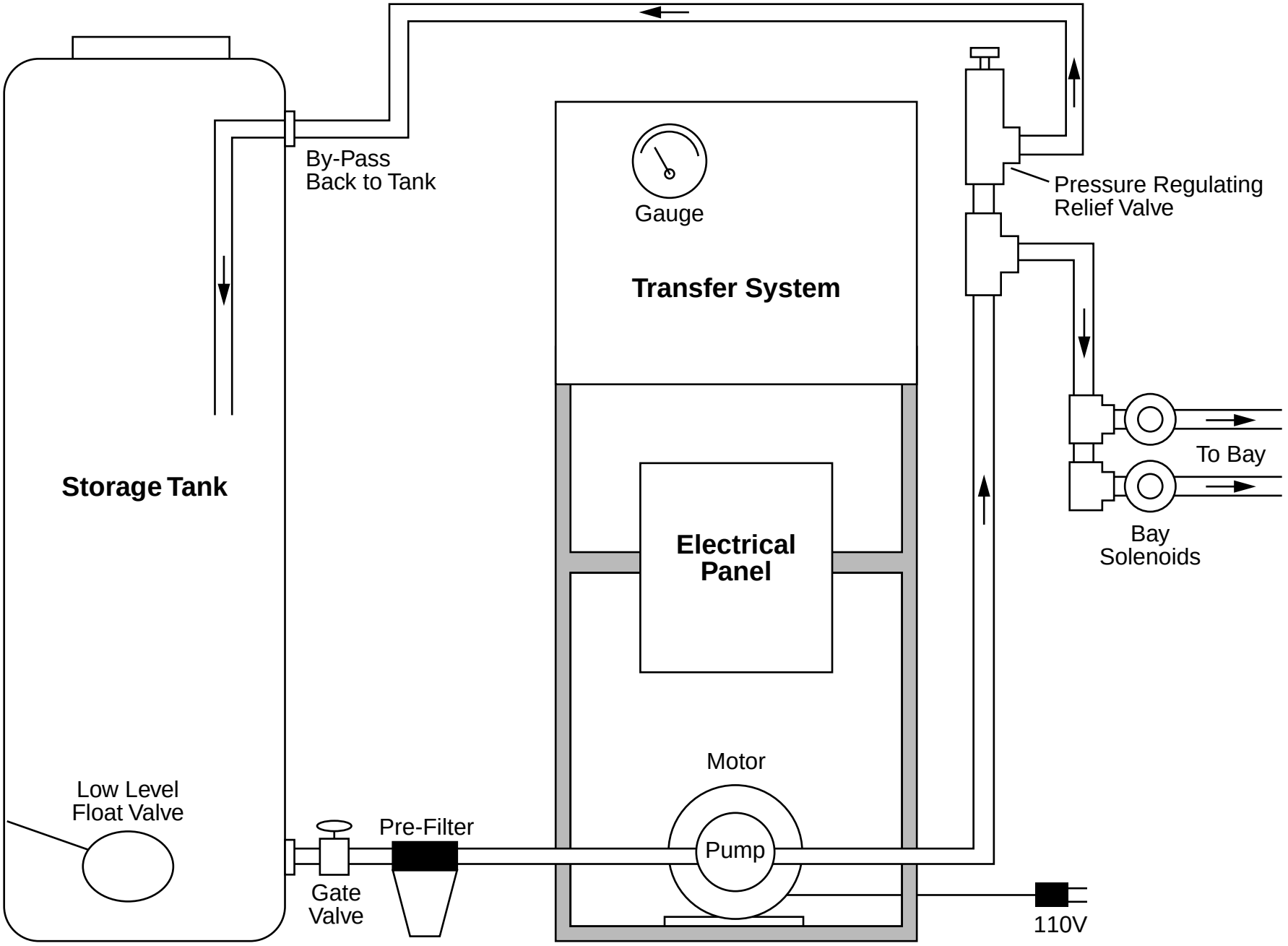
Reverse Osmosis Spot Free Rinse Transfer System



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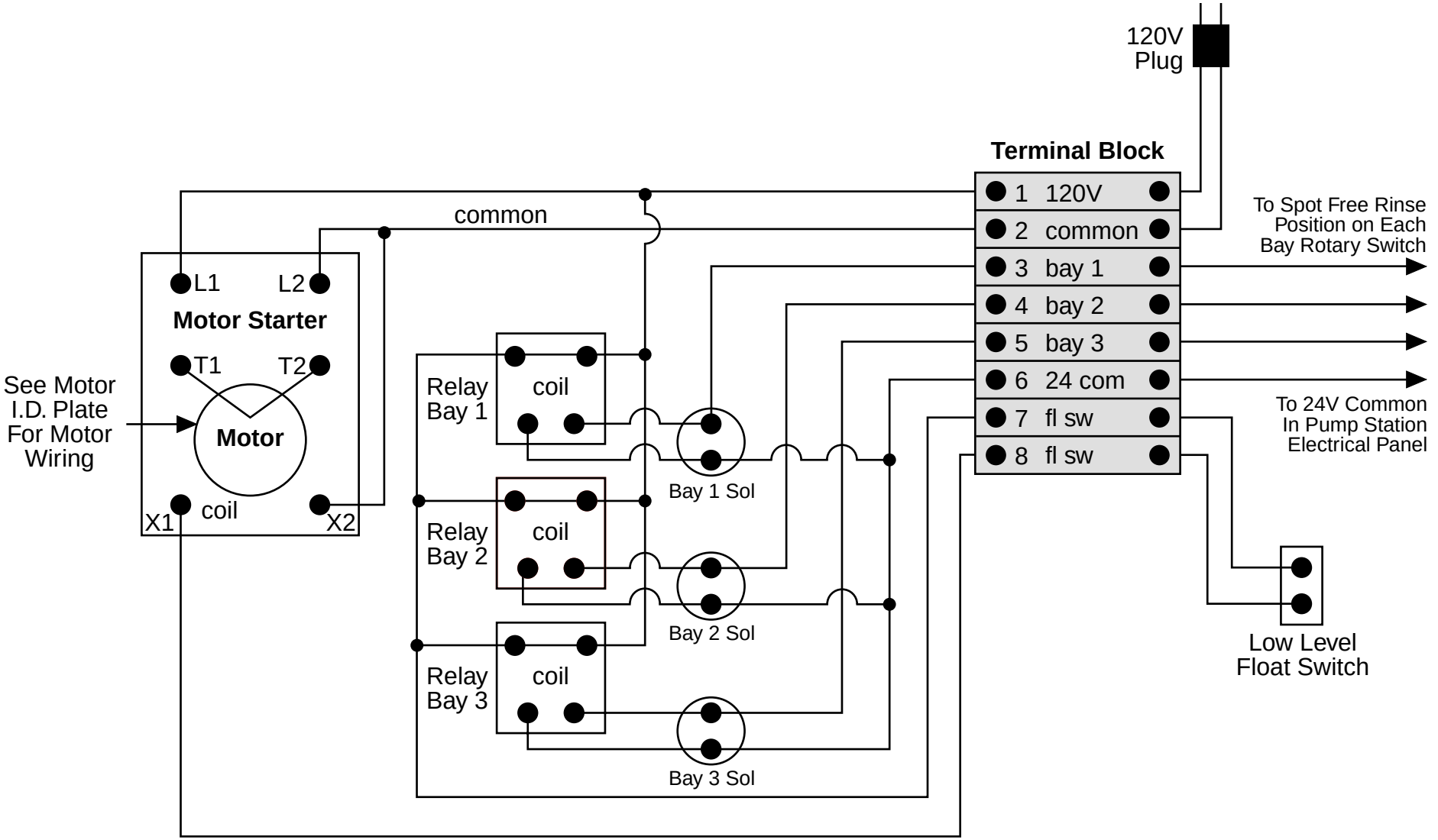
Spot Free Rinse Transfer System

- Duplicate Isolating Relay, Solenoid, etc. for More Bays -



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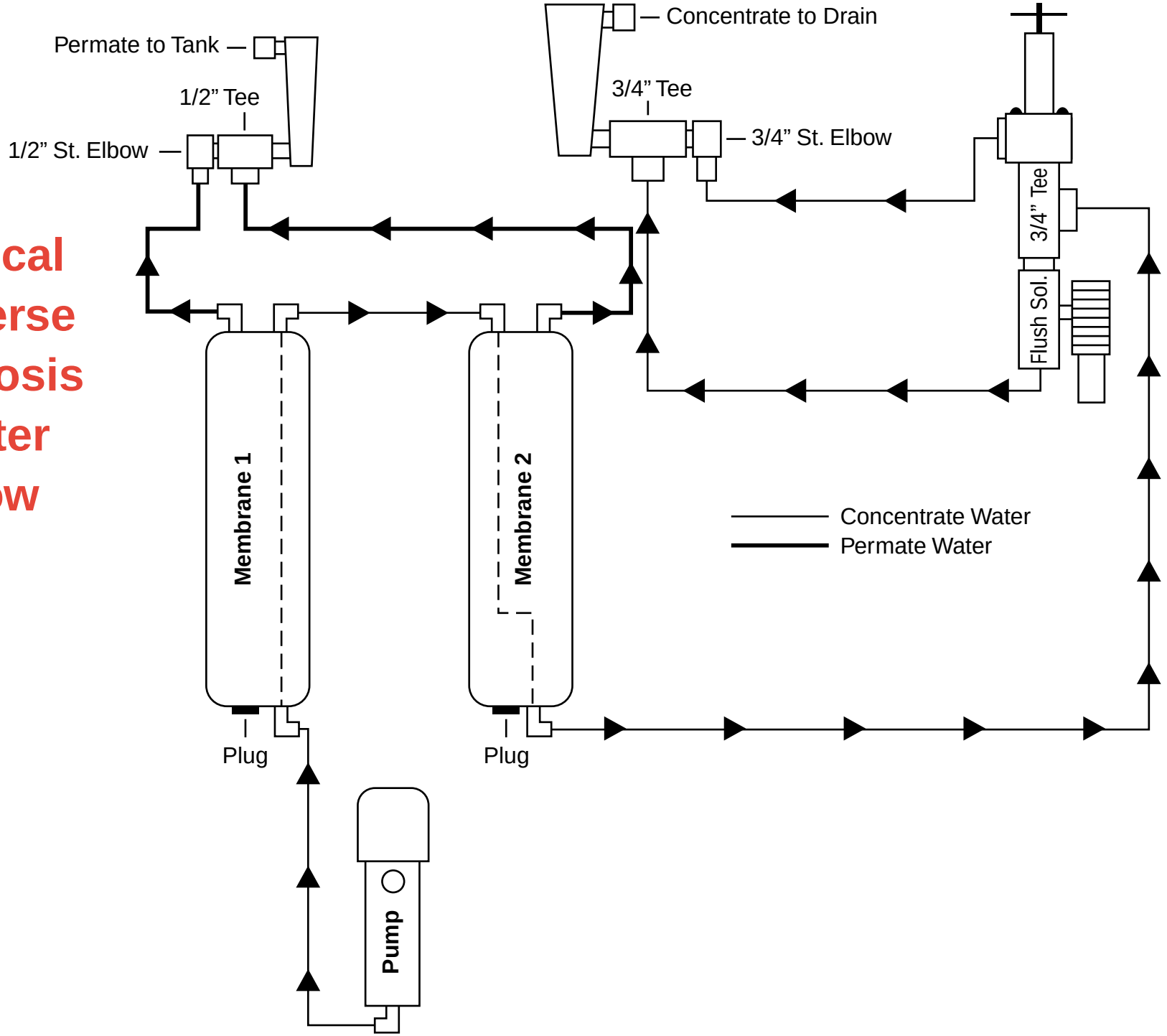
Typical Reverse Osmosis Water Flow



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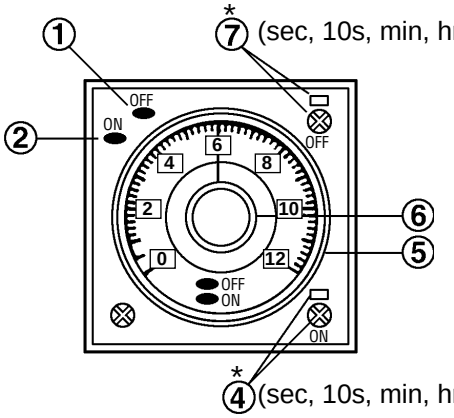
OMRON H3CR-F Twin Timer

NOMENCLATURE



③ (1.2, 3, 12, 30)

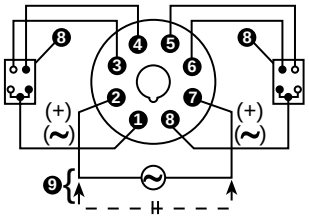
*H3CR-F□□-300 (10s, 10m, hrs, 10h)

1) OFF Indicator (green)
2) ON Indicator (orange)
3) Rated time selector
4) ON time unit selector
5) Setting dial for OFF (green pointer)
6) Setting dial for ON (orange pointer)
7) OFF time unit selector

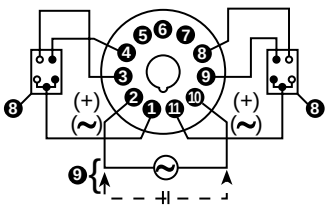
Note: If pointer is turned counterclockwise until overranged, instantaneous output will be issued.

CONNECTIONS

• H3CR-F8, -F8N

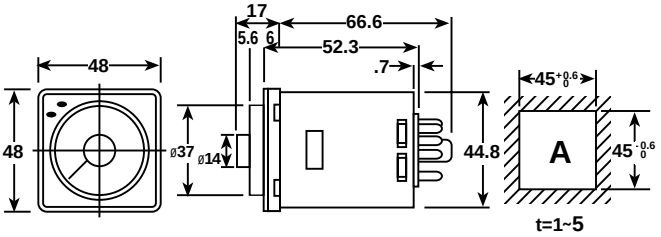


• H3CR-F, -FN



8) Delayed contacts
9) Operating power

DIMENSIONS



A-Panel cutout dimensions

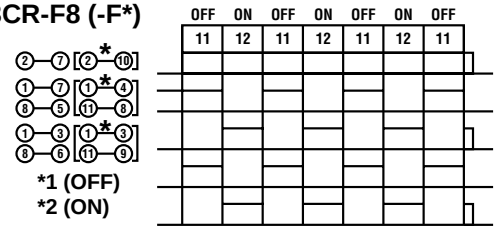
Applicable socket
Model *P2CF-08, **P2CF-11
Front connection socket
Model *P3G-08, **P3GA-11
Model *PL08, **PL11
Back connection socket

***H3CR-F8(N)**

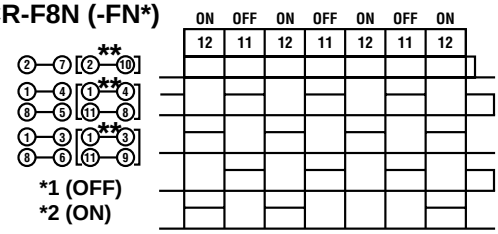
****H3CR-F(N)**

TIMING CHARTS

• H3CR-F8 (-F*)



• H3CR-F8N (-FN*)



• Flicker OFF start
* : Pin No. of -F Type
*1 : OFF Indicator
*2 : ON Indicator

• Flicker ON start
** : Pin No. of -FN Type
*1 : OFF Indicator
*2 : ON Indicator

CAUTION

Power Supply Connection:

Use a DC power supply having a ripple factor of 20% or less and supplying a mean voltage that is within the rated operating voltage range of the timer.

Make sure that the supply voltage is applied to the timer all at once, using contacts such as of a switch or relay. If the supply voltage is applied gradually, the timer may not be able to perform power rest or its set time be up when it should not.

w008

DEMA® Solenoid Valves

INSTALLATION INSTRUCTIONS

LINE STRAINER:
A strainer with an 80-mesh or finer screen, should be installed in the line ahead of the solenoid valve. This will assure tight seating and reliable closing action.

FLUIDS:
Valves are intended for water, air, light oil, and other non-corrosive fluids. They should not be used for gasoline and other hazardous fluids. Max. fluid temperature 200˚F (93.3˚C). Ambient temperature shall not exceed 120˚F (48.8˚C).

INSTALLATION:
DEMA valves may be installed in either horizontal or vertical lines in any pos8ition other than with the coil lower than the body.

ELECTRICAL DATA:

MODEL NO.	WATTS AC	VOLTS AC	AMPERES				DC		
			INRUSH		HOLDING		RATED WATTS	VOLTS	AMP.
			50 Hz	60 Hz	50 Hz	60 Hz			
401-P	10	24	1.8	1.5	1.0	.75	15	12	1.0
		120	.38	.33	.21	.15		24	.5
		208	.16	.14	.07	.06		32	.4
		240	.19	.16	.10	.07		115	.15
ALL OTHERS	15	24	3.7	3.0	1.6	1.2	18	12	1.5
		120	.73	.60	.33	.24		24	.7
		208	.31	.26	.12	.09		32	.6
		240	.36	.30	1.6	.12		115	.15

SERVICING:

1) Failure to open.

a) No power or low voltage.
b) Open circuit.
c) Burned-out coil (usually due to wrong voltage. See stamping opposite junction box.)
d) Pressure differential too high (see M.O.P.D. on name plate).
e) Moving parts jammed by dirt or damaged solenoid stainless steel tube.

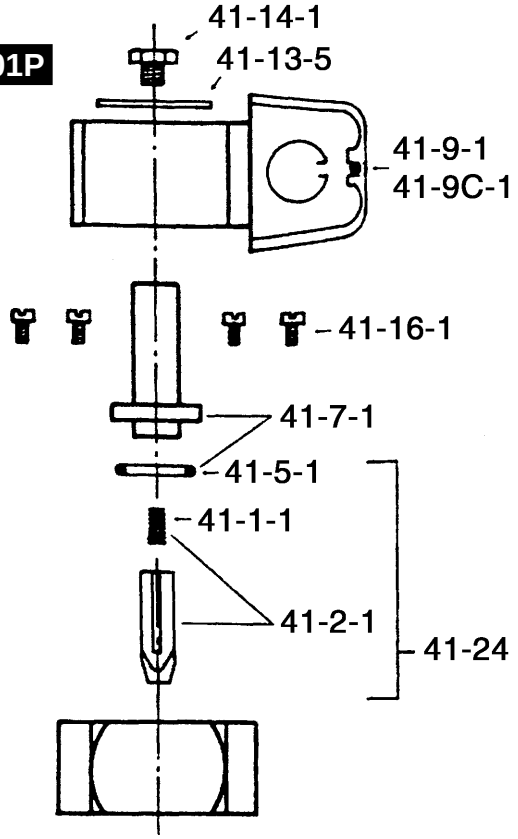
2. Failure to close.

a) Coil still energized.
b) Valve installed backward.
c) Dirt on valve seat or pilot seat.
d) Dirt in piston ring or groove (some models).
e) Moving parts jammed by dirt or damaged solenoid stainless steel tube.

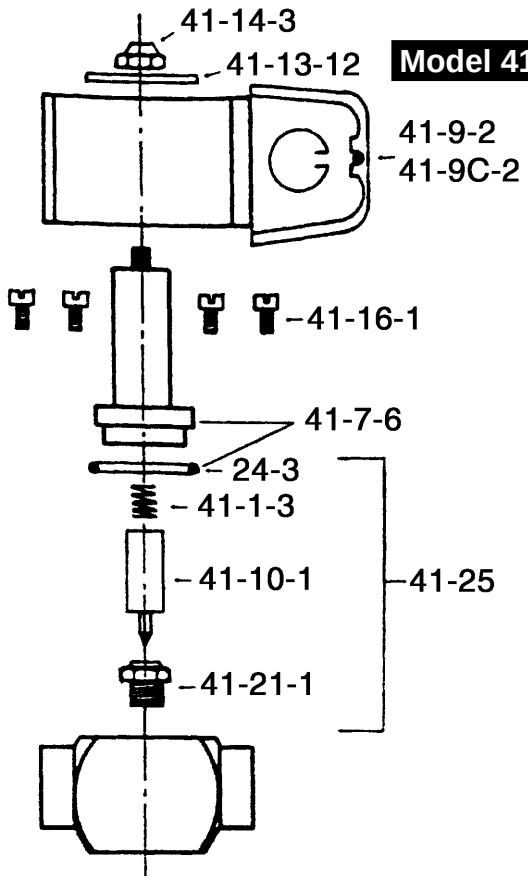
DEMA® Solenoid Valves

Model 401P & 411P

Model 401P

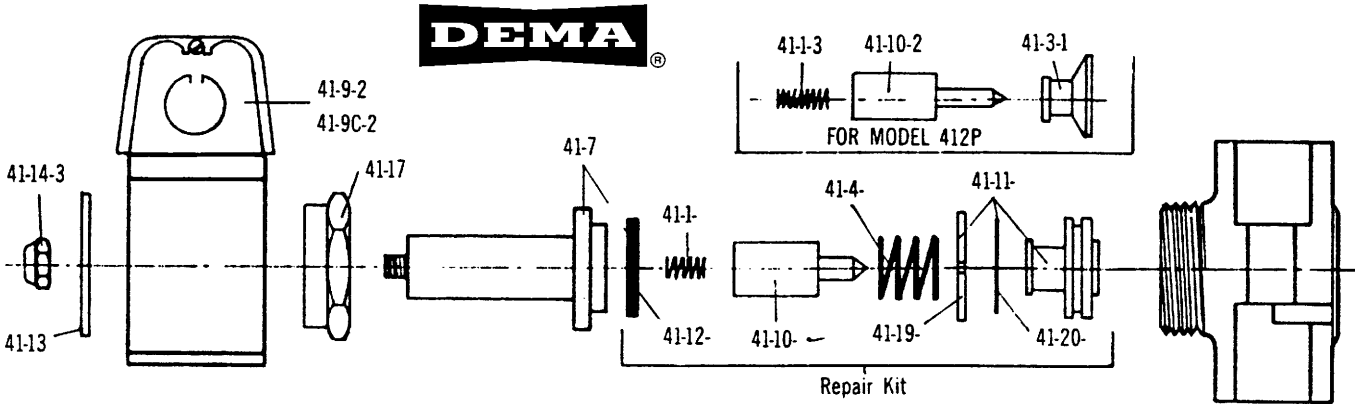


Model 411P



Part No.	Description
24-3	O-Ring
41-1-1	Plunger Spring
41-1-3	Plunger Spring
41-2-1	Plunger (includes spring)
41-2-10	Optional Plunger with Teflon Disc (Model 401PT)
41-2-13	Optional Plunger with Viton Disc (Model 401PV)
41-5-1	O-Ring
41-7-1	Enclosing Tube & O-Ring
41-7-6	Enclosing Tube & O-Ring
41-9-1	Solenoid Coil (Specify Voltage) Junction Box as shown
41-9C-1	Solenoid Coil (Specify Voltage) Conduit Connection
41-9-2	Solenoid Coil (Specify Voltage) Junction Box as shown
41-9-2C	Solenoid Coil (Specify Voltage) Conduit Connection
41-10-1	Plunger
41-13-5	Nameplate
41-13-12	Nameplate
41-14-1	Top Plug Screw
41-14-3	Top Plug Nut
41-16-1	Enclosing Tube Screw (4 Req'd)
41-21-1	Valve Seat
41-24	Repair Kit
41-25	Repair Kit

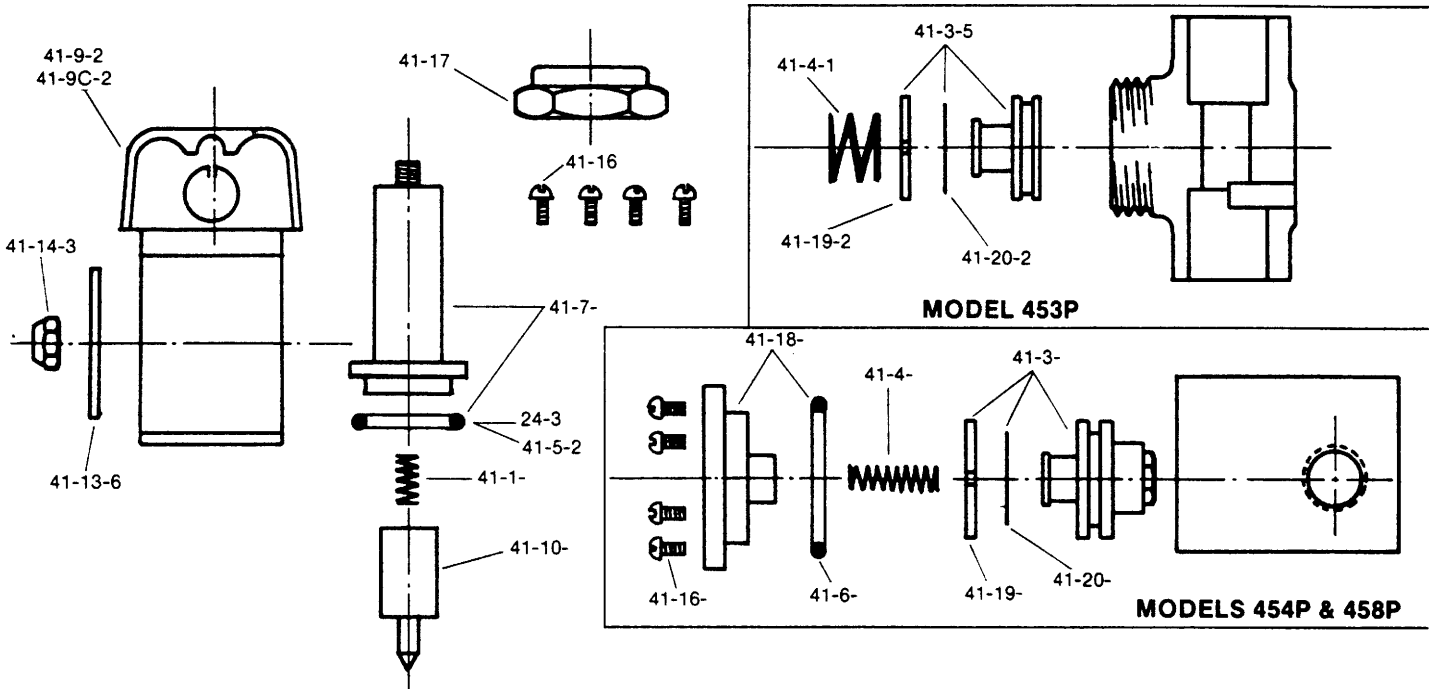
Solenoid Valves, General Purpose
Models 412P, A413P, A414P, A416P, A418P



Part No.	Description	Valve Model Numbers 412P	A413P	A414P	A416P	A418P
41-1-2	Plunger Spring		x	x	x	x
41-1-3	Plunger Spring	x				
41-3-1	Piston Assembly	x				
41-4-4	Closing Spring		x	x		
41-4-5	Closing Spring				x	x
41-7-2	Enclosing Tube with Tetraseal Ring		x	x		
41-7-3	Enclosing Tube with Tetraseal Ring				x	
41-7-4	Enclosing Tube with Tetraseal Ring					x
41-7-7	Enclosing Tube with Tetraseal Ring	x				
41-9-2	Coil Assembly (Specify Voltage)	x	x	x	x	x
41-9C-2	Optional Coil Assembly w/ Conduit Boss	x	x	x	x	x
41-10-2	Plunger Assembly	x				
41-10-4	Plunger Assembly		x			
41-10-5	Plunger Assembly			x		x
41-10-6	Plunger Assembly				x	
41-11-2	Piston Assembly w/ Ring & Backup Spring		x			
41-11-3	Piston Assembly w/ Ring & Backup Spring			x		
41-11-4	Piston Assembly w/ Ring & Backup Spring				x	
41-11-7	Piston Assembly w/ Ring & Backup Spring					x
41-12-1	Tetraseal Ring		x	x		
41-12-2	Tetraseal Ring				x	
41-12-3	Tetraseal Ring					x
41-12-5	Tetraseal Ring	x				
41-13-7	Nameplate	x				
41-13-8	Nameplate			x		
41-13-9	Nameplate		x			
41-13-10	Nameplate				x	
41-13-11	Nameplate					x
41-14-3	Top Plug Nut	x	x	x	x	x
41-17-1	Enclosing Tube Locknut	x				
41-17-2	Enclosing Tube Locknut		x	x		
41-17-3	Enclosing Tube Locknut				x	
41-17-4	Enclosing Tube Locknut					x
41-19-1	Piston Ring		x	x		
41-19-3	Piston Ring				x	
41-19-4	Piston Ring					x
41-20-2	Backup Spring		x	x		
41-20-3	Backup Spring				x	
41-20-4	Backup Spring					x
41-26	412P Repair Kit	x				
41-27	A413P Repair Kit		x			
41-28	A414P Repair Kit			x		
41-29	A416P Repair Kit				x	
41-30	A418P Repair Kit					x

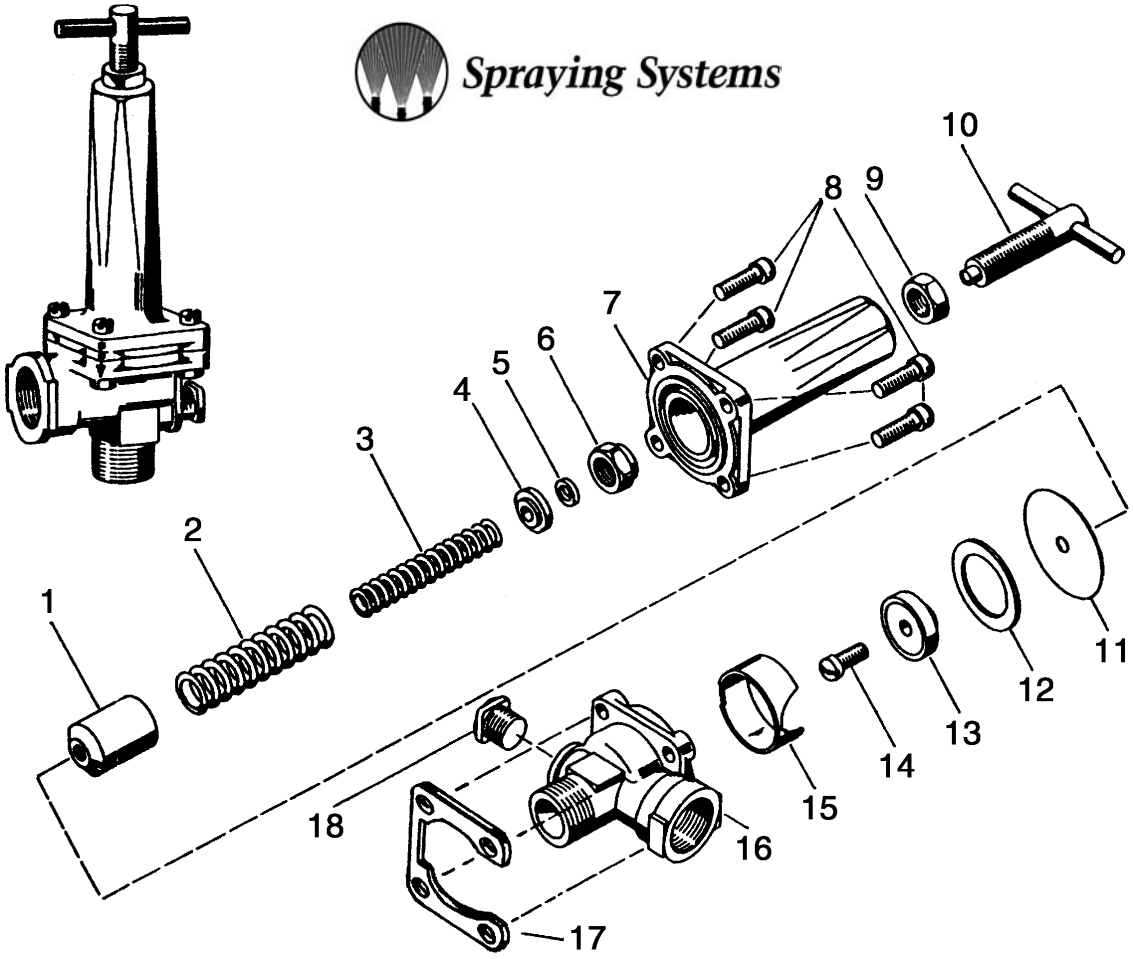
High Pressure Solenoid Valves

Models 453P, 454P, 458P



Part No.	Description	Valve Model Numbers 453P	454P	458P
24-3	O-Ring		x	x
41-1-3	Plunger Spring	x		
41-1-4	Plunger Spring		x	x
41-3-5	Piston Assembly w/ Ring & Backup Spring	x		
41-3-6	Piston Assembly w/ Ring & Backup Spring		x	
41-3-8	Piston Assembly w/ Ring & Backup Spring			x
41-4-1	Closing Spring	x		
41-4-2	Closing Spring		x	
41-4-3	Closing Spring			x
41-5-2	O-Ring	x		
41-6-1	Piston Bore Lid O-Ring			x
41-6-2	Piston Bore Lid O-Ring		x	
41-7-5	Enclosing Tube with O-Ring	x		
41-7-6	Enclosing Tube with O-Ring		x	
41-7-7	Enclosing Tube with O-Ring			x
41-9-2	Solenoid Coil Assembly (Specify Voltage)	x	x	x
41-9C-2	Optional Coil Assembly w/ Conduit Boss	x	x	x
41-10-8	Plunger Assembly	x		
41-10-9	Plunger Assembly		x	x
41-13-6	Nameplate (Specify Model #)	x	x	x
41-14-3	Top Plug Nut	x	x	x
41-16-1	Enclosing Tube Screw (4 Req'd)		x	
41-16-3	Piston Bore Lid Screw (4 Req'd)		x	
41-16-4	Piston Bore Lid Screw (4 Req'd)			x
41-17-1	Enclosing Tube Locknut			x
41-17-5	Enclosing Tube Locknut	x		
41-18-1	Piston Bore Lid w/ O-Ring		x	
41-18-2	Piston Bore Lid w/ O-Ring			x
41-19-2	Piston Ring	x	x	
41-19-5	Piston Ring			x
41-20-2	Backup Spring	x	x	
41-20-6	Backup Spring			x

No. 8460 Diaphragm Pressure Relief Valve



Item	Part No.	Description
1	CP8367-AL	Guide Sleeve, Aluminum
* 2	CP8373-SS	Outside Spring, Stainless Steel (For 8460--300)
	CP13128-SS	Outside Spring, Stainless Steel (For 8460--50)
* 3	CP8374-SS	Inside Spring, Stainless Steel (For 8460--300)
4	CP8371-AL	Spring Retainer, Aluminum
* 5	CP8369-NYB	Wasner, Nylon (Black)
6	CP8368-SS	Adjusting Nut, Stainless Steel
7	CP8362-AL	Bonnet, Aluminum
8	CP7683-IZP	Screw, Steel, Zinc Plated (4 Req'd)
9	CP5898-AL	Lock Nut, Aluminum
10	CP5896-ALSS	Adjusting Stem (Sub-Assy)
* 11	CP8366-FA	Diaphragm, Fairprene
12	CP8365-304SS	Stop Ring, Type 304 Stainless Steel
* 13	CP8364-NYB	Back Up Seat, Nylon (Black)
14	CP8477-SS	Screw, Stainless Steel
15	CP8389-304SS	Chamber Insert, Type 304 Stainless Steel
16	CP8361-1/2-NYB	Body, Nylon (Black) for 846C-1/2
	CP8361-3/4-NYB	Body, Nylon (Black) for 8460-3/4
17	CP9017-IZP	Clamp Plate, Steel, Zinc Plated
18	8400-1/4-PPB	Pipe Plug, Polypropylene (Black)
	No. 8460-1/2-50	Diaphragm Pressure Relief Valve
	No. 8460-3/4-50	Diaphragm Pressure Relief Valve
	No. 8460-1/2-300	Diaphragm Pressure Relief Valve
	No. 8460-3/4-300	Diaphragm Pressure Relief Valve
	AB8460-50-Kit	Spare Parts Kit (Includes all items marked with *, except Item 3)
	AB8460-Kit	Spare Parts Kit for 8460--300 (Includes all items marked with *)

BLUE WHITE® INDUSTRIES

Blue-White 9/25/03

Installation Information on the F-440, F-440E and F-440 EA Flow Meters

Your Blue-White flowmeter was designed to be easy to install.
Please read the Instruction Guideline on the next page before installing your flowmeter.
This flowmeter is an instrument, and special care should be taken when installing.
Caution: Follow these tips to avoid failure.
Danger: Wear eye protection when installing or removing flowmeter.

1. Flowmeter must be installed in an exact vertical plane to ensure accuracy. Use Teflon® tape (or similar) for the flowmeters threaded adapters.
2. Hand tighten union nuts. No wrenches.
3. Wall, floor and ceiling mounts are to be carefully aligned and sturdy. Wall, floor and ceiling supports are recommended as needed. Never allow the flowmeter to support the weight of related piping or tubing.
4. Valves - Avoid a system that will impose a sudden burst of flow to the meter. Such a burst will cause the float to impact the float stop with destructive force. Magnet, solenoid, or other quick opening valves cannot be used unless meter is protected against sudden bursts of flow.
5. Maximum working pressure not to exceed recommended psi at fluid temperature (see Temperature Vs. Pressure chart).

Blue-White® guarantees the meter is suitable with air and water only.
PLEASE NOTE: Polysulfone can be adversely affected by ultra violet light. Protect flowmeters from direct sunlight.

Maintenance

* Your flowmeter has been designed to be virtually maintenance free. Should your unit need occasional cleaning, use a mild soap and bottle brush.
* Be sure to note the floats “UP” position before disassembling the meter. **Cleaning:** The flowmeter body and all other parts can be cleaned by washing in a mild soap and water solution. A soft bristle brush will simplify cleaning inside the meter body. Note the float’s “up” position for re-assembly.

Pressure and Temperature

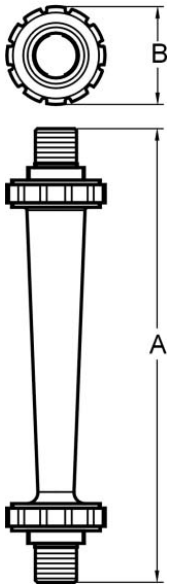
Pressure and temperature limits are inversely proportional. At the maximum suggested pressure the temperature should approach 210°F / 96°C; at the maximum suggested temperature the pressure should approach zero psi. We cannot guarantee our flowmeters will not be damaged either at or below the suggested limits simply because of many factors which influence meter integrity; stress resulting from meter misalignment, damage due to excessive vibration and/or deterioration caused by contact with certain chemicals as well as direct sunlight. These situations and others tend to reduce the strength of the materials from which the meters are manufactured. Flowmeters are tested and calibrated for water or air only.
Although meters may be suitable for other chemicals, Blue-White cannot guarantee their suitability.

Blue White Limited Warranty

* Blue White Flowmeters are warranted to be free from defects in material and workmanship for 12 months from date of factory shipment. Warranty coverage is limited to repair or replacement of the defective flowmeter only.
* Blue White Industries liability for consequential and incidental damages is expressly disclaimed and in all circumstances is limited to and shall not exceed, the purchase price paid. This limitation of liability shall be enforced to the extent allowable under applicable law.
* This warranty does not cover damage to the flowmeter that results from misuse or alterations, nor damage that occurs as a result of: meter misalignment, improper installation, over tightening, use of non recommended chemicals, use of non-recommended pipe dopes or adhesives, excessive heat or pressure or allowing the meter to support the weight of related piping .
* Flowmeters are repaired at the factory only. Call or write the factory to receive a return authorization number. Carefully pack the flowmeter to be returned, including a brief description of the problem. Not the R.A. number on the outside of the carton.
* PREPAY ALL SHIPPING COSTS. The factory does not accept C.O.D. shipments. Damage that occurs during shipping is the responsibility of the sender.

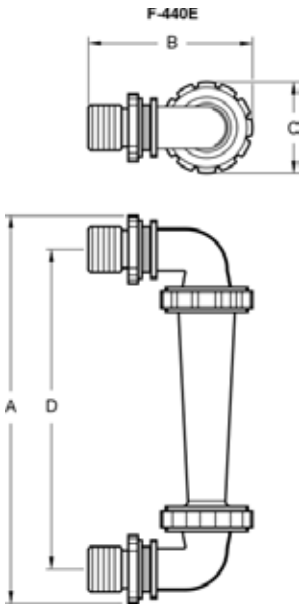
F-440 Series Dimensional Drawings

F-440



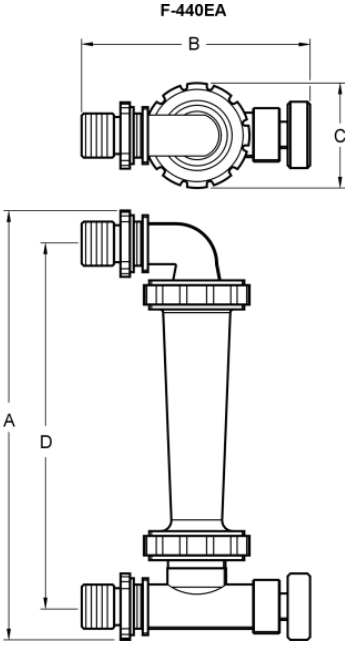
F-440 Series In-Line		
Model No.	**A**	**B**
F-44250	6-3/16”	1-11/16”
F-44330	6-3/16”	1-11/16”
F-44375	6-3/16”	1-11/16”
F-44376	6-3/16”	1-11/16”
F-44500	6-3/16”	1-11/16”
F-44560	6-3/16”	1-11/16”
F-44750	7”	1-7/8”

F-440E



F-440E Series (90˚ Elbows)				
Model No.	**A**	**B**	**C**	**D**
F-44250E	7-1/8”	3-1/8”	1-11/16”	6”
F-44330E	7-1/8”	3-1/8”	1-11/16”	6”
F-44375E	7-1/8”	3-1/8”	1-11/16”	6”
F-44376E	7-1/8”	3-1/8”	1-11/16”	6”
F-44500E	7-1/8”	3-1/8”	1-11/16”	6”
F-44560E	7-1/8”	3-1/8”	1-11/16”	6”
F-44750E	8-1/8”	3-3/16”	1-7/8”	6-13/16”

F-440EA



F-440EA Series (90˚ Elbows & Adjustable Valve)				
Model No.	**A**	**B**	**C**	**D**
F-44250E	7”	4”	1-11/16”	5-15/16”
F-44330E	7”	4”	1-11/16”	5-15/16”
F-44375E	7”	4”	1-11/16”	5-15/16”
F-44376E	7”	4”	1-11/16”	5-15/16”
F-44500E	7”	4”	1-11/16”	5-15/16”
F-44560E	7”	4”	1-11/16”	5-15/16”
F-44750E	8”	4”	1-7/8”	6-13/16”

Side Entry Float Switch ACT 6200 Series

Advanced Control Technology Inc. P.O. Box 20611, Bloomington, MN 55420-0611 • 1-800-328-4827 • Fax (612) 890-3644

APPLICATION:

- Side entry sensors are installed through the side wall of a tank at or above the fluid level to be monitored.

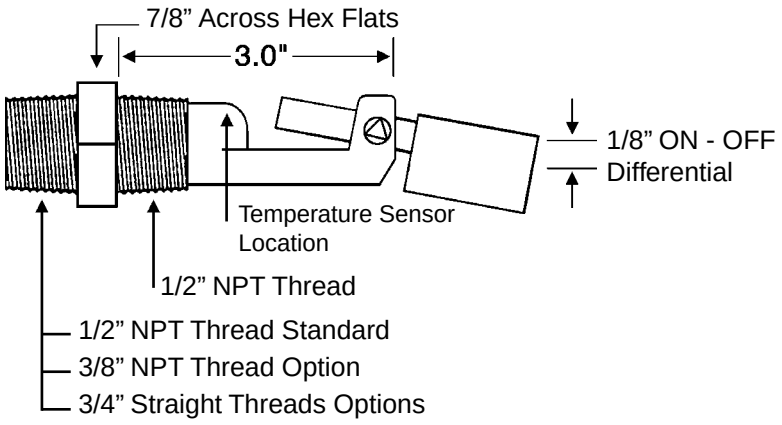
FEATURES:

- Rugged solid cellular float.
- Installed internally or externally.
- Field adjustable switch (N.O. or N.C.)
- Installed through 3/8” or 1/2” coupling.

OPTIONS:

- Longer lead wires.
- Temperature sensor.
- High current output.
- Mounting threads.
- Jacketed cable.
- Hall effect sensor.
- Connectors
- Stilling well.

- ACT will modify switches to provide the best solution for your application.



Switch rotation data on hex flats.

This [NO] indicates switch is rotated to normally open position.

This [NC] indicates normally closed.

ORDERING INFORMATION

Part Number	Construction Materials	*Float Specific Grav.	Switch Rating	Switch Operation
P6200P	Polypro.	.70	50W	N.O. & N.C
N6200N	Nylon	.80	50W	N.O. & N.C.

*Specific Gravity in Water.

OPTIONS:

- “S” Lever change, add dash -L
- High current relay output, add -R
- Thread changes, add dash digit as follows, -3 for 3/8” npt, -7 for 3/4” straight thread.
- Temperature sensors by description (see 4100 series).
- 3/8” npt nut and o-ring.

COMMAND Pump Switch ACT 7300 Series

Advanced Control Technology Inc. P.O. Box 20611, Bloomington, MN 55420-0611 • 1-800-328-4827 • Fax (612) 890-3644

APPLICATION:

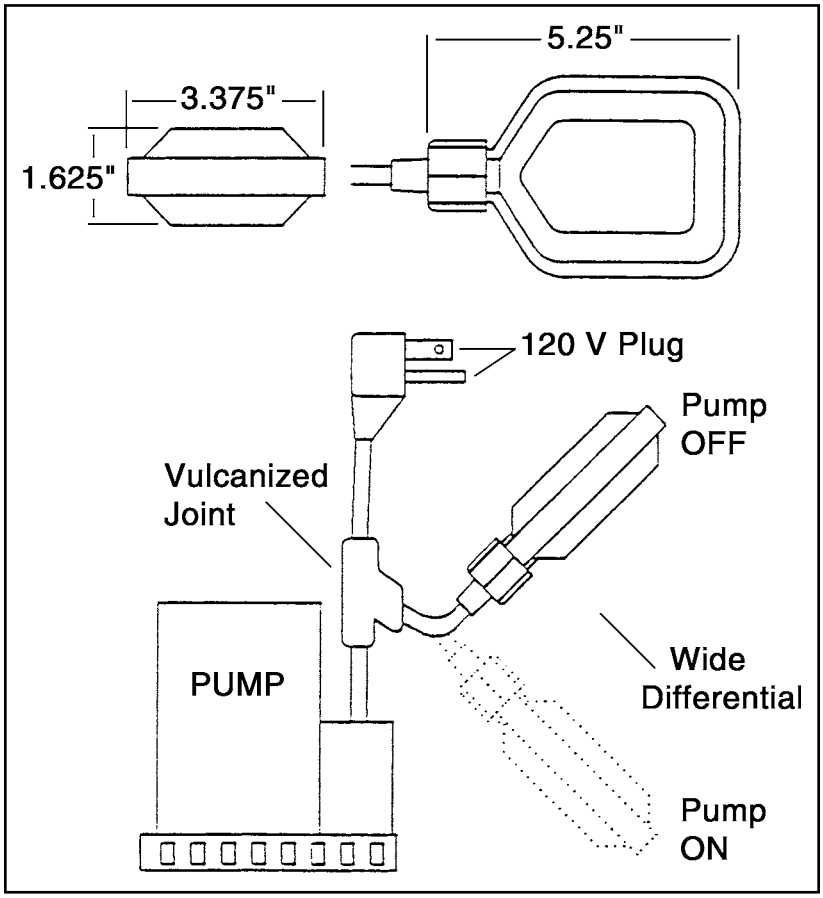
- Direct control of pump motors or as a control input device. Cable switch design allows for use in liquids with debris.
- Latching switch function prevents chattering of motor.

FEATURES:

- Environmentally safe (No mercury).
- S.P.D.T. or D.P.D.T. mechanical switches.
- Gold contacts switches for computer input.
- 25 Amps 1/2 H.P. @ 240 vac power switches.
- 100,000 life cycles at full load.
- Built in liquid tight cord grip.

OPTIONS:

- Vulcanized into motor cable.
- Piggy back plug.
- Longer cord lengths.
- Lead free cable weights.
- ACT will modify switches to provide the

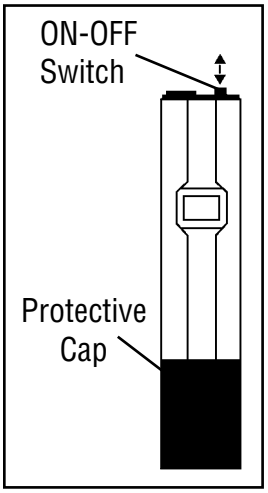


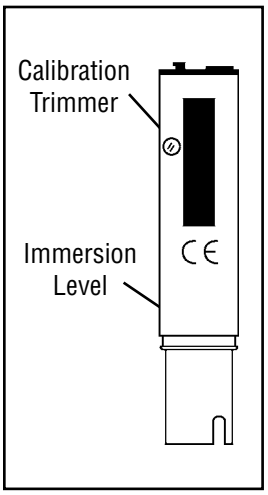
ORDERING INFORMATION

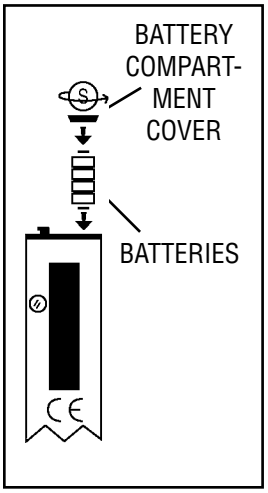
Part Number	Construction Cable	Materials Float	Switch Differential Degrees	Current Rating	Cable Length	Termination
P7310-10L	SJOW-A	POLYPRO.	90	SPDT 15 AMPS	10	LEADS
P7330-30L	SJOW-A	POLYPRO.	90	SPDT 25 AMPS	30	LEADS
P73A0-20L	SJOW-A	POLYPRO.	90	DPDT 10 AMPS	20	LEADS
P7300-10P	SJOW-A	POLYPRO.	90	SPDT 10 AMPS	10	120V PLUG
P7330-10P	SJOW-A	POLYPRO.	90	SPDT 25 AMPS	10	120V PLUG
P7340-30L	SJOW-A	POLYPRO.	90	SPDT GOLD	30	LEADS

Pocket Pal™ TDS Tester

Hach Cat. No. 44400-01







SPECIFICATIONS:

Range: 10 to 1990 ppm

Accuracy: ±2% of reading at 25˚C calibration and 25˚C sample. ±10% of temperature compensated ppm readings over 0 to 50˚C

Operating Temperature: 0 to 50˚C

Temperature Compensation: 2% per ˚C

Battery Life: 1000 hours (approx.)

IP 67 Rated: Waterproof (immersible); dustproof.

INSTRUCTIONS FOR USE:

1) Press the ON/OFF switch once to turn the tester on. Refer to the illustration at the left.
2) Remove protective cap from the bottom.
3) Immerse the bottom of the tester 1.0 to 3.5 in. (2.5 to 8.9 cm) into the sample
4) Using the tester, gently stir the sample for several seconds. When digital display stabilizes, read the TDS value.

   Note: Readings may not stabilize for up to 2 minutes, especially if the temperature is far from ambient.
5) Rinse the bottom of the tester. Replace the cap.

   Note: To maintain or improve performance, periodically clean the stainless steel electrodes by rinsing in isopropyl alcohol.

CALIBRATION:

Verify the accuracy of the tester before use and periodically thereafter as follows:

1) Measure the TDS of a known Calibration Standard using the tester.
2) If necessary, adjust the Calibration Trimmer (shown at left) using the supplied trimmer tool (or a small flat-bladed screwdriver) until the reading corresponds to the value of the known Calibration Standard.

Calibration Standards are available (100mL).

Cat. No.		
23075-42	180 mS/cm NaCl	86.47 mg/L as NaCl
14400-42	1000 mS/cm NaCl	491 mg/L as NaCl
2105-42	1990 mS/cm NaCl	1000 mg/L as NaCl

BATTERY REPLACEMENT:

1) Use a coin to turn the battery compartment cover, located on the top of the tester, to the left 1/4 turn.
2) Remove the cover. Replace all four batteries with Eveready E675E, Duracell RM675, or Hach, Cat. No. 23678-00, in the same orientation (polarity) as they were removed.

WARRANTY:

Hach Company warrants this product against defective materials or workmanship for six months from date of shipment. Warranty does not apply to batteries. See back of invoice for complete warranty information.

w008