DRI-STOP© 3
PUMP PROTECTOR

OPERATION AND
SERVICE GUIDE
O-1680 B
MAY 2009

PRESSURE ACTIVATED	
MODELS	PRICE CODE NOS.
DSCP-1/2	99-0377 A
DSKP-1/2	99-0379 A

The Dri-Stop pump protector is a pressure-activated normally open switch designed to sense pressure loss on the discharge side of a single mechanical seal or magnetic-coupled pump preventing dry operation and subsequent failure of pump components. A manual STOP-START magnetic push button motor starter is required for use in conjunction with the Dri-Stop switch. When pressure loss occurs, the control circuit of the starter opens and automatically stops the pump/motor.

Units are constructed of CPVC or PVDF with a Viton diaphragm in solution contact. Confirm chemical compatibility of all components before installing.

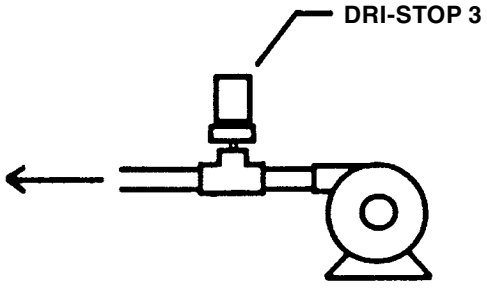
Record model and product code numbers for future reference. Specify numbers when ordering parts.

⚠ SAFETY PRECAUTIONS

1. All wiring should be in accordance with local electrical codes.
2. Make all electrical connections by following wiring diagrams on Page 2 as a guide. Follow local requirements.
3. Switches are rated 250 VAC.
4. Thoroughly check all wiring before energizing.
5. Functionally check motor starter and Dri-Stop Pressure switch for correct operation at normal and abnormal conditions of pump operation.

INSTALLATION

Install the Dri-Stop switch in a vertical position on the pump's discharge piping where pressure will be present. Closest to the pump's discharge port is recommended. Refer to Figure 1 diagram. Drill and tap a ½" NPT hole into the discharge pipe, elbow, coupling, or use SERFILCO's optional (see parts list) CPVC line connector tee fitting. The use of TFE tape to seal threads rather than pipe compound is recommended. Align 'V' notch in pressure sensor facing towards upstream flow. A reference mark on sensor will aid in correct positioning. Connect the conduit of the pressure switch to the housing of a momentary contact magnetic starter. Connect the wires to the control circuit of the starter. Refer to the wiring schematics as a guide only if magnetic starter was not purchased through SERFILCO.



Pump Discharge FIGURE 1

OPERATION

In order for the control circuit of the starter to hold, the pump must produce pressure. Depressing the start button for a maximum of 5 seconds will allow the pump to build up the required pressure, then release the button. Open vent plug located on the side of the adapter plate to purge trapped air. If a valve has been installed on the suction line for the pump, slowly close the valve to represent losing prime to verify Dri-Stop is functioning properly. The motor should de-energize immediately after the pressure is lost.

SERVICING

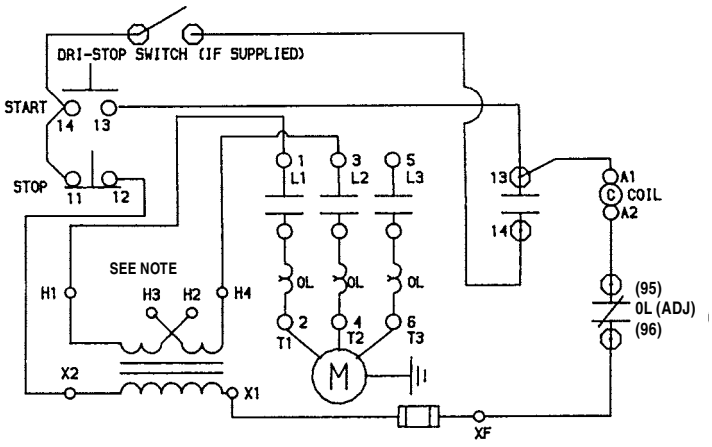
Do not unscrew the conduit fitting on the enclosure tube. Damage to the wiring will occur leaving the unit inoperable and permanently unrepairable. The pressure switch located inside the enclosure tube is not serviceable or replaceable.

Replacing Diaphragm

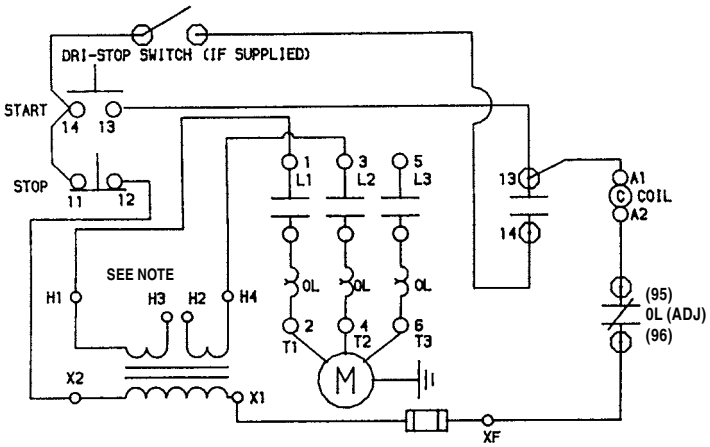
1. Disconnect the wires at the magnetic starter that lead to the Dri-Stop.
2. Drain pump discharge pipe.
3. Remove Dri-Stop assembly from discharge piping.
4. Unscrew the pressure switch enclosure from the polypropylene retainer plate by turning counter clockwise.
5. Remove the six screws that hold the retainer to the adapter plate and remove the ruptured diaphragm.
6. Insert the new diaphragm with the concave side facing into the adapter plate.
7. Replace the retainer plate and screws. Tighten screws enly in an alternating pattern. Do not over tighten.
8. Fill unit with glycerin or vegetable oil to the last two threads of the retainer plate.
9. Apply Teflon tape to the threads of the pressure switch enclosure and screw assembly into the retainer plate.
10. Using a continuity meter, verify pressure switch is not in the closed position due to over filling the unit with glycerin. Verify switch closes by pushing on the diaphragm with your index finger. If switch does not respond, add more glycerin.
11. Reassemble unit to the system.

WIRING SCHEMATICS

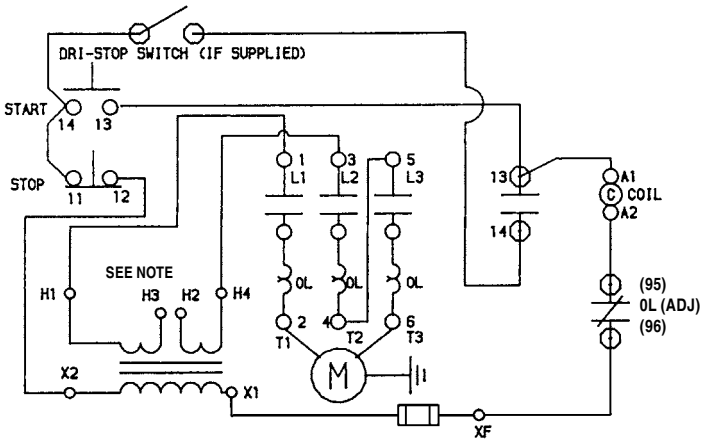
(A) STARTER 460V/3Ø/50-60 CONTROL CIRCUIT 24VAC



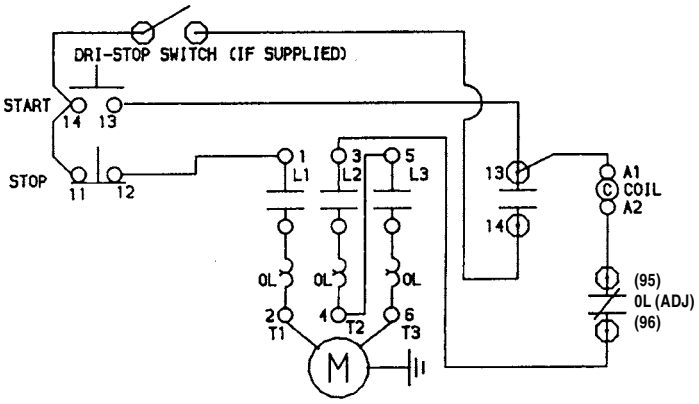
(B) STARTER 230V/3Ø/50-60 CONTROL CIRCUIT 24VAC



(C) STARTER 230V/1Ø/50-60 CONTROL CIRCUIT 24VAC



(D) STARTER 115V/1Ø/60 CONTROL CIRCUIT 115V/1Ø/60



NOTE: See label on transformer for primary jumper connections.

Bulletin	A-105
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2900 MacArthur Blvd.
Northbrook, IL. 60062-2005
U.S.A.
www.serfilco.com
(800) 323-5431
(847) 509-2900
Fax: (847) 559-1141
sales@serfilco.com