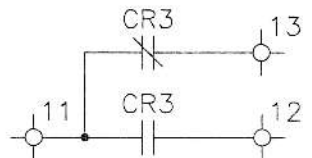
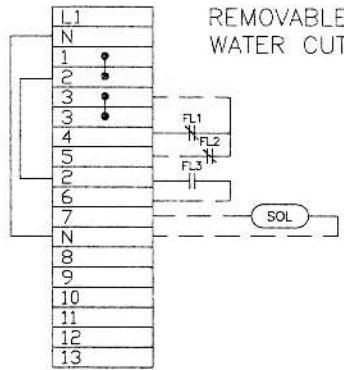
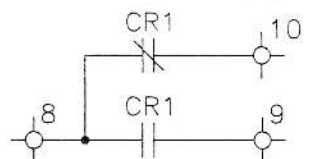


NORMAL WATER LEVEL ALARM CONTACTS



LOW WATER LEVEL ALARM CONTACTS



REMOVABLE JUMPER FOR HIGH WATER CUT OFF OPTION

- NOTES:
1. ALL RELAY CONTACTS ARE SHOWN IN DE-ENERGIZED STATE.
  2. ALL RELAYS ARE 120V COIL XT RELAYS
  3. CR1, CR2, & CR1 ARE XTRE10B22A
  4. ALL FLOATS SHOWN IN DRY STATE

|  |  |   |  |                                |  |  |  |
|--|--|---|--|--------------------------------|--|--|--|
| <b>OPTIONS</b><br>_____                          |  | <b>SYSTEM INFORMATION</b><br>CAT NO: <u>INPC2</u><br><u>120V</u> <u>60HZ</u> <u>    </u> AMPS<br>CONTROL VOLTAGE: <u>120VAC</u><br>ENCLOSURE TYPE: <u>NEMA 1</u>  |  | <br><br>                       |  | <b>CUSTOMER INFORMATION</b><br>PROJECT: <u>TANK STATUS PANEL</u><br>CUSTOMER: <u>R.T. STEARNS</u><br>CUSTOMER #: _____ |  |
| <b>ROUTING</b><br>1 - JOB FILE<br>2 - PRODUCTION |  | THE INFORMATION ON THIS DOCUMENT IS CREATED BY CUTLER-HAMMER. IT IS DISCLOSED IN CONFIDENCE AND IS ONLY TO BE USED FOR THE PURPOSE IN WHICH IT IS SUPPLIED.<br>LES RENSEIGNEMENTS CI-DESSUS ONT ÉTÉ ELABORÉS PAR CUTLER-HAMMER. ILS VOUS SONT DIVULGUÉS EN TOUTE CONFIDANCE ET LEUR UTILISATION SE LIMITE AUX SEULES FINS POUR LESQUELLES ILS VOUS SONT TRANSMIS. |  | DFTR DESS. DATE<br>EH 01/25/08 |  | <b>Cutler-Hammer</b> LVCA AIRDRIE, AB  |  |
| NEW YORK CITY APPROVED<br>MEA 18-02-E            |  | APPD APPR. DATE<br>_____  |  | TITLE<br>TITRE                 |  | APPD APPR. DATE<br>_____   |  |
| PRODUCT CODE<br>CODE PRODUIT                     |  | REVISION<br><b>2</b>  |  | DWG SIZE / ECHELLE<br><b>A</b> |  | G.O. C.G. <b>16BC532E</b>  |  |
|  |  |   |  | DWG<br>_____                   |  | TYPE<br>ELECTRIC REMOTE ALARM PANEL  |  |
|  |  |   |  |                                |  | WIRING DIAGRAM   |  |
|  |  |   |  |                                |  | PAGE<br>1 OF 1   |  |



**anchor scientific inc.**

Box 378, Long Lake, MN 55356 / 612-473-7115 / FAX 612-473-6002

**mini-float®**

Form 2500-D

# mini-float®

## MOUNTING STYLES

### DESCRIPTION

Mini-floats are pilot duty devices designed for small diameter sumps and places where space is a determining factor in the selection of a level control device. Mini-floats control the function of motor load devices, such as contactors, motor starters, and power relays, to automatically cycle a pump or pumps. They can also be used for alarm signaling devices. Two Mini-Floats are needed for a one-pump operation; three for a two-pump operation.

### SPECIFICATIONS

Cable ..... 18-2 SJO W/A  
 Housing ..... Polypropylene  
 Clamp ..... Adjustable 1"-4"  
 (Only on Type P models)  
 Temperature Rating ..... 60° C.

### MODELS

Mini-Floats are available in a combination of mounting styles, cable lengths, and circuit configurations. Mounting styles are shown at right: pipe mounted (Type P), and suspended (Type S). 10, 15, and 25-foot cable lengths are standard, but other lengths can be special ordered. Electrical configurations must be specified; normally open, (NO), for pump out applications and normally closed, (NC), for pump in applications.

### EXAMPLE:

|                 | P<br>Mounting<br>Style                                     | M<br>Mini-<br>Float | 10<br>Cable<br>Length | NO<br>Electrical<br>Configuration |
|-----------------|--|---------------------|-----------------------|-----------------------------------|
| Float<br>Color: | ELECTRICAL<br>CONFIGURATION                                | CABLE<br>LENGTH     | SUSPENDED<br>TYPE 'S' | PIPE MOUNTED<br>TYPE 'P'          |
|                 |  |                     | MODEL NO.             | MODEL NO.                         |
| BLUE            | "NORMAL"<br>NORMALLY<br>OPEN                               | 10                  | SM 10 NO              | PM 10 NO                          |
|                 |  | 15                  | SM 15 NO              | PM 15 NO                          |
|                 |  | 20                  | SM 20 NO              | PM 20 NO                          |
|                 |  | 25                  | SM 25 NO              | PM 25 NO                          |
|                 |  | 30                  | SM 30 NO              | PM 30 NO                          |
| RED             | "LOW H <sub>2</sub> O"<br>NORMALLY<br>CLOSED<br>"SOLENOID" | 10                  | SM 10 NC              | PM 10 NC                          |
|                 |  | 15                  | SM 15 NC              | PM 15 NC                          |
|                 |  | 20                  | SM 20 NC              | PM 20 NC                          |
|                 |  | 25                  | SM 25 NC              | PM 25 NC                          |
|                 |  | 30                  | SM 30 NC              | PM 30 NC                          |

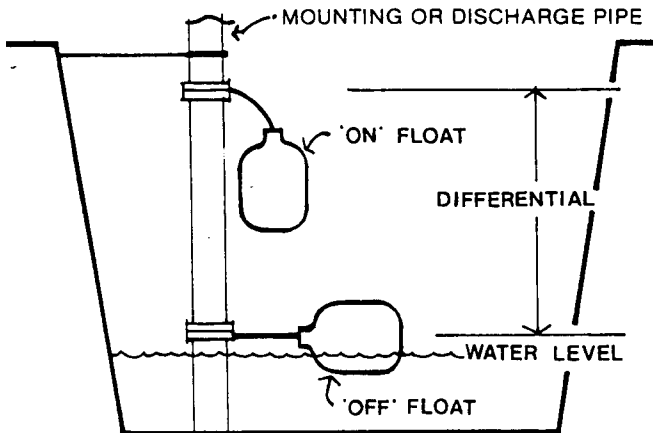


TYPE P - M



TYPE S - M

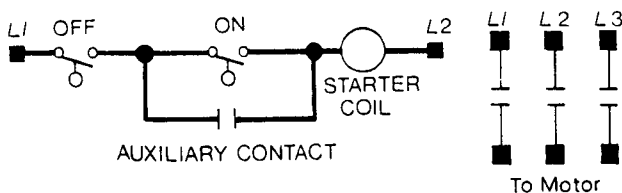
## TYPICAL INSTALLATION



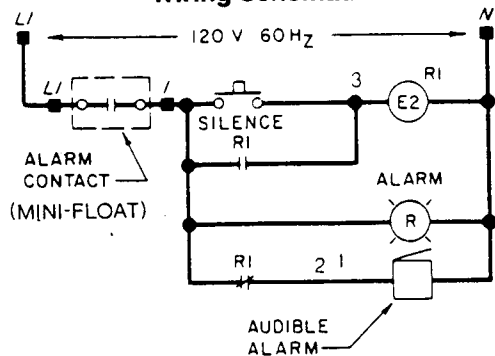
### General Comments

- 1) Never work in the sump with the power on.
- 2) Attach the Type P Mini-Floats to the mounting pipe or the pump discharge pipe. The 'off' float should be below the 'on' float in a 'pump out' application.
- 3) Arrange the Mini-Floats so they do not tangle or hang up.
- 4) Thread the cable strap through the buckle with the ratchet pawl; cinch up tight; thread excess strapping through outer buckle slot.
- 5) Measuring the difference between mounting points gives the 'pump down' differential.

### Typical Simplex Wiring Schematic



### Typical Alarm Wiring Schematic



## SPECIFICATIONS

Cable - 18-2 SJO W/A 34 x 41 strand. 90°C.  
DIAMETER .30

Float - Polypropylene.

Clamp - Stainless Steel.



Listed

Ind. Con. Eq.

125 VA @ 115 VAC

Component 4.5A @ 120V., Res.  
Switch Rating 2.2A @ 230V., Res.

Temperature  
Rating - 60 C.

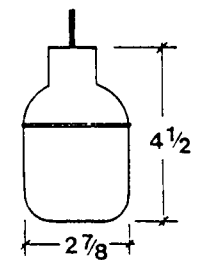
Normally Open - Blue Housing  
Normally Closed - Red Housing

| ELECTRICAL CONFIGURATION | CABLE LENGTH | SUSPENDED TYPE 'S' | PIPE MOUNTED TYPE 'P' |
|--------------------------|--------------|--------------------|-----------------------|
|                          |              | MODEL NO.          | MODEL NO.             |
| NORMALLY OPEN<br>(BLUE)  | 10           | SM 10 NO           | PM 10 NO              |
|                          | 15           | SM 15 NO           | PM 15 NO              |
|                          | 20           | SM 20 NO           | PM 20 NO              |
|                          | 25           | SM 25 NO           | PM 25 NO              |
|                          | 30           | SM 30 NO           | PM 30 NO              |
| NORMALLY CLOSED<br>(RED) | 10           | SM 10 NC           | PM 10 NC              |
|                          | 15           | SM 15 NC           | PM 15 NC              |
|                          | 20           | SM 20 NC           | PM 20 NC              |
|                          | 25           | SM 25 NC           | PM 25 NC              |
|                          | 30           | SM 30 NC           | PM 30 NC              |

SUBMITTAL  
APPROVAL

NAME

DATE



Float Dimensions

\* Important Notes - Mini-floats are pilot duty devices. They cannot be used to directly power pump motors. Also, do not use Mini-Floats in gasoline or other combustibles. These devices can be used with intrinsically safe relays for some hazardous locations. See Sec. 500 of NEC.

This product contains mercury. Dispose of in accordance with Local, State and Federal Regulations so that mercury does not contaminate the environment.

|                            |                 |
|----------------------------|-----------------|
| DWN BY<br>PD               | DATE<br>7-17-80 |
| CKD BY<br>JTP              | DATE<br>7-20-80 |
| APPD BY<br>JTP             | DATE<br>7-20    |
| PROJECT NAME<br>Mini-Float |                 |
| FACTORY ORDER NO.          |                 |



**anchor scientific inc.**

Industrial Park, Long Lake, Mn. 55356  
612-473-7115

Typical installation and specification data for Mini-Floats

DWG. NO.

**2510-B**

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

# Dayton® General Purpose Solenoid Valves Normally Closed, 2-Way

## Description

Dayton solenoid valves are pilot operated 2-way, normally closed valves designed for use in industrial applications. All solenoid valves have a defined operating pressure range.

Valves feature a standard junction box, Class F molded coil (order separately), Buna-N diaphragm or piston, stainless steel plunger and tube. Valves are equipped with a brass body capable of handling noncorrosive and nonflammable liquids and gases such as air, water.

Dayton solenoid valves are rated in accordance with standards sanctioned by Fluid Controls Institute, Inc. Valves are UL Listed.

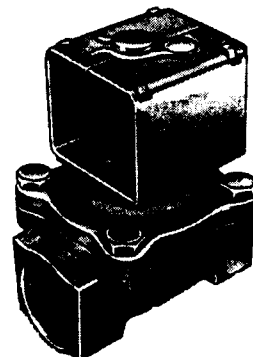


Figure 1

## Specifications and Performance

| Model   | Inlet and Outlet | Orifice | OPD* Range PSI | C <sub>v</sub> ▲ | Max. Working Pressure | Maximum         |                   | Min. Flow Required |               | Water Flow GPM†† |
|---------|------------------|---------|----------------|------------------|-----------------------|-----------------|-------------------|--------------------|---------------|------------------|
|         |                  |         |                |                  |                       | Air Flow CFM††* | Water Flow GPM††* | Max. Fluid Temp.   | Air Flow CFM† |                  |
| 1A576   | 3/8"             | 5/8"    | 5-150          | 2.8              | 300 PSI               | 226             | 34.5              | 180°F              | 61.6          | 6.3              |
| 1A577   | 1/2              | 5/8     | 5-150          | 3.6              | 300 PSI               | 292             | 43.8              | 180                | 79.2          | 8.0              |
| → 1A578 | 3/4              | 3/4     | 5-125          | 5.5              | 300 PSI               | 280             | 61.5              | 180                | 121.0         | 12.3             |
| 1A579   | 1                | 1       | 5-125          | 13.0             | 250 PSI               | 910             | 145.5             | 180                | 286.0         | 29.1             |
| 1A580   | 1 1/4            | 1 1/4   | 5-250          | 16.0             | 250 PSI               | 2110            | 253.0             | 180                | 352.0         | 35.8             |
| 1A581   | 1 1/2            | 1 1/2   | 5-250          | 25.0             | 250 PSI               | 3300            | 395.0             | 180                | 550.0         | 55.9             |
| 3A433   | 1/4              | 1/4     | 2-150          | 1.2              | 350 PSI               | 127             | 14.4              | 180                | 14.4          | 1.7              |
| 3A434   | 1/2              | 5/8     | 0-100          | 3.6              | 300 PSI               | 205             | 36.0              | 180                | 28.8          | 2.5              |
| 3A436   | 3/4              | 3/4     | 0-100          | 5.5              | 300 PSI               | 314             | 55.0              | 180                | 44.0          | 3.9              |
| 4A697   | 3/8              | 5/8     | 0-100          | 2.8              | 300 PSI               | 160.0           | 28.0              | 180                | 22.4          | 2.0              |
| 4A699   | 3/8              | 1/4     | 2-150          | 1.2              | 350 PSI               | 120.0           | 14.0              | 180                | 14.4          | 1.7              |
| 4A700   | 3/8              | 3/8     | 2-150          | 2.2              | 350 PSI               | 189.2           | 25.0              | 180                | 26.4          | 3.1              |

- (†) Cubic Feet Minute      (††) Gallons Per Minute
- (•) Operating Pressure Differential (Maximum rating must not be exceeded or valve will fail to open.)
- (▲) Amount of water in GPM at standard conditions (60°F specific gravity — 1) which will pass through the valve with a one PSI pressure drop with valve in full open position.
- (\*) Maximum flow rates at maximum operating pressure drops across valve.

### COIL ELECTRICAL RATINGS (50/60 HZ) @ 24 VAC

| Models                                   | Inrush @ 60 Hz |         | Holding @ 60 Hz |         | Watts |
|--|----------------|---------|-----------------|---------|-------|
|  | Volt           | Current | Volt            | Current |       |
| 1A576, 1A577, 1A578                      | 53             | 2.21    | 16              | 0.67    | 12    |
| 1A579                                    | 27             | 1.13    | 16              | 0.67    | 12    |
| 1A580, 1A581                             | 24             | 1.00    | 18              | 0.75    | 12    |
| 3A433, 3A434, 3A436, 4A697, 4A699, 4A700 | 31             | 1.17    | 19              | 0.61    | 12    |

### COIL ELECTRICAL RATINGS (50/60 HZ) @ 120 VAC

| Models                                   | Inrush @ 60 Hz |         | Holding @ 60 Hz |         | Watts |
|--|----------------|---------|-----------------|---------|-------|
|  | Volt           | Current | Volt            | Current |       |
| 1A576, 1A577, 1A578                      | 57             | 0.48    | 19              | 0.16    | 12    |
| 1A579                                    | 29             | 0.24    | 19              | 0.16    | 12    |
| 1A580, 1A581                             | 23             | 0.19    | 19              | 0.16    | 12    |
| 3A433, 3A434, 3A436, 4A697, 4A699, 4A700 | 31             | 0.22    | 19              | 0.14    | 12    |