LEVER OPERATED CONTROLS

To Open/Close Circuits by Mechanical Movement
Snap-Action Type 46 (General Purpose NEMA-1)
Used where positive mercury switch action is desired when the operating lever is moved to a particular position (see Chart C for various circuits available). The mercury switch does not move until the operating arm has moved a definite amount at which time it “snaps” to its alternate position.

Direct-Action Type 47
(General Purpose NEMA-1)
Used where greater sensitivity and more over-travel is desired. The mercury switch is mounted on the lever and moves with it. Requires less force and travel than the snap-action type. See Chart C for switch operations.

Direct Action with Spring Return-Type 47SR
For same application as Type 47 except this control is equipped with the spring return feature. The mercury switch is mounted on the lever with a spring assembly which returns the arm to the “Center” position when force is removed from the lever arm.

FLOAT CONTROLS
For vessels not under pressure
Type 40-49
For use with rods and floats to open/close mercury switches by a change of liquid levels in vessels not under pressure. Example: to start and stop motor operated pumps, or perform other functions in changes of liquid level.

Type 40 Counter Balanced Snap-Action Movement
For general applications. The float assembly slides up and down the float rod. When the float rises to the top stop, it moves the operating arm up, and when it drops to the bottom stop, it moves the operating arm down. The mercury switch does not move until the operating arm has moved a definite amount, at which time it “snaps” to its alternate position. For minimum liquid level changes, see Chart C. Enclosure is NEMA-1 general purpose.

Type 49 Counter Balanced Direct Action
For use where closer differential in level change is desired between on and off operation. The mercury switch is mounted directly on the operating lever and moves with it. This control requires less operating force than the snap-action type. For minimum liquid level changes, see Chart C. Enclosure is NEMA-1 general purpose.

Type 49SRC Counter Balanced Direct-Action with Spring Return
Similar to Type 49 except spring return assembly added to provide for stage operation. The spring return assembly holds the arm in a neutral position (contacts either open or closed) until the float engages upper or lower stop on rod, and actuates control contacts. Can be used for high or low alarm. Enclosure is NEMA-1 general purpose.

Standard Features
General Purpose-Types 40, 49, 49SRC: 4-3/4” dia. steel case finished gray enamel. Glass fronted cover. Outlet box has 1/2” knockouts on both sides. Standard with bottom mounting base plate having two 13/64” holes 3” apart. Standard Construction: Furnished with bottom mounting and with lever arm extended to right.

Type 41 Plunger Type Snap-Action
For use on closed tanks (cannot be used on pressurized tanks). Rod and floats same as Type 40 except maximum rod length 4 ft. For minimum liquid level change, see Chart C. Standard Construction: Furnished with 1/4” NPT Bottom Connection only. Enclosure is NEMA-1 general purpose. For Weather Resistant NEMA-3 Case, specify Type 41W. When ordering, specify Type No. and Circuit. Example: Type 41 - 156. Can be used for pump operation or day tanks.
### MODEL CHART – SERIES 40-49 LEVER ARM OPERATED FLOAT CONTROLS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>2</th>
<th>R6</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>2</td>
<td>Series Designator. Counter balance lever arm operated control with adjustable deadband. Minimum deadband approximately 2” (51 mm).</td>
</tr>
<tr>
<td>47</td>
<td>2</td>
<td>Same as Model 46 except has spring return to hold lever arm in center (internal) position until the lever actuates engages upper or lower stop actuating mercury switch.</td>
</tr>
<tr>
<td>49</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>49 SRC</td>
<td>2</td>
<td>Similar to Type 49 except has spring return to hold lever arm in center (internal) position until the float engages upper or lower stop actuating mercury switch.</td>
</tr>
</tbody>
</table>

**ORDERING INFORMATION:**

- **EXAMPLE:** How to order (see model chart)
  - 49 4821 R6
  - 1 Series Designator
  - 2 Circuit
  - 3 Float Arm and Flange Location

- **EXAMPLE:** How to order (see model chart)
  - 49 SRC 4820 R6
  - 1 Series Designator
  - 2 Spring Return
  - 3 Circuit
  - 4 Float Arm and Flange Location

### MODEL CHART – SERIES 41 PLUNGER TYPE FLOAT CONTROLS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>2</th>
<th>R6</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>2</td>
<td>Plunger type level control with mercury switch and “snap action” movement assembly. For use with closed, ventilated tanks (cannot be used with pressurized tanks). Operates with One 4 1/2” (114 mm) copper or stainless steel float or Two 2 1/8” (54 x 140 mm) cylinder floats.</td>
</tr>
</tbody>
</table>

**ORDERING INFORMATION:**

- **EXAMPLE:** How to order (see model chart)
  - 41 2 R6
  - 1 Series Designator
  - 2 Circuit
  - 3 Float Arm and Flange Location

### MODEL CHART – SERIES 42 LEVER ARM OPERATED FLOAT CONTROLS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>2</th>
<th>R6</th>
</tr>
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<td>Same as Model 46 except has spring return to hold lever arm in center (internal) position until the lever actuates engages upper or lower stop actuating mercury switch.</td>
</tr>
<tr>
<td>49</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>49 SRC</td>
<td>2</td>
<td>Similar to Type 49 except has spring return to hold lever arm in center (internal) position until the float engages upper or lower stop actuating mercury switch.</td>
</tr>
</tbody>
</table>

**ORDERING INFORMATION:**

- **EXAMPLE:** How to order (see model chart)
  - 49 SRC 4820 R6
  - 1 Series Designator
  - 2 Spring Return
  - 3 Circuit
  - 4 Float Arm and Flange Location

### CHART A –FLOATS AND RODS FOR SERIES 40, 41 AND 49

- **TYPE MAX. ROD LENGTH**
  - One 4-1/2 (54MM) O.D. 4 1/2 (114 mm) diameter brass floats and stainless steel stops. |
  - Two 2-1/8 (54 X 140 mm) diameter brass floats and stainless steel stops. |
  - Three 2-1/8 (54 X 140 mm) diameter brass floats and stainless steel stops. |

### CHART B – MINIMUM LIQUID LEVEL CHANGES (WATER)

- **TYPE MAX. ROD LENGTH**
  - One 4-1/2 (54MM) O.D. 4 1/2 (114 mm) diameter brass floats and stainless steel stops. |
  - Two 2-1/8 (54 X 140 mm) diameter brass floats and stainless steel stops. |

### ELECTRICAL RATING — ALL TYPES

- Standard type 9-51 switch. Each switch AC or DC 10A. 120V., 5A, 240V., Motor Rating 120/240V 3/4 hp. single phase AC 1/3 hp. DC.