## Table of Contents

<table>
<thead>
<tr>
<th>CODE</th>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASF</td>
<td>Automatic Strainer Flush</td>
<td>2</td>
</tr>
<tr>
<td>AX</td>
<td>2-Point Active Pressure Control</td>
<td>2</td>
</tr>
<tr>
<td>CP</td>
<td>Pump Control Panel (Mechanical Relay)</td>
<td>2</td>
</tr>
<tr>
<td>DATA</td>
<td>Data-logger Package</td>
<td>3</td>
</tr>
<tr>
<td>DES</td>
<td>Dual High Efficiency Strainers</td>
<td>3</td>
</tr>
<tr>
<td>DPG</td>
<td>Dual Pressure Gauges</td>
<td>3</td>
</tr>
<tr>
<td>DLS</td>
<td>Dual Limit Switches</td>
<td>4</td>
</tr>
<tr>
<td>DN</td>
<td>Dual Speed Control Valves</td>
<td>4</td>
</tr>
<tr>
<td>DS</td>
<td>Dual Strainers</td>
<td>4</td>
</tr>
<tr>
<td>ES</td>
<td>High Efficiency Strainer</td>
<td>5</td>
</tr>
<tr>
<td>FAK</td>
<td>Flange Gasket / Assembly Kit</td>
<td>5</td>
</tr>
<tr>
<td>FC</td>
<td>Float Chamber</td>
<td>5</td>
</tr>
<tr>
<td>H</td>
<td>Hydrant Connection (2-1/2&quot; Fire Valve)</td>
<td>6</td>
</tr>
<tr>
<td>IR</td>
<td>Indicator Rod (Small Valves)</td>
<td>6</td>
</tr>
<tr>
<td>LPT</td>
<td>Linear Potentiometer Transmitter</td>
<td>6</td>
</tr>
<tr>
<td>LR</td>
<td>Latching Relay: Stays closed until manual override</td>
<td>7</td>
</tr>
<tr>
<td>LS</td>
<td>Limit Switch</td>
<td>7</td>
</tr>
<tr>
<td>MC2000F</td>
<td>Flow Control Panel</td>
<td>7</td>
</tr>
<tr>
<td>MC2000L</td>
<td>Level Control Panel</td>
<td>8</td>
</tr>
<tr>
<td>MC2000PT</td>
<td>Pressure Control Panel</td>
<td>8</td>
</tr>
<tr>
<td>MC2000VP</td>
<td>Valve Position Panel</td>
<td>8</td>
</tr>
<tr>
<td>MC2001P</td>
<td>Pump Control Panel (PLC Based)</td>
<td>9</td>
</tr>
<tr>
<td>MP</td>
<td>Reversible Electric Motor (for Pilot Valve)</td>
<td>9</td>
</tr>
<tr>
<td>PG</td>
<td>Pressure Gauge</td>
<td>9</td>
</tr>
<tr>
<td>PI</td>
<td>Pipe Inserts</td>
<td>10</td>
</tr>
<tr>
<td>PS</td>
<td>Pressure Switch</td>
<td>10</td>
</tr>
<tr>
<td>RPT</td>
<td>Rotary Potentiometer Transmitter</td>
<td>10</td>
</tr>
<tr>
<td>SI</td>
<td>Setting Indicator</td>
<td>11</td>
</tr>
<tr>
<td>SPEC</td>
<td>Special Feature</td>
<td>11</td>
</tr>
<tr>
<td>TD</td>
<td>Time Delay</td>
<td>11</td>
</tr>
<tr>
<td>TF</td>
<td>Traveling Float</td>
<td>12</td>
</tr>
<tr>
<td>TOP</td>
<td>Top Piping Configuration</td>
<td>12</td>
</tr>
<tr>
<td>TP</td>
<td>Timer Package</td>
<td>12</td>
</tr>
</tbody>
</table>
## Optional Accessories

### ASF  Automatic Strainer Flush

**Description:** Automatically flushes debris out of a strainer screen, by means of an electric solenoid and a differential pressure gauge and/or timer mechanism. Requires power (AC or battery).

**Features/Benefits:** Allows for extended periods of time between manned maintenance intervals. Helps to ensure the strainer and valve controls stay free of debris and get cleaned out on a regular basis. Frequently used in conjunction with a High Efficiency Strainer (ES) or Dual Strainer (DS) option.

**Compatibility:** Can be added to any Ross Valve with external control piping.

### AX  2-Point Active Pressure Control

**Description:** Permits pressure into a zone to be switched between 2 pre-set values ("Low" and "High") based on demand (flow rate) or time of day.

**Features/Benefits:** Pre-wired and pre-configured at the factory. Easy to use, with built-in switches and LCD. Full data logging capability. Internal battery provides up to 5 years operational life. Often achieves immediate water savings. 10 point controller also available.

**Compatibility:** Primarily used with Pressure Reducing Valves Model 40WR and 23WR.

### CP  Pump Control Panel

*(Mechanical Relay)*

**Description:** Adds a pre-wired and pre-programmed control panel to synchronize pump control valve with pump operation.

**Features/Benefits:** Eliminates field wiring errors – only Input Voltage, the Control Signal, and the Pump Motor Starter Relay connections must be made on-site. Standard Nema 4 enclosure is mounted directly on the valve or can be mounted to a nearby wall. Indicator lights signal whether pump and valve are running correctly or there is a malfunction.

**Compatibility:** Used with Pump Control Valves 42WRS and 45WR.
## DATA
### Data-logger Package
**Description:** Adds a data recorder to the valve to record Valve Position, Inlet Pressure, and Outlet Pressure.

**Features/Benefits:** Coupled to the indicator rod and inlet and outlet gauge cocks on the back side of the main valve. Available in AC or DC versions, for new or existing valves. Data can be downloaded for analysis, which can aid in optimizing system performance and efficiency.

**Compatibility:** Can be added to any Ross Valve with an indicator rod.

## DES
### Dual High Efficiency Strainers
**Description:** Replaces the standard Ross strainer with two (2) high capacity canister type strainers.

**Features/Benefits:** Replaces the standard 1” diameter x 3” long round filter (on valves 4” and larger), with two (2) 2.5” diameter x 9.75” long pleated filters. The additional surface area provides additional capacity, allowing the strainer to operate for a longer duration before flushing is necessary. The dual strainer arrangements allow for uninterrupted service during maintenance. Available with synthetic or stainless filter elements.

**Compatibility:** Can be added to any Ross Valve with external control piping.

## DPG
### Dual Pressure Gauges
**Description:** Adds a hydraulic pressure gauge to the gauge cock connections on the backside of the valve, on both the inlet and outlet side of the valve.

**Features/Benefits:** Provides highly visible, instantaneous pressure or level information directly at the valve. For a single pressure gauge, select feature PG.

**Compatibility:** Can be added to any Ross Valve with gauge connection(s). Generally, for treated water only.

A variety of sizes, scales, and other specifications are available. Specify single or dual when ordering.
## Optional Accessories

### DLS  
**Dual Limit Switches**  

**Description:** Adds 2 independent valve-mounted limit switch assemblies to a valve, activated by the valve indicator rod.  

**Features/Benefits:** Mounted directly to the top of the valve, including all mounting hardware. Provides remote electrical indication of whether valve is open or closed. Signal can be used for recording purposes or to start/stop allied equipment. Cam on indicator rod and/or location of limit switch(es) are field-adjustable for indication at any position along the valve stroke.  

**Compatibility:** Can be added to any Ross Valve with an indicator rod.

### DN  
**Dual Speed Control Valves**  

**Description:** Adds a second speed control valve to the control piping.  

**Features/Benefits:** Allows for independent control of opening and closing speeds when timing is crucial.  

**Compatibility:** Can be added to any Ross Valve with external control piping. Standard on Model 42WRS and 45WR Pump Control Valves, as well as 42AFCV series valves.

### DS  
**Dual Strainers**  

**Description:** Adds a second strainer to the control piping as a back-up.  

**Features/Benefits:** Provides redundant protection to the control circuit and allows user to clean one strainer screen without taking the valve out of service.  

**Compatibility:** Can be added to any Ross Valve with external control piping.
## Optional Accessories

<table>
<thead>
<tr>
<th><strong>ES</strong></th>
<th>High Efficiency Strainer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Upgrades the standard Ross strainer with a high capacity canister type strainer.</td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong></td>
<td>Replaces the standard 1” diameter x 3” long round filter (on valves 4” and larger), with a 2.5” diameter x 9.75” long pleated filter. The additional surface area provides additional capacity, allowing the strainer to operate for a longer duration before flushing is necessary. Available with synthetic or stainless filter elements. For back-up protection, consider the Dual High Efficiency Strainer option (DES).</td>
</tr>
<tr>
<td><strong>Compatibility:</strong></td>
<td>Can be added to any Ross Valve with external control piping.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FAK</strong></th>
<th>Flange Gasket / Assembly Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Pre-packaged kit including red rubber flange gasket and applicable hardware (bolts and nuts).</td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong></td>
<td>Ensures correct fasteners and gaskets are available with the valve for easy installation.</td>
</tr>
<tr>
<td><strong>Compatibility:</strong></td>
<td>Can be supplied for any Ross Valve.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FC</strong></th>
<th>Float Chamber</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Encloses the float mechanism inside a small chamber to dampen out wave action inside a tank.</td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong></td>
<td>Protects the float device from sporadic changes in water level. Provides more accurate and repeatable valve performance.</td>
</tr>
<tr>
<td><strong>Compatibility:</strong></td>
<td>Can be added to Ross float valve Models 20F, 21F and 45FWR.</td>
</tr>
</tbody>
</table>
### Optional Accessories

<table>
<thead>
<tr>
<th><strong>H</strong></th>
<th>Hydrant Connection (2-1/2” Fire Valve)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Adds a 2-1/2” hose quick connect coupling to the inlet of a Model 20WR Relief Valve and provides a 2-1/2” male threaded outlet.</td>
<td></td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong> Saves time and helps prevent cross-threading in emergency situations.</td>
<td></td>
</tr>
<tr>
<td><strong>Compatibility:</strong> Can be used with 2-1/2” Ross Valve Model 20WR Relief Valve.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>IR</strong></th>
<th>Indicator Rod (Small Valves)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Adds a visual indication of the valve position.</td>
<td></td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong> Allows for visual confirmation of whether the valve is open or not and can assist in trouble shooting. With optional LS Limit Switch Assembly, can be used to provide a remote indication of valve opening.</td>
<td></td>
</tr>
<tr>
<td><strong>Compatibility:</strong> Standard on most valves for treated water (4” and larger). Can be added to Ross Valve Models 23WR and 23RF. Can be added to Model 23RWR if option 1E External Controls is selected.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LPT</strong></th>
<th>Linear Potentiometer Transmitter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Provides an electronic feedback signal (4-20mA) of the valve’s position.</td>
<td></td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong> Extremely accurate, with dual internal limit switches. Useful for correlating valve position with flow or pressure.</td>
<td></td>
</tr>
<tr>
<td><strong>Compatibility:</strong> Can be added to any valve with an indicator rod.</td>
<td></td>
</tr>
</tbody>
</table>
## Optional Accessories

| **LR** Latching Relay  
(Stays Closed Until Manual Override) |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Adds a safety feature to a valve control panel, requiring a manual restart after an indicated malfunction.</td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong> Prevents errant re-starts after an equipment failure, which could have led to additional failures and damages.</td>
</tr>
<tr>
<td><strong>Compatibility:</strong> Requires selection of CP Pump Control Panel.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LS</strong> Limit Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Adds a valve mounted limit switch assembly to the valve, activated by the indicator rod.</td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong> Mounted directly to the top of the valve, including all mounting hardware. Provides remote electrical indication of whether valve is open or closed. Signal can be used for recording purposes or to start/stop allied equipment. Cam on indicator rod and/or location of limit switch is field-adjustable for indication at any position along the valve stroke.</td>
</tr>
<tr>
<td><strong>Compatibility:</strong> Can be added to any Ross Valve with an indicator rod. Provided as standard on Model 42WRS and 45WR.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>MC2000F</strong> Flow Control Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Adds a pre-wired computer based control panel to a valve, to maintain exact flow in a line.</td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong> Ensures extremely accurate flow control in the line as a stand alone panel or interacting with any larger system, for example a SCADA system. Requires external sensing device for feedback (i.e. flow meter).</td>
</tr>
<tr>
<td><strong>Compatibility:</strong> Used with Ross Valve Model 42AFCV series.</td>
</tr>
</tbody>
</table>
### MC2000L Level Control Panel

**Description:** Adds a pre-wired computer based control panel to a valve, to maintain exact level in a tank.

**Features/Benefits:** Ensures extremely accurate level control in the line as a stand alone panel or interacting with any larger system, for example a SCADA system. Requires external sensing device for feedback (i.e. level transmitter or float switch).

**Compatibility:** Used with 42AFCV valve series.

### MC2000PT Pressure Control Panel

**Description:** Adds a pre-wired computer based control panel to a valve, to maintain exact pressure in a line.

**Features/Benefits:** Ensures extremely accurate pressure control in the line as a stand alone panel or interacting with any larger system, for example a SCADA system. Requires external sensing device for feedback (i.e. pressure switch).

**Compatibility:** Used with 42AFCV valve series.

### MC2000VP Valve Position Panel

**Description:** Adds a pre-wired computer based control panel to a valve, to maintain an exact valve position.

**Features/Benefits:** Ensures extremely accurate positioning of the valve piston, as a stand alone panel or interacting with any larger system (for example a SCADA system). Requires external sensing device for feedback (i.e. position transmitter).

**Compatibility:** Used with 42AFCV valve series.
### MC2001P | Pump Control Panel (PLC Based)

**Description:** Adds a programmable, pre-wired control panel to synchronize a pump control valve with the pump operation.

**Features/Benefits:** Eliminates field wiring errors while providing exceptional accuracy in bringing a pump on and off line. Capabilities include: Back-up memory module, visual and audible alarms, adjustable pulse feature, and message display center.

**Compatibility:** Used with Pump Control Valves 42WRS and 45WR.

### MP | Reversible Electric Motor (for Pilot Valve)

**Description:** Replaces the manual Adjusting Screw on a pilot valve with a motor operated assembly.

**Features/Benefits:** Allows for changing the hydraulic pilot valve setting from a remote location. Control is bi-directional. AC or DC control is available. Contains adjustable limit switches. Can be easily removed from the pilot valve if temporary manual adjustment is preferred. Ideal for alternating day/nuit settings when coupled with an appropriate timer or control signal.

**Compatibility:** Can be added to any pilot-operated valve, most commonly on models 40WR, 40RF, and 50RWR.

### PG | Pressure Gauge

**Description:** Adds a single hydraulic pressure gauge to a gauge cock connections on the backside of the valve.

**Features/Benefits:** Provides highly visible, instantaneous pressure or level information directly at the valve. For dual pressure gauges (inlet and outlet sides of the valve), select feature DPG.

**Compatibility:** Can be added to any Ross Valve with gauge connection(s). Generally, for treated water only.

A variety of sizes, scales, and other specifications are available. Specify single or dual when ordering.
### Pipe Inserts (PI)

**Description:** Adds brass “sleeves” that extend from the control piping into the iron valve body and cap(s).

**Features/Benefits:** Provides additional resistance to ports corroding closed. Recommended for valves with infrequent maintenance intervals.

**Compatibility:** Can be added to any Ross Valve with external control piping.

### Pressure Switch (PS)

**Description:** Adds an electric pressure switch to the valve controls for relaying an electric signal when a specific line pressure has been reached.

**Features/Benefits:** In conjunction with a control panel in pumping applications, can be used as a time delay to prevent the valve solenoid from energizing until a pre-adjusted pressure level has been reached by the pump. Can help to reduce the starting load on a pump, purge air from the system, and insure against damage caused by pump malfunction.

**Compatibility:** Can be used with any Ross Valve which uses an electronic signal, most commonly pump control models 42WRS and 45WR, or pressure control model 42AFCV-PT.

### Rotary Potentiometer Transmitter (RPT)

**Description:** Provides an electronic feedback signal (4-20mA) of the valve’s position.

**Features/Benefits:** Compact and efficient design. Useful for correlating valve position with flow or pressure.

**Compatibility:** Can be added to any valve with an indicator rod.
## Optional Accessories

<table>
<thead>
<tr>
<th><strong>SI</strong> Setting Indicator</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Provides an external visual indication of the valve’s pressure setting.</td>
<td></td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong> Scale is calibrated to the valve size and spring range. Assists in making in-field adjustments.</td>
<td></td>
</tr>
<tr>
<td><strong>Compatibility:</strong> Can be added to Ross Valve Model 70SWR and 70SWR-BP wastewater valves.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>SPEC Special Feature</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Used for any number of customizations not detailed in these lists of most common options.</td>
<td></td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong> Ross Valve maintains all design capabilities, two foundries, a complete pattern shop, numerous machining centers, and an electronics department on-site at our factories in Troy, NY. These capabilities allow us to find the right solution to nearly any challenge. Please feel free to contact our factory for assistance.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>TD Time Delay</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Added to the circuit of a control panel, to delay the opening or closing response of a valve.</td>
<td></td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong> In conjunction with a control panel in pumping applications, can be used to prevent the valve solenoid from energizing until a pre-determined period of time has passed to allow a suitable pressure level to be reached by the pump. Can help to reduce the starting load on a pump, purge air from the system, and insure against damage caused by pump malfunction.</td>
<td></td>
</tr>
<tr>
<td><strong>Compatibility:</strong> Can be used with any Ross Valve that uses an electronic signal, most commonly pump control models 42WRS and 45WR.</td>
<td></td>
</tr>
</tbody>
</table>
### Optional Accessories

<table>
<thead>
<tr>
<th>TF</th>
<th>Traveling Float</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Replaces the stationary/fixed float on float actuated valves.</td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong></td>
<td>Allows for greater variations in the water level of a tank or basin before the valve opens or closes.</td>
</tr>
<tr>
<td><strong>Compatibility:</strong></td>
<td>Can be added to any Ross Valve with a float mechanism (Model 20F, 21F, and 45FWR).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOP</th>
<th>Top Piping Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Changes to location of external control piping from the standard side position to the top of the valve.</td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong></td>
<td>Used when clearances to the side of a valve is limited. While field modifications are possible, having the changes made at the factory before testing and shipment ensures watertight connections and proper operation, for an easy installation and start-up.</td>
</tr>
<tr>
<td><strong>Compatibility:</strong></td>
<td>Can be specified for any Ross Valve with external control piping.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TP</th>
<th>Timer Package</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Adds an independent timer control panel to the valve.</td>
</tr>
<tr>
<td><strong>Features/Benefits:</strong></td>
<td>Valve or wall mounted panel is an efficient way to control or cycle a valve with electronic components. Most commonly used on a pressure reducing valve with dual solenoids and dual hydraulic pilot valves. The timer package can coordinate with the solenoid valves to cycle between the pilot valves for high (daytime) and low (night) pressure settings.</td>
</tr>
<tr>
<td><strong>Compatibility:</strong></td>
<td>Can be used with any Ross Valve which uses an electronic signal.</td>
</tr>
</tbody>
</table>