AUTOMAT®
Creating a Green World®

hydromat

Innovative water passage with highest flow coefficient

REVOLUTION IN WATER FLOW REGULATION & CONTROL

hydromat Control Valves

1½”, 2”, 3”, 4” & 6”

Installation, Operation & Maintenance Manual

Welcome to the world of Smart Irrigation.

This Manual explains in easy steps the setting-up of your Hydromat Control Valves.

Please connect with our Customer Care incase of any queries.

Team Automat.

Pressure Sustaining Valve

with Electric Control

Pressure sustaining valve installed in-line, sustains minimum back pressure, protects pump from overloading during line flling, maintains back pressure during filter fushing, controlled by a 3 way pilot. The spring loaded membrane of pilot is sensitive to upstream pressure and opens the valve when the inlet pressure exceeds pilot set pressure. The valve modulates in response to the electric signal.

Installation

- The valve can be installed both horizontally or vertically.
- Ensure enough space nearby for installation and adjustment.
- Flush pipeline before installing the valve, to ensure clean water ow.
- Line ow direction should match arrow on valve.
- Inspect the valve post installation for any loose or damaged ttings.
- Install a pressure gauge at upstream or use pressure check point on valve to set the desired pressure.
- For maintenance, installation of isolation valves at upstream and downstream is recommended.
- Cross-Check solenoid speci cations with design requirements and solenoid/coil label.

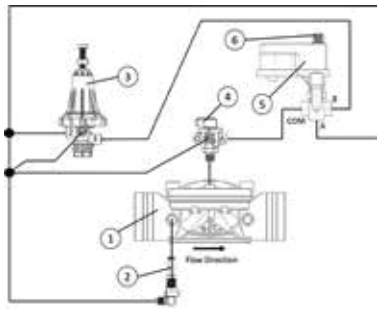
Initial Startup and Adjustment

- At initial start of the system, make sure the upstream and downstream isolation valves are closed (if installed).
- Allow the valve to open by using the solenoid manual override or by energising the solenoid (for a normally closed valve) or de-energizing (for a normally open valve) and pulse signal for a latching solenoid.
- Fully open the upstream isolation valve or start the pump and check for any leakage through valve connections and fittings.
- The valve is factory set at 3 bar (or as per design definitions).
- If the set pressure is either different from the design or the requirements have been changed, follow the steps described below.
- Unscrew the lock nut fully and turn the adjusting screw of pilot in clockwise direction until the lock nut and screw head touch pilot's bonnet.
- Slowly open the downstream isolation valve so to allow little flow downstream (make sure there is moderate flow demand).
- Now rotate the adjusting screw anti-clockwise and allow the valve to respond until the upstream pressure reaches the required set pressure, water starts to flow through the pipeline. Tighten the lock nut on pilot.
- Now gradually continue to open the downstream isolation valve until it is fully opened (or increase flow demand to nominal flow intended) .
- Make sure upstream set pressure is met and maintained automatically with the valve. Re-adjust if necessary.
- For manual operation, turn 3-way manual selector to:
  a). "CLOSE" for closing the valve shut.
  b). "OPEN" for opening the valve fully open.
  c). "AUTO" for regulating mode.

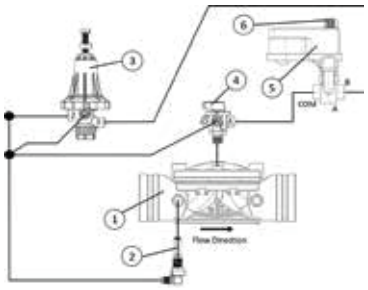
Maintenance

- Periodic inspection of the valve should be done regularly to look for any damage or leakage through valve connection and fittings.
- Inspect and clean the in-line finger filter as water quality deteriorates. This should be done once in few months.
- Keep a check on valve performance by checking the upstream pressure gauge periodically, adjust if required.

Control Loop



Part No	Description
1	Main Valve
2	Inline Finger Filter
3	3 Way Multi-purpose Pilot
4	3 Way Manual Selector
5	3 Way Solenoid Valve with Base
6	Solenoid Base Manual Override



Troubleshooting

Problem	Check	Probable Cause	Solution
Valve does not open.	Verify knob position.	The 3 way selector knob position ("4") is set to “Close”.	Turn the selector position to "Auto".
	Check the inlet pressure.	Inlet pressure is too low.	Increase inlet pressure.
	Check screw position.	Pilot's adjusting screw is completely closed.	Rotate anti-clockwise, allow valve to respond. Continue until required pressure is reached.
	Check for damaged wires.	No current.	Repair or replace the wires.
	Voltage ok, but no click.	Faulty Solenoid	Change solenoid.
	Check blockage port.	Blocked Solenoid.	Dismantle and clean. Replace solenoid if problem not gets solved.
	No water coming out of pilot port #0.	Blocked pilot.	Dismantle and clean pilot ports. Replace pilot if problem not solved.
Valve does not close.	Verify knob position.	3 way selector pointed towards "Open" position.	Turn selector knob position to "Auto" or "Close" position.
	Check “Manual Override” position.	Solenoid base to “Manual Override” not pointing towards port ‘AUTO’.	Turn “Manual Override” of solenoid base towards port ‘AUTO’.
	Check power source.	Power is still “ON”.	Make sure power is “OFF” when valve gives command to close.
	Damaged wires or bad batteries.	No pulse (Latch Solenoid)	Repair or replace the wires (or replace batteries).
	Check port blockage.	Blocked Solenoid.	Dismantle and clean. Replace solenoid, if problem is not solved.
	Voltage ok, but no click.	Faulty Solenoid	Replace the solenoid.
	Disconnect upstream tube. No firm water stream.	Blocked inline finger filter (2).	Clean or replace the filter.
	Valve is constantly discharging small amount of water.	Debris on the sealing seat.	Turn the 3-way manual selector (4) to "Open" for sometime and then to "Close". If the problem persists, dismantle, clean and check that parts to look whether they are damaged or not.
	Continuous water discharge.	Damaged diaphragm.	Replace the diaphragm.
Unstable upstream pressure.	Unstable pressure of the valve.	Blocked or damaged pilot.	Dismantle and clean. Replace pilot if problem persists.
Incorrect but stable upstream pressure.		Pressure has been set wrong.	Readjust the downstream pressure as described.

Solenoid Control Valve – 2 Way

Automat's Hydromat series control valves combined with innovative "Curved Bridge" design is hydraulically operated. Equipped with a flexible fabric reinforced diaphragm and made with engineering grade plastic, the valve is operated by the pressure in the pipeline with internal hydraulic feed and bleed control loop. The electric signal controls the valve's internal hydraulic loop that allows it to open or close drip tight.

Installation

- The valve can be installed both horizontally or vertically.
- Ensure enough space nearby for installation and adjustment.
- Flush pipeline before installing the valve, to ensure clean water flow.
- Line flow direction should match arrow on valve.
- Inspect the valve post installation for any loose or damaged fittings.
- Cross-Check solenoid specifications with design requirements and solenoid/coil label.
- For maintenance, installation of isolation valves at upstream (and downstream if not releasing to atmosphere) is recommended.

Initial Startup and Adjustment

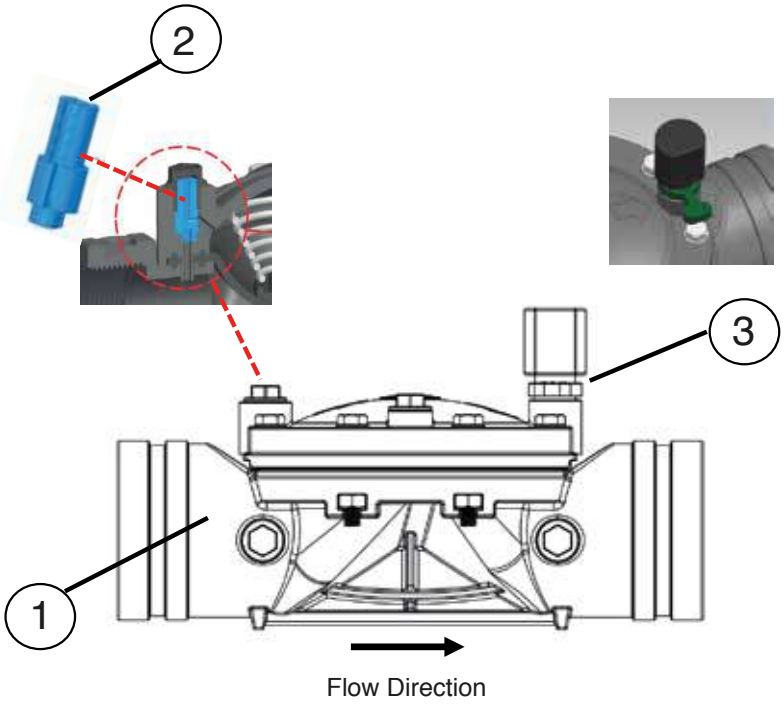
- Open fully the upstream isolation valve (if installed).
- Allow the valve to open by using the solenoid manual override or by giving electric command to the solenoid.
- Now slowly open the downstream isolation valve (if installed) and allow the line downstream of the valve to fill up.
- Once the system is pressurized, check the valve solenoid control feature by de-energizing or energizing the solenoid to close or open the valve (AC supply for 2W-24VAC solenoid or pulse signal for latching solenoid, 2W: 9 VDC Latch).

Maintenance

- Periodic inspection of the valve should be done regularly for any damage or leakage through valve connection and fittings.
- Keep a check on valve performance by manually opening and closing.
- Inspect and clean the labyrinth as water quality deteriorates. This should be done once in few months.
- In case valve requires replacement of internal worn parts or elastomers, follow the below mentioned steps
  - Remove the solenoid from the valve cover.
  - Open the screws and remove the cover unit from valve body.
  - Replace the worn parts and assemble as before. Ensure to lubricate nut and bolts with anti-seize grease.

Control Loop

Part No	Description
1	Main Valve
2	Labyrinth
3	2 Way Solenoid with manual override



Troubleshooting

Problem	Check	Probable Cause	Solution
Valve does not open.	Check the inlet pressure.	Inlet pressure is too low.	Increase inlet pressure.
	Flow demand.	Insufficient flow.	Create flow/demand downstream of the flow.
	Damaged wires.	No current.	Repair or replace the wires.
	Voltage ok, but no click.	Faulty Solenoid	Change solenoid.
	Check port blockage	Blocked Solenoid.	Dismantle and clean. Replace solenoid if problem not solved.
Valve does not close.	Check “Manual Override” position.	Solenoid “Manual Override” is loose.	Turn “Manual Override Lever” clockwise and ensure it is tightened gently.
	Check power source.	Power is still “ON”.	Make sure power is “OFF” when valve command to close.
	Damaged wires or bad batteries.	No pulse (Latch Solenoid)	Repair or replace the wires (or replace batteries).
	Check port blockage	Blocked Solenoid.	Dismantle and clean. Replace solenoid if problem not solved.
	Voltage ok, but no click.	Faulty Solenoid	Change solenoid.
	Open labyrinth cap, pull out the labyrinth and check for entrapped dirt.	Blocked labyrinth (2).	Clean the parts and assemble as before.
	Valve is constantly discharging small amount of water.	Debris on the sealing seat.	Open the valve manually for sometime and the close. If the problem persists, dismantle, clean and check that parts are not damaged.
	Continuous water discharge.	Damaged diaphragm.	Replace the diaphragm.

Solenoid Control Valve

Automat's Hydromat series control valves combined with innovative "Curved Bridge" design is hydraulically operated. Equipped with a flexible fabric reinforced diaphragm and made with engineering grade plastic, the valve is operated by the pressure in the pipeline. The valve opens and closes drip tight in response to an electrical signal.

Installation

- The valve can be installed both horizontally or vertically.
- Ensure enough space nearby for installation and adjustment.
- Flush pipeline before installing the valve, to ensure clean water flow.
- Line flow direction should match arrow on valve.
- Inspect the valve post installation for any loose or damaged fittings.
- Cross-Check solenoid specifications with design requirements and solenoid/coil label.
- For maintenance, installation of isolation valves at upstream (and downstream if not releasing to atmosphere) is recommended.

Initial Startup and Adjustment

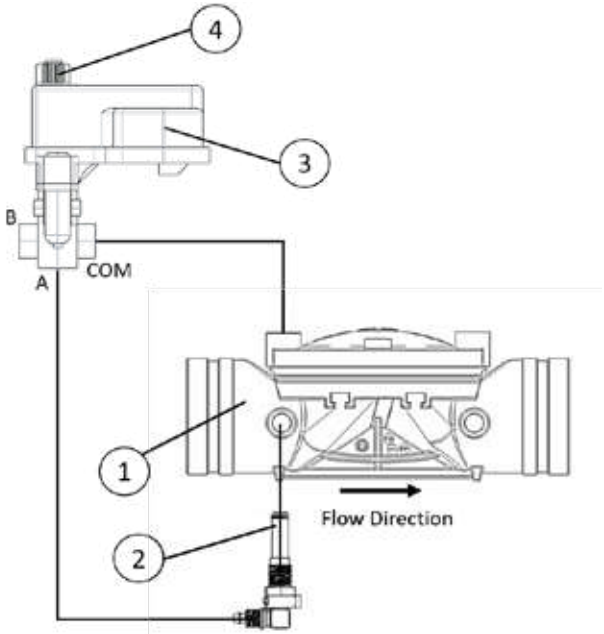
- Open fully the upstream isolation valve (if installed).
- Allow the valve to open by using the solenoid manual override or by giving electric command to the solenoid.
- Now slowly open the downstream isolation valve (if installed) and allow the line downstream of the valve to fill up.
- Once the system is pressurized, check the valve solenoid control feature by de-energizing or energizing the solenoid to close or open the valve (AC supply for 3W-24VAC solenoid or pulse signal for latching solenoid, 3W: 12-24 VDC Latch).

Maintenance

- Periodic inspection of the valve should be done regularly for any damage or leakage through valve connection and fittings.
- Keep a check on valve performance by manually opening and closing.
- Inspect and clean the in-line finger filter as water quality deteriorates. This should be done once in few months.
- In case valve requires replacement of internal worn parts or elastomers, follow the below mentioned steps
  - Disassemble necessary control tubing.
  - Open the screws and remove the cover unit from valve body.
  - Replace the worn parts and assemble as before. Ensure to lubricate nut and bolts with anti-seize grease.

Control Loop

Part No	Description
1	Main Valve
2	Inline Finger Filter
3	3 Way Solenoid Actuator with base
4	Solenoid Actuator Manual Override



Troubleshooting

Problem	Check	Probable Cause	Solution
Valve does not open.	Check the inlet pressure.	Inlet pressure is too low	Increase inlet pressure.
	Flow demand.	Insufficient flow	Create flow/demand downstream of the flow.
	Damaged wires.	No current	Repair or replace wires.
	Voltage ok, but no click.	Faulty Solenoid	Replace solenoid.
	Check port blockage.	Blocked Solenoid	Dismantle and clean. Replace the solenoid if problem not solved.
Valve does not close.	Check “Manual Override” position	Solenoid base “Manual Override” not pointing towards port ‘AUTO’.	Turn “Manual Override” of solenoid base towards port ‘AUTO’.
	Check power source.	Power is still “ON”.	Make sure power is “OFF” when valve gives command to close.
	Damaged wires or bad batteries	No pulse (Latch Solenoid)	Repair or replace the wires (or replace batteries).
	Check port blockage	Blocked Solenoid.	Dismantle and clean. Replace solenoid if problem not solved.
	Voltage ok, but no click.	Faulty Solenoid	Change solenoid.
	Disconnect upstream tube. No firm water stream.	Blocked inline finger filter (2).	Clean or replace the filter.
	Valve is constantly discharging small amount of water.	Debris on the sealing seat.	Open the valve manually for sometime and then close it. If the problem persists, dismantle, clean and check the parts to look for any damage.
	Continuous water discharge.	Damaged diaphragm.	Replace the diaphragm.

Quick Pressure Relief Valve

The Quick Pressure Relief Valve is a hydraulically operated, diaphragm actuated control valve that relives excessive system pressure that rises above the maximum pre-set. Equipped with a 2 way diaphragm actuated spring loaded pilot, the reaction of the valve is immediate, accurate and offers high repeatability by fully opening. The Quick Pressure Relief Valve provides smooth drip tight closing once pressure reduces below the pre-set.

Installation

- The valve can be installed both horizontally or vertically.
- Ensure enough space nearby for installation and adjustment.
- Flush pipeline before installing the valve, to ensure clean water flow.
- Line flow direction should match arrow on valve.
- Inspect the valve post installation for any loose or damaged fittings.
- Install a pressure gauge at upstream or use pressure check point on valve to set the desired pressure.
- For maintenance, installation of isolation valves at upstream (and downstream if not releasing to atmosphere) is recommended.

Initial Startup and Adjustment

- The Quick Pressure Relief Valve is factory set to the maximum system pressure allowed, according to designed parameters.
- At initial start of the system, make sure the upstream and downstream isolation valves are closed (if installed).
- Now open fully the upstream isolation valve. If the upstream pressure is more than the set pressure, the valve is partially/fully open.
- Confirm that the pressure and flow in the system is stable.
- If the set pressure is either different from the design or the requirements have been changed at site, follow the below mentioned steps to readjust the pressure.

Confirm that the main line pressure is the designed dynamic operating pressure of the system.

Note: When setting is below the designed dynamic operating pressure, the valve is partially/fully open.

Unlock pilot locking nut & slowly turn the adjusting screw Clock-Wise until the valve closes completely.

Now slowly turn the pilot adjusting screw Counter-Clock-Wise until the valve starts leaking. At this stage rotate again the setting screw clockwise (1/4 or 1/2 turn) until the valve seals again.

Tighten the locking nut. Valve is now set at the required pressure.

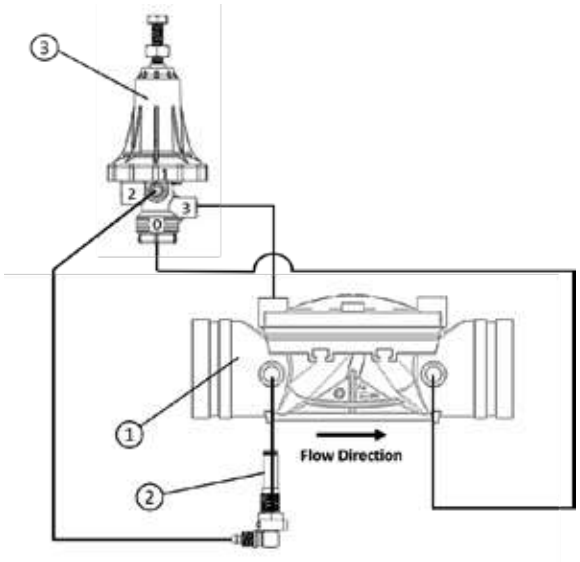
- The internal design of the 2 Way Pilot restricts the closing of the valve at equilibrium pressure thus automatically preventing valve to seal completely should closing process causes system pressure rise.

Maintenance

- Periodic inspection of the valve should be done regularly for any damage or leakage through valve connection and fittings.
- Inspect and clean the in-line finger filter as water quality deteriorates. This should be done once in few months.
- Keep a check on valve performance by checking the upstream pressure gauge periodically, adjust if required.

Control Loop

Part No	Description
1	Main Valve
2	Inline Finger Filter
3	2 Way Multi-Purpose Pilot

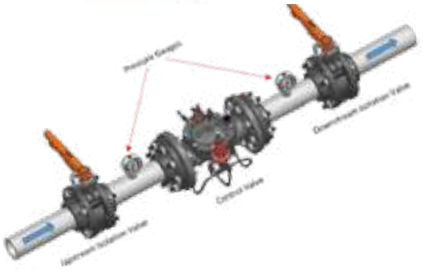


Troubleshooting

Problem	Check	Probable Cause	Solution
Valve does not open.	Check the inlet pressure.	Inlet pressure is too low.	Increase inlet pressure.
	Check screw position.	Pilot's adjusting screw is completely closed.	Rotate anti-clockwise. Continue until valve begins to open.
	No water coming out of pilot port #0.	Blocked pilot.	Dismantle and clean pilot ports. Replace pilot if problem not solved.
Valve does not sustain pressure.	Disconnect upstream tube. No firm water stream	Blocked inline finger filter (2).	Clean or replace the filter.
	Valve is constantly discharging small amount of water.	Debris on the sealing seat.	Dismantle, clean and check that the parts are not damaged.
	Continuous water discharge.	Damaged diaphragm.	Replace the diaphragm.
Non-uniform Regulation.	Unstable pressure upstream of the valv	Blocked or damaged pilot.	Dismantle and clean. Replace pilot if problem persists.

Pressure Reducing Valve

The valve maintains a pre-set downstream pressure regardless of upstream pressure or flow fluctuations, controlled by a 3 way pilot valve. The spring loaded membrane of pilot is sensitive to downstream pressure and maintains desired downstream pressure by gradually opening and closing the hydraulic valve. When no flow exists in the system, the valve closes itself automatically.



Installation

- The valve can be installed both horizontally or vertically.
- Ensure enough space nearby for installation and adjustment.
- Flush pipeline before installing the valve, to ensure clean water flow.
- Line flow direction should match arrow marking on valve.
- Inspect the valve post installation for any loose or damaged fittings.
- Install a pressure gauge at downstream or use pressure check point on valve to set the desired pressure.
- For maintenance, installation of isolation valves at upstream and downstream is recommended.

Initial Startup and Adjustment

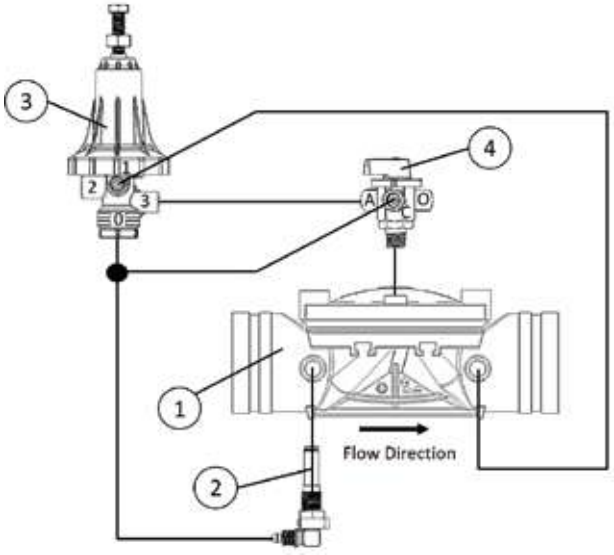
- At initial start of the system, make sure the upstream and downstream isolation valves are closed (if installed).
- Turn the 3 way manual selector to “CLOSE”.
- Slowly open the upstream isolation valve or start the pump and check for any leakage through valve connections and fittings.
- Turn the 3 way manual selector to “AUTO” position.
- Now slowly open the downstream isolation valve making sure there is sufficient flow demand after the valve (consult Automat technical data if needed).
- The pilot has a pre-set factory pressure. For desired downstream pressure, unscrew the lock nut on pilot and rotate the pressure adjusting screw:
  a). Clockwise: To increase pressure.
  b). Anti-Clockwise: To decrease pressure.
- Now tighten the lock nut again to prevent any changes in set pressure.
- For manual operation, turn 3-way manual selector to:
  a). “CLOSE” for closing the valve shut.
  b). “OPEN” for opening the valve fully open.
  c). “AUTO” for regulating mode.

Maintenance

- Periodic inspection of the valve should be done for any damage, loose fittings or leakage.
- Inspect and clean the in-line finger filter as water quality deteriorates. This should be done once in few months.
- Keep a check on valve performance by checking the downstream pressure gauge periodically, adjust if required.

Control Loop

Part No	Description
1	Main Valve
2	Inline Finger Filter
3	3 Way Multi-purpose Pilot
4	3 Way Manual Selector



Troubleshooting

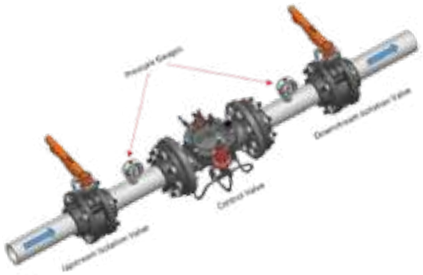
Problem	Check	Probable Cause	Solution
Valve does not open.	Verify knob position.	The 3 way selector ("4") is set to close.	Turn selector to "Auto".
	Check the inlet pressure.	Inlet pressure is too low.	Increase inlet pressure.
	Check screw position.	Pilot's adjusting screw is completely open.	Rotate clockwise, allow valve to respond. Continue until required pressure is reached.
	No water coming out of pilot port #2.	Blocked pilot.	Dismantle and clean pilot ports. Replace pilot if problem not solved.
Valve does not close.	Verify knob position.	3 way selector is in the "Open" position.	Turn selector to "Auto" or "Close" position.
	Disconnect upstream tube. No firm water stream.	Blocked inline finger filter (2).	Clean or replace the filter.
	Valve is constantly discharging small amount of water.	Debris on the sealing seat.	Turn the 3-way selector (4) to "Open" for sometime and then to "Close". If the problem persists, dismantle, clean and check that parts are not damaged.
	Continuous water discharge.	Damaged diaphragm.	Replace the diaphragm.
Unstable downstream pressure	Unstable pressure downstream of the valve.	Blocked or damaged pilot.	Dismantle and clean. Replace pilot if problem persists.
Incorrect but stable downstream pressure		Wrong set pressure.	Readjust the downstream pressure as described.

Pressure Sustaining Valve

Pressure sustaining valve installed in-line, sustains minimum back pressure, protects pump from overloading during line filling, maintains back pressure during filter flushing, controlled by a 3 way pilot. The spring loaded membrane of pilot is sensitive to upstream pressure and opens the valve when the inlet pressure exceeds pilot set pressure. The valve will be in closed position, if upstream pressure is below the desired set pressure.

Installation

- The valve can be installed both horizontally or vertically.
- Ensure enough space nearby for installation and adjustment.
- Flush pipeline before installing the valve, to ensure clean water flow.
- Line flow direction should match arrow on valve.
- Inspect the valve post installation for any loose or damaged fittings.
- Install a pressure gauge at upstream or use pressure check point on valve to set the desired pressure.
- For maintenance, installation of isolation valves at upstream and downstream is recommended.



Initial Startup and Adjustment

- At initial start of the system, make sure the upstream and downstream isolation valves are closed (if installed).
- Turn the 3 way manual selector to “CLOSE” position.
- Slowly open the upstream isolation valve or start the pump and check for any leakage through valve connections and fittings.
- Turn the 3 way manual selector to “AUTO” position.
- Unscrew the lock nut fully and turn the adjusting screw of pilot in clockwise direction until the lock nut and screw head touch pilot’s bonnet.
- Slowly open the downstream isolation valve so to allow little flow downstream (make sure there is moderate flow demand).
- Now rotate the adjusting screw anti-clockwise and allow the valve to respond until the upstream pressure reaches the required set pressure, water starts to flow through the pipeline. Tighten the lock nut on pilot.
- Gradually continue to open the downstream isolation valve until it is fully opened (or increase flow demand to nominal flow intended) .
- Make sure upstream set pressure is met and maintained automatically with the valve. Re-adjust if necessary.
- For manual operation, turn 3-way manual selector to:

  a). “CLOSE” for closing the valve shut.

  b). “OPEN” for opening the valve fully open.

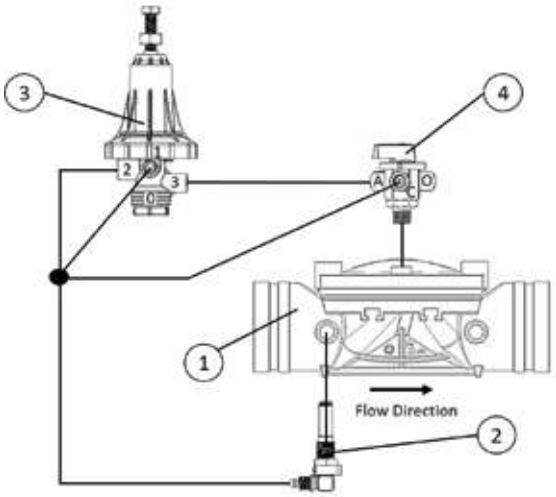
  c). “AUTO” for regulating mode.

Maintenance

- Periodic inspection of the valve should be done regularly for any damage or leakage through valve connection and fittings.
- Inspect and clean the in-line finger filter as water quality deteriorates. This should be done once in few months.
- Keep a check on valve performance by checking the upstream pressure gauge periodically, adjust if required.

Control Loop

Part No	Description
1	Main Valve
2	Inline Finger Filter
3	3 Way Multi-purpose Pilot
4	3 Way Manual Selector



Problem	Check	Probable Cause	Solution
Valve does not open.	Verify knob position.	The 3 way selector ("4") is set to close.	Turn selector to "Auto".
	Check the inlet pressure.	Inlet pressure is too low.	Increase inlet pressure.
	Check screw position.	Pilot's adjusting screw is completely closed.	Rotate anti-clockwise. Continue until valve begins to open.
	No water coming out of pilot port #0.	Blocked pilot.	Dismantle and clean pilot ports. Replace pilot if problem not solved.
Valve does not sustain pressure.	Verify knob position.	3 way manual selector is in the "Open" position.	Turn selector to "Auto" or "Close" position.
	Disconnect upstream tube. No firm water stream.	Blocked inline finger filter (2).	Clean or replace the filter.
	Valve is constantly discharging small amount of water.	Debris on the sealing seat.	Turn the 3-way selector (4) to "Open" for sometime and then to "Close". If the problem persists, dismantle, clean and check that the parts are not damaged.
	Continuous water discharge.	Damaged diaphragm.	Replace the diaphragm.
Non-uniform Regulation.	Unstable pressure upstream of the valve	Blocked or damaged pilot.	Dismantle and clean. Replace pilot if problem persists.

Pressure Reducing Valve

with Electric Control

The pressure reducing valve with electric control maintains a pre-set downstream pressure regardless of upstream pressure or flow fluctuations, controlled by a 3 way pilot valve. The spring loaded membrane of pilot is sensitive to downstream pressure and maintains desired downstream pressure by gradually opening, closing or locking the hydraulic valve in semi-open position. The valve opens to modulate when energized and shut close when power is discontinued.

Installation

- The valve can be installed both horizontally or vertically.
- Ensure enough space nearby for installation and adjustment.
- Flush pipeline before installing the valve, to ensure clean water flow.
- Line flow direction should match arrow on valve.
- Connect the wires to the solenoid on valve from the controller.
- Cross check solenoid specifications with design requirements and solenoid/coil label.
- Inspect the valve post installation for any loose or damaged fittings.
- Install a pressure gauge at downstream to set and check the desired pressure.
- For maintenance, installation of isolation valves at upstream and downstream is recommended.

Initial Startup and Adjustment

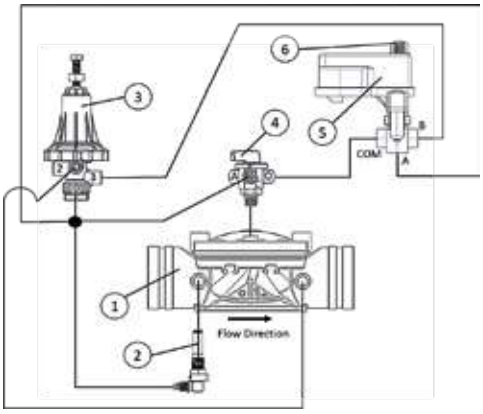
- At initial start of the system, make sure the upstream and downstream isolation valves are closed (if installed).
- Turn the 3 way manual selector to “CLOSE”.
- Keep the solenoid “Manual Override” pointer towards port ‘AUTO’.
- Slowly open the upstream isolation valve or start the pump and make sure there is no leakage from fittings. Tighten or replace if damaged during transport.
- Turn the 3 way manual selector to “AUTO” position and energize the solenoid (AC supply for 3W-24VAC solenoid or pulse signal for latching solenoid, 3W: 12-24 VDC Latch).
- Now slowly open the downstream isolation valve (if fitted) making sure there is sufficient flow demand after the valve (consult Automat technical data if needed).
- The pilot has a pre-set factory pressure. For desired downstream pressure, unscrew the lock nut on pilot and slowly rotate the pressure adjusting screw:
  a). Clockwise: To increase pressure.
  b). Anti-Clockwise: To decrease pressure.
- Now tighten the lock nut again to prevent any changes in set pressure.
- To close the valve, de-energize the solenoid (or send a pulse signal to a latching solenoid).
- To test the valve and simulate electrical signal, turn the “manual override” on the solenoid to open position.
- For manual operation, turn 3-way manual selector to:
  a). “CLOSE” for closing the valve shut.
  b). “OPEN” for opening the valve fully open.
  c). “AUTO” for regulating mode with electric command.

Maintenance

- Periodic inspection of the valve should be done for any damage, loose fittings or leakage.
- Inspect and clean the in-line finger filter as water quality deteriorates. This should be done once in few months.
- Keep a check on valve performance by checking the downstream pressure gauge periodically, adjust if required.

Control Loop

Part No	Description
1	Main Valve
2	Inline Finger Filter
3	3 Way Multi-Purpose Pilot
4	3 Way Manual Selector
5	3 Way Solenoid Valve with Base
6	Solenoid Base Manual Override



Problem	Check	Probable Cause	Solution
Valve does not open.	Check the knob position	The 3 way selector ("4") is set to close.	Turn selector to "Auto".
	Check the inlet pressure.	Inlet pressure is too low.	Increase inlet pressure.
	Check screw position.	Pilot's adjusting screw is completely open.	Rotate clockwise, allow valve to respond. Continue until required pressure is reached.
	Damaged wires.	No current.	Repair or replace the wires.
	Voltage ok, but no click.	Faulty Solenoid	Change solenoid.
	Check port blockage.	Blocked Solenoid	Dismantle and clean. Replace solenoid if problem not solved.
	No water coming out of pilot port #2.	Blocked pilot.	Dismantle and clean pilot ports. Replace pilot if problem not solved.
Valve does not close.	Verify knob position.	3 way selector is in the "Open" position.	Turn selector to "Auto" or "Close" position.
	Check “Manual Override” position.	Solenoid base “Manual Override” not pointing towards port ‘AUTO’.	Turn “Manual Override” of solenoid base towards port ‘AUTO’.
	Check power source.	Power is still “ON”.	Make sure power is “OFF” when valve commanded to close.
	Damaged wires or bad batteries.	No pulse (Latch Solenoid)	Repair or replace the wires (or replace batteries).
	Check port blockage.	Blocked Solenoid.	Dismantle and clean. Replace solenoid if problem not solved.
	Voltage ok, but no click.	Faulty Solenoid	Change solenoid.
	Disconnect upstream tube. No firm water stream.	Blocked inline finger filter (2).	Clean or replace the filter.
	Valve is constantly discharging small amount of water.	Debris on the sealing seat.	Turn the 3-way selector (4) to "Open" for sometime and then to "Close". If the problem persists, dismantle, clean and check that parts are not damaged.
	Continuous water discharge.	Damaged diaphragm.	Replace the diaphragm.
Unstable downstream pressure.	Unstable pressure upstream of the valve.	Blocked or damaged pilot.	Dismantle and clean. Replace pilot if problem persists.
Incorrect but stable downstream pressure.		Wrong set pressure.	Readjust the downstream pressure as described.