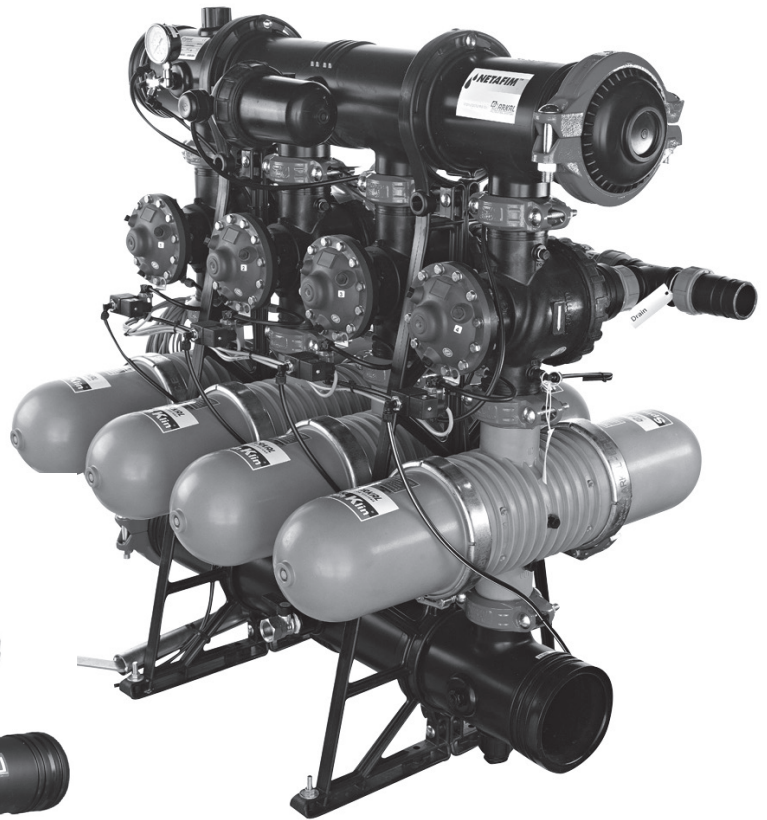


FILTRATION

2" AND 3" LP DISC-KLEEN FILTERS

OPERATION, MAINTENANCE & TROUBLESHOOTING GUIDE

**2" LP DISC-KLEEN
FILTER BATTERY**



**3" LP DISC-KLEEN
FILTER BATTERY**

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FEATURES & APPLICATIONS

PRODUCT FEATURES:

- Proven depth filtration - filters through the entire depth of the disc ring, not just the surface.
- Non-corrosive materials prevent rusting and corrosion from chemicals and weather.
- Less backflush water and time required for optimized irrigation scheduling resulting in uniform watering.
- Quick installation - factory assembled, tested and ready for hook-up and immediate operation.
- Small footprint saves valuable space.

APPLICATIONS -AGRICULTURE:

- For surface water containing algae and other organic materials such as reservoirs, canals, rivers and wastewater applications
- For well water containing light sand (<3 ppm) and other contaminants

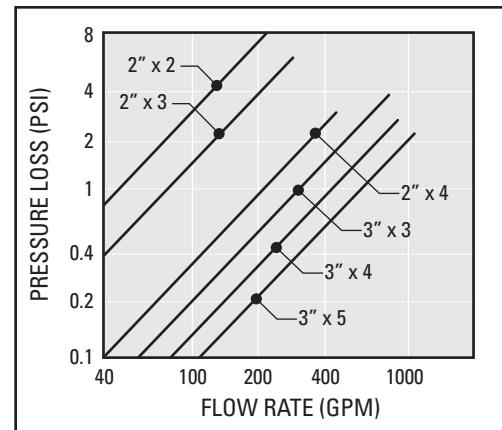
APPLICATIONS - LANDSCAPE:

- Residential and multi-family developments
- Commercial landscapes, institutional parks, sports fields
- Golf courses
- Large landscape installations

- Minimum Operating Pressure: 20 psi
- Minimum Operating Pressure for Backflushing:
Standard Model - 30 psi
High Pressure Model - 40 psi
- Maximum Operating Pressure:
Standard Model - 90 psi
High Pressure Model - 140 psi
- Minimum Backflush Flow Rate:
2" Filter - 35 GPM
3" Filter - 70 GPM
- Maximum Operating Temperature: 158° F
- Minimum Allowable pH: 5
- Inlet and Outlet Connections:
2" Filter - 4" Grooved
3" Filter - 6" Grooved
- Backflush Valve: Reinforced Polyamide
- 2" Drain Manifold Inlet and Outlet Connections: Grooved

SPECIFICATIONS

2" & 3" LP DISC-KLEEN FILTER FLOW RATE VS. PRESSURE LOSS (PSI)



2" LP DISC-KLEEN FILTERS

NO. FILTERS	FLOW RANGE (GPM)	SOLENOID OPTIONS
2	50 - 160	24VAC
		12VDC
		12VDCL
3	100 - 240	24VAC
		12VDC
		12VDCL
4	150 - 320	24VAC
		12VDC
		12VDCL

3" LP DISC-KLEEN FILTERS

NO. FILTERS	FLOW RANGE (GPM)	SOLENOID OPTIONS
3	150 - 450	24VAC
		12VDC
		12VDCL
4	250 - 600	24VAC
		12VDC
		12VDCL
5	350 - 750	24VAC
		12VDC
		12VDCL

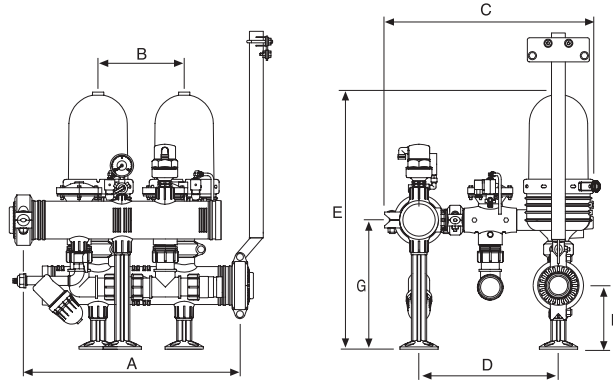
FILTER DIMENSIONS

MATERIALS

- Manifold: Polypropylene
- Filter Body and Cover: Polypropylene
- Filter Spine: Nylon
- Discs: Polypropylene
- Backflush Valve: Plastic with reinforced polyamide
- O-Rings and Seals: EPDM

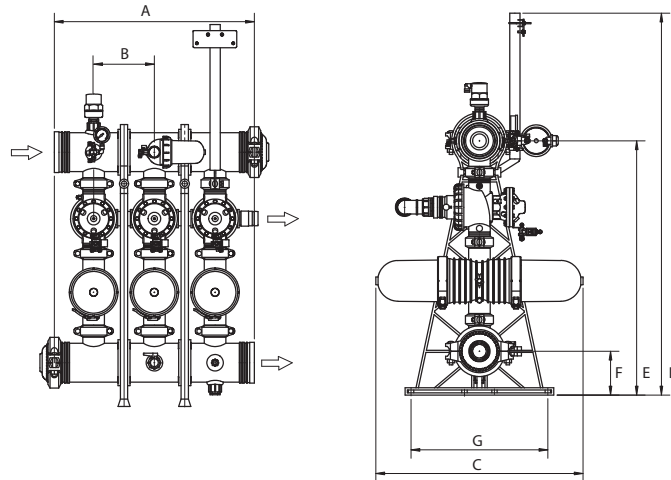
DISC COLOR

DISC COLOR	BLUE	YELLOW	RED	BLACK	BROWN
MESH	40	80	120	140	200
MICRON	400	200	130	115	70



2" LP DISC-KLEEN FILTERS DIMENSIONS

FILTERS	A	B	C	D	E	F	G	WEIGHT	AMT. OF BACKFLUSH
2	20 7/16"	10"	27"	16"	36 1/4"	7 9/32"	14 3/4"	174 LBS.	24 GAL.
3	30 9/32"	10"	27"	16"	36 1/4"	7 9/32"	14 3/4"	220 LBS.	36 GAL.
4	40 1/8"	10"	27"	16"	36 1/4"	7 9/32"	14 3/4"	266 LBS.	48 GAL.



3" LP DISC-KLEEN FILTERS DIMENSIONS

FILTERS	A	B	C	D	E	F	G	WEIGHT	AMT. OF BACKFLUSH
3	32 7/16"	9 27/32"	33 9/16"	61 29/32"	41 7/32"	7 3/32"	22 3/16"	352 LBS.	70 GAL.
4	42 1/4"	9 27/32"	33 9/16"	61 29/32"	41 7/32"	7 3/32"	22 3/16"	407 LBS.	94 GAL.
5	52 1/4"	9 27/32"	33 9/16"	61 29/32"	41 7/32"	7 3/32"	22 3/16"	467 LBS.	117 GAL.

WATER QUALITY & MAXIMUM FLOW RATES

WATER QUALITY:

- Good Water Quality: Municipal water supply or well water from a clean aquifer with no sand, iron or manganese.
- Average Water Quality: Wells with small amounts of sand (< 2 ppm) or clean surface water which includes lakes, ponds, reservoirs and canals.
- Poor Water Quality: Well water with sand up to 10 ppm or surface water in hot climates with increased biological growth and no chemical treatment which includes lakes, ponds, reservoirs and canals.
- Very Poor Water Quality: Well water with greater than 10 ppm of sand including rivers, muddy canals, lakes and ponds with severe run off deposits and raw municipal wastewater.
- Greater than 3 ppm Sand or Silt: May require a pre-filter such as a hydrocyclone.

WATER QUALITY* MAXIMUM FLOW RATE (GPM)

MESH SIZE	80	120	140
2" X 2 FILTER			
GOOD	180	160	145
AVERAGE	160	150	130
POOR	130	120	90
VERY POOR	80	70	60
2" X 3 FILTER			
GOOD	270	240	220
AVERAGE	240	225	195
POOR	195	180	135
VERY POOR	120	105	90
2" X 4 FILTER			
GOOD	360	320	290
AVERAGE	320	300	260
POOR	260	240	180
VERY POOR	160	140	120

MESH SIZE			
3" X 3 FILTER			
GOOD	540	480	435
AVERAGE	480	450	390
POOR	380	340	270
VERY POOR	240	210	180
3" X 4 FILTER			
GOOD	720	640	580
AVERAGE	640	600	500
POOR	500	450	340
VERY POOR	320	280	240
3" X 5 FILTER			
GOOD	800	800	725
AVERAGE	800	750	600
POOR	650	525	400
VERY POOR	400	350	300

FILTER OPERATION

The discs are stacked on the spine. The discs are color-coded by micron size and are assembled according to your water filtration requirements. The spine assembly has a spring compression unit and an internal piston which are used to alternately compress and release the discs during filtration and backflush cycles.

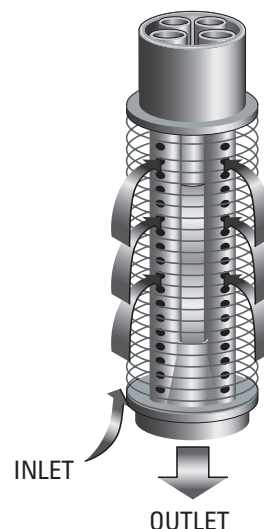
FILTRATION MODE:

During the filtration process, the filter discs are tightly compressed together by the spring and the differential pressure, forcing the water to flow through the grooves and traps of the discs.

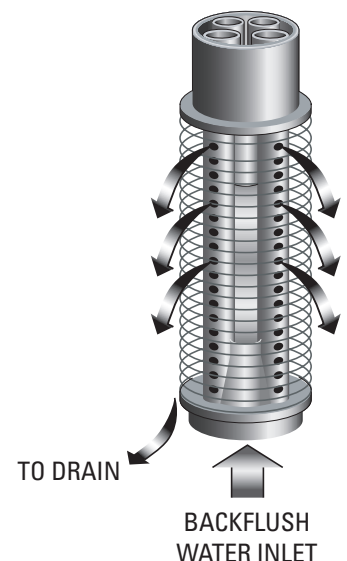
BACKFLUSH MODE:

During backflush, the discs are uncompressed by releasing the inlet hydraulic pressure. Multi-jet nozzles provide peripheral spray on the loosened discs causing them to spin and release the retained solids, which are flushed out to the drain.

FILTRATION MODE



BACKFLUSH MODE



FILTER OPERATION

BACKFLUSH VALVE:

The backflush valve has two built-in chambers, the N.O. filter port and the N.C. drain port. Each port has its own valve seat, but they share a common shaft and diaphragm. The valve chambers are mutually integrated units. When one port is open, the other is closed, permitting the backflush valve to perform two modes of operation:

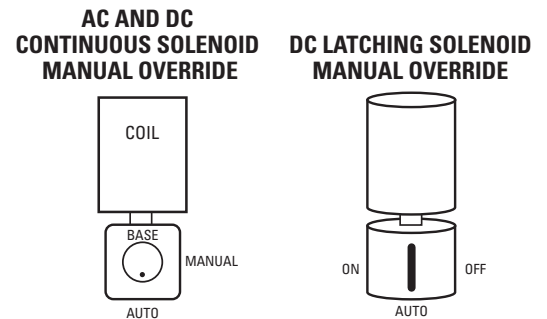
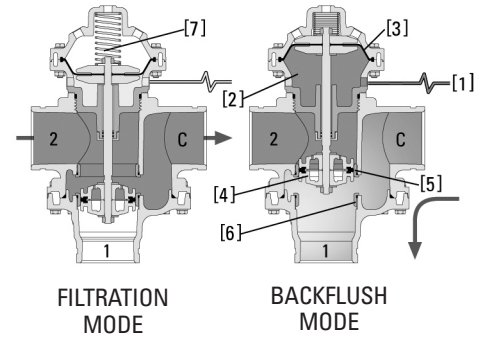
Filtration Mode: The valve permits flow from the inlet manifold through the filter, into the pipeline.

Flushing Mode: The valve closes the inlet manifold and opens the drain port, causing reverse flow through the filter, ejecting impurities via the drain port.

The backflush valve is either controlled by water pressure or a pneumatic source.

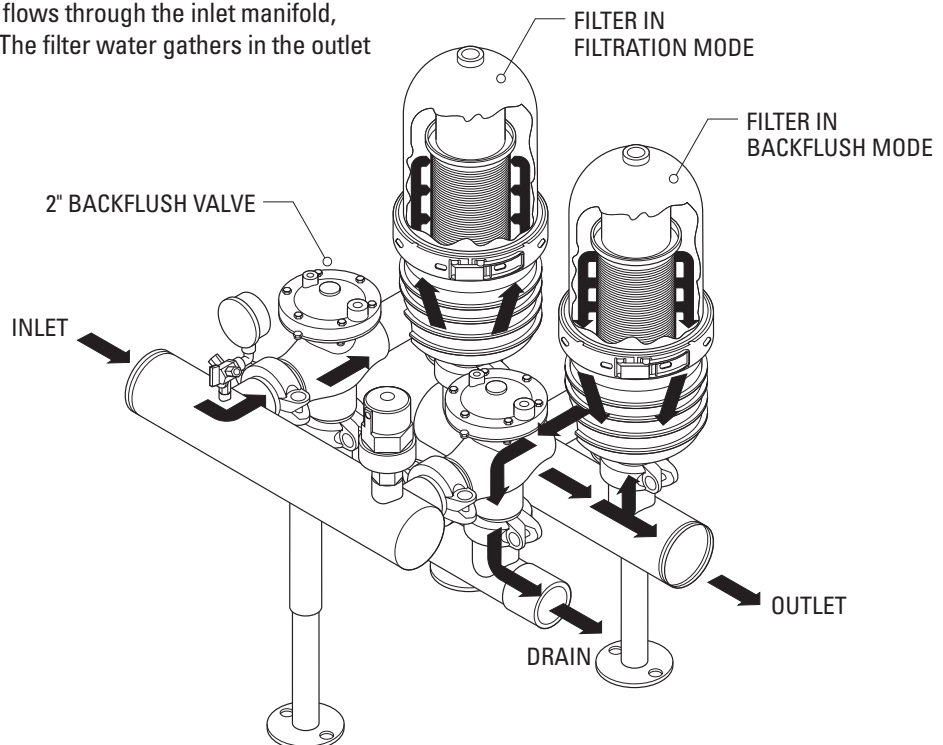
A hydraulic command from the solenoid [1], which pressurizes the Lower Control Chamber [2], forces the Diaphragm [3] actuated Plug Assembly [4] to move towards the Supply Port Seal [5], eventually sealing the valve drip tight. This allows water flow from the filter through the Drain Port Seal [6]. Venting the upper control chamber causes the line pressure, together with the Spring [7] force, to move the valve back to filtration mode.

A manual override knob is installed on the base of all AC and DC continuous solenoids. During normal operation, the dot on the round brass knob should be pointing towards the brass solenoid base (down). Turning this knob 90 degrees to the left or right will activate the solenoid and put the valve/filter into a backflush mode. Backflushing should be maintained for 20 seconds, then the knob can be returned to the auto position for normal irrigation. For DC latching solenoids, the manual override green lever is in a vertical position. Turning to the left 90 degrees will put the valve/filter into a backflush mode.



FILTRATION PROCESS:

During the filtration process, the water flows through the inlet manifold, through the filters and the inlet valves. The filter water gathers in the outlet manifold and flows into the system.



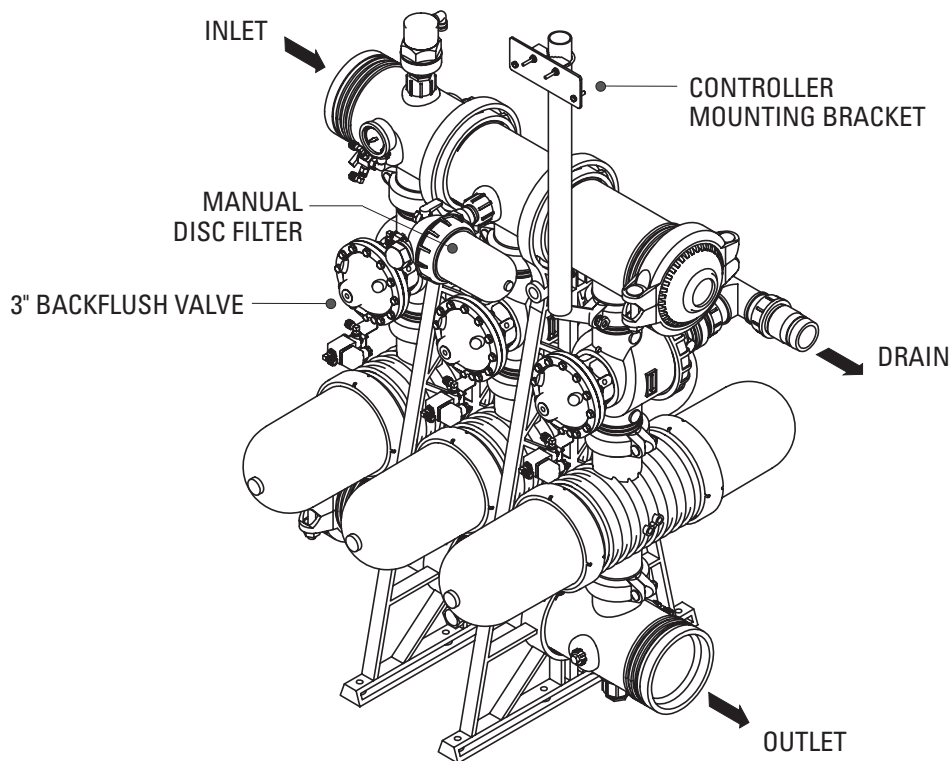
FILTER OPERATION

BACKFLUSH PROCESS:

The backflush process begins with an electrical command from the control unit to the first solenoid activated by the pressure difference between the inlet and outlet or by time. The solenoid then sends a pressure command to the backflush valve, moving it from the filtration mode to the backflush mode.

Filter #1 is then backflushed with water from the outlet manifold that has been filtered by the other filters in the system. Contaminated water and impurities flow out through the drain manifold.

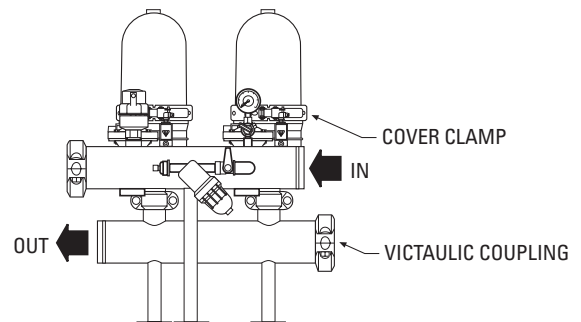
On completion of the allotted backflushing time, the controller releases the backflush command, and Filter #1 returns to the filtration mode. Filter #2 then enters the backflush mode, and the process is repeated until all the filters in the system have been backflushed. After all the filters have been backflushed, the system returns to filtration mode until the next backflush cycle.



INSTALLATION

INSTALLATION:

- Make sure that the inlet and outlet orientation is correct (shown by arrows on filter).
- Prior to start-up, check for any damage to the unit (system operates under pressure).
- Connect backflush drainage line.
- Standard assembly is water inlet and outlet on opposite sides of the filter. For inlet and outlet flow on the same side of the filter, remove the victaulic coupling and cap from the manifold end and reinstall them on the opposite side of the manifold.
- Cover clamps need to be properly closed.
- Verify the solenoids are correct as ordered before connecting the wires to the backflush controller.
- PVC piping used for the drain manifold should be minimum 2" diameter and not longer than 50' in length. If longer than 50', increase the PVC pipe diameter to 3".

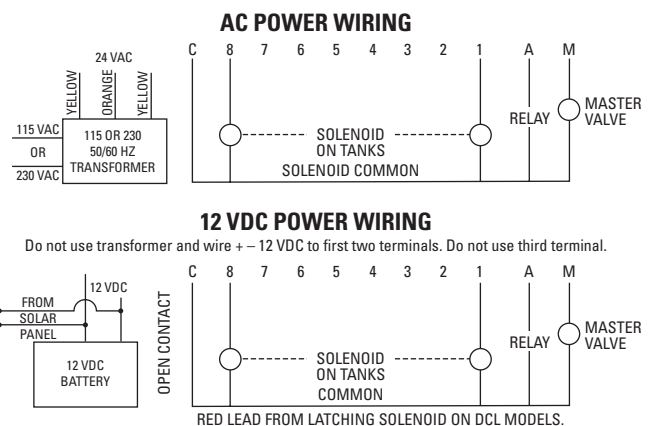


BACKFLUSH CONTROLLER INSTALLATION:

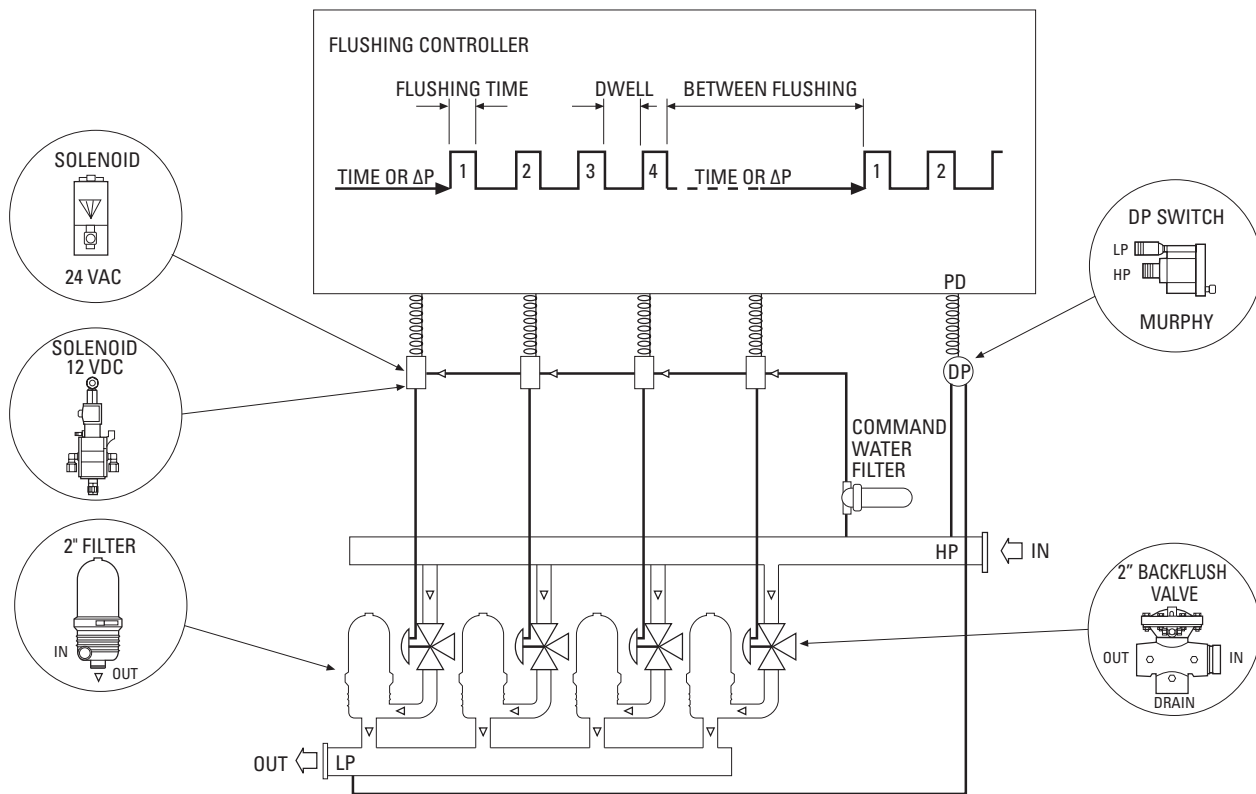
- Refer to the controller's handbook for installation instructions.
- Make sure that the voltage of both the solenoid unit and controller are correct.
- Set the manual operation button to automatic.
- Check that the PD hydraulic switch HIGH and LOW pressure lines are correctly connected to the appropriate ports.
- Set the starting backflush point on the PD switch 5 psi above the "clean pressure difference".
- Set the controller to a flush time of 20 seconds and a dwell time of 10 seconds. These settings may require adjustment to conform to local water conditions. Typically, a 4 to 8 hour interval between backflushes is recommended.

BACKFLUSH CONTROLLER ELECTRICAL WIRE HOOK-UP:

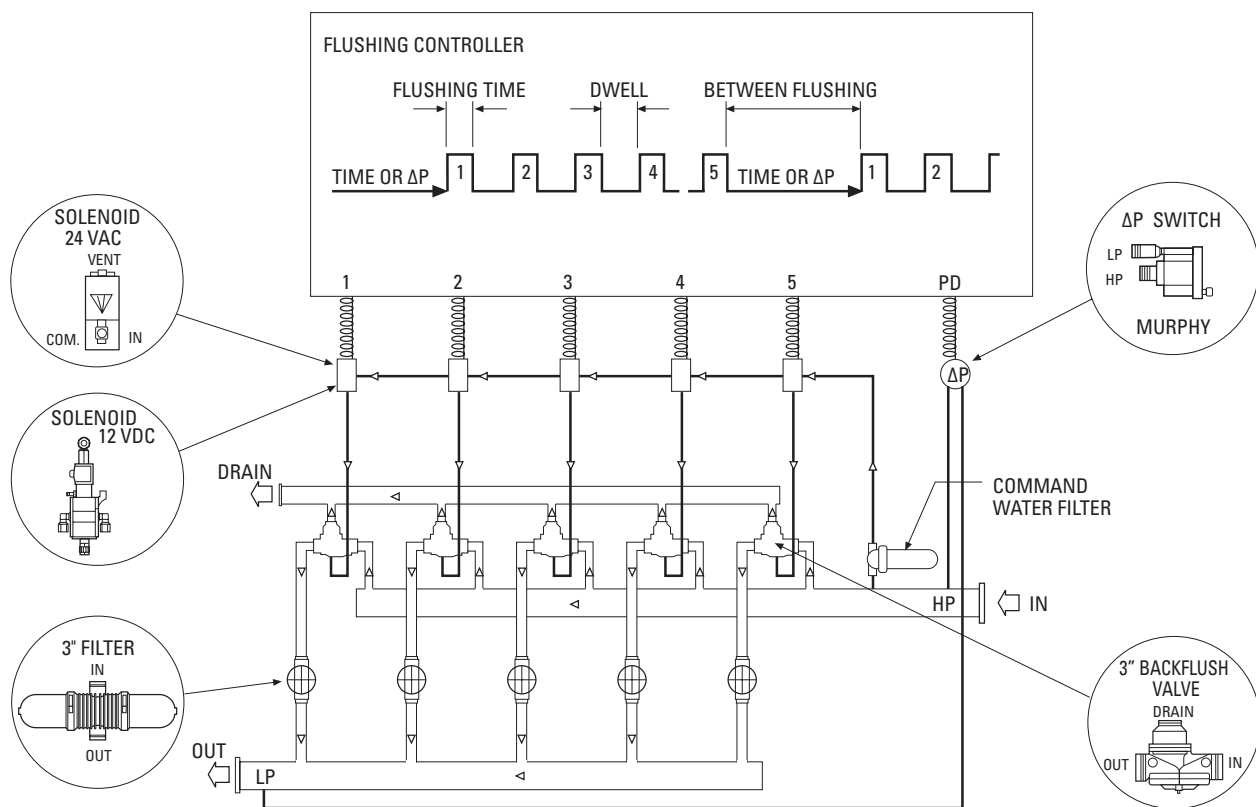
- Use 1/2" conduit and 16 gauge wire or larger from the controller to the solenoids.
- C is common to all solenoids 24 VAC or 12 VDC. For the 12 VDCL (latching), use positive or red lead.
- M is master valve – used with Pressure Sustaining Normally Open or Electric valves to control the downstream flow.
- Terminals 1-8 for each solenoid for the "hot" lead.
- Seal the wire access holes to the controller.



INSTALLATION



2" LP DISC-KLEEN BATTERY BACKFLUSH CONTROLLER INSTALLATION



3" LP DISC-KLEEN BATTERY BACKFLUSH CONTROLLER INSTALLATION

FILTER START-UP

START-UP OPERATION:

- Flush out the main line upstream of the filter by opening the blind flange connection of the inlet manifold. After initial flushing, reassemble the blind flange.
- Turn the system on slowly to build up the pressure.
- Start the backflush cycle making sure that all system components function correctly.
- Check that the PD gauge reads zero after a flush cycle.

IF FILTER LOADS UP DURING START-UP:

- Close the downstream (flow control) valve.
- Flush cycle until clean.
- Slowly reopen the downstream valve.
- If the pressure difference remains high, check and see if the flow rate is too high. An excessive flow rate through the filter uses excessive pressure loss.

SYSTEM MAINTENANCE

GENERAL REQUIREMENTS AND MAINTENANCE:

- Confirm there is 30 psi of pressure downstream of the filter during backflush.
- Check that the Pressure Differential (PD) Gauge returns to 0-2 psi after a backflush.
- All vent tubes need to vent freely to atmosphere without any back pressure.
- To minimize damage to the backflush controller, always keep the door closed and turn off the power when not using the controller for long periods of time.

SEASONAL MAINTENANCE:

- For the 2-Station DC model backflush controller only, replace two 9 Volt batteries every two-three years, or as needed. Batteries are located inside the backflush controller. Use three year life lithium or one year life alkaline batteries.
- At the end of the irrigation season, just before shutdown, initiate a backflush with the required pressure and turn off the water. This will ensure the discs remain clean during the offseason.
- Manually clean the discs if needed – see detailed instructions on Page 11.
- In order to prevent the filter from becoming damaged under freezing conditions, drain all the water from the filters and leave the valves open to drain.

WEEKLY CHECK

<input checked="" type="checkbox"/>	INLET/OUTLET PRESSURE
<input checked="" type="checkbox"/>	BACKFLUSH CONTROLLER
<input checked="" type="checkbox"/>	LEAKAGE
<input checked="" type="checkbox"/>	CLEAN COMMAND FILTER

MONTHLY CHECK

Operate backflush in the system according to Δp meter and check:

<input checked="" type="checkbox"/>	SOLENOIDS
<input checked="" type="checkbox"/>	DOWNSTREAM PRESSURE & DRAIN
<input checked="" type="checkbox"/>	BACKFLUSH VALVES

SYSTEM MAINTENANCE

DISC CLEANING INSTRUCTIONS:

NOTE: Make sure the system is not under pressure.

- Release the clamp and remove the cover (Figure 1).
- Unscrew the butterfly-nut on the filtration element (Figure 2).
- Remove the tightening cylinder (Figure 3).
- Remove the discs. For convenience, we recommend using a plastic bag (Figure 4, 5).
- Tie each disc set on a string and place them in a cleaning solution. Refer to instructions on page 12 for recommended cleaning solutions based on water deposits.
- Thoroughly wash the discs with fresh water and then reassemble the discs on the spine (Figure 6).
- Check that the correct quantity of discs is assembled on the spine. When the discs are pressed with two hands, the top disc should be centered between the two lines molded in the plastic at the top of the nozzles (Figure 7).
- Replace the tightening cylinder and tighten the butterfly nut until it stops - do not overtighten (Figure 8, 9).
- Reassemble the filter cover and tighten the clamp (Figure 10, 11).

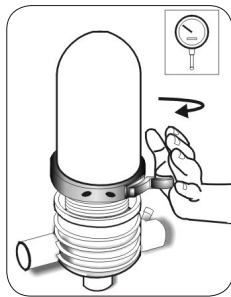


FIGURE 1

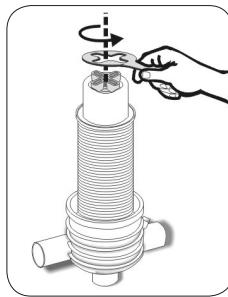


FIGURE 2

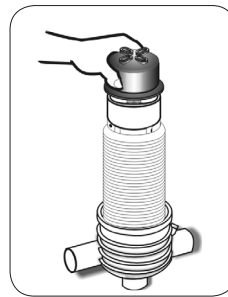


FIGURE 3

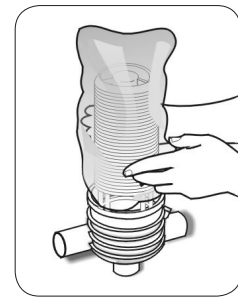


FIGURE 4

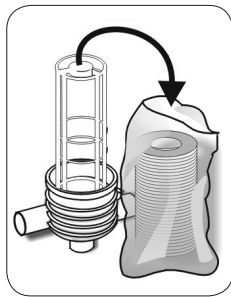


FIGURE 5

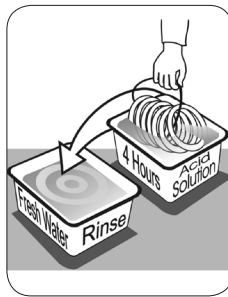


FIGURE 6

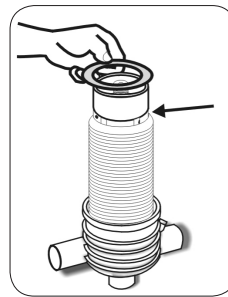


FIGURE 7

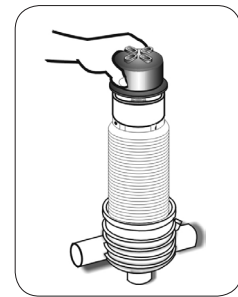


FIGURE 8

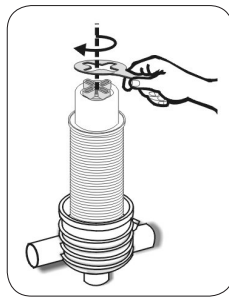


FIGURE 9

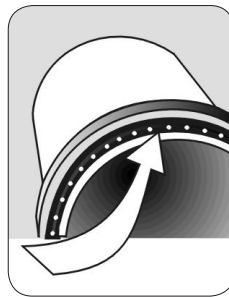


FIGURE 10

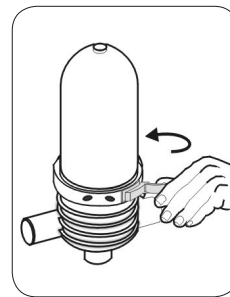


FIGURE 11

SYSTEM MAINTENANCE

DISC CLEANING INSTRUCTIONS FOR SURFACE WATER WITH ORGANIC AND BIOLOGICAL RESIDUE:

Step 1

- Make a 10% Peroxide solution. Pour 1.8 gallons of water into a container and add .80 gallons of Hydrogen Peroxide (35%) or pour 2.1 gallons of water into the container and add .53 gallons of Hydrogen Peroxide (50%) to the water.
- Soak the discs in this solution making sure the discs are loose and have good contact on both sides with the Peroxide solution. Do not put too many discs in at one time.
- Stir the discs in the solution a few times.
- Total soaking time is 1 to 3 hours. If the solution is no longer cleaning the discs, replace it with a new mixture.
- Remove the discs and rinse well with water – there should only be a pale sedimentation on the discs.

Step 2

- After the discs have been rinsed with water, they must be soaked in a 10% Hydrochloric Acid solution to remove the organic residue.
- Make a 10% Hydrochloric Acid solution. Pour 1.8 gallons of water into a container and add .80 gallons Hydrochloric Acid (30-35%) to the water.
- Soak the discs in this solution making sure the discs are loose and have good contact on both sides with the acid solution. Do not put too many discs in at one time.
- Stir the discs in the solution a few times.
- Total soaking time is 1 to 3 hours. If the solution is no longer cleaning the discs, replace it with a new mixture.
- Remove the discs and rinse well with water – there should no longer be any residue between the grooves of the discs.
- Put the discs on the spine and spine assembly in the filter bank.
- Flush the filter bank a few times to remove all chemicals.

DISC CLEANING INSTRUCTIONS FOR WELL WATER WITH MANGANESE, IRON OR CARBONATE DEPOSITS:

Step 1

- Make a 10% Hydrochloric Acid solution. Pour 1.8 gallons of water into a container and add .80 gallons Hydrochloric Acid (30-35%) to the water.
- Soak the discs in this solution making sure the discs are loose and have good contact on both sides with the acid solution. Do not put too many discs in at one time.
- Stir the discs in the solution a few times.
- Total soaking time is 1 to 3 hours. If the solution is no longer cleaning the discs, replace it with a new mixture.
- Remove the discs and rinse well with water – there should only be a pale sedimentation on the discs.

Step 2

- After the discs have been rinsed with water, they must be soaked in a 10% Peroxide solution to remove the organic residue.
- Make a 10% Peroxide solution. Pour 1.8 gallons of water into a container and add .80 gallons of Hydrogen Peroxide (35%) or pour 2.1 gallons of water into the container and add .53 gallons of Hydrogen Peroxide (50%) to the water.
- Soak the discs in this solution making sure the discs are loose and have good contact on both sides with the Peroxide solution. Do not put too many discs in at one time.
- Stir the discs in the solution a few times.
- Total soaking time is 1 to 3 hours. If the solution is no longer cleaning the discs, replace it with a new mixture.
- Remove the discs and rinse well with water – there should no longer be any residue between the grooves of the discs.
- Put the discs on the spine and spine assembly in the filter bank.
- Flush the filter bank a few times to remove all chemicals.

Caution: When blowing out with compressed air, make sure all parts are opened.

NO WATER GOING THROUGH THE FILTER:

- If the system has upstream and downstream valves around the filter, check to make sure they are open. Check that field valves are open.
- At start-up, the backflush valves need a minimum 12 psi to start working. If air is trapped in the system, close the downstream butterfly valve so that pressure builds up at the filter. Then, slowly open the butterfly valve to allow water to flow to the field.
- Verify that the manual override buttons on all the solenoids are in the correct position. For AC and DC continuous solenoids, the dot in the round brass knob should be pointing towards the brass base of the solenoid, not towards the black square plastic solenoid coil. For DC latching solenoids, the green lever should be vertical. See page 6 for illustrations. If all of the manual override buttons are in the wrong position, water will not flow through the filter.
- Make sure all vent tubes are venting to atmosphere with no back pressure.

NO BACKFLUSH OPERATION:

Check the Upstream and Downstream Pressure

- The pressure downstream of the filter needs to be at least 30 psi during backflushing. The Pressure Sustaining Normally Open (PSNO) Valve should be set to at least 30 psi during backflushing.

Check the Command Filter

- Make sure the command filter is clean. A clogged command filter does not provide command water to the solenoids and backflush valves and the filter will not flush. Also, make sure the $\frac{3}{4}$ " or 1" ball valve in front of the command filter is open.

Check the Pressure Differential (PD) Gauge

- Make sure the PD gauge is not broken. The set point (the short needle) should be set at 5 psi. The long red needle indicates the pressure differential at any given time. If the needle reads zero, then the discs are clean. As the red needle moves towards the shorter (set point) needle, then the discs are getting dirty. When the two needles touch, the backflush controller will initiate a flush cycle.
- Test the PD gauge while the water is on - disconnect the hydraulic tube from the low pressure port of the gauge (the off center port). Water will squirt out of the tube; you can bend the tube to temporarily stop the water. The long red needle should move quickly and touch the short needle. When both needles touch for 15 consecutive seconds, a backflush cycle will start.
- If the backflush starts, then the PD gauge is working. If there is no flush, replace the PD gauge. Re-connect the hydraulic tube to the PD gauge.

Check if the Filter Discs are Clogged

- To check if the filter discs are clogged, turn off the water and confirm there is no pressure in the system. Open up a filter cover and inspect the discs. If all of the filters are completely clogged, the filter will not flush.
- Remove the discs and clean – refer to the Disc Cleaning Instructions on Page 11 and 12.
- Reassemble the discs on the spine and the filter cover, then tighten the clamp.
- Initiate a backflush with the backflush controller. If the filter still doesn't flush, refer to the Check the Backflush Controller Section below.

Check the Backflush Controller

- To test the backflush controller, initiate a backflush by pressing the black button (manual override).
- The solenoid should click and send the filter into flush mode. After 20 seconds, the solenoid should click again and end the backflush.
- If the solenoid clicks, then the solenoid is operating and the control panel is not. If the solenoid does not click, then the solenoid needs to be replaced
- To test the solenoids: remove the wires of the solenoid from the terminal of the control panel and connect them directly to the power source. For DC models, touch the wires. For AC models, connect the solenoid wires to the outlet transformer wires.
- If the backflush was not initiated, check wires to verify all connections are secure.

SYSTEM MAINTENANCE

Check the Backflush Controller (con't)

- Push the reset button on the front panel and initiate a backflush again.
- Flush a filter individually by turning the manual override of the solenoid 180 degrees. If that filter flushes, then the filter is working hydraulically and the problem is electric.
- For DC backflush controllers, make sure the batteries are charging. Batteries should be changed every 2-3 years depending upon frequency of filter irrigation and flushing. Use three year life 9 volt lithium or one year life alkaline batteries.
- For AC backflush controllers, make sure the transformer is still functioning and replace if needed.
- The controller panel can malfunction if exposed to moist or dusty conditions, rust, or lightning. If you suspect any of these causes, contact the backflush controller manufacturer for inspection and possible warranty or repair. Or call Netafim USA Technical Support at 888-638-2346 for assistance.

CONTINUOUS BACKFLUSHING:

Constant Water Flowing Out of the Drain Manifold

- If there is constant water going through the drain manifold, then one of the backflush valves is stuck in the flush position. This can be caused by one of these three issues:
 - There may be debris stuck in the drain port of the backflush valve which does not allow the valve to return to the filtration position. Determine which valve is flushing all of the time. Turn the manual override of the solenoid to flush and then return the knob to filtration. Make sure the knob is exactly in the correct position. If the valve is still flushing, turn off the water.
 - 2" LP Disc-Kleen Filter Batteries** - unscrew the bonnet of the valve from the valve base body. Do not unscrew the bolts of the bonnet. Disconnect the hydraulic tubing that is connected to the valve, disconnect the hub of the solenoid from the coil from the solenoid and grab the sides of the bonnet with both hands and unscrew the bonnet assembly all the way and lift out of the valve. Check for debris in the valve body. Check the rubber seal at the bottom of the stem that is connected to the bonnet assembly. Replace if necessary.
 - 3" LP Disc-Kleen Filter Batteries** - turn off the water and remove the entire 2" drain manifold from the back of the backflush valves. Visually inspect the back side of all valves to see if there is debris. Start to disassemble the backflush valve from the back by removing the large plastic union. Put the large spring or large o-ring in a secure place. Remove the small bolt from the stem, pull out the black round piece and remove any debris. Carefully reassemble the valve and attach the drain manifold.
 - The solenoid may be stuck and not returning to filtration mode. On the Backflush Controller, switch the terminal wire (the wire connected to terminal 1 and 2 for example) from a stuck solenoid to a working solenoid. If the problem moves with the solenoid that is stuck, then the problem is in the solenoid. Disassemble the solenoid to clean any debris. If the problem persists, replace the solenoid coil with a new one.
 - The diaphragm of the backflush valve may be torn. To confirm, close the ball valve in front of the ¾" or 1" command filter. If water is still flushing from the drain manifold, the diaphragm may be torn. Turn off the water and remove all of the bolts from the bonnet of the valve. Remove the diaphragm and inspect for tear. Replace if necessary.

Filter Completes a Backflush Cycle, Stops and Backflushes Again:

- If the filter is constantly backflushing by going through a cycle, stopping for 1 minute and backflushing again, look at the controller to see if the word "Alarm" is flashing. If it is, then the filter is probably clogged.
- The filter will get clogged for the following reasons:
 - There was less than 30 psi on the downstream side of the filter during backflush.
 - The water quality changed and became too dirty for the filter to keep up. (Check for severe algae bloom or high silt load).
 - The flow rate was increased by turning on an additional valve, so the filter cannot maintain operation with the increased flow rate.
 - The diameter of the drain pipe is too long or too small or it's plumbed so that it elevates back into a reservoir. All of these will create back pressure on the filter during the flush cycle and have a negative effect on the quality of the flush. The drain pipe should be at least 2" diameter, not to exceed 50 feet long and free flow to a drain pit. There should not be a check valve or gate valve on the drain pipe.
 - Remove the discs from the spines and clean them manually. Refer to the Disc Cleaning Instructions on Pages 11 and 12.

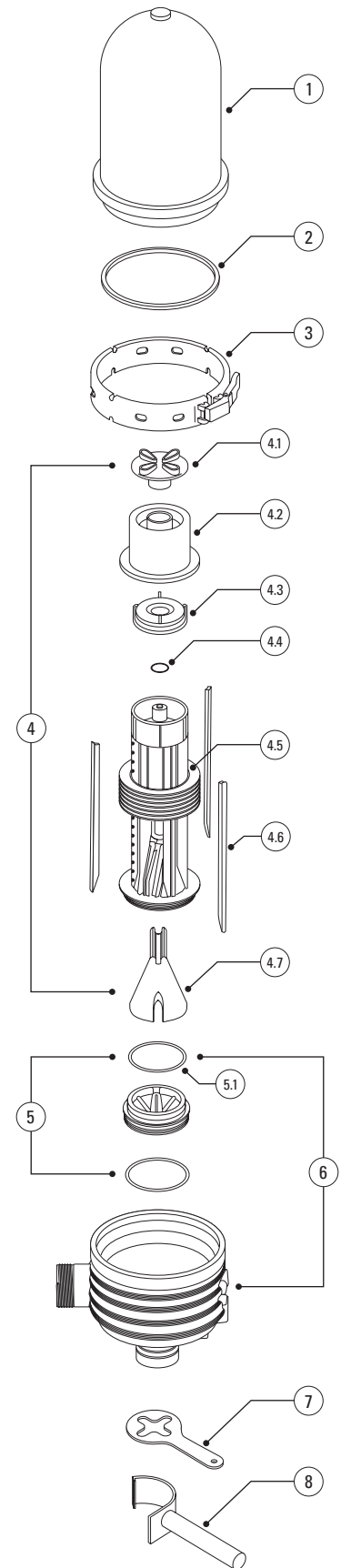
REPLACEMENT PARTS

2" LP DISC-KLEEN FILTER BATTERY PARTS

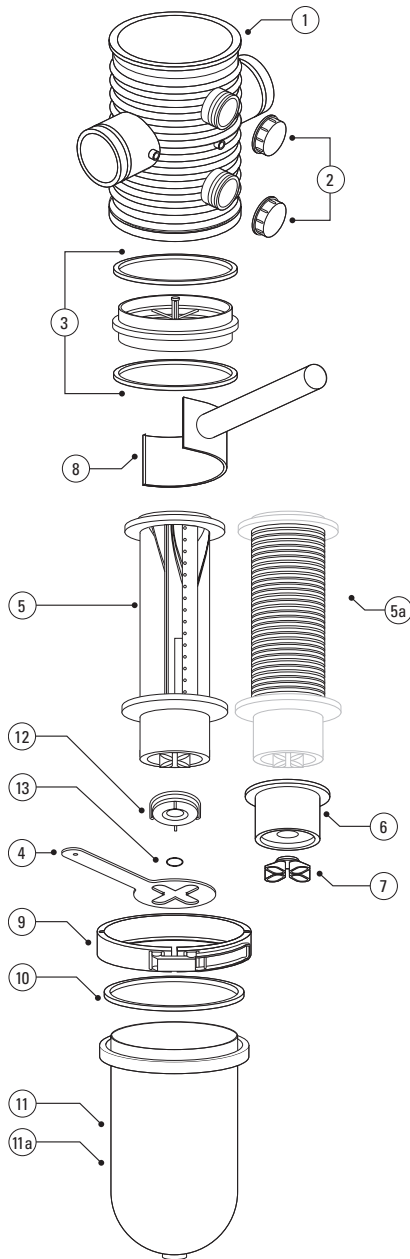
KEY	ITEM NUMBER	MODEL NUMBER	DESCRIPTION
1	70620-002302	25AP25016220	Filter Cover (Grey)
1a	70620-002320	25AP333132C	Filter Cover Clear (for Demo only)
2	70620-003900	25AP532140	Hydraulic Seal
3	70620-004700	25AP533131	Clamp
4	70620-007403	25AP21991002LC	Spine Complete Without Rings
4.1	70620-006010	25AP5066224G	Green Butterfly Nut
4.2	70620-007390	25AP25060226	Tightening Cylinder
4.3	70620-006452	25AP25300217	White Piston
4.4	70620-004106	25AP50032115	O-Ring
4.5	70620-001667	25AP20221-080DK	Ring Set Only - Yellow, 80 Mesh
	70620-001670	25AP20221-120DK	Ring Set Only - Red, 120 Mesh
	70620-001675	25AP20221-140DK	Ring Set Only - Black, 140 Mesh
4.6	70620-005850	25AP50760009	Abrasion Shield (For High Pressure Applications)
4.7	70620-007050	25AP50060008	Cone Membrane
5	70620-006050	25AP22340324	Complex Adapter
5.1	70620-004150	25AP532240	O-Ring 2-234
6	70620-003282	25AP22246253	Body - Victaulic Connection (Grey)
7	70620-007900	25AP50760028	Butterly Nut Wrench
8	70620-008000	25AP133499	Spine Wrench
-	70620-011500	27AP5B00000024	Controller Mounting Bracket

2" LP DISC-KLEEN FILTER BACKFLUSH VALVE

ITEM NUMBER	MODEL NUMBER	DESCRIPTION
71000-012780	61BFG2TP	2" Series 350 Plastic Backflush Valve



REPLACEMENT PARTS



3" LP DISC-KLEEN FILTER BATTERY PARTS

KEY	ITEM NUMBER	MODEL NUMBER	DESCRIPTION
1	70620-003429	25AP25006303	Body - Grey
2	70620-005900	25AP332115	Cap 2"
3	70620-006050	25AP22340324	Spine Adapter with O-Rings
4	70620-008000	25AP133499	Spine Wrench
5	70620-007403	25AP21991002LC	Spine Complete without Rings
5a	70620-001667	25AP20221-080DK	Ring Set Only - Yellow, 80 Mesh
	70620-001670	25AP20221-120DK	Ring Set Only - Red, 120 Mesh
	70620-001675	25AP20221-140DK	Ring Set Only - Black, 140 Mesh
6	70620-007390	25AP25060226	Tightening Cylinder
7	70620-006010	25AP25060224G	Green Butterfly Nut
8	70620-007900	25AP50760028	Butterfly Nut Wrench
9	70620-004700	25AP533131	Clamp
10	70620-003900	25AP532140	Cover O-Ring
11	70620-002302	25AP25016220	Cover (Grey)
11a	70620-002320	25AP333132C	Clear Cover (for DEMO only)
12	70620-006452	25AP25300217N	White Piston
13	70620-004106	25AP50032115	O-Ring
-	70620-011500	27AP5B00000024	Controller Mounting Bracket

3" LP DISC-KLEEN FILTER BACKFLUSH VALVES

ITEM NUMBER	MODEL NUMBER	DESCRIPTION
71000-013360	61BFG3PB	3" Series 350 Plastic Backflush Valve
71600-006750	61BFG3PSK	3" Plaslite® Plastic Backflush Valve



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