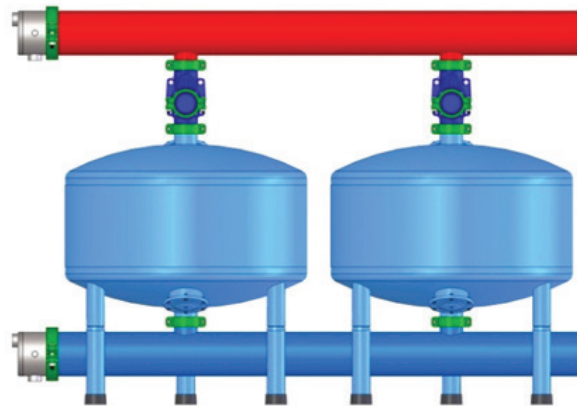
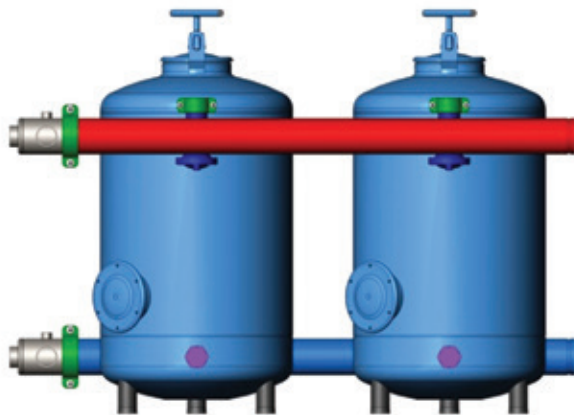


EPOXY COATED STEEL MEDIA FILTERS

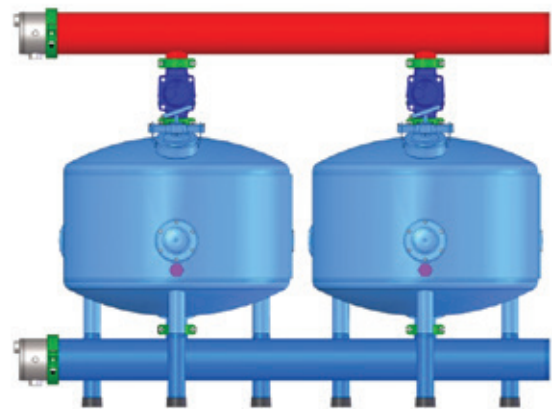
OPERATION, INSTALLATION & MAINTENANCE GUIDE



48"
Two Tank Media Filter System
SINGLE CHAMBER



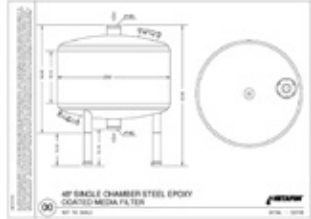
16", 20" or 24"
Two Tank Media Filter System
DOUBLE CHAMBER



30", 36" or 48"
Two Tank Media Filter System
DOUBLE CHAMBER

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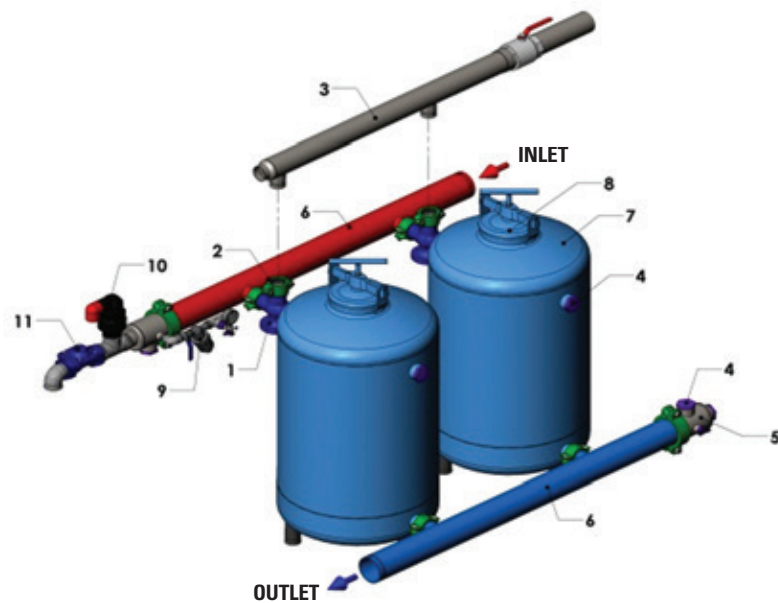


CAD DESIGN DETAILS

In DWG and DXF file formats can be found on the Netafim USA website - Agriculture Division - Resources Tab - CAD Details.

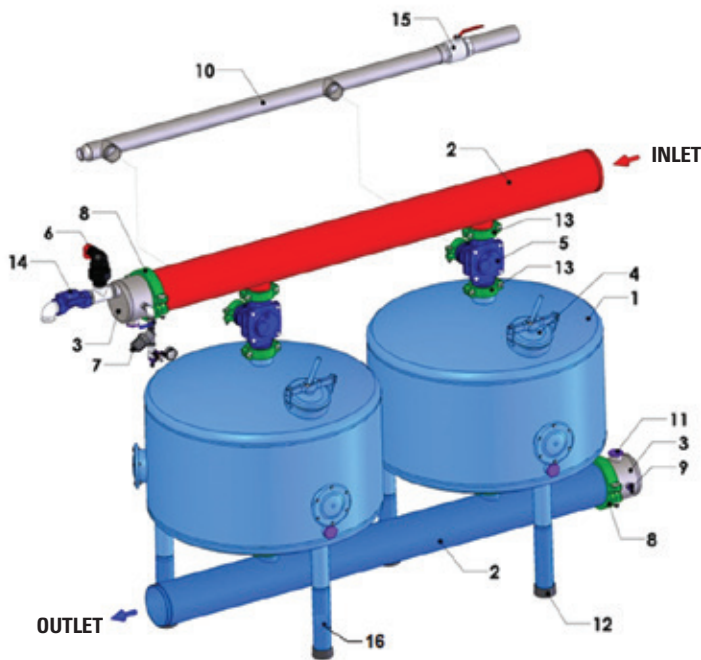
40" SINGLE CHAMBER STEEL EPOXY COATED MEDIA FILTER

SPECIFICATIONS



16", 20" AND 24" SYSTEMS DOUBLE CHAMBER

KEY	DESCRIPTION
1	Backflush Valve
2	Grooved Coupling
3	Backflush Manifold (not included)
4	2" Plug
5	Manifold Cap
6	Manifolds - Inlet and Outlet
7	Media Filter Body
8	Access Cover Port
9	Hydraulic Command Assembly
10	Air and Vacuum Release Air Vent
11	Pressure Relief Valve (not included)*



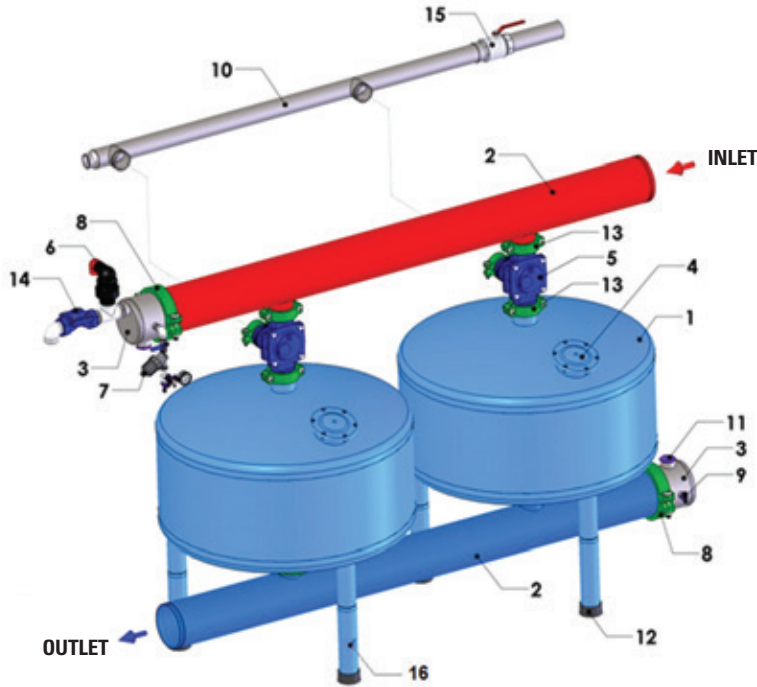
30", 36" AND 48" SYSTEMS DOUBLE CHAMBER

KEY	DESCRIPTION
1	Media Filter Body
2	Manifolds - Inlet and Outlet
3	End Caps
4	Access Cover Port
5	Backflush Valve
6	Air and Vacuum Release Vent
7	Hydraulic Command Assembly
8	Grooved Coupling for Manifold
9	Downstream Pressure Tap
10	Backflush Manifold (not included)
11	2" Threaded Plug
12	Rubber Leg Cap
13	Grooved Coupling
14	Pressure Relief Valve (not included)*
15	Manual Valve (not included)*
16	Elevation Leg

*Recommended for optimum performance.

SPECIFICATIONS

48" SYSTEMS SINGLE CHAMBER



NOTE: Older version tank had 6" top access port and newer version has 10" top access port

KEY	DESCRIPTION
1	Media Filter Body
2	Manifolds - Inlet and Outlet
3	End Caps
4	Access Cover Port
5	Backflush Valve
6	Air and Vacuum Release Vent
7	Hydraulic Command Assembly
8	Grooved Coupling for Manifold
9	Downstream Pressure Tap
10	Backflush Manifold (not included)
11	2" Threaded Plug
12	Rubber Leg Cap
13	Grooved Coupling
14	Pressure Relief Valve (not included)*
15	Manual Valve (not included)*
16	Elevation Leg

*Recommended for optimum performance.

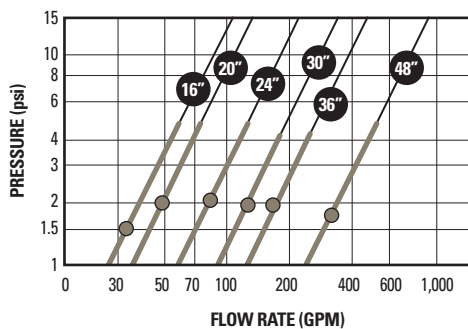
FLOWS IN GPM

UNITS	16"	20"	24"	30"	36"	48"
2	42 - 80	70 - 130	105 - 200	155 - 290	220 - 415	400 - 750
3	-	105 - 200	160 - 300	230 - 435	335 - 625	600 - 1,120
4	-	-	-	-	-	800 - 1,500
5	-	-	-	-	-	1,000 - 1,870
6	-	-	-	-	-	1,200 - 2,245
8	-	-	-	-	-	1,600 - 2,990

MUSHROOMS PER TANK

TANK SIZE	MUSHROOMS
16"	8
20"	14
24"	20
36"	42
48"	72

HEADLOSS (FLOW VS. PRESSURE)



● AVERAGE POINT - HEADLOSS / FLOW RATE
48" SINGLE AND DOUBLE CHAMBER TANKS THE SAME

HYDRAULIC DATA

FILTRATION 2 → C	BACKFLUSH C → 1
Kv = 190 Cv = 220	Kv = 250 Cv = 290
$\Delta P = \left(\frac{Q}{Cv} \right)^2$	
Cv = GPM @ ΔP of 1 psi Q = GPM ΔP = psi Cv = 1.155 Kv	

ASSEMBLY

FILTER PAD

- Pour a concrete level slab 4" thick with 6 x 6" footings. (Figure 1)
- Dimensions should exceed the filters by a minimum of 1' foot on all sides. The space between two media filters should be 4".
- Compact the soil all around the pad to prevent erosion.

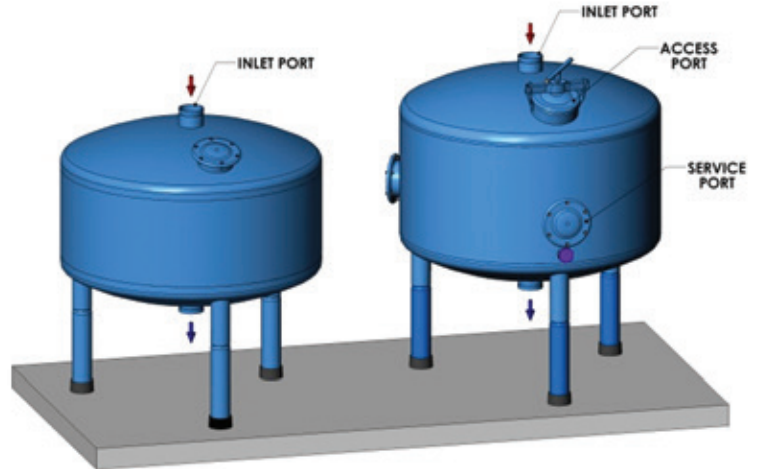


FIGURE 1

FILTER PLACEMENT

- Align the filters on the pad with the top cover port of each filter facing the same direction. (See Figure 1)
- The inlet manifold will be at the top of the backflush valve and the outlet manifold will be below the filters. (See Figure 2)

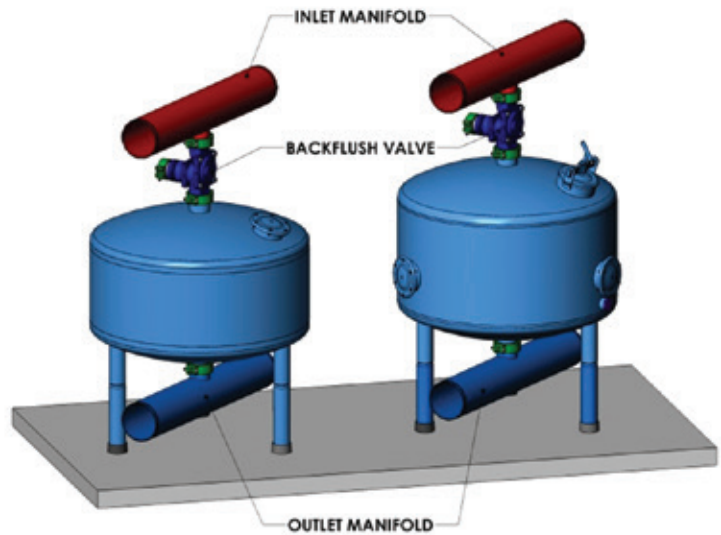


FIGURE 2

GROOVED VICTAULIC COUPLINGS ASSEMBLY

- Take the victaulic coupling apart.
- Place the gasket onto one end of the grooved component.
- Adjoin the two grooved components and slide the gasket back so that it is centered between the two grooves.
- Place the clamps around the gasket and tighten slightly. (See Figure 3)

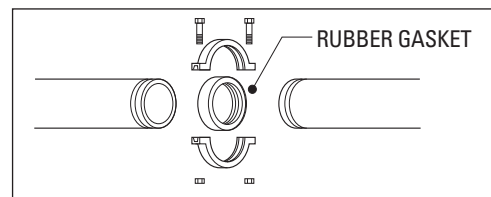


FIGURE 3

BACKFLUSH VALVE ASSEMBLY

- Install one backflush valve on each tank. The 2" backflush valve is attached to the 16", 20" and 24" media filters with a 4" long threaded galvanized nipple. The 30" and 36" media filters use a 3" backflush valve attached with a victaulic coupling. A 4" backflush valve is used for 48" media filters and also attaches to the filter with a victaulic coupling. (See Figure 4)
- Make sure that the 'flow' arrow on the backflush valve points towards the filter.
- Tighten the grooved victaulic couplings on the 16", 20", and 24" media filters.
- These couplings will be tightened later on the 30", 36" and 48" media filters.

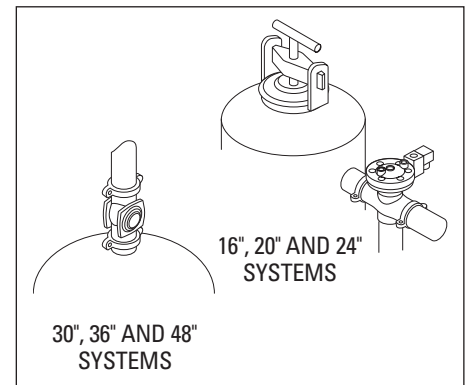


FIGURE 4

MANIFOLDS, MANIFOLD CAPS AND AIR VENT ASSEMBLY

- Align the inlet and outlet manifolds and install the grooved victaulic couplings - do not tighten.
- The 16", 20", 24", 30" and 36" media filters include a manifold cap.
- Position the top and bottom manifold cap as shown. The 3/4" port to the side on the inlet manifold and facing up on the outlet manifold. The 3/4" port will accommodate a component of the hydraulic command assembly. (See Figure 5)
- On 16", 20" and 24" media filters, the 1" Air Vent is installed with a reducer and an elbow into the 2" port of the inlet manifold cap. The 2" port in the outlet manifold cap is plugged. (See Figure 6)
- On 30" and 36" media filters, the 2" Combination Air Vent is installed with an elbow into the 2" port of the inlet manifold cap. (See Figure 7)
- The 2" Combination Air Vent is installed into the inlet manifold on 48" media filters. It uses a closed manifold with a 3/4" and 2" ports or the hydraulic command assembly.
- Tighten all the grooved victaulic couplings when these filter components are installed.

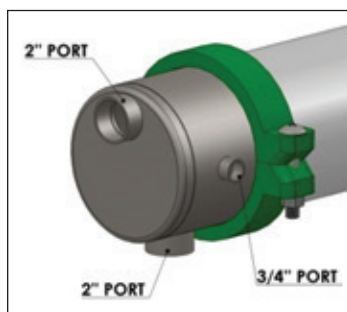


FIGURE 5

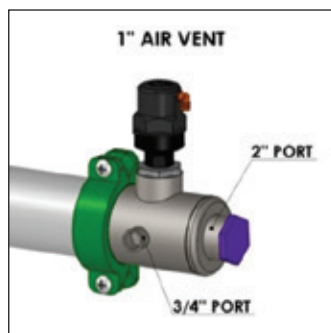


FIGURE 6

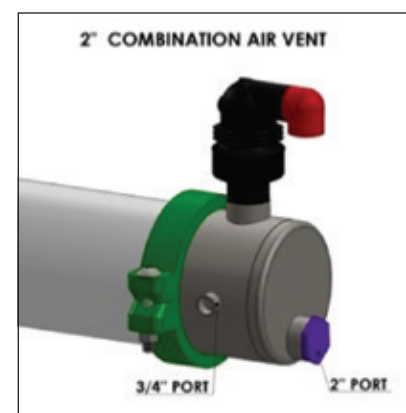


FIGURE 7

ASSEMBLY

FLUSH MANIFOLD SIZING AND ASSEMBLY

- Minimum recommended sizes for the Backflush manifold are 1 1/2" diameter for 16" and 20" media filters, 2" diameter for 24" media filters, 3" diameter for 30" and 36" media filters, and 4" diameter for 48" media filters. PVC is generally used to construct this manifold.
- The backflushed water should be discharged through an open pipe (to atmosphere) and not connected to any pressurized line.
- Maximum height is 10' and length is 100'. For exceptions, evaluate conditions or contact an authorized Netafim USA Dealer.
- A 2" Vacuum Relief Valve should be installed in the backflush manifold past the last media filter but before the elbow going down.
- Install a restriction valve - usually a gate valve - the same size or one size smaller than the backflush manifold size downstream of the 2" Vacuum Relief Valve.

INSTALLATION

BACKFLUSH CONTROLLER AND HYDRAULIC COMMAND TUBING INSTALLATION

- Follow the instructions for the installation of the backflush controller.
- The bottom of the backflush controller accepts two 1/8" x 8 mm fittings for the Pressure Differential Switch marked HI (center) and LO.
- Connect the Hydraulic Command Filtration Assembly to the 3/4" port of the Inlet (top) manifold cap.
 - 3/4" disc filter is used for 16", 20", and 24" media filters.
 - 1" Disc Filter is used for 30", 36", and 48" media filters and will require a connection fitting.
- Install the 3/4" x 1/4" bushing and the 1/4" x 8 mm elbow to the 3/4" port of the Outlet (bottom) manifold.

FOR 16", 20" AND 24" MEDIA FILTERS - FIGURE 7

- The common port of the solenoid for 2" Backflush valves is connected to the valve on the side below the bonnet.
- Connect the hydraulic control tubing from the HI port of the Pressure Differential Switch (bottom of the Backflush Controller) to the tee fitting labeled HP or A1. A2 of this tee fitting connects with A3 of the solenoid on the first media filter (port marked 1). A4 of the solenoid on the first media filter connects the control tubing to A5 - the solenoid on the next media filter and continues until all the solenoids are connected. The last solenoid will have an elbow fitting.
- Connect the hydraulic control tubing from LO port of the Pressure Differential Switch (bottom of the Backflush Controller) to the tee fitting labeled LP or B1. Control tubing connects B2 to B3, the downstream pressure tap on the outlet (bottom) manifold.

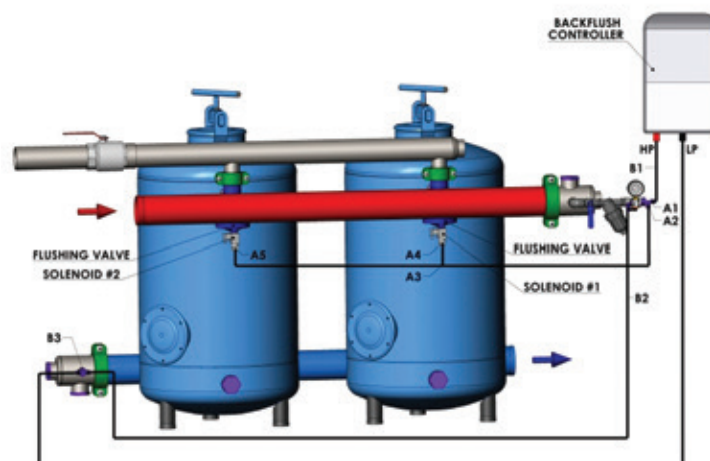


FIGURE 7

INSTALLATION

FOR 30", 36" AND 48" MEDIA FILTERS - FIGURE 8

- The common port of the solenoid for 3" and 4" Backflush valves is connected to the valve bonnet.
- Connect the hydraulic control tubing from the HI port of the Pressure Differential Switch (bottom of the Backflush Controller) to the tee fitting labeled HP or A1. A2 of this tee fitting connects with A3 of the solenoid on the first media filter (port marked P or 1). A4 of the solenoid on the first media filter connects the control tubing to A5 - the solenoid on the next media filter and continues until all the solenoids are connected. The last solenoid will have an elbow fitting.
- Connect the hydraulic control tubing from LO port of the Pressure Differential Switch (bottom of the Backflush Controller) labeled LP to the downstream pressure tap B1 on the outlet (bottom) manifold. A pressure gauge can also be used at the downstream pressure tap. If used, the control tubing labeled LP connects from the LO port of the Pressure Differential Switch to this pressure gauge.

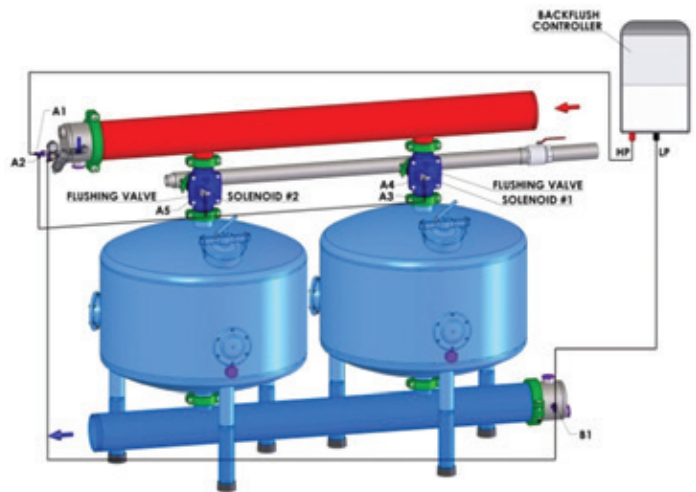


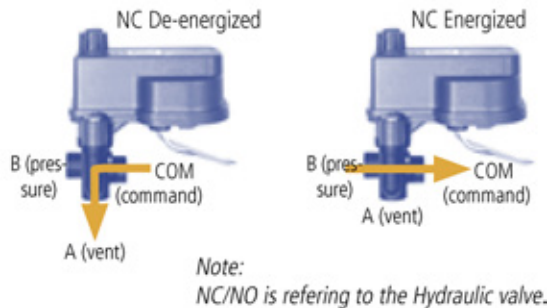
FIGURE 8

AQUATIVE AC SOLENOIDS

- 24VAC (min 18V - max 28V)
- Filtration: 80 mesh minimum
- 2-5 second delay from command to activation 1

AQUATIVE DC SOLENOIDS

- 2-Wire activated
- Filtration: 80 mesh minimum
- Voltage Range: 12-40 VDC
- Electrical connection: two wires: orange + or black and white: common
- Changing wire connections changes NC to NO



MAXIMUM DISTANCE AQUATIVE AC TO CONTROLLER

CABLE	DIAMETER	MAX DISTANCE
24 AWG	0.5 MM	1,968'
20 AWG	0.8 MM	4,100'
18 AWG	1.0 MM	6,561'
17 AWG	1.1 MM	8,202'
16 AWG	1.3 MM	11,482'
15 AWG	1.4 MM	16,404'

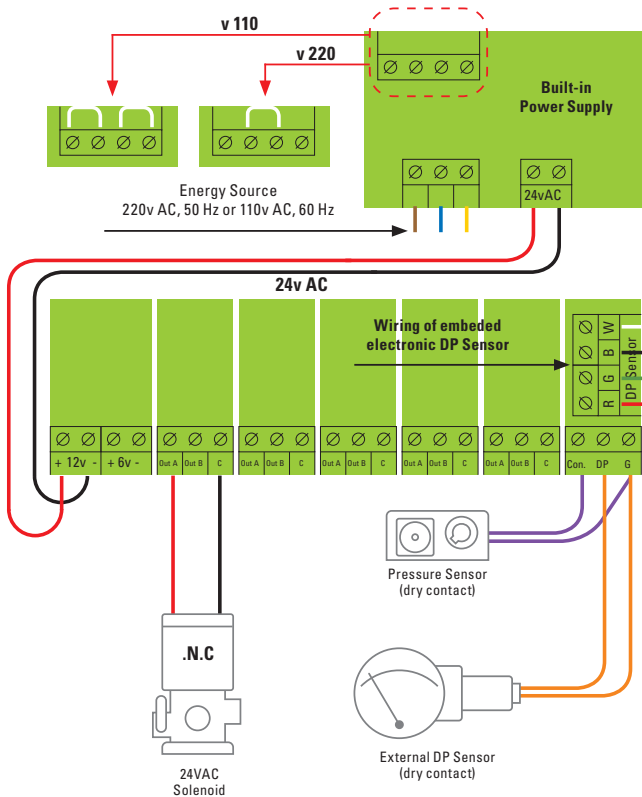
MAXIMUM DISTANCE AQUATIVE DC TO CONTROLLER

CABLE	DIAMETER	MAX DISTANCE
20 AWG	0.8 MM	492'
17 AWG	1.1 MM	787'
15 AWG	1.4 MM	1,246'

INSTALLATION

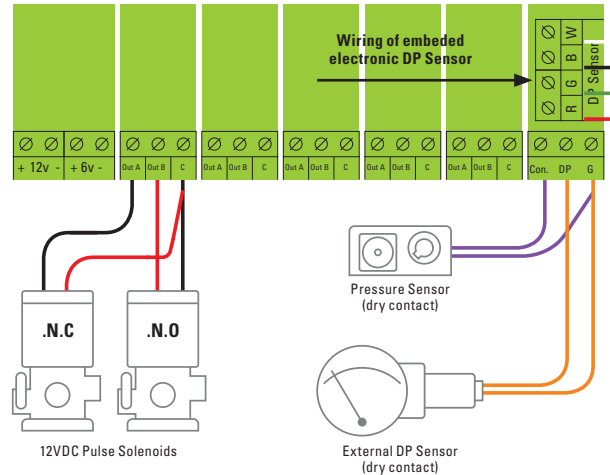
NETAFIM BACKFLUSH CONTROLLER ELECTRICAL WIRE HOOK-UP - AC MODEL

- The external DP sensor is optional and is intended for use in cases where there is no embedded electronic DP included.
- The powering of the unit is by 24VAC transformed from 220/110 VAC.
- The solenoids will be 24VAC.
- Make sure to disconnect the power before inserting/removing the 2 outputs plug-in unit.
- Refer to the Netafim Backflush Controller Installation and Operation Manual for additional questions.



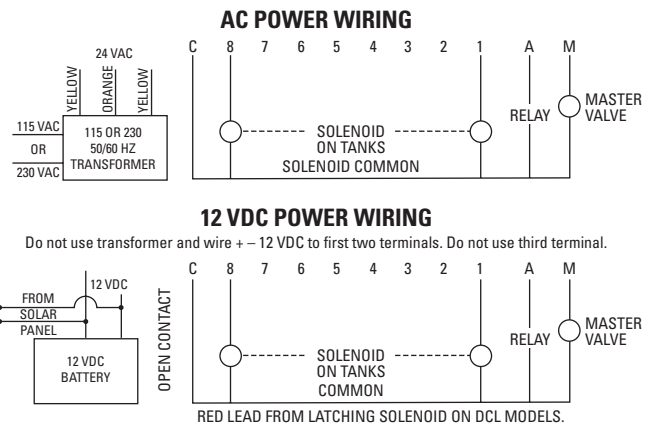
NETAFIM BACKFLUSH CONTROLLER ELECTRICAL WIRE HOOK-UP - DC MODEL

- The external DP sensor is optional and is intended for use in cases where there is no embedded electronic DP included.
- The powering of the unit can be either by 6VDC or 12VDC.
- The solenoids will be 12VDC latching.
- Make sure to disconnect the power before inserting/removing the 2 outputs plug-in unit.
- Refer to the Netafim Backflush Controller Installation and Operation Manual for additional questions.



ALEX-TRONIX 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.



ADDING THE SAND OR MEDIA

- Remove the top cover and before adding any media to the filters, inspect the inside of the media filter tank to be certain there are no foreign objects in the tank. Check the 'mushroom' covers and connector pins to be sure they, and the underdrain, are all in place and secured straight.
- If possible, fill the tank with water and check for leaks.
- Fill the tank with the specified amount of sand based on the tank size. The level of sand is indicated on a label that is affixed to the tank exterior. If no label is present, it is recommended to fill the tank to 6" or 7" below where the dome starts.

NOTE: Use of gravel or any other material besides the recommended sand or silica media as indicated in the Silica Sand Media Data Chart, voids the warranty and can cause damage to the underdrain and tank structure.

SILICA SAND MEDIA REQUIREMENTS

TANK SIZE	SAND REQUIRED
16"	170 LBS
20"	250 LBS
24"	360 LBS
30"	500 LBS
36"	800 LBS
48"	1,200 LBS

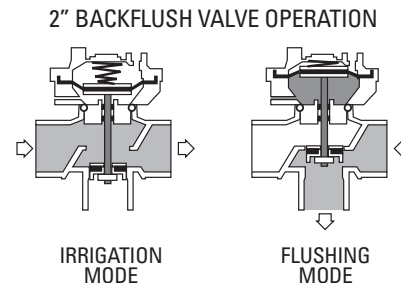
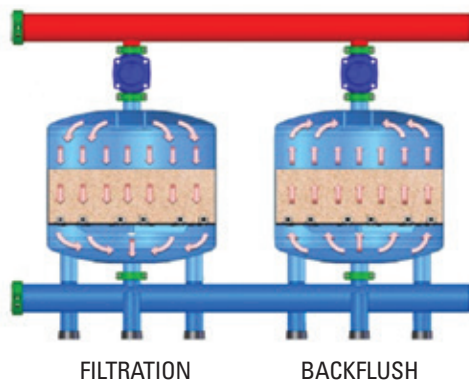
SILICA SAND MEDIA DATA

MEDIA TYPE	MESH RANGE	MEAN EFFECTIVE SIZE
CRUSHED SILICA 12	80 - 130	1.1 - 1.2 MM
STANDARD SAND 6/20	100 - 140	0.9 - 1.0 MM
CRUSHED SILICA 16	155 - 200	0.6 - 0.7 MM
U.S. SILICA 80	160 - 200	0.6 - 0.7 MM
CRUSHED SILICA 20	170 - 230	0.45 - 0.5 MM

BACKFLUSH OPERATION

BACKFLUSH PRINCIPLES

- During backflush, once a pre-set pressure differential or pre-set time is reached, the controller will activate one solenoid (valve and tank) at a time to perform a backflush operation. The inlet port closes and the backflush port opens. This reverses the flow of water in the media filter; clean water from the other filters now flows into the filter from the bottom and through every mushroom with equal pressure, lifting the sand media and freeing the accumulated debris. The debris will be flushed out the top of the filter through the backflush valve into the backflush manifold and to a suitable location. Only one filter should backflush at a time. The water which is backflushing one filter will have passed through the other filter(s) and thus backflushing will be done with clean filtered water. Sometimes a view tube is installed to see the flush water, but it soon becomes opaque and serves no purpose.
- As debris builds up in the media filter, a pressure loss will develop across the filter. The dirtier the filter becomes, the greater the pressure loss. When the pressure loss reaches a critical limit, the filter is dirty and in need of a backflush. Backflush controllers will sense the pressure loss through hydraulic connections and command a backflush sequence to begin when necessary.
- A Backflush Restriction Valve must be installed to prevent the sand from being washed out with the dirty water. Refer to System Adjustments for further instructions.



BACKFLUSH OPERATION

NETAFIM BACKFLUSH CONTROLLER PRESSURE DIFFERENTIAL SWITCH (PDS) AND TIME SETTINGS

Flush Time

- Defines the duration of the flushing time per station. The following options are selectable:
 - 5 to 20 seconds in steps of 1 second
 - 20 to 55 seconds in steps of 5 seconds
 - 1 to 6 minutes in steps of 0.5 minutes

DP Set Point

- The user defines the pressure difference between the filter's inlet and outlet that when reached, a flushing cycle will take place. This field is meaningless when the electronic DP sensor is not in use, therefore the user is expected to define the DP Set Point to be 00, as a result the actual DP value will appear as (--).
- The pressure range is 1 to 30 psi.
- When the system does not include the built-in electronic DP sensor but instead uses an external DP sensor, the flushing request signal arrives in the shape of a closed dry contact at the appropriate input terminals.

Flush Mode

- The Flush Mode defines how the flushing cycle is triggered. The selectable options are as follows:
 - OFF - No flushing will take place
 - BY TIME - In this case, the flushing cycles will be repeated in a selected interval or will be triggered by the DP signal depending on what happens first. No matter how the flushing cycle starts, the interval to the next cycle will begin being measured again after the end of each flushing sequence. The selectable intervals are:
 - 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60 minutes
 - 2, 3, 4, 5, 6, 8, 12, 18, 24, 72, 120 hours
 - DP - Flushing will be triggered by DP only
- NOTE:** If the '+' and '-' keys are pressed and held down simultaneously, the Flush Mode field will show the remaining time until the next cycle, alternating hours and minutes.

Manual Activation

- A flushing sequence can be manually activated by the 'Manual' key. When manually activated, the 'hand' icon will appear on the display. The same key will be used for manually terminating a sequence in progress.

Accumulations

- The unit accumulates and displays the number of flushing cycles caused by DP, by time or manually. At each accumulation field, the '+' or '-' keys may be used for clearing the accumulated value.
- Further details on the different settings can be found in the Netafim Backflush Controller Installation and Operation Manual.



BACKFLUSH OPERATION

ALEX-TRONIX BACKFLUSH CONTROLLER PRESSURE DIFFERENTIAL SWITCH (PDS) AND TIME SETTINGS

- The PDS in the backflush controller reads the current pressure loss and has an adjustable needle which determines the set-point for backflush cycle initiation.
- The PDS has an adjustable setting from 0 to 15 psi. (See Figure 9)
- The pressure differential is the combined headloss through the filter and the valve when the sand is clean. With the filters clean and in filtration mode, read the current pressure loss. This is the Baseline Pressure Loss for clean filters - usually 2 to 3 psi.
- To establish a backflush Set Point pressure, add 5 to 7 psi to the Baseline Pressure Loss and set the adjustable hand to this Set Point. The filter system will now enter into a backflush cycle any time this pressure loss Set Point is reached.
- The Periodic Flush time is the flushing time interval in hours. This setting establishes a time schedule for backflushing to ensure that a backflush takes place if there is a failure in the pressure differential switch. Typical Periodic Flush times can be set anywhere from 2 to 4 hours depending on the water quality.
- The Flush Time setting determines the duration of the backflush for each filter. The recommended Flush Time setting is 90 to 120 seconds.
- The Dwell Time is the time period between the flushing of each filter in a given back-flushing cycle. This is necessary to let the sand settle down. A recommended Dwell Time setting is 20 to 40 seconds.
- The backflush controller has additional features such as a backflush counter with a reset button and an alarm output. Further details on the different settings can be found in the Backflush Controller Manual.

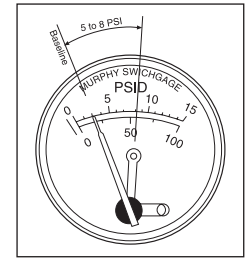
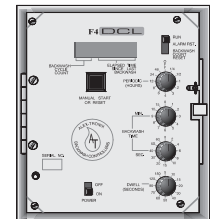


FIGURE 9



BACKFLUSH
CONTROLLER

MANUAL BACKFLUSHING

- All backflush valves can be operated manually. A manual override knob is installed on the top of all solenoids.
- During normal operation, the knob will be facing the word AUTO. To begin a manual backflush cycle, turn the knob towards the word OPEN. Backflushing should be maintained until the water becomes clear. At this point, the knob is can be returned to the AUTO position for normal irrigation.

SYSTEM START-UP

INITIAL OPERATION

Pre-Start

- Make sure that all grooved victaulic couplings and connections are tight. Secure the top cover by centering it and tighten the handle on the 16", 20", and 24" media filters. For the 30", 36", and 48" media filters, tighten the bolts evenly but do not overtighten as it may damage or cut the gasket.

Start-Up

- Open the main valve supplying water to the filters and start the pump. Let the downstream pressure gradually build up to 30 psi and perform a manual flush on all the filters one at a time for at least 3 minutes.
- Check for any leaks and tighten the bolts of cover gaskets a little more if necessary.
- Check the backflush water by letting the water flow against your hand and feel if the water contains sand. New sand has contaminants and fines. After a few backflush cycles, it will be removed and the water will become clean.

SYSTEM ADJUSTMENTS

- Proper adjustment of the Backflush Restriction Valve will allow for proper backflush flow with only a trace of media being lost through the backflush. A small loss of media is considered optimum. To check if sand is being washed out with the backflush water, place a screen over the outlet of the backflush manifold and examine the water for sand. Another method is cupping your hand under the backflush water as it exits the backflush manifold and feeling for sand grittiness.
- Adjust the Backflush Restriction valve. Repeat this adjustment at normal system operation and perform an automatic flush by pushing the Manual Start button.
- Solenoids do click when an electric signal is sent and the metal screw on top of the coil becomes magnetic (test with a screwdriver – it sticks). Verify the activation of the flush valves.
- The ball valve of the hydraulic assembly must be open on all media tanks. Check the High and Low pressure on the gauge by moving the 3 way to the HP and LP connections. Check the setting on the PD switch. (See Figure 10)
- Adjust the Pressure Relief Valve. The maximum operating pressure of the Epoxy Steel Media Filter System is 120 psi. Operate the system at normal pressure then loosen the set screw of the pilot until the valve opens. Now tighten the set screw two or three turn or until no leakage occurs.

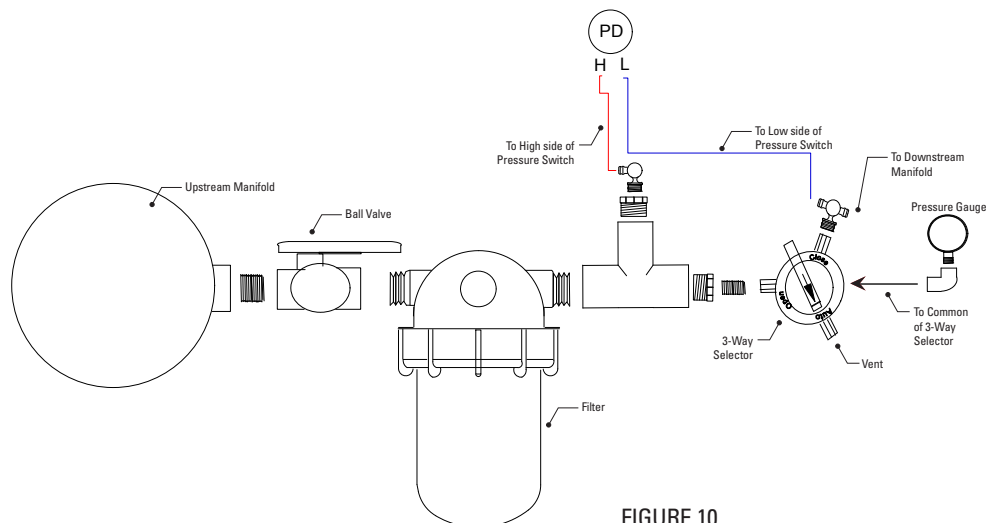


FIGURE 10

SYSTEM RECOMMENDATIONS

- When pumping from a ditch or reservoir, the pump inlet should be 3 to 4 feet below the surface and a minimum of 2.5 feet from the bottom to prevent intake of extra dirt.
- Downstream pressure of 30 psi should be maintained for proper backflushing of a filter. With a 2 or 3 tank system, the pressure may drop considerably during backflush. Use a Pressure Sustaining Normally Open valve for enhanced backflush.
- Different operating pressures for different block sizes may cause loss of sand. Use a flow control valve in the backflush line.
- **CAUTION: Do not tighten or open covers during operation or under pressure.**

SYSTEM MAINTENANCE

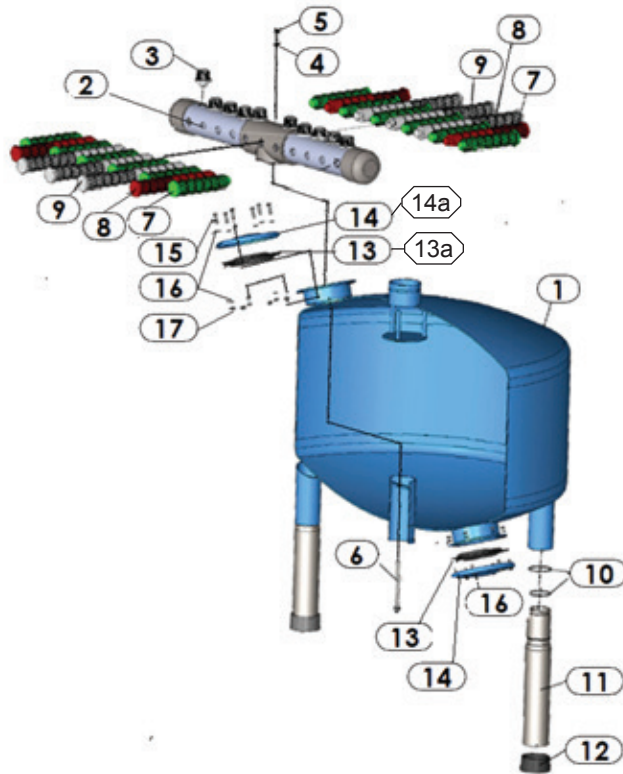
- Check the Control filter every few weeks by closing the valve and cleaning the element.
- Inject Chlorine upstream of the media filters during and at the end of the season or as necessary to control algae and bacterial growth. Shock treatments may require 20 to 50 ppm. Flush the entire system after the treatment as chlorine is a dangerous chemical and all application regulations and safety rules must be observed. Contact a qualified person for further assistance.
 - The injection rate in GPH is: Strength (10% solution = 10 factor) x GPM x ppm Chlorine x 0.00006 = gallons of Chlorine per hour
 - Example: 10% solution x 40 GPM x 25 ppm Chlorine x 0.00006 = 0.6 GPH
- The sand media is usually changed every 3 to 5 years depending on how much the system operates. Close all the valves, open the top service cover and remove the cover(s) of all the side ports of the media filters. Start the pump, drain and flush all the sand from the tank. Do not use sharp tools to help remove the sand - mushrooms can be damaged. Rinse and clean the inside of the tank. Check the mushrooms and reattach the side covers. Add the correct amount of sand media, open the valves for normal operation and readjust the Backflush Restriction Valve in the Backflush manifold line. See System Adjustments for further instructions.
- Any damage to the protective coating of the filter must be repaired as soon as possible. Prior to the application of the protective paint, thoroughly clean the damaged spot with a wire brush.
- At the end of the irrigation season, initiate a backflush cycle, at a minimum of 30 psi, to ensure a clean sand bed during the off season.

NOTE: Use of gravel or any other material besides the recommended sand or silica media as indicated in the 'Silica Sand Media Data' chart on page 11, voids the warranty and can cause damage to the underdrain and tank structure.

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES	SOLUTIONS
Leaking around grooved couplings	Pinched gasket	Remove couplings and inspect gasket. Apply gasket lube to prevent pinching.
	Torn or cracked gasket	Remove torn gasket and replace.
	Components out of alignment	Remove couplings and gasket and inspect grooved fittings. Fittings should join squarely with no major gaps.
Leaking around access ports	Debris between gasket and seat	Remove gasket and inspect gasket and seat for any debris.
	Torn or cracked gasket	Inspect gasket for cracking and other damage - replace if necessary.
	Cracked access cover	Inspect access cover for cracks or other damage - replace if cracked or defective.
One or several filters will not backflush	Controller output problem	Check for correct controller output with multi-tester or switch solenoid wires with another station to check for output signal.
	Solenoid wiring is defective	Use ohmmeter to verify that wiring is intact. Attempt to manually activate the solenoid with the knob on the base.
	On filters with manual selector valve - valve setting incorrect	Verify that the selector valve knob is pointed towards the solenoid.
	Solenoids clogged or damaged	Open solenoids and inspect internal ports for evidence of clogging. Open carefully to avoid losing the internal spring-loaded plunger.
Filter station differential increases rapidly during operation, especially at start-up	Excessive flow rate	During system start-up, throttle downstream flow to the designed flow rate. Use a manual valve or pump control/sustaining valve.
	Unusual concentration of contaminants	Check water source quality. See an authorized Netafim USA dealer for assistance.
All the filters in station will not backflush	Controller output problem	Check that the controller is on and programmed correctly. Attempt to manually actuate the solenoid with the clock. The solenoids should emit a clicking noise when actuated.
	Insufficient downstream pressure for backflush	Use the manual knob on the base of the solenoid to backflush one tank. Note the downstream pressure reading. If the pressure falls below 20 psi, it may be necessary to throttle the field valves to build up sufficient backflush pressure.
	Hydraulic command systems failure	Check to be sure the isolation valve is in the 'on' position. Remove one of the hydraulic tubes leading to the solenoids and verify that pressurized water is available. Inspect the hydraulic command filter for contamination.
Filter station differential remains high after backflush	Gauge error	Check gauge differential on manifolds against the differential gauge in the controller. If there is a discrepancy, check readings with a new gauge.
	Insufficient backflush pressure	Verify that the downstream pressure during backflush is at least 20 psi. If it is not, it may be necessary to throttle a valve downstream of the filter station to develop sufficient backflush pressure.
	Insufficient backflush flow	Check the Backflush Restriction Valve setting. Adjust according to the procedures outlined in the System Adjustments section.
	Excessive contamination of media	Open the access cover and inspect the media bed after a backflush. Verify that the sand level is correct and that there is not an excessive amount of debris in the sand. Verify that the backflush manifold line meets the size requirements outlined in the Flush Manifold Sizing and Assembly section.

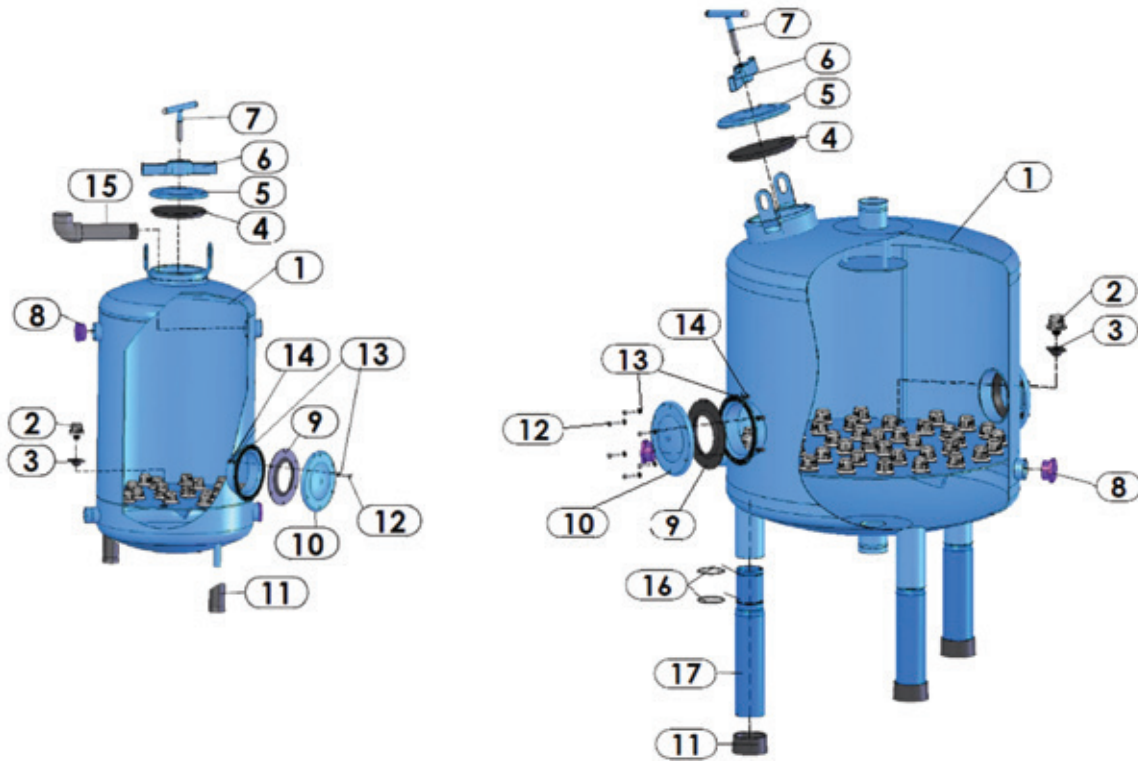
REPLACEMENT PARTS



EPOXY STEEL MEDIA FILTER PARTS - 48" SINGLE CHAMBER FILTERS

KEY	MODEL NUMBER	DESCRIPTION
1	-	FILTER BODY
2	-	UNDERDRAIN COLLECTOR
3	79YP2347050	MUSHROOM DIFFUSER
4	79YP2691410	WASHER
5	79YP2691426	NUT
6	79YPM289660	THREADED ROD
7	79YP2347237	UNDERDRAIN ELEMENT - N1
8	79YP2347347	UNDERDRAIN ELEMENT - N2
9	79YP2347456	UNDERDRAIN ELEMENT - N3
10	79YP1000230	O-RING
11	79YP7250070	EXTENSION LEG
12	79YP1300067	RUBBER LEG CAP
13	79YP1300045	SERVICE COVER GASKET (OLD VERSION - 6")
	79YP4081266100450	SERVICE COVER GASKET (NEW VERSION - 10")
14	79YPP108461	SERVICE COVER (OLD VERSION - 6")
	79YP5331011010P	SERVICE COVER (NEW VERSION - 10")
15	79YP2213036	BOLT
16	79YP2213037	WASHER
17	79YP2213038	NUT

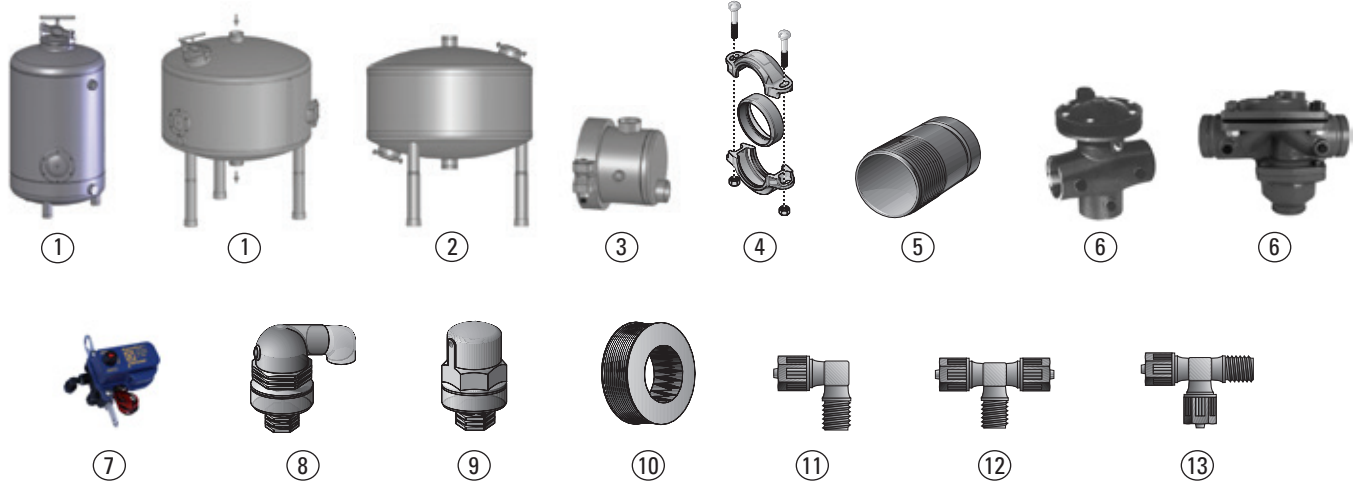
REPLACEMENT PARTS



EPOXY STEEL MEDIA FILTER PARTS - DOUBLE CHAMBER FILTERS

KEY	MODEL NUMBER 16", 20", 24" FILTERS	MODEL NUMBER 30", 36", 48" FILTERS	DESCRIPTION
1	-	-	FILTER BODY
2	79YP2347050	79YP2347050	MUSHROOM DIFFUSER
3	79YP1300280	79YP1300280	RUBBER BUSHING
4	79YP1300120	79YP1300120	COVER GASKET
5	79YPP108482	79YPP108482	TOP COVER PLATE
6	79YPP108280	79YPP108280	TIGHTENING BRIDGE
7	79YPP108068	79YPP108068	TIGHTENING HANDLE
8	79YP2520088	79YP2520088	2" MALE PLUG
9	79YP1300045	79YP1300045	SERVICE COVER GASKET
10	79YPP108461	79YPP108461	SERVICE COVER
11	79YP1300069	79YP1300067	RUBBER LEG CAP
12	79YP2213037	79YP2213037	WASHER
13	79YP2213036	79YP2213036	BOLT
14	79YP2213038	79YP2213038	NUT
15	79YPM610MVNU-01	-	PVC NIPPLE AND ELBOW 16"
	79YPM620MVNU-01	-	PVC NIPPLE AND ELBOW 20"
	79YPM635MVNU-01	-	PVC NIPPLE AND ELBOW 24"
16	-	79YP1000230	LEG O-RING 30", 36", 48"
		79YP7250073	ELEVATION LEG 30"
17	-	79YP7250072	ELEVATION LEG 36"
		79YP7250071	ELEVATION LEG 48"

REPLACEMENT PARTS



EPOXY STEEL MEDIA FILTER PARTS

KEY	MODEL NUMBER	DESCRIPTION
1	-	EPOXY STEEL MEDIA FILTER BODY 16" DOUBLE CHAMBER
	-	EPOXY STEEL MEDIA FILTER BODY 20" DOUBLE CHAMBER
	-	EPOXY STEEL MEDIA FILTER BODY 24" DOUBLE CHAMBER
	-	EPOXY STEEL MEDIA FILTER BODY 30" DOUBLE CHAMBER
	-	EPOXY STEEL MEDIA FILTER BODY 36" DOUBLE CHAMBER
	-	EPOXY STEEL MEDIA FILTER BODY 48" DOUBLE CHAMBER
2	-	EPOXY STEEL MEDIA FILTER BODY 48" SINGLE CHAMBER
3	79MCA4	4" MANIFOLD CAP
	79MCA6	6" MANIFOLD CAP
	79MCA8	8" MANIFOLD CAP
4	44VIC02	2" GROOVED COUPLING SUREJOINT WITH SEAL
	44VIC04	4" GROOVED COUPLING SUREJOINT WITH SEAL
	44VIC06	6" GROOVED COUPLING SUREJOINT WITH SEAL
	44VIC08	8" GROOVED COUPLING SUREJOINT WITH SEAL
5	44NIPVS2X4	2" STEEL NIPPLE THREADED 4" LENGTH
6	61BFG2GT982	2" BACKFLUSH VALVE FOR 16", 20", 24"
	61BFG3G	3" BACKFLUSH VALVE FOR 30", 36"
	61BFG4GBLK	4" BACKFLUSH VALVE FOR 48"
7	61AQTVAC1	24VAC SOLENOID
	61AQTVDC1	12VDC LATCHING SOLENOID
8	65ARIB2	2" COMBINATION AIR VENT FOR 30", 36", 48"
9	65ARIS1	1" AUTOMATIC AIR VENT FOR 16", 20", 24"
10	15CONT-8	8MM CONTROL TUBING
11	55P4694802-B	8MM X 1/8" ELBOW (BAG 10)
	55P4694804-B	8MM X 1/4" ELBOW (BAG 10)
12	55P4714802-B	8MM X 8MM X 1/8" MALE BRANCH TEE (BAG 10)
13	55P4724802-B	8MM X 8MM X 1/4" MALE BRANCH TEE (BAG 10)



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