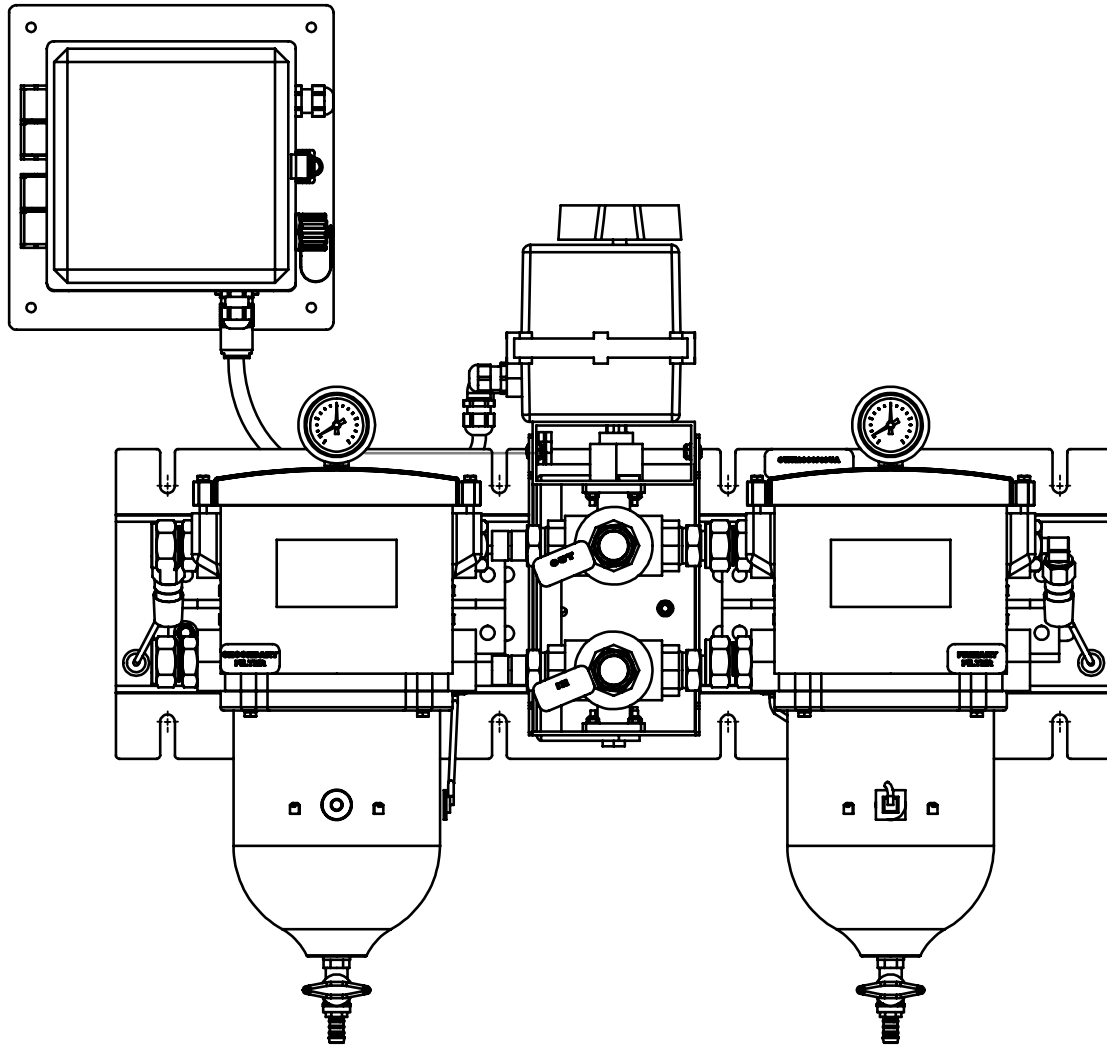


# Automatic Duplex



*Shown: Model SWK-2000/40UA-24-01-30*

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### Description

The Automatic Duplex System features patented Separ Filter fuel water separators and a control that will automatically switch to the secondary filter when the primary filter needs to be serviced.

### Control

When the alarm for clogged filter element or high water level is triggered, the control will switch operation to the secondary filter, therefore avoid unexpected downtime and the maintenance can be scheduled for the next service interval. Colored lights indicate the status of the system:

- Green: Primary Filter In Use
- Yellow: Secondary Filter In Use
- Red: Backup Filter Critical Alarm (signal will be sent to remote sensor wire)

In event of power loss or actuator failure, system can be switched manually by rotating handle.

### Filtration

The system features the Separ Filter brand of diesel fuel water separators. This filter has been specifically designed to utilize hydrodynamic principles to remove free water and particulate from the flow of the fuel. By changing the direction of flow and the velocity of the fuel multiple times, and imparting centrifugal force, the heavier particulate and free water drop from suspension and fall to the bottom of the bowl. As these natural laws are put into effect on the fuel, it passes through 5 stages within the Separ Filter housing. For

this reason, approximately 70+% of the contaminants are removed from the fuel prior to passing through the final stage filter element, bringing the particulate removal efficiency to 100% for particulate larger than the element rating (30 micron standard) and a high level of separation for smaller particulate in test fluid using standard test methods. At the maximum rated flow, the filter is 100% efficient at removing free water as certified by the RWTUV testing facility in Germany (copy available upon request).

The 5 stages of separation and filtration are:

*Refer to Diag. 1*

1. After entering the inlet(s), the 1st vane system spins the diesel fuel in a circular motion, generating centrifugal force.
2. In the bowl, fuel continues to spin – separating water and heavier particulates, through centrifugal force.
3. A 2nd vane system then forces the fuel to spin in a different direction – separating smaller water droplets and finer particulates.
4. A wider passage, just below the element, slows down fuel to allow more contaminants to settle into the bowl.
5. Finally, the element filters finer particulates out of the fuel before exiting through the outlet(s).

### Sizes

Other versions are available with maximum flow rates between 79 GPH to 634 GPH and in 12 or 24 volt.

## Assembly Options

The Automatic Duplex fuel filter system is offered in several options: voltage, type of inlet and outlet connections, and the element micron rating installed. See the options below to configure your complete assembly.

### Configure A Complete Assembly:

Model	+	Voltage	+	Inlet / Outlet	+	Micron	=	Complete Assembly
SWK-2000/5/50UA		12		00 for FNPT		10		
SWK-2000/10UA		24		01 for MJIC		30		
SWK-2000/18UA				02 for MNPT		60		
SWK-2000/40UA								
SWK-2000/130UA								

### For example:

The formula below creates a SWK-2000/40UA system in 24V, with male JIC inlet / outlet connections, and 10 micron filter element installed.

SWK-2000/40UA	+	24	+	01	+	10	=	SWK-2000/40UA-24-01-10
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1

After entering the inlet(s), the 1st vane system spins the diesel fuel in a circular motion, generating centrifugal force.

2

In the bowl, fuel continues to spin – separating water and heavier particulates, through centrifugal force.

3

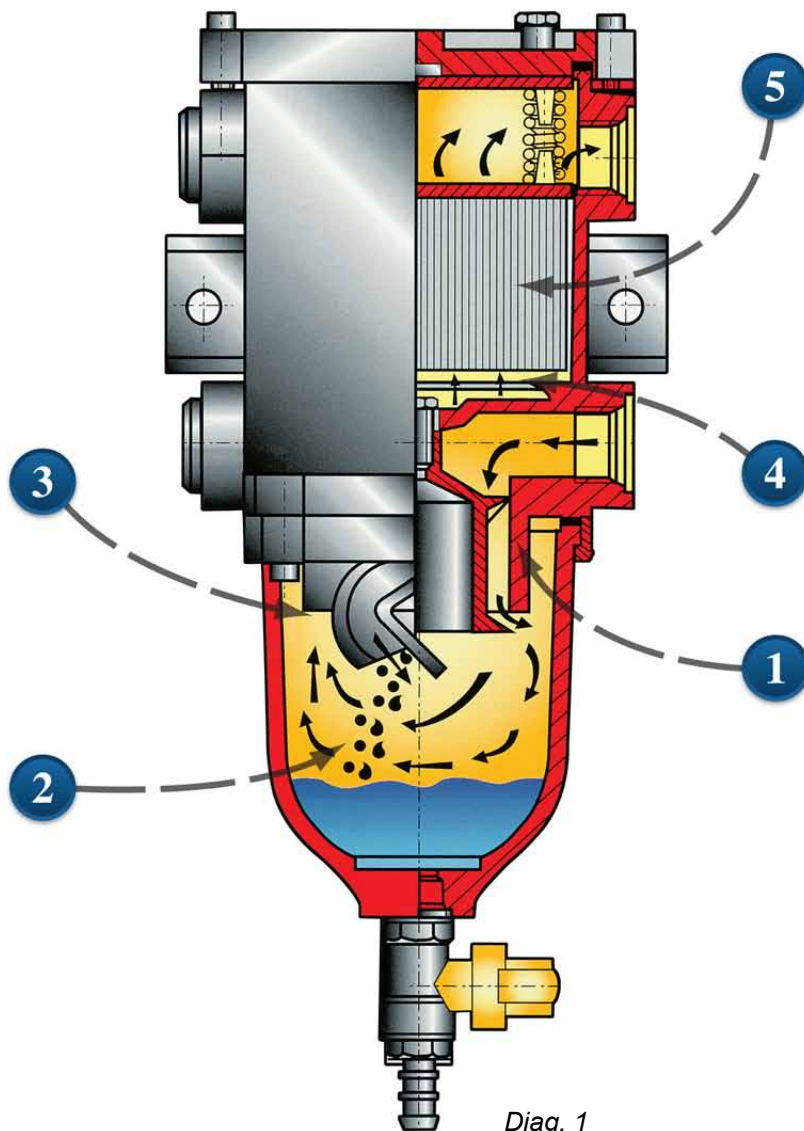
A 2nd vane system then forces the fuel to spin in a different direction – separating smaller water droplets and finer particulates.

4

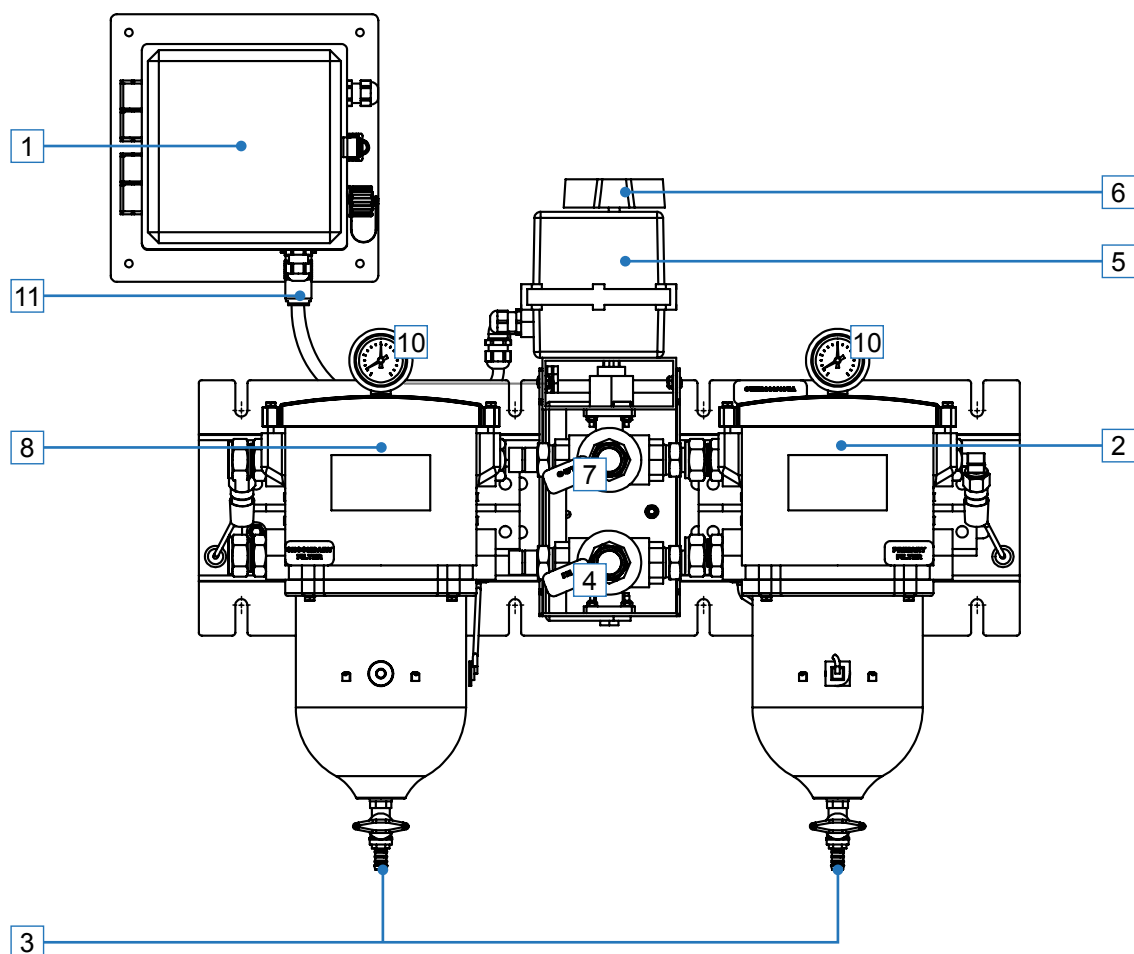
A wider passage, just below the element, slows down fuel to allow more contaminants to settle into the bowl.

5

Finally, the element filters finer particulates out of the fuel before exiting through the outlet(s).

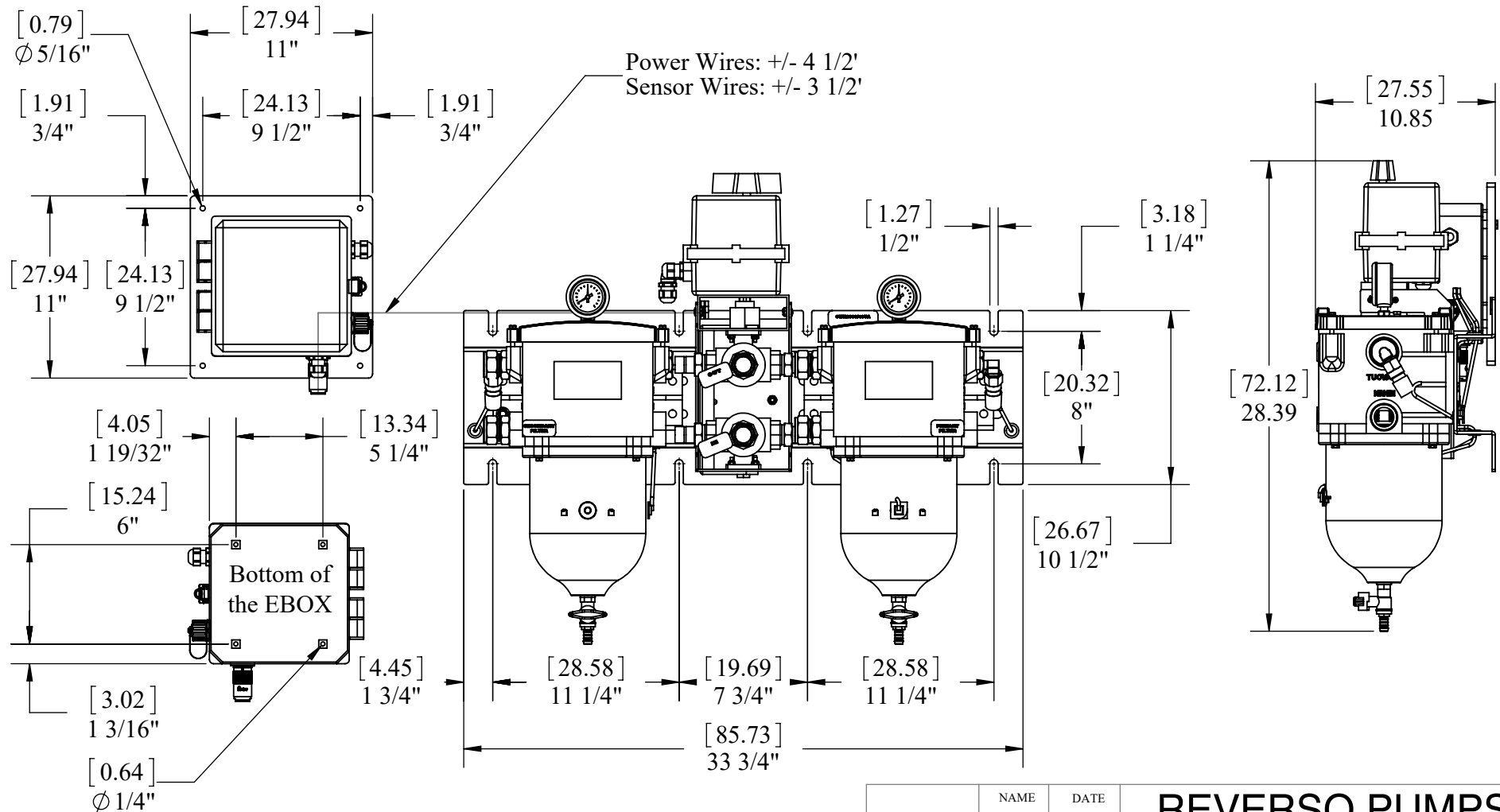


- 1 Control box
- 2 Primary filter
- 3 Drain valve - Push in and turn counter-clockwise to open
- 4 Inlet
- 5 Automatic actuator
- 6 Manual switchover on automatic actuator
- 7 Outlet
- 8 Secondary filter
- 9 Water sensors
- 10 Vacuum gauge
- 11 Control box connector



Part #: 48-2993-02-01-30

All Dimensions for Reference Only  
Secondary Dimensions in Centimeters



#### TECHNICAL SPECIFICATIONS

Port Size - 1 5/16 x 12 OR Boss (Filter)  
1" M Flare (Valve)  
Weight - 92 lbs / 41.7 kg

Power - 10 Amp @ 12v / 5 Amp @ 24v

Flow Rate - 630 gph / 2385 Lph

Filter Element - 30 Micron

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IS PROHIBITED.

#### UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

TOLERANCES:

FRACTIONAL  $\pm 1/64$   
ANGULAR: MACH  $\pm$  BEND  $\pm 0.2$   
TWO PLACE DECIMAL  $\pm .01$   
THREE PLACE DECIMAL  $\pm .005$

DO NOT SCALE DRAWING

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MFG APPR.		
Q.A.		

#### COMMENTS:

## REVERSO PUMPS

#### TITLE:

*AutoDuplex - SWK-2000/40 Series -  
Basic Control - 24v - 1" MJIC Inlet /  
Outlet - 30 Micron Filter*

SIZE	DWG. NO.	REV
<b>A</b>	2000_40UA2-1-30-ER-R_A	1
SCALE: 1:9	WEIGHT:	SHEET 1 OF 1

Dimensions: Model SWK-2000/40UA-24-01-30

Technical Specifications					
Model	SWK-2000/5/50UA	SWK-2000/10UA	SWK-2000/18UA	SWK-2000/40UA	SWK-2000/130UA
Flow Rate*	79 GPH	158 GPH	285 GPH	630 GPH	2060 GPH
Inlet / Outlet	#8 (1/2") Male JIC	#8 (1/2") Male JIC	#12 (3/4") Male JIC	#16 (1") Male JIC	#32 (2") Male JIC
Voltage	12 or 24V DC				
Max. Amp. Draw	4A / 12V, 2A / 24V				
Features Included	<ul style="list-style-type: none"> <li>• Primary filter and secondary filter</li> <li>• Automatic switchover to secondary filter with manual backup</li> <li>• Separ Filter's patented 5-stage filtration</li> <li>• Alarm for high water and high vacuum</li> <li>• Control panel indicating which filter is in use and alarm status</li> </ul>				
Service Space	4" on above and below to change filter elements and drain water and particulate from the bowl				
Tightening Torque Values	Complete in multiple turns and crosswise: Bleed Screw 4 Nm Lid screw 8 Nm Bowl screw 8 Nm				

\*Actual flow rate may vary due to conditions of installation.

Filter Spare Parts**					
Model	SWK-2000/5/50UA	SWK-2000/10UA	SWK-2000/18UA	SWK-2000/40UA	SWK-2000/130UA
Replacement Elements					
10 micron	00510/50	01010	01810	04010	01810 x 4pcs
30 micron	00530/50	01030	01830	04030	01830 x 4pcs
60 micron	00560/50	01060	01860	04060	01860 x 4pcs
Lid Gasket	62-10367	64-30421	65-30421	66-30440	67-30387
Seal Kit	62-10527	64-10528	65-30979	66-30980	67-30993
Hex Bolt Kit	61-2655	64-2657	65-2664	66-2667	

\*\*Items are specified per filter.

## Primary Inspection

- Upon delivery, for any damage that may have occurred during shipment.
- If the unit is damaged upon delivery, contact the shipping company immediately.

## Mounting

- The system should be wall mounted on a hard, vertical surface capable of supporting the weight of the unit.
- Use slots on base for mounting screws.

## Electrical

- Installation of unit should only be performed by qualified installation personnel who have thoroughly read and understands the installation instructions covered in this manual.
- To avoid the risk of electric shock, make sure that the power supply is disconnected. Ensure that the power supply is at zero volts with a multimeter before making any electrical connections.
- To ensure operator safety the system must be connected to properly grounded power sources.

- Make sure that your unit and power supply are configured for the same voltage rating.
- External control voltage must be supplied by customer.

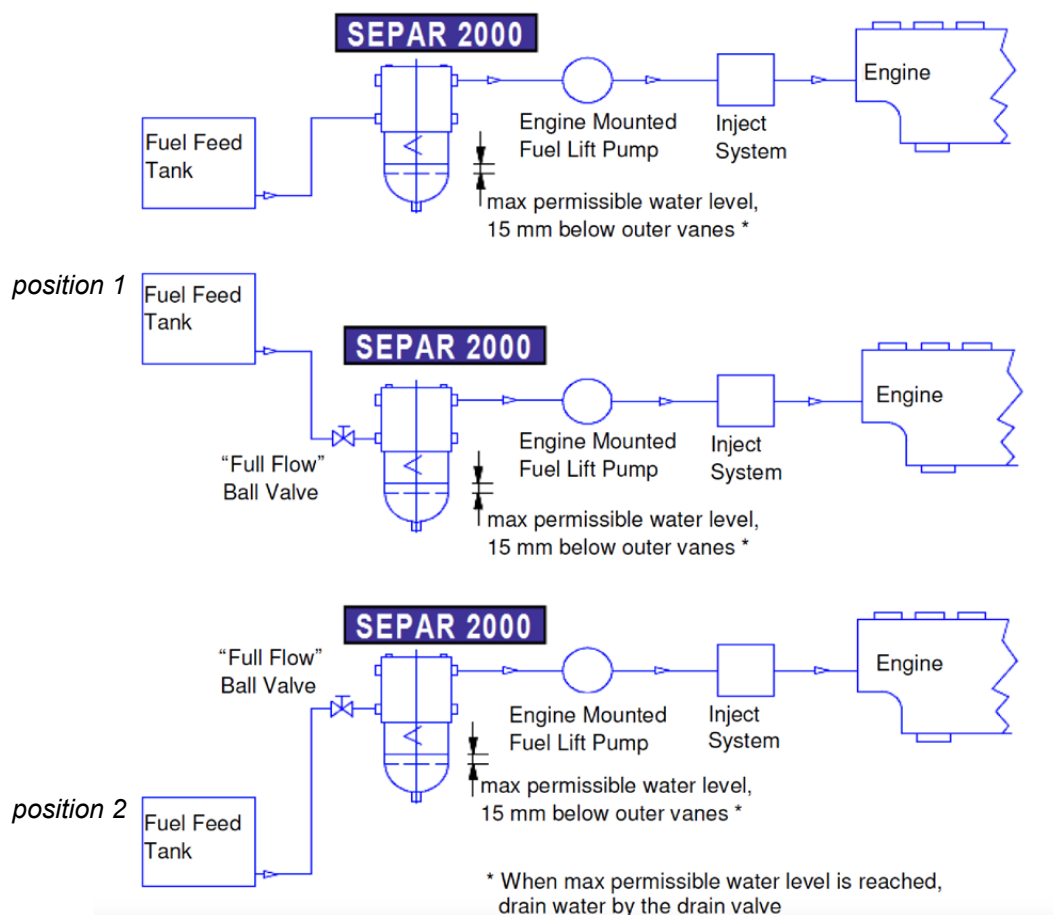
## Piping

Use quality approved fuel line materials with at least 1" inner diameter line.

The filter system should be installed in the suction line of the fuel system between the fuel tank and fuel pump.

A shut-off valve is recommended between the tank and the filter system. If the filter is positioned below the tank (*position 1*), there is always a slight pressure on the filter system inlet which can facilitate the priming of the filter system.

When the filter system is positioned above the tank (*position 2*), it is recommended to install the Separ Filter hand priming pump in the fuel line.





## Start Up

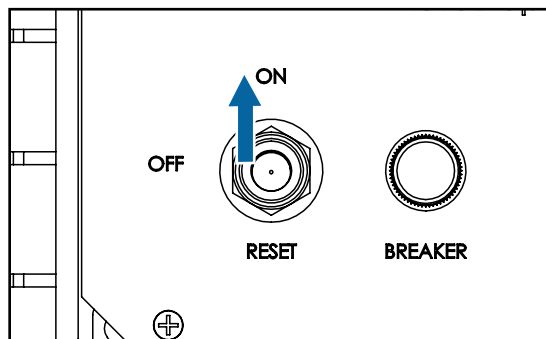
1. On the control box:

- Identify the notch on the connectors to ensure the pins are aligned.
- Do not push in the connector.
- Twist collar to tighten connector to control box.



2. Push toggle switch from OFF (center) position to ON position.

- Screen will illuminate with filter status.
- Indicator light will also illuminate based on filter status.



## Control Indicator Lights

When the system is running normally:

- **Green** light will be activated
- The screen will state "Primary Filter In Use."



When the primary filter has high water level or high vacuum:

- The system will automatically switch to the secondary filter.
- **Yellow** light will be activated.
- The screen will state "Secondary Filter In Use."



When the secondary filter has high water level or high vacuum:

- **Red** light will activate and signal will be sent to remote sensor wire.
- The screen will state "Secondary Filter In Use Critical."
- Filter service is required, push toggle switch to RESET then back to ON position to resume operation.



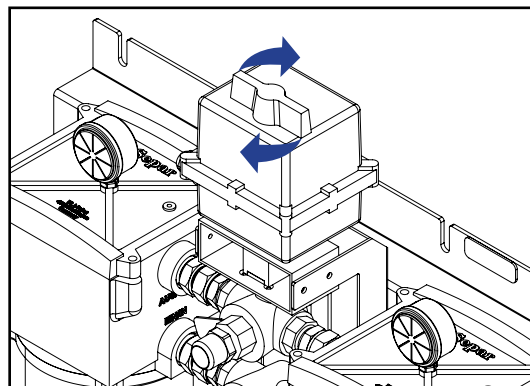
## Power Loss or Actuator Failure

In event of power loss or actuator failure, the system can be switched manually:

- Push down on actuator handle and rotate within labeled limits.
- To re-engage, rotate actuator handle in opposite direction until it moves up and re-engages.

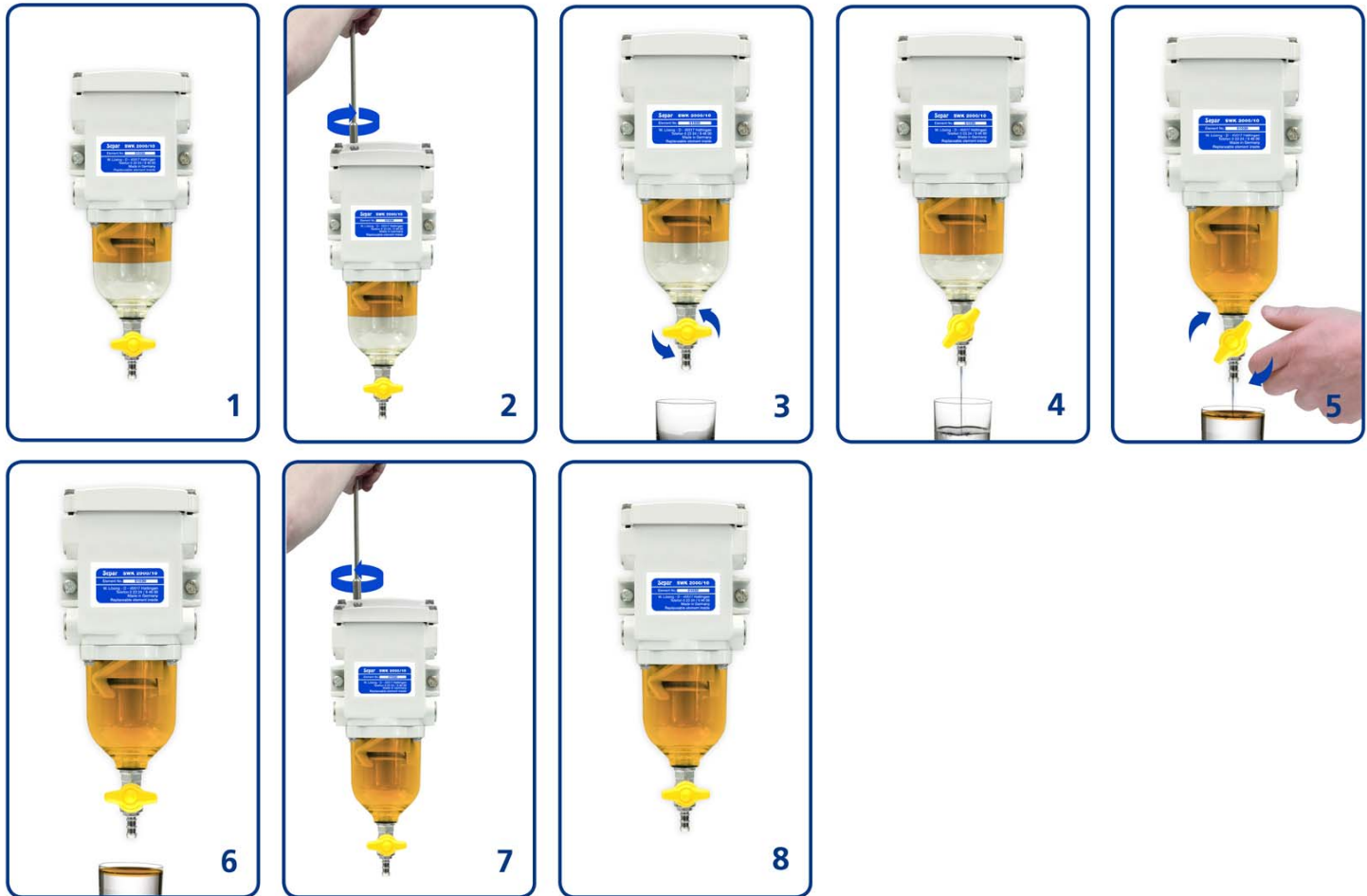
### Caution

The manual override should only be used when there is no power to the system. When power is restored, the system will automatically resume normal operation.



Prior to service, ensure the system is off.

Backflushing is for particulate removal only and will not remove sludge once embedded in the filter media.



Prior to service, ensure the system is off.

