INSTALLATION, OPERATION, AND MAINTENANCE MANUAL
M8 STRAINER AND BAG FILTER HOUSINGS



IMPORTANT: READ AND UNDERSTAND THIS ENTIRE MANUAL BEFORE OPERATING FILTER VESSEL. THIS DOCUMENT SERVES AS AN OVERVIEW FOR WORKING WITH A BEHRINGER VESSEL.

ALL INDUSTRY SAFETY STANDARDS APPLY.

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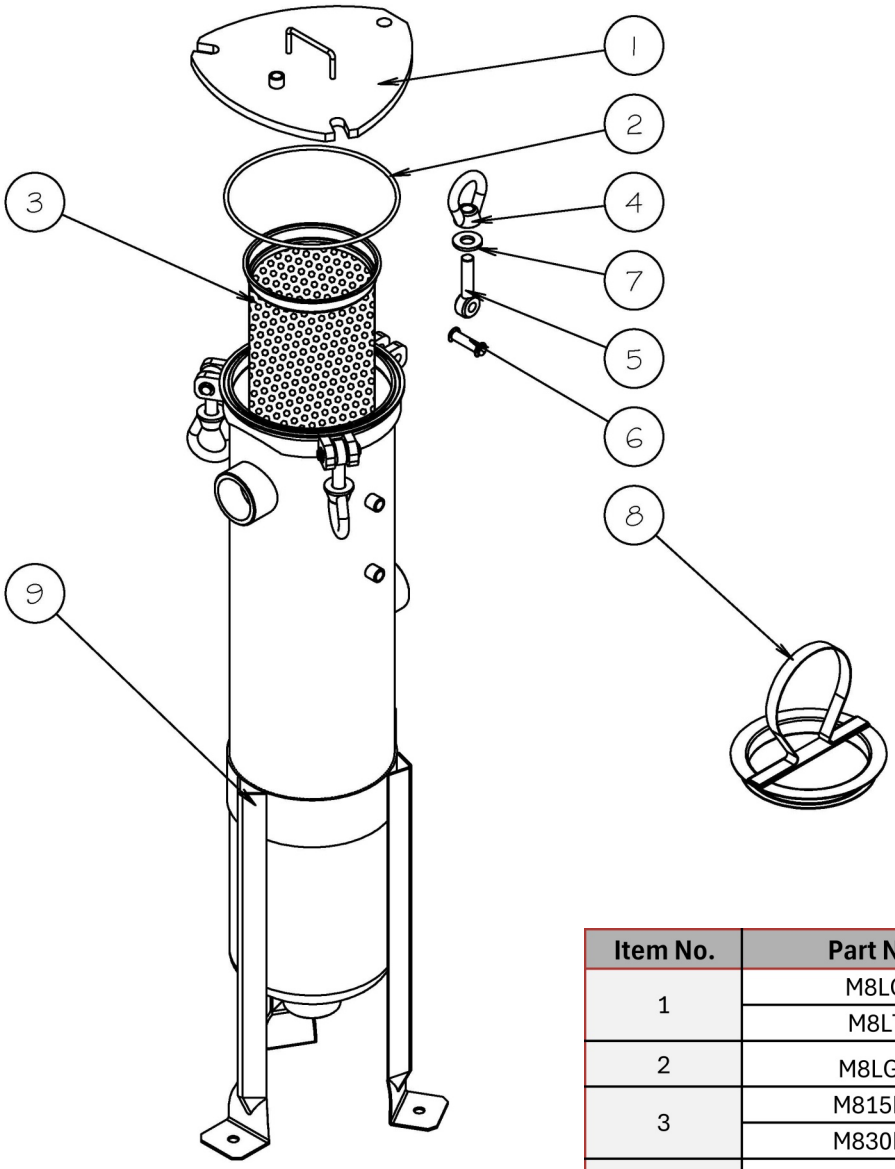
Process Filter Division
Manual No. PF4020.M8.OM

PARTS BREAKOUT / SPARE PARTS LIST



Item No.	Part No.	Description
1	M8LC	Lid, Carbon Steel
	M8LT	Lid, 304 Stainless Steel
2	M8LG*	Lid Gasket, *Specify Material Code
3	M815BT	15" Stainless Steel Basket
	M830BT	30" Stainless Steel Basket
4	M8EN	Eye Nut
5	M8RE	Rod End
6	M8CPA	Clevis Pin Assembly
7	M8FW	Flat Washer
8	M8BHD	Bag Hold Down (Optional)
9	M8LAC	Leg Assembly, Carbon Steel
	M8LAT	Leg Assembly, Stainless Steel

BEHRINGER FILTER VESSELS ARE DESIGNED TO SAFELY FILTER LIQUIDS UNDER PRESSURE IN ACCORDANCE WITH TEMPERATURE AND PRESSURE RESTRICTIONS AS STAMPED ON THE NAME PLATE AFFIXED TO THE PRODUCT.

INSTALLATION

1. Remove all shipping and packaging materials carefully, including all crating that the vessel may be shipped in.

2. Vessel can be lifted by means of a multi-legged sling chain with a safety hook attached to the end of each leg. Attach the hook of each leg to an eye nut and space legs around vessel equally.

3. Securely anchor the adjustable tripod stand to a floor or a base.

4. Check the inner housing and pipe connections for foreign material and discard any items that have entered during shipping or unpacking.

5. Piping material used should be the same as the base material of the vessel. It should have a rating equal to or greater than the pressure and temperature rating of the vessel. Single bag models are capable of having several different piping variations based upon the outlet style of the particular vessel. Plumb vessel with inlet / outlet pipe connections (NPT or Flanged).

6. After completing installation, be sure to double check connections for integrity. Your vessel has been factory pressure tested to be leak-free. Therefore most seepage problems typically occur from improper installation connections.

7. NPT ports are provided for gauges, vents, pressure relief valves, temperature sensors, and/or drains. Accessory products should be mounted and checked for connection integrity.

8. To install the filter basket, remove the cover by loosening the eye nuts. Note: eye nuts do not need to be fully removed from housing.

9. If your unit requires a basket seal, insert the basket seal into the collar groove.

10. Place the basket into the filter housing. Make sure that the basket flange is firmly seated into the basket collar.

11. Insert the bag into the basket making sure that the filter bag ring is firmly seated inside the basket flange. For best results, be sure that the bag is fully extened to the bottom of the basket.

INSTALLATION (CONTINUED)

12. IMPORTANT: It is the responsibility of the end-user to protect system components from being over-pressurized. This can be achieved by installing a system relief valve.

13. Filter inlet is above the restrainer basket.

14. Filter outlet is below the restrainer basket in vessel body or bottom.

15. Shut-off valves should be installed before and after vessel to allow isolation of vessel for element change-out.

16. Vessel bypass system may be desirable.

17. Behringer advises to pressurize system to check for installation leaks.

18. Ensure that the vessel has not been bent or twisted in any way when making piping connections, as this may cause leaks to occur.

19. Your Behringer filter vessel is now ready for operation.

GENERAL RULES

Initial operating pressure with a clean filter bag installed in the vessel will remain constant until the filter is approimately 80% "blinded".

When the pressure differential increases by approximately 15-25 PSI, the filter bag should be changed. This recommended change-out can vary with the manufacturer of the filter bag or cartridge being installed in the vessel. Actual pressure differential, pressure drops, and frequency of filter bag change-outs can only be determined by experience in each individual application.

Behringer always recommends that there is a method for measuring and monitoring pressure differential so that proper service intervals can be established based off of the required change-out differential pressure of the filter bag or cartridge manufacturer.

OPERATION

IT IS IMPORTANT THAT ALL DIRECTIONS IN THIS SECTION ARE FOLLOWED WHEN OPENING AND CLOSING THE FILTER VESSEL. IT IS CRITICAL TO RELIEVE PRESSURE BEFORE OPENING THE VESSEL. THIS CAN BE DONE BY OPENING EITHER THE VENT VALVE OR DRAIN VALVE.

The following instructions assume that the drain valve is piped back to the holding tank or reservoir.

FOR START-UP

Before utilizing the vessel, the following checks need to be performed:

- Ensure that the filter basket and bag are in the housing and do not require cleaning or replacement.
- Confirm that the cover is securely fastened to the housing using the tightening method described in the technical appendix.
- Slowly open the inlet service line to 25% of normal operation flow. This will ensure that the bag or cartridge is not unseated while the vessel is filling.
- After the vessel is pressurized and vented, slowly open the outlet service line valve until completely open.
- Complete opening of inlet service line valve until desired flow rate is achieved.

TO CLEAN OR REPLACE FILTER MEDIA:

- Close the flow from the inlet valve.
- Close the flow from the outlet valve.
- Relieve the pressure from the filter unit.
- Drain the filter housing sufficiently to access filter basket.
- Losen eye nuts to remove cover.
- If necessary, clean debris and sludge from inside the upper portion of the housing to prevent contamination of clean liquid when basket is removed.
- Remove filter bag (if applicable) and throw away. It is not recommended to reuse bags.
- Remove filter basket and clean thoroughly.
- Replace clean basket and install new filter bag (see installation section for details).
- Remove and inspect cover gasket. Replace cover gasket if damaged.
- Replace lid using the tightening method described in the technical appendix.

MAINTENANCE

GENERAL CARE

- Gaskets are subject to wear and should be inspected each time the filter lid is opened. Check for dirt, debris, cuts, abrasions, or swelling. Any of these issues necessitates replacement of the gaskets. Replacement of gaskets should be done prior to pressurization of the vessel. Be certain that the fluid to be filtered is chemically and thermally compatible with the filter vessel, seal materials, and filter bag or cartridge materials. Fluid compatibility is critical for all materials in contact with the liquid under elevated temperature and pressure.
- Keep vessel clean of excessive dirt that may impair vessel, hindering optimum performance.
- Inspect all connections regularly and check for signs of damage or leakage. This includes all inlet/outlet connections as well as vent, drain, and gauge/indicator connections. In the event that damage or leakage is found, replace and/or repair the damaged components with genuine parts and in accordance with all industry and local codes and regulations.

SAFETY

This manual has been prepared for the safe installation, operation, and maintenance of Behringer Corporation pressure vessels. Note: Improper use of filter vessel may result in injury or property damage. Any misuse or modification of these products will void any warranties and/or responsibility of the manufacturer.

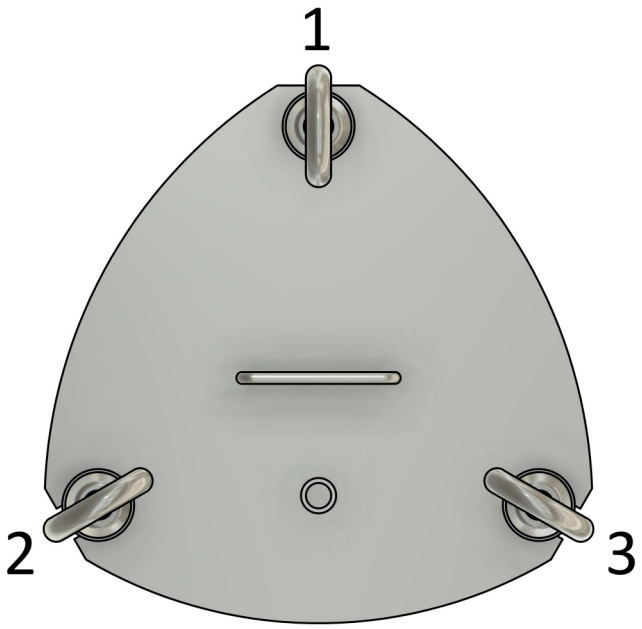
WARNING: Before operating this vessel, operator should wear proper personal protective equipment (PPE). Before pressurizing a filter vessel, always ensure that the connections and lid hardware are securely fastened. Always relieve the pressure to the filter system before loosening the hardware.

IMPORTANT NOTE: A filter bag or cartridge that has been used with a hazardous liquid may contain residual amounts of this material and should be handled with the same safeguards that would be used in handling any hazardous and/or toxic materials. Always wear the proper PPE.

TECHNICAL APPENDIX

Bolt tightening should be done in accordance with the procedure and tightening torques recommended below.

1. Hand tighten following pattern shown
2. Tighten with wrench following pattern shown
3. Tighten each bolt in a clockwise pattern.



ORDER
1. 1-2-3
2. 1-2-3
3. 1-3-2

Torque (Ft-Lbs) for ASTM 193 Grade B7 Rod Ends			
Bolt Dia.	Torque (Ft-Lbs)		
	30% Initial	70%	100% Final
1/2"	17	39	55
5/8"	33	77	110
3/4"	59	137	195
7/8"	93	217	310
1"	140	325	465