



Installation, Operation, and Maintenance Manual

KNIGHT MK HOUSING

I. Installation

Please remove all shipping and crating materials carefully. Be sure to remove the plugs from the inlet and outlet openings. Dispose of all crating materials safely.

After positioning the Multi-Basket Filter into its proper location, secure the (4) support legs to the floor or platform. Provided on each support pad is a mounting hole to allow positive attachment to the base.

The Multi-Basket Filter is now ready for connection to the system. The inlet service line should be connected to the inlet flange. It is very important to identify which flange is the inlet side of the Multi-Basket Filter unit. The inlet side of the unit consists of a riser pipe which carries the fluid from the inlet flange to the top of the housing, above the basket retainer plate (see spare parts diagram for part identification). Connect the outlet service line to the outlet flange.

There is a ½” NPT port on the cover of your Multi-Basket Filter unit. This port can remain plugged or used for a pressure gauge or special fitting as your application requires.

There are (3) NPT drains located on the inlet, outlet and the bottom of the housing. These ports allow complete drainage of the filter housing including the inlet riser.

Some applications require special procedures for proper installation such as electrical grounding, pressure relief valves, flow by-pass systems, etc. Please consult with specialists regarding your specific needs.

After completing installation be sure to double check connections for integrity. Your Multi-Basket Filter unit has been factory pressure tested leak free, therefore, any seepage problems usually occur from improper installation connections.

You are now ready to install the filter basket and bag (if applicable). Remove cover by loosening closure assemblies sufficiently to allow them to swing free. Turn handwheel on the top of the housing to lift cover clear of basket retainer plate. Swing cover away from housing to gain access to strainer baskets and/or filter bags.

The next step is to install the strainer or filter bag basket. If you've ordered the bag basket option, a basket seal is utilized to prevent unfiltered liquid from by-passing the basket.

If your installation requires a filter bag, insert bag into the bag basket making sure filter bag ring is firmly seated inside the basket retainer plate opening. No basket seal is necessary when a filter bag is used. For best results, be sure filter bag is installed fully extended to the bottom of the basket.

Before replacing cover assembly, inspect cover seal (replace as necessary). Close cover and alternately tighten the closure assemblies evenly to ensure a leak-proof seal between cover and housing body. The recommended maximum torque values for the Multi-Basket Filter closure assemblies is 160-240ft-lbs for 7/8” –9 size closures, and 225-275ft-lbs for 1”-8 size closures.

Each installation may have different closure bolting torque requirements to effectively seal the filter vessel cover. Many installations require significantly lower closure bolting torque due to the variables explained below. The suggested torque values are for reference only. They are to be used as a guideline by maintenance personnel. These values are meant as a guideline for safe operation of the filter system at its maximum rated pressure. Many variables affect the torque required to operate the filter vessel without leaks. These variables include the diameter of the bolt, type and number of threads, material type and grade, condition of the nut bearing surface and lubrication of bolt threads and nut bearing surfaces. Other factors such as the condition of the o-ring, o-ring material, viscosity of the fluid being filtered, operating pressures, temperature, and the closure assembly tightening procedure must also be considered.

Your Knight Multi-Basket Filter Housing is now ready for operation!

II. Operation

Filter System Start-Up Procedure:

Prior to turning on the flow to the inlet service, please make the following checks:

1. Check inside filter unit to be sure baskets and filter bags (if applicable) are in housing and do not require cleaning or replacement. If necessary, install clean filter baskets and bags (if applicable).
2. Check that filter unit cover is securely fastened to housing (see Page 1). You are now ready to open the flow to the inlet service line. Slowly open the inlet service line approximately 25% of normal operational flow (open slowly as not to displace filter bag inside the housing). After filter unit is pressurized and trapped air is vented, slowly open outlet service line valve until completely open. Complete opening of inlet service line until desired flow rate is reached.

Once the desired service flow has been established, the filter will operate efficiently until dirty. With the standard filter basket no more than 15 *PSI Differential Pressure* through the filter should be attained (higher differential baskets can be specially ordered). Operating the filter unit with a high differential may cause filter bags to rupture and/or cause damage to filter system or downstream equipment.

To prevent excessive drop through the filter unit, regular inspection of the filter media is required. Monitoring of differential pressure through the housing can be utilized as a means of determining whether or not the filter media needs cleaning or replacement. When it becomes necessary to clean or replace filter media, follow the procedure outlined below:

1. First close the flow from the inlet service line.
2. Close the flow to the outlet service line. (In some applications closing flow to outlet is not required.)
3. Relieve the pressure from the filter unit.



4. Drain housing sufficiently to access filter basket.
5. Remove cover by loosening closure assemblies sufficiently to allow them to swing free. Turn handwheel on top of housing to lift cover clear of basket retainer plate. Swing cover away from housing to gain access to strainer baskets and/or filter bags.
6. Remove filter basket and clean thoroughly, remove the filter bag (if applicable) and dispose of properly.
7. Remove debris and sludge from inside of bag/basket sealing surface and O-ring groove to avoid interference with cover seal or flow of fluid being filtered.
8. Install clean filter basket and filter bag (if applicable). Be sure filter bag is seated inside the basket retainer plate.
9. Inspect cover gasket for cuts or other signs of failure and make sure it is properly seated.
10. Swing cover back into position, and alternately tighten closure assemblies evenly to ensure a leak-proof seal between cover and housing body. The recommended maximum torque values, for the Multi-Basket Filter closure assemblies, is 160-240ft-lbs for 7/8"-9 size closures and 225-275ft-lbs for 1"-8 size closures. Many installations require significantly lower closer bolting torque due to the variables previously explained in Section I.

Your Knight Multi-Basket Filter is now ready for operation. Refer to filter system start-up procedure.

III. Spare Parts List

Your Knight Multi-Basket Filter Unit will give you many years of reliable service provided periodic inspections are made of various components and replacement of worn parts are made promptly. The following is meant to be a recommended spare parts list.

SPARE PARTS LIST			
	DESCRIPTION	KNIGHT PART NUMBER	TIME-FRAME
1	COVER SEAL	#MK(model)CG-*	As needed
2	BASKET SEAL	MKBG-*	As needed
3	HANDWHEEL	◆MK(model) Handwheel	As needed
4	EYE NUT	◆MK(model) Eye Nut	As needed
5	ROD END	◆MK(model) Rod End	As needed
6	CLEVIS PIN ASSEMBLY	◆MK(model) Clevis Pin Assy	As needed
7	FILTER BAG	See how to order Knight Filters	As needed
8	FILTER BASKET	See how to order Knight filter baskets	As needed

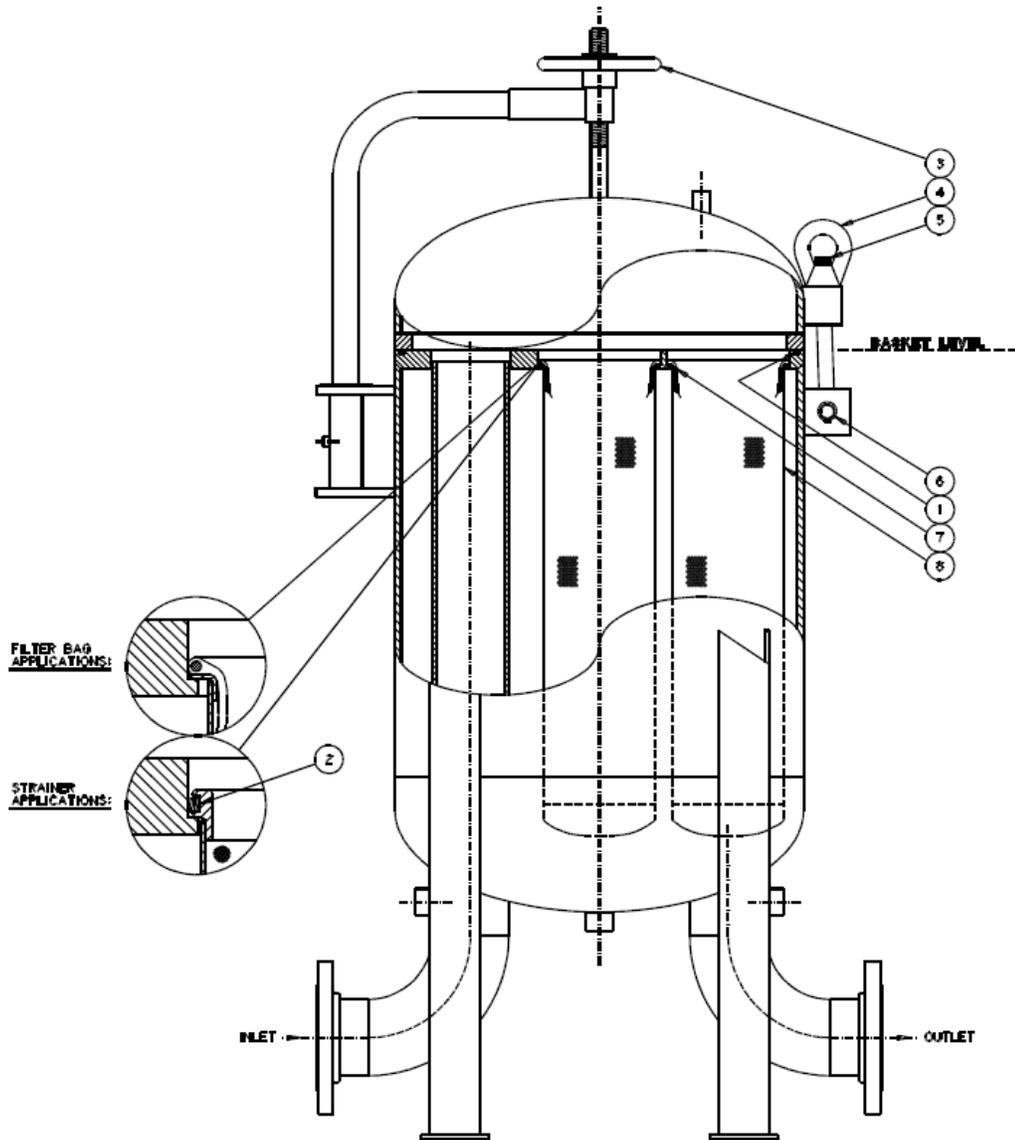
*Select Material Designation:

C =Carbon Steel	B = Buna N
SS =304 Stainless Steel	E = Ethylene Propylene
S3 =316 Stainless Steel	V = Viton
HC22 = Hastelloy C-22	TEV=Teflon Encapsulated Viton
	TSW=Teflon Solid White

Select Model Designation: MK22, MK32, MK42, MK62, MK82, MK122

◆ Select Size Designation:

IV. Spare Parts Diagram



Important Notice

Warranty: In the event any Knight Corporation filtration product is found to be defective in material, workmanship, or not in conformance with any express warranty for a specific purpose. Knight's only obligation and your exclusive remedy, shall be to repair, replace or refund the purchase price of such parts or products upon timely notification thereof and substantiation that the product has been stored, maintained and used in accordance with Knight's written instructions.

EXCLUSIONS TO WARRANTY: THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTY OF QUALITY, EXCEPT OF TITLE AND AGAINST PATENT INFRINGEMENT.

LIMITATION OF LIABILITY: Except as provided above, Knight Corporation shall not be liable or responsible for any loss or damage, whether direct, indirect, incidental, special or consequential, arising out of sale, use or misuse of Knight filtration products, or the user's inability to use such products.

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