

GFTK Series Filter Housing



Introduction

This installation manual covers all GFTK multiple cartridge filter housings.

Your GFTK series filter housing is designed and manufactured in accordance with ASME or CE standards, and tested under the most rigorous procedures. The result is a product of the highest quality, reliability and integrity. This product is produced in an ISO9001 and ISO14001 certified environment, providing you with assurance for even your most demanding needs. This product is design for medium flow rate filtration applications for solid particle removal in liquid systems.

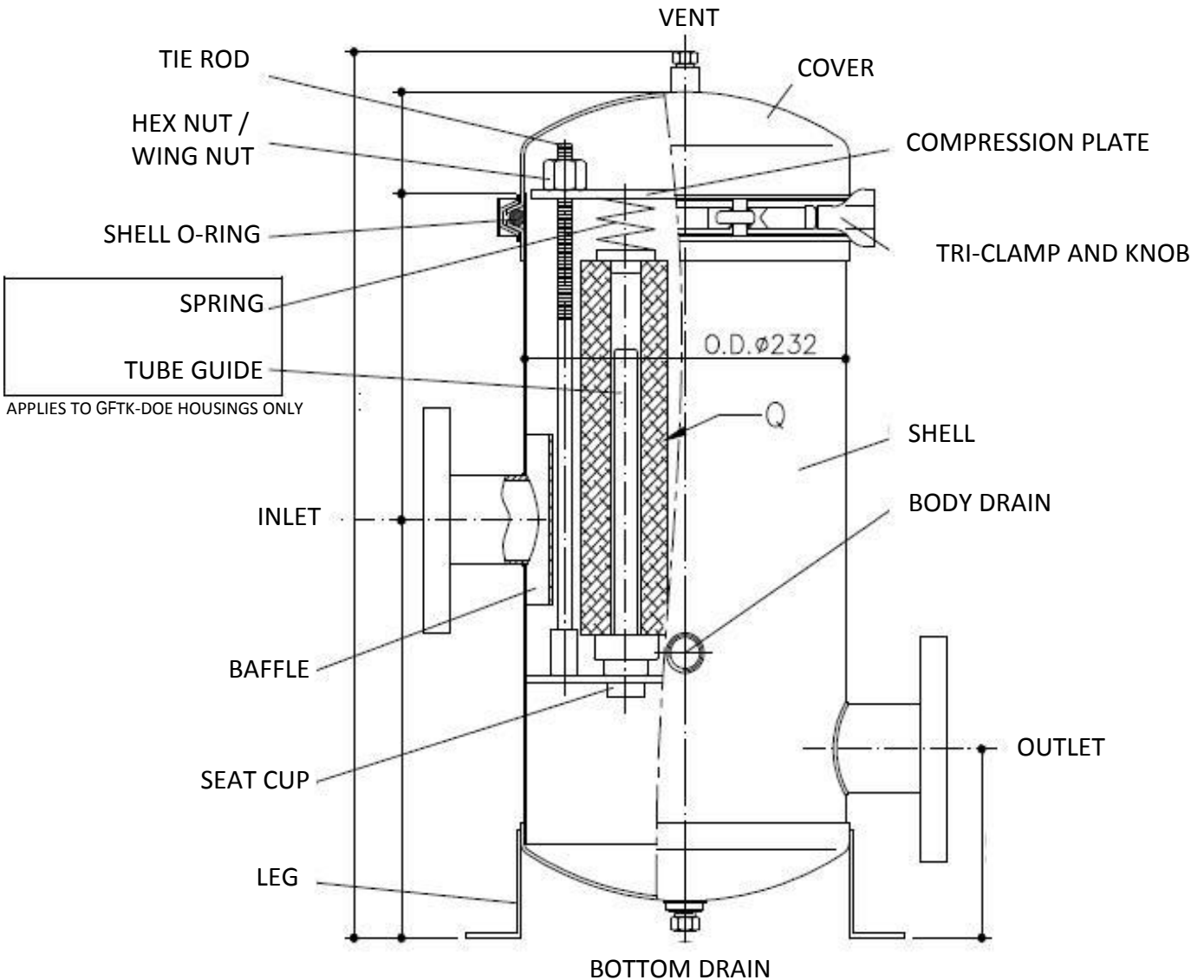
Key features of the housing

- 150 psig maximum operating pressure permits use in wide range of application
- Designed to accommodate up to 12 pieces of 40” filter elements
- Innovative sealing system accepts single open end or double open end cartridges allowing maximum flexibility in filter cartridge selection
- Operator friendly tri-clamp locking mechanism allows for quick and simple cartridge change-out
- 304 or 316 Stainless steel materials of construction for superior corrosion resistance
- Additional surface finishing option is available for further corrosion resistance

Housing series	Cartridge Type	Cartridge Lengths
GFTK	DOE (Double Open End)	
	Code 3- Single Open End with 222 O-ring and flat closed end	10”
	Code 8 - Single Open End with 222 O-ring and fin end	20”
	Code 7 – Single Open End with 226 O-ring and fin end	30” 40”

Specifications	
Process fluid	Water
Temperature	93 ⁰ C (200 ⁰ F)
Design Pressure	10.3 bar (150 psig)
Test pressure	15.5 bar (225psig)
Maximum OD of filter cartridge	2.67” (68mm)
Housing material	304 / 316 SS

GFTK series housing components



Receiving your product

Your GFTK series filter housing will be adequately padded, placed in a cardboard box and delivered to site. Please use proper equipment (forklift and crane) to position it on the installation site in a controlled manner.



Installation and testing

Installing the housing

Ensure that valves are installed upstream and downstream to the location of the filter housing.

IMPORTANT NOTE:

Applicable to Carbon Treatment Systems using GFTK Housings & AP017 Cartridges.

For carbon cartridges to have maximum effectiveness, enough contact time must be allowed.

Thus, the recommended flow per cartridge is about 1 USGPM. With city water pressure the filter will flow faster than this, therefore you must install a valve downstream of the carbon filter housings and throttle to the recommended flow.

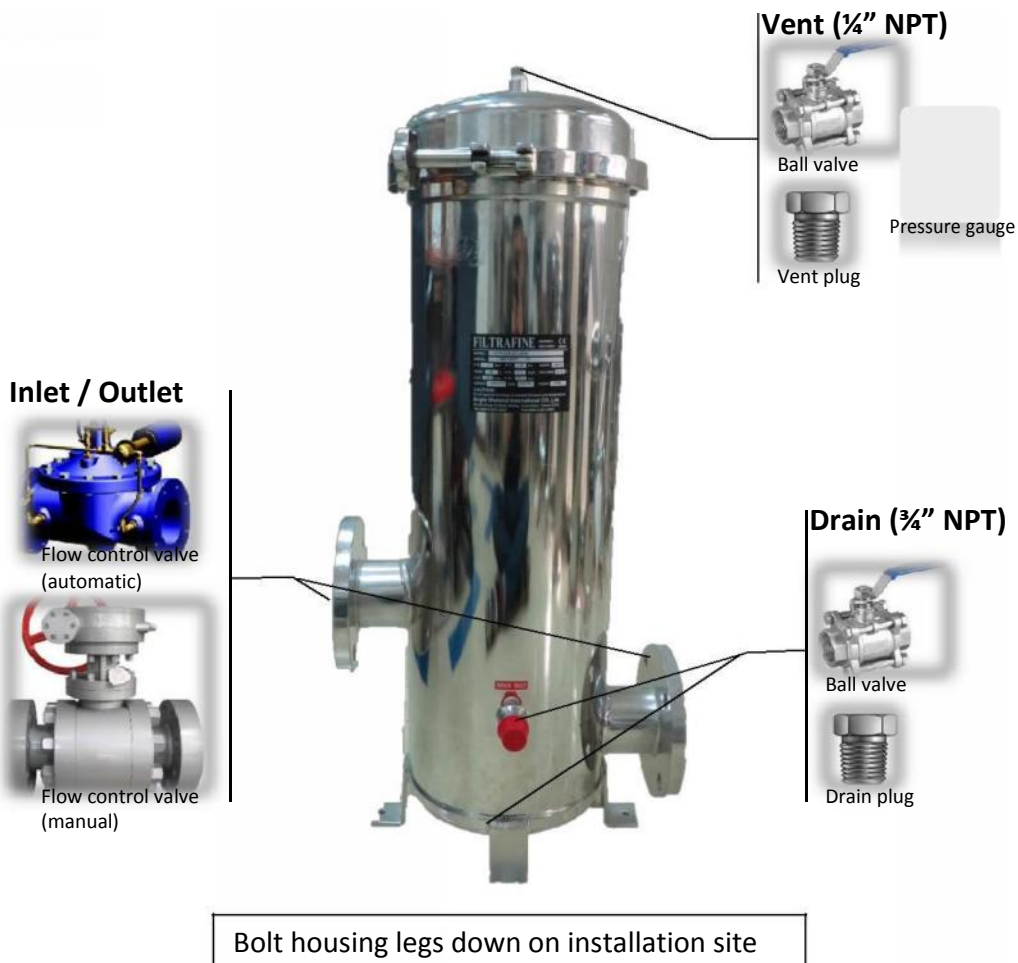
It is recommended to install a pressure relief/sustaining valve in order to maintain housing pressure set-point.

It is also recommended to install pressure gauges upstream and downstream of the housing, in order to determine the pressure drop across the filter unit

Place the filter housing on a flat and even surface. Install the housing legs on piping positions with screws. It is recommended to leave adequate room necessary for the installation and operation of the housing. Please also consider accessibility to the housing for maintenance purposes.

Connecting the ports

Connect the inlet to the feed water pipe (labeled INLET) and the outlet (labeled OUTLET) to the filtered water pipe serving downstream units. Remove the vent plug and Install a vent valve and pressure gauge on the vent port. Remove plugs on both the body drain and bottom drain (located underneath the housing) respectively and install drain valves.



Accessing the housing internals

Loosen the knob on the tri-clamp until the clamp can be removed. Lift up the shell and set it aside. Remove the hex nuts / wing nuts from the tie rod and lift out the compression plate

Installing the filter cartridge

For Single open end type filter cartridge end connection:

Rinse the filter cartridge O-rings with water, and firmly twist down to fix the cartridge on the seat cup. When all the cartridges are firmly installed, place the compression plate on top of the cartridges and use the hex nuts or wing nuts to secure the compression plate.



Wing nuts to secure compression plate

Fin end protrudes from the compression plate (for code 7 and code 8 cartridges)

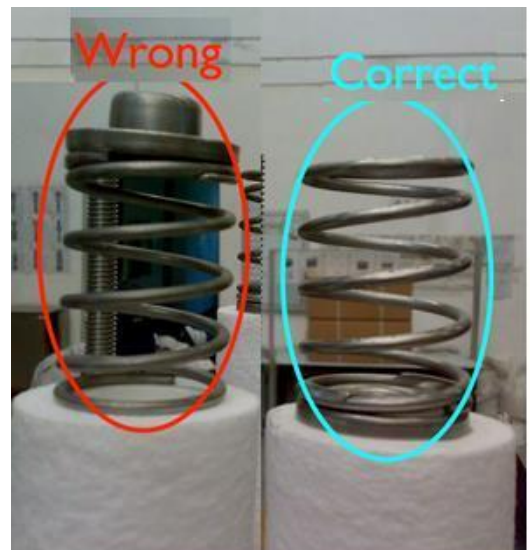
For Double open end type filter cartridges

Remove the spring and set it aside. Align the cartridge with the tube guide and slide it down. The cartridge should be sitting on the seat cup. Place the spring on top of the cartridge, and then place the compression plate on top of the springs, and use the hex nuts/wing nuts to secure the compression plate

When using carbon cartridges part number AP017 in 2, 3 & 4 high filter housings, spacers part number 10583-032 must be installed between cartridges.

Ensure compression plate is level, and evenly secured by all wing nuts

Align closed end of spring with filter cartridge



Place the shell O-ring in the groove on the housing shell. Cover the shell, and place the tri-clamp in position. The rims of the shell and the cover should be held together by the tri-clamp. Tighten the knob on the tri-clamp.



Shell O-ring is properly placed in the groove of the shell

Tighten hex nuts / wing nuts by hand. Do not over-tighten as this might damage the tie rods and the seat cup

Ensure that the IN mark on the compression plate is aligned with the inlet

Ensure that the rim of the shell is aligned with the rim of the cover, Before fitting the tri-clamp

Flushing the system

Open the vent, and close the outlet valve. Partly open the inlet valve until water flows out of the vent. This is to ensure that the vessel is fully filled with water. Close the vent, and fully open the inlet followed by the outlet. Allow the system to run for 10 minutes. Check for leakages from the system. If a leak is detected, check the seals of the tri-clamp assembly, as well as all other piping connections. If a leak is detected along the weld joints of the housing, please cease operations and contact the manufacturer immediately.

NOTE: VALVES SHOULD BE OPENED SLOWLY, IN ORDER TO PREVENT PRESSURE SURGES

Important:

Kindly observe maximum operating pressure limit of 150psig (10.3bar) @ 93°C

The pressure drop of your filtration system will gradually increase during operation. Ensure that cartridges are regularly replaced when the pressure drop reaches 35 psid, or when the flow rate is below the flow set point, whichever is sooner.

Filter cartridge replacement

First shut off the inlet and outlet valves to isolate the filter housing. Open the vent valve to drain the liquid. Open both drain valves to drain the contents of the housing. After all water has been drained, loosen the tri-clamp knob and remove the tri-clamp. Lift up the shell and set it aside.

Further remove the hex nuts / wing nuts and lift out the compression plate.

Remove the filter cartridge and dispose of it responsibly. Clean the housing internals and parts, and follow '**Installing the filter cartridge**' and '**flushing the system**' to replace new filter cartridges. Note that dirt particles on the shell O-ring might cause sealing issues. If the shell O-ring is dirty, please clean it using an organic solvent. Shell O-rings made with Teflon encapsulated Viton have to be disposed every time the filter cartridge is replaced.

Dimensional Data

Model	Liquid Flow Rate gpm (lpm)	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	Maximum Cartridge Diameter Inches (mm)	Weight lbs (kg)	Overhead Clearance for Cartridge Removal Inches (mm)
3GFTK1-1.5	to 15 (57)	23.0" (584)	11.1" (283)	5.0" (128)	6" (165)	12.3" (312)	2.75" (70)	21.8 (9.9)	29.6" (752)
3GFTK2-1.5	to 30 (114)	33.0" (838)	11.1" (283)	5.0" (128)	6" (165)	12.3" (312)	2.75" (70)	27.3 (12.4)	39.6" (1006)
3GFTK3-1.5	to 60 (171)	43.0" (1092)	11.1" (283)	5.0" (128)	6" (165)	12.3" (312)	2.75" (70)	33.1 (15)	49.6" (1260)
5GFTK1-2	to 25 (95)	23.5" (598)	11.1" (283)	5.0" (128)	8" (210)	14" (356)	2.75" (70)	33.1 (15)	19.8" (504)
5GFTK2-2	to 50 (190)	33.5" (852)	11.1" (283)	5.0" (128)	8" (210)	14" (356)	2.75" (70)	39.2 (17.8)	29.8" (758)
5GFTK3-2	to 75 (285)	43.5" (1106)	11.1" (283)	5.0" (128)	8" (210)	14" (356)	2.75" (70)	45.4 (20.6)	39.8" (1012)
5GFTK4-2	to 100 (380)	54.0" (1372)	11.1" (283)	5.0" (128)	8" (210)	14" (356)	2.75" (70)	53.1 (24.1)	59.8" (1520)
7GFTK1-2	to 35 (133)	24.0" (607)	11.1" (283)	5.0" (128)	9" (232)	14.9" (378)	2.75" (70)	34.2 (15.5)	29.8" (758)
7GFTK2-2	to 70 (266)	33.9" (861)	11.1" (283)	5.0" (128)	9" (232)	14.9" (378)	2.75" (70)	39.9 (18.1)	39.8" (1012)
7GFTK3-2	to 100 (375)	43.9" (1115)	11.1" (283)	5.0" (128)	9" (232)	14.9" (378)	2.75" (70)	46.1 (20.9)	49.8" (1266)
7GFTK4-2	to 125 (470)	54.3" (1379)	11.1" (283)	5.0" (128)	9" (232)	14.9" (378)	2.75" (70)	53.8 (24.4)	60.2" (1530)
9GFTK3-2.5	to 135 (513)	47.9" (1216)	14.6" (370)	6.3" (159)	10" (268)	16.5" (418)	2.75" (70)	48.7 (22.1)	73.7" (1872)
9GFTK4-2.5	to 180 (684)	58.3" (1480)	14.6" (370)	6.3" (159)	10" (268)	16.5" (418)	2.75" (70)	56.4 (25.6)	94.1" (2390)
12GFTK3-3	to 210 (794)	46.5" (1180)	13.0" (330)	6.7" (170)	12" (312)	18.1" (460)	2.75" (70)	54.0 (24.5)	52.1" (1323)
12GFTK4-3	to 240 (912)	56.5" (1434)	13.0" (330)	6.7" (170)	12" (312)	18.1" (460)	2.75" (70)	59.5 (27)	62.1" (1577)

