

# GFS Gas Filter Separator

The 3L Filters™ GFS Series gas filter separators remove moisture, liquid mists, aerosols and contaminants from hydrocarbon gases, including natural gas, propane, butane and methane, using a three-stage design. The first stage removes gross water by impingement on cartridge stools. The second stage coalesces water using cartridges, with particulate removal down to 0.3 micron. During the third stage, a stainless steel vane mist eliminator removes any remaining moisture. Water collects in the sump to be purged from the system, and clean, dry gas passes through the outlet.

## Applications

Removal of water and contaminants from many hydrocarbon gases such as natural gas, propane, butane and methane. These applications include:

- chemical plants
- pipelines
- natural gas plants
- refineries
- petrochemical plants
- compressor stations
- metering and regulation stations
- power generation plants

## Features

- designed to ASME Section VIII Div.1 & 2
- -20°F to 60°F (-29°C to 16°C) standard design temperature
- 6000 lb NPT couplings for vent, drain and pressure gauge connections
- carbon steel housing material
- horizontal configuration with sump
- 8" to 18" (203 mm to 457 mm) 3L Pogo (spring-assisted) or hydraulic Jack headlift on vertical models over 18" (457 mm)
- standard Swing Bolt closure with O-ring seal
- external primer finish for carbon steel housings
- multi-staged for better efficiency
- low pressure drops

## Options & Accessories

- custom design pressures to 3000 psig
- custom housing materials
- optional closure: Thru-Bolt
- O-ring closure seal in Buna or Viton®
- internal epoxy coating on carbon steel models
- electropolishing of stainless steel housings
- passivation of stainless steel housings
- paint or coating to customer specifications
- sump heater
- additional nozzles as needed
- valves
- safety relief valves
- pressure gauges
- liquid level gauges
- duplex or multiplex arrangement
- working platform
- skid packaged configurations with controls and heating equipment
- quick access for replacement of cartridges
- optional manual, pneumatic or electric drainage control package



### Note:

\*Model Coding is an example only.  
Gas Conditioning System can be custom engineered to specific requirements.

## Model Coding\*

GFSH

GFSV  
GFSH

24

VESSEL  
DIAMETER  
(inch)

124

VESSEL  
LENGTH  
(inch)

C

MATERIAL  
A - ALUMINUM    E - SS304  
C - CARBON       S - SS316  
STEEL            X - SPECIAL

740

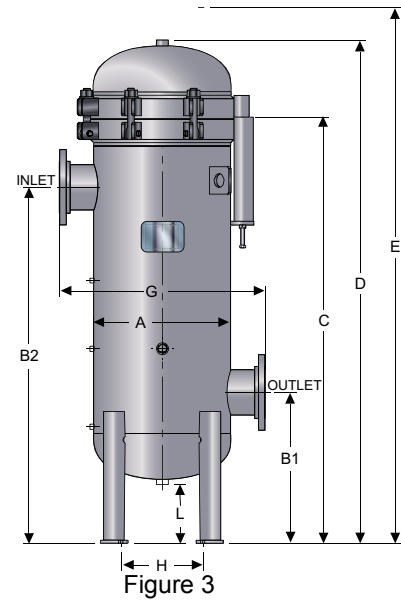
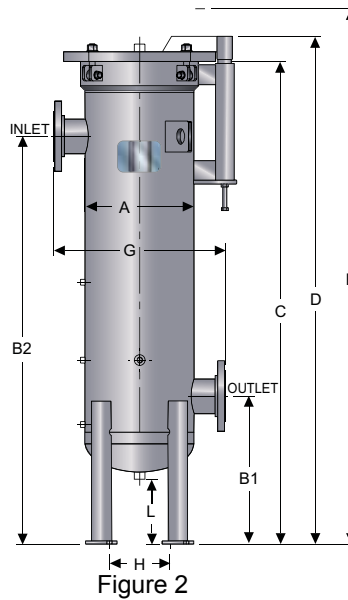
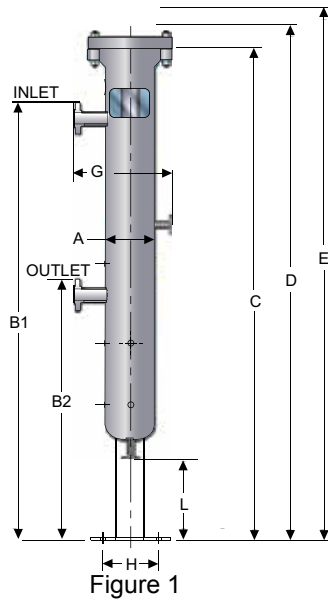
DESIGN  
PRESSURE  
(psig)

## Gas Filter Separators (Vertical)

Fig.	Model No.	Filter Elements		A Vessel OD in (mm)	B1 in (mm)	B2 in (mm)	C in (mm)	D in (mm)	E in (mm)	G in (mm)	H in (mm)	L in (mm)	Inlet/ Outlet (RF)	Vent Safety Drains (NPT)	Press. Gauge (NPT)	Typical Operating Press. (psia)	Typical Flow rate (mmscfd) Note 1
		Qty	Lg in (mm)														
1	GFSV636740	1	36 (914)	6.625 (168)	7.5 (191)	13.5 (343)	66.0 (1676)	70.0 (1778)	90.0 (2286)	18.625 (473)	9.0 (229)	8 (203)	2"	3/4"	1/2"	600	8
1	GFSV6361480	1	36 (914)	6.625 (168)	7.5 (191)	13.5 (343)	66.0 (1676)	70.0 (1778)	90.0 (2286)	18.625 (473)	9.0 (229)	8 (203)	2"	3/4"	1/2"	1200	11
2	GFSV1236740	3	36 (914)	12.750 (324)	17.0 (432)	18.0 (457)	76.5 (1943)	80.5 (2045)	112.5 (2858)	24.750 (629)	6.5 (165)	10.0 (254)	3"	3/4"	1/2"	600	24
2	GFSV12361480	3	36 (914)	12.750 (324)	17.0 (432)	18.0 (457)	76.5 (1943)	80.5 (2045)	112.5 (2858)	24.750 (629)	6.5 (165)	10.0 (254)	3"	3/4"	1/2"	1200	34
3	GFSV1836740	7	36 (914)	18.000 (457)	18.0 (457)	22.5 (572)	81.0 (2057)	85.0 (2159)	117.0 (2972)	30.000 (762)	10.0 (254)	10.0 (254)	4"	3/4"	1/2"	600	55
3	GFSV18361480	6	36 (914)	18.000 (457)	18.0 (457)	22.5 (572)	81.0 (2057)	85.0 (2159)	117.0 (2972)	30.000 (762)	10.0 (254)	10.0 (254)	4"	3/4"	1/2"	1200	67
3	GFSV2036740	8	36 (914)	20.000 (508)	20.0 (508)	22.5 (572)	86.0 (2184)	90.0 (2286)	122.0 (3099)	32.000 (813)	11.0 (279)	12 (305)	6"	3/4"	1/2"	600	63
3	GFSV20361480	8	36 (914)	20.000 (508)	20.0 (508)	22.5 (572)	86.0 (2184)	90.0 (2286)	122.0 (3099)	32.000 (813)	11.0 (279)	12 (305)	6"	3/4"	1/2"	1200	90
3	GFSV2436740	13	36 (914)	24.000 (610)	22.0 (559)	22.5 (572)	91.0 (2311)	95.0 (2413)	127.0 (3226)	36.000 (914)	15.0 (381)	12 (305)	8"	3/4"	1/2"	600	103
3	GFSV24361480	12	36 (914)	24.000 (610)	22.0 (559)	22.5 (572)	91.0 (2311)	95.0 (2413)	127.0 (3226)	36.000 (914)	15.0 (381)	12 (305)	8"	3/4"	1/2"	1200	134

**Note:**

Flow rate based on natural gas at the operating pressure indicated above at an operating temperature of 60°F (16°C).  
 Dimension 'E' is the minimum clearance required for cartridge removal.  
 Drawings for reference only. Certified drawings will be supplied after receipt of order.  
 Standard off the shelf products available, contact factory for more information.  
 Reverse Flow Configuration is available.



## Gas Filter Separators (Horizontal)

Fig.	Model No.	Filter Elements		A Vessel OD in (mm)	B1 in (mm)	B2 in (mm)	C in (mm)	D in (mm)	E in (mm)	G in (mm)	H in (mm)	Inlet/ Outlet (RF)	Vent Safety Drains (NPT)	Press. Gauge (NPT)	Weight lbs (kg)	Typical Operating Press. (psia)	Typical Flow rate (mmscfd) Note 1
		Qty	Lg in (mm)														
4	GFSH636740	1	36 (914)	6.625 (168)	18.5 (470)	27 (686)	56.5 (1435)	64.00 (1626)	80.5 (2045)	36.25 (921)	27 (686)	2"	3/4"	1/2"	250 (113)	600	8
4	GFSH6361480	1	36 (914)	6.625 (168)	18.5 (470)	27 (686)	56.5 (1435)	64.00 (1626)	80.5 (2045)	36.25 (921)	27 (686)	2"	3/4"	1/2"	400 (181)	1200	11
4	GFSH1236740	3	36 (914)	12.750 (324)	43.5 (1105)	32 (813)	96.5 (2451)	104.00 (2642)	132.5 (3366)	44.50 (1130)	57 (1448)	3"	3/4"	1/2"	900 (408)	600	24
4	GFSH12361480	3	36 (914)	12.750 (324)	43.5 (1105)	32 (813)	96.5 (2451)	104.00 (2642)	132.5 (3366)	44.50 (1130)	57 (1448)	3"	3/4"	1/2"	1450 (658)	1200	34
4	GFSH1636740	6	36 (914)	16.000 (406)	44.0 (1118)	34 (864)	101.5 (2578)	110.00 (2794)	137.5 (3493)	48.00 (1219)	61 (1549)	4"	3/4"	1/2"	1400 (653)	600	47
4	GFSH16361480	4	36 (914)	16.000 (406)	44.0 (1118)	34 (864)	101.5 (2578)	110.00 (2794)	137.5 (3493)	48.00 (1219)	61 (1549)	4"	3/4"	1/2"	2275 (1032)	1200	45
4	GFSH1836740	7	36 (914)	18.000 (457)	46.5 (1181)	37 (940)	107.5 (2731)	118.00 (2997)	143.5 (3645)	52.00 (1321)	66 (1676)	6"	3/4"	1/2"	1750 (794)	600	55
4	GFSH18361480	6	36 (914)	18.000 (457)	46.5 (1181)	37 (940)	107.5 (2731)	118.00 (2997)	143.5 (3645)	52.00 (1321)	66 (1676)	6"	3/4"	1/2"	2850 (1293)	1200	67
4	GFSH2036740	8	36 (914)	20.000 (508)	48.0 (1219)	38 (965)	115.5 (2934)	126.50 (3213)	151.5 (3848)	54.00 (1372)	67 (1702)	6"	3/4"	1/2"	2175 (987)	600	63
4	GFSH20361480	8	36 (914)	20.000 (508)	48.0 (1219)	38 (965)	115.5 (2934)	126.50 (3213)	151.5 (3848)	54.00 (1372)	67 (1702)	6"	3/4"	1/2"	3600 (1633)	1200	90
4	GFSH2472740	13	72 (1829)	24.000 (610)	84.0 (2134)	40 (1016)	184.5 (4686)	195.75 (4972)	256.5 (6515)	60.00 (1524)	132 (3353)	8"	3/4"	1/2"	6100 (2767)	600	134
4	GFSH24721480	12	72 (1829)	24.000 (610)	84.0 (2134)	40 (1016)	184.5 (4686)	195.75 (4972)	256.5 (6515)	60.00 (1524)	132 (3353)	8"	3/4"	1/2"	9600 (4354)	1200	175
4	GFSH2872740	18	72 (1829)	28.000 (711)	84.0 (2134)	44 (1118)	213.0 (5410)	227.50 (5779)	249.0 (6325)	66.00 (1676)	158 (4013)	12"	3/4"	1/2"	8200 (3719)	600	185
4	GFSH28721480	18	72 (1829)	28.000 (711)	84.0 (2134)	44 (1118)	213.0 (5410)	227.50 (5779)	249.0 (6325)	66.00 (1676)	158 (4013)	12"	3/4"	1/2"	12700 (5761)	1200	262
4	GFSH3872740	37	72 (1829)	38.000 (965)	89.0 (2261)	57 (1448)	230.0 (5842)	250.50 (6363)	302.0 (7671)	84.00 (2134)	175 (4445)	12"	3/4"	1/2"	14400 (6532)	600	381
4	GFSH38721480	34	72 (1829)	38.000 (965)	89.0 (2261)	57 (1448)	230.0 (5842)	250.50 (6363)	302.0 (7671)	84.00 (2134)	175 (4445)	12"	3/4"	1/2"	21100 (9571)	1200	495

**Note:**

Flow rate based on natural gas at the operating pressure indicated above at an operating temperature of 60°F (16°C).  
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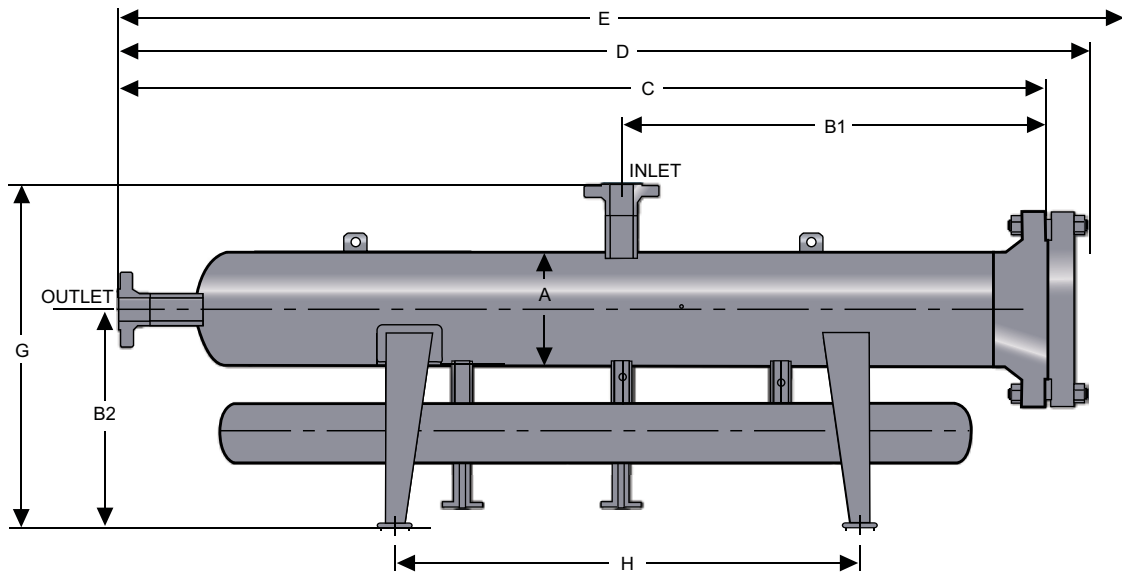


Figure 4