

# Type 31-LSF Separator Filters



- Sizes 2 1/2" to 16"
- Two-Stage Design for Maximum Efficiency
- Carbon Steel or Stainless Steel
- Flanged Connections
- Horizontal Flow

## FEATURES

- Fabricated Construction
- High Efficiency Over Wide Flow Range
- Removes 99% of Liquid and Solid Entrainment Particles Larger than 0.3 Microns - Dependent on Installed Filter
- Gas, Steam or Air Applications
- Integral Sumps

## OPTIONS

- High Pressure Models
- ASME U Code Stamp

The two-stage Eaton Type 31 LSF Separator/Filter removes 99% of all particles larger than 10 microns and is for applications requiring extremely fine entrainment removal.

The first stage is a centrifugal separator that removes slugs and heavy liquid loads. The second stage uses coalescing filters to remove nearly all remaining droplets plus particles as small as 0.3 microns from air, gas and steam processes. The most common application for the LSF Series Filter/Separator is for natural gas, but it is also suitable for those requiring highly pure output.

### Exclusive Design

Moisture-laden gas enters the inlet of the separator where droplets are centrifugally thrown to the outside wall of the vessel using Eaton's unique Cenpellar™ technology. The liquid flows to the bottom sump for draining. Eaton's Vortex Containment Plate (VCP) prevents the droplets from being re-entrained after separation.

The clean, dry flow is then directed to the second stage where precision filters capture any additional moisture and particles. A second sump is used to collect and discharge the additional entrainments.

### Fabricated Construction

Fabricated Type Type 31-LSF Separators/Filters are available in standard sizes from 2 1/2" to 16" in carbon steel or stainless steel construction. Internal elements are 304L stainless steel. Ports are built in for vents, gauges and drains. Additional fittings can be specified.

The filter elements are made from borosilicate microglass fibers with an epoxy saturated, glass matrix drain layer.

Filter elements are available down to 0.3 microns. Eaton Type 31-LSF Separator/Filters meet ASME Code, Section VII, Division 1. ASME U code stamp is available.



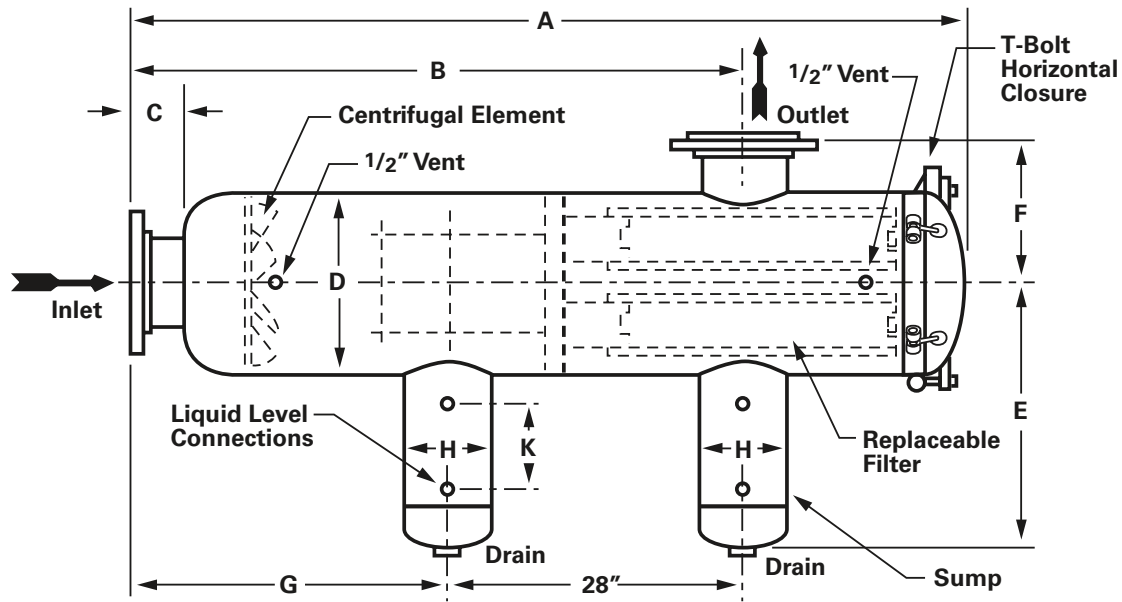
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# Type 31-LSF Gas/Liquid Separator/Filter

## Dimensions: Type 31-LSF (in/mm)

Pipe Size	A	B	C	D	E	F	G	H	K	Drain NPT	Weight (lb/kg)	
											175 psi*	305 psi*
2 1/2	57 / 1,448	41 / 1,041	3 / 76	8.63 / 219	15.5 / 394	8 / 203	13 / 330	2.87 / 73	6.75 / 171	1	235 / 107	245 / 111
3	58 / 1,473	42 / 1,067	3 / 76	8.63 / 219	16.5 / 419	8 / 203	14 / 356	3.5 / 89	6.75 / 171	1 1/2	250 / 113	265 / 120
4	64 / 1,626	46 / 1,219	4 / 102	10.75 / 273	17.5 / 444	10 / 254	18 / 457	4.5 / 114	6.75 / 171	1 1/2	380 / 172	395 / 179
5	68 / 1,727	49 / 1,245	4 / 102	12.75 / 324	19.5 / 495	11 / 279	21 / 533	5.56 / 141	6.75 / 171	1 1/2	495 / 281	520 / 295
6	70 / 1,778	50 / 1,270	4 / 102	14 / 356	21 / 533	12 / 305	22 / 559	6.62 / 168	6.75 / 171	1 1/2	595 / 225	640 / 290
8	79 / 2,007	58 / 1,473	5 / 127	16 / 406	24 / 610	13 / 330	30 / 762	8.62 / 219	7.87 / 200	2	850 / 386	910 / 413
10	85 / 2,159	61 / 1,549	5 / 127	20 / 508	27 / 686	15 / 381	33 / 838	10.75 / 273	7.87 / 200	2	1,145 / 519	1,275 / 578
12	94 / 2,388	68 / 1,727	5 / 127	24 / 610	30 / 762	17 / 432	40 / 1,016	10.75 / 273	7.87 / 200	2 1/2	1,565 / 710	1,715 / 778
14	99 / 2,515	71 / 1,803	5 / 127	28 / 711	33 / 838	19 / 483	43 / 1,092	12.75 / 324	7.87 / 200	2 1/2	1,725 / 782	2,200 / 998
16	107 / 2,718	78 / 1,981	5 / 127	30 / 762	35 / 889	20 / 508	50 / 1,270	14 / 356	7.87 / 200	3	2,075 / 941	2,680 / 1216

\* @ 450 °F ( 232 °C)



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