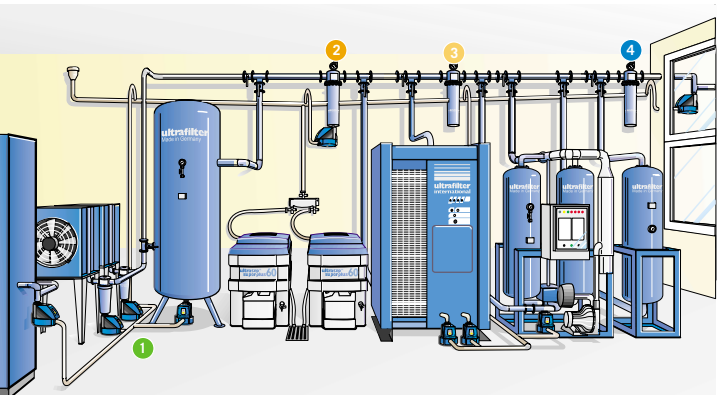
Donaldson
Ultrafilter®

AG Aluminum

SG Steel

Industrial Filter Housings

Donaldson

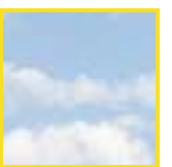


1 Ultradri® water separators at compressor aftercoolers
2 AG Superplus coalescing prefilter before compressed air dryer
3 AG Superplus particulate afterfilter
4 AG Superplus high-efficiency particulate line of point-of-use filter

Donaldson®
Ultrafilter®

The need to effectively and efficiently dry and filter compressed air cannot be overemphasized. *Ineffective* purification can lead to system and/or equipment damage and product spoilage. *Inefficient* purification can lead to unnecessary high operating and maintenance costs.

With over 30 years of compressed air purification experience behind us, Ultrafilter has developed an extensive line of air filtration products with a range of efficiencies and optional features to cost-effectively meet any of your needs. Our prefilters and afterfilters can be custom-configured to suit the requirements of your specific application.

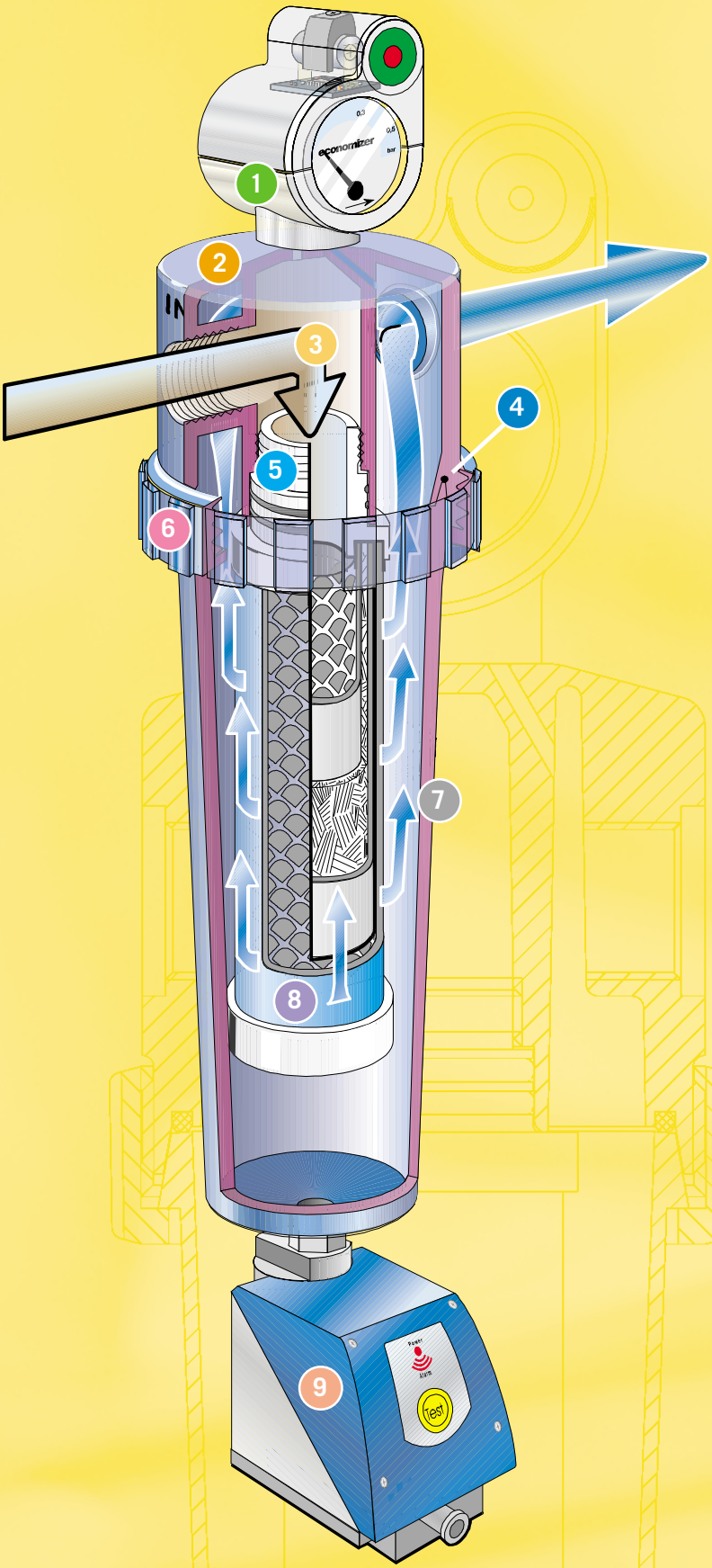


Compressed Air Contaminants

- Dust particles (from ambient air and/or desiccant)
- Liquid water and water vapor
- Liquid oil and oil vapor
- Hydrocarbon vapor
- Rust particles
- Pipe scale
- Acidic condensates

The price of ineffective and inefficient filtration

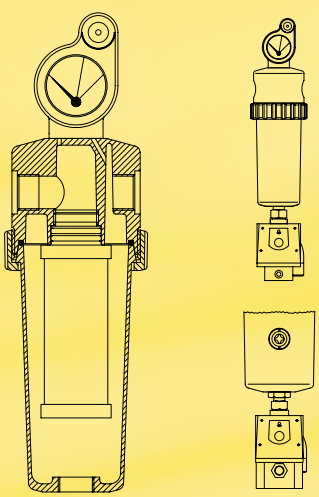
Cause	Effect	Solution
Liquid water entering refrigerated air dryer.	Inefficient dryer operation leading to higher cost and/or inability to meet dew point. Damage to dryer components such as heat exchanger.	Install water separator after air compressor and coalescing prefilter before air dryer.
Liquid water entering regenerative desiccant air dryer.	Inability to meet dew point. Damage to dryer components such as valves and/or desiccant.	Install water separator after air compressor and coalescing prefilter before air dryer.
Hydrocarbon and/or oil vapors entering process air stream.	Product spoilage. Odor and/or taste in process air.	Install high efficiency AK carbon filter after air dryer.
High pressure drop across filters.	Increased energy consumption to maintain pressure. Low line pressure leading to inefficient operation of downstream equipment.	Install filters with housings and elements engineered for low pressure drop. Replace elements at optimum point to keep both maintenance and energy costs at a minimum.



AG Superplus Industrial Filter Housings

Our top-of-the-line AG Superplus filter housings are equipped with all of the features required to make this the most efficient and cost effective filter for your compressed air system. Its three-part aluminum housing design allows for easy disassembly and element change-out. Low pressure drop is achieved through optimal flow-path design. The tapered bowl and non-turbulent lower filter zone assure that no condensate gets re-entrained in the air stream. Our programmable Economizer differential pressure gauge notifies maintenance personnel of the optimal point at which to change the filter element. For coalescing prefilters, the Ultramat zero-loss drain valve assures that no compressed air is lost when liquid condensate is drained.

1. **Economizer differential pressure gauge**
2. **Three-piece aluminum housing**
3. **Low pressure drop flow channel**
4. **O-ring housing seal**
5. **Double o-ring element seal**
6. **Built-in acoustic alarm**
7. **Tapered bowl**
8. **Selection of pre- and afterfilter elements**
9. **Ultramat zero-loss condensate drain valve**



Ultradepth® FF, MF & SMF Coalescing/Particulate Filter Elements

The unique design of Ultrafilter's Ultradepth FF, MF and SMF filter elements creates a two-stage filtration process within one element. The retention rate of 0.01 µm particles in our SMF element is a remarkable 99.99999%. This is made possible by the use of our patented Ultrair® binder-free borosilicate glass fiber media. This media also allows for very low pressure drop, which means that you get the highest efficiency at the lowest energy cost. Ultrair HTNX elements are available for applications up to 180˚ F.

Ultraporex® PE Particulate Elements

Ultrapoly PE particulate filter elements are made with aluminum end-caps, double o-ring seals and sintered polyethylene media for effective filtration down to 5 µm. PE elements offer additional advantage of being fully regenerable.

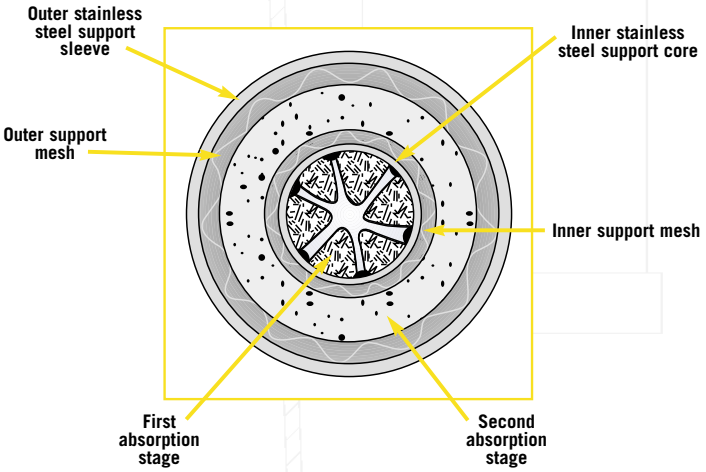
Ultraporex® SB Particulate Elements

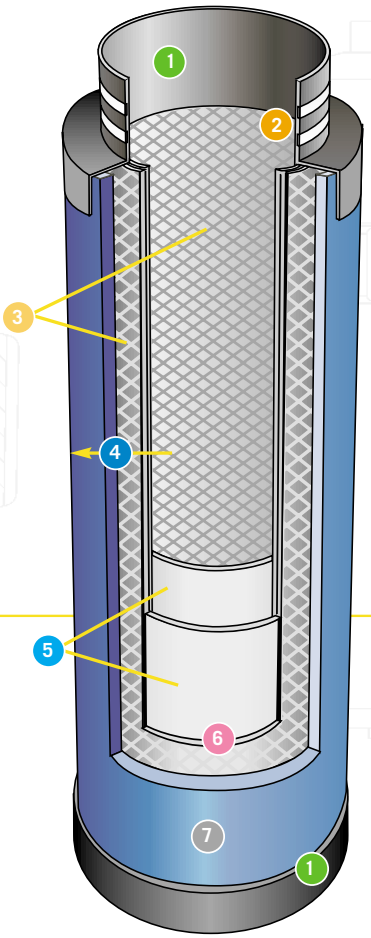
For high temperature applications up to 248˚ F, Ultraporex SB filter elements are made with sintered bronze media, aluminum end-caps and double o-ring seals. SB elements are available with three retention ratings—5, 25 or 50 µm.

Ultrac® AK Activated Carbon Absorption Filter Element

The Ultrac AK absorption filter element utilizes a two-stage filtration process for absolute retention of oil vapor and other hydrocarbons. This patented two-stage design allows for a large surface area resulting in low pressure drop, long element life and no carry-over of carbon particles in the process air.

Ultradepth and Ultrac filter elements are built with inner and outer stainless steel support cores and aluminum end caps for maximum strength and long life. A double o-ring seal is used to assure absolutely no blow-by of unfiltered air.

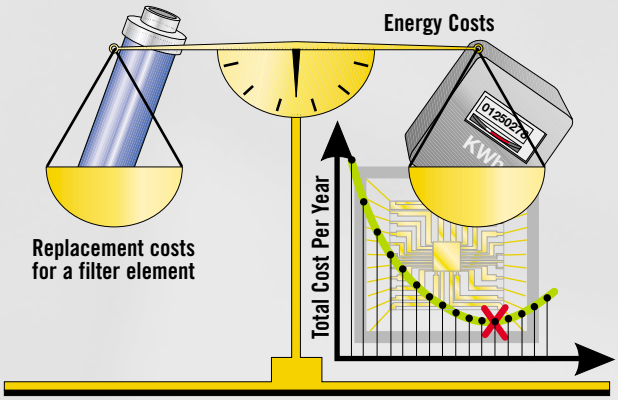




1. Aluminum end caps
2. Double o-ring seal
3. Stainless steel inner and outer support cores
4. Low pressure drop
5. Two-stage filtration
6. Ultrair® binder-free borosilicate glass fiber media
7. Outer foam sleeve

Economizer Programmable Differential Pressure Gauge

AG Superplus filter housings are equipped with the Economizer programmable differential pressure gauge. Using stored data of important parameters such as power cost and filter element price, while monitoring pressure drop, Economizer control logic calculates the optimum point at which to change the filter element, keeping operating costs at their lowest possible point. An indicator light notifies maintenance personnel when the element should be changed. The Economizer can also be connected to a central monitoring system. Cost reductions of up to 70% have been achieved with use of the Economizer differential pressure gauge.



With the Economizer programmable differential pressure gauge, you achieve a perfect balance between filter element replacement costs and energy costs.

Ultramat UFM-T Zero-loss Condensate Drain Valve

AG Superplus coalescing prefilters are equipped with the Ultramat UFM-T zero-loss condensate drain valve. Ultramat drain valves utilize an electronic liquid level sensor that requires no moving parts. Emulsification of the condensate is kept to a minimum as it passes through the valve, aiding in oil/water separation downstream.

AG Aluminum
SG Steel
Industrial Filter Housings
Product Summary & Technical Data

AG Standard and Superplus filter housings are designed for the purification of compressed air and gases in industrial applications. Three-piece aluminum housings with NPT connections are available in a nominal flow range of 12 to 1,728 scfm. Two-piece steel housings with flanged connections are available in a nominal flow range of 648 to 23,040 scfm. Superplus versions of each are equipped with energy saving Economizer differential pressure gauges and Ultramat zero-loss condensate drain valves.

Specifications

	AG Aluminum		SG Steel	
	Standard	Superplus	Standard	Superplus
3-Piece Housing	X	X		
2-Piece Housing			X	X
Econometer Δp Gauge	X		X	
Economizer Δp Gauge		X		X
Float Drain Valve	X		X	
Ultramat UFM-T Zero-loss Drain		X		X
NPT Connections	X	X		
ANSI Flanged Connections			X	X
ANSI Polyester Powder Finish	X	X	X	X
Maximum Op. Pressure	250 psig | 150 psig	250 psig | 150 psig	150 psig	150 psig
Maximum Op. Temp.	150˚ F | 250˚ F	150˚ F | 250˚ F	250˚ F	250˚ F

Element Data

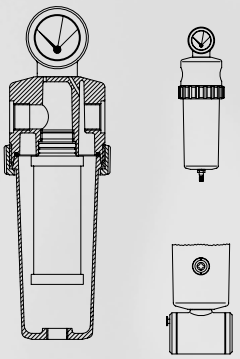
Type	Initial Δp (psid)	Particle Size	Efficiency	Residual Oil Content	Application
Ultrapoly® PE	0.4	5 µm	100%	N/A	Particulate
Ultraporex® SB	0.4	5 µm	100%	N/A	Particulate
Ultrair® FF Fine Filter	0.7	0.01 µm	99.999%	0.1 ppm	Coalescing/Particulate
Ultrair® MF Micro Filter	1.2	0.01 µm	99.99998%	0.03 ppm	Coalescing/Particulate
Ultrair® SMF Sub Micro Filter	1.7	0.01 µm	99.99999%	<0.01 ppm	Coalescing/Particulate

Specifications

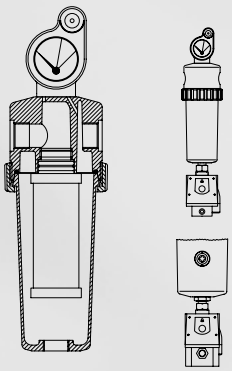
Filter elements / Filter housing	Data Type	Flow rate at 100 psig (cfm)	PE Ultrapoly® / SB Ultraporex® / FF, MF, SMF Ultrair® / AK Ultrac®	Dimensions						Weight (lbs.)		Filter element	
			Connection*	Height Standard	Height Superplus	Width	Connect height Standard	Connect height Superplus	Removal clearance	Standard	Superplus	Size	No.
AG Aluminum Housings Single Element	0002	12	1/4"	11	17	3	7	12	3	2	4	0205	1
	0004	24	3/8"	11	17	3	7	12	4	2	4	0305	1
	0006	36	3/8"	13	19	3	9	13	4	3	5	0310	1
	0009	54	1/2"	13	19	3	9	13	5	3	5	0410	1
	0012	72	1/2"	14	19	4	10	14	5	4	6	0420	1
	0018	108	3/4"	14	19	4	10	14	6	4	6	0520	1
	0027	162	1"	17	22	4	12	17	6	5	7	0525	1
	0036	216	1 1/4"	17	22	4	12	17	8	5	7	0725	1
	0048	288	1 1/2"	23	29	6	16	21	8	14	16	0730	1
	0072	432	2"	23	29	6	16	21	11	14	16	1030	1
	0108	648	2"	31	34	6	25	26	18	22	23	1530	1
	0144	864	2 1/2"	37	40	7	30	31	23	28	29	2030	1
	0192	1152	3"	47	50	7	40	41	33	30	31	3030	1
	0288	1728	3"	47	51	8	40	43	33	44	45	3050	1
SG ASME Steel Housings Single Element	0108	648	2"	40	42	11	32	34	18	61	65	1530	1
	0144	864	2 1/2"	40	42	11	32	34	23	72	76	2030	1
	0192	1152	3"	52	54	13	44	46	23	88	91	3030	1
	0288	1728	4"	53	56	14	45	47	23	118	122	3050	1
SG-M ASME Steel Housings Multiple Elements	0432	2592	4"	43	46	16	34	37	23	176	185	2030	3
	0576	3456	4"	54	57	16	45	48	33	198	207	3030	3
	0768	4608	6"	59	61	19	48	50	34	286	295	3030	4
	1152	6912	6"	60	65	21	48	54	34	330	339	3030	6
	1536	9216	8"	64	69	26	50	56	34	519	528	3030	8
	1920	11520	8"	64	69	26	50	56	34	528	537	3030	10
	2304	13824	10"	69	74	31	53	59	34	827	856	3030	12
	3072	18432	10"	69	74	31	53	59	34	836	865	3030	16
	3840	23040	12"	74	79	37	57	62	35	1166	997	3030	20

*AG Housings — FNPT; SG Housings — ANSI Flange

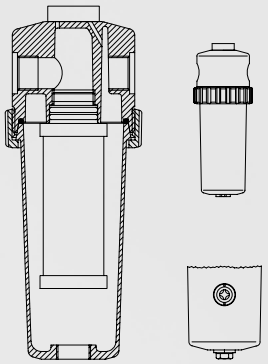
Donaldson
Ultrafilter®



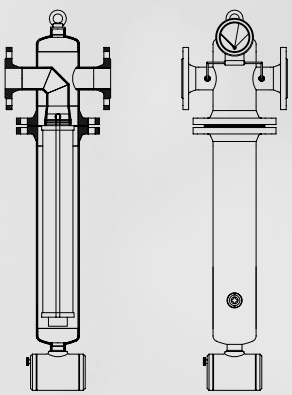
AG Standard



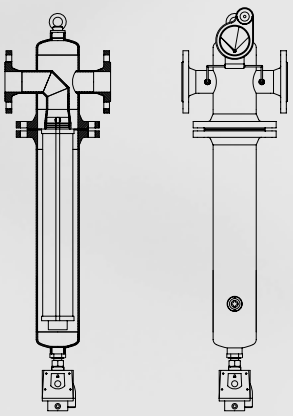
AG Superplus



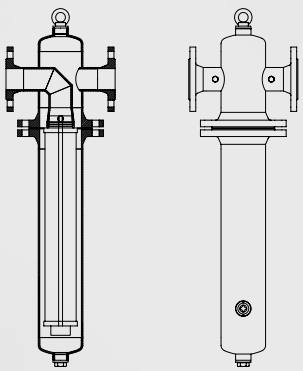
AG AK Adsorber



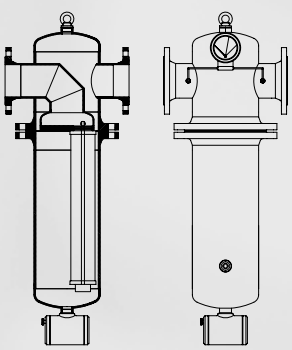
SG Standard
Single Element



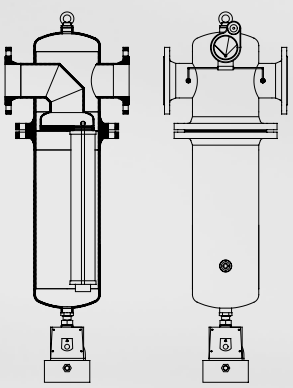
SG Superplus
Single Element



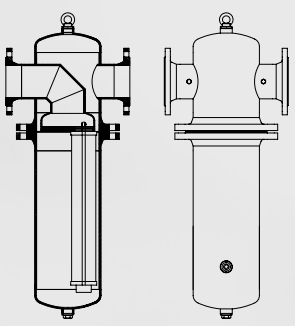
SG AK Adsorber
Single Element



SG Standard
Multiple Element



SG Superplus
Multiple Element



SG AK Adsorber
Multiple Element

Donaldson Company, Inc.
Ultrafilter
3560 Engineering Drive
Norcross, GA 30092

Toll free: **800.543.3634**
Telephone: 770.448.3363
Telefax: 770.448.3854
E-mail: info@ultrafilter-us.com
Web: www.ultrafilter-us.com

c UL us LISTED
ultramat
No. 81 HA

COMPRESSED AIR AND GAS INSTITUTE CAGI