



DROP SAFE® FILTERS DS-G4-300 AND -600

APPLICATIONS

Filtrair Drop Safe (DS) rigid filters serve as efficient pre or final filters in air intake systems of Gas Turbines, in any environmental condition (including offshore, marine) and in any climate (including tropical). They efficiently remove airborne particulate matter but also snow, mist and fog, acting as a filter and a coalescer in one. DS rigid filters are specially designed for the elimination and drainage of free water and air borne salt crystals. Where subsequent final filters are placed, they protect them not only from coarse dust but also from running in wet conditions, thus significantly prolonging their life and increasing their operational safety.

FILTER MEDIA

Filtrair manufactures its own thermally bonded synthetic media for DS rigid pocket filters. The depth loading media is of progressive structure for high dust holding capacity and contains an added hydrophobic treatment and tackifier throughout the medium depth to repel water and retain their operational safety.

WATER DROPLET SEPARATION TESTING

Filtrair tested its DS filters not only for particle separation (e.g. as per EN779 & ASHRAE 52.2) but also for water droplet separation. The latter is relevant when operating DS filters with air containing free water in droplet form (fog, mist, froth, salt water spray) to avoid that dissolved solids penetrating the filter in liquid form.

FEATURES AND BENEFITS

- Unique - combined coalescer and particle filter in one
- For extreme environments: high moisture and water mist content, high velocity, offshore, marine, ...
- Patented sealed boot pocket design - coalesces water inside the pockets and drains it out upstream of filter
- Self-supporting, leak-free welded pockets - stay rigid when wet and in turbulent air - eliminating shedding
- Aerodynamic wedge-shape, tubular pocket spacers - minimum flow resistance and maximum dust holding
- Pockets water tight integrated in injection molded, impact-proof PU header - burst strength of < 24 "w.g.
- Unique, proprietary, progressive Filtrair filter media with special hydrophobic treatment
- Filter range tested as per ASHRAE 52.2.2012 and for fractional and gravimetric water droplet (fog) separation, see page 2

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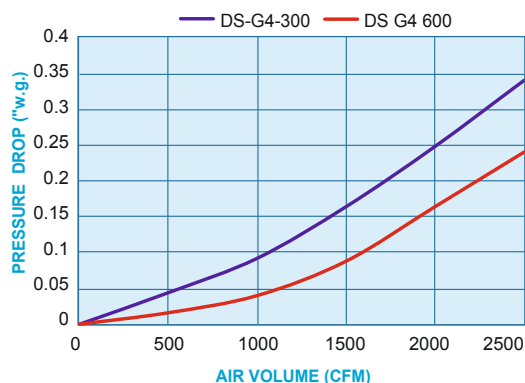
TECHNICAL DATA

Filter type	Unit	DS-G4-600	DS-G4-300
Rated air flow (1/1 size)	cfm	2000	2000
Initial pressure drop at rated air flow (2000 cfm)	"w.g.	0,14	0,19
Initial pressure drop at rated air flow (2500 cfm)	"w.g.	0,22	0,29
Recommended final pressure drop	"w.g.	1,00	1,00
MERV* ASHRAE 52.2.2012	-	7	7
Average Arrestance	%	92	91
Dust holding capacity (Ashrae dust) 1 "w.g.	g/unit	850	591
Dust holding capacity (Ashrae dust) 1.5 "w.g.	g/unit	n.a.	n.a.
Water Fog separation test results	-	DS-G4-600	DS-G4-300
Test air flow	cfm	2500	1250
Water Fog separation efficiency	%	99.7	99.7

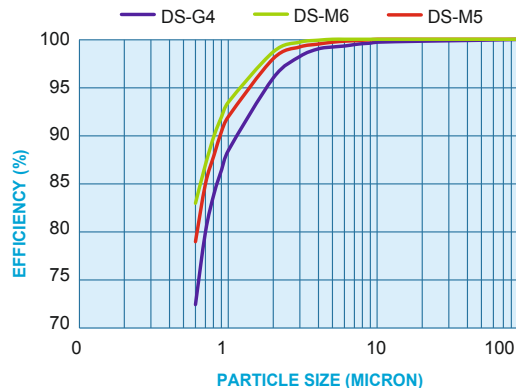
PRODUCT GEOMETRIES

Filter dimensions	"	23.43*23.43	23.43*23.43
Filter length	"	24.4	12.2
Filter medium area	ft ²	41	20
Nr. of pockets	-	6	6
Filter weight	lb	5.3	4.0
Package - nr of filters per box	unit	2	2
Suitable for standard mounting frame	"	24*24	24*24
Maximum continuous working temperature	°F	≤ 160	≤ 160
Admissible relative humidity	%	100	100
Maximum final operating pressure drop	"w.g.	2.4	2.4
Burst pressure drop	"w.g.	>24	>24
Options available on request		Gasket on downstream, on upstream side or on both sides	

PRESSURE DROP vs AIR VOLUME



WATER DROPLET FOG SEPARATION EFFICIENCY



TEST CONDITIONS AND REMARKS

- Relative humidity of test air: ≥ 95 %
- Upstream water fog concentration* = 27 mg/m³
- Upstream size range of fog: < 0.5 - 20 µm
- Upstream mass median droplet diameter: = 6.0 µm
- Downstream mass median dropl. diameter: appr. 0.6 µm (depending on filter type and efficiency)
- Measuring range of particle spectrometer: 0.5 - 42 µm
- Test filters new, conditioned with upstream fog for 140 h

* Representing a typical natural fine fog with a visibility of approx. 300 m, generated by injecting water with pressurised air nozzles into the test air flow and separation of coarse droplets by a demister.

All data are average indicative values with usual manufacturing and testing tolerances. We reserve the right to modify performance data without prior notice. Specific performance data will require our written confirmation. Filtrair® is the registered trade mark of Filtrair bv.

