

Inline Entrainment Separators Series "ALSEP"

The Alstrom Inline Entrainment Separators are used to remove liquid from liquid-gas streams. The Most common applications are steam and compressed air separators that provide water eviction from the pipeline. This is a very important procedure to prevent corrosion of pipes, as well as damage to regulators, valves and other equipment.

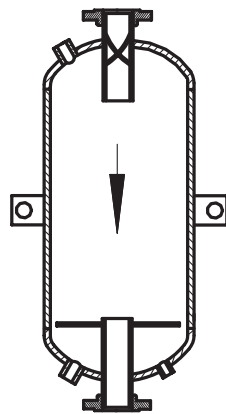
The separation between liquid and gas occurs due to the change of stream direction and velocity. The inlet stainless steel vortex generator creates a circular motion. The liquid droplets adhere to the walls of the separator travel to the bottom, and are drained off. The dry gas passes along the center of the separator to the outlet.

A properly selected device provides a 98-99% efficiency of separation.

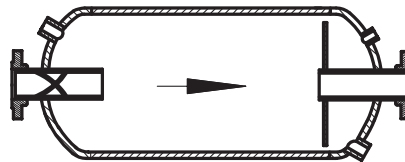
The separators are installed on the pipelines, which may be directed horizontally or vertically.

Depending on the applications, the separators are manufactured from carbon steel, stainless steel, or other materials. The separators are designed and constructed in accordance with ASME Pressure Vessel Code, Section VIII, Civ. 1.

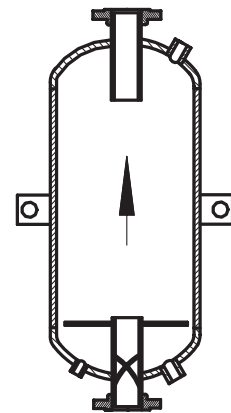
If requested, the separators are equipped with a sight glass for visual inspection of liquid drainage, a safety valve, and a pressure gauge.



Down -Thru Model "D"

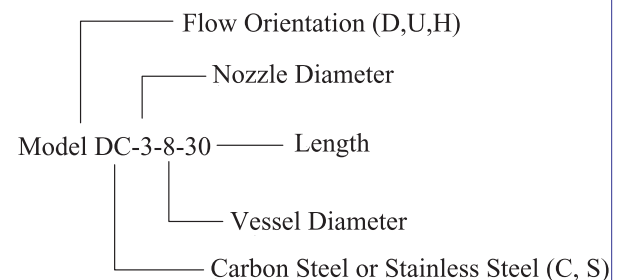


Horizontal Model "H"

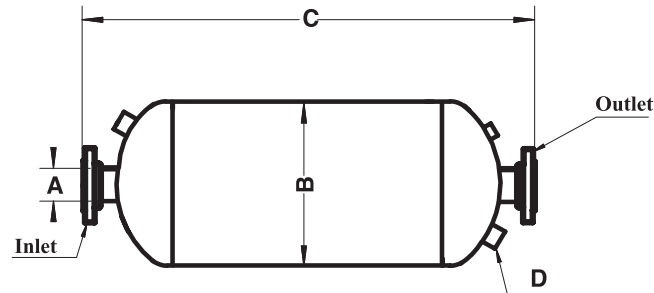


Up -Thru Model "U"

Design Pressure and Temperature	Standard	Customized
	150 psi @ 400 F	
Material	Carbon Steel, Stainless Steel	
Finish	Urethane Primer, Red Oxide Primer	



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Other dimensions can be provided upon request for replacement of the existing separator

A in	V cfm	B in	C in	D in
1	32	3	24	1/2
1 1/4	50	4	26	1/2
1 1/2	72	4	28	3/4
2	130	6	32	3/4
2 1/2	200	8	32	1
3	289.7	8	32	1
4	515	10	36	2
5	805	12	38	2
6	1,160	12	40	2
8	2,060	18	48	3
10	3,220	24	60	3
12	4,630	30	72	3
14	6,310	30	90	3
16	8,240	36	100	3
18	10,430	42	108	3
20	12,880	42	120	3
24	18,540	54	144	3

Selection Procedure

- Calculate Volume Flow Rate V (cfm)
 $V = M \times SV / 60$ Where: M - mass flow rate (lb/hour)
 SV - specific volume (cub. ft/lb)
- Select diameter of inlet & outlet nozzles A.
- Select diameter B & length C.

Sample Calculations:

Select Carbon Steel Horizontal Separator for 10,000 lb/hour saturated steam @ 10 psig.

From Steam Thermodynamic Tables:

Specific Volume = 16.67 cub. ft/lb
 $V = 10,000 \times 16.67 / 60 = 2,779$ cfm

From Selection Table:

A = 10"; B = 24"; C = 60"

Model Selected : Hc-10-24-60

- ▶ The Volume Flow Rate V takes into consideration the optimal flow velocity in the separator.
- ▶ Pressure drop depends on the actual flow rate and stream density. Please consult the factory.
- ▶ Weight of the separator depends on the design.