



Without EIF



With EIF

Explosion Isolation Flap

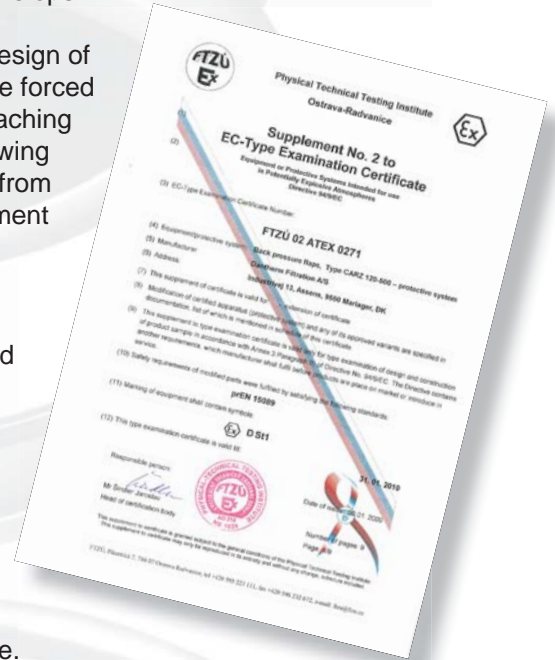
The Standards

Various NFPA standards require that a dust collection system has a means of preventing the transmission of energy from a fire or explosion to the building/work area. Through extensive testing by a third party testing facility, Nordfab has developed the Explosion Isolation Flap (EIF) type CARZ to be installed upstream of the dust collector.



How it works

Under normal operation the flap will open as the downstream air moving device generates a flow in the ductwork. Should an explosion happen in the downstream equipment - like a dust collector - a pressure front develops in the ductwork within milliseconds and due to the design of the EIF, the internal flap will be forced closed and seal off the approaching flame front. This prevents glowing embers and burning material from entering into upstream equipment and spaces.




The Design

The design of the EIF is critical as the flap must function in milliseconds and therefore must be of light construction but must be strong enough to withstand the explosion pressure.

Many full scale tests were performed to arrive at the proper design and assure proper function.

The Tests

Since the EIF is a safety device, Nordfab submitted the EIF to rigorous testing by an accredited testing facility in accordance with 94/9/EC Directive.

Label: ATS.096 CARZ (0120-0500) CE1180  D St1
Label: ATS.098 CARZ (0560-01000)

The marking is based on product certification by N.B. 1026.

The certificates allow max P_{red} 0.5 bar pressure resistance for sizes dia 22" (560mm) and smaller. Sizes 630mm-1000mm: 0.30 bar



Normal Operation

Explosion/deflagration

Application:

Material Types: Dry Dusts (not designed for combustible gas and vapors and hybrid mixtures of these substances.)

Kst Value of Dust < 200 Bar-M / Sec
NOT SUITABLE for greater than ST1 dust.

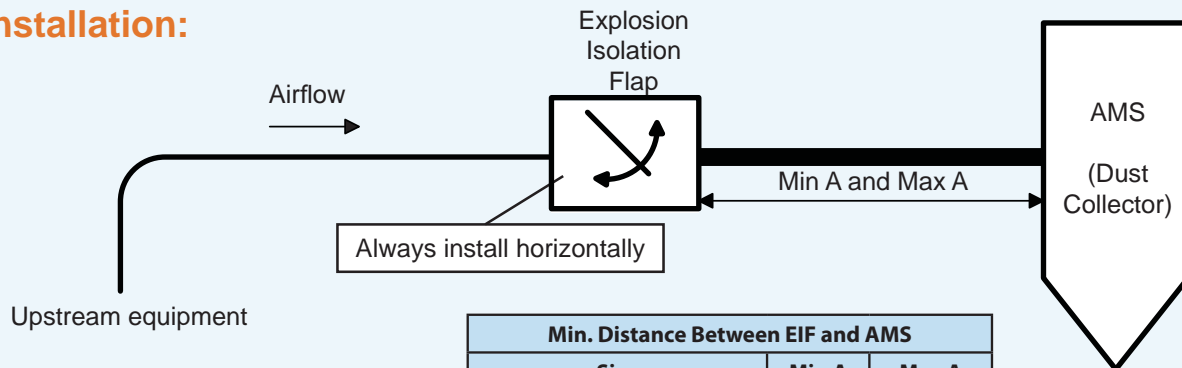
Transport Medium: Standard Air

Air Velocity In the Device: > than the minimum transport velocity of the conveyed dust.

Design conditions for ductwork and Air Material Separator
(Dust Collector)

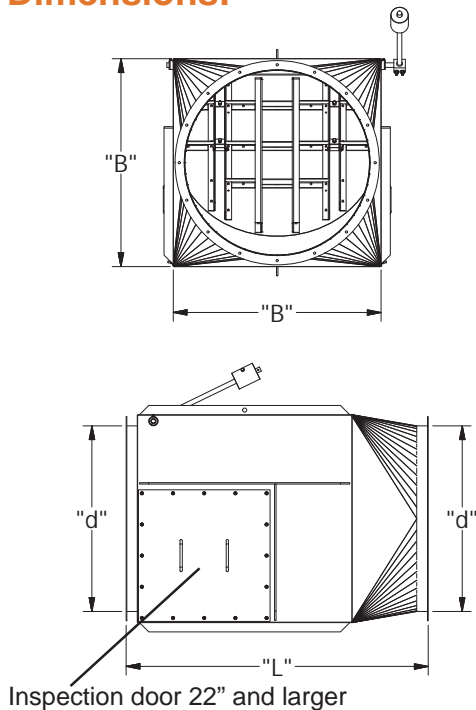
EIF Designed for Max. Reduced Pressure P_{red}	
Size	P_{red}
CARZ 5"-22"	0.5 bar
CARZ 630mm-1000mm	0.3 bar

Installation:



Min. Distance Between EIF and AMS		
Size	Min A	Max A
CARZ 5"-20"	7'	32'
CARZ 22" & 630mm-1000mm	17'	32'

Dimensions:



Actual diameter	Length (L)	Body (B)	Weight (lbs)
5"	17 5/8"	8 5/8"	24
6"	19 1/4"	10 1/4"	28
7"	20"	11"	31
8"	20 3/4"	11 3/4"	34
10"	22 3/4"	13 3/4"	42
12"	25 3/8"	16 3/8"	60
14"	26 3/4"	17 3/4"	73
16"	28 5/8"	19 3/4"	95
18"	30 5/8"	21 5/8"	115
20"	32 3/4"	23 5/8"	127
22"	42"	26"	154
630 mm	44 3/4"	28 3/4"	172
710 mm	48"	32"	226
800 mm	51 1/2"	34 1/2"	272
900 mm	55 1/2"	39 3/8"	318
1000 mm	59 3/8"	43 3/8"	402

Above dimension chart is for general information. Please consult factory for dimensions based on the connection options



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