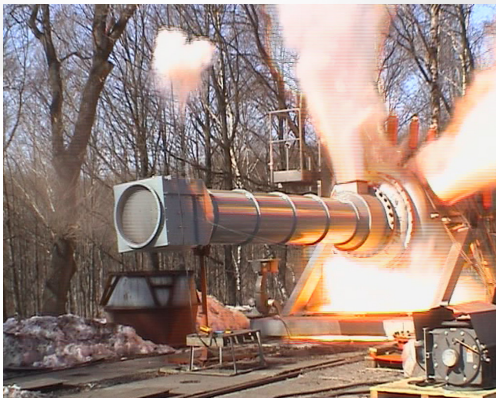




Without EIF

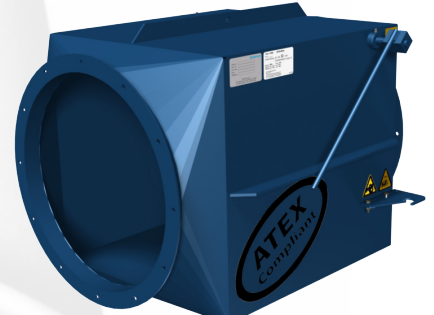


With EIF

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.



Patent Pending

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.



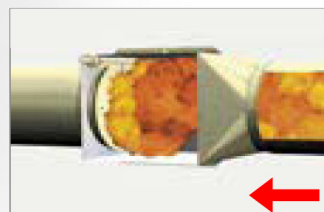
Label: ATS.096 CARZ (0120-0500) CE1180  D St1
Label: ATS.098 CARZ (0560-01000)

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" and smaller. Sizes 24" and larger: 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.

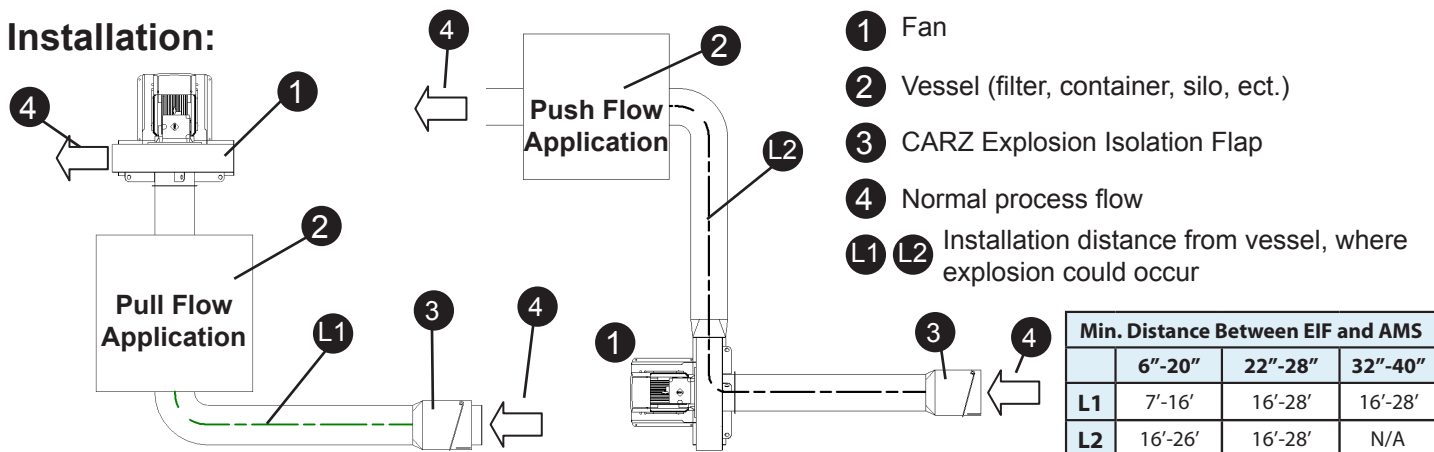
Transport Medium: Standard Air

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 6"-22"	0.5 bar
CARZ 24"-40"	0.3 bar

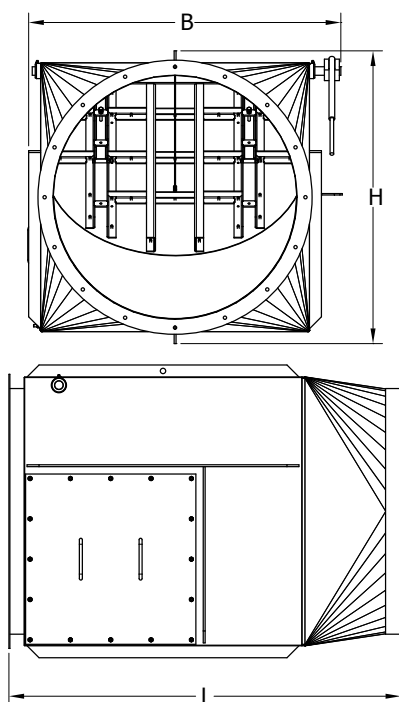
Installation:



Min. Distance Between EIF and AMS			
	6"-20"	22"-28"	32"-40"
L1	7'-16'	16'-28'	16'-28'
L2	16'-26'	16'-28'	N/A

KST verification form required / Lead time is 25 working days after receipt.

Dimensions:

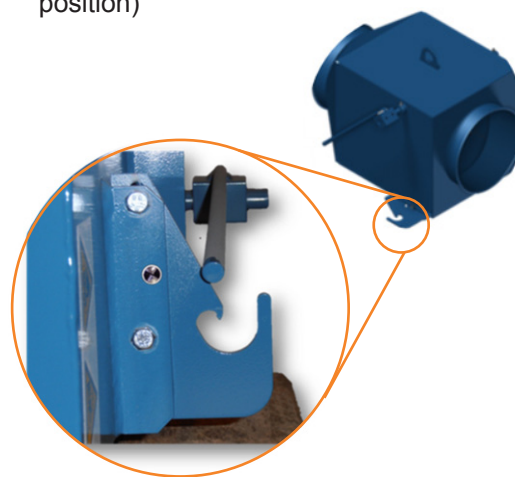


Actual diameter	Length (L)	Body (B)	Weight (lbs)
6" QF / FFL	19 1/4"	16 7/8"	29
7" QF / FFL	20 1/8"	17 5/8"	35
8" QF / FFL	21"	18 7/16"	42
10" QF / FFL	23"	20 7/16"	44
12" QF / FFL	25 1/2"	23"	60
14" QF / FFL	27"	24 3/8"	73
16" QF / FFL	29"	26 3/8"	93
18" QF / FFL	31"	28 3/8"	99
20" QF / FFL	33"	30 1/4"	108
22" QF / FFL	42 1/4"	32"	176
24" AF	44 7/16"	34 3/4"	229
28" AF	48"	38"	267
32" AF	51 5/8"	41 1/2"	309
36" AF	55 1/2"	45 3/8"	353
40" AF	59 1/2"	49 3/8"	397

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

Locking mechanism:

The newly designed arm is made from Spring Steel and will activate in the event of an explosion. The pressure front caused by the explosion will slam the internal flap shut causing the arm to lock into place.
(Picture shown below is in the un-locked position)



Patent Pending



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Explosion Isolation Flap_NF.0612.4