



**Note:** Per NFPA, all flow actuated flap valves are not suitable for abrasive dusts and high dust load applications.

**The Stinger is a flow activated passive inlet isolation flap valve.**

It protects work areas and processes from the propagation of flame and pressure through the inlet duct when a deflagration (explosion) occurs in a dust collector. During a deflagration in a dust collector the pressure wave will close the valve preventing the passage of flame and pressure to areas upstream from the valve. The valve latches shut and must be manually opened. If activated, components of the valve may be damaged. A thorough inspection by a Camfil Authorized Technician is required prior to returning the valve back into service.

The National Fire Protection Association, NFPA, has strict guidelines concerning the commissioning, operating, maintenance and inspection for explosion isolation devices. Please consult NFPA 654 and NFPA 69 for further information.

The stinger valve is certified per EN 16647 to be compliant with NFPA 69 section 12.2.3. This certification is valid only within the application limitations described in this document. Application outside of these limits may result in loss of life, property or citation and fines from OSHA. NFPA requires an interlock switch on explosion protection equipment that will shut down process if a fire or deflagration occurs. If you do not have this interlock on other explosion controls on your dust collector it should be added to the stinger flap valve.

**COMBUSTIBLE MATERIAL:**

Dry organic and metal dust with:  
 $50 \leq K_{ST} \leq 200 \text{ bar} \cdot \text{m/s}$   
 $MESG \geq 2.3 \text{ mm}$

Not suitable for flammable gases/vapors or hybrid mixtures of dust and gases/vapors

**PROTECTED VESSEL:**

Vented with non-reclosing venting devices

**SYSTEM CONFIGURATION:**

Pull flow through valve and protected vessel only

**FLOW DIRECTION CHANGES BETWEEN VALVE AND PROTECTED VESSEL:**

1 including an abrasion resistant inlet, 2 without an abrasion resistant inlet connecting vertically from below the valve.

**OPERATING TEMPERATURE:** -4° to 122° f

**INSTALLATION POSITION:** Horizontal only

**VALVE MAXIMUM PRESSURE RESISTANCE:** 14.5 psi

**MAXIMUM DUST LOADING:** 174 grains/ft<sup>3</sup>

Air flow (cfm):

Dust Type:

Diameter of Stinger valve:

Deflagration Index (Kst):

**END USER INFORMATION**

Company:

Address:

City, State, Zip Code:

The customer or end user who signs has read and understands the limitations of this device and will adhere to the application and installation limitations described in this document. Camfil APC does not take responsibility for any damages resulting from the mis application of this product.

**DIGITAL SIGNATURE**

\_\_\_\_\_ Date:

Sign and Fax to 870-933-8381

**Performance Limit Tables**

See page 2

Reviewed by \_\_\_\_\_ Date \_\_\_\_\_

**Table 1. Performance Limits Organic Dust**

Size	Flow Capacity (cfm)		Length	Installation Distance "L"		Pred	Min Volume of Protected Vessel
	Min	Max		Lmin ft	Lmax ft		
6	590	1050	30.31	6.5	19.5	11.6	14.1
8	1050	1750	33.25				
10	1640	2730	38.93				
12	2360	3930	40.75				
14	3210	5350	45.56				
16	4190	6980	48.18				
18	5300	8840	50.93	9.75	19.5	8.7	31.7
20	6540	10910	53.37				
22	7920	13200	55.87				
24	9420	15710	58.50				
28	12830	21380	64.18			7.25	120
32	16760	27930	69.37				
36	21210	35340	74.56				
40	26180	43630	80.75				

\* Maximum flow velocity 5900 fpm. Exceeding recommended flow rates above will result in higher pressure loss and abrasion.

**Table 2. Performance Limits Metallic Dust**

Diameter Model	ST1 Metal	Min protected volume*	Lmin – LMax**	Max Pred***
		ft <sup>3</sup>	ft	psi
305 mm (12')	X	31.7	11.4 - 16.4	7.2
355 mm (14')	X	56.5	11.4 - 16.4	4.3
400 mm (16')	X	56.5	11.4 - 16.4	4.3
450 mm (18')	X	56.5	11.4 - 16.4	4.3
500 mm (20')	X	56.5	11.4 - 16.4	4.3
560 mm (22')	X	56.5	11.4 - 16.4	4.3
610 mm (24')	X	56.5	11.4 - 16.4	4.3

\* The valve can not be used to protect a smaller volume than the minimum protected volume.

\*\* The valve must be installed at a distance between Lmin and Lmax from the protected vessel.

\*\*\*The protection of the vessel must be designed not to exceed the maximum allowed Pred.