

ENGINEERED INDUSTRIAL SAFETY SOLUTIONS



*Transitioning the World to a Safer Working Environment*



## Our History and Commitment to support our valued customer

**B**OSS PRODUCTS mission statement and true commitment is **Transitioning the World to A Safer Working Environment.** Our commitment begins at home, with a dedicated passion from our employees to offer the precise solution for each customer and their specific application. Boss Products believes in on-going professional growth and personal development. That "Boss Culture" is communicated organically to our customers as we put them first. Our customer's success is our success. Boss Products Transitions the World to A Safer Working Environment one customer at a time.

Beginning in 2012, Boss Products was formed with the intent to become the world's leading supplier of fire & explosion protection solutions serving industrial dust collection and related process industries. A customer 1<sup>st</sup> policy, beginning with pre-order technical and engineering advice, all the way to post-installation support makes us a repeat choice.





ISO 9001:2015  
CERTIFIED COMPANY

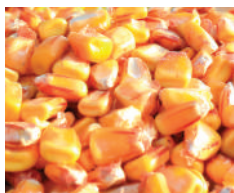


Boss Products promptly supply our customers the safety components they need from the largest inventory available in North America. Centrally located near San Antonio, Texas, Boss Products maintains redundant supplies of all sizes of varying inventory to assure customers have what they need in the best possible timeframe. We are exclusive North American distributors for major worldwide manufacturers, as well as promote our own Raptor Series brand of components that are supported by electronics manufacturing.

Boss Products provides World Class - Fire & Explosion Protection solutions for **Explosion Isolation, Explosion Venting, Flameless Explosion Venting, Spark Detection & Extinguishing, Chemical Explosion Suppression, Rotary Valves & Feeders.**

We are an **ISO 9001: 2015** certified company with the credentials to produce **UL 508A & UL 698A** custom and standard production run control panels to support Boss Products production and our **OEM** customer's requirements.

[www.bossproductsamerica.com](http://www.bossproductsamerica.com)



Agriculture & Grain



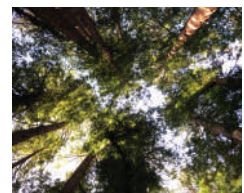
Food and Beverage



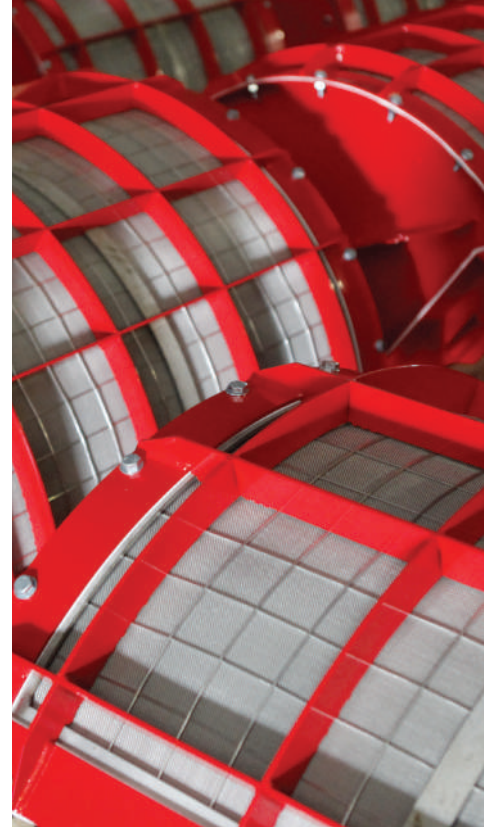
Metal Working



Pharmaceutical



Wood Processing





EV-VF p3



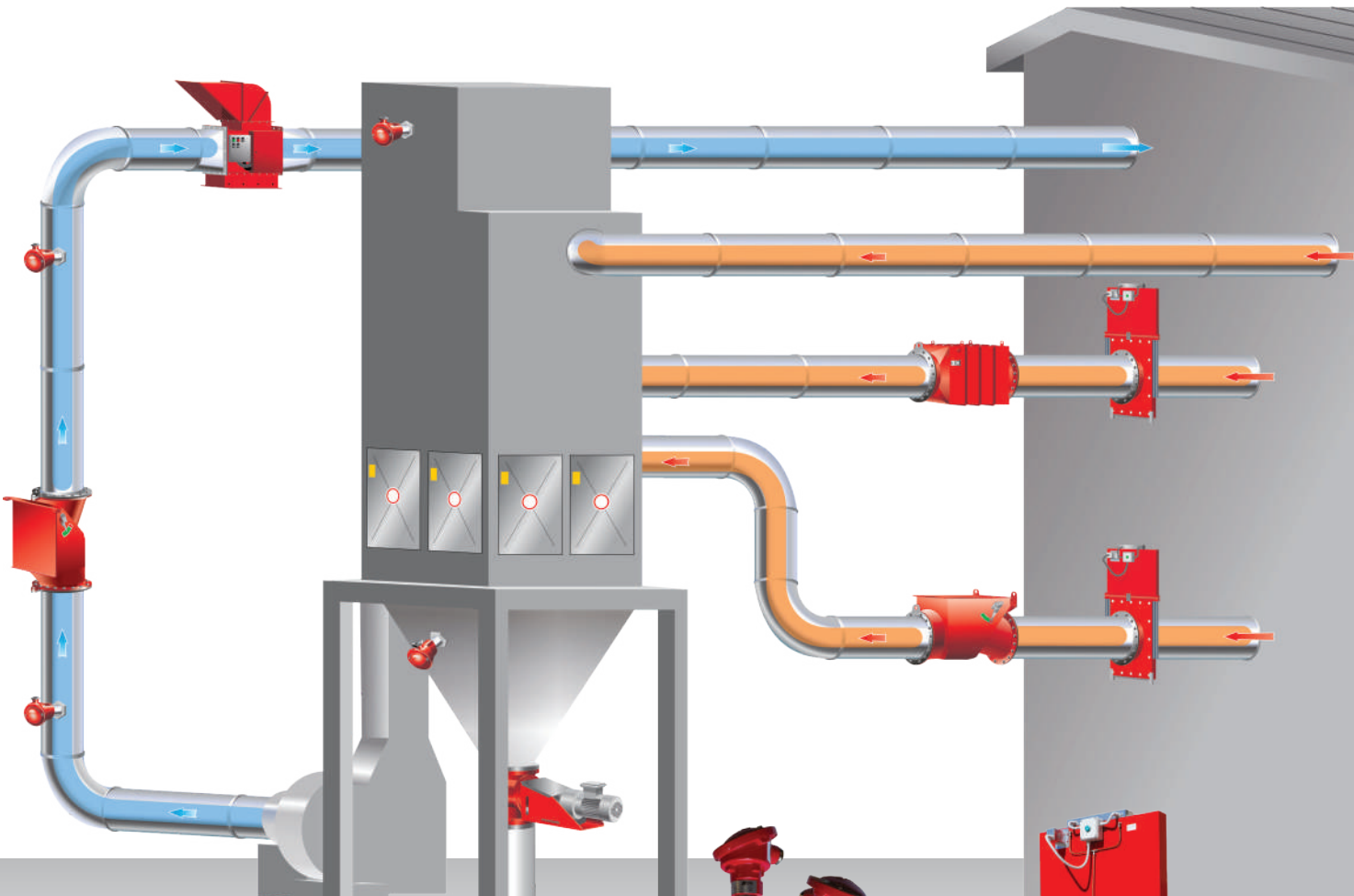
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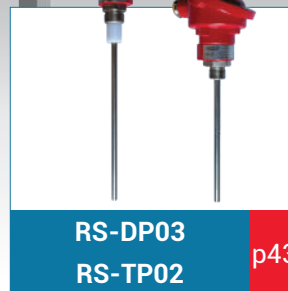
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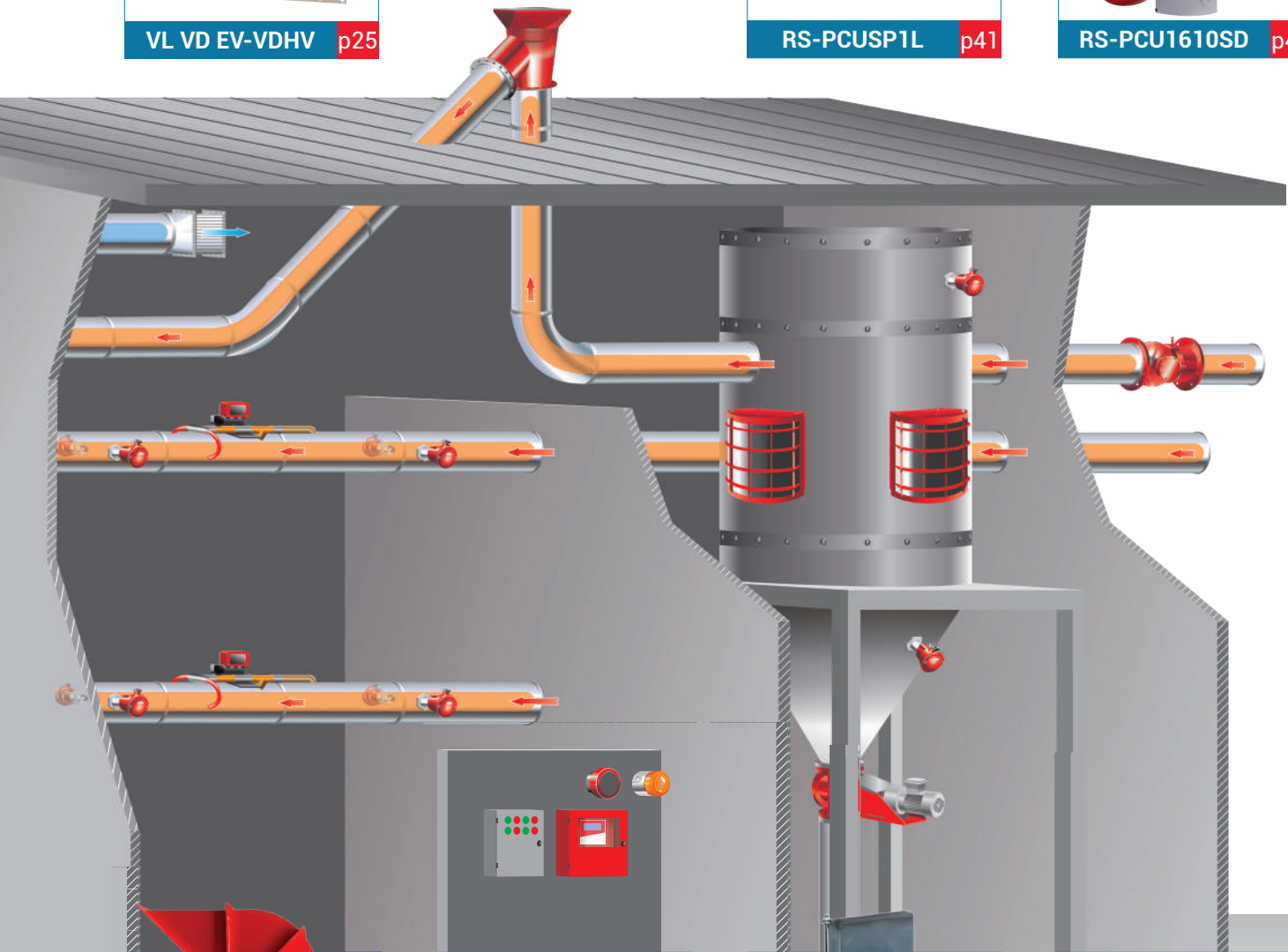
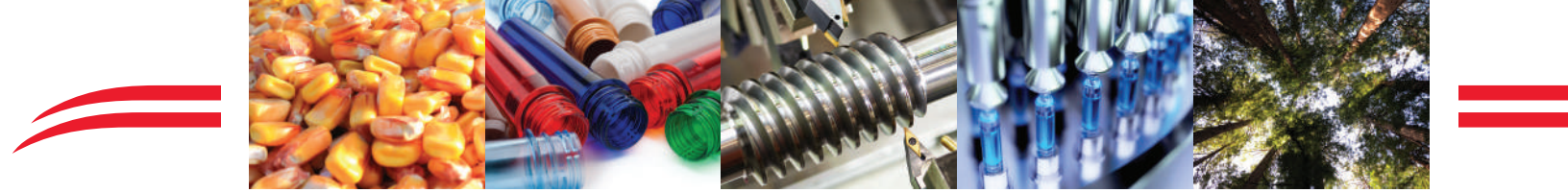


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EM-FBS p55





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## **EXPLOSION PREVENTION, FIRE PREVENTION, ISOLATION & DIVERSION**

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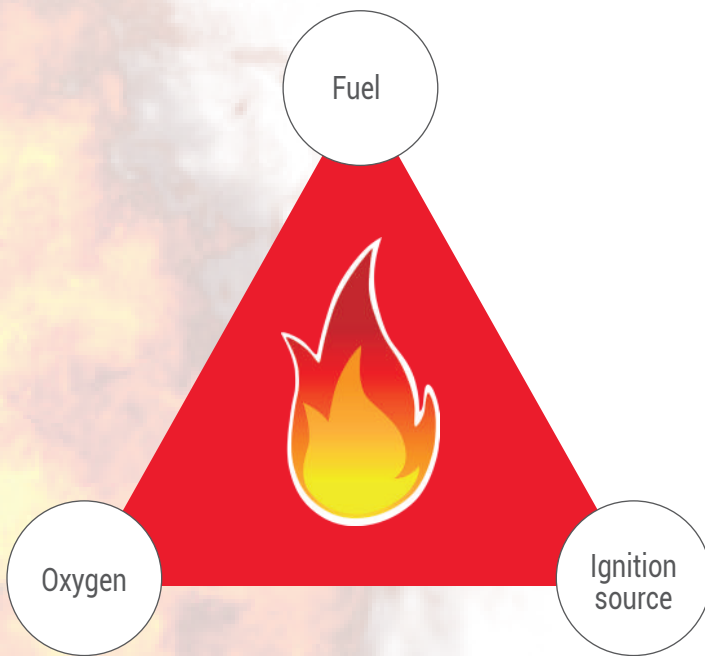
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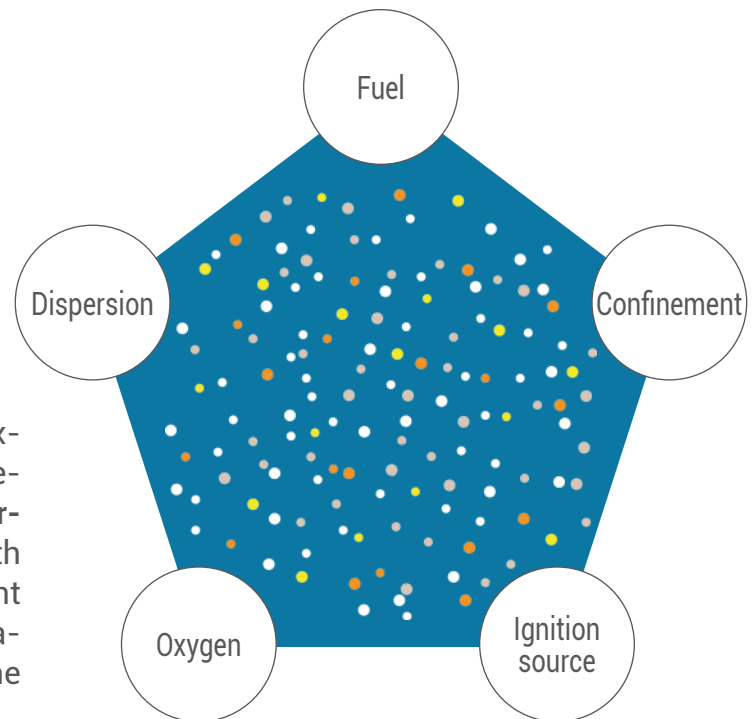
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# Elements of Fire & Explosion



**M**anagement strategies for fire typically focus on the elimination/control of one of the **three key elements necessary for a fire** – the three key elements are often represented by the fire triangle. Managing one or more of the elements in the triangle can decrease the risk of a fire.

**M**anagement strategies for dust explosions typically consider 5 key elements - **fuel, heat, and oxygen, dispersion of dust and confinement of dust**. As with management strategies for fire, management strategies for explosions require the elimination/control of one or more of the elements in the explosion pentagon.





**B**OSS PRODUCTS engineers have decades of experience in the design and installation of multi-application industrial dust collecting, bulk handling & process systems. Today's NFPA regulatory guidelines governing fire & explosion protection installations are more specific and well defined than ever before.

**Boss Products'** strategies for Fire and Explosion mitigation include : **Prevention, Isolation, Diversion, and Venting.**

**Boss Products** has developed and brought to market a family of SAFETY SMART solutions to work as individual components or as a seamless plantwide solution to meet most needs.

## CERTIFICATIONS

NFPA

ATEX

UL

EU Certificate

INERIS

Factory Mutual



# Explosion Isolation Valve VIGIFLAP

## APPLICATIONS

The **VIGIFLAP** is an explosion isolation valve designed to prevent propagation of overpressure or flame front caused by an explosion downstream in vessels such as dust collectors, cyclones, and filters.

The valve is held open either by air flow or proprietary locking mechanism. As a result, the **VIGIFLAP** valve can be used as an explosion isolation device for both the inlet and outlet of a vessel.

The **Explosion Isolation Valve VIGIFLAP** complies with **NFPA** guidelines and is an **ATEX Certified** device for the containment of explosion.



## CERTIFICATIONS & STANDARDS

EN 16447

NFPA 69 Compliant



## STANDARD FEATURES

- Body : painted steel
- Diameters :  $\phi 6"$  to  $\phi 54"$  /  $\phi 160$  mm to  $\phi 1350$  mm
- Gasket : EPDM (Silicone FDA 356°F/180°C option)
- Pressure drop : Lower pressure drop with round domed flap

## OPTIONAL FEATURES

The EV-VF is 100% NFPA 69 compliant with the following optional features :

- Body : Galvanized steel
- Body : Stainless steel
- Frame silicone FDA : 356°F/180 °C
- Dust level sensor to prevent dust accumulation
- Connection box installed on the body, according to the ATEX zone (opposite side of the locking mechanism)





PRODUCT CODE: 50200

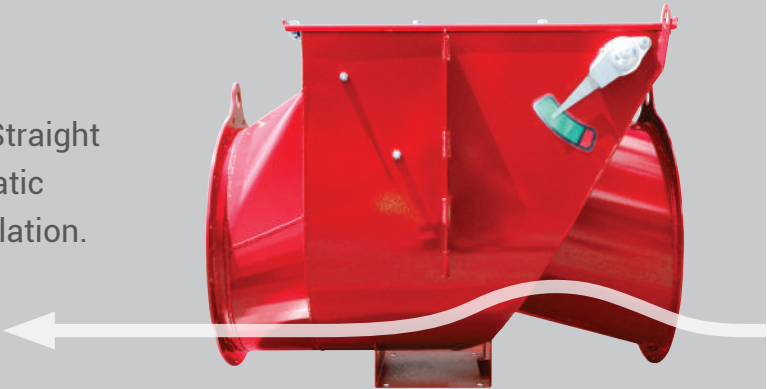
DIMENSIONS

DIMENSIONS				
Ø [inch]	Ø [mm]	Door gasket	Body gasket	Body
Ø 4	Ø 100	EPDM	EPDM	Mild Steel
Ø 5	Ø 125			
Ø 6	Ø 160			
Ø 7	Ø 180			
Ø 8	Ø 200			
Ø 10	Ø 250			
Ø 12	Ø 300			
Ø 14	Ø 350			
Ø 16	Ø 400			
Ø 18	Ø 450			
Ø 20	Ø 500			
Ø 22	Ø 550			
Ø 24	Ø 600			
Ø 26	Ø 650			
Ø 28	Ø 700			
Ø 30	Ø 750			
Ø 32	Ø 800			
Ø 34	Ø 850			
Ø 36	Ø 900			
Ø 38	Ø 950			
Ø 40	Ø 1000			
Ø 42	Ø 1050			
Ø 44	Ø 1100			
Ø 46	Ø 1150			
Ø 48	Ø 1200			
Ø 50	Ø 1250			
Ø 52	Ø 1300			
Ø 54	Ø 1350			

\* Units in inches rounded to the closest whole number

MINIMUM INTERNAL DUST ACCUMULATION

The VigiFlap's unique inlet & outlet "Straight Through" design ensures very low static resistance and reduces dust accumulation.



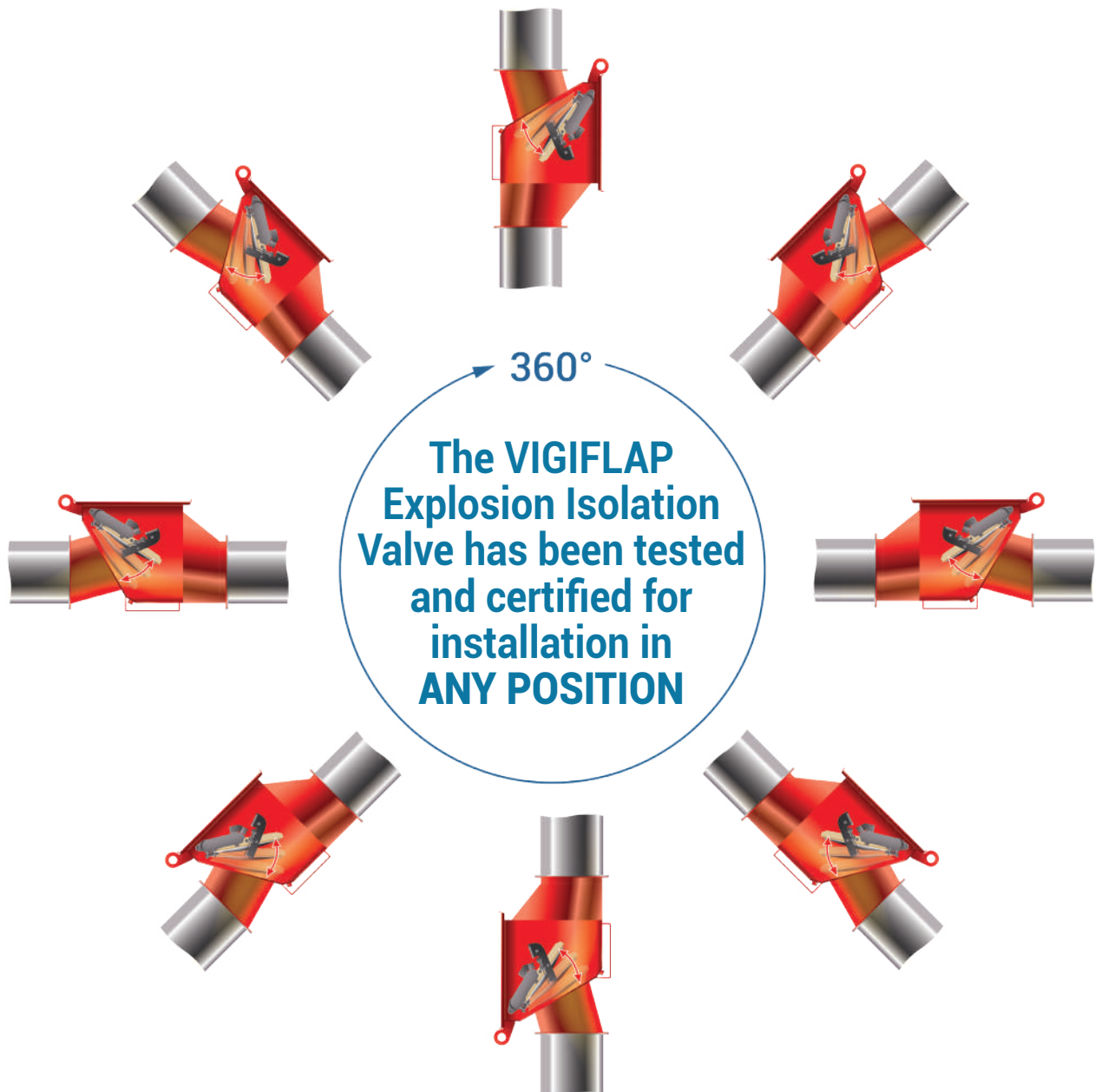
FREE FLOW DESIGN

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# Explosion Isolation Valve VIGIFLAP

## INSTALLATION

The **VIGIFLAP Valve** has been tested and certified with the process pipe installed on up & downstream sides of the valve, simulating **REAL WORLD CONDITIONS**.





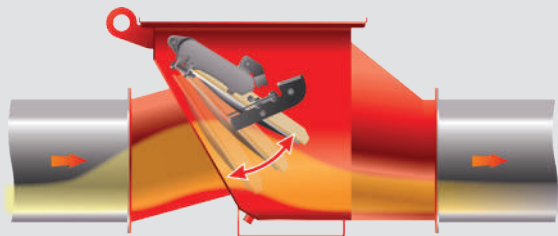
## APPLICATIONS

### PROCESS FLOW

FLOW POSITIONS :

- 1 Flap is held open by process flow

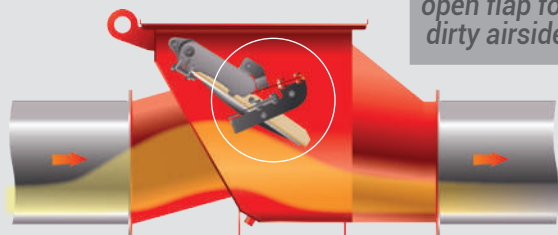
Installation  
with  
floating flap



or

- 2 Flap locked in open position

Installation  
with flap  
locked open



Locked  
open flap for  
dirty airside

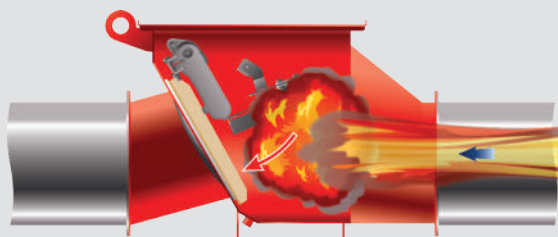
or

Locked  
open flap for  
clean airside



### EXAMPLE DURING AN EXPLOSION EVENT

Explosion isolation is achieved by flap closure independent of being in free floating or locked open position



Manual locking mechanism reset is required

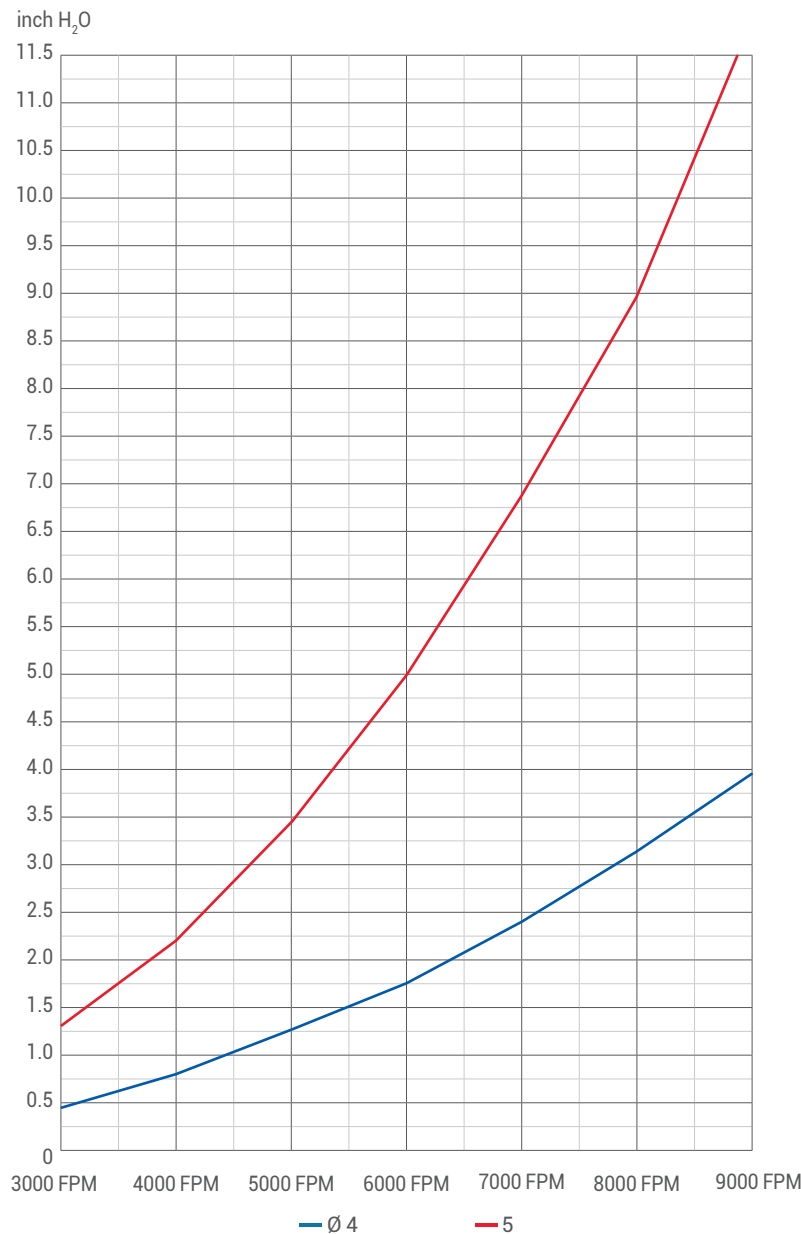
## TECHNICAL INFORMATION

KST MAX	250 bar.m/s	AMBIENT TEMPERATURE	-4°F +140°F	FLUX	Overpressure or vacuum
P MAX	145 psi ≤ 10 bar	SPEED FLOW	Clean Air ≤ 30 m/s Dirty Air ≤ 45 m/s	INTERIOR	ATEX zone 20
MESG	1/16" 1.5 mm (ex: sulfur)	DUST CONCENTRATION	No limit	OPERATING TEMPERATURE	EPDM gasket : -22°F +158°F Silicone gasket : 14°F +356°F
DUST	Any kind of dust	POSITION OF THE DEVICE	Vertical / Horizontal		

# Explosion Isolation Valve VIGIFLAP

## VIGIFLAP (VF) PRESSURE DROP

### LOCKED OPEN POSITION DIRTY AIR SIDE



4"-5"  
Ø100mm-Ø125mm

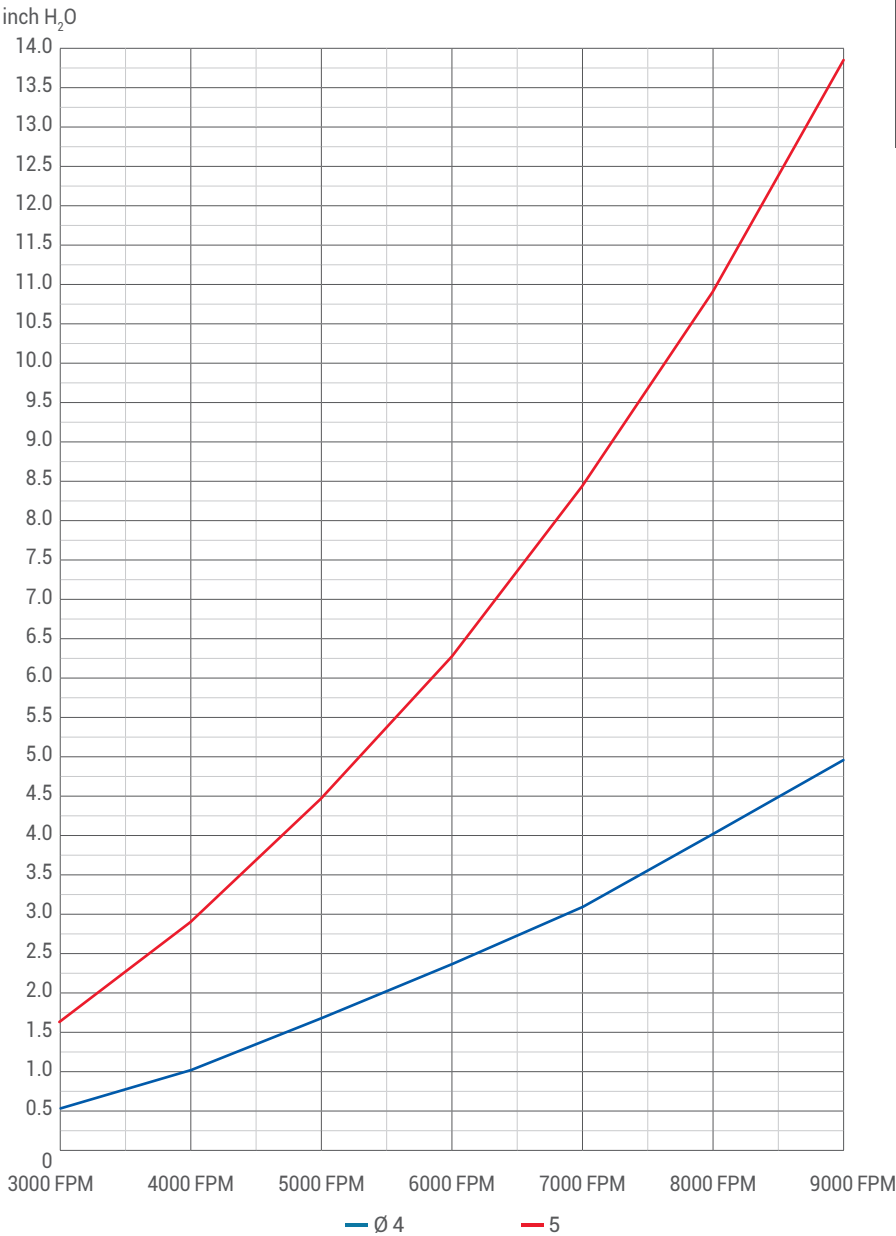
Pressure Drop in H <sub>2</sub> O							
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM	9000 FPM
Ø4	0.44	0.78	1.22	1.76	2.39	3.13	3.96
Ø5	1.26	2.23	3.49	5.02	6.83	8.93	11.30



PRODUCT CODE: 50200

# VIGIFLAP (VF) PRESSURE DROP

## FLOATING POSITION DIRTY AIR SIDE

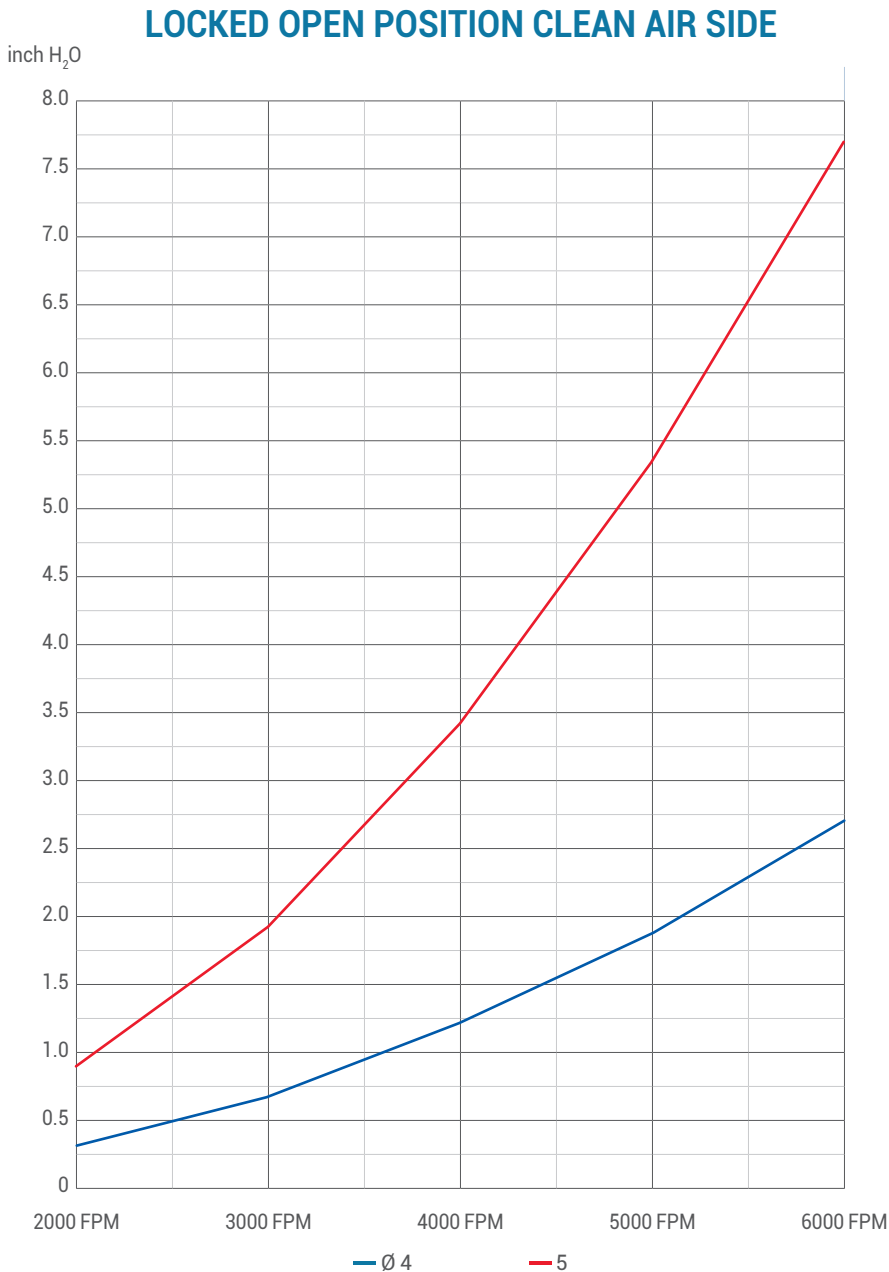


4"-5"  
Ø100mm-Ø125mm

Pressure Drop in H <sub>2</sub> O							
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM	9000 FPM
ø4	0.53	0.95	1.48	2.13	2.90	3.78	4.79
ø5	1.52	2.70	4.22	6.08	8.27	8.27	13.67

# Explosion Isolation Valve VIGIFLAP

## VIGIFLAP (VF) PRESSURE DROP



4"-5"  
Ø100mm-Ø125mm

Pressure Drop in H <sub>2</sub> O				
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM
Ø4	0.30	1.20	1.88	2.70
Ø5	0.86	1.93	5.36	7.72



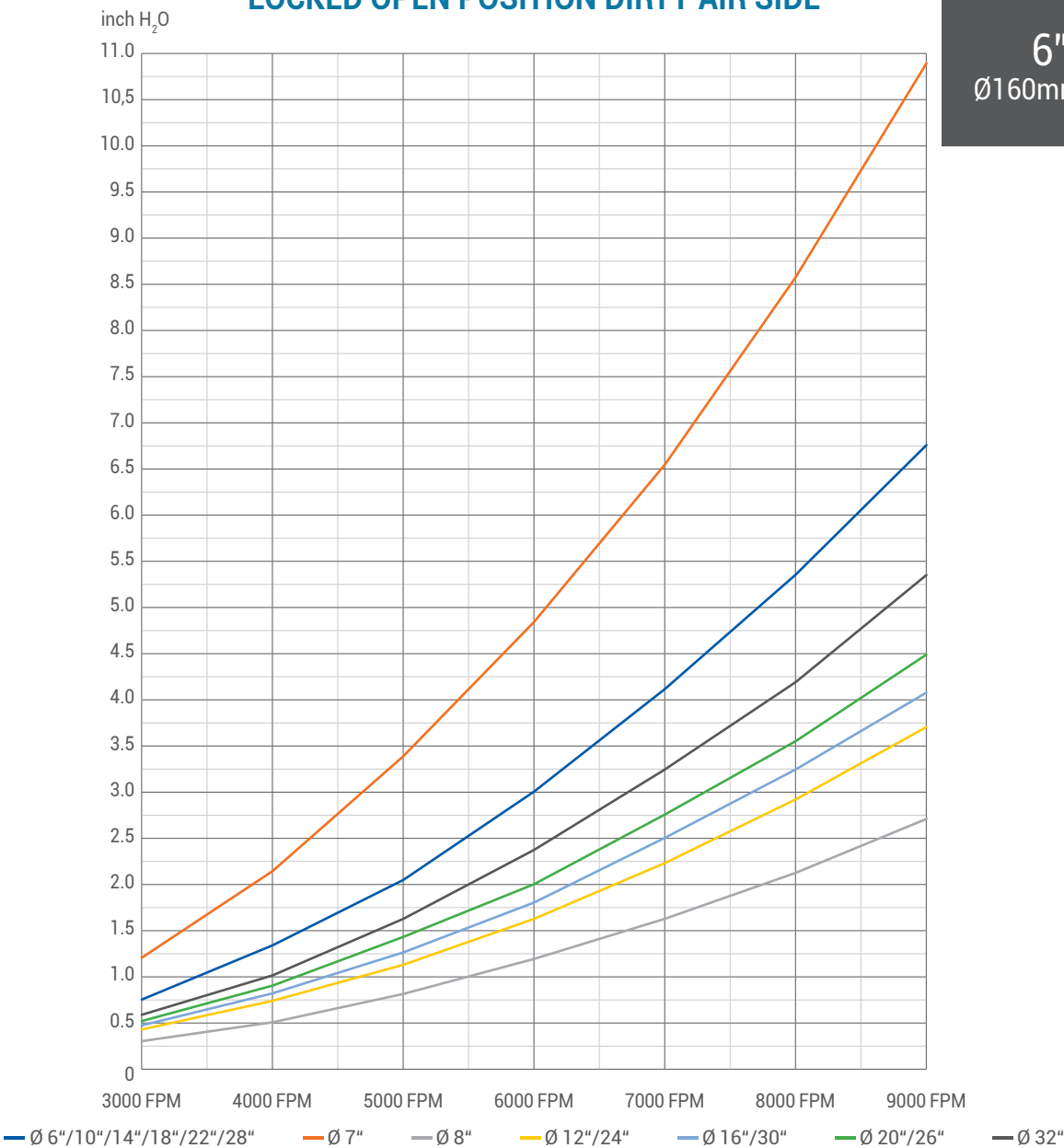


PRODUCT CODE: 50200

# VIGIFLAP (VF) PRESSURE DROP

LOCKED OPEN POSITION DIRTY AIR SIDE

6"-32"  
Ø160mm-Ø800mm

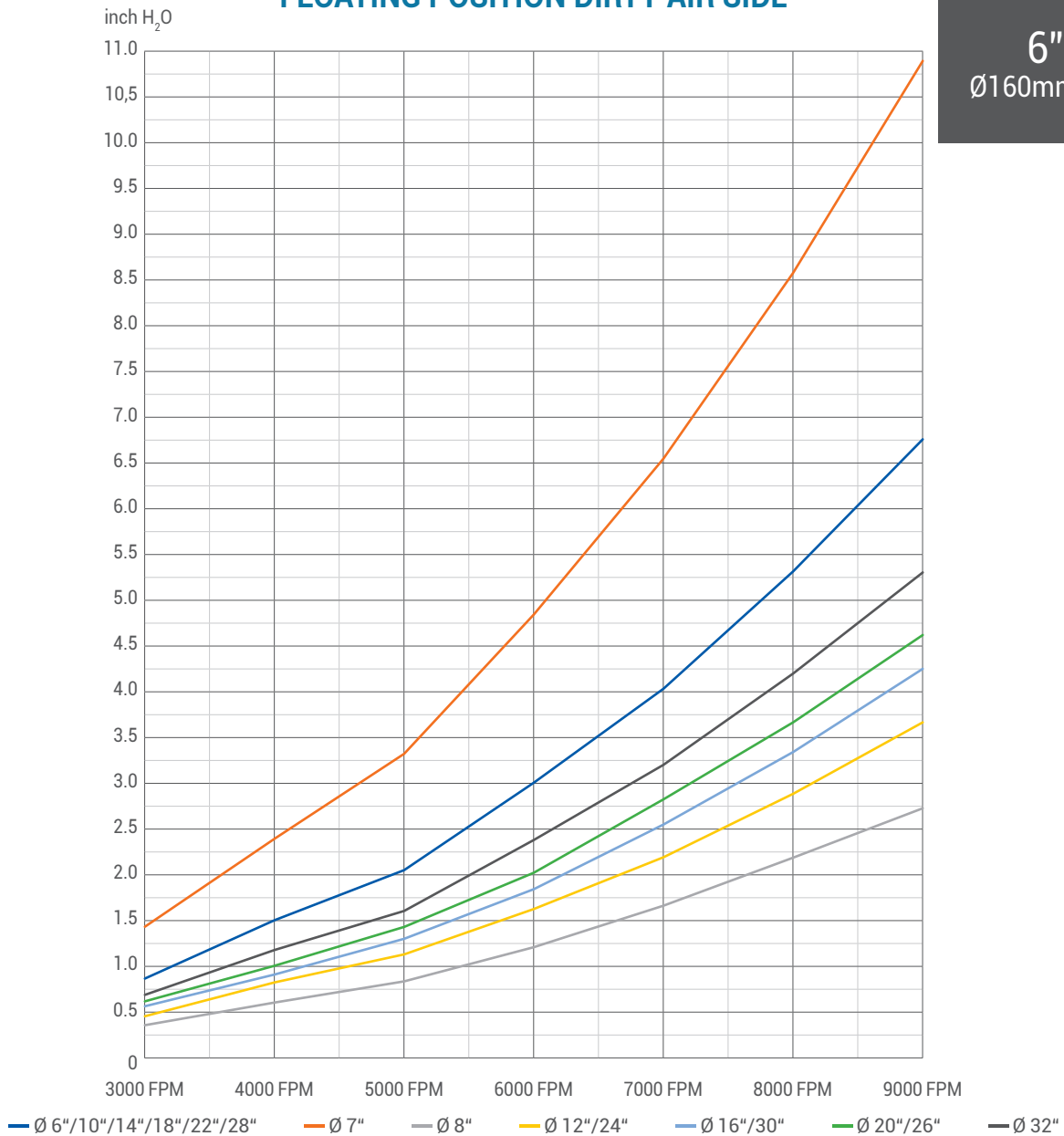


Pressure Drop in H <sub>2</sub> O						
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM
Ø6/10/14/18/22/28	0.75	1.34	2.09	3.01	4.10	5.36
Ø7	1.21	2.15	3.36	4.84	6.59	8.61
Ø8	0.29	0.52	0.82	1.18	1.61	2.11
Ø12/24	0.41	0.73	1.14	1.64	2.24	2.92
Ø16/30	0.45	0.81	1.27	1.82	2.48	3.25
Ø20/26	0.50	0.89	1.39	2.01	2.73	3.57
Ø32	0.59	1.05	1.65	2.37	3.32	4.22

# Explosion Isolation Valve VIGIFLAP

## VIGIFLAP (VF) PRESSURE DROP

### FLOATING POSITION DIRTY AIR SIDE



Pressure Drop in H <sub>2</sub> O						
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM
Ø6/10/14/18/22/28	0.81	1.50	2.07	3.00	4.06	5.32
Ø7	1.34	2.39	3.33	4.79	6.54	8.53
Ø8	0.36	0.60	0.85	1.21	1.66	2.19
Ø12/24	0.44	0.81	1.13	1.62	2.19	2.88
Ø16/30	0.56	0.89	1.30	1.86	2.56	3.33
Ø20/26	0.60	1.01	1.42	2.03	2.80	3.65
Ø32	0.65	1.17	1.62	2.35	3.21	4.18

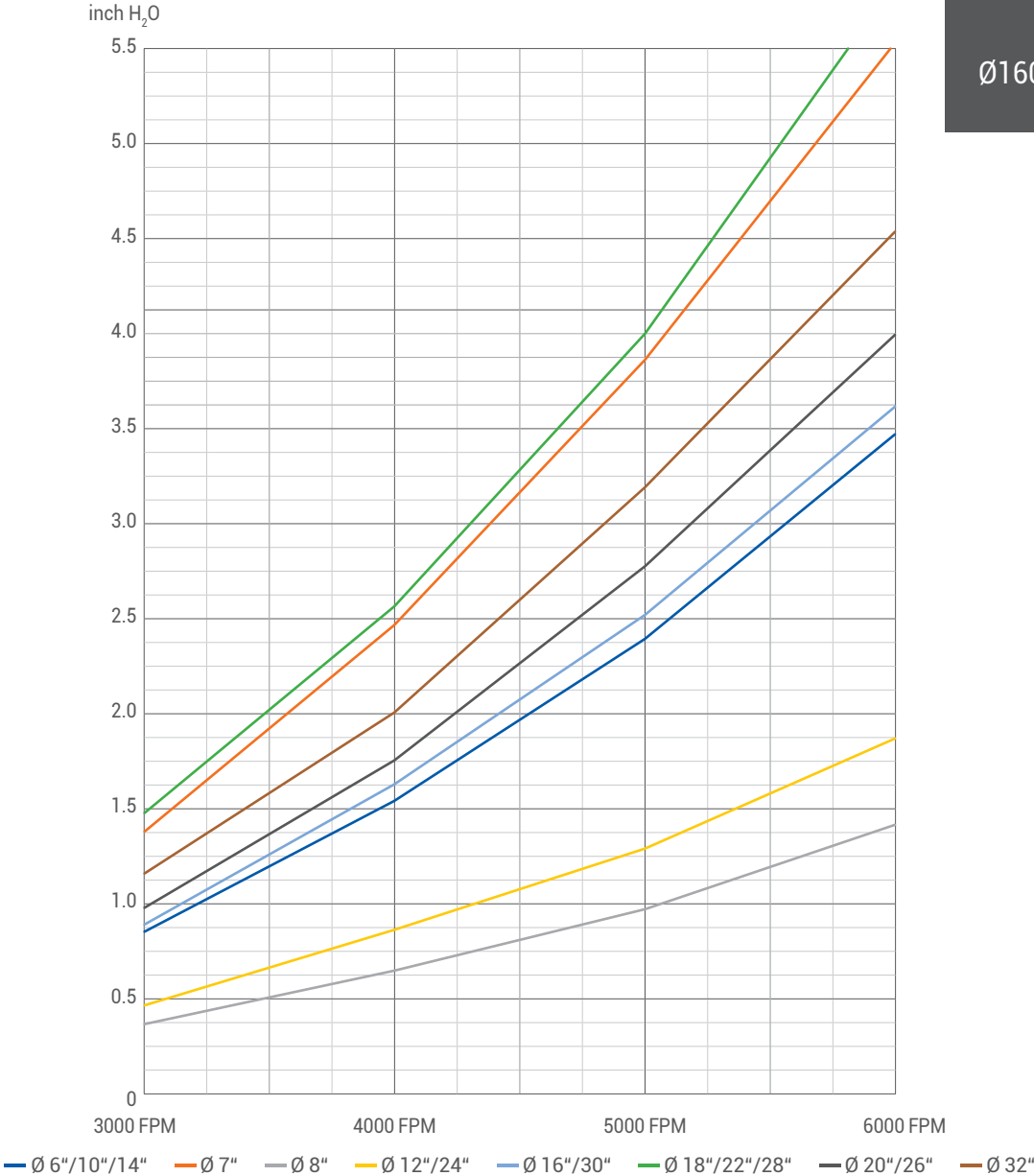


PRODUCT CODE: 50200

# VIGIFLAP (VF) PRESSURE DROP

## LOCKED OPEN POSITION CLEAN AIR SIDE

6"-32"  
Ø160mm-Ø800mm



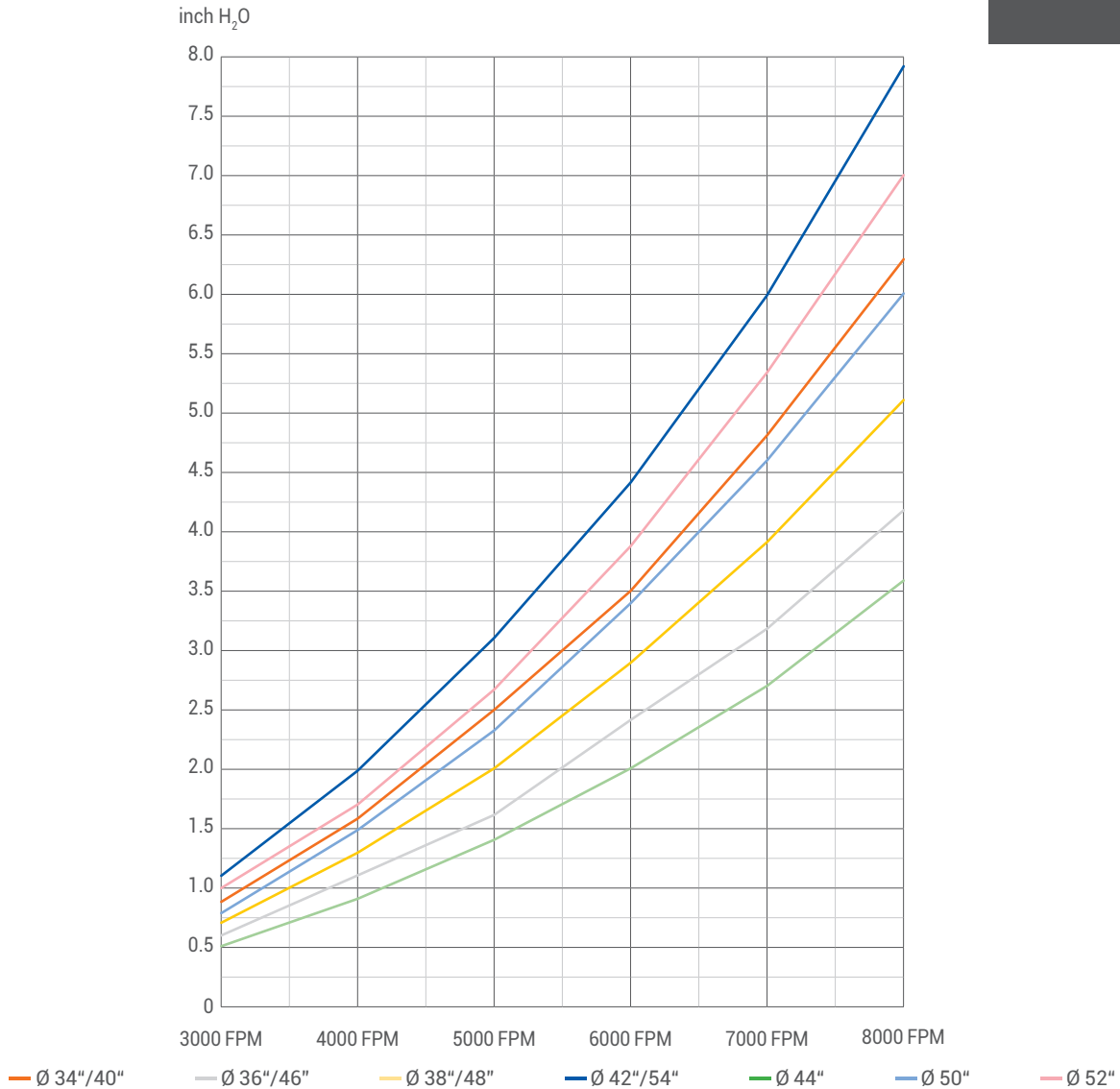
Pressure Drop in H <sub>2</sub> O				
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM
Ø6/10/14	0.85	1.54	2.40	3.45
Ø7	1.38	2.48	3.86	5.53
Ø8	0.37	0.61	0.98	1.42
Ø12/24	0.45	0.81	1.30	1.87
Ø16/30	0.89	1.63	2.52	3.62
Ø18/22/28	1.46	2.56	4.02	5.81
Ø20/26	0.98	1.75	2.76	3.98
Ø32	1.14	2.03	3.217	4.55

# Explosion Isolation Valve VIGIFLAP

## LARGE SIZE VIGIFLAP (VF) PRESSURE DROP

LOCKED OPEN POSITION DIRTY AIR SIDE

34"-54"  
Ø850mm-Ø1350mm



Pressure Drop in H <sub>2</sub> O						
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM
Ø34/40	0.90	1.60	2.50	3.50	4.80	6.30
Ø36/46	0.60	1.10	1.60	2.40	3.20	4.20
Ø38/48	0.70	1.30	2.00	2.90	3.90	5.10
Ø42/54	1.10	2.00	3.10	4.40	6.00	7.90
Ø44	0.50	0.90	1.40	2.00	2.70	3.60
Ø50	0.80	1.50	2.30	3.40	4.60	6.00
Ø52	1.00	1.70	2.70	3.90	5.30	7.00



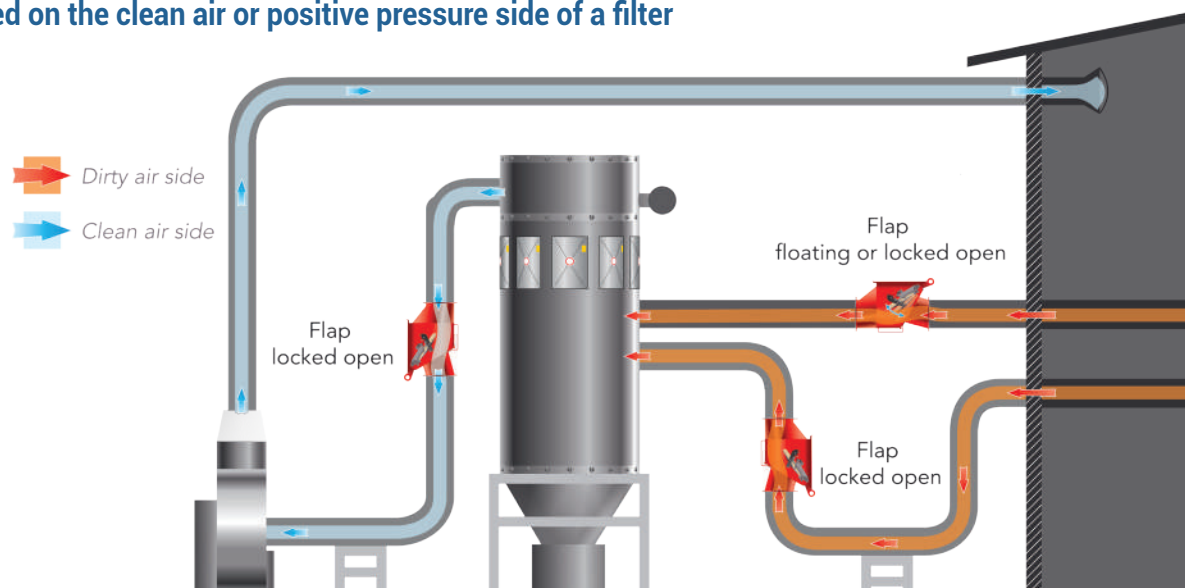


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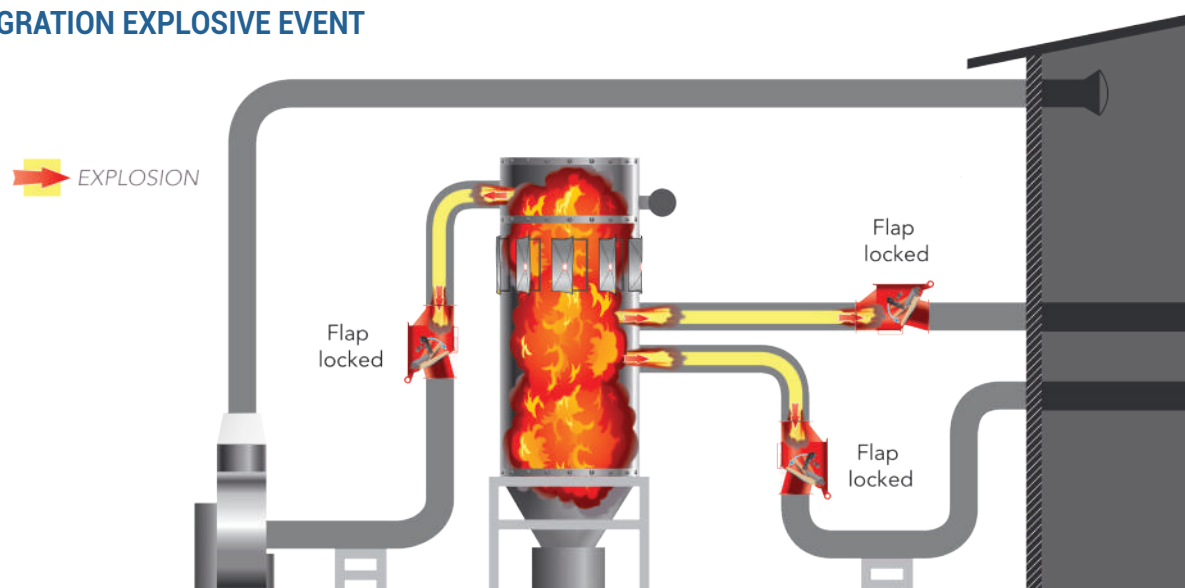
## INSTALLATION EXAMPLES

**THE EXPLOSION ISOLATION VALVE VIGIFLAP IS DESIGNED FOR USE ON THE INLET AND OUTLET SIDES OF A FILTER OR VESSEL**

**PROCESS FLOW** (The VIGIFLAP is always set in the open locked position when installed on the clean air or positive pressure side of a filter)



## DEFLAGRATION EXPLOSIVE EVENT



# No Return Valve Combo/Metal

## APPLICATIONS

### Specifications

- ATEX Certified; NFPA 69 Compliant
- Heavy Duty Welded Steel Construction
- Epoxy Powder Coated Safety Red Finish
- Flanged Inlet and Outlet with Co-Flanges
- Grounding Lugs
- Locking Mechanism

### NRV Combo Rated for:

- Class ST 3 Applications
- Kst max: 325 bar m/s
- Pred max: 1.0 bar (4"-7") 0.6 bar (8"-36") 0.5 bar (40"-48")
- Certification EN 16447

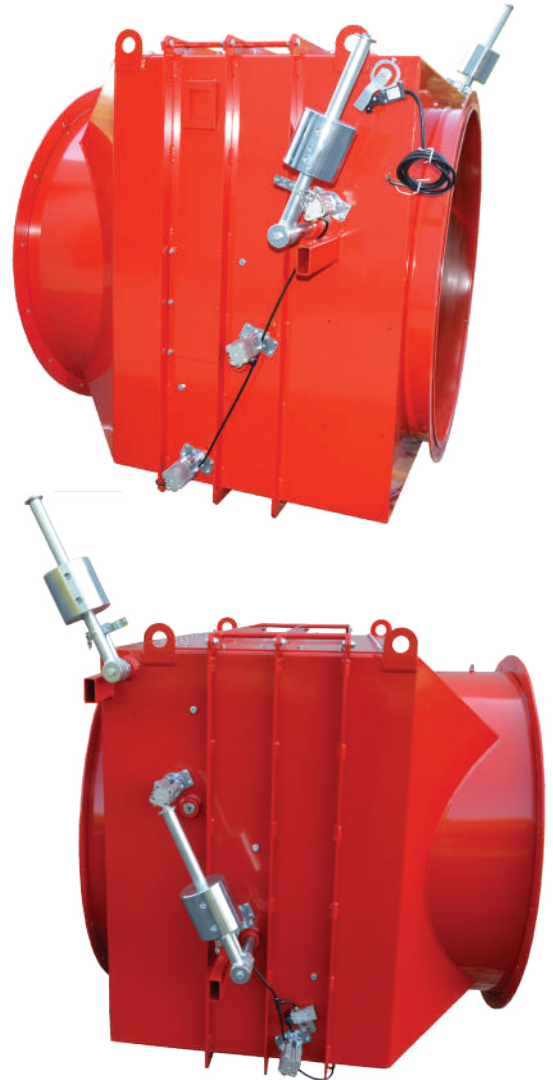
### NRV Metal Rated for:

- Metallic and organic dusts
- Class ST 3 Applications
- Kst max: 400 bar m/s
- Pred max: 1.0 bar (8"-16") 0.6 bar (22")
- Certification EN 16447

### CERTIFICATIONS & STANDARDS

EN 16447

NFPA 69 Compliant



### NRV (Options Required for NFPA compliance)

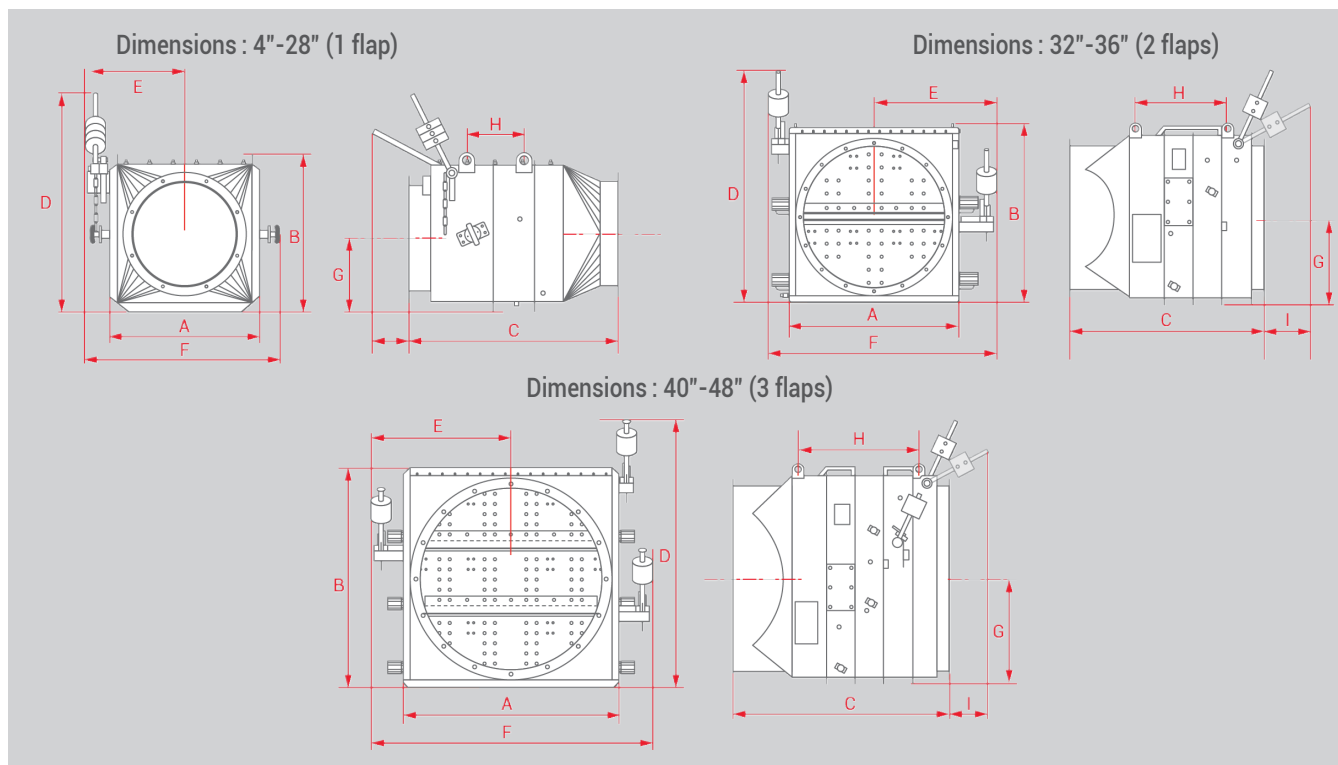
- Microswitch mounted on **NRV** locking mechanism for automatic shutdown on an event. **ATEX Zone 21 and 22** are available on request.
- Adjustable Sensitivity Dust Level Sensor (capacitive) mounted on bottom of **NRV** for automatic shutdown when **0.15-0.20"** of dust has accumulated on bottom of NRV.
- **CP05** – UL labeled intrinsically safe control panel with "System OK" and "System Fault" indicator lights. Complies with **NFPA 69** and **OSHA. UL698A (INTRINSIC SAFETY) UL508A for USA and cUL508A for Canada**





PRODUCT CODE: 50102/04

## DIMENSIONS



### NO RETURN VALVE COMBO/METAL (NRVC/M) DIMENSIONS (SIZES 4" - 48")

Ø	A	B	C	D	E	F	G	H	I	LBS
<b>NRVC SIZES 4" - 7" RATED FOR : Class ST3 Applications — Kst max 325 bar m/s — Pred max 1.0 bar — Certification EN 16447</b>										
100mm/4"	5.9	7.3	16.3	-	6.7	13.4	3.0	-	-	22
125mm/5"	6.9	8.3	17.3	-	7.1	14.2	3.5	-	-	24
160mm/6"	8.3	9.6	18.7	-	7.9	15.7	4.1	-	-	29
180mm/7"	9.1	10.4	19.5	-	8.3	16.5	4.5	-	-	31
<b>NRVM SIZES 8" - 16", and 22" RATED FOR : Class ST3 Applications — Kst max 400 bar m/s — Pred max 1.0 bar — Certification EN 16447</b>										
200mm/8"	14.2	14.2	22.6	23.2	10.6	20.1	5.5	-	4.9	68
250mm/10"	16.1	16.1	24.6	25.2	11.6	22.0	6.5	-	4.9	84
300mm/12"	18.1	18.1	26.6	27.1	12.6	24.0	7.5	-	4.9	106
350mm/14"	20.1	20.9	28.5	29.1	13.6	26.0	8.5	7.7	4.9	128
400mm/16"	22.0	22.8	30.5	31.1	14.6	28.0	9.5	9.1	4.9	150
550mm/22"	28.0	28.7	37.0	41.9	18.3	34.6	13.6	13.4	10.0	254
<b>NRVC SIZES 18" - 48" RATED FOR : Class ST3 Applications — Kst max 325 bar m/s — Pred max 0.60 bar — Certification EN 16447</b>										
450mm/18"	24.0	24.8	32.5	38.2	16.3	30.7	11.6	13.4	10.0	194
500mm/20"	26.0	26.8	34.4	40.0	17.3	32.7	12.6	13.4	10.0	220
600mm/24"	29.9	30.7	38.4	43.9	19.3	36.6	14.6	17.1	10.0	287
650mm/26"	31.9	32.7	40.9	45.9	20.3	38.6	15.6	17.1	10.0	342
700mm/28"	33.9	34.6	42.3	47.8	21.2	40.6	16.5	17.1	10.0	388
800mm/32"	38.6	40.4	44.5	52.4	28.0	52.2	19.1	22.0	10.4	639
900mm/36"	42.5	44.5	48.4	56.3	29.9	56.1	21.1	26.2	10.2	739
1000mm/40"	46.4	48.2	47.8	60.0	31.9	63.6	23.0	24.0	10.2	893
1100mm/44"	50.4	52.2	51.0	64.0	33.9	67.5	25.0	28.3	10.2	1058
1200mm/48"	54.3	56.1	54.1	68.0	35.8	71.5	27.0	31.3	10.2	1179

# Explosion Diverter

## APPLICATIONS

The **Explosion Diverter** valve with an explosion panel is the ideal addition to any exterior process flow duct system where there is potential for hazardous explosive overpressure or multiple explosive events. This device helps reduce the potential for system damage caused by high overpressure and rapid flame front expansion.



### CERTIFICATIONS & STANDARDS

EN 14491  
EN 14797  
NFPA 69



### STANDARD FEATURES

- Flat explosion vent panel VL or domed explosion vent panel VD

### OPTIONAL FEATURES

- Stainless steel construction





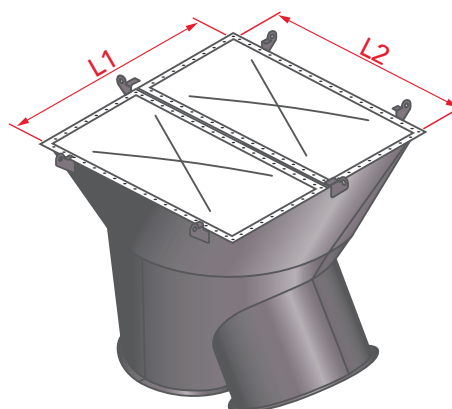
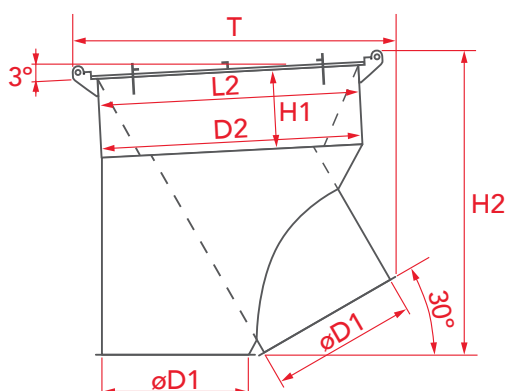
PRODUCT CODE: 50800

## DIMENSIONS

### CHARACTERISTICS OF THE EXPLOSION DEFLECTION DEVICE

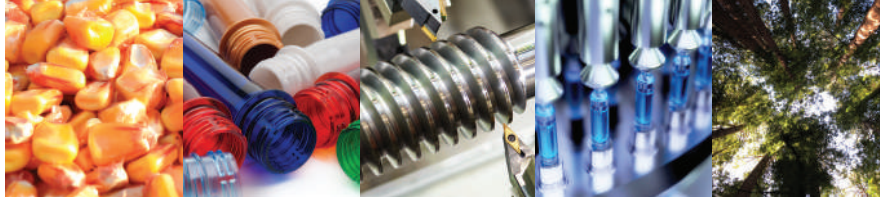
Number of panels	ø [in/mm]	H1	H2	D1	D2	L1	L2	T	Panel dimensions
x1	8/200	6/150	22/555	8/200	16/410	16/410	16/410	27/685	VD 16"x16" - 410x410mm
	10/250	7/175	24/600	10/250	20/490	20/490	20/490	31/781	VD 19"x19" - 490x490mm
	12/300	8/200	28/700	12/300	24/610	24/610	24/610	35/875	VD 24"x24" - 610x610mm
	14/350	9/225	32/800	14/350	26/645	26/645	26/645	39/975	VD 25"x25" - 645x645mm
	16/400	10/250	36/900	16/400	31/780	31/780	31/780	43/1070	VD 31"x31" - 780x780mm
x2	18/450	11/275	40/1000	18/450	34/850	37/920	37/920	47/1165	VD 17"x35" - 457x890mm (Qty. 2)
	20/500	12/300	44/1100	20/500	37/920	37/920	37/920	50/1260	VD 17"x35" - 457x890mm (Qty. 2)
	22/550	13/325	48/1200	22/550	39/980	39/980	39/980	54/1355	VD 17"x35" - 457x890mm (Qty. 2)
	24/600	14/350	52/1300	24/600	43/1070	41/1020	41/1020	58/1455	VD 23"x36" - 586x920mm (Qty. 2)
	26/650	15/375	56/1400	26/650	47/1180	47/1180	47/1180	62/1550	VD 23"x36" - 586x920mm (Qty. 2)
x4	28/700	16/400	60/1500	28/700	50/1250	55/1375	55/1375	66/1645	VD 24"x24" - 610x610mm (Qty. 4)
	30/750	17/425	64/1600	30/750	54/1350	58/1455	58/1455	70/1740	VD 24"x24" - 610x610mm (Qty. 4)
	32/800	18/450	68/1700	32/800	57/1430	58/1455	58/1455	73/1835	VD 25"x25" - 645x645mm (Qty. 4)
	34/850	19/475	72/1800	34/850	61/1520	64/1605	64/1605	77/1930	VD 23"x36" - 586x920mm (Qty. 4)
	36/900	20/500	76/1900	36/900	64/1600	64/1605	64/1605	81/2030	VD 23"x36" - 586x920mm (Qty. 4)
x6	38/950	21/525	80/2000	38/950	68/1700	71/1785	71/1785	85/2125	VD 17"x35" - 457x890mm (Qty. 6)
	40/1000	22/550	84/2100	40/1000	71/1780	71/1785	71/1785	89/2220	VD 22"x34" - 530x850mm (Qty. 6)

Dimensions are rounded up to the closest whole number



## TECHNICAL INFORMATION

MODEL	KST MAX	Pred. Max	PMAX	DUST
EV-VDIV	St2 ≤ 300 bar.m/s	12 psi 0.8 bar	174 psi ≤ 12 bar	Any kind of dust



# Certified Rotary Valve HT Series

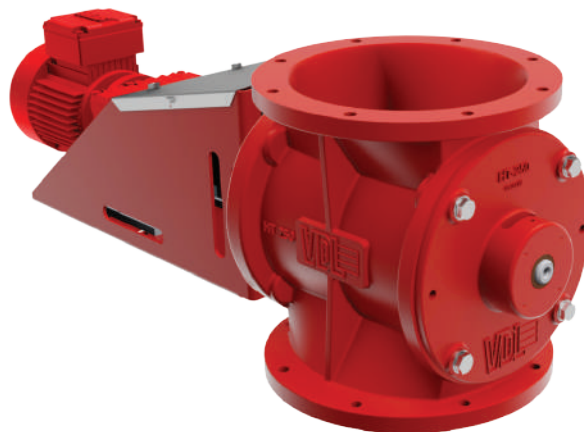
PRODUCT CODE: 58000

Feeder valve for screw conveyors, scales, dryers and coolers

Sizes: 10", 14" & 18"

## CERTIFICATIONS & STANDARDS

- NFPA 69 Compliant - ATEX Certified EN 15089
- OSHA Compliant drive guard for the Explosion Isolation Model
- Flex tip design certified to prevent flame passage for Passive Explosion Isolation

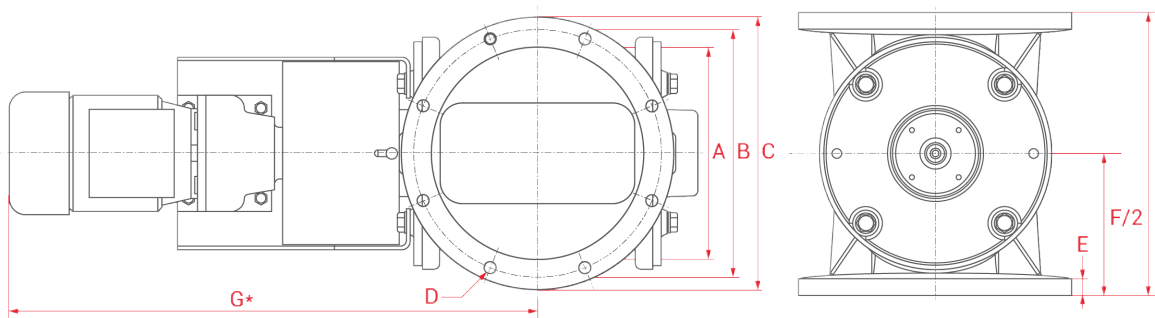


## STANDARD FEATURES

- Cast iron housing with safety red finish EX version
- Differential pressures up to **40" WC**
- Direct drive gearmotor with flex coupling
- Airlock in dust collector and cyclone installations
- Explosion and Flame Proof design rated up to **25 PSI / 670" WC**

## OPTIONAL FEATURES

- Variable speed drive control option
- Square to round flange adapter including gasket and mounting bolts

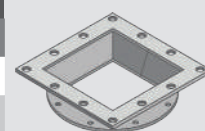


### DIMENSIONS\*

MODEL	15 RPM HP	30 RPM HP	CAPACITY FT <sup>3</sup> (LTR)	Ø A	Ø B	Ø C	D	E	F*	G
HT250	0.33	0.75	0.24 (7)/rev	10" (250 mm)	12" (290 mm)	13" (320 mm)	8 x Ø12 mm	0.79" (20 mm)	13" (330 mm)	24" (620 mm)
HT350	0.50	1.00	0.70 (20)/rev	14" (340 mm)	15" (390 mm)	17" (420 mm)	8 x Ø12 mm	0.79" (20 mm)	16" (400 mm)	26" (670 mm)
HT450	1.00	2.00	1.23 (35)/rev	17" (420 mm)	19" (490 mm)	21" (525 mm)	8 x Ø12 mm	0.79" (20 mm)	20" (500 mm)	33" (850 mm)

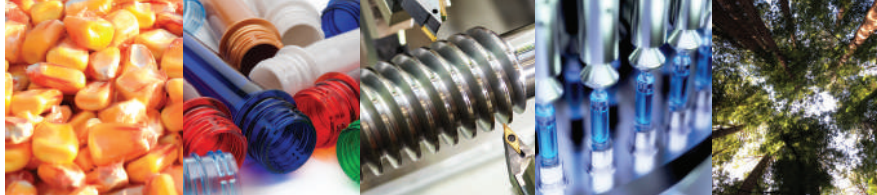
### SQUARE TO ROUND TRANSITIONS\*

SQUARE TRANSITION (Nominal Size Inches)	6X6	8X8	10X10	12X12	14X14	16X16
SRT	HT250	HT250	HT250	HT350	HT350	HT450
Transition Height	2.84" (72 mm)	2.80" (71 mm)	2.80" (71 mm)	2.80" (71 mm)	2.80" (71 mm)	3.43" (87 mm)
Overall Height (Dim F + Transition Height)	16" (402 mm)	16" (401 mm)	16" (401 mm)	19" (471 mm)	19" (471 mm)	23" (587 mm)



\* Length varies dependent on motor selection – Units in inches rounded to the closest whole number





# Certified Rotary Valve HTS Series

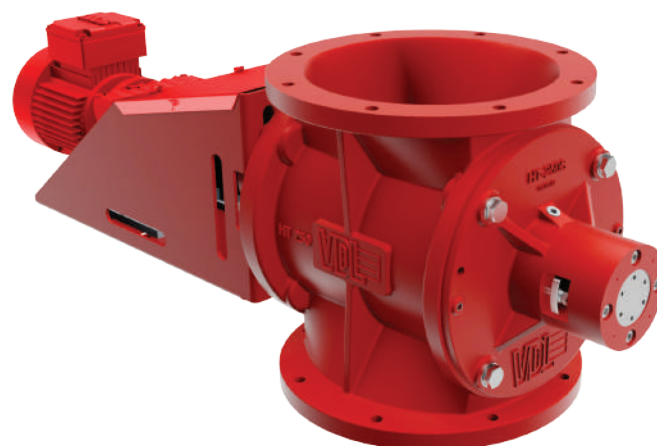
PRODUCT CODES: 58100, 58101, 58102, 58103 & 58131

Ideal for dust collectors, cyclones, silos, hoppers, and specialized process applications

Sizes: 10" & 14"

## CERTIFICATIONS & STANDARDS

- NFPA 69 Compliant - ATEX Certified EN 15089
- OSHA Compliant drive guard for the Explosion Isolation Model
- External bearing design, 8-vane rotary blade for the Explosion Isolation
- Flex tip design certified to prevent flame passage for Passive Explosion Isolation

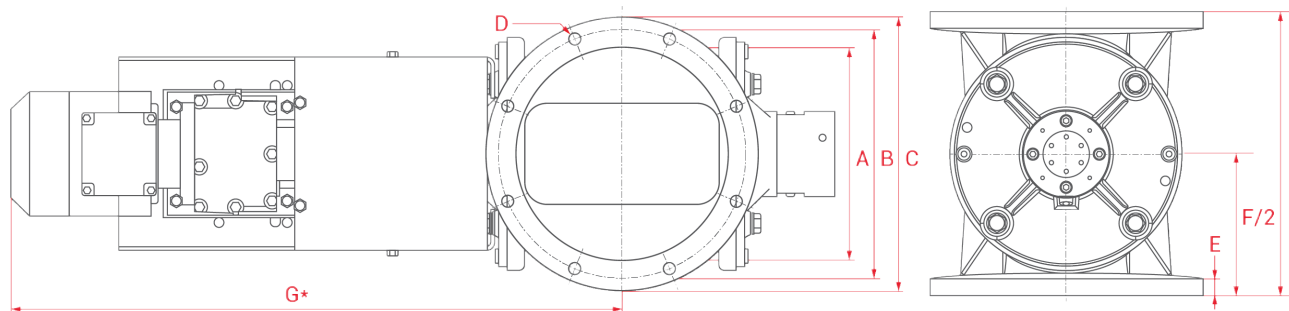


## STANDARD FEATURES

- Cast iron housing with safety red finish EX version
- Explosion and Flame Proof design rated up to **25 PSI / 670" WC**
- Airlock in high vacuum installations - applications up to **160" WC**
- Direct drive gearmotor with flex coupling

## OPTIONAL FEATURES

- Variable speed drive control option
- Square to round flange adapter including gasket and mounting bolts
- Quick-clean valve housing design option

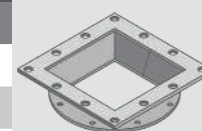


### DIMENSIONS\*

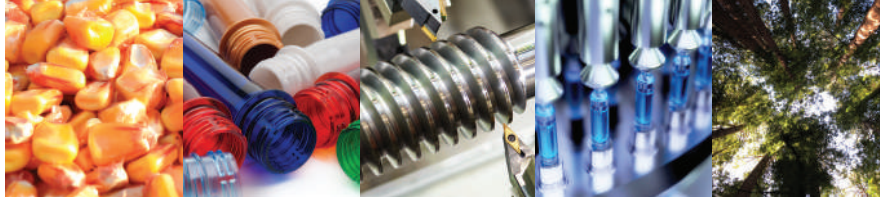
MODEL	15 RPM HP	30 RPM HP	CAPACITY FT <sup>3</sup> (LTR)	Ø A	Ø B	Ø C	D	E	F*	G
HTS250	0.33	0.75	0.24 (7)/rev	10" (250 mm)	12" (290 mm)	13" (320 mm)	8 x Ø12 mm	0.79" (20 mm)	13" (330 mm)	28" (710 mm)
HTS350	0.50	1.00	0.70 (20)/rev	14" (340 mm)	15" (390 mm)	17" (420 mm)	8 x Ø12 mm	0.79" (20 mm)	16" (400 mm)	33" (830 mm)

### SQUARE TO ROUND TRANSITIONS

SQUARE TRANSITION (Nominal Size Inches)	6X6	8X8	10X10	12X12	14X14
SRT	HTS250	HTS250	HTS250	HTS350	HTS350
Transition Height	2.84" (72 mm)	2.80" (71 mm)	2.80" (71 mm)	2.80" (71 mm)	2.80" (71 mm)
Overall Height (Dim F + Transition Height)	16" (402 mm)	16" (401 mm)	16" (401 mm)	19" (471 mm)	19" (471 mm)



\* Length varies dependent on motor selection — Units in inches rounded to the closest whole number



# Certified Rotary Valve MD Series

PRODUCT CODES: 58200, 58204, 58205, & 58251

Ideal for feeding, metering and pneumatic conveying applications

Sizes: 6", 8", 10" & 12"

## CERTIFICATIONS & STANDARDS

- NFPA 69 Compliant - ATEX Certified EN 15089
- OSHA Compliant drive guard for the Explosion Isolation Model
- External bearing design, 8-vane rotary blade for the Explosion Isolation
- Certified to prevent flame passage for Passive Explosion Isolation

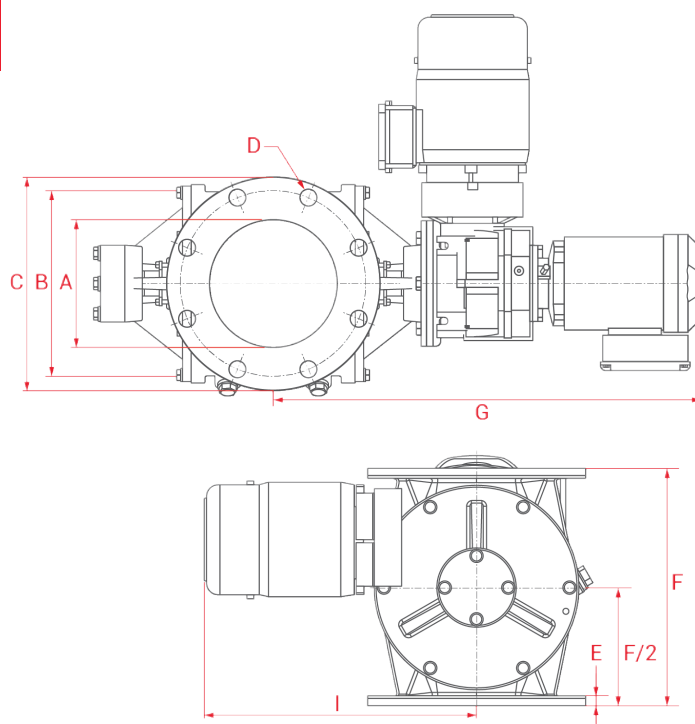


## STANDARD FEATURES

- Manages differential pressure up to **15 PSI / 400" WC**
- Shaft sealing with adjustable gland gasket
- Cast iron housing with flanged inlet/outlet
- Direct drive motor with gearbox
- 8 vane rotor with options for polyurethane tips, steel or stainless steel
- The Explosion version certified to withstand explosive pressures up to 36 PSI / 25 PSI (985" WC / 670" WC) with polyurethane tips

## OPTIONAL FEATURES

- Variable speed drive control option
- Nickel plating or chromium plating options
- Quick-clean valve housing design option

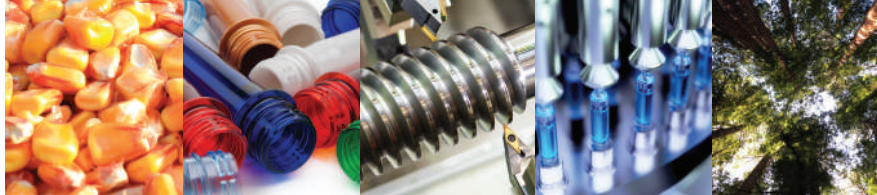


### DIMENSIONS \*

MODEL	15 RPM HP	30 RPM HP	CAPACITY FT <sup>3</sup> (LTR)	Ø A	Ø B	Ø C	D	E	F	G	H	I
MD150	0.50	0.75	0.10 (3)/rev	6" (150 mm)	9" (240 mm)	11" (285 mm)	8 x Ø23 mm	0.51" (13 mm)	10" (260 mm)		13" (330 mm)	14" (355 mm)
MD200	0.75	1.50	0.39 (11)/rev	8" (200 mm)	12" (300 mm)	13" (340 mm)	8 x Ø23 mm	0.51" (13 mm)	15" (370 mm)		16" (400 mm)	21" (525 mm)
MD250	1.00	1.00	0.74 (21)/rev	10" (250 mm)	14" (350 mm)	16" (395 mm)	12 x Ø23 mm	0.67" (17 mm)	17" (425 mm)	30" (770 mm)		
MD300	1.50	3.00	1.30 (37)/rev	12" (300 mm)	16" (400 mm)	18" (445 mm)	12 x Ø23 mm	0.79" (20 mm)	20" (500 mm)	33" (840 mm)		

Columns G, H and I depend on drive

\* Units in inches rounded to the closest whole number



# Certified Rotary Valve BS Series

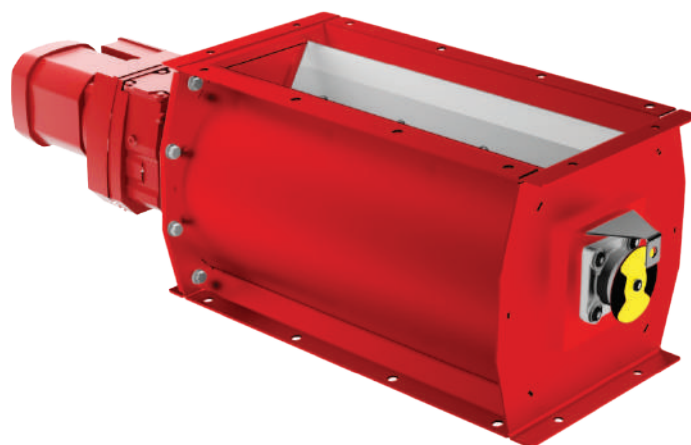
PRODUCT CODE: 58500

Ideal for wood applications

Sizes: 20"x 20", 20"x 30", 20"x 40" & 20"x 60"

## CERTIFICATIONS & STANDARDS

- NFPA 69 Compliant - ATEX Certified EN 15089
- OSHA Compliant drive guard for the Explosion Isolation Model
- External bearing design, 8-vane rotary blade for the Explosion Isolation
- Flex tip design certified to prevent flame passage for Passive Explosion Isolation

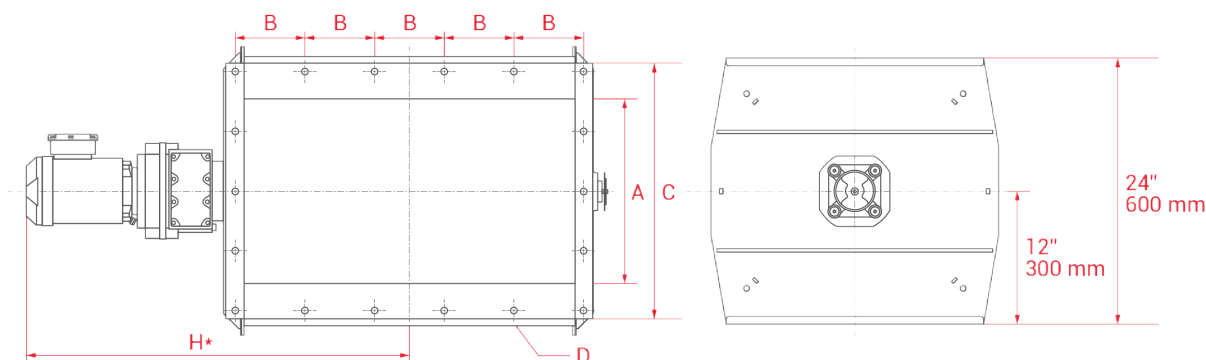


## STANDARD FEATURES

- Differential pressures up to 28" WC
- Direct drive gearmotor with flex coupling
- Explosion and flame proof to 7.25 PSI / 201" WC

## OPTIONAL FEATURES

- Default: Steel with Neoprene Tip Rotor Blades
- Optional: Steel Rotor with Silicone Tip Blades or Stainless Steel Rotor with Polyurethane Tip Blades



DIMENSIONS *								
MODEL	15 RPM HP	22 RPM HP	CAPACITY FT <sup>3</sup> (LTR)	A	B	C	D	H
BS500	1.00		4.41 (125)/rev	20" x 20" (500 x 500 mm)	0.16" x 5.30" (4 x 135 mm)	23" x 23" (580 x 580 mm)	16 x Ø 10.5 mm	30" (742 mm)
BS750	1.00		6.64 (188)/rev	20" x 30" (500 x 750 mm)	0.20" x 6.22" (5 x 158 mm)	23" x 33" (580 x 830 mm)	18 x Ø 10.5 mm	34" (867 mm)
BS1000	1.50		8.83 (250)/rev	20" x 40" (500 x 1000 mm)	0.31" x 5.12" (8 x 130 mm)	23" x 43" (580 x 1080 mm)	24 x Ø 10.5 mm	40" (997 mm)

Available as BS, Rotary valve with explosion detector and control – Available as BS, Rotary valve only  
 \* Length varies dependent on motor selection – Units in inches rounded to the closest whole number

## Explosion Tested Drum Kit

### APPLICATIONS

The NFPA compliant Raptor Drum™ Explosion Tested Drum Kit acts as an extension of the dust collector. It is an innovative solution for explosion isolation. No need for wiring, maintenance, motor, starter, wipers, chains.



### STANDARD FEATURES

- Standard sizes : 10" -18", 55 gallon or 20 gallon drum

### SIMPLE AND PROVEN

- Explosion Tested to 7psi
- NFPA 69/654 Compliant
- Bonded to a Grounded Collector
- No Moving Parts
- No Flex Hose
- Tool Free
- Tested Up to 185kst

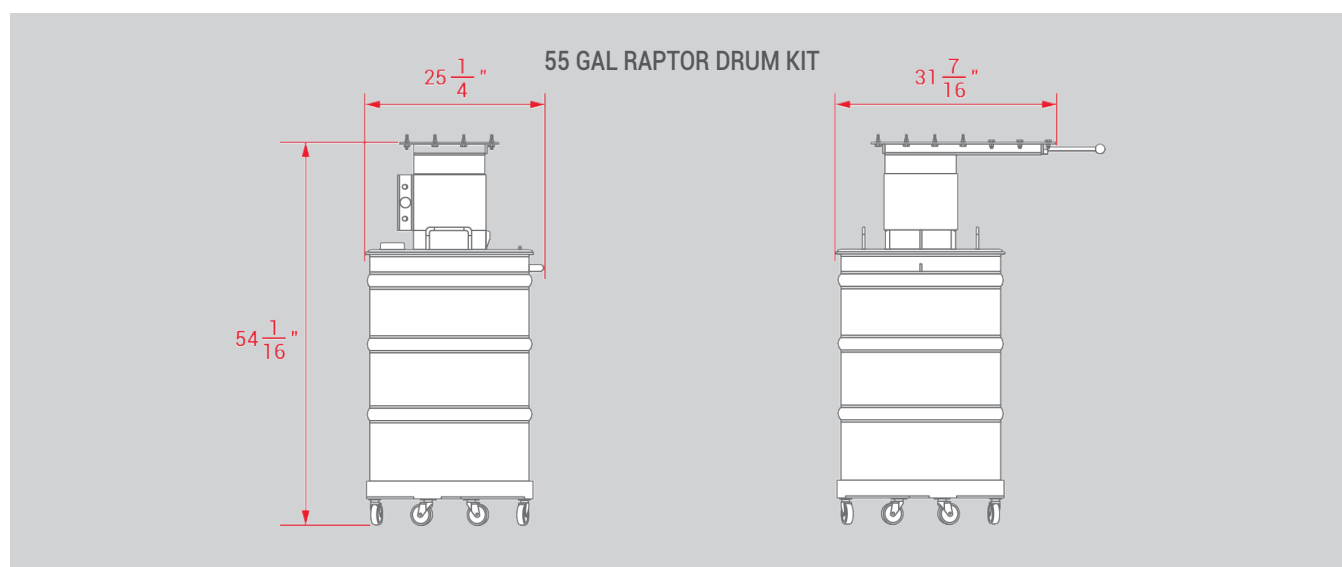




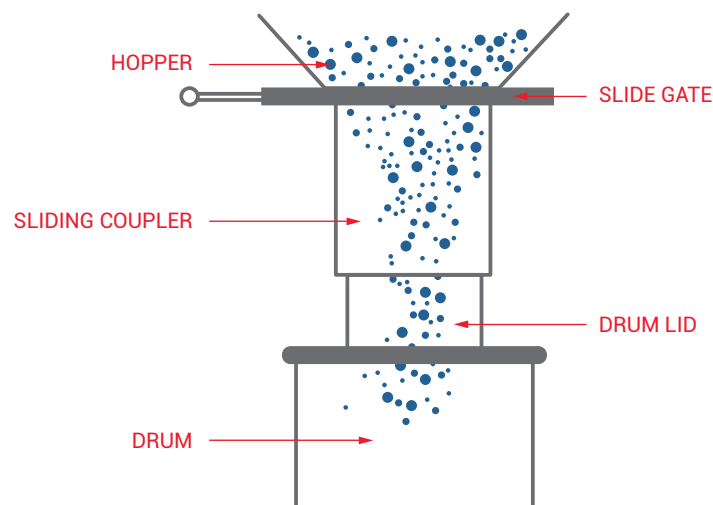
PRODUCT CODES: 51301

## DIMENSIONS

PRODUCT CODE SIZE	DIAMETER	DESCRIPTION
5910010	10"	Raptor Drum Kit 55 Gallon or 20 Gallon Drum
5910012	12"	Raptor Drum Kit 55 Gallon or 20 Gallon Drum
5910014	14"	Raptor Drum Kit 55 Gallon or 20 Gallon Drum
5910016	16"	Raptor Drum Kit 55 Gallon or 20 Gallon Drum
5910018	18"	Raptor Drum Kit 55 Gallon or 20 Gallon Drum



## HOW RAPTOR DRUM WORKS



# Flat Explosion Vent Panel VL

Vacuum level : -0.7 psi / -20" w.g.

## APPLICATIONS

The **Flat Explosion Vent Panel VL** is suitable for all applications with low vacuum operating pressures. Typical applications include dust collectors, conveyors, cyclones, elevators, and silos.

The **Flat Explosion Vent Panel VL** is specifically designed to satisfy low pressure explosion venting requirements. It is designed with an integral gasketed flange that covers the breaking points, ensuring strong mechanical durability. A wide variety of standard and custom sizes and bolt patterns are available.

Standard burst pressure is **1.45 psi / 0.1 bar**. Application specific burst pressures between **1.45 psi up to 7 psi** are available for special orders.



## CERTIFICATIONS & STANDARDS

Ex II GD

EN 14491 - EN 14994 - EN 14797 - EN 1127.1

EU Certificate : INERIS 15ATEX0001X

NFPA 68 - NFPA 69 Compliant

EN 16447

Production quality assurance notification :  
INERIS 08ATEXQ406



## STANDARD FEATURES

- Single Flat Panel **304 stainless steel**
- Full frame **black EPDM gasket** -40°F +176°F (-40°C +80°C)
- Integral **304L stainless steel flange**

## OPTIONAL FEATURES

- **Stainless steel 316L construction**
- Full frame **white silicone FDA gasket** -76°F +392°F (-60°C +200 °C)
- **High temperature graphite gasket** -328°F +932°F (-200°C +500°C)
- **Integral 316L stainless steel flange with gasket**

## ACCESSORIES FOR VL

- Burst Sensor
- Weather protection
- Vacuum safety grid
- Thermal insulation
- Duct discharge compatible





PRODUCT CODE: 51501

## RECTANGULAR & SQUARE DIMENSIONS

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft <sup>2</sup>	m <sup>2</sup>
<b>7 x 19</b>	170 x 470	<b>10 x 22</b>	250 x 550	<b>0.845</b>	0.078
<b>11 x 18</b>	270 x 458	<b>14 x 21</b>	350 x 538	<b>1.313</b>	0.122
<b>12 x 20</b>	300 x 500	<b>15 x 23</b>	380 x 580	<b>1.593</b>	0.148
<b>12 x 18</b>	305 x 457	<b>15 x 21</b>	386 x 538	<b>1.491</b>	0.138
<b>12 x 24</b>	305 x 610	<b>15 x 27</b>	386 x 690	<b>1.986</b>	0.184
<b>14 x 26</b>	350 x 650	<b>17 x 29</b>	430 x 730	<b>2.427</b>	0.225
<b>18 x 35</b>	457 x 890	<b>21 x 38</b>	537 x 970	<b>4.348</b>	0.404
<b>19 x 23</b>	490 x 590	<b>22 x 26</b>	570 x 670	<b>3.084</b>	0.286
<b>23 x 36</b>	586 x 920	<b>26 x 39</b>	666 x 1000	<b>5.769</b>	0.536
<b>24 x 24</b>	610 x 610	<b>27 x 27</b>	690 x 690	<b>3.977</b>	0.369
<b>24 x 36</b>	610 x 920	<b>27 x 39</b>	690 x 1000	<b>6.230</b>	0.561
<b>36 x 44</b>	915 x 1118	<b>39 x 47</b>	996 x 1198	<b>10.978</b>	1.020
<b>36 x 36</b>	920 x 920	<b>39 x 39</b>	1000 x 1000	<b>9.068</b>	0.842
<b>44 x 44</b>	1130 x 1130	<b>48 x 48</b>	1220 x 1220	<b>13.690</b>	1.272

Sizes are accurate in mm and rounded to the closest whole number in inches

Other sizes available

## ROUND DIMENSIONS

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft <sup>2</sup>	m <sup>2</sup>
<b>8</b>	Ø 200	<b>11</b>	Ø 268	<b>0.334</b>	0.031
<b>10</b>	Ø 250	<b>13</b>	Ø 341	<b>0.517</b>	0.048
<b>12</b>	Ø 300	<b>15</b>	Ø 390	<b>0.748</b>	0.069
<b>14</b>	Ø 350	<b>17</b>	Ø 424	<b>1.001</b>	0.093
<b>16</b>	Ø 400	<b>19</b>	Ø 473	<b>1.324</b>	0.123
<b>18</b>	Ø 450	<b>21</b>	Ø 545	<b>1.701</b>	0.158
<b>20</b>	Ø 500	<b>23</b>	Ø 574	<b>2.083</b>	0.193
<b>24</b>	Ø 600	<b>27</b>	Ø 676	<b>3.003</b>	0.279
<b>28</b>	Ø 700	<b>31</b>	Ø 790	<b>4.122</b>	0.383
<b>30</b>	Ø 750	<b>33</b>	Ø 842	<b>4.736</b>	0.440
<b>31</b>	Ø 800	<b>35</b>	Ø 880	<b>5.381</b>	0.500
<b>36</b>	Ø 900	<b>39</b>	Ø 990	<b>7.065</b>	0.656
<b>39</b>	Ø 990	<b>42</b>	Ø 1070	<b>8.290</b>	0.770

Sizes are accurate in mm and rounded to the closest whole number in inches

Other sizes available

Custom sizes and shapes available

# Domed Explosion Vent Panel VD

Vacuum level : -3 psi / -83" w.g.

## APPLICATIONS

The **Domed Explosion Vent Panel VD** is specifically designed for high negative pressure applications and installations where high psi pulse cleaning mechanisms could cause metal fatigue over time. The dome design is optimal for high vacuum filter systems where explosion relief venting is required. Typical applications include dust collector filters, cyclones, and high pressure vessels.

The **Domed Explosion Vent Panel VD** is pressure tested and certified in compliance with a variety of test standards. It is ideal for **OEM** and retrofit applications. It is easy to install with premium gaskets and flanges.

Standard burst pressure is **1.45 psi / 0.1 bar**. Application specific burst pressures between **1.45 psi up to 7 psi** are available for special orders.



## CERTIFICATIONS & STANDARDS

Ex II GD

EN 14491 - EN 14994 - EN 14797 - EN 1127.1

EU Certificate : INERIS 15ATEX0001X

NFPA 68 - NFPA 69 Compliant

Production quality assurance notification :  
INERIS 08ATEXQ406



## STANDARD FEATURES

- Single domed **304 stainless steel**
- Full frame Gasket, **black EPDM** rated -40 F+176 F (-40 C+80 C)
- **Integral 304L stainless steel** flange with gasket

## OPTIONAL FEATURES

- **Stainless steel 316L** construction
- Full frame **white silicone FDA** gasket  
-76 F+392 F (-60 C+200 C)
- High temperature **graphite** gasket  
-328 F+932 F (-200 C+500 C)
- **Integral 316L stainless steel** flange with gasket

## ACCESSORIES FOR VD

- Burst Sensor
- Weather protection
- Vacuum safety grid
- Thermal insulation
- Duct discharge compatible



PRODUCT CODE: 51502

## RECTANGULAR & SQUARE DIMENSIONS

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft <sup>2</sup>	m <sup>2</sup>
<b>6x24</b>	150x600	<b>9x27</b>	230x680	<b>0.953</b>	0.089
<b>6x19</b>	170x470	<b>10x22</b>	250x550	<b>0.845</b>	0.079
<b>8x11</b>	205x290	<b>11x15</b>	285x370	<b>0.624</b>	0.058
<b>9x17</b>	220x420	<b>12x20</b>	300x500	<b>0.980</b>	0.091
<b>9x9</b>	229x229	<b>12x12</b>	310x310	<b>0.554</b>	0.052
<b>9x12</b>	229x305	<b>12x15</b>	310x386	<b>0.743</b>	0.069
<b>10x24</b>	247x610	<b>13x27</b>	327x690	<b>1.604</b>	0.149
<b>11x18</b>	270x458	<b>14x21</b>	350x538	<b>1.313</b>	0.122
<b>12x20</b>	300x500	<b>15x23</b>	380x580	<b>1.593</b>	0.148
<b>12x18</b>	305x457	<b>15x21</b>	386x538	<b>1.496</b>	0.139
<b>12x24</b>	305x610	<b>15x28</b>	386x690	<b>1.991</b>	0.185
<b>13x15</b>	340x385	<b>16x18</b>	404x449	<b>1.345</b>	0.125
<b>13x17</b>	340x440	<b>16x20</b>	404x504	<b>1.539</b>	0.143
<b>14x26</b>	350x350	<b>17x29</b>	430x730	<b>2.433</b>	0.226
<b>15x26</b>	375x655	<b>18x29</b>	460x740	<b>2.637</b>	0.245
<b>16x16</b>	410x410	<b>19x19</b>	480x480	<b>1.787</b>	0.166

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft <sup>2</sup>	m <sup>2</sup>
<b>20x28</b>	457x890	<b>21x38</b>	537x970	<b>4.349</b>	0.404
<b>18x24</b>	470x610	<b>22x27</b>	550x690	<b>3.062</b>	0.285
<b>19x19</b>	490x490	<b>22x22</b>	570x570	<b>2.562</b>	0.238
<b>19x23</b>	490x590	<b>22x26</b>	570x670	<b>3.084</b>	0.287
<b>21x26</b>	525x668	<b>25x30</b>	630x765	<b>3.660</b>	0.340
<b>23x36</b>	586x920	<b>26x39</b>	666x1000	<b>5.769</b>	0.536
<b>24x24</b>	610x610	<b>27x27</b>	690x690	<b>3.977</b>	0.370
<b>24x44</b>	610x1118	<b>27x47</b>	690x1198	<b>7.303</b>	0.679
<b>25x25</b>	645x645	<b>29x29</b>	735x735	<b>4.445</b>	0.413
<b>25x44</b>	645x1130	<b>29x44</b>	735x1220	<b>7.804</b>	0.725
<b>26x26</b>	653x653	<b>29x29</b>	740x740	<b>4.585</b>	0.426
<b>36x44</b>	915x1118	<b>39x47</b>	996x1198	<b>10.979</b>	1.020
<b>36x36</b>	920x920	<b>39x39</b>	1000x1000	<b>9.069</b>	0.843
<b>36x54</b>	920x1380	<b>39x57</b>	1000x1460	<b>13.369</b>	1.242
<b>39x39</b>	980x980	<b>43x43</b>	1080x1080	<b>10.333</b>	0.960
<b>40x40</b>	1020x1020	<b>43x43</b>	1100x1100	<b>11.151</b>	1.036

Sizes are accurate in mm and rounded to the closest whole number in inches

Other sizes available  
Subject to longer lead times

## ROUND DIMENSIONS

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft <sup>2</sup>	m <sup>2</sup>
<b>8</b>	Ø 200	<b>11</b>	Ø 268	<b>0.334</b>	0.031
<b>10</b>	Ø 250	<b>13</b>	Ø 341	<b>0.517</b>	0.048
<b>12</b>	Ø 300	<b>15</b>	Ø 390	<b>0.748</b>	0.069
<b>14</b>	Ø 350	<b>17</b>	Ø 424	<b>1.001</b>	0.093
<b>16</b>	Ø 400	<b>19</b>	Ø 473	<b>1.324</b>	0.123
<b>18</b>	Ø 450	<b>21</b>	Ø 545	<b>1.701</b>	0.158
<b>20</b>	Ø 500	<b>23</b>	Ø 574	<b>2.083</b>	0.193
<b>24</b>	Ø 600	<b>27</b>	Ø 676	<b>3.003</b>	0.279
<b>28</b>	Ø 700	<b>31</b>	Ø 790	<b>4.122</b>	0.383
<b>30</b>	Ø 750	<b>33</b>	Ø 842	<b>4.736</b>	0.440
<b>31</b>	Ø 800	<b>35</b>	Ø 880	<b>5.381</b>	0.500
<b>36</b>	Ø 900	<b>39</b>	Ø 990	<b>7.065</b>	0.656
<b>39</b>	Ø 980	<b>42</b>	Ø 1070	<b>8.290</b>	0.770
<b>47</b>	Ø 1200	<b>51</b>	Ø 1290	<b>12.665</b>	1.177

Sizes are accurate in mm and rounded to the closest whole number in inches

Other sizes available  
Custom sizes and shapes available  
Subject to longer lead times

# Sanitary Flat Explosion Vent Panel VLSAN

Vacuum resistance : 0.7 psi / 20" w.g.

## APPLICATIONS

The **Sanitary Flat Explosion Vent Panel VLSAN** is designed specifically for hygienic applications in food and pharmaceutical industries. Dedicated to protect systems with low vacuum or working pressure (**up to 50 % of static burst pressure**) such as spray dryers.

The high technology design of this vent panel avoids contaminants.

The standard burst pressure is **0.1 bar (max. 0.5 bar)** at **22 °C (72 °F)**.



## CERTIFICATIONS & STANDARDS

Ex II GD

EN 14491 - EN 14994 - EN 14797 - EN 1127.1

EU Certificate : INERIS 15ATEX0001X

EHEDG Certificate : C1900020

Production quality assurance notification :  
INERIS 08ATEXQ406



## STANDARD FEATURES

- Single flat **316 stainless steel**
- Full frame Gasket, **black EPDM** rated **+14 F+482 F (-10 C+250 C)**
- FDA
- 1935/2004CE
- **Integral 304L stainless steel** flange
- Clean design
- Bacteriological barrier

## ACCESSORIES FOR VL-SANITARY

- Burst Sensor
- Weather protection
- Duct discharge compatible



PRODUCT CODE: 51504

# DIMENSIONS

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft²	m²
24 x 24	610 x 610	27 X 27	690 x 690	3.977	0.370
23 x 36	586 x 920	26 X 39	666 x 1000	5.770	0.536
31 x 35	780 x 880	39 X 35	990 x 890	5.770	0.536
36 x 36	920 x 920	39 X 39	1000 x 1000	9.068	1.842
40 x 40	1020 x 1020	43 X 43	1100 x 1100	11.150	1.036

Sizes are accurate in mm and rounded to the closest whole number in inches

Other sizes available



# High Vacuum Domed Explosion Vent Panel EV-VDHV

Vacuum level : -3/-9 psi / -83/-250" w.g.

## APPLICATIONS

The **High Vacuum Domed Explosion Vent Panel EV-VDHV** is specifically engineered to be an ideal solution for applications where negative operating pressures exceed 3 psi or operational metal fatigue is anticipated. Some high energy pulse-jet filter cleaning mechanisms, and systems operating under extreme high pressure, have been known to significantly shorten the life of standard explosion panels.

The **High Vacuum Domed Explosion Vent Panel EV-VDHV** is pressure tested and certified under a variety of test standards. It is ideal for OEM and retrofit extreme duty applications. It is easy to install with premium gaskets and flanges.

Standard burst pressure is **1.45 psi / 0.1 bar**. Application specific burst pressures between **1.45 psi up to 7 psi** are available for special orders.



## CERTIFICATIONS & STANDARDS

Ex II GD

EN 14491 - EN 14994 - EN 14797 - EN 1127.1

EU Certificate : INERIS 15ATEX0001X

NFPA 68 - NFPA 69 Compliant

Production quality assurance notification :

INERIS 08ATEXQ406



## STANDARD FEATURES

- Mechanically Reinforced single dome 304L stainless steel
- Full frame Gasket, black EPDM rated -40°F+176°F (-40°C+80°C)
- Integral 304L stainless steel flange

## OPTIONAL FEATURES

- Stainless steel 316L construction
- Full frame white silicone FDA gasket  
-76°F+392°F (-60°C+200°C)
- High temperature graphite gasket  
-328°F+932°F (-200°C+500°C)
- Integral 316L stainless steel flange with gasket

## ACCESSORIES FOR VD HV

- Burst Sensor
- Weather protection
- Vacuum safety grid
- Thermal insulation
- Duct discharge compatible





PRODUCT CODE: 51503

## RECTANGULAR & SQUARE DIMENSIONS

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft <sup>2</sup>	m <sup>2</sup>
6 x 24	150 x 600	9 X 27	230 x 680	0.953	0.088
7 x 19	170 x 470	10 x 22	250 x 550	0.845	0.078
8 x 11	205 x 290	11 X 15	285 x 370	0.624	0.058
9 x 17	220 x 420	12 X 20	300 x 500	0.979	0.091
9 x 9	229 x 229	12 X 12	310 x 310	0.554	0.051
9 x 12	229 x 305	12 X 15	310 x 386	0.743	0.069
10 x 24	247 x 610	13 X 27	327 x 690	1.598	0.148
11 x 18	270 x 458	14 X 21	350 x 538	1.313	0.122
12 x 20	300 x 500	15 X 23	380 x 580	1.593	0.148
12 x 18	305 x 457	15 X 21	386 x 538	1.491	0.138
12 x 24	305 x 610	15 X 27	386 x 690	1.986	0.185
13 x 15	340 x 385	16 X 18	404 x 449	1.345	0.125
13 x 17	340 x 440	16 X 20	404 x 504	1.539	0.143

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft <sup>2</sup>	m <sup>2</sup>
14 x 26	350 x 650	17 X 29	430 x 730	2.427	0.226
15 x 26	375 x 655	18 X 29	460 x 740	2.632	0.244
16 x 16	410 x 410	19 X 19	480 x 480	1.787	0.166
20 x 28	457 x 890	21 X 38	537 x 970	4.348	0.404
18 x 24	470 x 610	22 X 27	550 x 690	3.062	0.284
19 x 19	490 x 490	22 X 22	570 x 570	2.562	0.238
19 x 23	490 x 590	22 X 26	570 x 670	3.084	0.287
21 x 26	525 x 668	25 X 30	630 x 765	3.659	0.340
23 x 36	586 x 920	26 X 39	666 x 1000	5.770	0.536
24 x 24	610 x 610	27 X 27	690 x 690	3.977	0.370
25 x 25	645 x 645	29 X 29	735 x 735	4.445	0.413
26 x 26	653 x 653	29 X 29	740 x 740	4.585	0.426
36 x 36	920 x 920	39 X 39	1000 x 1000	9.030	0.843

Sizes are accurate in mm and rounded to the closest whole number in inches

Other sizes available  
Subject to longer lead times

## ROUND DIMENSIONS

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft <sup>2</sup>	m <sup>2</sup>
8	Ø 200	11	Ø 268	0.334	0.031
10	Ø 250	13	Ø 341	0.517	0.048
12	Ø 300	15	Ø 390	0.748	0.069
14	Ø 350	17	Ø 424	1.001	0.093
16	Ø 400	19	Ø 473	1.324	0.123
18	Ø 450	21	Ø 545	1.701	0.158
20	Ø 500	23	Ø 574	2.083	0.193

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft <sup>2</sup>	m <sup>2</sup>
24	Ø 600	27	Ø 676	3.003	0.279
28	Ø 700	31	Ø 790	4.122	0.383
30	Ø 750	33	Ø 842	4.736	0.440
31	Ø 800	35	Ø 880	5.381	0.500
36	Ø 900	39	Ø 980	7.065	0.628
39	Ø 980	42	Ø 1070	8.290	0.751

Sizes are accurate in mm and rounded to the closest whole number in inches

Other sizes available  
Custom sizes and shapes available

# Explosion Vent Deflector VIGISPACE VS

## APPLICATIONS

When an outdoor explosion occurs, explosion vents open and release the explosion flame and pressure wave into the environment.

The **Explosion Vent Deflector VIGISPACE VS** limits the opening angle of the explosion vent and guides the explosion pressure wave, flames and heat into defined areas.

By decreasing the size of dangerous areas, the **VIGISPACE** helps to reduce the safety zone to a minimum and increases usable operating space while providing optimum protection against explosions.



### CERTIFICATIONS & STANDARDS

Ex II GD

EN 14491 - EN 14797 - EN 1127.1

Production quality assurance notification :  
**INERIS 08ATEXQ406**

**NFPA Compliant & ATEX Certified**



### STANDARD FEATURES

- Steel construction with safety red finish
- For use with **Flat** and **Domed Vent Panels** (7"x19" to 44"x44")
- 60% efficient

### OPTIONAL FEATURES

- Stainless Steel 304L



PRODUCT CODE: 60401

# APPLICATIONS



Explosion without  
VIGISPACE



Explosion with  
VIGISPACE

## TECHNICAL FEATURES

Kst max	200 bar m/s	Pstat of vent	≤ 0.5 bar
Pmax	10 bar	Hydraulic Diameter	≤ 1.2 m
Pred max	0.7 bar	Efficiency	60%

# Flameless Explosion Vent VQ

## APPLICATIONS

The **Flameless Explosion Vent VQ** is a rectangular explosion device that combines a standard explosion panel with added protection to prevent flames from entering the environment.

The **Flameless Explosion Vent VQ** is certified for indoor and outdoor applications. It eliminates the need for costly heavy duty piping that is required for exterior venting when a vessel is installed within the workspace. The standard **Explosion Vent Panel** inside the flameless explosion vent bursts during the initial explosion phase. Immediately thereafter, the flame and burnt dust exit the vessel and is contained by the **VQ** flame arrestor.

All **Flameless Explosion Vents** are designed with the ability to replace the explosion panel without removing the flame arrestor assembly.

**Boss Products®** technical engineering staff is dedicated to ensuring optimum design & product selection for every application.



### CERTIFICATIONS & STANDARDS

Ex II GD - Ex II 2 D

EC Certificate : INERIS 14 ATEX 0049 X

NFPA 68 - NFPA 69 Compliant

Production quality assurance notification :  
INERIS 08ATEXQ406

certified for :

- Organic dust
- Fiber dust
- Gas



### STANDARD FEATURES

- Mild steel construction epoxy coated red
- Stainless steel mesh

### OPTIONAL FEATURES

- Silicone gasket
- Stainless steel construction
- Waterproof dust cover



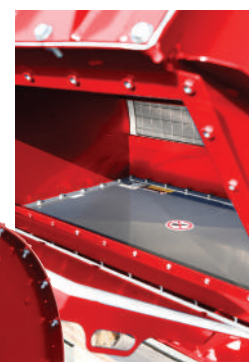


PRODUCT CODES: 60301 & 60302

## DIMENSIONS

EV-VQ SPECIFICATIONS							
VIGILEX VQ		IN COMBINATION WITH VENT PANEL				BOLT SPECS	
		Nominal Size		Nominal Square			
Inches	mm.	Inches	mm.	Inches	mm.	Qty	Size
7 x 19	170 x 470	7 x 19	170 x 470	0.845	0.0785	20	M10 x 30
11 x 18	270 x 458	11 x 18	270 x 458	1.315	0.1220	22	M10 x 30
12 x 20	300 x 500	12 x 20	300 x 500	1.595	0.1480	24	M10 x 30
12 x 24	305 x 610	12 x 24	305 x 610	1.980	0.1840	26	M10 x 30
14 x 26	350 x 650	14 x 26	350 x 650	2.425	0.2250	26	M10 x 30
19 x 23	490 x 590	19 x 23	490 x 590	3.084	0.2865	32	M10 x 30
24 x 24	610 x 610	24 x 24	610 x 610	3.975	0.3695	32	M10 x 30
18 x 35	457 x 890	18 x 35	457 x 890	4.349	0.4040	34	M10 x 30
23 x 36	586 x 920	23 x 36	586 x 920	5.770	0.5360	42	M10 x 30
25 x 44	645 x 1130	25 x 44	645 x 1130	7.804	0.7250	34	M10 x 30
36 x 36	920 x 920	36 x 36	920 x 920	9.068	0.8425	50	M10 x 30
44 x 44	1130 x 1130	44 x 44	1130 x 1130	13.696	1.2720	58	M10 x 30

## ADVANTAGES



## TECHNICAL INFORMATION

VQ

$K_{st} \max = 500$

$P_{max} \leq 145 \text{ psi} / 10 \text{ bar}$

$P_{red} \leq 7 \text{ psi} / 0.5 \text{ bar}$

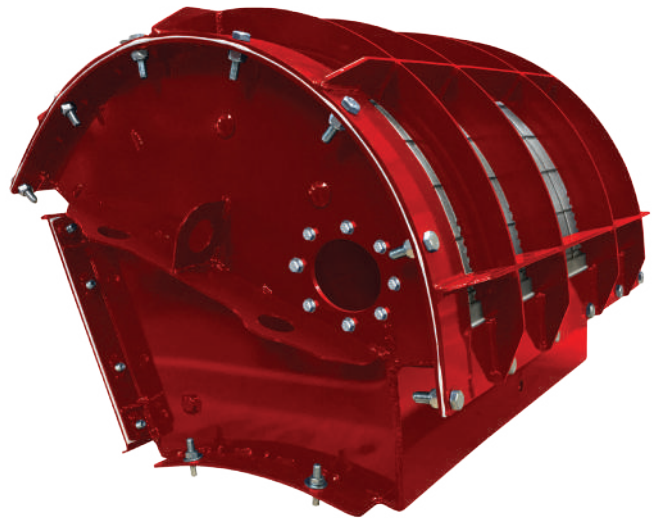
$P_{stat} = 1.45 \text{ to } 3 \text{ psi} / 0.1 \text{ to } 0.5 \text{ bar}$

\*  $P_{red} < 1.85$  for VQ 920x920 and 1130x1130

# Curved Flameless Explosion Vent VQ R

## APPLICATIONS

The **Curved Flameless Explosion Vent VQ R** is similar to the standard **VQ**, but is available with an application specific curved flange to accommodate mounting on cylindrical vessels, without the need for expensive flange adapters. This design feature reduces accumulation of dust/material in a fabricated transition in front of the flameless vent's inner explosion vent panel.

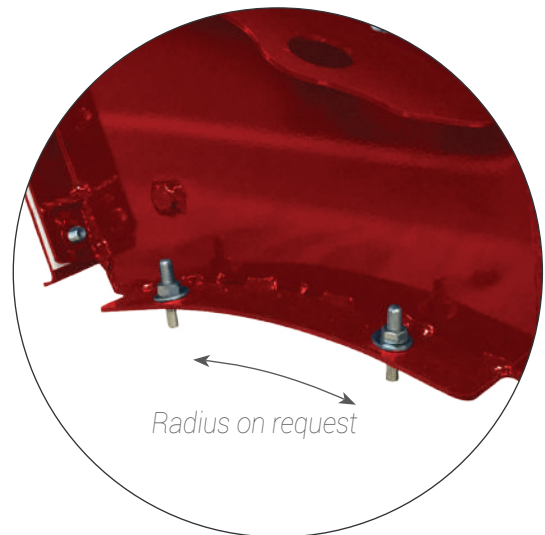


### STANDARD FEATURES

- R Style Vent Panel with EPDM gasket
- Mild steel construction epoxy coated red.
- Stainless steel mesh flame arrestor
- Burst sensor
- Mounting radius per design application

### OPTIONAL FEATURES

- Silicone gasket
- All stainless steel construction
- UL 698A Intrinsic control panel
- Dust cover





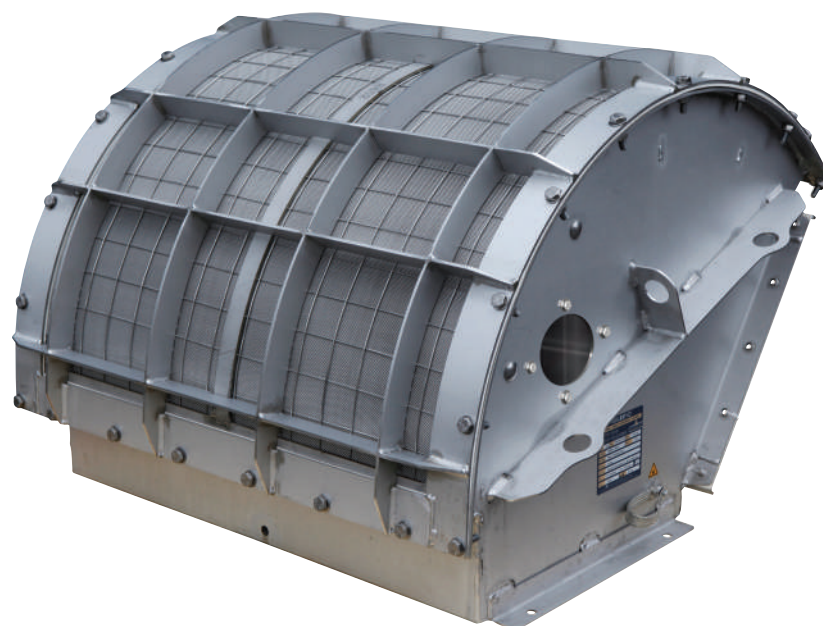


PRODUCT CODE: 60401

## FLAMELESS STAINLESS STEEL VQ

The **Flameless Stainless Steel VQ** is a rectangular flameless device with a standard explosion vent panel. It is a perfect option for food or pharmaceutical facilities or high moisture atmospheres.

The **Flameless Stainless Steel VQ** provides effective low pressure resistance, eliminating the spread of flames and glowing particles.



### STANDARD FEATURES

- R Style Vent Panel with EPDM gasket
- Mild steel construction epoxy coated red.
- Stainless steel mesh flame arrestor
- Burst sensor
- Mounting radius per design application

### OPTIONAL FEATURES

- Waterproof Dust cover

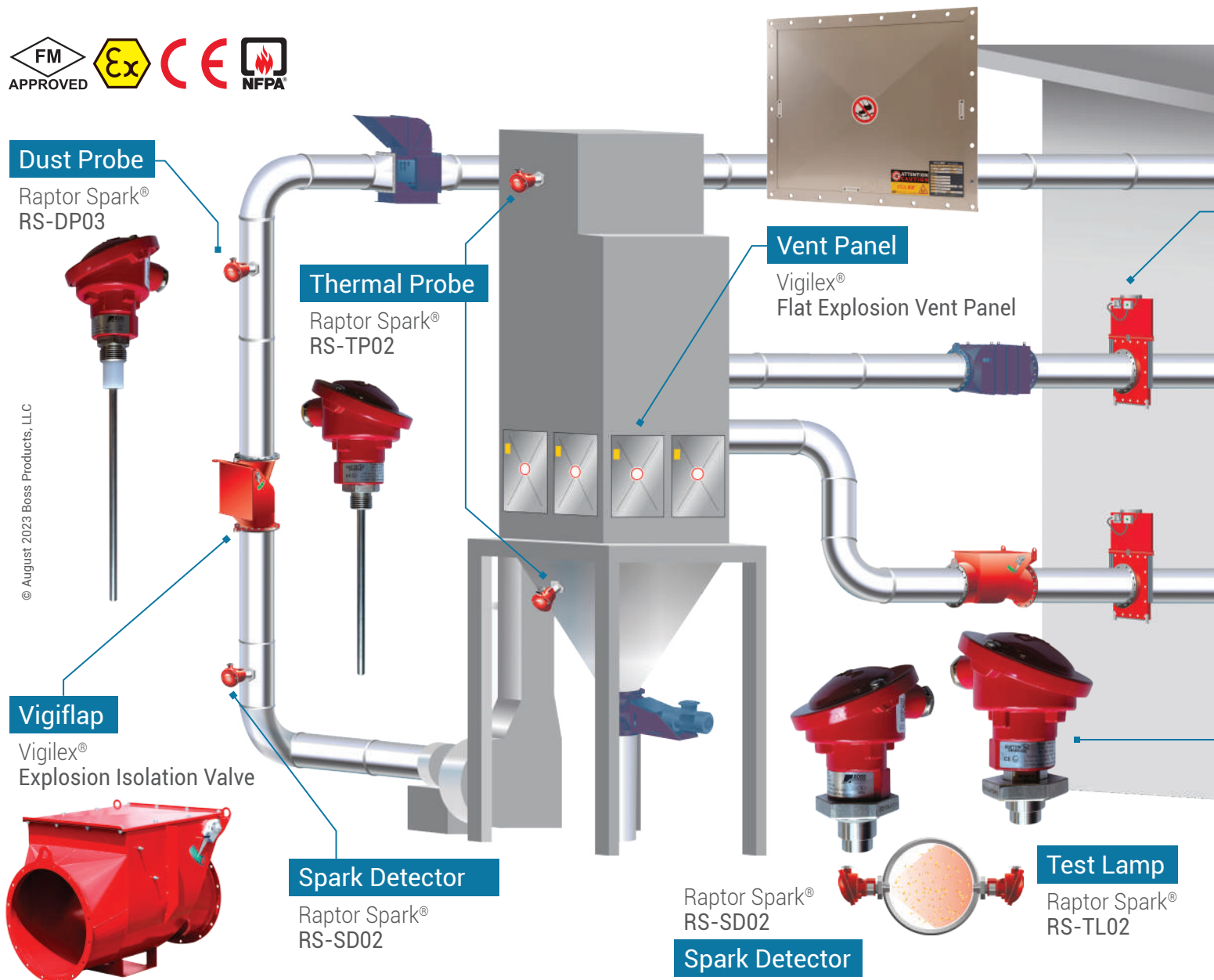


## Spark Detection and Extinguishing System

### APPLICATIONS

The Raptor Spark® Detection and Extinguishing System is an FM Approved safety device that is designed to detect and extinguish sparks and glowing embers that are traveling through a duct system. The hazard is detected by infrared sensors and extinguished with water spray nozzles within milliseconds of detection.

The Raptor Spark® detection unit module has the capacity to receive hazard alert signals from multiple components (Dust Probes & Thermal Probes) and monitor multiple duct-zones and vessels. The Raptor

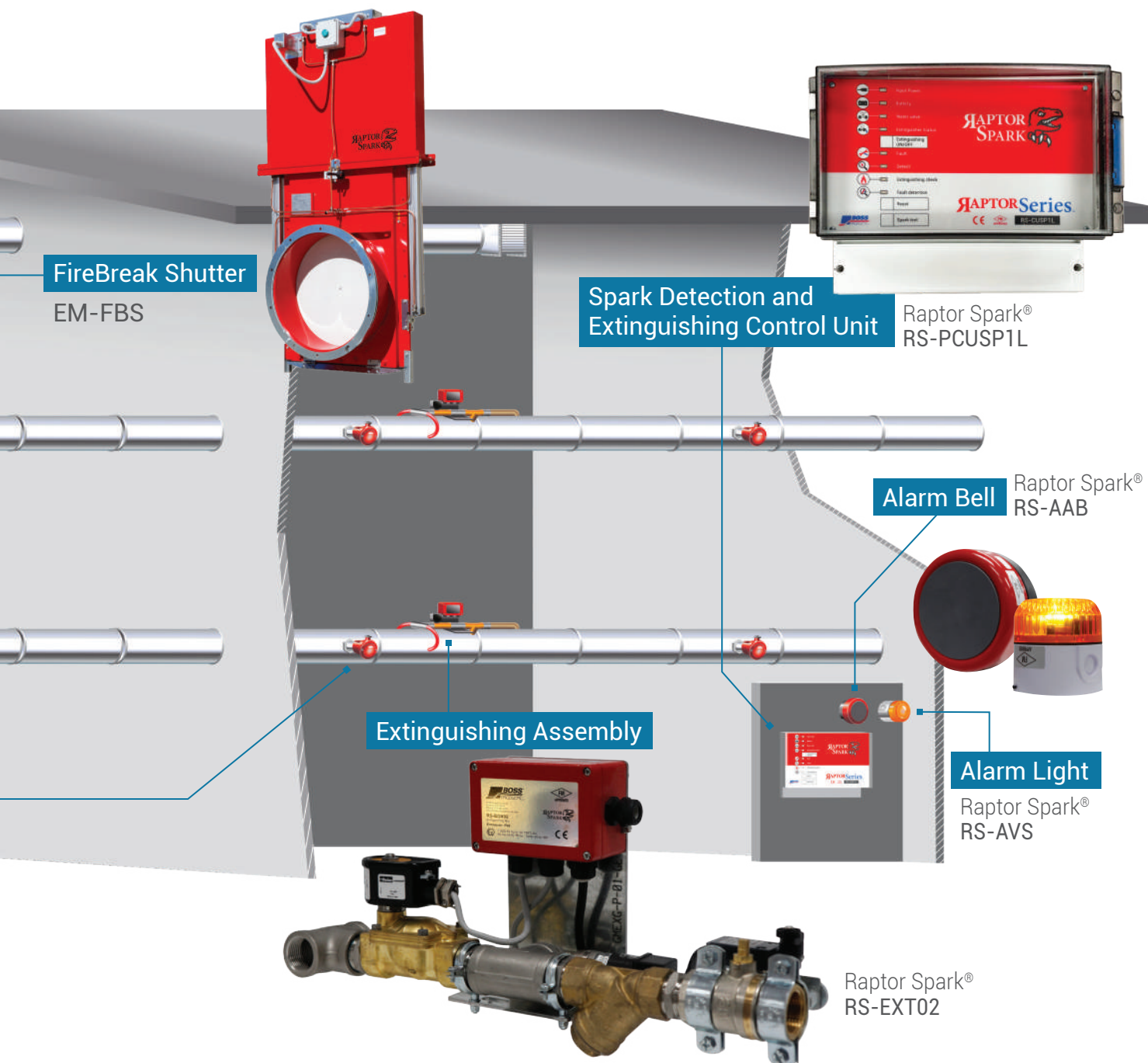




PRODUCT CODES: 56501, 56502, 56503 & 56504

Spark® Detection and Extinguishing System is an essential Fire Protection, Fire Isolation and Diversion device that is commonly installed with Raptor Gate™ High Speed Abort Gates, FireBreak Shutters, VIGILEX

Explosion Vents and explosion certified VDL Rotary Valves. Typical automatic functions include hazard detection, system shut-down, isolation/abort, and extinguish and/or suppression.





# Spark Detection and Extinguishing System

## APPLICATIONS

### Raptor Spark® Detection & Extinguishing Control Unit RS-PCUSP1L

The Raptor Spark Detection & Extinguishing Control Unit (RS-PCUSP1L) is designed to minimize the risk of fire and explosion in dust filtration and pneumatic conveying systems. This control unit communicates with a variety of components to monitor and protect a single zone with up to six components. The Control Units, RS-PCU1610SD & RS-PCUSP1L, are FM Approved.



### Raptor Spark® Extinguishing Assembly RS-EXT02

The Extinguishing Assembly (RS-EXT02) is designed to work in conjunction with the RS-CUSP1L control unit and RS-SD02 Spark Detectors. When the control module gets a signal that a hazard has been detected, the extinguishing assembly is activated. A water spray is initiated inside the piping system to extinguish sparks or glowing embers that could cause fire or explosion. The Extinguishing Assembly (RS-EXT02) is FM Approved and ATEX Certified.



### Raptor Spark® Dust Probe RS-DP03

The Dust Probe (RS-DP03) is a charge displacement probe that uses the principle of the displacement of the electric charge in the electrode. It signals the RS-PCUSP1L Control Unit when there is an increase in the concentration of dust levels which could potentially indicate the rupture or ineffective operation of dust filters and/or dust bags. The Dust Probe (RS-DP03) is FM Approved and ATEX Certified.



### Raptor Spark® Thermal Probe RS-TP02

The Thermal Probe (RS-TP02) is designed to work either as a thermovelocimetric output (rapid raise in temperature in a short amount of time), or as a thermostatic output (fixed temperature threshold) to alarm the RS-PCUSP1L Control Unit of potential fire hazards in the ductwork, dust collector units, hoppers, cyclones and etc. The Thermal Probe (RS-TP02) is FM Approved and ATEX Certified.



PRODUCT CODES: 56501, 56502, 56503 & 56504

## Raptor Spark® Spark Detector RS-SD02

The **Spark Detector (RS-SD02)** is designed to work with the **RS-PCUSP1L Control Unit**. The **Spark Detector** uses advanced technology and circuit, sensitive to infrared light to detect sparks, flames, and incandescent material that passes in front of its optical element. The **Spark Detector (RS-SD02)** is **FM Approved and ATEX Certified**.



## Raptor Spark® Test Lamp RS-TL02

The **Test Lamp (RS-TL02)** is designed to work in association with the **Spark Detectors (RS-SD02)**. The **Test Lamp** provides a function check to ensure the cleanliness of the **Spark Detector** lenses by emitting high infrared radiation into ducting or pneumatic conveying lines across from the spark detectors to simulate a spark or glowing ember in the line. The **Test Lamp (RS-TL02)** is **FM Approved and ATEX Certified**.



## Raptor Spark® Firebreak Shutter EM-FBS

The **FireBreak Shutter** is engineered to isolate fires and fire hazards in process ventilation and dust collection applications. The **Fire Break Shutter** can be activated by the **RS-PCU1610SD Control Unit** or **RS-PCUSP1L** via **Spark Detection** or sensing activation by **Thermal Probe**.

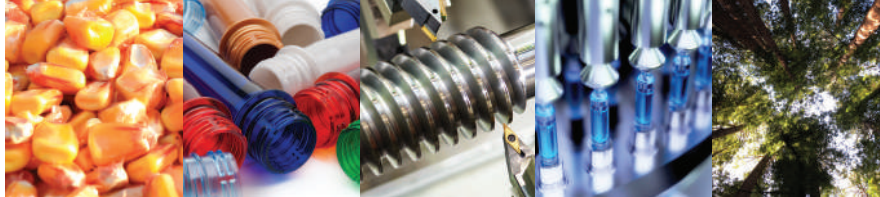


## Water Pressure Booster Pump RS-CPR

The **Raptor Spark® Water Pressure Booster Pump RS-CPR** was designed to regulate water pressure going into the extinguishing unit. It is the best solution for facilities that have over or under pressure water lines available for installation of the **Spark Detection and Extinguishing System**.







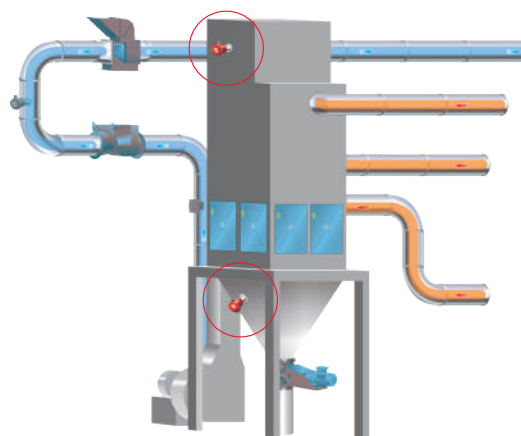
# Thermal Probe RS-TP02

PRODUCT CODE: 56505

## APPLICATIONS

The **Thermal Probe RS-TP02** monitors the temperature rise within a vessel using thermostatic technology. The **Thermal Probe** is complete with an alarm function which signals upon rapid temperature rise based on fixed threshold set points to monitor the temperature in enclosures. It is designed to be used specifically for fire protection in dust collection systems.

The probes are equipped with a **6"/150 mm long steel stylus** that can be placed within the area to be monitored (eg, silos, cyclones, filter units) while the electronic circuit and electrical cable connections remain outside the vessel. These probes have cast aluminum enclosures with IP65 protection. The internal circuit and the measuring sensor (within the stylus) are immersed in a resin bi-component which allows the probe to be installed in difficult places, such as dusty environments. **The Thermal Probe is suitable for ATEX zone 22.**



## CERTIFICATIONS & STANDARDS

ATEX Zone 22

CE

FM Approved



## STANDARD FEATURES

- Select temperature rise or temperature threshold
- Output for Alarm
- Bus RS485
- IP65 Enclosure
- Working temperature: -4°F to 149°F (-20°C to 65°C)
- Stylus Measurement Range: -40°F to 302°F (-40°C to 150°C)



## Dust Probe (Broken Bag Detector) RS-DP03

PRODUCT CODE: 57502

### APPLICATIONS

The **Dust Probe RS-DP03** is a microprocessor based instrument that is designed to detect and measure dust emissions caused by leaks in filtration media. Design characteristics include pre-calibrated digital optically isolated outputs and a set of **LED indicators**.

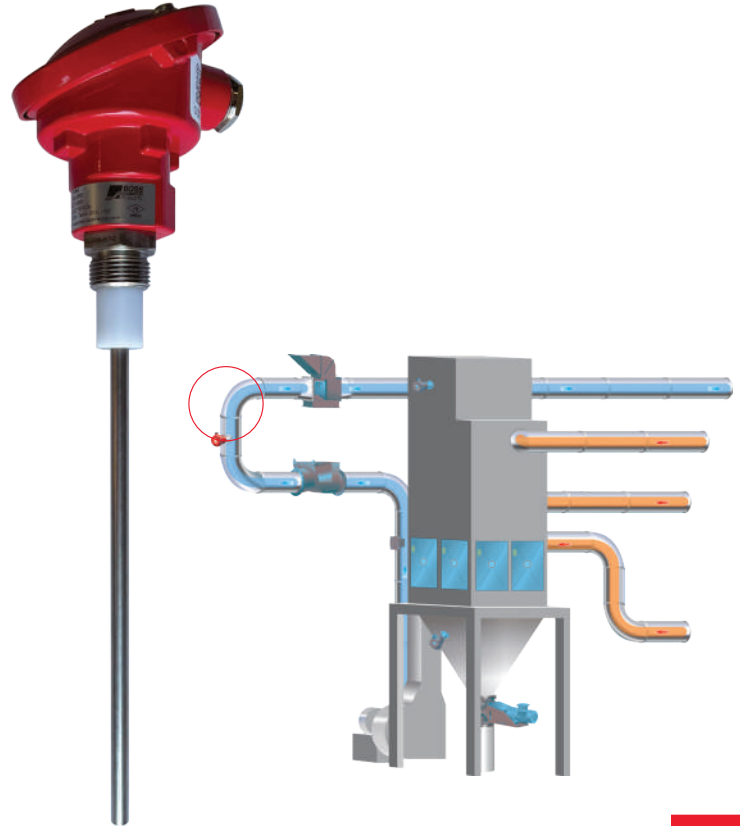
### OPERATING PRINCIPLE

The **Dust Probe** uses the principle of the displacement of the electric charge in the electrode, induced by the electrical charges, carried by dust immersed in a gaseous fluid.

The amount of electric charge dynamically induced on the electrode is proportional to the amount of dust present in the gaseous fluid. An increase in the concentration of dust, causes a proportional increase of the signal that reaches the microprocessor.

Applying sophisticated mathematical algorithms, the individual powder particles are counted so as to be able to calculate their concentration.

The computed values can be stored internally in order to be drafted in the future, or sent via **RS485 serial transmission**, or **PWM 4/20 mA** to an **external control unit** for further analysis.



### STANDARD FEATURES

- Min Air Speed: 787 FPM (4m/s)
- Max Outputs Current: 100 mA
- Max Voltage on Outputs: 48VDC
- Max Working Temperature: 284°F(240°C) or 428°F(220°C) on High Temp Version
- Working Pressure of the Probe: < 2bar
- Enclosure Material: Die-Cast Aluminum (Type DIN "A")
- Protection: IP 65
- Electrode Material: Inox Steel 304

Model	Resolution	Threshold 1	Threshold 2	Output 4-20mA	Scale @20mA	Autoacquisition	RS485
RS-DP03	10x10 <sup>-8</sup> oz/cu.ft 0.1 mg/m <sup>3</sup>	5x10 <sup>-6</sup> oz/cu.ft 5 mg/m <sup>3</sup>	10x10 <sup>-6</sup> oz/cu.ft 10 mg/m <sup>3</sup>	NO	10x10 <sup>-6</sup> / 5x10 <sup>-5</sup> oz/cu.ft 10/50 mg/m <sup>3</sup>	YES	YES
RS-DP05	10x10 <sup>-8</sup> oz/cu.ft 0.1 mg/m <sup>3</sup>	5x10 <sup>-6</sup> oz/cu.ft 5 mg/m <sup>3</sup>	10x10 <sup>-6</sup> oz/cu.ft 10 mg/m <sup>3</sup>	YES	10x10 <sup>-6</sup> / 5x10 <sup>-5</sup> oz/cu.ft 10/50 mg/m <sup>3</sup>	NO	YES

## Water Pressure Booster Pump RS-CPR

### APPLICATIONS

The **Raptor Spark® Water Pressure Booster Pump RS-CPR** was designed to regulate water pressure going into the extinguishing unit. It is the best solution for facilities that have over or under pressure water lines available for installation of the **Spark Detection and Extinguishing System**.



#### STANDARD FEATURES

- System comes in an epoxy powder coated steel enclosure and includes :
  - (1) **3/8"** water inlet connection with 1-way valve
  - (1) **water reservoir tank** with level sensor and pressure gauge
  - (1) **1"** water outlet connection,
  - (1) **3/8"** **compressed air inlet connection** with 1-way valve (minimum pressure required is 116 PSI / 8 bar), compressed air reservoir tank, air tank pressure switch, regulator, solenoids, and cable grips.

#### OPTIONAL FEATURES

- Standard sizes : 15 L, 30 L, 40 L

#### ACCESSORIES FOR WATER PRESSURE BOOSTER PUMP RS-CPR

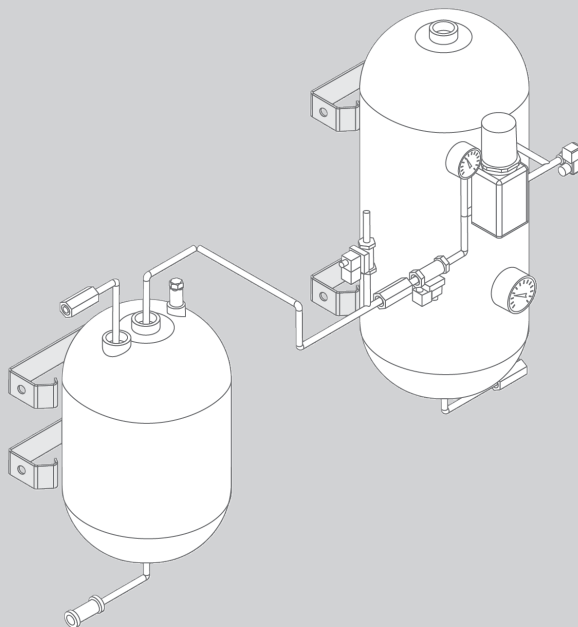
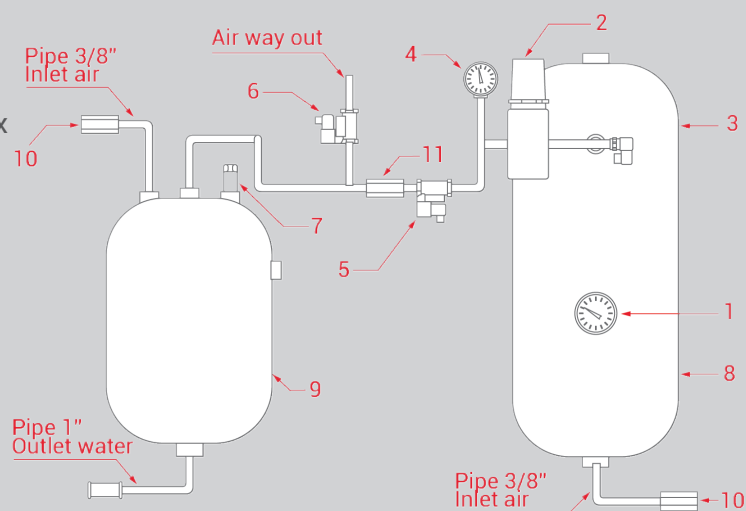
- RS-PWE (Packaged Water Extinguishing Group Assembly Kit)

## PRODUCT'S CATEGORY SUITABLE TO THE INSTALLATION'S ZONE

The distance between the water station must **not exceed 23 ft.**  
The choice of model capacity is based on the number of nozzles.

## COMPONENTS

- 1 - Air tank manometer
- 2 - Outlet adjusting pressure water flux
- 3 - Air tank pressostat
- 4 - Water pressure manometer
- 5 - Air solenoid
- 6 - Airway out solenoid
- 7 - Water level sensor
- 8 - Air tank
- 9 - Water tank
- 10 - Water non return valve 3/8"
- 11 - Air non return valve 3/8"



# Raptor Shield™ (Spark Trap)

## APPLICATIONS

The **Raptor Shield (Spark Trap)** reduces the risk of fire in your industrial dust collection system. It is an NFPA recommended component as part of a complete fire prevention system.

The Raptor Shield is the toughest and most effective spark trap available. With no moving parts, the Raptor Shield is very low maintenance. A clean-out door allows easy access to empty any accumulated material. With fully welded construction, there's no risk of leaks. **It is the most heavy-duty and durable spark trap available.**

Added benefits of the **Raptor Shield (Spark Trap)** :

- *Easy to install in any system, in horizontal or vertical configuration*
- *Standard sizes 6" to 40" with other sizes to meet your needs*
- *Options for raw, flanged, or quick connect ends*



### CERTIFICATIONS & STANDARDS

NFPA Compliant



### STANDARD FEATURES

- Standard sizes : 6" -40" (more on request)
- Heavy duty construction
- Clean-out door
- Low maintenance
- Can be installed in horizontal or vertical configuration





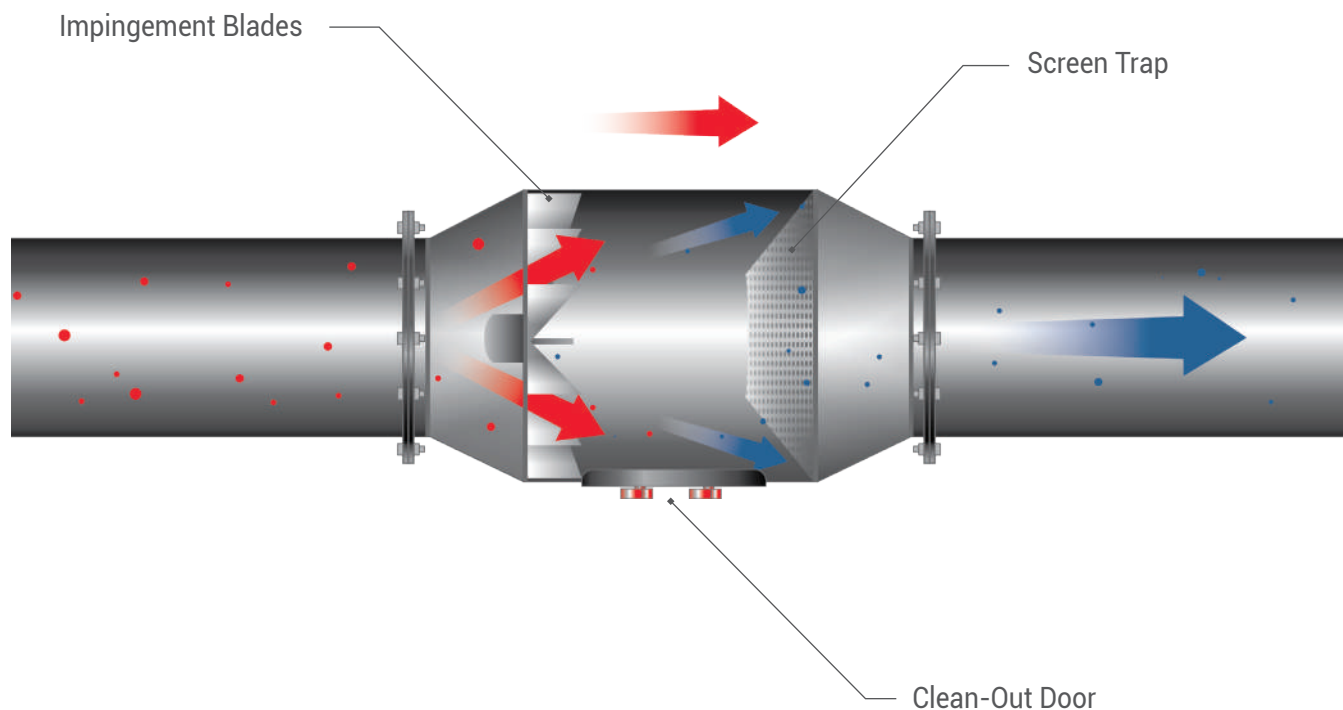
PRODUCT CODES: 51001

## OPERATING PRINCIPLE

A **Spark Trap** is designed to create turbulence in the airflow and direct sparks and embers toward the walls of the spark trap. Bouncing in the turbulent airflow causes the sparks to lose heat and energy so they can no longer ignite a fire. This simple but efficient method is so good at knocking down and removing sparks. It is used in ductwork for many types of dust especially metal cutting and grinding. Combustible dust handling requires a full fire safety system, and keeping sparks away from that dust is the first step.

No Spark Trap is guaranteed to stop all sparks. The Raptor Shield is an important part of a fire prevention system, but it should not be the only part. Our model meets all NFPA standards. We will take the time to help you decide what equipment will best meet your needs.

The **Raptor Shield™ (Spark Trap)** is designed and applied as a preventative measure to reduce lifecycle and rate of hazardous sparks within the properly applied system. The **Raptor Shield™ (Spark Trap)** is not designed to extinguish actual fires or stop mitigation of explosion.





PRODUCT CODE: 51201

# CO<sub>2</sub> Fire Suppression System

## APPLICATIONS

The Raptor Breath™ CO<sub>2</sub> Fire Suppression System has the capability to provide protection from class A, B, and C fires in dust collecting vessels up to **900ft<sup>3</sup>**.



### STANDARD FEATURES

- The package comes fully assembled in an environmentally rated enclosure that is suitable for outdoor installations that only requires hoses to be mounted onto the dust collector for operation
- This system utilizes 50 lbs. CO<sub>2</sub> tanks to be activated by **thermal probes** which will detect a fire in the vessel, **firebreak shutters** on the inlet and outlet prevent any of the gas from escaping in a detect, isolate, and suppress process

### DIMENSIONS

- 300ft<sup>3</sup>: 72" H x 48" W x 20" D
- 600ft<sup>3</sup> to 900ft<sup>3</sup>: 72" H x 72" W x 20" D

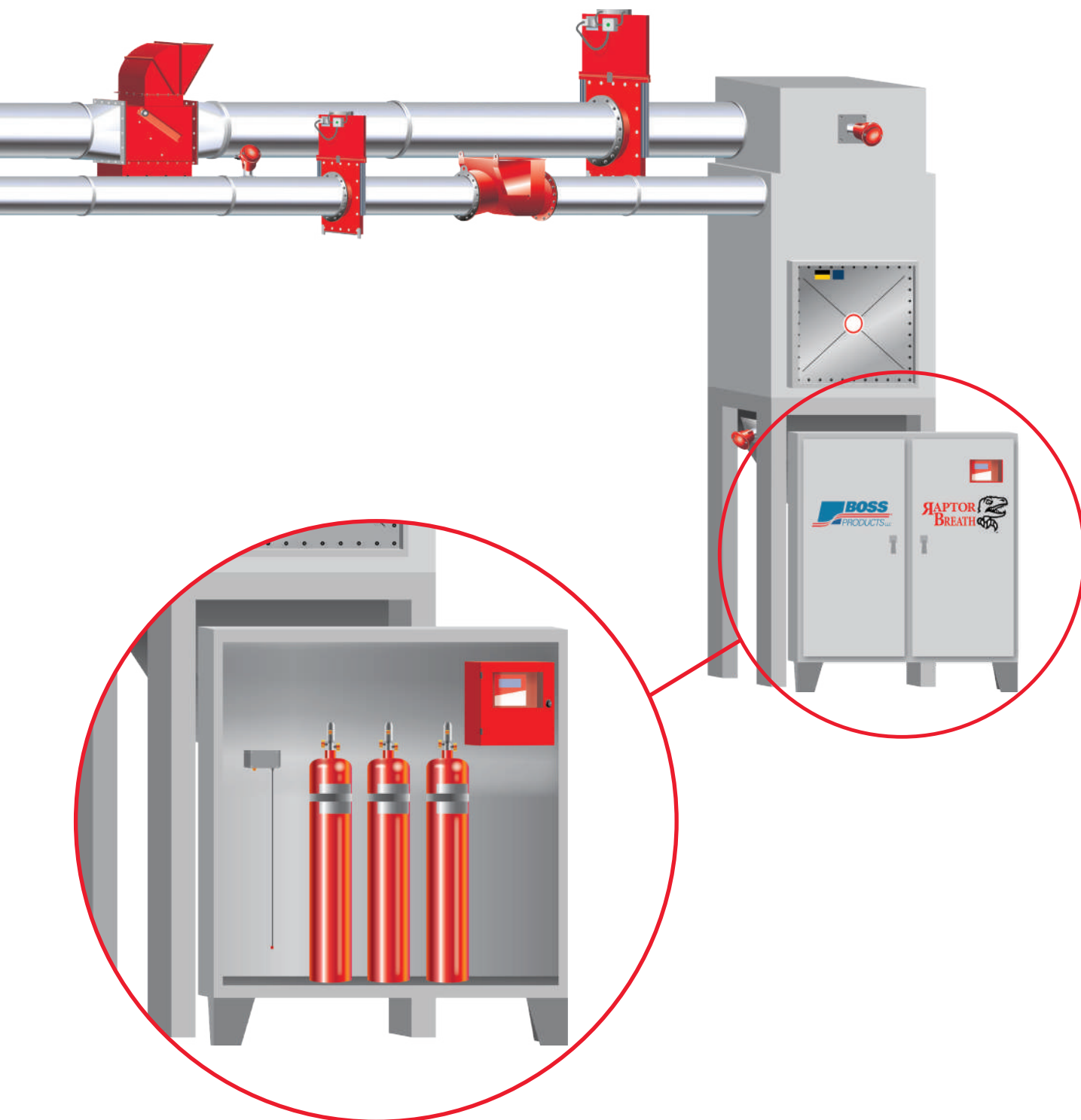
### ACCESSORIES FOR CO<sub>2</sub> FIRE SUPPRESSION SYSTEM

- Distribution Hoses and connections
- RS-FBS (Fire Break Shutters)
- Audible and Visual Alarms
- RS-TP02 (Thermal Probes)



PRODUCT CODES: 51201

## INSTALLATION INFORMATION



## Heavy Duty High Speed Abort Gate

### APPLICATIONS

The **Raptor Gate™ Heavy Duty High Speed Abort Gate** is an important part of any duct spark or leak detection system.

It can be located prior to the inlet of a dust collection system to prevent a flame or burning ember from entering the dust collection system. This method is used if your spark detection equipment is not adequate or not an option.

Fire, smoke, spark, or broken filter sensors can activate it in the event of a filter failure or fire.

The **Raptor Gate™ Heavy Duty High Speed Abort Gate** can be placed on the return air side of the dust collector to redirect contaminated air to a safe location. It is another way to keep personnel and dust collection equipment protected.



### CERTIFICATIONS & STANDARDS

*NFPA 652 & 654 Compliant when used in conjunction with FM Approved Spark Detection System.*



### STANDARD FEATURES

- Heavy duty and spring loaded with thicker walls and sturdier construction than the **High Speed Abort Gate EM-HSAG02**.
- Complete with electromechanical gate operation, indicator lights to monitor the system, manual test button, terminals to interlock with **Raptor Spark** detection system for activation, flanged inlet and outlet, and weather hood with bird screen.
- Available in sizes **4" to 60"**
- **120 VAC** Control Panel

### OPTIONAL FEATURES

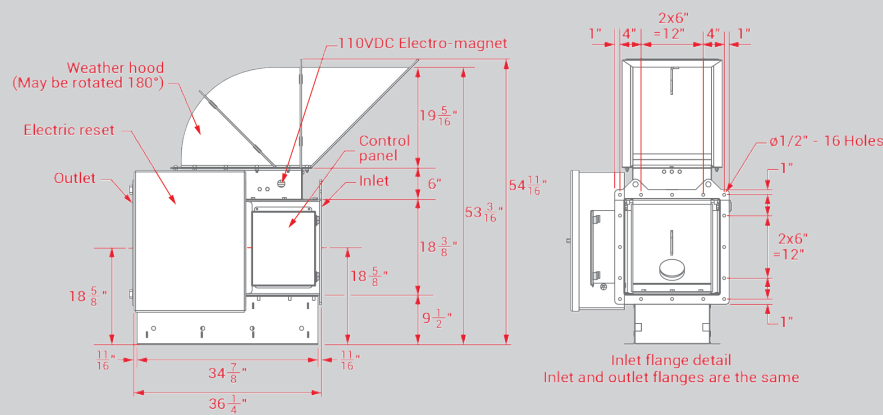
- Inlet and outlet transitions



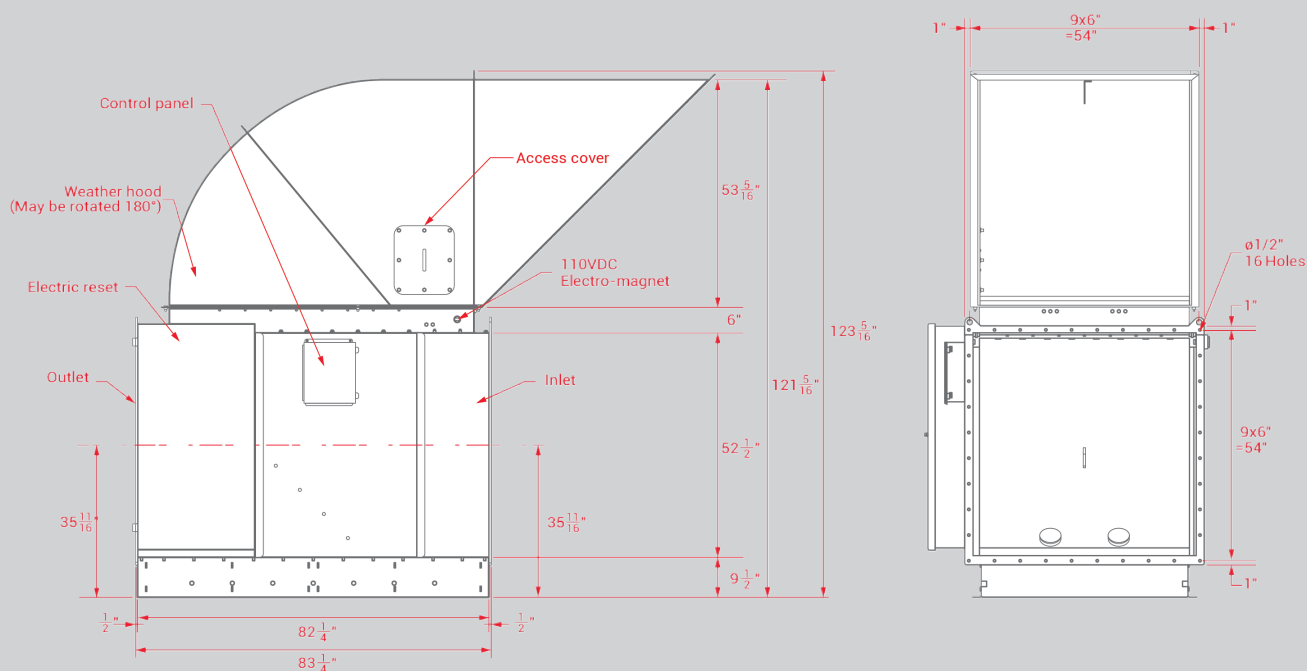
PRODUCT CODE: 56703

## TECHNICAL INFORMATION

### HEAVY DUTY HIGH SPEED ABORT GATE 18



### HEAVY DUTY HIGH SPEED ABORT GATE 52





# High Speed Abort Gate EM-HSAG02

## APPLICATIONS

The **High Speed Abort Gate EM-HSAG02** is specifically designed to be installed as a safety component when filtered air is returned to a building. **NFPA** requires a **High Speed Abort Gate** to be activated by an **FM Approved Raptor Spark Detection and Extinguishing System**. When the **Raptor Spark™ Detection & Extinguishing Control Module** detects a potential hazard, the return air is diverted to atmosphere, aborting potential fire from entering a workspace. This abort function can also be activated by the **Dust Probe** when dust particles are detected and/or the **Thermal Probe**.

The **High Speed Abort Gate EM-HSAG02** is just one of the essential **Fire & Explosion Protection** system components provided by Boss Products. This component includes specific protection for **Explosion Prevention, Fire Isolation & Diversion**, specifically designed and engineered to be installed for the protection of workers, equipment, and buildings.



## CERTIFICATIONS & STANDARDS

*NFPA Compliant when used in conjunction with FM Approved Spark Detection System*



## STANDARD FEATURES

- 24V DC Control Panel with Status Lights
- Weather Hood
- Manual Reset Level
- Epoxy Powder coated safety red finish
- Flanged Inlet & Outlet
- NFPA Compliant with Spark Detection
- Electromagnetic Locking Mechanism

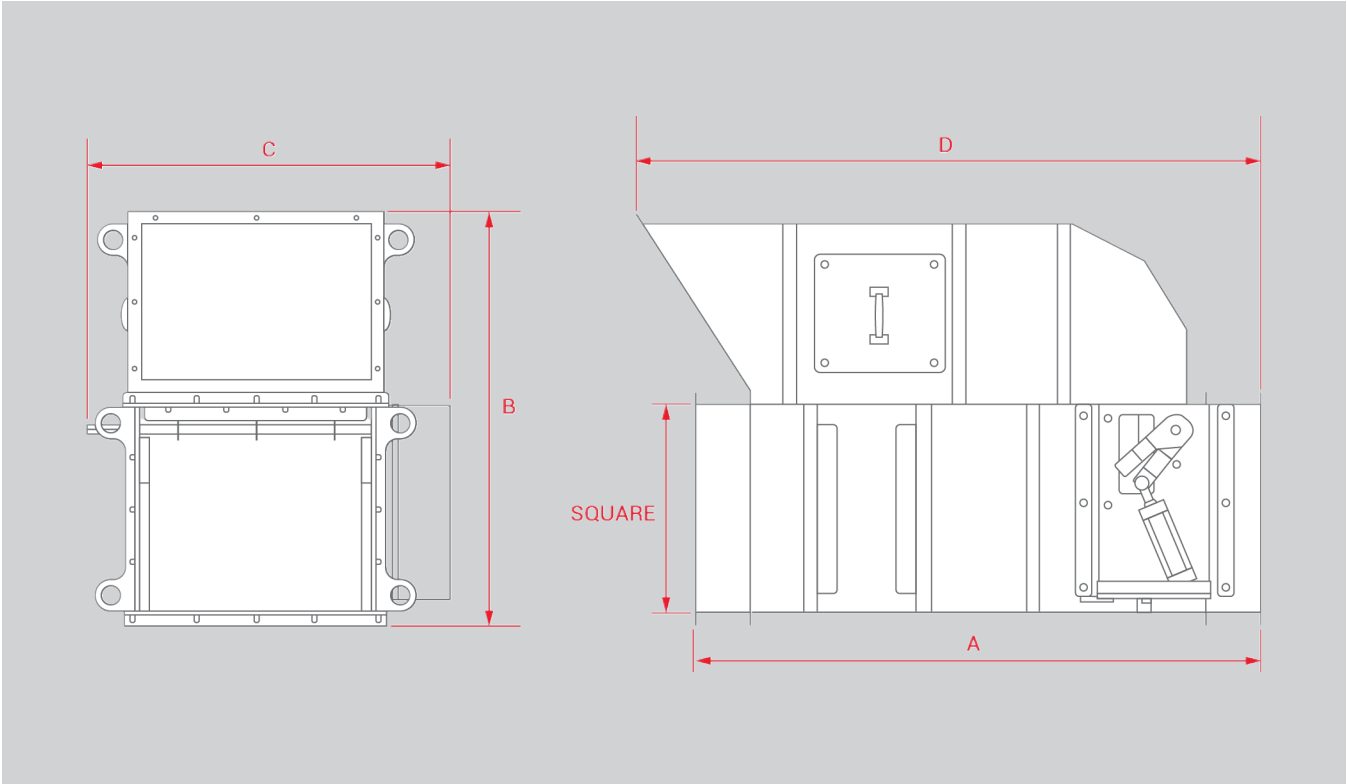
## OPTIONAL FEATURES

- 110V AC Control Panel with Status Lights Pneumatic Reset Raptor Spark Detection & Extinguishing System



PRODUCT CODE: 56702

# TECHNICAL INFORMATION



## HIGH SPEED ABORT GATE SPECIFICATIONS

$\phi$ [in] equivalent	Square [in]	Voltage	Reset	A [in]	B [in]	C [in]	D [in]
14	12x12	24 VDC	Manual Lever	41.0	23	22	39.69
20	18x18	24 VDC	Manual Lever	41.0	25	12	40.50
24	22x22	24 VDC	Manual Lever	55.0	44	22	59.19

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# FireBreak Shutter EM-FBS

## APPLICATIONS

The **FireBreak Shutter EM-FBS** is engineered to isolate fires and fire hazards in process ventilation and dust collecting applications. The **FireBreak Shutter** is installed in multiple applications ranging from wood dust, metal dust, oil mist and/or any other process that has a fire hazard. Preventative (active) and reactive (passive) solutions are available.

## AVAILABLE MODELS

- **EM-FBS00M**  
Gravity closure using magnetic release with a pneumatic reset.
- **EM-FBS00P & EM-FBS00PH**  
Pneumatic closure & reset, designed for vertical and horizontal positions.

## COMMON APPLICATIONS :

- Secondary protection in a Spark Detection and Extinguishing System
- Detect and isolation systems without suppression
- Dust collector/vessel isolation when used with a Fire Suppression System
- Production area/work zone isolation for high-risk processes



## STANDARD FEATURES

- Heavy-duty welded steel construction
- Flanged inlet and outlet with co-flanges
- Self-cleaning design
- Integral gasketing for positive seal
- Epoxy powder coated safety red finish
- ATEX certified\*

\* Model FBS-00M is provided as non-ATEX CE listed standard. ATEX version is available upon request.

## CERTIFICATIONS & STANDARDS

EN 15650  
EN 1366-2  
EN 13501-3



## OPTIONAL FEATURES

- Thermal Probes for rapid temperature rise activation
- Microswitch for system shut down
- Compressed air reservoir tank
- Fire Suppression System
- Spark Detection and Extinguishing System



PRODUCT CODES: 50301, 50302, 50303 & 50304

## DIMENSIONS

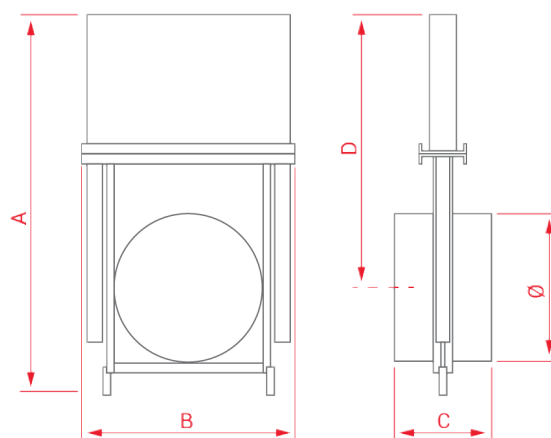
PNEUMATIC EM-FBS00P & RS-FBS00PH					
	A *	B *	C *	D *	weight lbs
Ø 8"	37"	22"	13"	24"	48
Ø 10"	39"	24"	13"	29"	55
Ø 12"	41"	26"	13"	30"	60
Ø 14"	46"	28"	13"	35"	68
Ø 16"	48"	30"	13"	36"	75
Ø 18"	58"	32"	13"	44"	88
Ø 20"	60"	35"	13"	45"	95
Ø 22"	66"	37"	13"	50"	110
Ø 24"	68"	40"	13"	51"	130
Ø 26"	74"	42"	13"	56"	150
Ø 28"	76"	44"	13"	57"	180
Ø 30"	82"	46"	13"	62"	205
Ø 32"	87"	47"	21"	64"	230
Ø 34"	93"	49"	21"	69"	255
Ø 36"	95"	51"	21"	70"	285
Ø 38"	101"	53"	21"	75"	305
Ø 40"	103"	56"	21"	76"	320
Ø 42"	109"	58"	21"	80"	345
Ø 44"	111"	60"	21"	81"	370
Ø 46"	117"	62"	21"	86"	395
Ø 48"	119"	64"	21"	87"	420

\* Units in inches rounded to the closest whole number

MAGNETIC EM-FBS00M					
	A *	B *	C *	D *	weight lbs
Ø 8"	37"	22"	13"	24"	48
Ø 10"	39"	24"	13"	29"	55
Ø 12"	41"	26"	13"	30"	60
Ø 14"	46"	28"	13"	35"	68
Ø 16"	48"	30"	13"	36"	75
Ø 18"	58"	32"	13"	44"	88
Ø 20"	60"	35"	13"	45"	95
Ø 22"	66"	37"	13"	50"	110
Ø 24"	68"	40"	13"	51"	130
Ø 26"	74"	42"	13"	56"	150
Ø 28"	76"	44"	13"	57"	180
Ø 30"	82"	46"	13"	62"	205

\* Units in inches rounded to the closest whole number

### Magnetic & Pneumatic



# Controls & Automation



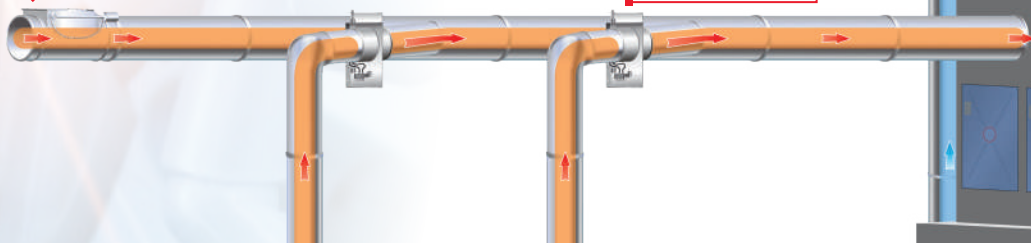
**EB-BDHD**

ECOBOSS® Heavy duty barometric dampers



**EB-ABG**

ECOBOSS® Automatic blast gates



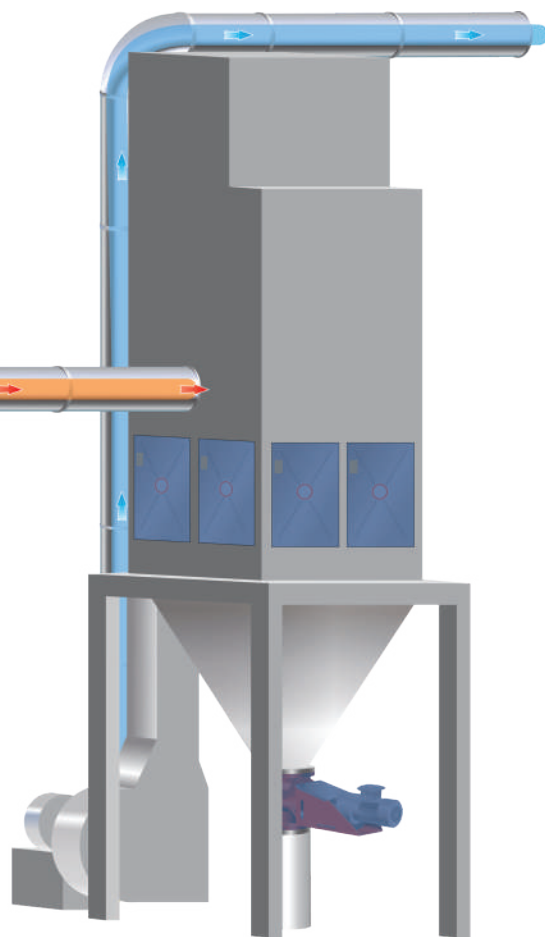
**EB-PBU**

ECOBOSS® Power box ultimate



**EB-SVD**

ECOBOSS® Stand alone variable speed drive





**M**odern manufacturing requires reliable and energy efficient automation solutions to be competitive in today's Global Marketplace. The **EcoBOSS®** product line of control and automation solutions has evolved over decades of experience in the filtration and process ventilation industry. **EcoBOSS®** combines **Industrial Safety Solutions** and **Energy Conservation Technology** into an advanced package that is ready to take industry well into the 21<sup>st</sup> century.

**Boss Products** operates its own in-house **UL 508A/UL698A & CVL** Certified electronics manufacturing facility. All **Boss Products** operations are **ISO 9001:2015 Certified**. Operations include electronics manufacturing of **EcoMAXX®** standard and specialty control panels, custom automation control panels and contract **OEM** controls manufacturing.

# Energy management control systems for industrial dust collection & ventilation

## APPLICATIONS

How EcoBOSS® can work for you :

EcoBOSS® Energy Management Control Systems deliver up to 80% reduction in kW consumption for typical industrial ventilation systems.

Boss Products engineers have spent years of research & testing to verify that the key to significant energy savings is to **regulate fan performance capacity to deliver the suction volume based on spindle run time.**

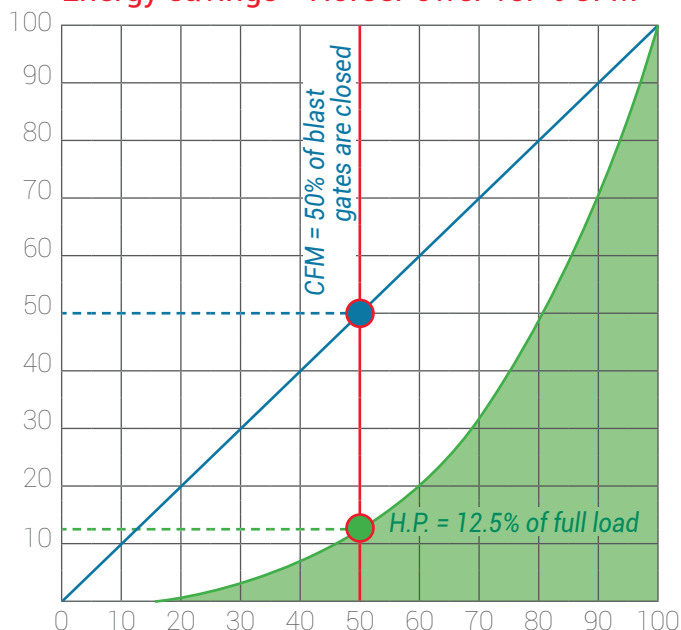
Typical industrial ventilation systems are designed to operate at full capacity. Extensive observation and case studies have shown that **actual spindle run time** rarely approaches 50% of full capacity during 90% of an average monthly production cycle !

EcoBOSS® Energy Management Control Systems have been designed to take full advantage of the Fan Affinity Law which clearly illustrates how an EcoBOSS® installation **will work for you.**

Advanced technology, systems engineering and modern components have been combined to create the EcoBOSS® Energy Management Controls. Three levels of EcoBOSS® controls have been developed & field tested to optimize the function of industrial ventilation control applications.



Energy savings - HorsePower vs. % CFM

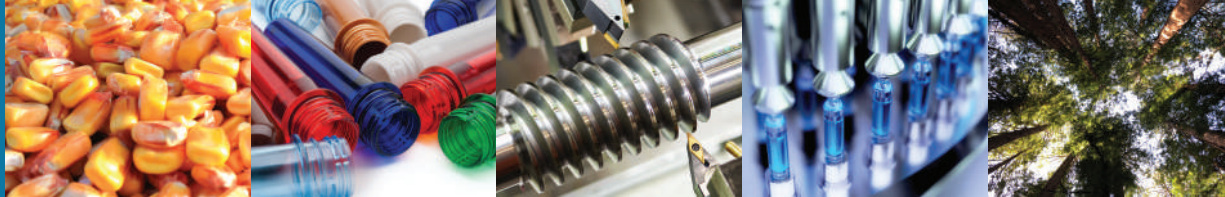


Air volume (CFM 50%)  
Power (H.P. %)

When a fan's airflow is reduced by 50% the kW consumption is reduced to 12.5% of full load.

## CERTIFICATIONS & STANDARDS





PRODUCT CODES: 55001, 55010, 55020, 55030 & 55040

**PRODUCT CODE: 55010**

**ECOBOSS® LOOP BOX - EB-LB**

Regulates fan speed dependent on varying filter pressure and resistance conditions to deliver optimum CFM. Remote start capable and designed to reduce energy consumption based on equipment utilization and spindle run time demand.



**PRODUCT CODE: 55020**

**ECOBOSS® POWER BOX - EB-PB**

Regulates fan speed dependent on varying filter pressure and resistance conditions to deliver optimum CFM. Integrated logic controller sequencing auxiliary motors and operates automatic gates based on real time equipment utilization (spindle run time) through a simple integrated network system. Remote start capable and designed to reduce energy consumption based on equipment utilization and spindle run time demand.



**PRODUCT CODE: 55030**

**ECOBOSS® POWER BOX ULTIMATE - EB-PBU**

Advanced technology Energy Saving Control System with external color touch screen programming for operation interface and expanded system capacity for larger systems. It regulates fan speed dependent on varying filter pressure and resistance conditions to deliver optimum CFM. A powerful logic controller operates automatic gates based on real time equipment utilization (spindle run time) through a simple integrated network and can sequence control of discharge valves, transfer fans, dirty filter alarms, fire extinguishing and/or suppression, explosion isolation, clean air abort return and variable pulse filter cleaning systems.



**PRODUCT CODE: 55040**

**ECOBOSS® STAND-ALONE VARIABLE SPEED DRIVE - EB-SVD**

Critical component for all EcoBOSS® energy saving control systems. It drives the primary fan motor speed based on constant communication and feedback from an EcoBOSS® control panel for the most efficient operation. Proven technology and programming ensures optimum fan performance based on real time production conditions and safety requirements.



**PRODUCT CODE: 55001**

**ECOBOSS® POWER SUPPLY PANELS - EB-MPK**

Stand-alone solution to power Automatic Blast Gate and sensor. It automatically starts and stops the exhaust fan. Models available with adjustable delay timer and manual override.



## OEM Control Panels EB-OEM

**Boss Products** owns and operates a fully staffed and state-of-the-art electrical control panel manufacturing center. We are a fully accredited **UL 508A** and **UL 698A** Panel Shop distributing to the USA and Canada Markets.

In addition to producing our own control panels, we provide quality control panel solutions for our **OEM**

customers, solution providers, integrators, and other specialty groups for various industries. We specialize in design, manufacturing, support services and always offer competitive pricing for small or large projects.

### INDUSTRIAL VENTILATION AND DUST COLLECTION APPLICATIONS

The staff at **Boss Products** are experts in the field of industrial ventilation and dust collection. Many of our staff members have spent most of their careers working in this field. We understand the equipment,

the processes, and their unique challenges. We have the experience and application knowledge that makes us uniquely qualified to ensure your system controls are operating effectively and trouble-free.



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### CERTIFICATIONS & STANDARDS







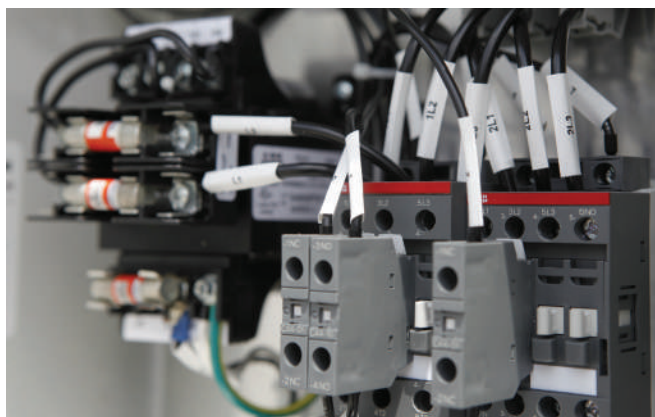
PRODUCT CODE: 80000

## PRODUCTION CAPABILITIES

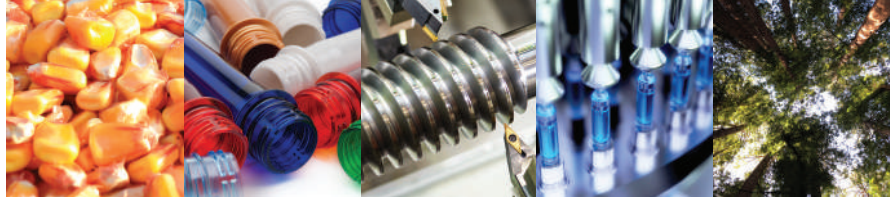
- Build to design or design and build
- Control panel manufacturing and listing
- Testing and quality control
- Control panel repair, maintenance and modifications
- Engineering and design
- CAD files and prints
- Application consulting
- Relay logic, AC & DC
- Drives, motor starters, PLC, HMI and PC based systems
- Custom programming
- Technical support, training, and commissioning services
- Private labeling

## PRODUCTION SOLUTIONS

- Motor starter panels with integrated filter cleaning controls, automatic startup/shutdown sequencing of auxiliary devices
- NFPA compliance interlocks for combustible dust producing machinery.
- Compliant interlocks of multiple ambient air cleaner and/or centralized push pull collector motors to work in tandem
- Filter, velocity and pressure monitoring systems with data logging, alarm and messaging
- Closed loop trailer loading systems with automatic switching, alarm, and messaging
- Vehicle exhaust control panels with or without damper control and automatic fan activation
- Automatic arc sensing in welding processes for damper and fan motor control
- Many Many MORE !







# Automatic Blast Gates EB-ABG

PRODUCT CODE: 55101

## APPLICATIONS

EcoBOSS® 100% Positive Seal Pneumatic Blast Gates are an essential energy saving component for all dust collection and air handling systems.

## DIMENSIONS

HEAVY DUTY AUTOMATIC BLAST GATES * EB-ABG00HD Size 14" - 32"							
Ø	A	A1	B	B1	H	C	# of Cylinders
14"	18	24	31	44	11	47	2
16"	20	25	31	46	11	49	2
18"	22	27	35	52	11	55	2
20"	24	30	35	54	11	57	2
22"	26	32	39	60	11	65	2
24"	28	34	39	62	11	65	2
26"	30	36	43	68	11	71	2
28"	32	38	43	70	11	73	2
30"	34	41	47	76	11	79	2
32"	36	43	47	78	11	81	2

\* Units in inches rounded to the closest whole number

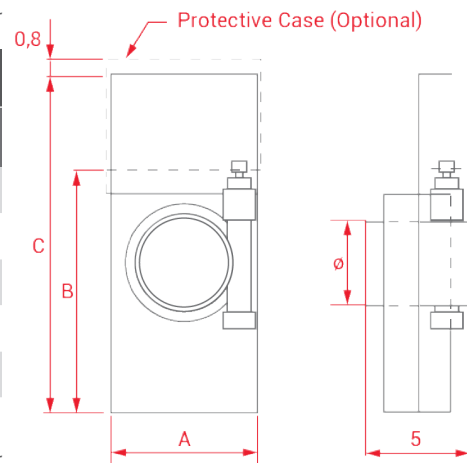
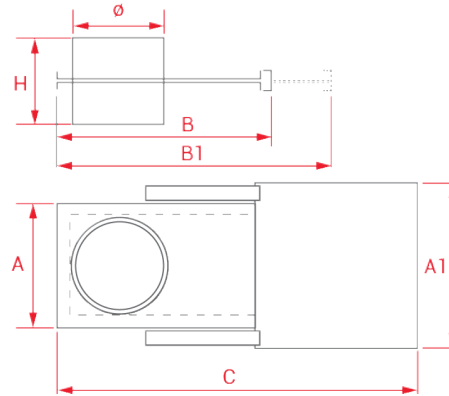
AUTOMATIC BLAST GATES EB-ABG00 Sizes 4" - 12" *				
Ø	A	B	C	# of Cylinders
4"	7	11	16	1
5"	8	13	18	1
6"	9	15	21	1
8"	11	19	28	2
10"	13	23	33	2
12"	15	27	39	2

\* Units in inches rounded to the closest whole number

### STANDARD FEATURES

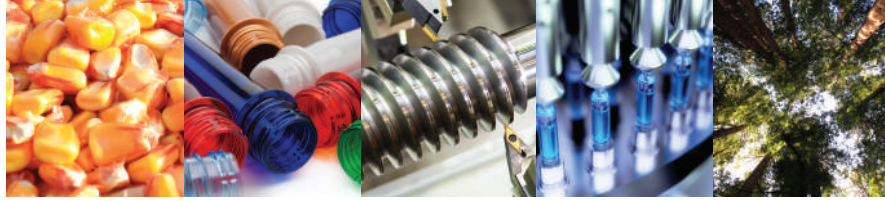
- Heavy duty galvanized steel construction
- 24 VDC, 24 VAC or 110 VAC solenoid with LED indicator light
- Sizes 4" - 12" come standard with 90° flared ends for use with optional quick connection clamps and adapters
- Sizes 14" - 32" HD Gates come standard with flanged ends and co-flanges
- Polyethylene gasket for 100 % positive seal on sizes 4" - 12". Larger HD Gates utilize brass for ease of movement and feature rubber and felt gasket. All HD Gates are self cleaning

AUTOMATIC BLAST GATES  
EB-ABG00 Sizes 4" - 12"



### OPTIONAL FEATURES

- EB-ABG-PC00 – Protective Case Sizes 4" - 12", standard on all larger HD Gates
- EB-MPK –Transformer panels with plug for use with low voltage sensors on stand-alone applications
- Pneumatic Distribution & Wiring Solutions
- Comprehensive EcoBOSS® Energy Saving Control Systems



# Heavy Duty Barometric Dampers EB-BDHD

PRODUCT CODE: 55601

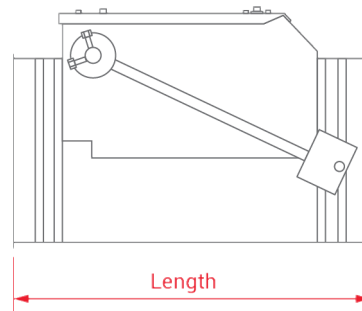
## APPLICATIONS

EcoBOSS® Heavy Duty Barometric Dampers are designed to automatically bleed in air to avoid fan instability and maintain suitable conveying velocities in duct lines.

## DIMENSIONS

HEAVY DUTY BAROMETRIC DAMPERS	
Ø	Length
6"	17"
8"	19"
10"	21"
12"	23"
14"	25"
16"	27"
18"	29"
20"	31"
22"	33"
24"	35"

\* Units in inches rounded to the closest whole number



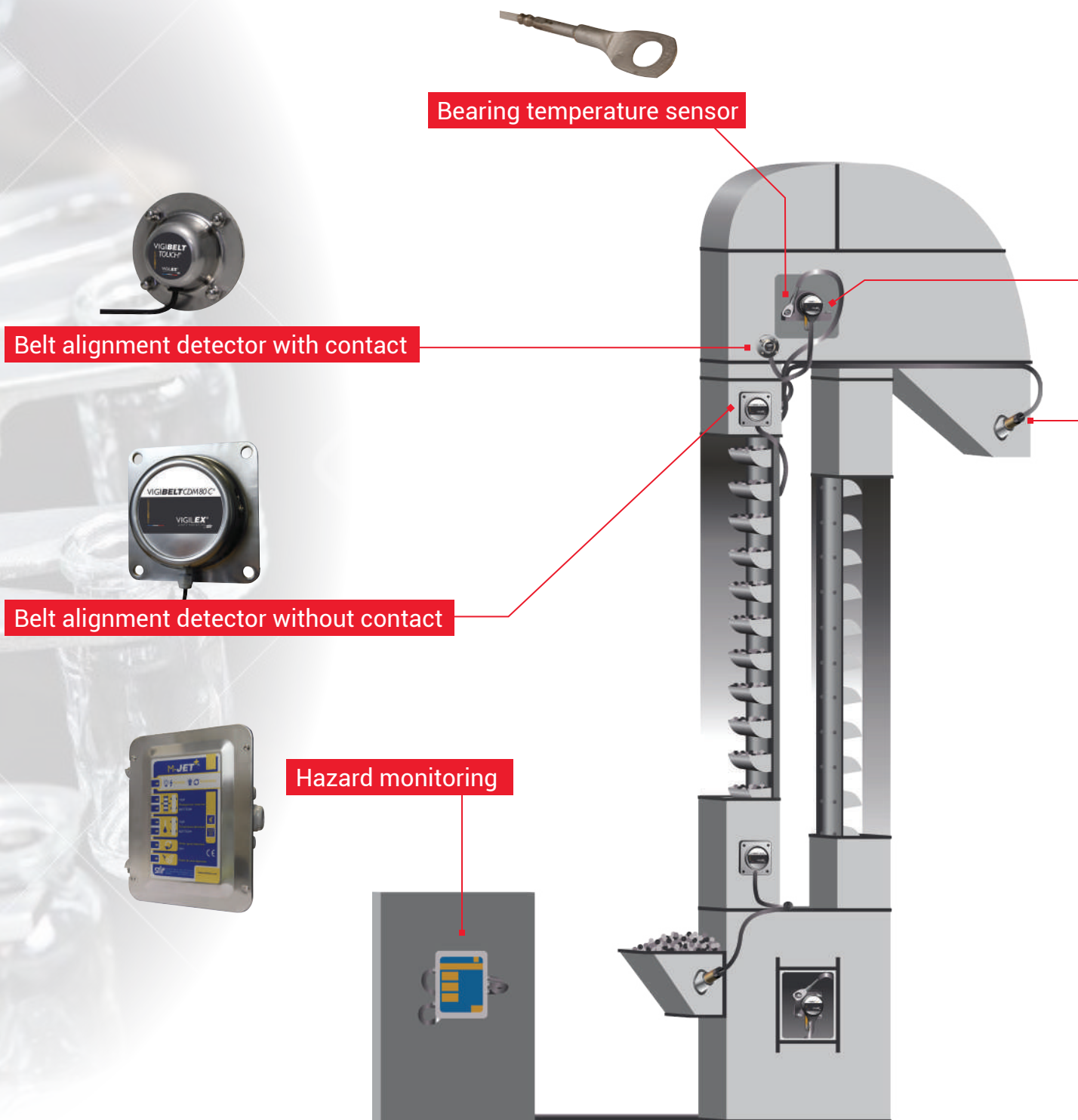
### STANDARD FEATURES

- Heavy duty galvanized steel construction
- Heavy duty adjustable counterweight with safety chain
- Removable inspection door
- Sizes 6" through 18" :  
90° flared ends for use with optional quick connection clamps and adaptors
- Sizes 20" and larger :  
Flanged ends with co-flanges

### OPTIONAL FEATURES

- Pneumatic model with velocity sensor
- Stainless steel AISI 304 and 316 construction

# M-Jet Grain Elevator Hazard Monitoring





Rotation under speed switch



Level & choke sensor

**T**he **M-JET SYSTEM** is a modern and dynamic safety monitoring system. We have designed a complete system to ensure the protection and safety of your personnel and equipment.

The **M-JET SYSTEM** includes a complete range of hazard monitoring and safety equipment sensors, and is designed to protect up to **120 individual conveyors**. This capacity offers the most economical conveyor system hazard monitoring system available.

**M-JET** has the capability to accurately monitor, manage and analyze productivity, operating conditions and hot-spots that could lead to additional equipment damage, costly repairs and explosion hazard. Real-Time electronic data is instantly **available 24/7** and can be accessed anywhere in the world via laptop, tablet or mobile phone.

## M-JET SYSTEMS

### The world's most advanced hazard monitoring system

#### THE SMART WAY TO MANAGE YOUR SAFETY SYSTEM

The **M-JET Safety Monitoring System** ensures complete control and real time data that is necessary to avoid unneeded maintenance and explosion hazard. **Data Reports** include dangers associated with speed control, misalignment, level & choke control, bearing and motor temperatures. **M-JET SYSTEMS** is specifically designed as an early warning system to alert facilities to potential sources of explosion ignition

**Think Safety Smart. Think M-Jet to protect your employees and your facility.**



#### THE SMART WAY TO MANAGE YOUR CONVEYOR SYSTEMS :

- Under speed due to belt slip on the pulley. To check comparing with the nominal speed.
- Bearing temperature using sensor PT100 or NTC.
- Belt misalignment using sensors with or without contact.
- Material jam in conveyor entry or exit using capacitive sensor.
- Chain elongation measured by inductive sensor and targets.
- Motor power measurement with specific electrical consumption.
- Shaft position measured by sensor 4-20mA.

#### THE OPERATING CONTROL OF THE SYSTEM IS ACHIEVED BY OUTPUT RELAYS :

- Directly on the power relay of the motor.
- By the global PLC of the facilities.

#### VERIFYING THE CONVEYOR OPERATION CAN BE ACHIEVED BY :

- On computer screen by internal website (directly with laptop or by Network LAN).
- By message on the email box (events and maintenance operation plan).



## M-JET SYSTEMS ELECTRONIC CONNECTIVITY VIA INTERNET OR FACILITY NETWORK :

- Remote monitoring up to 120 conveyors from the same display unit
- Unified viewing of data in real time
- Graphic display of historical data
- Alarm notification by sending email
- Viewing of alarms
- Support tools to manage preventive maintenance



Type	Name	Place	Status	Speed	Cpt/Day	Cpt/General
	EL02	Place 2	Alarm	-	8h	1850h
	TB01	Place 1	Pre-Alarm	1.8m/s	7h	1575h
	EL01	Place 1	Ok	2.4m/s	5h	1125h
	EL03	Place 3	Ok	2.8m/s	3h	925h
	EL04	Place 4	Inactif	-	-	125h

Elevator EL02 — Place STIF USA — 25 march 2018 15h31

Status: Alarm

**UNDER SPEED**

Speed	000	rpm
Under speed	10	%
No.2	-	
No.1	Ok	

**TEMPERATURE**

T* Max	80°C
No.4	65°C
No.3	68°C
No.2	58°C
No.1	56°C
T* Max motor	90°C
	73°C

**MISALIGNMENT**

No.4	Ok
No.3	Ok
No.2	Alarm
No.1	Ok

**LEVEL & CHOKE**

No.2	Ok
No.1	Ok

Access to graphics



**jetmonitoringsystem.com**  
is available on all your mobile devices

## HISTORIC DATA ANALYSIS : ONLY BY COMPUTER, DIRECTLY WITH LAPTOP OR BY NETWORK LAN

- History of defects: M-JET SYSTEMS can save 10,000 events.
- History of setting modification: Save the 10,000 last setting modifications.
- History of daily running time of the equipment :
  - M-JET SYSTEMS saves production time during the last 4,000 days of use.
  - M-JET SYSTEMS records temperatures 24 times per day during the last 365 days of use.
- All the history can be downloaded in csv format.



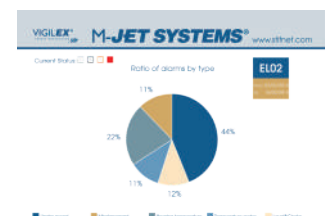
### Run time



### Temperatures

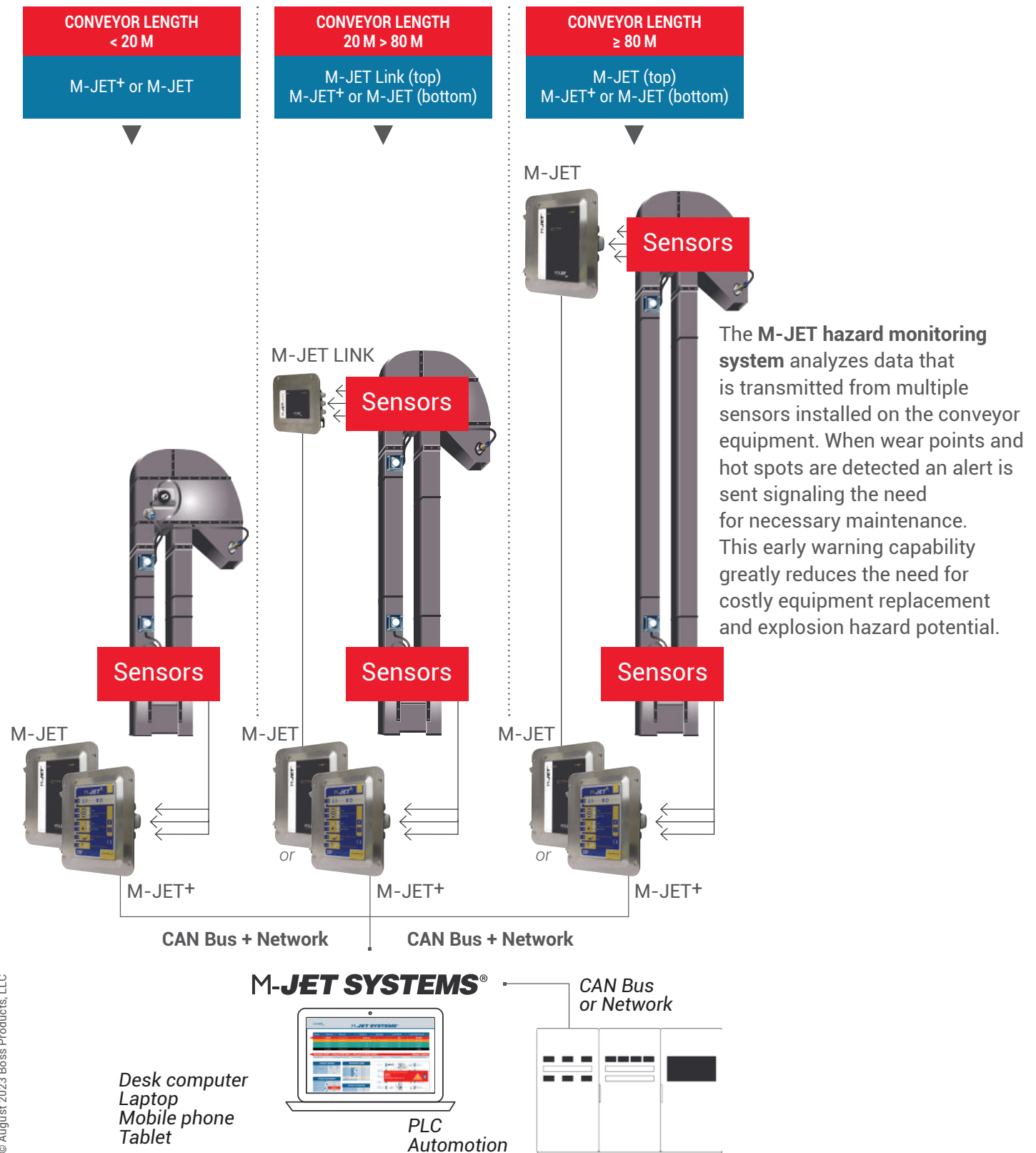


### Number of alarms



### Ratio of alarms by type

# M-JET SYSTEMS





## CONNECTION BOX

### M-JET LINK

Connection Box



## HAZARD MONITORING

### M-JET

Hazard Monitoring  
without display



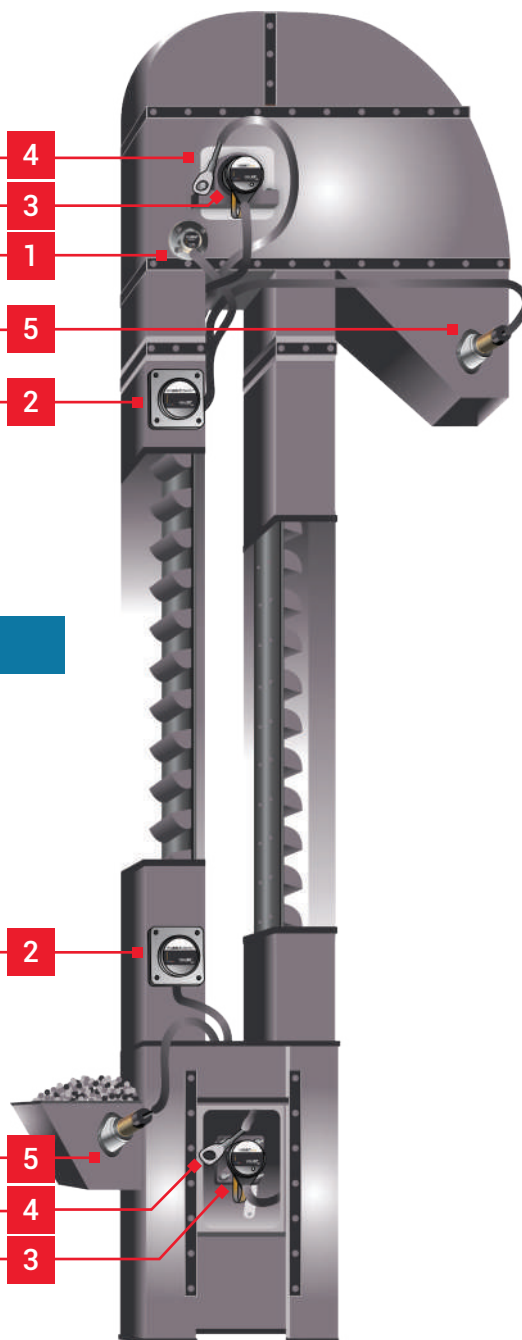
Or

### M-JET+

Hazard monitoring  
with display



Or



## SENSOR COMPONENTS

### BELT ALIGNMENT SENSORS

- 1 Vigibelt Touch**  
Belt alignment detector  
by contact



- 2 Vigibelt CDM 80 C**  
Belt alignment detector  
without contact



### SPEED SENSOR

- 3 Vigirot IP26**  
Speed  
rotation sensor



### TEMPERATURE

- 4 VigiTherm GST 100**  
Bearing Temperature sensor



### LEVEL & CHOKE

- 5 Vigimat DNC 30**  
Level & choke sensor





*Transitioning the World to a Safer Working Environment*



ISO 9001 : 2015 Certified Company, Certificate #12373

## RAPTOR Series



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