BOSS
PRODUCTS LLC
®

Transitioning the World to a Safer Working Environment

ENGINEERED INDUSTRIAL SAFETY SOLUTIONS

Member of the Boss Industrial Group

BOSS INDUSTRIAL GROUP

# Our History and Commitment to support our valued customer

BOSS 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 1st policy, beginning with pre-order technical and engineering advice, all the way to post-installation support makes us a repeat choice.
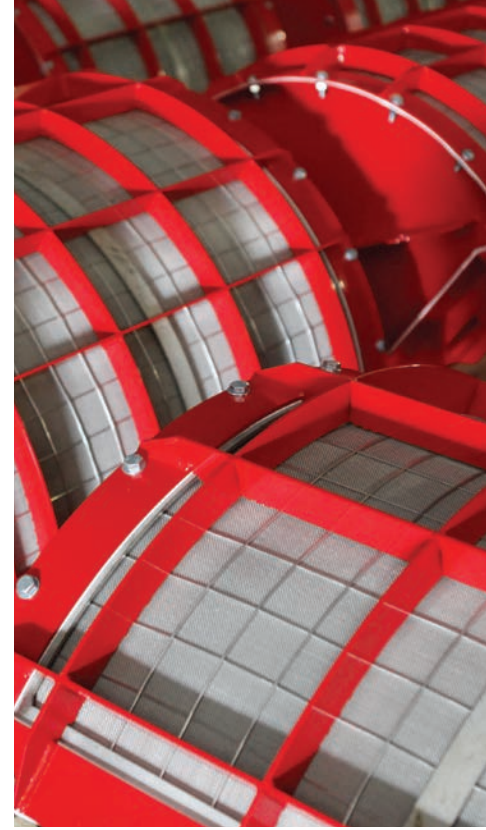
Boss Products promptly supply our customers the safety components they need from the largest inventory available in North America. Centrally located near San Antonio, Texas, Boss Products maintains redundant supplies of all sizes of varying inventory to assure customers have what they need in the best 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
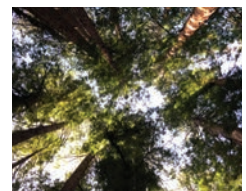
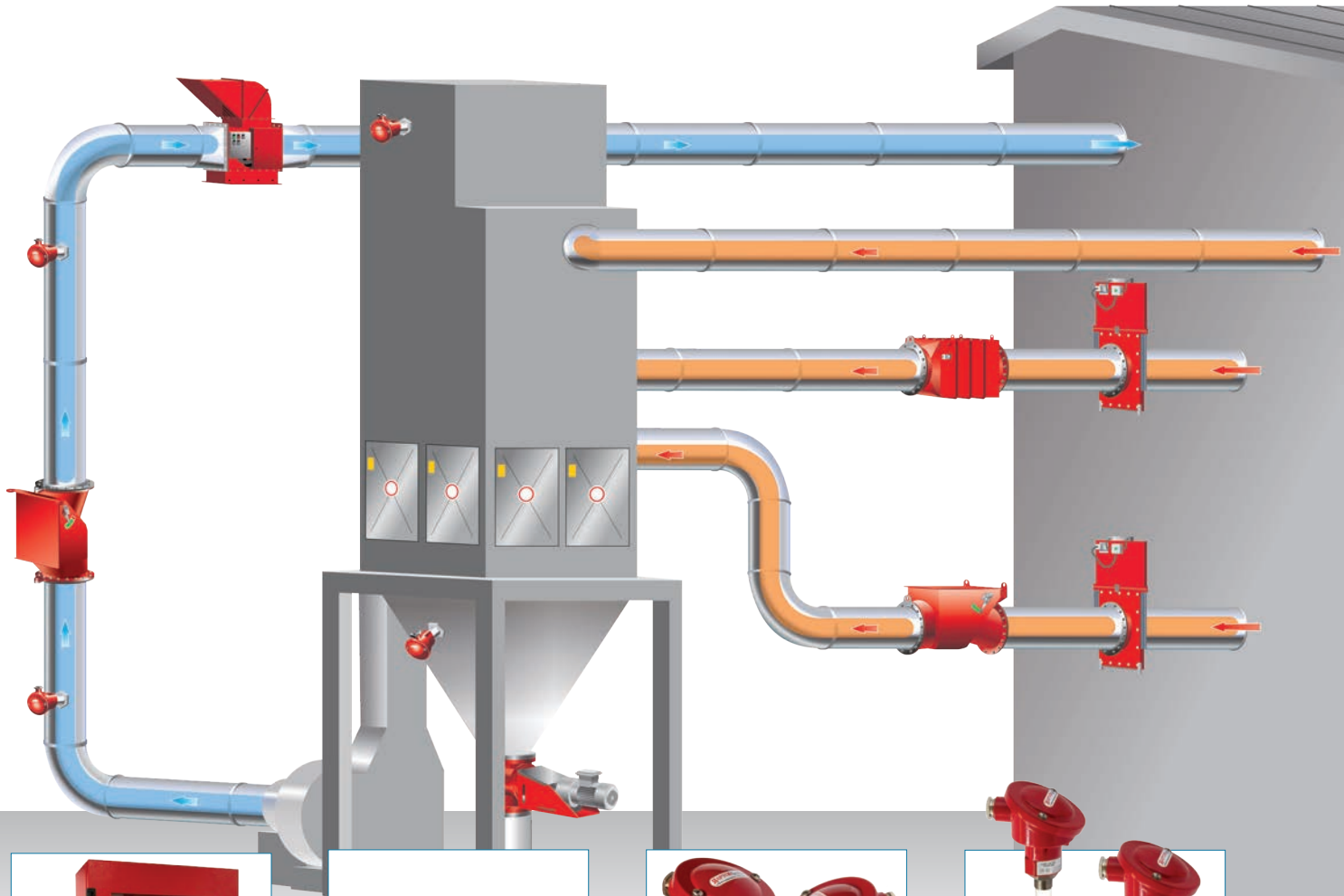| Agriculture & Grain | Food and Beverage | Metal Working | Pharmaceutical | Wood Processing |

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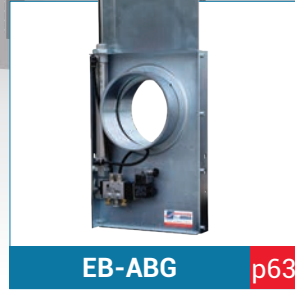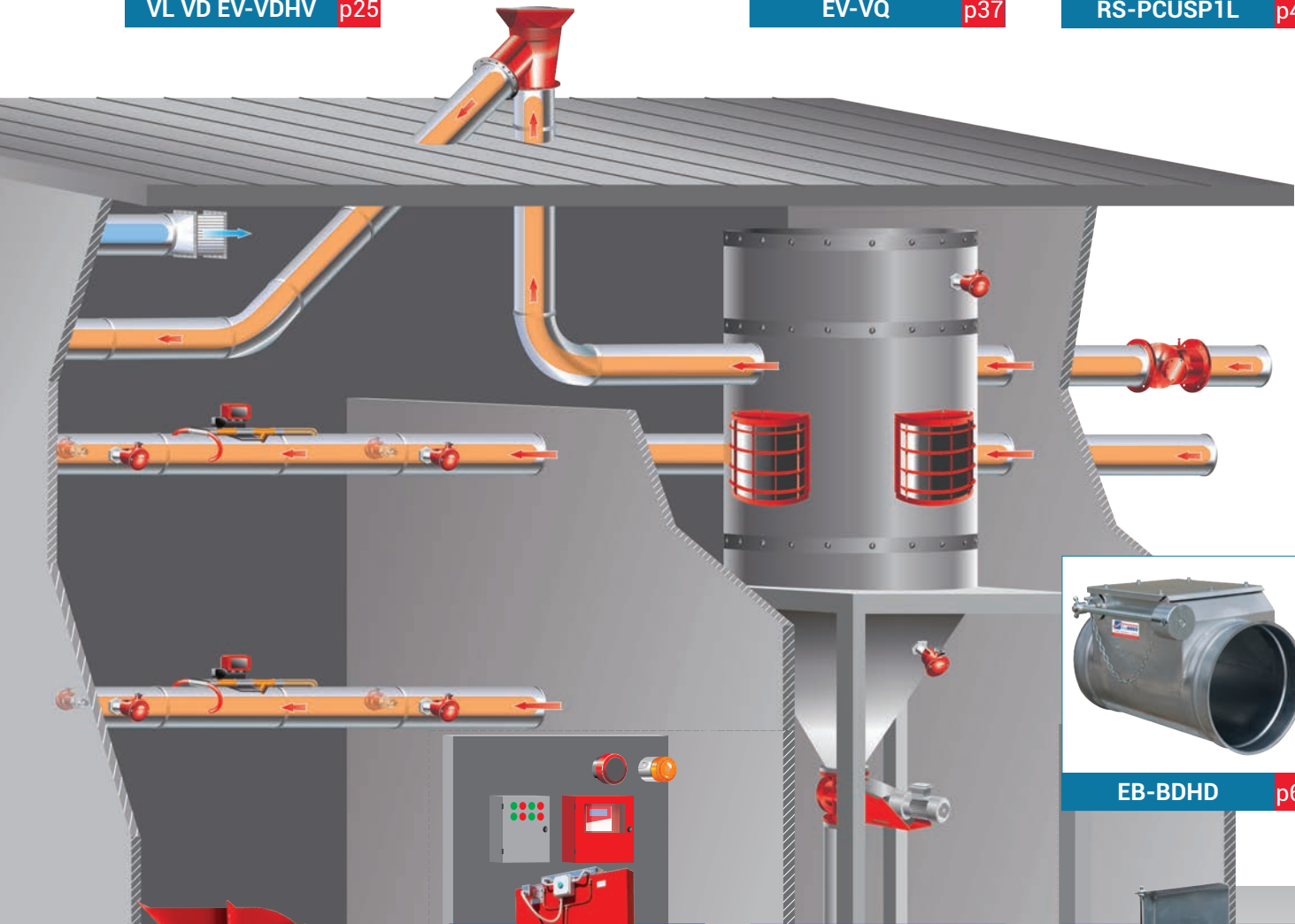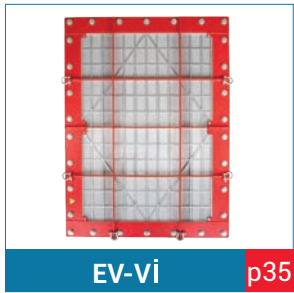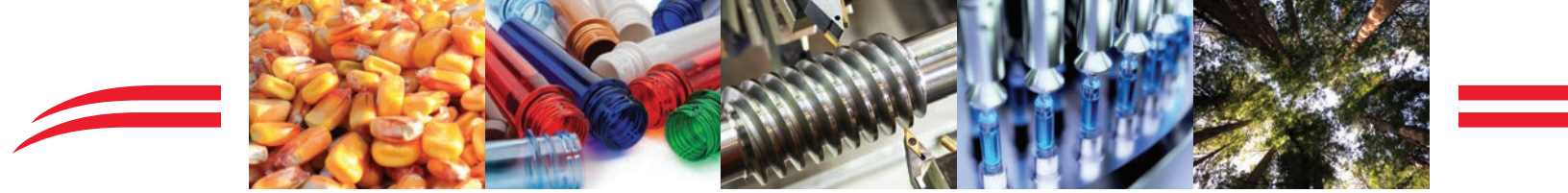

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Contents

Management 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.

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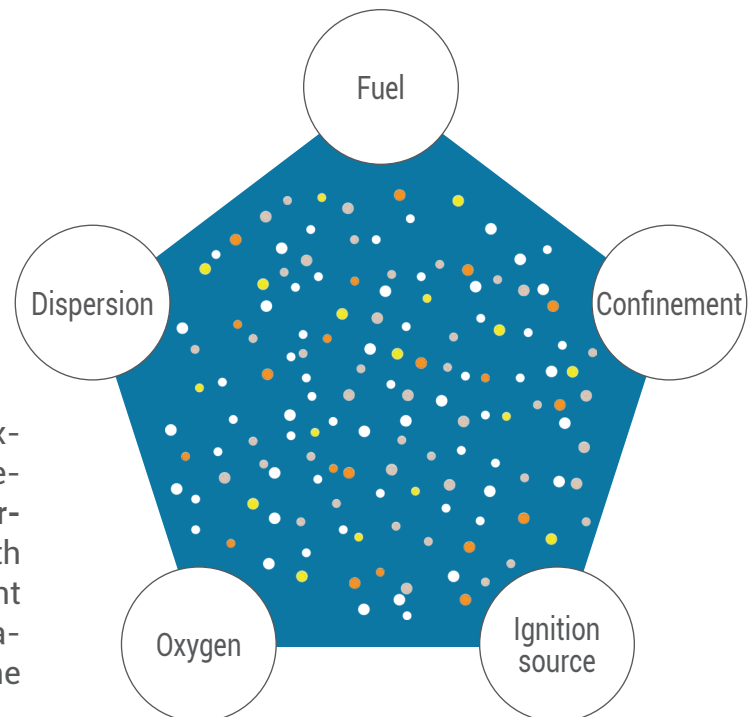
BOSS PRODUCTS engineers have decades of experience in the design and installation of multi-application industrial dust collecting, bulk handling & process systems. Today's NFPA regulatory guidelines governing fire & explosion protection installations are more specific and well defined than ever before.

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

VIGILEX®
SAFETY PROTECTION By STIF

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 oulet 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 :** ø6" to ø54" / ø160 mm to ø1350 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 :** 356ºF/180 ºC
- Dust level sensor to prevent dust accumulation
- Connection box installed on the body, according to the ATEX zone (opposite side of the locking mechanism)

BOSS PRODUCTS LLC

DIMENSIONS

DIMENSIONS				
Ø [inch]	Ø [mm]	Door gasket	Body gasket	Body
ø 4	ø 100			
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	EPDM	EPDM	Mild Steel
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

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**.

360°

The VIGIFLAP Explosion Isolation Valve has been tested and certified for installation in ANY POSITION
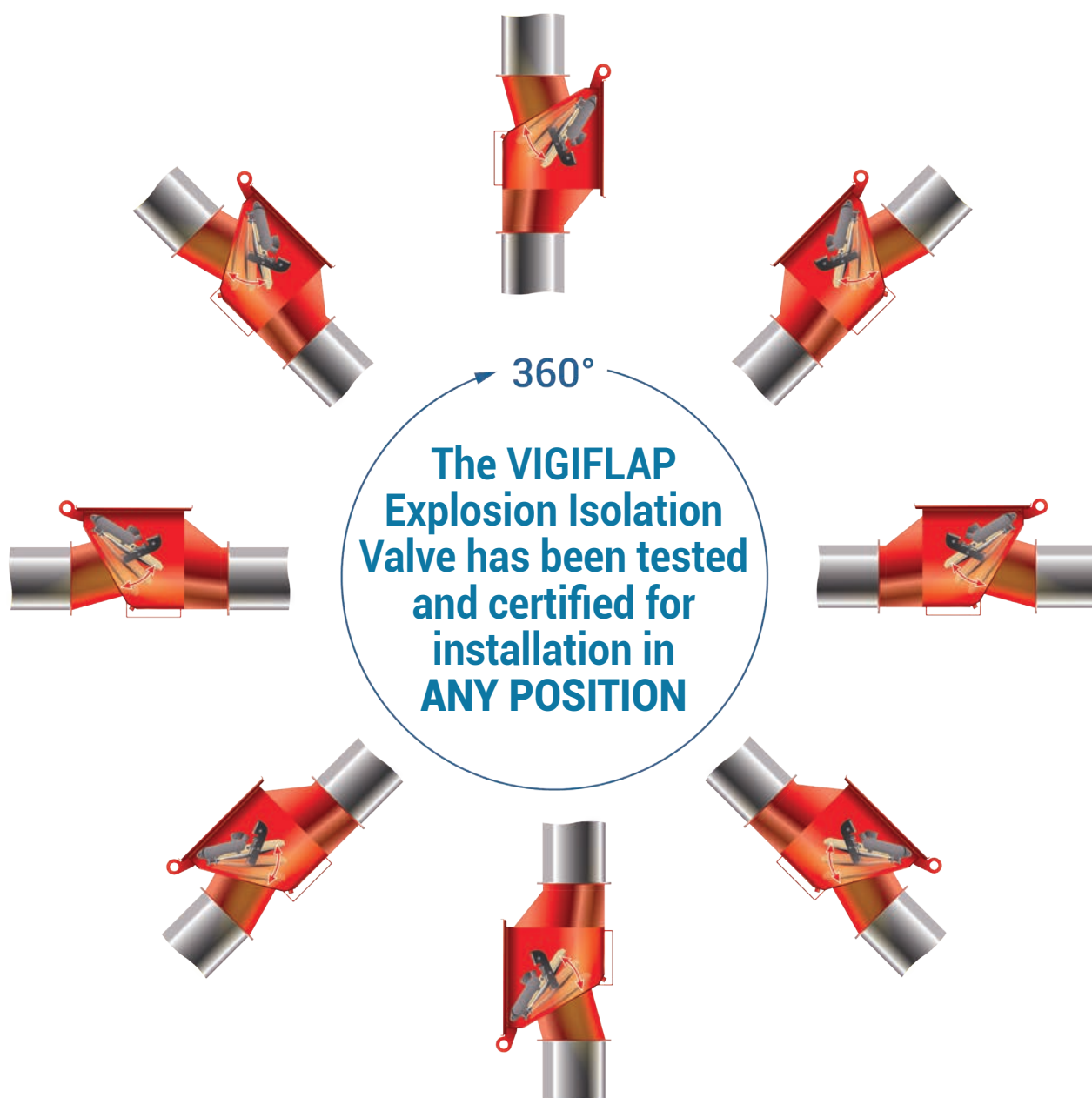
APPLICATIONS

PROCESS FLOW

FLOW POSITIONS :

1 Flap is held open by process flow

Installation with floating flap

or

Installation with flap locked open
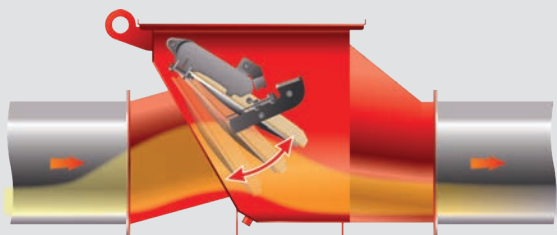
2 Flap locked in open position
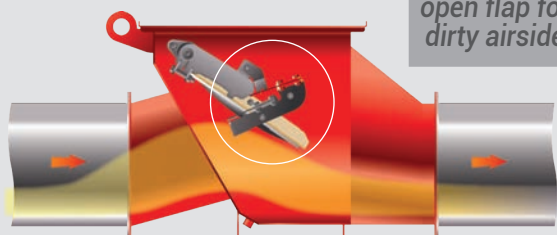
Locked open flap for dirty airside

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**	-4ºF +140ºF	**FLUX**	Overpressure or vacuum
PMAX	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 : -22ºF +158ºF
DUST	Any kind of dust	**POSITION OF THE DEVICE**	Vertical / Horizontal		Silicone gasket : 14ºF +356ºF

Explosion Isolation Valve VIGIFLAP

VIGIFLAP (VF) PRESSURE DROP

4"-5"
Ø100mm-Ø125mm

LOCKED OPEN POSITION DIRTY AIR SIDE

Pressure Drop in H_2O							
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

VIGIFLAP (VF) PRESSURE DROP

FLOATING POSITION DIRTY AIR SIDE

4"-5"
Ø100mm-Ø125mm

inch H$_2$O

Legend: ── Ø 4   ── 5

Pressure Drop in H$_2$0							
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

LOCKED OPEN POSITION CLEAN AIR SIDE
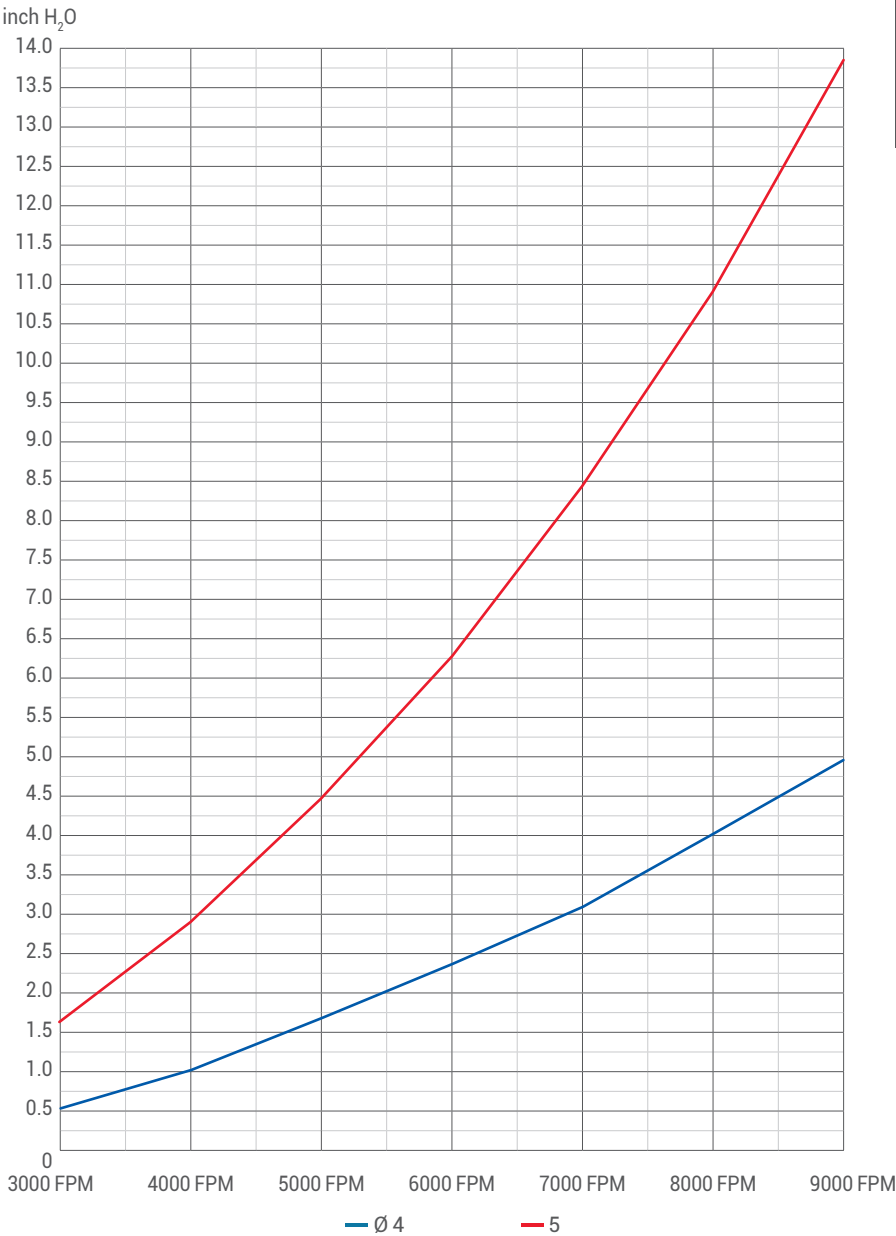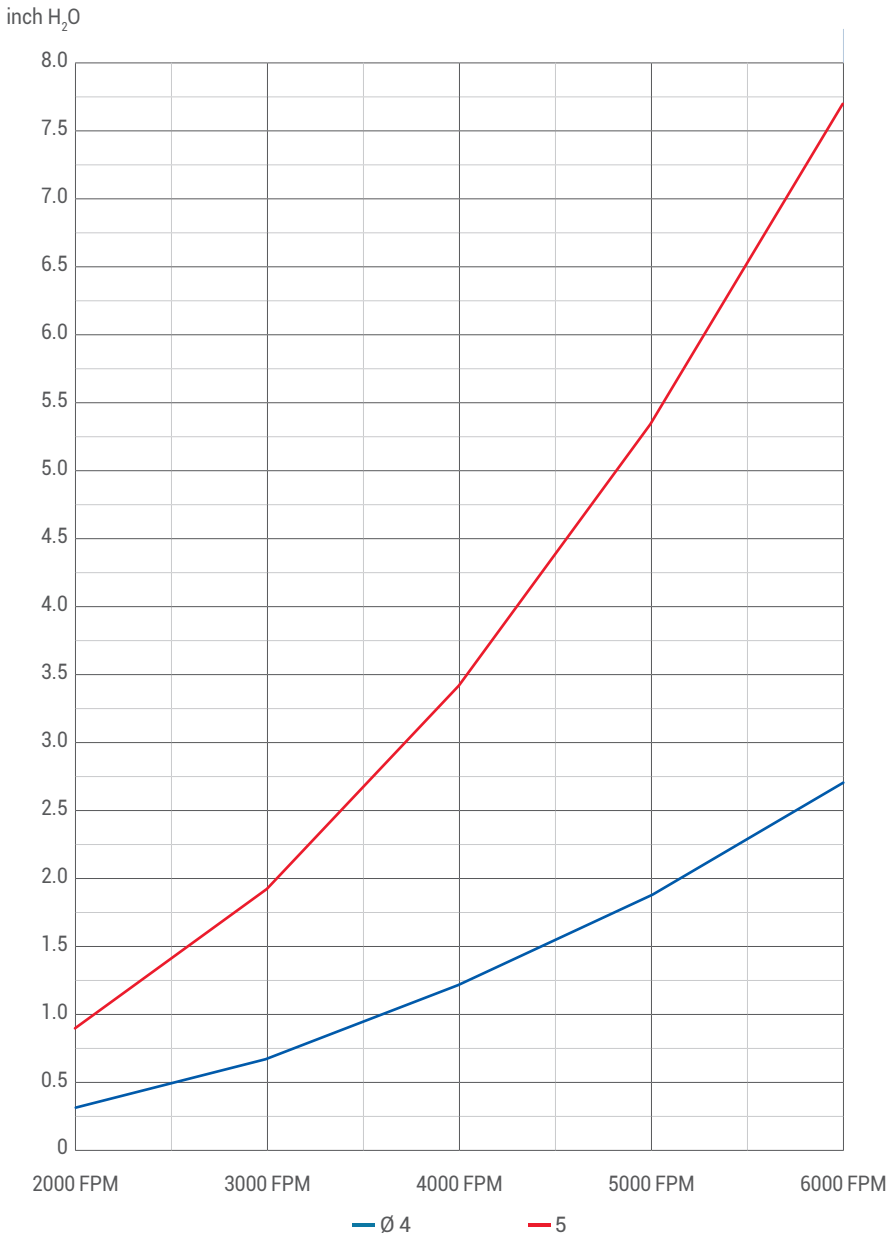
4"-5"
Ø100mm-Ø125mm

Pressure Drop in H_2O				
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

VIGIFLAP (VF) PRESSURE DROP

LOCKED OPEN POSITION DIRTY AIR SIDE

6"-32"
Ø160mm-Ø800mm

Legend: — Ø 6"/10"/14"/18"/22"/28" — Ø 7" — Ø 8" — Ø 12"/24" — Ø 16"/30" — Ø 20"/26" — Ø 32"
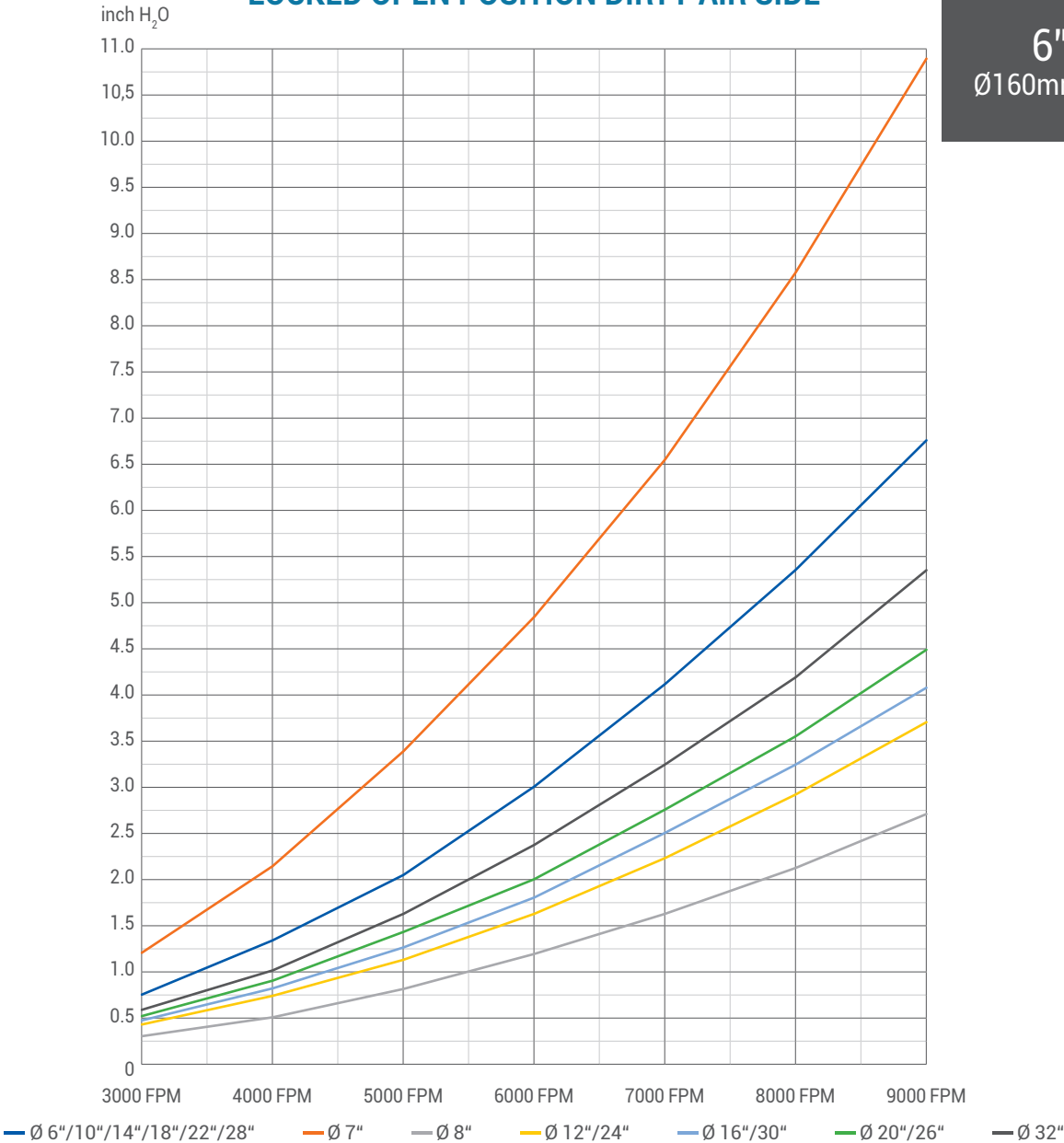
Pressure Drop in H₂0						
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM
ø6/10/14/18/22/28	0.75	1.34	2.09	3.01	4.10	5.36
ø7	1.21	2.15	3.36	4.84	6.59	8.61
ø8	0.29	0.52	0.82	1.18	1.61	2.11
ø12/24	0.41	0.73	1.14	1.64	2.24	2.92
ø16/30	0.45	0.81	1.27	1.82	2.48	3.25
ø20/26	0.50	0.89	1.39	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

6"-32"
Ø160mm-Ø800mm
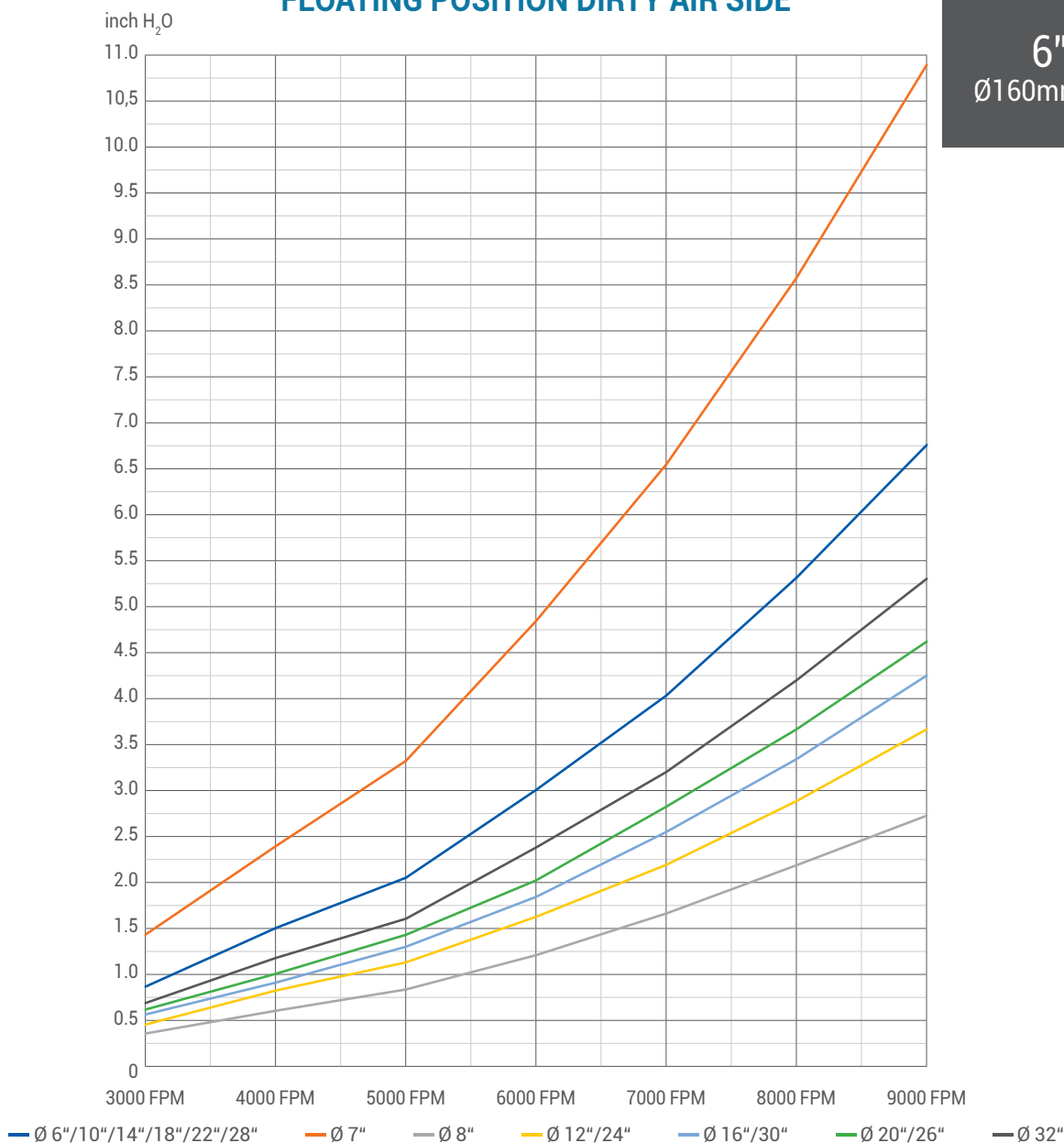
Pressure Drop in H_2O						
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM
ø6/10/14/18/22/28	0.81	1.50	2.07	3.00	4.06	5.32
ø7	1.34	2.39	3.33	4.79	6.54	8.53
ø8	0.36	0.60	0.85	1.21	1.66	2.19
ø12/24	0.44	0.81	1.13	1.62	2.19	2.88
ø16/30	0.56	0.89	1.30	1.86	2.56	3.33
ø20/26	0.60	1.01	1.42	2.03	2.80	3.65
ø32	0.65	1.17	1.62	2.35	3.21	4.18

VIGIFLAP (VF) PRESSURE DROP

LOCKED OPEN POSITION CLEAN AIR SIDE

6"-32"
Ø160mm-Ø800mm

Legend: — Ø 6"/10"/14" — Ø 7" — Ø 8" — Ø 12"/24" — Ø 16"/30" — Ø 18"/22"/28" — Ø 20"/26" — Ø 32"
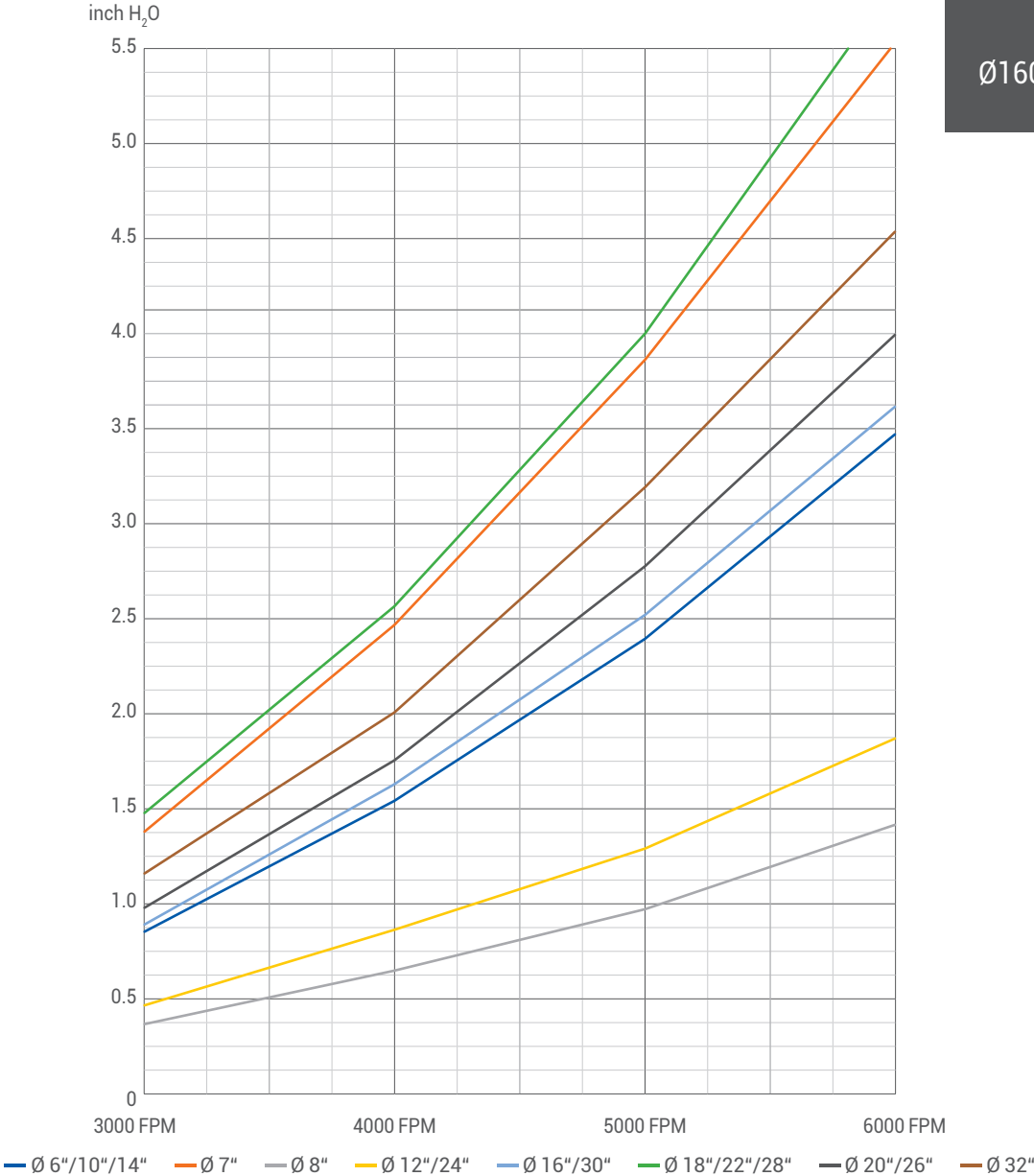
Pressure Drop in H_2O				
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM
ø6/10/14	0.85	1.54	2.40	3.45
ø7	1.38	2.48	3.86	5.53
ø8	0.37	0.61	0.98	1.42
ø12/24	0.45	0.81	1.30	1.87
ø16/30	0.89	1.63	2.52	3.62
ø18/22/28	1.46	2.56	4.02	5.81
ø20/26	0.98	1.75	2.76	3.98
ø32	1.14	2.03	3.217	4.55

Explosion Isolation Valve VIGIFLAP

LARGE SIZE VIGIFLAP (VF) PRESSURE DROP

LOCKED OPEN POSITION DIRTY AIR SIDE

34"-54"
Ø850mm-Ø1350mm

inch H$_2$O

Legend:
— Ø 34"/40"   — Ø 36"/46"   — Ø 38"/48"   — Ø 42"/54"   — Ø 44"   — Ø 50"   — Ø 52"
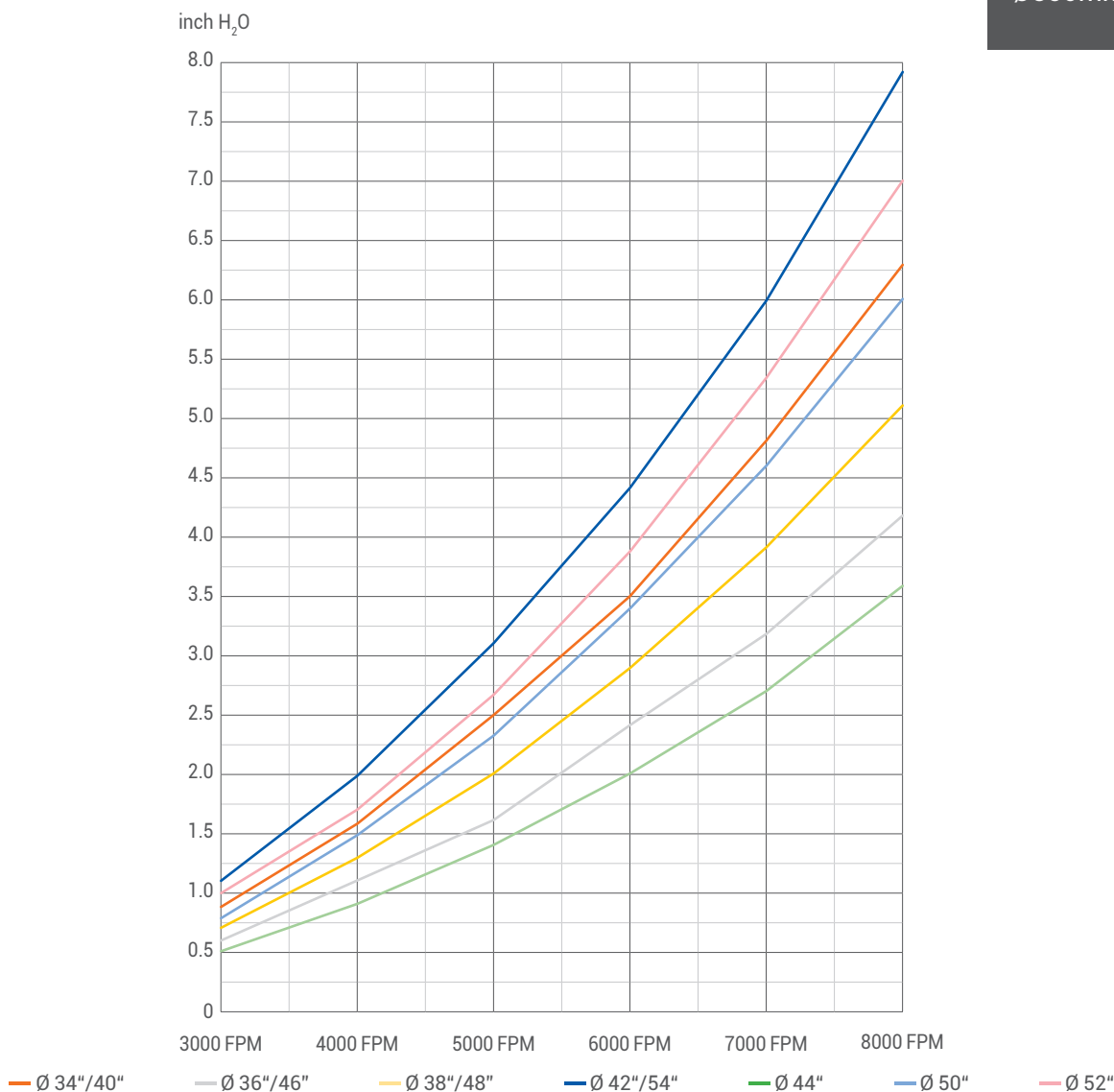
Pressure Drop in H$_2$0						
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM
ø34/40	0.90	1.60	2.50	3.50	4.80	6.30
ø36/46	0.60	1.10	1.60	2.40	3.20	4.20
ø38/48	0.70	1.30	2.00	2.90	3.90	5.10
ø42/54	1.10	2.00	3.10	4.40	6.00	7.90
ø44	0.50	0.90	1.40	2.00	2.70	3.60
ø50	0.80	1.50	2.30	3.40	4.60	6.00
ø52	1.00	1.70	2.70	3.90	5.30	7.00

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

Dirty air side

Clean air side

Flap
locked open

Flap
floating or locked open

Flap
locked open
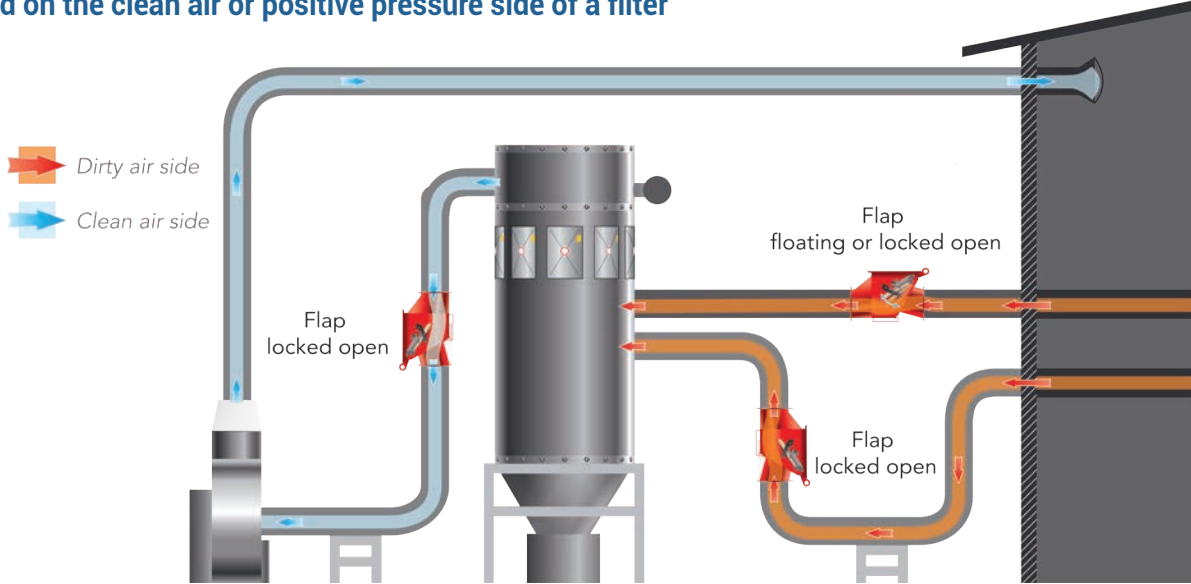
DEFLAGRATION EXPLOSIVE EVENT

EXPLOSION

Flap
locked

Flap
locked

Flap
locked
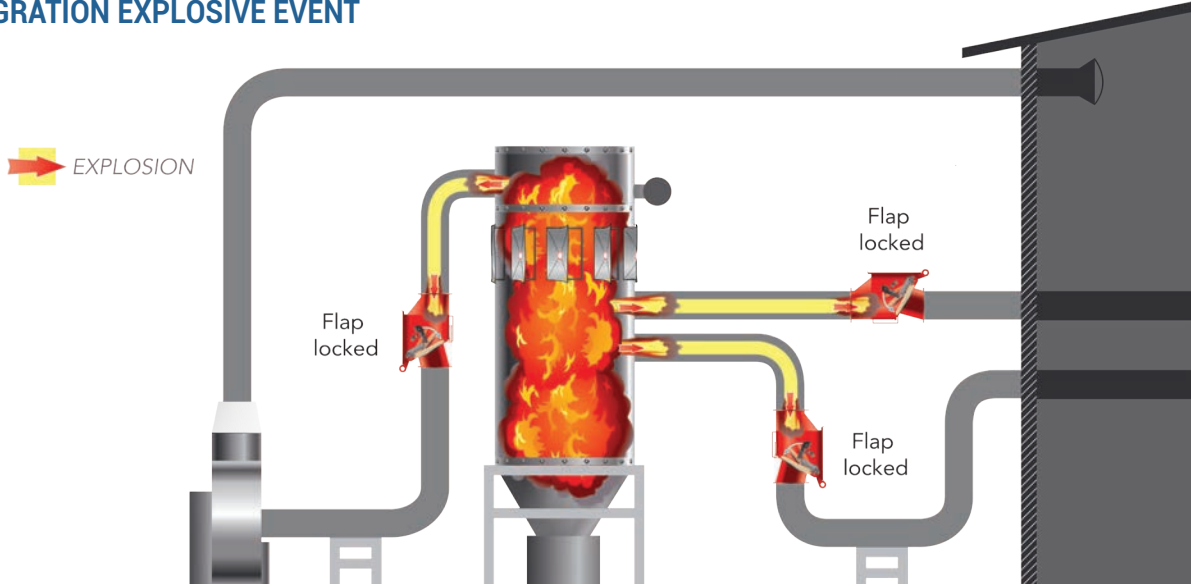
No Return Valve Combo/Metal

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
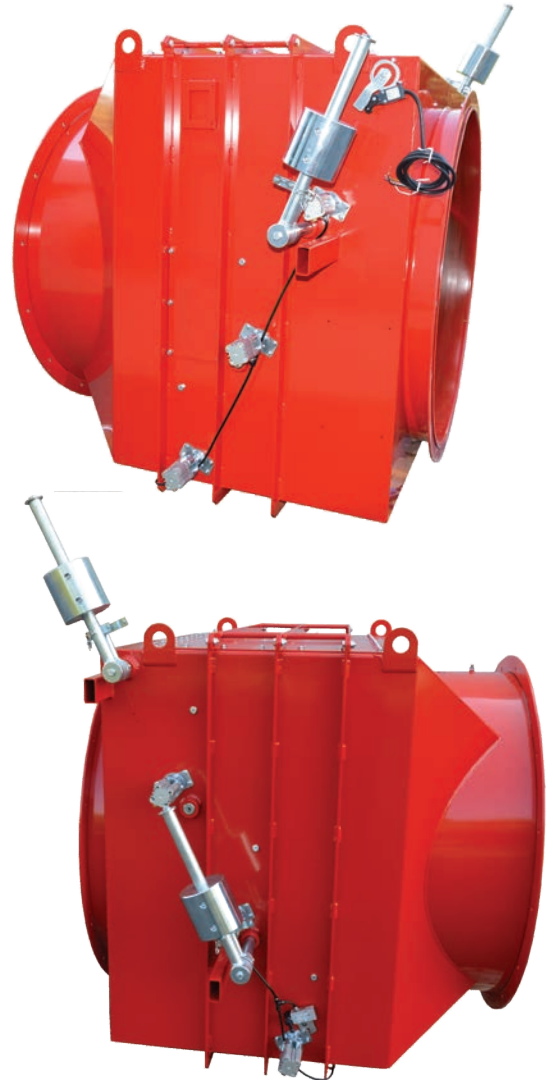
NRV (Options Required for NFPA compliance)

- 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**

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DIMENSIONS

Dimensions : 4"-28" (1 flap)

Dimensions : 32"-36" (2 flaps)

Dimensions : 40"-48" (3 flaps)
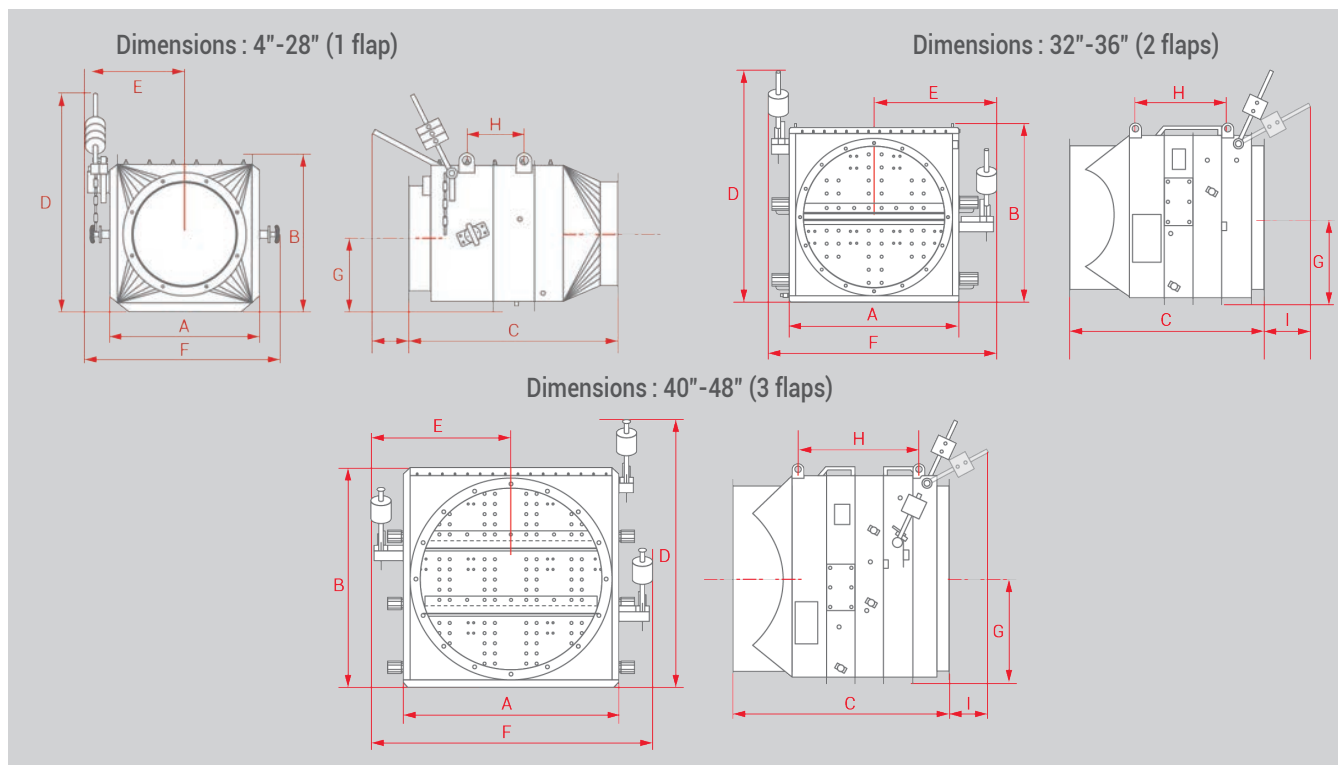
NO RETURN VALVE COMBO/METAL (NRVC/M) DIMENSIONS (SIZES 4" - 48")										
Ø	A	B	C	D	E	F	G	H	I	LBS
NRVC SIZES 4" - 7" RATED FOR : Class ST3 Applications — Kst max 325 bar m/s — Pred max 1.0 bar — Certification EN 16447										
100mm/4"	5.9	7.3	16.3	-	6.7	13.4	3.0	-	-	22
125mm/5"	6.9	8.3	17.3	-	7.1	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
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										
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
NRVC SIZES 18" - 48" RATED FOR : Class ST3 Applications — Kst max 325 bar m/s — Pred max 0.60 bar — Certification EN 16447										
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

DIMENSIONS

Number of panels	ø [in/mm]	H1	H2	D1	D2	L1	L2	T	Panel dimensions
CHARACTERISTICS OF THE EXPLOSION DEFLECTION DEVICE									
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
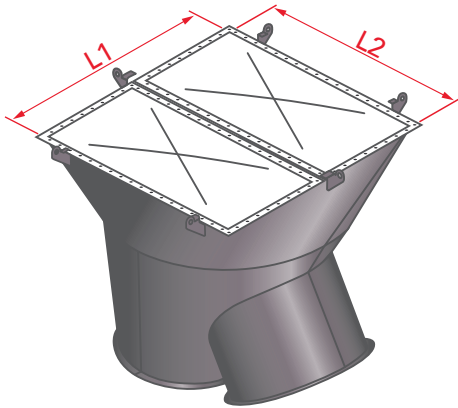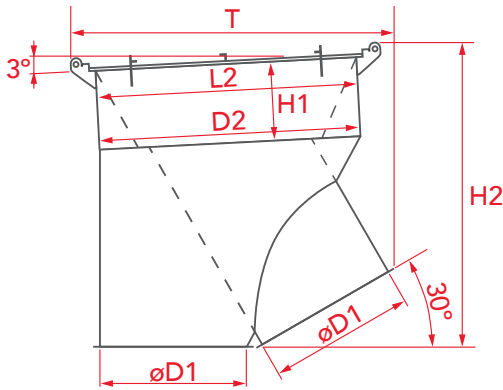
TECHNICAL INFORMATION

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
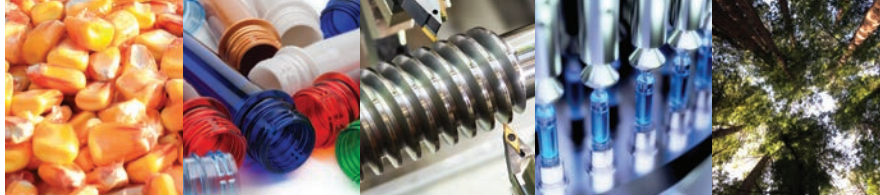
Certified Rotary Valve HT Series

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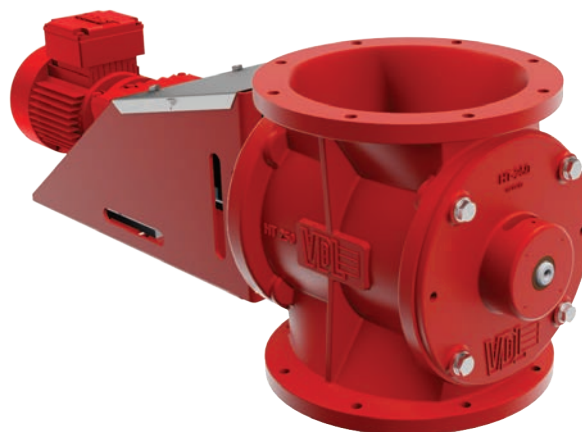
STANDARD FEATURES
- Cast iron housing with safety red finish EX version
- Differential pressures up to **40" WC**
- Direct drive gearmotor with flex coupling
- Airlock in dust collector and cyclone installations
- Explosion and Flame Proof design rated up to **25 PSI / 670" WC**

OPTIONAL FEATURES
- Variable speed drive control option
- Square to round flange adapter including gasket and mounting bolts
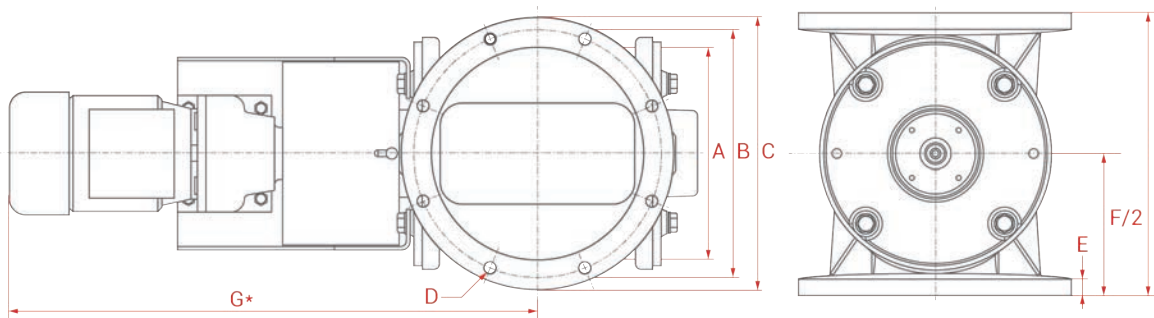
DIMENSIONS*									
MODEL	15 RPM HP	30 RPM HP	CAPACITY FT³ (LTR)	Ø A	Ø B	Ø C	D	E	F*	G
HT250	0.33	0.75	0.24 (7)/rev	10" (250 mm)	12" (290 mm)	13" (320 mm)	8 x Ø12 mm	0.79" (20 mm)	13" (330 mm)	24" (620 mm)
HT350	0.50	1.00	0.70 (20)/rev	14" (340 mm)	15" (390 mm)	17" (420 mm)	8 x Ø12 mm	0.79" (20 mm)	16" (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)
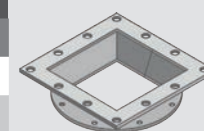
* Length varies dependent on motor selection — Units in inches rounded to the closest whole number
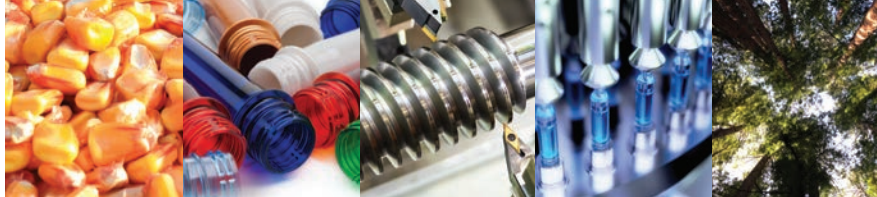
Certified Rotary Valve HTS Series

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
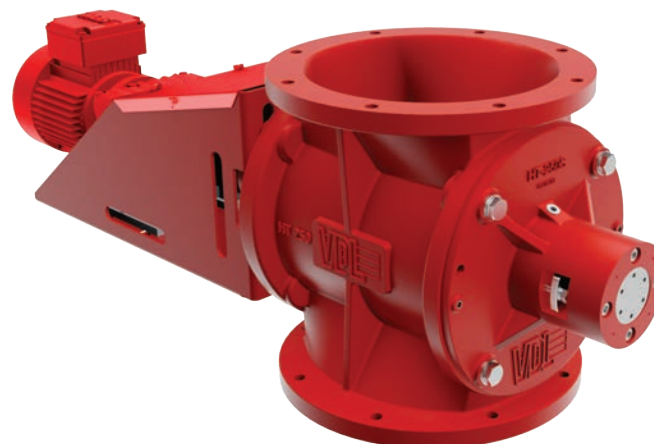
STANDARD FEATURES

- 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
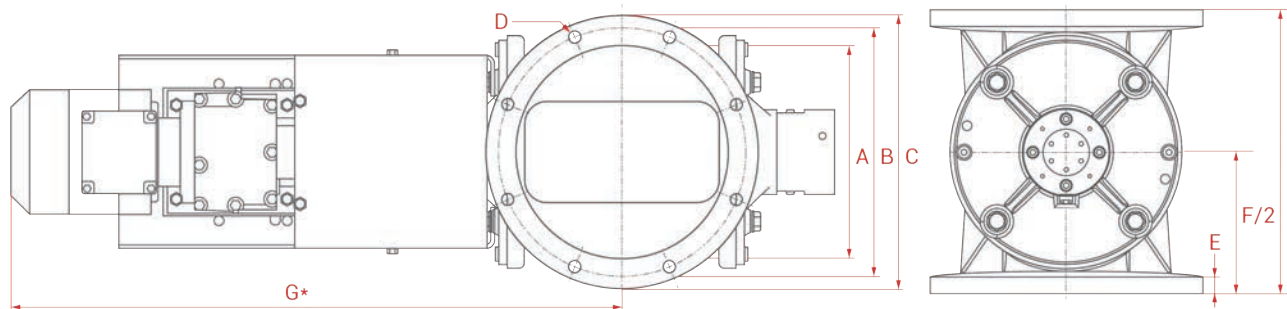
DIMENSIONS*										
MODEL	15 RPM HP	30 RPM HP	CAPACITY FT³ (LTR)	Ø A	Ø B	Ø C	D	E	F*	G
HTS250	0.33	0.75	0.24 (7)/rev	10'' (250 mm)	12" (290 mm)	13" (320 mm)	8 x Ø12 mm	0.79" (20 mm)	13" (330 mm)	28" (710 mm)
HTS350	0.50	1.00	0.70 (20)/rev	14'' (340 mm)	15" (390 mm)	17" (420 mm)	8 x Ø12 mm	0.79" (20 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)
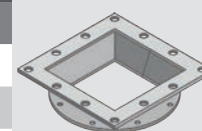
* Length varies dependent on motor selection — Units in inches rounded to the closest whole number
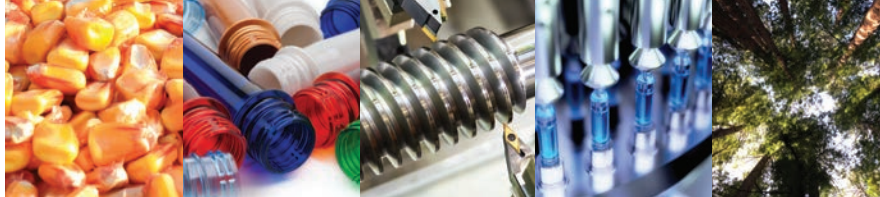
Certified Rotary Valve MD Series

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
- Nickle plating or chromium plating options
- Quick-clean valve housing design option
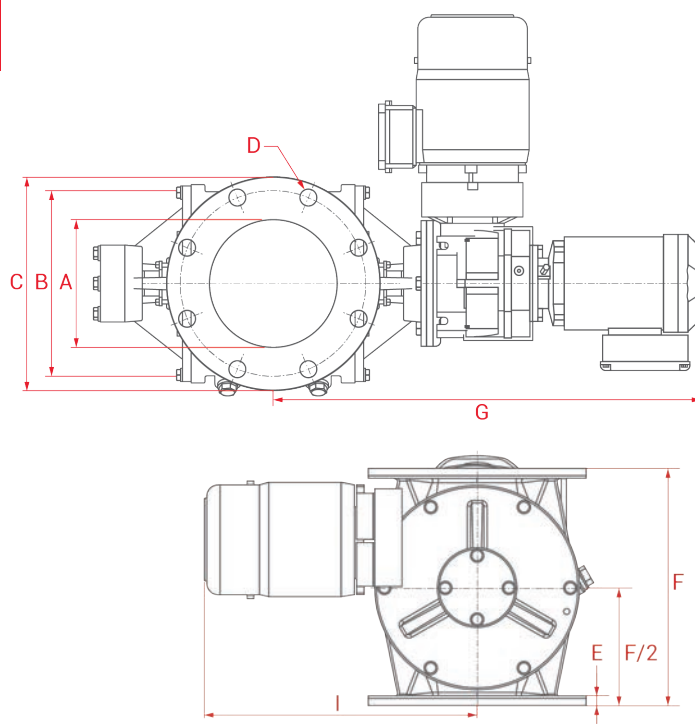
DIMENSIONS *											
MODEL	15 RPM HP	30 RPM HP	CAPACITY FT³ (LTR)	Ø A	Ø B	Ø C	D	E	F	G	H	I
MD150	0.50	0.75	0.10 (3)/rev	6" (150 mm)	9" (240 mm)	11" (285 mm)	8 x Ø23 mm	0.51" (13 mm)	10" (260 mm)		13" (330 mm)	14" (355 mm)
MD200	0.75	1.50	0.39 (11)/rev	8" (200 mm)	12" (300 mm)	13" (340 mm)	8 x Ø23 mm	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

BOSS PRODUCTS LLC
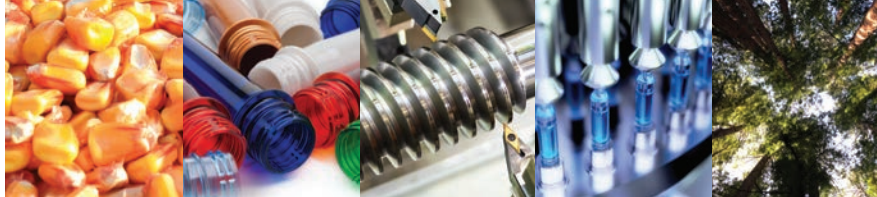
Certified Rotary Valve BS Series

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
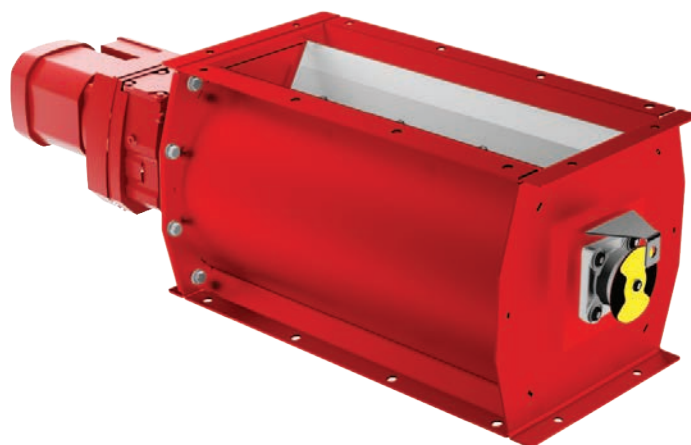
STANDARD FEATURES

- 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
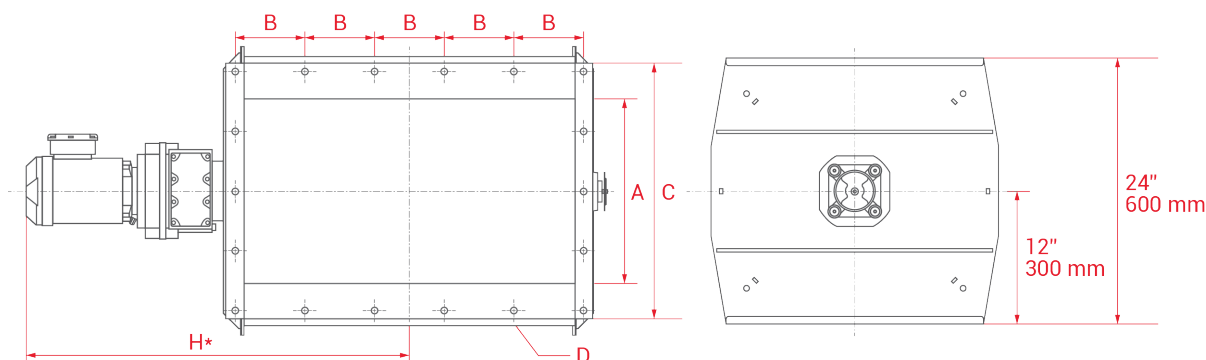
DIMENSIONS *								
MODEL	15 RPM HP	22 RPM HP	CAPACITY FT³ (LTR)	A	B	C	D	H
BS500	1.00		4.41 (125)/rev	20" x 20" (500 x 500 mm)	0.16" x 5.30" (4 x 135 mm)	23" x 23" (580 x 580 mm)	16 x Ø 10.5 mm	30" (742 mm)
BS750	1.00		6.64 (188)/rev	20" x 30" (500 x 750 mm)	0.20" x 6.22" (5 x 158 mm)	23" x 33" (580 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.

Hopper

Slide Gate

Grounding and Bonding Cables

Tool Free Sliding Coupler

55 gal Drum 34.5 in

Locking Drum Clamp

20 gal Drum 21.5 in

Heavy Duty 55gal Drum

Drum Dolly

STANDARD FEATURES

- Standard sizes : 10" -18", 55 galon 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

BOSS PRODUCTS LLC

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

55 GAL RAPTOR DRUM KIT

$25\frac{1}{4}$ " $31\frac{7}{16}$ " $54\frac{1}{16}$ "

HOW RAPTOR DRUM WORKS

HOPPER

SLIDE GATE

SLIDING COUPLER

DRUM LID

DRUM

VIGIL*EX*®
SAFETY PROTECTION *By* STIF
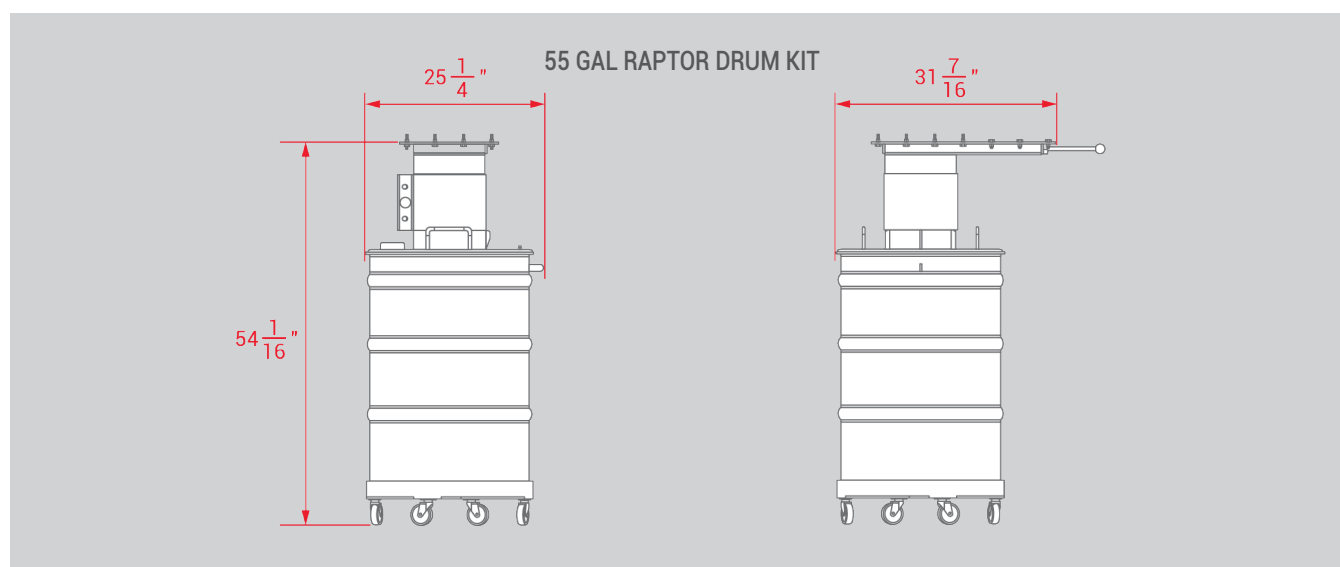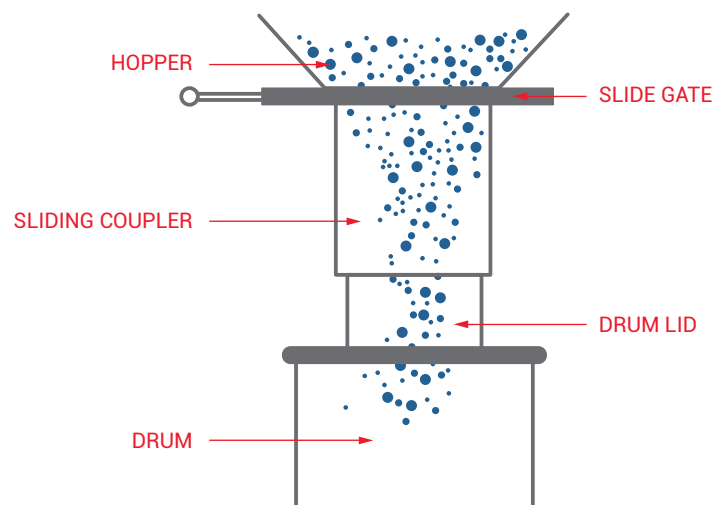
Flat Explosion Vent Panel VL

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

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

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

ACCESSORIES FOR VL

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

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RECTANGULAR & SQUARE DIMENSIONS

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft²	m²
7 x 19	170 x 470	**10 x 22**	250 x 550	**0.845**	0.078
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**	0.184
14 x 26	350 x 650	**17 x 29**	430 x 730	**2.427**	0.225
18 x 35	457 x 890	**21 x 38**	537 x 970	**4.348**	0.404
19 x 23	490 x 590	**22 x 26**	570 x 670	**3.084**	0.286
23 x 36	586 x 920	**26 x 39**	666 x 1000	**5.769**	0.536
24 x 24	610 x 610	**27 x 27**	690 x 690	**3.977**	0.369
24 x 36	610 x 920	**27 x 39**	690 x 1000	**6.230**	0.561
36 x 44	915 x 1118	**39 x 47**	996 x 1198	**10.978**	1.020
36 x 36	920 x 920	**39 x 39**	1000 x 1000	**9.068**	0.842
44 x 44	1130 x 1130	**48 x 48**	1220 x 1220	**13.690**	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.	ft²	m²
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
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 990	**7.065**	0.656
39	Ø 990	**42**	Ø 1070	**8.290**	0.770

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

Other sizes available

Custom sizes and shapes available

VIGILEX®

SAFETY PROTECTION *By* STIF

Domed Explosion Vent Panel VD

APPLICATIONS

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

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

BOSS PRODUCTS LLC

RECTANGULAR & SQUARE DIMENSIONS

INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA		INTERNAL DIMENSION		EXTERNAL DIMENSION		AREA	
Inches	mm.	Inches	mm.	ft²	m²	Inches	mm.	Inches	mm.	ft²	m²
6x24	150x600	9x27	230x680	0.953	0.089	20x28	457x890	21x38	537x970	4.349	0.404
6x19	170x470	10x22	250x550	0.845	0.079	18x24	470x610	22x27	550x690	3.062	0.285
8x11	205x290	11x15	285x370	0.624	0.058	19x19	490x490	22x22	570x570	2.562	0.238
9x17	220x420	12x20	300x500	0.980	0.091	19x23	490x590	22x26	570x670	3.084	0.287
9x9	229x229	12x12	310x310	0.554	0.052	21x26	525x668	25x30	630x765	3.660	0.340
9x12	229x305	12x15	310x386	0.743	0.069	23x36	586x920	26x39	666x1000	5.769	0.536
10x24	247x610	13x27	327x690	1.604	0.149	24x24	610x610	27x27	690x690	3.977	0.370
11x18	270x458	14x21	350x538	1.313	0.122	24x44	610x1118	27x47	690x1198	7.303	0.679
12x20	300x500	15x23	380x580	1.593	0.148	25x25	645x645	29x29	735x735	4.445	0.413
12x18	305x457	15x21	386x538	1.496	0.139	25x44	645x1130	29x44	735x1220	7.804	0.725
12x24	305x610	15x28	386x690	1.991	0.185	26x26	653x653	29x29	740x740	4.585	0.426
13x15	340x385	16x18	404x449	1.345	0.125	36x44	915x1118	39x47	996x1198	10.979	1.020
13x17	340x440	16x20	404x504	1.539	0.143	36x36	920x920	39x39	1000x1000	9.069	0.843
14x26	350x350	17x29	430x730	2.433	0.226	36x54	920x1380	39x57	1000x1460	13.369	1.242
15x26	375x655	18x29	460x740	2.637	0.245	39x39	980x980	43x43	1080x1080	10.333	0.960
16x16	410x410	19x19	480x480	1.787	0.166	40x40	1020x1020	43x43	1100x1100	11.151	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.	ft²	m²
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
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 990	7.065	0.656
39	Ø 980	42	Ø 1070	8.290	0.770
47	Ø 1200	51	Ø 1290	12.665	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)**.

EHEDG

EUROPEAN HYGIENIC ENGINEERING & DESIGN GROUP

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

CERTIFIED EHEDG
TYPE EL
CLASS I
MAY 2025

Ex CE NFPA

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

BOSS PRODUCTS LLC

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

DIMENSIONS

INTERNAL DIMENSION		EXTERNAL DIMENSION		BOLTS	MAX VACUUM		AREA		UNIT WEIGHT	
Inches	mm.	Inches	mm.	qty	in.WC	mbar	ft²	cm²	lbs	kg
7 x 19	170 x 470	10 x 22	250 x 550	16	-201	-500	0.84	785	7.5	3.4
8 x 11	205 x 290	11 x 15	285 x 370	14	-201	-500	0.62	580	2.43	1.1
9 x 17	220 x 420	12 x 20	300 x 500	16	-201	-500	0.98	910	5.29	2.4
9 x 9	229 x 229	12 x 12	310 x 310	12	-121	-300	0.55	515	1.81	0.82
9 x 12	229 x 305	12 x 15	310 x 386	14	-201	-500	0.74	690	4.08	1.85
10 x 24	247 x 610	13 x 27	327 x 690	20	-201	-500	1.6	1485	5.95	2.7
11 x 18	270 x 458	14 x 21	350 x 538	18	-201	-500	1.31	1220	7.94	3.6
12 x 20	300 x 500	15 x 23	380 x 580	20	-201	-500	1.59	1480	9.7	4.4
12 x 18	305 x 457	15 x 21	386 x 538	18	-201	-500	1.49	1385	7.43	3.37
12 x 24	305 x 610	15 x 27	386 x 690	22	-201	-500	1.99	1845	9.7	4.4
13 x 17	340 x 440	16 x 20	404 x 504	16	-201	-500	1.54	1430	7.65	3.47
14 x 26	350 x 650	17 x 29	430 x 730	22	-201	-500	2.43	2255	15.1	6.85
15 x 26	375 x 655	18 x 29	460 x 740	16	-193	-480	2.63	2445	11.9	5.4
16 x 16	410 x 410	19 x 19	480 x 480	12	-201	-500	1.79	1660	7.28	3.3
19 x 19	490 x 490	22 x 22	570 x 570	24	-201	-500	2.56	2380	15.72	7.13
19 x 23	490x 590	22 x 26	570 x 670	26	-201	-500	3.08	2865	12.13	5.5
19 x 24	470 x 610	22 x 27	550 x 690	24	-161	-400	3.06	2845	12.13	5.5
18 x 35	457 x 890	21 x 38	537 x 970	28	-201	-500	4.35	4040	18.52	8.4
23 x 36	586 x 920	26 x 39	666 x 1000	34	-121	-300	5.77	5360	27.12	12.3
23 x 36	586 x 920	26 x 39	666 x 1000	34	-201	-500	5.77	5360	30.42	13.8
24 x 24	610 x 610	27 x 27	690 x 690	24	-201	-500	3.98	3695	21.38	9.7
26 x 26	653 x 653	29 x 29	735 x 735	28	-201	-500	4.59	4260	19.18	8.7

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

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**

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%

VIGILEX®

SAFETY PROTECTION By STIF

Flameless Explosion Vent VIGIFLAM Vİ

APPLICATIONS

The **flameless explosion vent VIGIFLAM Vİ** is designed in a rectangular shape and consists of three main components: the body, a metal filter composed of several layers to cool flames, and a new innovative explosion panel. This stainless steel membrane is weakened in the middle allowing to rupture when excessive overpressure occurs inside the enclosure intended to be protected.

The purpose of the **VIGIFLAM Vİ** is to neutralize the flame effects produced during an explosion, which would typically vent through a standard explosion panel. By containing the flames, it helps protect both people and property within a building or room.

The **VIGIFLAM Vİ** is specifically optimized for conveyors - bucket, belt, chain, and screw conveyors - due to its compact and efficient design, making it suitable for protecting such equipment in industrial settings.
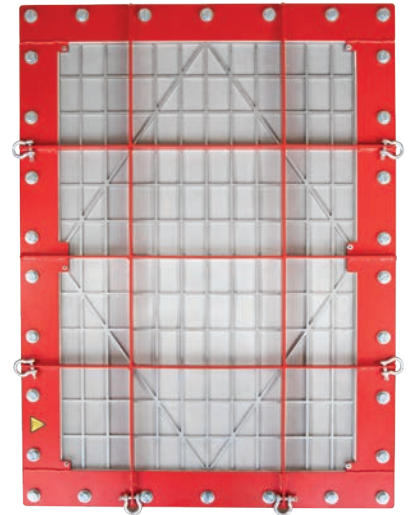
CERTIFICATIONS & STANDARDS

Ex II D

EN 16009

EC Certificate:
GEX 24ATEX 1036X

Production quality assurance notification :
INERIS 08ATEXQ406

CERTIFIED FOR:
• Organic dust
• Fiber dus*t*

STANDARD FEATURES

- Vent panel
- Mild steel body + coating
- 304 Stainless steel mesh
- Integrated Silicone gasket
- Integrated burst sensor
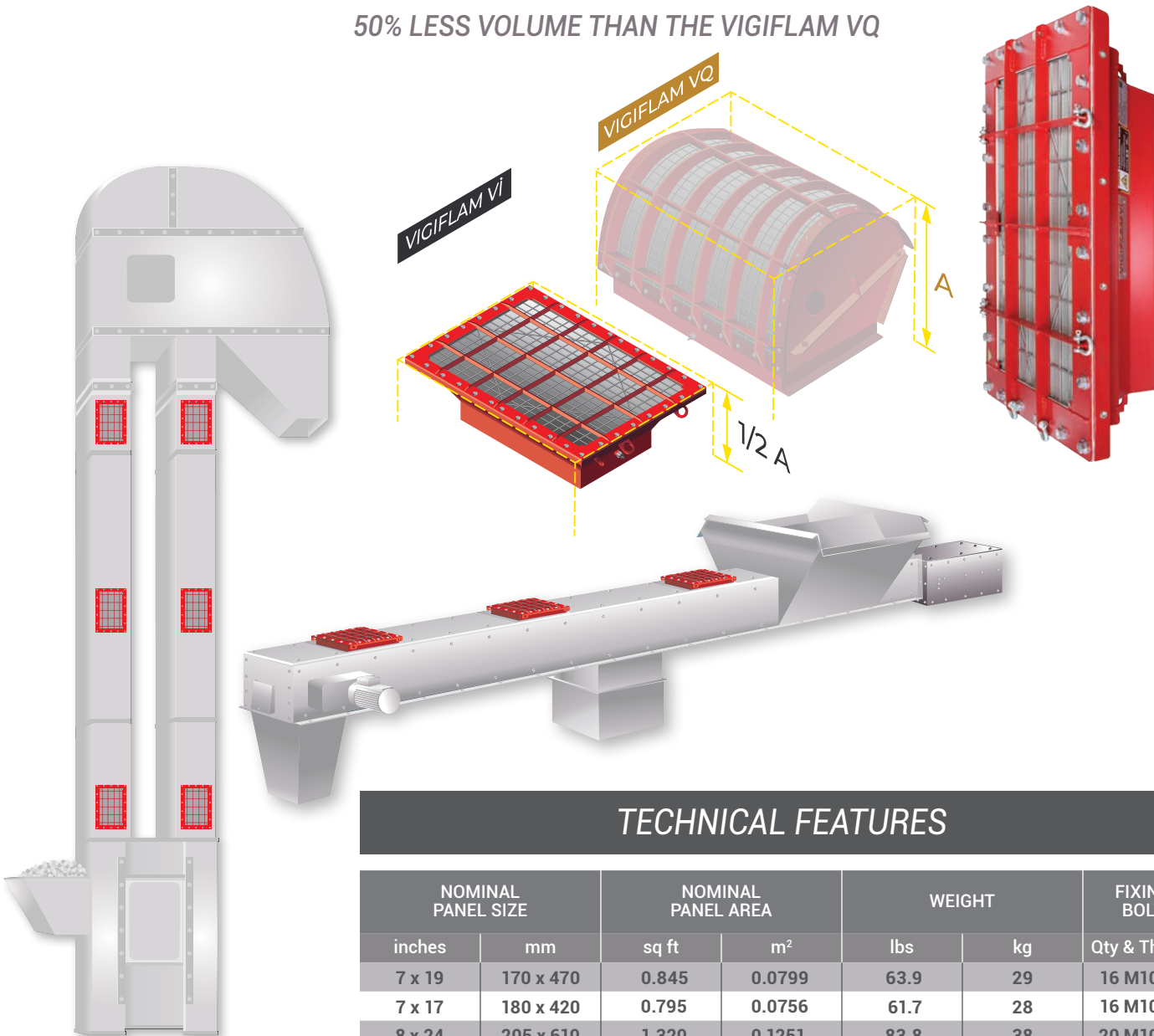
OPTIONAL FEATURES

- Waterproof sanitary cover

BOSS PRODUCTS LLC

APPLICATIONS

The **VIGIFLAM Vİ** is a flameless explosion vent for bucket elevators & belt conveyors.

50% LESS VOLUME THAN THE VIGIFLAM VQ

TECHNICAL FEATURES

NOMINAL PANEL SIZE		NOMINAL PANEL AREA		WEIGHT		FIXING BOLT
inches	mm	sq ft	m²	lbs	kg	Qty & Thread
7 x 19	170 x 470	0.845	0.0799	63.9	29	16 M10
7 x 17	180 x 420	0.795	0.0756	61.7	28	16 M10
8 x 24	205 x 610	1.320	0.1251	83.8	38	20 M10
11 x 18	270 x 458	1.315	0.1237	88.2	40	18 M10
12 x 24	305 x 610	1.980	0.1861	121.3	55	22 M10
14 x 26	350 x 650	2.420	0.2275	147.7	67	22 M10
19 x 23	490 x 590	3.085	0.2891	173.4	80	26 M10

Kst max ≤ 200 bar m/s	Pmax : 9.4 bar	Pred : 1 bar	Pstat ≤ 0.1 bar (±20%)

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 DETAILS

FLAMELESS VQ LW(Light weight): Pred 7.25psi (0.5 bar)
FLAMELESS VQ HW(Heavy weight): Pred 33.3psi (2.3 bar)

EV-VQ SPECIFICATIONS

VIGILEX VQ		IN COMBINATION WITH VENT PANEL				WEIGHT LB/KG				BOLT SPECS	
		Nominal Size		Nominal Square							
Inches	mm.	Inches	mm.	Inches	mm.	VQ LW		VQ HW		Qty	Size
7 x 19	170 x 470	7 x 19	170 x 470	0.845	0.0785	105.8 lb	48 kg	130.1 lb	59 kg	20	M10 x 30
11 x 18	270 x 458	11 x 18	270 x 458	1.315	0.1220	132.3 lb	60 kg	163.1 lb	74 kg	22	M10 x 30
12 x 20	300 x 500	12 x 20	300 x 500	1.595	0.1480	147.7 lb	67 kg	180.8 lb	82 kg	24	M10 x 30
12 x 24	305 x 610	12 x 24	305 x 610	1.980	0.1840	174.2 lb	79 kg	211.6 lb	96 kg	26	M10 x 30
14 x 26	350 x 650	14 x 26	350 x 650	2.425	0.2250	185.2 lb	84 kg	222.7 lb	101 kg	26	M10 x 30
19 x 23	490 x 590	19 x 23	490 x 590	3.084	0.2865	207.2 lb	94 kg	271.2 lb	123 kg	32	M10 x 30
24 x 24	610 x 610	24 x 24	610 x 610	3.975	0.3695	246.9 lb	112 kg	324.1 lb	147 kg	32	M10 x 30
18 x 35	457 x 890	18 x 35	457 x 890	4.349	0.4040	257.9 lb	117 kg	335.1 lb	152 kg	34	M10 x 30
23 x 36	586 x 920	23 x 36	586 x 920	5.770	0.5360	299.3 lb	136 kg	392.4 lb	178 kg	42	M10 x 30
25 x 44	645 x 1130	25 x 44	645 x 1130	7.804	0.7250	489.4 lb	222 kg	229.1 lb	240 kg	34	M10 x 30
36 x 36	920 x 920	36 x 36	920 x 920	9.068	0.8425	698.9 lb	317 kg	1413.2 lb	641 kg	50	M10 x 30
44 x 44	1130 x 1130	44 x 44	1130 x 1130	13.696	1.2720	974.4 lb	442 kg	1768.1 lb	802 kg	58	M10 x 30

ADVANTAGES

Inspection * window

* Only available on VQ LW

Access door
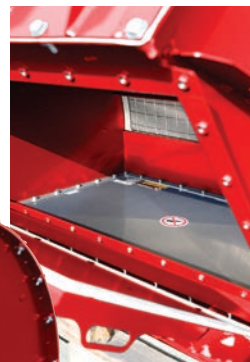
TECHNICAL INFORMATION

VQ LW	Kst max = 500	Pmax ≤ 145 psi (10 bar)	Pred ≤ 7 psi (0.5 bar)	Pstat = 1.45 to 4.35 psi (0.1 to 0.3 bar)
VQ HW	Kst max = 500	Pmax ≤ 145 psi (10 bar)	Pred ≤ 33.3 psi (2.3 bar) *	Pstat = 1.45 to 7.25 psi (0.1 to 0.5 bar)

* Pred < 26.8 psi (1.85 bar) for VQ HW > 586x920

VIGIL**EX**®
SAFETY PROTECTION *By* STIF

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.
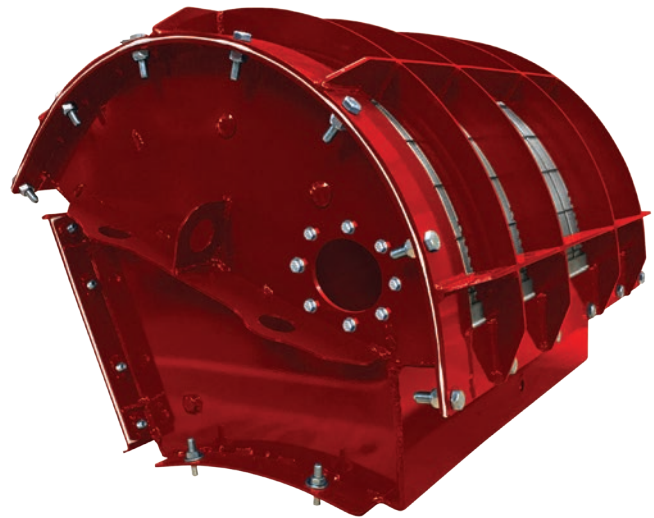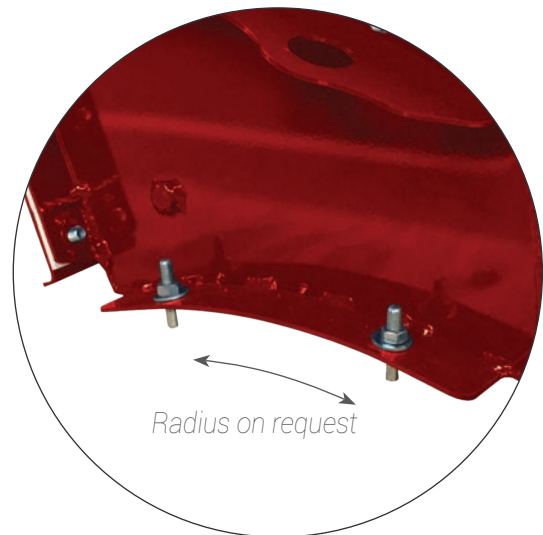

STANDARD FEATURES

- **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

Radius on request

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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.
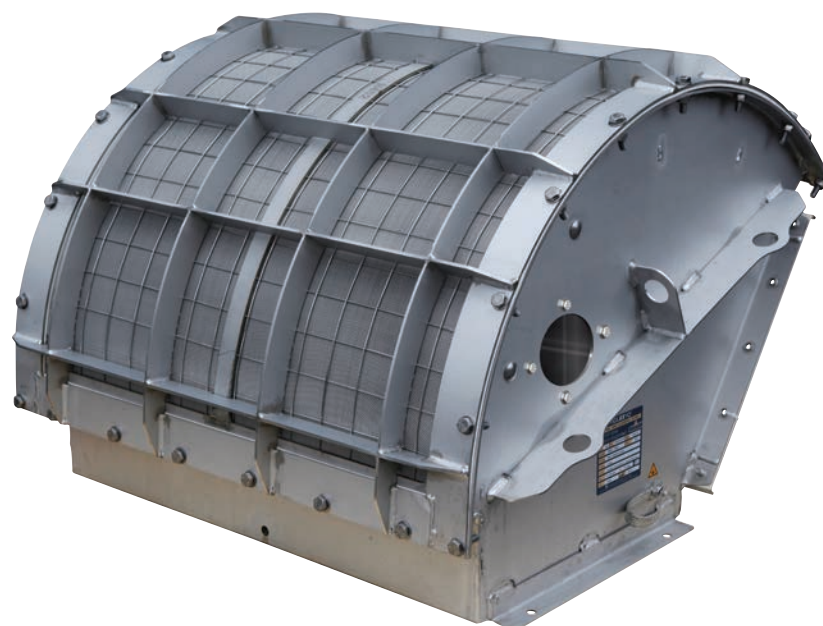
STANDARD FEATURES

- **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

RAPTOR SPARK

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

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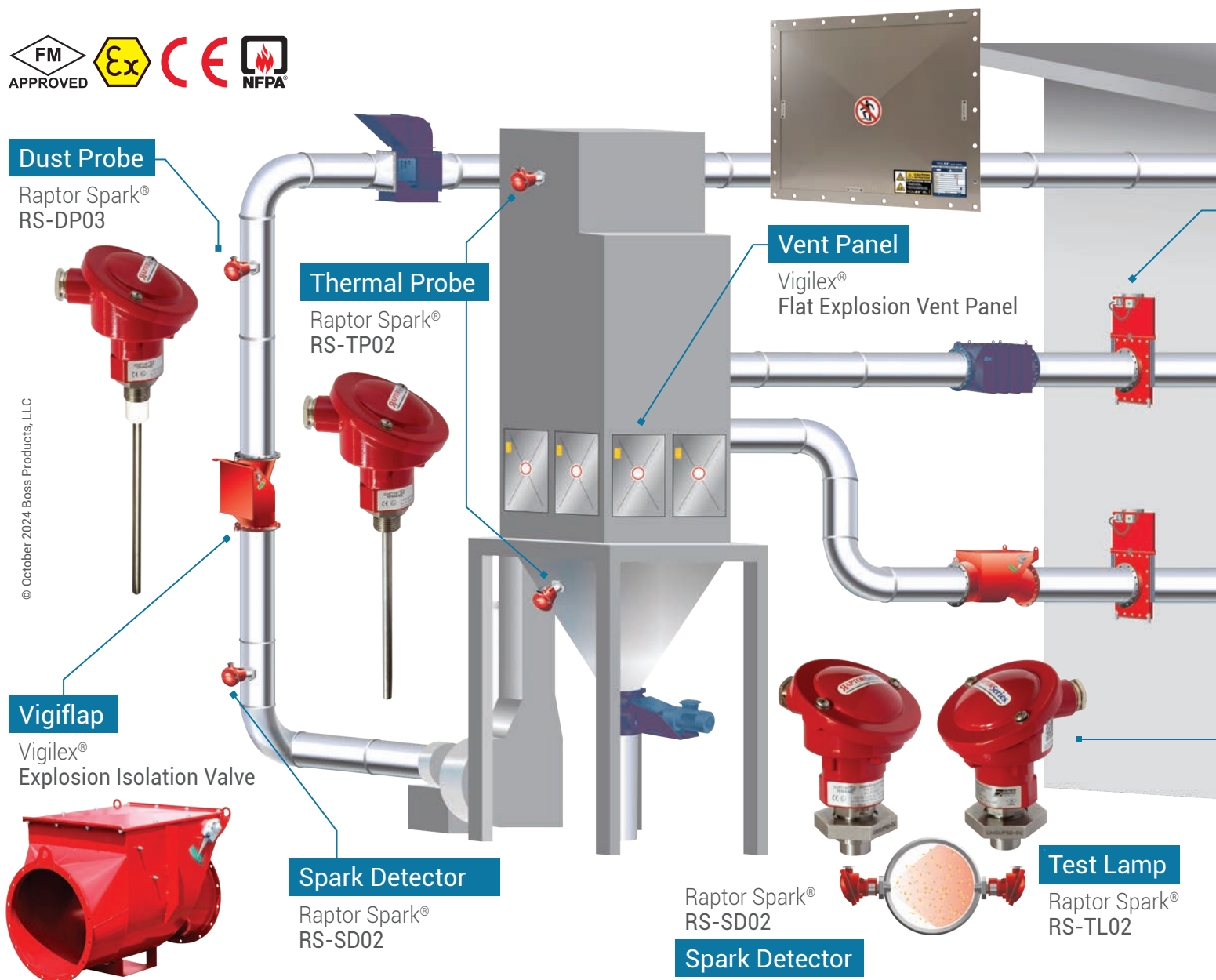
Dust Probe

Raptor Spark®
RS-DP03

Thermal Probe

Raptor Spark®
RS-TP02

Vent Panel

Vigilex®
Flat Explosion Vent Panel

Vigiflap

Vigilex®
Explosion Isolation Valve

Spark Detector

Raptor Spark®
RS-SD02
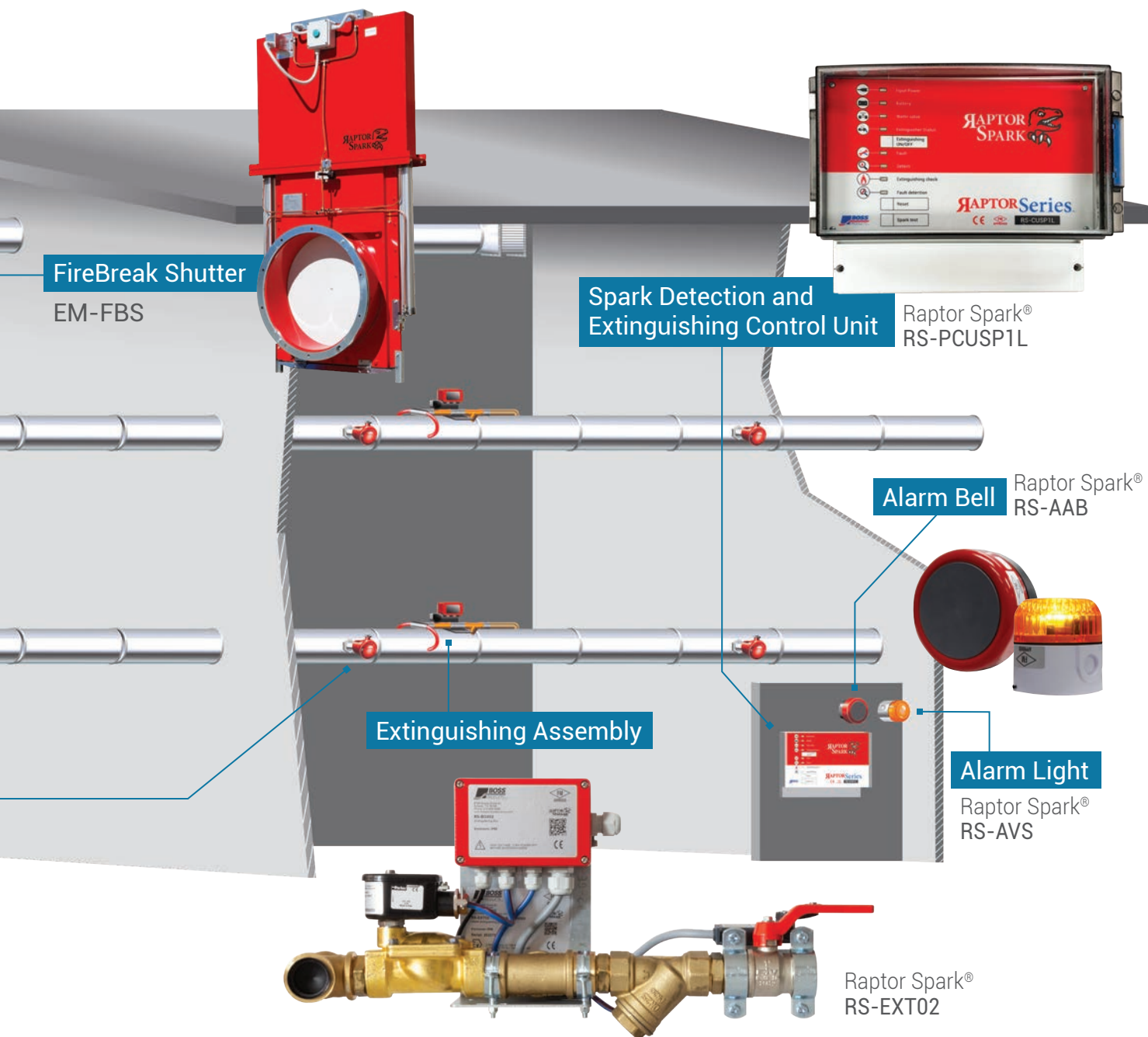
Raptor Spark®
RS-SD02

Spark Detector

Test Lamp

Raptor Spark®
RS-TL02

BOSS PRODUCTS LLC

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.

FireBreak Shutter
EM-FBS

Spark Detection and Extinguishing Control Unit
Raptor Spark®
RS-PCUSP1L

Alarm Bell
Raptor Spark®
RS-AAB

Extinguishing Assembly

Alarm Light
Raptor Spark®
RS-AVS

Raptor Spark®
RS-EXT02

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PRODUCTS LLC

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. T**he 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**.

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 RS-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**.
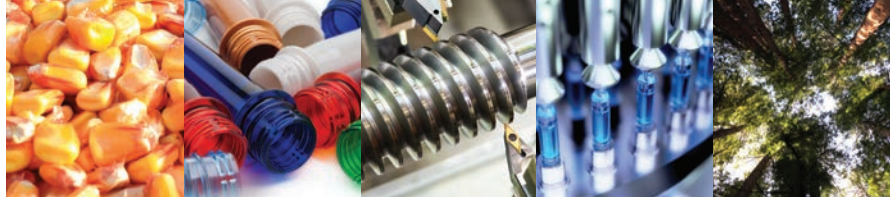
Thermal Probe RS-TP02

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 electrode** 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 electrode) 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**.
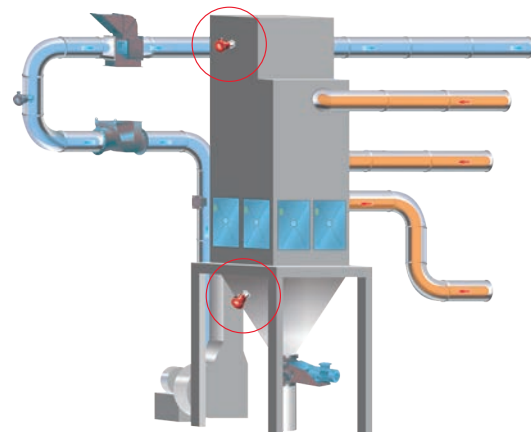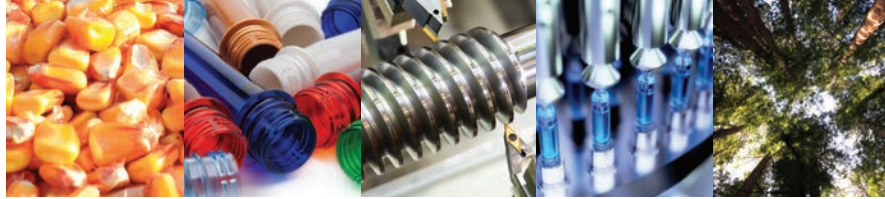
CERTIFICATIONS & STANDARDS
ATEX Zone 22
CE
FM Approved

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)**
- Electrode Measurement Range: **-40°F to 302°F (-40°C to 150°C)**

Dust Probe (Broken Bag Detector) RS-DP

PRODUCT CODE: 57502

APPLICATIONS

The **Dust Probe RS-DP** 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.
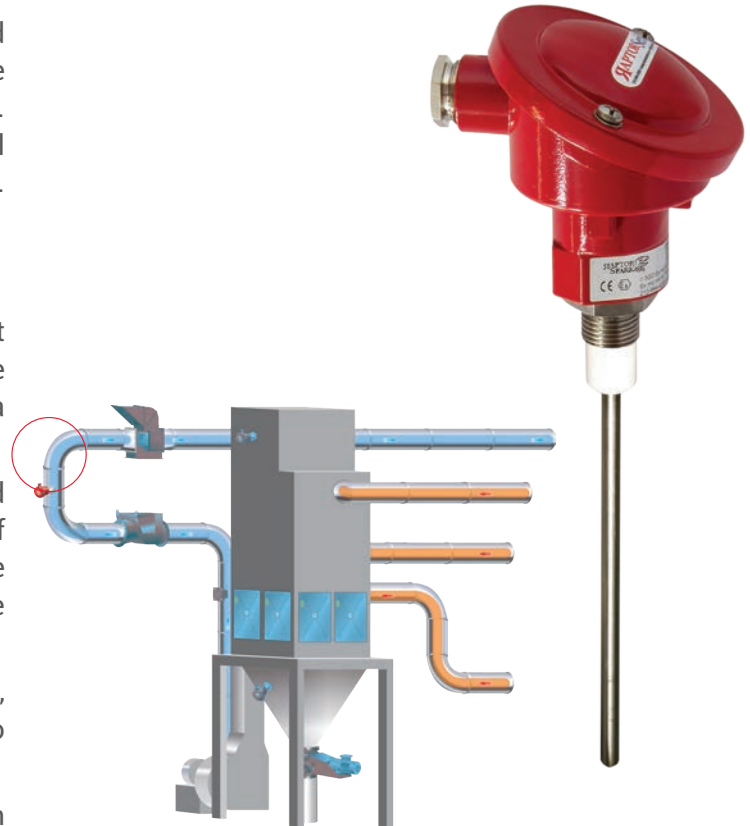
STANDARD FEATURES

- **Min Air Speed:** 787 FPM (4m/s)
- **Min Particle Size:** 0.3µm
- **Voltage:** 24-30VDC
- **Max Working Temperature:** 284°F(140°C)
- **Enclosure Material:** Die-Cast Aluminum
- **Protection:** IP 65
- **Electrode Material:** AISI Steel 304
- **Electrode dimensions:** ⌀ = 0.31in ; L = 9.84in

Model	Resolution	Threshold 1	Threshold 2	Output 4-20mA	Scale @20mA	Autoacquisition	RS485
RS-DP03	10×10^{-8} oz/cu.ft 0.1 mg/m^3	5×10^{-6} oz/cu.ft 5 mg/m^3	10×10^{-6} oz/cu.ft 10 mg/m^3	NO	–	YES	YES
RS-DP05	10×10^{-8} oz/cu.ft 0.1 mg/m^3	5×10^{-6} oz/cu.ft 5 mg/m^3	10×10^{-6} oz/cu.ft 10 mg/m^3	YES	10×10^{-6} / 5×10^{-5} oz/cu.ft 10/50 mg/m^3	NO	YES
RS-DP06	10×10^{-9} oz/cu.ft 0.01 mg/m^3	10×10^{-7} oz/cu.ft 1 mg/m^3	20×10^{-7} oz/cu.ft 2 mg/m^3	YES	20×10^{-7} / 10×10^{-6} oz/cu.ft 2/10 mg/m^3	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**.

Intlet water

Outlet water

Inlet air

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 exeed 23 ft**.
The choice of model capacity is based on the number of nozzles.

COMPONENTS

1 - Air tank manometer
2 - Outler 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"
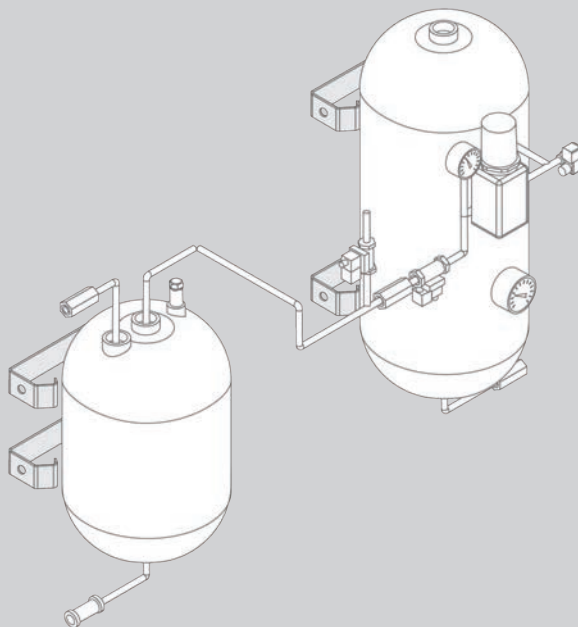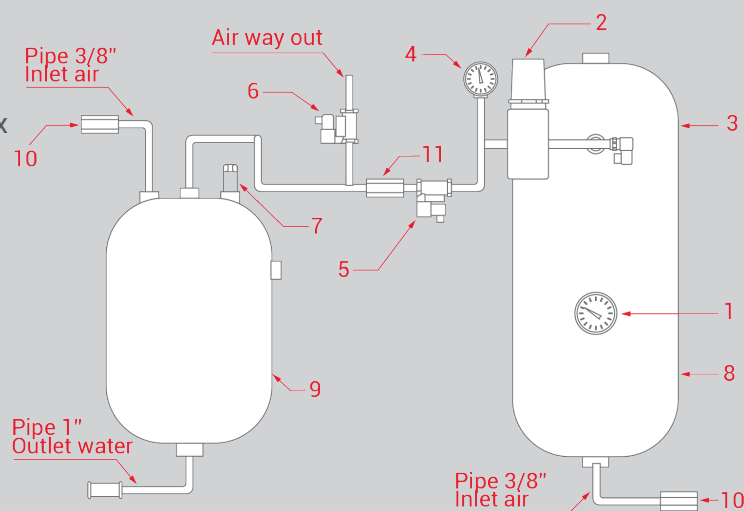
Raptor Shield™ (Spark Trap)

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

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 mesure 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.

Impingement Blades

Screen Trap

Clean-Out Door
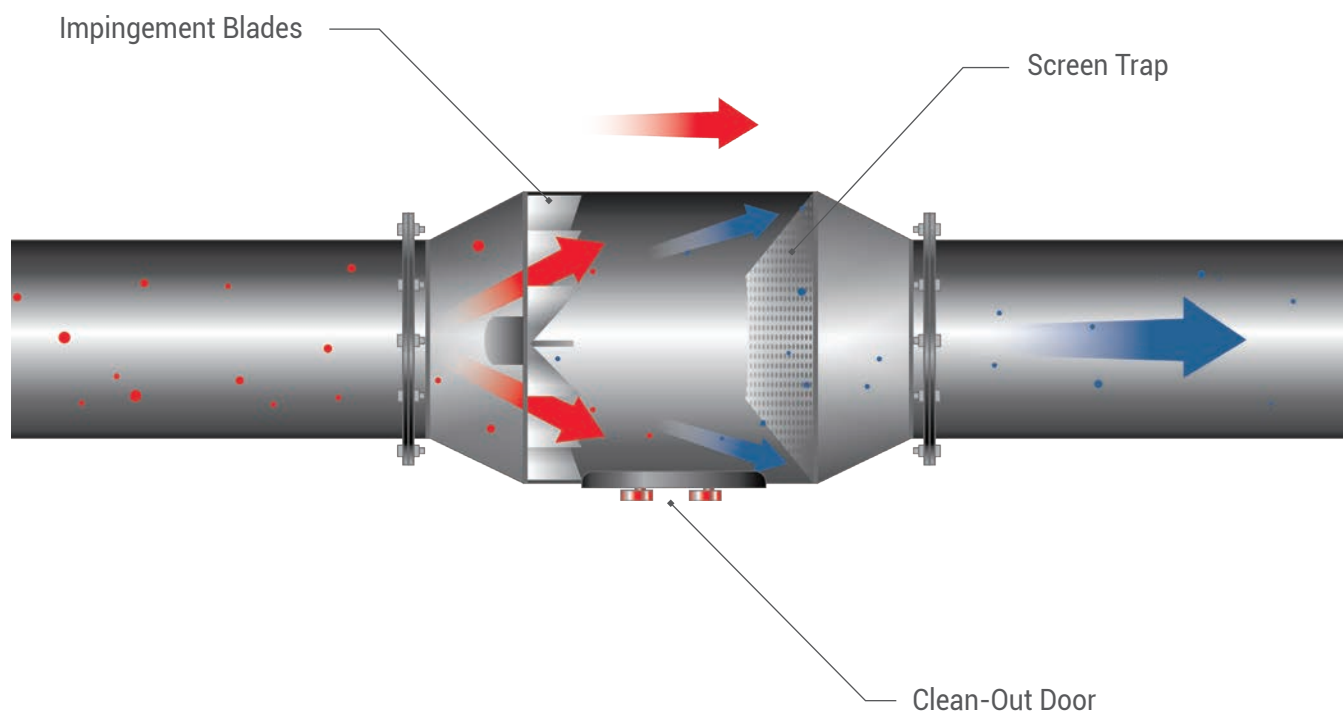
CO$_2$ Fire Suppression System

APPLICATIONS

The **Raptor Breath™ CO$_2$ Fire Suppression System** has the capability to provide protection from class A, B, and C fires in dust collecting vessels up to **900ft³**.

STANDARD FEATURES

- The package comes fully assembled in an enclosure that requires hoses to be mounted onto the dust collector for operation
- This system utilizes 50 lbs. **CO² 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

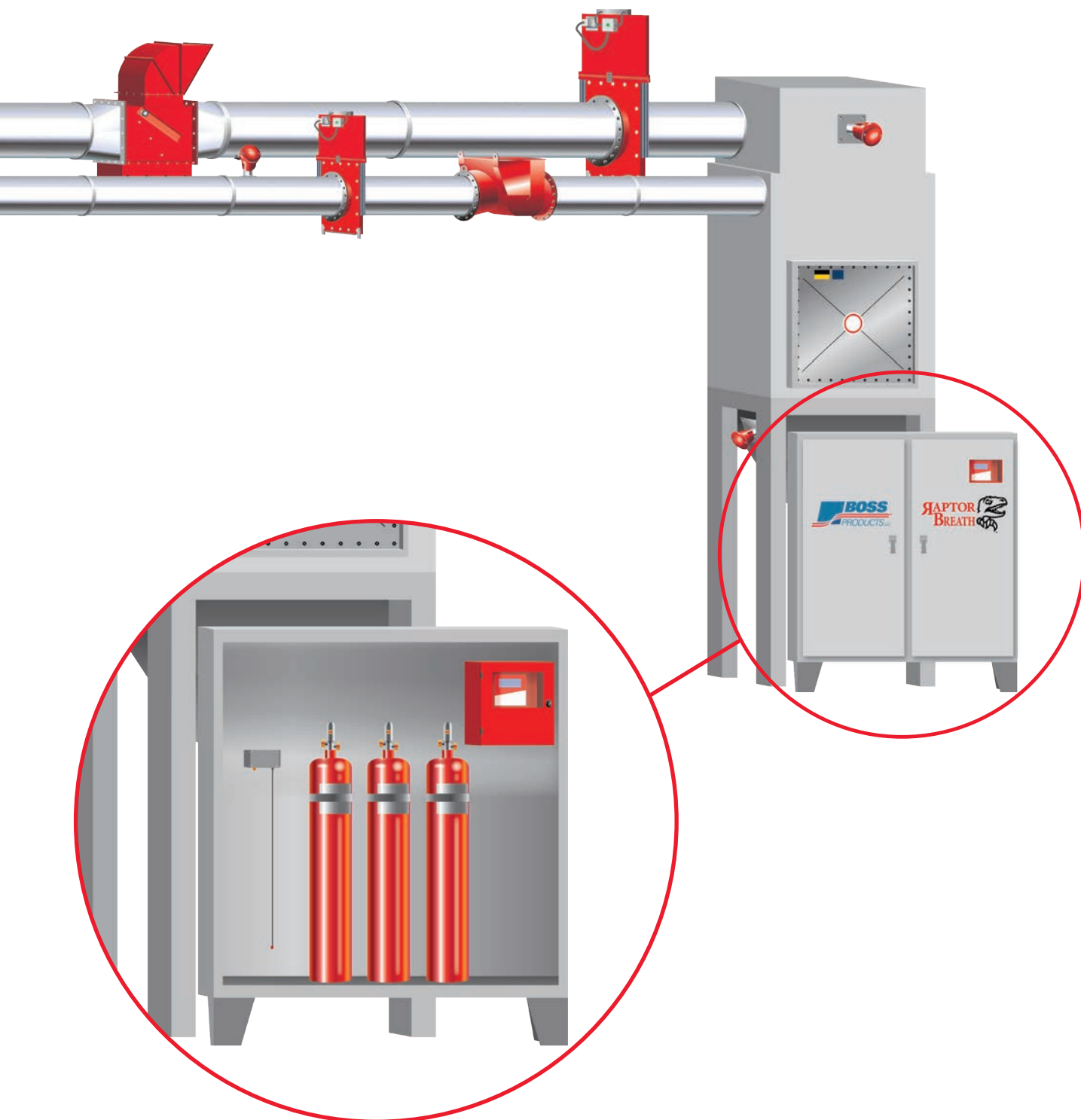- 300ft³: 60" H x 60" W x 18" D
- 600ft³ to 900ft³: 72" H x 60" W x 18" D

ACCESSORIES FOR CO² FIRE SUPPRESSION SYSTEM

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

INSTALLATION INFORMATION

Heavy Duty High Speed Abort Gate

APPLICATIONS

The **Raptor Gate™ Heavy-Duty High-Speed Abort Gate** is an important part of returning clean air back into a facility.

The **Raptor Gate™ Heavy-Duty High-Speed Abort Gate** can be placed on the clean/return air side of the dust collector to redirect sparks, flames, embers, and contaminated air to a safe location.

Raptor Spark Detection, Thermal Probes, and Dust Probes activate the Raptor Single Zone or CU1610 multi-zone control panels in the event of a fire or filter failure in the dust collector.

It's another Boss Products innovated tailored safety solution to keep personnel, processes, and the facility 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 fully welded 10-gauge carbon steel construction
- Linear actuator 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
- Available Sizes 4" (400 CFM) through 72" (87,500 CFM)
- 115-volt AC Control Panel

OPTIONAL FEATURES

- Inlet/Outlet Square to Round Transitions
- Support Stand
- Service Platform with ladder
- Bird screen

FEATURES

- Terminals to interlock with Raptor Spark detection system for activation
- 10 gauge carbon steel construction and precise, strong welds ensure the most durable product
- Manual reset type with hand-crank actuator. Push button reset type with electric assist
- Electromagnets are fail-safe and use gate accelerating springs for the fastest gate closure
- Meets all NFPA standards, including NFPA 652 and industry-specific standards
- All abort gates tested prior to shipment for superior performance

Raptor Gate – Heavy Duty High Speed Abort Gate- Raptor Series			
Ø Range	Max Ø Square Dim	Max Airflow@3500FPM	Reset Type
04" - 20"	20"(18"x18")	7,875	Manual
21" - 25"	25"(23"x23")	12,858	Manual
26" - 31"	31"(28"x28")	19,055	Manual
32" - 38"	38"(34"x34")	28,098	Push Button
39" - 42"	42"(38"x38")	35,098	Push Button
43" - 48"	48"(43"x43")	44,940	Push Button
49" - 54"	54"(48"x48")	56,000	Push Button
55" - 58"	58"(52"x52")	65,722	Push Button
59" - 72"	72"(60"x60")	87,500	Push Button

RS-PRA Packaged Return Air Kits with Raptor Gate – Raptor Series	
Ø Range	Control and Qty of Detectors
04" - 20"	(1) CUSP1L Panel, (2) Detectors
21" - 25"	(1) CUSP1L Panel, (2) Detectors
26" - 31"	(1) CUSP1L Panel, (2) Detectors
32" - 38"	(1) CUSP1L Panel, (2) Detectors
39" - 42"	(1) CUSP1L Panel, (3) Detectors
43" - 48"	(1) CUSP1L Panel, (3) Detectors
49" - 54"	(1) CUSP1L Panel, (3) Detectors
55" - 58"	(1) CUSP1L Panel, (3) Detectors
59" - 72"	(1) CUSP1L Panel, (3) Detectors

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

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
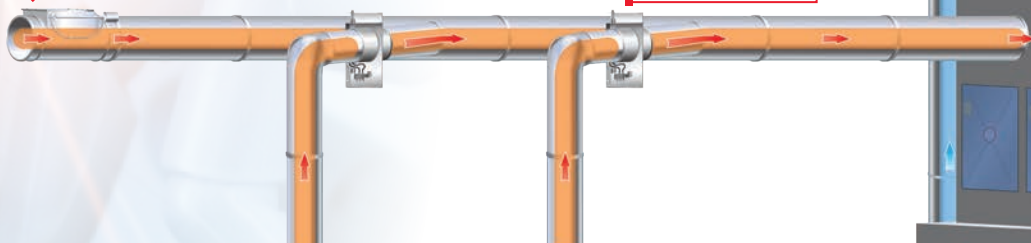
Magnetic & Pneumatic
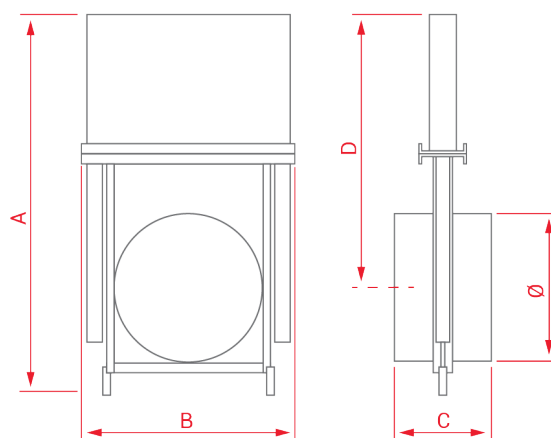
Controls & Automation

EB-ABG
ECOBOSS®
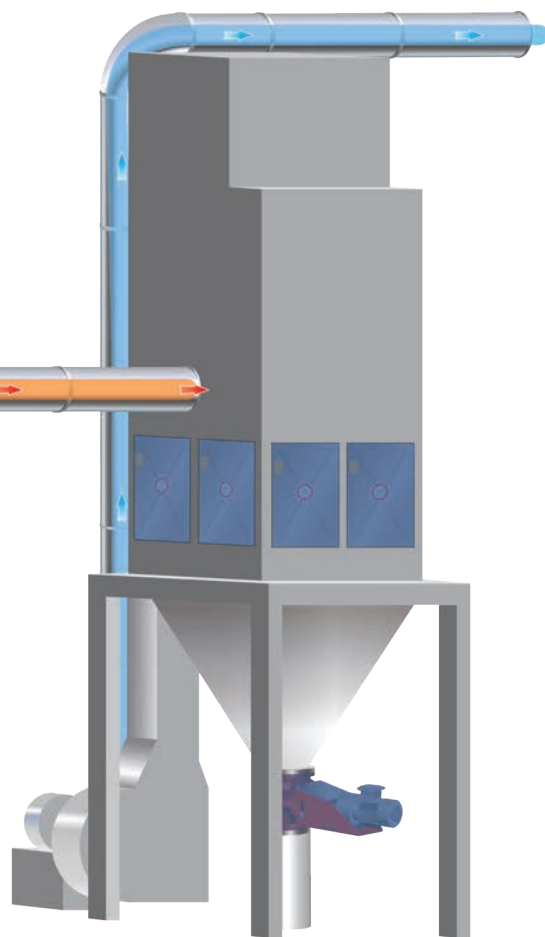Automatic blast gates

EB-BDHD
ECOBOSS® Heavy duty barometric dampers

EB-PBU
ECOBOSS®
Power box ultimate

EB-SVD
ECOBOSS® Stand alone variable speed drive

57

Modern 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 21st 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.**
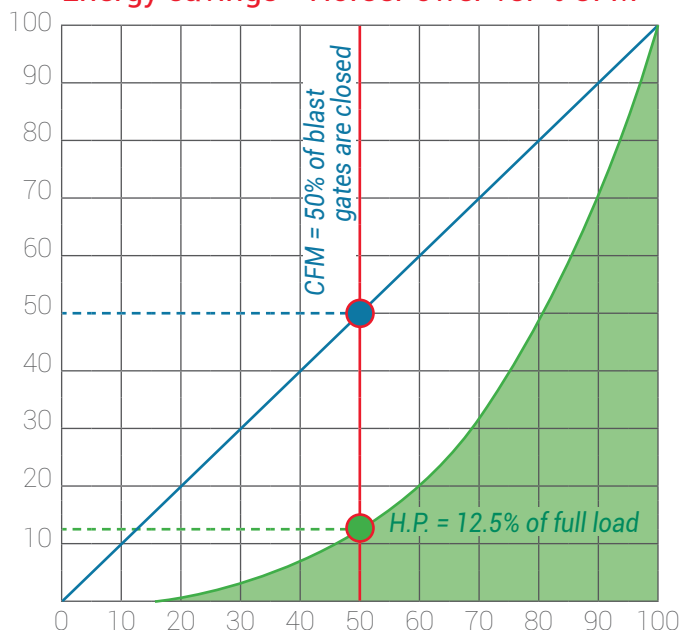
Typical industrial ventilation systems are designed to operate at full capacity. Extensive observation and case studies have shown that **actual spindle run time** rarely approaches 50% of full capacity during 90% of an average monthly production cycle !

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.

CERTIFICATIONS & STANDARDS

c (UL) us **LISTED**   (UL)®   UL 508A / 698 A Registered Firm

Energy savings - HorsePower vs. % CFM

CFM = 50% of blast gates are closed

H.P. = 12.5% of full load

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.

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

UL 508A / 698 A Registered Firm

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 !
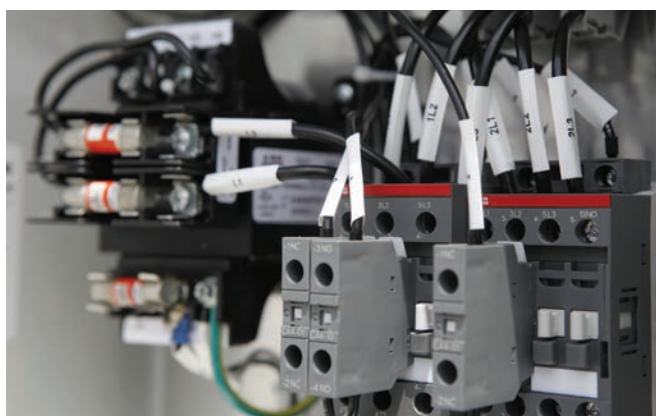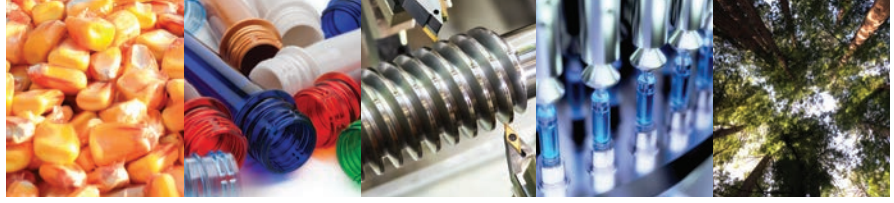
Automatic Blast Gates EB-ABG

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"

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

Protective Case (Optional)

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 **90º** 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
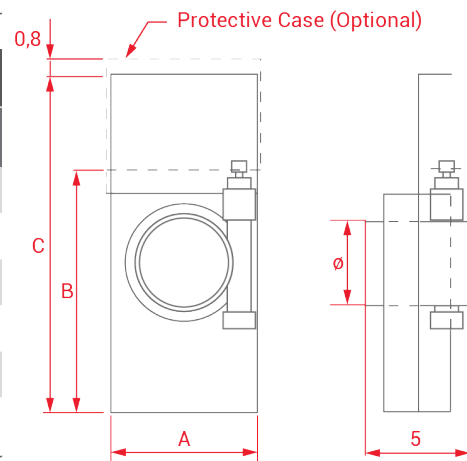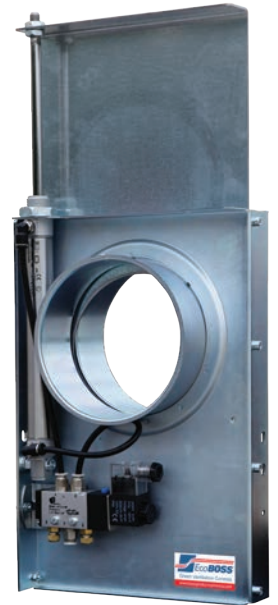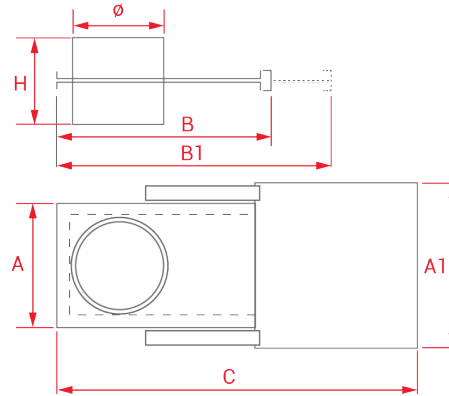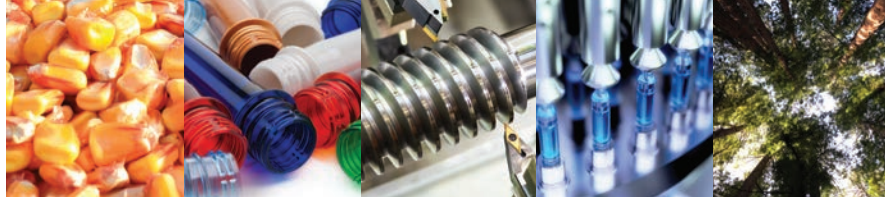
OPTIONAL FEATURES

- **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

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"

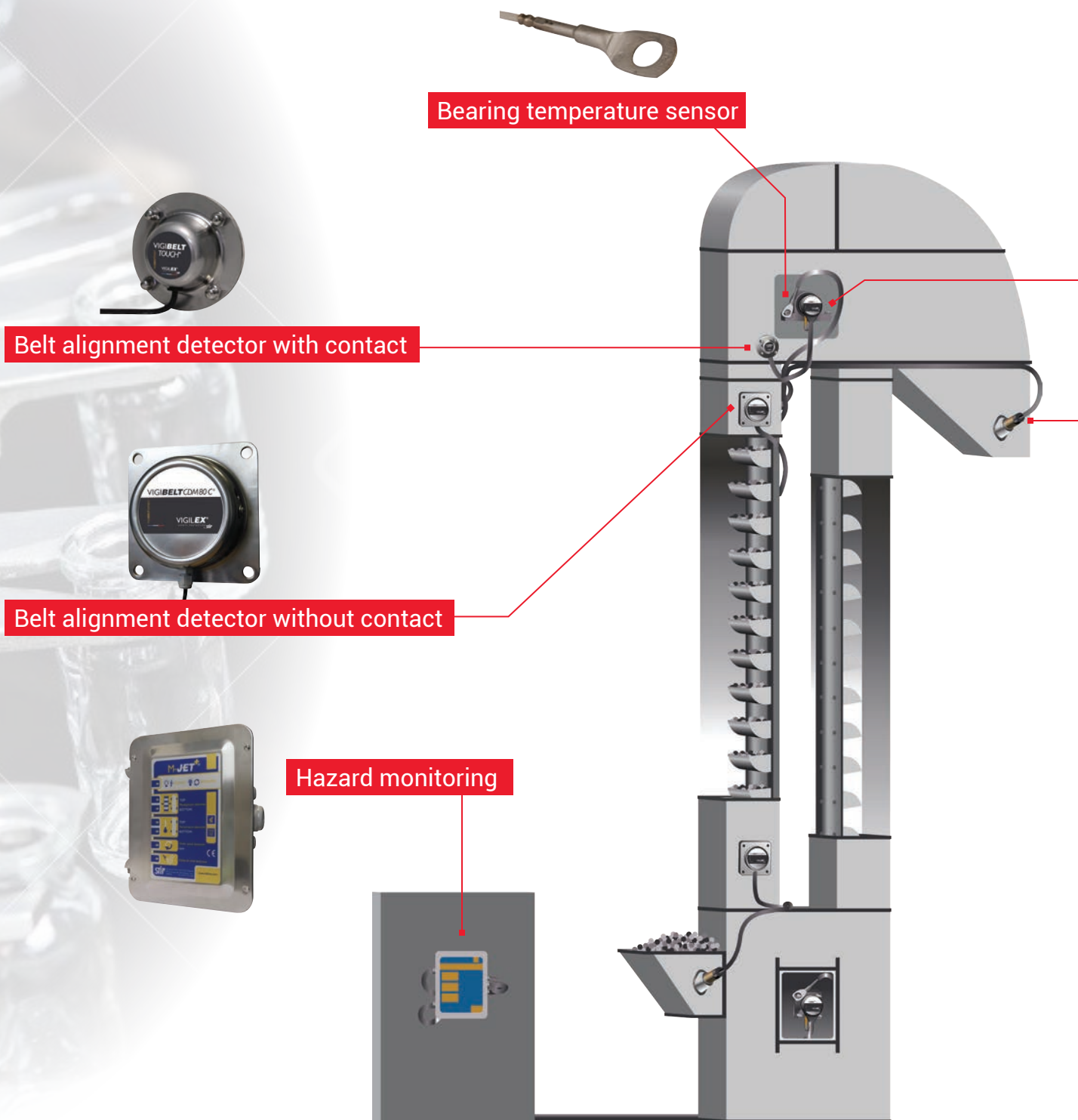** Units in inches rounded to the closest whole number*

Length
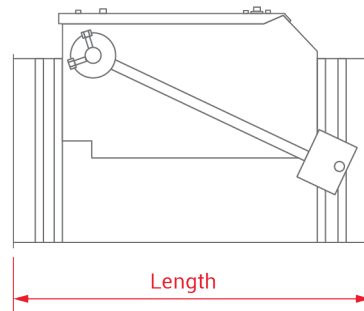
STANDARD FEATURES

- Heavy duty galvanized steel construction
- Heavy duty adjustable counterweight with safety chain
- Removable inspection door
- **Sizes 6" through 18"** :
    90º 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
- **Sainless steel AISI 304** and **316** construction

Bearing temperature sensor

Belt alignment detector with contact

Belt alignment detector without contact

Hazard monitoring

Rotation under speed swich

Level & choke sensor

The M-J**ET 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

Access to graphics

Run time

Temperatures
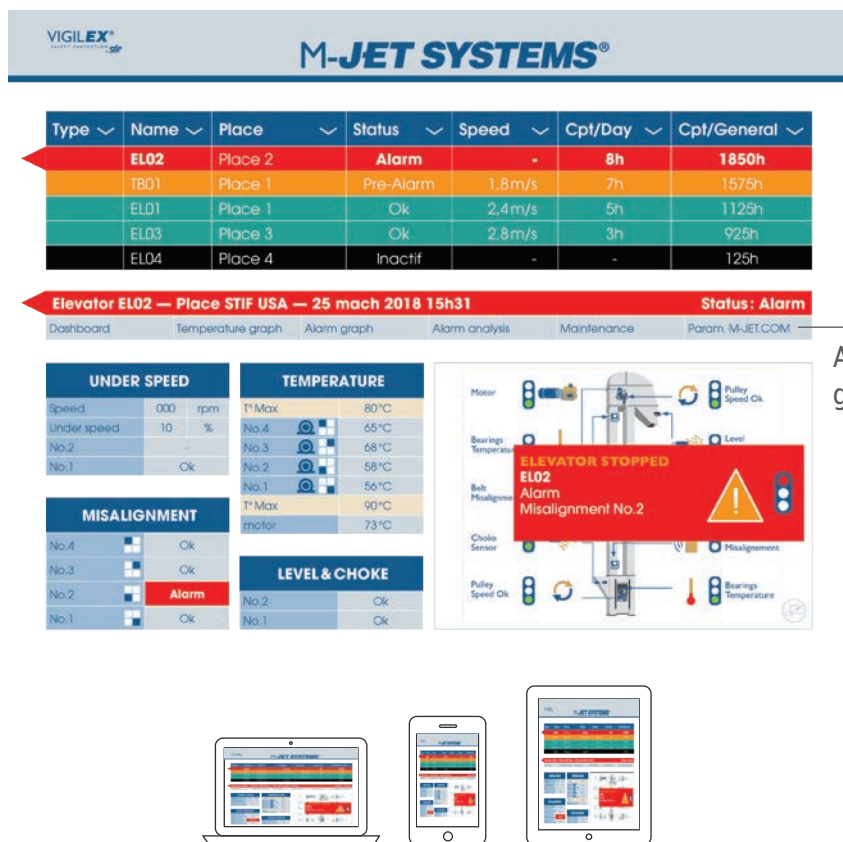
Number of alarms
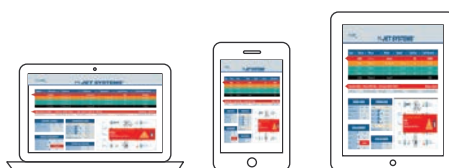
jetmonitoringsystem.com
is available on all your mobile devices

Ratio of alarms by type

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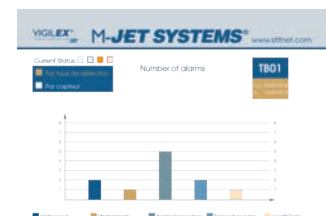### DIRECTLY WITH LAPTOP OR BY NETWORK LAN

- 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.
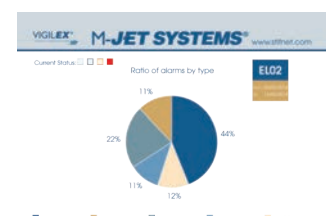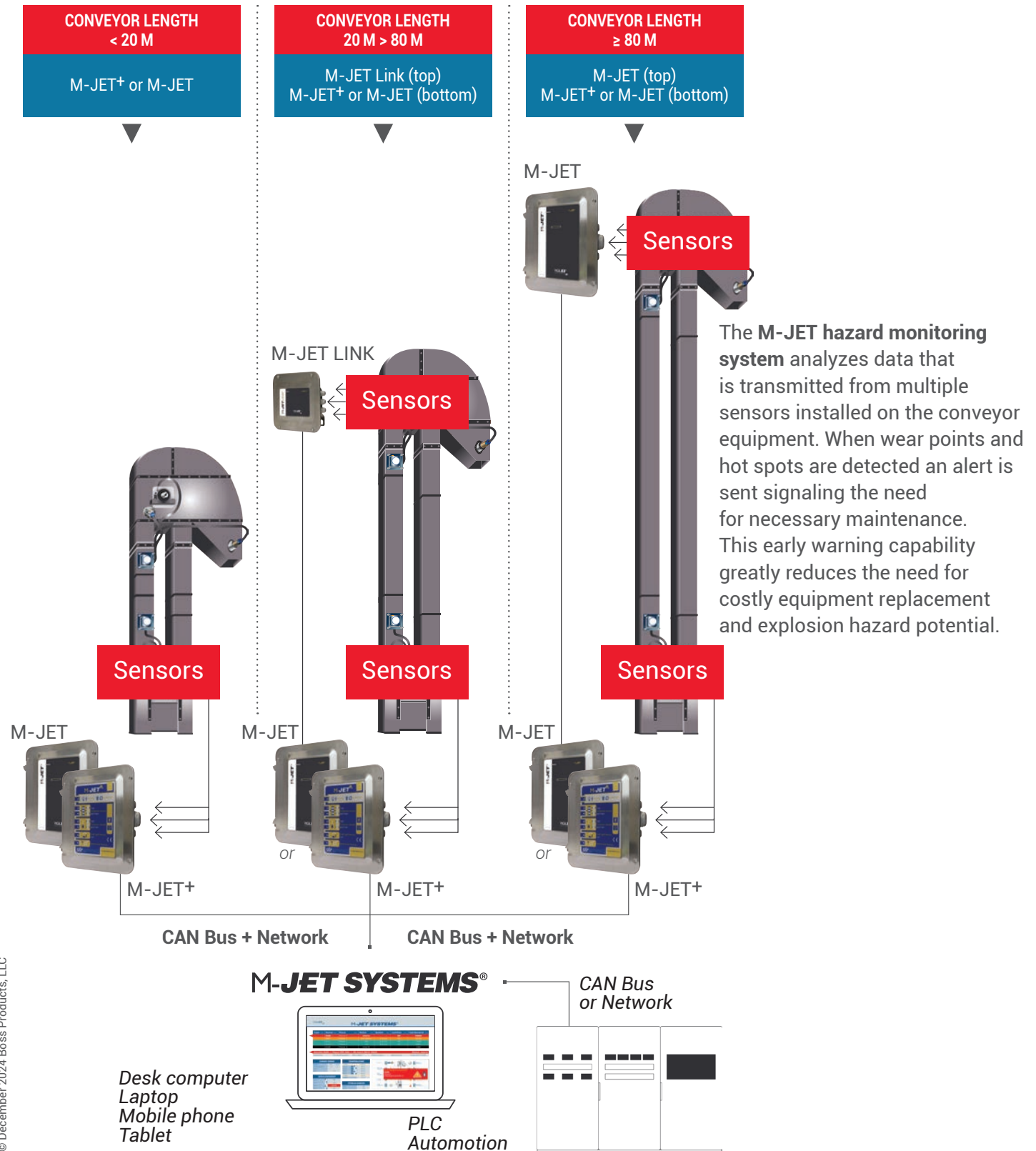- All the history can be downloaded in csv format.

M-JET SYSTEMS

CONVEYOR LENGTH < 20 M	CONVEYOR LENGTH 20 M > 80 M	CONVEYOR LENGTH ≥ 80 M
M-JET⁺ or M-JET	M-JET Link (top) M-JET⁺ or M-JET (bottom)	M-JET (top) M-JET⁺ or M-JET (bottom)

M-JET

Sensors

The **M-JET hazard monitoring system** analyzes data that is transmitted from multiple sensors installed on the conveyor equipment. When wear points and hot spots are detected an alert is sent signaling the need for necessary maintenance. This early warning capability greatly reduces the need for costly equipment replacement and explosion hazard potential.

M-JET LINK

Sensors

Sensors

Sensors

Sensors

M-JET

M-JET

M-JET

or

or

M-JET⁺

M-JET⁺

M-JET⁺

CAN Bus + Network   **CAN Bus + Network**

M-*JET SYSTEMS*®

CAN Bus or Network

Desk computer Laptop Mobile phone Tablet

PLC Automotion

BOSS PRODUCTS LLC

CONNECTION BOX

M-JET LINK
Connection Box

HAZARD MONITORING

M-JET
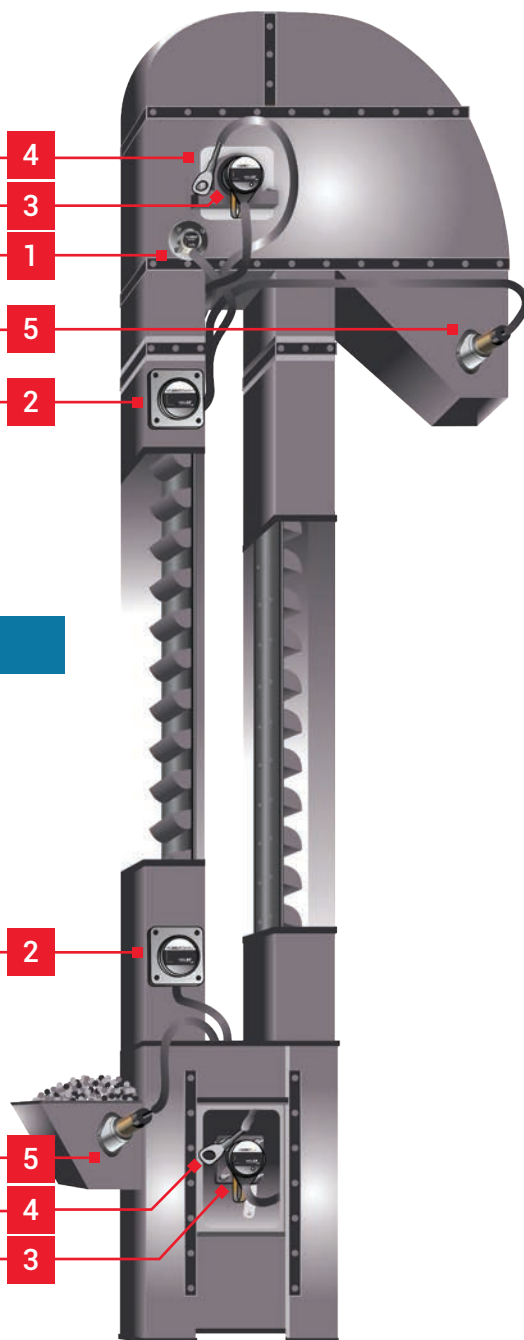Hazard Monitoring
without display

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 **Vigiro IP26**
Speed
rotation sensor

TEMPERATURE

4 **Vigitherm GST 100**
Bearing Temperature sensor

LEVEL & CHOKE

5 **Vigimat DNC 30**
Level & choke sensor

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Transitioning the World to a Safer Working Environment

BÖSS Process
PEOPLE. PARTNERSHIP. PERFORMANCE.

VIGILEX®
SAFETY PROTECTION
By STIF

VDL

ISO 9001 : 2015 Certified Company, Certificate #12373

RAPTOR Series®

RAPTOR Spark | **RAPTOR Breath** | **RAPTOR Drum** | **RAPTOR Gate** | **RAPTOR Shield**

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