

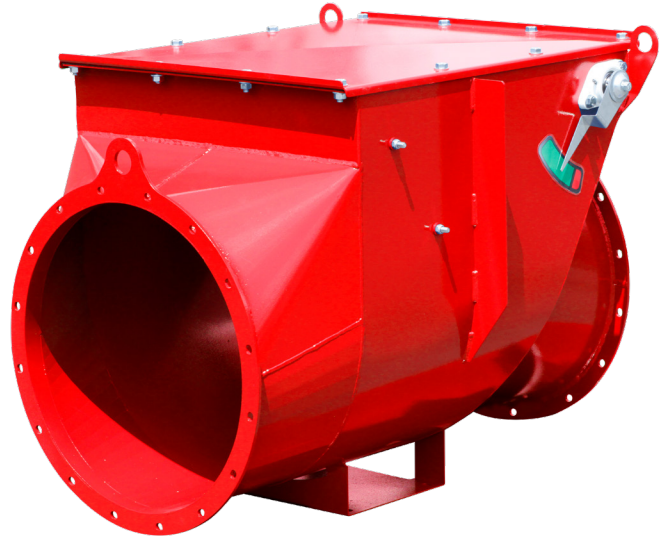
# Explosion Isolation Valve VIGIFLAP

## APPLICATIONS

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

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

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



## CERTIFICATIONS & STANDARDS

EN 16447

NFPA 69 Compliant



## STANDARD FEATURES

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

## OPTIONAL FEATURES

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

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



## DIMENSIONS

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

\* Units in inches rounded to the closest whole number

## MINIMUM INTERNAL DUST ACCUMULATION

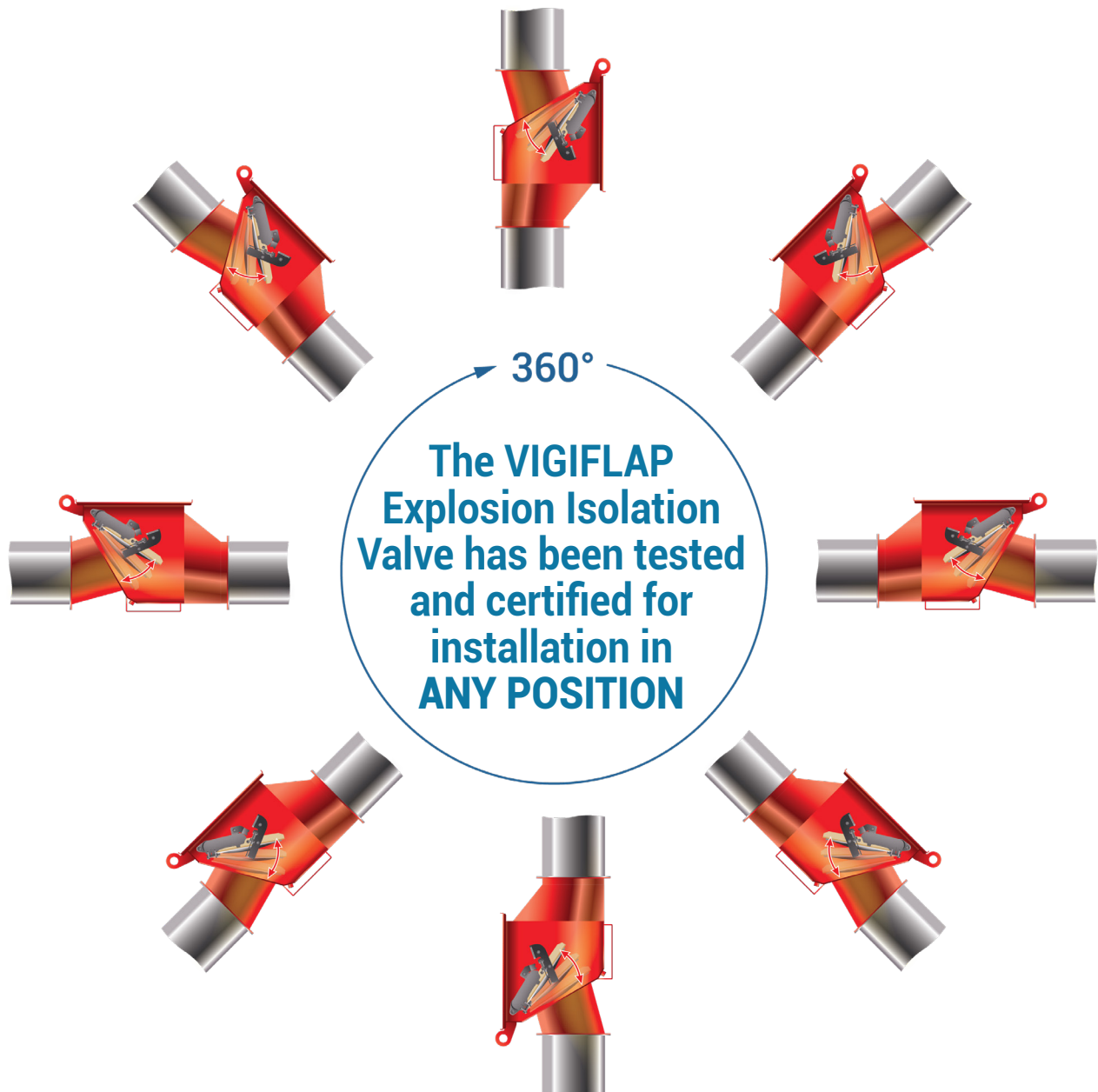
The VigiFlap's unique inlet & outlet "straight through" design ensures very low static resistance and reduces dust accumulation.



**FREE FLOW DESIGN**

## INSTALLATION

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



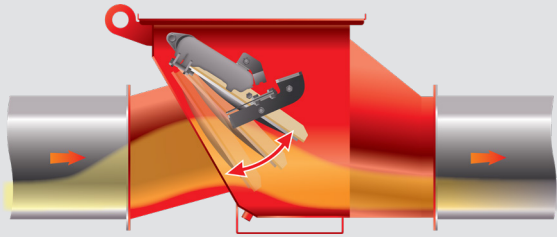
## APPLICATIONS

### PROCESS FLOW

FLOW POSITIONS :

**1** Flap is held open by process flow

Installation  
with  
floating flap



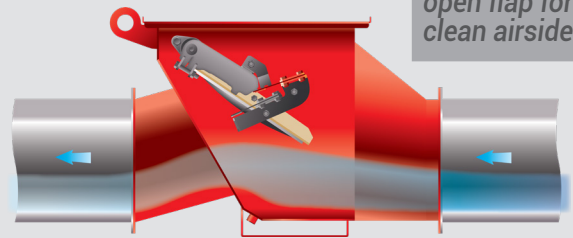
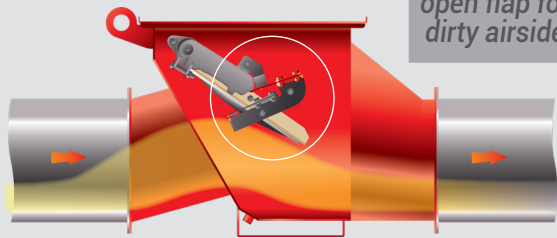
**2** Flap locked in open position

Locked  
open flap for  
dirty airside

or

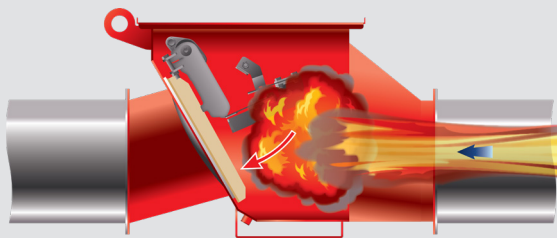
Locked  
open flap for  
clean airside

Installation  
with flap  
locked open



### 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

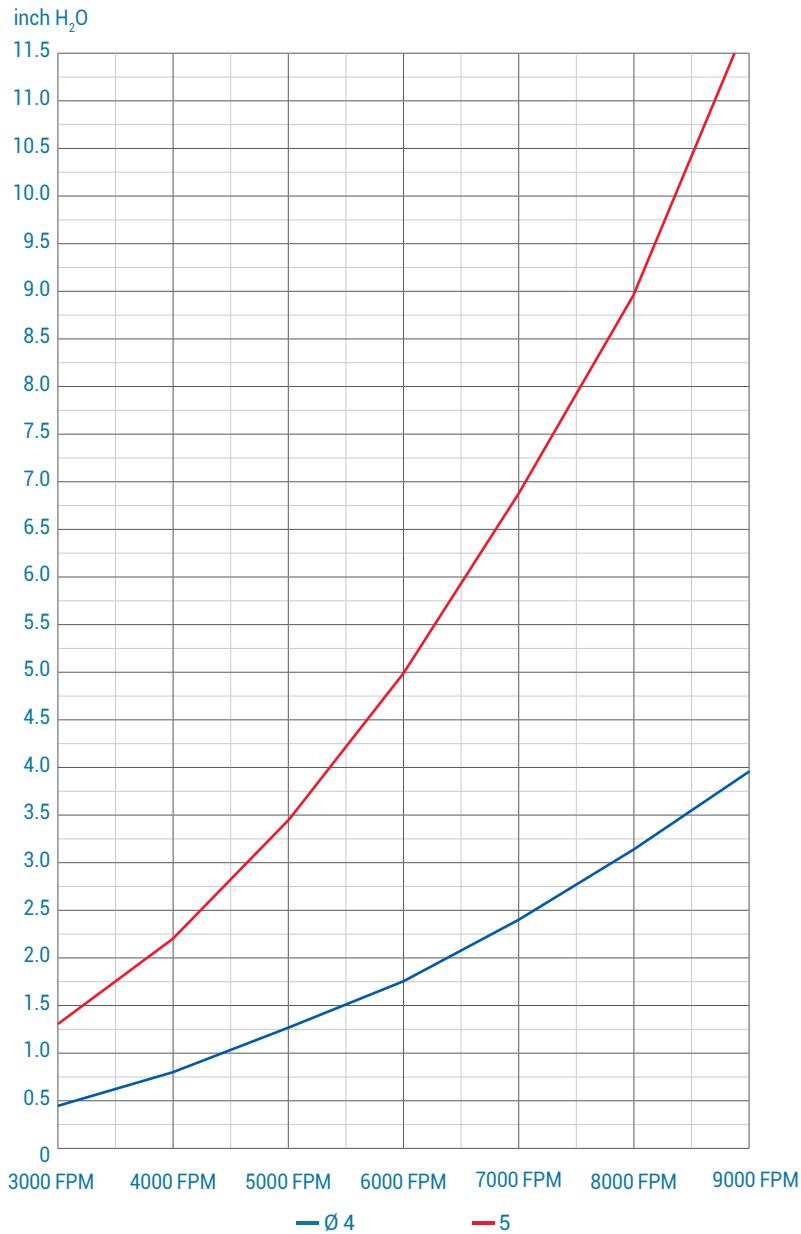
## TECHNICAL INFORMATION

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

## VIGIFLAP (VF) PRESSURE DROP

### LOCKED OPEN POSITION DIRTY AIR SIDE



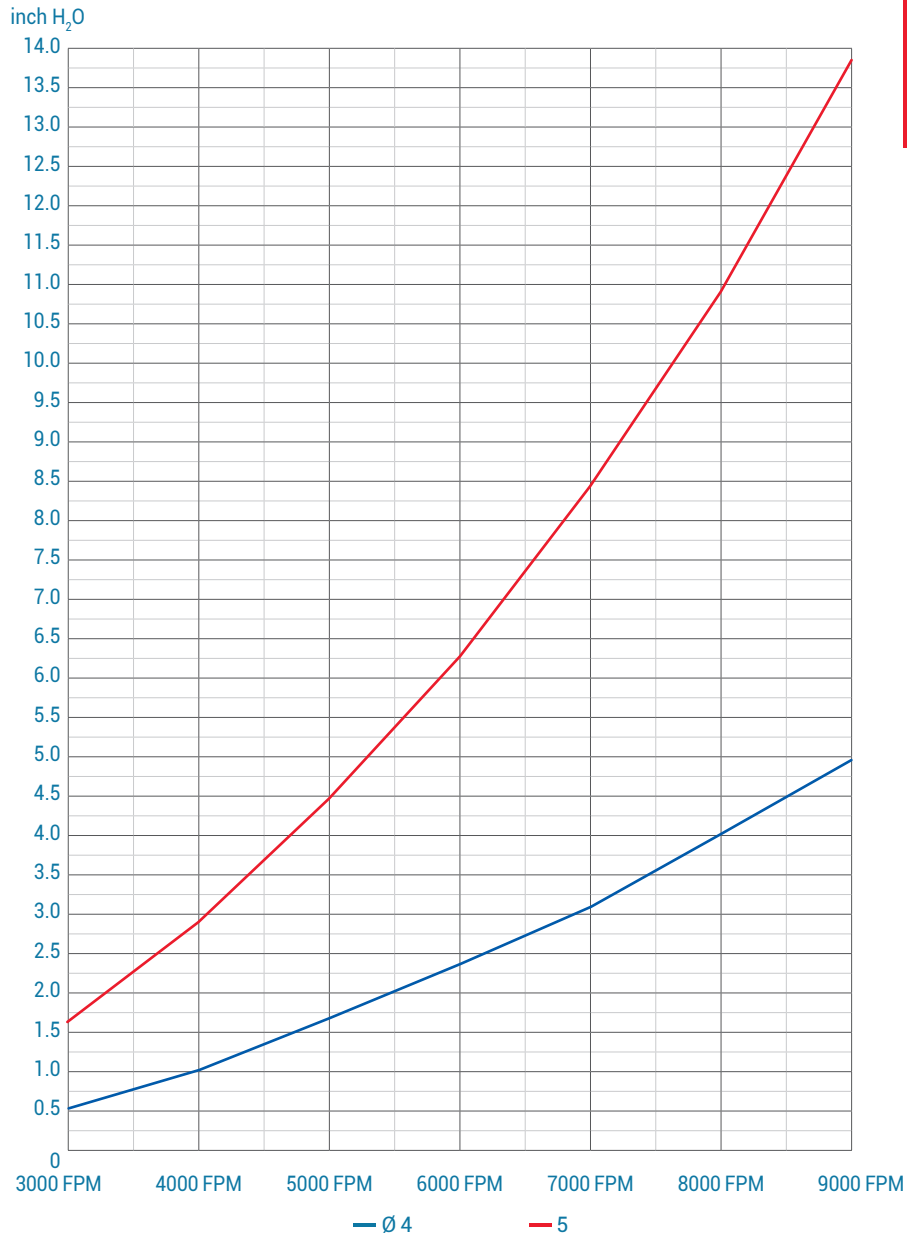
**4"-5"**  
Ø100mm-Ø125mm

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

## VIGIFLAP (VF) PRESSURE DROP

### FLOATING POSITION DIRTY AIR SIDE

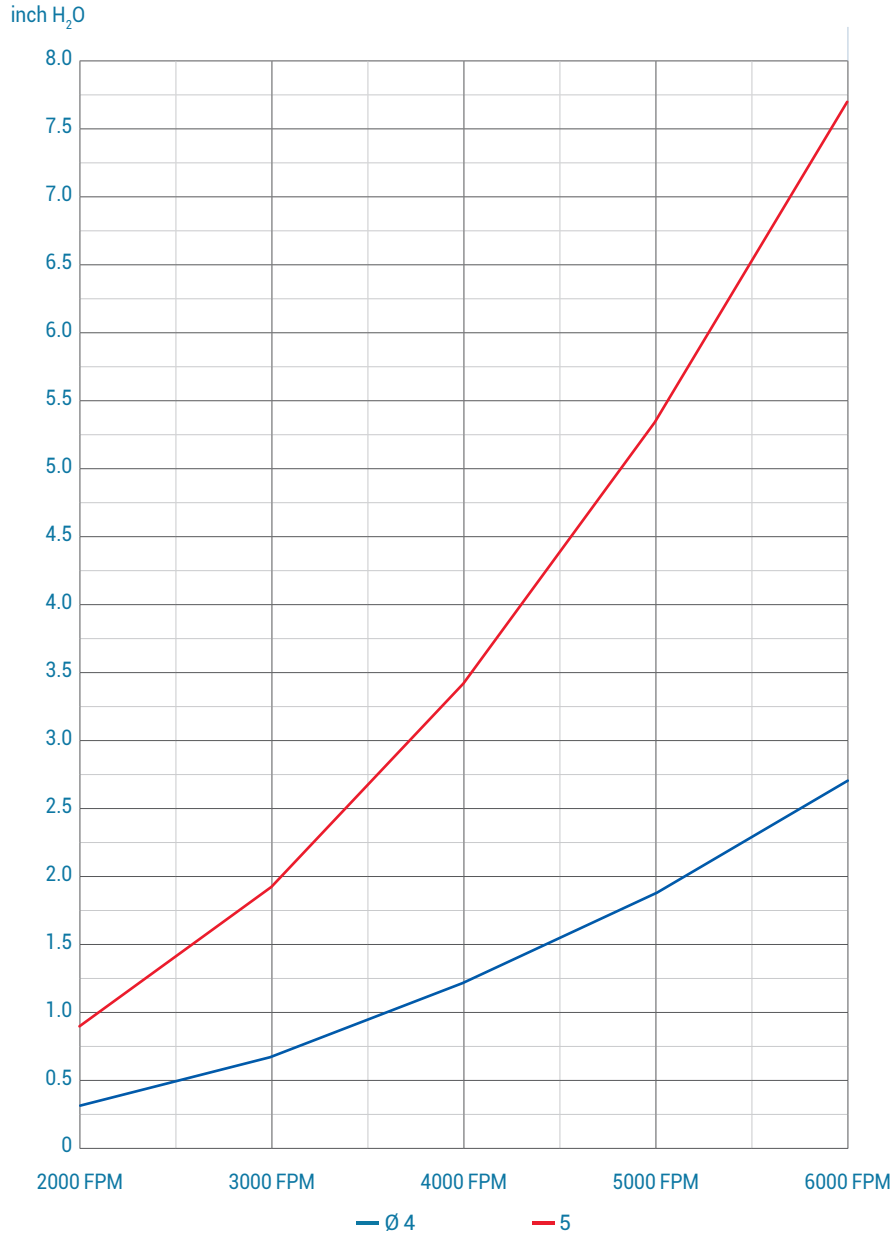


**4"-5"**  
Ø100mm-Ø125mm

Pressure Drop in H <sub>2</sub> O							
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM	9000 FPM
Ø4	0.53	0.95	1.48	2.13	2.90	3.78	4.79
Ø5	1.52	2.70	4.22	6.08	8.27	8.27	13.67

## VIGIFLAP (VF) PRESSURE DROP

### LOCKED OPEN POSITION CLEAN AIR SIDE



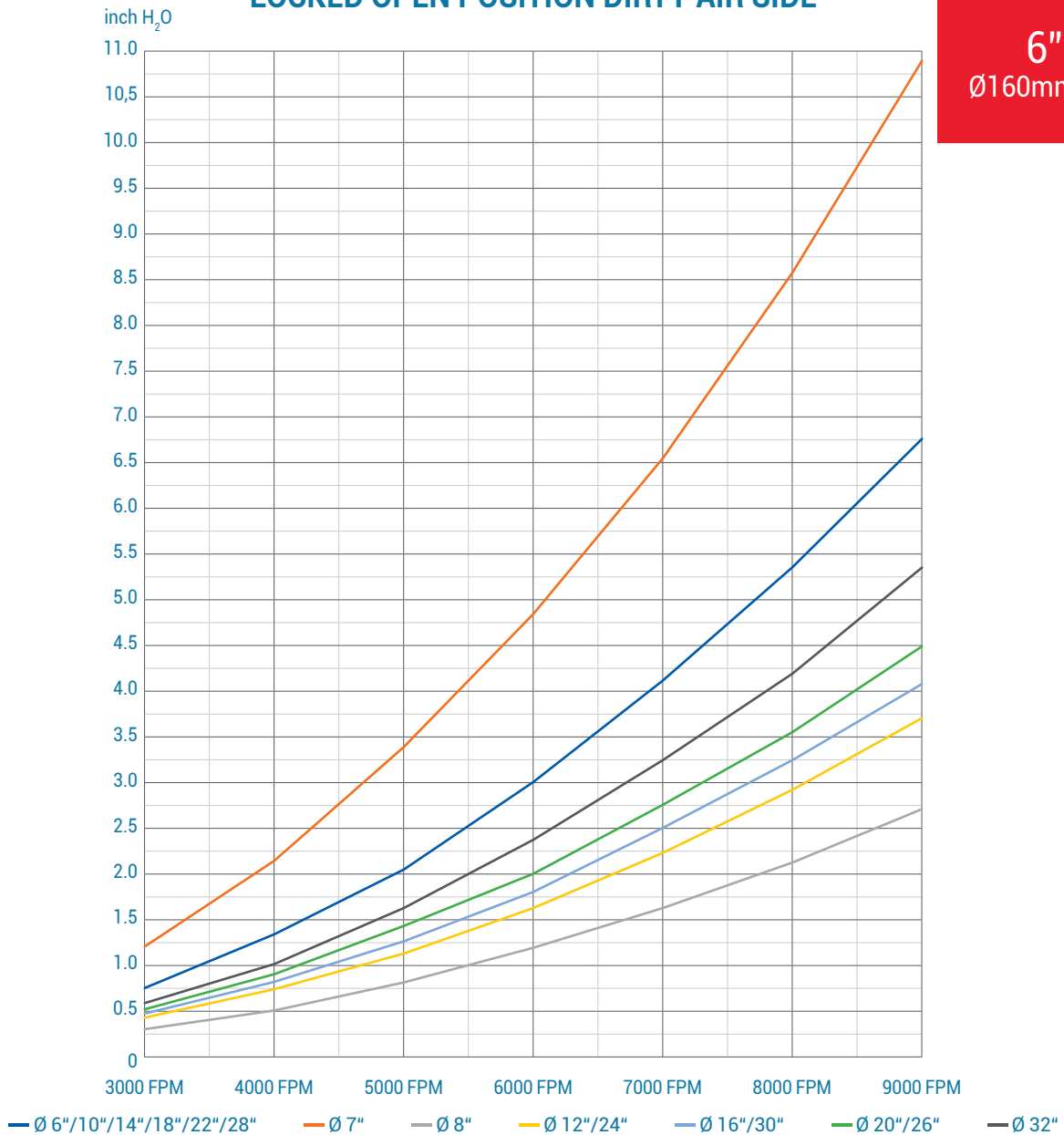
**4"-5"**  
Ø100mm-Ø125mm

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

## VIGIFLAP (VF) PRESSURE DROP

### LOCKED OPEN POSITION DIRTY AIR SIDE

6"-32"  
Ø160mm-Ø800mm



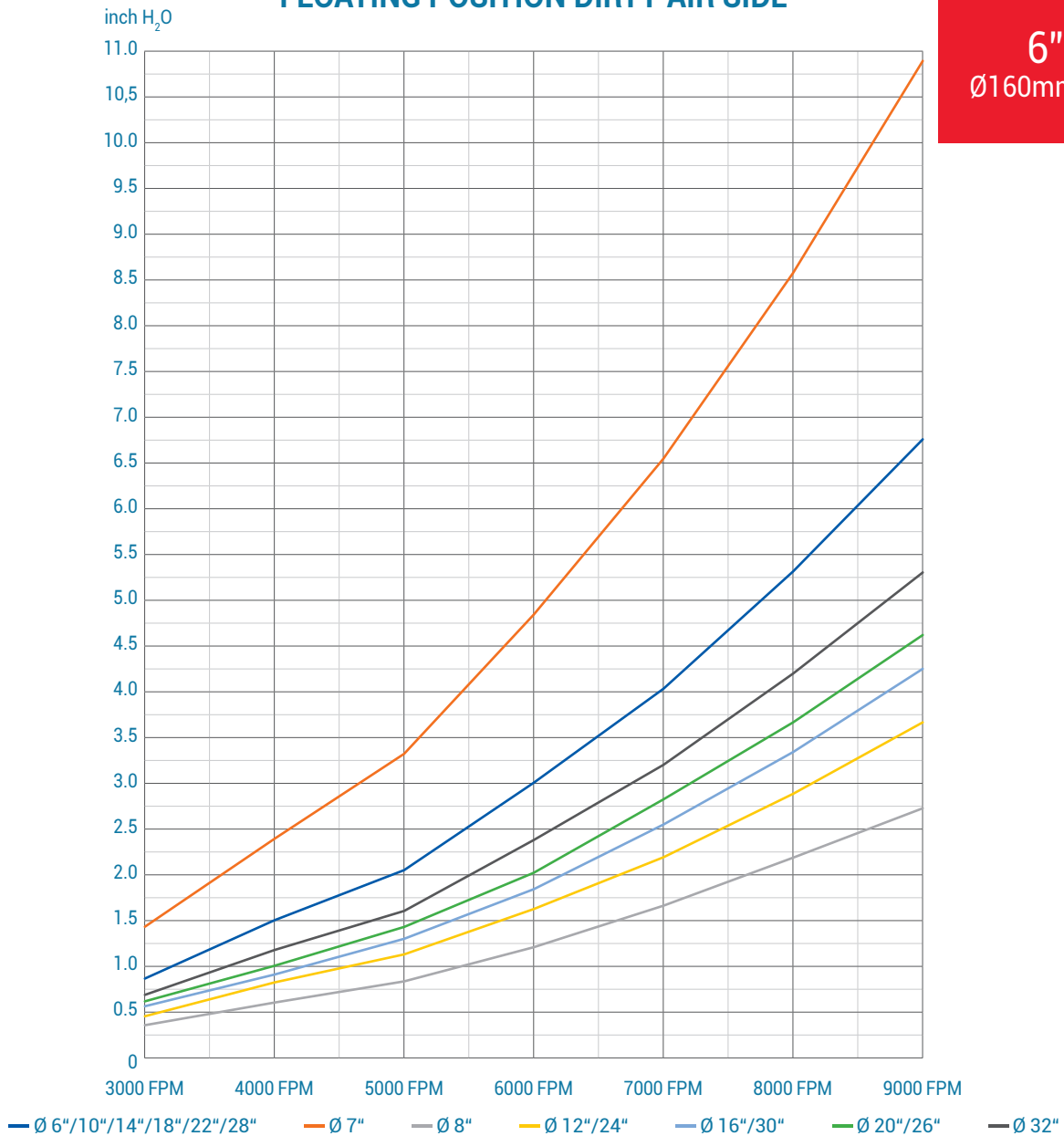
Pressure Drop in H <sub>2</sub> O						
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM
Ø6/10/14/18/22/28	0.75	1.34	2.09	3.01	4.10	5.36
Ø7	1.21	2.15	3.36	4.84	6.59	8.61
Ø8	0.29	0.52	0.82	1.18	1.61	2.11
Ø12/24	0.41	0.73	1.14	1.64	2.24	2.92
Ø16/30	0.45	0.81	1.27	1.82	2.48	3.25
Ø20/26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



## VIGIFLAP (VF) PRESSURE DROP

### FLOATING POSITION DIRTY AIR SIDE

6"-32"  
Ø160mm-Ø800mm

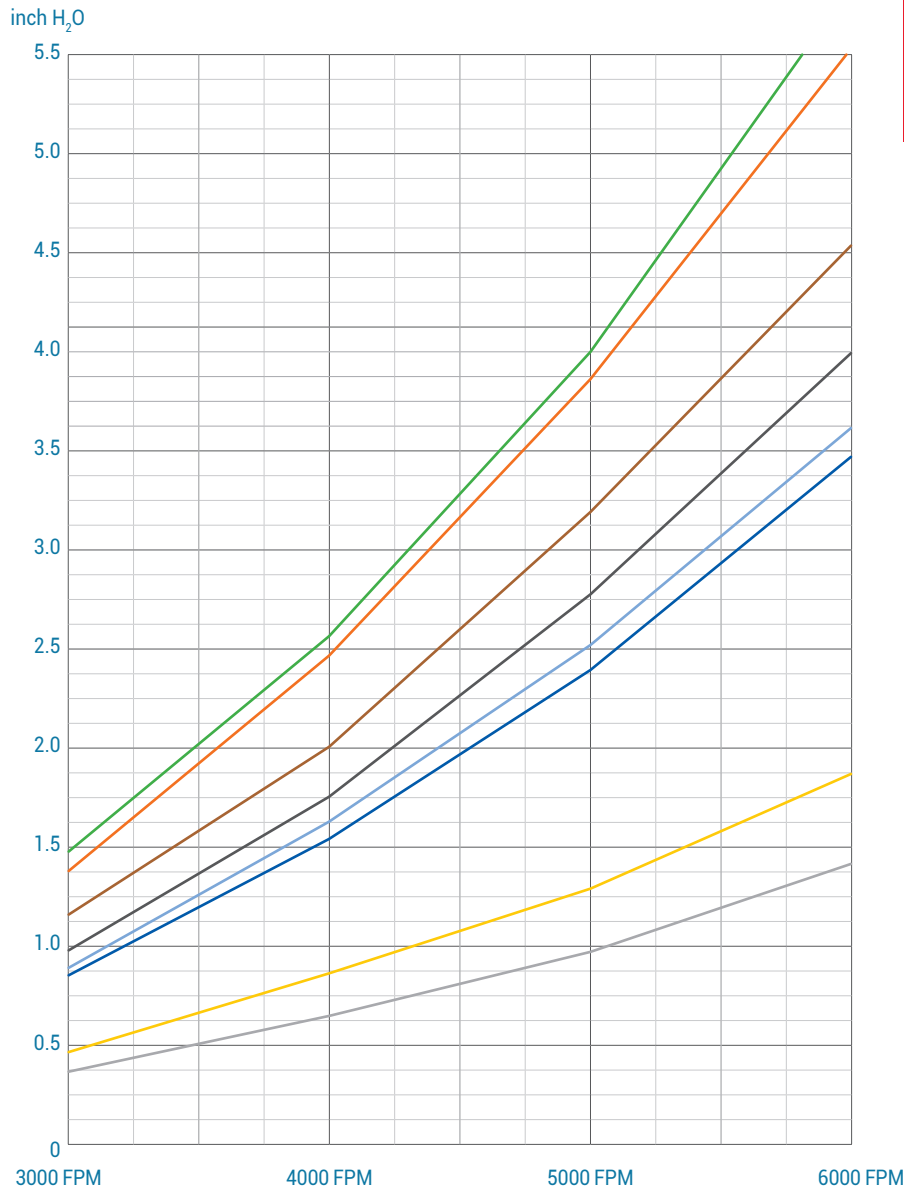


Pressure Drop in H <sub>2</sub> O						
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM
Ø6/10/14/18/22/28	0.81	1.50	2.07	3.00	4.06	5.32
Ø7	1.34	2.39	3.33	4.79	6.54	8.53
Ø8	0.36	0.60	0.85	1.21	1.66	2.19
Ø12/24	0.44	0.81	1.13	1.62	2.19	2.88
Ø16/30	0.56	0.89	1.30	1.86	2.56	3.33
Ø20/26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



— Ø 6"/10"/14" — Ø 7" — Ø 8" — Ø 12"/24" — Ø 16"/30" — Ø 18"/22"/28" — Ø 20"/26" — Ø 32"

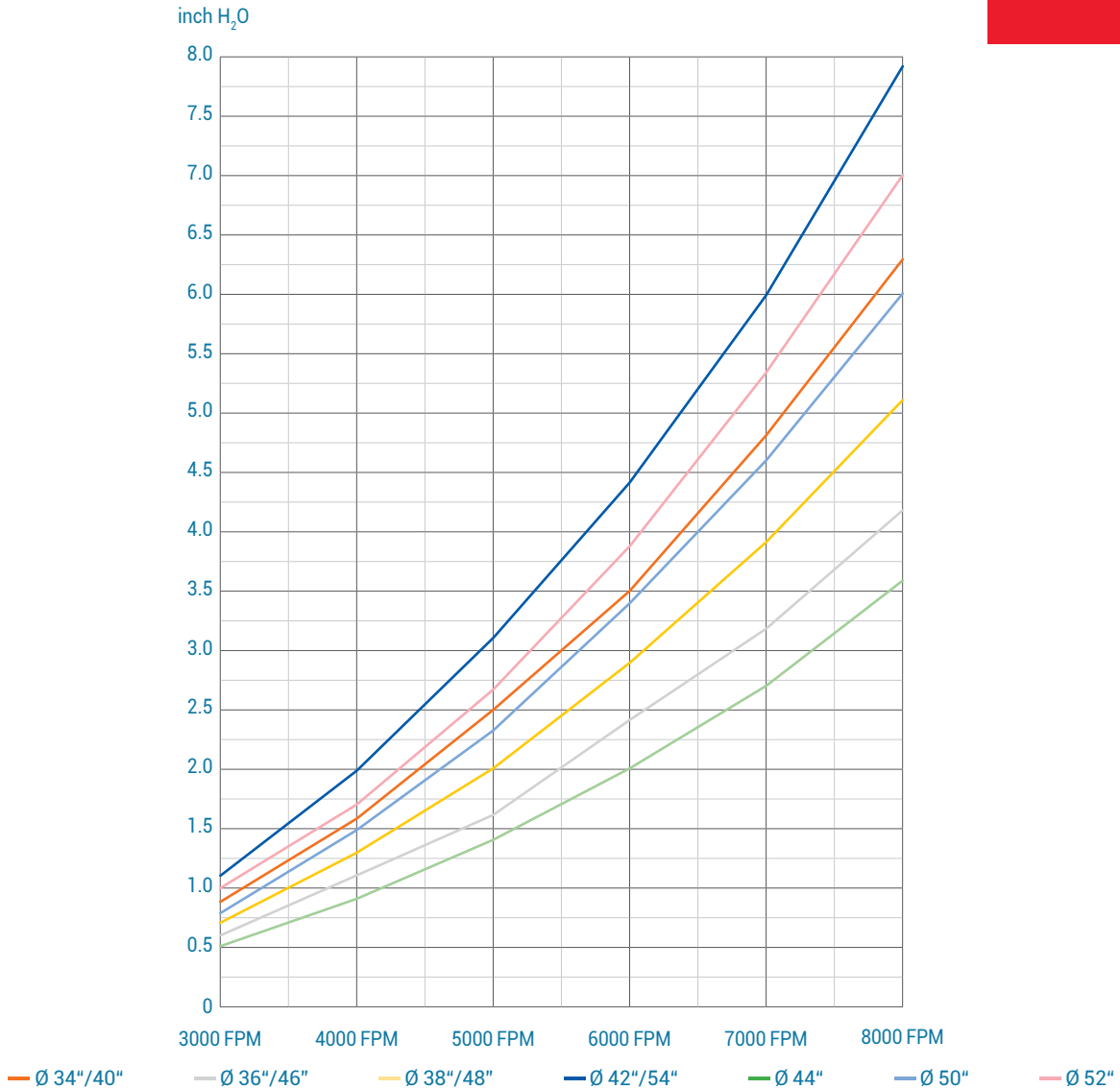
Pressure Drop in H <sub>2</sub> O				
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM
Ø6/10/14	0.85	1.54	2.40	3.45
Ø7	1.38	2.48	3.86	5.53
Ø8	0.37	0.61	0.98	1.42
Ø12/24	0.45	0.81	1.30	1.87
Ø16/30	0.89	1.63	2.52	3.62
Ø18/22/28	1.46	2.56	4.02	5.81
Ø20/26	0.98	1.75	2.76	3.98
Ø32	1.14	2.03	3.217	4.55

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# LARGE SIZE VIGIFLAP (VF) PRESSURE DROP

## LOCKED OPEN POSITION DIRTY AIR SIDE

**34"-54"**  
Ø850mm-Ø1350mm



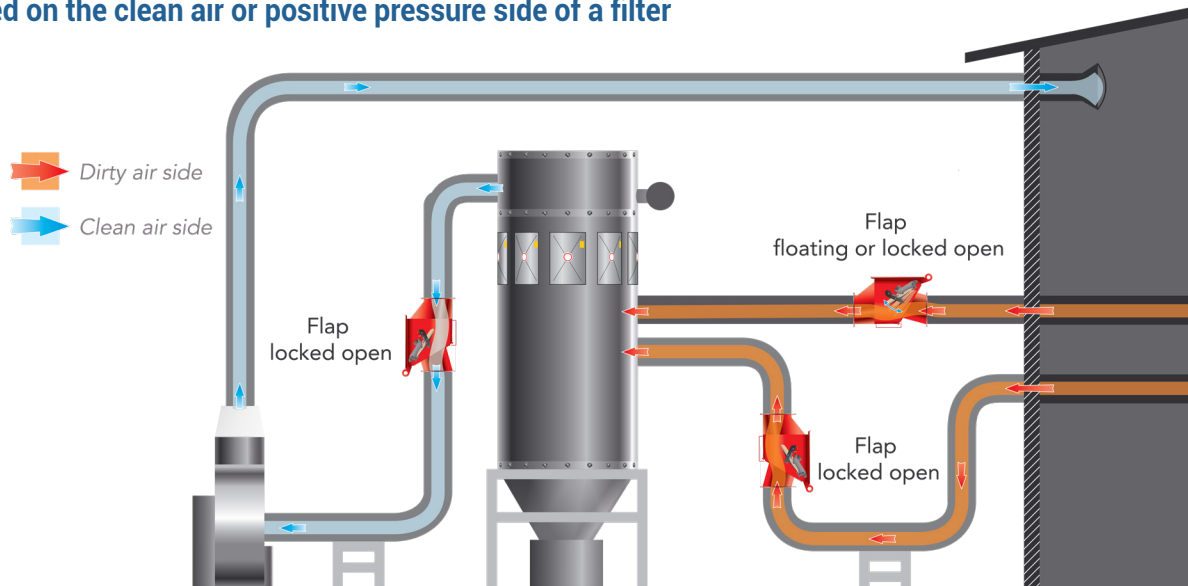
Pressure Drop in H <sub>2</sub> O						
Diameter (in)	3000 FPM	4000 FPM	5000 FPM	6000 FPM	7000 FPM	8000 FPM
Ø34/40	0.90	1.60	2.50	3.50	4.80	6.30
Ø36/46	0.60	1.10	1.60	2.40	3.20	4.20
Ø38/48	0.70	1.30	2.00	2.90	3.90	5.10
Ø42/54	1.10	2.00	3.10	4.40	6.00	7.90
Ø44	0.50	0.90	1.40	2.00	2.70	3.60
Ø50	0.80	1.50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

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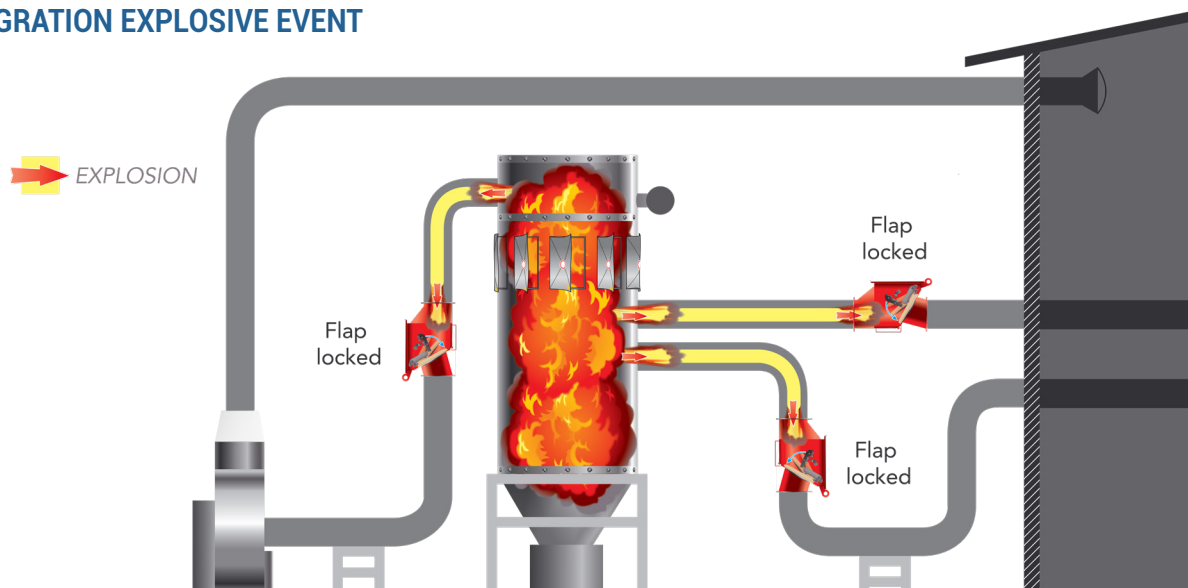
## INSTALLATION EXAMPLES

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

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



## DEFLAGRATION EXPLOSIVE EVENT



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