

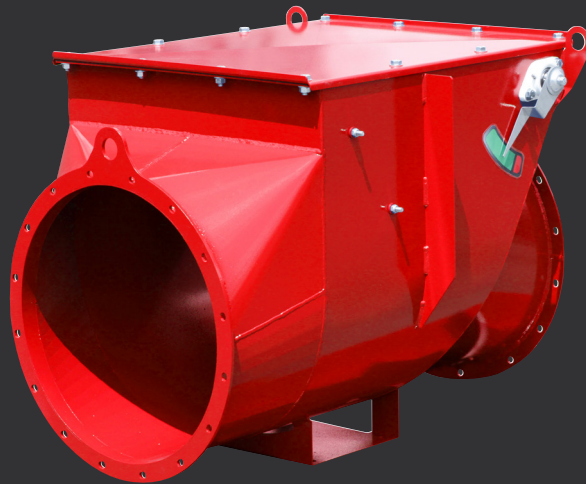
# VIGILEX®

SAFETY PROTECTION

By **STIF**

## VIGIFLAP®

### EXPLOSION ISOLATION VALVE



**STIF**

components for your success

English



## VIGIFLAP® EXPLOSION ISOLATION VALVE

### APPLICATIONS

The VigiFLAP is a non-return valve designed to prevent overpressure or flame caused by a downstream explosion (dust collectors, filters, cyclones...) to propagate in the piping system.

The valve is held open by a lever arm. It can be used both at the entrance and at the exit of the filter. This allows to isolate the filter from an explosion or an overpressure.

In case of explosion, the valve closes and remains locked preventing the progress of the flame. The unlocking of the flap is done manually.

### STANDARD CHARACTERISTICS

- Body: Painted steel
- Flap: Round domed flap : Stainless steel
- Diameter: ø160mm to ø800mm
- EPDM Gasket: -10°C to +70°C/14F° to 158F°
- Flanges: ISO and ANSI flanges design
- Inductive Sensor: Closing indication sensors in case of explosion or overpressure

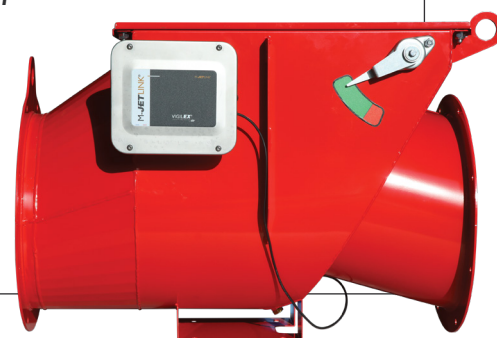
### CERTIFICATIONS

INERIS 19ATEX0016 X  
EN 16447  
NFPA 69



### OPTIONS for VigiFLAP

- Body: Galvanized steel
- Body: Stainless steel
- Gasket silicon FDA: -10°C to +180°C/14F to 356F
- Capacitive sensor to warn dust accumulation (max: 60°C)
- Connection box installed on the body, opposite side of the locking mechanism



Explosion isolation valve **dimensions:**
**VIGIFLAP®**


## SIZES & DISTANCE INSTALLATION

	DN (mm)	DN (inch)	Minimum Vessel Volume	L Min* Min Mounting Distance	L Min** Min Mounting Distance	L Max Max Mounting Distance
VIGIFLAP	ø 160	ø 6 *	0,70m <sup>3</sup>	4,0m	6,0m	17 m
VIGIFLAP	ø 160	ø 6 *	1,35m <sup>3</sup>	3,0m	5,0m	17 m
VIGIFLAP	ø 180	ø 7 *	0,70m <sup>3</sup>	4,0m	6,0m	17 m
VIGIFLAP	ø 180	ø 7 *	1,35m <sup>3</sup>	3,0m	5,0m	17 m
VIGIFLAP	ø 200	ø 8 *	1,35m <sup>3</sup>	4,6m	6,6m	17 m
VIGIFLAP	ø 250	ø 10 *	1,35m <sup>3</sup>	4,0m	6,0m	17 m
VIGIFLAP	ø 300	ø 12 *	2,90m <sup>3</sup>	4,6m	6,6m	17 m
VIGIFLAP	ø 350	ø 14 *	2,90m <sup>3</sup>	4,2m	6,2m	17 m
VIGIFLAP	ø 400	ø 16 *	4,50m <sup>3</sup>	5,2m	7,2m	17 m
VIGIFLAP	ø 450	ø 18 *	4,50m <sup>3</sup>	4,7m	6,7m	17 m
VIGIFLAP	ø 500	ø 20 *	6,05m <sup>3</sup>	5,8m	7,8m	17 m
VIGIFLAP	ø 550	ø 22 *	6,05m <sup>3</sup>	5,5m	7,5m	17 m
VIGIFLAP	ø 600	ø 24 *	7,65m <sup>3</sup>	7,2m	9,2m	17 m
VIGIFLAP	ø 650	ø 26 *	7,65m <sup>3</sup>	6,7m	8,7m	17 m
VIGIFLAP	ø 700	ø 28 *	7,65m <sup>3</sup>	6,4m	8,4m	17 m
VIGIFLAP	ø 750	ø 30 *	10,00m <sup>3</sup>	7,3m	9,3m	17 m
VIGIFLAP	ø 800	ø 32 *	10,00m <sup>3</sup>	6,9m	8,9m	17 m

\* Floating: Flap valve activated by the working air flow

\*\* Flap valve kept open by its spring blade system



Flap valve test with INERIS notified body

## TECHNICAL INFORMATION

Kst max	≤250bar.m/s	Pred max in protected vessel	≤0.5bar	MESG	1,7 mm 0.067 inch
Kst min	50bar.m/s	VIGIFLAP Resistance	2.0bar	Dust range	All organic dusts
Pmax	10bar 145psi	MIE	≥ 10mJ	Air flow speed	15m/s ≤ v ≤ 30m/s 3000 ≤ v ≤ 6000ft/min
Working	Dirty air side Clean air side	MIT	≥ 400°C ≥ 752°F	Dust concentration	No Limit
ATEX Marking	II D	Atex Inside	Zone 20 (II 1D)	Air flow range	Pull flow

**Features** of the explosion isolation valve :

**VIGIFLAP®**  

### NON DUST ACCUMULATION DESIGN

THE ALIGNMENT OF THE LOWER PART OF THE VIGIFLAP WITH THE PIPING, ALLOWS THE AIR FLOW TO CREATE A CONTINUOUS SELF-CLEANING, WITH LOW PRESSURE DROP

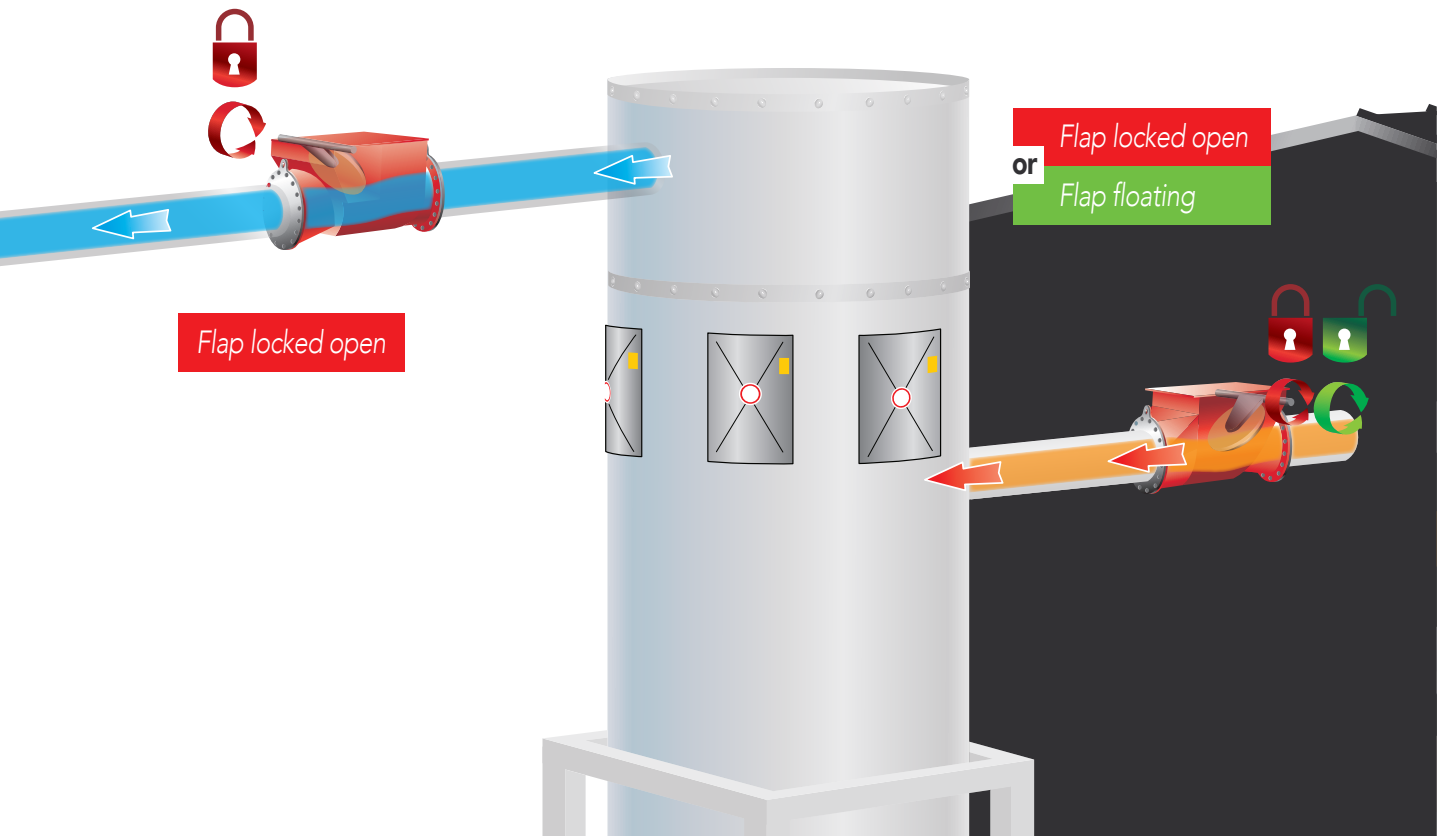


**LOW PRESSURE LOSS**

Installed in clean air side



Installed in dirty air side



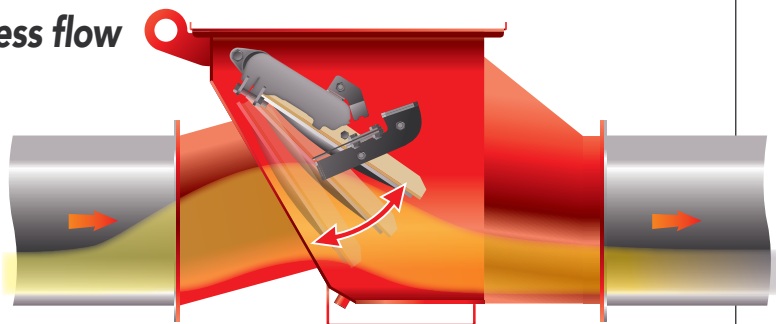
Process flow positions:

PROCESS FLOW

PRODUCT PROCESS FLOW

1 Flap is held open by process flow

INSTALLATION WITH FLOATING FLAP



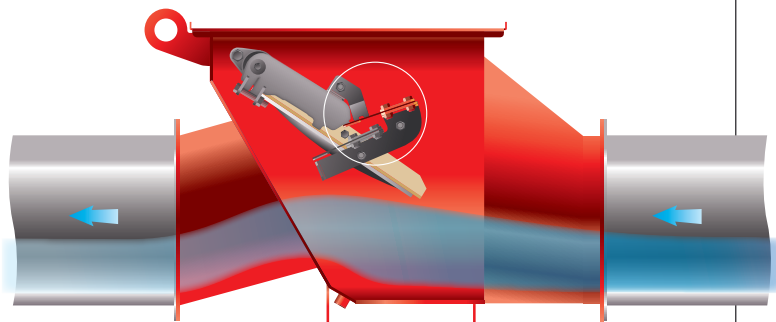
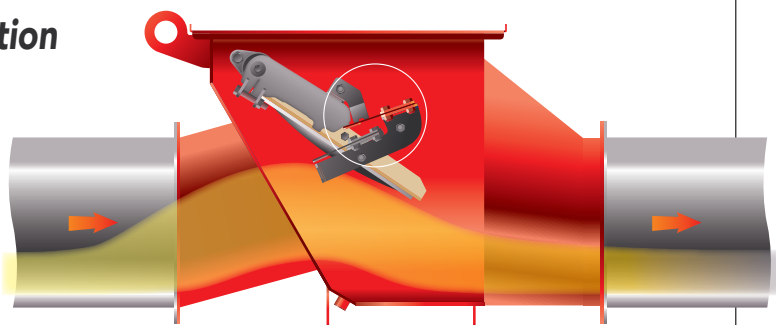
2 Flap locked in open position

INSTALLATION WITH FLAP LOCKED OPEN

Locked open flap for dirty airside

OR

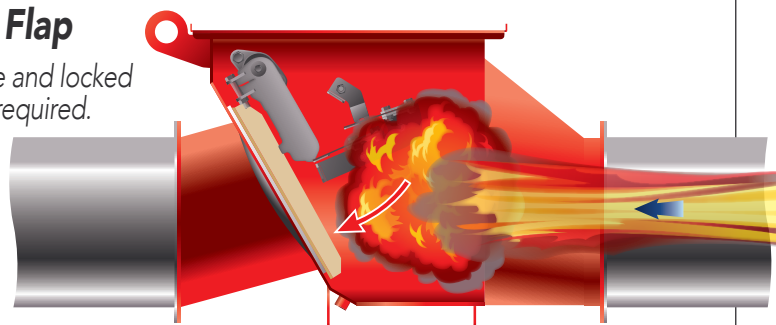
Locked open flap for clean airside



DURING AN EXPLOSION EVENT

**Floating Flap or Locked Open Flap**

Flap is closed by the explosion pressure wave and locked in place. Manual locking mechanism reset is required.

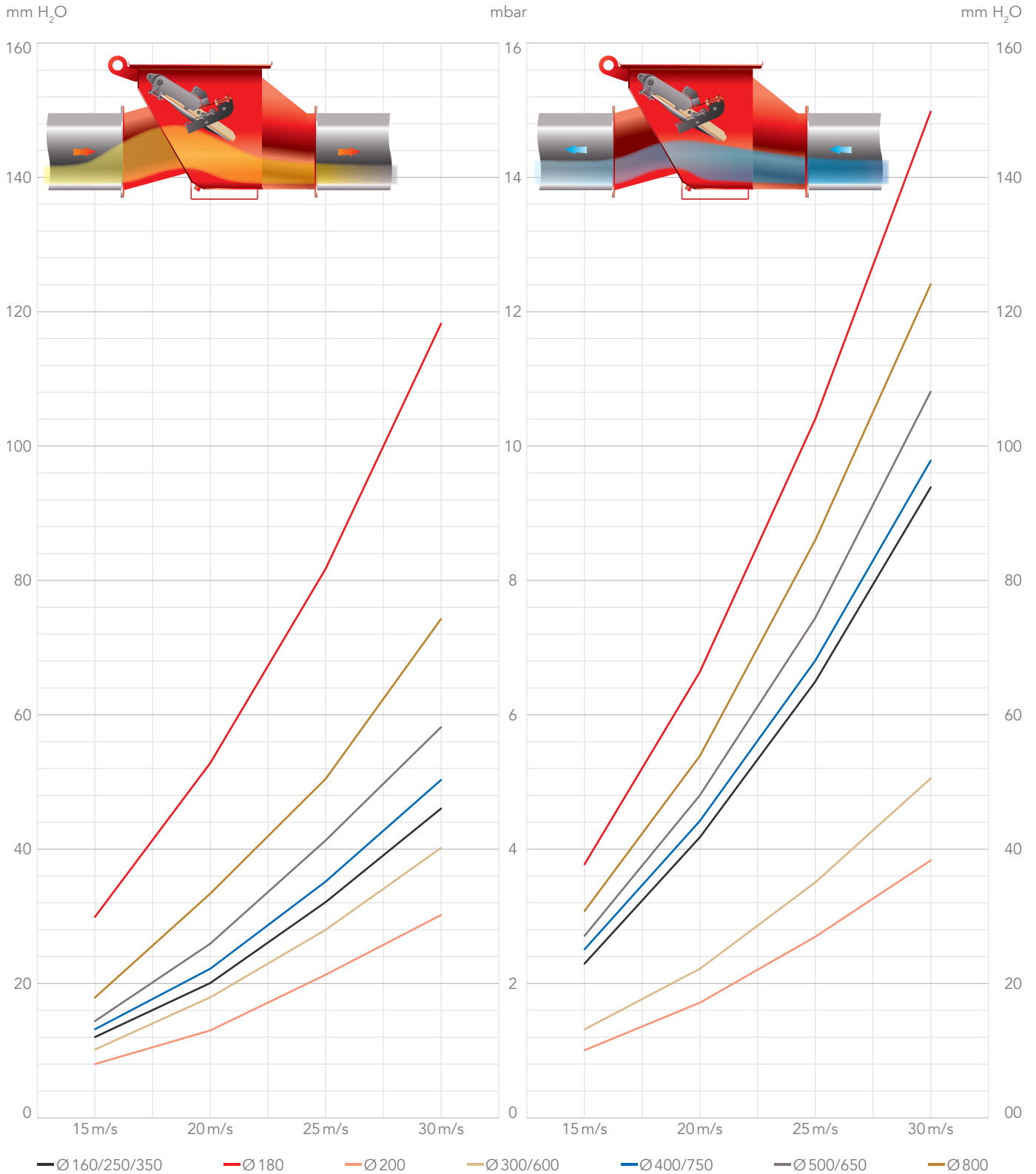


Pressure drop **curves:**

## PRESSURE DROP

PRESSURE DROP/IN FLOW PROCESS (DIRTY AIR)

PRESSURE DROP/REVERSE PROCESS (CLEAN AIR)

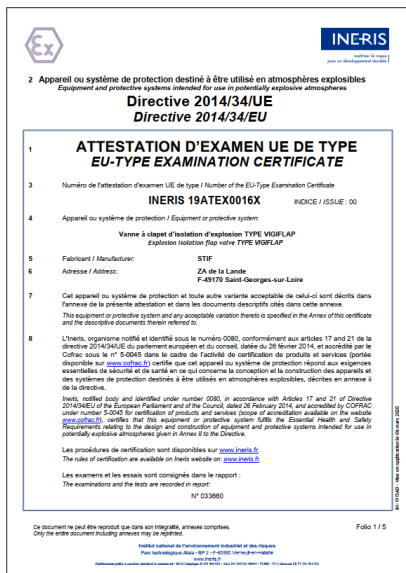




# Certification:



## INERIS 19ATEX0016X



## HIGH CERTIFICATION TEST

To get our Atex certificate (N° INERIS 19ATEX0016X) according to the standard EN16447 : 2014, we carried out our explosion tests in the most extreme conditions and as close as possible to the reality of the use of the product, with for example:

- **Protected Zone Pipeline :**  
All test carried out with a pipeline after the flap (picture 1).
- **Flap fully open :**  
During the test the flap valve is held fully open until the appropriate time of release.
- **Vent panel on test vessel :**  
No open ports were used during test but vent panels were always used.

## CERTIFICATIONS EXPLOSION ISOLATION VALVE

- 2014/34/UE
- EN 16447 : 2014
- EN 1127-1 : 2019
- EN 14460 : 2018
- NFPA 69 : 2019
- INERIS 08ATEXQ406
- ISO9001 : 2015

## SOON :

In few months our VIGIFLAP certificate will be improved with the following additional features Atex certified :

- **Push Flow**
- **Vertical Position**
- **Elbows**
- **Size until diameter 1300mm**
- **Metal dust + ST3**

10 m3 vessel  
(Organic dust)

VigiFLAP Ø800

The test and approval must reflect the intended use, in combination with a pipe.



(Picture 1)

# VIGILEX®

SAFETY PROTECTION

By **stif**

[www.vigilex.eu](http://www.vigilex.eu)

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