

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: 70°C/158F)
- Connection box installed on the body, opposite side of the locking mechanism



Explosion isolation valve **dimensions:**



SIZES & DISTANCE INSTALLATION						
	DN (mm)	DN (inch)	Minimum Vessel Volume	LMin* Min Mounting Distance	LMin** Min Mounting Distance	L Max Max Mounting Distance
VIGIFLAP Ø	160	6"	0,70m ³	4,0m	6,0m	17 m
VIGIFLAP Ø	160	6"	1,35m ³	3,0m	5,0m	17 m
VIGIFLAP Ø	180	7"	0,70m ³	4,0m	6,0m	17 m
VIGIFLAP Ø	180	7"	1,35m ³	3,0m	5,0m	17 m
VIGIFLAP Ø	200	8"	1,35m ³	4,6m	6,6m	17 m
VIGIFLAP Ø	250	10"	1,35m ³	4,0m	6,0m	17 m
VIGIFLAP Ø	300	12"	2,90m ³	4,6m	6,6m	17 m
VIGIFLAP Ø	350	14"	2,90m ³	4,2m	6,2m	17 m
VIGIFLAP Ø	400	16"	4,50m ³	5,2m	7,2m	17 m
VIGIFLAP Ø	450	18"	4,50m ³	4,7m	6,7m	17 m
VIGIFLAP Ø	500	20"	6,05m ³	5,8m	7,8m	17 m
VIGIFLAP Ø	550	22"	6,05m ³	5,5m	7,5m	17 m
VIGIFLAP Ø	600	24"	7,65m ³	7,2m	9,2m	17 m
VIGIFLAP Ø	650	26"	7,65m ³	6,7m	8,7m	17 m
VIGIFLAP Ø	700	28"	7,65m ³	6,4m	8,4m	17 m
VIGIFLAP Ø	750	30"	10,00m ³	7,3m	9,3m	17 m
VIGIFLAP Ø	800	32"	10,00m ³	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*	≤0.5bar	MESG	1,7 mm 0.067 inch
Kst min	50bar.m/s	VIGIFLAP Resistance	2.0bar	Dust range**	All dusts (Metal dust included)
Pmax	10bar 145psi	MIE	≥ 10mJ	Air flow speed	15m/s ≤ v ≤ 30m/s 3000 ≤ v ≤ 6000ft/min
Working	Air + dust circuit Clean air circuit	MIT	≥ 400°C ≥ 752°F	Dust concentration	No Limit
ATEX Marking	II D	Atex Inside	Zone 20 (II 1D)	Air flow range	Pull flow

* Vessel (potential explosion source)

** Organic dust, synthetic dust or metal dust

Features of the explosion isolation valve:

VIGIFLAP®

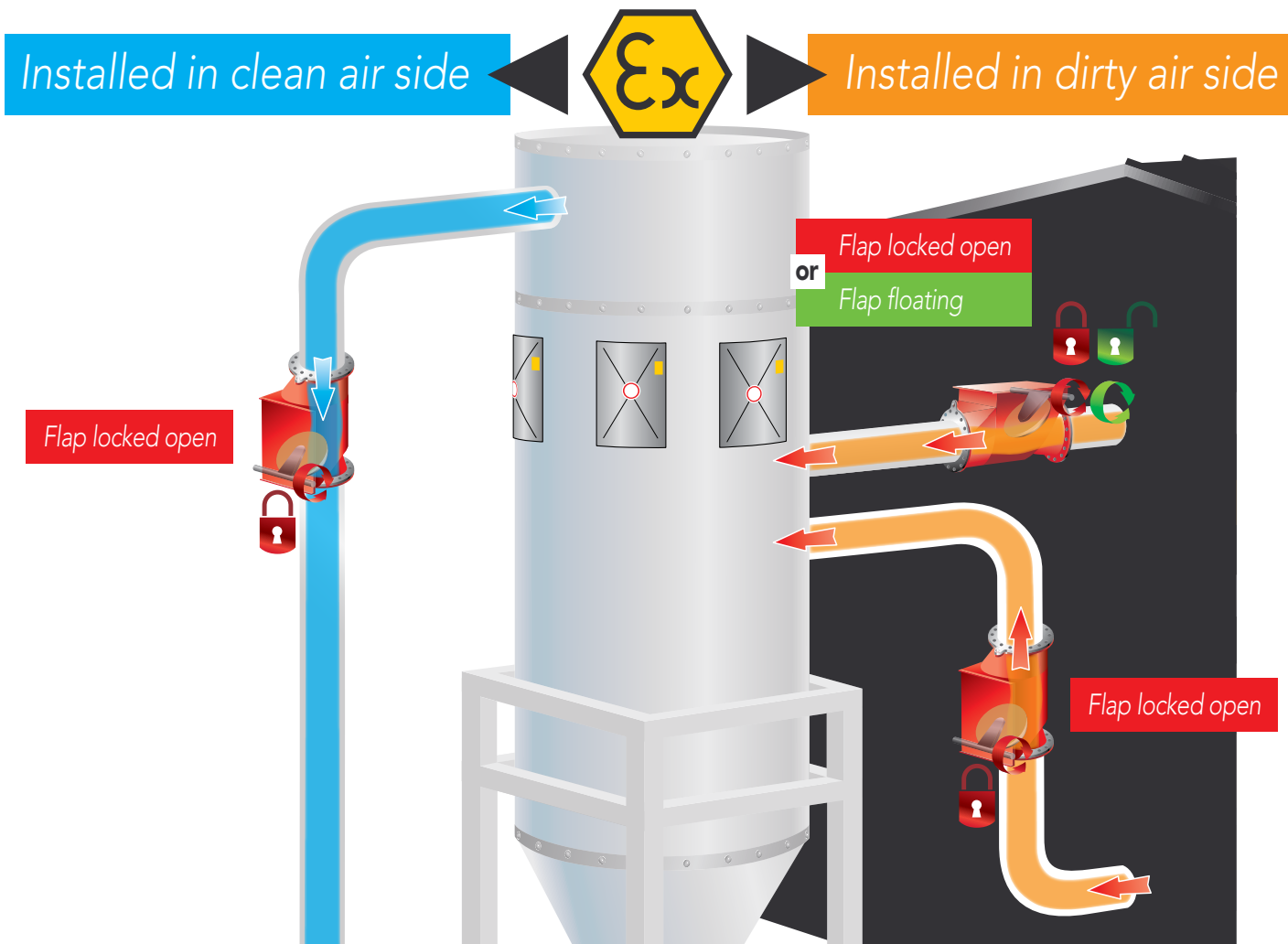


NON DUST ACCUMULATION DESIGN

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



Process flow positions:

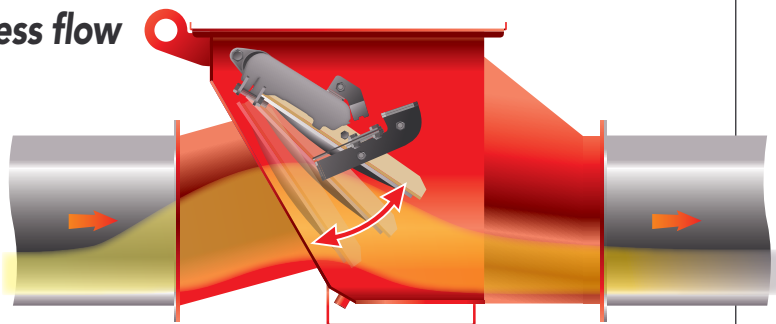
VIGIFLAP[®]  

PROCESS FLOW

PRODUCT PROCESS FLOW

1 Flap is held open by process flow

INSTALLATION
WITH
FLOATING FLAP



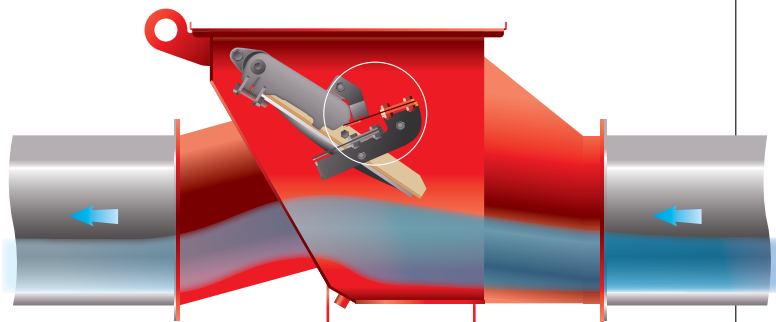
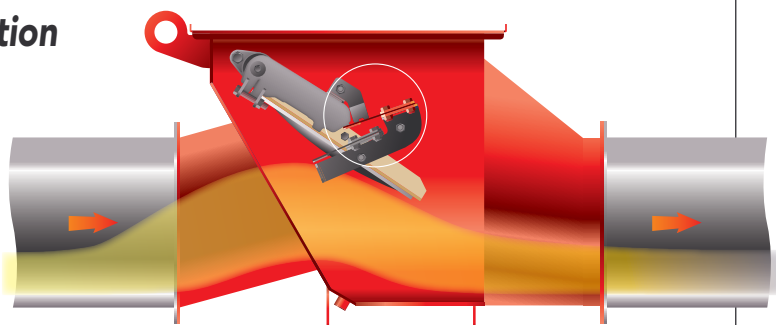
2 Flap locked in open position

INSTALLATION
WITH FLAP
LOCKED OPEN

Locked
open flap for
dirty airside

OR

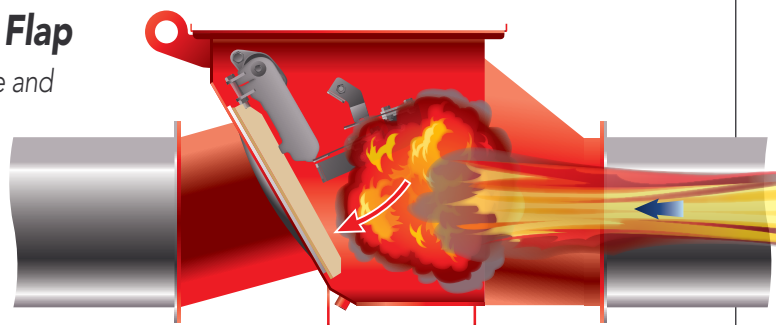
Locked
open flap for
clean airside



DURING AN EXPLOSION EVENT

Floating Flap or Locked Open Flap

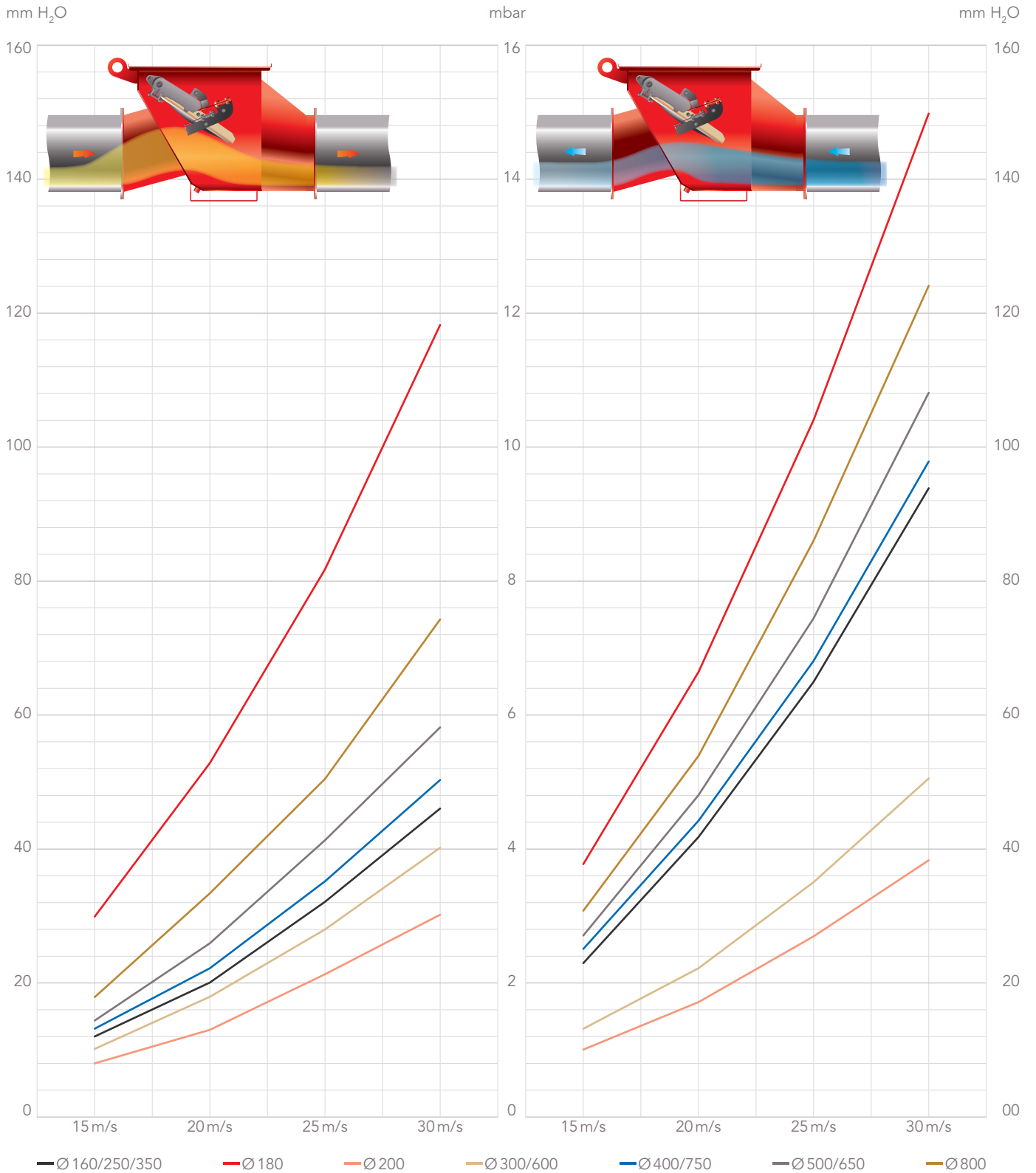
Flap is closed by the explosion pressure wave and locked in place. Manual locking mechanism reset is required.



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 locked open :**
Automatic release of the valve by the pressure of the explosion
- **Floating flap :**
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**
- **ST3**

10 m³ vessel
(All dust Kst 250 bar.m/s)

VigiFLAP Ø800

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



(Picture 1)

VIGILEX®

SAFETY PROTECTION **By STIF**

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