

# VIGI-FLAP KONTRAVENTIL

## SAFEVENT

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## INSTALLATION INSTRUCTION

### PROTECTED VESSEL

The vessel connected to the Flap-valve has to be protected:

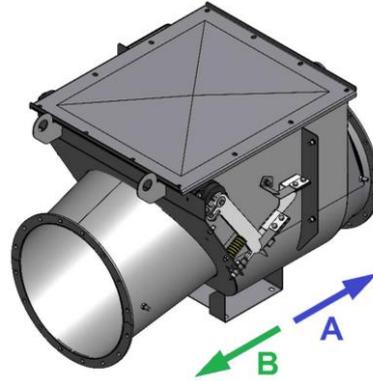
- Either by explosion discharge system (vent panel, flameless)
- or by explosion suppressor system

Protected vessel P<sub>red</sub> max: 0.5 bar

Working temperature: -60°C + 200°C

Flow: working air speed advice, from 20 to 35m/s

- **direction A:** Air + dust (pressure or vacuum).
- **direction B:** Clean air (protection downstream of the filter)
- **direction B:** Explosion expansion way, obstruct by the device;



### DUST KIND IN THE INSTALLATION

<b>ALL ORGANIC DUST KINDS:</b>	<b>Kst</b>	300 bar.m/s	<b>P<sub>max</sub></b>	≤ 10 bar
	<b>MIE</b>	5 mJ	<b>MIT</b>	250 °C
	<b>MESG</b>	≥ 1.5mm		

### RANGE CHARACTERISTICS

BODY	DN 160	DN 250	DN 350	DN 450	DN 550	DN 700	DN 850	DN 1000	DN 1300
PIPE DIAMETER	Ø160	Ø200	Ø300	Ø400	Ø500	Ø600	Ø750	Ø900	Ø1100
		Ø250	Ø350	Ø450	Ø550	Ø650 Ø700	Ø800 Ø850	Ø950 Ø1000	Ø1200 Ø1320
PROTECTED MIN. VOLUME	≥ 0.7m <sup>3</sup>	≥ 1.0m <sup>3</sup>	≥ 2.0m <sup>3</sup>	≥ 3.5m <sup>3</sup>	≥ 5.5m <sup>3</sup>	≥ 7.0m <sup>3</sup>	≥ 8.5m <sup>3</sup>	≥ 10 m <sup>3</sup>	≥ 10 m <sup>3</sup>
MIN LENGTH / VESSEL	2 m	2 m	2 m	3 m	3 m	3 m	3 m	3 m	3 m
MAX LENGTH / VESSEL	10 m	10 m	10 m	10 m	12 m				
RESISTANCE	2.0 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar				

### SAFETY RULES

- ❖ Device position in horizontal (pipe gradient: ±10°)
- ❖ Some bends can be connected to this device
- ❖ To move the device, always use the lifting rings
- ❖ Fix the device on specific support so that the pipe has no stress by the device weight
- ❖ During the facility running, the safety cover on the side have to be on place (human protection)
- ❖ The strip spring of the lock in closing (**D**) must always be in place. These bolts are sealed in factory. If this sealing is broken, the manufacturer warranty is cancelled
- ❖ The lever arm (**F**) must always be in place. Its bolt is sealed in factory. If this sealing is broken, the manufacturer warranty is cancelled
- ❖ The upper stop (**E**) must be in place during the facility working. If it's not in place, the manufacturer warranty is cancelled
- ❖ Follow the electrical continuity rules to ensure the equipotentiality of the piping
- ❖ In case of explosion (or flap locking in closing), global facility must be inspected by qualified person. The device must be checked. In case of distortion or damage of body, flap, gaskets or mobile part, the device has to be complied or replaced. The flap unlocking can only be realized even the device is declared compliant according to running well.
- ❖ Tighten all bolts to assure dustproof, torque: 20Nm
- ❖ Install gaskets between device and pipe flange

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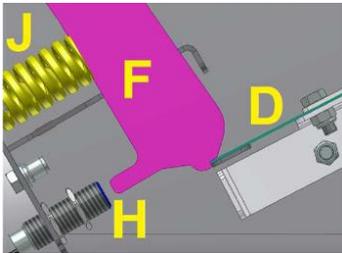


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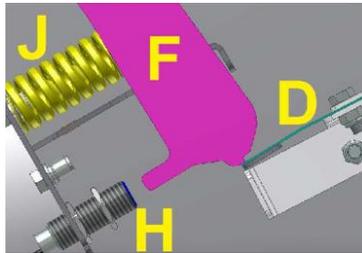
## LOCKING SYSTEM OF FLAP POSITION

- C: Strip spring of the lock in opening
- D: Strip spring of the lock in closing (after explosion)
- E: Upper stop
- F: Lever arm which synchronized with flap position
- G: Fixing bolts of strip spring
- H: Sensor of the lock in closing (inductive)
- I: Sensor of dust built up (capacitive)
- J: Spring of the flap inertia compensation

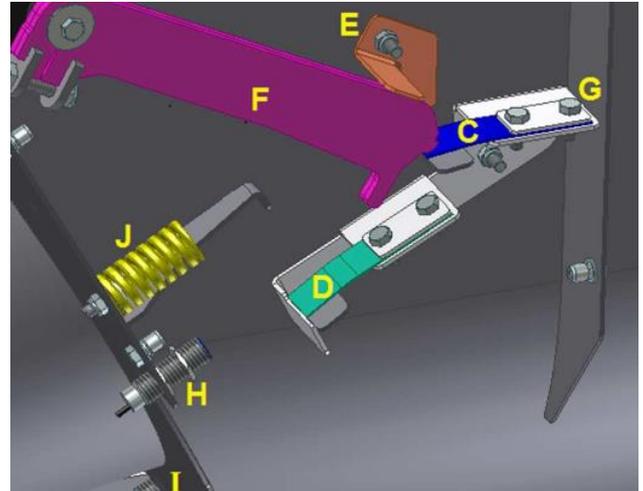
## FLAP LOCKING IN CLOSING



## NON-OPERATIONAL POSITION, FLOATING FLAP



## FLAP LOCKING IN OPENING



## FLAP POSITIONS

- ❖ **FLAP LOCKING IN OPENING** (lever arm **F** is locked by strip spring **C**), the device is delivered in this position. If the user wants to work without this function, he can take out the fixing bolts **C** and the strip spring **C**. So, in this case, the flap can float under the pressure of airflow.
- ❖ **NON-OPERATIONAL POSITION** in floating flap. In case of use with floating flap, when the fan stops, the flap closes by gravity. The spring **J** hinders that the lever arm **F** catches the lock in closing. So, the flap can float again when the fan restarts.
- ❖ **FLAP LOCKING IN CLOSING** During an explosion, the flap closes suddenly, the explosion pressure presses the spring **J** and the lever arm **F** is locked by the strip spring **D**. The flap stays in this position. After inspection, by a qualified person, of the facility, it will be manually unlocked (press the spring **J** by the lever arm **F** up to go out of the strip spring **D**). In the locking in closing position, the sensor **H** detects the lever arm position to inform the user that the VigiFlap is locked in closing.
- ❖ Large opening for inspection operation. It's possible to take out the upper door of VigiFlap. To get easy the gasket inspection, you can take out the upper stop **E**. So, you can totally turn outside the flap.

## SENSOR

- ❖ **MAINLY:** lock in closing position sensor (after explosion).  
Inductive M12, 10-36V DC ATEX 21 II2D.
- ❖ **IN OPTION:** chock detector to check dust built up risk in the bottom  
Capacitive M12, 12V DC ATEX 20 II1D Ex ia III C T135°C

## INSPECTION AND CLEANING

Regularly check the device to assure that nothing can obstruct the flap running or create a leak (dust built up, odd one out, corrosion, gasket status...)  
The frequency of inspection and cleaning must be defined according to device using.

## RECYCLE

In life end, the user has to separate different raw materials to recycle them.