

## B-Flap I-Explosion Isolation Flap Valve

Explosion Isolation Flap Valve B-Flap I - protective system.



Flow-Actuated Flap Valve type B-Flap I is designed as explosion pressure resistance equipment, which is able to prevent a transmission of dangerous effects of explosion pressure wave and flames front to upstream areas. Product has been designed in accordance with European Directive 2014/34/EU and certified by EN 16447:2014.

B-Flap I must be used only for Pull configuration.

#### Description:

Welded construction in RAL 3000 painted carbon steel. Stainless steel without a surface finish only on special request.

#### Function:

In case of an explosion in the downstream equipment (e.g. dust collector) a pressure wave will force to close the Flap plate and lock in position. When Flap plate is closed it makes an effective barrier against approaching flame front. This prevent the explosion from being transmitted to upstream work areas.

- Inside valve, zone 20
- Outside valve, zone 21,22, no zone

<b>Product name</b>	B-Flap I-Explosion Isolation Flap Valve
<b>Material</b>	Painted carbon steel
<b>Dust Concentration in duct</b>	500 g/m <sup>3</sup>
<b>Max velocity in duct (m/s)</b>	35
<b>Minimum velocity in duct</b>	0
<b>Install type</b>	Pull



# B-Flap I-Explosion Isolation Flap Valve

Diameter (mm)	Min vessel size (m3)	Weight (kg)	Explosion Class ATEX	Minimum vessel size, pull (m3)	Kst (bar m/s)	Maximum reduced pressure, Pred (bar)	[model]
100	0,46	9	St1	0,46	200	0,6	73007996*
100	0,46	9	St2	0,46	300	0,6	73007997
125	0,46	11	St1	0,46	200	0,6	73007998*
125	0,46	11	St2	0,46	300	0,6	73007999
150	0,46	13	St1	0,46	200	0,6	73008000*
150	0,46	13	St2	0,46	300	0,6	73008001
200	0,46	18	St1	0,46	200	0,6	73008002*
200	0,46	18	St2	0,46	300	0,6	73008003
250	0,9	40	St1	0,9	200	0,45	73008004*
250	0,9	40	St2	0,9	300	0,35	73008005
300	0,9	50	St1	0,9	200	0,45	73008006*
300	0,9	50	St2	0,9	300	0,35	73008007
315	0,9	53	St1	0,9	200	0,45	73008008*
315	0,9	53	St2	0,9	300	0,35	73008009
355	0,9	61	St1	0,9	200	0,45	73008010*
355	0,9	61	St2	0,9	300	0,35	73008011
400	0,9	77	St1	0,9	200	0,45	73008012*
400	0,9	77	St2	0,9	300	0,35	73008013
100	0,46	9	St1	0,46	200	0,6	73008021**
100	0,46	9	St2	0,46	300	0,6	73008022**
125	0,46	11	St1	0,46	200	0,6	73008023**
125	0,46	11	St2	0,46	300	0,6	73008024**
150	0,46	13	St1	0,46	200	0,6	73008025**
150	0,46	13	St2	0,46	300	0,6	73008026**
200	0,46	18	St1	0,46	200	0,6	73008027**
200	0,46	18	St2	0,46	300	0,6	73008028**
250	0,9	40	St1	0,9	200	0,45	73008029**
250	0,9	40	St2	0,9	300	0,35	73008030**
300	0,9	50	St1	0,9	200	0,45	73008031**
300	0,9	50	St2	0,9	300	0,35	73008032**
315	0,9	53	St1	0,9	200	0,45	73008033**
315	0,9	53	St2	0,9	300	0,35	73008034**
355	0,9	61	St1	0,9	200	0,45	73008035**
355	0,9	61	St2	0,9	300	0,35	73008036**
400	0,9	77	St1	0,9	200	0,45	73008037**
400	0,9	77	St2	0,9	300	0,35	73008038**
450	1,6	88	St1	1,6	200	0,35	73008039**
500	1,6	101	St1	1,6	200	0,35	73008040**
560	6	157	St1	6	200	0,45	73008041**
630	6	180	St1	6	200	0,45	73008042**

\*B-FLAP I, sizes 100-400, St1 marked, may be used on light metal dust (aluminum, etc.)

\*\*Stainless Steel

## B-Flap I-Explosion Isolation Flap Valve

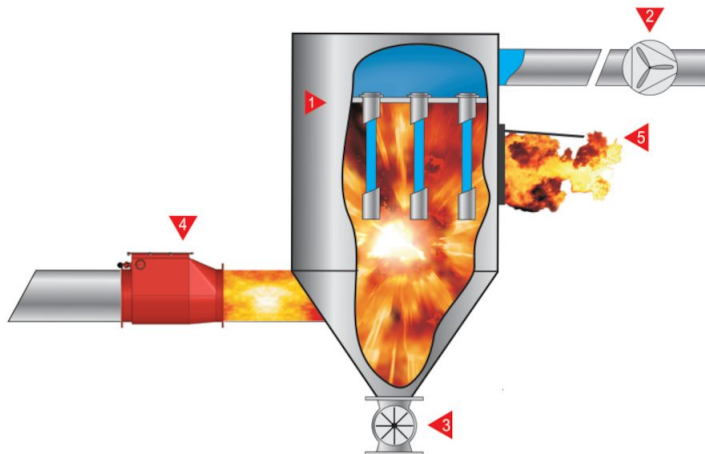
	[accessory]	[partno]
	Position sensor ATEX version (zone 21, 22, no zone)	73002043
	Position sensor standard version (no zone)	73002168
	Dirt sensor	73008048*

*\*Detecting part:*

*Inside for Zone 20 and Cable end for Zone 21, 22 or non-zone*

## B-Flap I-Explosion Isolation Flap Valve

Working B-Flap during explosion:



- 1) Filter
- 2) Fan
- 3) Rotary feeder
- 4) B-Flap valve
- 5) Explosion burst membran

Dust combustion properties:

A)	B)	
	1) St1 for all sizes	2) St2 (from 100 to 400)
<b>Kst</b>	≤ 200 bar·m·s <sup>-1</sup>	≤ 300 bar·m·s <sup>-1</sup>
<b>MESG*</b>	1,3 mm ≤ DN 400 1,8 mm > DN 400	

- A) Dust combustion properties
- B) Data
- 1) St1 for all sizes
- 2) St2 (from 100 to 400)
- \*) MESG = Maximum Experimental Safe Gap

## B-Flap I-Explosion Isolation Flap Valve

### Specifications:

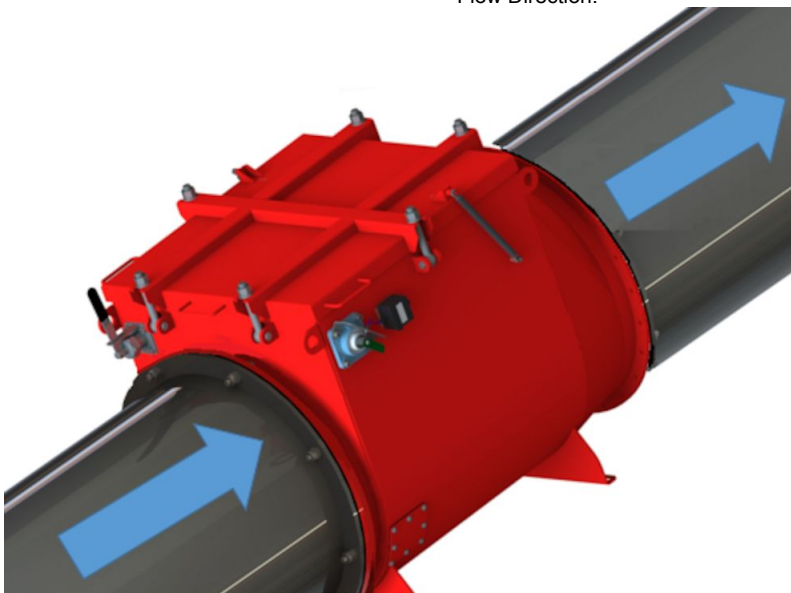
A)	B)				
	100-200	250-400	450-500	560-630	710-800
1) Operating temperature range	from -40°C to +80°C				
2) Ambient Temperature	from -40°C to +80°C (from -20°C to +60°C for version with electrical accessories)				
3) Flow velocity	Max. 35 m/s				
4) Max. reduced explosion pressure in vessel - pred, max	St1: 0,6 bar St2: 0,6 bar	St1: 0,45 bar St2: 0,35 bar	St1: 0,35 bar	St1: 0,45 bar	St1: 0,45 bar
5) Max. dust concentrations in the pipe on which valve is installed	500 g/m <sup>3</sup>				
6) Min. Vessel size	St1: 0,46 m <sup>3</sup> St2: 0,46 m <sup>3</sup>	St1: 0,9 m <sup>3</sup> St2: 0,9 m <sup>3</sup>	1,6 m <sup>3</sup>		6 m <sup>3</sup>
7) Pressure resistance of flap - pmax	St1: 1 bar St2: 1 bar	St1: 0,65 bar St2: 0,65 bar	St1: 0,8 bar	St1: 0,8 bar	St1: 0,7 bar
8) Flow applications	Pull Only Horizontally or max. 30 dgr. upward				Horizontally or max. 5 dgr. upward
9) Inclination of the B-Flap					
10) Protection method of connected vessel	Non-reclosing explosion vents, HRD system (from RSBP company), flameless venting type FLEX				

#### A) Parameters

#### B) Flap valve type

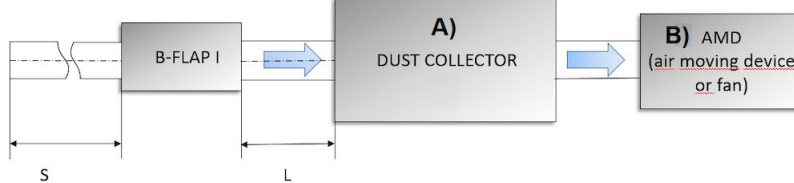
- 1) Operating temperature range
- 2) Ambient Temperature
- 3) Flow velocity
- 4) Max. reduced explosion pressure in vessel - pred, max
- 5) Max. dust concentrations in the pipe on which valve is installed
- 6) Min. Vessel size
- 7) Pressure resistance of flap - pmax
- 9) Inclination of the B-Flap
- 10) Protection method of connected vessel

### Flow Direction:



## B-Flap I-Explosion Isolation Flap Valve

Special application requirement,  
PULL Configuration and B-Flap I distance rules:



C) Parameter	Flap 100-200	Flap 250-630	Flap 710-800
1) Bends	max. 2 x 90°		
2) S*	at least 5 x DN		
3) L** min	3 m	4 m	3m
4) L** max	7 m		

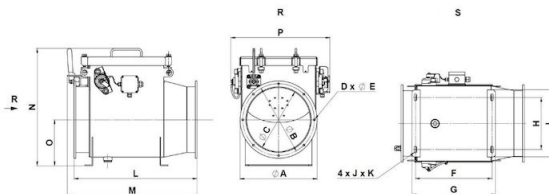
A) Dust Collector

B) AMD ( Air Moving Device or fan)

C ) Parameters

- 1) Bends , max. 2 x 90°
- 2) S\*, S - distance behind the B-flap I
- 3) L\*\* min, \*\*L - Installation distance from the vessel, where the explosion could occur, to the B-Flap.
- 4) L\*\* max, \*\*L - Installation distance from the vessel, where the explosion could occur, to the B-Flap.

B-Flap I dimensions:



1)		2)		3) [mm]															
SH	SH2	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		
73007996	73007997	FLAP 100	152	132	100	4	188	210	80	125	10	25	280	308	287	99	344		
73007998	73007999	FLAP 125	177	157	125	4	213	235	100	145	10	25	305	333	308	113,5	369		
73008000	73008001	FLAP 150	202	182	150	6	238	260	125	170	10	25	330	358	337	124	394		
73008002	73008003	FLAP 200	253	233	200	6	288	310	170	215	10	25	390	418	387	149	344		
73008004	73008005	FLAP 250	303	283	250	6	311	344	200	270	12	32	510	544	502	192	417		
73008006	73008007	FLAP 300	363	337	300	8	361	394	245	315	12	32	580	614	552	217	467		
73008008	73008009	FLAP 315	378	352	315	8	376	409	255	325	12	32	600	634	567	224,5	482		
73008010	73008011	FLAP 355	418	392	355	8	414	447	290	360	12	32	630	664	607	244,5	522		
73008012	73008013	FLAP 400	464	438	400	8	462	495	330	400	12	32	695	729	652	267,5	568		
73008014		FLAP 450	514	488	450	8	509	542	377	447	12	32	750	786	702	293	619		
73008015		FLAP 500	564	538	500	8	559	592	420	490	12	32	800	839	752	318	699		
73008016	*) not available	FLAP 560	664	629	560	16	635	676	490	560	14	34	930	966	838	370	785		
73008017		FLAP 630	734	698	630	16	705	740	550	620	14	34	1005	1041	908	405	815		
73008018		FLAP 710	814	775	710	16	785	826	615	685	18	38	1156	1208	1103	451,8	962		
73008019		FLAP 800	904	861	800	24	875	916	705	775	18	38	1246	1298	1193	496,5	1052		

1) Part number

2) Type

3) Dimensions [mm]

\*) not available