

# 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>Standard</b>	EN 16447:2014, 2014/34/EC
<b>Installation</b>	Indoor, Outdoor
<b>Material</b>	Painted carbon steel



# B-Flap I-Explosion Isolation Flap Valve

Description	Weight (kg)	Note	Model
B-Flap I, -100, Explosion Isolation Flap Valve, St1	9	B-FLAP I, sizes 100-400, St1 marked, may be used on light metal dust (aluminum, etc..)	73007996*
B-Flap I, -100, Explosion Isolation Flap Valve, St2	9		73007997
B-Flap I, -125, Explosion Isolation Flap Valve, St1	11	B-FLAP I, sizes 100-400, St1 marked, may be used on light metal dust (aluminum, etc..)	73007998*
B-Flap I, -125, Explosion Isolation Flap Valve, St2	11		73007999
B-Flap I, -150, Explosion Isolation Flap Valve, St1	13	B-FLAP I, sizes 100-400, St1 marked, may be used on light metal dust (aluminum, etc..)	73008000*
B-Flap I, -150, Explosion Isolation Flap Valve, St2	13		73008001
B-Flap I, -200, Explosion Isolation Flap Valve, St1	18	B-FLAP I, sizes 100-400, St1 marked, may be used on light metal dust (aluminum, etc..)	73008002*
B-Flap I, -200, Explosion Isolation Flap Valve, St2	18		73008003
B-Flap I, -250, Explosion Isolation Flap Valve, St1	40	B-FLAP I, sizes 100-400, St1 marked, may be used on light metal dust (aluminum, etc..)	73008004*
B-Flap I, -250, Explosion Isolation Flap Valve, St2	40		73008005
B-Flap I, -300, Explosion Isolation Flap Valve, St1	50	B-FLAP I, sizes 100-400, St1 marked, may be used on light metal dust (aluminum, etc..)	73008006*
B-Flap I, -300, Explosion Isolation Flap Valve, St2	50		73008007
B-Flap I, -315, Explosion Isolation Flap Valve, St1	53	B-FLAP I, sizes 100-400, St1 marked, may be used on light metal dust (aluminum, etc..)	73008008*
B-Flap I, -315, Explosion Isolation Flap Valve, St2	53		73008009
B-Flap I, -355, Explosion Isolation Flap Valve, St1	61	B-FLAP I, sizes 100-400, St1 marked, may be used on light metal dust (aluminum, etc..)	73008010*
B-Flap I, -355, Explosion Isolation Flap Valve, St2	61		73008011
B-Flap I, -400, Explosion Isolation Flap Valve, St1	77	B-FLAP I, sizes 100-400, St1 marked, may be used on light metal dust (aluminum, etc..)	73008012*
B-Flap I, -400, Explosion Isolation Flap Valve, St2	77		73008013
B-Flap I, -450, Explosion Isolation Flap Valve, St1	88		73008014
B-Flap I, -500, Explosion Isolation Flap Valve, St1	101		73008015
B-Flap I, -560, Explosion Isolation Flap Valve, St1	157		73008016
B-Flap I, -630, Explosion Isolation Flap Valve, St1	180		73008017
B-Flap I, -710, Explosion Isolation Flap Valve, St1	326		73008018
B-Flap I, -800, Explosion Isolation Flap Valve, St1	370		73008019
B-Flap I, -100-N, Explosion Isolation Flap Valve AISI 304, St1	9	Stainless Steel	73008021**
B-Flap I, -100-N, Explosion Isolation Flap Valve AISI 304, St2	9	Stainless Steel	73008022**
B-Flap I, -125-N, Explosion Isolation Flap Valve AISI 304, St1	11	Stainless Steel	73008023**
B-Flap I, -125-N, Explosion Isolation Flap Valve AISI 304, St2	11	Stainless Steel	73008024**
B-Flap I, -150-N, Explosion Isolation Flap Valve AISI 304, St1	13	Stainless Steel	73008025**
B-Flap I, -150-N, Explosion Isolation Flap Valve AISI 304, St2	13	Stainless Steel	73008026**
B-Flap I, -200-N, Explosion Isolation Flap Valve AISI 304, St1	18	Stainless Steel	73008027**
B-Flap I, -200-N, Explosion Isolation Flap Valve AISI 304, St2	18	Stainless Steel	73008028**
B-Flap I, -250-N, Explosion Isolation Flap Valve AISI 304, St1	40	Stainless Steel	73008029**
B-Flap I, -250-N, Explosion Isolation Flap Valve AISI 304, St2	40	Stainless Steel	73008030**
B-Flap I, -300-N, Explosion Isolation Flap Valve AISI 304, St1	50	Stainless Steel	73008031**
B-Flap I, -300-N, Explosion Isolation Flap Valve AISI 304, St2	50	Stainless Steel	73008032**
B-Flap I, -315-N, Explosion Isolation Flap Valve AISI 304, St1	53	Stainless Steel	73008033**
B-Flap I, -315-N, Explosion Isolation Flap Valve AISI 304, St2	53	Stainless Steel	73008034**
B-Flap I, -355-N, Explosion Isolation Flap Valve AISI 304, St1	61	Stainless Steel	73008035**

# B-Flap I-Explosion Isolation Flap Valve

Description	Weight (kg)	Note	Model
B-Flap I, -355-N, Explosion Isolation Flap Valve AISI 304, St2	61	Stainless Steel	73008036**
B-Flap I, -400-N, Explosion Isolation Flap Valve AISI 304, St1	77	Stainless Steel	73008037**
B-Flap I, -400-N, Explosion Isolation Flap Valve AISI 304, St2	77	Stainless Steel	73008038**
B-Flap I, -450-N, Explosion Isolation Flap Valve AISI 304, St1	88	Stainless Steel	73008039**
B-Flap I, -500-N, Explosion Isolation Flap Valve AISI 304, St1	101	Stainless Steel	73008040**
B-Flap I, -560-N, Explosion Isolation Flap Valve AISI 304, St1	157	Stainless Steel	73008041**
B-Flap I, -630-N, Explosion Isolation Flap Valve AISI 304, St1	180	Stainless Steel	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

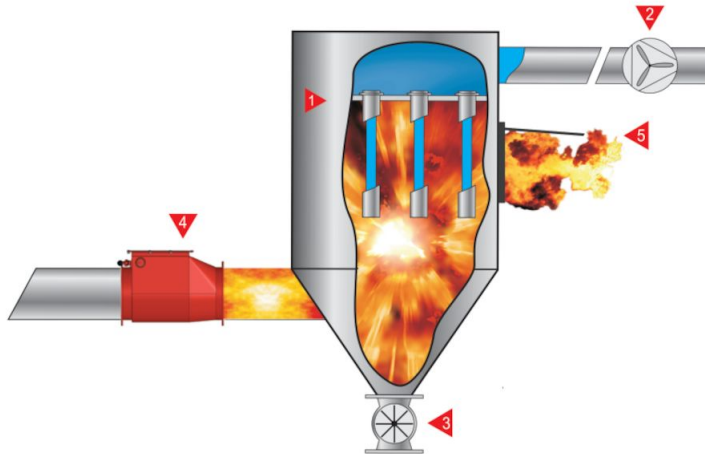
Accessory		Part No
	Position sensor ATEX version (zone 21, 22, no zone)	73002043
	Position sensor standard version (no zone)	73002168
	Dirt sensor	73008048*

*\*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)
Kst	$\leq 200 \text{ bar} \cdot \text{m} \cdot \text{s}^{-1}$	$\leq 300 \text{ bar} \cdot \text{m} \cdot \text{s}^{-1}$
MESG*	$1,3 \text{ mm} \leq \text{DN } 400$ $1,8 \text{ mm} > \text{DN } 400$	

- 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:

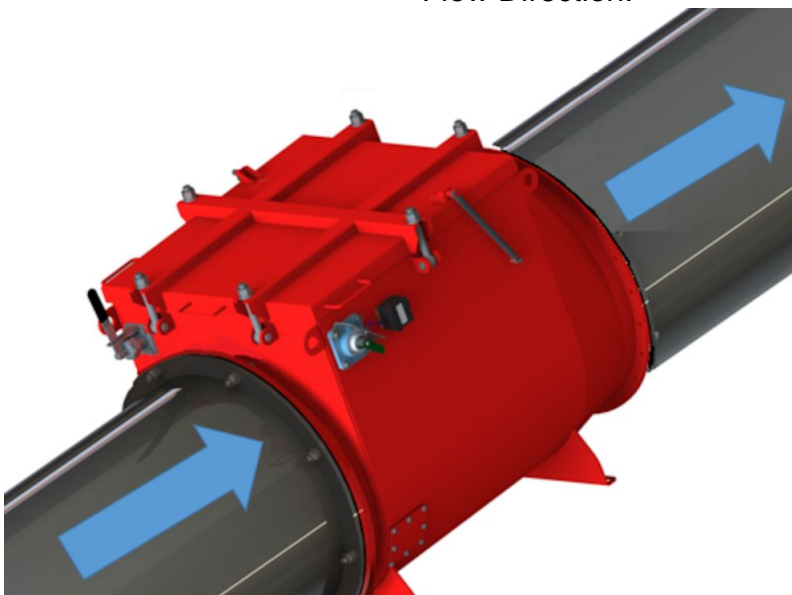
A)	B)				
	100-200	250-400	450-500	560-630	710-800
1) Operating temperature range	from -40°C to +80°C				
2) Ambient Temperature	from -40°C to +80°C (from -20°C to +60°C for version with electrical accessories)				
3) Flow velocity	Max. 35 m/s				
4) Max. reduced explosion pressure in vessel - pred, 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				
9) Inclination of the B-Flap	Horizontally or max. 30 dgr. upward			Horizontally or max. 5 dgr. upward	
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

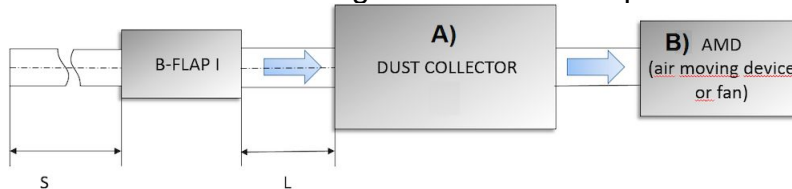
- 1) Operating temperature range
- 2) Ambient Temperature
- 3) Flow velocity
- 4) Max. reduced explosion pressure in vessel - pred, max
- 5) Max. dust concentrations in the pipe on which valve is installed
- 6) Min. Vessel size
- 7) Pressure resistance of flap - pmax
- 9) Inclination of the B-Flap
-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

## Flow Direction:



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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

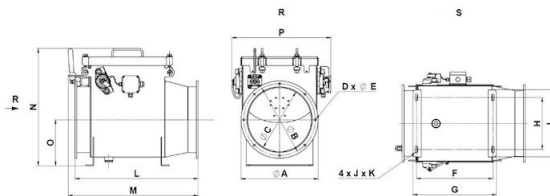
1) Bends , max. 2 x 90°

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]															
S11	S12	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
73007996	73007997	FLAP 100	152	132	100	4	188	210	80	125	10	25	280	308	287	99	244		
73007998	73007999	FLAP 125	177	157	125	4	213	235	100	145	10	25	305	313	308	111,5	269		
73008000	73008001	FLAP 150	202	182	150	6	238	260	125	170	10	25	330	356	337	134	294		
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	614	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	670	490	560	14	34	910	966	838	370	745		
73008017		FLAP 630	734	698	630	16	705	740	550	620	14	34	1005	1041	908	405	825		
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