

RSK Isolation Valve



BRILEX EXPLOSION ISOLATION VALVE - RSK

A passive device for isolating dust explosions.

Certification according to 94/9/EC

In event of a dust explosion in a filter or dust collector, the explosion can travel back via the inlet ductwork to connected machinery or other plant equipment. Should an explosion be allowed to travel back to the plant, the explosion could gain significant speed and may cause catastrophic damage that can be life threatening to personnel in the plant.

Ignition sources such as ember or sparks can be produced by process machinery and then be transported to filters. Filters can provide the optimum conditions for dust explosions. The likelihood of an ignition source together with an optimum airborne dust concentration, characterises filters and dust collectors as high-risk zones for dust explosions to occur.

Correctly designed and certified explosion vents in filters will maintain their integrity. However an un-isolated filter inlet duct could allow a high-risk hazard to propagate back to the rest of the plant.

Plant Managers concerned about occupational Health and Safety as well as plant protection now have a cost effective opportunity for explosion isolation of filters compared to other products such as chemical suppression barriers, diverters and knife gate valves.

With a certified RSK Isolation Valve it is now possible to isolate filters and run the plant economically.

DEVICE DESCRIPTION

The valve consists of a weighted, hinged, plate inside the main body. In normal operation, the plate is held open by the air flow through the valve.

In the event of an explosion, the air flow is stalled and the plate will close. The plate will then be driven down hard on the valve seat by the explosion pressure.

The RSK valve is used in applications where the dust in the extraction duct is below the lower explosion limit in normal operation.

OPERATION

The valve must be used in conjunction with a primary protection system on the main vessel such as an explosion vent or a suppression system. The RSK valve is designed for reduced explosion pressures up to 2.2 bar (up to DN400) and 1.4 bar (DN450 onwards). Therefore it should not be used in conjunction with a containment vessel which is capable of withstanding the maximum explosion pressure.

The RSK valves can be used for dust explosion hazards in the ST1 and ST2 classes.

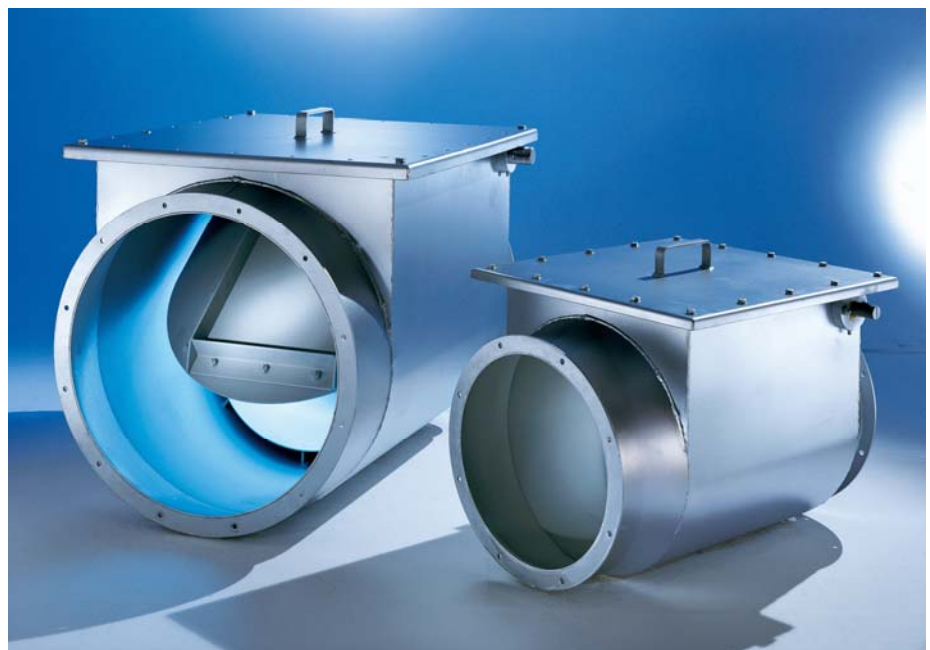
The valve must be located horizontally in the inlet duct. The minimum distance between the vessel and the valve is as follows:-

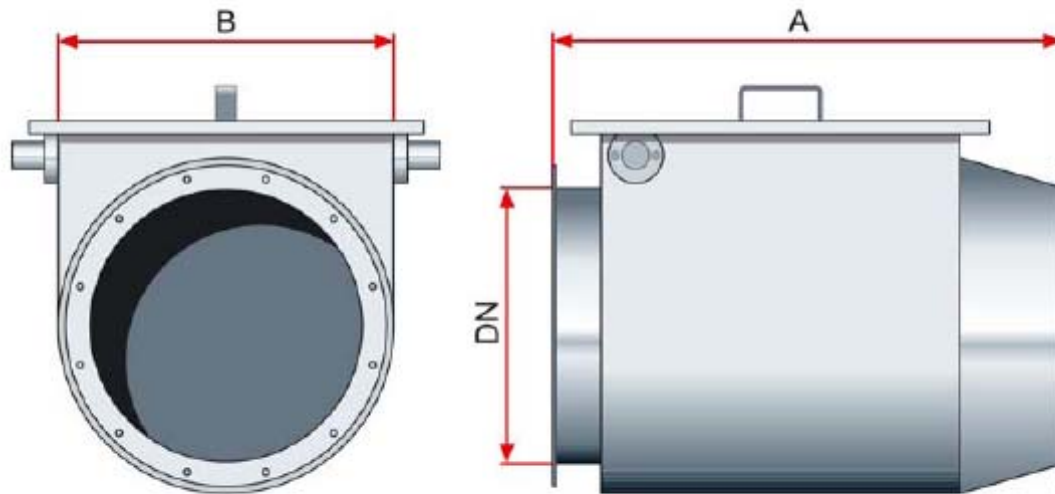
2m - DN160-DN400
3m - DN450-DN1000

CONSTRUCTION

The RSK valves are constructed from mild steel and painted (RAL3000). Unpainted versions in stainless steel 304 are available as an option.

Sizes and dimensions are shown in the table overleaf.





Type (DN)	Weight (Kg)	Dim A	Dim B	Flange ODia	Flange IDia	Hole PCD	No of Holes	Dia of Holes	Flange Thick-ness
RSK160	28	500	246	215	165	195	6	9.5	5
RSK200	31	540	286	255	205	235	6	9.5	5
RSK250	38	590	336	305	255	285	6	9.5	5
RSK280	38	620	366	335	285	315	8	9.5	5
RSK315	42	660	401	380	320	354	8	9.5	5
RSK355	50	700	441	420	360	394	8	9.5	5
RSK400	65	740	486	465	405	439	12	9.5	5
RSK450	88	790	536	515	455	489	12	9.5	5
RSK500	103	840	586	565	505	539	12	9.5	5
RSK560	118	900	646	635	565	601	12	9.5	6
RSK600	138	940	686	675	605	641	16	9.5	6
RSK630	152	970	716	705	635	671	16	9.5	6
RSK710	195	1050	796	795	715	751	16	11.5	6
RSK800	252	1140	886	885	805	841	16	11.5	6
RSK900	326	1240	986	985	905	941	16	11.5	6
RSK1000	370	1340	1086	1085	1005	1041	16	11.5	6



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