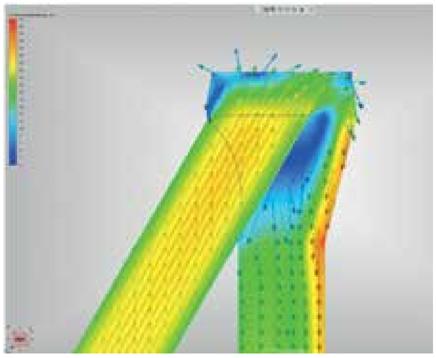
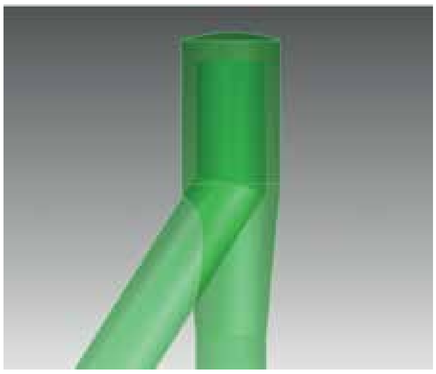
The Explosion Diverter





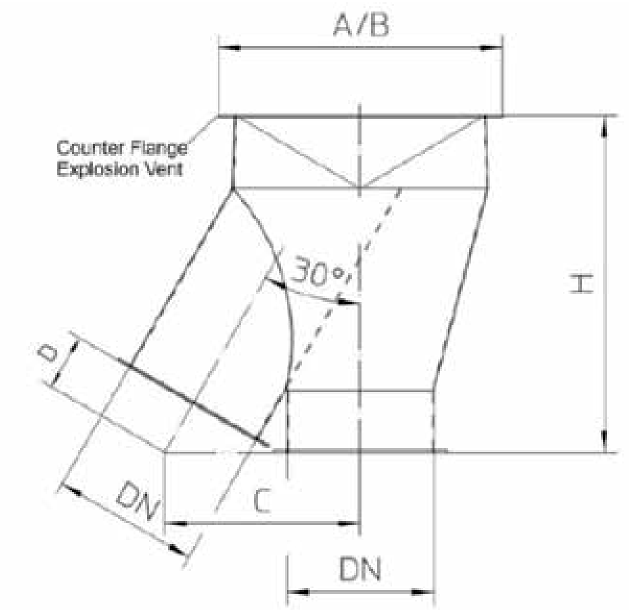
Explosion diverters were probably the first method employed to decouple dust explosions. The advantage of this method was always that it provided protection in both directions as it allowed pressure to be reliably decoupled at the explosion diverter, irrespective of whether the explosions came from the extractor or filter sides. But the method wasn‘t very effective when it came to the suppression of flames, and spreading flames facilitate the propagation of explosions and often cause serious damage. The method also produces massive pressure losses in the affected systems, which also severely restricts the widespread use of such diverters.

But DIN EN 16020:2011 has now created a way of using explosion diverters safely. The testing procedures that it specifies with the design regulations and the detailed catalogue of requirements that it contains clearly set out the demands that such diverters must satisfy, if they are to be used in protective systems.
But what can the standard deliver when massive losses of pressure in this “pipe in pipe” system put the cost-effectiveness of such diverters into question? Classical geometries defined in the standard produce pressure losses of up to 1500 PA, which would require huge additional fan performance to compensate.

However, new flow-simulation programs now make it possible to reduce pressure losses with standard-compliant designs by over 60% to 550 Pa.
This means that, technically, the loss of pressure has been reduced to the levels that can be achieved with non-return valves – which for many years have been broadly accepted as cost-effective decoupling systems.
Explosion diverters may also be employed to provide cost-effective bidirectional safety and protection.

Dimensions Explosion Diverter

DN	A/B (mm)	C (mm)	D (mm)	H (mm)
140	309/309	222	67	390
180	500/300	272	85	470
224	537/385	315	96	552
250	490/490	354	101	615
300	570/570	417	136	720
315	690/550	432	134	747,5
355	788/645	476	146	817,5
400	735/735	552	152	948
450	1000/666	610	181	1045
500	1198/690	693	215	1190
560	1000/1000	774	260	1330
630	1100/1100	869	254	1495



When the explosion can come from both sides – bidirectional Decoupling –
Safety and efficiency can be combined!

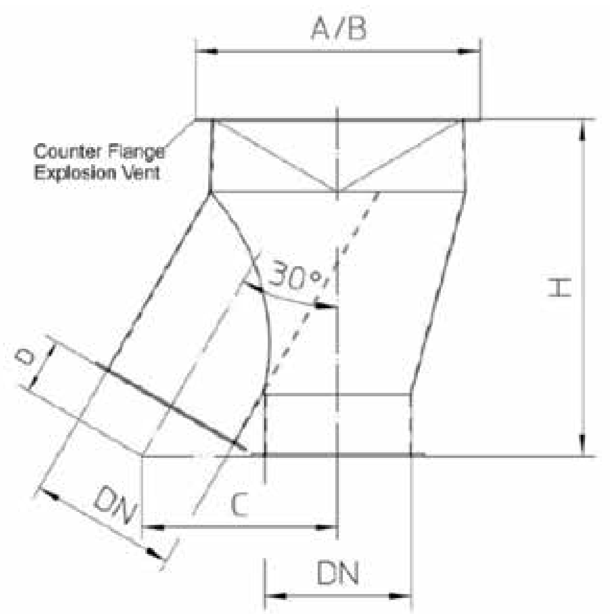
The BRILEX REXS and the GE / DIV

The BRILEX GE / DIV

It's important for explosion diverters that the mechanical integrity of the fitted explosion vent has been certified accordingly. The explosion vent must be able to withstand the extreme conditions caused by the progress of the explosion in the explosion diverter.
BRILEX GE, a rectangular explosion vent with specially shaped curvature that is resistant to vacuums and therefore delivers sufficient stability, is suitable for such applications. The explosion vent withstands severe pressure cycles without limit while providing reliable protection.

Dimensions Explosion Vent

DN Diverter	A/B (mm)	Vent Size ID	Type Vent
140	309/309	229 x 229	GE / DIV
180	500/300	220 x 420	GE / DIV
224	537/385	305 x 457	GE / DIV
250	490/490	410 x 410	GE / DIV
300	570/570	490 x 490	GE / DIV
315	690/550	470 x 610	GE / DIV
355	788/645	525 x 668	GE / DIV
400	735/735	645 x 645	GE / DIV
450	1000/666	586 x 920	GE / DIV
500	1198/690	610 x 1118	GE / DIV
560	1000/1000	920 x 920	GE / DIV
630	1100/1100	1020 x 1020	GE / DIV



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