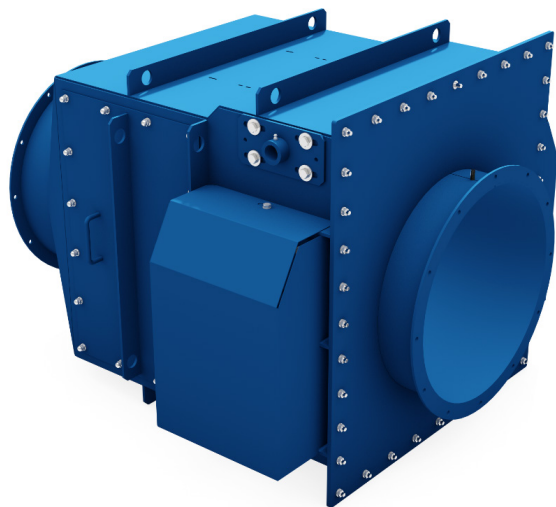
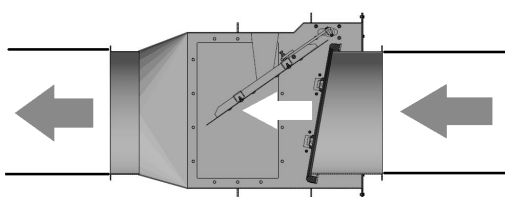


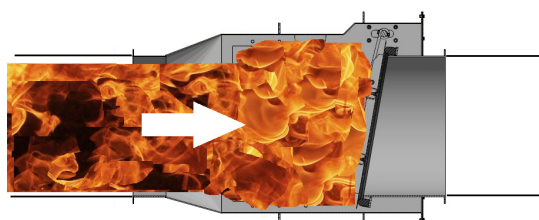
Explosion Isolation Flap Valve CARZ-N - protective system



Suction direction



Explosion direction



Marking



The marking is based on product certification:

- FTZU 16 ATEX 0192X by N.B. No. 1026 and Quality System approval by N.B.



- IECEx FTZU 17.0015 - Product certification according to International Certification System IECEx.

Explosion Isolation Flap Valve type CARZ-N 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. Certified according to EN 16447.

Description

Welded construction in RAL 5009 blue painted steel plate.

Function

During air flow generated by main fan, the Flap plate is open. 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. Large opening angle ensure low pressure drop. 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.

Specifications

Combustible dust properties	Size: 450 - 630 mm
Kst	Kst ≤ 200 bar · m · s ⁻¹
MESG (Maximum Experimental Safe Gap)	≥ 1,3 mm
Explosion class	St1

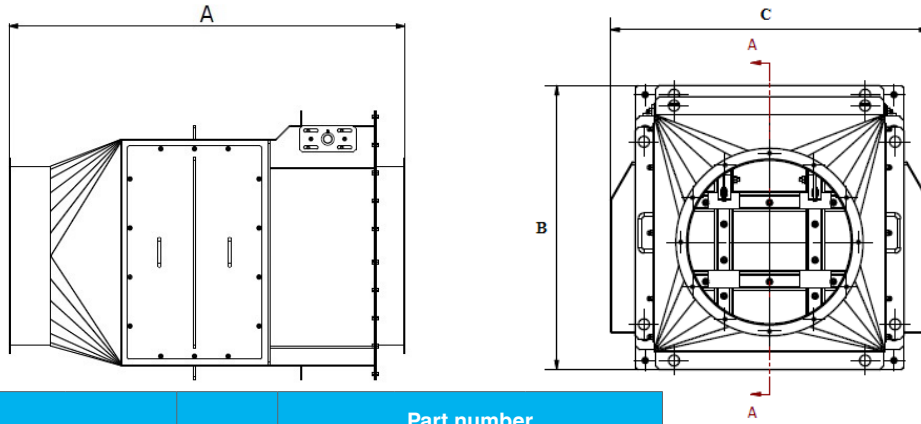
For dust MESG (mm) is calculated from MIE_x (mJ) and MIT (°C) using the following equation (Eckhoff, 2003)*:

$$MESG = 1,01 \times (MIE_x (MIT + 273) / 273)^{0,157}$$

* Reference to EN 16447:2014, chapter 5.2.3

Parameters for PULL	Size: 450 mm	Size: 500 - 630 mm
Operating temperature range	from -20°C to +70°C	
Ambient Temperature	from -20°C to +60°C	
Max. reduced explosion pressure - p _{red max}	St1: 50 kPa	
Max. dust concentrations in duct.	Any	
Min. Vessel size	0,9 m ³	1,6 m ³
Explosion shock resistant pressure	1 bar	
Inclination of the CARZ- N	Horizontally	
Protection method of connected vessel	Explosion vents or Explosion doors (not self-closing type)	
Parameters for PUSH	Size: 450 - 630 mm	
Operating temperature range	from -20°C to +70°C	
Ambient Temperature	from -20°C to +60°C	
Max. reduced explosion pressure in vessel - p _{red max}	St1: 50 kPa	
Max. dust concentrations in duct.	Any	
Min. Vessel size	1,6 m ³	
Explosion shock resistant pressure in CARZ-N	1 bar	
Inclination of the CARZ-N	Horizontally	
Protection method of connected vessel	Non-reclosing vent devices, reclosing vent devices or suppression	

Dimensions



Flap valve size ØD	Dimensions [mm]			Weight [kg]	Part number		
	A	B	C		St1*		
					FL	QF	NW
450 mm	1109	973	1118	175	73007814	73007834	73007815
500 mm	1193	1012	1168	200	73007836	73007838	73007837
560 mm	1294	1040	1228	224	73007842	73007844	73007843
630 mm	1409	1129	1298	260	73007848	73007850	73007849

*Explosion class

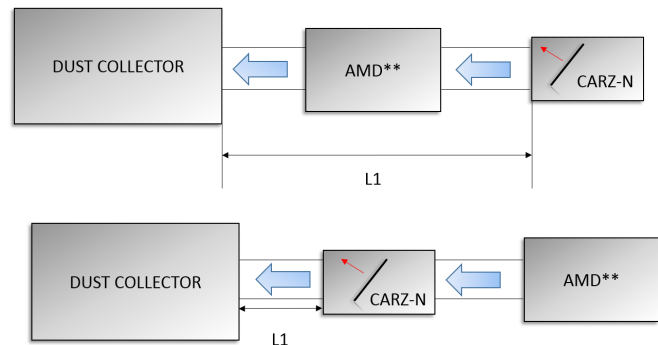
FL - bolted flange, QF - flange for **Quick Fittings** type ducting system, NW - bolted flange according to standard **DIN 24154-R2**.

Special application requirements

PULL configuration



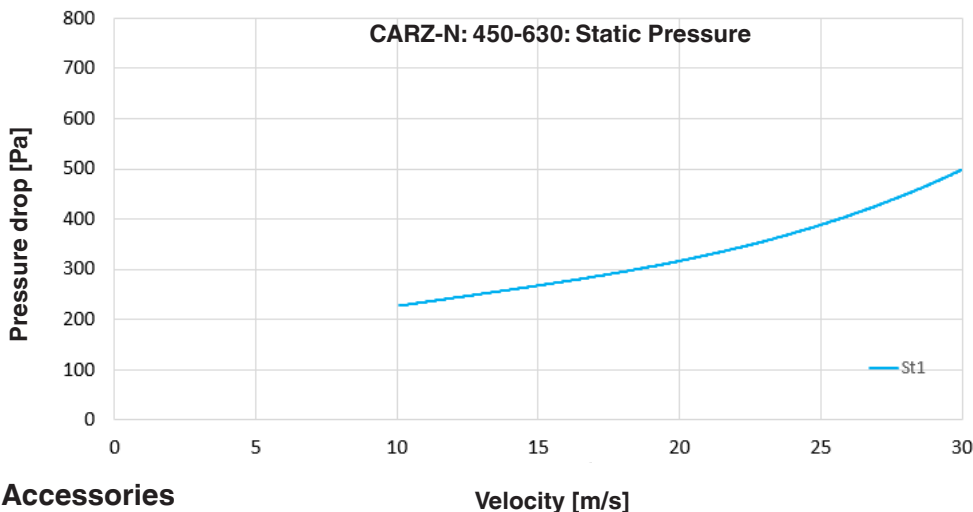
PUSH configuration



**AMD=Air moving device or fan

Parameter	Size 450 - 630 mm
Elbows	straight duct or max. 2 elbows 90 dgr
L1 min	5,5 m for PULL 5 m for PUSH
L1 max	10 m
Max. flow velocity	30 m · s ⁻¹

Chart of pressure drop vs. velocity



Accessories

Manufacturer offers a Flap lock indicator:

- Lock indicator zone 22 external - part number: 73007978.
- Lock indicator non-zone external - part number: 73007979.