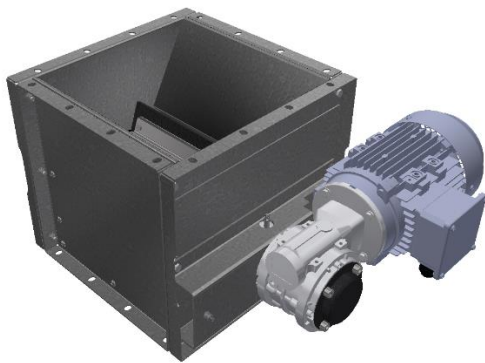


Rotary valve type NRS 3

NRSZ 3 with ATEX certificate St1 and St2



The NRS 3, NRSZ 3 type rotary valve is used to transfer material between two separate systems. In pneumatic conveying systems, discharge is usually required from the filter or cyclone to the silo, at atmospheric pressure. This is an ideal application for the NRSZ type rotary valve. The rotary valve can be used for most material types, also explosive.

Description

The NRS, NRSZ type rotary valve is made with galvanised or stainless steel plate ¹⁾. The rotor has reinforced rubber blades, which provide an effective air lock between the inlet and the outlet. ATEX version the rotary valve type NRSZ is design as explosion pressure shock resistant. It prevents the transmission of the explosion effects, pressure wave, flame and sparkles until its maximum reduced explosion pressure $p_{red,max}$ in both directions of the divided space with dangerous atmosphere of the flammable dust (except the metal dust).

Using

The NRS, NRSZ type rotary valve is used to transfer material between two separate systems. In pneumatic conveying systems, discharge is usually required from the filter or cyclone to the silo, at atmospheric pressure. This is an ideal application for the rotary valve.

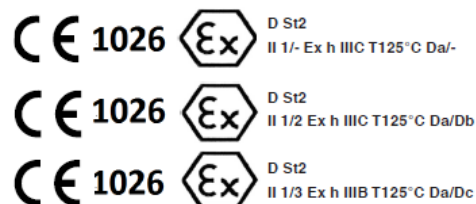
The rotary valve can be used for most material types, also explosive, though the particle size must not exceed 3x3x10mm.

The rotary valve should not work with highly abrasive dust

Specifications

Max. operating temperature:	+70°C
Ambient temperature range:	from -20°C to +40°C
Noise level ²⁾ :	< 70 dB(A)

Marking



The marking is based on product certification:

FTZÚ 12 ATEX 0142X by N.B. No. 1026 and Quality System approval by N.B.

At ordering, please state:

Type of Rotary valve, the voltage and frequency of the power supply, the Dust Kst, the max. inside temperature and installation zone. For zone 21 or 22 also max. surface temperature.

Accessories

Rotation sensor IP67 (no ATEX): ID 5507220

Special demands for safe use:

At an explosion the rotary valve must be stopped automatically and instantaneously.

¹⁾ Worm gear parts made of unpainted aluminium. In case of aggressive corrosion conditions in place of use, please inform us while ordering our products.

²⁾ Measurement based on ISO: 3744.

Atex limitations

Rotary valve type	$p_{red,max}$ [kPa]		Rotation speed max [rpm]
	St1 $K_{st,max}^*=20 \text{ MPa} \cdot \text{m/s}$	St2 $K_{st,max}^*=30 \text{ MPa} \cdot \text{m/s}$	
NRSZ 3	40	40	10

*Kst for organic dust

The combustible dust is described by the parameters:

The limit values of the used class of dust St1: $K_{st,max}=20 \text{ MPa} \cdot \text{m/s}$, $MIE \geq 13 \text{ mJ}$, $MIT \geq 430^\circ\text{C}$ (of a dust cloud).

The limit values of the used class of dust St2: $K_{st,max}=30 \text{ MPa} \cdot \text{m/s}$, $MIE \geq 2 \text{ mJ}$, $MIT \geq 520^\circ\text{C}$ (of a dust cloud).

List of types non ATEX

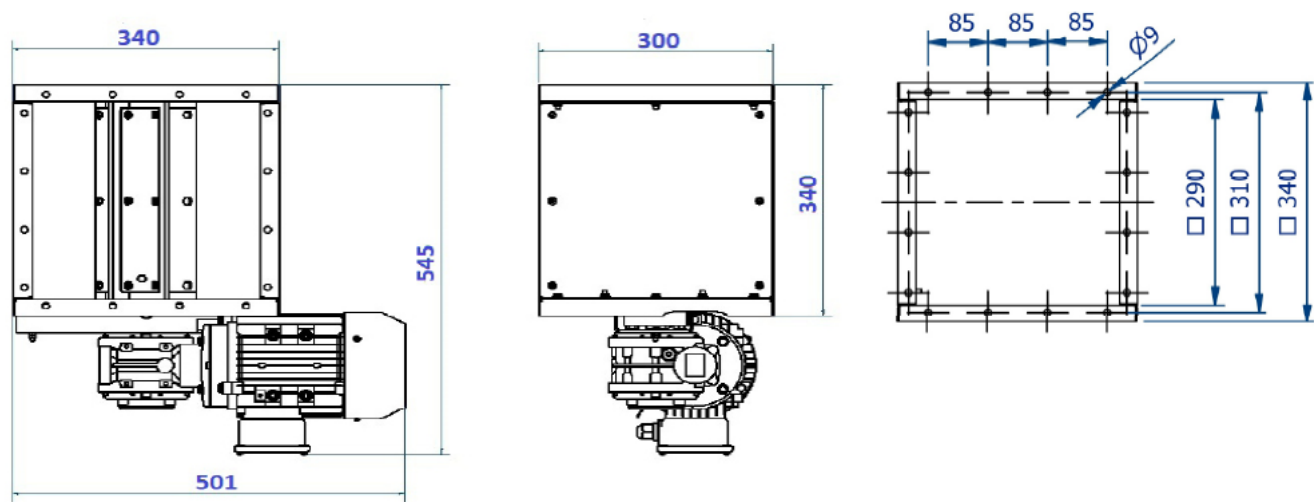
ID	Type model - rpm	Capacity at 100% filling	Motor [kW]	Weight [kg]
73008861	NRS 3-7	2,3 m ³ /h	0,18	32
73009031	NRS 3-7 DISA	2,3 m ³ /h	0,25	40
73009228	NRS 3-7 AISI 304	2,3 m ³ /h	0,18	32

List of types with ATEX

ID	Type model - rpm	ATEX NRSZ Marking	Installation zone internal/exterior of NRSZ	Capacity at 100% filling	Motor [kW]	Weight [kg]
73008862	NRSZ 3-7	II 1/- Ex h IIIC T125°C Da/-	Zone 20 / Non-zone	2,3 m ³ /h	0,18	32
73009227	NRSZ 3-7 AISI304	II 1/- Ex h IIIC T125°C Da/-	Zone 20 / Non-zone			
73008863	NRSZ 3-7	II 1/2 Ex h IIIC T125°C Da/Db	Zone 20 / Zone 21			
73008864	NRSZ 3-7	II 1/3 Ex h IIIB T125°C Da/Dc	Zone 20 / Zone 22			
73009119	NRSZ 3-7 AISI 304	II 1/3 Ex h IIIB T125°C Da/Dc	Zone 20 / Zone 22			

The rotary valve should not work with capacity more than 60% of max.

Dimensions



Leakage

The leakage of the rotary valve during shutdown (S) and during operation (R) depends on the pressure drop over the rotor. See the chart:

