



(1) **Supplementary EU - Type Examination Certificate No.5**

(2) **Equipment or Protective Systems Intended for Use  
in Potentially Explosive Atmospheres  
(Directive 2014/34/EU)**

(3) EU - Type Examination Certificate number:

**FTZÚ 16 ATEX 0192X**

(4) Product: **Explosion isolation flap valve, type CARZ-N DN 315 ÷ DN 1000**

(5) Manufacturer: **Nederman Manufacturing Poland Sp. z o.o.**

(6) Address: **Okólna 45A, 05-270 Marki, Poland**

(7) This supplementary certificate extends EU - Type Examination Certificate No. FTZÚ 16 ATEX 0192X to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute, Notified Body number 1026, in accordance with Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 16447:2014; EN ISO 80079-36:2016**

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

(11) The marking of the product shall include the following:

type CARZ-N DN 315 ÷ DN 630  D St2

type CARZ-N DN 315 ÷ DN 1000  D St1  
II 1/2 D Ex h IIIC T75°C Da/Db

(12) This certificate is valid till: **31.12.2029**

Responsible person:

*v z. Jgo*

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



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**Physical-Technical Testing Institute  
Ostrava - Radvanice**

(13)

**Schedule**

(14) **Supplementary EU - Type Examination Certificate No. 5  
to FTZÚ 16 ATEX 0192X**

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Extension of certificate validity.

The construction, materials and technical parameters of certified product remain unchanged.

The explosion isolation flap valve type CARZ-N are designed as explosion pressure resistant equipment, which is able to prevent a transmission of dangerous effects of explosion, pressure wave, and flames in one direction and separates volumes with potentially explosive atmosphere of industrial dusts. In opposite direction back pressure flaps enable transfer of powdery flammable material. Type series of explosion isolation flap valves CARZ-N works as protective system if requirements in article (17) are fulfilled.

(16) Report Number: 16/0192/5

(17) Specific Conditions of Use:

1. Ambient temperature range: from  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ .
2. Organic nonmetallic dust can be used both for pull and push flow situations.
3. Metallic dust can be used only for pull flow situations.
4. The flap CARZ-N can be used for pull flow situation when vessel is protected with non-reclosing vent devices. (this excludes e.g. suppression and venting with reclosing vent devices).
5. The flap CARZ-N can be used for push flow situation when vessel is protected with non-reclosing vent devices, with reclosing vent devices or suppression.
6. The maximum number of bends between the flap and the protected vessel is:  $2 \times 90^{\circ}$ .
7. The maximum flow velocity is:  $30 \text{ m}\cdot\text{s}^{-1}$ .
8. The product has to be installed so that the propagating brush discharges on the external surface of the device are avoided.
9. Electrical devices installed together with the back pressure flap must have the type of protection corresponding with the defined explosive zone.

Responsible person:

*v z. gga*

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



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This certificate may only be reproduced in its entirety and without any change, schedule included.

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**Physical-Technical Testing Institute  
Ostrava - Radvanice**

(13)

**Schedule**

(14) **Supplementary EU - Type Examination Certificate No. 5  
to FTZÚ 16 ATEX 0192X**

(17) Specific Conditions of Use: - continuation

**10. Parameters of the CARZ-N for pull flow situation with nonmetallic dust:**

Parameter (unit):	Sizes CARZ-N DN (mm):					
	315	350+450		500+630		710+1000
$K_{st\ max}$ (MPa.m.s <sup>-1</sup> )	30	20	30	20	30	20
Maximum explosion reduced pressure $p_{red,max}$ (kPa)	50	50	40	50	40	35
Maximum dust concentration in the duct where device will be installed	no limit	no limit	<LEL*	no limit	<LEL*	no limit
Maximum allowed opening angle of the flap to vertical	45°	55°	45°	55°	45°	55°
Minimum volume of protected vessel (m <sup>3</sup> )	0.46	0.9		1.6		3.2
Explosion resistance of flap valve. $p_{max}$ (kPa)	100	100				70
MESG - maximum experimental safe gap of dust (mm)	≥1.3	≥1.3				≥1.8
Minimum installation distance (m)	5	5.5				
Maximum installation distance (m)	10.2	10				

\*LEL – lower explosion limit

**11. Parameters of the CARZ-N for push flow situation with nonmetallic dust:**

Parameter (unit):	Sizes CARZ-N DN (mm):			
	315	350 + 450	500 + 630	710 + 1000
$K_{st\ max}$ (MPa.m.s <sup>-1</sup> )	30	20	20	20
Maximum explosion reduced pressure $p_{red,max}$ (kPa)	50	50	50	40
Maximum dust concentration in the duct where device will be installed	No limit			
Maximum allowed opening angle of the flap to vertical	45°	55°	55°	55°
Minimum volume of protected vessel (m <sup>3</sup> )	0.46	1.6	1.6	3.2
Explosion resistance of flap valve. $p_{max}$ (kPa)	100	100	100	70
MESG - maximum experimental safe gap of dust (mm)	≥1.3	≥1.3	≥1.3	≥1.8
Minimum installation distance (m)	5			
Maximum installation distance (m)	10			

Responsible person:

*V. z. Jago*

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



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Ostrava - Radvanice**

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**Schedule**

(14) **Supplementary EU - Type Examination Certificate No. 5  
to FTZÚ 16 ATEX 0192X**

(17) Specific Conditions of Use: - continuation

**12. Parameters of the CARZ-N for pull flow situation with metallic dust (MIT $\geq$  710°C):**

Parameter (unit):	Sizes CARZ-N DN (mm):	
	315	350÷450
K <sub>st max</sub> (MPa.m.s <sup>-1</sup> )	26	26
Maximum explosion reduced pressure p <sub>red,max</sub> (kPa)	50	50
Maximum dust concentration in the duct where device will be installed	<LEL*	<LEL*
Maximum allowed opening angle of the flap to vertical	45°	45°
Minimum volume of protected vessel (m <sup>3</sup> )	0.96	0.96
Explosion resistance of flap valve. p <sub>max</sub> (kPa)	100	100
MESG - maximum experimental safe gap of dust (mm)	$\geq$ 1.3	$\geq$ 1.3
Minimum installation distance (m)	5.3	5.5
Maximum installation distance (m)	10.3	10.5

\*LEL – lower explosion limit

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (9) of this supplementary certificate.

(19) Drawings and Documents:

Number	Issue	Sheets	Date	Description
CARZ_N_G	C	3	11.12.2024	Drawing
CARZ_N_B	E	1	20.02.2020	Part list
CARZ_N_WD	C	2	11.12.2024	Drawing
LABEL_CARZ_N	C	1	22.02.2020	Drawing
IHA_CARZ-N	3	2	11.12.2024	Risk analysis

Rest of technical documentation remain unchanged and is listed in the original certificate and its supplementary certificates no. 1, 2, 3 and 4.

Responsible person:

*v z. Jg07*

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



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