1 # EU-Type Examination Certificate Supplement 4

2 **Components intended for use on/in an Equipment or Protective System intended for use in potentially explosive atmospheres**
Directive 2014/34/EU

3 EU-Type Examination Certificate Number: **BVS 17 ATEX E 084 U**

4 Product: **Empty enclosures type 8280/0-**-2***-***

5 Manufacturer: **R. STAHL Schaltgeräte GmbH**

6 Address: **Am Bahnhof 30, 74638 Waldenburg, Germany**

7 This supplementary certificate extends EU-Type Examination Certificate No. BVS 17 ATEX E 084 U to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any variations specified in the appendix attached to this certificate and the documents referred to therein.

8 DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product 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.
The examination and test results are recorded in the confidential Report No. BVS PP 17.2148 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

EN IEC 60079-0:2018	**General requirements**
EN 60079-1:2014	**Flameproof enclosure "d"**

Except in respect of those requirements listed under item 18 of the appendix.

10 The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system respectively product.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

II 2G Ex db IIB Gb

DEKRA EXAM GmbH
Bochum, 2018-11-12

Certifier

Approver

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13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 17 ATEX E 084 U
Supplement 4

15 **Product description**

15.1 **Subject and type**

Empty enclosures type

8280	/	0	-	**	-	2	*	*	*	-	*
a		b		c		d	e	f	g		h

a	Type	8280
b	Design	0 = Empty enclosure "Ex db"
c	Enclosure size	20 = 300 mm x 400 mm x 200 mm 31 = 400 mm x 600 mm x 300 mm 41 = 600 mm x 800 mm x 400 mm 62 = 1000 mm x 1400 mm x 700 mm
d	Enclosure material	2 = Stainless steel
e	Cover	0 = Without hinges 1 = With hinges
f	Cover version	1 = Single cover 2 = Double cover (only for size 62)
g	Fastener	1 = Screws 2 = Locking brackets 3 = Screws and locking brackets
h	Temperature version	0 = Basis version, only one welded grid plate 1 = One additional grid plate 2 = Two additional grid plates

15.2 **Description**

Reason for the supplement:

The enclosures are manufactured with some minor mechanical modifications.

For the optional mounting of terminal boxes the enclosure can be equipped with sealing frames according to BVS PP 18.2165 EU.

Description of Product:

The empty enclosures type 8280/0-**-2***-* are designed in an explosion protection principle based on the type of protection Flameproof Enclosure.

The rectangular enclosures are closed by a cover.

The left and the right side walls of the enclosures are equipped with special woven wire elements (grid plates) which are used as pressure reliefs to reduce the pressure which may be caused by an internal explosion. To protect the woven wire elements against soiling they are covered by explosion vents.

The bottom wall is equipped with threaded bores for cable glands or conduit entries which are separately tested and certified.

Optionally the bottom wall is prepared for the mounting of terminal boxes. In this case the threaded bores may be equipped with bushings.

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The cover may be equipped with threaded bores for pilot light attachments, rotary actuators and / or push buttons type 8605*** (according to DEKRA 11 ATEX 0233 U with the marking Ex db IIC Gb) and / or with windows.

At the rear wall a mounting plate is provided for the mounting of built-in components.

Listing of all components used referring to older standards:

None

15.3 **Parameters**

Rated voltage	max.	11	kV
Rated current	max.	1250	A
Rated cross section	max.	300	mm²
Permissible upper limit of the ambient temperature range for the empty enclosures	max.	60	°C
Permissible lower limit of the ambient temperature range for the empty enclosures	max.	-40	°C

Correlation of ambient temperature range, internal power dissipation and surface temperatures

Enclosure size	Layers of additional grid plates	Upper limit of the ambient temperature range								
		+40 °C			+50 °C			+60 °C		
		Max. permissible power dissipation of internal fixtures [W] *								
		T5	T4	T3	T5	T4	T3	T5	T4	T3
20	1	40	140	340	10	110	310	n/a	80	280
31	1	20	200	620	n/a	150	550	n/a	100	480
41	1	60	350	1150	n/a	250	1030	n/a	160	850
62	2	n/a	800	3200	n/a	500	2800	n/a	200	2500
	1	n/a	n/a	2100	n/a	n/a	1700	n/a	n/a	1350

* The "max. permissible power dissipation" in the table is not a "rated" power dissipation. The manufacturer of the complete enclosure has to ensure that the power dissipation of these built-in components will not exceed the value from the table even under overload or malfunction conditions.

Annotation:
These enclosures provide pressure reliefs. In the event of an internal explosion hot gases pass through these pressure reliefs. For the specification of temperature class it is critical to take the influence of such hot gases into account (see EN 60079-1, clauses 15.4.3). The values in the table above do include this influence of hot gases.

The specification of the temperature class is not subject of this Certificate for the empty enclosures; it has to be subject of the subsequent Certificate for the complete apparatus (Ex-equipment). For this specification of the temperature class the values from the table above can be used.
But this table does not supersede an examination of the temperatures during the test and certification of the complete apparatus.

Depending on the configuration of the complete apparatus additional parameters may have to be considered during this examination (e.g. limits of the permissible service temperatures of internal fixtures and attached components, influence of other enclosures attached to or adjacent to these enclosure and so on).

Permissible service temperatures for the pilot light attachments, rotary actuators and / or push buttons type 8605*** according to DEKRA 11 ATEX 0233 U	-60 °C up to 130 °C
Permissible service temperatures for the windows incl. cement	-60 °C up to 100 °C
Permissible service temperatures for the sealing frames according to BVS PP 18.2165 EU	-60 °C up to 85 °C

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16 **Report Number**

BVS PP 17.2148 EU, as of 2018-11-12

17 **Installation Instructions**

17.1 Schedule of Limitations to be regarded by the manufacturer of the complete equipment

17.1.1 Information concerning the maximum number of apertures, their maximum sizes and their positions is given in drawing number 8280 0 000 008 0.
The marking of the complete equipment shall include the identification of the thread type and size as required in EN 60079-1:2014, clause 13.2.

17.1.2 Oil-filled circuit-breakers and contactors shall not be used inside the empty enclosures.

17.1.3 The upper limit of the ambient temperature range shall not exceed 60 °C and the lower limit of the ambient temperature range shall not go below -40 °C.

17.1.4 The content of the Ex component enclosure equipment may be placed in any arrangement, provided that, with the exception of the mounting plate, an area of at least 20 % of each cross-sectional area remains free to permit an unimpeded gas flow and, therefore, unrestricted development of an explosion. Separate relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5 mm.
Additionally a distance of at least 30 mm between the content of the Ex component enclosure equipment and the mesh of the pressure reliefs at the side walls has to be provided.

17.1.5 The permissible service temperatures of the pilot light attachments, rotary actuators and / or push buttons type 8605*** according to DEKRA 11 ATEX 0233 U is limited to -60 °C up to 130 °C.

17.1.6 The permissible service temperature of the windows is limited to -60 °C up to 100 °C.

17.1.7 The permissible service temperatures of the sealing frames is limited to -60 °C up to 85 °C.

17.2 Schedule of Limitations to be regarded by the user of the complete equipment
(to be inserted in the instructions)

17.2.1 The width of the flameproof joint is longer and the gap is smaller than required by EN 60079-1:2014. For information of the dimensions of the flameproof joints contact the manufacturer.

17.2.2 The property class of the fasteners of the cover has to be at least A*-80.

17.2.3 During installation and use a minimum distance according to the following table has to be ensured between the explosion vents and other solid objects.

Enclosure size	Minimum distance between explosion vent and other solid objects
20 = 300 mm x 400 mm x 200 mm	134 mm
31 = 400 mm x 600 mm x 300 mm	100 mm
41 = 600 mm x 800 mm x 400 mm	162 mm
62 = 1000 mm x 1400 mm x 700 mm	300 mm

17.2.4 If the enclosures are mounted inside other enclosures (e.g. protective housings, electrical cabinets or similar) attention has to be payed to the fact that in the event of an internal explosion gas streams out of the pressure reliefs. It has to be ensured that the surrounding enclosure is large enough or permeable enough so that there is no noteworthy obstruction of the stream of gas. An obstruction of the gas stream may endanger the special protection
(e.g. increase of the explosion pressure, higher surface temperatures) and / or the surrounding enclosure (e.g. bursting of the surrounding enclosure).

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17.2.5 The permeability of the pressure reliefs (mesh) is important for the integrity of the special protection. Everything which can lower this permeability (e.g. soiling, corrosion, excessive moistening, painting, dust layers) has to be prevented on the internal and external surface of the mesh.
The external surface of the mesh is protected by an explosion vent. In the event of a blow-out of the explosion vents or in case of damaged or deformed explosion vents they have to be replaced by identical, new explosion vents.

18 Essential Health and Safety Requirements

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

In addition to the Essential Health and Safety Requirements covered by the standards listed under item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

EN 60079-1:2014 Flameproof enclosure "d"

Clause	Subject
15.4.2.2	Replacement of breathing and draining devices
	The requirement of the clause is covered by an innovative alternative constructional measure and additional requirements in the installation instructions.

For this product the standard EN IEC 60079-0:2018 is equivalent to the harmonized standard EN 60079-0:2012 + A11:2013 in terms of safety.

19 Drawings and Documents

Drawings and documents are listed in the confidential report.

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