



[1] **TYPE EXAMINATION CERTIFICATE - Translation**

[2] for non-electrical products of equipment-groups I and II,
equipment-categories M2 and 2 plus products of equipment-category 3

[3] Type examination certificate number **IBExU21ATEXB005 X** | Issue 0

[4] Product (equipment / component):

Couplings

Type: ROFLEX®

Designs N (standard) and SH (split hub design)

Sizes 68 to 280

[5] Manufacturer: KTR Systems GmbH

[6] Address: Carl-Zeiss-Straße 25
48432 Rheine
GERMANY

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] IBExU Institut für Sicherheitstechnik GmbH 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 Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in the confidential test report IB-21-2-0015.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN ISO 80079-36:2016 EN ISO 80079-37:2016 EN ISO/IEC 80079-38:2017
except in respect of those requirements listed at item [18] of the schedule.

[10] If the sign "X" or "U" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule to this certificate.

[11] This type examination certificate relates only to the design of the specified product and not to specific items of the product subsequently manufactured or supplied.

[12] The marking of the product shall include the following:

 II 2G Ex h IIC T6 ... T5 Gb X
 II 2D Ex h IIIC T80°C ... T95°C Db X
-30 °C ≤ Ta ≤ +60 °C ... +75 °C

 I M2 Ex h I Mb X
-30 °C ≤ Ta ≤ +75 °C

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By order

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Certificates without signature and stamp are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

Freiberg, 2020-03-22

[13] **Schedule**

[14] **Certificate number IBExU21ATEXB005 X | Issue 0**

[15] **Description of product**

The couplings mentioned in [4] can be manufactured in the designs N (standard) and SH (split hub design).

The couplings consist of a pocket part and a cam part. Plastic torsion dampers are inserted in the pocket part in such a way that recess spaces are left free between the torsion dampers. Torque is transmitted via the cams of the cam part, which engage in the opposite recess spaces of the pocket parts fitted with torsion dampers.

In the ROFLEX® SH design, the cam parts are radially split for the purpose of easier assembly. The radially split cam parts are firmly connected to each other with screws.

The coupling hubs (pocket part and cam part) are made of grey cast iron EN GJL-250 and sintered steel D10. PUR (polyurethane) and NBR (acrylonitrile butadiene rubber) are used for the torsion dampers.

A keyway/groove connection is usually provided between the coupling hub and the shaft, with the coupling hub being fixed to the shaft by at least one threaded pin. Alternatively, a connection with a taper clamping bush is possible.

The couplings can be marketed in a finish-bored, undrilled or predrilled design. Undrilled or predrilled designs are marked by the manufacturer with the symbol U in a hexagon.

Details on the design of the equipment or components can be found in the manufacturer's documentation and the test report IB-21-2-0015 of 18 March 2021.

[16] **Test report**

The test results are recorded in the confidential test report IB-21-2-0015 of 18 March 2021.

The test documents are part of the test report and they are listed there.

Summary of the test results

The equipment or components mentioned in [4] meet(s) the requirements of explosion protection for equipment of Equipment Group II, Categories 2D and 2G as well as Equipment Group I, Category M2 in type of protection "c" (constructional safety, marking with "Ex h") for use with explosive dust and gas atmospheres and for underground use.

[17] **Specific conditions of use**

1. *The temperature marking indicates that for determining the maximum surface temperature occurring on the coupling a temperature increase ΔT to the ambient or operating temperature T_a must be considered. The temperature increase ΔT is stated in the operating instructions.*
2. *The couplings may only be used if their materials are resistant to mechanical and/or chemical effects and corrosion under the respective operating conditions so that the explosion protection is always maintained.*
3. *The users must provide the couplings with fixed covers in order to protect the couplings against falling objects. The covers can have openings for the necessary heat dissipation. When used in the mining industry (Equipment Group I), the covers of the couplings must be able to withstand higher mechanical loads than for use in other industries (Equipment Group II). Detailed information on the cover design is given in the operating / assembly instructions. The covers must be electrically conductive and included in the equipotential bonding.*
4. *When using the couplings in potentially explosive dust atmospheres, the user must make sure that no dust in dangerous quantities accumulates between cover and coupling. The couplings must not run in a dust accumulation.*

5. All screw connections for fixing must be secured against self-loosening.
6. For use of the couplings in the mining industry, the requirements of the national mining regulations valid for the respective area of application must be observed.
7. Undrilled or predrilled couplings (marked with U in a hexagon) are components within the meaning of Directive 2014/34/EU and require a final quality assessment after completion of the drilling.

[18] Essential health and safety requirements

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:

<i>Clause</i>	<i>Subject</i>
-	-

[19] Drawings and Documents

<i>Number</i>	<i>Sheet</i>	<i>Issue</i>	<i>Date</i>	<i>Description</i>
-	-	-	-	-

The documents are listed in the test report.

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