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OPERATING INSTRUCTIONS FOR EXPLOSION PROTECTED DISTRIBUTION CABINETS R3002/R3004

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Ex d Enclosure System in Sheet Steel / Flameproof Enclosure

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1 GENERAL INFORMATION

1.1 Manufacturer

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2 GENERAL SAFETY INSTRUCTIONS

2.1 Safety Instructions for Assembly and Operating Personnel

The operating instructions contain basic safety instructions to be observed during installation, operation and maintenance. Non-observance will endanger persons, plant and the environment.

⚠ W A R N I N G

Danger due to unauthorised work being performed on the device!

- Risk of injury and damage to equipment.
- Mounting, installation, commissioning, operation and maintenance must only be performed by personnel who are both authorised and suitably trained for this purpose.

2.2 Before assembly/commissioning:

- Read through the operating instructions.
- Give adequate training to the assembly and operating personnel.
- Ensure that the contents of the operating instructions are fully understood by the personnel in charge.
- The national installation and assembly regulations (e.g. IEC/EN 60079-14) apply.
- **If you have questions:** Contact the manufacturer.
- **When operating the device:**
  - Ensure the operating instructions are made available on location at all times.
  - Observe safety instructions.
  - Observe national safety and accident prevention regulations.
  - Only run the device according to its performance data.
  - Any damage may render explosion protection null and void.
  - Install the device only if it is undamaged, dry and clean.

3 PURPOSE

Explosion-protected distribution cabinets can be equipped with a low voltage switching devices to the nominal value of 630V, 500A, and accessories.
Explosion-protected distribution cabinets are suitable for installation to:
- areas endangered by flammable and explosive mixtures of gases and air, as well by presence of combustible dust, fibres or flyings, in zones 1, 2, 21, 22, in accordance with standards IEC 60079-10,
- mines in areas endangered by explosive and flammable gases, dusts and their combinations.

⚠ W A R N I N G

Only use the device for its intended purpose!
- Otherwise, the manufacturer's liability and warranty expire.
- Only use the device under the operating conditions described in the operating instructions.
- The device must only be used in areas subject to explosion hazards according to these operating instructions.

The products meets all requirements of LV Directive 2006/95/EC, EMC Directive 2004/108/EC and Directive 2002/95/EC RoHS.

Conformity to Standards
The Ex d enclosures comply with the following regulations and standards:
Directive 94/9/EC
IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7
IEC/EN 61241-0, IEC/EN 61241-1

4 DESIGN

The empty enclosure type R3. . . is a welded sheet steel construction with steel screw cap. It is used for housing switching, control, measuring and display devices. Cover and side walls can be equipped with control axles and/or viewing panes. It is connected via flameproof built-in cable bushings or cable bushings with terminal compartment in the type of protection "increased safety e" or via direct cable entries. The empty enclosures can be combined with one another and/or with connection boxes of type of protection "increased safety e".
The distribution cabinet is installed on the mounting holder that is an integral part of the product. The design and construction of distribution cabinets are in accordance with EN 60439-1/99. + A1/04. and all other related standards.

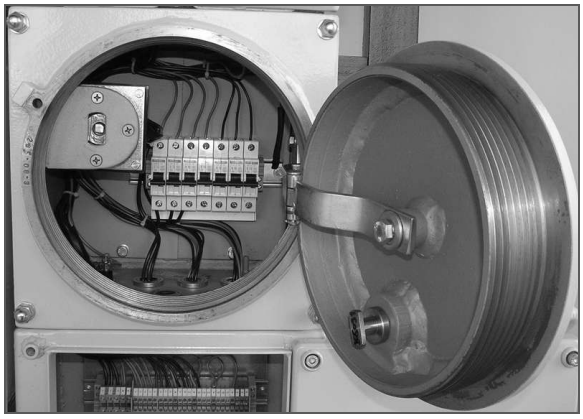


Fig. 1. *Exd enclosures equipped with switch, automatic circuit breakers connected to the Ex e enclosures by multi wire Ex d busshing.*

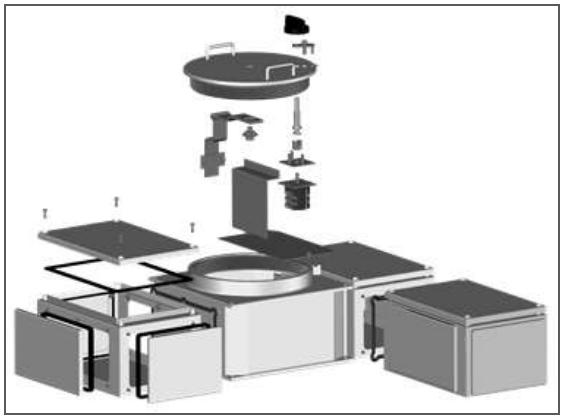
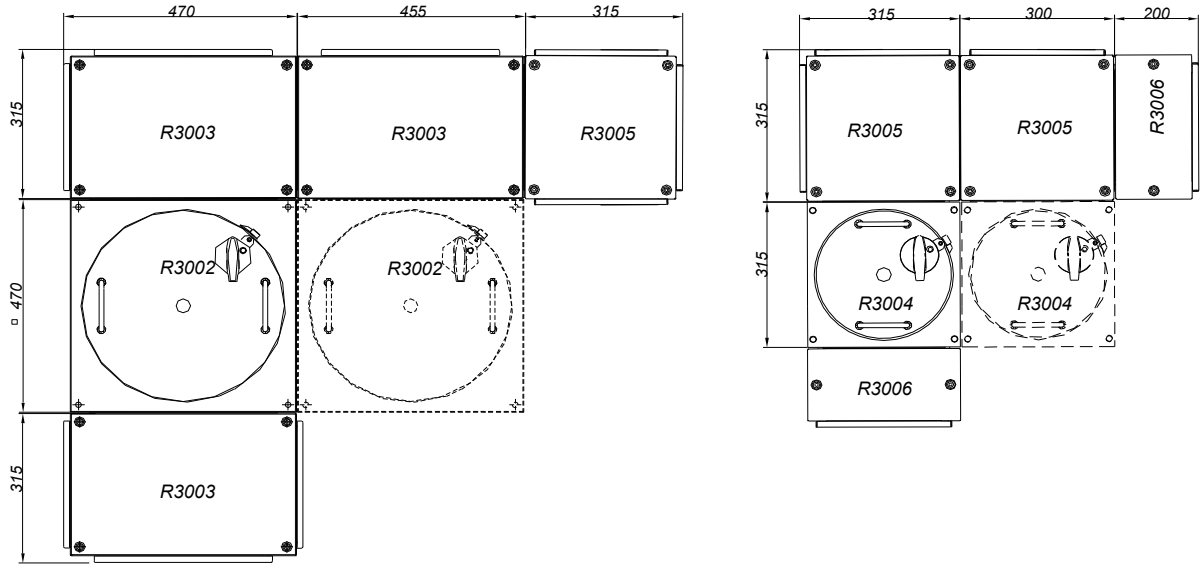


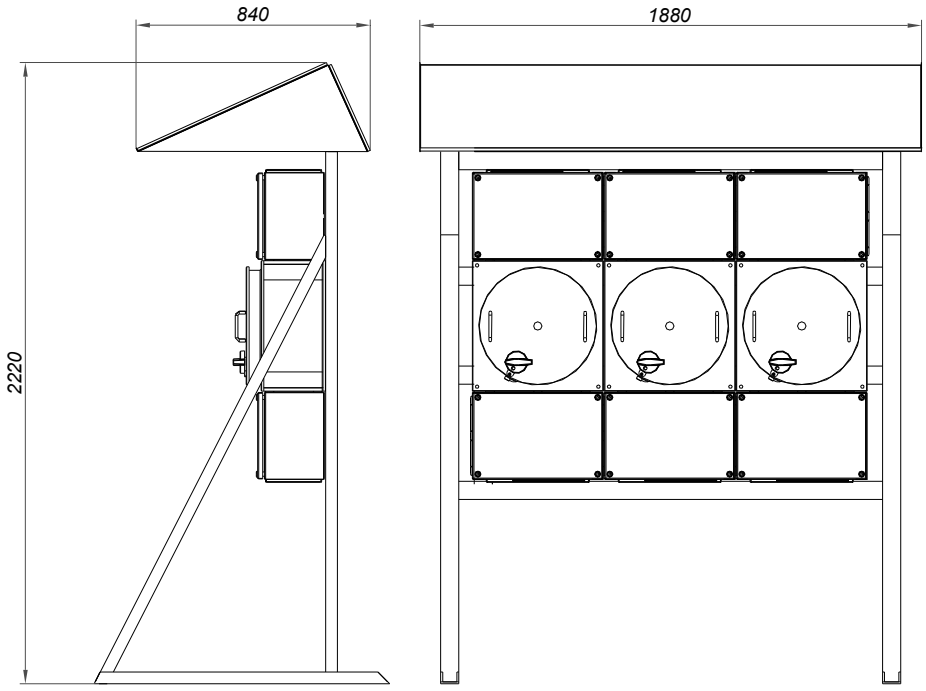
Fig. 2. *Components of the distribution cabinet in 3D view*

5 TECHNICAL DATA

Certificate	Ex-agency
Device protection	II 2GD I M2
Explosion protection	Ex de IIC T6 Gb Ex tb IIIC T80 C Db Ex de I Mb
Degree of protection	IP 66
Rated operational voltage	up to 1000VA
Rated current	up to 500A (depending on the built-in components)
Maximum power dissipation (R3002)	200 W
Maximum power dissipation (R3004)	100 W
Conection terminals	up to 300 mm^2
Operating temperature range	-20°C - +40°C
Colour	Yellow, RAL 1016 (other on request)
Dimension (DxŠxV) without cable glands: - R3002 - R3003 - R3003S - R3004 - R3005 - R3006	 470 x 470 x 330 mm 470 x 315 x 240 mm 470 x 155 x 240 mm 315 x 315 x 333 mm 315 x 315 x 240 mm 240 x 315 x 200 mm
Weight: - R3002 - R3003 - R3003S - R3004 - R3005 - R3006	 70 kg 18 kg 16 kg 47 kg 15 kg 9 kg
Housing Material: - Ex d enclosures (R3002 i R3004) - Ex e enclosures (R3003, R3005 i R3006)	 steel sheet 12 mm steel sheet 2,5 mm

6 DIMENSIONAL DRAWINGS (all dimensions in mm)





7 INSTALLATION

⚠ WARNING

Wiring diagram and all necessary documents, required for correct installing, are attached to the device.

7.1 Opening and closing the enclosure.

Opening procedure for R3002/3004 distribution cabinet

-sett switch handle to position 0
-unscrew M12 hexagon socket bolt with number 10 key
-unscrewing the bolt releases the cover which can than, also be unscrewed.

-when opening and handling the cover, be ware not to damage threaded part by rough handling.
-in case of difficult turning, cover should be opened, thread cleaned and protected with grease (e.g. INA LIS 2)
-to energize the equipment, cover should be screwed in and positioned so that M12 hex socket bolt can be bolted in.

7.2 External earth connection at the enclosure

-The earth conductor must always be connected to the enclosure.
-Connect all bare, non-energised metal parts to the protective system.
-The cable must be lead and fixed near the enclosure to prevent loosening of the cable.

Installation example:

W A R N I N G

Danger due to not approved cable entries!
- If a not approved cable entries are used, explosion protection can no longer be guaranteed.
- Use only cable entries approved for the required type of protection.

Danger due to open drillings or unused cable entries on the Ex d enclosure!
- The explosion protection can no longer be guaranteed if drillings or unused cable entries of the Ex d enclosure are left open.
- Close open drillings using stopping plugs certified and unused conductor bushings using plugs certified.

Risk due to unauthorised work being performed on the device!
- Risk of injury and damage to equipment.
- Assembly, installation, commissioning and servicing work must only be performed by personnel who are both authorised and suitably trained for this purpose.

8 MAINTENANCE

8.1 Regular Maintenance Work
Consult the relevant regulations (e.g. IEC/EN 60079-17) to determine the type and extent of inspections. Plan the intervals so that any defects in the equipment which may be anticipated are promptly detected.

8.2 To check as part of the maintenance schedule:
Inspect the device for signs of visible damage.
Make sure that the device is used according to its designated use

8.3 Cleaning
Clean with a cloth, brush, vacuum cleaner or similar items.

9 ACCESSORIES AND SPARE PARTS

⚠ W A R N I N G

Use of non-approved accessories and spare parts.

- The manufacturer's liability and warranty expire.
- Use only original accessories and original spare parts manufactured by TEP Ex d.o.o.

10 RESPONSIBILITY AND AUTHORIZATION

Responsibility and authorization are defined by the "Regulation on technical supervision over the electrical stations, installations and equipment intended for usage in potentially explosive atmospheres". This Manual represents the most relevant information about the product. Adequate national laws and regulations supplement it. The person in charge is required to secure its employment in the industrial unit. Every improper usage, as well as every unofficial restructuring, repair or restoration of the product, release the manufacturer of all responsibilities.