



1. **EU-TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective System Intended for use in
Potentially explosive atmospheres
Directive 2014/34/EU**
3. Reference: **VTT 17 ATEX 048U**
4. Component: **Empty flameproof enclosures**
Certified types: **SHORVA... and KKVA...**
5. Manufacturer: **ZAVOD GORELTEX Co. Ltd.
Saint-Petersburg, Revolutsii road, 18, lit. A
Russian Federation**
6. This component and any acceptable variations thereto are specified in the schedule and possible supplement(s) to this Certificate and the documents therein referred to.
7. VTT Expert Services Ltd, notified body number 0537, in accordance with Article 21 of the Directive 2014/34/EU of February 2014, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no.
RU/CCVE/ExTR16.0007/00
8. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0 (2012)
EN 60079-1 (2014)
EN 60079-31 (2014)
9. The sign "U" after the certificate number indicates that this Certificate is a component certificate and it may be used as a base for a complete certification of electrical equipment.
10. This EU-Type examination certificate relates only to the design, examination and tests of the specified component in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.



11. The marking of the component shall include the following:



II 2 G Ex db IIC Gb
II 2 D Ex tb IIIC Db
 $-60\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$
IP 66

Espoo, 19.9.2017
VTT Expert Services Ltd



Kari Koskela
Expert



Risto Sulonen
Senior Expert

KROHNA



12. **Schedule**

13. **EU-TYPE EXAMINATION CERTIFICATE VTT 17 ATEX 048U**

14. Description of Component

Empty enclosures of type SHORVA... are square flameproof enclosures consisting of a cover and a housing with a threaded joint. The cover and the housing are made of aluminium-silicon alloy, the stopping screw is made of stainless steel. The enclosures of aluminium-silicon alloy are coated with powder paint.

Empty enclosures of type KKVA... are flameproof enclosures of cylindrical form consisting of a cover and a housing with a threaded flameproof joint. The cover and the housing are made of aluminium-silicon alloy, the stopping screw is made of stainless steel. The enclosures of aluminium-silicon alloy are coated with powder paint. Grounding elements are installed inside and outside the housing.

The walls of the housing of the flameproof enclosures types SHORVA..., KKVA... may have threaded holes for mounting of cable glands, controls and other. The enclosures can be installed indoors and outdoors.

15. Report No. RU/CCVE/ExTR16.0007/00

16. The Schedule of Limitations

See Supplement 1


17. Essential Health and Safety Requirements

Met by the compliance with the standards: EN 60079-0 (2012), EN 60079-1 (2014) and EN 60079-31 (2014)

Espoo, 19.9.2017
VTT Expert Services Ltd

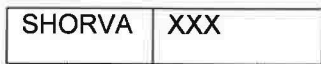



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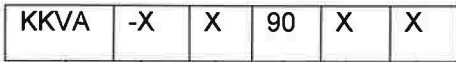
SUPPLEMENT I

Enclosure symbol structure:



Enclosure standard size: 121211, 151512, 171712, 232316, 272721

Enclosure type: SHORVA...



Thread typical size: 1 – ½", M20x1.5; 2 – ¾", M25x1.5; 3 – 1", M32x1.5

Thread type: N (national pipe thread), G (whitworth pipe thread), M (metric thread)

Enclosure standard size: 90

Mount type: S – wall fixtures, SG – wall fixtures with 90°, without symbol – no additional fixture

Number of apertures: K – four, T – three.

Enclosure type: KKVA...

Model identification: SHORVA121211, SHORVA151512, SHORVA171712, SHORVA232316, SHORVA272721, KKVA-...90...

Ambient temperature range: from minus 60°C to +60°C

Service temperature range: from minus 60°C to +150°C

Schedule of limitations

- Enclosures are not approved for separate use (without installed components inside) in explosion hazardous areas;
 - Oil-filled circuit-breakers and contactors shall not be used;
 - The content of the Ex components enclosures equipment may be placed in any arrangement, provided that an area of at least 40% of each cross-sectional area remains free. Apertures in enclosures are specified on the following drawings: LGSA.121211.5.2016, LGSA.151512.5.2016, LGSA.171712.5.2016, LGSA.232316.5.2016, LGSA.272721.5.2016, LGSA.D90.1.2016.
- Separate relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5 mm.