



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

### Ex COMPONENT CERTIFICATE

Certificate No.: **IECEx PTB 19.0018U** Page 1 of 4 Certificate history:  
Status: **Current** Issue No: 1 [Issue 0 \(2020-02-03\)](#)  
Date of Issue: 2021-12-16  
Applicant: **R. STAHL Schaltgeräte GmbH**  
Am Bahnhof 30  
74638 Waldenburg  
Germany  
Ex Component: Flange Socket and Maintenance Flange Socket type 8570/\*\*-\*\*\*-\*

*This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).*

Type of Protection: **Flameproof Enclosure "db", Increased Safety "eb" and Protection by Enclosure "tb"**

Marking: Ex db eb IIC Gb for type 8570/\*5-\*\*\*-\*  
Ex eb IIC Gb for type 8570/\*8-\*\*\*-\*  
Ex tb IIIC Db

Approved for issue on behalf of the IECEx  
Certification Body:

**Dr.-Ing. Detlev Markus**

Position:

**Head of Department "Explosion Protection in Energy Technology"**

Signature:  
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**Physikalisch-Technische Bundesanstalt (PTB)**  
Bundesallee 100  
38116 Braunschweig  
Germany





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Manufacturer: **R. STAHL Schaltgeräte GmbH**  
Am Bahnhof 30  
74638 Waldenburg  
**Germany**

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

## STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[IEC 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

## TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/PTB/ExTR19.0012/01](#)

Quality Assessment Report:

[DE/BVS/QAR10.0002/17](#)



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## Ex Component(s) covered by this certificate is described below:

The series 8570/\*\*-\*\*\*-\* flange socket are used for connection of portable and fixed electrical equipment as well as cables and circuits in potentially explosive atmospheres.

The flange sockets of type 8570/\*\*-\*\*\*-\* are components intended to be attached to enclosures in the type of protection "increased safety" Ex "eb" and "protection by enclosures" Ex "tb".

A staggered connector pin assignment safeguards that only plugs or socket contacts of identical voltage rating can be used together. The series 8570/\*\*-\*\*\*-\* flange sockets are operated with plug of the series 8570, which have its own certificate according to IECEx.

The maintenance flange socket type 8570/55-\*\*\*-\* is an explosion-proof electrical equipment certified for use in hazardous areas of Zones 1, 2, 21 and 22. It is used for commissioning portable and permanently installed non-explosion-protected electrical apparatus, or plugs and socket receptacles located within hazardous areas during periods, if no explosive atmosphere is present (e.g. during repair and maintenance work requiring high-temperature approval). At all other times, the repair socket outlet is secured by a padlock to prevent unauthorized use. With the maintenance flange socket it is also possible to use a non Ex certified plug.

For more technical information please see annex.

## SCHEDULE OF LIMITATIONS:

The flange socket must not be used in dust areas where highly charge-generating processes, machine friction and separation processes, electron spraying (e.g. around electrostatic coat-ing systems) and pneumatically conveyed dust occur.

The user shall be informed of the following conditions in an appropriate form, e.g. with a note included in the operating instructions:

"WARNING – DO NOT OPEN WHEN ENERGIZED"

"WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS"

"WARNING – IN ORDER TO ENSURE THE INGRESS PROTECTION IP, THE BAYONET RING OF THE PLUG MUST BE SCREWED UP TO THE STOP TO THE SOCKET AND THE HINGED COVER OF THE SOCKET MUST BE CLOSED AND SCREWED UP TO THE STOP WHEN THE PLUG IS NOT INSERTED. THE COVER OF THE TERMINAL COMPARTMENT MUST BE FASTENED WITH THE APPROPRIATE TORQUE"

"WARNING – TEMPERATURE AT THE ENTRY POINTS HIGHER THAN +70 °C. A PROPER SELECTION OF CABLE AND CABLE GLANDS OR CONDUCTORS IN CON-DUIT IS REQUIRED"

Valid for 8570/55-\*\*\*-\*:

"WARNING - THE MAINTENANCE FLANGE SOCKET TYPE 8570/55-\*\*\*-\* IS TO BE SECURED FOR SWITCHING WITH THE HELP OF A PADLOCK. SWITCHING ON AND OPERATING THE MAINTENANCE FLANGE SOCKET IS ONLY PERMITTED IF THERE IS NO EX ATMOSPHERE PRESENT.

Commissioning a maintenance flange socket type 8570/55-\*\*\*-\* requires the approval of the plant operator or his authorized agents.

The user shall be informed of these conditions in an appropriate form, e.g. with a note included in the operating instructions



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

- 1) Standard update to latest standards
- 2) New maintenance flange socket type 8570/\*\*-\*\*\*-\*

**Annex:**

[COCA190018U-01\\_1.pdf](#)



Applicant: R. STAHL Schaltgeräte GmbH  
Am Bahnhof 30  
74638 Waldenburg  
Germany

Electrical Apparatus: Flange Socket and Maintenance Flange Socket type 8570/\*\*-\*\*\*-\*

### Description

The series 8570/\*\*-\*\*\*-\* flange socket are used for connection of portable and fixed electrical equipment as well as cables and circuits in potentially explosive atmospheres.

The flange sockets of type 8570/\*\*-\*\*\*-\* are components intended to be attached to enclosures in the type of protection “increased safety” Ex “eb” and “protection by enclosures” Ex “tb”.

A staggered connector pin assignment safeguards that only plugs or socket contacts of identical voltage rating can be used together. The series 8570/\*\*-\*\*\*-\* flange sockets are operated with plug of the series 8570, which have its own certificate according to IECEx.

The maintenance flange socket type 8570/55-\*\*\*-\* is an explosion-proof electrical equipment certified for use in hazardous areas of Zones 1, 2, 21 and 22. It is used for commissioning portable and permanently installed non-explosion-protected electrical apparatus, or plugs and socket receptacles located within hazardous areas during periods, if no explosive atmosphere is present (e.g. during repair and maintenance work requiring high-temperature approval). At all other times, the repair socket outlet is secured by a padlock to prevent unauthorized use. With the maintenance flange socket it is also possible to use a non Ex certified plug.



## Nomenclature

|      |   |   |   |   |   |    |   |   |   |
|------|---|---|---|---|---|----|---|---|---|
| 8570 | / | * | * | - | * | ** | - | * | * |
| a    | b | c | d | - | e | f  | - | g | h |

- a Type series
- b Version
  - / Complete device packed
  - A Assembly internal
- c Design:
  - 1 Standard
  - 2 North America
  - 5 Maintenance
- d Device:
  - 5 Flange socket - enclosure
  - 8 Flange socket - cover
- e Poles:
  - 3 2P + PE or 1P + N + PE
  - 4 3P + PE
  - 5 3P + N + PE
- f Position for earth contact and voltage / frequency / colour
- g Sealing material
  - B silicone free
  - S containing silicone
- h Sign (- \*) can contain 0-xx characters, including the separators "-", "/" or ". ". Additional parameters that do not affect the explosion protection of the equipment

## Ambient temperature

For Flange Socket and Maintenance Flange Socket type 8570/\*5-\*\*\*-\*:  
 $-50\text{ °C} \leq T_{amb} \leq +45\text{ °C} \dots 65\text{ °C} / T6 \dots T5$  by current range 6 A ... 16 A (20 A)

For flange socket type 8570/\*8-\*\*\*-\*:  
 $-50\text{ °C} \leq T_{amb} \leq +45\text{ °C} \dots 65\text{ °C} / T6 \dots T5$  by current range 6 A ... 16 A

For more information about the ambient temperature and temperature class see table below.

## Service temperature

For Flange Socket and Maintenance Flange Socket type 8570/\*5-\*\*\*-\*:  
 $-50\text{ °C} \leq T_s \leq +75\text{ °C}$  (for the enclosure)  
 $-50\text{ °C} \leq T_s \leq +95\text{ °C}$  (for the switch insert)

For flange socket type 8570/\*8-\*\*\*-\*:  
 $-50\text{ °C} \leq T_s \leq +75\text{ °C}$  (for the enclosure)  
 $-50\text{ °C} \leq T_s \leq +95\text{ °C}$  (for the contact sleeve carrier)



## Electrical Data

### Type 8570/\*5:

|   | Main contacts  |                        | Auxiliary contacts   |
|---|--|------------------------|--|
|   | 3 poles  | 4, 5 poles             |  |
| Max. rated operational voltage                      | 500 V AC /<br>110 V DC   | 690 V AC /<br>110 V DC | 500 V AC / 110 V DC  |
| Max. rated insulation voltage                       | 550 V AC   | 750 V AC               | 550 V AC   |
| Max. rated operational current                      | 16 A / 20 A  |                        | 6 A  |
| Switching capacity                                  | AC-3, 690 V, 16 A<br>AC-3, 500 V / 20 A<br>4 kW, 200 ... 250 V<br>7.5 kW, 380 ... 500 V<br>11 kW, 600 ... 690 V<br>DC-1, 110 V, 16 A |                        | AC-15, 500 V, 1250 VA<br>AC-15, 230 V, 1380 VA<br>AC-12, 500 V, 3000 VA<br>DC-13, 110 V, 110 W |
| Max. rated frequency                                | 0 ... 500 Hz   |                        |  |
| Short-circuit protection                            | 16 A gG (without thermal protection)<br>35 A gG (with thermal protection)  |                        |  |
| Terminal capacity for flange socket type 8570/*5-** | 1 or 2 x 1.5 ... 6 mm <sup>2</sup> (16 ... 10 AWG) solid<br>1 or 2 x 1.5 ... 4 mm <sup>2</sup> (16 ... 12 AWG) stranded              |                        |  |
| Terminal capacity for auxiliary contacts            | 1 or 2 x 0.5 ... 2.5 mm <sup>2</sup> (20 ... 14 AWG) solid or stranded   |                        |  |
| PE conductor size                                   | Same or larger than line / load cross section  |                        |  |
| Tightening torque                                   | Terminals: 1.2 Nm<br>Fixing screws of the flange socket: 2.3 Nm  |                        |  |

Note: Stranded wires are suitable with or without wire end ferrules.



### Type 8570/\*8:

|   | Main contacts  |
|---|--|
| Max. rated operational voltage                      | 690 V AC /<br>230 V DC   |
| Max. rated insulation voltage                       | 690 V AC   |
| Max. rated impulse withstand voltage ( $U_{imp}$ )  | max. 6 kV (load disconnect switch)<br>4 kV (control switch)                      |
| Max. rated operational current                      | 16 A   |
| Max. rated frequency                                | 0 ... 500 Hz   |
| Short-circuit protection                            | 16 A gG (without thermal protection)<br>35 A gG (with thermal protection)        |
| Terminal capacity for flange socket type 8570/*8-** | 2.5 mm <sup>2</sup> (14 AWG) stranded and<br>4 mm <sup>2</sup> (12 AWG) stranded |
| PE conductor size                                   | Same or larger than line / load cross section                                    |
| Tightening torque                                   | Terminals: 1.2 Nm<br>Fixing screws of the flange socket: 2.3 Nm                  |

Note: Stranded wires are suitable with or without wire end ferrules.

### Ingress protection according to IEC 60079-0, IEC 60079-7 and IEC 60079-31

When mounted and cover closed or plug inserted: IP64

Cover must be closed carefully when plug is not inserted to maintain ingress protection. The plug shall be free from water and dust before is inserted to the flange socket.

### Mounting

The flange socket and maintenance flange socket of type 8570/\*\*-\*\*\*-\* are intended to be attached to enclosures in the type of protection "increased safety" Ex "eb" and "protection by enclosures" Ex "tb" with a wall thickness no less than 1.5 mm for metal enclosures and not less than 2.6 mm for non-metal enclosures.

### Notes for installation and operation

1. The flange socket and maintenance flange socket of type 8570/\*\*-\*\*\*-\* shall be mounted on an enclosure that meets the requirements of an approved type of protection as specified in IEC 60079-0, section 1. The degree of protection IP will only be safeguarded if the flange socket is properly installed. The enclosure must be suited for the operating conditions, and have a separate examination certificate.
2. In order to ensure the ingress protection IP, the bayonet ring of the plug must be screwed up to the stop to the socket or the hinged cover of the socket must be closed and screwed up to the stop when the plug is not inserted.
3. The plug shall be free from water and dust before is inserted to the flange socket.
4. When mounting the flange socket and maintenance flange socket of type 8570/\*\*-\*\*\*-\* in an enclosure of level of protection Increased Safety "eb" in accordance with IEC 60079-7, the clearance and creepage distances specified in section 4.3, section 4.4 and table 2 shall duly be complied with.





5. The connecting cable of the flange socket and maintenance flange socket type 8570/\*\*\_\*\*\*\_\* shall be fixed and routed so that it will be adequately protected against mechanical damage.
6. If the temperature at the input parts exceeds 70 °C, temperature-resistant connecting cables shall be used.
7. The maintenance flange socket type 8570/55-\*\*\*-\* is to be secured for switching with the help of a padlock. Switching on and operating the maintenance flange socket is only permitted if there is no ex-atmosphere present.
8. Installation of electrical components requires a further assessment by an ExCB.

This information must accompany each device in an adequate form.

#### **Schedule of Limitations:**

The flange socket and maintenance flange socket must not be used in dust areas where highly charge-generating processes, machine friction and separation processes, electron spraying (e.g. around electrostatic coating systems) and pneumatically conveyed dust occur.

The user shall be informed of the following conditions in an appropriate form, e.g. with a note included in the operating instructions:

“WARNING – DO NOT OPEN WHEN ENERGIZED”

“WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS”

“WARNING – IN ORDER TO ENSURE THE INGRESS PROTECTION IP, THE BAYONET RING OF THE PLUG MUST BE SCREWED UP TO THE STOP TO THE SOCKET AND THE HINGED COVER OF THE SOCKET MUST BE CLOSED AND SCREWED UP TO THE STOP WHEN THE PLUG IS NOT INSERTED. THE COVER OF THE TERMINAL COMPARTMENT MUST BE FASTENED WITH THE APPROPRIATE TORQUE”

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Valid for 8570/55-\*\*\*-\*:

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Commissioning a maintenance flange socket type 8570/55-\*\*\*-\* requires the approval of the plant operator or his authorized agents.