



(1) **EC-TYPE-EXAMINATION CERTIFICATE**
(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**



(3) EC-type-examination Certificate Number:

PTB 03 ATEX 2095 X

(4) Equipment: Magnets, types K05932..., K05924..., K05927.. and K05935..

(5) Manufacturer: GSR Ventiltechnik GmbH & Co.KG

(6) Address: Im Meisenfeld 1, 32602 Vlotho, Germany

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems 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 PTB Ex 03-23214 .

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 + A1 + A2

EN 50019:2000

EN50028:1987

EN 50281-1-1:1999

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

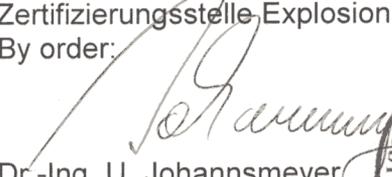
(12) The marking of the equipment shall include the following:

 **II 2 G EEx em II T4 and II 2D IP65 T130 °C**

Zertifizierungsstelle-Explosionsschutz

Braunschweig, December 10, 2003

By order:


Dr.-Ing. U. Johannsmeyer
Regierungsdirektor



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SCHEDULE

- (13)
- (14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2095 X**

(15) Description of equipment

The magnet system consists of valve solenoids with magnetic keeper sleeves. A PCB with a bridge-connected rectifier is installed in the terminal box of all variants. The winding and the rectifier board are potted completely. The keeper sleeve and the electromagnet are always mounted and operated together on the valve body.

Electrical data

| | |
|--------------------------------|-------------------|
| Type designation | K05932.. |
| Type of current | Universal current |
| Rated voltage | 12 V ... 230 V |
| Rated current | 2.0 A ... 0.1 A |
| Limit power | 20.6 W |
| Max. perm. ambient temperature | 40 °C |
| Temperature class | T4 |
| Frequency | 0 Hz ... 60 Hz |
| Medium temperature | 40 °C |
| Single-mounting | yes |
| Butt-mounting | no |

| | |
|--------------------------------|-------------------|
| Type designation | K05924.. |
| Type of current | Universal current |
| Rated voltage | 12 V ... 230 V |
| Rated current | 2.7 A ... 0.14 A |
| Limit power | 27.1 W |
| Max. perm. ambient temperature | 40 °C |
| Temperature class | T4 |
| Frequency | 0 Hz ... 60 Hz |
| Medium temperature | 40 °C |
| Single-mounting | yes |
| Butt-mounting | no |

| | |
|--------------------------------|-------------------|
| Type designation | K05927.. |
| Type of current | Universal current |
| Rated voltage | 24 V ... 230 V |
| Rated current | 2.1 A ... 0.22 A |
| Limit power | 43.2 W |
| Max. perm. ambient temperature | 40 °C |
| Temperature class | T4 |
| Frequency | 0 Hz ... 60 Hz |
| Medium temperature | 40 °C |
| Single-mounting | yes |
| Butt-mounting | no |

| | |
|--------------------------------|-------------------|
| Type designation | K05935.. |
| Type of current | Universal current |
| Rated voltage | 24 V ... 230 V |
| Rated current | 3.1 A ... 0.32 A |
| Limit power | 68 W |
| Max. perm. ambient temperature | 40 °C |
| Temperature class | T4 |
| Frequency | 0 Hz ... 60 Hz |
| Medium temperature | 40 °C |
| Single-mounting | yes |
| Butt-mounting | no |

(16) Test report PTB Ex 03-23214

(17) Special conditions for safe use

A fuse corresponding to the rated current of the magnet (max. $3 \times I_B$ according to IEC 60127-2-1) or a motor protecting switch with short-circuit- or thermal instantaneous tripping (adjusted to rated current) must be connected in series to each magnet. For very low rated currents of the magnet the fuse with the lowest current value according to the aforementioned IEC-standard will be sufficient. This fuse may be accommodated inside the associated power supply unit or has to be connected in series separately. The rated voltage of the fuse shall be the same as or higher than the rated voltage specified for the magnet. The breaking capacity of the fuse link shall be the same as or higher than the maximum short-circuit current expected to occur at the place of installation (normally 1500 A).

The maximum permissible range of the ambient temperature is - 40 °C up to + 40 °C.

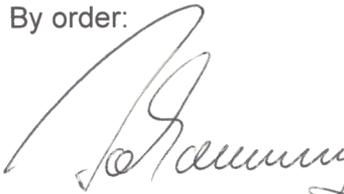
(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz

Braunschweig, December 10, 2003

By order:



Dr.-Ing. U. Johannsmeyer
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