



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.: IECEX EPS 17.0088X

Issue No: 0

Certificate history:

Issue No. 0 (2018-07-23)

Status: Current

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Date of Issue: 2018-07-23

Applicant: Tissin Co., Ltd.
201-1105, No 397, Seokcheon-ro, Ojeong-gu,
Bucheon-si, Gyeonggi-do, Korea 14449
Korea, Republic of

Equipment: TS800 Series Smart Valve Positioner

Optional accessory:

Type of Protection: intrinsic safety "i"

Marking:

Ex ia IIC T5/T6 Gb

Ex ia IIIC T100°C/T85°C Db IP6X

Approved for issue on behalf of the IECEX
Certification Body:

Holger Schaffer

Position:

Head of Certification

Signature:
(for printed version)

Date:

2018-07-23

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 the [Official IECEX Website](http://www.iecex.com).

Certificate issued by:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany





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Manufacturer: Tissin Co., Ltd.
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Korea, Republic of

Additional Manufacturing location(s):

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 apparatus 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 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate does not indicate compliance with electrical 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/EPS/ExTR17.0087/00](#)

Quality Assessment Report:

[DE/EPS/QAR18.0004/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The electropneumatic positioners TS800/TS820 control the position of linear or rotary valves according to the input signal 4 - 20 mA DC. The output signal is a pneumatic pressure – single or double acting - regulated by an inductive actuator, called torque motor. The supply pressure is 0.14 to 0.7 MPa. The pressure unit is a compact block built in into the housing of the positioner with air supply and air output connectors on the side of the housing.

The electronic circuit supplied by the analogue supply and signal current 4 - 20 mA works digitally supported by a microprocessor. The microprocessor serves for many additional tasks as Auto Calibration or PID-control. The position is measured by a single turn potentiometer. The device can be manually parameterized and adjusted by push buttons when the cover is removed. As an option the supply current can be superimposed by the digital HART- signal to communicate with a control unit.

As another option the feedback of the valve position (PTM) is possible via the current output signal 4 - 20 mA. The feedback signal is galvanically isolated from the supply circuit.

The status information can be displayed by a LCD-Display. The axis of the limit switches and the indicator is driven by a gear connected with the potentiometer.

The type TS820 has an external measuring potentiometer in an own housing.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The ambient temperature ranges deviate from the standard temperature range:

Temperature class T5: -40 °C to +60 °C

Temperature class T6: -40 °C to +40 °C



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Additional information:

Annex:

[IECEX EPS 17.0088X - Annex.pdf](#)



Electrical data:

For the main circuit and the option PTM, Alarm 1, Alarm 2, Limit Switches "Dry Contact".
Maximum values:

U_i = 28 V
I_i = 101 mA
P_i = 707 mW
Linear characteristic

C_i = 0.6 nF differentially between the lines or 2.2 nF against ground
L_i = 6 μH
The circuit is galvanically isolated against earth and against each other.

For the option Limit switches "Proximity".
Maximum values:

U_i = 16 V
I_i = 26 mA
P_i = 34 mW
Linear characteristic

C_i = 30 nF differentially between the lines or 2.2 nF against ground
L_i = 50 μH
The circuit is galvanically isolated against earth and the other circuits.

The type TS820 has an external measuring potentiometer in an own housing.