

[1]

# TYPE EXAMINATION CERTIFICATE



[2]

## Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

[3]

Type Examination Certificate Number: : **DEMKO 18 ATEX 2025X Rev. 3**

[4]

Product: **Purge Controller (main controller, vent and conduit hub) and Accessory Solenoid Valves**

[5]

Manufacturer: **Pepperl+Fuchs SE**

[6]

Address: **Lilienthalstrasse 200, 68307 Mannheim, Germany**

[7]

This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8]

UL International Demko A/S certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in confidential report no. **US/UL/ExTR18.0028/03.**

[9]

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

<b>EN IEC 60079-0:2018</b>	<b>EN 60079-2:2014</b>
<b>EN IEC 60079-7:2015 +A1:2018</b>	<b>EN IEC 60079-15:2019</b>
<b>EN 60079-18:2015 + A1:2017</b>	<b>EN 60079-31:2014</b>

except in respect of those requirements listed at item 18 of the Schedule.

[10]


If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.


[11]

This Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.

[12]

The marking of the product shall include the following:

 **II 3 G Ex ec mc nC [pzc Gc] IIC T6...T4 Gc**

 **II 3 D Ex tc mc [pzc Dc] IIIC T60°C...T80°C Dc**

**Certification Manager**  
Jan-Erik Storgaard

**Certification Body**

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

**Date of issue:** 2018-08-10

**Re-issued:** 2021-02-18

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# Schedule TYPE EXAMINATION CERTIFICATE No. DEMKO 18 ATEX 2025X Rev. 3

[15]

Description of Product:

Comprising a metallic enclosure with non-metallic window, the Control Unit (model 7500...) is provided with mounting means for installation into framework, panels or enclosures. The Control Unit may also be identified as Main Control Unit or Purge Control Unit herein. Field wiring terminals and a user interface touch screen are provided within the enclosure of the Control Unit, along with field wiring threaded entries provided in the rear for incoming and outgoing field wiring. Internal and External earthing and bonding facilities are also provided. An accessory solenoid valve can be provided that is located in a different environment from the Control Unit.

Optional accessories identified by their own part numbers are available to the end user and have been considered as supplementary parts to the Control Unit evaluation where necessary, these include:

A Vent for installation into a purged and pressurised end equipment enclosure and is only for use in conjunction with the Control Unit as specified on the product label and in the installation instructions. All vent types are provided with spark arrestors. The end user shall take account of the installation requirements of the Vent to comply with requirements of the end product certification as specified in the installation instructions.

A metallic conduit hub provides additional threaded entries for field wiring purposes, thus expanding the maximum entries.

A mounting arrangement, external boxed or panel mount provides mounting methods for end user installation of the control unit and a manually operated valve manifold. The mounting means does not supplement the Control Unit type of protection, nor provide independent type of protection. It may be provided with non-electrical components which have not been included in the Control Unit evaluation.

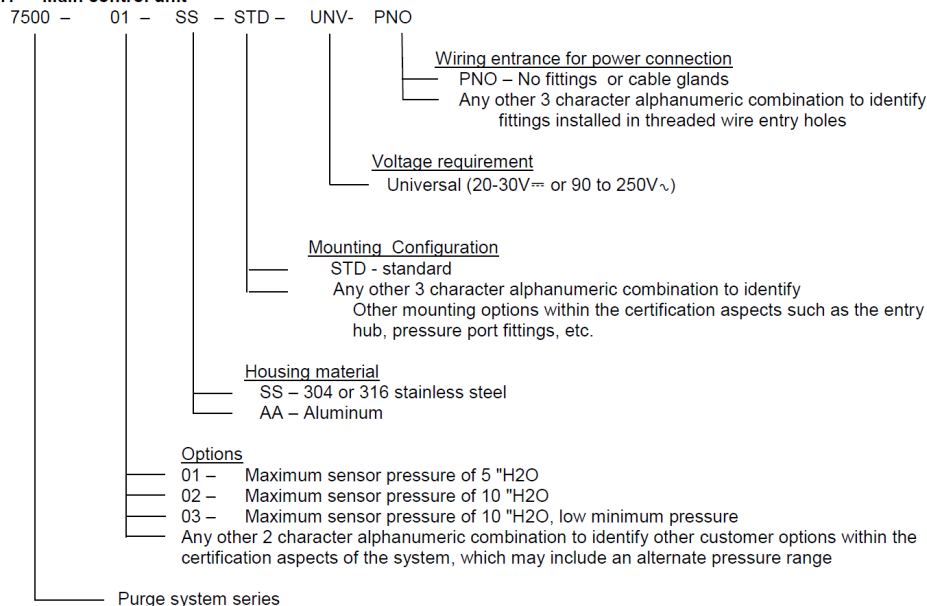
An accessory solenoid valve that can consist of either Burkert or Nass Magnet manufacturers. The solenoid valves will be mounted in a separate location from the purged/pressurized system with a different environment.

TYPE DESIGNATION-

Extracts of Control Unit nomenclature, and accessories taken from Equipment Instruction Manual:

Control Unit –

4.1 Main control unit



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[14]

# Schedule

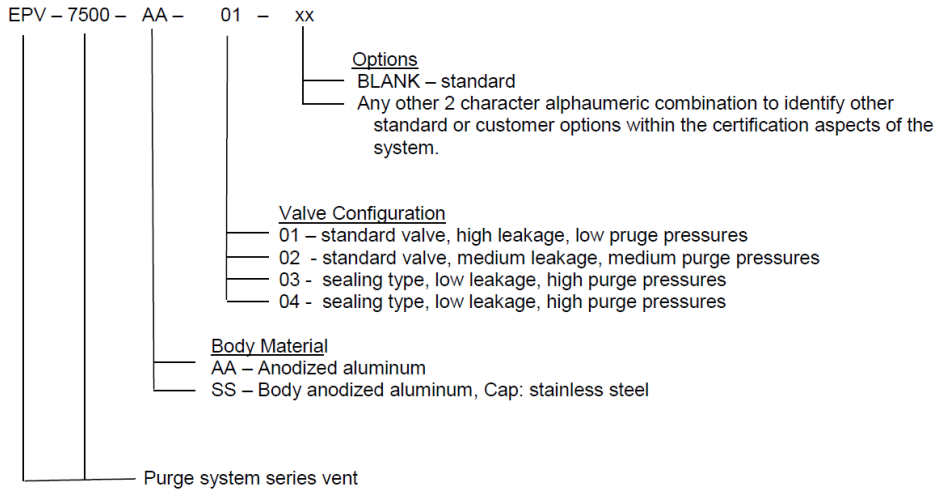
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Control Unit Accessories:

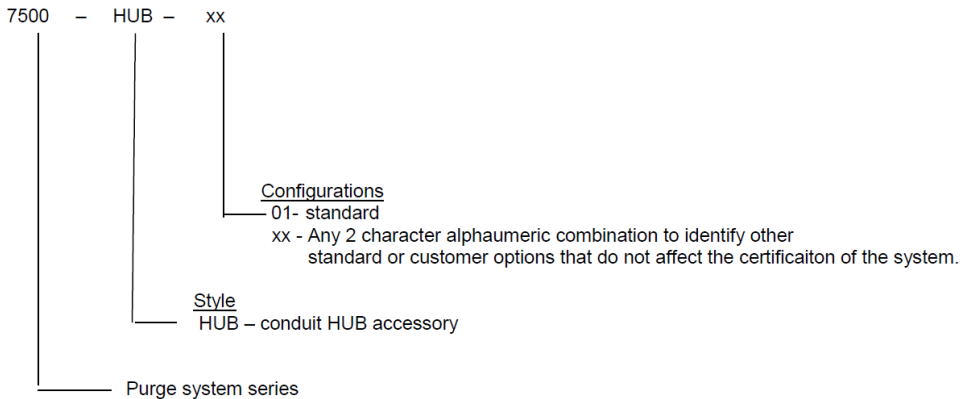
Vent -

#### 6 EPV-7500 Vents Type code/model number



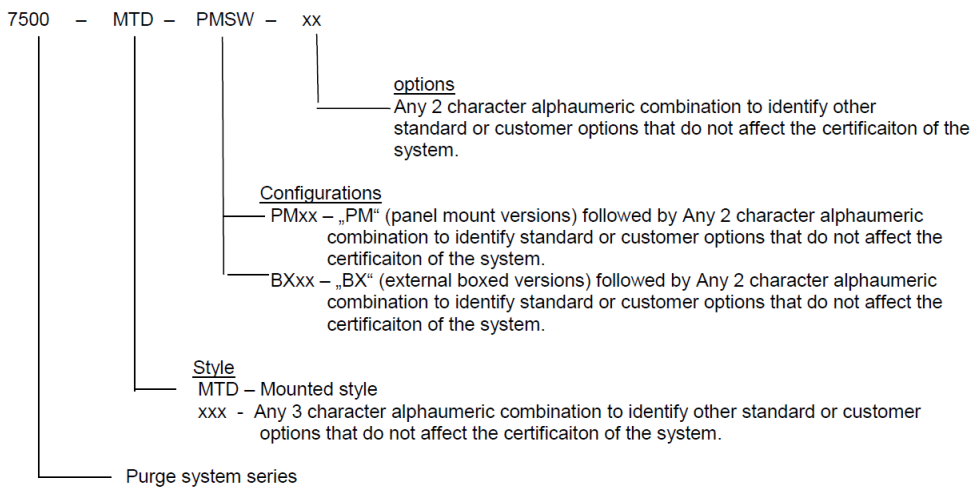
Hub -

#### 4.3 7500 optional HUB



Mounting arrangement -

#### 4.2 7500 mounted control unit



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[14]

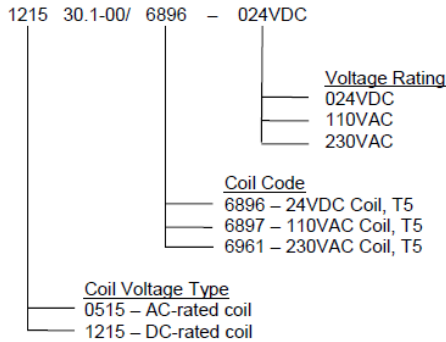
# Schedule

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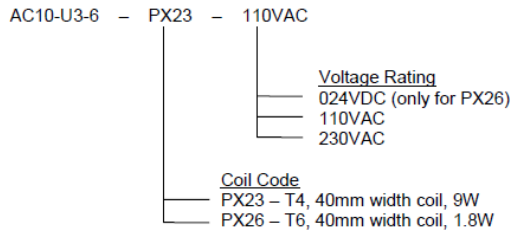
### DEMKO 18 ATEX 2025X Rev. 3

Accessory Solenoid Valves –

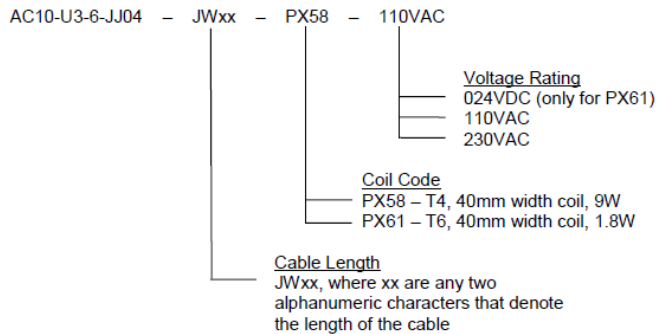
#### 7.1 Nass Solenoid Nomenclature



#### 7.2 PTB-certified Bürkert Coil Nomenclature



#### 7.3 EPS-certified Bürkert Coil Nomenclature



#### Temperature range:

The relation between ambient temperatures and the assigned temperature class for the Control Unit, and Hub are as follows:

Ambient temperature range	Temperature class
-40°C ≤ Ta ≤ +50°C	T6 / T60
-40°C ≤ Ta ≤ +65°C	T5 / T75°C
-40°C ≤ Ta ≤ +70°C	T4 / T80°C

The ambient temperature range for the Vent is -40°C ≤ Ta ≤ +70°C.

The relation between ambient temperature and the assigned temperature class for the accessory Nass Magnet Solenoid Valve are 0515 and 1515 series as follows:

Ambient temperature range	Temperature class
-20°C ≤ Ta ≤ +50°C	T5 / T95°C

The relation between ambient temperatures and the assigned temperature class for the accessory Buerkert Magnet Solenoid Valve AC10 Suffix PX23 Series Valve as follows:

Ambient temperature range	Temperature class
-40°C ≤ Ta ≤ +60°C	T4 / T130°C



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The relation between ambient temperatures and the assigned temperature class for the accessory Buerkert Magnet Solenoid Valve AC10 Suffix PX26 Series Valve as follows:

Ambient temperature range	Temperature class
$-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$	T6 / T80°C

[14]

The relation between ambient temperatures and the assigned temperature class for the accessory Buerkert Magnet Solenoid Valve AC10 Suffix PX58 Series Valve as follows:

Ambient temperature range	Temperature class
$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	T4 / T130°C

The relation between ambient temperatures and the assigned temperature class for the accessory Buerkert Magnet Solenoid Valve AC10 Suffix PX61 Series Valve as follows:

Ambient temperature range	Temperature class
$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	T5 / T80°C

#### Electrical data

Controller input –

20V-30Vdc / 0.1A

90-250Vac / 0.04A 50-60Hz

Relay electrical connections –

K1 – 5.0A (0-30Vdc and 0-250Vac) maximum

K2 – 5.0A (0-30Vdc and 0-250Vac) maximum

SV – 0.5A (0-30Vdc and 0-250Vac) maximum

Accessory Solenoid Valves –

Maximum Rating 0.5A (0-30Vdc and 0-250Vac)

#### Routine tests:

Dielectric Strength tests are required per EN 60079-7. Tests must be performed with the test voltage of 1400Vac applied between live/neutral to earth. The test voltage is raised to its specified value within 5 seconds and maintained for at least 2 seconds. There shall be no flash over or breakdown of isolation.

[16]

#### Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [ 8 ] on page 1 of this Type Examination Certificate.

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#### Special Conditions of Use:

- The Control Unit and optional accessories are the only parts that have been evaluated for the certification of the system.
- For dust environments, the lens of the Control Unit may pose an electrostatic discharge hazard. Use only water damp cloth and allow to air dry for cleaning device. Do not use or install in high charge areas. See EN 60079-32-1 for further information.
- When the Control Unit and Vent are mounted to equipment intended to be protected by concept of protection 'p', the complete installation and assembly of parts shall be evaluated to the appropriate standards and regulations applicable for the method of protection at the final installation location.
- The Control Unit has a temperature class (T6 / T60°C, T5 / T75°C or T4 / T80°C) that is dependent on ambient temperature. This temperature shall be considered when mounted to an enclosure, or inside of an enclosure.
- All un-used entry points to the Control Unit shall be closed with a properly certified device suitable for the area of installation with the necessary ingress protection.
- The bypass function shall only be enabled when the area is known to be non-hazardous.
- In hazardous dust environment, regularly remove dust from the unit to prevent excessive temperature rise.
- For accessory solenoid valve AC10 Series with suffix PX58 and PX61, the device shall never be used in areas affected by strong charge-generating processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. For cleaning the surface of housing only antistatic- or damp- clothes are allowed. By installing of cable, the bending radius must be observed.
- For accessory solenoid valve AC10 Series with suffix PX58 and PX61, the solenoid shall always be used with armature.
- For accessory solenoid valve AC10 Series with suffix PX58 and PX61, if there are used different coils with different power the electrical values of the solenoid with max power is valid. Then the max ambient temperature is +40°C.
- For accessory solenoid valve AC10 Series with suffix PX23 and PX26, the valve body shall comply with the following requirements as a minimum:
  - Material: Metal (brass, aluminum, stainless steel) or Polyimide
  - Minimum dimensions: 32 mm x 32 mm x 10 mm
- For accessory solenoid valve 0515 and 1215 Series, a maximum permissible ripple of 20% is valid for all magnets of direct-current design.
- For all accessory solenoid valves, refer to the solenoid coil's label for ambient temperature rating, which may differ from the control units.

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#### Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.