**Digital positioner EDP300**
Instrument air filter system of the EDP300

Reliable and efficient digital positioner with integrated maintenance-friendly air filters applicable in any industrial process.

### Purpose

This document provides a description of the design structure of the internal air filter system in the EDP300 digital positioner. It gives information on the robustness of the EDP300 in reference to instrument air quality.

The EDP300 digital positioner is robust and features integrated filters to protect the pneumatic steps against contamination. The internal filters can be easily replaced and serviced on-site and operate trouble-free.

### Additional Information

For more information on the subject or if you have any questions about the positioner products by ABB, please contact the person signed below.

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1 Air filter system EDP300

Supply air quality

The EDP300 digital positioner requires compressed air as the energy source, the compressed air must meet the requirements of instrument air quality according to the following table. If the available instrument air does not meet this requirement, then a suitable external filter is needed in the supply line.

<table>
<thead>
<tr>
<th>Instrument air *</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Purity</td>
<td>Maximum particle size: 5 μm</td>
</tr>
<tr>
<td></td>
<td>Maximum particle density: 5 mg/m³</td>
</tr>
<tr>
<td>Oil content</td>
<td>Maximum concentration 1 mg/m³</td>
</tr>
<tr>
<td>Pressure dew point</td>
<td>10 K below operating temperature</td>
</tr>
</tbody>
</table>

* free of oil, water and dust in accordance with DIN / ISO 8573-1 Pollution and oil content in accordance with Class 3

Overview of air filter system

A unique feature of the EDP300 is the integrated and serviceable air filter system to protect the positioner from dust and contamination to help protect the internal parts of the positioner. These internal filters cover the following 3 areas:

- **Supply air**
- **Internal pneumatic module**
- **Pneumatic Output 1 and 2**

The EDP300's internal air filter system as shown in Figure 1 helps protect the positioner against dust and contaminants that may enter from the instrument air supply or from the actuator during operation. In addition to these filters the EDP300 incorporates a high quality sintered filter to protect the internal pneumatic module from contamination.

Supply air filter

The instrument air supply is filtered with this first stage filter to protect the EDP300 against dust and other contaminants from entering the positioner via the air supply.

![Supply air filter](image)

This supply filter element (Figure 2, item 1) is easily accessible for service or exchange from the outside by removing the screw plug (Figure 2, item 2). The additional input air filter element (Figure 2, item 3) is located inside the IN pneumatic port and is easily accessible for service or exchange.
Internal pneumatic module
The internal pneumatic module is additionally protected against dust and other elements through a high quality sintered filter (Figure 3, item 1) located inside the module. The following 3D-CAD picture shows the pneumatic module with the sintered air filter partly removed for better visibility.

Pneumatic output
The Out 1 & Out 2 air filter elements (Figure 4, item 1) protect the EDP300 from any debris and other particles that may be inside the actuator from entering the positioner during the decompressing sequence of the actuator when the air passes through the EDP300.

Summary
- The EDP300 digital positioner has an air filter system with 3 air filter areas.
- No competitor has this kind of innovative and systematic air filter system.
- The serviceability of the air filter systems is unique.
Purpose
This document provides a description of the design structure of the internal air filter system in the EDP300 digital positioner. It gives information on the testing and design to prevent contamination and to allow for easy replacement and service on-site.

The internal filters can be easily replaced and serviced on-site and operate trouble-free.

Additional Information
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