

## **HON 600 Pilot**

Component documentation,  
Maintenance manual and spare parts

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# 1 General considerations

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## 1.1 About this component documentation

<b>Validity and purpose</b>	<p>This component documentation applies to HON 600 pilots.</p> <p>This component documentation provides all individuals with the information required in order to safely handle the device in connection with the following tasks:</p> <ul style="list-style-type: none"><li>▪ Maintenance and servicing</li><li>▪ Storage and disposal</li></ul> <hr/>
<b>Target group</b>	<p>This component documentation is intended for anyone who requires the following information concerning the product:</p> <ul style="list-style-type: none"><li>▪ Intended use</li><li>▪ Device models</li><li>▪ Technical specifications</li><li>▪ How it works</li><li>▪ Maintenance manual</li><li>▪ Spare parts drawings and spare parts lists</li></ul> <hr/>
<b>Illustration</b>	<p>Honeywell offers products with identical functions in a number of different sizes. For this reason, we are unable to guarantee that the illustrations in this documentation will match the dimensions of your product. In these cases, the illustrations should be viewed as a concept sketch.</p> <hr/>
 <b>Safety</b>	<p>Failing to observe the information provided in this document may lead to injuries, including death and material damages.</p> <p>To ensure the safety, any persons handling the product must have read and understood the following parts of this document before they start with any work involving it:</p> <ul style="list-style-type: none"><li>▪ the chapter entitled Safety</li><li>▪ the chapters that describe the work to be done</li></ul> <hr/>
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**Details about the manufacturer's liability**

The manufacturer will not be liable for damages and malfunctions arising from failure to observe this component documentation and other applicable documents.

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**Constructive changes**

The written approval from Honeywell Gas Technologies GmbH, Kassel, is required for any modifications and additions to the product. Any violation will void the legal liability for consequences arising thereof.

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## 1.2 About the safety notices

### Meaning

The information contained in the safety notices is intended to prevent personal injury. Safety notices contain the following information:

- Nature and source of the danger
- Possible consequences associated with the non-observance of the notice
- Procedures for the prevention of personal injury

### Types of safety notices

This document contains the following types of safety notices:

Type of safety notice	Description	Sign
Basic safety notices	Superordinate safety notices not relating to a specific task: <ul style="list-style-type: none"> <li>▪ They contain a summarized description of hazards, risks and safety procedures associated with the handling of the device.</li> <li>▪ Their purpose is to inform and educate the user about an existing danger and about practicing behavioral safety.</li> <li>▪ They are suitable as safety instruction for all employees handling the device.</li> </ul>	Recognizable by the heading of the chapter
Instruction-related safety notices	Safety notices containing specific instructions relating to the entire manual or a group of manuals	  
Step-related safety notices	Safety notices containing specific instructions relating only to the step	<b>DANGER</b> <b>WARNING</b> <b>CAUTION</b>
Additional safety notice	Instruction to observe certain safety notices with reference to a location in the document where safety notices containing specific information about dangers, risks and specific instructions for safety procedures can be found	

### Danger levels

The safety notices containing specific instructions are identified with a signal word. The signal word represents a certain danger level:

Danger level	If you fail to follow the instruction, then ...	And the consequence is ...
DANGER	an accident will happen	serious bodily injury or death.
WARNING	an accident may happen	possible serious bodily injury or death.
CAUTION	an accident may or will happen.	minor or moderate bodily injury.

### Warnings about material damages

Warnings about possible material damages are identified with the word **Attention** in this document.

## 2 Description

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## 2.1 Intended use

### Intended use

HON 600 pilots are used to regulate the outlet pressure of a gas pressure regulator in a gas regulating line.

These pilots are used for actuator assemblies that are designed as diaphragm valves and conform to DIN EN 334. Accordingly, these pilots are considered an integral part of the gas pressure regulator in which they are used. The pilots are controlled pneumatically and can be used for neutral, non-aggressive gases and the gases specified in DVWG Code of Practice G260.

**Note:** The device's operating limits concerning the gas, the operating pressure, and the operating temperature can be found either on the rating plate affixed to the device or in the device's technical specifications.

The use under different operating conditions must be coordinated in consultation with the manufacturer.

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### Limitations of use

Please observe the following limitations of use:

- Do not use the device for any media other than those mentioned in the intended use or those discussed with and approved by the manufacturer.
  - Do not use the device in any installation position other than the one documented in this component documentation.
  - Do not use the device against the direction of flow specified on the device and in the component documentation.
  - When replacing defective parts, only use original spare parts or manufacturer-approved standard parts.
  - Do not attempt to modify or remodel the device on your own.
-

## 2.2 Device models

**HON 600 pilot models** The following table shows which models are available:

Description	Design	Setpoint range [bar]	Number of body sections
HON 600 LP	Low-pressure model (low pressure)	0.015 to 0.5	3
HON 600 MP	Medium-pressure model (medium pressure)	0.14 to 4.0	2
HON 600 HP	High-pressure model (high pressure)	0.7 to 8.0	2

Filter S124 is an integral part of all the pilot models above.

### Models in this component documentation

The technical specifications and maintenance information, as well as the spare parts lists and spare parts drawings in the appendix, describe all the Hon 600 pilot models available.

## 2.3 Labels/Markings

### Illegible labels



**Illegible information on the device poses a risk of injury due to resulting erroneous operation, use, or installation.**

Labels, as well as inscriptions and stamping on the device, can eventually become soiled or otherwise unrecognizable to such an extent that users will not be warned effectively of hazards and may be unable to follow required operating instructions. This will pose a risk of injury.

- ⇒ Make sure to always keep all relevant labels in good condition so that they will be easily legible.
- ⇒ Immediately replace damaged and missing labels.

### Identifying the device

Make sure you have the right component documentation for your device.  
To identify your device, look at the nameplate.

### Verifying the technical specifications

Make sure that the conditions on site correlate with the information on the type plate and the technical specifications.

*Technical specifications (see page 12)*

### Locating the type plate of the pilot

The nameplate can be found in the location shown below:

Figure	No.	Description
	1	Front of the pilot

### Interpreting the type plate of the pilot

The details on the type plate have the following meaning:

Figure	No.	Meaning
	1	Maximum allowable pressure
	2	Name of the device
	3	Device size
	4	Permissible temperature range
	5	Pilot spring number
	6	Pilot spring setpoint range
	7	Serial number
	8	Pilot spring color
	9	Pilot spring wire diameter
	10	Manufacturing date

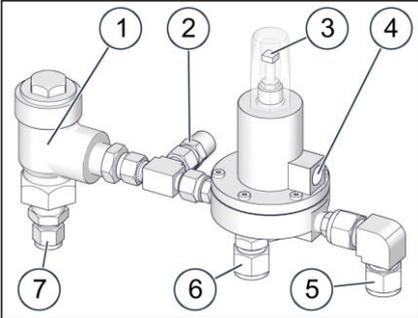
### Labels on connection lines

Small labels must be used to color-code and explicitly name the pilot's connection lines based on what the lines are intended for.

## 2.4 Layout and operation

### HON 600 layout

The HON 600 pilot features the following layout and fittings:

Figure	No.	Description
	1	Filter
	2	Motorization pressure fitting
	3	Spring adjuster (underneath cap)
	4	Breather line fitting (ambient pressure compensation)
	5	Port for outlet pressure process line
	6	Measuring impulse line connection
	7	Inlet pressure fitting

### How the HON 600 pilot works

- The inlet pressure is conveyed into the pilot through the filter.
- The outlet pressure is conveyed into the pilot from the other side and produces a force component that acts on the diaphragm inside the pilot.
- The pilot's set screw is used to tighten the pilot spring, producing an additional force component that acts on the diaphragm inside the pilot.
- The force components acting on the diaphragm are used by the diaphragm in order to compare the setpoint and the process value.
- Depending on the gas pressure and on the set setpoint, the resulting motorization pressure will vary.
- The motorization pressure causes the gas pressure regulator being operated to open and close as appropriate.

## 2.5 Technical specifications

### Characteristic device values and materials

The following characteristic values apply to all setpoint ranges:

	Value
Max. inlet pressure $p_{\text{umax}}$	25 bar (360 psi)
Temperature range	-40 to +60 °C (-4 to +140 °F)
Materials	Case: Aluminum alloy Internal parts: Aluminum alloy/steel Diaphragms: NBR Gaskets: NBR

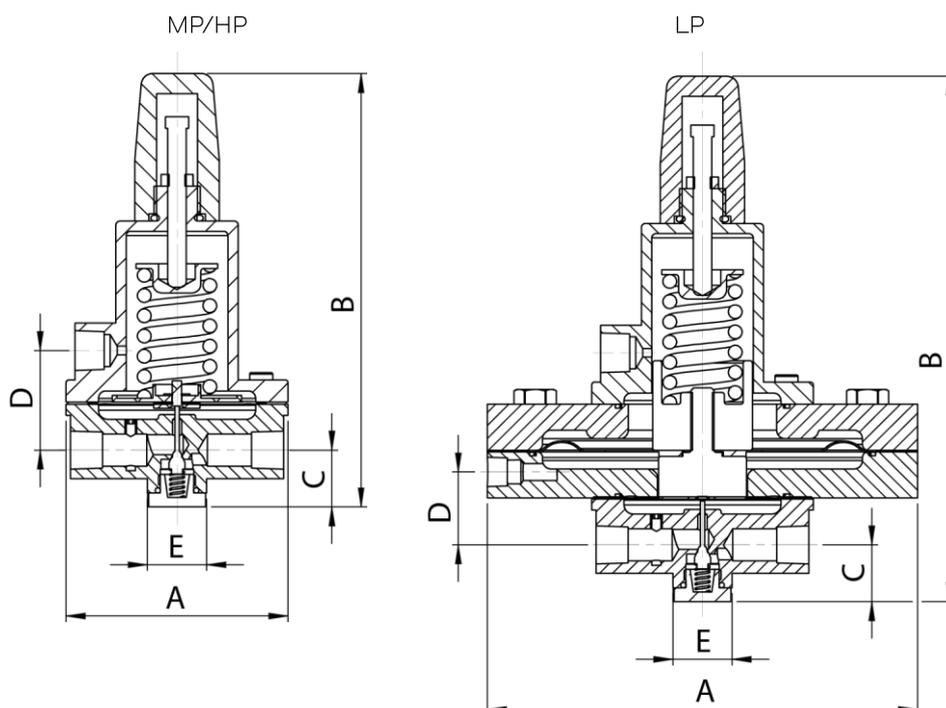
### Pilot springs

Pilot	Specific set range $W_{ds}$	Pilot spring		
		No.	Color	Wire diameter [mm]
HON 600 LP	0.22 – 2 psi (0.015 – 0.14 bar)	1047	purple	2.29
	0.36 – 2.9 psi (0.025 – 0.2 bar)	TX002	silver	3.7
	2.2 – 7.25 psi (0.15 – 0.5 bar)	TX003	light blue	4.5
HON 600 MP	2 – 5 psi (0.14 – 0.35 bar)	1047	purple	2.29
	3.6 – 29 psi (0.25 – 2.0 bar)	TX002	silver	3.7
	21.75 – 58 psi (1.5 – 4.0 bar)	TX003	light blue	4.5
HON 600 HP	10 – 58 psi (0.7 – 4.0 bar)	TX002	silver	3.7
	50.7 – 116 psi (3.5 – 8.0 bar)	TX003	light blue	4.5

### Accuracy class AC and look-up pressure class SG

Design	Outlet pressure range $p_d$ range [bar]	Accuracy class AC	Look-up pressure class SG
HON 600 LP	0.015 to 0.5	10	15
HON 600 MP	0.14 to 4.0	5	10
HON 600 HP	0.7 to 8.0	2.5	10

## Pilot dimensions and weights



## Imperial system:

Design	Weight [lbs]	A [in]	B [in]	C [in]	D [in]	E [in]
MP/HP	1.1	3	6	1.34	0.78	0.87
LP	3.9	5.8	7.16	0.98	0.78	0.87

## Metric system:

Design	Weight [kg]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
MP/HP	0.5	76	150	34	20	22
LP	1.75	148	182	25	20	22

## Gas properties

The properties of the gas conveyed through the devices must meet the requirements specified by the DVGW German Technical and Scientific Association for Gas and Water in the latest version of DVGW Code of Practice G 260 (A).

## ATEX specifications

The device's mechanical components do not contain any potential sources of ignition, and accordingly do not fall under the scope of ATEX 95 (94/9/EC). The electrical components used on the device meet all applicable ATEX requirements.

### 3 Safety

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### 3.1 Basic safety rules

<b>Target group of these rules</b>	These rules are intended for any individuals handling the device.
<b>Purpose of these rules</b>	These rules are designed to make sure that any individuals working with or on the device will thoroughly familiarize themselves with the corresponding hazards and safety measures and will observe the safety notices contained in this component documentation and on the device. If you do not follow these rules, there is a risk of injury including death and material damages.
<b>How to use this component documentation</b>	<p>Observe the following rules:</p> <ul style="list-style-type: none"> <li>▪ Read the chapter entitled Safety and the chapters relating to your responsibilities in their entirety. It is vital that you have understood these contents.</li> <li>▪ Always keep this component documentation in the vicinity of the device so that you can consult it when necessary.</li> <li>▪ Include this component documentation if you are transferring ownership of the device.</li> </ul>
<b>Handling the device</b>	<p>Observe the following rules:</p> <ul style="list-style-type: none"> <li>▪ Only individuals who meet the requirements set forth in this component documentation have permission to work with/on the device.</li> <li>▪ The device's intended use includes its use in hazardous locations. All work with and on the device must be carried out only after the presence of an explosive atmosphere has been fully ruled out.</li> <li>▪ Only use the device for the intended purpose. Never use the device for any other, potentially logical purposes.</li> <li>▪ Follow all the safety measures outlined in this component documentation and on the device. In particular, wear the mandatory personal protective gear.</li> <li>▪ Do not modify the device in any way, e. g. by removing parts or adding unapproved parts. In particular, you have no permission to modify or disable any safety contrivances.</li> <li>▪ When replacing defective parts, only use original spare parts or manufacturer-approved standard parts.</li> </ul>
<b>Requirements concerning the workforce</b>	<p>Personnel must meet the following requirements:</p> <ul style="list-style-type: none"> <li>▪ All personnel must meet the requirements corresponding to their duties.</li> <li>▪ All personnel must read and understand this component documentation before working with/on the device.</li> <li>▪ All occupational health and safety regulations that apply in your country must be complied with.</li> <li>▪ All personnel must be provided with the personal protective equipment required for their work. This personal protective equipment must be in good condition at all times.</li> <li>▪ All personnel must wear the personal protective equipment required for their work.</li> </ul>
<b>Conduct in the event of accidents</b>	The device is designed and built such that the employees can work with it without being at risk. In spite of all the precautions, accidents can happen under unfavorable circumstances. Always consult the directives of your company concerning the protection of the workforce.

## 3.2 Requirements concerning the workforce, personal protective gear, workplaces

### Requirements concerning the workforce

Individuals tasked with handling the device must meet the following requirements:

Personnel	Responsibilities	Required qualification
Mechanical fitter	<ul style="list-style-type: none"> <li>▪ Mechanical removal and installation</li> <li>▪ Maintenance and servicing</li> </ul>	<ul style="list-style-type: none"> <li>▪ Professional training and experience operating pressure equipment and systems</li> <li>▪ Knowledge of the relevant standards and regulations</li> <li>▪ Ability to identify and avoid dangers autonomously</li> </ul>

### Requirements for the personal protective gear

Any persons handling the device must be equipped with the following personal protective gear:

Task	Required personal protective gear
Mechanical activities involved in maintenance, storage, disposal	<ul style="list-style-type: none"> <li>▪ Safety boots with protection for electrostatic discharge (ESD)</li> <li>▪ Safety gloves</li> </ul>

### Workplace requirements

To ensure the safe handling of the device, the personnel must remain at the workplaces intended for performing their tasks.

The workplaces for performing the various tasks are at the following locations:

Task	Workplaces
<ul style="list-style-type: none"> <li>▪ Maintenance, repairs</li> <li>▪ Storage</li> <li>▪ Disposal</li> </ul>	All around the device, depending on the task

## 4 Maintenance

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## 4.1 Maintenance schedule

**Meaning**

The maintenance schedule provides an overview of the periodically required maintenance.

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**Maintenance schedule**

Since the maintenance intervals are highly dependent on the operating conditions and the gas quality, it is impossible to provide set maintenance intervals. It is recommended to use maintenance intervals conforming to the specifications in DVGW Code of Practice G 495. In addition, the need for maintenance must be determined and documented on the basis of operational requirements and experience.

Maintenance must be carried out in compliance with all federal and state laws and regulations, as well as with the local rules and regulations set forth by the relevant utilities and authorities and any other applicable regulations.

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## 4.2 Preparing for the maintenance

### Preparation work for pilot maintenance

Proceed as follows:

Step	Description	Explanation
1	Have the maintenance and servicing parts ready	<p>Please refer to <i>Additional information regarding spare parts lists</i> (see page 36) to find out which spare parts drawing is associated with your specific pilot model and have the corresponding maintenance parts and servicing parts ready to go before maintenance.</p> <ul style="list-style-type: none"> <li>▪ The spare parts that are always required for the pilot's maintenance are listed in the spare parts kits for the pilot.</li> <li>▪ Spare part drawings and bills of materials are listed in the <i>appendix</i> (see page 35).</li> </ul> <hr/> <ul style="list-style-type: none"> <li>▪ In addition to these maintenance parts, there are also servicing parts that need to be checked during maintenance in order to make sure that they are in working condition, and they must be replaced if necessary. Because of this, it is recommended to have the following servicing parts ready for maintenance in order to avoid downtimes: <ul style="list-style-type: none"> <li>▪ Compression spring</li> <li>▪ Nozzle unit</li> <li>▪ Complete filter</li> </ul> </li> </ul>
2	Preparing lubricants	For specifications concerning the lubricants that must be used, please refer to the <i>Lubricants</i> (see page 39) section.
3	Disassembling the pilot	<p><b>WARNING!</b> Risk of serious injury posed by pressurized components moving in an uncontrolled manner when handled improperly. If not handled properly or in the event of a defect, gas can escape from pressurized components under high pressure and cause serious injuries and even death. Before you start working on these components:</p> <ul style="list-style-type: none"> <li>▪ Close all connections leading to the gas-carrying line.</li> <li>▪ Establish a depressurized status. Residual amounts of energy must be depressurized as well.</li> </ul> <p>Before starting with the maintenance work, the pilot must be partially removed from the gas regulating line and from the actuator assembly being used to operate it. For instructions on how to remove the pilot, please refer to the user manual for the relevant gas pressure regulator. Keep in mind that it is always necessary to depressurize the actuator assembly (including the pilot) and purge all gas-conveying lines with nitrogen before removal.</p>

## 4.3 Maintaining the filter

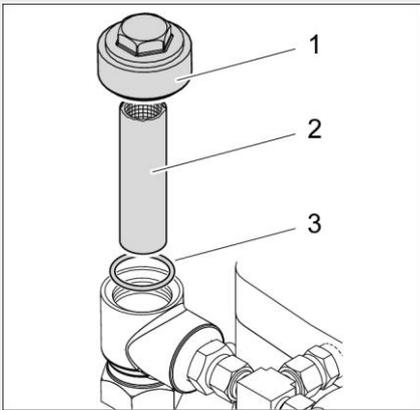
### Cleaning

Observe the following cleaning instructions:

- Before assembly, all parts must be cleaned in order to remove any foreign particles (swarf) and soiling.
- If fasteners (screws, washers, etc.) are replaced with identical new parts, any oil on these new parts must first be removed.

### Maintaining the filter

Proceed as follows:

Figure	Step	Description
	1	Unscrew the cap (1).
	2	Check the filter insert (2) and the O-ring (3) for damage. Clean the filter insert.
	3	Put the filter back together or, if necessary, replace it with a new one.

### Next task

Proceed as follows:

*Maintaining the HON 600 MP/HP pilot (see page 21)*

or

*Maintaining the HON 600 LP pilot (see page 25)*

## 4.4 Maintaining the HON 600 MP/HP pilot

### Cleaning

Observe the following cleaning instructions:

- Before assembly, all parts must be cleaned in order to remove any foreign particles (swarf) and soiling.
- If fasteners (screws, washers, etc.) are replaced with identical new parts, any oil on these new parts must first be removed.

### Maintaining the pilot

Proceed as follows:

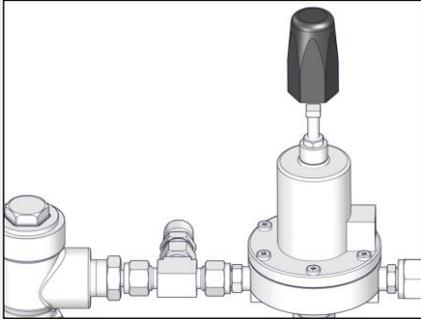
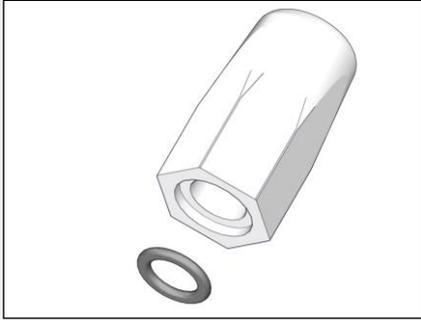
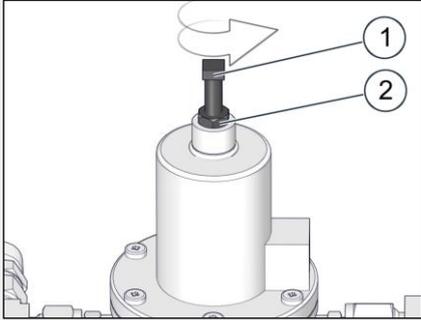
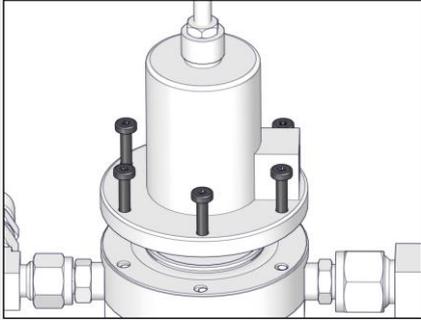
Figure	Step	Description
	1	Unscrew the cap for the set screw.
	2	Replace the O-ring with a new, greased O-ring.
	3	Unscrew the lock nut (2). Turn the set screw (1) counterclockwise until the pilot spring's counter-pressure has completely subsided. Hint: Record the number of revolutions. This will help with the presetting for the renewed start-up.
	4	Unscrew the screws. Remove the spring housing.

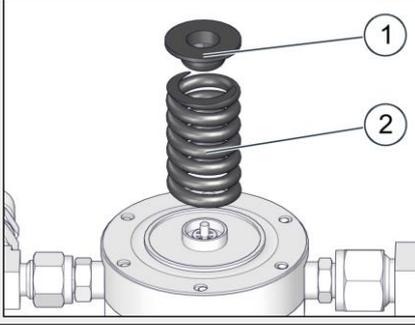
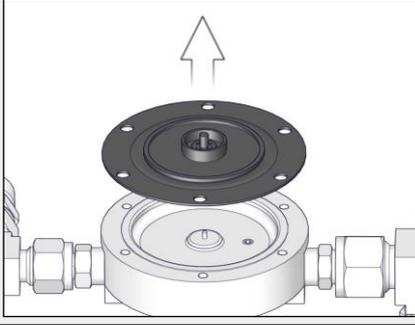
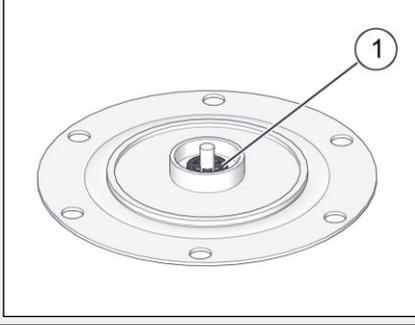
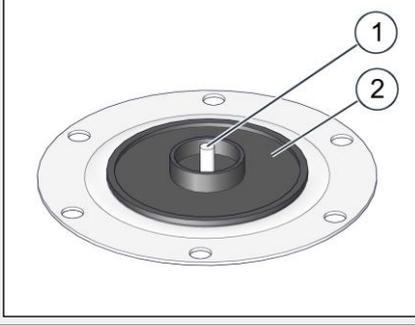
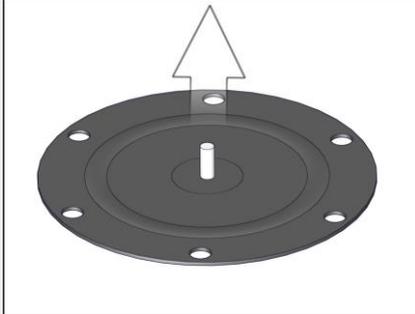
Figure	Step	Description
	5	Remove the spring plate (1) and the pilot spring (2).
	6	Remove the diaphragm unit.
	7	Remove the clamping ring (1) on the upper side of the diaphragm unit.
	8	Remove the diaphragm support plate (2) from the diaphragm retainer (1).
	9	Lift off the diaphragm.

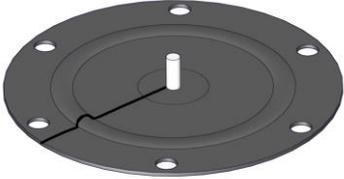
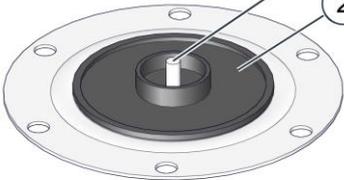
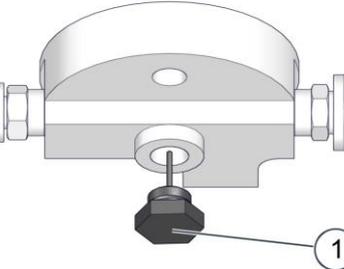
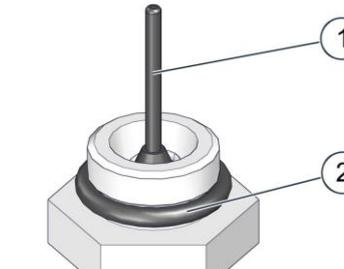
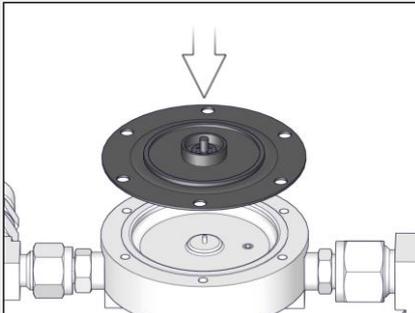
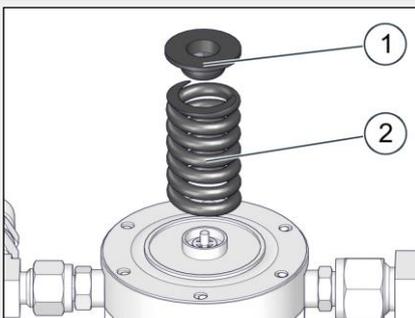
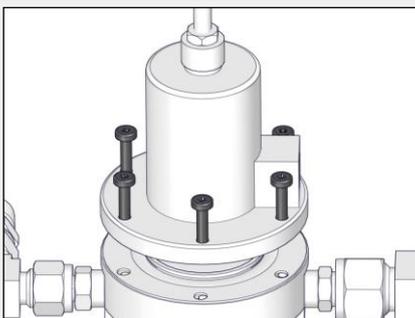
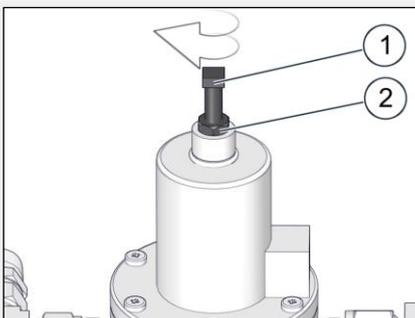
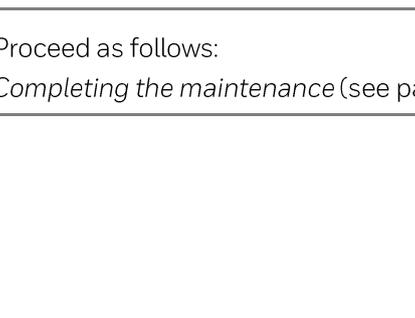
Figure	Step	Description
	10	Replace the diaphragm with a new, greased diaphragm. Insert the diaphragm. Make sure that the diaphragm is aligned correctly: The side of the diaphragm that has a depression at the center should be facing upward.
	11	Put the diaphragm support plate (2) back on the diaphragm retainer (1).
	12	Secure the diaphragm unit with a new clamping ring (1).
	13	On the underside of the pilot, unscrew the locking screw (1) for the lower housing section. <b>Important!</b> The valve and the valve spring may fall out.
	14	Replace the valve (1) with a new one. Replace the O-ring (2) with a new, greased O-ring. From the underside of the pilot, screw the locking screw back in.

Figure	Step	Description
	15	Put the diaphragm unit back in place.
	16	Put the pilot spring (2) and the spring plate (1) back in place.
	17	Put the spring housing back in place, making sure that the fitting for the breather line is properly aligned.
	18	Tighten the screws, including the washers, in a criss-cross sequence. Refer to the additional tightening torque information at the beginning of this topic.
	19	Turn the set screw (1) clockwise the recorded number of turns. Tighten the lock nut (2) and screw the cap for the set screw back in place. The correct setpoint adjustment cannot be carried out until before commissioning with the pilot installed.

**Next task**

Proceed as follows:

*Completing the maintenance* (see page 31)

## 4.5 Maintaining the HON 600 LP pilot

### Cleaning

Observe the following cleaning instructions:

- Before assembly, all parts must be cleaned in order to remove any foreign particles (swarf) and soiling.
- If fasteners (screws, washers, etc.) are replaced with identical new parts, any oil on these new parts must first be removed.

### Maintaining the pilot

Proceed as follows:

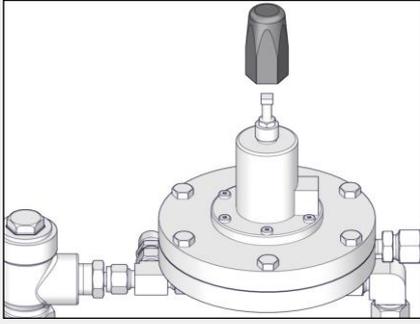
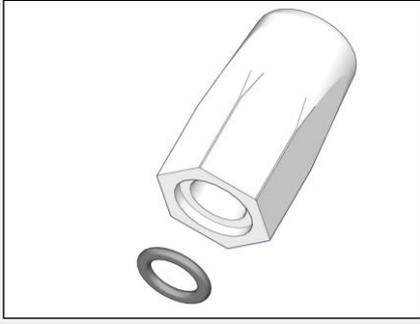
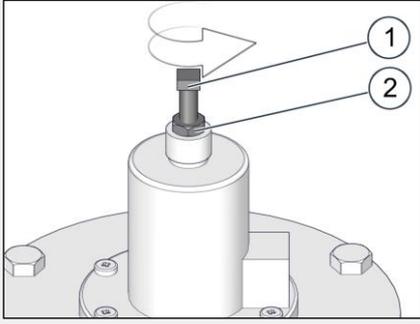
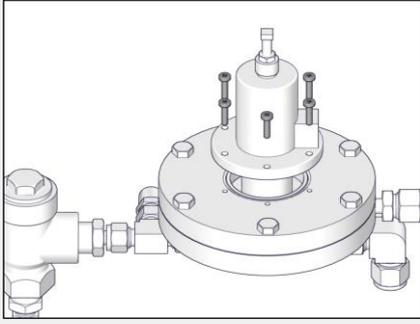
Figure	Step	Description
	1	Unscrew the cap for the set screw.
	2	Replace the O-ring with a new, greased O-ring.
	3	Unscrew the lock nut (2). Turn the set screw (1) counterclockwise until the pilot spring's counter-pressure has completely subsided. Hint: Record the number of revolutions. This will help with the presetting for the renewed start-up.
	4	Unscrew the screws. Remove the spring housing.

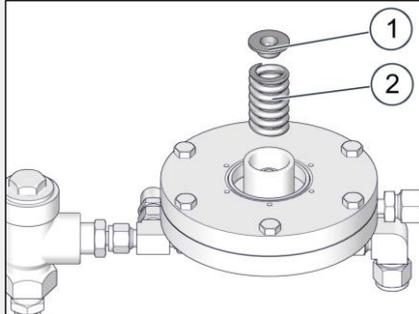
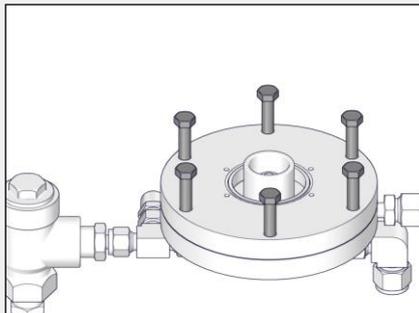
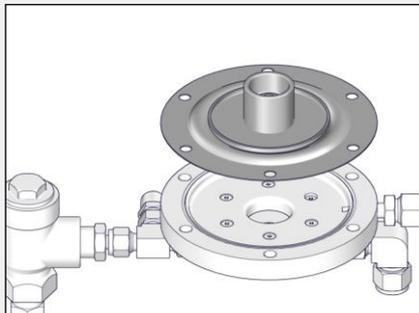
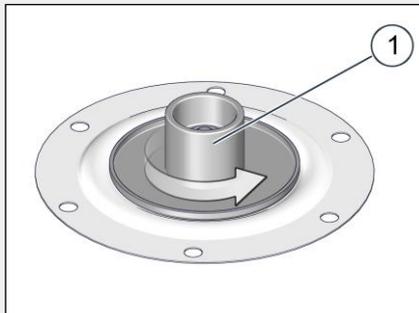
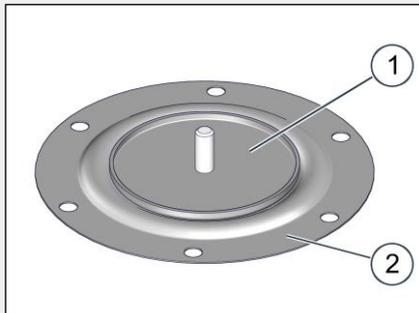
Figure	Step	Description
	5	Remove the upper spring plate (1) and the pilot spring (2).
	6	Unscrew the screws. Remove the top diaphragm housing.
	7	Remove the diaphragm unit.
	8	Take the diaphragm unit. Unscrew the spring plate (1) from the diaphragm retainer.
	9	Remove the diaphragm support plate (1) and the diaphragm (2).

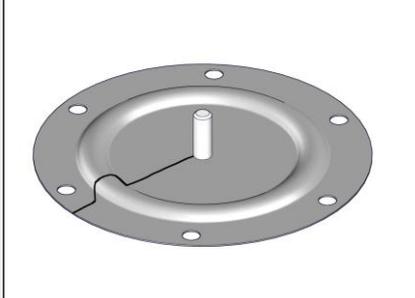
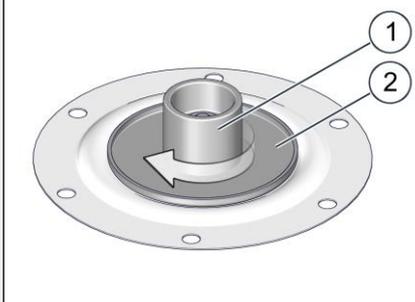
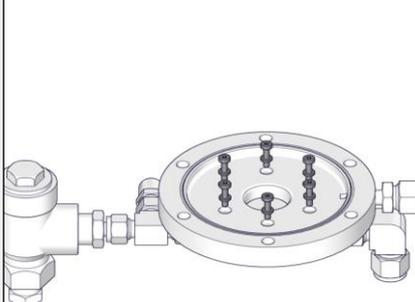
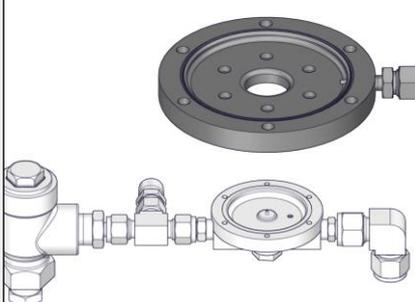
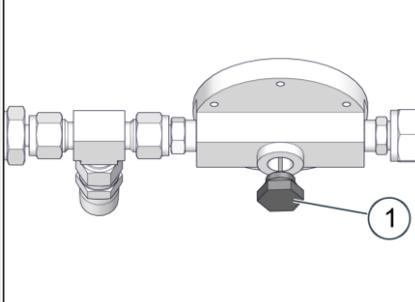
Figure	Step Description
	<p><b>10</b> Replace the diaphragm with a new, greased diaphragm. Insert the diaphragm. Make sure that the diaphragm is aligned correctly: The side of the diaphragm that has a depression at the center should be facing upward.</p>
	<p><b>11</b> Put the diaphragm support plate (2) back in place. Screw the spring plate (1) back onto the diaphragm retainer.</p>
	<p><b>12</b> Unscrew the screws, including the corresponding washers. <b>Important!</b> The bottom diaphragm housing will come loose.</p>
	<p><b>13</b> Remove the bottom diaphragm housing.</p>
	<p><b>14</b> On the underside of the pilot, unscrew the locking screw (1) for the lower housing section. <b>Important!</b> The valve and the valve spring may fall out.</p>

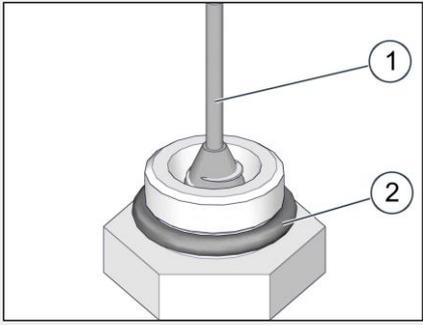
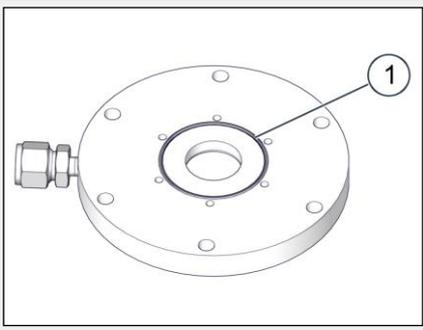
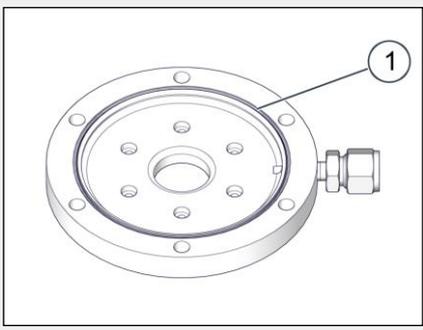
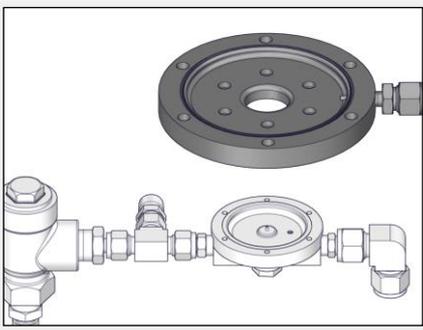
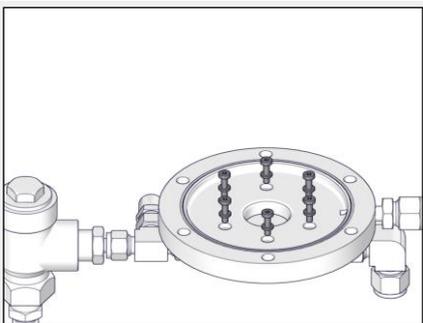
Figure	Step	Description
 <p>A cross-sectional diagram of a valve assembly. A vertical locking screw is shown passing through a central valve stem. Below the stem is a circular O-ring. The entire assembly is mounted on a hexagonal base. Callout '1' points to the valve stem, and callout '2' points to the O-ring.</p>	<p><b>15</b></p>	<p>Replace the valve (1) with a new one. Replace the O-ring (2) with a new, greased O-ring. From the underside of the pilot, screw the locking screw back in.</p>
 <p>A top-down view of a circular bottom diaphragm housing. It has a central hole and several smaller holes around the perimeter. A callout '1' points to an O-ring seated in a groove around the central hole.</p>	<p><b>16</b></p>	<p>Take the bottom diaphragm housing. Replace the O-ring (1) with a new, greased O-ring.</p>
 <p>A bottom-up view of the same circular bottom diaphragm housing. A callout '1' points to the O-ring seated in a groove around the central hole.</p>	<p><b>17</b></p>	<p>Turn the bottom diaphragm housing. Replace the O-ring (1) with a new, greased O-ring.</p>
 <p>A diagram showing the bottom diaphragm housing being aligned with the main assembly. The housing is shown above the main assembly, with a callout '1' pointing to the O-ring. The main assembly includes a valve and various fittings.</p>	<p><b>18</b></p>	<p>Put the bottom diaphragm housing back in place, making sure that the fitting for the measuring impulse line is correctly aligned.</p>
 <p>A diagram showing the bottom diaphragm housing being tightened onto the main assembly. The housing is shown below the main assembly, with callouts '1' pointing to the screws being tightened.</p>	<p><b>19</b></p>	<p>Tighten the screws, including the washers, in a criss-cross sequence.</p>

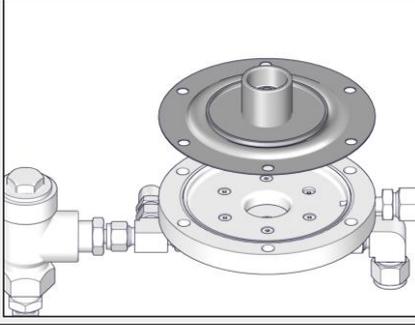
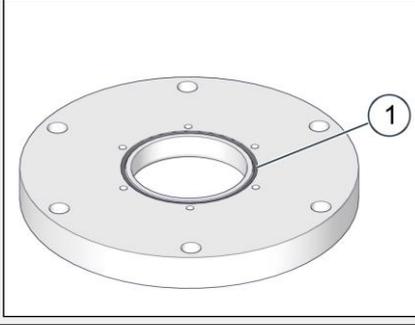
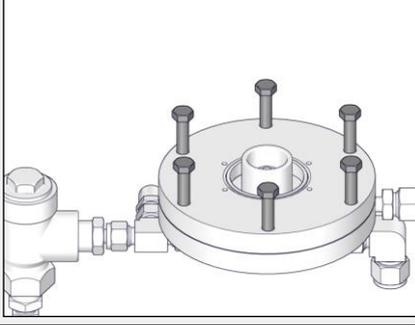
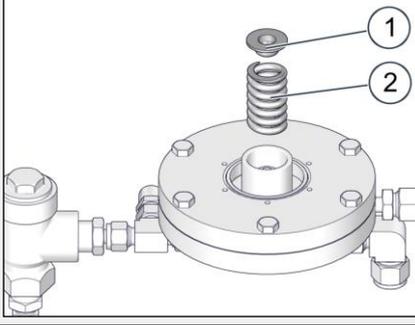
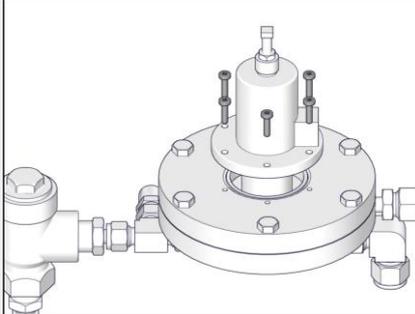
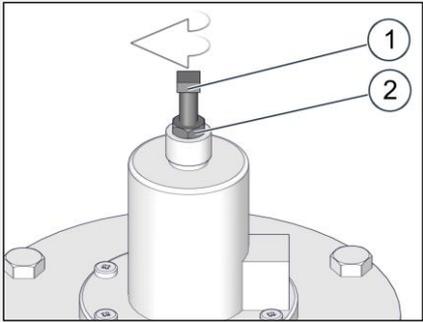
Figure	Step	Description
	20	Put the diaphragm unit back in place.
	21	Take the top diaphragm housing. Replace the O-ring (1) with a new, greased O-ring.
	22	Put the top diaphragm housing back in place. Tighten the screws, including the washers, in a criss-cross sequence.
	23	Put the spring (2) and the upper spring plate (1) back in place.
	24	Put the spring housing back in place, making sure that the fitting for the breather line is properly aligned.
	25	Tighten the screws, including the washers, in a criss-cross sequence.

Figure	Step	Description
	26	<p>Turn the set screw (1) clockwise the recorded number of turns.</p> <p>Tighten the lock nut (2) and screw the cap for the set screw back in place.</p> <p>The correct setpoint adjustment cannot be carried out until before commissioning with the pilot installed.</p>

**Next task**

Proceed as follows:

*Completing the maintenance* (see page 31)

---

## 4.6 Completing the maintenance

<b>Installing the pilot on the actuator assembly</b>	For instructions on how to install the pilot on the actuator assembly that will be used to operate it, please refer to the user manual for the relevant gas pressure regulator. Keep in mind that it is always necessary to check the entire gas pressure regulator for internal and external leaks and fix them before putting it into operation for the first time or putting it back into operation.
<b>Next task</b>	Depending on what you want to do next, proceed as indicated in the relevant section: <ul style="list-style-type: none"><li>▪ <i>Storing the device</i> (see page 33)</li><li>▪ <i>Disposing of the device</i> (see page 34)</li></ul>

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## 5 Storage and disposal

### Contents

<b>Topic</b>	<b>Page</b>
Storing the device	33
Disposing of the device	34

## 5.1 Storing the device

### Storage of the packing units

Observe the following rules:

- Do not store the device outdoors.
- Store the device in a dry and dust-free environment on a flat surface.
- Do not expose the device to any aggressive media, ozone or ionizing radiation or to direct heat sources.
- Storage conditions:
  - Temperature: 0 °C to 25 °C (32 °F to 77 °F)
  - Relative humidity: < 55%.
- Avoid mechanical vibrations.
- Storage periods:
  - When storing the device for up to one year: Store the device in its original packaging and in the same condition it was delivered. All protective caps of the device must remain in place.
  - When storing the device for more than one year (e.g., as a backup device): Store the device in its original packaging and in the same condition it was delivered and check it annually for damage and soiling. Consider the storage period in the maintenance cycles.

**Note:** Please also observe any storage information provided on the packaging.

---

### Storage of spare parts

The following rules apply to the storage of spare parts:

- Apply an appropriate protective agent to assemblies at risk of corrosion.
  - If stored correctly, O-rings and gaskets should not be kept longer than 7 years.
  - Store the spare parts in the original package until they are used.
- 

### Storing devices that have already been in operation and that are intended to be put back into operation later on

Observe the following rules:

- All device openings and fittings must be sealed and protected from soiling and damage.
  - The device's maintenance condition must be indicated with a label:
    - Date when maintenance was last performed
    - Operating times and operation cycles since the last time maintenance was performed
  - Do not store the device outdoors.
  - Store the device in a dry and dust-free environment on a flat surface.
  - Do not expose the device to any aggressive media, ozone or ionizing radiation or to direct heat sources.
  - Storage conditions:
    - Temperature: 0 °C to 25 °C (32 °F to 77 °F)
    - Relative humidity: < 55%.
  - Avoid mechanical vibrations.
  - Storage periods: Check the device for damage and soiling at least annually. When it comes to maintenance cycles, take the preceding operating time into account in addition to the storage time.
-

## 5.2 Disposing of the device

### Appropriate disposal

Comply with the legally stipulated disposal rules. Observe the following details pertaining to the appropriate disposal (not all of the items may be applicable to your device):

- Dispose of the metals according to their types and grades (steel scrap, cast iron scrap, light alloy scrap, nonferrous heavy metal scrap, synthetic rubber scrap, electronic scrap).
  - Recycle elements made of synthetic materials.
  - Dispose of any other components according to the quality of the materials.
-

## 6 Appendix

### Contents

<b>Topic</b>	<b>Page</b>
Additional information regarding spare parts	36
Spare parts for HON 600 pilot	37
Lubricants	39

## 6.1 Additional information regarding spare parts

**Spare parts categories** Spare parts fall into the following categories:

Spare parts category	Definition
Maintenance part	Spare parts that always have to be replaced during maintenance.
Servicing parts	Spare parts that need to be checked during maintenance and that must be replaced if necessary due to their condition.
	Spare parts that qualified personnel employed by the company operating the device is allowed to replace in order to convert the device (e.g., when changing the pressure range).
	Spare parts that qualified personnel employed by the company operating the device is allowed to replace in the event of a fault or defect.
Miscellaneous spare part	Parts that are listed in the spare part drawings in addition to maintenance and servicing parts so as to improve communications between the customer and the manufacturer, but that are not allowed to be ordered or replaced without first contacting the manufacturer.

### Maintenance and servicing parts for pilot

- The spare parts always required for the pilot's maintenance are grouped together into spare parts kits appropriate for the device in question. Each spare parts kit has its own part number.
- Individual servicing parts can be ordered by using the corresponding part number, which is specified in the bill of materials for the pilot. The required number of maintenance and/or servicing parts is specified under the relevant part number in the "Part No." column. If no quantity is specified, this means that only one unit is required.

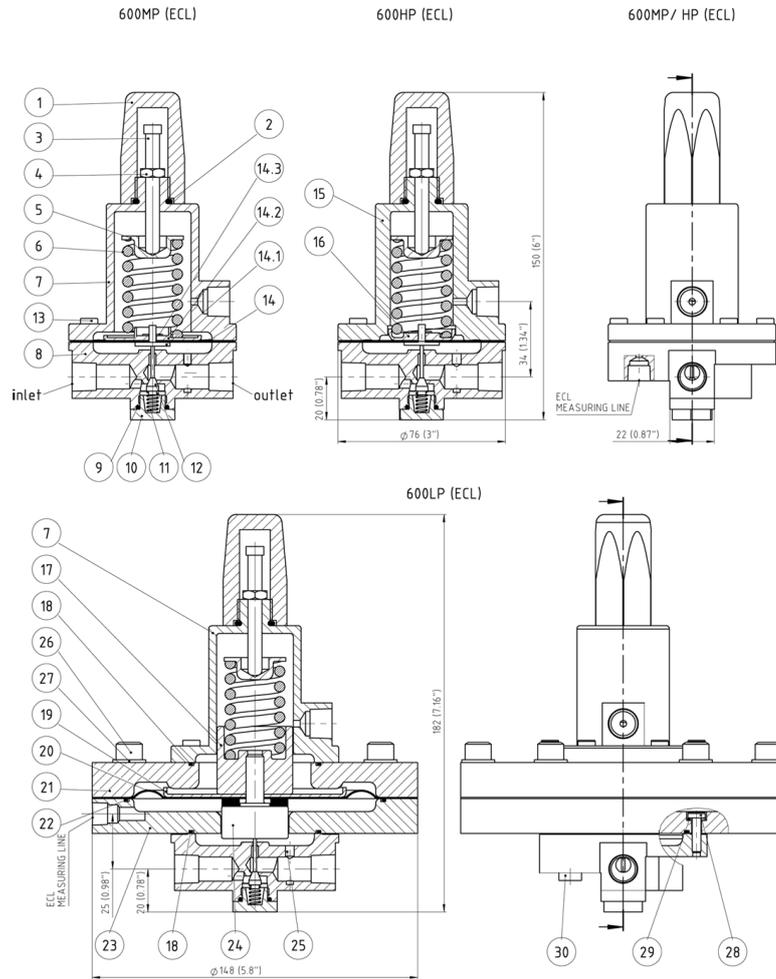
### Overview of spare parts drawings

The spare parts drawings are subdivided as follows:

- HON 600 LP
- HON 600 MP
- HON 600 HP

## 6.2 Spare parts for HON 600 pilot

### Spare part drawings



### Spare parts kits

#### HON 600 LP

Name	Description	Part no.
Spare parts kit for 600 LP pilot	Consisting of: <ul style="list-style-type: none"> <li>One each of Nos. 2, 9, 12, 20, 22</li> <li>Two of No. 18</li> </ul>	200/GS-006

#### HON 600 MP and HP

Name	Description	Part no.
Spare parts kit for 600 MP and HP pilots	Consisting of: <ul style="list-style-type: none"> <li>One each of Nos. 2, 9, 12, 14, 14.3</li> </ul>	200/GS-007

### Filter servicing part

Name	Description	Part no.
Filter S124	-	124--2525BC---S

## Maintenance and servicing parts for pilot

No.	Name	Part no.		
		HON 600 LP	HON 600 MP	HON 600 HP
2	O-ring	7300DVN115	7300DVN115	7300DVN115
6	Pilot spring			
	W <sub>d</sub> 0.14 - 0.35 bar (2 - 5 psi)	-	1047	-
	W <sub>d</sub> 0.015 - 0.14 bar (0.22 - 2 psi)	1047	-	-
6	Pilot spring			
	W <sub>d</sub> 0.25 - 2 bar (3.6 - 29 psi)	-	TX002	-
	W <sub>d</sub> 0.7 - 4 bar (10 - 58 psi)	-	-	TX002
	W <sub>d</sub> 0.025 - 0.2 bar (0.36 - 2.9 psi)	TX002	-	-
6	Pilot spring			
	W <sub>d</sub> 1.5 - 4 bar (21.75 - 58 psi)	-	TX003	-
	W <sub>d</sub> 3.5 - 8 bar (50.7 - 116 psi)	-	-	TX003
	W <sub>d</sub> 0.15 - 0.5 bar (2.17 - 7.25 psi)	TX003	-	-
9	O-ring	7300DVN014	7300DVN014	7300DVN014
12	Valve	731SGWZTN-003	731SGWZTN-003	731SGWZTN-003
14	Diaphragm	-	731SGWZTJ/004	731SGWZTJ/004
14.3	Clamping ring	-	731SGWZ5115-12	731SGWZ5115-12
18	O-ring	7300DVN035 (2 units)	-	-
20	600 LP diaphragm	201/WJ/310	-	-
22	O-ring	7300DVN047	-	-

## 6.3 Lubricants

### General operating manual

Observe the manufacturer's "General Operating Manual for Gas Pressure Regulators and Safety Devices" as well. This manual is available through the manufacturer.

### Lubricants

**Important!** All parts must be slightly greased.

Use the following lubricants:

Application	Remark	Lubricant	Part no.
O-rings Stationary and moving		<b>Standard model:</b>	
Flat gaskets		Silicone grease (jar)	27079
Diaphragms	Grease the diaphragm grip body on all sides	Silicone grease (tube)	27081
	Do NOT grease the flat grip		
Valve rod sliding surfaces		<b>Low-temperature model:</b>	
Sliding guides		Silicone grease (jar)	27993
Guide bushings	Grease film only		
Control balls and control rollers		<b>High-temperature model:</b>	
Ball bearing		PFPE grease	102389
Setpoint set screws Power screws			
Thread material combination: Al/Al		Assembly paste	27091
Screw-in fittings and fastening screws			

Subject to change without notice



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#### **Additional information**

To learn more about Honeywell's product contact your Honeywell Process Solutions representative, or visit [www.honeywellprocess.com](http://www.honeywellprocess.com) or [www.hongastec.de](http://www.hongastec.de).

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