

1 Supporting documents

NOTE:

The following documents are available for download on our website. Only the documents currently available on the website are valid.

- Catalogs, drawings, CAD data, performance data
- Detailed installation and operating instructions
- General Terms and Conditions of Business with specifications for the warranty entitlement

2 Safety notes

CAUTION:

Non-compliance may result in severe injuries! Injuries/malfunctions can occur especially with:

1. Installation, commissioning, maintenance and repairs may only be performed by qualified experts in accordance with these installation and operating instructions.
2. The element is state-of-the-art. It is mounted on industrial machines.
3. The element may only be used in accordance with its intended use and technical data. ZIMMER GmbH shall accept no liability for any damage caused by improper use.
4. Any use other than the intended use requires written approval from Zimmer GmbH.
5. Do not reach into the operating range of the element.
6. Make sure that the transmission lines are disconnected before you install, retool, maintain or repair the element.
7. In the event of maintenance, conversion or expansion work, remove the element from the machine and carry out the work outside the danger zone.
8. When commissioning or testing, make sure that the element cannot be actuated by mistake.
9. Modifications to the element, such as adding drill holes or threads, may be made only with prior approval from ZIMMER GmbH.
10. The specified maintenance intervals and compressed air quality specifications are to be observed; also refer to the Maintenance section. Please contact our customer service for this purpose.
11. Use of the element under extreme conditions, such as aggressive liquids and abrasive dusts, is subject to prior approval from Zimmer GmbH.

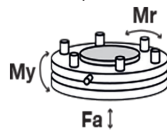
3 Proper use

NOTE:

The ARP series element is only to be used in its original state with its original accessories, with no unauthorized changes and within the scope of its defined parameters for use. Zimmer GmbH shall accept no liability for any damage caused by improper use.

The element is designed for operation with compressed air only. It is not suited for operation with other media such as liquids or gases. The element is properly used in closed rooms for the variable compensation of forces and torques.

Proper use of the element also includes the forces and torques that may be acting in addition to the gripping force (see technical data sheets at www.zimmer-group.de).



4 Personnel qualification

Installation, commissioning and maintenance may only be performed by qualified personnel. These persons must have read and understood the installation instructions in full.

5 Product description

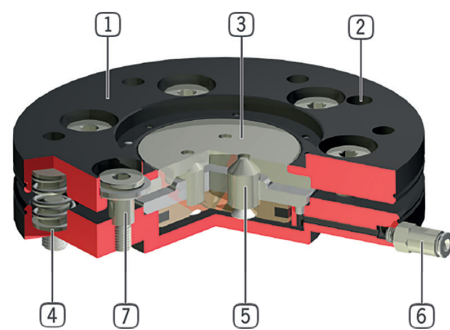
The element from the ARP type series reduces the moment load of your robot to a minimum and makes it possible to use smaller and more affordable design sizes. The compensation can be adapted to the handling weight by mounting a **matching spring assembly** based on desired stiffness. The center placement of the compensation is lockable, so that uncontrolled movements of the workpiece do not take place.

①	Housing
②	Robot connecting flange
③	Locking
④	Spring assembly
⑤	Locking drive
⑥	Power supply
⑦	Guiding bolt with ball cup

Fig. 1: ARP axis compensation module



Cutaway view of the ARP axis compensation module



6 Installation

WARNING:

- Risk of injury in case of unexpected movement of the machine or system into which the element is to be installed.
- ▶ Switch off the power supply to the machine before all work.
 - ▶ Secure the machine against being switched on unintentionally.
 - ▶ Check the machine for any residual energy.

CAUTION:

- Risk of injury in case of unexpected movement of the element when pneumatic energy is connected.
- ▶ Switch off the pneumatic energy before all work.
 - ▶ Secure the pneumatic circuit against being switched on unintentionally.
 - ▶ Check the pneumatic circuit for any existing residual energy; bleed if necessary.

The element has to be installed on a mounting surface in accordance with the levelness specifications.
 Diameter < 100 mm → permitted non-levelness < 0,02 mm
 Diameter < 100 mm → permitted non-levelness < 0,05 mm

6.1 Installation positions

The dimensional drawing for the AR40P is shown as an example in the adjacent image. You will find the matching dimensional drawing of your element on our website:

⇒ www.zimmer-group.de

The following options are available for the installation of the element:

- Fastening on the robot side ①.
- Power supply ②.
- Fastening on the tool side ③.

The dimensions for the design of the mounting piece can be found on the respective datasheet on our website. You can download any necessary CAD data in all formats from our website:

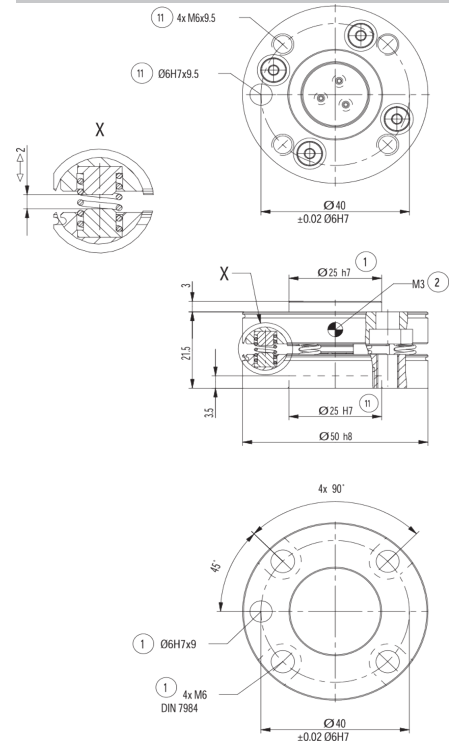
⇒ www.zimmer-group.de

Make the following selections:
 Handling Technology/Robotic accessories/Axis compensation modules/ARP series

Installation and Operating instructions
ARP
 DDOC00306
 Index a
 EN / 2022-05-30

Im Salmenkopf
 77866 Rheinau, Germany
 ☎ +49 7844 9138-5556
 Fax: +49 7844 9138 80

www.zimmer-group.de



Depending on the model, mounting screws from M6 to M10 and of strength class 8.8 must be used.

The following tightening torques must be observed upon installation:

Screw size	[Nm]	M6	M8	M10
Permitted tightening torque		10,2	24,9	49,5

6.2 Spring assembly

The assemblage of the spring assembly for an AR40P is shown as an example in the adjacent image.

There are multiple spring assemblies available for the axis compensation module. You can find more detailed information on the spring assembly from the Technical datasheet or from our website at ⇒ www.zimmer-group.de.



The following tightening torques must be observed upon installation:

Size	AR40P	AR50P	AR63P	AR80P	AR100P	AR125P	AR160P
Permitted tightening torque [Nm]	2,0	2,0	5,0	5,0	5,5	15,0	15,0

6.3 Installing the energy supply

The energy supply ⑥ is located on the outer edge of the housing.
 ⇒ Refer to the sectional view in section 5.

NOTE:

- Close off the unused pneumatic connections with dummy plugs.
 ⇒ Use compressed air in accordance with DIN ISO 8573-1 quality class 4.

6.4 Installation of accessories

NOTE:

- Before installing an accessory, make sure it is suitable for use with the selected variant. You can find more information on available accessories on our website ⇒ www.zimmer-group.de.

7 Technical data

INFORMATION:

Refer to our website ⇒ www.zimmer-group.de for technical data. This data varies within the type series depending on the specific design. If you should have further questions about products or technical data, please contact ZIMMER GmbH customer service.

8 Maintenance

Maintenance-free operation of the element is guaranteed for up to **10 million cycles**.

The maintenance interval may shorten under the following circumstances:

- Operation with compressed air that does not comply with DIN ISO 8573-1 quality class 4.
- Dirty environment
- Improper use and use that does not comply with the performance data.
- Ambient temperature of more than 60°C; lubricants harden faster!

We recommend having maintenance and the replacement of seals performed by ZIMMER GmbH customer service. Dismantling and reassembling the element without authorization may result in complications, as special installation equipment is required in some cases.

9 Installer's declaration

In terms of the EU Machinery Directive 2006/42/EC (Annex II 1 B).

Name and address of the manufacturer:

ZIMMER GmbH • Im Salmenkopf 5 • D-77866 Rheinau, Germany • Phone: +49 7844 9138 0 • Fax: +49 7844 9138 80
 Web: www.zimmer-group.de

We hereby declare that the incomplete machine described below

Product designation: Axis compensation module, pneumatic

Type designation: AR□□□P

satisfies the following basic requirements of the Machinery Directive 2006/42/EC:

No. 1.1.2., No. 1.1.3., No. 1.1.5., No. 1.3.2., No. 1.3.4., No. 1.3.7., No. 1.5.3., No. 1.5.4., No. 1.5.8., No. 1.6.4., No. 1.7.1., No. 1.7.4.

We also declare that the specific technical documents were produced in accordance with Annex VII Part B of this Directive. We undertake to provide the market supervisory bodies with electronic versions of special documents for the incomplete machine through our documentation department, should they have reason to request them.

The incomplete machine may only be commissioned if it has been ascertained, if applicable, that the machine or system in which the incomplete machine is to be installed satisfies the requirements of Directive 2006/42/EC on Machinery and an EC declaration of conformity has been drawn up in accordance with Annex II 1 A.

Authorized representative for compiling relevant technical documents

Kurt Ross	See manufacturer's address	Rheinau, Germany, 2018-12-05	Martin Zimmer, Managing Director
First name, last name	Address	Place and date of issuance	Legally binding signature