

# 2/2-way automatic butterfly valve

- **PZR** (with bar-acturn or actubar)
- **EZR**

## Translation of the original operating manual

IMPORTANT: This manual is only valid in conjunction with the manufacturer documentation of the actuator



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# 1. General information

This operating manual is a part of the product. The operating manual must be kept for the entire life of the product and must be passed on to each subsequent owner of the product.

The operating manual must always be available at the place of operation.

## 1.1 Reference documents

This manual, the data mentioned and design data sheets, additional assembly and maintenance instructions as well as further information – also in other language versions, can be obtained from:

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### IMPORTANT

This manual is only valid in conjunction with the manufacturer documentation of the rotary actuator.

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## 1.2 Validity of the operating manual

This operating manual is valid for the 2/2-way automatic butterfly valve of PZR / EZR type since year of manufacture 2019 with one of the following rotary actuators:

### bar-agturn

- E-Antrieb Type GD-032 till 040
- agturn Type GD/GS-052 till 400

### actubar

- actubar Type AD-001
- actubar Type AD/AS-002 till 1200

## Electric rotary actuator of company Valpes

## 1.3 Notes to operating manual

The safety and hazard statements in the document are intended for your protection, the protection of third parties and the protection of the product. The instructions must therefore be observed.

### 1.3.1 Signal words and symbols

#### **DANGER**

... indicates a hazard that, if not avoided, will result in death or serious injury.

#### **WARNING**

... indicates a hazard that, if not avoided, could result in death or serious injury.

#### **CAUTION**

... indicates a hazard which, if not avoided, could result in minor or moderate injury.

#### **NOTE**

... indicates important information (e.g. Material damage) but not hazards.



#### **Electric voltage!**

The text passages marked with this symbol inform you about dangerous situations with danger to life and health of persons due to electrical voltage.



#### **Corrosive substances!**

The text passages marked with this symbol inform you about dangerous situations caused by corrosive substances.



#### **Hot surface!**

The text passages marked with this symbol inform you about dangerous situations with a risk of burns due to hot surfaces.



#### **Cold surface!**

The text passages marked with this symbol inform you about dangerous situations with a risk due to cold surfaces.



#### **Suspended load!**

The text passages marked with this symbol inform you about dangerous situations with a risks due to suspended load.



#### **Hand injuries!**

The text passages marked with this symbol inform you about dangerous situations resulting in hand injuries caused by bruising or punching. The activities described in the relevant text passage must be performed with the utmost care to avoid dangerous situations and resulting injuries such as loss of limbs.



### **Use head protection!**

Notes with this symbol indicate that a head protection must be worn.



### **Use protective clothing!**

Notes with this symbol indicate that a protective clothing must be worn.



### **Use hand protection!**

Notes with this symbol indicate that a hand protection must be worn.

## **1.3.2 Explanation of the structure of the safety instructions**

A safety instruction is initiated with a signal word describing the severity of the danger („Chapter 1.3.1 Signal words and symbols“).

### **⚠ WARNING**

#### **Type or source of danger (possibly with warning signs according to DIN EN ISO 7010)**

Consequences in case of not following the instruction

- Avoidance of danger

## **1.3.3 Descriptions in figures**

The figures in this operating manual are intended to help you understand the facts and procedures.

The descriptions in the figures are exemplary and may differ slightly from the actual appearance of your product.

## **1.4 Responsibility of the operating company**

- The installation, electrical and pneumatic connection as well as the commissioning of the product may only be carried out by qualified personnel in accordance with the instructions described in this operating manual.
- The product may only be operated and maintained by personnel of the legal minimum age and the corresponding personnel qualification.
- This operating manual is an integral part of the product and must be available to the personnel at all times. This operating manual must be read and understood before the first commissioning.
- The operating and technical personnel must be instructed about safety devices of the product as well as safe working methods.
- The product may only be operated in perfect condition. No safety devices may be removed or disconnected.

## 2. Safety

### 2.1 General Safety Instructions

Personnel assigned to work on the automatic butterfly valve must read the operating instructions before starting work and, in particular, understand the chapter “Safety” before starting work. This is particularly valid for personnel working only occasionally on the rotary actuator.

### 2.2 Intended use

- The automatic butterfly valve is used for the automatic shut-off of liquids and gases in pipelines.
- The automatic valve is designed for use in process engineering plants.
- The operating values, limit values and setting data specified in the operating manual and the corresponding data sheet must be observed.
- Intended use also includes the observation of these operating instructions.

### 2.3 Reasonable foreseeable use

Any use other than that described in „Chapter 2.2 Intended use“ and any use not approved by the manufacturer is considered as unintended.

#### **DANGER**

#### **Danger of explosion!**

The automatic valve is not intended for use in potentially explosive atmospheres.

- Do not use the automatic valve in potentially explosive atmospheres.

## 2.4 Organizational measures

### 2.4.1 Subsequent retrofitting or changes

The operator must make a corresponding assessment of the hazards when dealing with subsequently integrated components and retrofitting.

If you want to use a different medium or use the butterfly valve for a different purpose, contact our customer service. We can help you with any possible necessary configurations.

### 2.4.2 Replacement of defective parts

Replace parts of the rotary actuator that are not in perfect condition immediately with original spare parts.

Please note that only original spare and wear parts of bar GmbH are to be used.

In the case of usage of the third-party parts, it is not ensured that they are designed and manufactured to suit the requirements.



## 2.5 Protective equipment

If necessary, the protective equipment shall be used. Keep your hair and clothing away from moving parts. If necessary, wear a hairnet and do not wear jewelry such as necklaces and rings!



### **Use head protection!**

Wear suitable head protection during transport.



### **Use protective clothing!**

Wear suitable protective clothing during commissioning, maintenance and troubleshooting.



### **Use hand protection!**

Wear suitable hand protection during transport, commissioning, maintenance and troubleshooting.

## 2.6 Personnel qualification

Only trained or instructed personnel who has known and understood the operating instructions as well as the possible dangers of the rotary actuator is allowed to work with the rotary actuator. The responsibility of the personnel for operation, maintenance and repair must be clearly defined by the operator.

Personnel to be trained, instructed or undergoing training may work on the rotary actuator only under the constant supervision of an experienced person.

The individual activities on the rotary actuator require different personnel qualifications which are listed in the following table. The different qualifications are characterized by the following skills and knowledge:

- Instructed persons must operate the rotary actuator and be able to detect possible damage and dangers on the rotary actuator.
- Instructed persons with technical training must also be aware of the dangers of handling pressurized equipment, hot and cold surfaces, harmful and hazardous materials and the process of installing and removing the valves in a process line, the specific and potential risks of the process and the most important safety regulations.
- Trained electricians must read and understand electrical circuit diagrams, commission, put electric machines into operation, service and maintain them, wire switch and control cabinets, install control software, ensure the functionality of electrical components and identify potential hazards in handling electrical and electronic systems.
- Trained pneumatic specialists must read and understand pneumatic circuit diagrams, put pneumatic systems into operation, service and maintain them, disconnect and connect pneumatic hoses, ensure the proper functioning of pneumatic components, assess the work performed on the pneumatic system and identify potential hazards.

Read this table as follows:

“The electrical installation requires the qualification of a qualified electrician.”

Activities	Instructed persons	Instructed persons with technical training	Electricians	Pneumatic specialists
Installation		X		
Electrical installation			X	
Pneumatic installation				X
Setting and equipping		X		
Commissioning		X		
Troubleshooting	X			
Cleaning	X			
Troubleshooting, repair and maintenance of mechanics		X		
Troubleshooting, repair and maintenance of electrics			X	
Troubleshooting, repair and maintenance of pneumatics				X
Functional checks		X		
Shutdown	X		X	
Transport	X			
Disposal	X			

Tab. 2-1 Overview of the required personnel qualifications

## 2.7 Dangers when handling the automatic butterfly valve

This product of bar GmbH is built according to the state of the art and the recognized safety rules. Nevertheless, there remains a residual risk and may cause dangers to the life and limb of the user or third parties or impairments of the product and other material assets in use, if:

- the product is not used as intended,
- the product is operated or repaired by untrained personnel,
- the product is improperly changed or modified and/or
- the safety instructions are not observed.

Eliminate faults that may affect safety.

### 2.7.1 Dangers during assembly, maintenance and disassembly

#### **DANGER**



#### **Electric voltage!**

There is danger to life when working on electrical components.

- The electrical connections may be performed only by qualified electricians.
- When working on the components, have the voltage released by a qualified electrician and secured against being switched on again.
- Let a qualified electrician check that no current is present.

#### **DANGER**



#### **Corrosive substances!**

Depending on the type of medium, there may be danger to life when in contact with the medium.

- Check the properties of the medium.
- Protect yourself and your environment from harmful or toxic substances.
- Follow the safety instructions in the manufacturer's safety data sheets.
- Make sure that no medium can get into the pipeline, valves during assembly work.
- Make sure that personnel working with the valves and installing or repairing the valves have received appropriate training.

#### **WARNING**



#### **Very cold and hot surfaces!**

The body of the valve can become very cold or very hot during operation.



- Wear protective gloves and protective clothing to protect against frostbite or burns.
- Make sure that personnel working with the valves and installing or repairing the valves have received appropriate training.

## **WARNING**



### **Danger of crushing hands and other body parts!**

There is a risk of injury during assembly/disassembly by movements of the ball. The shut-off body (e.g. ball or disc) of the valve works as a separating element. It makes no difference whether a rotary actuator is mounted or not. The position of the ball may change during transport or handling of the valve.

- Keep hands and fingers away when power is connected.
- Always disconnect the power supply from the rotary actuator before carrying out maintenance and repair work on the valve and when installing and removing the ball valve from the pipeline.
- Pay attention to movements of the ball.
- Keep hands, other body parts, tools and other objects out of the swivel range of the ball. Do not leave any foreign objects inside the pipeline.
- Perform works carefully when assembling, disassembling and sampling.

## **WARNING**

### **Flying parts! Splashing medium!**

There is a risk of injury when the valve is removed under pressure or with present medium. The disassembly or removal of a pressurised valve causes an uncontrolled pressure drop.

- Do not disassemble or remove the valve from the pipeline as long as the valve is pressurized.
- Always isolate the respective valve in the piping system.
- Depressurise the valve and remove the medium before working on the valve and the rotary actuator.

## **WARNING**

### **Ejected parts! (only for pneumatic actuator)**

When adjusting the rotary actuators and when the rotary actuator is opened under pressure, there is a risk of parts being ejected!

- Always disconnect the compressed air supply before maintenance, disassembly and repair!
- Never set the mechanical end positions on the actuator as long as there is pressure on connection 2 or 4.
- Never dismount the threaded pins of the vacotrol interface under pressure (only for actubar).
- Make sure the pinion of the rotary actuator is moving in the correct direction.

## ⚠ WARNING

### Uncontrolled start-ups! (only for pneumatic actuator)

There is a risk of injury if pneumatic rotary actuators create a very high torque during actuation or by spring force.

- Secure the rotary actuator against any unintentional start-up or unexpected spinning.
- Work on the pneumatic rotary actuators in a prudent way.
- In case of single-acting rotary actuators (type GS), make sure that the rotary actuator is in the home position (relaxed springs) when disassembling.

## ⚠ CAUTION

### Hand injuries!

When mounting the rotary actuator on the valve spindle, the rotary actuator is pushed to the connection point/flange of the valve.

When disassembling the rotary actuator or removing the rotary actuator from the valve spindle, the parts can slip down.

There is danger of crushing the hands!

- Carefully pull off the rotary actuator.
- Keep fingers and hands away from the connection point.

## NOTE

### Material damage to valve spindle!

Material damage can occur if you use built-on rotary actuators as levers.

- Do not use built-on actuators as levers as they could damage the actuator and the valve.

## 2.7.2 Dangers during functional checks, commissioning and operation

### **DANGER**

#### **Bursting parts! Escaping media!**

There is danger to life if the maximum permissible pressure and temperature ranges of the valve are insufficient for the operating conditions of the system. There is a risk of injury and the risk of material damage by wrongly selected materials.

In addition, there is a risk of damage to the piping system.

- Only use the valves that are designed for the operating conditions.
- Make sure that the selected materials of the parts of the valve coming in contact with the medium are suitable for the media used.

### **DANGER**

#### **Escaping medium!**



There is a risk of death from escaping medium as a result of leaks (scalding, hazardous substances).

- Protect yourself from thermal or chemical burns.
- Leave the danger area in case of leakage and keep third persons out of the danger zone. Use appropriate barriers or name supervisors.

### **WARNING**



#### **Danger of being pulled in, danger of crushing and locking!**

Danger due to moving parts of the machine/valve which can be accessed through assembly, disassembly, removable covers at openings for functional checks, sampling, etc. and through automatically operated valves.

- Keep hands and fingers away when compressed air or power is connected.
- Please note that single-acting rotary actuators can move the valve to the "open" or "closed" position when closing or disconnecting the compressed air supply (only for pneumatic actuator).
- Perform works carefully when commissioning, making functional checks and sampling.

### **WARNING**



#### **Risk of burns!**

Devices and system components can become very hot during operation.

- Wear protective gloves and protective clothing to protect against burns.
- At operating temperatures > 65°C a short contact (approx. 1s) of the skin with the surface of the machine/valve may cause burns (DIN EN ISO 13732-1).

- At operating temperatures = 60 °C a long contact (approx. 3s) of the skin with the surface of the machine/valve may cause burns (DIN EN ISO 13732-1).
- At operating temperatures 55 °C – 60 °C a long contact (approx. 3S to 10s) of the skin with the surface of the machine/valve may cause burns (DIN EN ISO 13732-1)..

### **CAUTION**

#### **Self-loosening components!**

Components and fasteners may become loose if not properly installed.

- Observe the information on tightening torques in this operating manual.
- Check the tightening torque of screw connections and tighten with the torque wrench, if necessary.

### **CAUTION**

#### **Noise!**

#### **(only for pneumatic actuator)**

When venting the pneumatic rotary actuator, noise can be hazardous to health.

- Use silencer at vent port or take other personal protection measures.

### 3. Product description

The 2/2-way automatic butterfly valve of PZR/EZR type is a combination of the following components:

- Butterfly valve of ZR type
- and one of the following rotary actuators (according to order):

#### **PKI (pneumatic)**

- agturn Type GD-032 till 040 and Type GD/GS-052 till 400
- actubar Type AD-001 and Type AD/AS-002 till 1200

#### **EKI (electric)**

- electric rotary actuator of company Valpes

The valve is operated pneumatically (double- and single-acting) or electrically and is characterized by a long service life and high operational safety.

#### **Product features:**

- Conformity Directive 97/23/CE PED
- Disc and collar are replaceable
- Easy maintenance
- Optionally available with end position feedback, position controllers and solenoid valves
- Anti-blowout, multiply sealed spindle
- Usage also with vacuum and high flow velocities
- Seal ring supported in housing and vulcanized on carrier ring
- Disc made of stainless steel 1.4408 (CF8M)
- Alternatively also can be delivered with detent lever or gearbox

#### 3.1 Butterfly valve

The butterfly valve of ZR type is intended for installation in piping systems. Its function is to shut off or regulate a medium in pipelines.

#### 3.2 Rotary actuator

The rotary actuator is used for the automatic actuation of industrial valves continuously moving between the end positions.



### 3.3 Type plate

The type plate of the automatic valve is attached to the rotary actuator.



Fig. 3-1 Type plates PZR

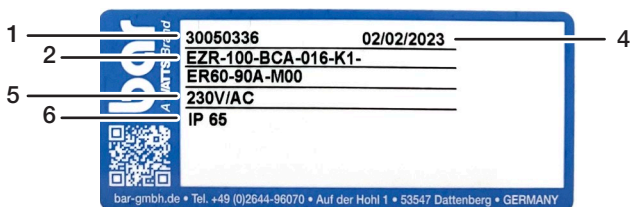


Fig. 3-2 Type plate EZR

### Legend

- 1 bar article number
- 2 Article/order designation (see data sheet)
- 3 Control pressure range for the pneum. rotary actuator
- 4 Manufacture date (year of construction)
- 5 Electric voltage
- 6 Protection type

## 4. Transport and storage

### 4.1 Scope of delivery

- 2/2-way automatic butterfly valve of PZR/EZR type
- Possibly ordered accessories

### 4.2 Incoming goods inspection

The following items must be checked at the time of delivery:

- Does the number of delivered transport containers correspond to the delivery note?
- Is the packaging free of visible damage?
- Are the product and accessories free of visible damages?
- Are there any evidences of not gentle handling during the transport (e.g., burns, scratches, colour)?

To have all the right for claim against the transport company, you have to document the possible external transport damages (e.g. with photographs and a written protocol) before unpacking the product.

bar GmbH is not responsible for transport damages and can take over no liability for that.

### 4.3 Transport, packaging and storage

#### **DANGER**



#### **Suspended load!**

When transporting, e.g. with a crane, there is a risk that parts fall down and people are seriously injured.

- Never exceed the permissible load of the hoisting equipment used.
- Use only suitable, approved and undamaged lifting slings for transport.
- If you attach lifting slings to the actuator, they must be designed for the entire actuator.
- Connect the slings so that the products can not be damaged.
- Exercise the utmost care when handling and balancing the load.
- Perform the works with constant eye contact with the load.
- Do not stay under or near the lifted load.
- Keep third persons out of the danger zone. Use appropriate barriers or name supervisors.

## NOTE

Lifting slings are factory-fitted for dimensions with high weights. They are designed exclusively for the weight of the actuator and must not be used for lifting the automatic valve!

The products must be handled, transported and stored with care:

- There is no liability of the manufacturer for transport within the customer's territory or to the individual places of use.
- The products should be transported in their original packaging or on a pallet (or similarly supported) to the installation site and unpacked immediately before installation.
- When storing before installation, keep the products in a closed room and protect them from harmful influences such as dirt or moisture.
- The products must be stored in their original packaging and, if necessary, with the appropriate protective covers.
- In case of a longer storage period, the pneumatic rotary actuator must be operated at least once a year.
- Proper disposal of the packaging is the responsibility of the customer.

## 5. Installation

### **WARNING**

#### **Installation works**

There is a risk of injury if this product is not properly installed, disassembled and put into operation.

- Make sure the personnel has received the appropriate training.
- Observe the safety instructions in „Chapter 2. Safety“.

### **NOTE**

Check the technical parameters, in particular pressure and temperature, and the electrical voltage of the control valve before installing or commissioning the actuator.

The piping system and control system must be installed properly.

Make sure the valve is moving in the correct direction of rotation. Always mount the valves into the pipeline without tensing them.

The valve is not designed to absorb additional pipe connection forces. In the case of large valves, it is recommended to support the pipeline.

### **5.1 Installation conditions**

The minimum space requirement can be found in the dimension drawing or dimension table („Chapter 15. Annex / Technical data“).

### **5.2 Before installation**

Observe the following points before installation:

- The dew point of the control medium must be min. 10 °C lower than the lowest operating temperature! The max. temperature of the control medium is 45 °C!

For other valve types, in particular large-volume valves with low torque requirement, the operating conditions of the actuator must be agreed with the manufacturer. We will be delighted to advise you.

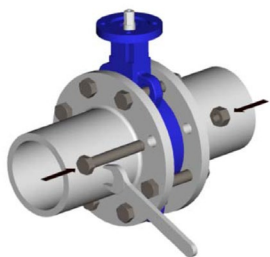
### **5.3 Installation of butterfly valve**

The flanges must already be welded in the pipeline and sufficiently cooled.

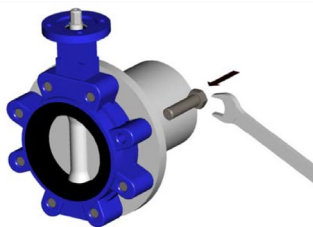
Do not use flange gaskets or grease.

Note the following instructions for single-acting actuators:

1. To install the butterfly valve in the pipeline, the respective actuator must be disassembled in the safety position (spring cl. = valve disc closed, spring op. = valve disc opened).
2. Then manually move the butterfly valve to a slightly open position and install it in the pipeline.
3. After installing the butterfly valve in the pipeline, bring it back manually to the previous safety position and re-install the actuator on the butterfly valve.



**Fig. 5-1** Installation of butterfly valve with intermediate flange connection in the pipeline



**Fig. 5-2** Installation of butterfly valve with end flange connection in the pipeline

**When installing a butterfly valve with intermediate flange connection, note the following:**

1. Slide the butterfly valve between the flanges. The valve must slide easily between the mounting flanges to prevent damage to the collar.
2. Align the butterfly valve and then insert suitable screws through the flange holes.
3. Screw appropriate nuts onto the screws and tighten them evenly and crosswise. Never use the valve itself as a lever!
4. Check if the valve opens and closes easily. Then leave the valve slightly open.
5. Tighten all flange bolts crosswise and check the function of the butterfly valve. Observe the maximum permissible torques of the screws you have selected.

Caution: Never tighten the bolts with the valve disc completely closed: the collar is deformed resulting in too high torque when closing the butterfly valve, possibly even a leak.

6. Check all connections for leaks.

**When installing a butterfly valve with end flange connection (lug type), note the following:**

1. Before you install the butterfly valve, it must not be brought into completely closed position so that the disc does not stuck out from the housing.
2. If necessary, mount a suitable protective device to prevent objects from being dropped or inserted into the butterfly valve.
3. If necessary, mount suitable devices to prevent uncontrolled outflow of media.
4. Bring the butterfly valve in front of the end flange and, using suitable screws, slightly screw the valve into the threaded holes of the valve crosswise.
5. Check if the valve opens and closes easily. Then leave the valve slightly open.
6. Tighten all bolts crosswise and check the function of the butterfly valve. Observe the maximum permissible torques of the screws you have selected.
7. Check all connections for leaks.
8. Check all screwed connections and mounting parts for tightness.

## 5.4 Mounting the rotary actuator

For information on mounting the actuator, refer to the manufacturer documentation supplied with the actuator (by bar GmbH for PZR and by Valpes for EZR).

## 5.5 Pressure test of the pipe section

The following must be observed when making the pressure test of a pipe section with installed valves:

Carefully rinse newly installed piping systems to flush out any foreign objects.

Valve opened:

- The test pressure must not exceed the value of  $1.5 \times PN$  as marked on the housing.

Valve closed:

- The test pressure must not exceed the value of  $1.1 \times PN$  as marked on the housing.

## 6. Commissioning and operation

For information on commissioning and operation of the actuator, refer to the manufacturer documentation supplied with the actuator.

## 7. Maintenance and repair

The automatic butterfly valve is a maintenance-free device.

In terms of operational safety, however, it is recommended to check them for function and to switch at least every three months but no later than after 50,000 switching cycles; and in case of difficult operating conditions even more often.

Do not use harsh detergents or abrasives to clean the housings.

### 7.1 Maintenance of the actuator

For information on maintenance of the actuator, refer to the manufacturer documentation supplied with the actuator.

### 7.2 Maintenance of butterfly valve

Repair or maintenance of the seal and wear parts of the butterfly valve must not be carried out.

#### NOTE

We recommend that you have the repair carried out by the company bar GmbH. We will be pleased to offer you a corresponding servicing, maintenance or repair. Please contact the company bar GmbH for this.

## 8. Troubleshooting

#### WARNING

##### Observe the safety instructions

There is danger to life if you do not observe safety instructions.

- When eliminating the faults, always observe the safety instructions from „Chapter 2. Safety“.

#### NOTE

Spare parts are to be ordered with all information on the type plate and the serial number. It is allowed to mount only original parts of bar GmbH.

## 9. Repair and spare parts

For information on repairing the actuator, refer to the manufacturer documentation supplied with the actuator.



## 10. Disassembly

### DANGER



#### **Electric voltage!**

There is danger to life when working on electrical components.

- Work on electrical connections should only be carried out by qualified electricians with the supply voltage switched off and secured against reconnection.

### WARNING

#### **Installation works**

There is a risk of injury if this product is not properly installed, disassembled and put into operation.

- Make sure the personnel has received the appropriate training.
- Observe the safety instructions in „Chapter 2. Safety“.

### 10.1 Disassembly of the actuator

For information on disassembling the actuator, refer to the manufacturer documentation supplied with the actuator.

### 10.2 Dismantling the butterfly valve from the pipeline

If the unit is to be replaced by a structurally identical one, proceed as follows:

1. Move the valve disc to the closed position.
2. Loosen the flanges. Press the pipelines apart until the valve is free. Carefully pull it out of the pipeline and make sure that you do not damage the gasket.

## 11. Disposal

- Proper disposal of the products is the responsibility of the customer. Dispose of the products after their use in accordance with the legal requirements regarding safety and environmental protection.
- The materials used in the products are steel, aluminum, brass, copper and various plastics.

Dispose of lubricated parts separately according to local environmental regulations!

If you have any questions, please contact the company bar GmbH.

## 12. EU Declaration of Incorporation Type P...



A WATTS Brand

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Z5100001\_00B

### Einbauerklärung für eine unvollständige Maschine / Declaration of Incorporation of a partly completed machinery

im Sinne der Maschinenrichtlinie 2006/42/EG, Anhang II Teil 1B /  
according to Machinery Directive 2006/42/EC, Annex II 1b  
(EU-Abl. L 157/24 vom 09.06.2006)

Name und Anschrift des Herstellers: **bar pneumatische Steuerungssysteme GmbH**  
Name and address of the manufacturer: **Auf der Hohl 1, 53547 Dattenberg / Germany**

Diese Erklärung bezieht sich nur auf das Produkt in dem Zustand, in dem es in den Verkehr gebracht wurde.  
Die Erklärung verliert ihre Gültigkeit, wenn das Produkt ohne Rücksprache mit uns umgebaut oder verändert wird.

*This declaration relates exclusively to the product in the state in which it was placed on the market.  
The declaration loses validity if the product is modified without agreement of company bar.*

Hiermit erklären wir, dass die nachstehend beschriebenen Produkte  
Herewith we declare that the following products

Produktbezeichnung: **Automatik-Armatur mit pneumatischem Stellantrieb**  
Product denomination: **Automatic-valve with pneumatic actuator**  
Serien-/Typenbezeichnung / model/type: **PKO..., PKO2..., PKI..., PKN..., PKW..., PMK..., PMK2...,  
PKT..., PZDS..., PZR...**

unvollständige Maschinen im Sinne der Maschinenrichtlinie sind und die folgenden grundlegenden Anforderungen der  
Richtlinie 2006/42/EG erfüllen:  
*are partly completed machinery according to the Machinery Directive and meet the following basic requirements of the  
directive 2006/42/EC:*

Anhang I, Ziffern / Annex I, articles: 1.1.3, 1.1.5, 1.3.2, 1.3.4, 1.3.7, 1.3.9, 1.5.3, 1.5.4, 1.5.5, 1.5.8, 1.7.3, 1.7.4

Die bar-Automatik-Armatur mit pneumatischem Schwenkantrieb ist ausschließlich zum Einbau in eine Rohrleitung bestimmt.  
Die Inbetriebnahme ist solange untersagt, bis sichergestellt wurde, dass die gesamte Maschine, in die das Produkt  
eingebaut ist, den Bestimmungen der EG-Richtlinie 2006/42/EG in vollem Umfang entspricht.

*bar automatic-valves with pneumatic actuators are designed to be installed into a pipework. The product must not put in  
service until the final machinery into which they are to be incorporated has been declared in conformity with the provisions of  
the Directive 2006/42/EC.*

Der Hersteller verpflichtet sich, die Unterlagen zur unvollständigen Maschine der zuständigen nationalen Behörde auf  
Verlangen elektronisch zu übermitteln. Die zur Maschine gehörenden speziellen technischen Unterlagen nach Anhang VII  
Teil B wurden erstellt.

*With regard to the partly completed machinery, the manufacturer commits to submitting the documents to the competent  
national authority via electronic transmission upon request. The relevant technical documentation pertaining to the  
machinery described in Annex VII, part B has been prepared.*

Die Einhaltung der in den technischen Daten und Sicherheitshinweisen beschriebenen Betriebsbedingungen ist  
sicherzustellen. *Please take care about the technical data and the relevant warning and safety notices.*

Bevollmächtigter für die Dokumentation: **Klaus Scholl,**  
Authorised person for documentation: **Auf der Hohl 1,  
D-53547 Dattenberg**

Dattenberg, 21.12.2021  
Ort, Datum  
Place, Date

Repellin, Lionel, Operations Manager  
Name, Vorname und Funktion des Unterzeichners  
Surname, first name and function of signatory

Unterschrift  
Signature



Management  
System  
ISO 9001:2015  
www.tuv-rheinland.de  
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Deutsche Bank Amsterdam • SWIFT DEUTNL33 • IBAN NL52 0010 0310 8866 53  
HRB 10991 Amtsgericht Montabaur • USt-Nr. DE 149 622 999  
Geschäftsführer: Olivier Giverdon, Nigel Wood  
bar-info@wattswater.com

bar-gmbh.de

# 13. EU Declaration of Incorporation Type E...



Z5100004\_00A

A WATTS Brand

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## Einbauerklärung für eine unvollständige Maschine / Declaration of Incorporation of a partly completed machinery

im Sinne der Maschinenrichtlinie 2006/42/EG, Anhang II Teil 1B /  
according to Machinery Directive 2006/42/EC, Annex II 1b  
(EU-Abl. L 157/24 vom 09.06.2006)

Name und Anschrift des Herstellers: **bar pneumatische Steuerungssysteme GmbH**  
Name and address of the manufacturer: **Auf der Hohl 1, 53547 Dattenberg / Germany**

Diese Erklärung bezieht sich nur auf das Produkt in dem Zustand, in dem es in den Verkehr gebracht wurde.  
Die Erklärung verliert ihre Gültigkeit, wenn das Produkt ohne Rücksprache mit uns umgebaut oder verändert wird.

*This declaration relates exclusively to the product in the state in which it was placed on the market.  
The declaration loses validity if the product is modified without agreement of company bar.*

Hiermit erklären wir, dass die nachstehend beschriebenen Produkte  
Herewith we declare that the following products

Produktbezeichnung: Product denomination:	<b>Automatik-Armatur mit elektrischem Stellantrieb</b> <b>Automatic-valve with electric actuator</b>
Serien-/Typenbezeichnung / model/type:	<b>EKI..., EKN..., EKO..., EKO2..., EKW..., EMK..., EMK2..., EKT..., EZDS..., EZR...</b>

unvollständige Maschinen im Sinne der Maschinenrichtlinie sind und die folgenden grundlegenden Anforderungen der  
Richtlinie 2006/42/EG erfüllen:  
*are partly completed machinery according to the Machinery Directive and meet the following basic requirements of the  
directive 2006/42/EC:*

Anhang I, Ziffern / Annex I, articles: 1.1.3, 1.1.5, 1.3.2, 1.3.4, 1.3.7, 1.3.9, 1.5.3, 1.5.4, 1.5.5, 1.5.8, 1.7.3, 1.7.4

Die bar-Automatik-Armatur mit pneumatischem Schwenkantrieb ist ausschließlich zum Einbau in eine Rohrleitung bestimmt.  
Die Inbetriebnahme ist so lange untersagt, bis sichergestellt wurde, dass die gesamte Maschine, in die das Produkt  
eingebaut ist, den Bestimmungen der EG-Richtlinie 2006/42/EG in vollem Umfang entspricht.

*bar automatic-valves with pneumatic actuators are designed to be installed into a pipework. The product must not put in  
service until the final machinery into which they are to be incorporated has been declared in conformity with the provisions of  
the Directive 2006/42/EC.*

Der Hersteller verpflichtet sich, die Unterlagen zur unvollständigen Maschine der zuständigen nationalen Behörde auf  
Verlangen elektronisch zu übermitteln. Die zur Maschine gehörenden speziellen technischen Unterlagen nach Anhang VII  
Teil B wurden erstellt.

*With regard of the partly completed machinery, the manufacturer commits to submitting the documents to the competent  
national authority via electronic transmission upon request. The relevant technical documentation pertaining to the  
machinery described in Annex VII, part B has been prepared.*

Bevollmächtigter für die Dokumentation/ Authorised person for documentation:	Klaus Scholl, Auf der Hohl 1, D-53547 Dattenberg
---	--

Die Einhaltung der in den technischen Daten und Sicherheitshinweisen beschriebenen Betriebsbedingungen ist  
sicherzustellen. *Please take care about the technical data and the relevant warning and safety notes.*

Dattenberg, 21.12.2021  
Ort, Datum  
Place, Date

Repellin, Lionel, Operations Manager  
Name, Vorname und Funktion des Unterzeichners  
Surname, first name and function of signatory

Unterschrift  
Signature



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Geschäftsführer: Olivier Giverdon, Nigel Wood  
bar-info@wattswater.com

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## 14. EU Declaration of Conformity Type E...



A WATTS Brand

Z5100005\_00A

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### EU Konformitätserklärung EU Declaration of Conformity

Name und Anschrift des Herstellers: **bar pneumatische Steuerungssysteme GmbH**  
Name and address of the manufacturer: **Auf der Hohl 1, 53547 Dattenberg / Germany**

Diese Erklärung bezieht sich nur auf das Produkt in dem Zustand, in dem es in den Verkehr gebracht wurde.  
Die Erklärung verliert ihre Gültigkeit, wenn das Produkt ohne Rücksprache mit uns umgebaut oder verändert wird.

*This declaration relates exclusively to the product in the state in which it was placed on the market.  
The declaration loses validity if the product is modified without agreement of company bar.*

Hiermit erklären wir, dass die nachstehend beschriebenen Produkte  
Herewith we declare that the following products

Produktbezeichnung: **Automatik-Armatur mit elektrischem Stellantrieb**  
Product denomination: **Automatic-valve with electric actuator**  
Serien-/Typenbezeichnung / model/type: **EKI..., EKN..., EKO..., EKO2..., EKW..., EMK..., EMK2..., EKT..., EZDS..., EZR...**

nach den Anforderungen folgender Richtlinien hergestellt wurde  
was manufactured according to the following directives:

2014/35/EU Niederspannungsrichtlinie / Low voltage directive  
(EU-Abl. L 96/357 vom 29.03.2014)

2011/65/EU Beschränkung bestimmter gefährlicher Stoffe / Restriction of certain hazardous substances (RoHS)  
(EU-Abl. L 174/88 vom 01.07.2011)

2014/53/EU Funkanlagenrichtlinie / Radio Equipment Directive (RED)  
(EU-Abl. L 153/62 vom 22.5.2014)

2014/68/EU Druckgeräterichtlinie / Pressure Equipment Directive (PED)  
(EU-Abl. L 189/164 vom 27.6.2014)

und den wesentlichen Anforderungen der Richtlinie 2014/30/EU Elektromagnetische Verträglichkeit  
(EMV; EU-Abl. L 96/79 vom 29.03.2014) entspricht.  
and meets the essential requirements of the directive 2014/30/EU electromagnetic compatibility (EMC).

Die Einhaltung der in den technischen Daten und Sicherheitshinweisen beschriebenen Betriebsbedingungen ist sicherzustellen.  
Please take care about the technical data and the relevant warning and safety notices.

Bevollmächtigter für die Dokumentation/  
Authorised person for documentation:

Klaus Scholl,  
Auf der Hohl 1,  
D-53547 Dattenberg

Dattenberg, 21.12.2021  
Ort, Datum  
Place, Date

Repellin, Lionel, Operations Manager  
Name, Vorname und Funktion des Unterzeichners  
Surname, first name and function of signatory

  
Unterschrift  
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HRB 10991 Amtsgericht Montabaur • Ust-Nr. DE 149 522 999  
Geschäftsführer: Olivier Giverdon, Nigel Wood  
bar-info@wattswater.com

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## 15. Annex / Technical data

### 15.1 Technical data of rotary actuator

The technical data of the rotary actuator can be found in the supplied manufacturer documentation.

### 15.2 Technical data of the shut-off valve Type ZR

	Standard design	Upon request
Nominal size	DN40 – DN600	
Connection type	Flange connection according to EN 1092-1 and EN 1092-2  PN6/10/16/25/40  ASME/ANSI 125/150	
Mounting position	any	
Nominal pressure rating	DN 40 to DN 300 max. PN16  DN 350 to DN 600 max. PN 10	
Structural length	acc. to DIN EN 558-1 series 20 (K1)	
Temperature range	With EPDM seat = -30° C to +120° C  With NBR seat = -20° C to +80° C	
Materials	Housing: GGG40 (JS1030)  Collar: EDPM, vulcanized on carrier ring, exchangeable  Disc: Stainless steel 1.4408 (CF8M)  Shaft: Stainless steel 1.4021 (AISI420), one-piece	Collar: FKM, silicone
Flow media	Neutral gases and liquids; Viscosity up to 120 mm <sup>2</sup> /s	
Flow direction	any	

**Tab. 13-1 Technical data of the shut-off valve Type ZR**

## 15.3 Dimensional tables and dimensional drawings Type PZR with bar-agturn

### 15.3.1 Dimensional drawing Type PZR with bar-agturn

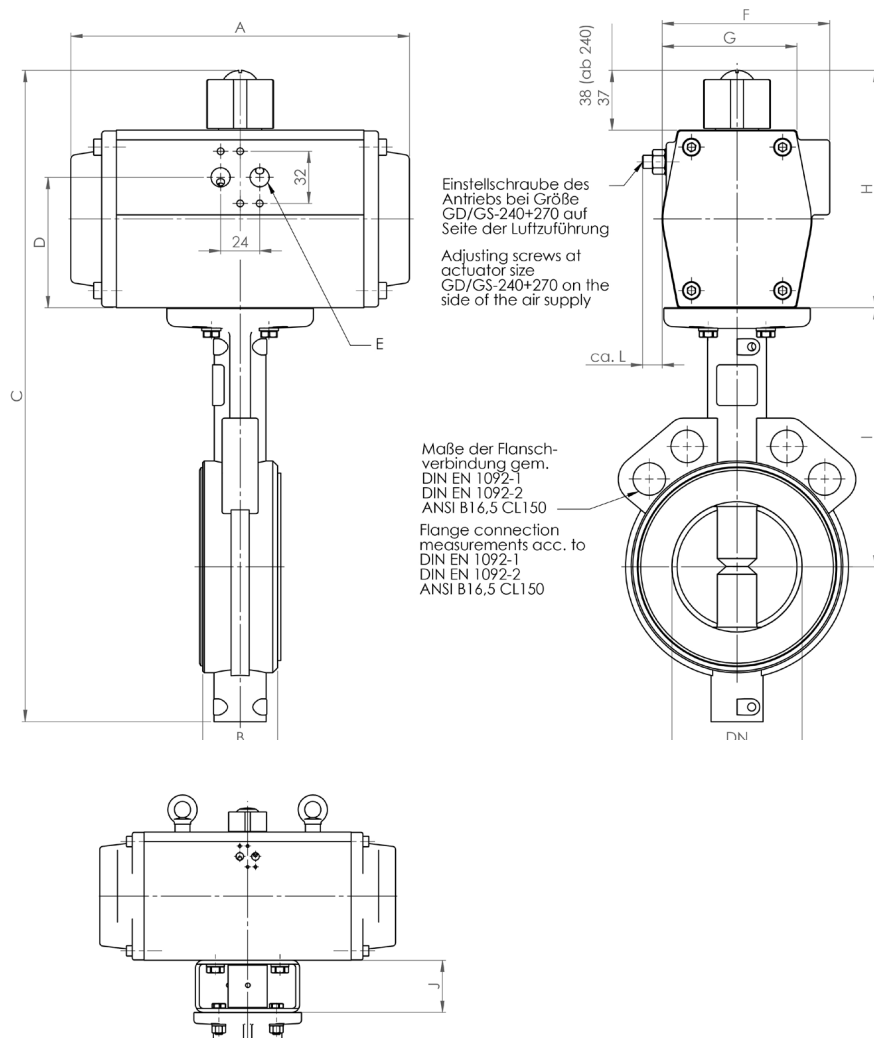


Fig. 13-1 Dimensional drawing Type PZR with bar-agturn type GD/GS-040-270

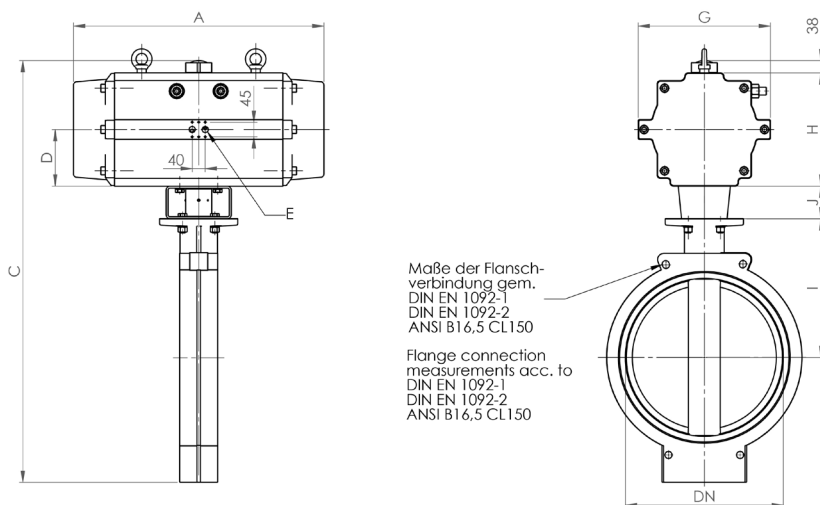


Fig. 13-2 Dimensional drawing Type PZR with bar-actuator type GD/GS-300-400

### 15.3.2 Dimensional table Type PZR with bar-agturn

DN	Actuator size	A	B	C	D	E	F
40	063	165	32	318	61	G 1/4"	83
	075	182		229,5	73,3	G 1/4"	95
50	063	165	43	339	61	G 1/4"	83
	075	182		350,5	73,3	G 1/4"	95
65	063	165	46	354	61	G 1/4"	83
	075	182		365,5	73,3	G 1/4"	95
80	063	165	46	371	61	G 1/4"	83
	075	182		382,5	73,3	G 1/4"	95
	083	208		392	80	G 1/4"	103
100	075	182	52	419,5	73,3	G 1/4"	95
	083	208		429	80	G 1/4"	103
	092	262		436,5	91	G 1/4"	109,5
125	075	182	56	451,5	73,3	G 1/4"	95
	083	208		461	80	G 1/4"	103
	092	262		468,5	91	G 1/4"	109,5
	105	270		485	99,5	G 1/4"	124,5
150	092	262	56	497,5	91	G 1/4"	109,5
	105	270		514	99,5	G 1/4"	124,5
	125	301		536	127	G 1/4"	142
	140	395		559	138	G 1/4"	/
200	125	301	60	584	127	G 1/4"	142
	140	395		601	138	G 1/4"	/
	160	454		626	159,5	G 1/4"	/
250	140	395	68	680	138	G 1/4"	/
	160	454		705	159,5	G 1/4"	/
	190	528		818	188	G 1/4"	/

Tab. 13-2 Dimensional table Type PZR with bar-agturn, size A to F



DN	G	H	I	J	L	Weight (kg)
<b>40</b>	72	88	130	/	12	3,90
	84	99,5		/	11	4,45
<b>50</b>	72	88	136	/	12	4,60
	84	99,5		/	11	5,15
<b>65</b>	72	88	145	/	12	5,60
	84	99,5		/	11	6,15
<b>80</b>	72	88	151	/	12	5,80
	84	99,5		/	11	6,35
	92	109		/	12	7,05
<b>100</b>	84	99,5	175	/	11	7,65
	92	109		/	12	8,65
	102	116,5		/	9	10,34
<b>125</b>	84	99,5	190	/	11	8,65
	92	109		/	12	9,35
	102	116,5		/	9	11,34
	115	133		/	7,5	12,16
<b>150</b>	102	116,5	203	/	9	13,34
	115	133		/	7,5	14,16
	135	155		/	8,5	18,10
	152	172		/	7	22,12
<b>200</b>	135	155	225	/	8,5	24,00
	152	172		/	7	28,02
	174	197		/	6	38,52
<b>250</b>	152	172	271	/	7	36,32
	174	197		/	6	46,82
	206	230		80	8,5	58,15

Tab. 13-3 Dimensional table Type PZR with bar-agturn, size G to L

DN	Actuator size	A	B	C	D	E	F
<b>300</b>	140	395	78	740	138	G 1/4"	/
	160	454		765	159,5	G 1/4"	/
	190	582		878	188	G 1/4"	/
<b>350</b>	140	395	78	808	138	G 1/4"	/
	160	454		833	159,5	G 1/4"	/
	190	528		866	188	G 1/4"	/
	210	536		892	205,5	G 1/4"	/
<b>400</b>	160	454	102	1014	159,5	G 1/4"	/
	190	528		967	188	G 1/4"	/
	210	536		992	205,5	G 1/4"	/
	240	608		1127	67,5	G 1/4"	260
<b>450</b>	190	528	114	1030	188	G 1/4"	/
	210	536		1055	205,5	G 1/4"	/
	240	608		1090	67,5	G 1/4"	260
	270	721		1129	79	G 1/2"	294
<b>500</b>	190	528	127	1091	188	G 1/4"	/
	210	536		1116	205,5	G 1/4"	/
	240	608		1151	67,5	G 1/4"	260
	270	721		1190	79	G 1/2"	294
	300	769		1210	174	G 1/2"	406
<b>600</b>	240	608	154	1281	67,5	G 1/4"	260
	270	721		1320	79	G 1/2"	294
	300	769		1340	174	G 1/2"	406
	350	909		1400	204	G 1/2"	460

Tab. 13-4 Dimensional table Type PZR with bar-agturn, size A to F

DN	G	H	I	J	L	Weight (kg)
300	152	172	296	/	7	47,02
	174	197		/	6	57,52
	206	230		80	8,5	68,85
350	152	172	305	/	7	64,02
	174	197		/	6	74,52
	206	230		/	8,5	82,40
	226	255		/	10,5	89,80
400	174	197	378	80	6	103,97
	206	230		/	8,5	108,40
	226	255		/	10,5	115,80
	160	289		100	10,5	139,20
450	206	230	417	/	8,5	135,40
	226	255		/	10,5	142,80
	160	289		/	10,5	160,00
	160	328		/	13,5	181,70
500	206	230	440	/	8,5	162,40
	226	255		/	10,5	169,80
	160	289		/	10,5	187,00
	160	328		/	13,5	208,70
	210	348		/	/	251,00
600	160	289	495	/	10,5	262,00
	160	328		/	13,5	283,70
	210	348		/	/	226,70
	280	408		/	/	415,20

Tab. 13-5 Dimensional table Type PZR with bar-agturn, size G to L

### 15.3.3 Actuator assignment

#### Actuator assignment for bar-agturn type GD and GS

DN	GD		GS			
			Spring closed		Spring opened	
	4 bar actuators	6 bar actuators	4 bar actuators	6 bar actuators	4 bar actuators	6 bar actuators
<b>40</b>	GD-063	GD-063	GS-075-08	GS-063-10	GS-075-06	GS-063-08
<b>50</b>	GD-063	GD-063	GS-075-08	GS-063-10	GS-075-06	GS-063-08
<b>65</b>	GD-063	GD-063	GS-075-09	GS-063-12	GS-075-07	GS-063-10
<b>80</b>	GD-063	GD-063	GS-083-10	GS-083-10	GS-083-07	GS-075-10
<b>100</b>	GD-083	GD-075	GS-092-10	GS-092-10	GS-092-07	GS-083-10
<b>125</b>	GD-083	GD-075	GS-105-09	GS-105-10	GS-105-07	GS-092-10
<b>150</b>	GD-105	GD-092	GS-140-08	GS-125-12	GS-140-06	GS-125-10
<b>200</b>	GD-140	GD-125	GS-160-08	GS-140-12	GS-160-06	GS-140-10
<b>250</b>	GD-140	GD-140	GS-190-08	GS-160-12	GS-190-06	GS-160-10
<b>300</b>	GD-160	GD-140	GS-190-10	GS-190-10	GS-190-07	GS-160-10
<b>350</b>	GD-160	GD-140	GS-210-10	GS-190-12	GS-210-07	GS-190-09
<b>400</b>	GD-190	GD-160	GS-240-08	GS-210-12	GS-240-06	GS-190-10
<b>450</b>	GD-210	GD-190	GS-270-09	GS-270-10	GS-270-07	GS-240-10
<b>500</b>	GD-240	GD-190	GS-300-08	GS-270-12	GS-300-07	GS-270-08
<b>600</b>	GD-270	GD-240	GS-350-08	GS-350-12	GS-350-06	GS-300-08

Tab. 13-6 Actuator assignment for bar-agturn type GD and GS

The detailed dimensions of the rotary actuator can be found in the supplied manufacturer documentation.

## 15.4 Dimensional tables and dimensional drawings Type PZR with actubar

### 15.4.1 Dimensional drawing Type PZR with actubar

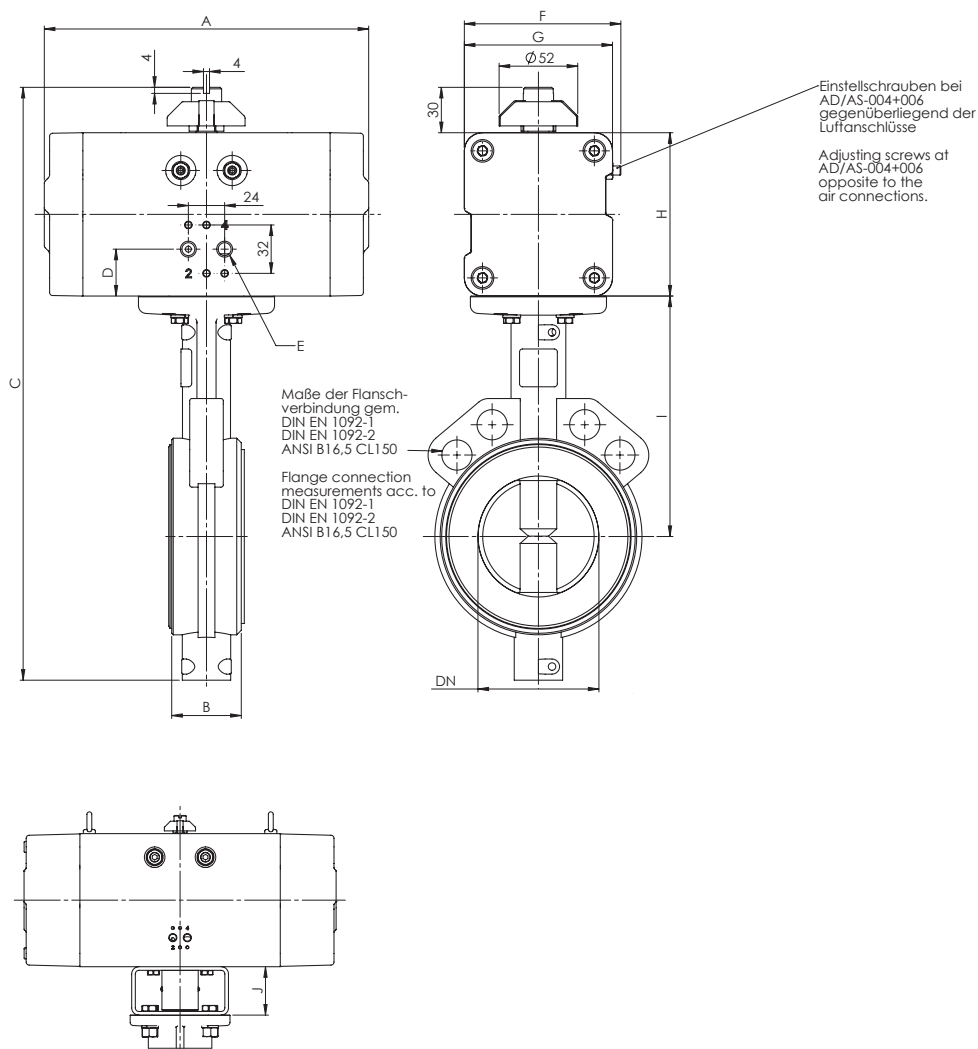


Fig. 13-3 Dimensional drawing Type PZR with actubar type AD/AS-004-230

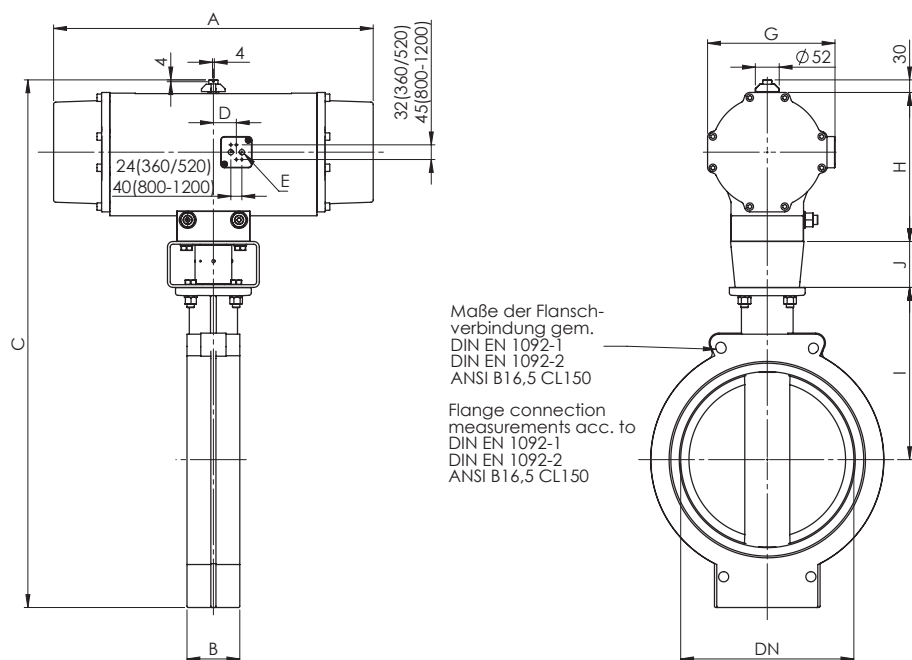


Fig. 13-4 Dimensional drawing Type PZR with actubar type AD/AS-360-1200

## 15.4.2 Dimensional table Type PZR with actubar

DN	Actuator size	A	B	C	D	E	F
40	004	144	32	291	24	G 1/8"	82
	006	159		177	32	G 1/8"	90
	008	173		331	31	G 1/8"	109
50	004	144	43	312	24	G 1/8"	82
	006	159		328	32	G 1/8"	90
	008	173		352	31	G 1/8"	109
65	004	144	46	351	24	G 1/8"	82
	006	159		367	32	G 1/8"	90
	008	173		391	31	G 1/8"	109
	011	215		391	31	G 1/4"	109
80	006	159	46	390	32	G 1/8"	90
	008	173		414	31	G 1/8"	109
	011	215		414	31	G 1/4"	109
	018	213		438	36,5	G 1/4"	127
100	008	173	52	514	31	G 1/8"	109
	011	215		454	31	G 1/4"	109
	018	213		478	36,5	G 1/4"	127
	026	281		478	36,5	G 1/4"	127
125	011	215	56	495	31	G 1/4"	109
	018	213		519	36,5	G 1/4"	127
	026	281		519	36,5	G 1/4"	127
	037	266		555	40,5	G 1/4"	155
150	018	213	56	565	36,5	G 1/4"	127
	026	281		565	36,5	G 1/4"	127
	037	266		594	40,5	G 1/4"	155
	050	347		594	40,5	G 1/4"	155
	076	329		639	50	G 1/4"	196
200	037	266	60	651	40,5	G 1/4"	155
	050	347		651	40,5	G 1/4"	155
	076	329		690	50	G 1/4"	196
	110	475		690	50	G 1/4"	196
	160	516		642	60	G 1/4"	225

Tab. 13-7 Dimensional table Type PZR with actubar, size A to F

DN	G	H	I	J	Weight (kg)
<b>40</b>	68	68	130	/	3,11
	76	84		/	3,71
	98	108		/	4,87
<b>50</b>	68	68	136	/	3,81
	76	84		/	4,41
	98	108		/	5,57
<b>65</b>	68	68	145	/	4,81
	76	84		/	5,41
	98	108		/	6,57
	98	108		/	7,19
<b>80</b>	76	84	151	/	5,61
	98	108		/	6,77
	98	108		/	7,39
	114	132		/	8,60
<b>100</b>	98	108	175	60	8,47
	98	108		/	8,69
	114	132		/	9,90
	114	132		/	11,37
<b>125</b>	98	108	190	/	9,69
	114	132		/	10,9
	114	132		/	12,37
	138	161		/	14,33
<b>150</b>	114	132	203	/	12,90
	114	132		/	14,37
	138	161		/	18,55
	138	161		/	19,35
	176	200		/	24,00
<b>200</b>	138	161	225	/	22,23
	138	161		/	22,25
	176	200		/	22,90
	176	200		/	36,94
	199	220		/	41,46

Tab. 13-8 Dimensional table Type PZR with actubar, size G to SW



DN	Actuator size	A	B	C	D	E	F
250	076	329	68	701	50	G 1/4"	196
	110	475		701	50	G 1/4"	196
	160	516		721	60	G 1/4"	225
	230	560		825	72	G 1/4"	249
300	076	329	78	761	50	G 1/4"	196
	110	475		761	50	G 1/4"	196
	160	516		781	60	G 1/4"	225
	230	560		885	72	G 1/4"	249
350	110	475	78	829	50	G 1/4"	196
	160	516		849	60	G 1/4"	225
	230	560		873	72	G 1/4"	249
	360	696		1049	50	G 1/4"	/
400	110	475	102	1010	50	G 1/4"	196
	160	516		1030	60	G 1/4"	225
	230	560		974	72	G 1/4"	249
	360	696		1050	50	G 1/2"	/
450	230	560	114	1037	72	G 1/4"	249
	360	696		1113	50	G 1/4"	/
	520	716		1161	50	G 1/4"	/
	800	725		1217	50	G 1/2"	/
500	230	560	127	1198	72	G 1/4"	249
	360	696		1174	50	G 1/4"	/
	520	716		1222	50	G 1/4"	/
	800	725		1278	50	G 1/2"	/
600	360	696	154	1304	50	G 1/4"	/
	520	716		1352	50	G 1/4"	/
	800	725		1408	50	G 1/2"	/
	1200	953		1672	50	G 1/2"	/

Tab. 13-9 Dimensional table Type PZR with actubar, size A to F

DN	G	H	I	J	Weight (kg)
<b>250</b>	176	200	271	/	38,20
	176	200		/	45,24
	199	220		/	49,76
	223	244		80	62,25
<b>300</b>	176	200	296	/	48,90
	176	200		/	55,94
	199	220		/	60,46
	223	244		80	72,95
<b>350</b>	176	200	305	/	72,94
	199	220		/	77,46
	223	244		/	88,10
	278	320		100	107,80
<b>400</b>	176	200	378	80	100,79
	199	220		80	105,31
	223	244		/	114,10
	278	320		100	133,80
<b>450</b>	223	244	417	/	141,10
	278	320		/	158,00
	323	368		/	174,00
	371	424		/	204,00
<b>500</b>	223	244	440	100	170,90
	278	320		/	185,00
	323	368		/	201,00
	371	424		/	231,00
<b>600</b>	278	320	495	/	260,00
	323	368		/	276,00
	371	424		/	306,00
	433	488		200	382,30

Tab. 13-10 Dimensional table Type PZR with actubar, size G to SW

### 15.4.3 Actuator assignment

#### Actuator assignment for actubar type AD and AS

DN	AD		AS			
			Spring closed		Spring opened	
	4 bar actuators	6 bar actuators	4 bar actuators	6 bar actuators	4 bar actuators	6 bar actuators
<b>40</b>	AD-004	AD-004	AS-008-09	AS-008-10	AS-008-05	AS-006-08
<b>50</b>	AD-004	AD-004	AS-008-09	AS-008-10	AS-008-05	AS-006-08
<b>65</b>	AD-006	AD-004	AS-011-09	AS-008-11	AS-011-05	AS-006-08
<b>80</b>	AD-008	AD-006	AS-018-09	AS-011-14	AS-018-05	AS-011-07
<b>100</b>	AD-011	AD-008	AS-026-10	AS-026-10	AS-026-05	AS-018-08
<b>125</b>	AD-018	AD-011	AS-037-09	AS-026-14	AS-037-05	AS-026-07
<b>150</b>	AD-037	AD-018	AS-076-08	AS-050-12	AS-076-04	AS-037-08
<b>200</b>	AD-076	AD-037	AS-160-08	AS-110-10	AS-110-06	AS-076-08
<b>250</b>	AD-110	AD-076	AS-230-08	AS-160-12	AS-160-06	AS-160-06
<b>300</b>	AD-110	AD-076	AS-230-09	AS-160-14	AS-230-06	AS-160-08
<b>350</b>	AD-160	AD-110	AS-360-07	AS-230-12	AS-360-05	AS-230-07
<b>400</b>	AD-160	AD-110	AS-360-08	AS-230-14	AS-360-05	AS-230-08
<b>450</b>	AD-360	AD-230	AS-800-10	AS-520-11	AS-800-06	AS-360-09
<b>500</b>	AD-360	AD-230	AS-800-12	AS-800-12	AS-800-07	AS-520-08
<b>600</b>	AD-520	AD-360	AS-1200-08	AS-1200-08	AS-1200-05	AS-800-10

Tab. 13-11 Actuator assignment for actubar type AD and AS

The detailed dimensions of the rotary actuator can be found in the supplied manufacturer documentation.

## 15.5 Dimensional tables and dimensional drawings Type EZR

### 15.5.1 Dimensional drawing Type EZR

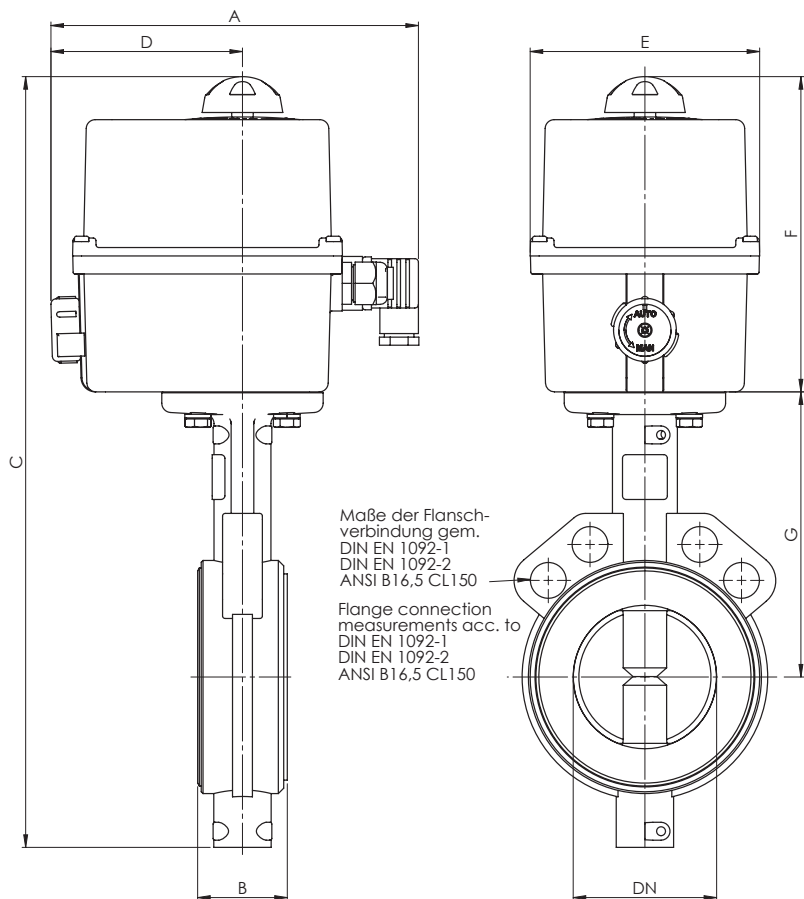


Fig. 13-5 Dimensional drawing Type EZR (exemplary representation with ER Plus rotary actuator)

## 15.5.2 Dimensional table Type EZR

DN	Actuator size	A	B	C	D	E
40	ER35	191	32	339	103	92
50	ER35	191	43	350	103	92
65	ER35	191	46	381	103	92
80	ER60	205	46	416	106	128
100	ER60	205	52	410	106	128
125	ER100	205	56	424	106	128

Tab. 13-12 Dimensional table for 2/2-Wege-Automatik-Absperrklappe Typ EZR, size A to E

DN	F	G	Weight (kg)
40	152	130	3,14
50	152	136	4,04
65	152	145	4,43
80	176	151	6,07
100	176	175	6,87
125	176	190	8,77

Tab. 13-13 Dimensional table for 2/2-Wege-Automatik-Absperrklappe Typ EZR, size F to G

The detailed dimensions of the rotary actuator can be found in the supplied manufacturer documentation.

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