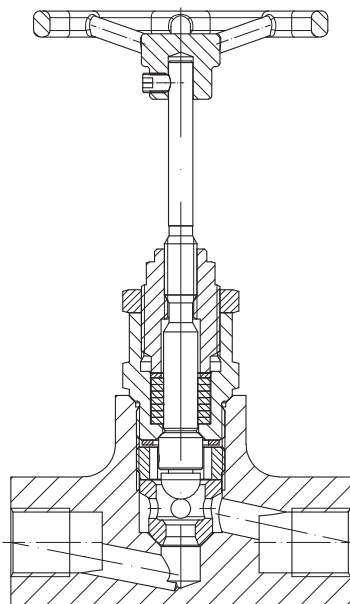


# Operating and installation instructions

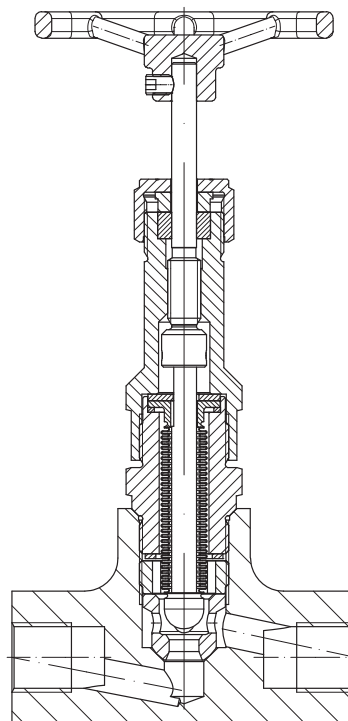
## Stop valve with bellows seal / with gland seal

### 6A1 / 6A2 (PN40-PN63)



**6A1**  
with gland seal  
PN40

- with screwed sockets (BR 6A1....2)
- with socket weld ends (BR 6A1....3)
- with butt weld ends (BR 6A1....4)



**6A2**  
with bellows seal  
PN40-PN63

- with screwed sockets (BR 6A2....2)
- with socket weld ends (BR 6A2....3)
- with butt weld ends (BR 6A2....4)

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## 1.0 General information on operating instructions

These operating instructions provide information on mounting and maintaining the fittings. Please contact the supplier or the manufacturer in case of problems which cannot be solved by reference to the operating instructions.

They are binding on the transport, storage, installation, start-up, operation, maintenance and repair.

The notes and warnings must be observed and adhered to.

- Handling and all work must be carried out by expert personnel or all activities must be supervised and checked.

It is the owner's responsibility to define areas of responsibility and competence and to monitor the personnel.

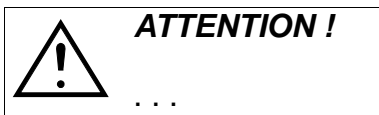
- In addition, current regional safety requirements must be applied and observed when taking the fittings out of service as well as when maintaining and repairing them.

The manufacturer reserves the right to introduce technical modifications at any time.

These operating instructions comply with the requirements of EU Directives.

## 2.0 Notes on possible dangers

### 2.1 Significance of symbols



Warning of general danger.

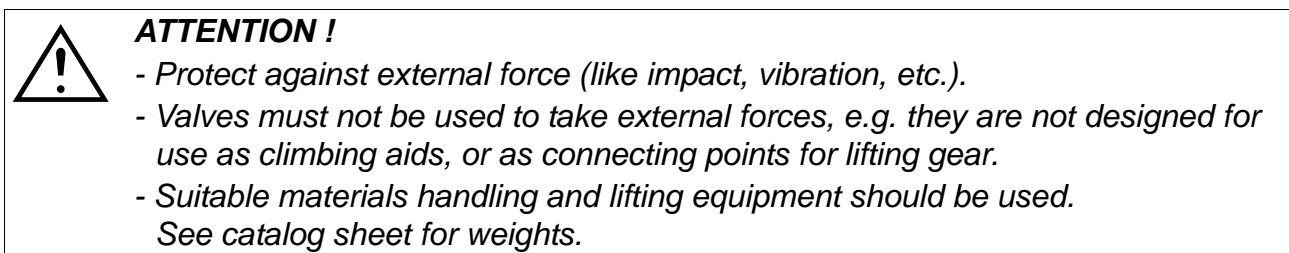
### 2.2 Explanatory notes on safety information

In these operating and installation instructions dangers, risks and items of safety information are highlighted to attract special attention.

Information marked with the above symbol and "**ATTENTION!**" describe practices, a failure to comply with which can result in serious injury or danger of death for users or third parties or in material damage to the system or the environment. It is vital to comply with these practices and to monitor compliance.

All other information not specifically emphasised such as transport, installation, operating and maintenance instructions as well as technical data (in the operating instructions, product documentation and on the device itself) must also be complied with to the fullest extent in order to avoid faults which in turn can cause serious injury to persons or damage to property.

## 3.0 Storage and transport



- At -20°C to +65°C.

- The paint is a base coat to protect against corrosion during transportation and storage. Do not damage paint protection.

## 4.0 Description

### 4.1 Scope of application

Valves are used for „shut-off of media“.  
(Optional with regulating plug for „throttling of media“)



#### **ATTENTION !**

- Refer to the data sheet for applications, limits on use and possibilities.
- Certain media require or preclude the use of special materials.
- The valves are designed for standard operating conditions. If conditions exceed these requirements, e.g. aggressive or abrasive media, the operator should state the higher requirements when ordering.
- Valves made from grey cast iron are not authorised for use in systems subject to TRD 110.

The information complies to the Pressure Equipment Directive 2014/68/EU.  
It is the responsibility of the machine planner to ensure compliance.  
The special markings on the valve must be taken into account.

Refer to the catalogue sheet to see which materials are used in standard versions.  
Please contact the supplier or the manufacturer if you have any questions.

### 4.2 Operating principles

(refer to Fig. 1 - Fig. 2 page 4)

The valve is based on a hard-sealing (metal on metal) construction:

- body (Pos. 1) / screw fitting (Pos. 8.15)
- seat (Pos. 3) / body (Pos. 1)
- valve plug/stem unit (Pos. 8.4/8.18) / seat (Pos. 3)
- safety back-sealing mechanism
  - 6A1: spindle (Pos. 8.11) / screw fitting (Pos. 8.15)
  - 6A2: spindle (Pos. 8.11) / spindle guide (Pos. 8.16)

There are also graphite rings (Pos. 8.10/8.5) which take over external sealing in the position between “OPEN” or “SHUT”.



#### **ATTENTION !**

*Do not use shut-off valves for OPEN-SHUT function to throttle volume flow.*

#### **Valve position:**

**OPEN** - Safety back-sealing mechanism effective when valve fully open.

**SHUT** - Valve plug/stem unit (Pos. 8.4/8.18) / chamfer at seat (Pos 3) seal effective.

### 4.3 Diagram

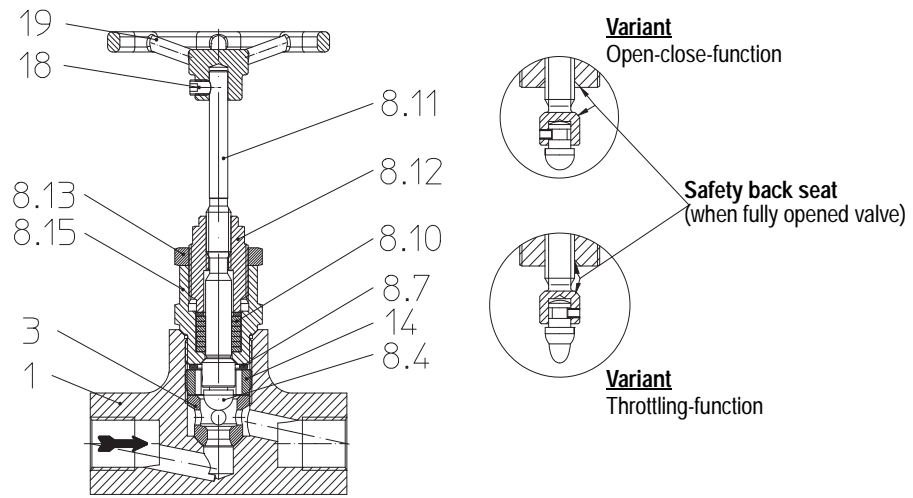


Fig. 1: BR 6A1 PN40 Stop valve with gland seal

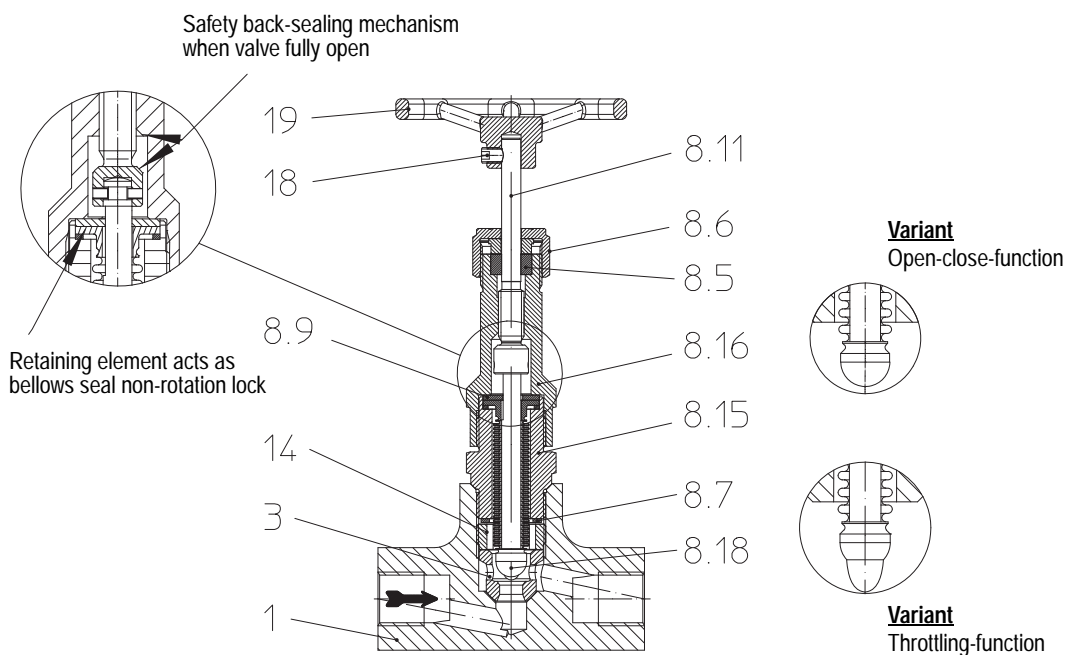


Fig. 2: BR 6A2 PN40-PN63 Stop valve with bellows seal

Refer to the data sheet for information about materials with designations and figure numbers.

### 4.4 Technical data - remarks

for

- Principal dimensions,
- Pressure-temperature-ratings, operating limits,
- Valves with different types of connection , etc.  
refer to datasheet.

### 4.5 Marking

AWH Manufacturer

Address of manufacturer:  
refer to item 11.0 Warranty / Guarantee

Typ Type

Bj. Year of manufacture

According to the Pressure Equipment Directive appendix 2 diagram 7 valves acc. to article 1 paragraph 2.1.2 (pipes) only show the CE-marking from DN40 onwards.

## 5.0 Installation

### 5.1 General notes on installation

The following points should be taken into account besides the general principles governing installation work:



#### **ATTENTION !**

- *The interior of valve and pipeline must be free from foreign particles.*
- *Note installation position with reference to flow, see mark on valve.*
- *Steam line systems should be designed to prevent water accumulation.*
- *Lay pipelines so that damaging transverse, bending and torsional forces are avoided.*
- *Protect valves from dirt during construction work.*
- *Valve mountings such as actuators, handwheels, hoods must not be used to take external forces, e.g. they are not designed for use as climbing aids, or as connecting points for lifting gear.*
- *Suitable materials handling and lifting equipment should be used.*  
*See data sheet for weights.*
- *Valves can be installed with the stem pointing in any direction, but the preferred stem position is vertical.*
- *Valves should be installed upside down only, if the medium being handled is clean.*
- *Keep the thread and shaft of the stem free from paint.*

- Planners / construction companies or operators are responsible for positioning and installing products.
- The valves are designed for application, not influenced from weather.
- For application outside or in adverse environments like corrosion-promoting conditions (sea water, chemical vapours, etc.), special constructions or protective measures are recommended.
- Mounting position 6A2:  
Bellows seal out of media flow path. Especially for pulsating, turbulent flow directly behind pumps, elbows, junctions etc.

## 5.2 Installing valves with butt weld ends

Please note that only qualified persons using appropriate equipment and working in accordance with technical rules are allowed to install fittings by welding.

The responsibility for this lies with the system owner.

Refer to the data sheet for information about the shape of the butt weld ends.

The valves must be welded in closed position.

## 5.3 Installation position

Note installation position relative to flow (see mark on valve).

## 6.0 Putting the valve into operation



### **ATTENTION !**

- Before putting the valve into operation, check material, pressure, temperature and direction of flow.
- Regional safety instructions must be adhered to.
- Residues in piping and valves (dirt, weld beads, etc.) inevitably lead to leakage.
- Touching the valve when it is operating at high ( $> 50\text{ °C}$ ) or low ( $< 0\text{ °C}$ ) media temperatures can cause injury.


*Affix warning notice or protective insulation as appropriate.*

*Before putting a new plant into operation or restarting a plant after repairs or modification, always make sure that:*

- All works has been completed.
- The valve is in the correct position for its function.
- Safety devices have been attached.

## 7.0 Care and maintenance

Maintenance and maintenance-intervals have to be defined by the operator according to the requirements.



**ATTENTION !**

- refer to item 10.0 and 11.0 prior to dismantling and repair work!
- refer to item 6.0 before restarting the plant !

*Prior to installation, threads and seal faces should be coated with temperature-stable lubricant (e.g. "OKS Anti-Seize Paste" white/metal-free for PN 16-40 or "Rivolta" lubricant and parting agent silver for PN 63 onwards).*


### 7.1 Disassembling/assembling complete shut-off valve assembly

(see Fig. 1 page 4 - Fig. 2 page 4)

- Open spindle (Pos. 8.11) fully as far as the stop.
- Unscrew shut-off valve assembly (Pos. 8) from body (Pos. 1) by rotating to the left.
- Remove graphite insert (Pos. 8.7).
- Unscrew hollow-core screw (Pos. 14) using AWH assembly spanner.
- Remove seat (Pos. 3).
- Assemble in reverse order (see 7.4).

### 7.2 Replacing the packing rings (BR 6A1)

- Dismantle shut-off valve assembly (Pos. 8) as described in 7.1.



**ATTENTION !**

*It is vital to avoid damage to spindle surface and packing chamber surface.*

- Rotate spindle (Pos. 8.11) in closing direction.
- Slacken thread pin (Pos. 18).
- Pull hand wheel (Pos. 19) away from spindle (Pos. 8.11).
- Release lock nut (Pos. 13).
- Unscrew threaded bush (Pos. 8.12).
- Withdraw spindle (Pos. 8.11) downwards from threaded bush (Pos. 8.12).
- Dismantle cover ring (Pos. 8.20) and packing rings (Pos. 8.10).
- Clean packing chamber and spindle surface.
- Push spindle (Pos. 8.11) into screw fitting (Pos. 8.15) and fit new packing rings (Pos. 8.10).
- Assemble in reverse order (see 7.4).

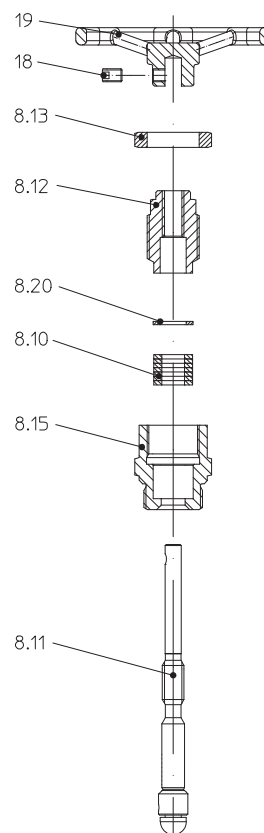



Fig. 3

### 7.3 Replacing packing rings of the secondary sealing gland packing (BR 6A2)

- Dismantle shut-off valve assembly (Pos. 8) as described in 7.1.



**ATTENTION !**  
*It is vital to avoid damage to spindle surface and packing chamber surface.*

- Rotate spindle (Pos. 8.11) in closing direction.
- Slacken thread pin (Pos. 18).
- Pull hand wheel (Pos. 19) away from spindle (Pos. 8.11).
- Unscrew sleeve nut (Pos. 8.6).
- Remove pressure plate (Pos. 8.20).
- Unscrew spindle guide (Pos. 8.16) from screw fitting (Pos. 8.15) and withdraw from spindle (Pos. 8.11).
- Dismantle packing rings (Pos. 8.5).
- Clean packing chamber and spindle surface.
- Push spindle (Pos. 8.11) into spindle guide (Pos. 8.16) and fit new packing rings (Pos. 8.5).
- Assemble in reverse order (see 7.4).

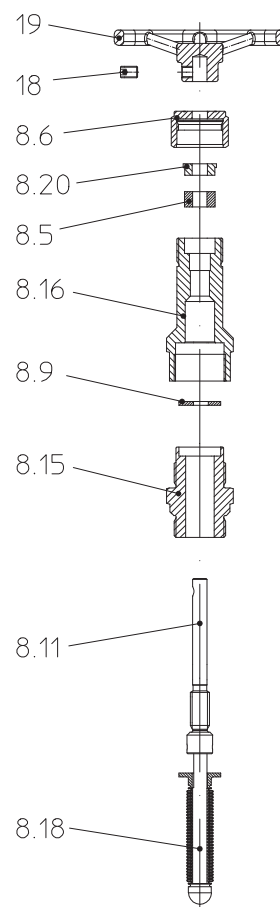


Fig. 4

### 7.4 Tightening torques


(refer to Fig. 1 page 4 - Fig. 4 page 8)

Pos.	6A1 / 6A2	Torque (Nm)
8.6	Sleeve nut	10
8.12	Threaded bush	10
8.13	Safety nut	70
14	Banjo bolt	70
8.15	Fitting	90
8.16	Stem guiding	90



## 8.0 Troubleshooting


In the event of malfunction or faulty operating performance check that the installation and adjustment work has been carried out and completed in accordance with these Operating Instructions.



**ATTENTION !**  
*It is essential that the safety regulations are observed when identifying faults.*

If malfunctions cannot be eliminated with the help of the following table "9.0 Troubleshooting table", the supplier or manufacturer should be consulted.

## 9.0 Troubleshooting table



**ATTENTION !**  
*- refer to item 10.0 and 11.0 prior to dismantling and repair work!*  
*- refer to item 6.0 before restarting the plant !*

Fault	Possible cause	Corrective measures
No flow	Installed in wrong flow direction.	Fit valve in direction of flow arrow
Little flow	Piping system clogged	Check piping system
No closure, or internal leakage	Shut-off valve clogged	Clean shut-off valve; refer to item 7.1
	Shut-off valve worn	Replace shut-off valve; refer to item 7.1
	Shut-off valve operated above safe operating pressure	Observe operating limits as per data sheet
External leakage	Shut-off valve assembly not properly (Pos.1) tightened in body	Tighten; see 7.4
	Seal (Pos. 8.5, 8.10) defective	Replace sealing; refer to item 7.2 and 7.3

## 10.0 Dismantling the valve or the body



### **ATTENTION !**

*The following points must be observed:*

- *Pressureless pipe system.*
- *Medium must be cool.*
- *Plant must be drained.*

## 11.0 Warranty / Guarantee

The extent and period of warranty cover are specified in the "Standard Terms and Conditions of Albert Richter GmbH & Co. KG" valid at the time of delivery or, by way of departure, in the contract of sale itself.

We guarantee freedom of faults in compliance with state-of-the-art technology and the confirmed application.

No warranty claims can be made for any damage caused as the result of incorrect handling or disregard of operating and installation instructions, datasheets and relevant regulations.

This warranty also does not cover any damage which occurs during operation under conditions deviating from those laid down by specifications or other agreements.

Justified complaints will be eliminated by repair carried out by us or by a specialist appointed by us.

No claims will be accepted beyond the scope of this warranty. The right to replacement delivery is excluded.

The warranty shall not cover maintenance work, installation of external parts, design modifications or natural wear.

Any damage incurred during transport should not be reported to us but *rather* to the competent cargo-handling depot, the railway company or carrier company immediately or else claims for replacements from these companies will be invalidated.



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