rexroth
A Bosch Company

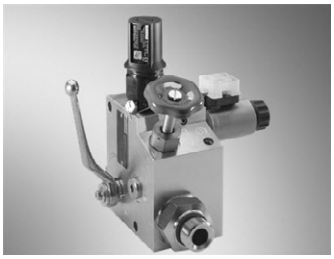
Accumulator shut-off block

Type ABZSS, 0532VAW

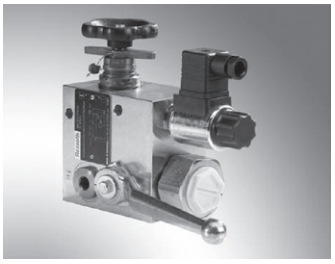
Replaces: 02.19
Mat no.: R901268180

Operating instructions
RE 50129-B/04.22

English



Type ABZSS



Type 0532VAW

The data specified only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information.
The information given does not release the user from the obligation of own judgment and verification. Please note that our products are subject to a natural process of wear and aging.

The cover shows an example configuration. The product supplied may therefore differ from the figure shown.

The original operating instructions were prepared in German.

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IT: Questo prodotto può essere impiegato solo se si dispone del presente manuale d‘uso in una lingua conosciuta e se ne è stato compreso il contenuto. In caso contrario rivolgersi al referente Bosch Rexroth o al punto di assistenza competente. Questi sono anche riportati sul sito www.boschrexroth.com.

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Contents

1 About this documentation

1.1 Validity of this documentation

This documentation applies to the following products:

- Accumulator shut-off block type ABZSS
- Accumulator shut-off block type 0532VAW

This documentation is intended for machine/system manufacturers, assemblers and service engineers.

This documentation contains important information on the safe and proper transport, assembly, commissioning, maintenance, disassembly and simple troubleshooting of the accumulator shut-off block types ABZSS and 0532VAW.

▶ Read this documentation thoroughly, and in particular chapter 2 "Safety instructions" and chapter 3 "General information on damage to property and damage to the product", before handling accumulator shut-off block types ABZSS and 0532VAW.

1.2 Required and amending documentation

▶ Only commission the accumulator shut-off block if you have been provided with the documentation marked with the book symbol 🕮 and you have understood and observed it.

Table 1: Required and amending documentation

	Title	Document number	Document type
🕮	**Accumulator shut-off block type ABZSS** Technical data, operating conditions, performance limits and project planning information on accumulator shut-off blocks type ABZSS.	50131	Data sheet
🕮	**Accumulator shut-off block, Type 0532VAW** Technical data, operating conditions, performance limits and project planning information on accumulator shut-off blocks type 0532VAW.	50128	Data sheet
	Pressure relief valve, direct operated, Type DBD Technical data, operating conditions, performance limits and project planning information on direct operated pressure relief valves type DBD.	25402	Data sheet
	Safety valves, type-examination tested Technical data, operating conditions, performance limits and project planning information on type-examination tested safety valves.	50153	Data sheet
	Instructions for the use of safety valves Information on assembly, commissioning, maintenance / functional testing, disassembly and environmental protection / disposal of safety valves.	50153-B	Operating instructions
	2/2 directional seat valve, direct operated with solenoid actuation, type KSDE (High Performance) Technical data, operating conditions, performance limits and project planning information on direct operated 2/2 directional seat valves type KSDE.	18136-20	Data sheet
	Hexagon socket head cap screws; metric/UNC Selection of hexagon socket head cap screws	08936	Data sheet
	Hydraulic fluids based on mineral oils and related hydrocarbons Describes the requirements on hydraulic fluids on mineral oil basis and related hydrocarbons for operation with Rexroth hydraulic components and helps you to select a hydraulic fluid for your hydraulic system.	90220	Data sheet

Table 1: Required and amending documentation

Title	Document number	Document type
Environmentally compatible hydraulic fluids Application notes and requirements for Rexroth hydraulic components.	90221	Data sheet
Hydraulic valves and hydroelectric pressure switches for industrial applications Information on transportation and storage, assembly, commissioning, operation, maintenance and repair, disassembly and replacement, disposal, extension and modification and troubleshooting of hydraulic valves and pressure switches.	07600-B	Operating instructions
General product information on hydraulic products General information on hydraulic products.	07008	Operating instructions
Installation, commissioning, maintenance of hydraulic systems General information on assembly, commissioning and maintenance of hydraulic systems.	07900	Data sheet

Accumulator shut-off blocks type ABZSS and 0532VAW are system components.

- Also observe the instructions for the other system components and the system manufacturer’s documentation.

You can find these operating instructions as well as the related documents in the media directory under
www.boschrexroth.com/mediadirectory

1.3 Representation of information

Consistent safety instructions, symbols, terms and abbreviations are used in this documentation so that you can quickly and safely work with your product. For a better understanding, they are explained in the following sections.

1.3.1 Safety instructions

In this documentation, safety instructions are contained in chapter 2.6 "Product-specific safety instructions" and in chapter 3 "General information on damage to property and damage to the product" and wherever a sequence of actions or instructions are explained which bear the danger of personal injury or damage to property. The hazard avoidance measures described must be observed.

Safety instructions are structured as follows:

⚠ SIGNAL WORD

Type and source of danger!
Consequences in case of non-compliance

- Hazard avoidance measures
- <Enumeration>

- **Warning sign:** Draws attention to the danger
- **Signal word:** Identifies the degree of danger
- **Type and source of danger:** Specifies the type and source of danger
- **Consequences:** Describes the consequences of non-compliance
- **Precaution:** Specifies how the danger can be prevented

Table 2: Risk classes according to ANSI Z535.6-2006

Warning sign, signal word	Meaning
⚠ DANGER	Indicates a dangerous situation which will cause death or severe injury if not avoided.
⚠ WARNING	Indicates a dangerous situation which may cause death or severe injury if not avoided.
⚠ CAUTION	Indicates a dangerous situation which may cause minor or moderate (personal) injury if not avoided.
NOTICE	Damage to property: The product or the environment could be damaged.

1.3.2 Symbols

The following symbols indicate notices which are not safety-relevant but increase the comprehensibility of the documentation.

Table 3: Meaning of the symbols

Symbol	Meaning
	If this information is not observed, the product cannot be used and/or operated optimally.
▶	Individual, independent action
1. 2. 3.	Numbered instruction: The numbers indicate that the actions must be carried out one after the other.

1.3.3 Abbreviations

The following abbreviations are used in this documentation:

Table 4: Abbreviations

Abbreviation	Meaning
NG	Size
PE	**P**rotective **E**arth conductor
RE	**R**exroth document in **E**nglish language
REXXXXX-B	Rexroth operating instructions in English language

2 Safety instructions

2.1 General information on this chapter

Accumulator shut-off blocks type ABZSS and 0532VAW were designed and manufactured according to the generally accepted code of practice. However, there is still the danger of personal injury and damage to property if you do not observe this chapter and the safety instructions in this documentation.

- Read this documentation carefully and completely before working with accumulator shut-off blocks type ABZSS and 0532VAW.
- Keep this documentation in a location where it is accessible to all users at all times.
- Always include the required documentation when passing on accumulator shut-off blocks type ABZSS and 0532VAW to third parties.

2.2 Intended use

Accumulator shut-off blocks are hydraulic components for protection, blocking and relief of hydraulic accumulators.

Accumulator shut-off blocks are assemblies/pressure equipment in compliance with Pressure Equipment Directive 2014/68/EU, article 4, section 3 taking into account applicable requirements and safety regulations. According to article 4, section 3, accumulator shut-off blocks must not bear CE marks.

During project planning, the basic principles of the Pressure Equipment Directive and the Machinery Directive, within the EU, as well as other local provisions, outside the EU, are to be observed.

Additionally, the accumulator shut-off block may only be operated according to the operating conditions and performance limits specified in chapter 15 "Technical data".

The accumulator shut-off block is exclusively intended for integration into a machine or system or to be assembled with other components to form a machine or system. The accumulator shut-off block may only be commissioned if it has been integrated into the machine/system for which it is intended and after it was confirmed that the machine/system complies with the provisions of the Machinery Directive, the Pressure Equipment Directive and other provisions valid in your country.

The special version 869 is designed/prepared for use underground or in mining. It is characterized by the fact that the surface remains unpainted and no non-ferrous metals and plastic parts are used. The suitability of the special version 869 for use in explosion protection or ATEX areas must be checked and evaluated individually as part of a higher-level ignition risk analysis.

The accumulator shut-off block is not considered to be a safety component in the sense of the EC Machinery Directive 2006/42/EC.

The accumulator shut-off block is a technical equipment and not intended for private use.

Intended use includes having read and understood these operating instructions, especially chapters 2 "Safety instructions" and 3 "General information on damage to property and damage to the product".

2.3 Improper use

Any use deviating from the intended use is improper and thus not admissible.
The accumulator shut-off block with type-examination tested pressure relief valve must not be applied for control tasks. The respective performance limits of the integrated components must not be exceeded.
Improper use of the accumulator shut-off block also includes any mechanical changes like drilling, milling or cutting.
Bosch Rexroth AG does not assume any liability for damage caused by improper use. The user assumes all risks involved with improper use.

2.4 Qualification of personnel

The activities described in this documentation require basic knowledge of mechanics and hydraulics as well as knowledge of the appropriate technical terms. For transporting and handling the product, additional knowledge of how to handle lifting gear and the necessary attachment devices is required. In order to ensure safe use, these activities may only be carried out by an expert in the respective field or an instructed person under the direction and supervision of an expert.

Experts are those who can recognize potential dangers and apply the appropriate safety measures due to their professional training, knowledge and experience, as well as their understanding of the relevant conditions pertaining to the work to be undertaken. An expert must observe the relevant specific professional rules and have the necessary hydraulic expert knowledge.
Hydraulic expert knowledge means, among other things:
- Reading and completely understanding hydraulic schemes,
- in particular, completely understanding the correlations regarding the safety equipment and
- having knowledge of the function and set-up of hydraulic components.

The expert has to have successfully passed a training for qualified persons for pressure vessels and regularly have attended further trainings.

Work on the electric components may only be performed by a specialized electrician or by instructed persons or under the guidance and supervision of a specialized electrician according to the rules of electrotechnical engineering.

Bosch Rexroth offers training measures in specific fields. An overview of the training contents is available on the Internet via the following link: www.boschrexroth.com/de/de/academy/ .

2.5 General safety instructions

- Observe the valid regulations on accident prevention and environmental protection.
- Observe the safety regulations and provisions of the country in which the product is used/applied.
- Exclusively use Rexroth products in technically perfect condition.
- Observe all notices on the product.
- Persons who assemble, operate, disassemble or maintain Rexroth products must not consume any alcohol, drugs or pharmaceuticals that may affect their ability to react.
- Only use accessories and spare parts approved by the manufacturer in order to exclude hazards to persons due to unsuitable spare parts.
- Comply with the technical data and environmental conditions indicated in the product documentation.
- Never remove or damage lead seals that have been fitted by Bosch Rexroth.
- The installation or use of inappropriate products in safety-relevant applications could result in unintended operating conditions when being used which in turn could cause personal injuries and/or damage to property. Therefore, only use a product for safety-relevant applications if this use is expressly specified and permitted in the documentation of the product, or if the safe suitability of the product in the application is confirmed by a separate conformity assessment procedure for the end product, e.g. in explosion protection zones or in safety-related parts of control systems (functional safety).
- Do not commission the product until you can be sure that the end product (for example a machine/system) where the Rexroth products are installed complies with the country-specific provisions, safety regulations and standards of the application.

2.6 Product-specific safety instructions

The following safety instructions apply to chapters 6 to 14.

⚠ WARNING

Non-compliance with functional safety!

Danger of entanglement, ejection or crushing due to uncontrolled machine/system motion! Damage to property!

- When setting up the circuit, observe functional safety e.g. according to EN ISO 13849 to prevent mechanical or electrical faults due to control of electro-magnetic relief.
- Immediately exchange defective components.

Pressurized accumulator shut-off block/pressurized machine/system!

Danger to life, risk of injury, severe injury when working at machines/systems that have not been stopped! Damage to property!

- Ensure that all relevant components of the hydraulic system are depressurized. For doing so, observe the specifications of the machine/system manufacturer.
- Do not disconnect line connections, connections or components as long as the hydraulic system is pressurized.
- Completely relief the pressure at the accumulator shut-off block before working at the system.

Leakage of (pressurized) hydraulic fluid and oil mist due to cracks, breaks or leakage at the accumulator shut-off block, attached components, piping or insufficient assembly of the accumulator shut-off block!

Danger to life! Risk of injury! Explosion hazard, risk of fire, health hazard, environmental pollution! Damage to property!

- Switch the machine/system off immediately (emergency off switch).
- Identify and remedy the leakage.
- Never try to stop or seal the leakage or the oil jet using a cloth.
- Avoid direct contact with the leaking hydraulic fluid.
- Use your personal protective equipment, e.g. safety goggles.
- Keep open fire and ignition sources away from the accumulator shut-off block.
- Do not use the accumulator shut-off block in areas with open fire and always ensure sufficient safety distance to heat sources and appropriate ventilation.
- Carry out visual inspections for leak-tightness of the accumulator shut-off block and the oil-containing components on a regular basis.
- When dealing with hydraulic fluids, you must imperatively observe the notices of the hydraulic fluid manufacturer.

⚠ WARNING

Falling or leakage of the accumulator shut-off block due to incorrect mounting!
Danger to life! Risk of injury! Danger of crushing!

- Use mounting screws with sufficient stability.
- Completely assemble the accumulator shut-off block according to the assembly specifications by means of suitable assembly aids.
- Assemble the accumulator shut-off block only at suitable mounting surfaces.
- Comply with tightening torques and screw stability values.

High electrical voltage!
Danger to life! Risk of injury! Electric shock due to direct or indirect contact of live components (24 V, 110 V, 205 V and 230 V)!

- When establishing the power supply, de-energized the relevant machine/system part.
- The electro-magnetic relief may only be realized by a specialized electrician.
- Use suitable cables and plug-in connectors.
- Observe the directives and regulations of the respective country.
- Ensure sufficient distance to high-voltage components.
- Secure the system/system part against restarting.

Functional restrictions of the accumulator shut-off block due to EMC emissions!
Danger of entanglement, ejection or crushing due to uncontrolled machine/system motion! Damage to property!

- Observe the EMC limit values.
- Only use devices and electrical control lines according to the EMC Directive and shield the valve electronics from the source of interference, if necessary. Keep the recommended distance to the source of interference.
- Provide for proper, safe PE connection. Ensure proper earthing.

Missing equipotential bonding!
Danger of entanglement, ejection or crushing due to uncontrolled machine/system motion! Damage to property!

- Ensure safe earthing and proper equipotential bonding.

⚠ CAUTION

Hot surfaces at the accumulator shut-off block!
Risk of burning!
- Only touch the surfaces of the accumulator shut-off block, e.g. housing, solenoid coils, with heat-resistant protective clothing, e.g. gloves, or do not work at hot surfaces.
  During or after operation, temperatures may rise to values higher than 60 °C (140 °F), depending on the operating conditions.
- Allow the accumulator shut-off block to cool down sufficiently before touching it.
- Observe the protective measures of the machine/system manufacturer.

Low surface temperature of the accumulator shut-off block!
Danger of frostbite!
- Avoid direct contact with the accumulator shut-off block at temperatures below 0 °C.
- Wear personal protective equipment, e.g. protective glove.

Contact with hydraulic fluid!
Health hazard/impairment of health, e.g. eye injuries, skin lesions, poisoning due to inhalation!
- Avoid contact with hydraulic fluids.
- When dealing with hydraulic fluids, you must imperatively observe the safety instructions of the hydraulic fluid manufacturer.
- Use your personal protective equipment, e.g. safety goggles.
- If hydraulic fluid comes into contact with the eyes or enters the bloodstream or is swallowed nevertheless, consult a doctor immediately.

Slip hazard due to oily surfaces!
Risk of injury!
- Protect and mark the danger zone.
- Immediately remove leaked hydraulic fluid.
- Use an oil binding agent in order to bind the leaked hydraulic fluid.
- Remove and dispose of the contaminated oil binding agent, see chapter 12 "Disposal".
- Wear the protective equipment, e.g. safety shoes, prescribed for your activity.

Resonance or fluid noise, e.g. whistling, suction noise, switching impacts of the accumulator shut-off block and other system parts!
Danger of hearing damage!
- Wear ear protection during running operation.
- Contact a service engineer.

⚠ CAUTION

Malfunctions, e.g. due to solenoid coil overheating from exceeded maximum ambient temperatures!
Danger of entanglement, ejection or crushing due to uncontrolled machine/system motion!
- Observe the specified maximum ambient temperatures.
- Ensure sufficient cooling of the hydraulic system (hydraulic fluid temperature).

Exceeding of the maximum operating temperature due to increased dust and dirt deposits!
Danger of entanglement, ejection or crushing due to uncontrolled machine/system motion!
- Remove increased dust and dirt deposits.
- Observe the specified protection class of components against ingress of dust.

Malfunctions, e.g. due to clogging of orifices and valves due to contaminated hydraulic fluid!
Danger of entanglement, ejection or crushing due to uncontrolled machine/system motion!
- Ensure adequate hydraulic fluid cleanliness according to the cleanliness classes of the components over the entire operating range.
- If necessary, flush the hydraulic system.

Improperly laid lines and cables!
Risk of stumbling!
- Lay cables and lines so that no-one can trip over them.
- Fasten cables in lines in order to prevent them from getting loose during vibrations.

2.7 Personal protective equipment

During operation and maintenance work as well as during installation and removal of the accumulator shut-off block, always wear the following personal protective equipment:

- Protective gloves
- Ear protection
- Safety shoes
- Safety goggles
- Protective helmet

2.8 Obligations of the machine/system manufacturer

In order to ensure safety when handling the accumulator shut-off block, the machine/system manufacturer must:

- Select the safest installation position for the accumulator shut-off block possible in order to avoid possible damage of the accumulator shut-off block and its attachment parts.
- Provide for sufficient protection of the accumulator shut-off block including all attachment parts depending on the selected installation position in order to avoid the possible damage of the accumulator shut-off block and its attachment parts.
- Prescribe the wearing of personal protective equipment or perform suitable protective measures in order to reduce the risk of collision, the risk of hearing damage and the risk of burning at hot surfaces for operating and maintenance personnel.
- Label the hydraulic components according to the specifications of EN ISO 4413, section 7.4 et sqq.
- Take suitable protective measures in order to reduce the slip hazard caused by oily surfaces around the accumulator shut-off block.

2.9 Obligations of the machine end-user

In order to ensure safety when handling the accumulator shut-off block and its components, the machine end-user of the system must:

- Guarantee the intended use of the accumulator shut-off block and its components according to chapter 2.2 "Intended use".
- Instruct the operating personnel regularly in all items of the operating instructions and make sure that they are observed.
- Ensure compliance with the instructions on occupational safety and with the operating instructions of the machine manufacturer and the machine end-user.

Corresponding proof of implementation should be documented.

3 General information on damage to property and damage to the product

The warranty only applies to the supplied configuration.
The claim to warranty expires if the product is assembled, commissioned and operated incorrectly, not used as intended and/or handled improperly.

The following notices apply to chapter 6 to 14:

NOTICE
Danger due to improper handling! Damage to property! ▶ The accumulator shut-off block may only be applied in accordance with chapter 2.2 "Intended use". ▶ Do not expose the accumulator shut-off block to any inadmissible mechanical load. Do not apply additional loads/forces. ▶ Do not place/put any objects on top of the accumulator shut-off block. ▶ Never use the accumulator shut-off block/attachment parts as a handle or step. ▶ Do not hit function-relevant areas (e.g. mounting surfaces) and attachment parts (e.g. valves). ▶ Leave the protective covers (e.g. protective plugs) at the accumulator shut-off block until shortly before connection of the lines. **Contamination by fluids and foreign particles!** Premature wear and malfunctions! Damage to property! ▶ It is imperative that the working environment at the site of installation is free of dust and foreign substances in order to prevent foreign particles (e.g. welding beads or metal chips) from getting into the hydraulic lines and causing wear or malfunctions at the accumulator shut-off block. The accumulator shut-off block must be protected from dirt during installation. ▶ Make sure that all connections, hydraulic lines and attachment parts (e.g. measuring devices) are clean and free of chips. ▶ For removing lubricants/hydraulic fluids and any other contamination, use a cloth made of fibre-free fabric or industrial residue-free wipes. ▶ No contamination must enter when closing the connections. ▶ Before commissioning, ensure that all hydraulic connections are tight and that all seals and caps of the plug-in connections are correctly installed and undamaged in order to prevent fluids and foreign particles from penetrating the accumulator shut-off block. ▶ During filling, filter the hydraulic fluid using a suitable filter system in order to minimize the solid particle contamination and water in the system.

NOTICE

Improper cleaning!

Damage to property!

- Cover all openings with the appropriate protective threads in order to prevent cleaning agents from penetrating the system.
- Check that all seals and electric plug-in connections are firmly fitted to prevent the penetration of cleaning agents.
- Do not use aggressive cleaning agents for cleaning. Clean the accumulator shut-off block using a suitable cleaning liquid.
- Do not use a high-pressure washer and/or compressed air cleaning equipment as the surface/corrosion protection may be damaged.

Uncontrolled disconnection and connection of plug-in connectors!

Damage to property!

- Before installation works, separate the device from the mains or from the voltage source or de-energize it.
- Do not plug in or pull the electric plug-in connector as long as the voltage supply is activated.

4 Scope of delivery

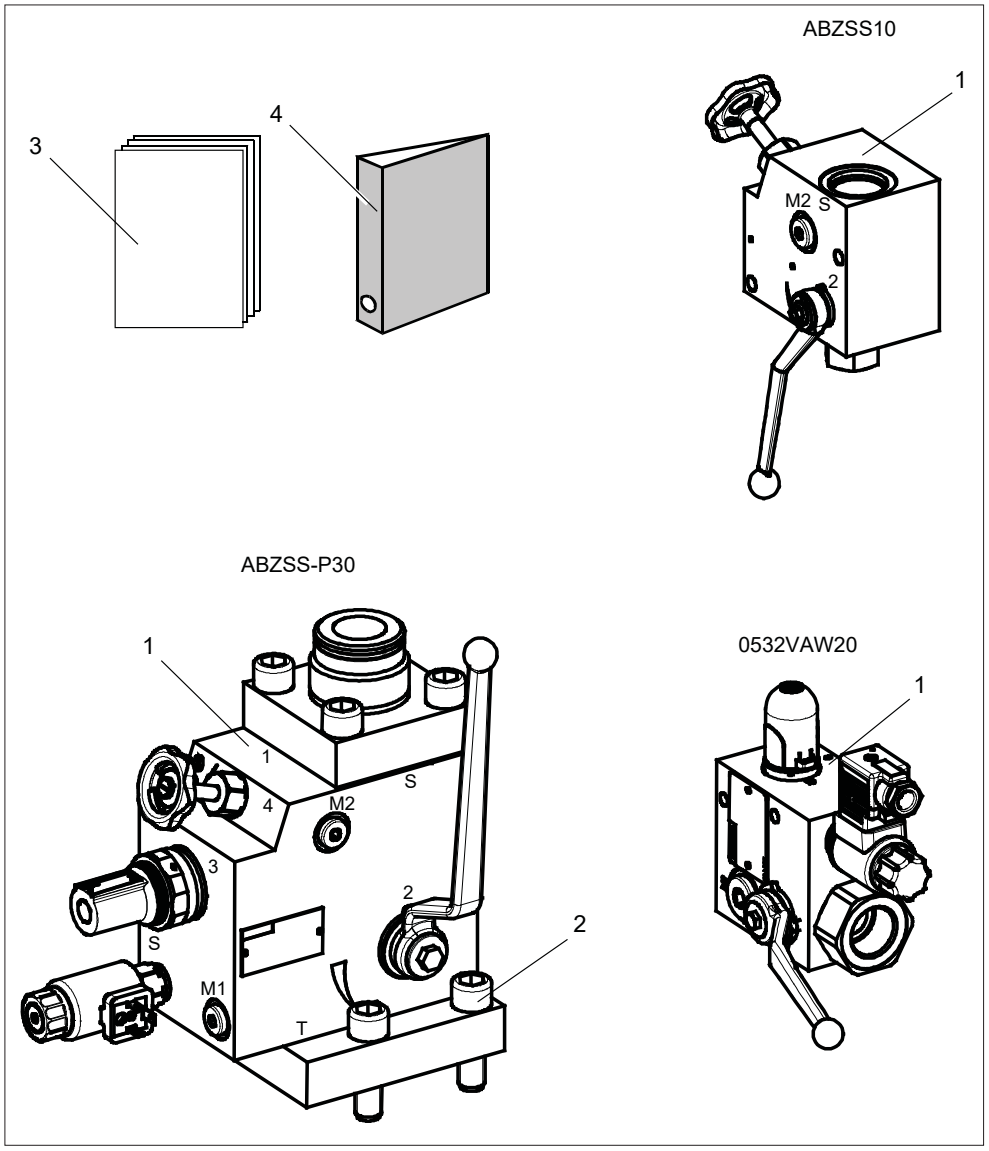

Fig. 1: Accumulator shut-off block scope of delivery ABZSS, ABZSS-P30 and 0532VAW

The scope of delivery includes:

- 1x accumulator shut-off block with (at type ABZSS assembled) or without pressure relief valve (depending on version) (1)
- 4x mounting screw (only at type ABZSS-P30) (2)
- 1x test certificate of the type-examination tested pressure relief valve (only version with pressure relief valve) (3)
- 1x accumulator shut-off block operating instructions (4)

5 Product information

More detailed information on operating conditions, connection dimensions and performance limits of the respective accumulator shut-off block can be found in data sheets 50128 and 50131, see chapter 1.2 "Required and amending documentation".

5.1 Performance description

An accumulator shut-off blocks is a control block for overpressure protection of hydraulic accumulators. On exceeding the maximum operating pressure, the integrated pressure relief valve is opened and the overpressure is relieved. The pressure relief valve must not be used for any control tasks. It is only to be applied as overpressure valve.

5.2 Product description

The accumulator shut-off block serves for the protection, isolation and relief of hydraulic accumulators. It is classified based on its use according to the directive 2014/68/EU article 4, section 3.

Accumulator adapter

The connection between the accumulator shut-off block and the hydraulic accumulator is realized by means of an accumulator adapter.

2/2 directional seat valve (optional)

An optional additional electrically operated 2/2 directional seat valve can take over the following functions:

- “Emergency stop” function (valve normally open, variant ABZSS...E):
  Enables automatic unloading of the hydraulic accumulator in case of shutdown or power failure.
- Pressure holding function (valve normally closed, variant ABZSS...C):
  Enables automatic pressure maintenance in case of shutdown.

The selected functionality must be considered when it comes to the design of the safety concept of the machine.

Pressure relief valve

The hydraulic accumulator is protected from inadmissible overpressure by means of the pressure relief valve.
Sufficient difference between the pressure set at the pressure relief valve and the operating pressure must be ensured. Response of the pressure relief valve should be prevented, if possible.

The pressure relief valve must not be used for any control tasks.

5.2.1 Product description type ABZSS

The accumulator shut-off block type ABZSS is available in NG 08, 10, 20 and 30. For NG 30, subplate mounting (P) is also available.

For further information, refer to data sheet 50131, see chapter 1.2 "Required and amending documentation".

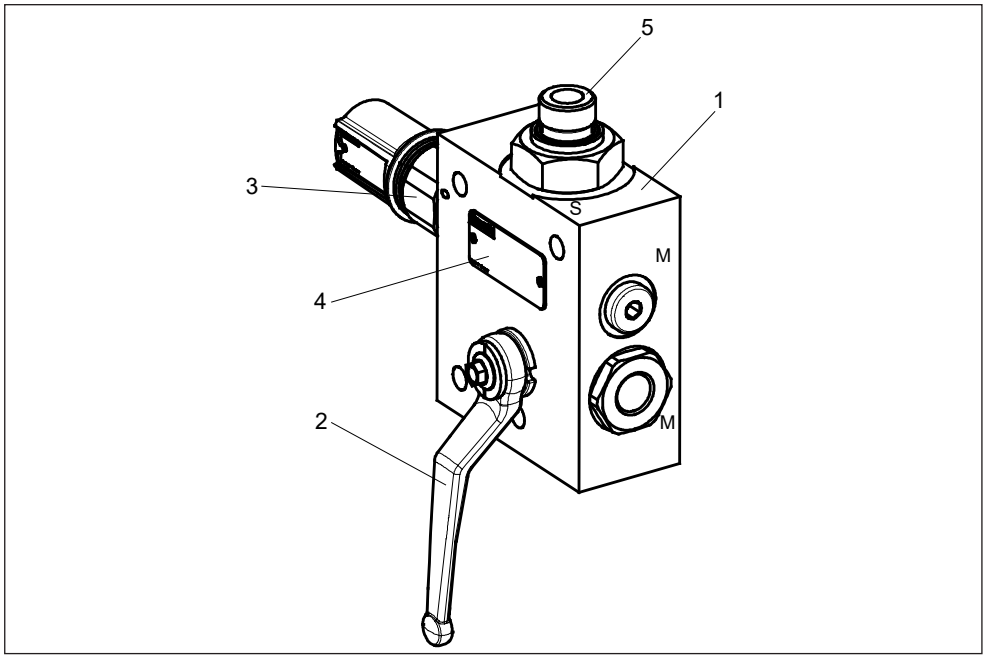

Fig. 2: Product description type ABZSS08

1 Block
2 System shut-off cock with manual pressure relief
3 Pressure relief valve (optional)
4 Name plate
5 Accumulator adapter (optional)

Block (1) The block serves for fitting of components or valves.

System shut-off cock with manual pressure relief (2) The system shut-off cock serves for blocking of pressure lines and manual relief of the hydraulic accumulator.

Pressure relief valve (3) The pressure relief valve protects the hydraulic accumulator from inadmissible overpressure. It can be selected according to the application and is connected to the accumulator shut-off block with a lead seal on delivery.

Name plate (4) The name plate serves for clear identification of the accumulator shut-off block.

Accumulator adapter (5) The accumulator adapter establishes the connection between accumulator shut-off block and hydraulic accumulator.

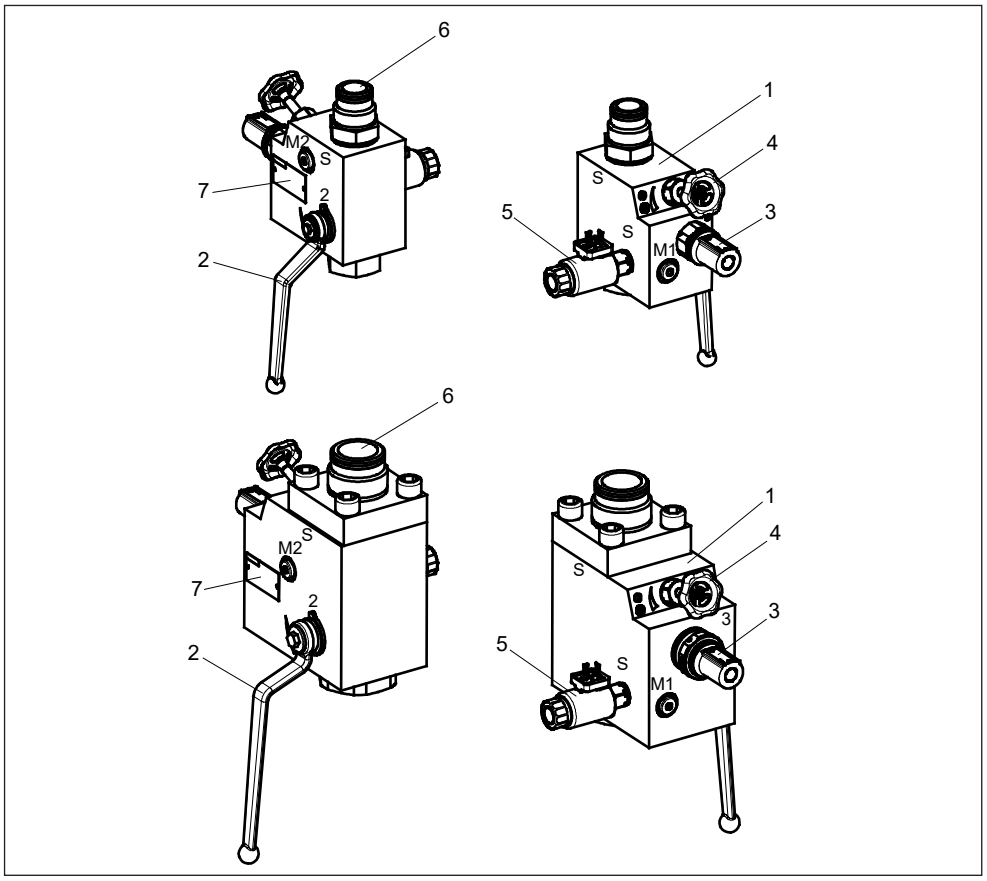

Fig. 3: Product description types ABZSS10, ABZSS20 and ABZSS30

1 Block
2 System shut-off cock
3 Pressure relief valve (optional)
4 Manual relief
5 Electro-magnetic relief or pressure maintenance (optional)
6 Accumulator adapter (optional)
7 Name plate

Block (1) The block serves for fitting of components or valves.

System shut-off cock (2) The system shut-off cock serves for blocking of pressure lines.

Pressure relief valve (3) The pressure relief valve protects the hydraulic accumulator from inadmissible overpressure.It can be selected according to the application and is connected to the accumulator shut-off block with a lead seal on delivery.

Manual relief (4) With this valve (hand wheel), the hydraulic accumulator can be manually pressure-relieved.

Electro-magnetic relief (5) This 2/2 directional seat valve enables electro-magnetic relief of the hydraulic accumulator.

Accumulator adapter (6) The accumulator adapter establishes the connection between accumulator shut-off block and hydraulic accumulator.

Name plate (7) The name plate serves for clear identification of the accumulator shut-off block.

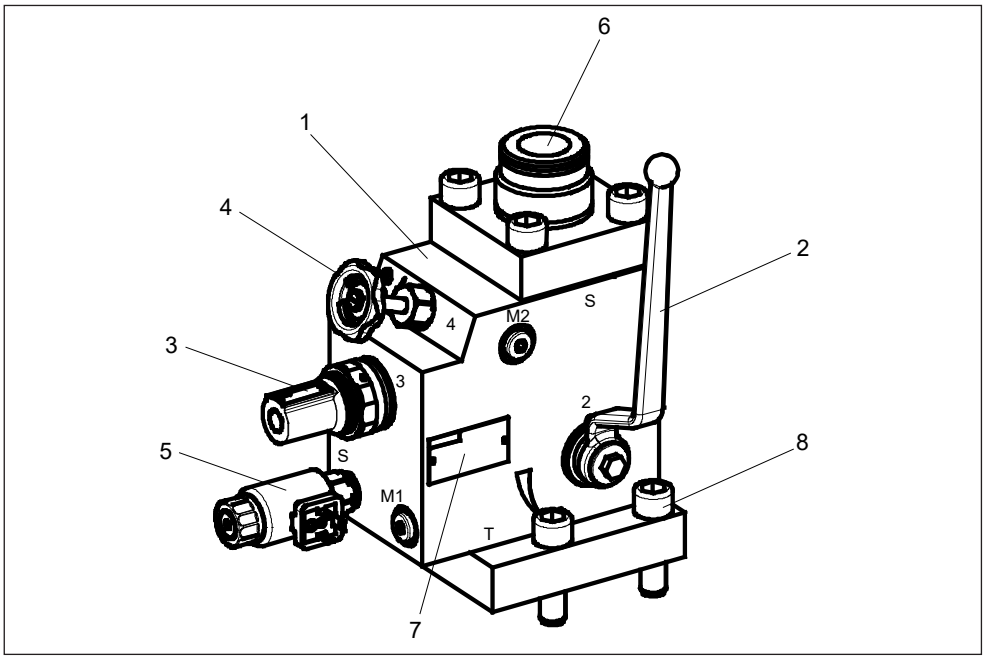

Fig. 4: Product description type ABZSS-P30

1 Block
2 System shut-off cock
3 Pressure relief valve (optional)
4 Manual relief
5 Electro-magnetic relief (optional)
6 Accumulator adapter (optional)
7 Name plate
8 Mounting screws

Block (1) The block serves for fitting of components or valves.

System shut-off cock (2) The system shut-off cock serves for blocking of pressure lines.

Pressure relief valve (3) The pressure relief valve protects the hydraulic accumulator from inadmissible overpressure. It can be selected according to the application and is connected to the accumulator shut-off block with a lead seal on delivery.

Manual relief (4) With this valve (hand wheel), the hydraulic accumulator can be manually pressure-relieved.

Electro-magnetic relief (5) This 2/2 directional seat valve enables electro-magnetic relief of the hydraulic accumulator.

Accumulator adapter (6) The accumulator adapter establishes the connection between accumulator shut-off block and hydraulic accumulator.

Name plate (7) The name plate serves for clear identification of the accumulator shut-off block.

Mounting screws (8) By means of the mounting screws, the accumulator shut-off block is flanged to a plate.

5.2.2 Product description type 0532VAW

The accumulator shut-off block type 0532VAW is available in NG 20 and 32. For NG 20, 6 preferred types (symbol 1-4, symbol 8 and symbol 10) and for NG 32, 10 preferred types (symbol 1-10) are available. In Fig. 5, this is indicated by a "_X" in the designation of the accumulator shut-off block.

For further information, refer to data sheet 50128, see chapter 1.2 "Required and amending documentation".

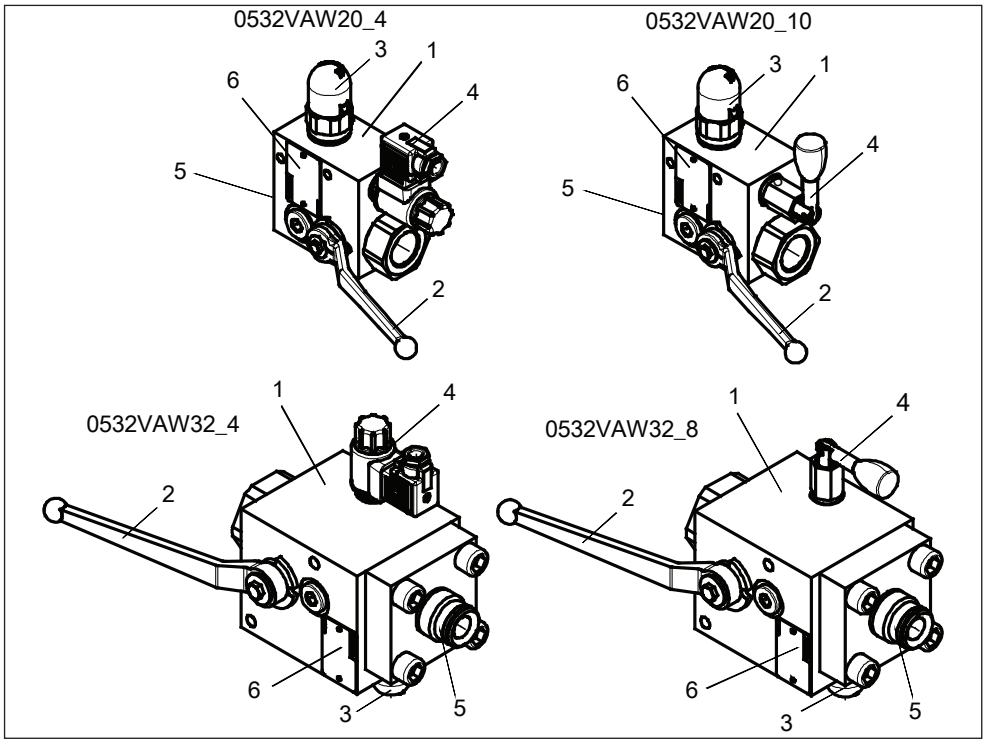

Fig. 5: Product description types 0532VAW20 and 0532VAW32

1 Block
2 System shut-off cock
3 Pressure relief valve (optional)
4 Manual or electro-magnetic relief (optional)
5 Accumulator adapter (optional)
6 Name plate

Block (1) The block serves for fitting of components or valves.

System shut-off cock (2) The system shut-off cock serves for blocking of pressure lines.

Pressure relief valve (3) The pressure relief valve protects the hydraulic accumulator from inadmissible overpressure.
It can be selected according to the application and is connected to the accumulator shut-off block with a lead seal on delivery. Optionally, the pressure relief valve may also be delivered separately.

Manual relief (4) With this valve (toggle switch), the hydraulic accumulator can be manually pressure-relieved.

Electro-magnetic relief (4) This 2/2 directional seat valve enables electro-magnetic relief of the hydraulic accumulator.

Accumulator adapter (5) The accumulator adapter establishes the connection between accumulator shut-off block and hydraulic accumulator.

Name plate (6) The name plate serves for clear identification of the accumulator shut-off block.

5.3 Hydraulic connections

5.3.1 Hydraulic connections type ABZSS

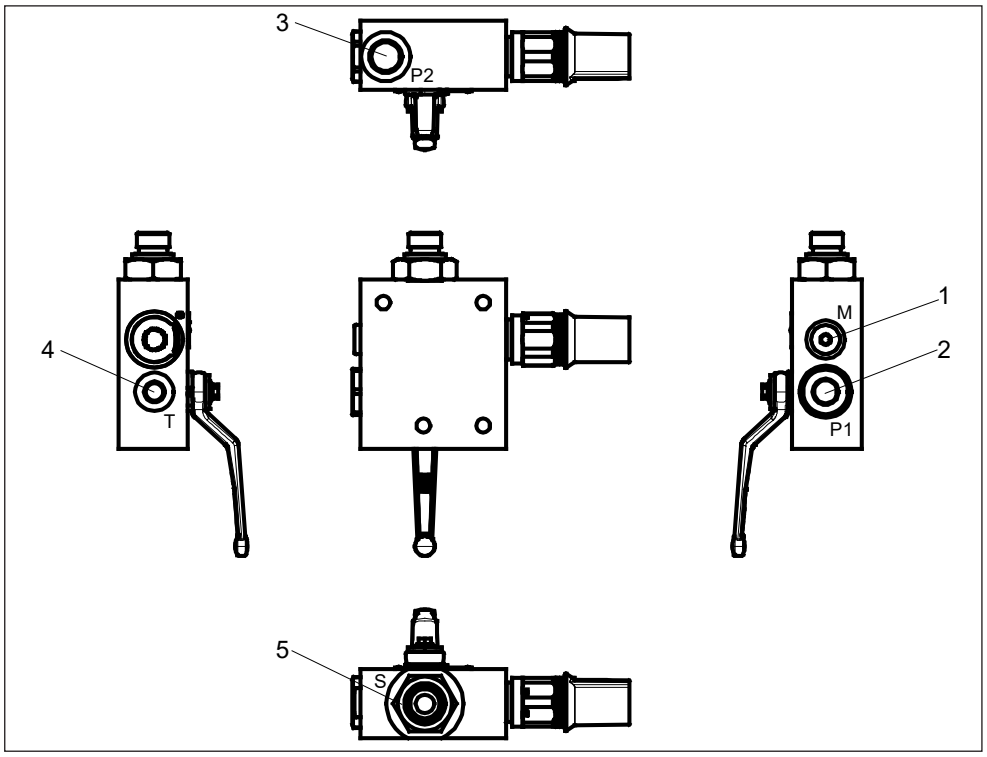

Fig. 6: Hydraulic connections type ABZSS08

1 Measuring port "M"
2 Pump port "P1"
3 Pump port "P2"
4 Tank port "T"
5 Accumulator port "S"

Measuring port "M" (1) Measuring port for pressure monitoring (see circuit diagram).

Pump port "P1" (2) Pump port for filling the hydraulic accumulator with oil.

Pump port "P2" (3) Pump port for filling the hydraulic accumulator with oil.

Tank port "T" (4) Via the tank port, the oil is returned to the tank on manual relief of the hydraulic accumulator (discharge line) in case of inadmissible overpressure.

Accumulator port "S" (5) Via the accumulator port, the hydraulic accumulator is connected to the accumulator shut-off block.

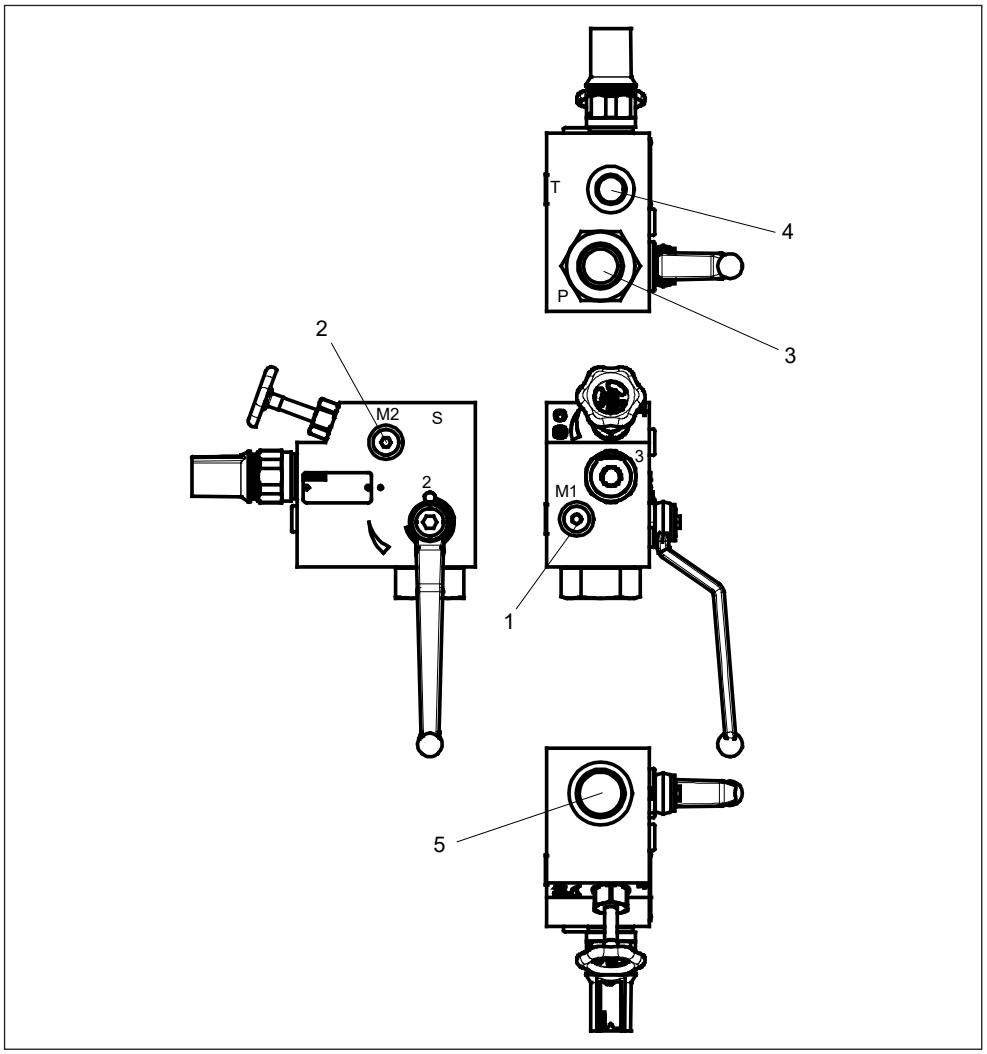

Fig. 7: Hydraulic connections types ABZSS10, ABZSS20 and ABZSS30

1 Measuring port "M1"
2 Measuring port "M2"
3 Pump port "P"
4 Tank port "T"
5 Accumulator port "S"

Measuring port "M1" (1) Measuring port for pressure monitoring (see circuit diagram).

Measuring port "M2" (2) Measuring port for pressure monitoring (see circuit diagram).

Pump port "P" (3) Pump port for filling the hydraulic accumulator with oil.

Tank port "T" (4) Via the tank port, the oil is returned to the tank on manual or electrical relief of the hydraulic accumulator (discharge line) in case of inadmissible overpressure.

Accumulator port "S" (5) Via the accumulator port, the hydraulic accumulator is connected to the accumulator shut-off block.

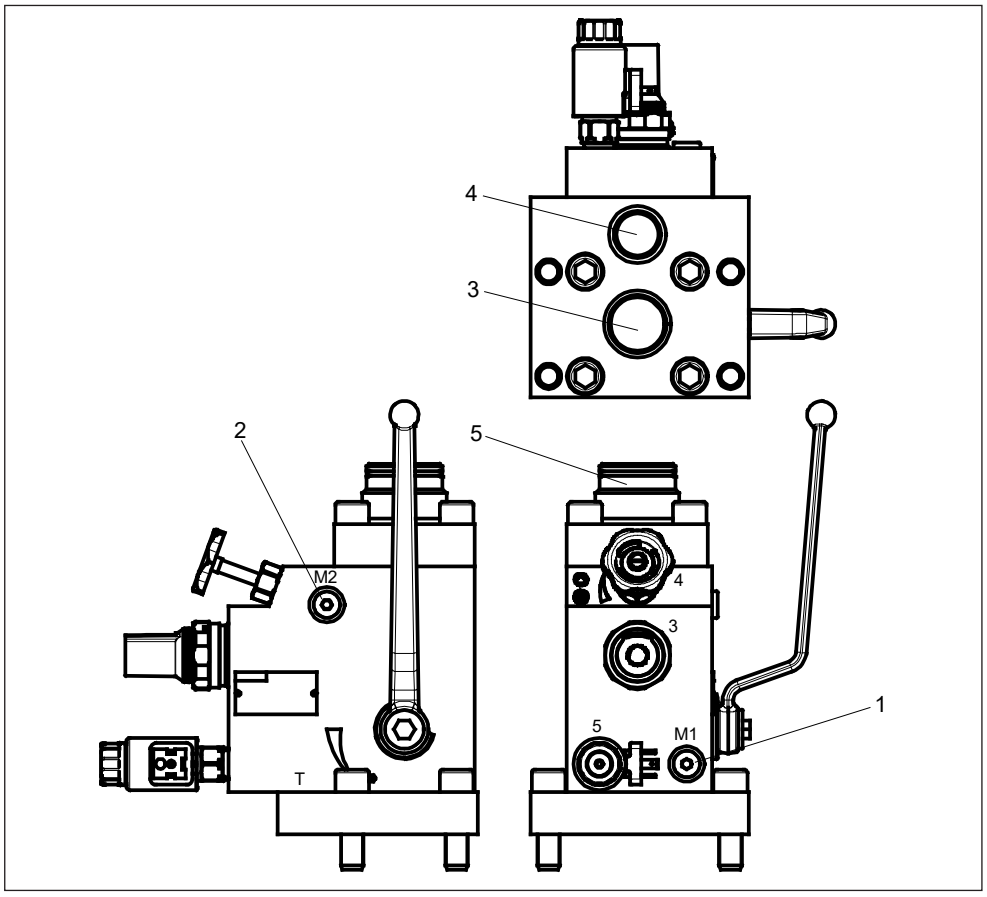

Fig. 8: Hydraulic connections type ABZSS-P30

1 Measuring port "M1"
2 Measuring port "M2"
3 Pump port "P"
4 Tank port "T"
5 Accumulator port "S"

Measuring port "M1" (1) Measuring port for pressure monitoring (see circuit diagram).

Measuring port "M2" (2) Measuring port for pressure monitoring (see circuit diagram).

Pump port "P" (3) Pump port for filling the hydraulic accumulator with oil.

Tank port "T" (4) Via the tank port, the oil is returned to the tank on manual or electrical relief of the hydraulic accumulator (discharge line) in case of inadmissible overpressure.

Accumulator port "S" (5) Via the accumulator port, the hydraulic accumulator is connected to the accumulator shut-off block.

5.3.2 Hydraulic connections types 0532VAW20 and 0532VAW32

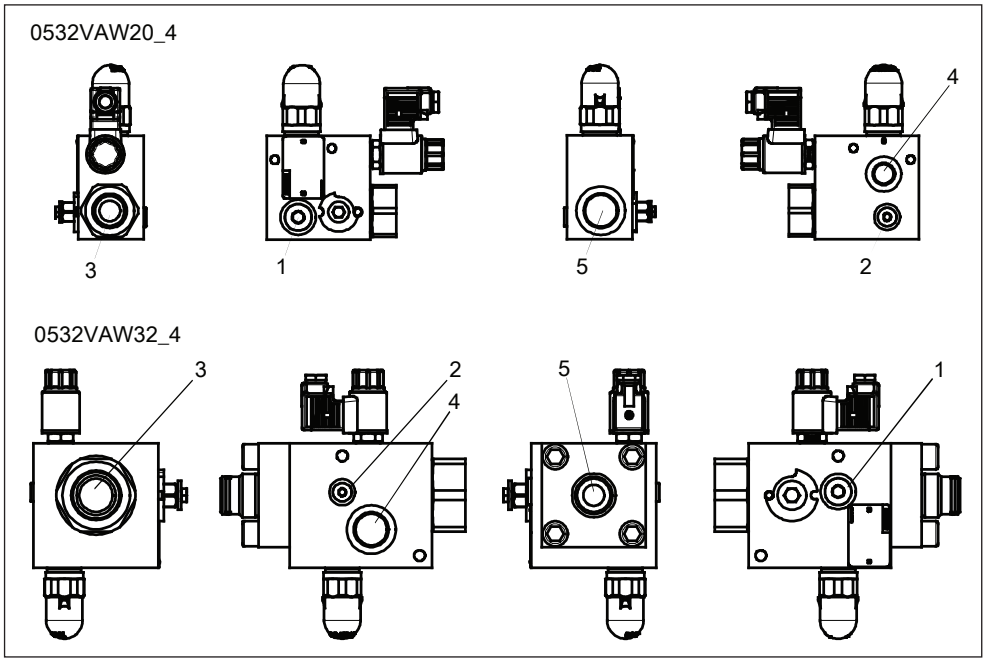

Fig. 9: Hydraulic connections types 0532VAW20 and 0532VAW32 (illustrated without shut-off cock)

1 Measuring port "M1"
2 Measuring port "M2"
3 Pump port "P"
4 Tank port "T"
5 Accumulator port "S"

Measuring port "M1" (1) Measuring port for pressure monitoring (see circuit diagram).

Measuring port "M2" (2) Measuring port for pressure monitoring (see circuit diagram).

Pump port "P" (3) Pump port for filling the hydraulic accumulator with oil.

Tank port "T" (4) Via the tank port, the oil is returned to the tank on manual or electrical relief of the hydraulic accumulator (discharge line) in case of inadmissible overpressure.

Accumulator port "S" (5) Via the accumulator port, the hydraulic accumulator is connected to the accumulator shut-off block.

5.4 Electrical connections

5.4.1 Electrical connections type ABZSS...E

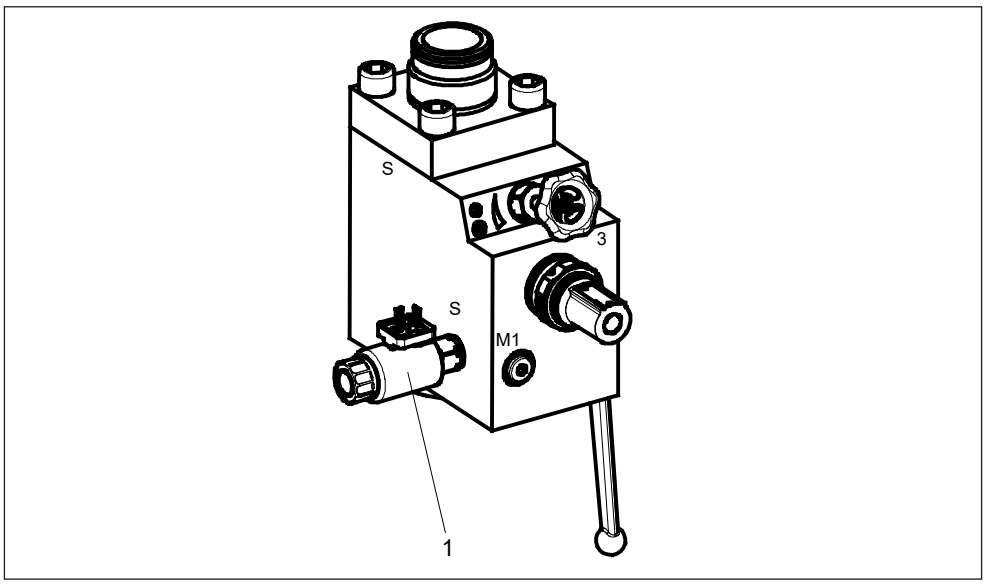

Fig. 10: Electrical connections ABZSS...E

1 2/2 directional seat valve

2/2 directional seat valve (1) Direct operated 2/2 directional seat valve for electro-magnetic relief.

5.4.2 Electrical connections type 0532VAW

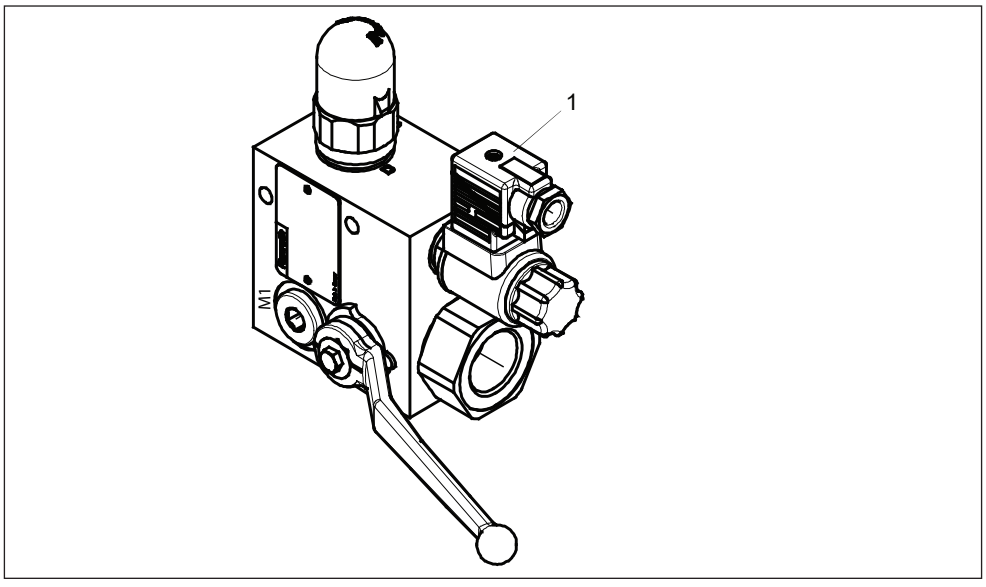

Fig. 11: Electrical connections type 0532VAW_4

1 2/2 directional seat valve

2/2 directional seat valve (1) Direct operated 2/2 directional seat valve for electro-magnetic relief.

5.5 Sizes

The function of accumulator shut-off blocks type ABZSS NG 08, 10, 20 and 30 as well as type 0532VAW NG 20 and NG 32 are identical. The version only differs in terms of size, weight and performance data.

Block edge dimensions

Table 5: Control block edge dimensions

Size	Size / mm
ABZSS08	45 x 95 x 110
ABZSS10	67 x 110 x 100
ABZS20	75 x 130 x 120
ABZS30	103 x 175 x 160
ABZSS30...SO30	103 x 200 x 182
ABZSS-P30....	155 x 175 x 190
0532VAW20	63 x 100 x 100
0532VAW32	120 x 120 x 137

For information on weight, refer to chapter 6.1. Additional performance data can be found in data sheets 50128 and 50131, see chapter 1.2 "Required and amending documentation".

5.6 Operating elements

5.6.1 Operating elements type ABZSS

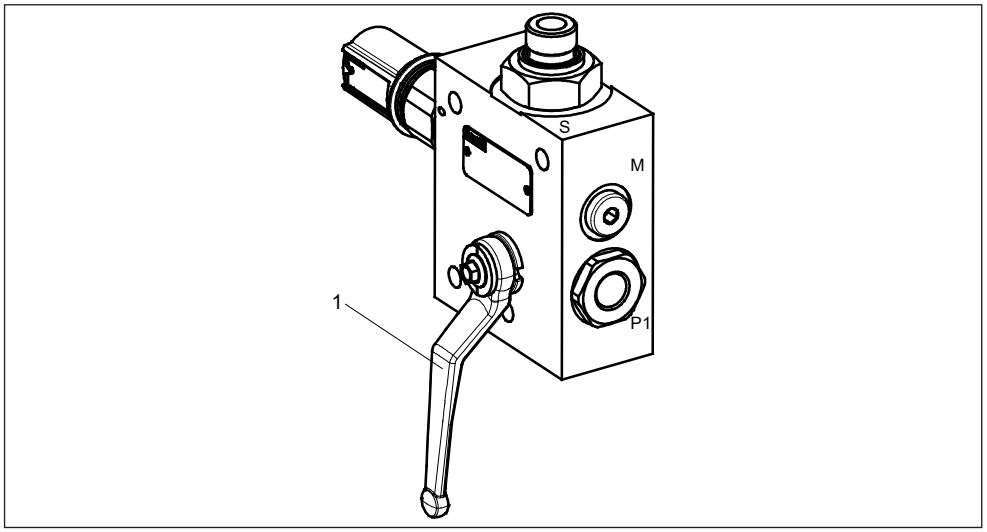

Fig. 12: Operating elements type ABZSS08M

1 System shut-off cock with manual pressure relief

System shut-off cock with manual pressure relief (1)

The accumulator shut-off block is equipped with a system shut-off cock with manual pressure relief.

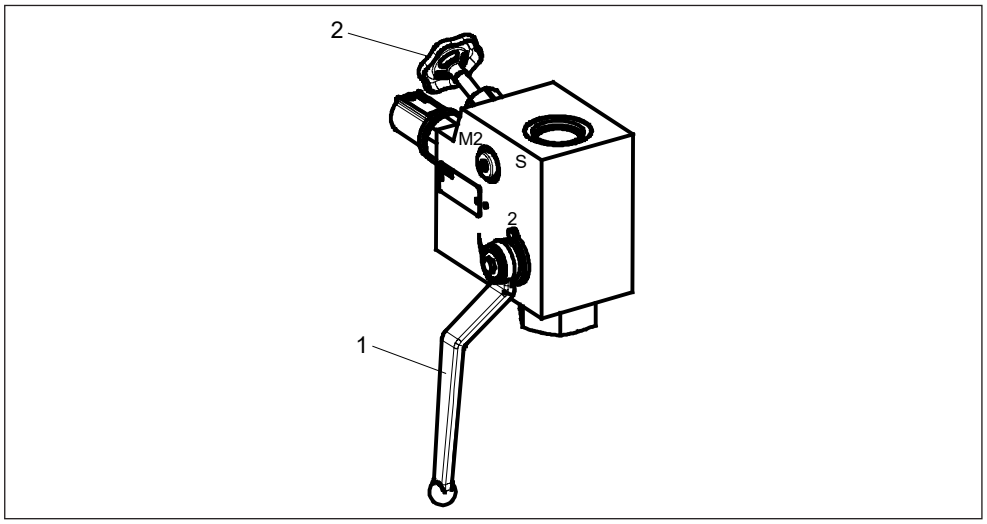

Fig. 13: Operating elements types ABZSS10M, ABZSS20M and ABZSS30M

1 System shut-off cock **2** Manual relief

System shut-off cock (1) The system shut-off cock serves for blocking of pressure lines.

Manual relief (2) The valve (hand wheel) serves for manual pressure relief of the hydraulic accumulator.

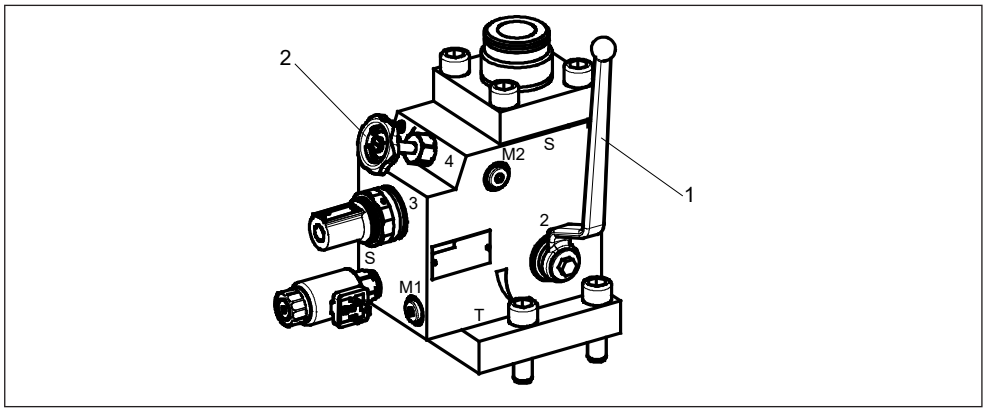

Fig. 14: Operating elements type ABZSS_P30M

1 System shut-off cock **2** Manual relief

System shut-off cock (1) The system shut-off cock serves for blocking of pressure lines.

Manual relief (2) The valve (hand wheel) serves for manual pressure relief of the hydraulic accumulator.

5.6.2 Operating elements type 0532VAW

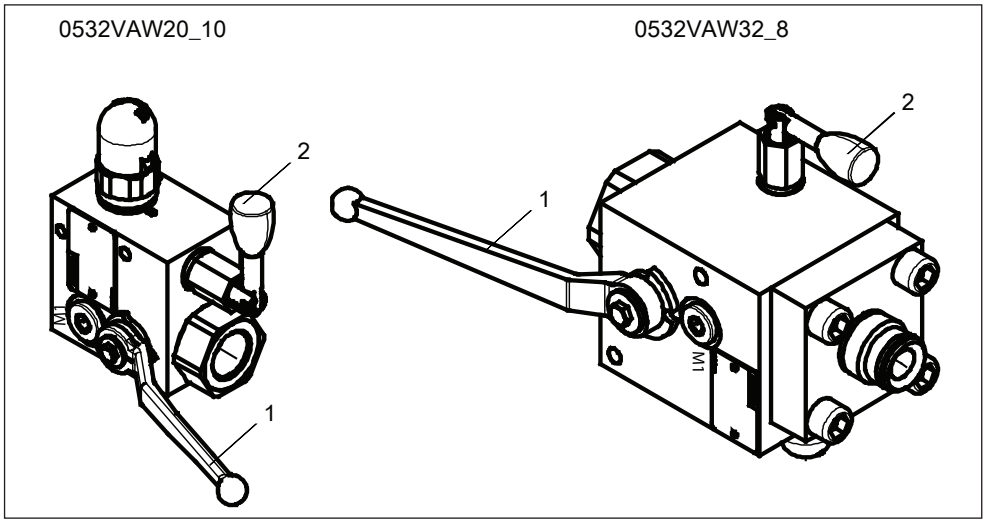

Fig. 15: Operating elements types 0532VAW20_10 and 0532VAW32_08

1 System shut-off cock **2** Manual relief

System shut-off cock (1) The system shut-off cock serves for blocking of pressure lines.

Manual relief (2) The valve (toggle lever) serves for manual pressure relief of the hydraulic accumulator.

5.7 Product identification

The accumulator shut-off block can be identified by its name plate. The following figure shows an exemplary presentation.

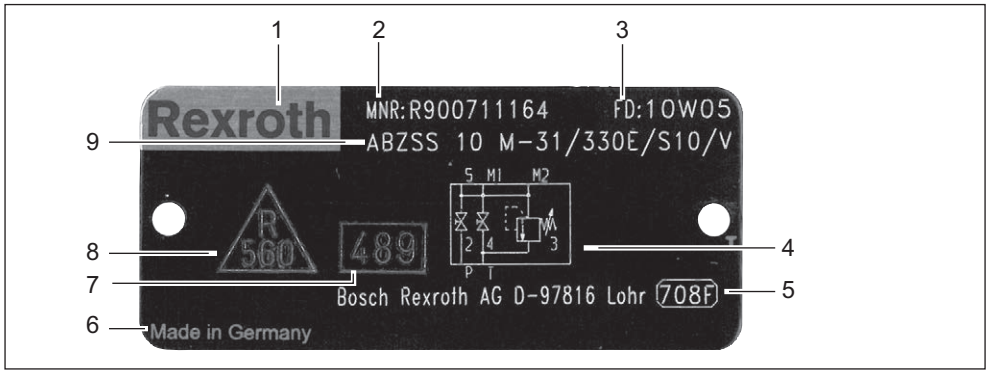

Fig. 16: Example name plate of accumulator shut-off block ABZSS10M

1 Manufacturer
2 Material number
3 Date of production
4 Circuit diagram symbol
5 Area / works number
6 Designation of origin
7 Personal stamp of the assembler
8 Personal stamp of the inspector
9 Material short text

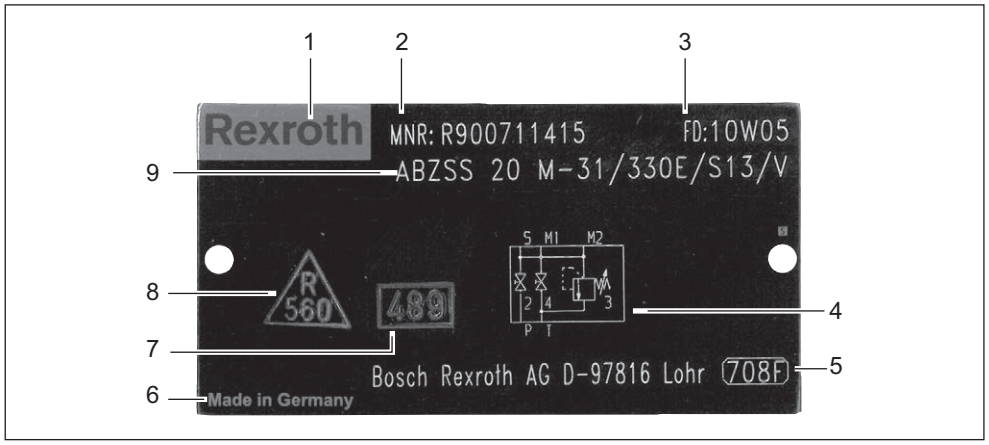

Fig. 17: Example name plate of accumulator shut-off block ABZSS20M

1 Manufacturer
2 Material number
3 Date of production
4 Circuit diagram symbol
5 Area / works number
6 Designation of origin
7 Personal stamp of the assembler
8 Personal stamp of the inspector
9 Material short text

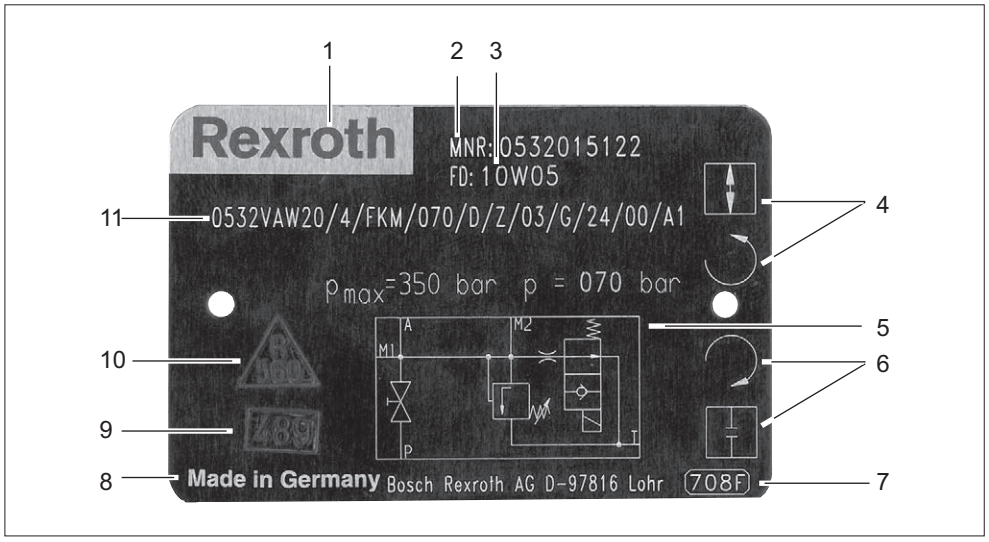

Fig. 18: Example name plate of accumulator shut-off block 0532VAW20

1 Manufacturer
2 Material number
3 Date of production
4 System shut-off cock "opening" direction of rotation
5 Circuit diagram symbol
6 System shut-off cock "closing" direction of rotation
7 Area / works number
8 Designation of origin
9 Personal stamp of the assembler
10 Personal stamp of the inspector
11 Material short text

6 Transport and storage

- Always comply with the required environmental conditions with regards to transport and storage, see chapter 6.3 "Accumulator shut-off block storage".

For notices on unpacking, refer to chapter 7.1 "Unpacking".

6.1 Accumulator shut-off block transport

⚠ WARNING

Falling or dropping of an unsecured accumulator shut-off block due to incorrect transport!

Risk of injury! Danger of crushing! Damage to property!

- Use the original packaging of the accumulator shut-off block for transport.
- Do not transport accumulator shut-off block with a weight over 15 kg by hand.
- Use suitable lifting gear for transport of accumulator shut-off blocks with a weight over 15 kg.
- Transport and secure the accumulator shut-off block at the intended eyebolts and not at parts with little stability, e.g. valves.
- Use lifting straps or lifting slings as attachment devices for transport.
- Make sure that the lifting gear lifting capacity is sufficient in order to safely bear the weight of the accumulator shut-off block.
- Provide for a stable position during transport to the place of installation.
- Never step or reach below suspended loads.
- Use your personal protective equipment, e.g. safety shoes.
- Carefully position the accumulator shut-off block on the contact surface in order not to damage it.
- Position the accumulator shut-off block on a level bearing surface.

Close openings

- Before transport, close all openings with the supplied protective caps/cover caps in order to prevent dirt or humidity from penetrating the accumulator shut-off block.

Transport

In the following, transport of the accumulator shut-off block without attached hydraulic accumulator is described.
Depending on the weight and transport duration, there are the following transport possibilities:
• Transport by hand
• Transport using lifting gear (e.g. lifting strap, lifting sling)

Weights

Table 6: Weights

Type	Weight / kg (ca.)
ABZSS08	4.0
ABZSS10	5.5
ABZSS20	8.8
ABZSS30	20.8
ABZSS30...SO30	26.8
ABZSS-P30	33.4
0532VAW20	5.6
0532VAW32	15.2

The specified weight only applies for the accumulator shut-off block. Any potential attachments are not taken into account.
Due to the tolerances, up 10% additional weight than specified on the installation drawing or the data sheet is to be expected for lifting.
The accumulator shut-off block is delivered without oil filling. Due to the final test in the plant, there may still be oil residues in the product.

6.1.1 Transport by hand

CAUTION! Risk of injury due to heavy loads (weight > 15 kg)!
Risk of injury! Risk of health hazards! Damage to property!

- Use a suitable lifting, putting down and moving technique.
- If necessary, use suitable aids, e.g. carrying straps.
- Use your personal protective equipment, e.g. safety shoes.

Accumulator shut-off blocks with a weight of up to 15 kg can be transported by hand for a short-time, if necessary.

6.1.2 Transport using lifting gear

For lifting and transport of the accumulator shut-off block with lifting gear, proceed as follows:

- Screw the ring bolt (eyebolt) hand-tight into the tapped hole for the accumulator adapter and use it for lifting.

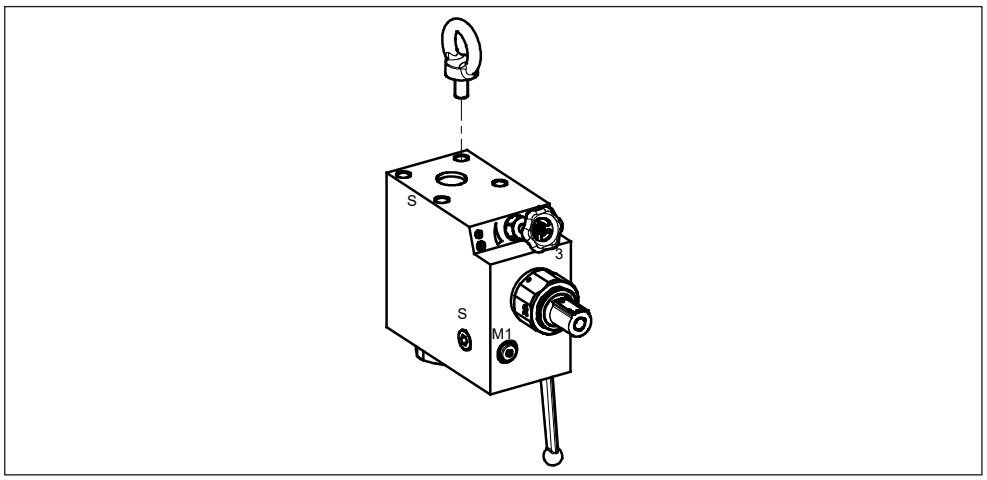

Fig. 19: Tapped hole for ring bolt (eyebolt)

- Attach the lifting gear to the eyebolt.
- Make sure that the lifting gear lifting capacity is sufficient in order to safely bear the weight of the accumulator shut-off block.
- Make sure that the lifting gear cannot damage attachment parts during lifting.
- Lift the accumulator shut-off block slowly and carefully in order to avoid swinging of the accumulator shut-off block.
- Transport the accumulator shut-off block to the intended location.

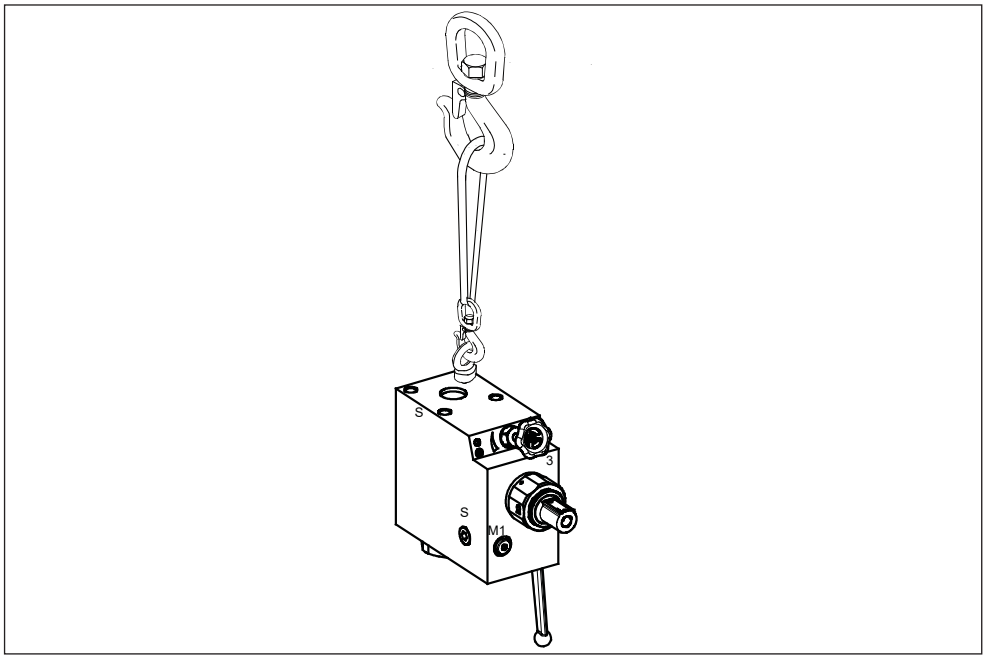

Fig. 20: Transporting the accumulator shut-off block using lifting gear

6.2 Positioning the accumulator shut-off block with attached hydraulic accumulator

To position the accumulator shut-off block with attached hydraulic accumulator, it may be transported **temporarily** at the thread of the hydraulic accumulator.

To transport the accumulator shut-off block with attached hydraulic accumulator, proceed as follows:

1. Screw a lifting device on the thread of the hydraulic accumulator.
2. Attach the lifting gear to the lifting device.

WARNING! Falling of the accumulator shut-off block with attached hydraulic accumulator due to uncontrolled loosening of the lifting device/lifting gear!
Risk of injury! Damage to property!

- Use a lifting device and lifting gear with sufficient lifting capacity.
- Ensure that the accumulator shut-off block with attached hydraulic accumulator is securely fixed at the lifting device and the lifting gear.

NOTICE! Damage to the gas valve and the bladder due to vibration of the accumulator shut-off block with attached hydraulic accumulator during transport! Damage to property!

- Slowly and evenly position the accumulator shut-off block with attached hydraulic accumulator as intended.
- Guide the accumulator shut-off block with attached hydraulic accumulator for fine positioning and prevention of vibrations with the hand.

3. Lift the accumulator shut-off block with attached hydraulic accumulator carefully using the lifting gear and move it slowly to the intended position.

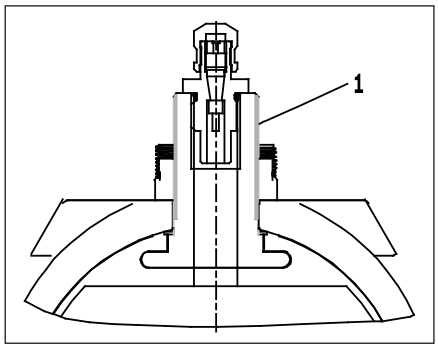

Fig. 21: Transport in vertical position

1 Thread

6.3 Accumulator shut-off block storage

NOTICE
Malfunction of electro-magnetic pressure relief of the accumulator shut-off block due to resinified oil! Damage to property! ▶ Store the accumulator shut-off block under the storage condition specified in Table 7. ▶ Make sure that the recommended storage time of 3 months is not exceeded. ▶ If storage for more than 3 months is required, please contact the Bosch Rexroth service.

The accumulator shut-off block is supplied with surface coating (thick film passivation).

For storage of the accumulator shut-off block, the following storage conditions must be complied with:

Storage conditions

Table 7: Storage conditions

Denomination	Area
Temperature range	10-25 °C
Relative air humidity (no condensation)	max. 65%
UV protection	100%
Condensation	none
Additional ozone formation near the storage location.	none

Storage up to 3 months

No special preservation necessary.

Storage longer than 3 months

Contact Bosch Rexroth for the preservation and later commissioning of the accumulator shut-off block if the accumulator shut-off block must be stored for a period of more than three months.

6.4 Painting the accumulator shut-off block

NOTICE

Restriction of functionality or overheating of the accumulator shut-off block due to coating!

Damage to property!

- Close the hydraulic connections completely before the paint application.
- Protect the surface of the solenoid coils as well as fixing holes and surfaces from paint application.
- Cover the name plate of the accumulator shut-off block as well as the name plates of the valves in such a way that they remain readable after painting.
- Cover the connectors of the electrical connections with protective foil and make sure not to cause any damage to the connector.
- When removing the paint protection and the covers make sure that no paint chips or other foreign particles enter the accumulator shut-off block.

Please note that the special version 869 for explosion protection applications and mining applications must not be painted.

7 Assembly

Prior to assembly, make sure the following documents are at hand:
- Hydraulic circuit diagram and electric circuit diagram of the machine/system (available from the machine/system manufacturer)
- Accumulator shut-off block data sheet (contains the admissible technical data)

7.1 Unpacking

⚠ CAUTION

Parts falling out!
Risk of injury! Damage to property!
- ▶ Position the packaged accumulator shut-off block on a level bearing surface.
- ▶ Only open the packaging from the top.

The accumulator shut-off block is delivered with protective packaging.
- ▶ Dispose of the packaging in accordance with the national regulations of your country.

7.2 Installation conditions

Mounting

The accumulator shut-off block and the attached hydraulic accumulator must be sufficiently secured and fixed due to their heavy own weight and the acceleration forces generated by the hydraulic fluid in the hydraulic accumulator.
The hydraulic accumulator is to be fixed in such a way that a safe support during operational vibrations or in case of a potential pipeline break is guaranteed. The accumulator manufacturer offers suitable holding devices in the form of mounting clamps and consoles as accessories.

Installation position

The installation position of the accumulator shut-off block is based on the installation position of the hydraulic accumulator. The hydraulic accumulator should preferably be installed vertically.

Line connection to accumulator shut-off block

In case of line connections (hose or pipe) at inlets or outlets of the accumulator shut-off block, e.g. for connection of components, the relevant standards and country-specific rules are to be observed. When designing the line connection (hose or pipe), potential hydraulic and mechanical maximum loads and the necessary safety allowances for different operating conditions have to be observed. These have to be determined separately, e.g. positive or negative pressure peak. The operating and maintenance instructions of the components and line connections must also be observed.

Cleanliness

It is imperative to provide for absolute cleanliness. The accumulator shut-off block and all other parts used must be installed free from dirt.
Contamination of the hydraulic fluid may considerably reduce the life cycle of the accumulator shut-off block.

Mounting screws

The used mounting screws have to comply with the dimensions and property classes specified in the data sheet of the respective accumulator shut-off block. Also the tightening torques specified in the data sheet of the respective accumulator shut-off block have to be complied with.

Pressure relief valve

At accumulator shut-off blocks type ABZSS, the pressure relief valve cannot be replaced without destroying the sealing between pressure relief valve and accumulator shut-off block.

Bosch Rexroth recommends application of a sealing for assembly of a pressure relief valve at accumulator shut-off blocks type 0532VAW.

7.3 Prior to assembly

1. Before assembly of the accumulator shut-off block, check compliance of the type designation on the name plate with your order number.

If the material number of the accumulator shut-off block does not match the number in the order confirmation, contact the Bosch Rexroth service for clarification. The address can be found in chapter 16.1 "List of addresses".

2. Observe the information on the maximum operating pressure on the name plate.
3. Check the scope of delivery for completeness and transport damage.
4. Make sure that all required seals are available and have been properly installed.

7.4 Pressure relief valve assembly

At accumulator shut-off blocks type 0532VAW, the pressure relief valve may be supplied or ordered separately and has to be assembled prior to commissioning.

Assembly of the pressure relief valve may only be carried out by an expert. See chapter 2.4 "Qualification of personnel".

For assembly of the pressure relief valve, the following work steps have to be performed:

- Remove the protective cover of the pressure relief valve.
- Remove the single or two seal rings from the protective cover.
- If two seal ring are enclosed to the pressure relief valve, the smaller seal ring has to be clamped into the larger.
- Insert the seal ring or the seal ring combination into the mounting cavity. Ensure a concentric position in the mounting cavity and contact over the entire surface.
- Screw in the pressure relief valve and tighten it with the tightening torque specified in Table 8 "Tightening torque dependent on pressure relief valve type and size".

Table 8: Tightening torque dependent on pressure relief valve type and size

	Type 0532VAW
Pressure rating	
up to 330 bar	70 + 5 Nm[1)]

[1)] Tighten the oiled screws with a torque-controlled tool of accuracy class ± 10%.

- Attach a sealing at the pressure relief valve.

7.5 Accumulator shut-off block assembly

- Attach the accumulator shut-off block to the hydraulic accumulator prior to assembly in the hydraulic system.

7.5.1 Accumulator shut-off block assembly at hydraulic accumulator

⚠ WARNING

Falling of the accumulator shut-off block and/or the hydraulic accumulator during assembly

Danger to life! Risk of injury! Damage to property!

- Use lifting gear with sufficient lifting capacity to accumulator shut-off blocks and hydraulic accumulators with a weight > 15 kg.
- Use lifting straps or lifting slings as attachment devices.
- Ensure that the accumulator shut-off block / hydraulic accumulator is securely fixed at the lifting strap/sling in the intended position.
- Guide the accumulator shut-off block / hydraulic accumulator by hand for fine positioning and to prevent vibrations.
- Never step or reach below suspended loads.
- Use your personal protective equipment, e.g. safety shoes.
- Carefully position the accumulator shut-off block or the hydraulic accumulator on the contact surface in order not to damage it.
- Make sure that the hydraulic accumulator is positioned safely and secured against unintended rolling away, overturning or falling.

- Use an accumulator adapter in form of a flange connection or a double nipple as connection element between the accumulator shut-off block and the hydraulic accumulator.

Accumulator adapters are available as accessories. For further information accessories, refer to data sheets 50128 and 50131, see chapter 1.2 "Required and amending documentation".

- Attach the accumulator adapter according to the specifications of the respective manufacturer.

7.5.2 Accumulator shut-off block with attached hydraulic accumulator assembly

- Position the accumulator shut-off block with attached hydraulic accumulator as intended.
- Proceed as described in chapter 6.2.
- Securely attach the hydraulic accumulator with attached accumulator shut-off block with holding devices, e.g. mounting clamps and consoles at the dedicated mounting point.
- Follow the assembly instructions of the accumulator manufacturer.

7.5.3 Hydraulically connecting the accumulator shut-off block

⚠ WARNING

Interchanging of hydraulic connections!
Danger to life! Risk of injury!

- Connect pipes and/or hoses at the ports provided according to the installation drawing port assignment.
  – Close unused connections with pressure-resistant plug screws.
  – Replace any plastic plugs.
- After the assembly check every marked connection again to make sure it is connected/closed.

Missing or incorrectly assembled pressure relief valve!
Danger to life! Risk of injury!

- Make sure that the pressure relief valve is available, properly installed and that the correct pressure is set.

NOTICE

Hydraulic lines installed under tension stress!
Damage to property! Life cycle reduction of accumulator shut-off blocks!

- Make sure that all hydraulic lines are installed without mechanical stress.

For hydraulic connection of the accumulator shut-off block, the following work steps have to be performed:

- Before assembly, depressurize and de-energize the system.
- Familiarize with the position of the hydraulic connections at the accumulator shut-off block.
  – Also observe chapter 5.3 "Hydraulic connections".

CAUTION! Leaking residual oil when removing the protective plug!
Slip hazard! Health hazard! Environmental pollution!

- Remove leaking residual oil immediately.
- Use personal protective equipment, e.g. safety goggles.
- If nevertheless hydraulic fluid comes into contact with the eyes or penetrates the skin, please consult a doctor immediately.

- Remove any protective plugs.
- Check the hydraulic connections and lines for cleanliness.
- Make sure that the line connections contain the intended seals.
- If necessary, secure O-rings against slipping using installation grease.
- Connect the lines for pump port "P" / pump ports "P1" and "P2" and the tank port "T" according to the specifications of the system/machine manufacturer.
  – Observe the tightening torques of the fitting manufacturer.
- Connect the hydraulic accumulator at the accumulator port "S" to the accumulator shut-off block.
- Connect the measuring ports M1 and M2 to a pressure gauge.

  The hydraulic supply of the accumulator shut-off block is now established.

7.5.4 Electrically connecting the accumulator shut-off block

NOTICE
Incorrectly connected electrical components! Damage to property! - Connect the electric components according to the electric circuit diagram and the pin assignment. - Make sure that electrical components are connected by a specialized electrician.

For electrical connection of the accumulator shut-off block, the following work steps have to be performed:

- Before the assembly, de-energize the electrical control system.
- Familiarize with the position of the electrical connections.
  – Also observe chapter 5.4 "Electrical connections".
- Regarding the electric wiring at the control block accumulator shut-off block, observe the data sheets of the electric components.
- Check the electrical connections for cleanliness.
- Connect the accumulator shut-off block according to system or machine manufacturer specifications.
  The power supply of the accumulator shut-off block is connected.

8 Commissioning

⚠ WARNING

Bursting of the accumulator shut-off block, danger of ejection of components or protective plugs and danger of leakage of oil jets due to inadmissible operating pressures!

Danger to life! Danger of bursting! Damage to property!

- Before commissioning, ensure that the maximum admissible pressure of the hydraulic components in the machine/system is not exceeded.
- Make sure that the operating pressure at line connections at inlets and outlets of the accumulator shut-off block does not fall below the operating pressure of the type-examination tested pressure relief valve.
- Carry out a pressure test according to ISO 4413.

Excessive pressure adjustment of the type-examination tested pressure relief valve!

Danger to life! Danger of bursting! Damage to property!

- Make sure that the pressure adjustment of the type-examination tested pressure relief valve does not exceed the maximum operating pressure of the hydraulic accumulator.
- Compare the technical specifications of the hydraulic accumulator and the accumulator shut-off block.

System pressure increase due to increasing flow!

Danger to life! Danger of bursting! Damage to property!

- Make sure that the system pressure increase due to the flow does not exceed 10% of the set response pressure. Refer to directive 2014/68/EU, annex 1, 2.11.2.
- Make sure that the discharge line (port T) of the accumulator shut-off block is led out without any risk and that no fluid collects in the discharge system. Refer to AD2000 data sheet A2.
- Make sure that the discharge line (port T) is sufficiently dimensioned for the maximum admissible flow dependent on the counter pressure in the discharge line according to the technical data specified in data sheet 50131, accumulator shut-off block type ABZSS, and 50128, accumulator shut-off block type 0532VAW, see chapter 1.2 "Required and amending documentation".

⚠ CAUTION

Leakage of hydraulic fluid under high pressure due to faulty assembly of the accumulator shut-off block!

Risk of injury! Damage to property!

- Before commissioning, make sure that the accumulator shut-off blocks is installed by expert personnel without tension stress according to chapter 2.4 "Qualification of personnel".
- Ensure that the tightening torques required by the system are observed.

Please observe that the accumulator shut-off block shows different functional behavior dependent on the machine or system it is installed in.

For commissioning of the accumulator shut-off block, always observe the operating instructions of the overall machinery/system.

8.1 First commissioning

8.1.1 Preparing for commissioning

Observe the specifications on oil cleanliness according to the technical data in data sheet 50131, accumulator shut-off block type ABZSS, and 50128, accumulator shut-off block type 0532VAW, see chapter 1.2 "Required and amending documentation".

For first commissioning of the accumulator shut-off block, proceed as follows:

- Pre-tension the hydraulic accumulator at the accumulator shut-off block according to machine/system manufacturer specifications. Observe the operating instructions of the hydraulic accumulator.
- Make sure that the initial gas tension of the hydraulic accumulator complies with the technical specifications of the machine/system manufacturer.
- Operate the machine/system until full bleeding with reduced pressure.
- Make sure that all connections are either used or closed.
- Check the hydraulic lines for tightness.
- Only commission hydraulic drives after you have on the one hand extensively familiarized with the function of the hydraulic product and the hydraulic devices used and on the other hand with the hydraulically driven machine functions and clarified and remedied possible risks.
- Commission the product only if it is installed completely.
- In case of leakage at pressurized components, immediate shut-off and cause analysis are required to initiate corrective action.

8.1.2 Commissioning process

For commissioning, the following work steps have to be performed:

- Compare the pressure adjustment of the type-examination tested pressure relief valve with the maximum admissible operating pressure of the hydraulic accumulator. The pressure adjustment of the type-examination tested pressure relief valve must not exceed the admissible operating pressure of the hydraulic accumulator.
- Close the manual relief.
- Open the system shut-off cock.

Bleeding

- Bleed all channels on the actuator side. Observe the specifications of the machine/system manufacturer.

2-way cartridge valve check

- Check the electrical signals (optional).

Commissioning of the accumulator shut-off block is completed.

The adjustment of sealed pressure relief valve must not be changed!

8.2 Re-commissioning after standstill

Standstill for more than 3 months

Contact Bosch Rexroth for re-commissioning after a standstill of more than 3 months.

Re-commissioning

For re-commissioning of the accumulator shut-off block, proceed as described in chapter 8.1 "First commissioning".

9 Operation

⚠ CAUTION

Leakage of hydraulic fluid under high pressure due to faulty assembly of the accumulator shut-off block!

Risk of injury! Damage to property!

- Before commissioning, make sure that the accumulator shut-off blocks is installed by expert personnel without tension stress according to chapter 2.4 "Qualification of personnel".
- Ensure that the tightening torques required by the system are observed.

During operation of the accumulator shut-off block, observe the following points:

- Operate the accumulator shut-off blocks only in compliance with the admissible data specified in data sheet 50131, accumulator shut-off block type ABZSS, and 50128, accumulator shut-off block type 0532VAW, see chapter 1.2 "Required and amending documentation".
- Operate the accumulator shut-off block only in good order and condition.
- Make sure that adjustment devices at components are only operated by authorized specialist personnel according to the intended use of the hydraulic system.

To ensure long and reliable operation of the accumulator shut-off block, Bosch Rexroth recommends regular check of the hydraulic system and the accumulator shut-off block according to the following points:

- Continuous monitoring of noise, vibration and temperature.
- Check of the hydraulic fluid in the tank for bubble and foam formation at the surface after some operating time.

Changes in operating speeds, temperatures, increasing noises or power consumption are an indication of wear or damage to the accumulator shut-off block or the machine/system.

10 Maintenance and repair

⚠ WARNING

Bursting of the accumulator shut-off block, danger of ejection of components or protective plugs and danger of leakage of oil jets due to inadmissible operating pressures!

Danger to life! Risk of injury! Damage to property!

- Before re-commissioning, ensure that the maximum admissible pressure of the hydraulic components in the machine/system is not exceeded.
- Prior to re-commissioning, make sure that the operating pressure at line connections at inlets and outlets of the accumulator shut-off block does not fall below the operating pressure of the type-examination tested pressure relief valve.
- Carry out a pressure test according to ISO 4413.
- Open the manual pressure relief prior to any maintenance and servicing.

Excessive pressure adjustment of the type-examination tested pressure relief valve!

Danger to life! Danger of bursting! Damage to property!

- Make sure that the pressure adjustment of the type-examination tested pressure relief valve does not exceed the maximum operating pressure of the hydraulic accumulator.
- Compare the technical specifications of the hydraulic accumulator and the accumulator shut-off block.
- For replacement, only use pressure relief valves up to the maximum operating pressure.
- On replacement of the pressure relief valve, make sure that the tightening torques for pressure ratings and sizes specified in the data sheet of the respective accumulator shut-off block are complied with.

System pressure increase due to increasing flow!

Danger to life! Danger of bursting! Damage to property!

- Make sure that the system pressure increase due to the flow does not exceed 10% of the set response pressure. Refer to directive 2014/68/EU, annex 1, 2.11.2.
- Make sure that the discharge line (port T) of the accumulator shut-off block is led out without any risk and that no fluid collects in the discharge system. Refer to AD2000 data sheet A2.
- Make sure that the discharge line (port T) is sufficiently dimensioned for the maximum admissible flow dependent on the counter pressure in the discharge line according to the technical data specified in data sheet 50131, accumulator shut-off block type ABZSS, and 50128, accumulator shut-off block type 0532VAW, see chapter 1.2 "Required and amending documentation".

⚠ WARNING

Leakage of hot hydraulic fluid!
Risk of burning!
- Before replacement of components, let the hydraulic fluid in the machine/system cool down sufficiently.
- Wear personal protective equipment, e.g. protective glove.

10.1 Cleaning and care

For cleaning and care of the accumulator shut-off block, observe the following:
- Ensure that all seals and caps of the electrical plug-in connections are firmly attached to prevent ingress of humidity into the accumulator shut-off block during cleaning.
- Close all openings to prevent dirt or humidity from penetrating the accumulator shut-off block.
- Do not use aggressive cleaning agents. Clean the accumulator shut-off block using a suitable cleaning liquid.
- Do not use a high-pressure washer and/or compressed air cleaning equipment as attachment parts may be damaged.
- Remove external coarse dirt and keep sensitive and important parts like solenoid coils, valves and indicators clean.
- For the cleaning, use a damp, non-linting cloth or residue-free industrial wipes.

10.2 Inspection

Bosch Rexroth recommends documenting the inspection results
- so that considering functionality and economy, the inspection and maintenance intervals can be adjusted to the actual operating conditions.
- so that by comparing the documented values, you can identify faults at an early point in time.

Carry out the following inspection work:
- Check the accumulator shut-off block for external leakage at seals and connection lines.
- For the scope and time intervals of inspection, please refer to the maintenance schedule of the machine/system manufacturer.

10.3 Maintenance schedule

- For the scope and time intervals of maintenance, please refer to the maintenance schedule of the machine/system manufacturer.

10.4 Maintenance

- Perform maintenance at the intervals specified in the maintenance schedule of the machine/system manufacturer.

Seals of attached and installed hydraulic components are subject to a natural process of wear and aging. Bosch Rexroth recommends replacement at appropriate time intervals. The intervals are mainly determined by the operating conditions and the cleanliness of the hydraulic fluid.

- As a precaution, exchange seals at reasonable time intervals.

Preventive maintenance (e.g. hydraulic fluid care) as well as compliance with the pressure and temperature specifications extend the life cycle of the system and/or the accumulator shut-off block.

10.4.1 Maintenance work process

Prior to maintenance, perform the following work steps:

- Get the data sheets of the components to be assembled and disassembled according to the parts list ready.
- Prepare a suitable and clean tank for temporary storage of the components to be assembled.
- Prepare suitable tools.
- Depressurize the system and de-energize the electrical control system.
- Open the manual relief.
- Close the system shut-off cock.

After maintenance, check the following points:

- Make sure that the fluid ports are connected according to specifications and that the gas port is tight and covered by the protective cap.

10.5 Repair

The accumulator shut-off block may only be repaired by specialist personnel according to chapter 2.4 "Qualification of personnel".
Bosch Rexroth provides a wide range of service offers for the repair of accumulator shut-off blocks.

In case of questions regarding spare parts or repair, please contact your Bosch Rexroth service or your local Bosch Rexroth service center. For the addresses, please refer to chapter 16.1 "List of addresses".

At accumulator shut-off blocks type ABZSS, the pressure relief valve may only be replaced by Bosch Rexroth service engineers. Otherwise, the warranty claim becomes void.
At accumulator shut-off blocks type 0532VAW, assembly and replacement of the pressure relief valve may only be carried out by experts. See chapter 2.4 "Qualification of personnel". Otherwise, the warranty claim becomes void.

10.6 Spare and wear parts

NOTICE

Malfunction of system/machine due to incorrect wear and spare parts!
Damage to property!
- Only use components in original equipment quality.
- Only use new seals with the required media resistance.
- As the sealing material may differ despite being of identical appearance, the material number should be checked.

- Please return any spare part orders to your nearest Bosch Rexroth service center or directly contact the headquarters. See chapter 16.1 "List of addresses".
- Order spare parts in writing. In urgent cases you can also order by phone, but you are kindly requested to confirm your order in writing.
- When ordering spare parts, please indicate the following information from the name plate:
  - The material number of the required spare part
  - The Bosch Rexroth order number (SAP commissions no.)
  - The date of order

- Additionally indicate:
  - The desired number of spare parts
  - The desired type of dispatch (e.g. as parcel, freight, air freight, by courier service, etc.)

11 Disassembly and replacement

11.1 Preparing disassembly

Overall system

- Decommission the overall machinery/system as described in the overall machine/system operating instructions.

Afterwards, prepare the disassembly of the accumulator shut-off block as follows:

- Depressurize the hydraulic system and de-energize the electrical control system.
- Make sure that the relevant system parts are depressurized and de-energized.

Hydraulic accumulator

- Discharge the pressure of the hydraulic accumulators via the manual relief.

You can now start the disassembly.

11.2 Disassembly

⚠ WARNING

Leakage of hot hydraulic fluid!
Risk of burning!

- Before replacement of components, let the hydraulic fluid in the hydraulic system cool down sufficiently.
- Wear personal protective equipment, e.g. protective glove.

For disassembly of the accumulator shut-off block, proceed as follows:

1. Make sure that the hydraulic system is depressurized.
2. Make sure that the hydraulic accumulator is manually pressure-relieved.
3. Make sure that the hydraulic accumulator is hydraulically relieved.
4. Position an oil pan under the accumulator shut-off block.
5. Disassemble the hydraulic lines.
6. Disassemble the hydraulic accumulator.
7. Disconnect the accumulator shut-off block from the hydraulic accumulator.

The accumulator shut-off block is disassembled.

11.3 Preparing the accumulator shut-off block for storage/further use

- For storage, please refer to the storage specifications in chapter 6.3 "Accumulator shut-off block storage".

11.4 Accumulator shut-off block replacement

- Disassemble the accumulator shut-off block as described in chapter 11 "Disassembly and replacement".
- Assemble the accumulator shut-off block as described in chapter 7 "Assembly".

12 Disposal

For disposal of the accumulator shut-off block, comply with the following instructions:

- Fully drain the accumulator shut-off block.
- Disassemble the accumulator shut-off block into its individual components in order to recycle them.
- Separate:
  - Cast iron
  - Steel
  - Non-ferrous metal
  - Seals
  - Plastic
  - Electronic components

12.1 Environmental protection

Careless disposal of the accumulator shut-off block, the contained hydraulic fluid and the packaging material can pollute the environment.

- Dispose of the accumulator shut-off block and the packaging material in accordance with the applicable national regulations in your country.
- Dispose of the hydraulic fluid in accordance with the currently applicable national regulations in your country. Also observe the valid safety data sheet of the hydraulic fluid.

13 Extension and modification

You will be considered responsible for any extensions to or modifications of the product.

Declarations become invalid

If you undertake any extensions to or modifications of the product marketed by Bosch Rexroth, this means you are changing the condition as supplied. Any statements made by Bosch Rexroth regarding this product will then become invalid.

The Bosch Rexroth warranty applies only to the configuration supplied. Following an extension or a modification, the claim to warranty expires.

14 Troubleshooting

Use Table 9 for troubleshooting. The table does not claim to be complete. In practice, there may be problems that are not included here.

14.1 How to proceed for troubleshooting

- Always work systematically and purposefully, even when under time pressure. Random, thoughtless disassembly and changing of settings might result in the inability to restore the original error cause.
- First, get a general idea of the function of the accumulator shut-off block works in conjunction with the overall machinery.
- Try to find out whether the accumulator shut-off block has worked properly in conjunction with the overall machinery before the error occurred first.
- Try to determine any changes of the overall machinery/system in which the accumulator shut-off block is integrated:
  - Were there any changes to the application conditions or area of application of the accumulator shut-off block?
  - Has any maintenance work been performed recently? Is there an inspection or maintenance record?
  - Have modifications (e.g. refitting) or repair been performed at the overall machinery/system (machine/system, electrical system, control system) or at the accumulator shut-off block? If yes: What were they?
  - Was the hydraulic fluid changed?
  - Was the accumulator shut-off block or the machine/system used as intended?
  - How did the fault become apparent?
- Try to get a clear idea of the cause of error. If necessary, ask the actual (machine) operator.
- Document all work done.
- If the error could not be corrected, please refer to one of the contact addresses specified in the list of addresses in chapter 16.1.

14.2 Fault list

Table 9: Accumulator shut-off block fault list

Fault	Possible cause	Remedy
Hydraulic accumulator overload	Inappropriate hydraulic fluid	▶ For the admissible hydraulic fluid, refer to the data sheet of the respective accumulator shut-off block, see chapter 1.2 "Required and amending documentation".
	Viscosity too high	▶ For the admissible hydraulic fluid, refer to the data sheet of the respective accumulator shut-off block, see chapter 1.2 "Required and amending documentation".
	Insufficient oil cleanliness	▶ For the admissible cleanliness class, refer to the data sheet of the respective accumulator shut-off block, see chapter 1.2 "Required and amending documentation".
	Tank line pressurized	▶ Return the depressurized tank line to the tank.
	Insufficient maximum securable flow	▶ For the maximum admissible flow, refer to the characteristics specified in the data sheet of the respective accumulator shut-off block, see chapter 1.2 "Required and amending documentation".
	Pressure relief valve not switching	▶ Check the function of the type-examination tested pressure relief valve.
Insufficient flow to the hydraulic accumulator	Oil supply	▶ Switch on the pump.
	Leakage to the tank	▶ Select a suitable pressure relief valve the machine/system according to the data sheets of the offered accumulator shut-off block, see chapter 1.2 "Required and amending documentation".
	Manual relief not closed completely	▶ Close the manual relief.
	Manual relief leaking in closed condition	▶ Use a manual relief in original equipment quality.
	Electro-magnetic relief open	▶ Control the electro-magnetic relief.
	Electro-magnetic relief leaking in closed condition	▶ Use an electro-magnetic relief in original equipment quality.
	Electro-magnetic pressure maintenance open	▶ The control of the electro-magnetic pressure maintenance shall be omitted (variant ABZSS...C).
	External leakage	▶ Use seals in original equipment quality.
Hydraulic accumulator damaged, no pressure accumulation	Insufficient discharge oil limit	▶ Limit the accumulation speed with an orifice.
External leakage	Leaking housing	▶ Use seals in original equipment quality.
	Accumulator adapter leaking	▶ Use seals in original equipment quality.
	Sealing surfaces contaminated or damaged	▶ Insure that the sealing surfaces are clean and not damaged.
	Incorrect assembly	▶ Have assembly only carried out by qualified, trained and instructed specialists. ▶ Only use spare parts in original equipment quality.
Electro-magnetic relief without function	Electrical voltage supply	▶ Check the voltage supply.
Loud flow noises	Air in the system	▶ Bleed the machine/system. ▶ Contact the machine/system manufacturer.
	Manual relief not closed completely	▶ Close the manual relief.
Incomplete flow blocking	Leakage at the system shut-off cock	▶ Use a system shut-off cock in original equipment quality.

15 Technical data

For the admissible technical data of the accumulator shut-off block, refer to data sheets 50128 and 50131, see chapter 1.2 "Required and amending documentation".

The data sheets are available on the Internet at
www.boschrexroth.com/mediadirectory

For further information, refer to the online product catalog Industrial hydraulics: www.boschrexroth.com

16 Appendix

16.1 List of addresses

Contacts for repair and spare parts

Bosch Rexroth AG
Service
Bgm.-Dr.-Nebel-Str. 8
97816 Lohr am Main
Germany
Phone: +49 (0) 9352 - 40 - 50 60
service@boschrexroth.de
www.boschrexroth.com/service

Ordering addresses for accessories and valves

Accessories and spare parts are available directly from the headquarters or your responsible regional service center.

1. Headquarters
Bosch Rexroth AG
Hydraulics
Zum Eisengießer 1
97816 Lohr am Main
Germany
Phone: +49 (0) 9352 - 18 - 0

2. Responsible regional service center
The addresses can be found online at www.boschrexroth.com.

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rexroth
A Bosch Company

Bosch Rexroth AG
Industrial Hydraulics
Zum Eisengießer 1
97816 Lohr am Main
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Phone +49 (0) 9352 / 40 30 20
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For your local contact partner, please refer to:
www.boschrexroth.com

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