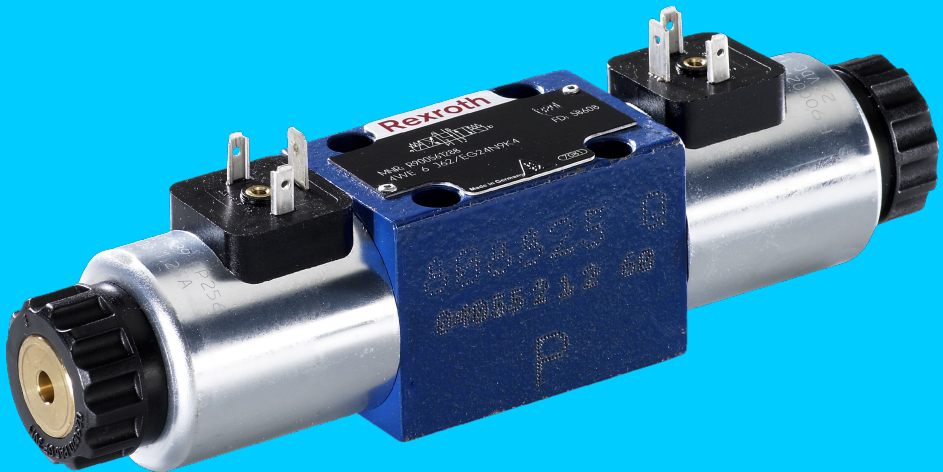


Directional spool valves, direct operated, with solenoid actuation

Type WE...E, size 6, component series 6X



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Disclaimer

The data specified above only serve to describe the product. As our products are constantly being further developed, 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. It must be remembered that our products are subject to a natural process of wear and aging.

Table of contents

1	About this documentation	4
1.1	Validity of the documentation.	4
1.2	Required and supplementary documentation.	4
1.3	Representation of information.	4
1.3.1	Safety instructions.	4
1.3.2	Symbols.	5
1.3.3	Abbreviations.	5
2	Safety instructions	6
2.1	Preconditions for the use of spare parts.	6
2.2	Qualification of personnel.	6
2.3	General safety instructions.	6
2.4	Personal protective equipment.	7
2.5	Product-specific safety instructions.	7
3	General information on damage to property and damage to the product	8
4	Product identification	9
5	Repair	9
5.1	Preparing the repair.	9
5.2	Performing the repair.	10
5.3	Completing the repair.	11

1 About this documentation

1.1 Validity of the documentation

This documentation is valid for directional spool valves, direct operated, with solenoid actuation, type WE...E, size 6, component series 6X.

Variants with approvals for explosion protection (e.g. XD / XE / XH / XM / XC, etc.) or with spool position monitoring (QM / QR / QS) are explicitly excluded and may only be disassembled and repaired by Bosch Rexroth or authorized service partners.

This documentation is intended for machine manufacturers, fitters, and service staff.

This documentation provides mounting instructions required for the repair using genuine spare parts from Bosch Rexroth.



Read this documentation completely and particularly the chapter "Safety instructions" before starting with the replacement.

1.2 Required and supplementary documentation

In addition to these repair notes, observe the data sheet for the relevant product as well the general operating instructions for hydraulic valves, RE 07600-B. Data sheets and operating instructions can be found on the Internet at ➔ www.boschrexroth.com/mediadirectory. Here you can enter the valve designation or directly the 5-digit number of the data sheet under "Search".

- The product must not be commissioned until you have been provided with the documentation marked with the book symbol  and you have understood and observed it.

Table 1: Required and supplementary documentation

	Title	Document no.	Document type
	Hydraulic valves and hydroelectric pressure switches	RE 07600-B	Operating instructions
	Directional spool valves, direct operated, with solenoid actuation, type WE, size 6, component series 6X	RE 23178	Data sheet



Documents for the complete circuit diagram of the machine can be obtained from the machine manufacturer.

1.3 Representation of information

In order to allow you to work directly and safely with your hydraulic product, standardized safety notes, symbols, terms and abbreviations are used in this documentation. For a better understanding, they are explained in the following sections.

1.3.1 Safety instructions

This documentation contains safety notes in chapter 2 and chapter 3, general notes on damage to property and damage to the product as well as before a sequence of activities or instructions for action, which involve the risk of personal injury or damage to equipment. The measures described for hazard avoidance must be observed.

Safety instructions are structured as follows:

▲ WARNING	Type and source of danger! or consequences of non-compliance – Hazard avoidance measures – Enumeration
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- **Warning sign:** draws attention to the hazard
- **Signal word:** identifies the degree of hazard
- **Type and source of danger!:** specifies the type and source of danger
- **Consequences:** Describes the consequences of non-compliance
- **Precautions:** Specifies how the danger can be prevented

Hazard classifications according to ANSI Z535.6-2011

▲ DANGER	In the case of non-compliance with these safety instructions, death or severe injury will occur .
▲ WARNING	In the case of non-compliance with these safety instructions, death or severe injury may occur .
▲ CAUTION	In the case of non-compliance with these safety instructions, minor or moderate injury may occur .
NOTICE	In the case of non-compliance with these safety instructions, damage to property may occur .

1.3.2 Symbols

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

-  If this information is disregarded, the product cannot be used or operated in an optimum manner.
- Individual, independent action
-  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 2: Abbreviations

Designation	Meaning
A/F	Width across flats
ANSI	American National Standards Institute
NG	Size
PELV	Protective Extra Low Voltage
RE	Rexroth document in English language
SPC	Spare Parts Catalog

2 Safety instructions

2.1 Preconditions for the use of spare parts

- The valves have been removed from the system in a safe condition, they are depressurized and de-energized. The fluid has been drained or suitable collecting containers and oil absorbing cloths are available. Observe the notes in the general operating instructions, RE 07600-B, chapter 11 "Disassembly and replacement".
- A suitable workstation (stable and clean) is available.
- The required spare parts are at hand.
- The applicable documentation, current legal provisions and general safety instructions are observed.

2.2 Qualification of personnel

The operations described in this documentation require basic knowledge of mechanics, hydraulics and electrics, as well as knowledge of the corresponding terms. 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 are able to recognize potential hazards and apply the appropriate safety measures due to their professional training, knowledge and experience, as well as their understanding of the relevant requirements pertaining to the work to be undertaken. An expert must observe the relevant specific professional rules and have the necessary expert knowledge. Expert knowledge means for example for hydraulic products:

- Reading and completely understanding hydraulic circuit diagrams,
- in particular, completely understanding the correlations regarding safety equipment and
- knowledge of the function and structure of hydraulic components.



Bosch Rexroth offers training support measures in specific fields. An overview over the training contents can be found online at: ➔ <https://www.boschrexroth.com>

2.3 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/repaired.
- Only use Rexroth products in technically perfect condition.
- Observe all information on the product.
- Persons who install, operate, dismount or maintain Rexroth products must not consume any alcohol, other drugs or pharmaceuticals that may affect their ability to respond.
- Only use genuine Rexroth accessories and spare parts in order to exclude any hazard to persons due to unsuitable spare parts.
- Comply with the technical data and environmental conditions specified in the product documentation.

2.4 Personal protective equipment

For carrying out the repairs described in these repair notes, the use of the following personal protective equipment is prescribed:

- Safety shoes (e.g. protection against crushing)
- Safety goggles (e.g. protection when working with compressed air)
- Protective gloves (e.g. protection against skin injuries)
- Hearing protection (e.g. noise attenuation when working with compressed air)

2.5 Product-specific safety instructions

▲ WARNING**Easily inflammable hydraulic fluid!**

In connection with fire or other sources of heat, hydraulic fluid leaking from demounted valves may lead to fire or explosions.

- Do not repair hydraulic components in areas with open fire and only at a sufficient distance to sources of heat.

▲ WARNING**Incorrect mounting!**

Mounting of the spare parts using mounting screws of reduced strength, improper mounting or mounting with insufficient stability may cause the hydraulic components to become loose and fall down.

- Observe the given tightening torques and use the specified screws.

▲ WARNING**High electrical voltage!**

On hydraulic valves with a supply voltage >50 VDC or 75 VAC, touching an electrical part of the product may lead to a fatal electric shock.

- The valve may only be disassembled and re-connected by or under the supervision of a qualified electrical worker.
- Switch off the voltage supply before all maintenance, repair or installation work and secure it against restarting.
- Provide for proper and safe PE connection.
- Only use power supply units with safe voltage isolation PELV (Protective Extra Low Voltage). Safe isolation can be achieved with isolation transformers, safe optocouplers or mains-free battery operation.

▲ CAUTION**Hot surfaces!**

Hydraulic valves and valve solenoids may heat up considerably during operation. This may cause burns when you touch the surfaces or, when the surface gets into contact with non-heat-resistant or combustible material, this may result in damage to property or fire.

- Let hydraulic valves cool down before touching them or wear protective gloves.
- Keep non-heat-resistant or combustible material away from hydraulic valves.

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

The warranty applies exclusively to the delivered spare part of the product to be repaired with reference to the supplied configuration (see type code or ordering code according to the data sheet).

The warranty becomes void if the product is incorrectly repaired, mounted, commissioned or operated or not used as intended and/or handled improperly.



If a repair is carried out by Bosch Rexroth, the repair is covered by warranty. This is also valid for certified service partners.

NOTICE

Inadmissible mechanical load!

Impact or similar forces on hydraulic valves and their components may damage or even destroy them.

- Never use hydraulic components as a handle or step. Do not place/put any objects on top of it.
- Avoid impacts against attached parts (e.g. sensors or solenoids).
- Avoid impacts against sealing faces (e.g. at working ports).

NOTICE

Dirt and foreign particles in hydraulic components!

Penetrating dirt and foreign particles lead to wear and malfunctions. Safe functioning of the hydraulic components is no longer ensured.

- During installation, ensure utmost cleanliness in order to prevent foreign particles such as welding beads or metal chips from getting into the hydraulic lines.
- Do not use linty cloth for cleaning.
- Ensure that no cleaning agents are able to penetrate the hydraulic system.

NOTICE

Polluting hydraulic fluid!

Leaking hydraulic fluid leads to environmental pollution.

- Immediately remedy possible leakage.
- Dispose of the hydraulic fluid in accordance with the currently applicable national regulations in your country.

NOTICE

Uncontrolled disconnection and connection of plug-in connectors!

Device might be destroyed!

- Before carrying out any installation work, disconnect the product from the mains or from the voltage source or de-energize it reliably.
- Do not plug in or pull the electric plug-in connector as long as the voltage supply is activated.

4 Product identification

The WE valve can be identified by the type code and the material number on the nameplate. Before replacing valve components, check that the material number and the type designation on the nameplate are identical to the data in your parts list or order number.

For every valve, use exclusively the spare parts defined according to the Spare Parts Catalog (SPC) and the item in the spare parts drawing.



For the correct selection of spare parts you have to enter the exact material number of the component to be repaired in the Spare Parts Catalog!

5 Repair

▲ WARNING

Incorrect spare parts!

The installation of incorrect spare parts can result in changes in the valve type and in the switching functions and thus cause malfunction of the machine/system. This implies a significant risk of unforeseeable movements of the machine/system, which in turn may cause damage to property and severe or even fatal injuries.

- Change components parts only 1:1, i.e. exact compliance of material numbers, and compare the details on the nameplate to the data on the spare part.

▲ WARNING

Improper installation of spare parts!

The incorrect installation, e.g. due to wrong position, place or orientation or non-observance of repair notes (e.g. torques, gluing, sealing, lubricating...) of spare parts can result in changes in the valve type and in the switching functions and thus may cause malfunction of the machine/system. This poses a significant risk of unforeseeable movements of the machine/system, which in turn may cause damage to property and severe or even fatal injuries.

- Before removing the defective part, note down the correct type, position and orientation.
- Pay attention to the correct position and orientation when replacing parts.

The valves have been removed from the system and are depressurized and de-energized. For the disassembly observe the safety instructions and notes in the general operating instructions, RE 07600-B, chapter 11 "Disassembly and replacement".

5.1 Preparing the repair

- Have the currently valid documents for the components available, see chapter "Required and supplementary documentation".
- Have the required tools ready.
- Have the required spare parts ready.
- Check that the available spare parts correspond to the parts list of the product..

- When demounting the parts, note down the position and orientation of the parts to be replaced.
- Clean all parts.
- Always replace seals completely using the seal kits listed in this documentation.
- Adhere to the tightening torques prescribed for the spare parts in the table below.

5.2 Performing the repair

Adhere to the orientations and positions of the spare parts as noted down and follow the mounting instructions (e.g. tightening torques, gluing, lubricating sealing) provided in the table below.

Use the tools and aids listed in the table below for the replacement of the individual spare parts.

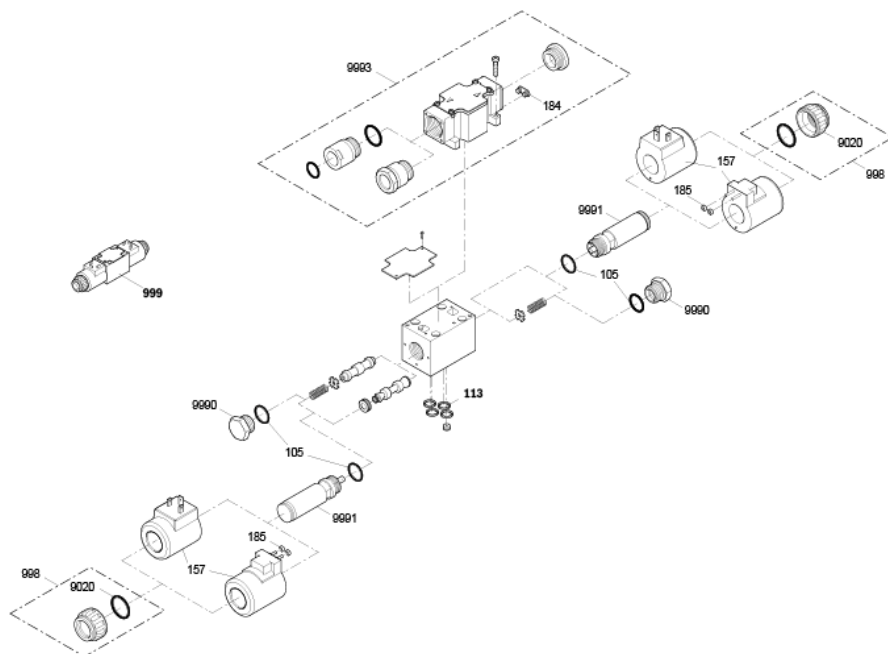


Fig. 1: Spare parts drawing

Table 3: Mounting notes WE6.-6X/E

Item	Designation	Tightening torque MA [Nm]	Tolerance [Nm]	Remark	Variant
0157	Solenoid coil	-	—	—	For several DC solenoid coils For several AC solenoid coils
0998	Central nut	4	±1.0	—	Various
0999	Seal kit	-	-	-	E.g. NBR/FKM
9990	Plug screw M20X1	30	±3.0	A/F 19 mm	E.g. NBR/FKM
9991	Pole tube	30	±3.0	A/F 19 mm A/F 13 mm	For several DC solenoid coils For several AC solenoid coils
9993	Central connection	—	—	Upon request	DL, DAL, DJL, DK6, DK23, DK24, DK25, DK35, DK72

5.3 Completing the repair

After the repair and before use of the component, carry out tests to make sure that the function of the valve is provided according to the associated data sheet.

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