



# Operation and Maintenance Manual

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**Water valve unit, 4 functions**

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Typ

Doc-No.: 8401 008 000 BA 00

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## Storage and transport

This chapter contains important information on the correct storage and transport of the conveyor.

Following the instructions and tips will increase the life cycle and service life of the conveyor. You will be able to carry out transport work more safely and quickly.

Paying careful attention to the points in this chapter will also help you to simplify your day-to-day work.

### Storage

#### Storage of the equipment

##### anticorrosion protection

Components with a temporary anticorrosion protection are protected for about six months.

The hydraulically actuated equipment is run with a test fluid before delivery and is emptied as thoroughly as possible before shipping. The internal parts are also protected against corrosion by the residual film for at least six months.

##### avoid direct exposure to sunlight

Protect the equipment from direct exposure to sunlight. Only store all electrical equipment, electronic components, replacement parts made from rubber or plastic such as seals and hoses and hydraulic fluids in closed rooms at 15 °C to 25 °C.

##### moisture and dirt

Protect all parts of the equipment stored outdoors against moisture and dirt, e.g., using tarpaulins.

You need to protect the connecting faces of hydraulic components from corrosion and seal them with blind plates. Protect the hydraulic plug-type connections and the connectors of the electrical cables with the caps and plugs supplied.

##### short-term storage

During short-term storage (approx. 4 weeks) of equipment outdoors, but at temperatures **above** freezing, electrical components need not be removed. Such components must be particularly protected against excessive temperatures, dirt and moisture.

##### long-term storage

During long-term storage (more than 4 weeks), the equipment must not be stored outdoors. It needs to be stored in a dry, well-ventilated room.

After a storage period of approximately two years, a random sample inspection must be performed to determine whether the measures taken and the method of storage have prevented damage.

This inspection can be carried out by Caterpillar upon request.

##### natural aging

Even with proper storage, seals and hose lines are subject to natural aging. Do not use these components if they have been stored for more than two years.



#### Important!

**Ensure during storage that any new supplies are stored separately from existing stocks in such a way that on removal, old stocks are always taken first.**





## Valves

### Working valves:

- 4 x 2/2-directional control valves (UG)

They are driven via pilot valves.

### Pilot valves:

- 2 x double -3/2 directional control valves (NG 0.5)

The pilot valves are driven by a control unit (e.g. PMC<sup>®</sup>-R). In an emergency, or for repairs, they can also be operated directly. For this, two pushbuttons are fitted in the valve cover.

The power supply to the pilot valve comes from the electronic control unit. In the housing cover of each pilot valve there are 4 contacts, which serve to attach a suitable connecting cable.

### Double 3/2-directional control valve parameters

Classification according to guidelines

94/9/EC (ATEX): ..... Group I, category M2

Protection class: ..... EExib I

Connector type: ..... OS4

Type of magnet: ..... Electromagnet,  
around 57 Ohm  
Type: DMA3-1

Nominal voltage: ..... 12 V, DC

Perm. variation: ..... -2%/+10%

Switching current: ..... approximately 190 mA

Lowest current: ..... at most, down to 40 mA



### Warning!

**As soon as the current falls to a level below 40 mA, the switch settings will become unstable. This can lead to malfunctions or to the failure of the control unit.**

Tab. 1: Mining approvals

Apply in	Approval authority	Approval no.
Europe	INERIS, ATEX	05 ATEX 0049
USA	MSHA	18-ISA050002-0
Australia	Testsafe, ANZEx	05.4015X

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