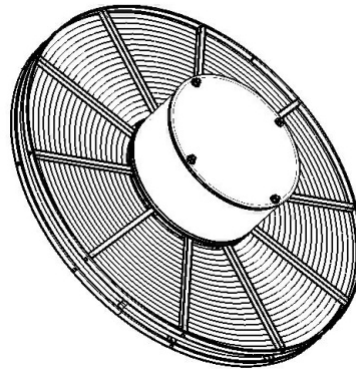


Hose Change at Spring Driven Hose Reels

Variant with Spokes



Contents

1	General Notes.....	2
1.1	Information to these Maintenance Instructions.....	2
1.2	Limitation of Liability.....	2
1.3	Copyright.....	2
1.4	Spare Parts.....	3
1.5	Warranty and Guarantee.....	3
1.6	Customer Service.....	3
2	Safety Advice.....	4
2.1	Explication of Symbols.....	4
2.2	Specific Hazards.....	4
2.3	Protective Measures to be taken by the Operator/User.....	5
3	Requirements to the Personnel.....	6
3.1	Qualification.....	6
3.2	Unauthorized Personnel.....	6
4	Installation Process.....	7
4.1	Preparation.....	7
4.2	Installation Process.....	8

Hose Change at Spring Driven Hose Reels

Variant with Spokes

1 General Notes

1.1 Information to these Maintenance Instructions

These Maintenance Instructions allow the safe and efficient handling of the equipment.

These Maintenance Instructions are part of the equipment and must be stored close to the equipment and always available to the personnel. The personnel must have carefully read and understood these Operating Instructions prior to starting any works. The basic prerequisite for safe work is the compliance with all safety and operating guidelines in these maintenance instructions.

Local accident protection regulations and general safety guidelines for the application field of the device have to be observed as well.

Illustrations in this documentation are for basic comprehension and may deviate from the real design of the equipment. Besides these operating instructions the enclosed instructions for installed components have to be observed as well.

1.2 Limitation of Liability

All information and instructions in these Maintenance Instructions have been compiled with due regard to the standards and regulations in force, best engineering practice, and the findings and experiences we have accumulated over many years.

The manufacturer is in no way liable for damage resulting from:

- Non-observance of the operating instructions
- Improper use
- Use by untrained personnel
- Unauthorized modifications
- Technical changes
- Use of unauthorized spare parts and accessories

The actual scope of delivery may differ from the explanations and illustrations described here for special designs, if additional order options are utilized, or due to the latest technical changes. The obligations agreed upon in the delivery agreement and our General Terms of Business apply, as do the delivery conditions of the manufacturer and all regulations applicable at the time the contract was concluded. All products are subject to technical modifications in the context of improvement of usage properties and further development.

1.3 Copyright

These Maintenance Instructions are subject to copyright and exclusively intended for internal use. Provision of the Maintenance Instructions to third parties, duplications in any form – even in part – as well as the reuse and/or disclosure of their content are not permitted without the written approval of the manufacturer, except for internal use. Violations will be subject to damages. This will not exclude additional claims.

Hose Change at Spring Driven Hose Reels

Variant with Spokes

1.4 Spare Parts



WARNING!

Safety risk due to wrong spare parts!

Wrong or faulty spare parts can impair safety and result in damage, malfunction or complete failure.

→ Use only original spare parts on the manufacturer!

→ Order the spare parts from your contracted dealer or directly from the manufacturer

1.5 Warranty and Guarantee

The terms of warranty and guarantee are listed in the General Terms of Business of the manufacturer.

1.6 Customer Service

Our customer service is available for technical questions.

Our employees are also always interested in new information and experiences from the field that can be valuable for the improvement of our products.

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Hose Change at Spring Driven Hose Reels

Variant with Spokes

2 Safety Advice

2.1 Explication of Symbols

Safety advices in these Maintenance Instructions are marked by symbols. Signal words are used to indicate the degree of hazard. Always observe safety instructions and work carefully to avoid accidents, personal injury or property damage!



... indicates an imminent dangerous situation, which may cause deadly accidents or serious injuries, if not avoided.

DANGER!



... indicates a possibly dangerous situation, which may cause deadly accidents or serious injuries, if not avoided.

WARNING!



... indicates a possibly dangerous situation, which if not avoided, may result in moderate or minor injury or property damage.

CAUTION!

2.2 Specific Hazards

Follow the safety instructions listed here and the warnings in the following sections of these Maintenance Instructions in order to reduce health hazards and avoid dangerous situations.



Danger to life due to suspended loads!

Falling loads can lead to severe injuries or death.

- Never step below suspended loads
- Move loads only under supervision
- Put down the load when leaving the workplace

WARNING!



Danger of injury from moving components!

Incautiously moving the spring hose reel can lead to severe injury or damage to the device.

- While in motion do not reach into moving parts. Particularly the interface between the crane and the spring hose reel is dangerous

WARNING!

Hose Change at Spring Driven Hose Reels

Variant with Spokes



WARNING!

Risk of injury due to spring tension!

When the spring hose reel is unwound, there is a danger due to the tensioned spring.

- Secure the spring hose reel against turning
- Never pull the hose off the spring hose reel manually

2.3 Protective Measures to be taken by the Operator/User

The equipment is used in the industrial sector. The operator of the device is this subject to legal obligations for operational safety. In addition to the safety instructions in these Maintenance Instructions, all safety accident protection, and environmental regulations applicable at the place of operations of the device must also be observed. This particularly includes:

- The operator must be informed of applicable workplace safety guidelines and identify any additional hazards that result from the special working conditions at the site of operation of the device. These must be implemented in the form of operating instructions for the use of the device.
- The operator must verify during the entire operating time of the device, if the operating instructions provided still correspond to the current state of regulations, and adapt these instructions if necessary.
- The operator must clearly regulate and determine responsibilities for installation, operation, troubleshooting and maintenance.
- The operator must ensure that all employees involved in operating the device have read and understood these Maintenance Instructions. The operator must furthermore train personal at regular intervals and inform them of hazards.
- The operator must provide the personnel with all required safety gear.

The operator is furthermore responsible for ensuring that the device is always in a technically trouble-free condition. The following thus applies:

- The operator must have all safety systems regularly inspected for proper functioning and completeness.

Hose Change at Spring Driven Hose Reels

Variant with Spokes

3 Requirements to the Personnel

3.1 Qualification



Risk of injury to insufficient qualification!

Improper use can result in serious personal injury or property damage.

→ All activities may only be performed by qualified personnel!

WARNING!

The following qualifications have been mentioned in these Maintenance Instructions for different fields of operation:

- Trained personnel/operators
Have been instructed in an instructed session by the operator with respect to the tasks assigned to them and the potential dangers arising from improper actions.
- Qualified specialists
Due to their specialized training, knowledge, and experience, as well as knowledge of applicable regulations, are capable of carrying out works assigned to them, while independently recognizing and avoiding possible risks.
- Only those persons are authorized as personnel who can be expected to perform their work reliably. People whose capacity for reaction is influenced e.g. by drugs, alcohol or medications are not authorized.
- When selecting personnel, follow all-age and job related guidelines applicable at the place of operation.

3.2 Unauthorized Personnel



Danger due to unauthorized personnel!

Unauthorized personnel, who do not meet the requirements described here do not understand the danger in the working area.

WARNING!

- Keep unauthorized personnel away from the working area
- In case of doubt, address these persons and direct them away from the working area
- Stop work as long as unauthorized personnel are in the working area

Hose Change at Spring Driven Hose Reels

Variant with Spokes

4 Installation Process



CAUTION!

The hose changing must be made by qualified specialist!

4.1 Preparation

Spare Parts:

- 1x Twin Hose according to Spare Part List of the Hose Reel
- 2x Double sealing gasket

Tools:

- Hexagon socket Screw Key SW5
- 2x Screw Wrench SW13
- Hexagon Socket Screw Key SW6
- 2x Screw Wrench SW24
- Torque Wrench SW24

Starting Situation:

- The reel must be developed from the crane.
- The reel must be safe against shift and drop.
- If a hose support is on the reel, the hose support must be demounted.
- Safe standing for the personnel must be ensured.

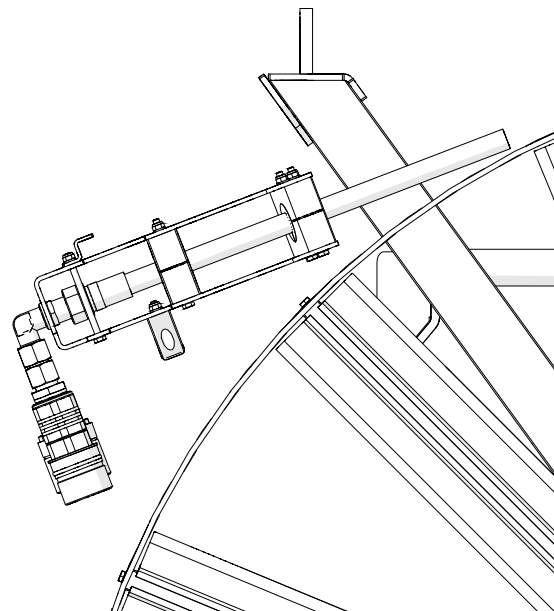


Fig. 1: Hose Support

Hose Change at Spring Driven Hose Reels

Variant with Spokes

4.2 Installation Process



DANGER!

Risk of injury due to spring tension!

Due clamped springs exist the risk by spring reels.

→ Declamp spring-loaded hose reels

→ Follow the advice for springs (BAL6100-0001)

Work steps:

1. Declamp the spring.
2. Demount the spring housing.
 - Solve the nuts (Pos. 1) and the washers (Pos. 2).
 - Demount the housing cap (Pos. 3), the double sealing gasket (Pos. 4 and Pos. 6) and the reel body (Pos. 5).

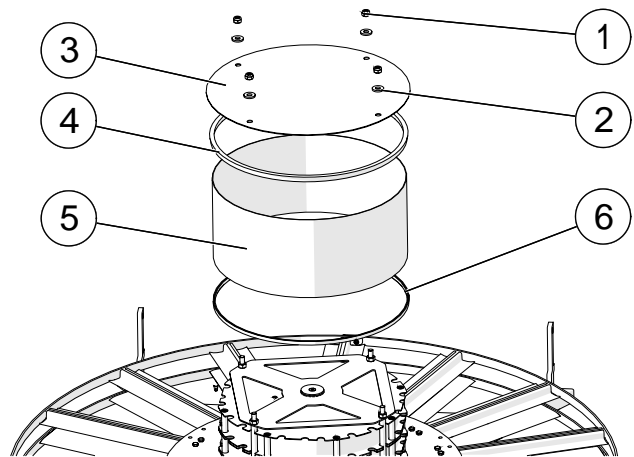


Fig. 2: Demount the Spring House

3. Remove the spring cassette.
 - Solve the screw (Pos. 7).
 - Solve the hexagon nut (Pos. 8).
 - Demount the boss (Pos. 9), grove ball bearing (Pos. 10) and bearing plate (Pos. 11).
 - Remove the spring cassette (Pos. 12) carefully.

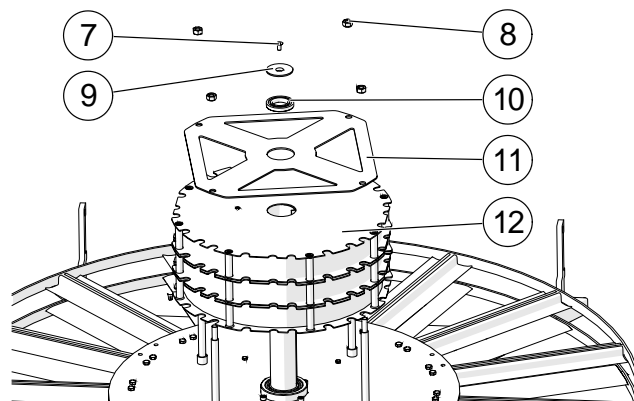


Fig. 3: Remove the Spring Cassette

Hose Change at Spring Driven Hose Reels

Variant with Spokes



CAUTION!

Mark the installation position of the springs!

False re-assembly causes damage of the springs.

→ Mark the installation position of the springs, before the springs are removed

4. Disassembly of the spoke wheel.
 - Solve the screws (Pos. 13 and 14).
 - Remove the spoke wheel (Pos. 15) completely.
5. Hose change.
 - Solve the hose coupling and removal the hose with the angled coupling.
 - Connect the hose tube with the hose coupling (see table with Torques).

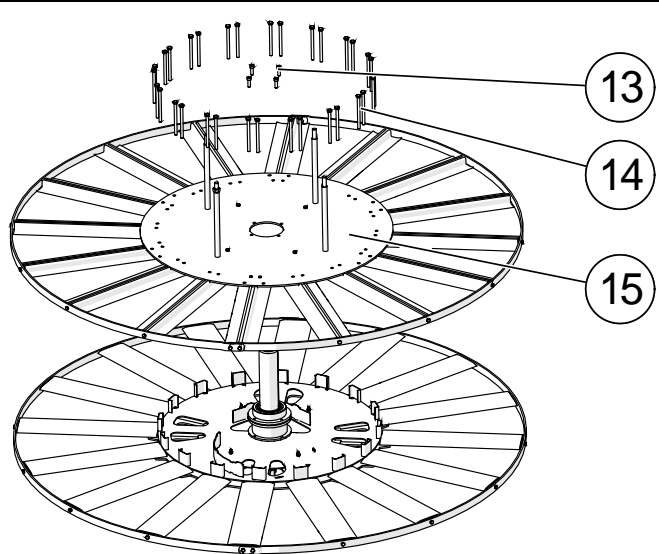


Fig. 4: Disassembly of the Spoke Wheel

Torques

Reel Type	Integral Thread	Pipe Thread
Hose reels 2R3/8" (NW10)	75 Nm	45 Nm
Hose reels 2R1/2" (NW12)	120 Nm	85 Nm
Hose reels 2R3/4" (NW16)	230 Nm	135 Nm

Hose Change at Spring Driven Hose Reels

Variant with Spokes

6. Mounting the shell plates.

Respect the direction way by mounting the shell plates (see

Fig. 5 and

→ Fig. 6).

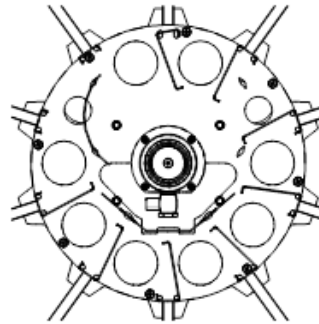


Fig. 5: By Right Direction

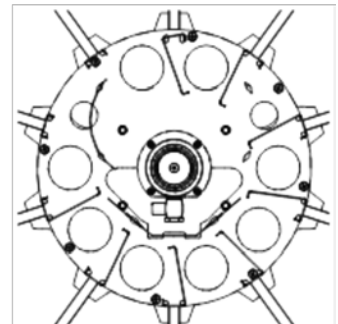


Fig. 6: By Left Direction

7. Mounting the complete spoke wheel (respect the correct bearing hole see Fig. 7).

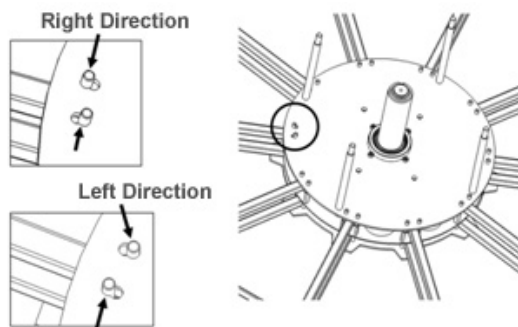


Fig. 7: Right Direction and Left Direction

8. Roll up the complete hose.

- Tighten the hose while the wrapping procedure.
- Examine the hose for damage.
- Roll up the hose exactly.
- The motion of the reel must be free.

Hose Change at Spring Driven Hose Reels

Variant with Spokes

9. Mounting the complete spring loaded hose reel.
- Determine the correct installation position of the spring cassette (see chapter 4.2).
 - Mounting the spring cassette like step 2 in backwards order (see advice on page 9) on the reel (see MV6100-0006).
 - Cut the right length of the double sealing gaskets and stick it (for example: with Loctite 406).
 - Mounting the spring housing (exchange the double sealing gaskets).
 - Load the spring according to the type plate.

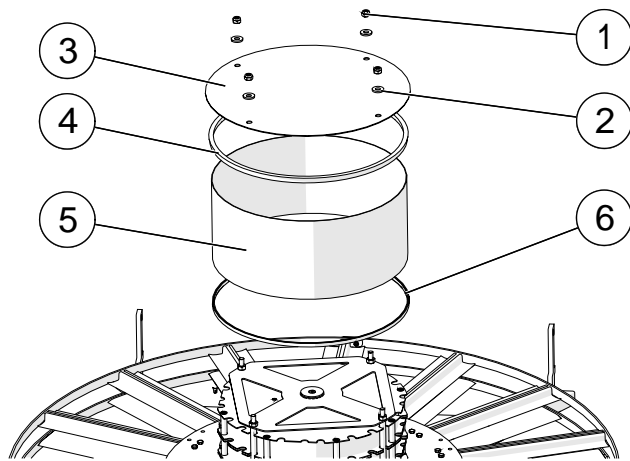


Fig. 8: Mounting the spring cassette