

Double Rotator **DRHS55** User manual



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Foreword

The Becx double rotator is specially developed to convey tools in as flexible and stable manner as possible from the mini-crane/digger to the object to be worked on. As standard, this double rotator unit has a universal CW10 quick-release connection.



Please read this manual carefully before you use the support arm. Always observe the safety requirements as set out in Section 2.

Read the user manual of the tool to be used before you attach and use the support arm. Always observe the safety requirements as set out in the tool's user manual.

A copy of this manual must be kept with the support arm and be available to the user. All important maintenance work and relevant notes must be recorded by the maintenance company.

It is the user's responsibility to select a suitable tool holder for the support arm and ensure that it is correctly attached and connected to the arm.

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Declaration of conformity (IIa) (copy)

We:

Becx Machines B.V.
De Sonman 35
5066 GJ Moergestel

declare entirely under our own responsibility that the product:

Description : Double Rotator

Type : DRHS55

Serial number :

with respect to this declaration, conforms to the provisions of the Directives:

Machinery directive 2006/42/EC

In accordance with the following standards:

NEN-EN-12100 Safety of machinery. Basic concepts, general principles for design.
NEN-EN ISO 4413 Hydraulic fluid power - General rules and safety requirements for systems and their components
NEN-ISO 4254-1 Agricultural machinery - Safety - Part 1: General requirements

Director, Erwin Hommen





The Netherlands, Moergestel,

Date

Overview of symbols


All actions and situations risking the safety of the operator and/or technician and where actions must be carried out carefully will refer to the following symbols in this user manual:


	Take note!
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	Explanation.
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Pictograms

Pictograms and warnings are placed on the installation to alert the user of potential risks.

Pictogram	Description	Location
	Model plate	Installed on the middle section of the support arm.


	TAKE NOTE! Regularly check that the affixed pictograms and markings are easy to recognize and read. If not, replace these.
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1. Technical specifications


Description	Value	Unit
General		
Sound pressure	See tool holder	dB(A)
Vibration level during normal use	N/A	
Requirements for filtering hydraulic oil	10	micron
Oil for the drive	HV-46 or equivalent	
Grease for lubrication	NLGI 2	
Support arm dimensions and weight		
Width	531	mm
Length	495	mm
Height	800	mm
Dead weight	185	kg
Crane / mini-digger attachment details		
Type	Standard CW10	-
Support arm vertical load	1850	N
Tool attachment details		
Standard tool fixing sleeve	80*80	mm
Available installation width	276 - 593.	mm
Maximum tool vertical load	135	kN
Maximum tool suspension torque	800	Nm
Connection details		
Maximum operating pressure	210	bar

2. Safety


General

	<ul style="list-style-type: none">• The support arm may not be modified.• It is the user's responsibility to ensure that the correct tool holder is used (see Section 1: Technical specifications). To this end, the following points are important:• The maximum pressure and rotational speed (oil flow) must not be exceeded. Exceeding these limits may damage the installation and injure bystanders.• The tool holder must be sufficiently strong and stable enough to bear the forces and torques caused by the support arm in all circumstances.
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During use

	<ul style="list-style-type: none">• Consult the manuals for the tool holder and the additionally attached options to look up the resulting sound load. As this is significantly higher than the sound produced by the support arm, the sound load from the tool holder or the attached options is leading.• The installation may only be used for the work activities it is designed for.• If people or animals approach or enter the safety zone, the installation and the work activities must be stopped immediately.• If passers by constantly interrupt the work activities too much, consideration should be given to fencing off the work area.• Inspection and maintenance work must be carried out.• During inspection and maintenance, the installation must not be used for other purposes.• During inspection, maintenance, or cleaning, the hydraulic feed to the support arm must be disconnected to prevent it being accidentally switched on.• The local work and safety regulations must be observed.• If the installation is to be used in the dark, then sufficient lighting must be used (approx. 50 lux at the place of operation).
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Operating personnel:

	<ul style="list-style-type: none">• Operating personnel must be older than 18 years of age.• Only individuals authorized by the owner may work on or with the installation.• Operators may only perform work activities that they are trained for. This applies to both the maintenance work and normal usage.• The operating personnel must be acquainted with all situations that can occur.• If the operating personnel discover faults or risks or do not agree with the safety measures, this must be reported to the owner or person in charge.
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3. Description of components

Element	Explanation
Tool holder	The tool holder is not part of the delivery. It is the user's responsibility to ensure that a suitable tool holder is used for the support arm. Where you read tool holder, you can also read mini-crane or digger.
Support arm	The support arm or DRHS55 ensures that the tool can be stably connected to the tool holder and then can be operated in two different ways.
Tool	The tool is not part of the delivery. It is the user's responsibility to ensure that a suitable tool is used for the support arm.

3.1. Tool nesting place

Element	Explanation
Tool nesting place	The piece attaching the arm to the tool holder is a CW coupling, standard CW-10. The hydraulic coupling works using two double-acting hydraulic functions. These must be connected to the double rotator by an expert.

3.2. Support arm components

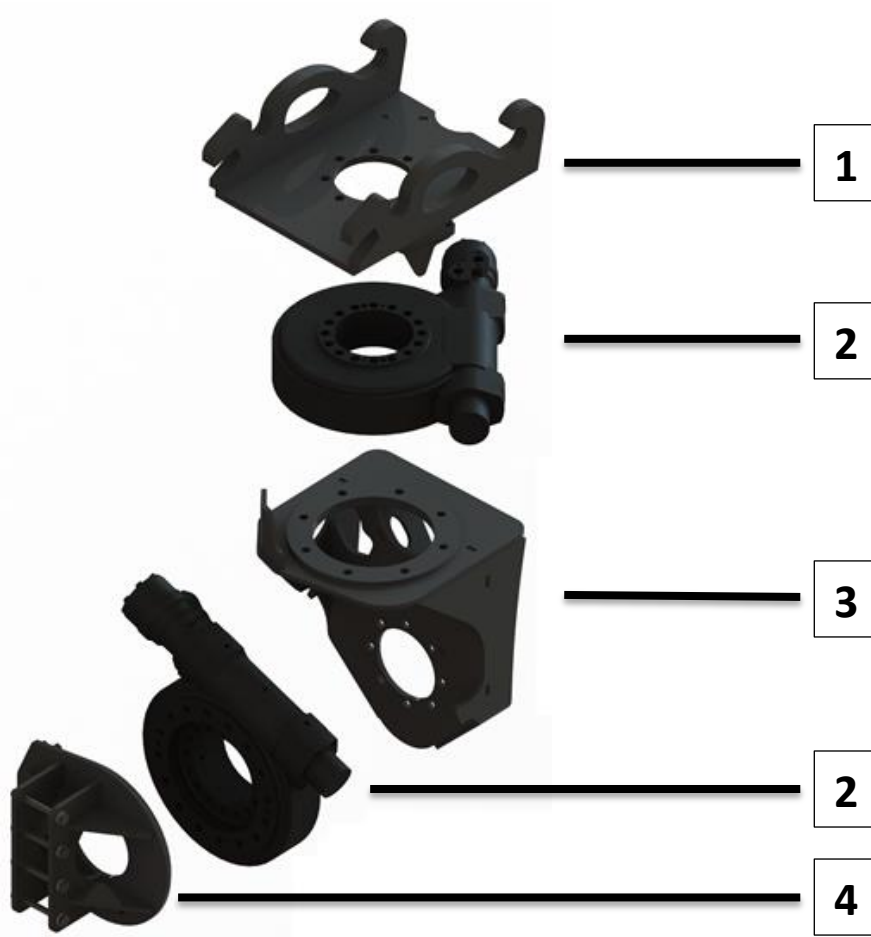



Figure 1: Overview of support arm mechanical components.

Figure 1	Element	Explanation
1	CW coupling	This is the coupling with the tool holder. The mini-crane or digger must be connected to it.
2	Rotator	Turning the rotator allows the tool to be maneuvered into different positions.
3	Connecting piece	This is the connection between the two rotators. The type plate is also attached here.
4	Tool coupling	This is the coupling with the tool. The tool can be coupled to the support using an 80 x 80 mm coupling.

4. Operation

4.1. Make the support arm ready for use


No.	Action	Action	Result
1	Select the correct tool holder. 	Ensure that the tool holder is sufficiently strong and stable enough for the support arm (see Section 1: Technical specifications for the unladen weight, the load in the nesting place, and the resulting torque in the nesting place). Ensure that the maximum pressure and rotational speed (oil flow) cannot be exceeded. Ensure that there is sufficient hydraulic control function available for the tool holder.	Not respecting the specified limits may damage the installation and injure bystanders.
2	Connect the support arm mechanically to the tool holder.	Place the arm in the correct position so that the base is vertical. Also, ensure that you actually have the desired amount of ground clearance.	
2	Connect the hoses.	Connect the hoses for the supply and outlet lines. See the tool holder manual for the correct connection positions.	
3	Adjust the oil supply.	Adjust the generator for the tool holder so that the maximum pressure and rotational speed cannot be exceeded. This depends on the type of tool holder used. See the tool holder manual.	

4.2. Carry out the work activities



Observe the safety instructions listed in Section 2.
Consult the tool holder manual to understand how to correctly operate the control functions.
Consult the tool holder manual to acquaint yourself with the proper safety and operation instructions.

5. Maintenance

	<p>Components may only be replaced or repaired using components delivered by or approved by the manufacturer.</p> <p>If work activities will be carried out on the installation, the support arm must always be disconnected from the supply. You can do so using the quick-release couplings.</p> <p>Only trained and/or experienced individuals who can demonstrate they have sufficient knowledge of mechanical and hydraulic installations may perform the maintenance work.</p> <p>The installation may be spray cleaned using a high-pressure jet cleaner. However, never spray the hydraulic components.</p>
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Daily maintenance

No.	What to do	Action	Result
1	Lubricate	Spray grease in the grease nipples. These are located in the rotators.	

Weekly maintenance

No.	What to do	Action	Result
1	Tighten bolts	Check the fastener bolts.	
2	Visual inspection	Visually inspect the structure and the hydraulic installation for damage and cracks.	

Yearly maintenance

No.	What to do	Action	Result
1	Inspect	Check the following parts for damage, cracks, and play: Steel parts. Fasteners. Turntable bearings.	
2	Replenish the grease of the turntable bearing.	Remove the old grease from the turntable bearing, the worm transmission, and the bearings by cleaning these and/or pressing it out using fresh grease. Fill the turntable bearing, worm transmission, and bearings with new grease.	

6. Malfunction analysis

	Malfunction	Solution
1	Insufficient hydraulic capacity available	Check that the hydraulic hoses and/or lines are connected correctly.
2	Tool will not start up	Check that the hydraulic hoses and/or lines are connected correctly.
3	Switching between hydraulic functions does not work.	Check the electrical circuit. Check that the control valve works or not.
4	Tool rotation function does not work	Check that the key motor rotator is intact. Check the over-pressure valve Check that the control valve works or not.

If you cannot resolve the malfunction using the recommendations in the above table, consult with your dealer or maintenance department.

7. Disposal

When replacing components or at the end of the lifespan, ensure that all materials are disposed of, destroyed, or reused in a “legally” responsible and environmentally friendly manner.

