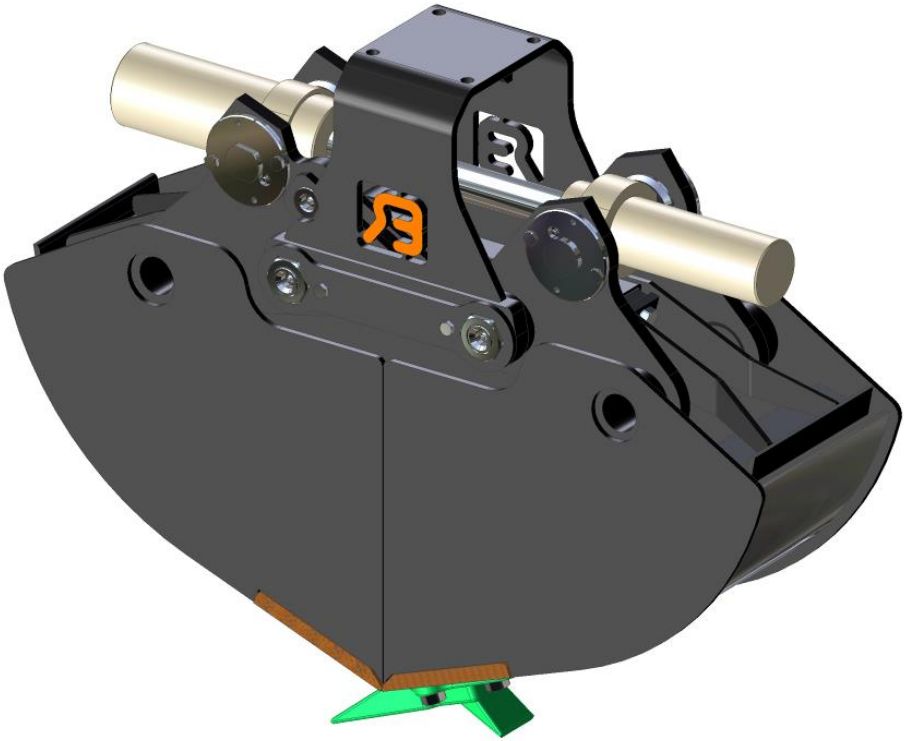
OPERATING MANUAL

Grab Bucket HBC



Please read this manual carefully before using this product!

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1. OPERATIONAL CONDITIONS

This product is a grab bucket, which is suitable for normal, light-duty digging in sand and clay and is considered an exchangeable equipment within the scope of the machinery directive 2006/42/EC. Be sure that the machine, of which this grab will be part of, meets the appropriate requirements and/or regulations and is well maintained.

This grab is equipped with a cylinder fitted with two pistons, which gives the grab bucket great penetrating power. For more heavy duty work, screw-on teeth can be attached.

As this grab can be equipped with a hoisting hook it is also possible to lift goods. The user has to use approved hoisting equipment (chains, hoisting hooks etc.).

Notes:

When designing this product, account was taken not only of normal usage but also of usage to be reasonably expected.

If the customer modifies the product without the manufacturer's knowledge, the customer (the user) is liable for the consequences and the guarantee becomes null and void.

Maintenance is, of course, permitted, providing it is carried out according to the instructions provided in the manual.

Warning: Ensure that there are *no people within working range* of this product when it is being used!

2. ASSEMBLING/DISMANTLING:

2.1 THE CONNECTOR PLATE:

Assembly:

Place the connector plate on the saddle plate.
Check that the bolt-holes in the connector plate and the saddle plate correspond with each other.
Fit the 4 bolts and nuts supplied.
Tighten everything properly.
After using the product the next time, check the bolts for tightness and retighten them if necessary.

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N.B.:

Always fit the nut on top.
Before fitting the connector plate, determine first how the hoses will run from your rotator to the cylinder.

2.2 THE ROTATOR:

2.2.1 Assembling the rotator drive shaft:

Place the rotator drive shaft in the connector plate.
If the outside measurements of the rotator shaft do not correspond with the inside measurements of the connector bush, you probably have the wrong connector plate for your rotator. If so, contact your supplier.
Rotate your rotator shaft until the hole in the rotator shaft is in front of the connector bush hole. After this, mount the connector pin and the hairpin spring.

2.2.2 Assembling the rotator with flange fitting:

If you are using a rotator with a flange fitting, the drill-hole pattern in the saddle plate must correspond with the drill-hole pattern in the rotator.
Now, you just fasten the rotator to the saddle plate with a bolt joint, according to the instructions of the rotator supplier.

2.3 THE HOSES FROM CRANE TO ROTATOR:

The rotator hose connections used for rotation are fitted with throttle valves. You may not use the rotator without these throttle valves.
The hoses from the crane to the rotator used for rotation must be connected to a connection point supplied with a throttle valve.
The hoses from the crane to the rotator, which are used for grabbing, must be connected to the two remaining connection points on the rotator.

Note:

If it appears that the operation of the grab bucket and/or rotator does not correspond with the data on your operating handles, then you have probably connected the hoses incorrectly.

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2.4 THE HOSES BETWEEN ROTATOR AND CYLINDER:

Note:

When using a rotator purchased from Bakker Hydraulic Products BV the hoses that connect this rotator and the hydraulic cylinder should be ordered from the manufacturer. You can then be sure that the hoses are the right length and diameter. If required, reinforced hoses can be supplied as extras by and in consultation with the manufacturer.

2.4.1 Mounting the hoses on a rotator with drive shaft:

Fit a hose to one of the hose connections on the rotator shaft (ensure that you have the right diameter hose). Now fasten the other end of this hose to one of the connections on the cylinder.
Repeat this to connect the second hose.

Note: If the grab bucket does not function properly after mounting the hoses, swap around the hoses from the crane to the rotator. If the grab bucket still does not operate to your complete satisfaction, contact the manufacturer or your nearest dealer.

2.4.2 Mounting the hoses on a rotator with flange fitting

To fit the hose to the hose connection on the hydraulic cylinder (2.4.1).
To connect the hose to the rotator, please refer to the rotator manufacturer.

2.5 THE LINK:

Assembly: A link is always mounted between the rotator and the jib of the crane. Mount the link at the top of the rotator. Mount the link pin and locking pin. Check whether the link can move freely. Connect and lock the link to the crane.

Note: Make sure that there is as little sideways slack as possible. If necessary, mount spacers.

2.6 THE SADDLE PLATE:

2.6.1 Dismantling the saddle plate:

Remove the so-called "locking spanner", which is fastened to the bottom strip of the saddle plate. Use this spanner to undo the two locking nuts.
Undo the two M10 bolts and remove the two shafts.
Now the saddle plate can be removed without any problems.

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2.8.2 Assembling the saddle plate:

Assemble the saddle plate in the reverse order to which you dismantled it.

2.7 THE CYLINDER:

2.7.1 Removing the cylinder:

Undo the four bolts. Remove the four flanged bushes.
You can now remove the whole cylinder.

Dismantling the cylinder:

Unscrew and remove the head bush.
When the head bush is removed, carefully remove the piston rod.

Caution! Take care not to damage the piston rod.

Reassembling the cylinder:

Assemble the cylinder parts in the reverse order to which you dismantled them.

N.B.: When mounting the head bush, you must use Loctite type 243 or a comparable locking agent.

3. MAINTENANCE AND REPAIR

- Check pins and bushes every year for slack (maximum 0.8 mm).
- If the blades are worn, they must be replaced by new blades.
- Regularly grease the pivots (steady link, cylinder suspension and pins) to prevent penetration of sand, dirt, etc.
- After 20 working hours, check all bolted connections and tighten if necessary.

Caution! With all maintenance activities on the grab bucket, the grab bucket must be non-operational and stationed on the ground.

Without lubrication	Tightening torque
M 10 8.8	37 Nm
M 16 8.8	162 Nm
M 16 10.9	300 Nm

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4. TROUBLESHOOTING

Problem: Grab closes automatically when free suspended .
Possible causes: - Piston seals worn

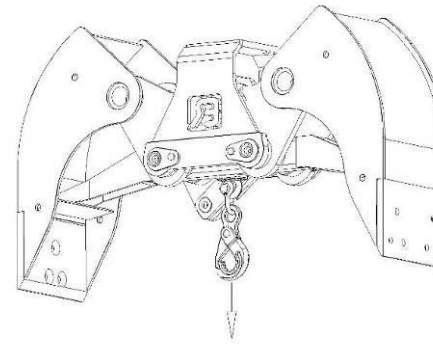
Tips for tracing faults:

- The cylinder may not display any external leakage's. If it does, check that the head bush is tight. If the head bush is loose, the seals must be replaced.
- With the grab bucket in the open position, disconnect the hoses from the crane and check whether the grab bucket automatically closes when freely suspended.

If it does: - check the piston seals and replace if necessary.

TECHNICAL DATA:

Grab type	:	HBC
Width	:	☐ 30 cm ☐ 50 cm ☐ 40 cm ☐ 60 cm
Capacity	:	☐ 85 Ltr ☐ 145 Ltr ☐ 115 Ltr ☐ 175 Ltr
Weight	:	☐ 135 kg ☐ 159 kg ☐ 147 kg ☐ 170 kg
Max. working pressure	:	250 Bar
Press strength	:	36 kN.
Maximum oil flow	:	40 l/min
Max. hoisting load		



2000 kg

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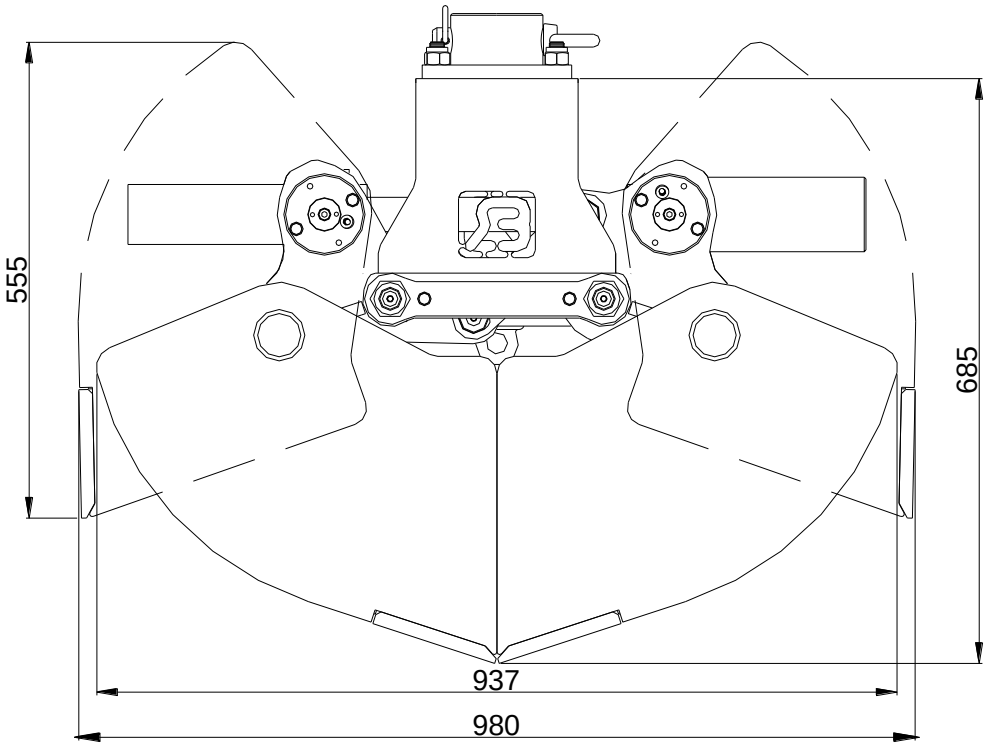

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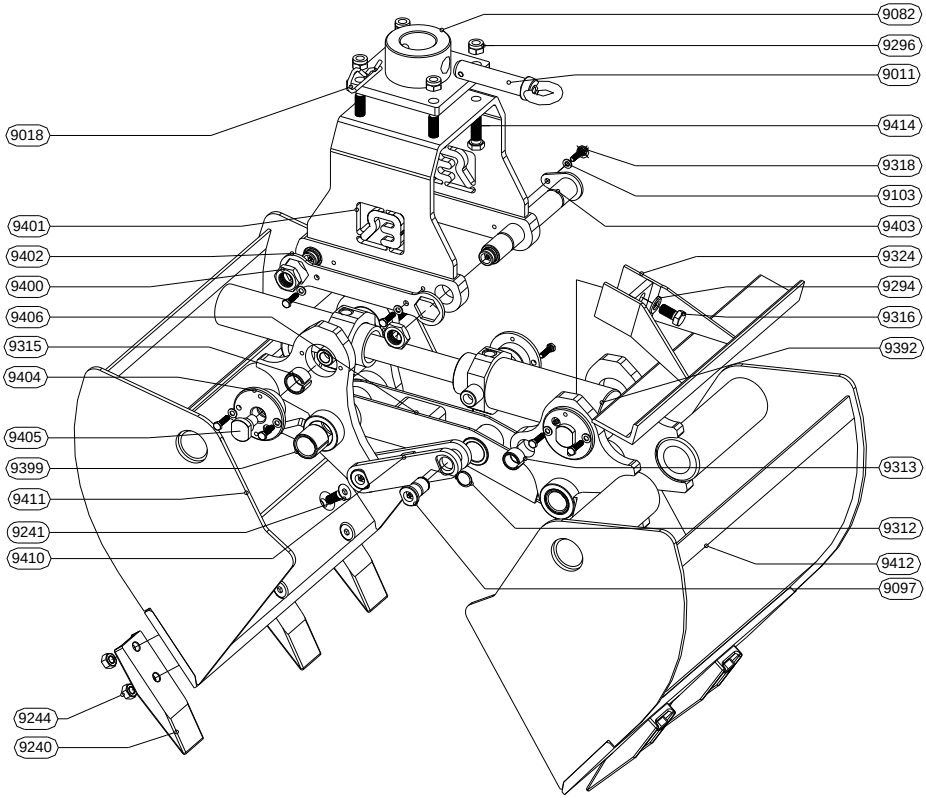

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SPARE PARTS

PART N^{O}	QUANTITY	SPECIFICATION
9011	1	CONNECTOR PIN
9018	1	HAIRPIN SPRING
9082	1	CONNECTOR PLATE
9097	2	PIN
9103	12	SPRING WASHER
9240	see chart	TOOTH
9241	see chart	BOLT
9244	see chart	NUT
9294	4	SPRING WASHER
9296	4	NUT
9312	2	CIRCLIP Ø 25 MM
9313	2	SPLIT BUSH
9315	4	SPLIT BUSH
9316	4	BOLT
9318	12	BOLT
9324	2	EJECTOR
9392	1	CYLINDER
9399	4	SPLIT BUSH
9400	2	NUT
9401	1	SADDLE PLATE
9402	1	LOCKING SPANNER
9403	2	SHAFT
9404	4	FLANGED BUSH
9405	4	SECURING BOLT
9406	1	BASE OF EJECTOR
9410	1	STEADY LINK
9414	4	BOLT

GRAB TYPE:	HBC-30	HBC-40	HBC-50	HBC-60
NUMBER: 9241/9244	6	10	10	10
NUMBER: 9240	3	5	5	5

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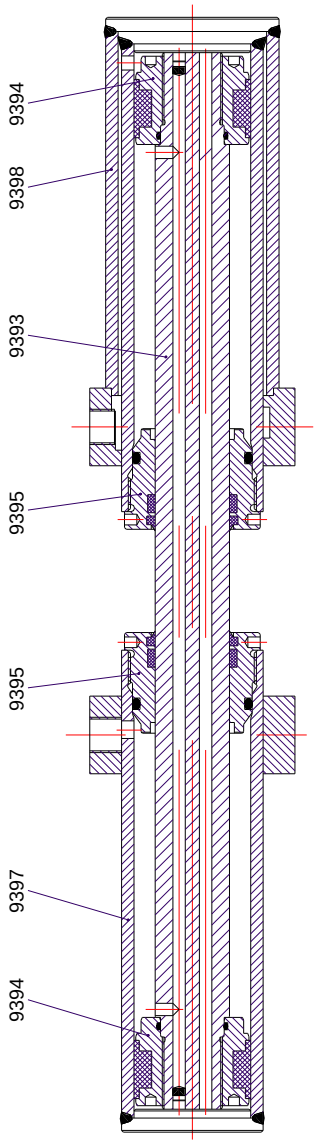

9392	CYLINDER COMPLETE
9393	PISTON ROD
9394	PISTON
9395	HEAD BUSH
9396	CYLINDER SEALS (2 per cylinder)
9397	CYLINDER CASING (single walled)
9398	CYLINDER CASING (double walled)

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