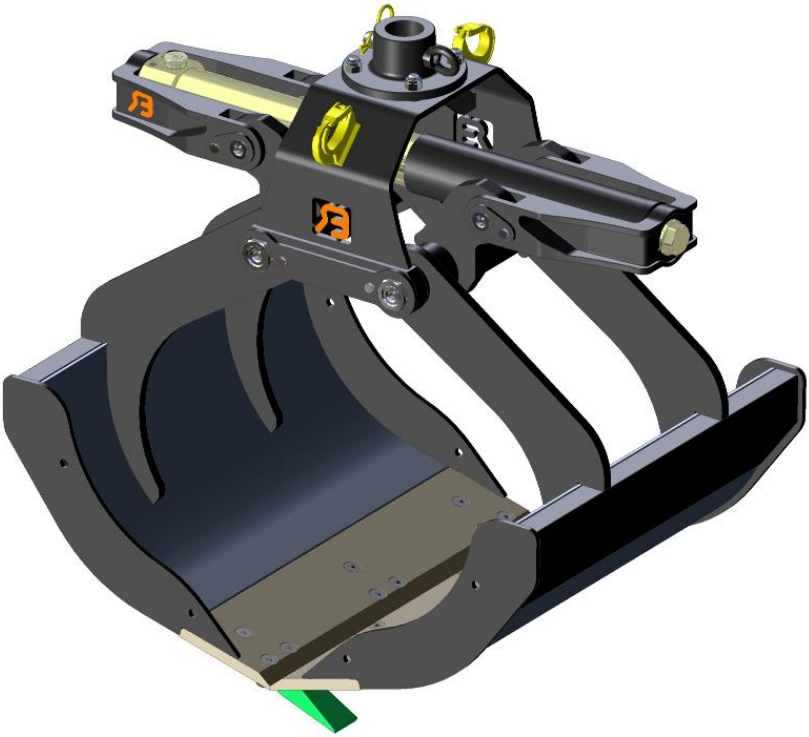
OPERATING MANUAL

Grab Bucket RBOA



Please read this manual carefully before using this product!

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1. OPERATIONAL CONDITIONS

This product is a universal grab bucket, which is also known as the Jack-of-all-trades of grab buckets 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.

Wood, tree-branches, rubble, sand and gravel... this grab bucket can tackle almost anything. Ideal for excavation and digging in earth and heavy clay.

Using detachable side plates, delivered separately, you can also use this grab bucket to load gravel, grit, and the like.

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

This product is not suitable for breaking asphalt, uprooting trees or loading scrap onto lorries etc. if it is unevenly loaded (crowbar effect).

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!

Caution: During transport, secure the grab bucket to the loading platform or to the machine itself.

Take note of the maximum headroom!

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2. ASSEMBLING/DISMANTLING :

2.1 THE SUSPENSION PLATE :

Assembly :

Place the suspension plate on the saddle plate. Check that the bolt-holes in the suspension 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.

N.B.:

Always fit the nut on top. Before fitting the suspension 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 suspension plate.
If the outside measurements of the rotator shaft do not correspond with the inside measurements of the suspension bush, you probably have the wrong suspension 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 suspension bush hole. After this, mount the suspension 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.

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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.

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, see Section 2.4.1 above.
To connect the hose to the rotator, please refer to the rotator manufacturer.

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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 DETACHABLE SIDE PLATES :

Assembly :

A standard feature of the grab bucket is that it has holes for fastening detachable side plates. The detachable side plates (one set = four plates), which are supplied as extras, can be fixed to the sides of the grab bucket by means of a few bolts.
To do this, mount two side plates to one side of the grabber and adjust them so that the grab bucket closes properly (using the slotted holes in the detachable side plates). Now tighten the bolts well.
Do the same on the other side of the grab bucket. Your grab bucket with side plates is now ready for use.

Caution : Only use detachable side plates when loading loose material!

2.7 THE SADDLE PLATE :

2.7.1 Dismantling the saddle plate :

Undo the two M10 bolts and 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.

2.7.2 Assembling the saddle plate :

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

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2.8 THE CYLINDER :

Removing the cylinder :

Place the grab bucket in the closed position and make sure it is stable.
Unscrew the nuts at each end of the cylinder.
Pull in the piston rod with the aid of oil pressure and make sure when doing so that the cylinder ends are protected from damage.
Once this has been done, the cylinder can be removed in its entirety.

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.
To replace the seals, you must first remove the outer cylinder tube.
The non-return valve can be removed and mounted at all times without any problems, providing there is no pressure on the cylinder.

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 the weld-on hooks visually once a year, and test them once every 4 years with an 8000 kg load divided into 4000 kg per hook.
- Test the non-return valve once a year to ensure that it is working properly.
- Check pins and bushes every year for slack (maximum 0.8 mm).
- If the blades are worn, they must be replaced by new blades (maximum 25 mm per blade edge).
- 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.

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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 12 8.8	65 Nm
M 16 10.9	300 Nm
M 16 8.8	162 Nm

4. TROUBLESHOOTING

Problem : Load is no longer held.

Possible causes :

- Non-return valve and/or seals
- Piston seals worn
- External leakage's to cylinder tube

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 :

- the non-return valve and/or seals are/is defective
- check the piston seals and replace if necessary.

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TECHNICAL DATA :

Grab type : RBOA

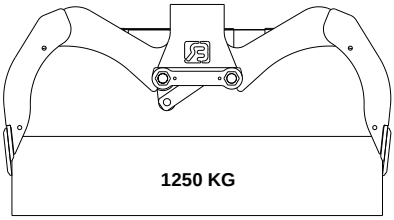
Width : ☐ 60 cm ☐ 80 cm ☐ 100 cm
☐ 70 cm ☐ 90 cm ☐ 120 cm

Capacity : ☐ 275 L ☐ 400 L ☐ 500 L
☐ 335 L ☐ 450 L ☐ 600 L

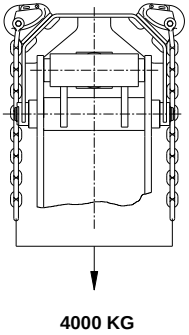
Weight : ☐ 300 kg ☐ 335 kg ☐ 370 kg
☐ 320 kg ☐ 350 kg ☐ 400 kg

Max. working pressure : 250 Bar

Press strength : 20 kN



Max. hoisting load:



Maximum oil flow in non-return valve: 40 L./min.

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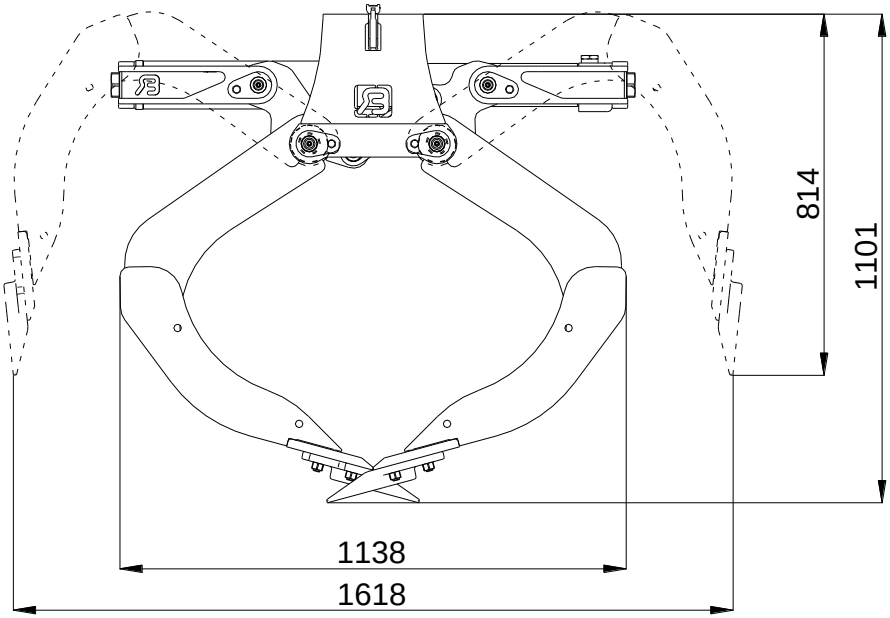
RBOA



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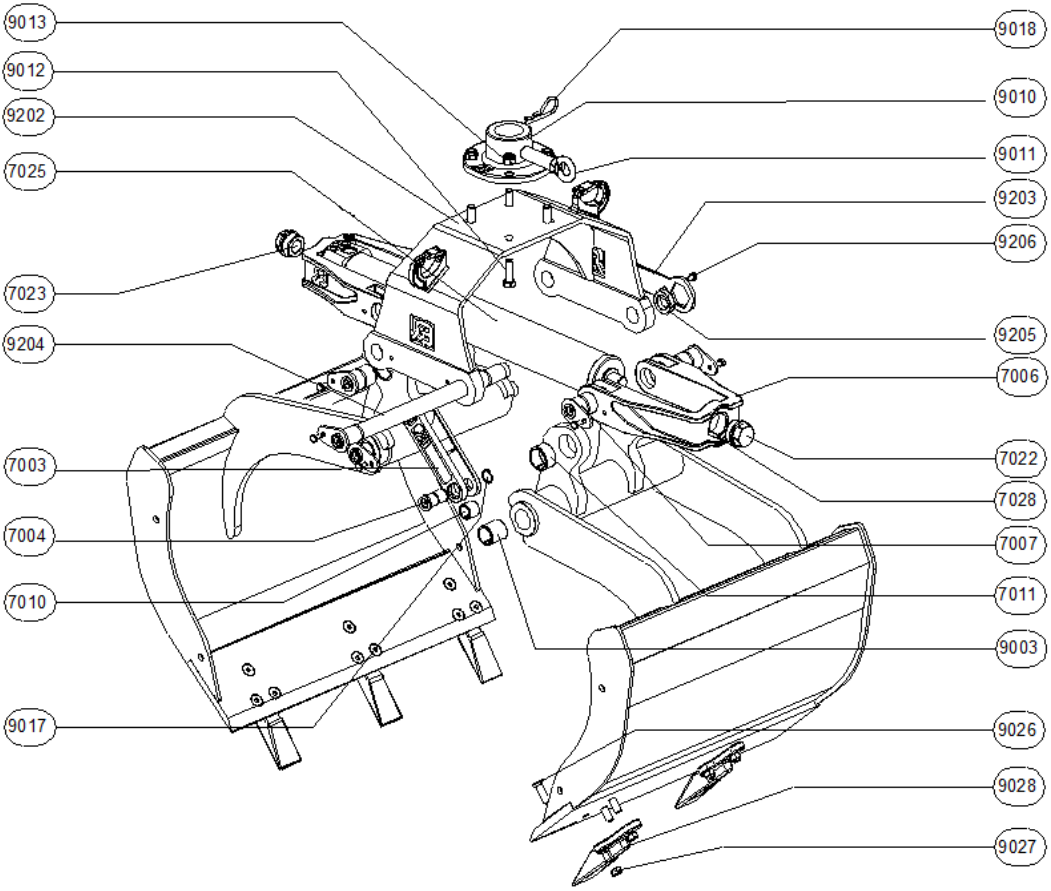
RBOA
60-70-80



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PART NO	QUANTITY	SPECIFICATION
7003	1	STEADY LINK
7004	2	PIN
7006	2	YOKE
7007	4	PIN
7010	2	SPLIT BUSH
7011	4	SPLIT BUSH
7022	1	NUT
7023	1	NUT
7025	1	CYLINDER
7028	2	ROLL PIN
9003	4	SPLIT BUSH
9010	1	CONNECTOR PLATE
9011	1	CONNECTOR PIN
9012	4	BOLT
9013	4	NUT
9017	2	CIRCLIP
9018	1	HAIRPIN SPRING
9026	15	BOLT
9027	15	NUT
9028	5	TOOTH
9202	1	SADDLE PLATE
9203	1	LOCKING SPANNER
9204	2	SHAFT
9205	2	NUT
9206	4	BOLT

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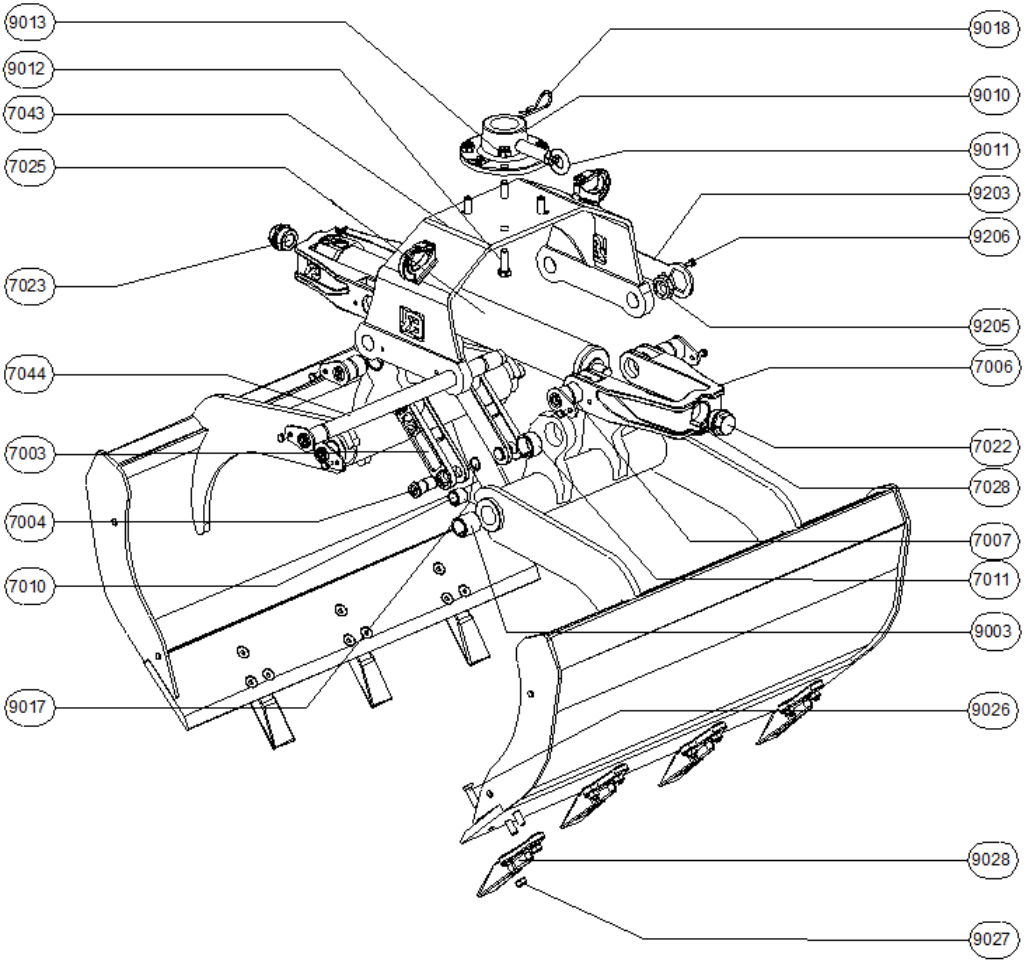
RBOA
90-100-120



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7022	1	NUT
7023	1	NUT
7025	1	CYLINDER
7028	2	ROLL PIN
7043	1	SADDLE PLATE
9003	4	SPLIT BUSH
9010	1	CONNECTOR PLATE
9011	1	CONNECTOR PIN
9012	4	BOLT
9013	4	NUT
9017	2	CIRCLIP
9018	1	HAIRPIN SPRING
9026	21	BOLT
9027	21	NUT
9028	7	TOOTH
9203	1	LOCKING SPANNER
9204	2	SHAFT
9205	2	NUT
9206	4	BOLT

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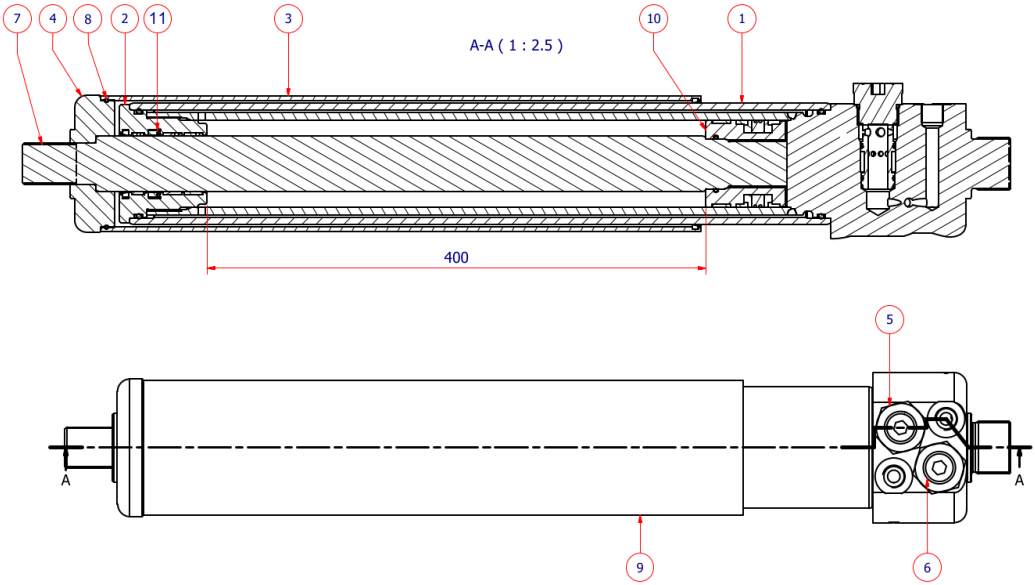

POS	PART N°	SPECIFICATION	QUANTITY
1	9111	CYLINDER CASING	1
2	9119	HEAD BUSH	1
3	7021	PISTON ROD PROTECTION	1
4	7024	COVER PLATE	1
5	9200	NON-RETURN VALVE	1
6	75798	COUNTERBALANCE VALVE	1
7	9259	PISTON ROD	1
8	7026	LOCKING WIRE	1
9	7025	CYLINDER	1
10	9211	PISTON	1
11	9116	SEAL KIT CYLINDER	1
	9201	SEAL KIT NON-RETURN VALVE	1
	9116	SEAL KIT COUNTERBALANCE VALVE	1

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