



OPERATING MANUAL

Grab Bucket KSX



Please read this manual carefully before using this product!

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1. OPERATIONAL CONDITIONS

This product is a grab bucket, that is suitable for excavation activities, (e.g. the digging of graves and the loading and unloading of bulk materials) 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 can be used on a lorry loading crane or a midi excavator.

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.).

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 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 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.

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.

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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 (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.

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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 bolts and remove the two shafts.

Now the saddle plate can be removed without any problems.

2.6.2 Assembling the saddle plate:

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

2.7 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.

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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.
- Check pins and bushes every year for slack (maximum 0.8 mm).
- If the blades are worn (maximum 25 mm per blade edge), 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.

4. TROUBLESHOOTING

Problem: Grab bucket automatically closes when it is freely suspended.

Possible cause: - Piston seals worn

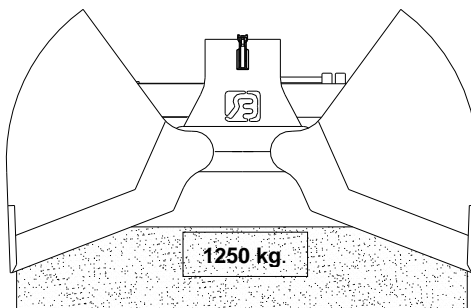
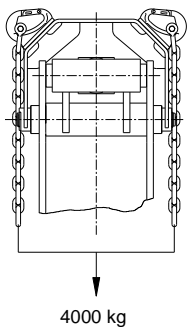
Tips for tracing faults:

- 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:

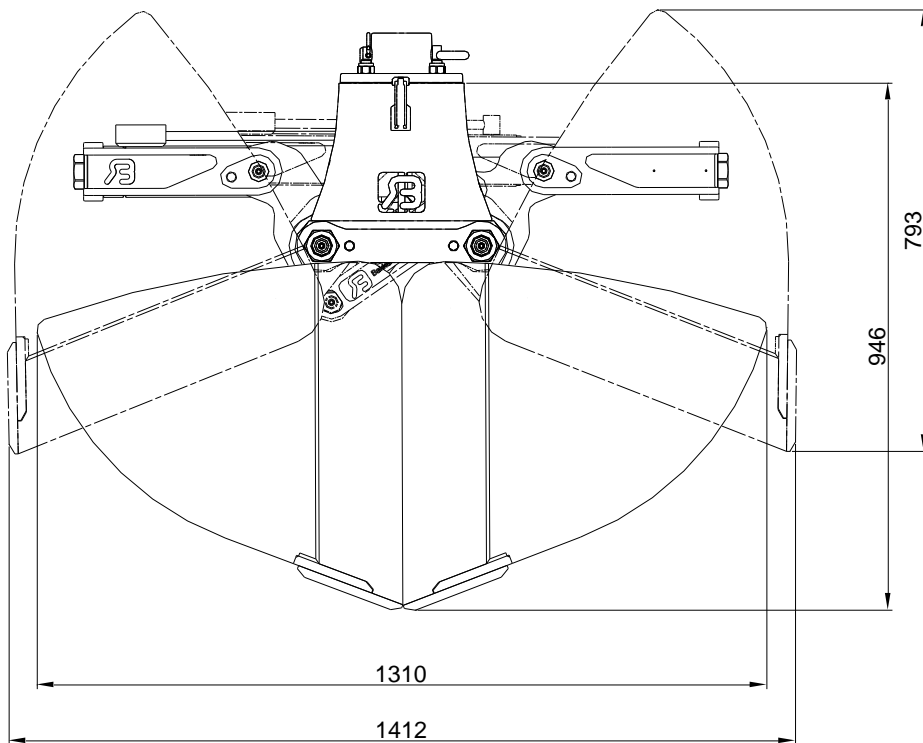
Grab type	:	KSX					
Width	:	<input type="checkbox"/> 55 cm	<input type="checkbox"/> 80 cm	<input type="checkbox"/> 100 cm	<input type="checkbox"/> 65 cm	<input type="checkbox"/> 90 cm	<input type="checkbox"/> 120 cm
Capacity	:	<input type="checkbox"/> 300 Ltr	<input type="checkbox"/> 430 Ltr	<input type="checkbox"/> 540 Ltr	<input type="checkbox"/> 350 Ltr	<input type="checkbox"/> 490 Ltr	<input type="checkbox"/> 650 Ltr
Weight	:	<input type="checkbox"/> 310 kg	<input type="checkbox"/> 345 kg	<input type="checkbox"/> 380 kg	<input type="checkbox"/> 325 kg	<input type="checkbox"/> 360 kg	<input type="checkbox"/> 410 kg
Max. working pressure	:	250 Bar					
Press strength	:	25 kN.					
Maximum oil flow	:	40 l/min					
Max. hoisting load							



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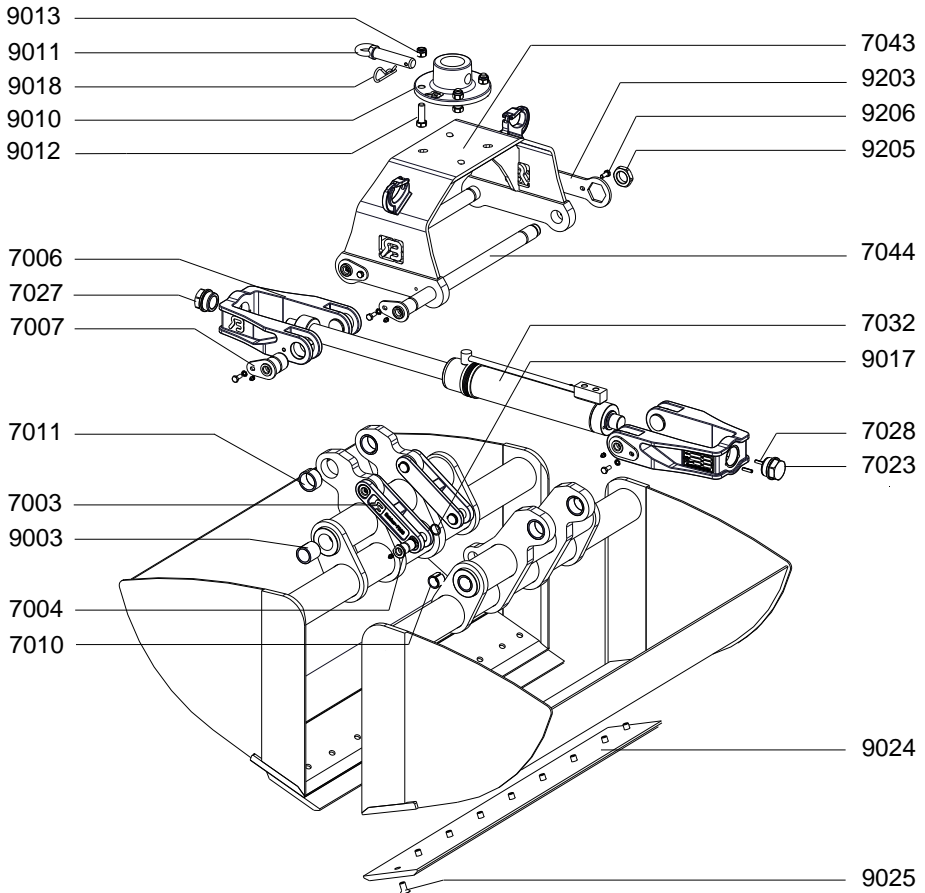
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SPARE PARTS

PART N ^o	QUANTITY	SPECIFICATION
7003	1	STEADY LINK
7004	2	PIN
7006	2	YOKE
7007	4	PIN
7010	2	SPLIT BUSH
7011	4	SPLIT BUSH
7023	1	NUT
7027	1	NUT
7028	2	ROLL PIN
7032	1	CYLINDER
9003	4	SPLIT BUSH
9010	1	SUSPENSION PLATE
9011	1	SUSPENSION PIN
9012	4	BOLT
9013	4	NUT
9017	2	CIRCLIP Ø 30 MM
9018	1	HAIRPIN SPRING
9024	2	BLADE
9025	see chart	BOLT
9202	1	SADDLE PLATE
9203	1	LOCKING SPANNER
9204	2	SHAFT
9205	2	NUT
9206	4	BOLT
GRAB TYPE		KSX-55 KSX-65 KSX-80
Number of bolts 9025		8 10 10

KSX 90-100-120



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SPARE PARTS

PART N ^o	QUANTITY	SPECIFICATION
7003	1	STEADY LINK
7004	2	PIN
7006	2	YOKE
7007	4	PIN
7010	2	SPLIT BUSH
7011	4	SPLIT BUSH
7023	1	NUT
7027	1	NUT
7028	2	ROLL PIN
7032	1	CYLINDER
7043	1	SADDLE PLATE
7044	2	SHAFT
9003	4	SPLIT BUSH
9010	1	SUSPENSION PLATE
9011	1	SUSPENSION PIN
9012	4	BOLT
9013	4	NUT
9017	2	CIRCLIP Ø 30 MM
9018	1	HAIRPIN SPRING
9024	2	BLADE
9025	see chart	BOLT
9203	1	LOCKING SPANNER
9205	2	NUT
9206	4	BOLT
GRAB TYPE		KSX-90 KSX-100 KSX-120
Number of bolts 9025	14	14 18

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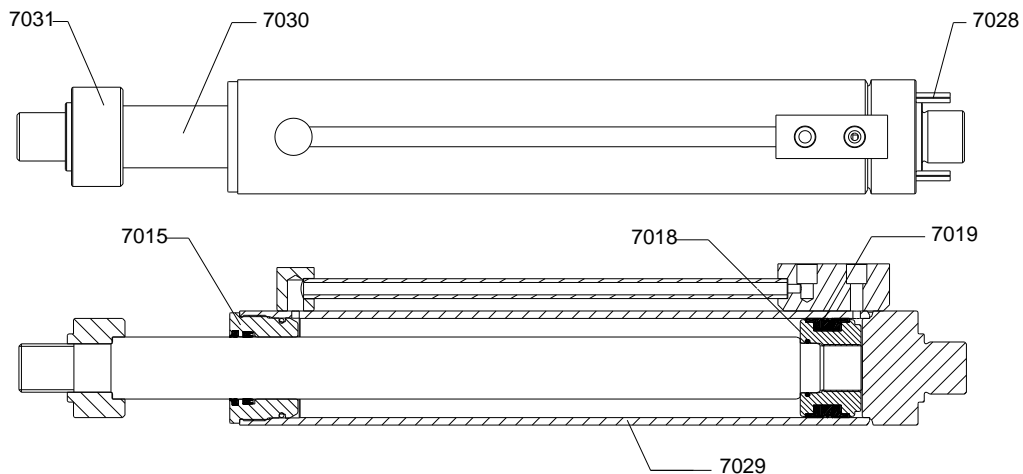
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CYLINDER KS 80-50-405



- 7015 HEAD BUSH
- 7018 PISTON
- 7019 CYLINDER SEALS
- 7028 ROLL PIN
- 7029 CYLINDER CASING
- 7030 PISTON ROD
- 7031 COVER PLATE
- 7032 CYLINDER

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