

User Manual

EN English

msc

machinery scandinavia

MADE IN SWEDEN

SE Svenska
Gratulerar till ditt köp av en äkta svenskbyggd borrmaskin. Vi är stolta över att vi kan märka våra maskiner med ”Made in Sweden”. I Rosenfors har vi byggt borrmaskiner sedan 1937.

Innan du installerar och börjar använda din nya maskin vill vi gärna att du besöker vår hemsida: www.mscab.se/downloads. Lösenord: 57797

Där ska du ladda ned:
1. Elritningar
2. Reservdelslistor
3. Extra manual om du behöver.

Sist men inte minst viktigt, läs igenom vår manual och lär dig känna din nya maskin.
Lycka till med din nya maskin!

EN English
Congratulations on your purchase of a real Swedish built drill. We are proud that we can label our machines with “Made in Sweden”. In Rosenfors, we have been building drilling machines since 1937.

Before you install and start using your new machine, we would like you to visit our website: www.mscab.se/downloads. Password: 57797

There you should download:
1. Electrical drawings
2. Spare parts list
3. If you need an extra manual.

Finally, read the manual and get to know your new machine.
Good luck with your new machine!

DE Deutch
Herzlichen Glückwunsch zum Kauf einer in Schweden gebauten Bohrmaschine. Wir sind stolz darauf, dass wir unsere Maschinen mit “Made in Sweden” kennzeichnen können. In Rosenfors bauen wir seit 1937 Bohrmaschinen.

Bevor Sie Ihren neuen Bohrmaschine installieren und verwenden, möchten wir Sie bitten, unsere Website www.mscab.se/downloads zu besuchen. Passwort: 57797

Dort sollten Sie herunterladen:
1. Elektrische Zeichnungen
2. Ersatzteilliste
3. Zusätzliches Handbuch, wenn Sie brauchen

Lesen Sie abschließend das Handbuch und lernen Sie Ihre neue Maschine kennen.
Viel Glück mit Ihrer neuen Maschine!

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1. GENERAL

In this manual is presented all MSC drilling machines ranging from 25 to 35 mm. It has been prepared for those using the machine or who are responsible for its maintenance and service and should therefore be made readily available for all those concerned.

Read through the manual carefully before installing and starting up the machine. The machine is of simple design and robustly built, but we cannot guarantee perfect function if it is not correctly handled.

It is therefore necessary to make yourself thoroughly acquainted with its functions and to carry out practical tests on the various parts of the control system and the machine settings. Once these are mastered, the properties of the machine can be fully utilized and the component parts will give maximum service life.

Every machine is tested for accuracy and capacity at the factory. Experienced staff checks both the mechanical and electrical functions according to a standardized programme, meaning that we can guarantee workmanship of the highest and most consistent quality.

By following our directions and your own good judgement, we are convinced that your new machine will give you every satisfaction. However, should any problems arise, please do not hesitate to contact our dealer or us.

1.1 Guarantee

See the guarantee terms at our homepage “http://www.mscab.com”.

1.2 CE-labelling and Declaration of Conformity

An “EC Declaration of Conformity” accompanies machines delivered within the European Union (CE-labelled machines).

The declaration of conformity is valid only if the chuck guard (see figure 2) is used.

1.3 Safety

1.3.1 Safety messages

Safety messages in this manual are accompanied by a safety alert symbol and a signal word. The safety alert symbol is used to alert the reader about a potential risk of personal injury or damage on the equipment.

1.3.2 Safety regulations

Used correctly, your machine is one of the best concerning design and safety. However, any machine which is used incorrectly can be a safety risk.

It is very important, that those who use the machine are informed how to handle it correctly. They should read and understand these instructions, as well as all signs on the machine. Neglecting to follow the safety regulations can cause an accident.

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Warning: Using the machine incorrectly can cause serious accidents.
The machine has to be installed, used and maintained correctly.

All machines with rotating tools or details can cause accidents. It is therefore important that you as an operator are aware of those risks for any accident and that you avoid all possibilities for accidents.



Figure 1 - Warning symbols on the machine

- Always use appropriate clothes and personal equipment, so that you cannot get caught by rotating tools. Avoid using protective gloves if possible. Use hairnet if necessary.
- Always use eye protection, if there is a risk for chips or splashes from the coolant. Follow local instructions if existing.
- Never use the machine if it lacks necessary protection.
- The chuck guard (figure 2a) must always be used. For safety reasons, the chuck guard is equipped with a micro switch.



Figure 2a - Chuck guard (for machines within the EU). Figure 2b - Depth gauge (3).

- Depth gauge and Depth gauge rod (3) must never be removed from the machine.
- Keep clean around the machine to avoid stumbling against rotating tools.
- Make sure that the work piece is securely fastened at the table, see the examples in figure 3 and 4.

Warning: Never use your hand to hold the work piece.



Figure 3 - Fastening the table vice on the table, example

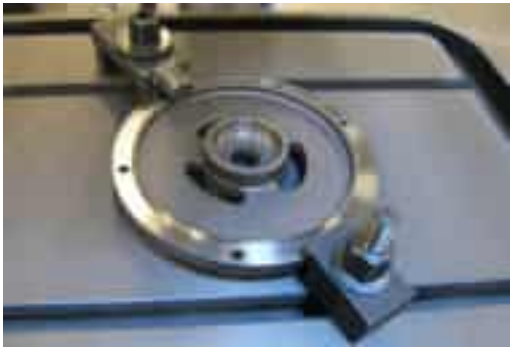


Figure 4 - Fastening the work piece on the table, example

- Make sure that the switch is in position “0” when changing tools or when cleaning the machine. Never brush away chips while the machine is operating.
- Never stretch yourself over the machine when it is running.
- Always stop the machine when not in use.
- Use faultless tools and the correct speed and feed for the tool. Make sure that the tool is the correct one for you operation.
- Make sure that the drill head, table arm and table are thoroughly fastened before starting up the machine.

2. Design and function

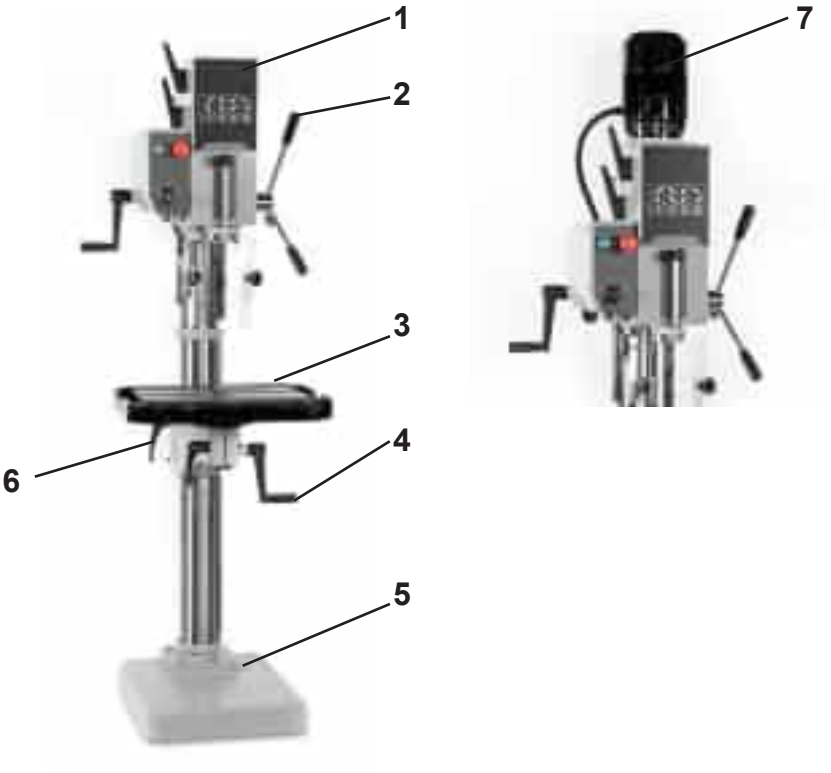


Figure 5 - Drilling machines

1. Drill head
2. Feed shaft with handle
3. Table
4. Crank for worm gear (2 pcs)
5. Base plate
6. Lock handle (3 pcs)
7. Flange motor (particular model)

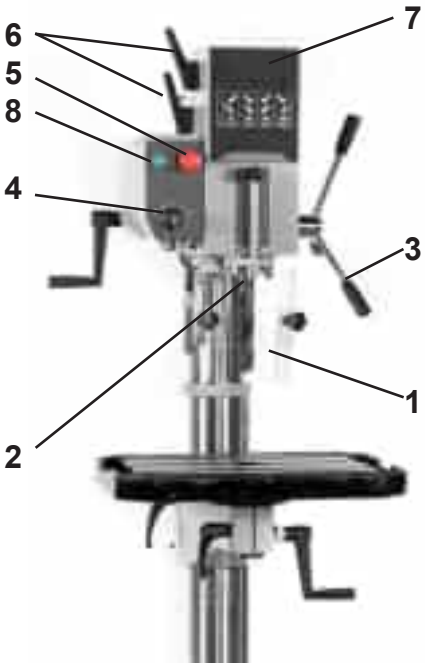
The gearbox is built according to our experienced methods for highest possible torque.

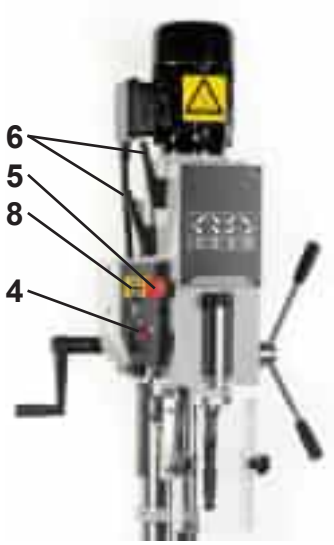
Helical gears combined with steel gears against reinforced fibre gears in the main gear box ensure higher operation efficiency, a more powerful drive mechanism and smooth operation.

Both the drill head and the table arm are adjustable 360° around the column and can be raised and lowered.

2.1 Drill head

2.1.1 Manual feed





25 mm Single phase

Figure 6 - Drill head, example

1. Chuck guard
2. Spindle quill
3. Depth gauge rod
4. Switch/speed selector
5. Emergency stop push button
6. Gear lever (2 pcs)
7. Gearbox
8. Start button

Emergency stop

See the location of the emergency stop push button (5) in figure 6. The emergency stop shall be used in case of emergency to stop the machine as fast as possible.

2.1.2 Automatic feed

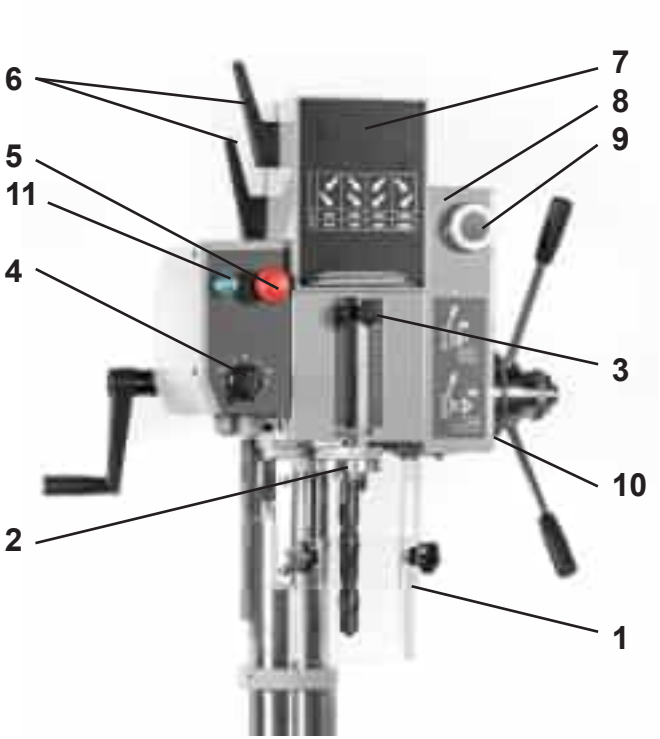


Figure 7 - Drill head

1. Chuck guard
2. Spindle quill
3. Depth gauge rod
4. Switch/speed selector
5. Emergency stop push button
6. Gear lever (2 pcs)
7. Gearbox
8. Power feed box
9. Knob for setting the feed speed
10. Oil level indicator
11. Start button

Emergency stop

See the location of the emergency stop push button (5) in figure 7. The emergency stop shall be used in case of emergency to stop the machine as fast as possible.

2.1.3 Electromagnetic feed

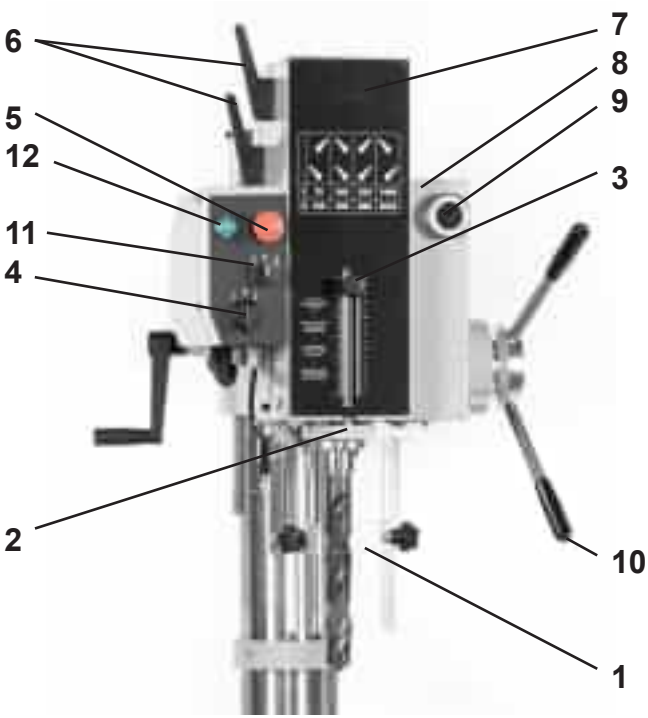


Figure 8 - Drill head

1. Chuck guard
2. Spindle quill
3. Depth gauge rod
4. Switch/speed selector
5. Emergency stop push button
6. Gear lever (2 pcs)
7. Gearbox
8. Power feed box
9. Knob for setting the feed speed
10. Push button for manual switch on/switch off when feeding/threading (3 pcs)
11. Feeding/threading selector
12. Start button

Emergency stop

See the location of the emergency stop push button (5) in figure 8. The emergency stop shall be used in case of emergency to stop the machine as fast as possible.

3. Installation

3.1 Set-up

Consider the following during set-up of the machine:

- The machine must be installed on a firm foundation. The base plate must be levelled with washers on the foundation bolts, to prevent harmful stresses when the nuts are tightened.
- Do not install the machine in a humid, dirty or badly illuminated environment.
- All bright parts of the machine are treated with rust prevention. By removing this, be careful not to use too strong cleaning compound. The paint might then get damaged.
- Make sure that the boring tool cone is well-cleaned.
- Be sure that the machine is equipped with all necessary protections to comply with the CE directives.
- For machines with automatic feed, the gear box must be filled up with oil, see chapter “5.1 Oil filling, feed gear box” on page 23.

3.2 Electric installation

Note! Electric installations have to be performed by a qualified electrician.

1. Make sure that the correct voltage is supplied to the machine.
2. Set up the electrical connections according to the attached circuit diagram.
3. Make sure that the drilling spindle has the correct rotation direction.

4. Handling

4.1 Manual feed

Warning: Use the lock handles to lock the drill head, table arm and the table. Make sure that the work piece is securely fastened at the table. Carefully read through the safety instructions in this manual before using the machine.

4.1.1 Drilling

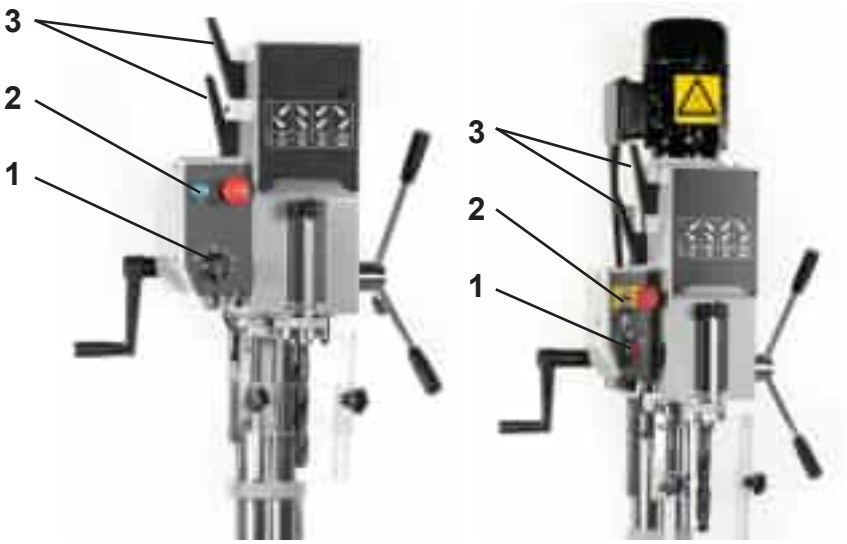


Figure 9 - Set-up

Note! The machine can not be shifted during operations.

Note! Always start single-phase machines in position “1”. When the machine has reached its top speed, the switch can be turned to position”2”.

1. Set the switch (1) to position “0”. Press the Start button (2) to set the machine ready for operation (the light in the button lights up). You can now drive forward / reverse and 2 speeds via the switch/speed selector (1).
2. At triggered Emergency Stop - Reset the emergency stop and proceed according to step 1.
3. At triggered overcurrent relay - Reset automatically, proceed according to step 1.
4. At triggered drill protection - Fold back the cover and proceed according to step 1.

4.1.2 Threading (Not applicable to 1-phase machines)

When using different courses of thread, it is not allowed to exceed the recommendation shown in the table below. Otherwise, the depth stop bottoms or gets displaced, or - in worst case - the quill collar might brake off. See the table:

Threads	Rotation speed - 50 Hz max.	Rotation speed - 60 Hz max.
0 - 0.5 mm	440 rpm	530 rpm
0.5 - 1.0 mm	265 rpm	320 rpm
1.0 - 2.0 mm	160 rpm	190 rpm

The maximum number of reversals is 5 per minute. In order to get better quality threading, we recommend using a floating tap wrench.

See figure 9.

1. Depending on the thread depth, the spindle speed should be set differently. See thectable above.
   Select the spindle speed using the two gear levers (1) on the left side of the gearbox. See the sign on the front side of the machine.
   If any of the gears is difficult to get into position, rotate the spindle nose manually.

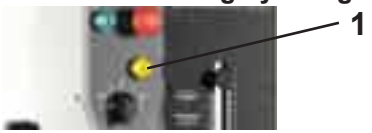
Note! The machine can not be shifted during operations.

2. There are 2 different ways to reverse the spindle rotation of the machine
   - Reversing using the switch/speed selector (2), see ” Reversing by using the switch/speed selector”.
   - Automatic reversing using the level switch. The desired drill depth is set with the drill depth stop (3), see ” Automatic reversing by using the drill depth stop (optional)”.

Reversing by using the switch/speed selector

1. Follow the steps in chapter 4.1.1.
2. Set the drill depth stop in the upper position.
3. Turn the switch/speed selector to position “1” or “2”, see the table above or the sign on the front side of the machine.
4. Feed the spindle manually downwards with the feed lever.
5. At the desired drill depth, turn the selector anti-clockwise to position “1” or “2”.
6. Feed the spindle manually upwards with the feed lever. Turn the selector clockwise to position “0”.

Automatic reversing by using the drill depth stop (optional)



1. Press the button (1) to select automatic reversing (the light in the button lights up).
2. Follow the steps in chapter 4.1.1.
3. Set the desired thread depth with the drill depth stop.
4. Feed the spindle manually downwards with the feed lever.
5. At the desired thread depth, the machine automatically reverses the spindle rotation.
6. Feed the spindle manually upwards with the feed lever. When the spindle reaches its upper position, it automatically resets the correct spindle rotation.

4.2 Machine with automatic feed

Warning: Use the lock handles to lock the drill head, table arm and the table. Make sure that the work piece is securely fastened at the table. Carefully read through the safety instructions in this manual before using the machine. For manual drilling and threading, make sure the claw coupling is inserted.

4.2.1 Drilling

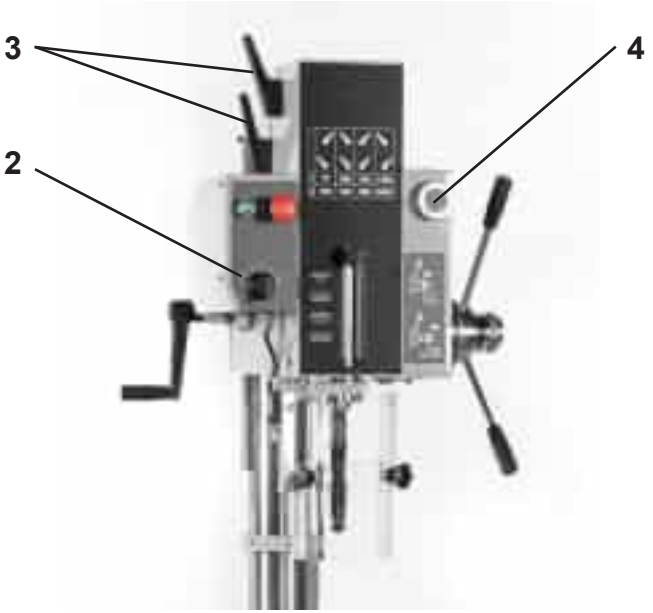


Figure 10 - Set-up

The working cycle of machine feeding is initiated as the drill spindle is fed down with the feed lever to the work piece, see chapter ”Machine feed drilling”.

See figure 10.

1. The machine is equipped with a 2-speed motor. Select the spindle speed using the two gear levers (3) on the left side of the gearbox, see the sign on the front side of the machine.
   If any of the gears is difficult to get into position, rotate the spindle nose manually.

Note! The machine can not be shifted during operations.

2. Turn the switch/speed selector (2) to position “1” or “2”, see the sign on the front side of the machine.
3. The feed speed is set with the knob (4) on the right side of the feed box.

Note! The feed rate can be set while the machine is in operation, but not when loaded. The knob can not be turned directly from the highest to the lowest feed rate, or vice versa. You always have to go through the middle positions.

4. Use machine feed drilling according to chapter" Machine feed drilling" or feed manually according to chapter " Manual drilling".
5. At bottom holes, repeat the drilling to eliminate tensions.
6. Check the measurements and adjust the drilling depth if necessary.

Machine feed drilling

1. Make sure the claw coupling is in its outer position.
2. Set the machine fed drill depth according to chapter "Setting the drill depth" below.
3. Feed down the drill spindle with the feed lever to the work piece. When the drill pressure is on, the machine feed is connected and the machine drills to the prese drill depth. The drill spindle then returns to its original position.
   The machine feed's repeated accuracy is 0.1 – 0.2 mm. If required, the feed can becancelled by holding back the hand feed lever.

Setting the drill depth

First, set the machine fed drill depth, see figure 11:



Figure 11 - Coupling

1. Lock the drill depth scale in its upper position.
2. Remove the coupling (1) towards the right.
3. Loosen the two hexagon socket head screws (2) in the hand lever fastener.
4. Feed the spindle down to the desired drill depth. In the event of machine feeding, the spindle goes approximately 3 mm longer than what is set.
   The mechanical design means that it has to be set this way.
5. Push the inner ring's (5) stop heel (6) against the top side of the stop pin (4).
6. Turn the grooved ring's (3) stopper toward the top of the stop heel.
7. Tighten both of the female screws before releasing the spindle.

Manual drilling

Note! Make sure the claw coupling is inserted.

1. Feed the spindle down to the desired drill depth.
2. Set the stop on the depth gauge rod in the desired position or else, set the stop in the upper position.

4.2.2 Threading

When threading with automatic reverse, please consider the following:

When using different courses of thread, it is not allowed to exceed the recommendation shown in the table below. Otherwise, the depth stop bottoms or gets displaced, or - in worst case - the quill collar might brake off. See the table:

Threads	Rotation speed - 50 Hz max.	Rotation speed - 60 Hz max.
0 - 0.5 mm	440 rpm	530 rpm
0.5 - 1.0 mm	265 rpm	320 rpm
1.0 - 2.0 mm	160 rpm	190 rpm

The maximum number of reversals is 5 per minute. In order to get better quality threading, we recommend using a floating tap wrench.

See figure 10.

Note! Make sure that the claw coupling is inserted.

1. Depending on the thread depth, the spindle speed should be set differently. See the table above.
   Select the spindle speed using the two gear levers (3) on the left side of the gearbox. See the sign on the front side of the machine.
   If any of the gears is difficult to get into position, rotate the spindle nose manually.

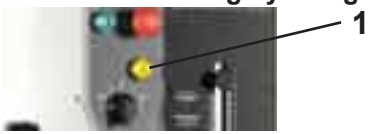
Note! The machine can not be shifted during operations.

2. There are 2 different ways to reverse the spindle rotation of the machine:
   - Reversing by using the switch/speed selector (2), see ” Reversing by using the switch/speed selector”.
   - Automatic reversing by using the level switch. The desired drill depth is set with the drill depth stop (1) , see ” Automatic reversing by using the drill depth stop (optional)”.

Reversing by using the switch/speed selector

1. Follow the steps in chapter 4.1.1.
2. Set the drill depth stop in the upper position.
3. Turn the switch/speed selector to position  “1” or “2”, see the sign on the front side of the machine.
4. Feed the spindle manually downwards with the feed lever.
5. At the desired drill depth, turn the switch/speed selector anti-clockwise to position  “1” or “2”, see the table above and the sign on the front side of the machine. Hold the feed lever to get the proper upward feed pressure.
6. Feed the spindle manually upwards with the feed lever. Turn the switch clockwise to position “0”.

Automatic reversing by using the drill depth stop (optional)



1. Press the button (1) to select automatic reversing (the light in the button lights up).
2. Follow the steps in chapter 4.1.1.
3. Set the desired thread depth with the drill depth stop.
4. Turn the switch/speed selector to position “1” or “2”, see the table above and the sign on the front side of the machine.
5. Feed the spindle manually downwards with the feed lever.
6. When reaching the desired thread depth, the machine automatically reverses the spindle rotation.
7. Feed the spindle manually upwards with the feed lever. When the spindle reaches its upper position, it automatically resets the correct spindle rotation.

4.2.3 Adjusting the feed switch

The feed is set at the factory so that the machine can not be overloaded. However, after using the machine for a while, the coupling may need to be readjusted:

Note! The turning of the ring nut which is about to be performed is only marginal (a few millimeters).

1. Remove the claw coupling.
2. Disengage the locking on the ring nut.
3. The ring nut has 4 positions for locking with the locking washer. Check which position that is closest to a locking position.
4. Rotate the ring nut (pointed out in in figure 12) clockwise to this position and lock the ring nut on the locking washer. This provides a greater feeding power.

When drilling with sensible boring tools, it may be necessary to use a lower power for feeding. Adjustments are made as above, but the ring nut is rotated counter-clockwise. In the event that the drill pressure is too high, the coupling acts as an overload protection.



Figure 12 - Adjusting the feed switch

4.3 Machine with electromagnetic feed

Warning: Use the lock handles to lock the drill head, table arm and the table. Make sure that the work piece is securely fastened at the table. Carefully read through the safety instructions in this manual before using the machine.

4.3.1 Drilling

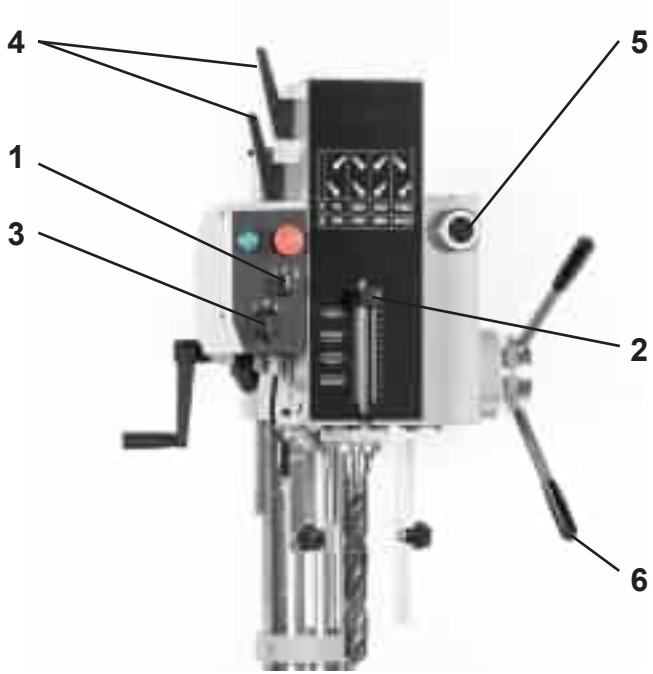


Figure 13 - Set-up, drilling

See figure 13.

Use the drill depth stop according to chapter ” Drilling by using the drill depth stop” or feed the spindle manually according to chapter ” Manual drilling”.

Drilling by using the drill depth stop

Note! The machine can not be shifted during operations.

1. Set the feeding/threading selector (1) in the feeding position.
2. The machine is equipped with a 2-speed motor. Select the spindle speed using the two gear levers (4) on the left side of the gearbox, see the sign on the front side of the machine.
   If any of the gears is difficult to get into position, rotate the spindle nose manually.
3. Turn the switch/speed selector (3) to position  "1" or "2", see the sign on the front side of the machine.
4. The feed speed is set with the knob (5) on the right side of the feed box.

Note! The feed rate can be set while the machine is in operation, but not when loaded.
The knob can not be turned directly from the highest to the lowest feed rate, or vice versa. You always have to go through the middle positions.

5. Set the drill depth:
   The drill depth is set with the drill depth stop (2) on the drill depth gauge.
   Feed the spindle manually downwards with the feed lever and let the drilling bit touch the material and then set the drill depth stop at the desired drill depth.
6. Begin feeding by pressing the button (6) at the end of the feed lever.
   The feed finishes as the drill depth stop touches the bottom limit. The feed stops when the spindle returns to its upper position.

Manual drilling

1. Set the feeding/threading selector (1) to the middle position.
2. Feed the spindle down to the desired drill depth.
3. Set the drill depth stop (2) in the upper position.

4.3.2 Threading

When threading with automatic reverse, please consider the following:

When using different courses of thread, it is not allowed to exceed the recommendation shown in the table below. Otherwise, the depth stop bottoms or gets displaced, or - in worst case - the quill collar might brake off. See the table:

Threads	Rotation speed - 50 Hz max.	Rotation speed - 60 Hz max.
0 - 0.5 mm	440 rpm	530 rpm
0.5 - 1.0 mm	265 rpm	320 rpm
1.0 - 2.0 mm	160 rpm	190 rpm

The maximum number of reversals is 5 per minute. In order to get better quality threading, we recommend using a floating tap wrench.
See figure 13.

Note! The machine can not be shifted during operations.

1. Depending on the thread depth, the spindle speed should be set differently. See the table above.
   Select the spindle speed using the two gear levers (4) on the left side of the gearbox. See the sign on the front side of the machine.
   If any of the gears is difficult to get into position, rotate the spindle nose manually.

2. There are 3 different ways to reverse the spindle rotation of the machine:
   - Reversing by using the switch/speed selector (3), see ” Reversing by using the switch/speed selector”.
   - Automatic reversing by using the level switch. The desired drill depth is set with the drill depth stop (2), see ” Automatic reversing by using the drill depth stop”.
   - Reversing by pressing the button (6) at the end of the feed lever, see ” Reversing by pressing the button at the feed lever”.

Automatic reversing by using the drill depth stop

1. Set the feeding/threading selector (1) to the threading position.
2. Set the desired thread depth with the drill depth stop.
3. Turn the switch/speed selector (3) to position  “1” or “2”, see the sign on the front side of the machine.
4. Feed the spindle manually downwards with the feed lever.
5. When reaching the desired thread depth, the machine automatically reverses the spindle rotation.
6. Feed the spindle manually upwards with the feed lever. When the spindle reaches its upper position, it automatically resets the correct spindle rotation.

Reversing by pressing the button at the feed lever

1. Set the Feeding/threading selector (1) to the threading position.
2. Set the drill depth stop in the upper position.
3. Turn the switch/speed selector (3) to position  “1” or “2”, see the sign on the front side of the machine.
4. Feed the spindle manually downwards with the feed lever.
5. Reverse the spindle rotation by pressing the button at the end of the feed lever. Hold the feed handle to get proper upward pressure.
6. Feed the spindle manually upwards with the feed lever. When the spindle reaches its upper position, it automatically resets the correct spindle rotation. Alternatively, if more reversing operations will follow, press the feed lever button again in order to get the correct spindle rotation.

4.4 Drill ejector

The machine is equipped with an automatic drill ejector. Between the nose of the spindle sleeve and the spindle case, there is a stopper that prevents the spindle from reaching its upper position.

Note! When ejecting the boring tool from a machine with automatic feed, the claw coupling must be inserted.

4.4.1 Automatic ejection

To eject the drill:

1. Bend out the stopper (see the arrow in figure 14).
2. Grip the tool and hit the spindle sleeve to its upper position with the feed lever. The boring tool should be pushed out.



Figure 14 - Automatic drill ejection

3. Bend the stopper back.
4. Mount a new tool to the spindle.

4.4.2 Expeller wedge

The boring tool may become stuck in the spindle, e.g. via hard drilling pressure and heat changes in the spindle. In this case, we recommend using an expeller wedge instead of the automatic drill ejector, see figure 15.



Figure 15 - Expeller wedge

5. Maintenance

5.1 Oil filling, feed gear box

The machine is not supplied with oil in the power feed gearbox.

- The feed gear box's worm gear sits in an oil bath. Add oil via the filling hole (1) up to the middle of the level indicator (2), see figure 16. Approx. 0.3 liters should be kept available to cover the need.



Figure 16 - Oil filling and level indicator, feed gear box

5.1.1 Oil recommendations

Proper oil should have a viscosity of 5 °E at 50 °C.

Note! The guarantee of the machine is based on the use of these oils - at normal temperatures.

Oil company	Oil type
OK Petroleum	Delta Oil 68
BP	BP Maccurant 68, BP Bartran 68
Castrol	Castrol Hyspin AWS 68
Texaco	Texaco HD 68
Statoil	Nuto H68
Mobil	Mobil DTE 26, Mobil Vactra Oil No 2
Shell	Shell Tellus Oil 68, Shell X-100 10W/30

5.2 Cleaning

- Always make sure that the boring tool tongue and cone are well-cleaned and not damaged. This to avoid unnecessary wear and tear of the drilling spindle and/or the boring tool getting caught in the spindle.
- Keep the table and work piece free from chips. Use a brush, not compressed air.

5.3 Lubrication

All ball bearings and gear wheels are lubricated at the factory.
For other lubrication; check levels regularly and apply grease if necessary, see figure 17 and figure 18.

5.3.1 Drill head

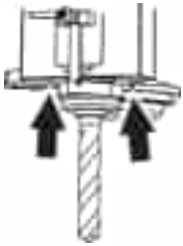


Figure 17 - Grease nipples, drill head

5.3.2 Worm gear box

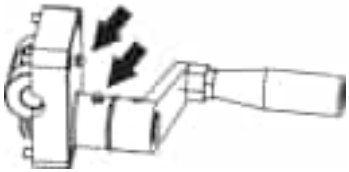


Figure 18 - Grease nipples, worm gear box

5.4 Repair

If your MSC drilling machine needs repair, contact your local retailer first and as a second option contact MSC.

6. Corrective maintenance

6.1 General

Warning: Disconnect the machine from the external mains before any dismantling takes place.

On reassembly, see to it that all surfaces are clean and that any burrs, which may have been made during disassembly, are first removed.

6.2 Adjust the taper bearing play

The spindle is journalled in the quill by a taper roller bearing at the bottom and by a radial ball bearing at the top. At the top end of the spindle, there is a nut, with which the play in the taper bearing can be adjusted. This nut can be reached, when the quill is removed from the machine as follows:

1. Remove the depth stop rod, see figure 19.



Figure 19 - Removing the depth stop rod

2. Feed out the complete quill with the feed handle. Hold the quill, so that it doesn't fall out and gets damaged.
3. Loosen the spring pressure by letting the feed handle slowly return.

4. Adjust the play at the top end of the quill by turning the nut clockwise. Make sure it does not turn heavily, see figure 20.



Figure 20 - Nut for adjusting the play of the quill

5. Turn the feed handle about two turns for counter balancing the quill.
6. Put back the quill and make sure the keys on the spindle coincide with the key ways in the spindle shaft and that the teeth of the feed shaft get the grip of the quill feed rack.
7. Let the quill return to the top position. Check the position of the feed handle and adjust by the feed shaft teeth grip another rack position.
8. If necessary, feed out the quill and turn the feed handle to further counter balance the quill as described in chapter “6.3 Counter balancing the spindle” on page 26.
9. Re-assemble the depth stop rod.

6.3 Counter balancing the spindle

Counter balance the spindle by tightening the spring in the spring housing as follows:

1. Remove the depth stop rod and feed out the complete quill, see chapter “6.2 Adjust the taper bearing play” on page 25.
2. Increase the return speed (the spring is tightened) by turning the feed handle 1/4 turn clockwise. Reduce the return speed by turning the feed handle 1/4 turn anti-clockwise.
3. Put back the quill and re-assemble the depth stop rod, see chapter “6.2 Adjust the taper bearing play” on page 25.

6.4 Motor

In case of motor failure, please contact Machinery Scandinavia for further information.

6.5 Gearbox

In case of gearbox failure, please contact Machinery Scandinavia for further information.



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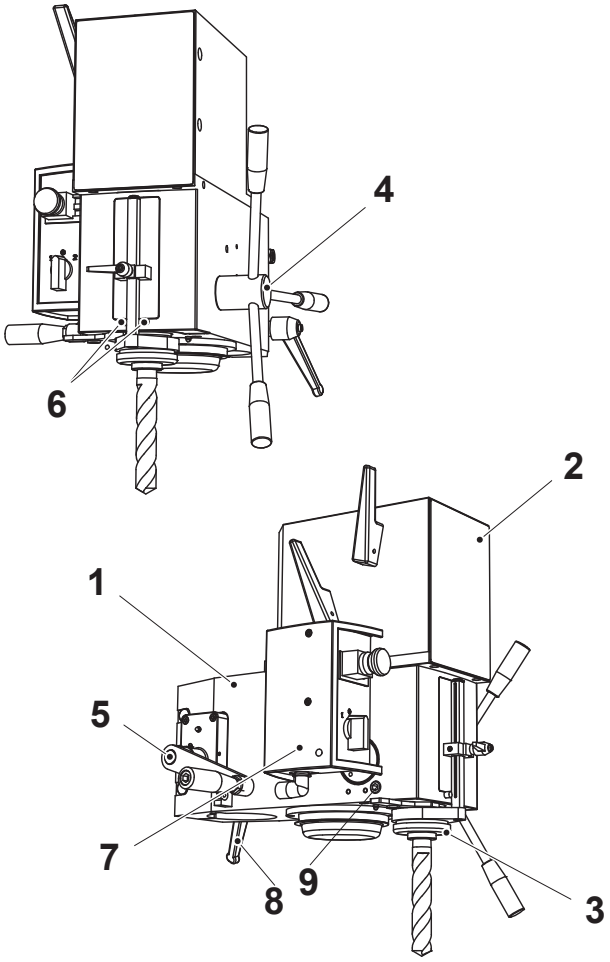
msc

machinery scandinavia

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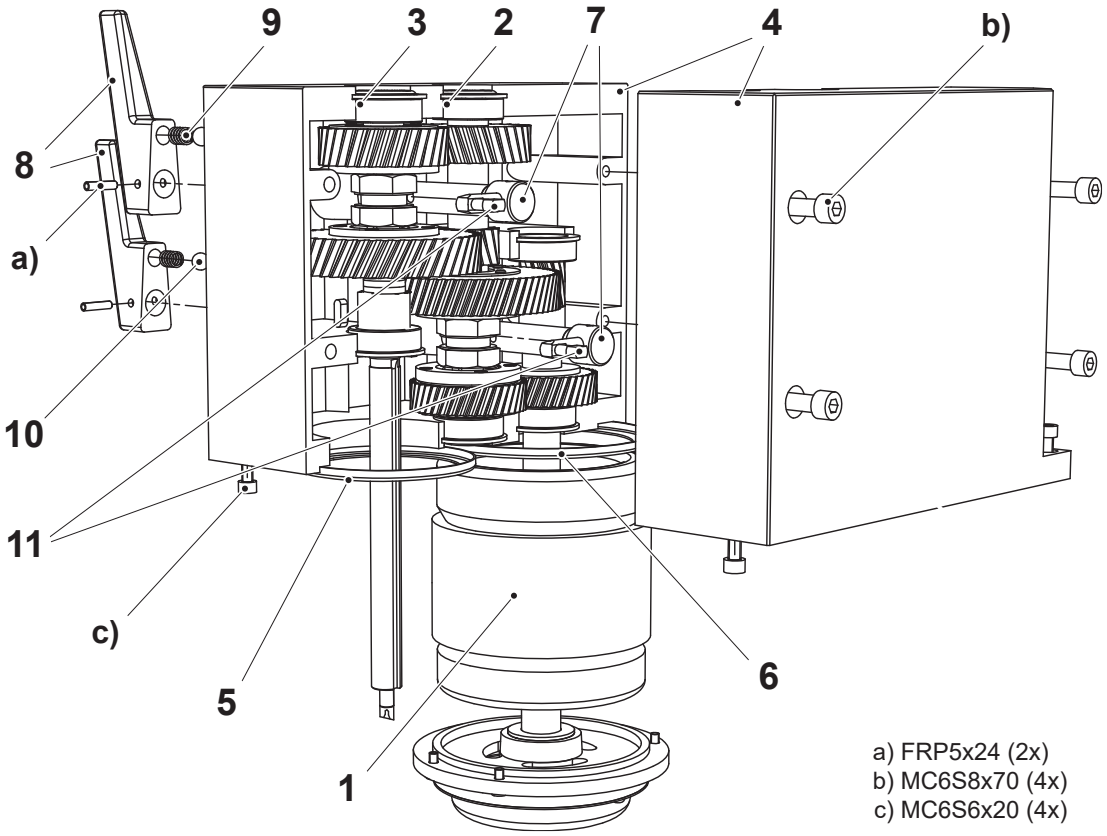
7 Reservdelar

7.1 Spindelhuvud - Drill head - Bohrkopf



Pos	Art. no.	Benämning	Description	Benennung	Not
1	2V08701-3	Spindelhus	Spindle housing	Spindelgehäuse	
2	2X08404	Växellåda	Gear box	Getriebekasten	
3	2X08710R	Spindelhylsa kompl.	Spindle sleeve compl.	Spindelhülse kompl.	
4	2X08752R	Matningsaxel kompl.	Feed shaft compl.	Vorschubwelle kompl.	
5	2X08721-1	Snäckväxel	Worm gear unit	Schneckenwechsel	
6	3P01407	Pinne	Pin	Stift	CP 8x36
7	3E45001	Elbox komplett	Electric box compl.	Elektrokasten kompl.	
8	3R00014-1	Ställbar låsspak	Locking lever	Sperrarm	
9	2T08714	Klämback	Jam	Klemmebacke	

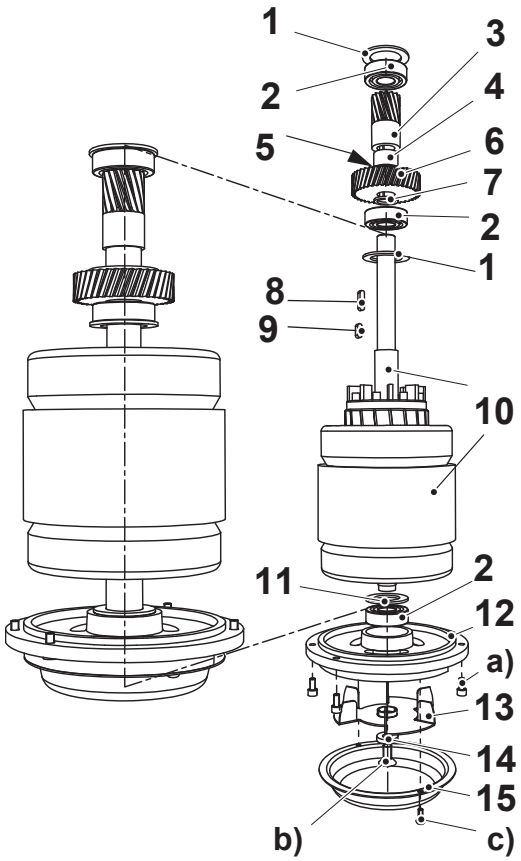
7.2 Växellåda - Gear box - Getriebehäuse



a) FRP5x24 (2x)
b) MC6S8x70 (4x)
c) MC6S6x20 (4x)

Pos	Art. no.	Benämning	Description	Benennung	Not
1	2X08404-1R	Motoraxel komplett	Motor shaft complete	Motorwelle komplett	
2	2X08404-2R	2:a axel komplett	2:nd shaft complete	2:e Welle komplett	
3	2X08404-3R	3:a axel komplett	3:rd shaft complete	3:e Welle komplett	
4	2X08422	Växellådshus komplett	Feed shaft complete	Getriebekasten	
5	4B00174	Styrring	Ring	Ring	
6	4B00173	Styrring	Ring	Ring	
7	2X08536	Skiftarm	Gear selector arm	Schaltarm	2x
8	2RS0653-1	Växelspak	Gear lever	Schalthebel	Kompl. 2XS0653-1
9	4C02921	Fjäder	Gear	Feder	2x
10	3T04028	Stålkula	Steel ball	Schaltgriff	2x
11	4T04168	Skiftstift	Shift pin	Stift	2x

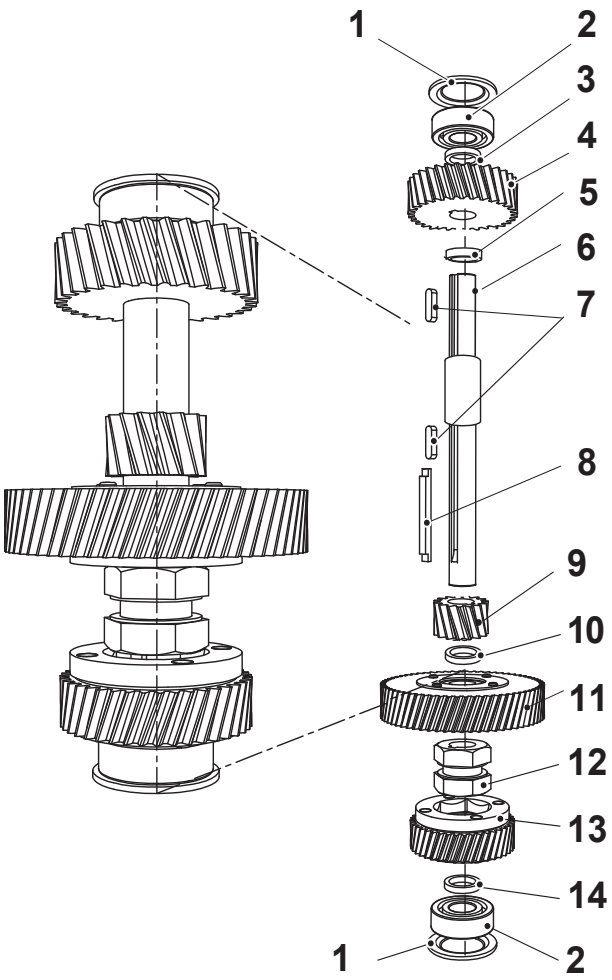
7.3 Motoraxel - Engine shaft - Motorwelle



a) MC6S5x10 (4x)
b) MF6S8x14
c) MC6S4x8 (2x)

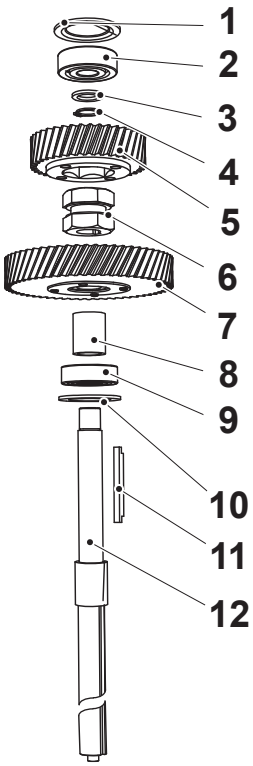
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B00137	Bricka	Washer	Scheibe	2x
2	3L15003	Kullager	Ball bearing	Kugellager	6203-2RS (3x)
3	2H07969	Kugghjul	Gear	Zahnrad	15-1,5
4	2D17014	Distanshylsa	Spacing sleeve	Distanzhülse	17x14
5	2D17003	Distanshylsa	Spacing sleeve	Distanzhülse	17x3
6	2H07972R	Kugghjul	Gear	Zahnrad	39-1,5 (fiber)
7	2D17002	Distanshylsa	Spacing sleeve	Distanzhülse	17x2
8	3K01184	Kil	Key	Keil	5x5x14
9	3K01186	Kil	Key	Keil	5x5x18
10	3E80103R 3E80101R	Stator + rotoraxel	Stator + Rotor shaft	Stator + Rotorwelle	400 - 440 V 230 V
11	4F06203	Bricka	Washer	Scheibe	FB 6203
12	2N01889	Lagerlock	Bearing cover	Lagerdeckel	B-1889
13	4B00175	Vinghjul	Fan	Ventilator	B-175
14	2B03449	Bricka	Washer	Scheibe	C-3449
15	4B01890	Fläktkåpa	Fan cover	Ventilatordeckel	C-1890

7.4 2:a axel - 2:nd shaft - 2:e Welle



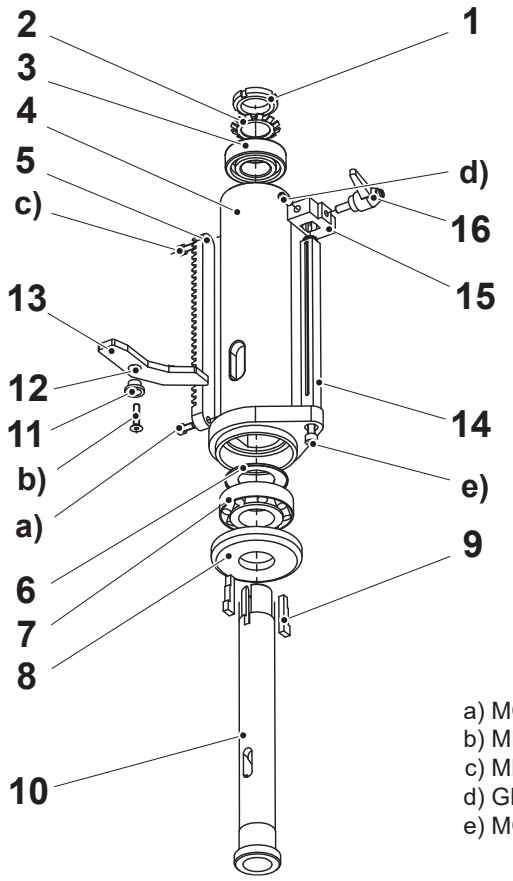
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B00138	Lock	Washer	Scheibe	2x
2	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS (2x)
3	2D00009	Distanshylsa	Spacing sleeve	Distanzhülse	17x3,5
4	2H07971	Kugghjul	Gear	Zahnrad	32-2 (fiber)
5	3B11005	Bricka	Washer	Scheibe	17x24x1
6	2A04871	2:a axel	2:nd shaft	2:e Welle	C-4871
7	3K01187	Kil	Key	Keil	RK 5x5x20 (2x)
8	2T06615	Övre kil	Key	Keil	C-6615
9	2H07970	Kugghjul	Gear	Zahnrad	15-2
10	2D17005	Distanshylsa	Spacing sleeve	Distanzhülse	17x5
11	2X08408R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	64-1,5 (fiber)
12	2T04254	Kopplingsklo	Clutch	Kupplung	C-4254
13	2X08406R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	40-1,5
14	2D00009	Distanshylsa	Spacing sleeve	DIstanzhülse	17x3,5

7.5 3:e axel - 3:rd shaft - 3:e Welle



Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B08584	Lock	Cover	Deckel	
2	3L15002	Enrad spårkullager	Ball bearing	Kugellager	6302-2RS
3	2D15002	Distanshylsa	Spacing sleeve	Distanzhülse	15x2
4	3C01117	Spårring	Circlip	Führungsring	SgA 15
5	2X08413R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	32-2
6	2T04254	Kopplingsklo	Clutch	Kupplung	C 4254
7	2X08411R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	49-2 (fiber)
8	2D00006	Distanshylsa	Spacing sleeve	Distanzhülse	17x31,5
9	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS
10	4B00137	Lock	Cover	Deckel	
11	2T06615	Övre kil	Key	Keil	C-6615
12	2A08410	3:e axel	3:rd shaft	3:e Welle	B-8410

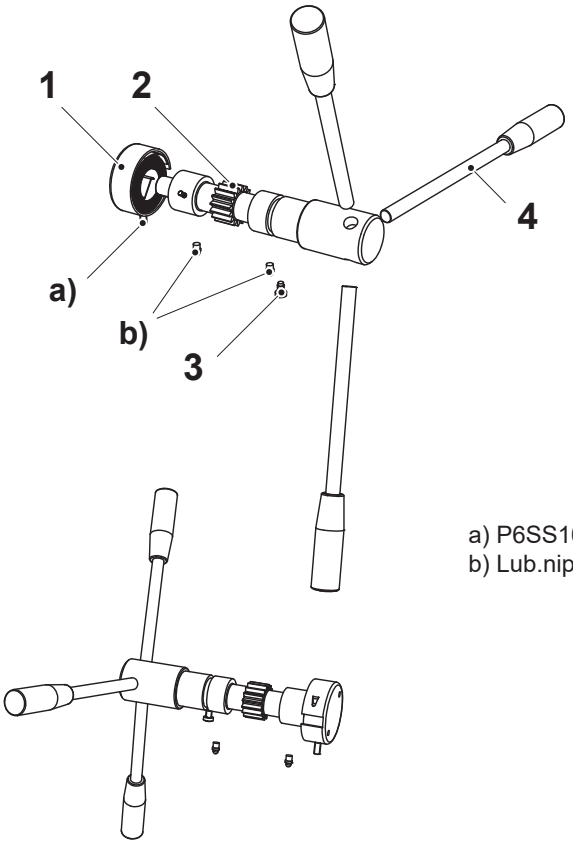
7.6 Spindelhylsa - Spindle sleeve - Spindelhülse



a) MC6S5x10 + FBB5.1
b) MF6S5x20
c) MLC6S5x10 + FBB5.1
d) GN615.2 P M6
e) MC6S6x20 Esloc Fzb

Pos	Artikelnummer	Benämning	Description	Benennung	Not
	2X08710R	Spindelhylsa kompl.	Spindle sleeve compl.	Spindelhülse kompl.	
1	3M06005	Mutter	Nut	Mutter	KM5
2	3B07005	Låsbricka	Locking washer	Sicherungsscheibe	
3	3L15005	Enrad. spårkullager	Ball bearing	Kugellager	6205
4	2G08710	Spindelhylsa	Spindle sleeve	Spindelhülse	
5	4I08753	Kuggstång	Rack	Zahnstange	
6	4B03769	Bricka	Washer	Scheibe	
7	3L51006	Koniskt rullager	Taper roller bearing	Rollenlager	30206
8	2TS1106	Rullagerlock	Roller bearing cover	Rollenlagerdeckel	
9	4T08386	Kil	Key	Keil	2x
10	2A08418-1R	Borrspindel	Spindle	Bohrspindel	
11	2T08593	Distanshylsa	Spacing sleeve	Distanzhülse	
12	3B06003	Bricka	Washer	Scheibe	
13	4T08547	Anslag	Stop	Anschlag	
14	2A08755-1R	Djupmåttstång	Depth gauge rod	Tiefenmasstange	
15	2T08757	Stopp för matning	Stop	Anschlag	Kompl. 2X08757R
16	3R00003	Vred	Handle	Griff	M6x16

7.7 Matningsaxel - Feed shaft - Vorschubwelle

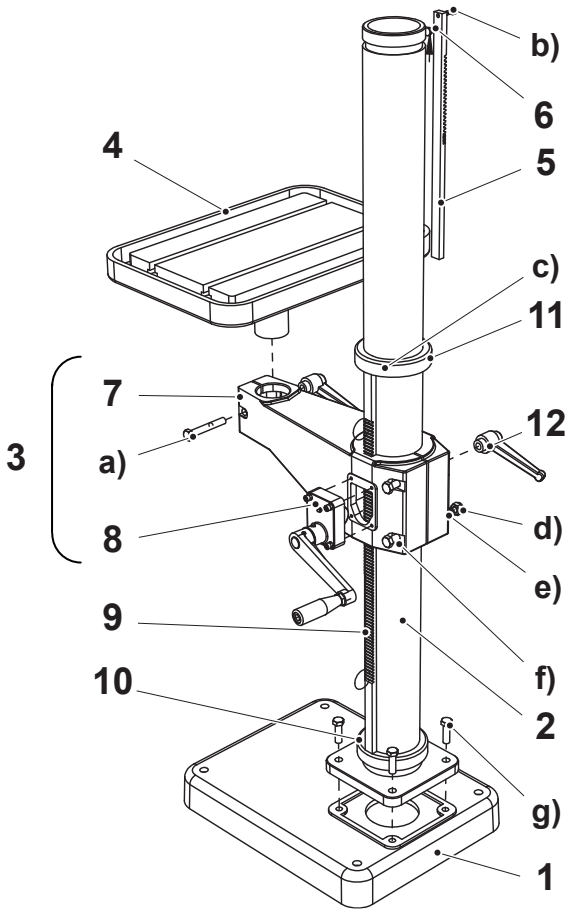


a) P6SS10x10
b) Lub.nippel Ø6

Pos	Article no.	Benämning	Description	Benennung	Not
1	4XS2150R	Returfjäder	Return spring	Rückholdfeder	
2	2I08752	Matningsaxel	Feed shaft	Vorschubwelle	
3	4S04211	Styrskruv	Pin screw	Zapfschraube	
4	4E08758R	Matningsspak kompl.	Feed lever complete	Vorschubhebel kompl.	3x

7.9 Pelare - Column - Säule

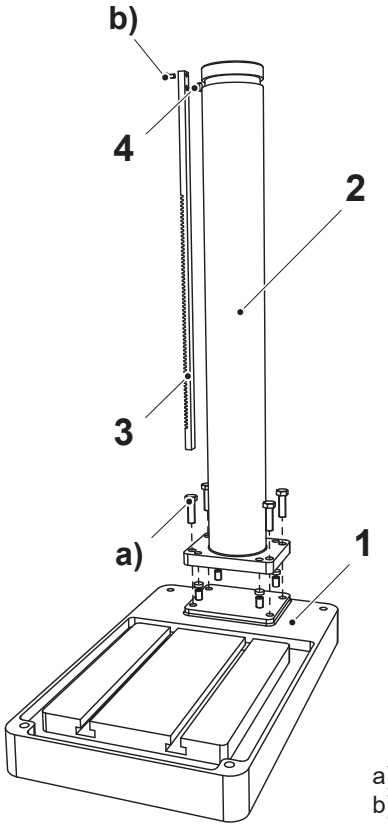
7.9.1 Pelarborrmaskin - Column drilling machine - Säulenbohrmachine



a) M6S12x90
b) MC6S6x10
c) SK6SS6x12 (3x)
d) Locknut M12 (2x)
e) TBRB13x24x2 (3x)
f) M6S12x130 (2x)
g) M6S12x40 (4x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	9W07802	Fotplatta	Base plate	Fussplatte	
2	9X08300	Pelare	Column	Säule	L=1500
3	2X08723R	Bordarm komplett	Table arm complete	Tischarm komplett	
4	2X07842R	Bord komplett	Table complete	Tisch komplett	
5	2X08445	Kuggstång	Rack	Zahnstange	
6	4T07146	Tapp	Pin	Zapf	
7	2Y08723	Bordarm	Table arm	Tischarm	
8	2X08720-1R	Snäckväxel komplett	Worm gear complete	Schneckengetriebe komplett	
9	4I03598	Kuggstång	Rack	Zahnstange	
10	2N00186R	Nedre ring	Lower ring	Unterer Ring	
11	2N03668R	Övre ring	Upper ring	Oberer Ring	
12	3R00014-1	Ställbar låsspak	Locking lever	Sperrarm	2x

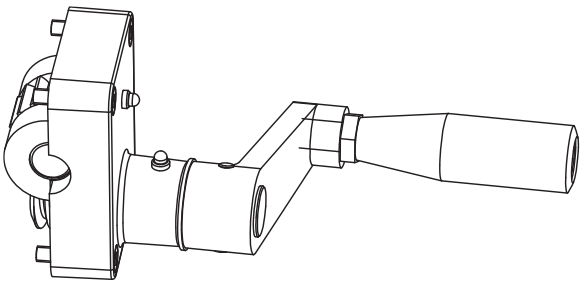
7.9.2 Bänkborrmaskin - Column bench type drill - Tischbohrmaschine

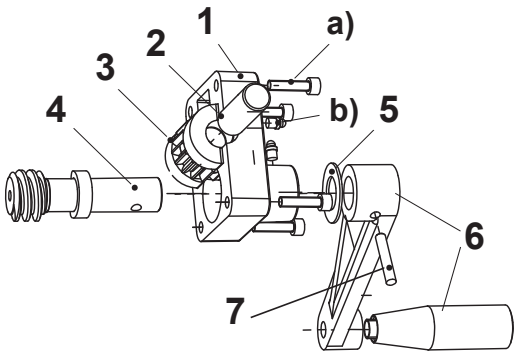


a) M6S12x40 (4x)
b) MC6S6x10

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	9WS1236-1	Bänkplatta	Base plate	Fussplatte	
2	9ZS1232-1	Bänkpelare	Column	Säule	
3	2X08545	Kuggstång	Rack	Zahnstange	
4	4T07146	Tapp	Pin	Zapfen	

7.10 Snäckväxelhus komplett - Worm gear box complete - Schneckengetriebegehäuse komplett





a) MC6S6x25 (4x)
b) Lub.nipple Ø6 (2x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	2N08720R	Snäckväxelhus	Worm gear box	Schnecken-getriebegehäuse	
2	2A08725	Axel	Shaft	Welle	
3	4HS1201	Kugghjul	Gear	Zahnrad	
4	2IS1203-2	Snäckskruv	Worm shaft	Schneckenwelle	
5	3L00027 3L00025 3L00028	Axialbricka Axialnålrullager Vågbricka	Washer	Scheibe	AS 2035 AXK 2035 EPO 20 EMO
6	3R01182	Vev kompl. m. handtag	Crank compl. with handle	Kurbel kompl. mit griff	
7	3P06035	Spännstift	Pin	Stift	



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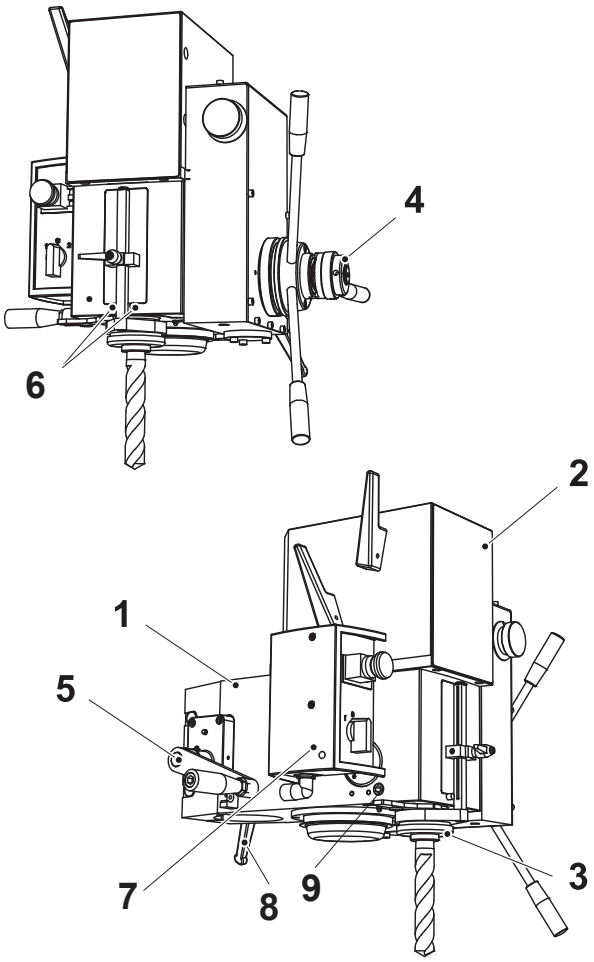
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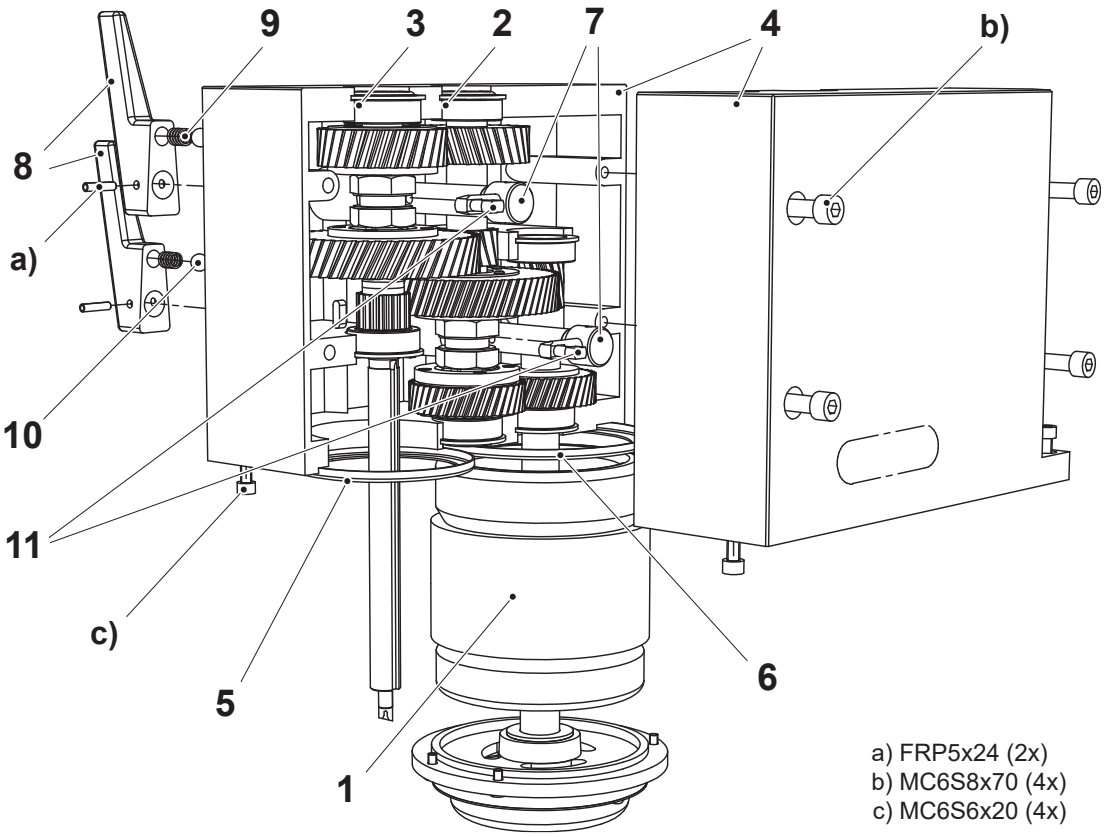
7 Reservdelar

7.1 Spindelhuvud - Drill head - Bohrkopf



Pos	Art. no.	Benämning	Description	Benennung	Not
1	2V08701-4	Spindelhus	Spindle housing	Spindelgehäuse	
2	2X08404-M	Växellåda	Gear box	Getriebekasten	
3	2X08710R	Spindelhylsa kompl.	Spindle sleeve compl.	Spindelhülse kompl.	
4	2X08456R	Matningsaxel	Feed shaft	Vorschubwelle	
5	2X08721-1	Snäckväxel	Worm gear unit	Schneckenwechsel	
6	3P01407	Pinne	Pin	Stift	CP 8x36
7	3E45001	Elbox komplett	Electric box compl.	Elektrokasten kompl.	
8	3R00014-1	Ställbar låsspak	Locking lever	Sperrarm	
9	2T08714	Klämback	Jam	Klemmebacke	

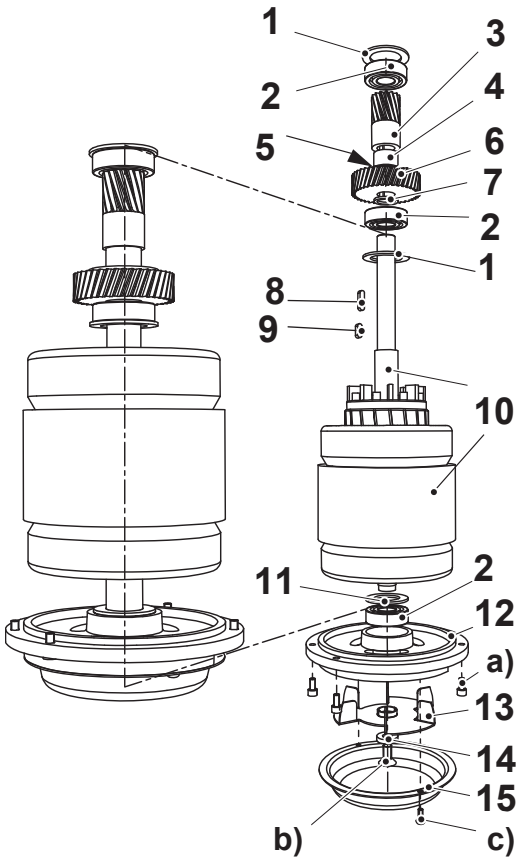
7.2 Växellåda - Gear box - Getriebegehäuse



a) FRP5x24 (2x)
b) MC6S8x70 (4x)
c) MC6S6x20 (4x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	2X08404-1R	Motoraxel komplett	Motor shaft complete	Motorwelle komplett	
2	2X08404-2R	2:a axel komplett	2:nd shaft complete	2:e Welle komplett	
3	2X08404-5R	3:e axel komplett	3:rd shaft complete	3:e Welle komplett	
4	2X08422-1	Växellådshus komplett	Gear box complete	Getriebekasten kompl.	
5	4B00174	Styrring	Ring	Ring	
6	4B00173	Styrring	Ring	Ring	
7	2X08536	Skiftarm	Gear selector arm	Schaltarm	2x
8	2RS0653-1	Växelspak	Gear lever	Schalthebel	Kompl. 2XS0653-1
9	4C02921	Fjäder	Gear	Feder	2x
10	3T04028	Stålkula	Steel ball	Schaltgriff	2x
11	4T04168	Skiftstift	Shift pin	Stift	2x

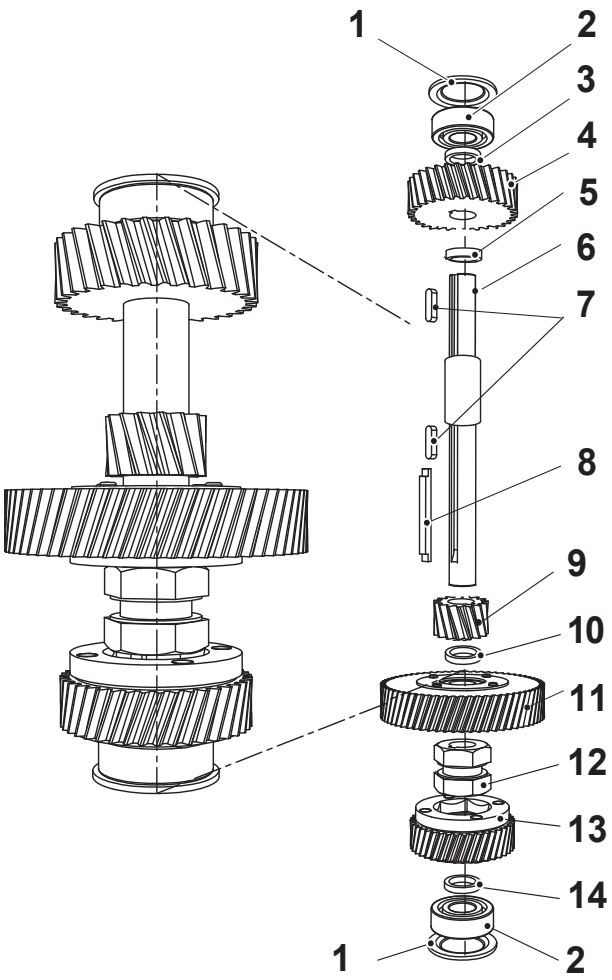
7.3 Motoraxel - Engine shaft - Motorwelle



a) MC6S5x10 (4x)
b) MF6S8x14
c) MC6S4x8 (2x)

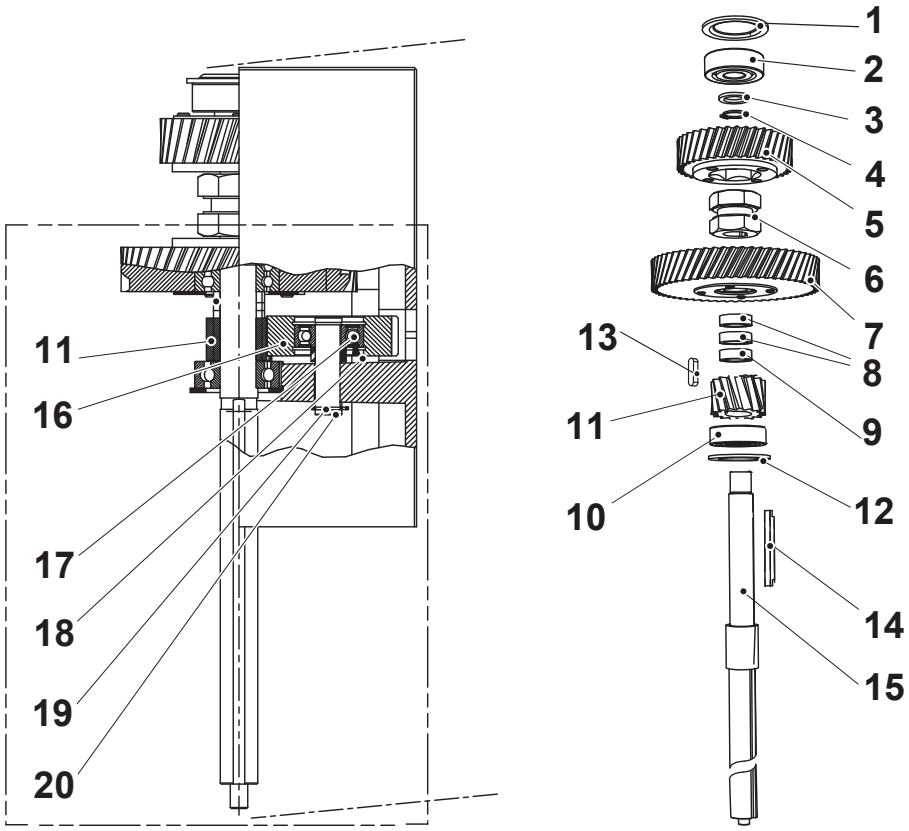
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B00137	Bricka	Washer	Scheibe	2x
2	3L15003	Kullager	Ball bearing	Kugellager	6203-2RS (3x)
3	2H07969	Kugghjul	Gear	Zahnrad	15-1,5
4	2D17014	Distanshylsa	Spacing sleeve	Distanzhülse	17x14
5	2D17003	Distanshylsa	Spacing sleeve	Distanzhülse	17x3
6	2H07972R	Kugghjul	Gear	Zahnrad	39-1,5 (fiber)
7	2D17002	Distanshylsa	Spacing sleeve	Distanzhülse	17x2
8	3K01184	Kil	Key	Keil	5x5x14
9	3K01186	Kil	Key	Keil	5x5x18
10	3E80103R 3E80101R	Stator + rotoraxel	Stator + Rotor shaft	Stator + Rotorwelle	400 - 440 V 230 V
11	4F06203	Bricka	Washer	Scheibe	FB 6203
12	2N01889	Lagerlock	Bearing cover	Lagerdeckel	B-1889
13	4B00175	Vinghjul	Fan	Ventilator	B-175
14	2B03449	Bricka	Washer	Scheibe	C-3449
15	4B01890	Fläktkåpa	Fan cover	Ventilatordeckel	C-1890

7.4 2:a axel - 2:nd shaft - 2:e Welle



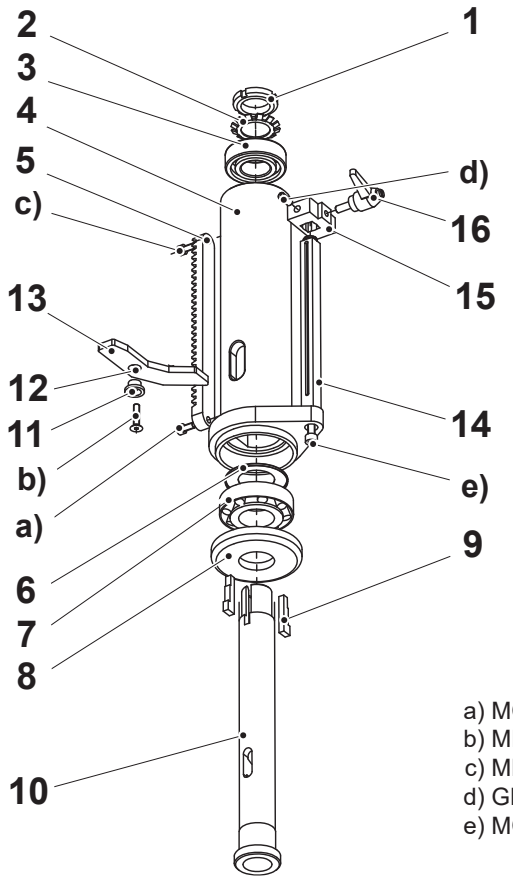
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B00138	Lock	Washer	Scheibe	2x
2	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS (2x)
3	2D00009	Distanshylsa	Spacing sleeve	Distanzhülse	17x3,5
4	2H07971	Kugghjul	Gear	Zahnrad	32-2 (fiber)
5	3B11005	Bricka	Washer	Scheibe	17x24x1
6	2A04871	2:a axel	2:nd shaft	2:e Welle	C-4871
7	3K01187	Kil	Key	Keil	RK 5x5x20 (2x)
8	2T06615	Övre kil	Key	Keil	C-6615
9	2H07970	Kugghjul	Gear	Zahnrad	15-2
10	2D17005	Distanshylsa	Spacing sleeve	Distanzhülse	17x5
11	2X08408R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	64-1,5 (fiber)
12	2T04254	Kopplingsklo	Clutch	Kupplung	C-4254
13	2X08406R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	40-1,5
14	2D00009	Distanshylsa	Spacing sleeve	DIstanzhülse	17x3,5

7.5 3:e axel - 3:rd shaft - 3:e Welle



Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B08584	Lock	Cover	Deckel	
2	3L15002	Enrad spårkullager	Ball bearing	Kugellager	6302
3	2D15002	Distanshylsa	Spacing sleeve	Distanzhülse	15x2
4	3C01117	Spårring	Circlip	Führungsring	SgA 15
5	2X08413R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	32-2
6	2T04254	Kopplingsklo	Clutch	Kupplung	C 4254
7	2X08411R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	49-2 (fiber)
8	2D00011	Distanshylsa	Spacer	Distanzhülse	17x4,5 (2x)
9	2D00009	Distanshylsa	Spacer	Distanzhülse	17x3,5
10	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS
11	2HSB7501-2	Kugghjul	Gear wheel	Zahnrad	18-1,5
12	4B00137	Lock	Cover	Deckel	
13	3K01184	Kil	Key	Keil	RK 5x5x14
14	2T06615	Övre kil	Key	Keil	C-6615
15	2A08410	3:e axel	3:rd shaft	3:e Welle	B-8410
16	2X08558	Mellanhjul kompl.	Gear complete feed	Zahnrad Vorschub	
17	3L13001	Kullager	Bearing	Kugellager	6201 2Z
18	4D12006	Distanshylsa	Spacer	Distanzhülse	12x6,5
19	3C01114	Spårring	Circlip	Sicherungsring	SGA 12 (2x)
20	2A08441	Axel till mellanhjul	Feed gear shaft	Welle Vor.zahnrad	

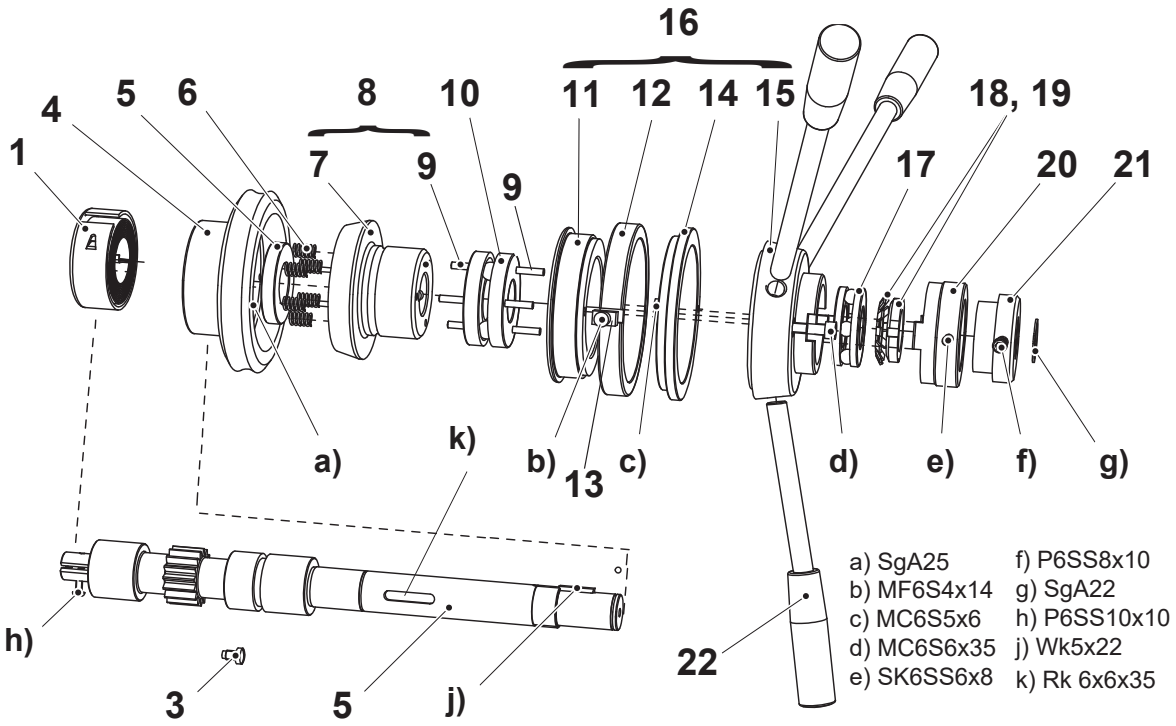
7.6 Spindelhylsa - Spindle sleeve - Spindelhülse



a) MC6S5x10 + FBB5.1
b) MF6S5x20
c) MLC6S5x10 + FBB5.1
d) GN615.2 P M6
e) MC6S6x20 Esloc Fzb

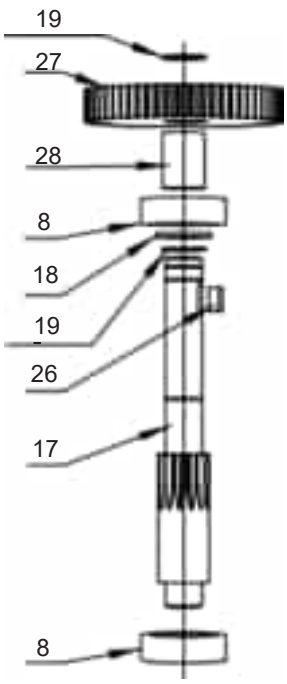
Pos	Artikelnummer	Benämning	Description	Benennung	Not
	2X08710R	Spindelhylsa kompl.	Spindle sleeve compl.	Spindelhülse kompl.	
1	3M06005	Mutter	Nut	Mutter	KM5
2	3B07005	Låsbricka	Locking washer	Sicherungsscheibe	
3	3L15005	Enrad. spårkullager	Ball bearing	Kugellager	6205
4	2G08710	Spindelhylsa	Spindle sleeve	Spindelhülse	
5	4I08753	Kuggstång	Rack	Zahnstange	
6	4B03769	Bricka	Washer	Scheibe	
7	3L51006	Koniskt rullager	Taper roller bearing	Rollenlager	30206
8	2TS1106	Rullagerlock	Roller bearing cover	Rollenlagerdeckel	
9	4T08386	Kil	Key	Keil	2x
10	2A08418-1R	Borrspindel	Spindle	Bohrspindel	
11	2T08593	Distanshylsa	Spacing sleeve	Distanzhülse	
12	3B06003	Bricka	Washer	Scheibe	
13	4T08547	Anslag	Stop	Anschlag	
14	2A08755-1R	Djupmåttstång	Depth gauge rod	Tiefenmasstange	
15	2T08757	Stopp för matning	Stop	Anschlag	Kompl. 2X08757R
16	3R00003	Vred	Handle	Griff	M6x16

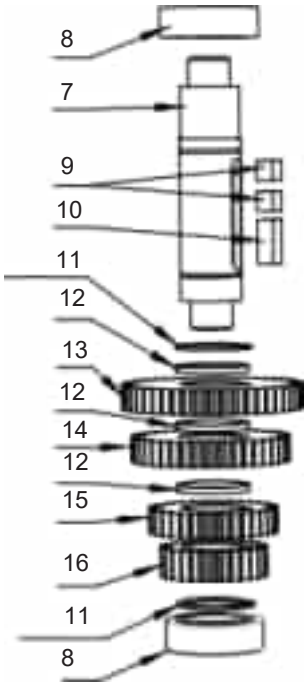
7.7 Matningsaxel - Feed shaft - Vorschubwelle

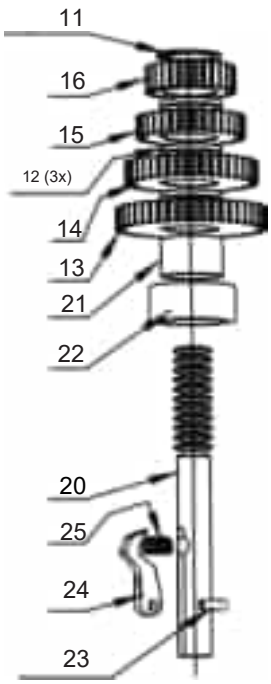


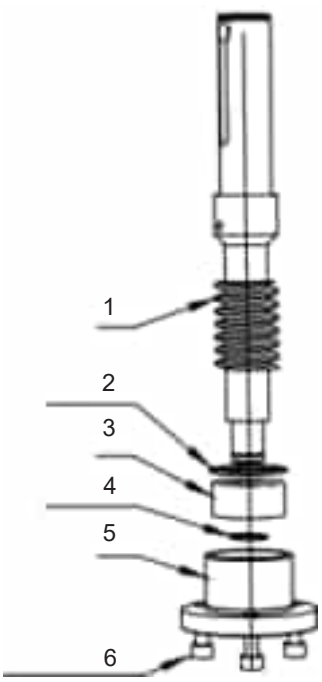
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4XS2150R	Returfjäder	Return spring	Rückholfeder	
2	2I08456	Matningsaxel	Feed shaft	Vorschubwelle	
3	4S04211	Styrskruv	Guide screw	Führungsschraube	
4	2ISB7523-2	Snäckhjul	Worm wheel	Schneckenrad	
5	2TSB142081	Tryckplatta	Pressure plate	Druckscheibe	
6	4CSB548090-2	Tryckfjäder	Clutch head spring	Druckfeder	6x
7	2NSB142080	Kopplingshuvud	Clutch head	Kupplungskopf	
8	2XSB142080	Kopplingshuvud	Clutch head	Kupplungskopf	
9	3P07257	Stift	Pin	Stift	6x
10	2TSB548091R	Kopplingsskiva med kulor	Clutch half with steelballs	Kupplungsscheibe mit kugeln	2x
11	2TSB548092	Låsring	Lock ring	Schliessring	
12	2TSB548093-1	Anslagsring	Stop ring	Stoppring	
13	2TSB548093-3	Anslagsklack	Stop	Anschlag	
14	2TSB548093-2	Ställring	Adjusting ring	Einstellring	
15	2TSB548094-1	Handspaksfäste	Handle holder	Griffhalter	
16	2XSB548094	Handspaksfäste kompl.	Handle holder compl.	Griffhalter kompl.	
17	3L61005	Axialkullager	Bearing	Lager	
18	3B07005	Låsbricka	Locking washer	Blechsicherung	
19	3M06005	Mutter	Nut	Mutter	
20	2TSB548096-1	Klokoppling	Coupling clutch	Klauenkupplung	
21	2TSB548096-2	Nav för klokoppling	Coupling hub	Kupplungsnabe	
22	4E08758R	Handspak	Feed lever	Vorschubhebel	3x

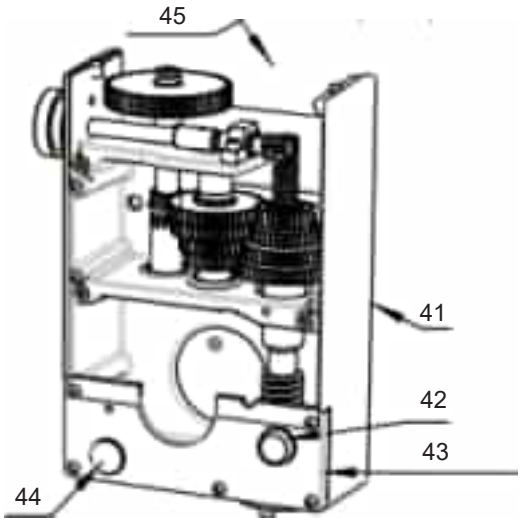
7.8 Matn.växellåda - Power feed box - Vorschubgetriebe

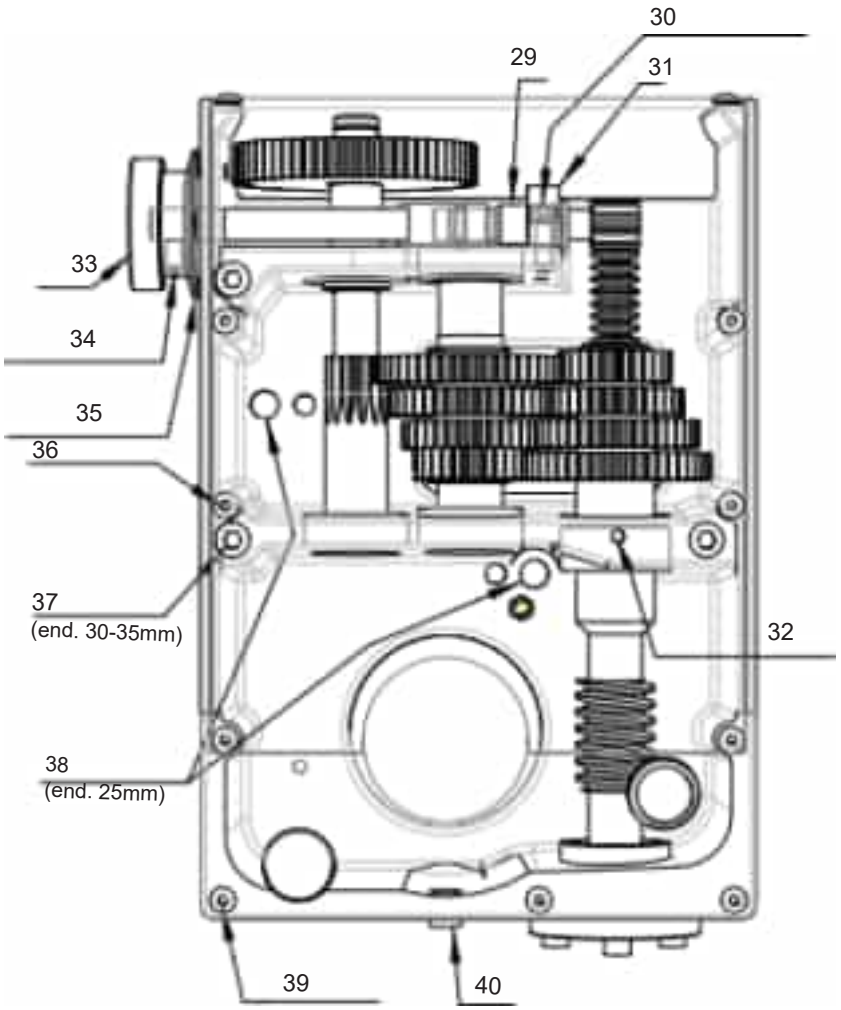










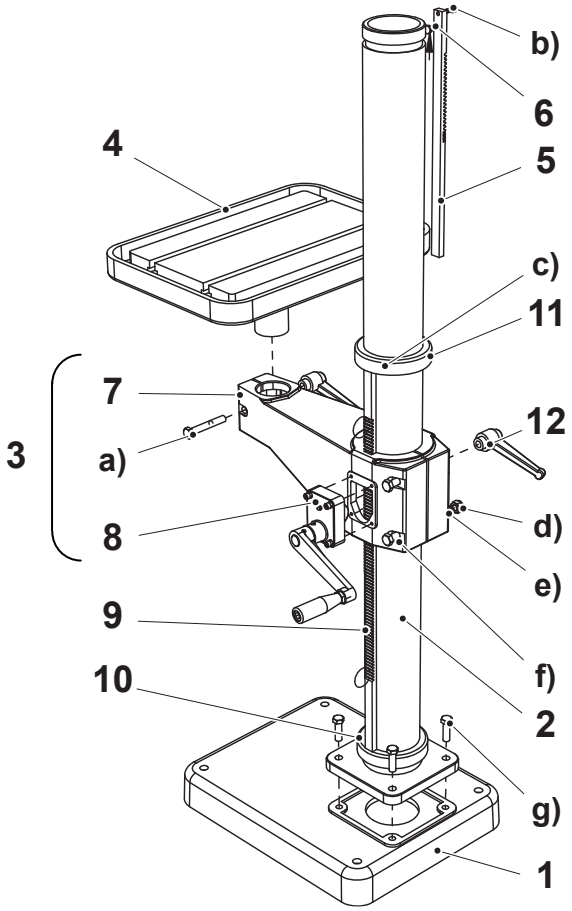


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Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	2I08639	Snäckskruv matn.låda	Worm shaft feed box	Schneckewelle Vorsch.	
2	3C02133	Spårring	Circlip	Sicherungsring	SGH 35
3	3L40002	Tvårad. vinkelkontaktl.	Bearing	Lager	3202
4	3C01117	Spårring	Circlip	Sicherungsring	SGH 15
5	2T08555	Lagerhus	Bearing housing	Lagergehäuse	
6	3S03370	Skruv	Screw	Schraube	MC6S 6x20 (3x)
7	2A08541	Axel till matning	Feed shaft	Vorschubwelle	
8	3L15003	Kullager	Bearing	Kugellager	6203-2RS (4x)
9	3K00934	Kil	Key	Keil	TK 8x7x8 (2x)
10	3K00294	Kil	Key	Keil	TK 8x7x18 h9
11	3C01126	Spårring	Circlip	Sicherungsring	SGA 25
12	2B03150	Bricka	Washer	Scheibe	(6x)
13	4H08556-7	Kugghjul	Gear wheel	Zahnrad	47-1,5 (2x)
14	4H08556-6	Kugghjul	Gear wheel	Zahnrad	41-1,5 (2x)
15	4H08556-5	Kugghjul	Gear wheel	Zahnrad	33-1,5 (2x)
16	4H08556-4	Kugghjul	Gear wheel	Zahnrad	27-1,5 (2x)
17	2I08540	Kuggaxel .	Gear shaft	Zahnwelle	
18	2D17002	Distanshylsa	Spacer	Distanzhülse	17x2
19	3C01119	Spårring	Circlip	Sicherungsring	SGA 17 (2x)
20	2I08649	Axel matn.växellåda	Shaft feed gear box	Welle Vorschubgetr.	
21	4DSB7530-2	Distansring	Spacer	Distanzring	25x18
22	3L00010	Nållager	Needle bearing	Nadellager	NA 4905
23	3P01307	Pinne	Pin	Stift	CP 5x14
24	2TSB7534	Kil matningslåda	Key	Keil	
25	4CSB11750	Tryckfjäder	Spring	Feder	
26	3K00183	Kil	Key	Keil	TK 5x5x12
27	2HSB7546-3	Kugghjul	Gear	Zahnrad	60-1,5
28	2D00005	Distanshylsa	Spacer	Distanzhülse	17x26,5
29	2I08542-1	Inställningsdrev	Gear shaft	Zahnwelle	
30	3S03372	Skruv	Screw	Schraube	MC6S 6x25
31	2N08457	Lagerbock	Bearing bracket	Lagerbock	
32	3S07366	Låsskruv	Screw	Schraube	S6SS 6x12
33	2X05431	Ratt	Hand wheel	Handrad	
34	3S04368	Skruv	Screw	Schraube	SK6SS 6x16
35	3C01114	Spårring	Circlip	Sicherungsring	SGA 12
36	3S24323	Skruv	Screw	Schraube	K6S 5x8 (6x)
37	3S03468	Skruv	Screw	Schraube	MC6S 8x85 (3x)
38	3S03491	Skruv	Screw	Schraube	MC6S 10x20 (2x)
39	3S24331	Skruv	Screw	Schraube	K6S 5x20 (5x)
40	3S50002	Oljeplugg	Plug	Propfen	R ¼”
41	4X08781	Matningsväxellåda	Feed gear box	Gehäuse	
42	3S50005	Oljepåfyllplugg	Oil fill plug	Ölfüllpfropfen	
43	4N08781	Nedre lock	Cover	Deckel	
44	3T03002	Oljenivåglas	Oil sight glass	Ölstandglas	
45	4L08783	Övre lock	Cover	Deckel	

7.9 Pelare - Column - Säule

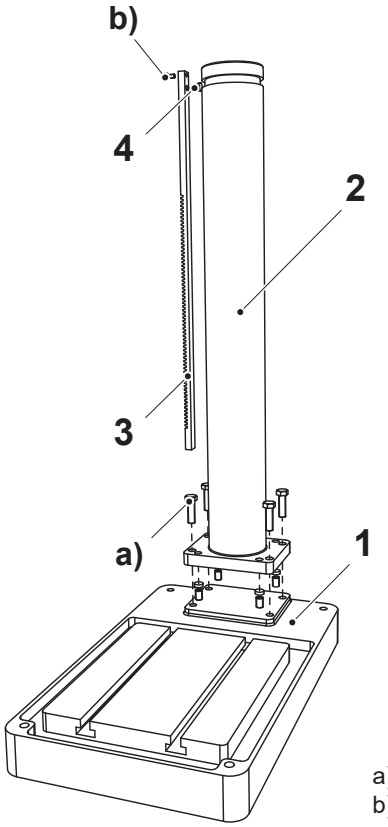
7.9.1 Pelarborrmaskin - Column drilling machine - Säulenbohrmachine



a) M6S12x90
b) MC6S6x10
c) SK6SS6x12 (3x)
d) Locknut M12 (2x)
e) TBRB13x24x2 (3x)
f) M6S12x130 (2x)
g) M6S12x40 (4x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	9W07802	Fotplatta	Base plate	Fussplatte	
2	9X08300	Pelare	Column	Säule	L=1500
3	2X08723R	Bordarm komplett	Table arm complete	Tischarm komplett	
4	2X07842R	Bord komplett	Table complete	Tisch komplett	
5	2X08445	Kuggstång	Rack	Zahnstange	
6	2T07146	Tapp	Pin	Zapf	
7	2Y08723	Bordarm	Table arm	Tischarm	
8	2X08720-1R	Snäckväxel komplett	Worm gear complete	Schneckengetriebe komplett	
9	4I03598	Kuggstång	Rack	Zahnstange	
10	2N00186R	Nedre ring	Lower ring	Unterer Ring	
11	2N03668R	Övre ring	Upper ring	Oberer Ring	
12	3R00014-1	Ställbar låsspak	Locking lever	Sperrarm	2x

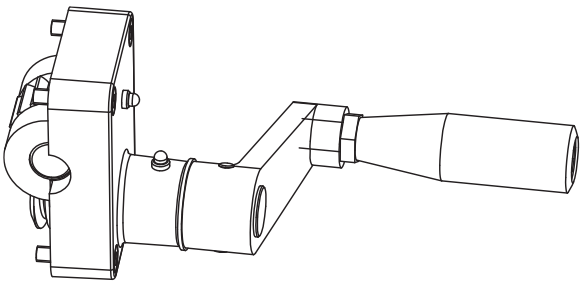
7.9.2 Bänkborrmaskin - Column bench type drill - Tischbohrmaschine

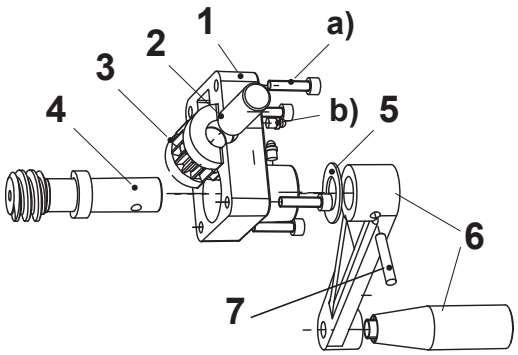


a) M6S12x40 (4x)
b) MC6S6x10

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	9WS1236-1	Bänkplatta	Base plate	Fussplatte	
2	9ZS1232-1	Bänkpelare	Column	Säule	
3	2X08545	Kuggstång	Rack	Zahnstange	
4	2T07146	Tapp	Pin	Zapfen	

7.10 Snäckväxelhus komplett - Worm gear box complete - Schneckengetriebegehäuse komplett





a) MC6S6x25 (4x)
b) Lub.nipple Ø6 (2x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	2N08720R	Snäckväxelhus	Worm gear box	Schnecken-getriebegehäuse	
2	2A08725	Axel	Shaft	Welle	
3	4HS1201	Kugghjul	Gear	Zahnrad	
4	2IS1203-2	Snäckskruv	Worm shaft	Schneckenwelle	
5	3L00027 3L00025 3L00028	Axialbricka Axialnålrullager Vågbricka	Washer	Scheibe	AS 2035 AXK 2035 EPO 20 EMO
6	3R01182	Vev kompl. m. handtag	Crank compl. with handle	Kurbel kompl. mit griff	
7	3P06035	Spännstift	Pin	Stift	



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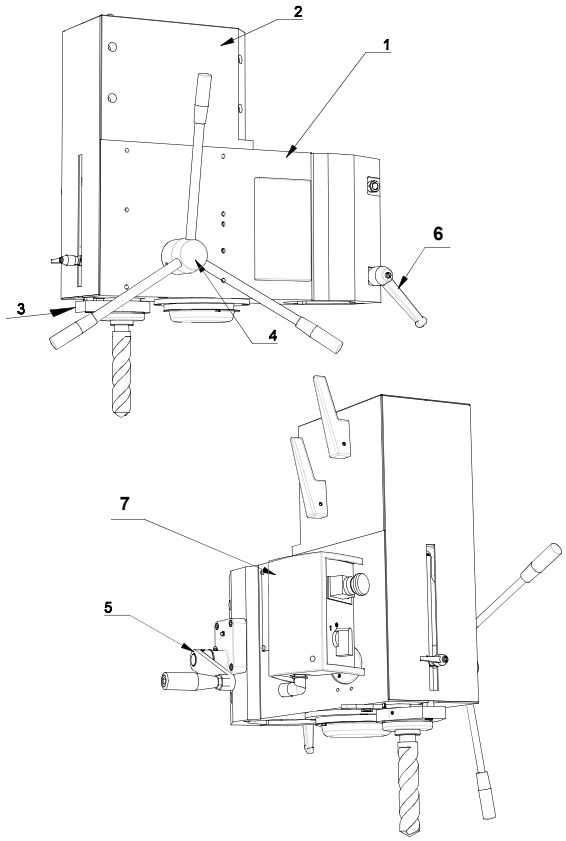
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machinery scandinavia

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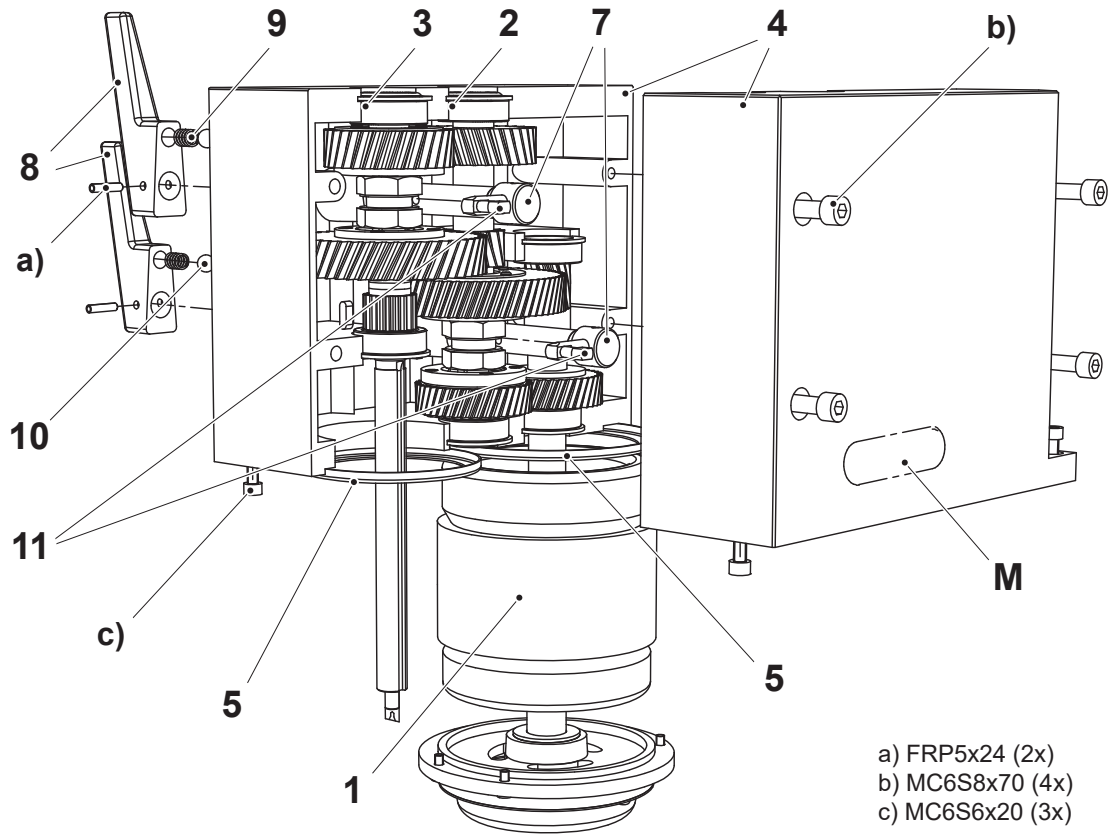
7 Reservdelar

7.1 Spindelhuvud - Drill head - Bohrkopf



Pos	Article no.	Benämning	Description	Benennung	Not
1	2V08621	Spindelhus	Spindle housing	Spindelgehäuse	
2	2X08618-1	Växellåda	Gear box	Getriebekasten	
3	2X08617	Spindelhylsa	Spindle sleeve	Spindelhülse	
4	2X08752R	Matningsaxel	Feed shaft	Vorschubwelle	
5	2X08720-1R	Snäckväxel	Worm gear unit	Schneckenwechsel	
6	3R00014-1	Ställbar låsspak	Lock handle	Schlossbügel	
7	3E45001	Elbox komplett	Electric box compl.	Elektrokasten kompl.	

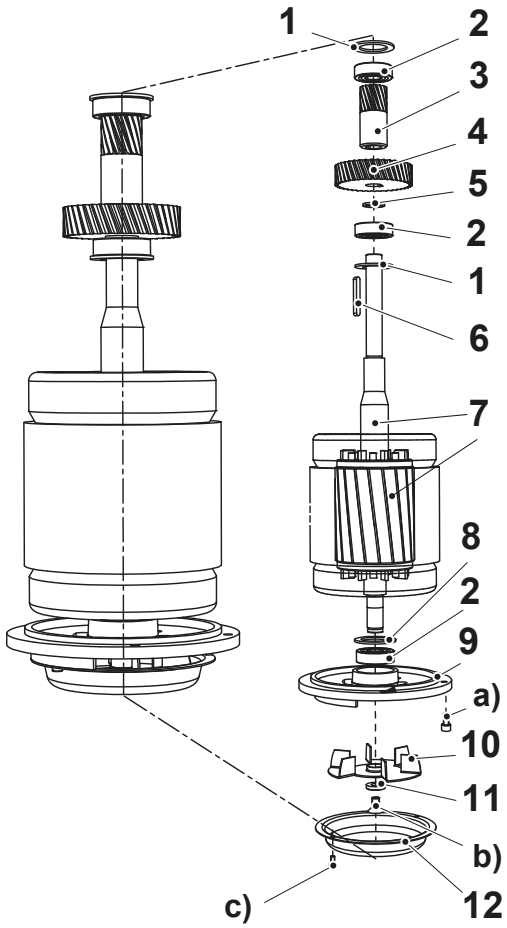
7.2 Växellåda - Gear box - Getriebegehäuse



a) FRP5x24 (2x)
b) MC6S8x70 (4x)
c) MC6S6x20 (3x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	2X08564R	Motoraxel komplett	Motor shaft complete	Motorwelle komplett	
2	2X08570R	2:a axel komplett	2:nd shaft complete	2:e Welle komplett	
3	2X08580R	3:e axel komplett	3:rd shaft complete	3:e Welle komplett	
4	2X08523	Växellådshus komplett	Gear box complete	Getriebekasten kompl.	
5	4B00174	Styrring	Ring	Ring	2x
7	2X08536	Skiftarm	Gear selector arm	Schaltarm	2x
8	2RS0653-1	Växelspak	Gear lever	Schalthebel	Kompl. 2XS0653-1
9	4C02921	Fjäder	Gear	Feder	2x
10	3T04028	Stålkula	Steel ball	Schaltgriff	2x
11	4T04168	Skiftstift	Shift pin	Stift	2x

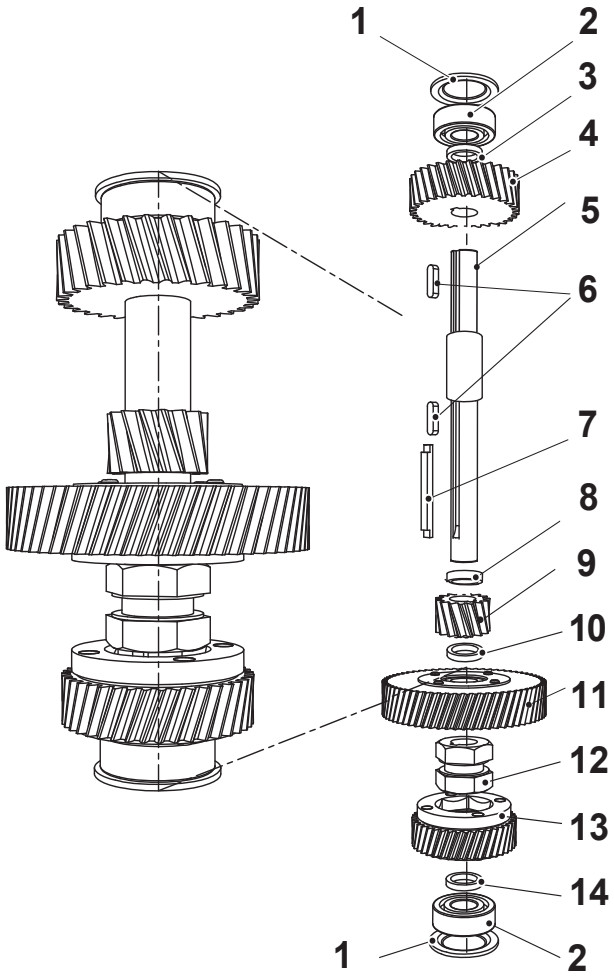
7.3 Motoraxel - Engine shaft - Motorwelle



a) MC6S5x10 (4x)
b) MF6S8x14
c) MC6S4x8 (2x)

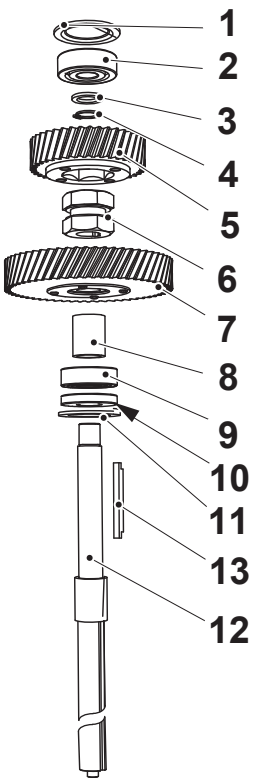
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B00137	Bricka	Wacher	Scheibe	2x
2	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS (3x)
3	2H08562	Kugghjul	Gear	Zahnrad	17-1,5
4	2H08563	Kugghjul	Gear	Zahnrad	40-2
5	2D00008	Distanshylsa	Spacing sleeve	Distanzhülse	17x6,5
6	3K01196	Kil	Key	Keil	RKh9 5x5x42
7	3E90243R	Stator + rotoraxel Stator 90/2-4-100	Stator + rotorshaft Stator 90/2-4-100	Stator + Rotorwelle Stator 90/2-4-100	400 - 440 V
8	4F06203	Bricka	Washer	Scheibe	
9	2N01889-1	Lagerlock	Bearing cover	Lagerdeckel	
10	4B00175	Vinghjul	Fan	Ventilator	
11	2B03449	Bricka	Washer	Scheibe	
12	4B01890	Fläktkåpa	Fan cover	Ventilatordeckel	

7.4 2:a axel - 2:nd shaft - 2:e Welle



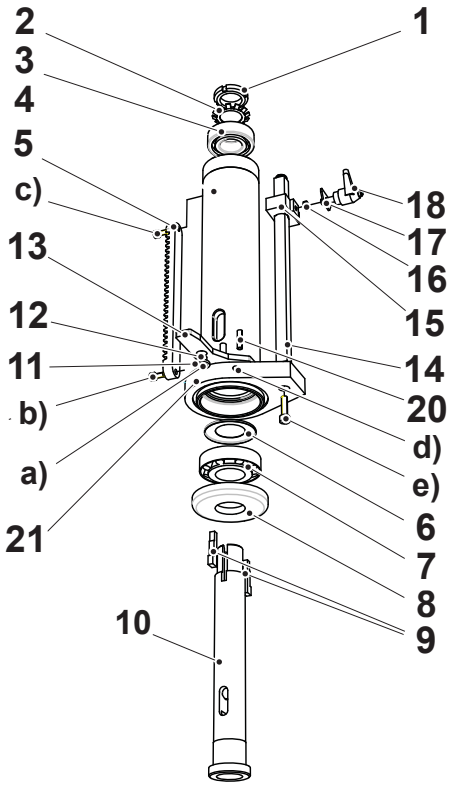
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B00138	Lock	Cover	Scheibe	2x
2	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS (2x)
3	2D00002	Distanshylsa	Spacing sleeve	Distanzhülse	17x2,5
4	2H08572	Kugghjul	Gear	Zahnrad	34-2
5	2A04871	2:a axel	2:nd shaft	2:e Welle	C-4871
6	3K01187	Kil	Key	Keil	RK 5x5x20 (2x)
7	2T06615	Övre kil	Key	Keil	C-6615
8	3B11005	Bricka	Washer	Scheibe	17x24x1
9	2H08573	Kugghjul	Gear	Zahnrad	15-2
10	2D17004	Distanshylsa	Spacing sleeve	Distanzhülse	17x4
11	2X08574R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	79-1,5 (fiber)
12	2T04254	Kopplingsklo	Clutch	Kupplung	C-4254
13	2X08575R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	33-2 (fiber)
14	2D00008	Distanshylsa	Spacing sleeve	DIstanzhülse	17x6,5

7.5 3:e axel - 3:rd shaft - 3:e Welle



Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B08584	Lock	Cover	Deckel	C-138
2	3L15002	Enrad spårkullager	Ball bearing	Kugellager	6302-2RS
3	3B01184	Bricka	Ring	Ring	15x22x1
4	3C01117	Spårring	Circlip	Führungsring	SgA 15
5	2X08582R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	39-2 (fiber)
6	2T04254	Kopplingsklo	Clutch	Kupplung	C 4254
7	2X08583R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	58-2 (fiber)
8	2D00007	Distanshylsa	Spacing sleeve	Distanzhülse	17x28,5
9	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS
10	2D17038	Distanshylsa	Spacing sleeve	Distanzhülse	17x38
11	4B00137	Bricka	Washer	Deckel	C-137
12	2T06615	Övre kil	Key	Keil	C-6615
13	2A08531	Spindelförlängning	Spindle shaft	Spindelwelle	

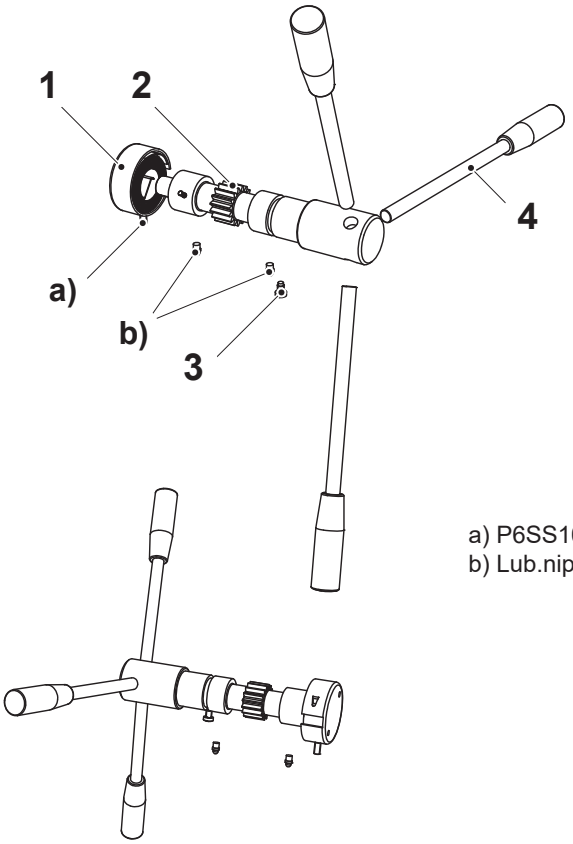
7.6 Spindelhylsa - Spindle sleeve - Spindelhülse



a) MF6S5x20
b) MC6S5x10 + FBB 5.1
c) MC6LS5x10 + FBB 5.1
d) SK6SS 6x8 (3x)
e) MC6S6x20 Esloc

Pos	Artikelnummer	Benämning	Description	Benennung	Not
	2X08617R	Spindelhylsa kompl.	Spindle sleeve compl.	Spindelhülse kompl.	
1	3M06005	Mutter	Nut	Mutter	KM5
2	3B07005	Låsbricka	Locking washer	Sicherungsscheibe	
3	3L15005	Kullager	Ball bearing	Kugellager	6205
4	2G08529	Spindelhylsa	Quill	Spindelhülse	
5	4I08754	Kuggstång	Rack	Zahnstange	
6	3B05146	Bricka	Washer	Scheibe	
7	3L50007	Koniskt rullager	Taper roll bearing	Rollenlager, konisch	32007X/Q
8	2TS2019-1	Lagerlock	Bearing cover	Lagerdeckel	
9	4T08518	Kil till borrspindel	Key for spindle	Keil für Spindel	
10	2A08617R	Borrspindel	Spindle	Bohrspindel	MK4
11	3B06003	Avkupad bricka	Washer	Scheibe	10,5x18x0,8
12	2T08593	Distanshylsa f. anslag	Spacer	Hülse	
13	4T08547	Anslag f. utstötare	Drill ejector lever	Anschlag	
14	2A08756-1R	Djupmåttstång	Depth gauge rod	Tiefenmass	
15	2T08759	Stopp f. matning	Stop	Tiefenmassanschlag	Kompl. 2X08759R
16	4CSB140046	Tryckfjäder	Spring	Feder	
17	4L08626	Visare	Indicator	Zeiger	
18	3R00003	Låsspak	Handle	Griff	43-M6x16
20	3P12308	Pinne	Pin	Stift	FRP 5x20
21	2N08551R	Ok	Quill collar	Spindeljoch	

7.7 Matningsaxel - Feed shaft - Vorschubwelle

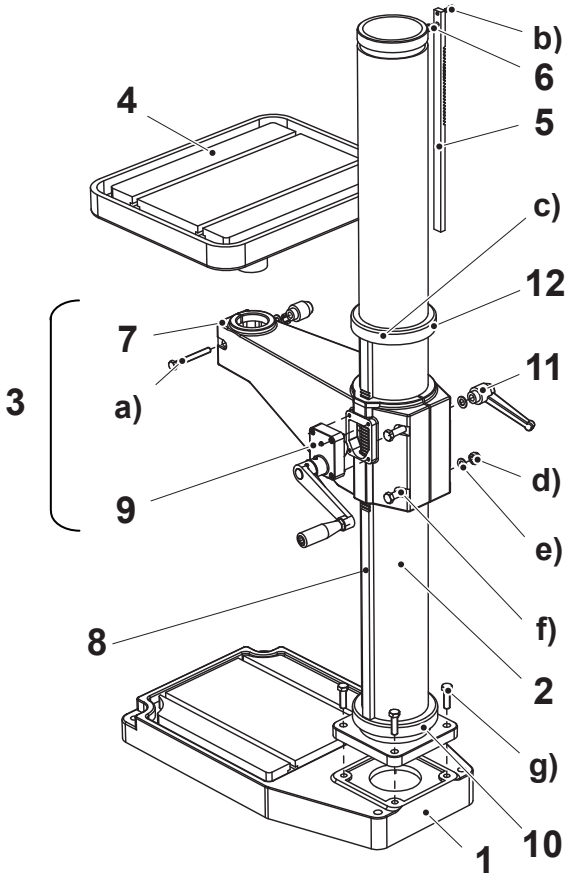


a) P6SS10x10
b) Lub.nippel Ø6

Pos	Article no.	Benämning	Description	Benennung	Not
1	4XS2150R	Returfjäder	Return spring	Rückholdfeder	
2	2I08752	Matningsaxel	Feed shaft	Vorschubwelle	
3	4S04211	Styrskruv	Guide screw	Führungsschraube	
4	4E08758R	Matningsspak	Feed lever	Vorschubhebel	3x

7.9 Pelare - Column - Säule

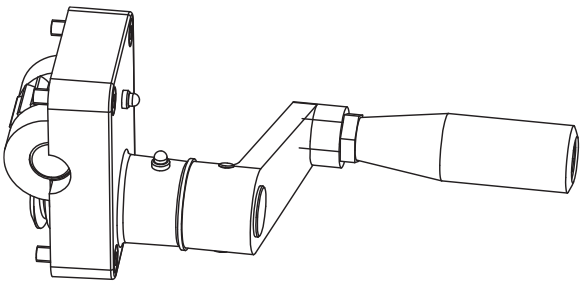
7.9.1 Pelarborrmaskin - Column drilling machine - Säulenbohrmachine

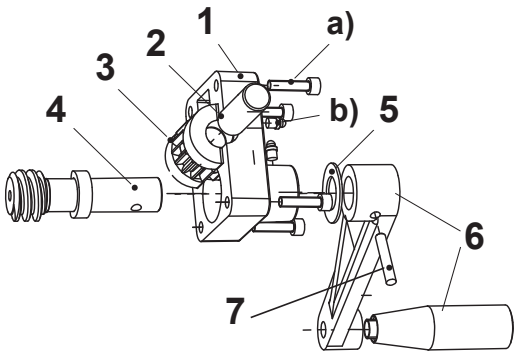


a) MC6S12x90
b) MC6S6x10
c) SK6SS6x12 (3x)
d) Locknut M12
e) BRB13x24x2 (3x)
f) M6S12x130 (2x),
g) M6S12x40 (4x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4W03040	Fotplatta	Base plate	Fussplatte	
2	9XS2123-1	Pelare	Column	Säule	
3	2X08735R	Bordarm kompl.	Table arm compl.	Tischarm kompl.	
4	2X07842R	Fyrkantbord kompl.	Table compl.	Tisch kompl.	500x400
5	2X08445	Kuggstång	Rack	Zahnstange	
6	2T07146	Tapp	Pin	Zapf	
7	2Y08735	Bordarm	Table arm	Tischarm	
8	4IS2120	Kuggstång bordarm	Rack table arm	Zahnstange Tischarm	
9	2X08720-1R	Snäckväxel kompl.	Worm gear compl.	Schneckengetriebe kompl.	
10	2NS2119R	Nedre ring	Lower ring	Unterer Ring	
11	3R00014-1	Låsspak	Lock handle	Schlossbügel	GN300 S108-M12
12	2NS2121R	Övre ring	Upper ring	Oberer Ring	

7.10 Snäckväxelhus komplett - Worm gear box complete - Schneckengetriebegehäuse komplett





a) MC6S6x25 (4x)
b) Lub.nipple Ø6 (2x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	2N08720R	Snäckväxelhus	Worm gear box	Schnecken-getriebegehäuse	
2	2A08725	Axel	Shaft	Welle	
3	4HS1201	Kugghjul	Gear	Zahnrad	
4	2IS1203-2	Snäckskruv	Worm shaft	Schneckenwelle	
5	3L00027 3L00025 3L00028	Axialbricka Axialnålrullager Vågbricka	Washer	Scheibe	AS 2035 AXK 2035 EPO 20 EMO
6	3R01182	Vev kompl. m. handtag	Crank compl. with handle	Kurbel kompl. mit griff	
7	3P06035	Spännstift	Pin	Stift	



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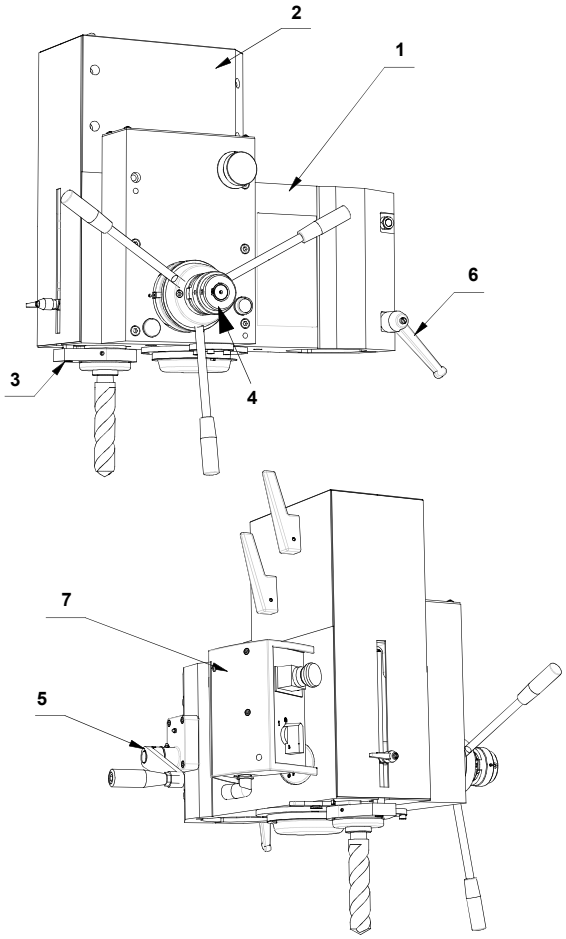
msc

machinery scandinavia

MADE IN SWEDEN

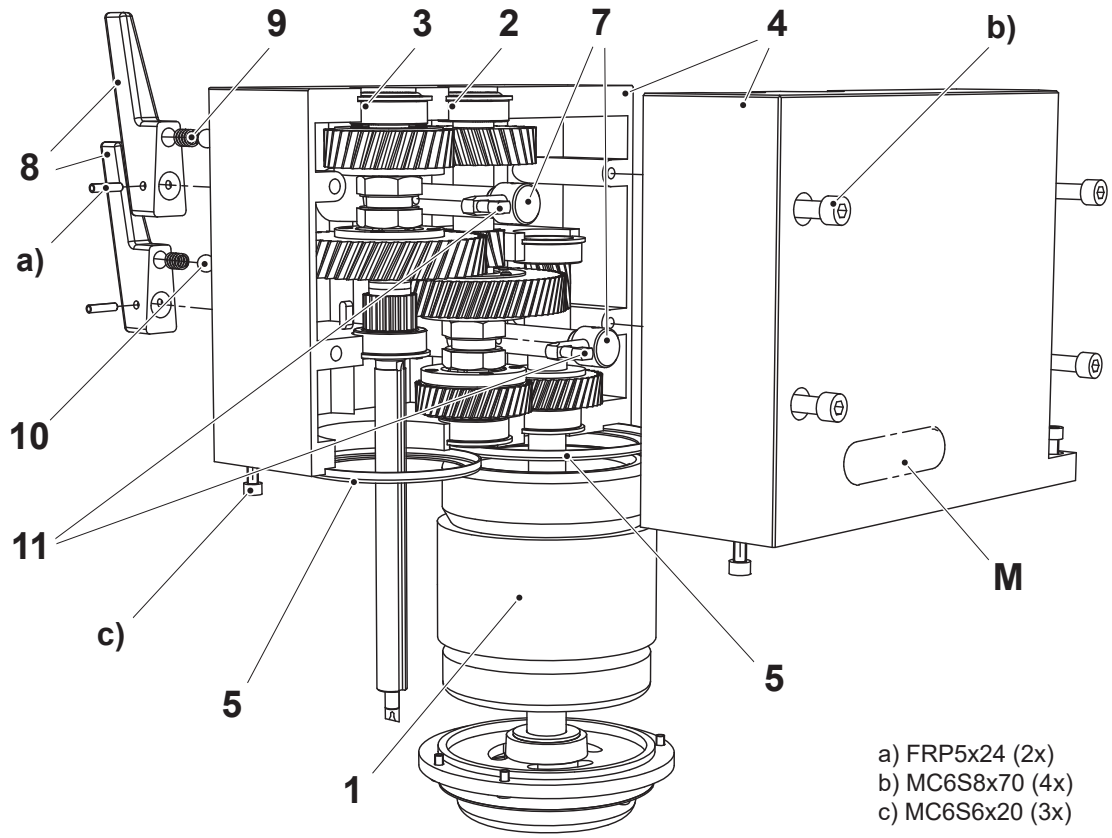
7 Reservdelar

7.1 Spindelhuvud - Drill head - Bohrkopf



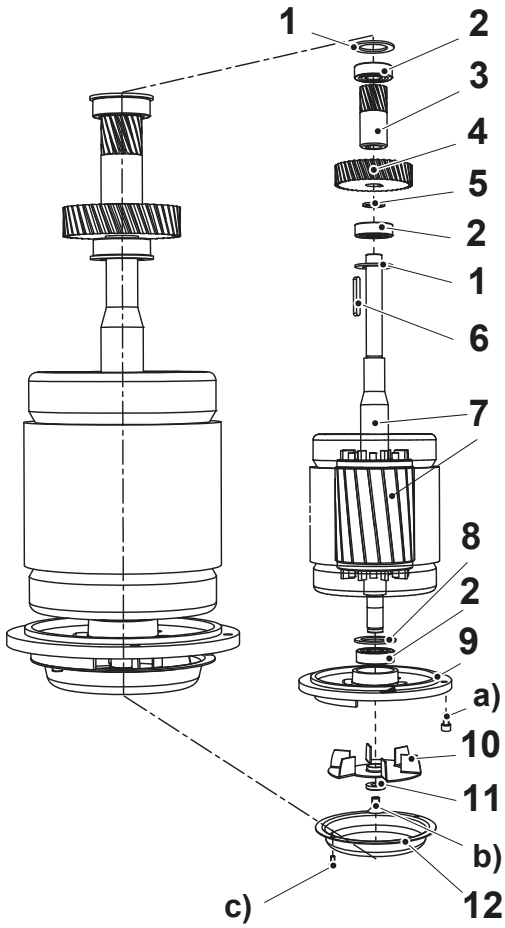
Pos	Article no.	Benämning	Description	Benennung	Not
1	2V08621-1	Spindelhus	Spindle housing	Spindelgehäuse	
2	2X08618	Växellåda	Gear box	Getriebekasten	
3	2X08617	Spindelhylsa	Spindle sleeve	Spindelhülse	
4	2X08456R	Matningsaxel	Feed shaft	Vorschubwelle	
5	2X08720-1R	Snäckväxel	Worm gear unit	Schneckenwechsel	
6	3R00014-1	Ställbar låsspak	Lock handle	Schlossbügel	
7	3E45001	Elbox komplett	Electric box compl.	Elektrokasten kompl.	

7.2 Växellåda - Gear box - Getriebegehäuse



Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	2X08564R	Motoraxel komplett	Motor shaft complete	Motorwelle komplett	
2	2X08570R	2:a axel komplett	2:nd shaft complete	2:e Welle komplett	
3	2X08581R	3:e axel komplett	3:rd shaft complete	3:e Welle komplett	
4	2X08523-1	Växellådshus komplett	Gear box complete	Getriebekasten kompl.	
5	4B00174	Styrring	Ring	Ring	2x
7	2X08536	Skiftarm	Gear selector arm	Schaltarm	2x
8	2RS0653-1	Växelspak	Gear lever	Schalthebel	Kompl. 2XS0653-1
9	4C02921	Fjäder	Gear	Feder	2x
10	3T04028	Stålkula	Steel ball	Schaltgriff	2x
11	4T04168	Skiftstift	Shift pin	Stift	2x

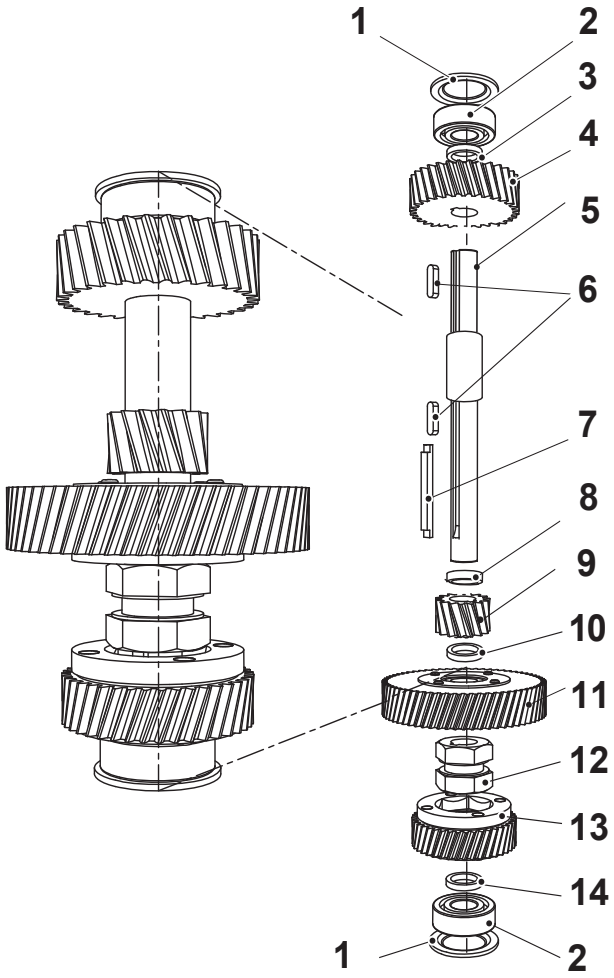
7.3 Motoraxel - Engine shaft - Motorwelle



a) MC6S5x10 (4x)
b) MF6S8x14
c) MC6S4x8 (2x)

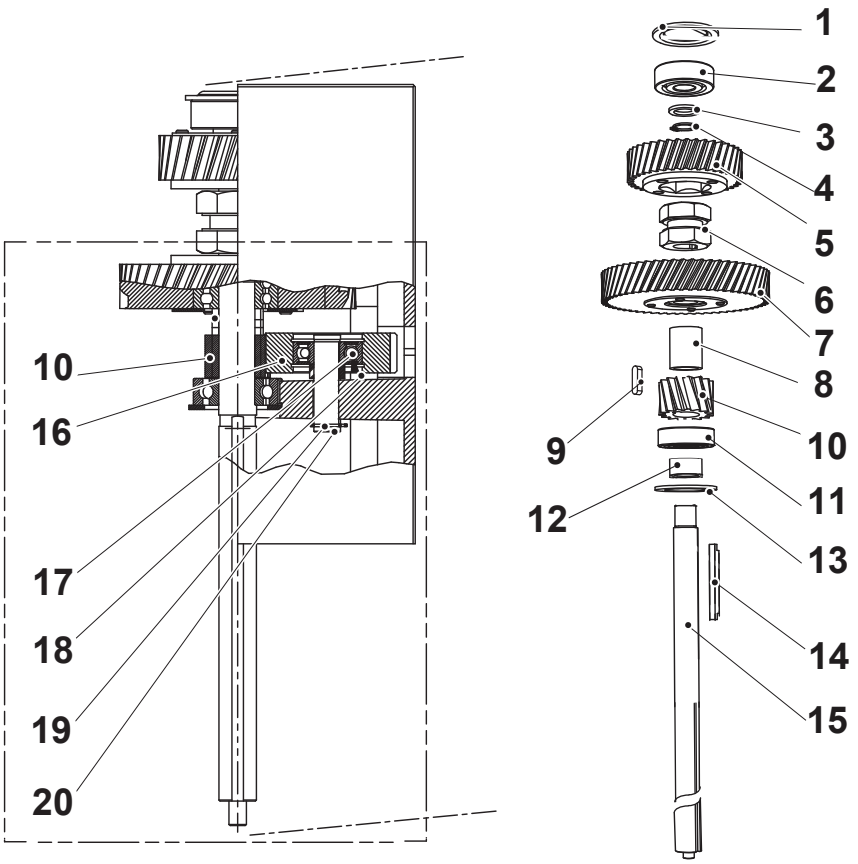
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B00137	Bricka	Wacher	Scheibe	2x
2	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS (3x)
3	2H08562	Kugghjul	Gear	Zahnrad	17-1,5
4	2H08563	Kugghjul	Gear	Zahnrad	40-2
5	2D00008	Distanshylsa	Spacing sleeve	Distanzhülse	17x6,5
6	3K01196	Kil	Key	Keil	RKh9 5x5x42
7	3E90243R	Stator + rotoraxel Stator 90/2-4-100	Stator + rotorshaft Stator 90/2-4-100	Stator + Rotorwelle Stator 90/2-4-100	400 - 440 V
8	4F06203	Bricka	Washer	Scheibe	
9	2N01889-1	Lagerlock	Bearing cover	Lagerdeckel	
10	4B00175	Vinghjul	Fan	Ventilator	
11	2B03449	Bricka	Washer	Scheibe	
12	4B01890	Fläktkåpa	Fan cover	Ventilatordeckel	

7.4 2:a axel - 2:nd shaft - 2:e Welle



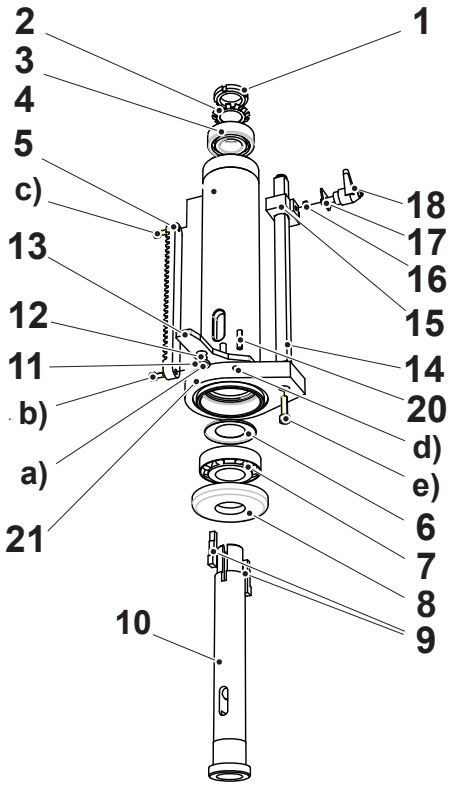
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B00138	Lock	Cover	Scheibe	2x
2	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS (2x)
3	2D00002	Distanshylsa	Spacing sleeve	Distanzhülse	17x2,5
4	2H08572	Kugghjul	Gear	Zahnrad	34-2
5	2A04871	2:a axel	2:nd shaft	2:e Welle	C-4871
6	3K01187	Kil	Key	Keil	RK 5x5x20 (2x)
7	2T06615	Övre kil	Key	Keil	C-6615
8	3B11005	Bricka	Washer	Scheibe	17x24x1
9	2H08573	Kugghjul	Gear	Zahnrad	15-2
10	2D17004	Distanshylsa	Spacing sleeve	Distanzhülse	17x4
11	2X08574R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	79-1,5 (fiber)
12	2T04254	Kopplingsklo	Clutch	Kupplung	C-4254
13	2X08575R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	33-2 (fiber)
14	2D00008	Distanshylsa	Spacing sleeve	DIstanzhülse	17x6,5

7.5 3:e axel - 3:rd shaft - 3:e Welle



Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B08584	Lock	Cover	Deckel	C-138
2	3L15002	Enrad spårkullager	Ball bearing	Kugellager	6302
3	3B01184	Bricka	Ring	Ring	15x22x1
4	3C01117	Spårring	Circlip	Führungsring	SgA 15
5	2X08582R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	39-2 (fiber)
6	2T04254	Kopplingsklo	Clutch	Kupplung	C 4254
7	2X08583R	Kugghjul kompl.	Gear compl.	Zahnrad kompl.	58-2 (fiber)
8	2D00007	Distanshylsa	Spacing sleeve	Distanzhülse	17x28,5
9	3K01186	Kil	Key	Keil	RKh9 5x5x18
10	2HSB7501-2	Kugghjul	Gear wheel	Zahnrad	18-1,5
11	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS
12	2D17019	Distanshylsa	Spacer	Distanzhülse	17x19
13	4B00137	Lock	Cover	Deckel	C-137
14	2T06615	Övre kil	Key	Keil	C-6615
15	2A08531	Spindelförlängning	Spindle shaft	Spindelwelle	
16	2X08558	Mellanhjul kompl.	Gear complete feed	Zahnrad Vorschub	
17	3L13001	Kullager	Bearing	Kugellager	6201 2Z
18	2D12017	Distanshylsa	Spacer	Distanzhülse	12x17
19	3C01114	Spårring	Circlip	Sicherungsring	SGA 12 (2x)
20	2A08548	Axel till mellanhjul	Feed gear shaft	Welle Vors. Zahnrad	

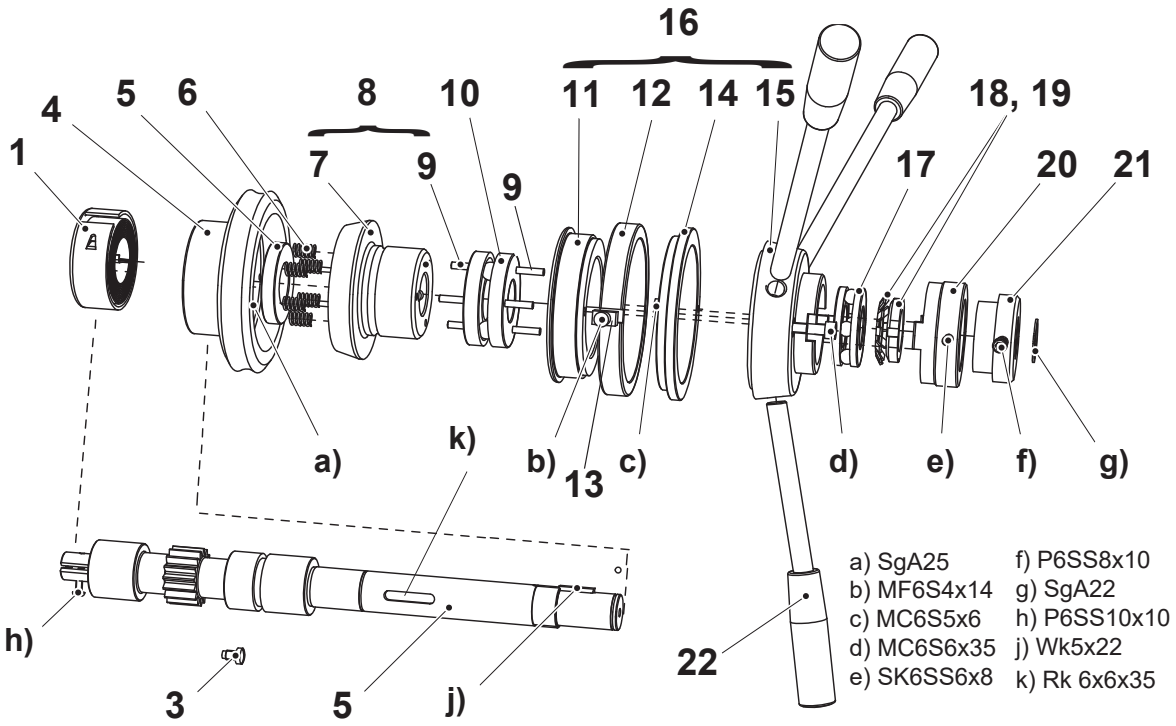
7.6 Spindelhylsa - Spindle sleeve - Spindelhülse



a) MF6S5x20
b) MC6S5x10 + FBB 5.1
c) MC6LS5x10 + FBB 5.1
d) SK6SS 6x8 (3x)
e) MC6S6x20 Esloc

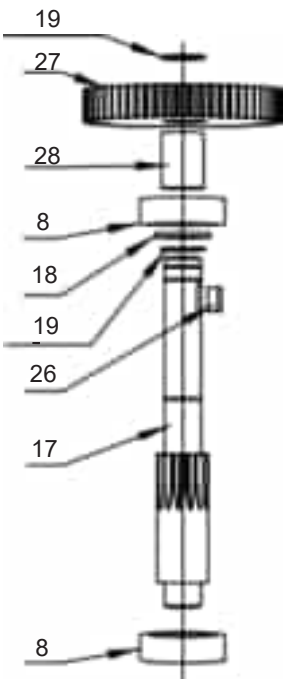
Pos	Artikelnummer	Benämning	Description	Benennung	Not
	2X08617R	Spindelhylsa kompl.	Spindle sleeve compl.	Spindelhülse kompl.	
1	3M06005	Mutter	Nut	Mutter	KM5
2	3B07005	Låsbricka	Locking washer	Sicherungsscheibe	
3	3L15005	Kullager	Ball bearing	Kugellager	6205
4	2G08529	Spindelhylsa	Quill	Spindelhülse	
5	4I08754	Kuggstång	Rack	Zahnstange	
6	3B05146	Bricka	Washer	Scheibe	
7	3L50007	Koniskt rullager	Taper roll bearing	Rollenlager, konisch	32007X/Q
8	2TS2019-1	Lagerlock	Bearing cover	Lagerdeckel	
9	2T08518	Kil till borrspindel	Key for spindle	Keil für Spindel	
10	2A08617R	Borrspindel	Spindle	Bohrspindel	MK3
11	3B06003	Avkupad bricka	Washer	Scheibe	10,5x18x0,8
12	2T08593	Distanshylsa f. anslag	Spacer	Hülse	
13	4T08547	Anslag f. utstötare	Drill ejector lever	Anschlag	
14	2A08756-1R	Djupmåttstång	Depth gauge rod	Tiefenmass	
15	2T08759	Stopp f. matning	Stop	Tiefenmassanschlag	Kompl. 2X08759R
16	4CSB140046	Tryckfjäder	Spring	Feder	
17	4L08626	Visare	Indicator	Zeiger	
18	3R00003	Låsspak	Handle	Griff	43-M6x16
20	3P12308	Pinne	Pin	Stift	FRP 5x20
21	2N08551R	Ok	Quill collar	Spindeljoch	

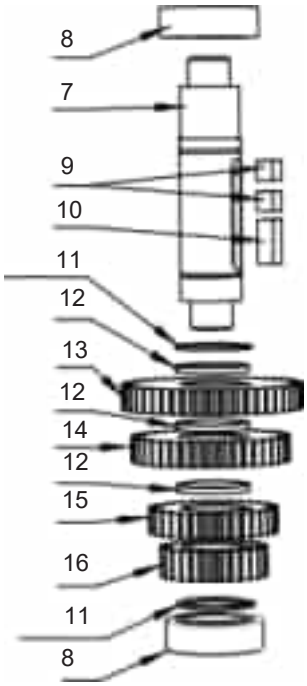
7.7 Matningsaxel - Feed shaft - Vorschubwelle

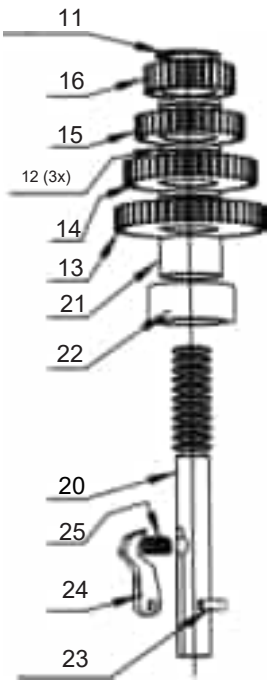


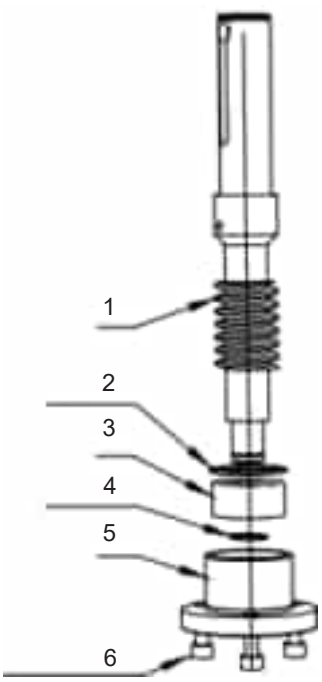
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4XS2150R	Returfjäder	Return spring	Rückholfeder	
2	2I08456	Matningsaxel	Feed shaft	Vorschubwelle	
3	4S04211	Styrskruv	Guide screw	Führungsschraube	
4	2ISB7523-2	Snäckhjul	Worm wheel	Schneckenrad	
5	2TSB142081	Tryckplatta	Pressure plate	Druckscheibe	
6	4CSB548090-2	Tryckfjäder	Clutch head spring	Druckfeder	6x
7	2NSB142080	Kopplingshuvud	Clutch head	Kupplungskopf	
8	2XSB142080	Kopplingshuvud kompl.	Clutch head complete	Kupplungskopf Kompl	
9	3P07257	Stift	Pin	Stift	6x
10	2TSB548091R	Kopplingsskiva med kulor	Clutch half with steelballs	Kupplungsscheibe mit kugeln	2x
11	2TSB548092	Låsring	Lock ring	Schliessring	
12	2TSB548093-1	Anslagsring	Stop ring	Stoppring	
13	2TSB548093-3	Anslagsklack	Stop	Anschlag	
14	2TSB548093-2	Ställring	Adjusting ring	Einstellring	
15	2TSB548094-1	Handspaksfäste	Handle holder	Griffhalter	
16	2XSB548094	Handspaksfäste kompl.	Handle holder compl.	Griffhalter kompl.	
17	3L61005	Axialkullager	Bearing	Lager	
18	3B07005	Låsbricka	Locking washer	Blechsicherung	
19	3M06005	Mutter	Nut	Mutter	
20	2TSB548096-1	Klokoppling	Coupling clutch	Klauenkupplung	
21	2TSB548096-2	Nav för klokoppling	Coupling hub	Kupplungsnabe	
22	4E08758R	Handspak	Feed lever	Vorschubhebel	3x

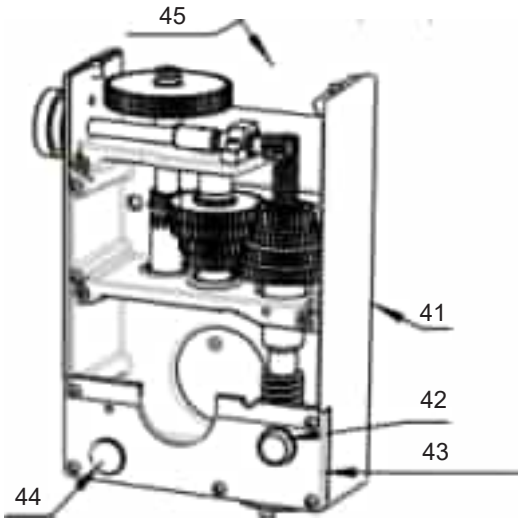
7.8 Matn.växellåda - Power feed box - Vorschubgetriebe

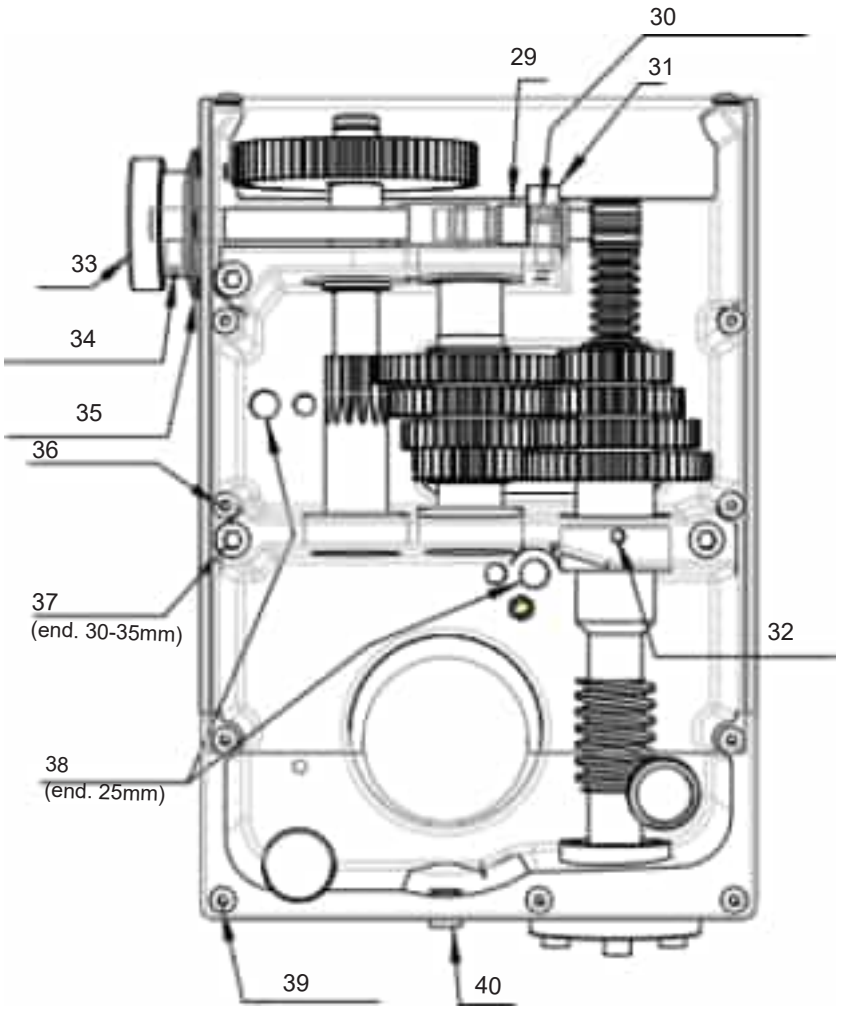










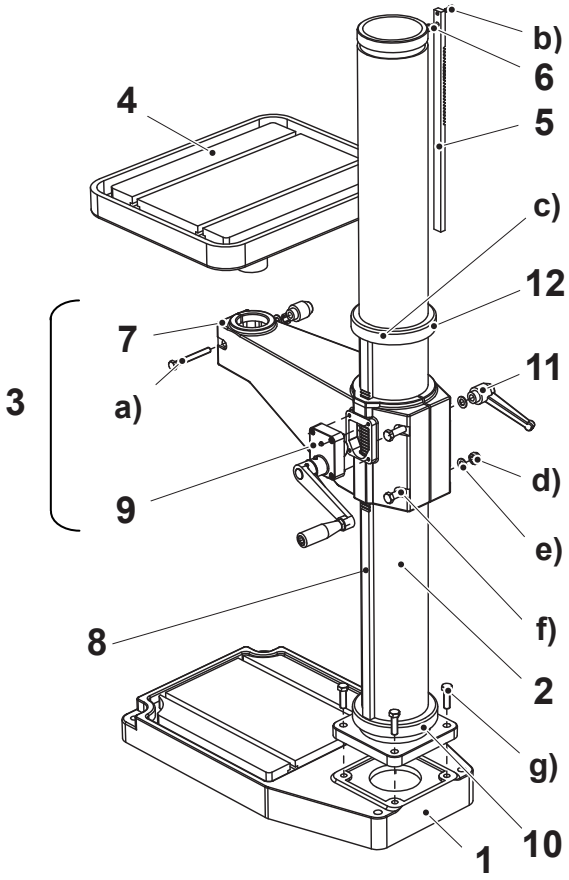


A3808M SPARE PARTS

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	2I08639	Snäckskruv matn.låda	Worm shaft feed box	Schneckewelle Vorsch.	
2	3C02133	Spårring	Circlip	Sicherungsring	SGH 35
3	3L40002	Tvårad. vinkelkontaktl.	Bearing	Lager	3202
4	3C01117	Spårring	Circlip	Sicherungsring	SGH 15
5	2T08555	Lagerhus	Bearing housing	Lagergehäuse	
6	3S03370	Skruv	Screw	Schraube	MC6S 6x20 (3x)
7	2A08541	Axel till matning	Feed shaft	Vorschubwelle	
8	3L15003	Kullager	Bearing	Kugellager	6203-2RS (4x)
9	3K00934	Kil	Key	Keil	TK 8x7x8 (2x)
10	3K00294	Kil	Key	Keil	TK 8x7x18 h9
11	3C01126	Spårring	Circlip	Sicherungsring	SGA 25
12	2B03150	Bricka	Washer	Scheibe	(6x)
13	4H08556-7	Kugghjul	Gear wheel	Zahnrad	47-1,5 (2x)
14	4H08556-6	Kugghjul	Gear wheel	Zahnrad	41-1,5 (2x)
15	4H08556-5	Kugghjul	Gear wheel	Zahnrad	33-1,5 (2x)
16	4H08556-4	Kugghjul	Gear wheel	Zahnrad	27-1,5 (2x)
17	2I08540	Kuggaxel .	Gear shaft	Zahnwelle	
18	2D17002	Distanshylsa	Spacer	Distanzhülse	17x2
19	3C01119	Spårring	Circlip	Sicherungsring	SGA 17 (2x)
20	2I08649	Axel matn.växellåda	Shaft feed gear box	Welle Vorschubgetr.	
21	4DSB7530-2	Distansring	Spacer	Distanzring	25x18
22	3L00010	Nållager	Needle bearing	Nadellager	NA 4905
23	3P01307	Pinne	Pin	Stift	CP 5x14
24	2TSB7534	Kil matningslåda	Key	Keil	
25	4CSB11750	Tryckfjäder	Spring	Feder	
26	3K00183	Kil	Key	Keil	TK 5x5x12
27	2HSB7546	Kugghjul	Gear	Zahnrad	60-1,5
28	2D00005	Distanshylsa	Spacer	Distanzhülse	17x26,5
29	2I08542-1	Inställningsdrev	Gear shaft	Zahnwelle	
30	3S03372	Skruv	Screw	Schraube	MC6S 6x25
31	2N08457	Lagerbock	Bearing bracket	Lagerbock	
32	3S07366	Låsskruv	Screw	Schraube	S6SS 6x12
33	2X05431	Ratt	Hand wheel	Handrad	
34	3S04368	Skruv	Screw	Schraube	SK6SS 6x16
35	3C01114	Spårring	Circlip	Sicherungsring	SGA 12
36	3S24323	Skruv	Screw	Schraube	K6S 5x8 (6x)
37	3S03468	Skruv	Screw	Schraube	MC6S 8x85 (3x)
38	3S03491	Skruv	Screw	Schraube	MC6S 10x20 (2x)
39	3S24331	Skruv	Screw	Schraube	K6S 5x20 (5x)
40	3S50002	Oljeplugg	Plug	Propfen	R ¼”
41	4X08781	Matningsväxellåda	Feed gear box	Gehäuse	
42	3S50005	Oljepåfyllplugg	Oil fill plug	Ölfüllpfropfen	
43	4N08781	Nedre lock	Cover	Deckel	
44	3T03002	Oljenivåglas	Oil sight glass	Ölstandglas	
45	4L08783	Övre lock	Cover	Deckel	

7.9 Pelare - Column - Säule

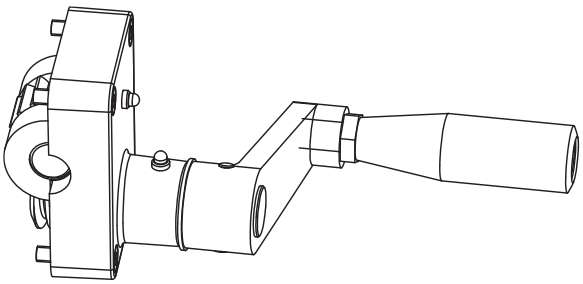
7.9.1 Pelarborrmaskin - Column drilling machine - Säulenbohrmachine

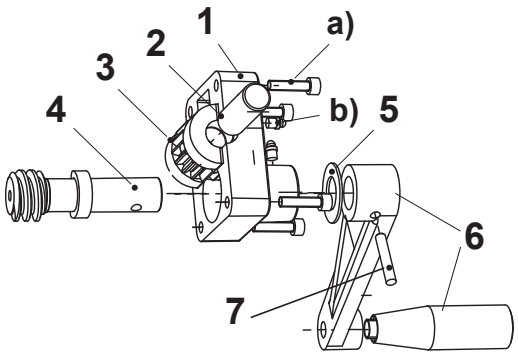


a) MC6S12x90
b) MC6S6x10
c) SK6SS6x12 (3x)
d) Locknut M12
e) BRB13x24x2 (3x)
f) M6S12x130 (2x),
g) M6S12x40 (4x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4W03040	Fotplatta	Base plate	Fussplatte	
2	9XS2123-1	Pelare	Column	Säule	
3	2X08735R	Bordarm kompl.	Table arm compl.	Tischarm kompl.	
4	2X07842R	Fyrkantbord kompl.	Table compl.	Tisch kompl.	500x400
5	2X08445	Kuggstång	Rack	Zahnstange	
6	2T07146	Tapp	Pin	Zapf	
7	2Y08735	Bordarm	Table arm	Tischarm	
8	4IS2120	Kuggstång bordarm	Rack table arm	Zahnstange Tischarm	
9	2X08720-1R	Snäckväxel kompl.	Worm gear compl.	Schneckengetriebe kompl.	
10	2NS2119R	Nedre ring	Lower ring	Unterer Ring	
11	3R00014-1	Låsspak	Lock handle	Schlossbügel	GN300 S108-M12
12	2NS2121R	Övre ring	Upper ring	Oberer Ring	

7.10 Snäckväxelhus komplett - Worm gear box complete - Schneckengetriebegehäuse komplett





a) MC6S6x25 (4x)
b) Lub.nipple Ø6 (2x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	2N08720R	Snäckväxelhus	Worm gear box	Schnecken-getriebegehäuse	
2	2A08725	Axel	Shaft	Welle	
3	4HS1201	Kugghjul	Gear	Zahnrad	
4	2IS1203-2	Snäckskruv	Worm shaft	Schneckenwelle	
5	3L00027 3L00025 3L00028	Axialbricka Axialnålrullager Vågbricka	Washer	Scheibe	AS 2035 AXK 2035 EPO 20 EMO
6	3R01182	Vev kompl. m. handtag	Crank compl. with handle	Kurbel kompl. mit griff	
7	3P06035	Spännstift	Pin	Stift	