



Operating Instructions and Parts Manual
25-inch Gear Head Drill with Powerfeed
Model J-A3008M-PF2, J-A3008M-PF4



1 General

This is your copy of the instructions and spare parts list for the drilling machine. 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

1.2 CE-labelling and Declaration of Conformity

An "EC-Declaration of Conformity" accompanies CE-labelled machines.

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 plates on the machine. Avoiding to follow the safety regulations might cause an accident.



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.

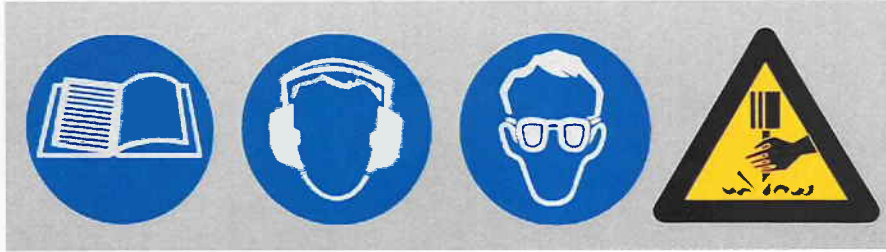


Figure 1 Warning symbols on the machine

- 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 it exists 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 2) must always be used. For safety reasons, the chuck guard is equipped with a micro switch.



Figure 2 Chuck guard (for machines within the European Union)

- Keep it clean around the machine to avoid stumbling against rotating tools.
- Make sure that the work piece is securely fastened at the table, see an example in figure 3 and figure 4.



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

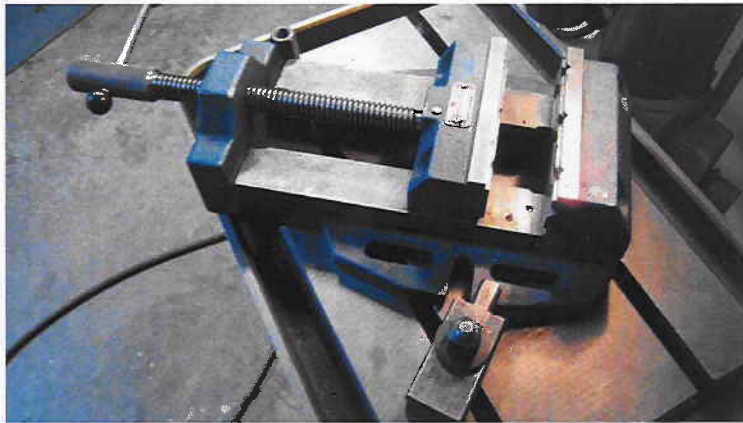


Figure 3 Fastening the table vice on the table, example

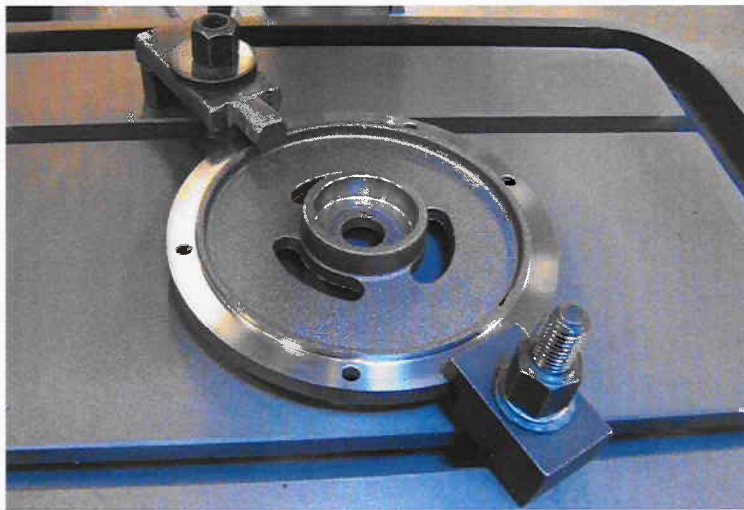


Figure 4 Fastening the work piece on the table, example

- See to it 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. Be sure that the tool is the correct one for you operation
- See to it that the drill head, table arm and the table are thoroughly fastened before starting up the machine.

2 Design and function

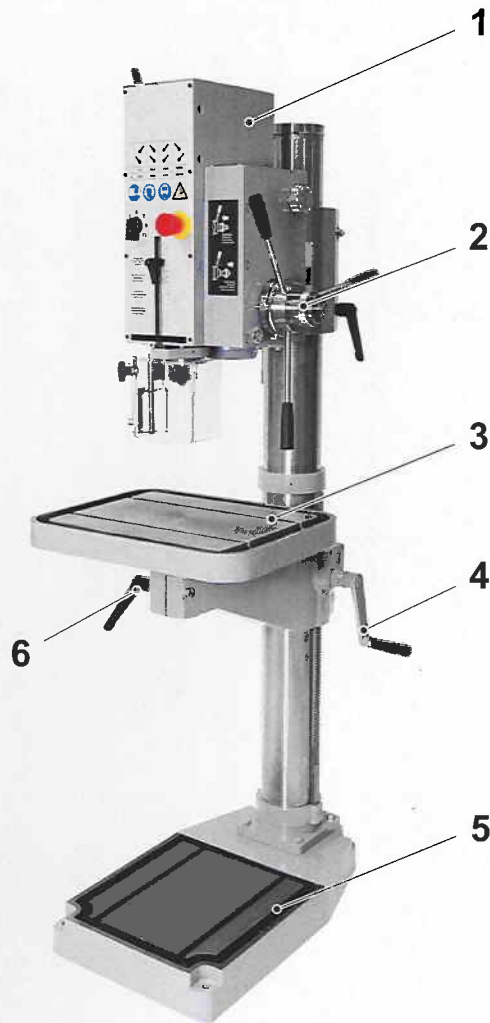


Figure 5 Drilling machine

1. Drill head
2. Feed shaft with handle
3. Table
4. Crank for worm gear (2 pcs)
5. Machined base plate
6. Lock handle (3 pcs)

This machine has a drilling capacity of 30 mm.

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

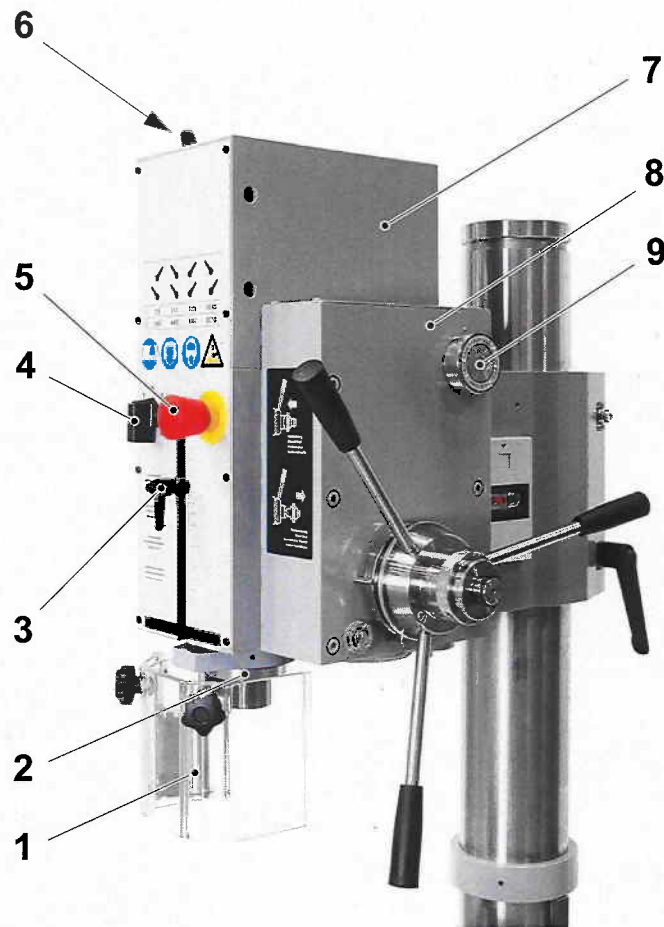


Figure 6 Drill head

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

2.1.1 Emergency stop

See the location of the emergency stop push button in figure 6 (position 5). 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.

3.2 Electric installation

Obs! Electric installations have to be executed 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



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 Drilling

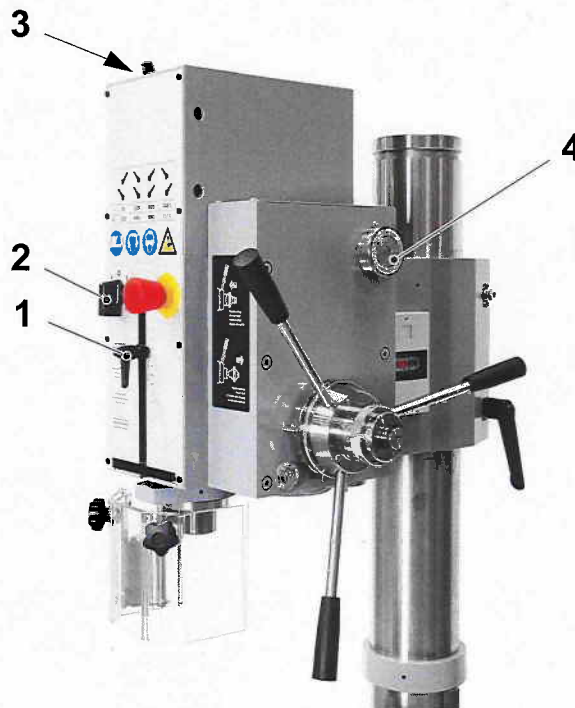


Figure 7 Set-up

See figure 7.

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.

Obs! The machine can not be shifted during operations.

2. Turn the switch (2) clockwise to position “1” or “2F”, 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.

Obs! 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 "4.1.1 Machine feed drilling" or feed manually according to chapter "4.1.2 Manual drilling".
5. At bottom holes, repeat the drilling to eliminate tensions.
6. Check the measurements and adjust the drilling depth if necessary.

4.1.1 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 the drill spindle down against the work piece. When the drill pressure is on, the machine feed is connected and the machine drills to the preset 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 be cancelled by holding back the hand feed lever.

Setting the drill depth

First, set the machine fed drill depth, see figure 8:

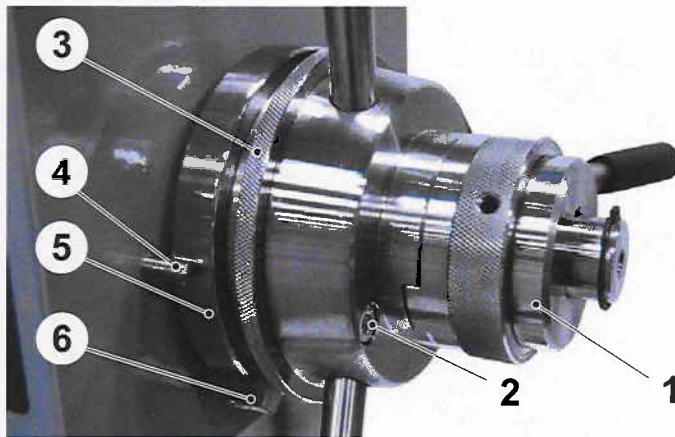


Figure 8 Coupling

1. Lock the drill depth scale in its upper position.
2. Remove the coupling (1) towards the right.
3. Loosen the two female 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.

Example: When setting a drilling depth of 20 mm and the 0-point is 100 mm, set the drilling depth to 77 mm.

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.

4.1.2 Manual drilling

1. Make sure the claw coupling is inserted.
2. Set the stop on the depth gauge rod in the desired position or else, set the stop in the upper position.
3. Use the feed handle to feed the spindle quill.

4.2 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 7.

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.
Obs! 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 "4.2.1 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 "4.2.2 Automatic reversing by using the drill depth stop (option)".

4.2.1 Reversing by using the switch/speed selector

1. Set the drill depth stop in the upper position.
2. Turn the switch clockwise to position "1" or "2F", see the sign on the front side of the machine.
3. Feed the spindle manually downwards with the feed lever.
4. At the desired drill depth, turn the switch anti-clockwise to position "1" or "2R", see the sign on the front side of the machine.
5. Feed the spindle manually upwards with the feed lever. When the spindle reaches its upper position, it automatically resets the correct spindle rotation.

4.2.2 Automatic reversing by using the drill depth stop (option)

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

4.3 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:

Obs! 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 figur 9) 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 9 Adjusting the feed switch

4.4 Drill ejector

4.4.1 Automatic ejection

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.

To eject the drill:

1. Bend out the stopper (see the arrow in figure 10).
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 10 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 11.



Figure 11 Expeller wedge

5 Preventive maintenance

5.1 Oil filling

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 (approx. 0.3 liters) via the filling hole (1) up to the middle of the level indicator (2), see figure 12.

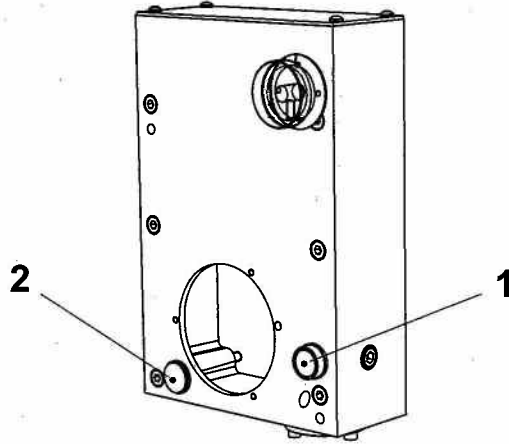


Figure 12 Oil filling and level indicator, feed gear box

5.1.1 Oil recommendations

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

Obs! The guarantee of the machine is based on these oil recommendations - 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 13 and figure 14.

5.3.1 Drill head

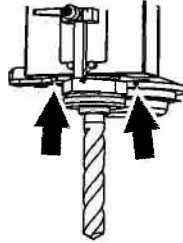


Figure 13 Grease nipples, drill head

5.3.2 Worm gear box

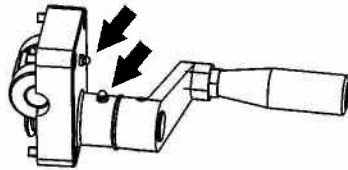


Figure 14 Grease nipples, worm gear box

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 journaled 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 15.



Figure 15 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.



Figure 16 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".
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".
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".

6.4 Motor

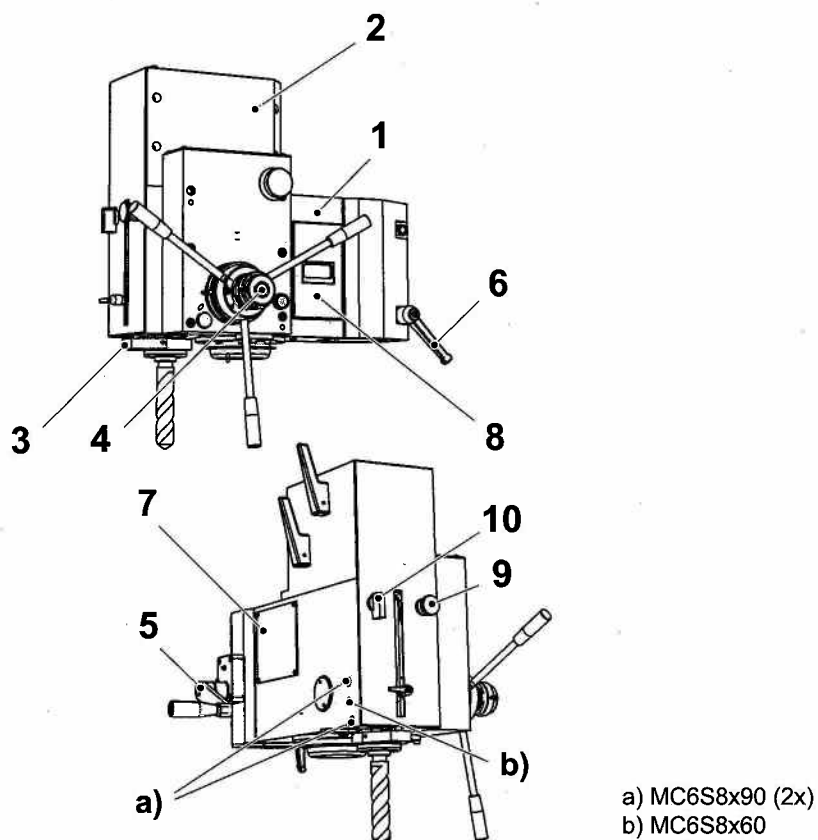
In case of motor failure, please contact Machinery Scandinavia for further information.

6.5 Gearbox

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

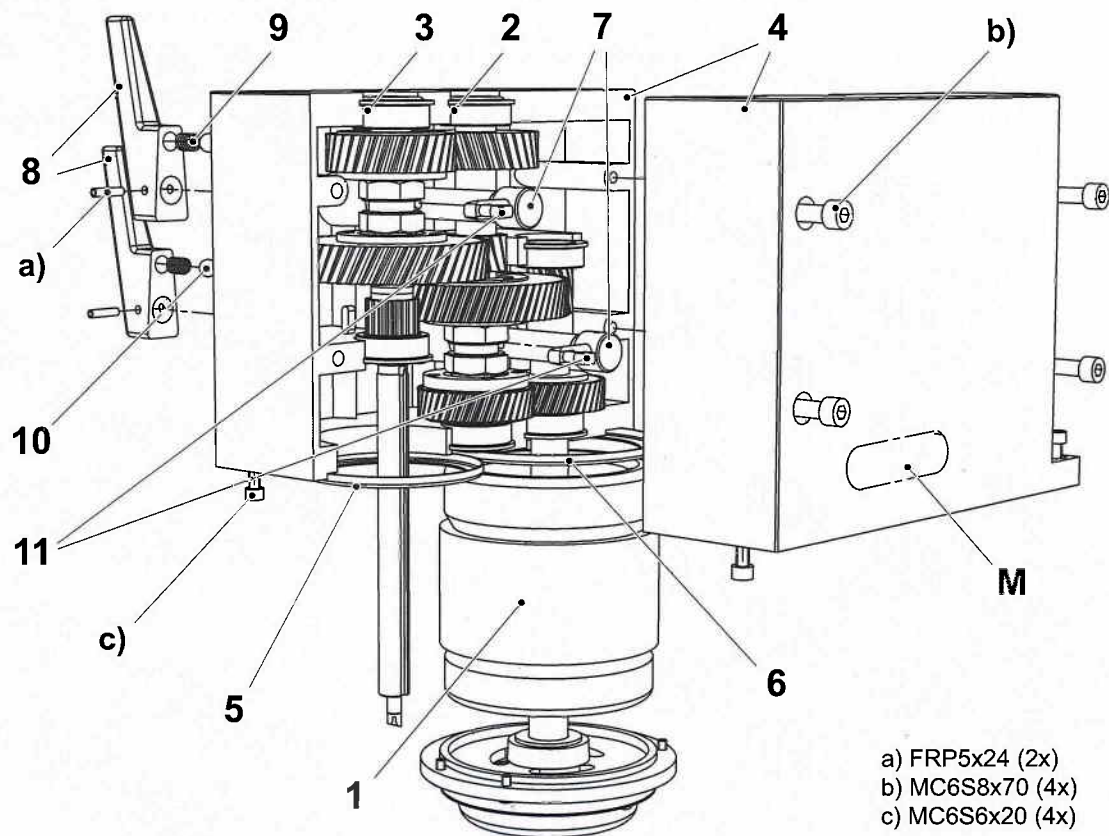
7 Spare parts

7.1 Spindelhuvud - Drill head - Bohrkopf



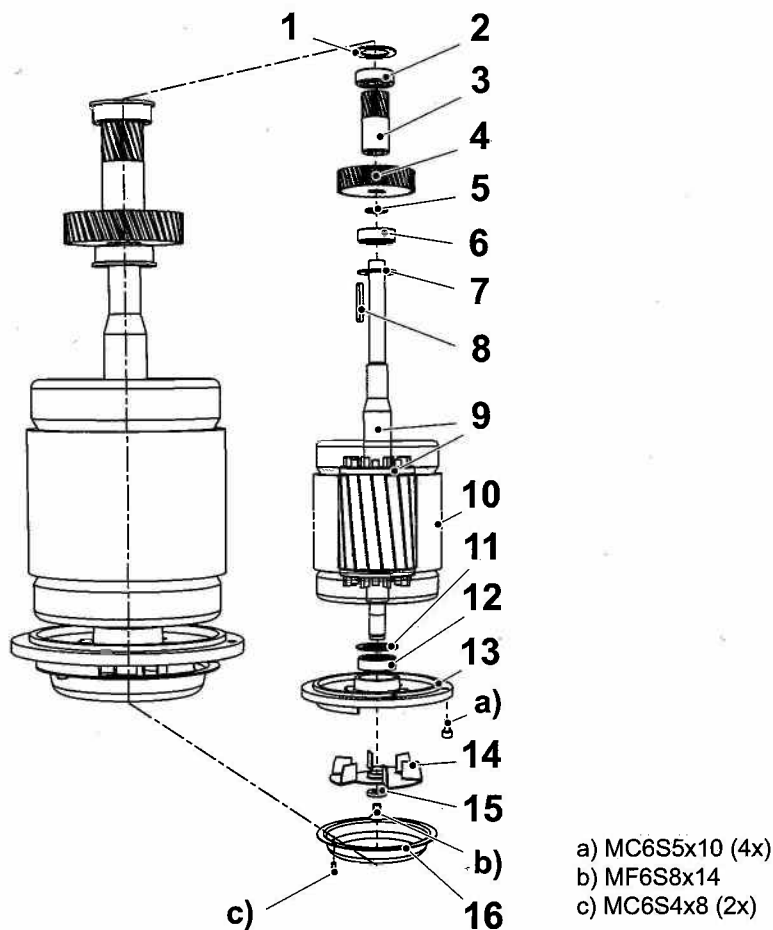
Pos	Article no.	Benämning	Description	Benennung	Not
1	2X08505-1	Spindelhus	Spindle housing	Spindelgehäuse	
2	2X08516	Växellåda	Gear box	Getriebekasten	
3	2X08529	Spindelhylsa	Spindle sleeve	Spindelhülse	
4	2X08514R	Matningsaxel komplett	Feed shaft complete	Vorschubwelle komp	
5	2X08720-1R	Snäckväxel	Worm gear unit	Schneckenwechsel	
6	3R00014-1	Ställbar låsspak	Lock handle	Schlossbügel	
7	4L08589	Täckplåt	Cover plate	Abdeckblech	
8	3E10600	Motorskydd	Overload protection	Motorschutzschalter	
9	3E06126	Nödstopp	Emergency stop	Not-Stop mit Schild	
10	3E06073	Strömbrytare	Switch	Maschinenschalter	

7.2 Växellåda - Gear box - Getriebegehäuse



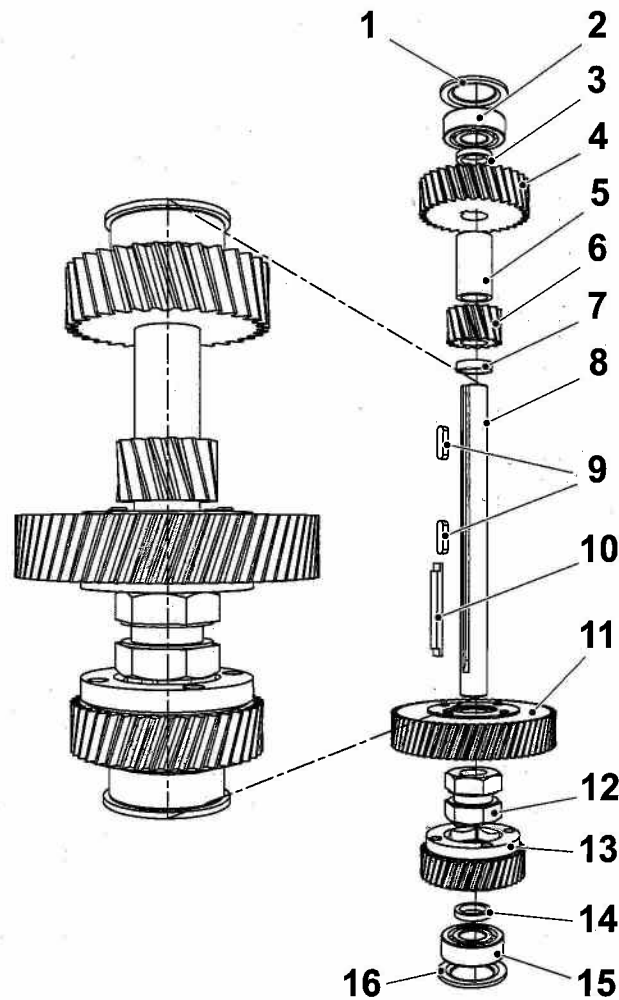
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	3E81080	Stator 80/2-4-100	Stator 80/2-4-100	Stator 80/2-4-100	
2	2X08570	2:a axel komplett	2:nd shaft complete	2:e Welle komplett	
3	2X08580	3:e axel komplett	3:rd shaft complete	3:e Welle komplett	
4	2X08523	Växellådshus komplett	Gear box complete	Getriebekasten kompl.	
5	4B00174	Styrring	Ring	Ring	
6	4B00173	Styrring	Ring	Ring	
7	2X08536	Skiftarm	Gear selector arm	Schaltarm	
8	4RS0653-1	Växelspak	Gear lever	Schalthebel	
9	4C02921	Fjäder	Gear	Feder	2x
10	3T04028	Stålkula	Steel ball	Schaltgriff	2x
11	4T04168	Skiftstift	Shift pin	Stift	

7.3 Motoraxel - Engine shaft - Motorwelle



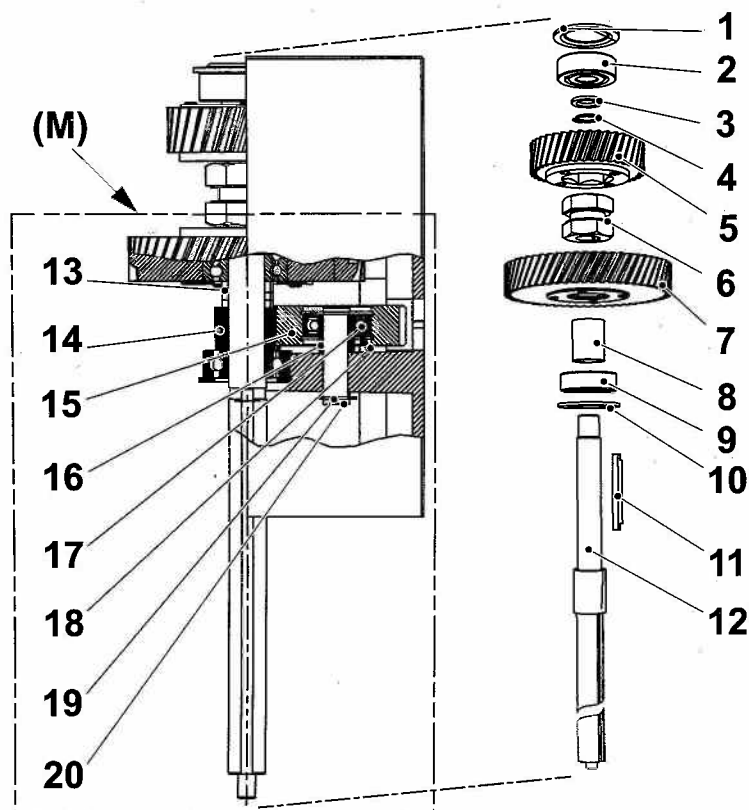
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B00138	Lock	Cover	Scheibe	
2	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS
3	2H08562	Kugghjul	Gear	Zahnrad	17-1,5
4	2H08563	Kugghjul	Gear	Zahnrad	40-2
5	2D00008	Distanshylsa	Spacing sleeve	Distanzhülse	17x6,5
6	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS
7	4B00137	Bricka	Washer	Scheibe	
8	3K01196	Kil	Key	Keil	5x5x42
9	4X08532-1	Motoraxel med rotor	Shaft with rotor	Motorwelle mit Rotor	
10	3E81080	Stator	Stator	Stator	80/2-4-100
11	4F06203	Bricka	Washer	Scheibe	
12	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS
13	2N01889	Lagerlock	Bearing cover	Lagerdeckel	
14	4B00175	Vinghjul	Fan	Ventilator	
15	2B03449	Bricka	Washer	Scheibe	
16	4B01890	Fläktkåpa	Fan cover	Ventilatordeckel	

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



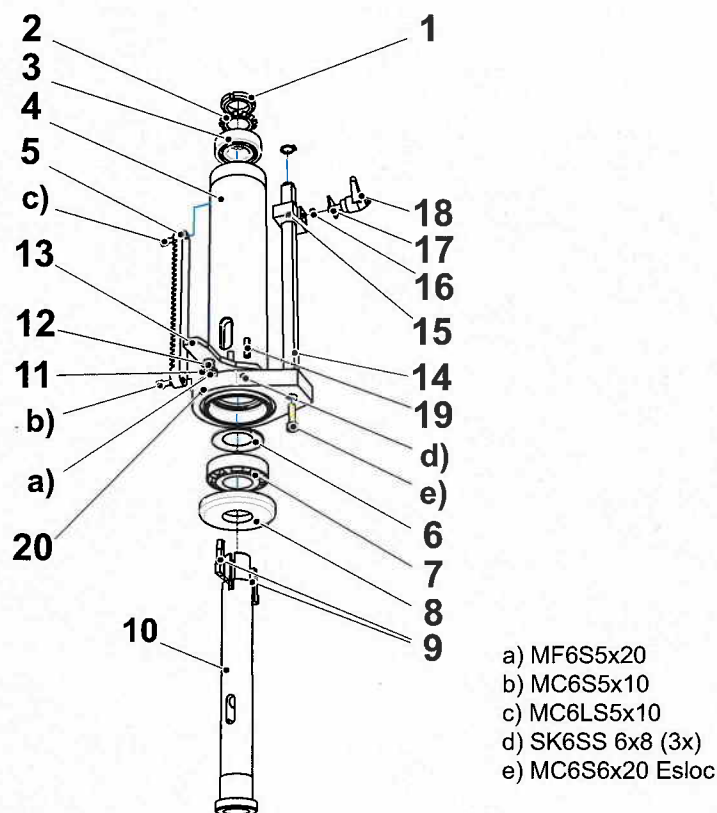
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B00138	Lock	Cover	Scheibe	C-138
2	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS
3	2D00002	Distanshylsa	Spacing sleeve	Distanzhülse	17x2,5
4	2H08572	Kuggjul	Gear	Zahnrad	34-2
5	2D17038	Distanshylsa	Spacing sleeve	Distanzhülse	17x38
6	2H08573	Kuggjul	Gear	Zahnrad	15-2
7	2D17004	Distanshylsa	Spacing sleeve	Distanzhülse	17x4
8	2A04871	2:a axel	2:nd shaft	2:e Welle	C-4871
9	3K01187	Kil	Key	Keil	5x5x20
10	2T06615	Övre kil	Key	Keil	C-6615
11	2X08574R	Kuggjul kompl.	Gear compl.	Zahnrad kompl.	79-1,5
12	2T04254	Kopplingsklo	Clutch	Kupplung	C-4254
13	2X08575R	Kuggjul kompl.	Gear compl.	Zahnrad kompl.	33-2
14	2D00008	Distanshylsa	Spacing sleeve	Distanzhülse	17x6,5
15	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS
16	4B00138	Lock	Cover	Deckel	C-138

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



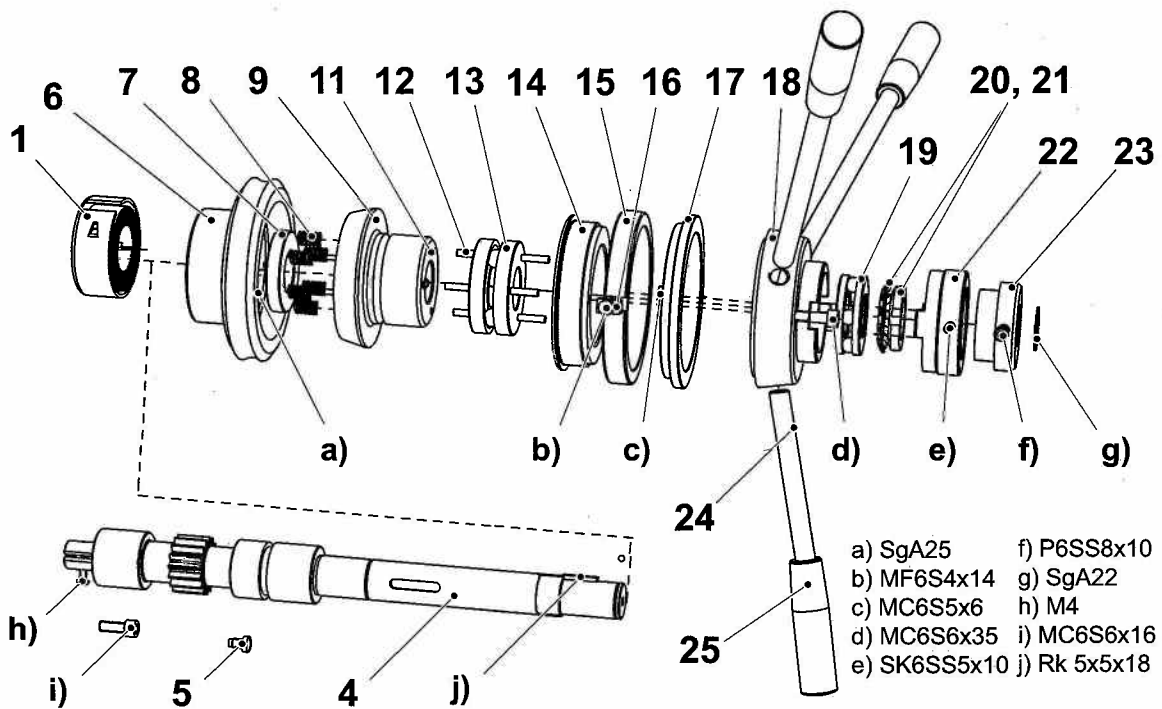
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4B08584	Lock	Cover	Deckel	C-138
2	3L16002	Enrad spårkullager	Ball bearing	Kugellager	6302
3	3B01184	Bricka	Ring	Ring	15x22x1
4	3C01117	Spårring	Circlip	Führungsring	SgA 15
5	2X08582R	Kuggjul kompl.	Gear compl.	Zahnrad kompl.	39-2
6	2T04254	Kopplingsklo	Clutch	Kupplung	C 4254
7	2X08583R	Kuggjul kompl.	Gear compl.	Zahnrad kompl.	58-2
8	2D00007	Distanshylsa	Spacing sleeve	Distanzhülse	17x28,5
9	3L15003	Enrad spårkullager	Ball bearing	Kugellager	6203-2RS
10	4B00137	Lock	Cover	Deckel	C-137
11	2T06615	Övre kil	Key	Keil	C-6615
12	2A08531	Spindelförlängning	Spindle shaft	Spindelwelle	
13	2D17019	Distanshylsa	Spacer	Distanzhülse	17x19
14	2HSB7501-1	Kuggjul	Gear wheel	Zahnrad	18-1,5
15	2X08558	Mellanhjul kompl.	Gear complete feed	Zahnrad Vorschub	
16	2D12017	Distanshylsa	Spacer	Distanzhülse	12x17
17	3C02131	Spårring	Circlip	Sicherungsring	SGH32 (2x)
18	3L13001	Kullager	Bearing	Kugellager	6201 2Z
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



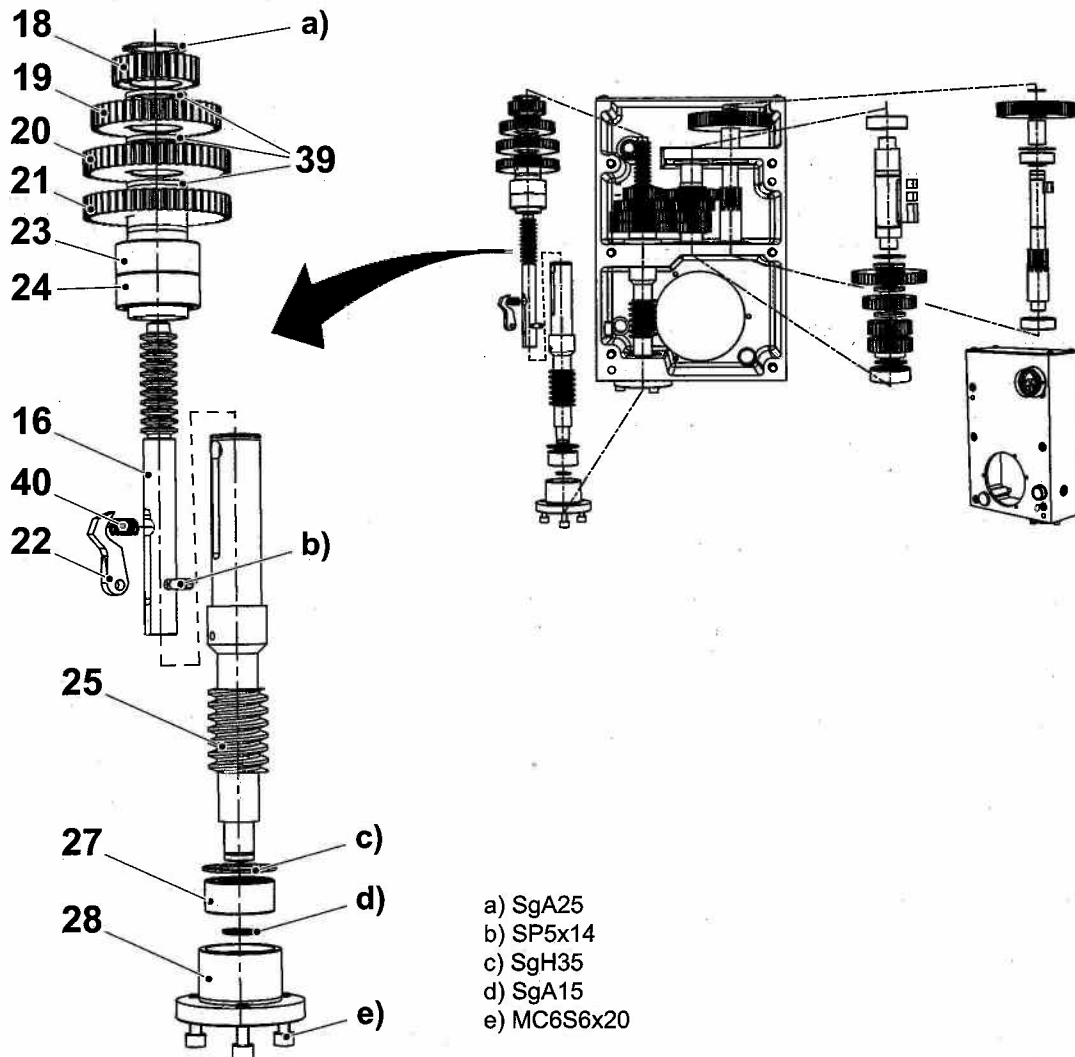
Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	3M06005	Mutter	Nut	Mutter	KM5
2	4B00155	Låsbricka	Locking washer	Sicherungsscheibe	
3	3L15005	Kullager	Ball bearing	Kugellager	6205
4	2G08529	Spindelhylsa	Quill	Spindelhülse	A30
5	2I08754	Kuggstång	Rack	Zahnstange	
6	4B03769	Bricka	Washer	Scheibe	
7	3L51006	Koniskt rullager	Taper roll bearing	Rollenlager, konisch	32007
8	2TS2019	Lagerlock	Bearing cover	Lagerdeckel	
9	2T08518	Kil till borrspindel	Key for spindle	Keil für Spindel	2x
10	2A08517R	Borrspindel	Spindle	Bohrspindel	MK3
11	3B06003	Avkupaad bricka	Washer	Scheibe	10,5x18x0,8
12	2T08593	Distanshylsa f. anslag	Spacer	Hülse	
13	2T08547	Anslag f. utstötare	Drill ejector lever	Anschlag	
14	2A08756-1	Djupmåttstång	Depth gauge rod	Tiefenmass	
15	2T08759	Stopp f. matning	Stop	Tiefenmassanschlag	
16	4CSB140046	Tryckfjäder	Spring	Feder	
17	4L08626	Visare	Indicator	Zeiger	
18	3R00002	Låsspak	Handle	Griff	43-M6x16
19	3P12308	Pinne	Pin	Stift	FRP 5x20
20	2N08551R	Ok	Quill collar	Spindeljoch	

7.7 Matningsaxel - Feed shaft - Vorschubwelle

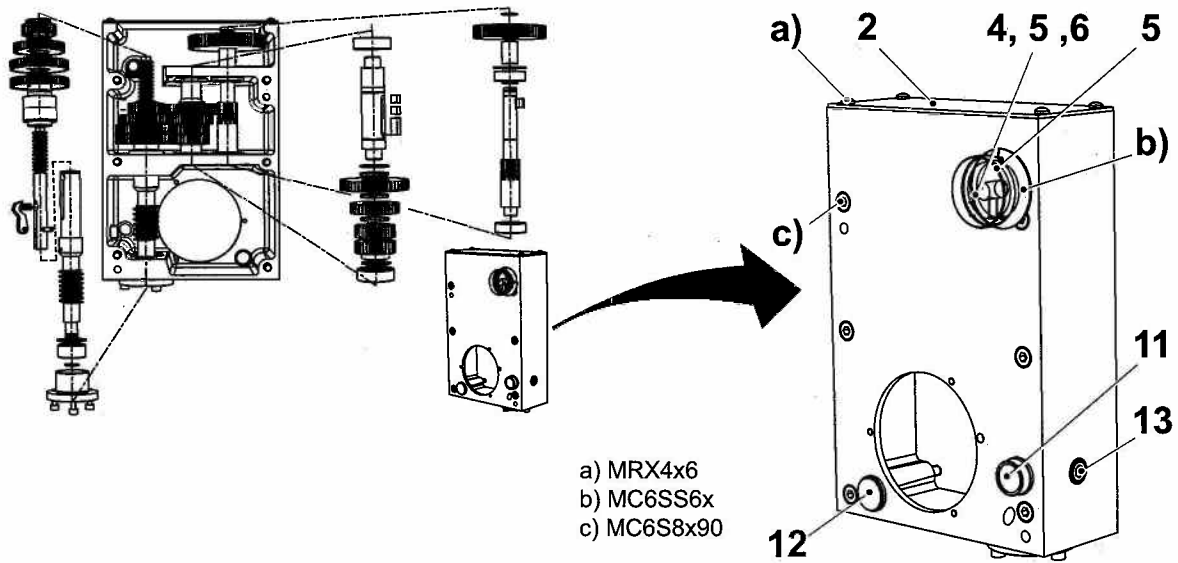


Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	4XS2150	Returfjäder	Return spring	Rückhofeder	
4	2I08456	Matningsaxel	Feed shaft	Vorschubwelle	
5	4S04211	Styrskruv	Guide screw	Führungsschraube	
6	2ISB7523-2	Snäckhjul	Worm wheel	Schneckenrad	
7	2TSB142081	Tryckplatta	Pressure plate	Druckscheibe	
8	4CSB548090-2	Tryckfjäder	Clutch head spring	Druckfeder	6x
9	2NSB142080	Kopplingshuvud	Clutch head	Kupplungskopf	
11	3K01235	Kil	Key	Keil	
12	3P07257	Stift	Pin	Stift	3x
13	2TSB548091	Kopplingskiva	Clutch half	Kupplungsscheibe	
14	2TSB548092	Låsring	Lock ring	Schliessring	
15	2TSB548093-1	Anslagsring	Stop ring	Stoppring	
16	2TSB548093-3	Anslagsklack	Stop	Anschlag	
17	2TSB548093-2	Ställring	Adjusting ring	Einstellring	
18	2TSB548094	Handspaksfäste	Handle holder	Griffhalter	
19	3L61005	Axialkullager	Bearing	Lager	
20	3B07005	Låsbricka	Locking washer	Blechsicherung	
21	3M06005	Mutter	Nut	Mutter	
22	2TSB548096-1	Klokkoppling	Coupling clutch	Klauenkupplung	
23	2TSB548096-2	Nav för klokkoppling	Coupling hub	Kupplungsnabe	
24	2E02854 / 2ESB548095	Spak	Feed lever	Vorschubhebel	3x
25	3R01005/ 3R04004	Handtag	Handle	Ballengriff	3x

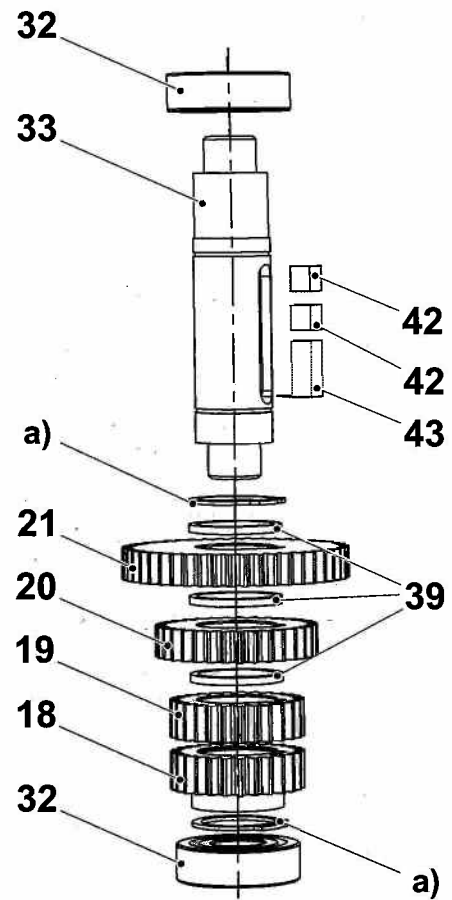
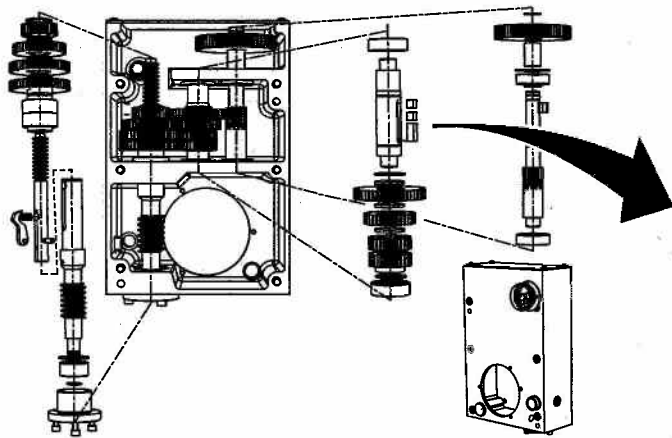
7.8 Matningsväxellåda - Power feed box - Vorschubgetriebe



Pos	Artikelnummer	Benämning	Description	Benennung	Not
16	2I08649	Axel matn.växellåda	Shaft feed gear box	Welle Vorschubgetriebe	
18	2H08556-4	Kuggjul	Gear wheel	Zahnrad	27-1,5
19	2H08556-5	Kuggjul	Ball bearing	Kugellager	33-1,5
20	2H08556-6	Kuggjul	Ball bearing	Kugellager	41-1,5
21	2H08556-7	Kuggjul	Ball bearing	Kugellager	47-1,5
22	2TSB7534	Kil matningslåda	Key	Keil	
23	2DSB7530-2	Distansring	Spacer	Distanzring	25x18
24	3L00010	Nållager	Needle bearing	Nadellager	NA 4905
25	2I08639	Snäckskruv matn.låda	Worm shaft feed box	Schnecke welle Vorsch.	
27	3L40002	Tvårad. vinkelkontaktl.	Bearing	Lager	3202
28	3C01126	Spårring	Circlip	Sicherungsring	SGA25, (3x)
39	2D08640	Distansring	Spacer	Distanzring	25, 1x2 (6x)
40	4CSB11750	Tryckfjäder	Spring	Feder	

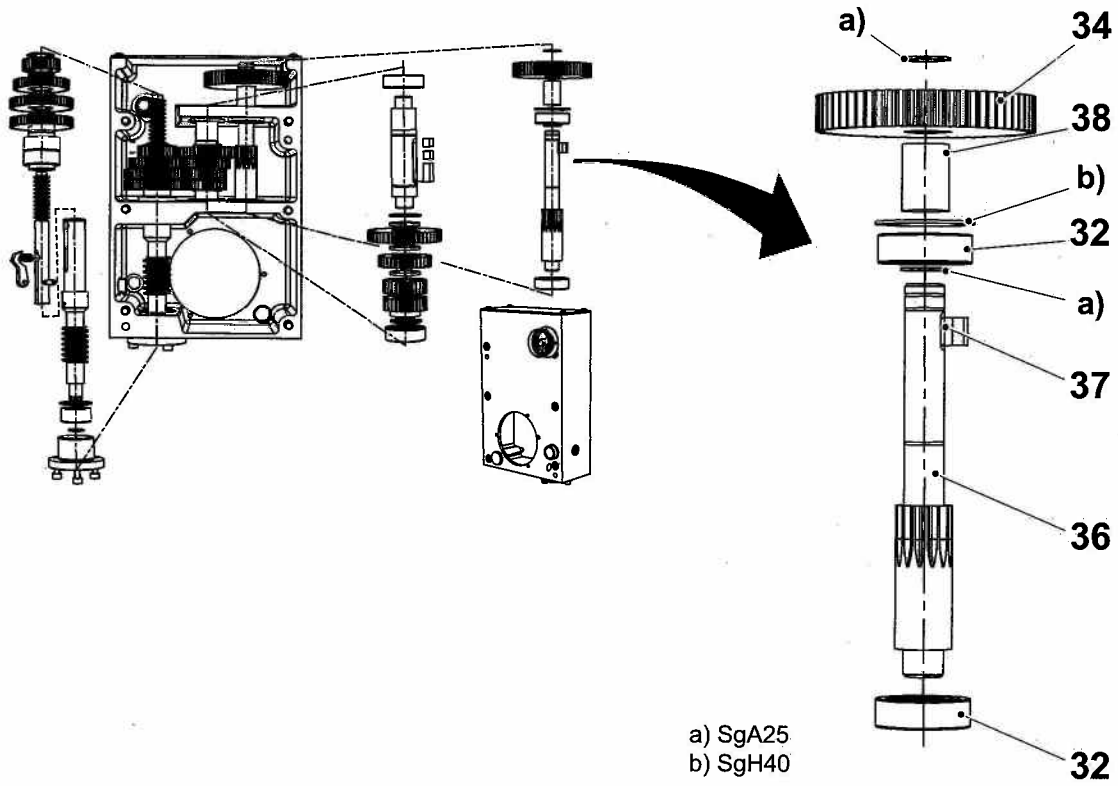


Pos	Artikelnummer	Benämning	Description	Benennung	Not
2	4L08588	Lock t. matn.växellåda	Feed box cover	Vorschubkastendeckel	
4	4L08603	Matningsskylt	Feed plate	Vorschubschild	
5	3T10067	Fjädrande tryckstycke	Steel ball with spring	Stahlkugel mit Feder	GN-614-6
6	2R05431	Ratt	Hand wheel	Handrad	
7	3N03197	Drivskruv	Drive screw	Drückschraube	KDS 2x5
11	3S50005	Oljeplugg	Oil filler plug	Pfropfen	
12	3T03002	Oljenivåglas	Oil sight glass	Ölstandglas	
13	3S50002	Skruv	Screw	Schraube	



a) SgA25

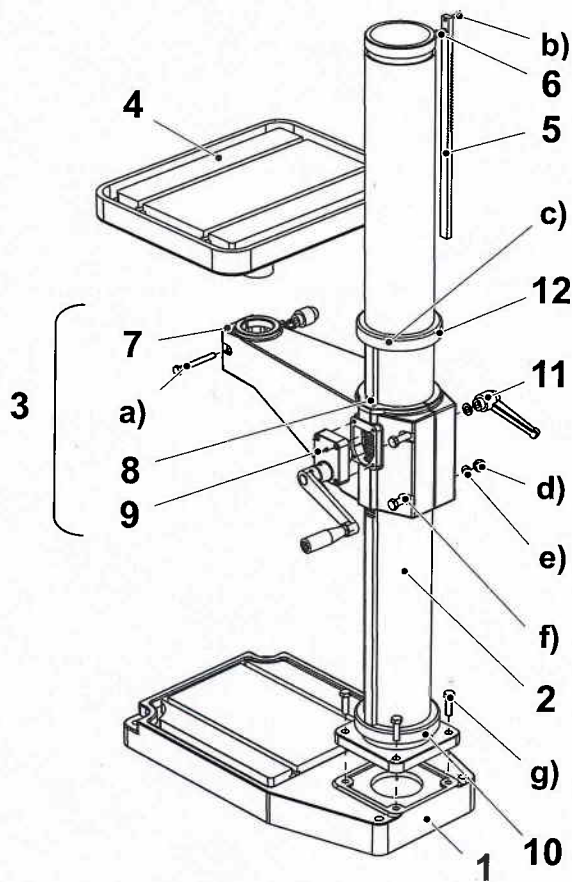
Pos	Artikelnummer	Benämning	Description	Benennung	Not
18	2H08556-4	Kugghjul	Gear wheel	Zahnrad	27-1,5
19	2H08556-5	Kugghjul	Ball bearing	Kugellager	33-1,5
20	2H08556-6	Kugghjul	Ball bearing	Kugellager	41-1,5
21	2H08556-7	Kugghjul	Ball bearing	Kugellager	47-1,5
32	3L15003	Kullager	Bearing	Kugellager	6203-2RS (4x)
33	2A08541	Axel till matning	Feed shaft	Vorschubwelle	
39	2D08640	Distansring	Spacer	Distanzring	25, 1x2 (6x)
42	3K00934	Kil	Key	Keil	
43	3K00294	Kil	Key	Keil	



Pos	Artikelnummer	Benämning	Description	Benennung	Not
32	3L15003	Kullager	Bearing	Kugellager	6203-2RS (4x)
34	2HSB7546	Kuggjul	Gear wheel	Zahnrad	60-1,5
36	2I08540	Kuggaxel matr.växellåda	Gear shaft	Zahnwelle	
37	3K00183	Kil	Key	Keil	
38	2D00007	Distanshylsa	Spacer	Distanzhülse	17x35

7.9 Pelare - Column - Säule

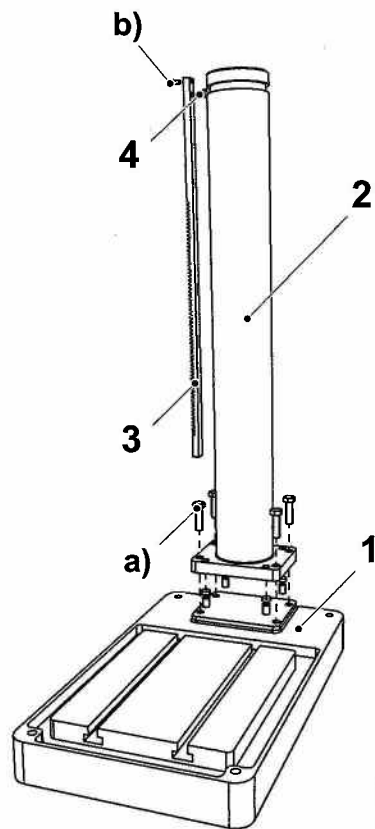
7.9.1 Pelarbormaskin - Column drilling machine - Säulenbohrmaschine



- a) MC6S12x90
- b) MC6S6x10
- c) SK6SS8x8 (3x)
- d) Locknut M12
- e) BRB13x24x2 (3x)
- f) M6S12x130 (2x)
- g) M6S12x40 (4x)

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	1B03030	Fotplatta	Base plate	Fussplatte	
2	4X08543	Pelare	Column	Säule	
3	2X08733	Bordarm kompl.	Table arm compl.	Tischarm kompl.	
4	2X00199	Fyrkantsbord kompl.	Table compl.	Tisch kompl.	500x400
5	2X08445	Kuggstång	Rack	Zahnstange	
6	2T07146	Tapp	Pin	Zapf	
7	2Y08733	Bordarm	Table arm	Tischarm	
8	2I03598	Kuggstång bordarm	Rack table arm	Zahnstange Tischarm	
9	2X08720-1R	Snäckväxel kompl.	Worm gear compl.	Schneckengetriebe kompl.	
10	2N08568R	Nedre ring	Lower ring	Unterer Ring	
11	3R00014-1	Låsspak	Lock handle	Schlossbügel	GN300 S108-M12
12	2N08567R	Övre ring	Upper ring	Oberer Ring	

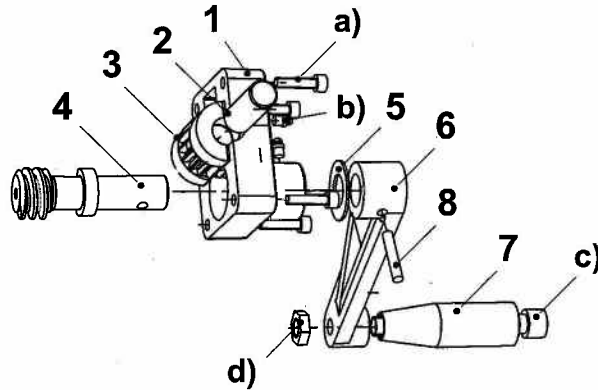
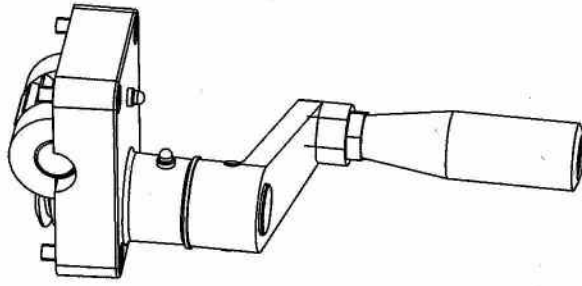
7.9.2 Bänkbormaskin - Column bench type drill - Tischbohrmaschine



a) M6S12x40 (4x)
b) MC6S6x10

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	1B03030	Bänkplatta	Base plate	Fussplatte	
2	4X08543-1	Bänkpelare	Column	Säule	
3	2X08545	Kuggstång kompl.	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)
- c) MC6S12x100
- d) ML6M12

Pos	Artikelnummer	Benämning	Description	Benennung	Not
1	2N08720	Snäckväxelhus	Worm gear box	Schnecken- getriebegehäuse	
2	2A08725	Axel	Shaft	Welle	
3	2HS1201	Kugghjul	Gear	Zahnrad	
4	2XS1203R	Snäckskruv	Worm shaft	Schneckenwelle	
5	3L00021	Glidbricka	Washer	Scheibe	
6	2RS1182	Vev	Crank	Kurbel	
7	3R01106	Handtag	Handle	Ballengriff	
8	3P06035	Spännstift	Pin	Stift	

7.11 Elschema - Electric diagram - Elektrischer Schaltplan

