

# **DRILLING MACHINE**

**MODEL GD-25 (T-25C)**

**GD-25B(T-25BC)**



**Operation Manual**

## **Cleaning:**

All bright parts of the machine are treated with rust preventive. By removing this, be careful not to use too strong cleaning compound. The paint might then get damaged.

## **Installation:**

The machine must be installed on a firm foundation.

The baseplate must be levelled with washers on the foundation bolts to prevent harmful stresses when the nuts are tightened.

## **Lubrication:**

All high-speed shafts and gears are journaled in ball bearings or roller bearings, so that the machine needs very little lubrication.

## **THE GEAR HOUSING MUST NOT BE FILLED WITH OIL.**

EXCESSIVE LUBRICATION SHOULD BE AVOIDED, AS EXCESS OIL CAN DROP INTO THE MOTOR AND DAMAGE ITS INSULATION.

## **Connections to mains:**

The connection to be effected direct to the thermal overload circuit breaker or on multispindle machines to a junction box common for all drilling heads.

## **Note the earth screw!**

( See attached wiring diagram. )

## **Spindle speed selection:**

The selection of the different spindle speeds according to the plate on the front of the drive gear box is effected by the levers on the left hand side of the gear box and also by means of the pole change switch for the motor.

## **General:**

IT SHOULD BE NORMAL PRACTICE TO DISCONNECT THE MACHINE FROM THE MAINS BEFORE ANY DISAMANTLING TAKES PLACE. ON RE-ASSEMBLY SEE TO IT THAT ALL SURFACES ARE CLEAN AND THAT ANY BURRS WHICH MAY HAVE BEEN MADE DURING DISASSEMBLY ARE FIRST REMOVED.

## **Drive gear box:**

When it is necessary to disassemble the drive gear box:

Remove the four screws which connect the drive gear box to the quill housing. Then take away the fan cover and the fan from the quill housing. By knocking slightly on the rotor shaft the drive gear box can be removed. The gear box casting, consisting of two halves can be taken apart by loosening the four screws. All shafts can now be taken out for further disassembling.

When re-assembling the drive gear box, check that the shift pin fits properly into the groove of the clutch. When re-placing the drive gear box on the quill housing, it must be checked that the driving keys in the spindle are in place and that they will fit properly the corresponding key ways on the gear

box output shaft.

## **Spindle:**

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.

Hold the spring housing by co-locating a hex key in the centre of the housing and loosen the screw. Let the housing to relieve the pressure on the spring. The quill will then automatically go to its lowest position.

Remove the stop and loosen the screw, which keeps the feed shaft in its position. Hold the quill with one hand and push the feed drive shaft so far to the right to disengage the teeth from the quill feed rack. Then remove the quill.

When re-assembling, the keys on the spindle are to coincide with the key ways in the spindle shaft. Take care to avoid damaging the keys when sliding the quill into position.

## **Counter balancing:**

The spring housing for counter balancing of the spindle is removed as follow:

Hold the spring housing with a hex key and at the same time loosen the locking screw which secures it. Let the housing turn in order to relieve the pressure on the spring, then turn the spring housing round in a clockwise direction, so that the spring will be released from the screw, with which it is fixed to the feed shaft. The spring housing can now be removed.

When re-assembling press the spring housing with the spring into its place and turn in counter-clockwise direction until the spring fits to the screw on the feed shaft.

Then turn the spring housing further in counter clockwise direction, until the correct balancing of the spindle is obtained. Then lock the housing with the screw.

## **Motor:**

If it is necessary to remove the stator, proceed as follow:

## **DISCONNECT THE MACHINE FROM THE MAINS.**

Remove the drive gear box, the quill and the feed drive shaft as indicated above. The motor and the line cables are removed from the pole-change switch. Secure the quill housing with a lifting band. Loosen the screw and lift off the quill housing. Then remove the elevating mechanism for the drilling head.

The two step screws on the left side of the quill housing keeping the stator in its position, are removed and the position of the stator is marked in the housing. By knocking lightly on the underside of the quill housing against a suitable surface the stator will slide downwards out of the housing. The new stator is then pressed into the housing from below in the same position as the previous one.

## **Drill Ejector type Tell**

**This Drilling Machine is fitted with a built-in Drill Ejector, the mechanism and instructions for use outlined below.**

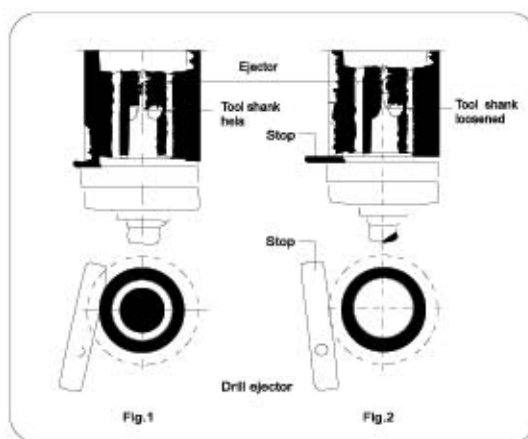
When it is desired to remove a taper shank drill or chuck from the spindle, the pivoting finger stop is

swung outward away from the spindle by pressing the short extended section, as shown in figure 2. This allows the quill unit to be raised an extra 1/4". The drill or chuck shank is then ejected from out of the spindle by giving a light jerk on the feed lever. The pivoting finger stop in the "IN" position, as shown in figure 1. Prevents the quill unit from returning completely into quill housing, this preventing the tang on the drill shank from contacting the drill ejector during normal use.

It sometimes occurs that the drill or chuck shank may stick in the taper socket, making it difficult to eject. Do not use force to loosen it, as this may damage both the spindle shaft and the bearings.

In such case use the standard type of drift and when doing so, lower the spindle and quill unit so that the drift slot is below the spindle housing.

It is essential for efficient use of the built-in drill ejector, that drills and chuck shanks are provided with standard tapers and tangs. If the tang is too short the drill can only be removed by using a drift by the aforementioned method. With too long a tang the drill will be removed even if the pivoting finger stop is in the "IN" position. This can, however, be easily remedied by grinding down the head of the tang until it clears the ejector.



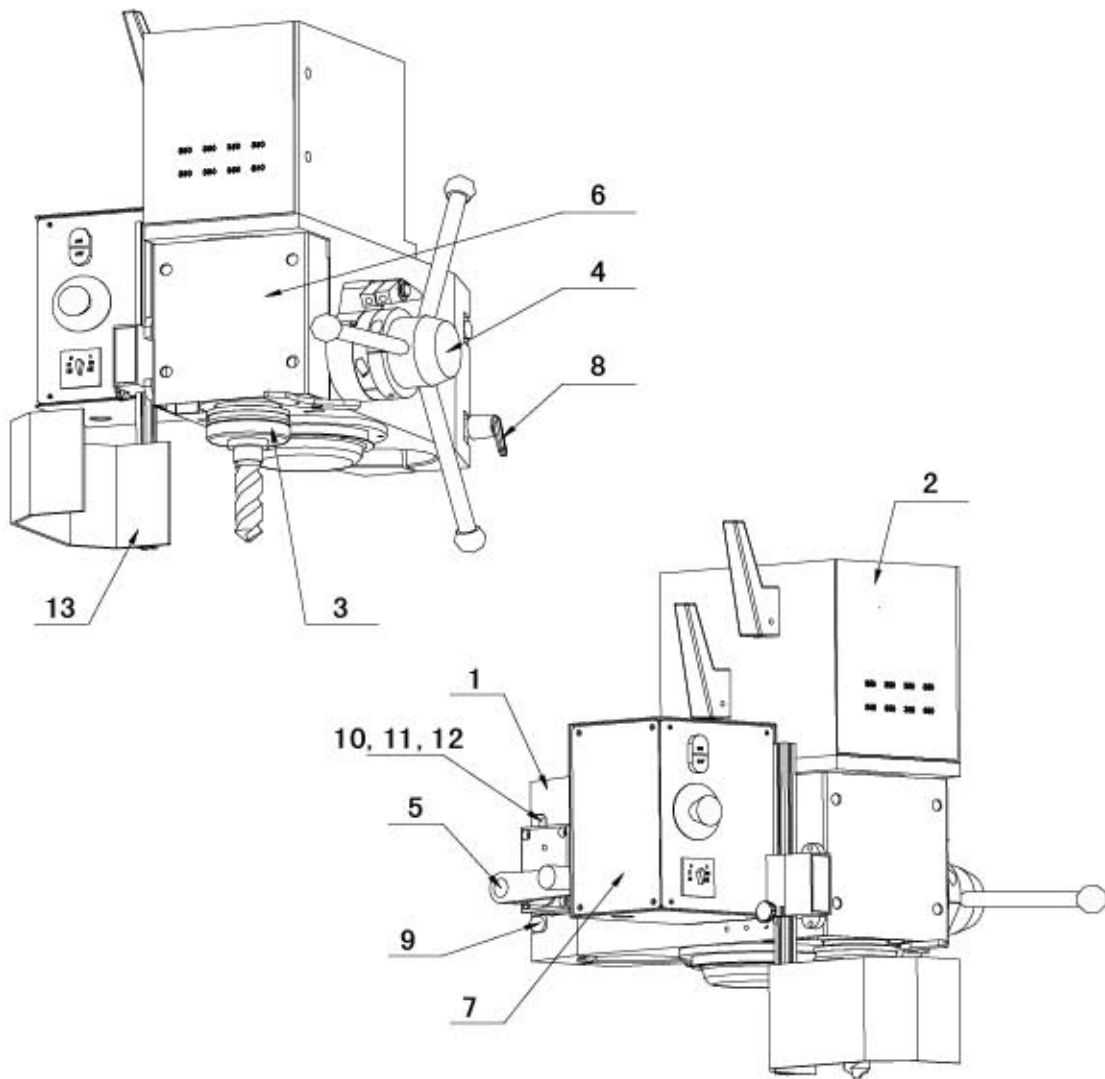
NOTE: This manual is only for your reference. Owing to the continuous improvement, changes may be made at any time with no obligation on the part of machine. And please note the local voltage for operating this electric machine.

## Specification

Item No.	390017	390018	390019	390020
Model	T-25C/T-25AC	T-25BC	T-26C	T-26BC
Max. drilling dia. (mm)	25	25	26	26
Spindle travel(mm)	125	125	125	125
Tapping capacity in steel/cast iron	M10/M16	M10/M16	M10/M16	M10/M16
Morse taper	MT3	MT3	MT3	MT3
Motor power	0.65kW/0.9kW	0.65kW/0.9kW	0.9kW/1.1kW	0.9kW/1.1kW
Spindle speeds at 50Hz	105-210-350-445-700-890-1450-2900	105-210-350-445-700-890-1450-2900	105-210-350-445-700-890-1450-2900	105-210-350-445-700-890-1450-2900
Spindle speeds at 60Hz	130-260-420-840-535-1070-1745-3200	130-260-420-840-535-1070-1745-3200	130-260-420-840-535-1070-1745-3200	130-260-420-840-535-1070-1745-3200
Packing size(cm)	167×57×72	94×46×73	167×57×72	94×46×73
N.W./G.W.	190/220kg	150/180kg	192/225kg	152/185kg

# DRILLHEAD

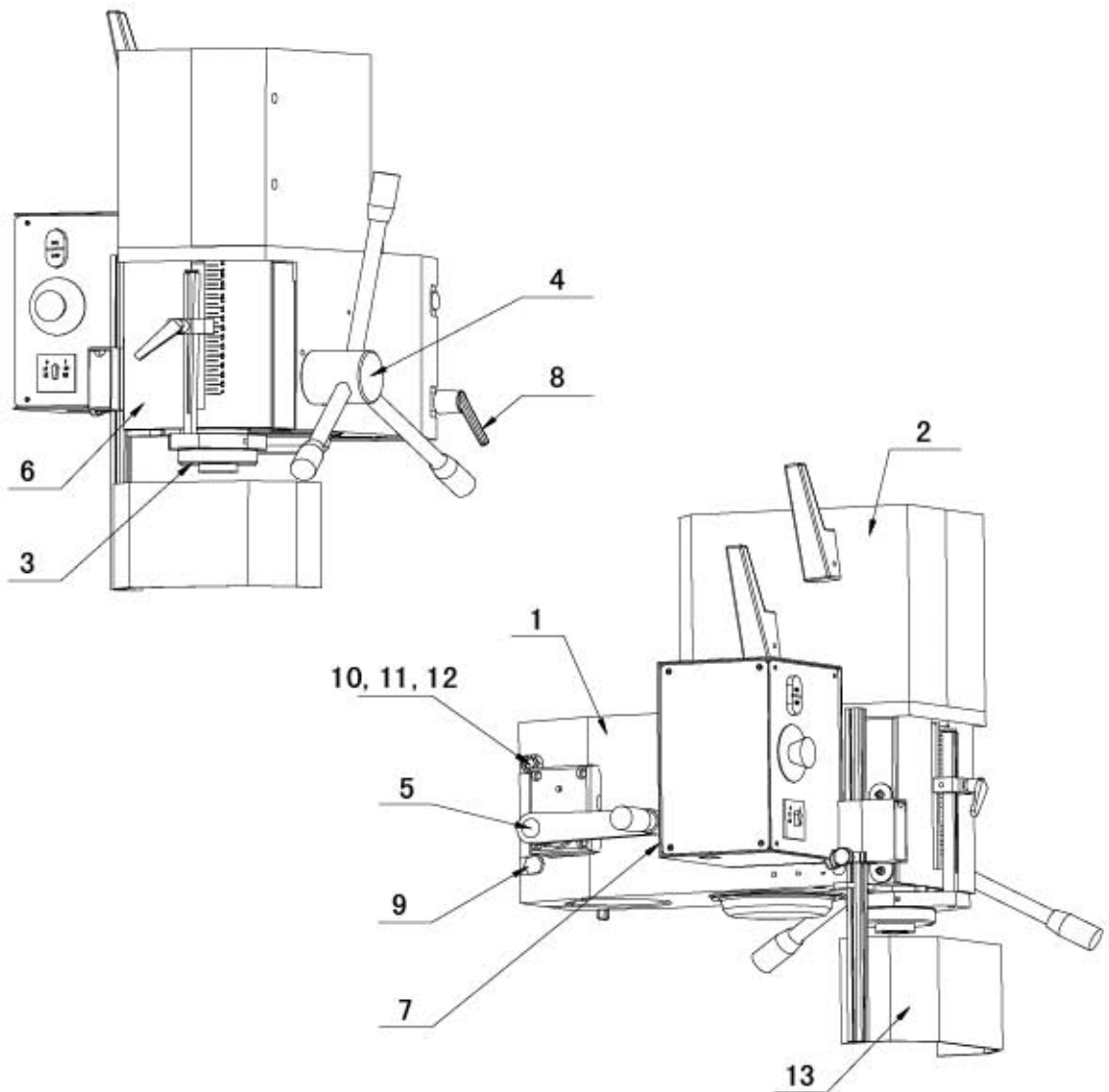
T-25C/T26C



Drillhead			
pos	Art. No.	Description	Not
1.	T25-2020	Spindle housing	
2.	2X08404	Gearbox	
3.	2X08719	Spindle sleeve	
	T25A	Spindle sleeve	
4.	2X08740-5	Feedshaft compl.	
	T25A	Feedshaft compl.	
5.	2X08720	Worm unit	
6.	T251-1002	Front cover	
	T25A-3027	Front cover	
7.	T25-4000	Electric box cover	
8.	3R00014	Locking lever	
9.	3S02556	Screw	M12X130
10.	3S02558	Screw	M12X120
11.	3M09122	Locking Nut	M12
12.	3B04178	Washer	12
13.		Protection	

# DRILLHEAD

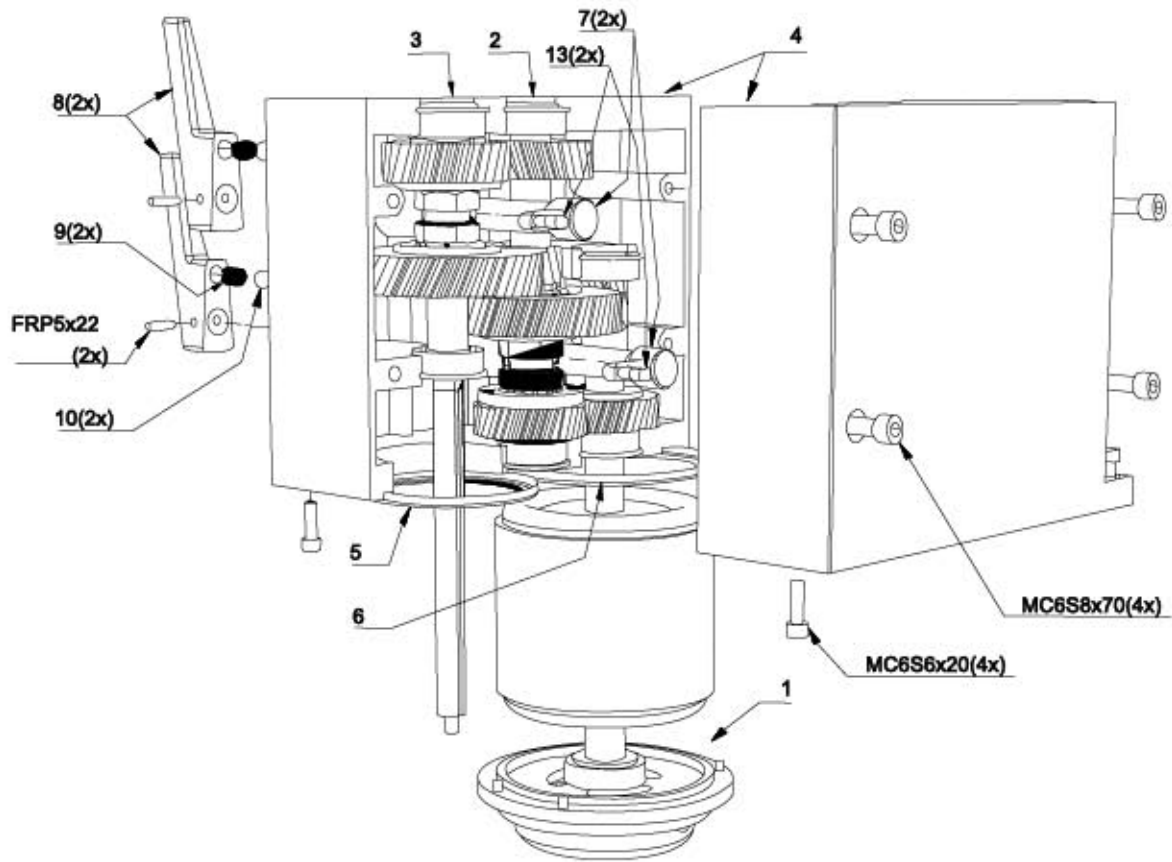
T-25AC/T26AC



pos	Art. No.	Drillhead Description	Not
1.	T25-2020	Spindle housing	
2.	2X08404	Gearbox	
3.	2X08719	Spindle sleeve	
	T25A	Spindle sleeve	
4.	2X08740-5	Feedshaft compl.	
	T25A	Feedshaft compl.	
5.	2X08720	Worm unit	
6.	T251-1002	Front cover	
	T25A-3027	Front cover	
7.	T25-4000	Electric box cover	
8.	3R00014	Locking lever	
9.	3S02556	Screw	M12X130
10.	3S02558	Screw	M12X120
11.	3M09122	Locking Nut	M12
12.	3B04178	Washer	12
13.		Protection	

# GEAR BOX

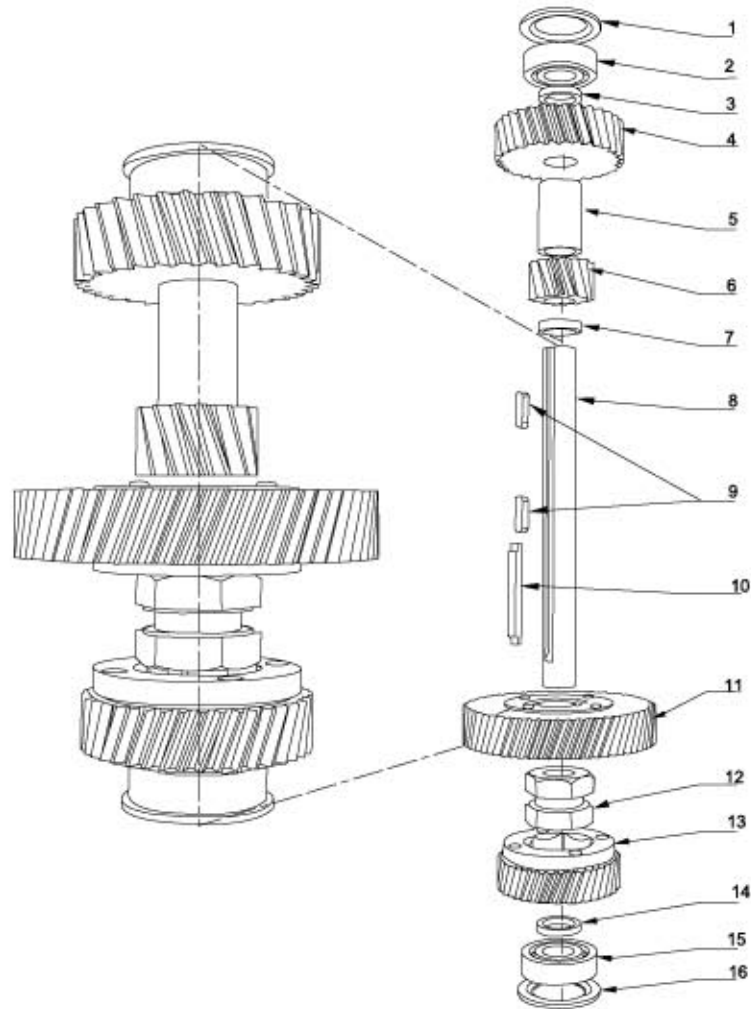
T-25AC T25BC T25C  
T-26AC T26BC T26C



Pos	Art. No.	Description	Not
1.		Rotor shaft	
2.	2X08404-2	2:nd Shaft complete	
3.	2X08404-3	3:rd Shaft complete	
4.	2X08422	Gear box complete	
5.	4B00174	Ring	
6.	4B00173	Ring	
7.	2X08536	Gear selector arm	
8.	4RS0653-1	Gear lever	
9.	4C02921	Gear	
10.	3T04028	Steel ball	
13.	4T04168	Shift pin	

2:nd SHAFT, GEAR BOX

T-25AC T25BC T25C  
T-26AC T26BC T26C



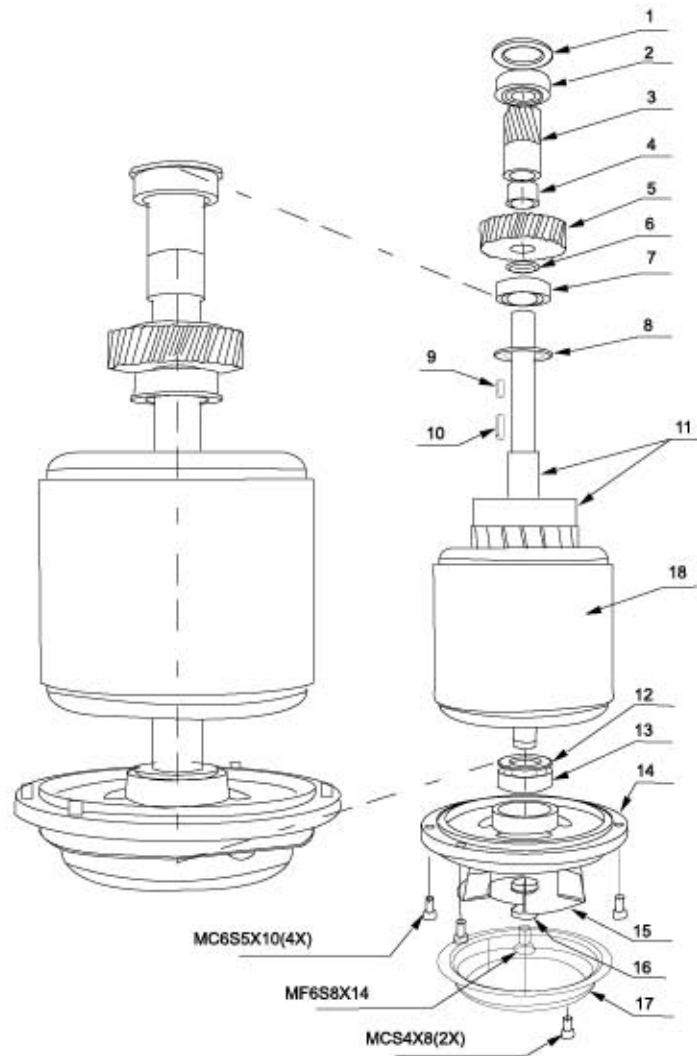
2:nd Shaft

Pos	Art. No.	Description	Not
1.	4B00138	Washer	C-138
2.	3L11003	Ball bearing	6203
3.	2D00009	Spacing sleeve	17x3,5
4.	2H07971	Gear	32-2
5.	2D17038	Spacing sleeve	17x38
6.	2H07970	Gear	15-2
7.	2D17005	Spacing sleeve	17x5
8.	2A04871	2:nd Shaft	C-4871
9.	3K00187	Key	5x5x20
10.	2T06615	Key	C-6615
11.	2X08408	Gear complete	64-1,5
12.	2T04254	Clutch	C-4254
13.	2X08406	Gear complete	40-1,5
14.	2D00009	Spacing sleeve	17x3,5
15.	3L11003	Ball bearing	6203
16.	4B00138	Cover	C-138



# SHAFT, ENGINE

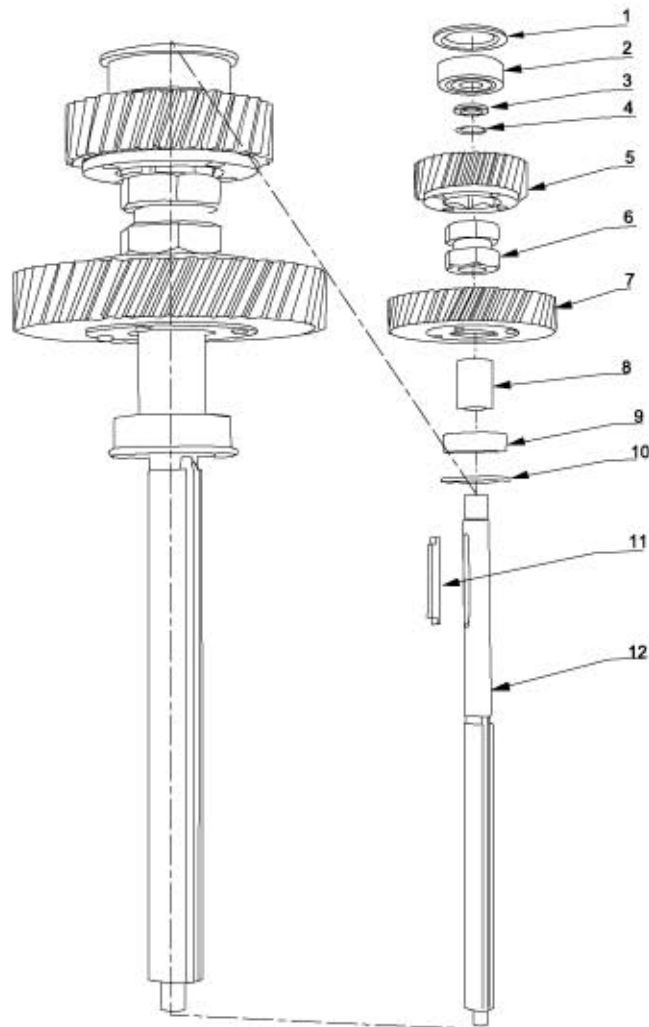
T-25AC T25BC T25C  
T-26AC T26BC T26C



<b>Rotorshaft</b>			
<b>Pos</b>	<b>Art. No.</b>	<b>Description</b>	<b>Not</b>
1.	4B00137	Washer	
2.	3L11003	Ball bearing	6203
3.	2H07969	Gear	15-1,5
4.	2D17014	Spacing sleeve	17x14
5.	2H07972	Gear	39-1,5
6.	2D17002	Spacing sleeve	17x2
7.	3L11003	Ball bearing	6203
8.	4B00137	Washer	
9.	3K00184	Key	5x5x14
10.	3K00187	Key	5x5x20
11.	2X08405	Rotorshaft	
12.	4F06203	Washer	FB 6203
13.	3L11003	Ball bearing	6203
14.	2N01889	Bearing cover	B-1889
15.	4B00175	Fan	B-175
16.	2B03449	Washer	C-3449
17.	4B01890	Fan cover	C-1890
18.	3E80103	Stator 80/2-4-70	380-440

3:rd SHAFT, GEAR BOX

T-25AC T25BC T25C  
T-26AC T26BC T26C

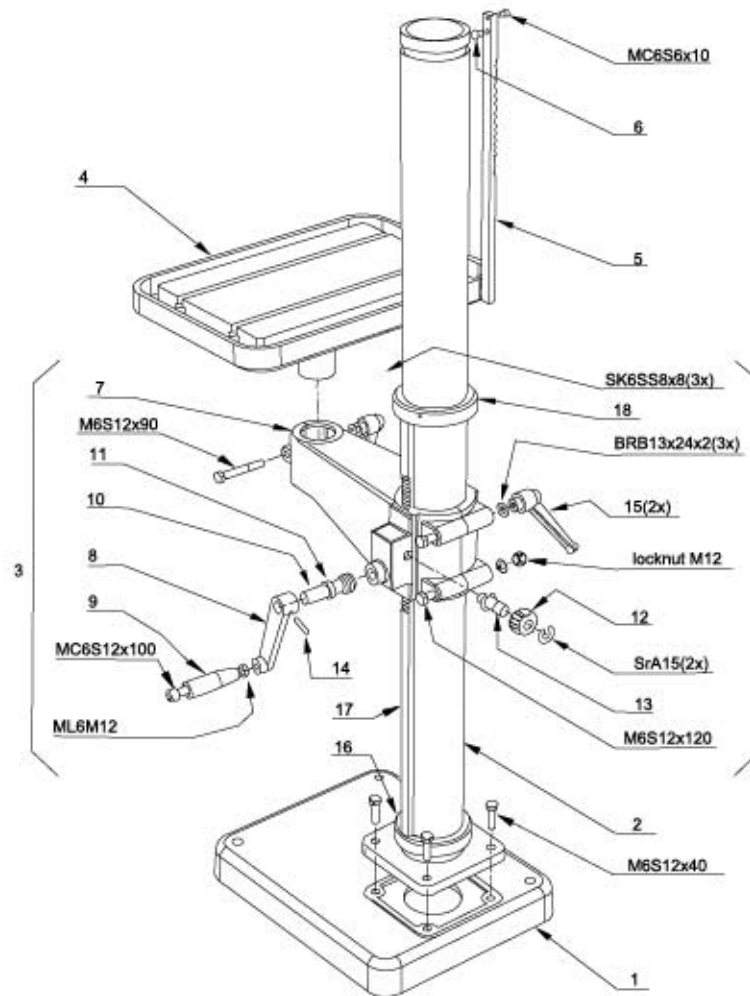


3:rd Shaft

Pos	Art.No.	Description	Not
1.	4B00138	Cover	C-138
2.	3L16002	Ball bearing	6302
3.	3D15002	Spacing sleeve	15x2
4.	3C01117	Circlip	SgA 15
5.	2X08413	Gear complete	32-2
6.	2T04254	Clutch	C 4254
7.	2X08411	Gear complete	49-2
8.	2D00006	Spacing sleeve	17x31,5
9.	3L11003	Ball bearing	6203
10.	4B00137	Cover	C-137
11.	2T06615	Key	C-6615
12.	2A08410	3:rd Shaft	B-8410

# COLUMN

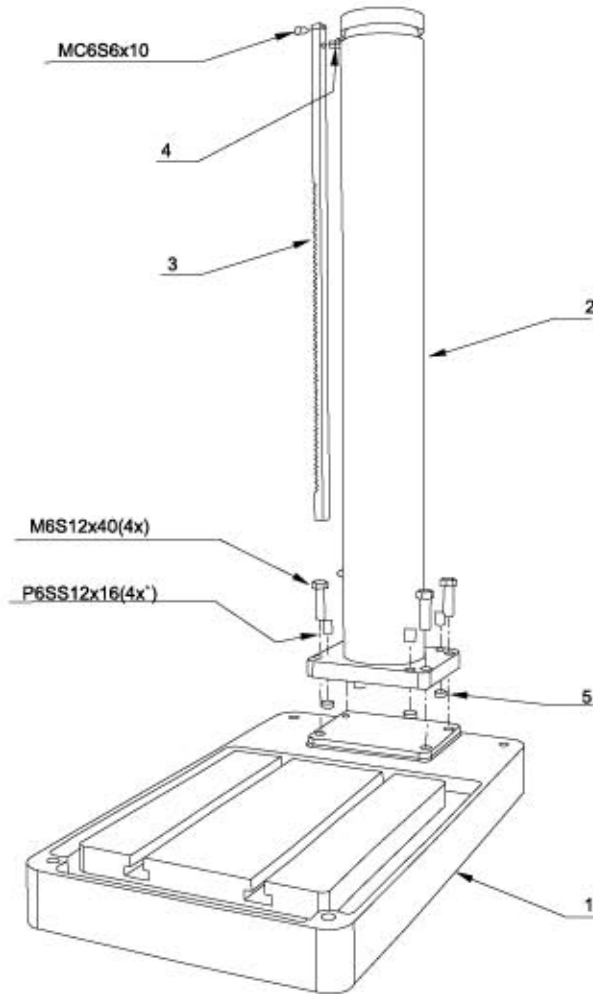
T-25AC T25C  
T-26AC T26C



Pos	Art. No.	Column Description	Not
1.	2W07802	Base plate	
2.	4X08300	Column	L= 1500
3.	2X08723	Table arm complete	
4.	2WS1231	Table	
5.	2X08445	Rack	
6.	2T07146	Pin	
7.	2Y08723	Table arm	
	2X08720-1	Worm gear complete	
8.	2RS1182	Crank handle	
9.	3R01106	Handle	
10.	2IS1203	Worm shaft	
11.	2D20008	Spacer	
12.	2HS1201	Gear	
13.	2AS1202	Shaft	SK6SS 8x8
14.	3S04444	Stop screw	
15.	3R00014	Locking handle	
16.	2N00186	Lower ring	
17.	2103598	Rack	
18.	2N03668	Upper ring	

# COLUMN

T25BC  
T26BC

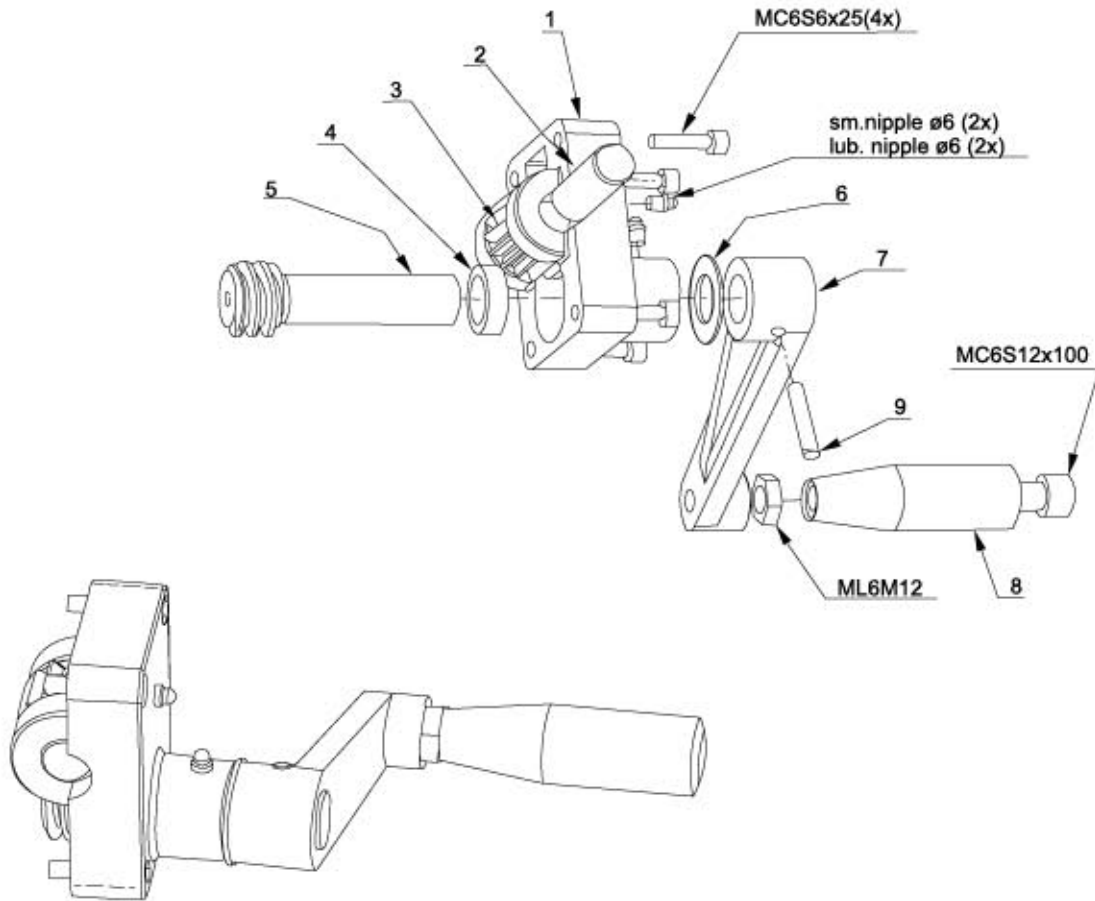


Pos	Art. No.	Column Description	Not
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1.	IB03016	Base plate	
2.	4ZS1232	Column	
3.	2X08545	Rack	
4.	2T07146	Pin	
5.	2B05922	Washer	

**CRANK COMP.**

**T-25AC T25BC T25C  
T-26AC T26BC T26C**



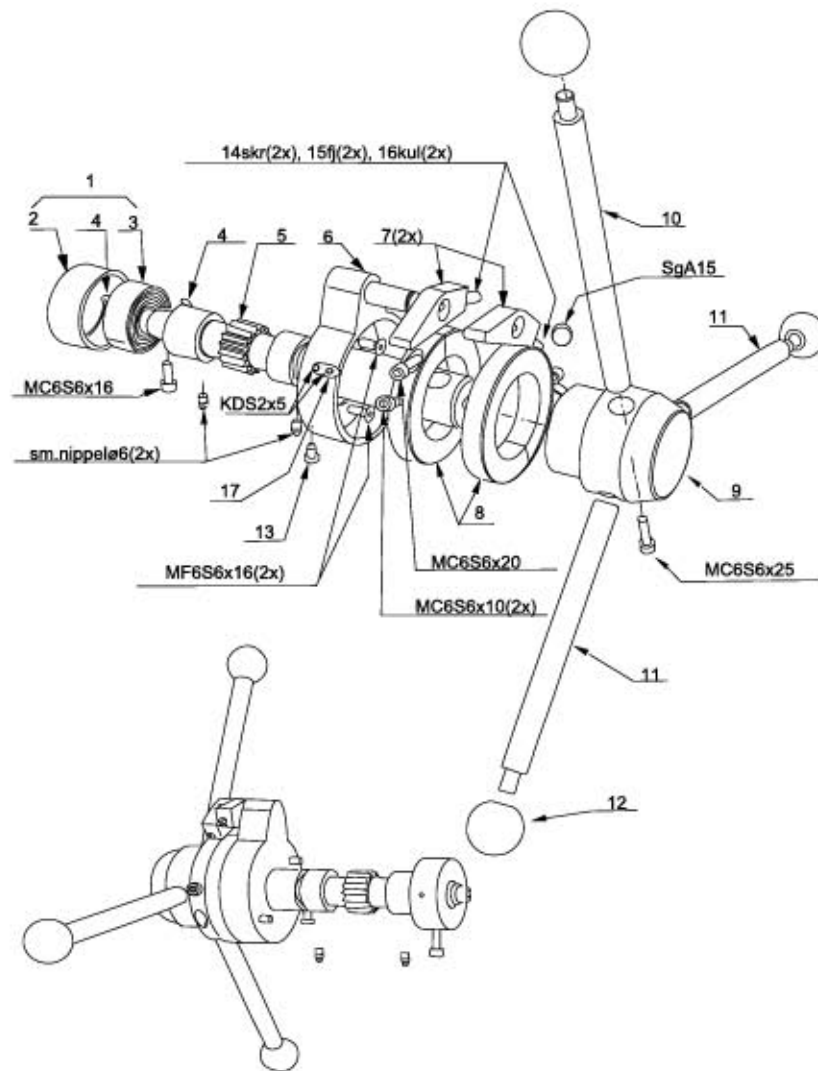
**2X08720**

**Worm gear box  
complete**

<b>Pos</b>	<b>Art. No.</b>	<b>Description</b>	<b>Not</b>
1.	2N08720	Worm gear box	
2.	2AS1202	Shaft	
3.	2HS1201	Gear	
4.	2D20008	Spacer	20x8
5.	2ISI203	Worm shaft	
6.	3L00021	Washer	
7.	2RS1182	Crank	
8.	3R01106	Handle	
9.	3S04444	Screw	SK6SS 8x8

# FEED SHAFT

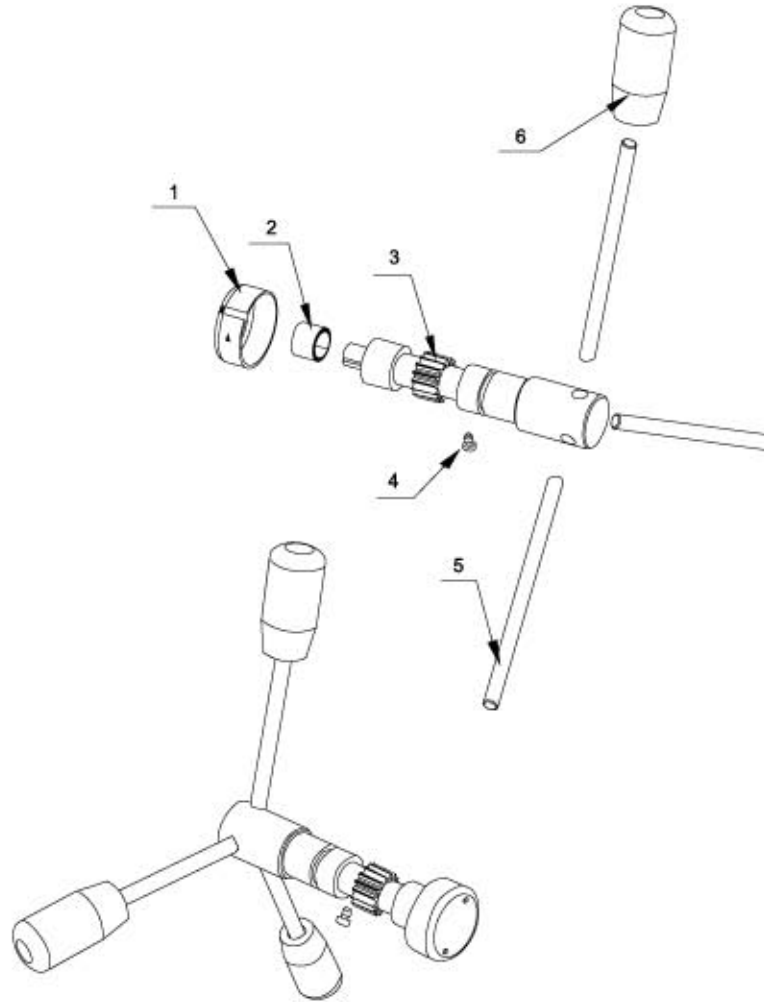
T25C  
T26C



Pos	Art. No.	Feed shaft Description	Not
1.	2X08715	Spring housing cpl	
2.	4T08715	Spring housing	
3.	4C03026	Spring	
4.	3S11285	Screw	MFS 4x6
5.	2I08708	Feed shaft	
6.	2TS1129	Spring housing	
7.	2TS1132	Stop lug	
8.	2TS1125	Scale ring	
8a.	2TS1125-1	Scale ring	
8b.	2TS1125-2	Scale ring	
9.	2T08707	Lever hub	
10.	2E08721	Feed lever	
11.	2E08722	Feed lever	
12.	3R02003	Handle ball	
13.	4S04211	Screw	M8x8
14.	3S08443	Screw	
15.	4CS1134	Spring, stop lug	
16.	3T04022	Steel ball	
17.	4LS1124	Indicating hand	

# FEED SHAFT

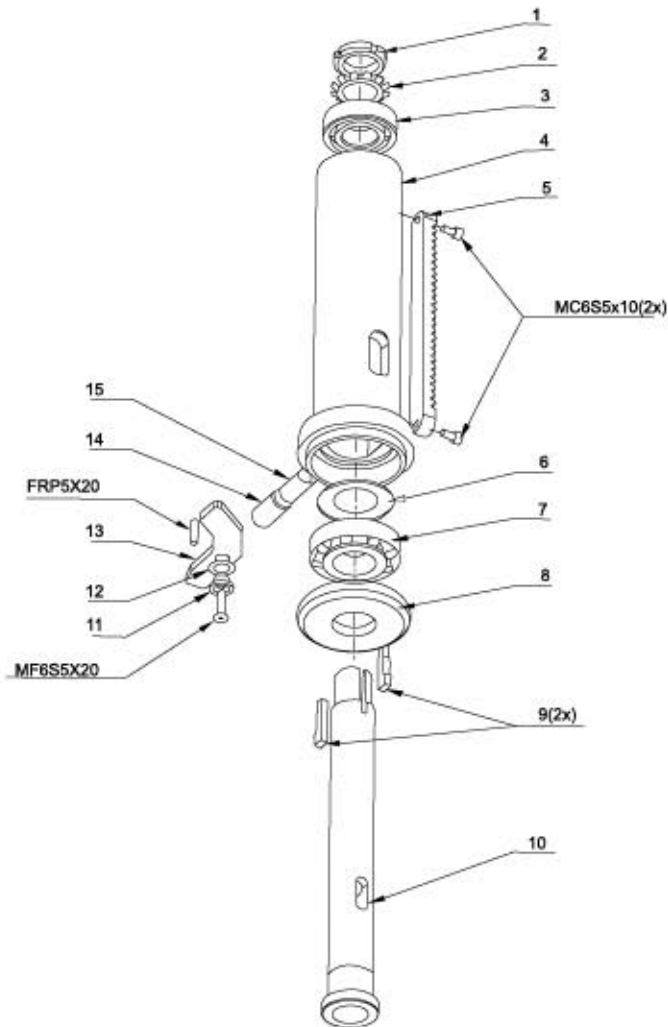
T-25AC  
T-26AC



<b>Pos</b>	<b>Art. No.</b>	<b>Feed shaft Description</b>	<b>Not</b>
1.	4T08715	Spring housing	
2.	4C03026	Spring	
3.	2108708	Feed shaft	
4.	4S04211	Screw	
5.	2E08722	Feed lever	
6.	3R02003	Handle ball	

# SPINDLE SLEEVE

T-25AC T25BC T25C  
T-26AC T26BC T26C

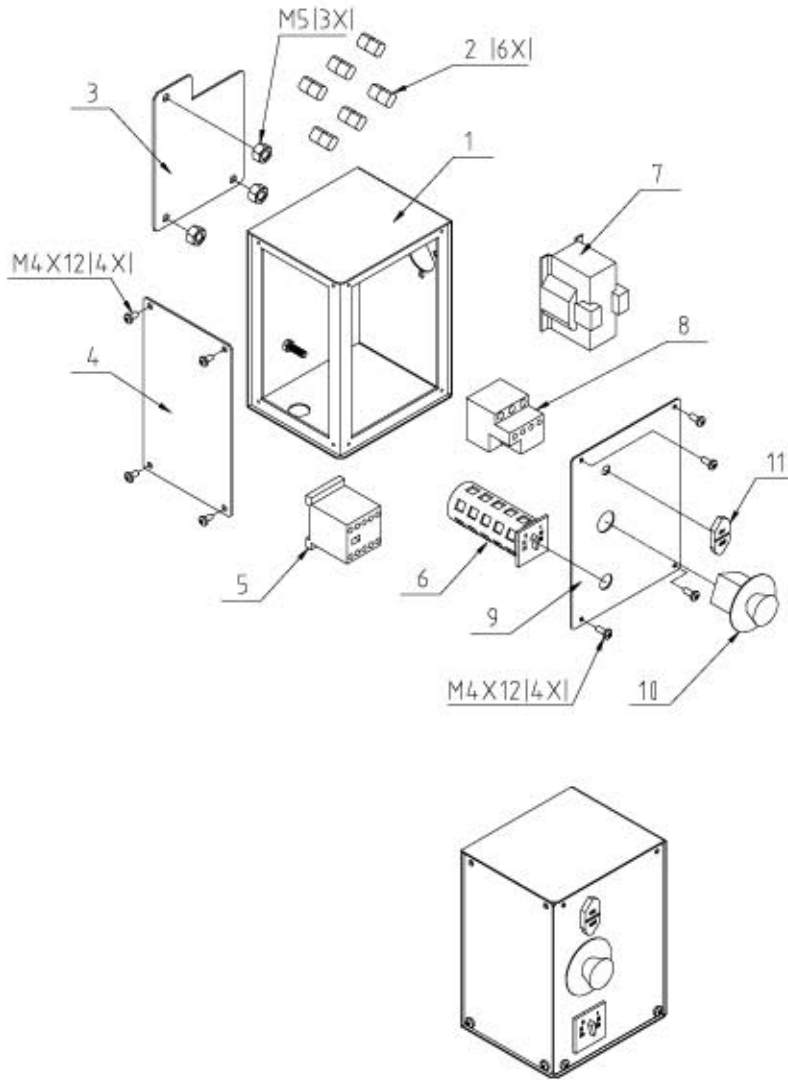


Pos	Art. No.	Spindle sleeve Description	Not
1.	3M06005	Nut	MK5
2.	4B00155	Locking washer	
3.	3L11005	Ball bearing	6205
4.	2G08709	Spindle sleeve	
5.	2I08420	Rack	
6.	4B03769	Washer	
7.	3L51006	Taper roller bearing	30206
8.	2TS1106	Roller bearing cover	
9.	2T08386	Key	
10.	2A08418-1	Spindle	
11.	2T08593	Spacing sleeve	
12.	3B06003	Washer	
13.	4T08547	Stop	
14.	3S08622	Screw	p6ss 16x 25
15.	4T08714	Collet jaw	



# ELECTRIC BOX

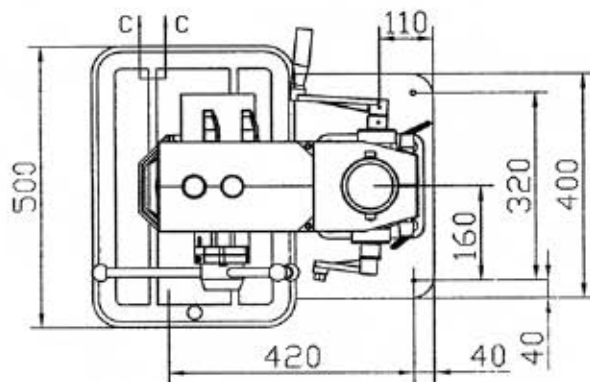
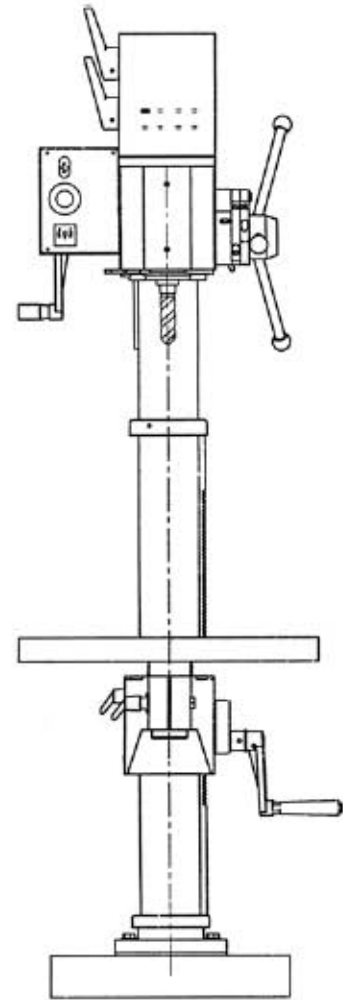
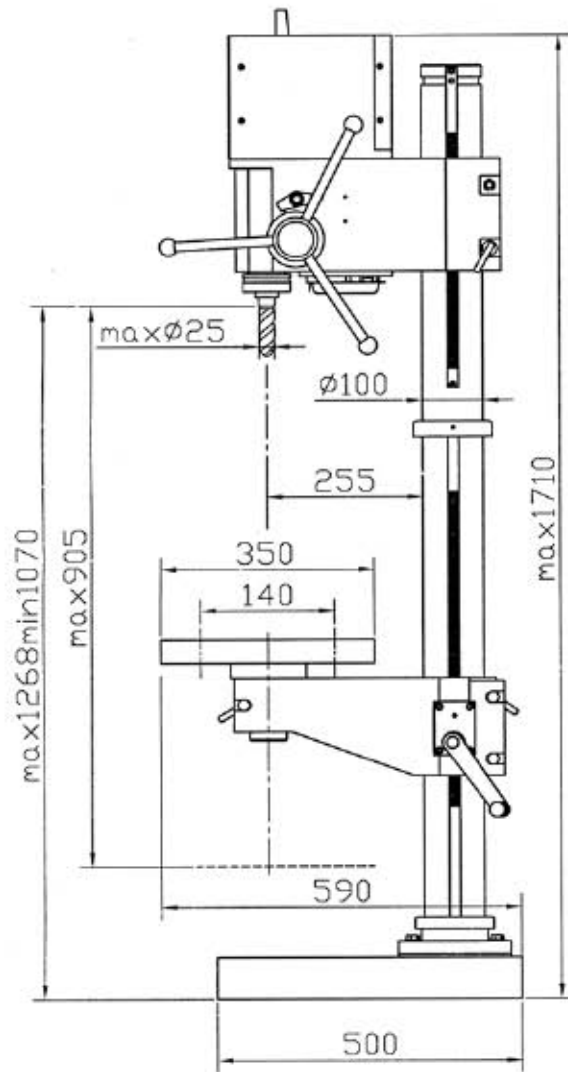
T-25AC T25BC T25C  
T-26AC T26BC T26C



Pos	2X08705 Art.Nr.	Electric Box Description	Not
1.	T25I-4001	Electric box cover	
2.		Fuse Wire	
3.	T25I-4004	Motor Protector	
4.	T25-4002	Side Cover	
5.		A.C. Contactor	
6.		Change-over Switch (Three types)	
7.		Transformer	
8.		Thermorelay	
9.	T25-4003	Plate	
10.		Emergency Stop Switch	
11.		ON/OFF SWITCH	

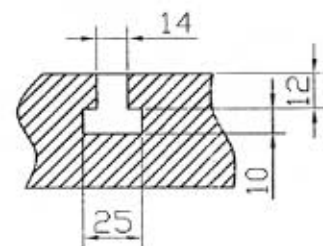
# OUTLINE

T25C T25AC  
T26C T26AC



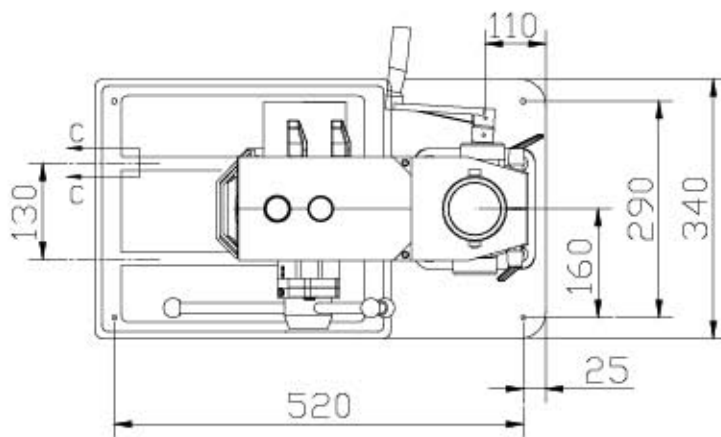
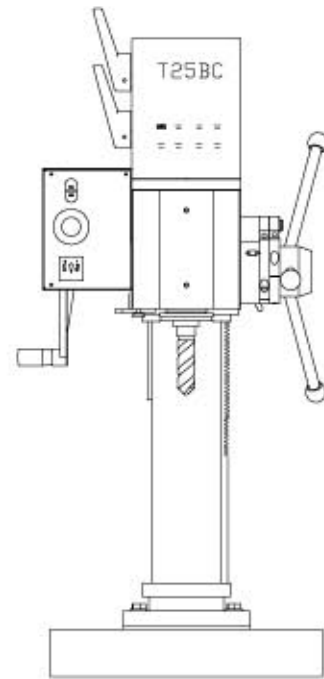
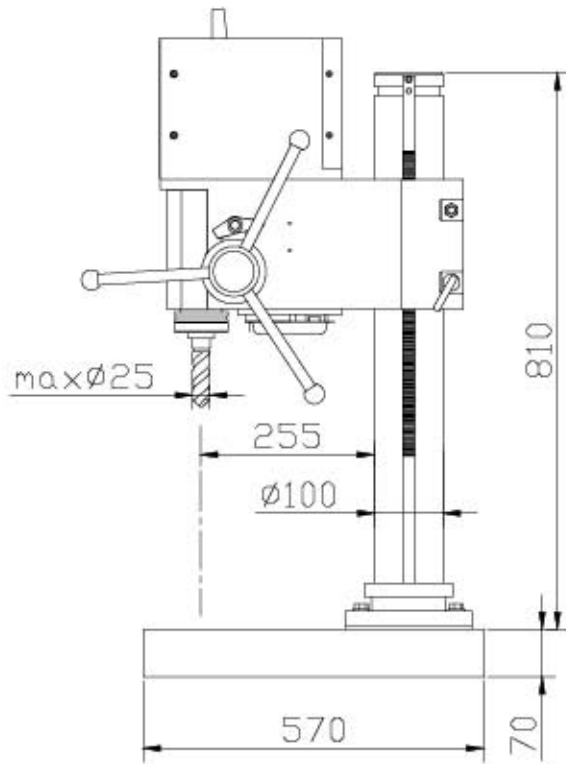
skala 0.1

Vy C-C  
skala 0.5



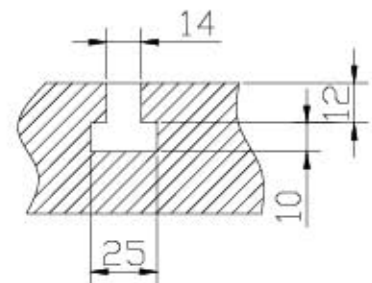
**OUTLINE**

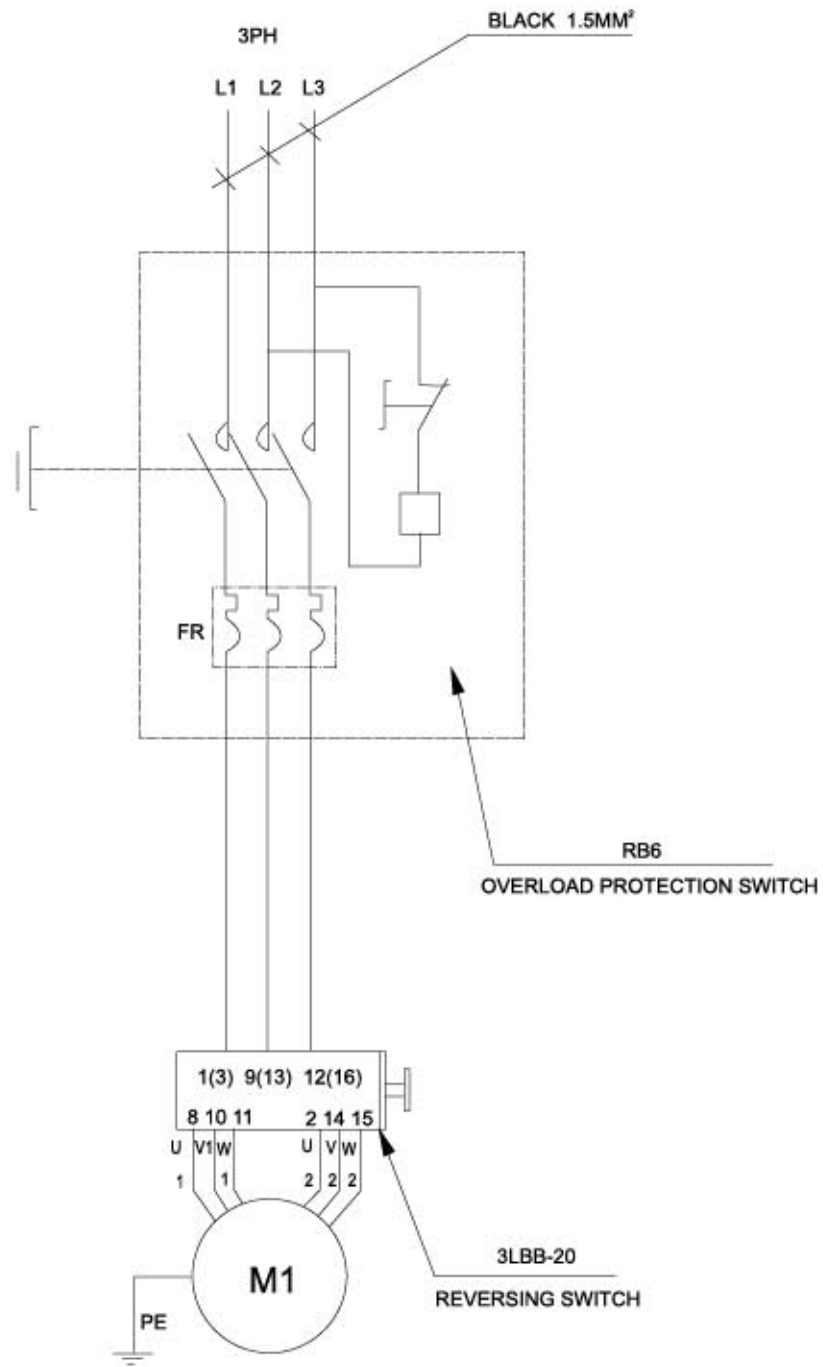
**T25BC  
T26BC**



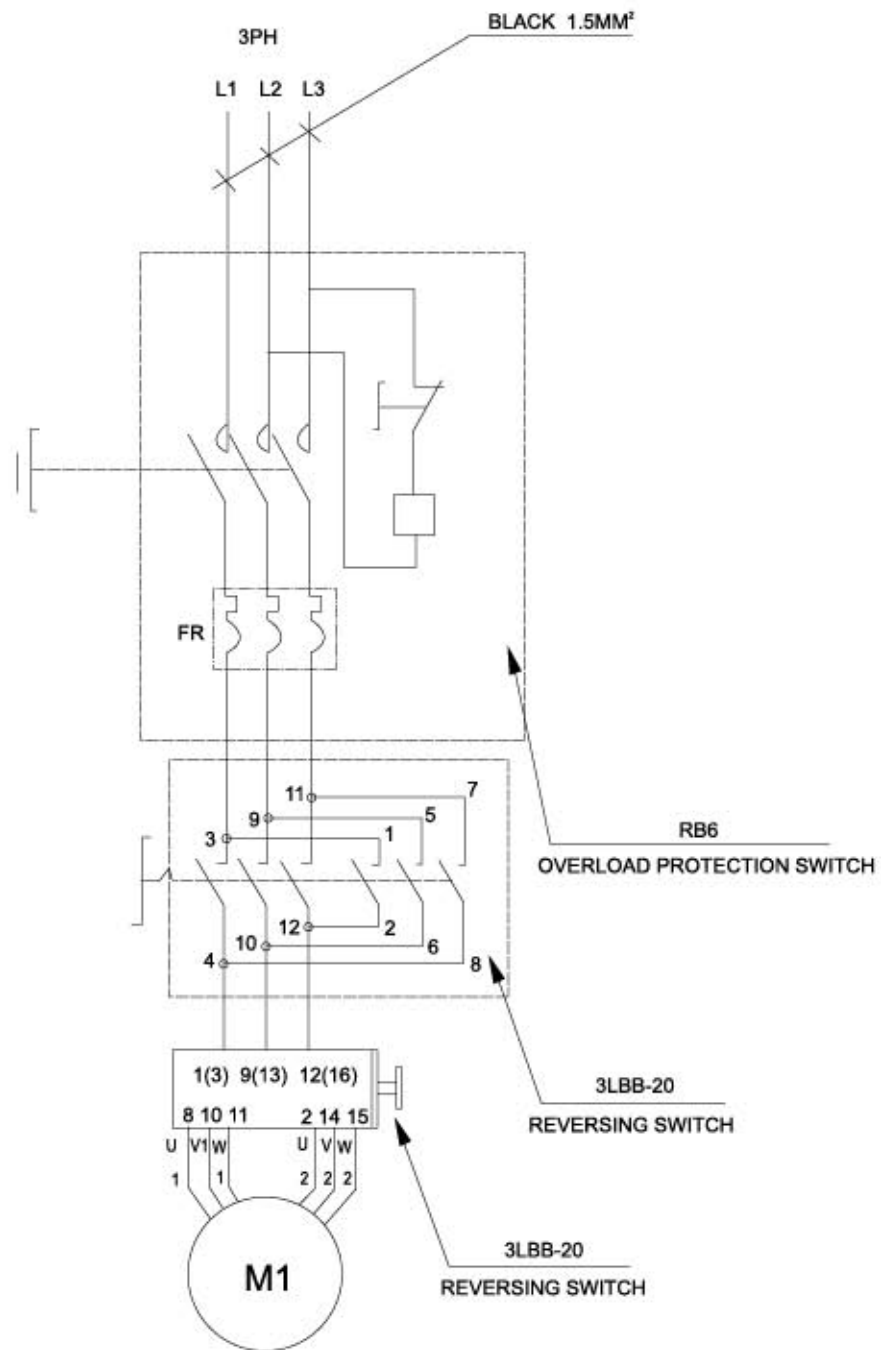
skala 0.1

Vy C-C  
skala 0.5





6		T25C T26C	Drawn
5			Checked
4			
3		Circuit diagram	Diagram
2			No.
1			



6		T25C T26C	Drawn
5			Checked
4			
3		Circuit diagram	Diagram
2			No.
1			

**Note:** This manual is only for your reference. Owing to the continuous improvement, changes may be made at any time with no obligation on the part of machine. And please note the local voltage for operating machine