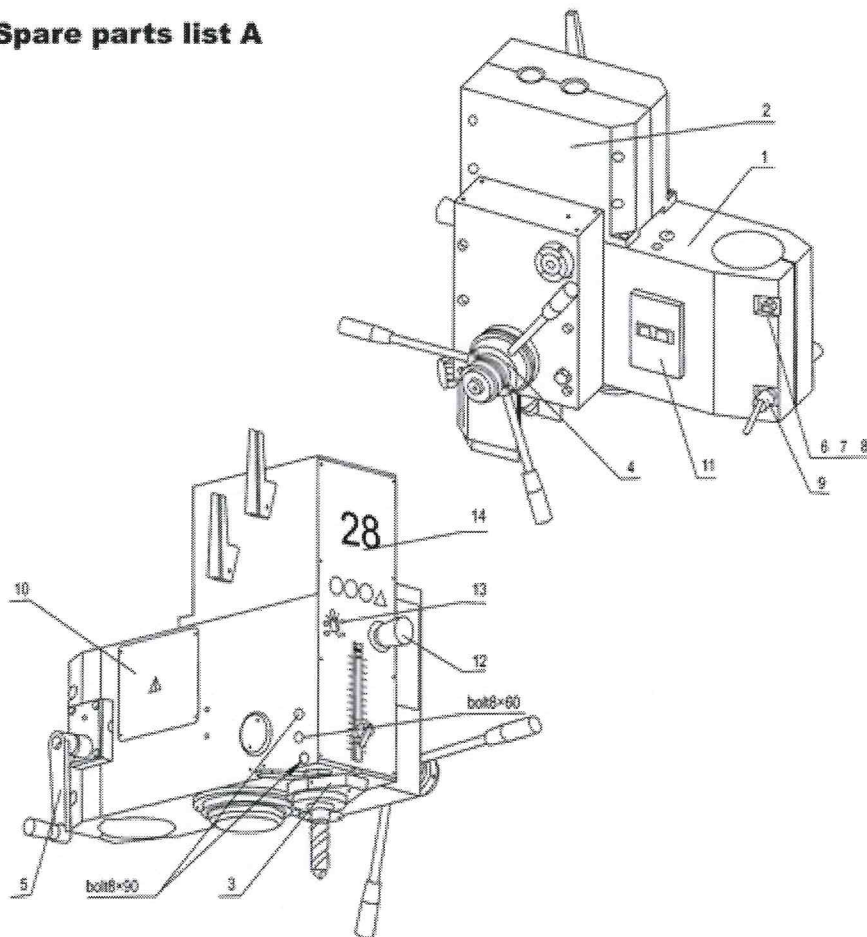
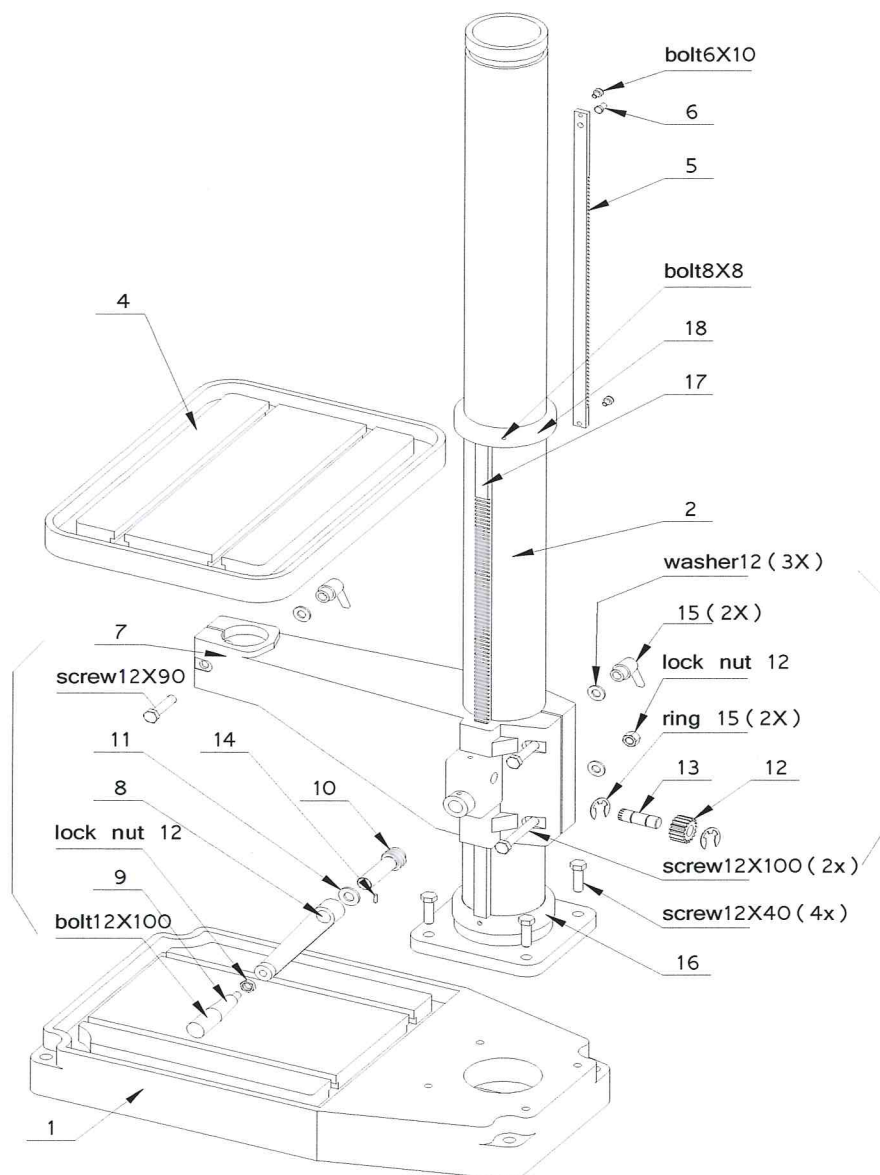


## Spare parts list A



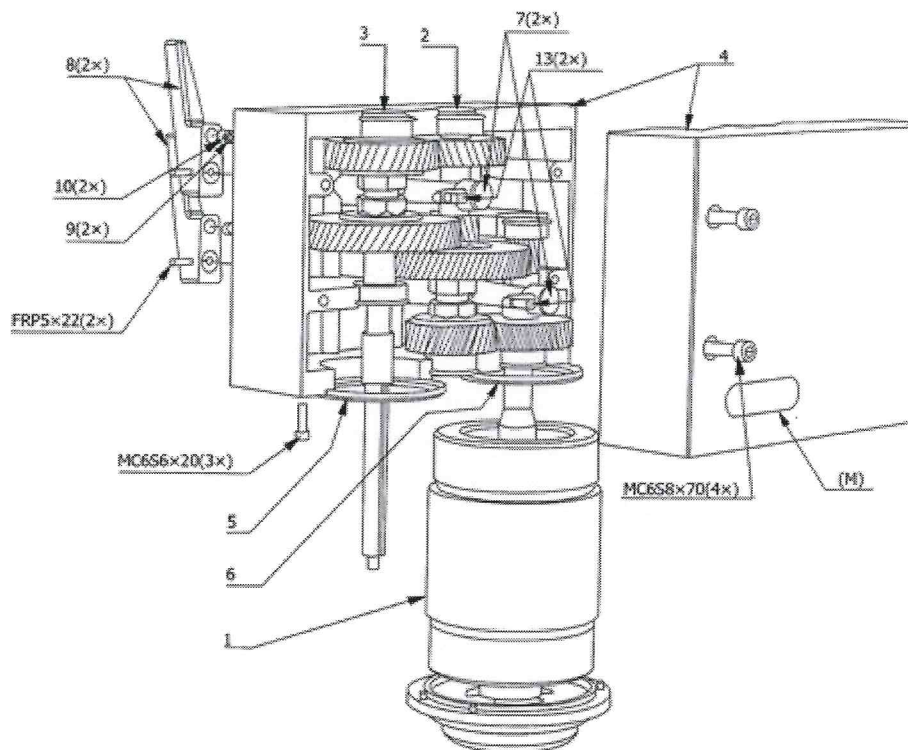
| Pos | Art.No. | Description         | Note |
|-----|---------|---------------------|------|
| 1   | 2000A   | Drill head          |      |
| 2   | 2000B   | Gear box            |      |
| 3   | 2000C   | Quill complete      |      |
| 4   | 2000D   | Feed axle complete  |      |
| 5   | 1000A   | Worm gear           |      |
| 6   | 3S02558 | Screw 12x130        | 2st  |
| 7   | 3M09122 | Lock nut            |      |
| 8   | 3B01178 | Washer              | 2st  |
| 9   | 3R00014 | Lock handle         |      |
| 10  | 4L08589 | Cover plate         |      |
| 11  | 3E10605 | Overload protection |      |
| 12  | 3E06125 | Emergency stop      |      |
| 13  | 3E06074 | Reversing hand      |      |
| 14  | 4L08660 | Front plate         |      |



| Pos | Art.No.   | Description         | Note |
|-----|-----------|---------------------|------|
| 1   | 2W00501   | Machined base plate |      |
| 2   | 4XS2123-1 | Column              |      |
| 3   | 2XS2100-1 | Table arm complete  |      |
| 4   | 2X00199   | Table 500X400       |      |
| 5   | 2X08445   | Rack                |      |
| 6   | 2T07146   | Pin                 |      |
| 7   | 2YS2100   | Table arm           |      |
| 8   | 2RS1182   | Crank handle        |      |
| 9   | 3R00014   | Lock handle         |      |
| 10  | 2IS1203   | Worm shaft          |      |
| 11  | 3L00021   | Overload protection |      |
| 12  | 3E06125   | Emergency stop      |      |
| 13  | 3E06074   | Reversing hand      |      |
| 14  | 4L08660   | Pin                 |      |
| 15  | 3R00014   | Lock handle         | 2st  |

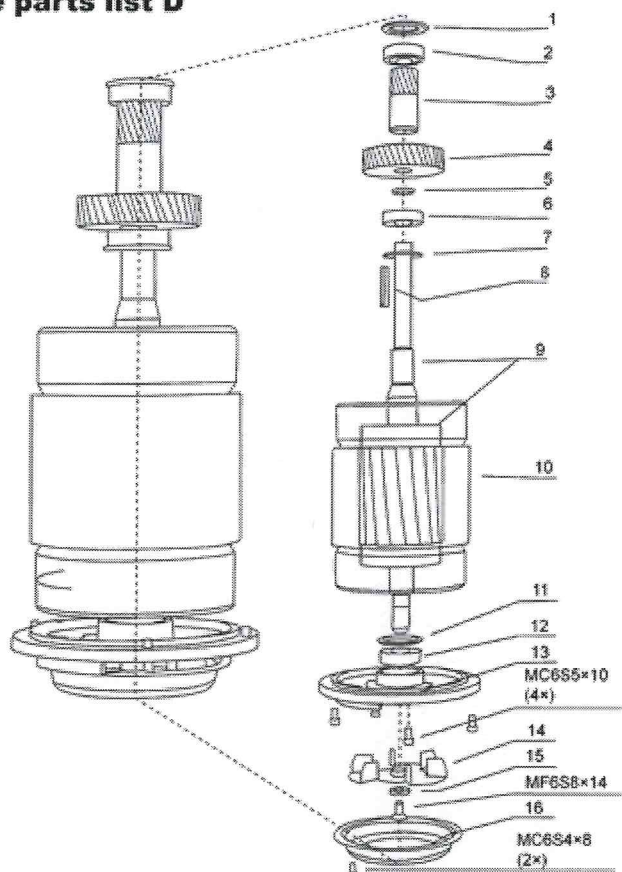
- |    |         |                   |
|----|---------|-------------------|
| 16 | 2NS2119 | Lower column ring |
| 17 | 2IS2120 | Rack table arm    |
| 18 | 2NS2121 | Stop ring column  |

### Spare parts list C



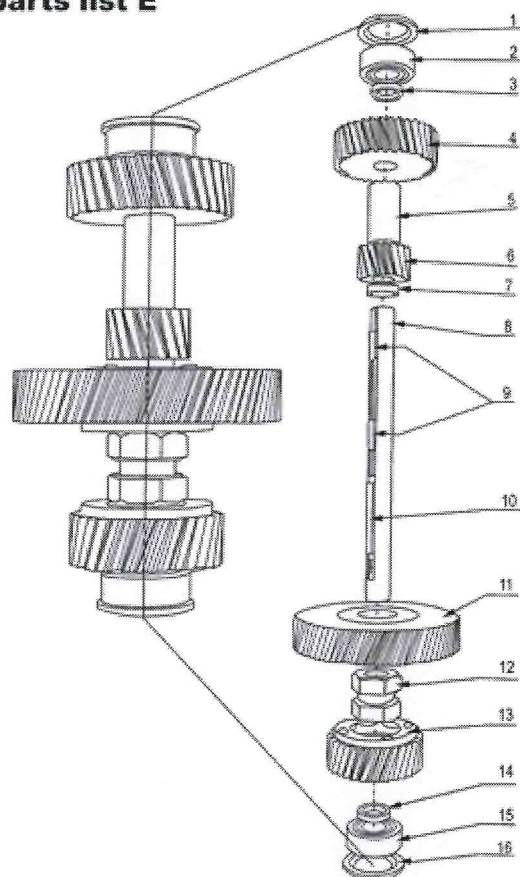
| Pos | Art.No.   | Description          | Note |
|-----|-----------|----------------------|------|
| 1   | 3E9024X   | Stator 90/2-4-100    |      |
| 2   | 2X08570   | 2:nd Shaft complete  |      |
| 3   | 2X08581   | 3:rd Shaft complete  |      |
| 4   | 2X08623-1 | Gearbox housing      |      |
| 5   | 4B00174   | Guide ring           |      |
| 6   | 4B00174   | Guide ring           |      |
| 7   | 2X08538   | Selector shaft       | 2st  |
| 8   | 4RS0653-1 | Gear lever           | 2st  |
| 9   | 4C02921   | Spring               | 2st  |
| 10  | 3T04028   | Steel ball RB8       | 2st  |
| 13  | 4T04168   | Gear selector finger | 2st  |

## Spare parts list D



| Pos | Art.No.   | Description       | Note |
|-----|-----------|-------------------|------|
| 1   | 4B00138   | Cover             |      |
| 2   | 3L11003   | Bearing 6203      |      |
| 3   | 2H08562   | Gear wheel 17-1,5 |      |
| 4   | 2H08563   | Gear wheel 40-2   |      |
| 5   | 2D00008   | Spacer 17x6,5     |      |
| 6   | 3L11003   | Bearing 6203      |      |
| 7   | 4B00137   | Cover             |      |
| 8   | 3K01196   | Key 5x5x42        |      |
| 9   | 2X08666   | Rotor with shaft  |      |
| 10  | 3E9024X   | Stator 90/2-4-100 |      |
| 11  | 4F06203   | Gearsehold washer |      |
| 12  | 3L11003   | Bearing 6203      |      |
| 13  | 2N01889-1 | Bearing cover     |      |
| 14  | 4B00175   | Fan               |      |
| 15  | 2B03449   | Washer            |      |
| 16  | 4B01890   | Fan cover         |      |

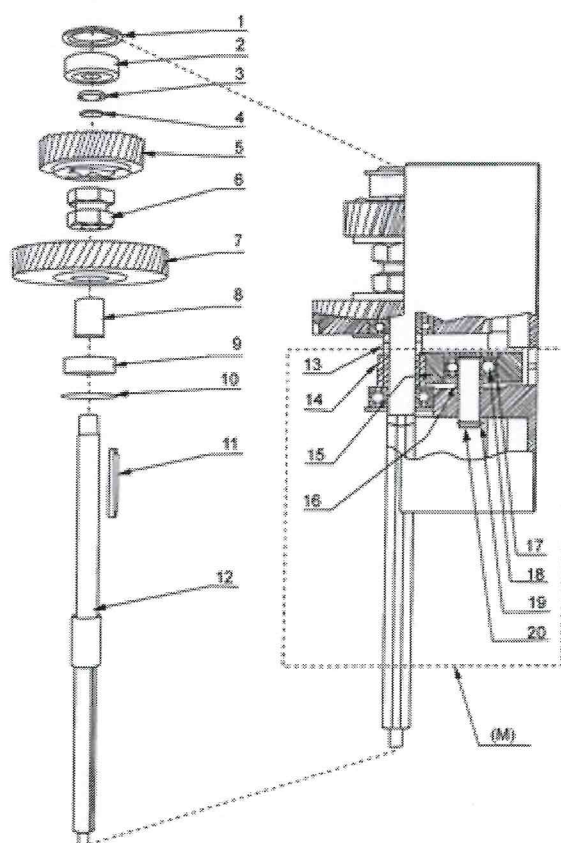
## Spare parts list E



| Pos | Art.No. | Description       | Note |
|-----|---------|-------------------|------|
| 1   | 4B00138 | Cover             |      |
| 2   | 3L11003 | Bearing 6203      |      |
| 3   | 2K00002 | Spacer 17x2.5     |      |
| 4   | 2H08572 | Gear wheel 34-2   |      |
| 5   | 2D17038 | Spacer 17x38      |      |
| 6   | 2H08573 | Gear wheel 15-2   |      |
| 7   | 2D17004 | Spacer 17x4       |      |
| 8   | 2A04871 | 2nd Shaft         |      |
| 9   | 3K00187 | Key 5x5x20        |      |
| 10  | 2T06615 | Key               |      |
| 11  | 2X08574 | Gear wheel 79-1.5 |      |
| 12  | 2T04274 | Clutch            |      |
| 13  | 2X08574 | Gear wheel 33-2   |      |
| 14  | 2D00008 | Spacer 17x6.5     |      |
| 15  | 3L11003 | Bearing 6203      |      |
| 16  | 4B00138 | Cover             |      |

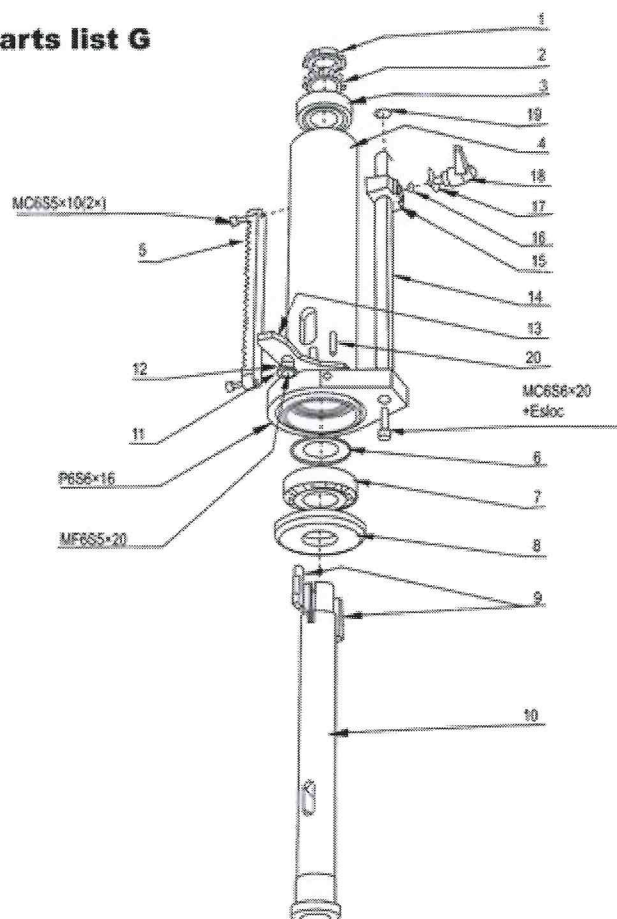


## Spare parts list F

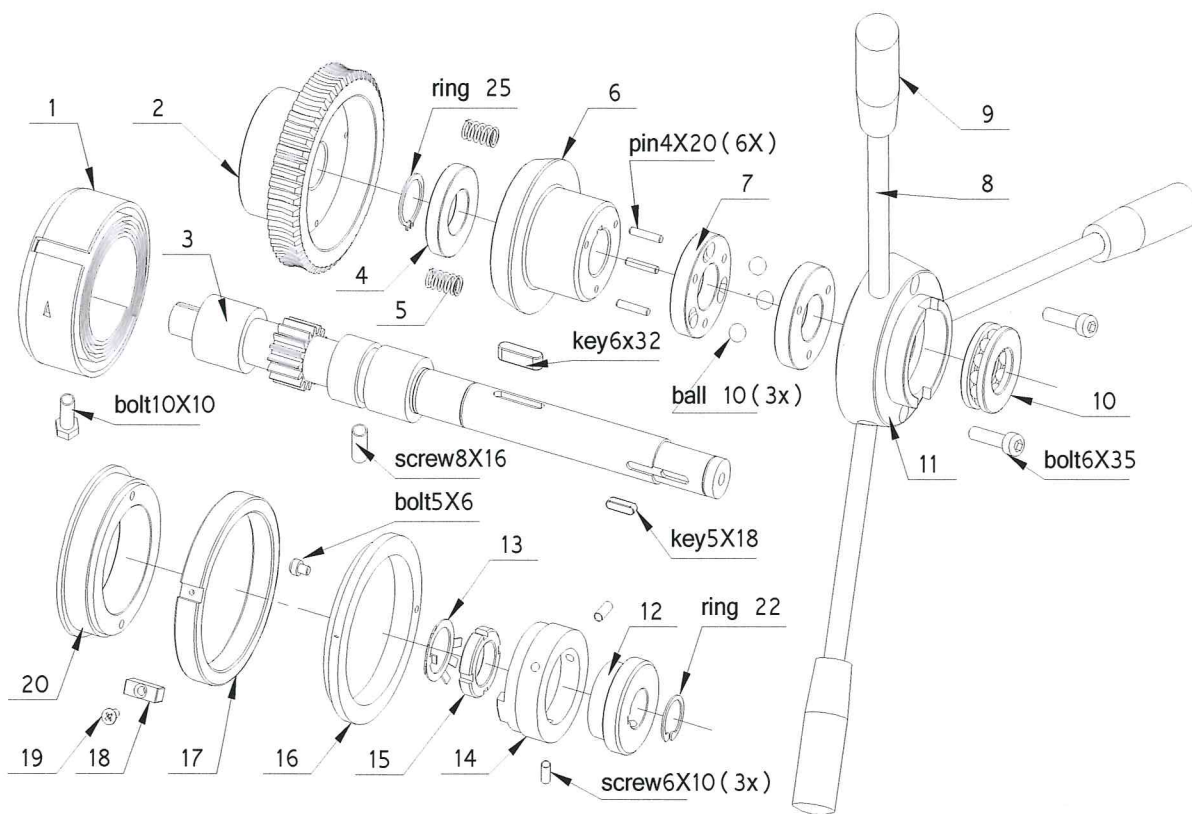


| Pos | Art.No.  | Description       | Note |
|-----|----------|-------------------|------|
| 1   | 4B08584  | Cover             |      |
| 2   | 3L16002  | Bearing 6302      |      |
| 3   | 3B01184  | Ring 15x22x1      |      |
| 4   | 3C01117  | Circlip SGA 15    |      |
| 5   | 2X08582  | Gear wheel compl. | 39-2 |
| 6   | 2T04254  | Clutch            |      |
| 7   | 2X08583  | Gear wheel compl. | 58-2 |
| 8   | 2D00007  | Spacer 17x19      |      |
| 9   | 3L11003  | Bearing 6203      |      |
| 10  | 4B00137  | Cover             |      |
| 11  | 2T06615  | Key               |      |
| 12  | 2A08531  | Spindle shaft     |      |
| 13  | 2D17019  | Spacer 17x19      |      |
| 14  | 2HSB7501 | Gear wheel 18-1.5 |      |
| 15  | 2X08558  | Gear compl. feed  |      |
| 16  | 2D12017  | Spacer 12x17      |      |
| 17  | 3C02131  | Circlip SGH 32    | 2 st |
| 18  | 3L13001  | Bearing 52012Z    |      |
| 19  | 3C01114  | Circlip SGA 12    |      |
| 20  | 2A08548  | Shaft             |      |

## Spare parts list G



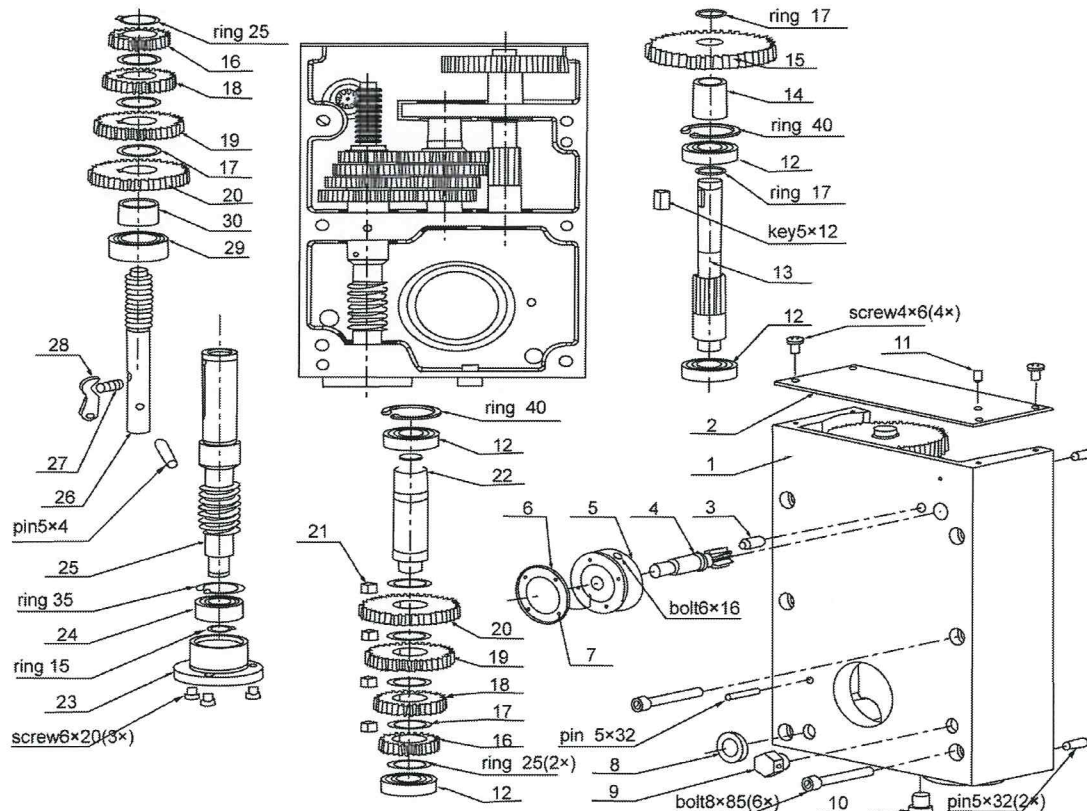
| Pos | Art.No.    | Description         | Note |
|-----|------------|---------------------|------|
| 1   | 3M06005    | Nut KM 25           |      |
| 2   | 4B00155    | Locking washer      |      |
| 3   | 3L11005    | Bearing 6205        |      |
| 4   | 2G08529    | Quill A30           |      |
| 5   | 2108554    | Rack                |      |
| 6   | 4B03769    | Washer              |      |
| 7   | 3L50007    | Taper roll bearing  |      |
| 8   | 2TS2019-1  | Bearing cover       |      |
| 9   | 2T08518    | Key for spindle     | 2 st |
| 10  | 2A08617    | Spindle MT4         |      |
| 11  | 3B06003    | Washer 10,5x18x0,6  |      |
| 12  | 2T08593    | Spacer              |      |
| 13  | 4T08547    | Drill ejector lever |      |
| 14  | 2A08756    | Depth gauge rod     |      |
| 15  | 2T08759    | Stop                |      |
| 16  | 4CSB140046 | Spring              |      |
| 17  | 4L08626    | Indicator           |      |
| 18  | 3R00002    | Handle 43-M6x16     |      |
| 19  | 3C03115    | Circlip RS 10       |      |
| 20  | 3P12308    | Pin FRP 5x20        |      |



| Pos | Art.No.   | Description            | Note     |
|-----|-----------|------------------------|----------|
| 1   | 4XS2150   | Return spring cassette |          |
| 2   | T282029   | Worm wheel             |          |
| 3   | T282028   | Feed shaft             |          |
| 4   | T282030   | Thick washer           |          |
| 5   | T282039   | Spring                 | 6st      |
| 6   | T282040   | Worm wheel partner     |          |
| 7   | T282032   | Steel ball jig         | 2st      |
| 8   | T282006   | Feed shaft             | 3st      |
| 9   | T282006-1 | Handle                 | 3st      |
| 10  | T282000-1 | Bearing                | 25x47x15 |
| 11  | T282033   | Feed shaft base        |          |
| 12  | T282034   | Porrect ring A         |          |
| 13  | T282000-2 | Stay back ring         |          |
| 14  | T282035   | Porrect ring B         |          |
| 15  | T282000-3 | Nut                    | 25x1.5   |
| 16  | T282036   | Inner ring             |          |
| 17  | T282038   | Outer ring             |          |
| 18  | T282037   | Stop block             |          |
| 19  | T282000-4 | Screw                  | 4x12     |
| 20  | T282031   | Bottom ring            |          |



## Spare parts list I



| Pos | Art.No.    | Description             | Note  |
|-----|------------|-------------------------|-------|
| 1   | T283001    | Feed box                |       |
| 2   | T282008    | Feedbox cover           |       |
| 3   | T283000-1  | Screw                   | 10x16 |
| 4   | T283019    | Change speed shaft      |       |
| 5   | T283020    | Change speed handle     |       |
| 6   | T284008    | Feed plate              |       |
| 7   | T283000-2  | Rivet                   | 4 st  |
| 8   | T283000-3  | Oil view                |       |
| 9   | BS230V3012 | Fill oil view           |       |
| 10  | T283000-4  | Empty oil screw         | G1/4  |
| 11  | T283000-5  | Oil cup                 |       |
| 12  | T283000-6  | Bearing                 | 4 st  |
| 13  | T283010    | Shaft                   |       |
| 14  | T283009    | Sleeve                  |       |
| 15  | T283008    | Gear wheel 60-1.5       | 2 st  |
| 16  | T283003    | Gear wheel 27-1.5       | 2 st  |
| 17  | T283006    | Washer                  | 7 st  |
| 18  | T283004    | Gear wheel 33-1.5       | 2 st  |
| 19  | T283005    | Gear wheel 41-1.5       | 2 st  |
| 20  | T283007    | Gear wheel 47-1.5       | 2 st  |
| 21  | T283000-7  | Key 8x7                 | 8 st  |
| 22  | T283011    | Shaft                   |       |
| 23  | T283021    | Bottom sleeve           |       |
| 24  | T283000-8  | Bearing                 |       |
| 25  | T283018    | Wormshaft feed box      |       |
| 26  | T283002    | Change speed pass shaft |       |
| 27  | T283015    | Spring                  |       |
| 28  | T283016    | Especial key            |       |
| 29  | T283000-9  | Bearing                 |       |
| 30  | T283017    | Sleeve                  |       |

## Oil recommendations

For normal temperatures. The guarantee of the machine is based on these recommendations.

| Oil Company  | Nr.1                                      | Nr.2  | Nr.3                  | Nr.4                                    |
|--------------|---|---|-----------------------|---|
| OK Petroleum | Delta Oil 68                              | Multigear EP 150                              | Ultima Oil EPH        | Delta Oil 68                            |
| BP           | BP Maccourant 68<br>BP Bartran 68         | BP Energol GRXP 150                           | BP Maccurt            | BP Bartran 46<br>BP Bartran 68          |
| Castrol      | Castrol Hyspin<br>AWS 68                  | Alpha SP 150                                  | Magna BD 68           | Castrol Hyspin<br>AWS 68                |
| Texaco       | Texaco Rando Oil<br>HD 68                 | Texaco Meropa 150                             | Way Lubricant 68      | Rando Oil HD 68<br>Regal Oil R and O 68 |
| Statnil      | Nuto H68                                  | Spartan FP 150                                | Fehis K 68            | Nuto H 68                               |
| Mobil        | Mobil DTE 26<br>Mobil Vactra Oil No 2     | Mobil gear 629                                | Mobil Vactra Oil No 2 | Mobil DTE 26                            |
| Shell        | Shell Tellus Oil 68<br>Shell X-100 10W/30 | Shell omala oil 150<br>Shell Spirax HD 80W/90 | Shell Tonna Oil 68    | Shell tellus Oil 68                     |

### Oil quality No.1

For gear boxes with gear wheels and ball bearing. Viscosity: 11°E at 50° C

### Oil quality No.2

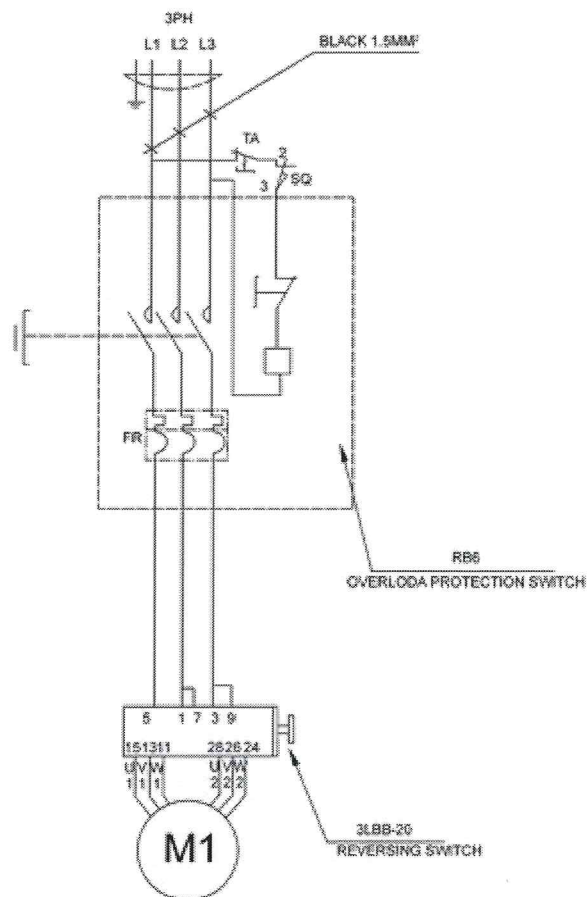
For gear boxes with gear wheels and ball bearing. Viscosity: 11°E at 50° C

### Oil quality No.3

For sliding guide or column control, trapezoid thread crews, recirculating ball screws and central lubricating system.

### Oil quality No.4

For hydraulic system



### 400V 50Hz 3PH Electric part list

| No. | Name                    | Designation | Type&Specifications               | Quantity |
|-----|-------------------------|-------------|-----------------------------------|----------|
| 1   | Main motor              | M1          | 400v 50HZ 1420r/min 1.5/1.8kw 3PH | 1        |
| 2   | Current Breaker         | QF          | DZ47-63 1P 2A                     | 1        |
| 3   | Transformer             | TC          | AC400 230/24V                     | 1        |
| 4   | Contactor               | KM          | CN-6 AC24V 50HZ                   | 2        |
| 5   | E.S.P.                  | TA          | XB2-BX542                         | 1        |
| 6   | Indicator light         | EL          | XB2-BVD3                          | 1        |
| 7   | Handle switch           | Handle      | AN14-Z                            | 3        |
| 8   | Heat relay              | FR          | RHM-5N 8.5-12.5A                  | 1        |
| 9   | Limit switch            | SQ1         | YBLXW-N/E/D                       | 1        |
| 10  | Limit switch            | SQ2         | YBLXW-N/E/D                       | 1        |
| 11  | Start                   | SB          | XB2-BE101                         | 1        |
| 12  | Electromagnetism Clutch | LH          | DYL0-10                           | 1        |
| 13  | Two speed switch        | 3SA         | 3LBB-20                           | 1        |
| 14  | PLC                     |             | K7M-DR10UE                        | 1        |
| 15  | Loggle switch           |             | HY29E                             | 1        |

**Note:** This manual is only for your reference. Owing to the continuous improvement of the machine, changes may be made at any time without obligation on notice. And please note the local voltage for operating this electric machine.