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## **PART 1 EQUIPMENT INTRODUCTION**

### **SMG ISE/ISP series ID-Mounted Pipe Beveling Machine**

We supply machines and equipment to diverse industries where the processing of piping systems are essential to their operation but require innovative machine tool technology. From power and petrochemical to semiconductor, food and dairy, our wide range of portable tools can be found on all pipe and tube types, sizes and wall thickness.

The ID-Mounted bevelling operation utilises an expandable mandrel which is designed to slid into the open end of the pipe. A draw nut is tightened, which expands the mandrel block up a ramp and against the ID surface for positive mounting, self centered and squared to the angle predetermined by the angle ground into the bit. Bits are available for practically any material or bevelling angle required, and can be custom made for any form of tooling operation.

#### **FEATURES: FAST SETUP**

- Set up and operate from storage case to pipe within 5 minutes
- Expanding nut makes the installation more efficient
- Single adjustment, universal three-leg chunk centering the machine in pipe ID automatically
- Install or adjust tool bits in seconds
- Can be installed in any direction: horizontal, vertical or slant

#### **EASY OPERATION**

- The design of miniaturisation is suitable for the home or workplace with low-clearance
- Ratchet wheel design makes tool feed easy and reduces operator fatigue at the same time enhances safety
- In-feed structure is designed with a scale for precise measurement

#### **TYPICAL FUNCTION DESIGN**

- Features aluminium housing, lightweight
- The equipment can work with V and U welding seam
- High strength mandrel and large-area expanding block is designed to improve the rigidity
- Two bevel tools can be installed on cutter, pipe can be processed synchronously

## PACKAGE

- The machine packaged into a portable plywood case or aluminum alloy case with expanding blocks, usual tool, bevelling tools, operation manual and packing list.

## PART 2 SAFETY INSTRUCTIONS

We take great pride in manufacturing safe, quality products. Please comply with the following safety rules and instructions before operating the equipment.



### READ THE FOLLOWING CONTENT BEFORE WORKING

#### READ THE OPERATION MANUAL

Before installing, you should read the manual, and make sure you understand all setup and operating instructions, it can help you save time and avoid causing injury to the operator and the machine.

#### INSPECT MACHINE & ACCESSORIES

Before starting the machine, look for loose bolts or nuts, leaking lubricant, and any other irregular physical conditions that may affect operation. Properly maintaining the machine can greatly decrease the chances for injury.

#### ALWAYS READ SIGNS AND LABELS

Please read the marks and signs. All the marks and signs should be clear and easy to read, and you should carefully to keep them.



#### DANGER! ELECTRIC SHOCK

Always disconnect machine from the power source before moving or removing the motor security of the electricity.



#### CAUTION INJURE HAND

Keep hands, arms and fingers away from all moving parts.



#### WEAR SAFETY GOGGLE

Eye protection is required during operation. When using equipment, please wear safety goggles. No goggles, no work.

# PART 3 MACHINE SPECIFICATIONS

## Electric-Driven SMG-ISE SERIES

Model		SMG - ISE	SMG - ISE	SMG - ISE	SMG - ISE	SMG - ISE	SMG - ISE	SMG - ISE	SMG - ISE	SMG - ISE	SMG - ISE	SMG - ISE	
		30	80	120	159	252-1	252-2	352-1	352-2	426-1	426-2	630-1	630-2
Working Range (mm)	ID	16-28	28-76	40-110	65-159	80-240	80-240	150-330	150-330	250-410	250-410	300-600	300-600
	OD	19-38	32-89	48-120	72-168	90-273	90-273	160-356	160-356	260-430	260-430	320-630	320-630
Motor Power (W)	1200			1500			1800			2000			
Power Supply	220/230V 1PH 50/60HZ												
No-Loading Rotate Speed (r/min)	50	50	38	27	21	21	11	11	10	10	8	8	
Max. Tool Travel (mm)	35	35	35	50	55	55	55	55	55	55	55	55	
Max. Beveling Thickness (mm)	15	15	15	20	20	75	20	75	20	75	20	75	
Later Feed (mm/r)	N/A	N/A	N/A	N/A	N/A	0.15-0.2	N/A	0.15-0.2	N/A	0.15-0.2	N/A	0.15-0.2	
Net Weight	10	10	21	26	32	40	53	57	105	110	115	118	

## Pneumatic-Driven SMG - ISP SERIES

Model		SMG - ISP	SMG - ISP	SMG - ISP	SMG - ISP	SMG - ISP	SMG - ISP	SMG - ISP	SMG - ISP	SMG - ISP	SMG - ISP	SMG - ISP	
		30	80	120	159	252-1	252-2	352-1	352-2	426-1	426-2	630-1	630-2
Working Range (mm)	ID	16-28	28-76	40-110	65-159	80-240	80-240	150-330	150-330	250-410	250-410	300-600	300-600
	OD	19-38	32-89	48-120	72-168	90-273	90-273	160-356	160-356	260-430	260-430	320-630	320-630
Air Pressure (Mpa)	0.7						0.8						
Air Consumption (L/min)	1000			1200			1400			1500			
No-Loading Rotate Speed (r/min)	55	55	42	38	35	32	15	15	12	12	12	12	
Max. Tool Travel (mm)	35	35	35	50	55	55	55	55	55	55	55	55	
Max. Beveling Thickness (mm)	15	15	15	20	20	75	20	75	20	75	20	75	
Later Feed (mm/r)	N/A	N/A	N/A	N/A	N/A	0.15-0.2	N/A	0.15-0.2	N/A	0.15-0.2	N/A	0.15-0.2	
Net Weight	9	9	21	26	30	38	51	55	101	106	110	112	

Note: The Min. collets for SMG ISE/ISP-30: ID 15 mm

# PART 4 INSTALLATIONS AND OPERATION

## SECTION 1

### TOOL FEEDBACK INSTRUCTION

A. SMG-30-80-ISE/ISP tool feedback handwheel

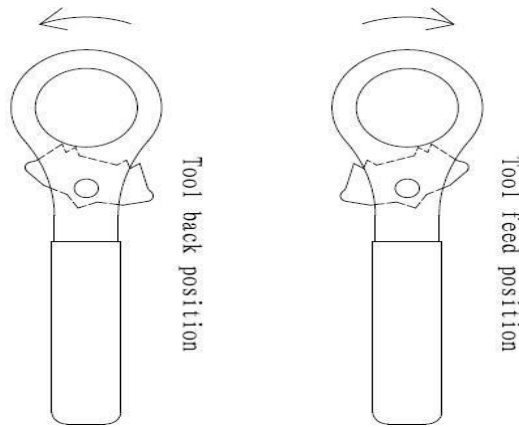
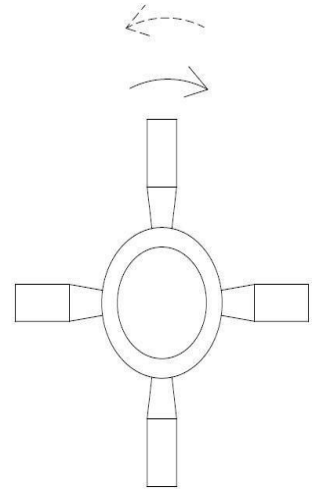
Tool Feed: rotate clockwise

Tool Back: rotate counter-clockwise

B. SMG-80A-630-ISE/ISP adopt tool feedback

ratchet spanner Tool Feed: Press pawl clockwise, pull spanner clockwise

Tool Back: Press pawl counter-clockwise, pull spanner counter-clockwise



### OPERATION PROCEDURE

1. Measure the ID of the pipe, and then select the proper expanding block according to the diagram of expanding block (Part 7), or see the figure on the expanding block, choose the appropriate one, fix them on the wedge block, and tighten.
2. Install the proper tool bit on the cutter. Make sure the tool bit is **clockwise**. **Caution:**The tool bit can not touch the spindles, otherwise this may damage the machine.
3. Back the travel of tool bit by tool feed handwheel (tool feedback ratchet spanner). Insert the expanding mandrel into the pipe, fasten the expansion nut **lightly**, shake the machine (in order to center and ensure the expanding block make proper contact with the ID pipe). Once the machine is centered, fasten the expansion nut **tightly**, making sure the equipment and the pipe are integrated.

**Caution:** The expanding mandrel should not be inserted too deep. It is recommended to keep a 5mm distance between tool bit and pipe end high point.

4. Turn on the motor then turn off to allow the cutter to rotate 1 full cycle in order to confirm the machine and tool bit has been installed correctly. Turn on the motor, rotate the tool feed handwheel (tool feed/back ratchet spanner) manually for the machine start working.

**Explanation:**

Turn on the motor then turn off: Tool bit feed is required from the highpoint of pipe end (rough end). If the tool bit do not feed from high point, this can potentially damage the tool bit and machine and may also pose danger to operator.

**Caution:**

Tool feed evenly, not fast, not slow.

Continue to spray coolant (saponification oil) while working. This will ensure the beveling process will run smoothly and prolong the tool bit life. If the tool bit becomes blunt, edge it or replace with a new one. While working, take care of electrical parts, and in particular avoid scrap-iron from going into motor.

5. After the beveling work has been completed, back the travel of tool bit using the tool feed handwheel (tool feedback ratchets panel) first, then turn off the motor, loosen the expansion nut, and remove the machine.

**Caution:**

If you do not back the travel of tool first, the feed wheel may be damaged and can cause the expansion nut and feed wheel to get stuck. This can potentially cause serious damage to the machine. Please repeat the above procedure especially if the machine is required for continuous work, in order to make sure the machine will operate normally.

6. After the tool bit has been installed properly, the machine can be moved and you can continue processing from one pipe to another pipe of the same size. There is no need to adjust the tool bit again, only make sure to back the travel of the tool bit. Loosen the expansion nut, and fix it on another pipe.

**Caution:**

When loosening the expansion nut and taking the machine out or adjusting the location of the machine, do not allow it to slip into the pipe as this can cause damage to the tool blade.

## **NOTES FOR SMG - ISP PNEUMATIC SERIES**

1. Compressed air requires dehydration and filtered air  
Required air treatment: **air filter, regulator** and atomised **lubricator** (FRL system)  
Air filter makes the compressed air dry and clean and works to prevent the air motor part from rusting and becoming jammed. Atomised lubricator makes the air motor parts stay lubricated. If you do not have an FRL system, you are required to add lubricating oil (engine oil and kerosene 1:1) at air in-let before and after use, and clean the motor parts regularly.

**Caution:** This is procedure is required to maintain the air filter and air motor lubricated by the atomised lubricator.

2. While working, if the tool feed speed is too fast or if the air pressure is low, this can make the cutter stop rotating. Turn off the air valve, back the tool immediately, then you can start working again.

## SECTION 2

### IN-FEED MECHANISM INSTRUCTION

(Specific to SMG-252-2-ISE/ISP, SMG-352-2-ISE/ISP, SMG-426-2-ISE/ISP, SMG-630-2-ISE/ISP)

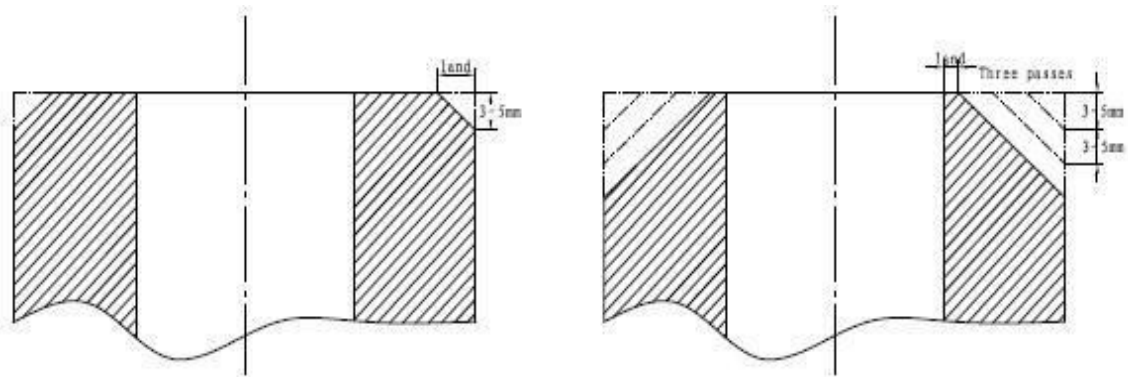
The in-feed mechanism features a special design for heavy wall pipe and is capable of adopting single point bevelling, with adjustable bevelling angle of  $0^{\circ}$  -  $40^{\circ}$ . For details of this mechanism, please refer to PART 9 diagram 9.

### TOOL FEED ADJUSTMENT

1. When pushing the tool feed gear ring (Part No.113) engage with the tool feed gear (Part No.109), the tool bit will feed automatically at speed  $0.15\text{mm/r}$ .
2. When separating the tool feed gear ring and tool feed gear, the horizontal position of tool bit can be adjusted to rotate the tool feed gear ring handle (Part No.111) manually.
3. Use the ratchet spanner (Part No.75) feed tool, it is referred in this manual as "tool vertical feed".

### OPERATION PROCEDURE: PIPE WALL OVER 20MM

The machine and tool bit installation details in section 1 only explains the tool adjustment. Below figure shows bevelling process for the heavy wall pipe: first pass feed 3-5mm (this depends on the hardness of pipe material), following each pass feed at 3-5mm. The number of passes needed will mainly depend on wall thickness and bevelling angle required.



1. After the machine is taken out from the case, install the proper expanding block and tool bit on the machine. Adjust the bevelling angle required by in-feed mechanism (scale on it), then install the machine on the pipe.

**Caution:** The expandable mandrel should not be inserted too deep, it's ideally best to keep a 3-5mm

distance between tool bit and pipe end high point.

2. Separate the tool feed gear ring (Part No.113) and the tool feed gear (Part No.109), rotate the tool feed gear ring handle (Part No.111) to adjust the horizontal position of the tool bit; Rotate the ratchet spanner, adjust the vertical position of tool bit. When the tool bit has been adjusted properly, push tool feed gear ring engage with the tool feed gear, turn on the machine, the first pass of bevelling will start and the tool will feed automatically.
3. After first pass of bevelling has been completed, back the travel of tool bit by ratchet spanner first, then repeat step 2, adjust the position of the tool bit for the succeeding passes of bevelling, until the bevelling job has been completed.

## **OPERATION PROCEDURE IF PIPE WALL IS LESS THAN 20MM**

When working with pipe wall less than 20mm, use type-2. In such setting, the bevelling angle depends on the tool bit angle.

Adjust the in-feed mechanism to position it perpendicular to the machine body, and separate the tool feed gear ring (Part No. 113) and the tool feed gear (Part No. 109), using type-2.

Follow operation instructions provided in section 1.

## **OPERATION PROCEDURE: RAISED FACE FLANGE (CONVEX FLANGE)**

The machine can be used for facing the raised face flange after welded.

Adjust the in-feed mechanism to position it perpendicular to the machine body, and push the tool feed gear ring (Part No. 113) and engage with the tool feed gear (Part No.109), the in-feed mechanism will carry out the lateral feed.

Use the proper tool bit for your job.



## PART 5 IMPORTANT NOTES

1. The carbon brush has been adjusted before despatch, they can feed automatically. Please do not adjust it again.

Note: After 50 working hours, check the wear condition. Replace the carbon brush as needed. If the carbon brush is worn out, please turn off the machine immediately, otherwise the motor will be damaged. We suggest: when carbon brush is  $\frac{2}{3}$  worn out, replace the carbon brush to avoid using an overly worn out carbon brush, which can lead to motor damage.

2. If the tool bit becomes blunt the bevel cutting resistance will increase, which can result in the damage to the spline shaft, motor and reduction parts. Please keep the cutting edges sharp or replace them with a new cutting inserts.
3. If you keep the cutting edges sharp one tool insert can be used several times
4. If you can edge the tool bit, one tool bit can be used several times.

If the tool bit and tool feed becomes overly blunt, this can cause the motor to stop working. Make sure to turn off the power immediately, otherwise the motor and the machine will be damaged.

Away to check the tool bit blunt or not:

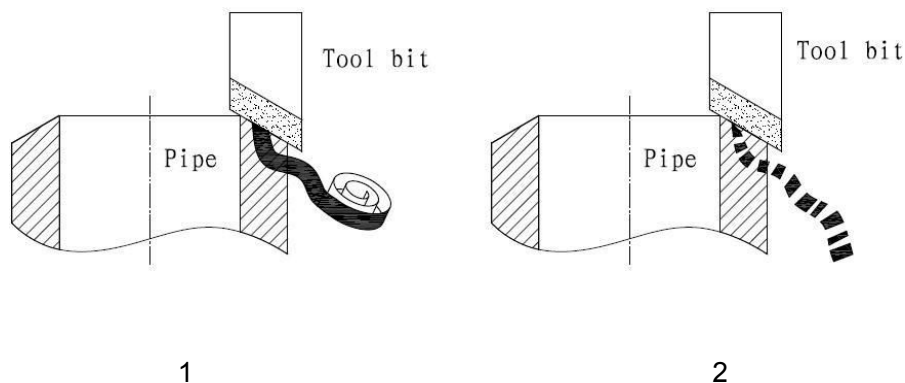


Figure 1: If tool bit is sharp, scrap-iron comes out in strips

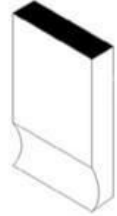
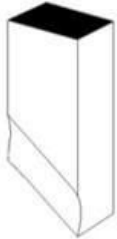
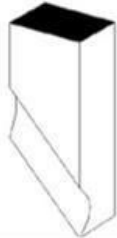

Figure 2: tool bit is blunt, scrap-iron is fragmented

5. Continue to spray coolant (saponification oil) while working, to ensure smooth bevelling and prolong the life of the tool bit.
6. Before bevelling, please remove the roughened edges and other incidentals after flame cutting with a hammer. If the pipe end surface is full of bumps and holes, feed the tool bit carefully.
7. When working with small sized pipes, please use a bench clamp or other tool to fix the tube in place.
8. SMG-80A-630 ISE/ISP adopts tool feedback ratchet spanner, which makes it convenient for

operator, but it is important to control the feed speed. If feed becomes too fast, this may damage the machine.

9. Motor may stop due to a blunt tool bit or tool feed becomes too much. Cut off the power supply immediately, otherwise this will damage the motor or burn the make electric motor.
10. It is important for the operator must read this manual completely before operation, the damage caused by wrong operation is out of warranty scope.

## PART 6 DIAGRAM OF BEVELLING TOOL BIT

Description	Part No.	Sketch	Remark
<b>Facing tool</b>	3721-01		Beveling Angle 0°
<b>Beveling tool V-Prep.</b>	3721-02		Beveling Angle 30°
<b>Beveling tool V-Prep.</b>	3721-03		Beveling Angle 37°
<b>Inside Beveling tool</b>	3721-04		Beveling angle 12° or 15° or as per required

**Note:**

Each unit comes with 3 pieces toolbits (0°, 30°, 37.5°), which can be used to work with carbon steel. We can supply tool bits that are designed to work with high grade carbon steel or stainless steel.

If you require special tool bit, contact us.

**PART 7 DIAGRAM OF THE EXPANDING BLOCK**

Expanding block (Extension legs)

Model	30	80	120	159	252	352	426	630
No block		Φ28-36	Φ40-49	Φ65-87	Φ80-100	Φ150-180	Φ245-275	Φ300-330
306-1	Φ18	Φ36-44	Φ49-28	Φ87-105	Φ100-120	Φ180-210	Φ275-305	Φ330-360
306-2	Φ19	Φ44-52	Φ58-67	Φ105-123	Φ120-140	Φ210-240	Φ305-335	Φ360-390
306-3	Φ20	Φ52-60	Φ67-76	Φ123-141	Φ140-160	Φ240-270	Φ335-365	Φ390-420
306-4	Φ21.5	Φ60-68	Φ76-85	Φ141-159	Φ160-180	Φ270-300	Φ365-395	Φ420-450
306-5	Φ23	Φ68-76	Φ85-94		Φ180-200	Φ300-330	Φ395-425	Φ450-480
306-6	Φ24.5		Φ94-103		Φ200-220			Φ480-510
306-7	Φ26		Φ103-112		Φ220-240			Φ510-540
306-8	Φ27		Φ112-120		Φ240-260			Φ540-570
306-9								Φ570-600
306-10								

**Note:**

The Min. collets for SMG-30 ISE/ISP: ID 15mm Can supply stainless steel expanding block

## PART 8 TROUBLESHOOTING

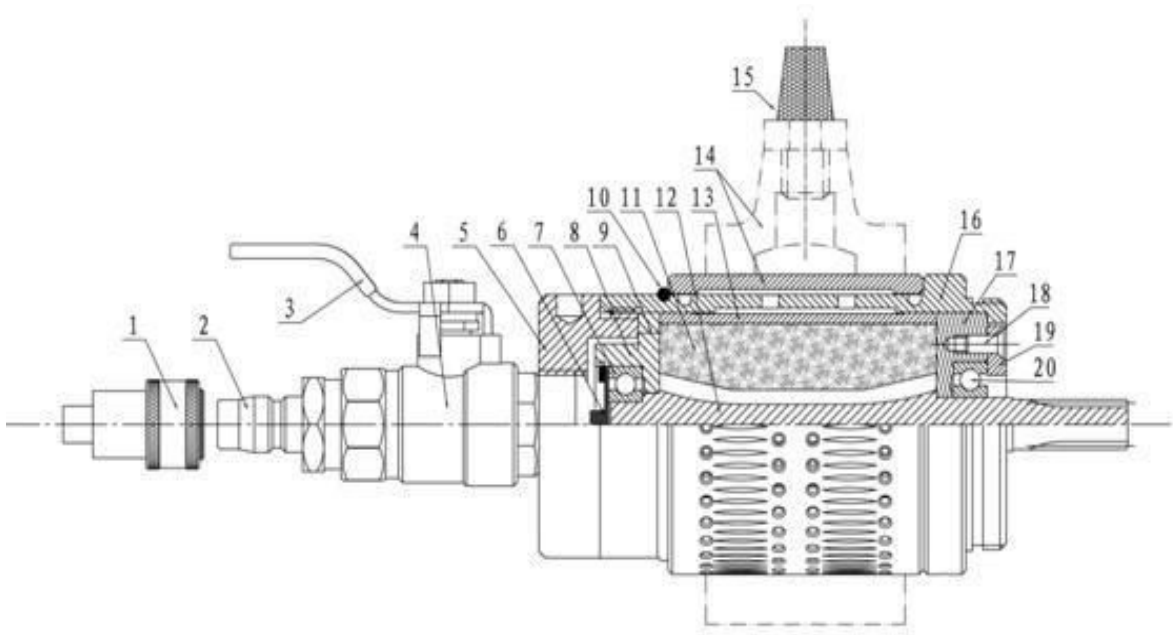
Trouble	Possible reason	Remedy
<b>Machine does not work</b>	The cable is not connected properly; Air motor drive may have an entry problem	Check the cable and the air entry to see if it is well installed
<b>Machine waver when working</b>	The expansion structure is not fastened or the expanding block is not the correct one; Long bevel tool bit is blunt or damaged	Check the expansion screw or change to the right expanding block; Check the cutter screw
<b>Work result is not good</b>	The bevel tool bit is blunt or damaged	Edge the tool bit or replace with new tool bits
<b>Air motor is weak</b>	The motor vane (blade) may be worn out	Replace with a new motor vane
<b>Air motor does not work</b>	Dirt jam; Part rust	Clean the air motor and adopt the air treatment (air filter / regulator / lubricator)for compressed air
<b>Electric motor makes abnormal sound</b>	Check the carbon brush or the motor bearing 628Z	Replace with new carbon brush or bearing 628Z
<b>Burnt electric motor</b>	May be caused by scrap-iron or water; Unsteady power voltage; Tool bit blunt, resulting in high load	Replace with new motor rotor or stator; Replace complete motor

### Note:

If a problem not listed in the chart, please stop operation and contact us for additional instructions.

## PART 9 EXPLODED VIEWS AND PARTS LIST

### SMG - ISP AIR MOTOR

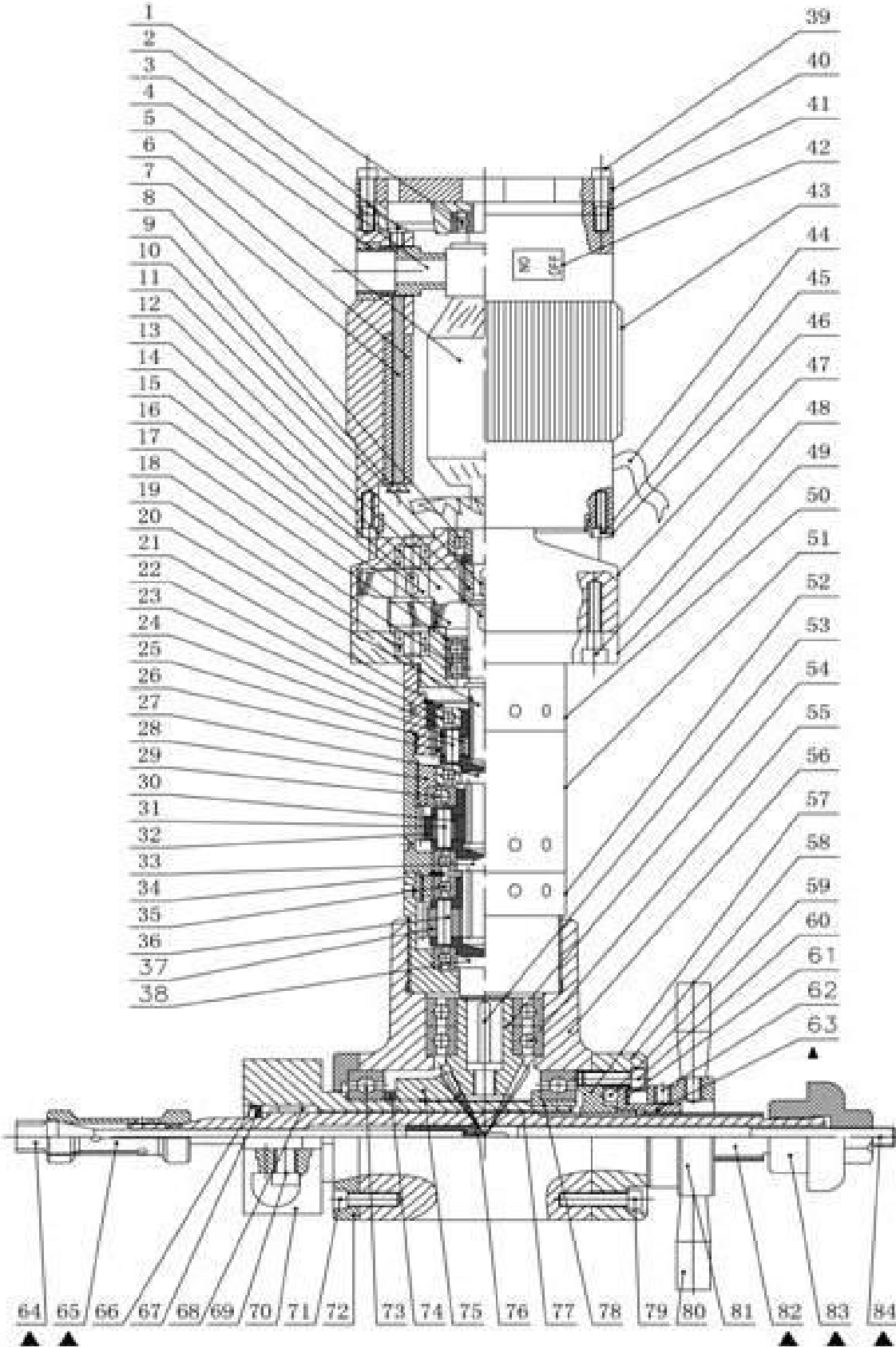


N o.	Description	Qty	No .	Description	Qty
1	Quick coupling sleeve	1	11	Motor vane	5
2	Quick coupling	1	12	Rotor	1
3	Air valve switch	1	13	Stator	1
4	Air valve	1	14	Silence	1
5	Motor cover	1	15	Plug	1
6	Seal element	1	16	Motor housing	1
7	Deep groove ball bearing	1	17	Rotor front cover	1
8	Rotor cover	1	18	Screw	3
9	Pin	1	19	Motor front cover	1
10	O-ring	1	20	Deep groove ball bearing	1

Note:

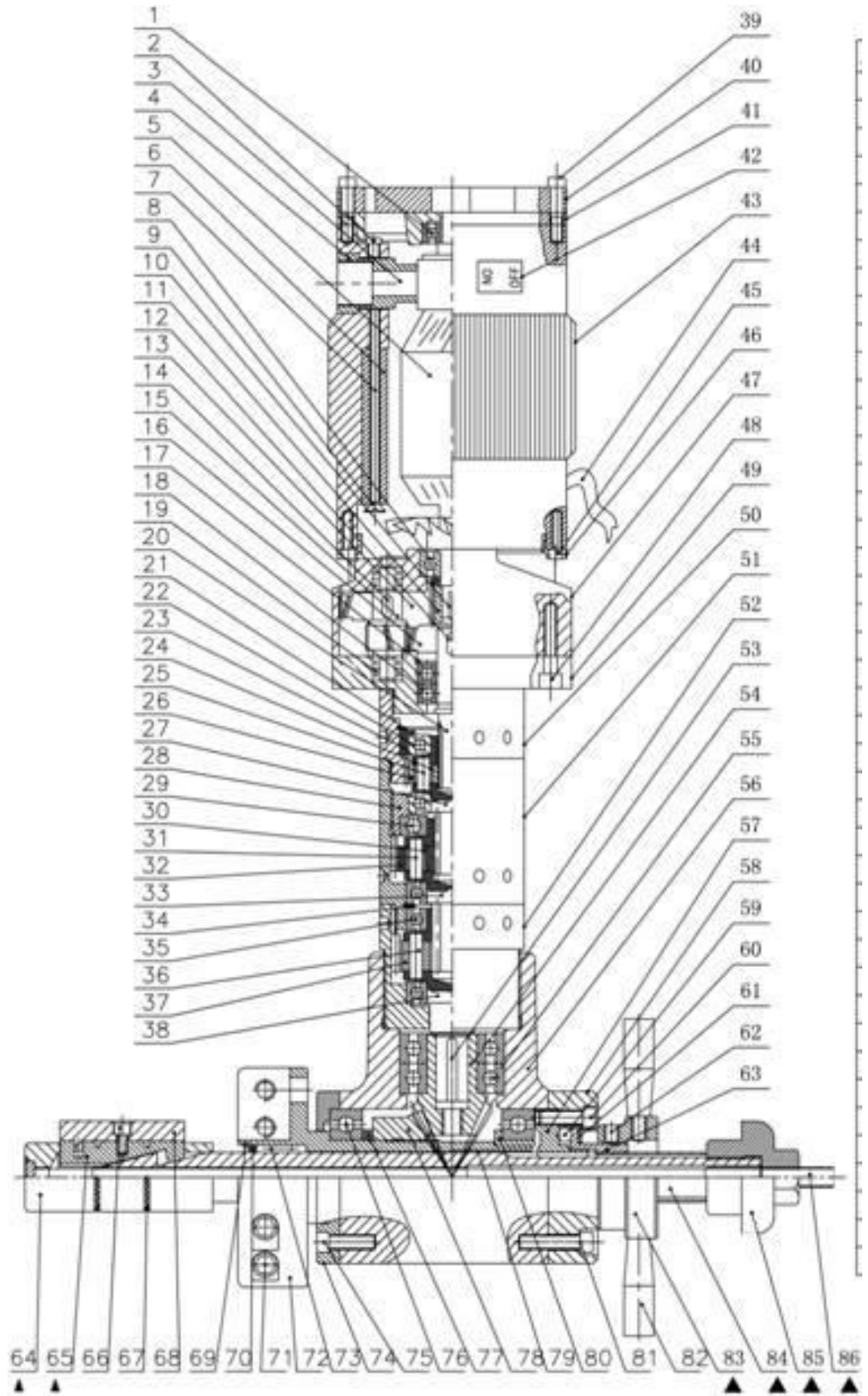
14.15 two parts shown in dotted line configured only on some models

# SMG-30-ISE BEVELLING MACHINE



No	Description	Qty	No.	Description	Qty
1	Deep groove ball bearing 628	1	43	Motor housing	1
2	Carbon brush screw	2	44	Cable	1
3	Carbon brush	2	45	Screw	4
4	Carbon brush holder	2	46	Motor gasket	1
5	Motor rotor	1	47	Reducer	1
6	Motor stator	1	48	Screw	3
7	Screw	2	49	Bearing pedestal	1
8	Deep groove ball bearing	1	50	First level gearing	1
9	Deep groove ball bearing	1	51	Second level gearing	1
10	Flat key	1	52	Third level gearing	1
11	Output helical gear	1	53	Hook-headed key	1
12	Flat key	1	54	Driving bevel gear	1
13	Input helical gear	1	55	Deep groove ball bearing	2
14	Flat key	1	56	Housing	1
15	Circlips	1	57	Spline shaft housing	1
16	Input helical gear	1	58	Upper cover	1
17	Output helical tooth shaft	1	59	Plane bearing	1
18	Deep groove ball bearing	2	60	Screw	4
19	Deep groove ball bearing	4	61	Spring washer	1
20	First level bushing	1	62	Screw	4
21	Circlips	1	63	Tool feed nut bush	1
22	Deep groove ball bearing	2	64	Declination axis	1
23	First level bushing	1	65	Collets	1
24	Needle roller	26	66	Circlips	1
25	Pin	2	67	Washer	1
26	First level planet gear	2	68	Needle bearing	1
27	First level planet carrier	1	69	Screw	1
28	Second level bushing	1	70	Cutter and cutter spindle	1
29	Deep groove ball bearing	1	71	Screw	4
30	Needle roller	26	72	Lower cover	1
31	Pin	2	73	Deep groove ball bearing	2
32	Second level planet gear	2	74	Spindle shaft washer	1
33	Second level planet gear	1	75	Bevel gear	1
34	Circlips	1	76	Pin	1
35	Deep groove ball bearing	3	77	Copper bush	1
36	Pin	3	78	Bearing bushing	1
37	Third level planet gear	3	79	Screw	4
38	Third level planet carrier	1	80	Tool feed hand shank	4
39	Screw	4	81	Tool feed handwheel	1
40	Ventilation cover	1	82	Spline shaft	1
41	Motor cover	1	83	Expansion nut	1
42	Motor switch	1	84	Pull-rod	1

# SMG-80-ISE BEVELING MACHINE

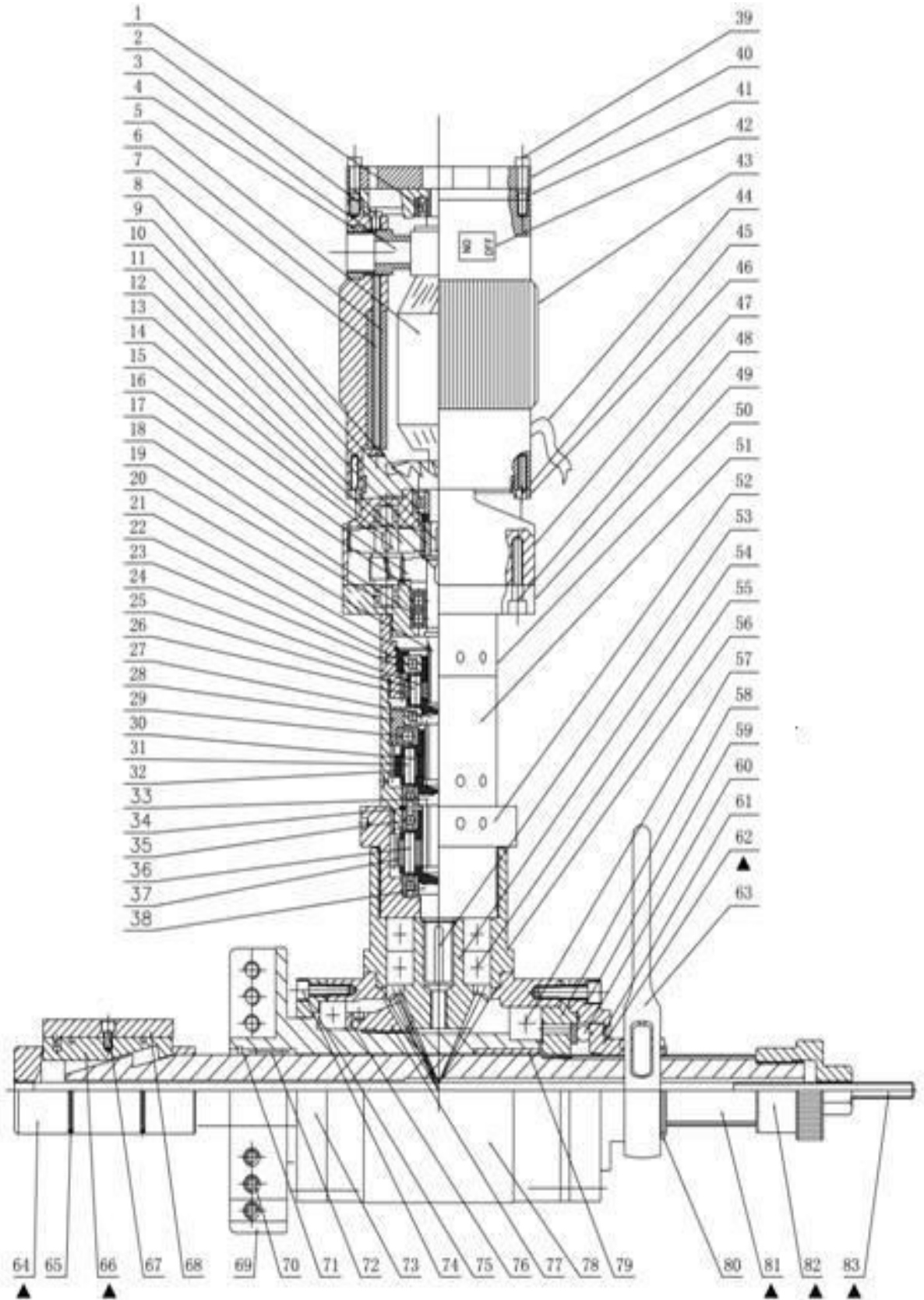




No.	Description	Qty	No.	Description	Qty
1	Deep groove ball bearing 628	1	44	Cable	1
2	Carbon brush crew	2	45	Screw	4
3	Carbon brush	2	46	Motor gasket	1
4	Carbon brush holder	2	47	Reducer	1
5	Motor rotor	1	48	Screw	3
6	Motor stator	1	49	Bearing pedestal	1
7	Screw	2	50	First level gearing	1
8	Deep groove ball bearing	1	51	Second level gearing	1
9	Deep groove ball bearing	1	52	Third level gearing	1
10	Flat key	1	53	Hook-headed key	1
11	Output helical gear	1	54	Driving bevel gear	1
12	Flat key	1	55	Deep groove ball bearing	2
13	Input helical gear	1	56	Housing	1
14	Flat key	1	57	Spline shaft housing	1
15	Circlips	1	58	Upper cover	1
16	Input helical gear	1	59	Plane bearing	1
17	Output helical tooth shaft	1	60	Screw	4
18	Deep groove ball bearing	2	61	Spring washer	1
19	Deep groove ball bearing	4	62	Screw	4
20	Output shaft	1	63	Tool feed nut bush	1
21	Circlips	1	64	Sleeve	1
22	Deep groove ball bearing	2	65	Wedge block	3
23	First level bushing	1	66	Screw	3
24	Needle roller	26	67	Spring	2
25	Pin	2	68	Expanding block	3
26	First level planet gear	2	69	Circlips	1
27	First level planet carrier	1	70	Washer	1
28	Second level bushing	1	71	Screw	4
29	Deep groove ball bearing	1	72	Cutter and cutter spindle	1
30	Needle roller	26	73	Needle bearing	1
31	Pin	2	74	Lower cover	1
32	Second level planet gear	2	75	Screw	4
33	Second level planet carrier	1	76	Bearing	2
34	Circlips	1	77	Spline shaft washer	1
35	Deep groove ball bearing	3	78	Bevel gear	1
36	Pin	3	79	Copper bush	1
37	Third level planet gear	3	80	Bearing bushing	1
38	Third level planet carrier	1	81	Screw	4
39	Screw	4	82	Tool feed hand shank	4

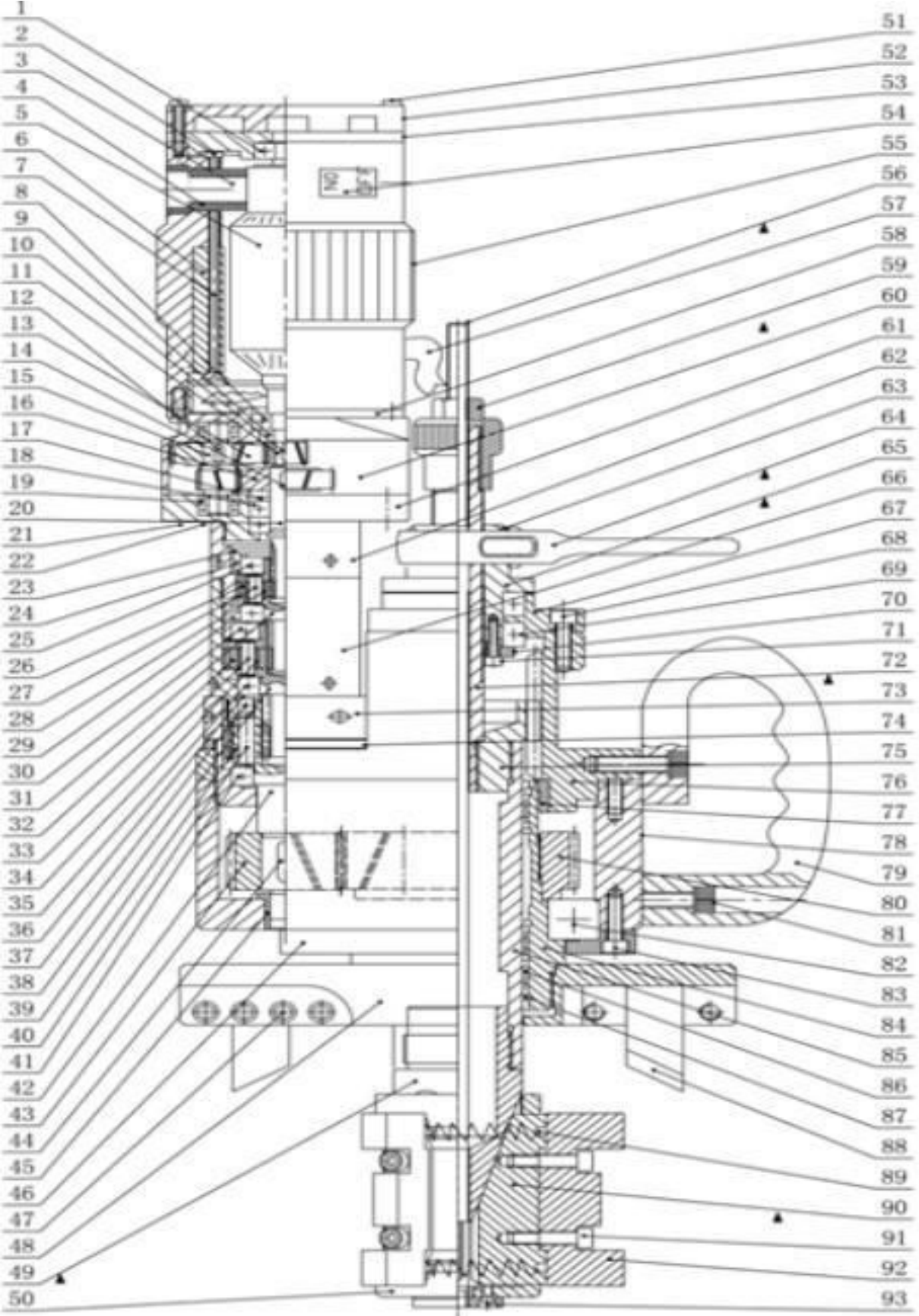
40	Ventilation cover	1	83	Tool feed handwheel	1
41	Motor cover	1	84	Spline shaft	1
42	Motor switch	1	85	Expansion nut	1
43	Motor housing	1	86	Pull-rod	1

# SMG-120-ISE BEVELING MACHINE



No.	Description	Qty	No.	Description	Qty
1	Deep groove ball bearing 628	1	42	Motor switch	1
2	Carbon brush screw	2	43	Motor housing	1
3	Carbon brush	2	44	Cable	1
4	Carbon brush holder	2	45	Screw	4
5	Motor rotor	1	46	Motor gasket	1
6	Motor stator	1	47	Reducer	1
7	Screw	2	48	Screw	3
8	Deep groove ball bearing	1	49	Bearing pedestal	1
9	Deep groove ball bearing	1	50	First level gearing	1
10	Flat key	1	51	Second level gearing	1
11	Output helical gear	1	52	Third level gearing	1
12	Flat key	1	53	Hook-headed key	1
13	Input helical gear	1	54	Driving bevel gear	1
14	Flat key	1	55	Deep groove ball bearing	2
15	Input helical tooth shaft	1	56	Housing	1
16	Circlips	1	57	Deep groove ball bearing	1
17	Output helical tooth shaft	1	58	Spline shaft housing	1
18	Deep groove ball bearing	2	59	Screw	4
19	Deep groove ball bearing	4	60	Plane bearing	1
20	First level bushing	1	61	Upper cover	1
21	Circlips	1	62	Tool feedback ratchet wheel	1
22	Deep groove ball bearing	2	63	Tool feedback ratchet spanner	1
23	First level bushing	1	64	Sleeve	1
24	Needle roller	26	65	Spring	2
25	Pin	2	66	Wedge block	3
26	First level planet gear	2	67	Screw	3
27	First level planet carrier	1	68	Expanding block	3
28	Second level bushing	1	69	Cutter and cutter spindle	1
29	Deep groove ball bearing	1	70	Screw	6
30	Needle roller	26	71	Circlips	1
31	Pin	2	72	Needle bearing	1
32	Second level planet gear	2	73	Lower cover	1
33	Second level planet gear	1	74	Screw	4
34	Circlips	1	75	Deep groove ball bearing	1
35	Deep groove ball bearing	3	76	Washer	1
36	Pin	3	77	Bevel gear	1
37	Third level planet gear	3	78	Housing	1
38	Third level planet carrier	1	79	Copper bush	1
39	Screw	4	80	Circlips	1
40	Ventilation cover	1	81	Spline shaft	1
41	Motor cover	1	82	Expansion nut	1
			83	Pull-rod	1

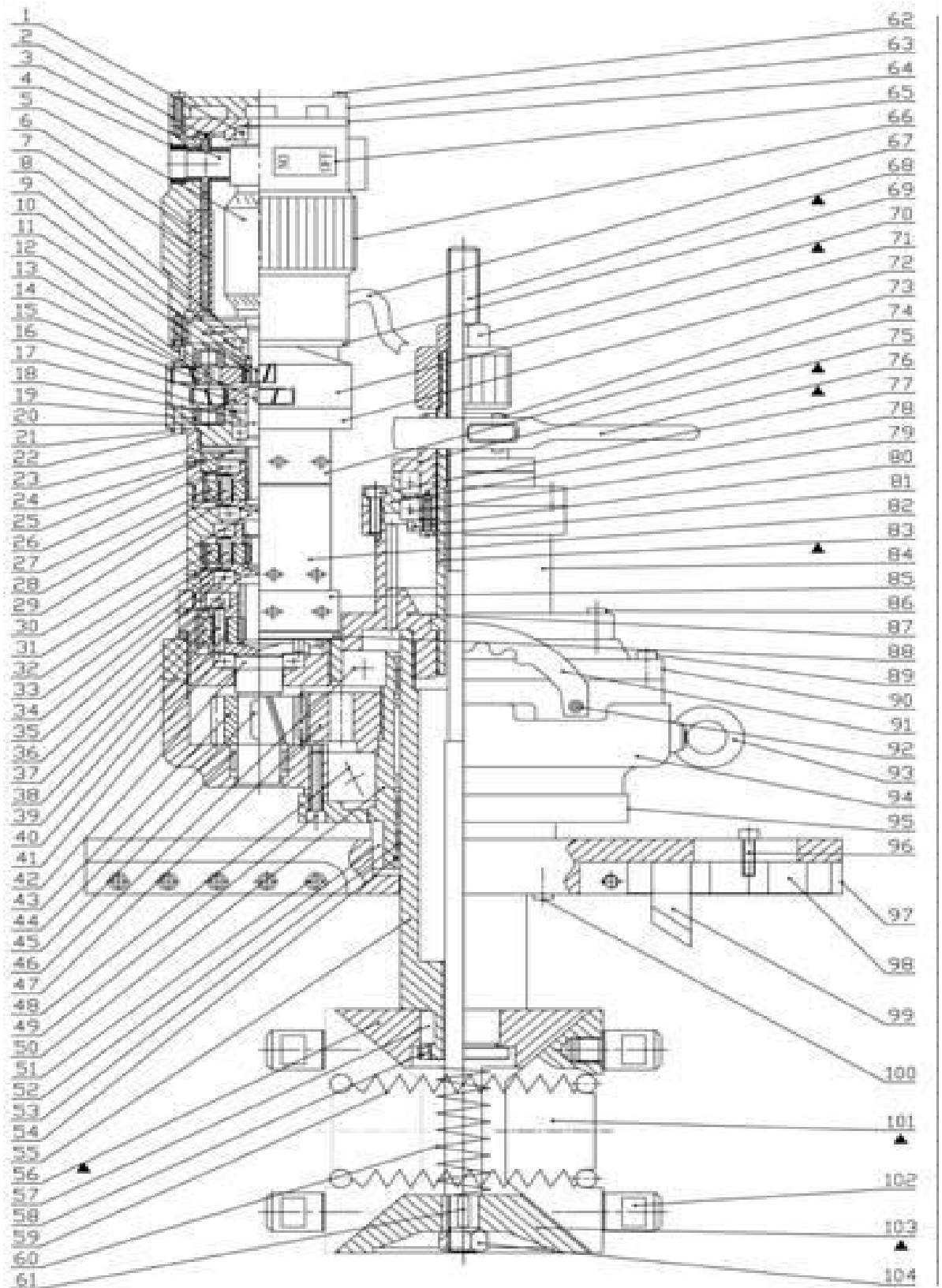
# SMG-159-ISE BEVELING MACHINE



No	Description	Qty	No.	Description	Qty
1	Deep groove ball bearing 628	1	48	Cutter	1
2	Carbon brush screw	2	49	Wedge block pedestal	1
3	Carbon brush	2	50	Sleeve	1
4	Carbon brush holder	2	51	Screw	4
5	Motor rotor	1	52	Ventilation cover	1
6	Motor stator	1	53	Motor cover	1
7	Screw	2	54	Motor switch	1
8	Motor gasket	1	55	Motor housing	1
9	Deep groove ball bearing	1	56	Pull-rod	1
10	Deep groove ball bearing 629	1	57	Cable	1
11	Flat key	1	58	Expansion nut	1
12	Output helical gear	1	59	Reducer	1
13	Input helical gear	1	60	Bearing pedestal	1
14	Screw	4	61	Screw	3
15	Deep groove ball bearing	1	62	First level gear ring	1
16	Flat key	1	63	Circlips	1
17	Output helical tooth shaft	1	64	Tool feedback ratchet wheel	1
18	Input helical gear	1	65	Tool feedback ratchet spanner	1
19	Flat key	1	66	Second gear ring	1
20	Circlips	1	67	Ratchet wheel bearing pedestal	1
21	Deep groove ball bearing	2	68	Screw	3
22	First level bushing	1	69	Plane bearing	2
23	Circlips	1	70	Ratchet wheel cover	1
24	First level bushing	1	71	Screw	3
25	Deep groove ball bearing	2	72	Threaded sleeve	1
26	First level planet gear	2	73	Third level gear ring	1
27	Pin	2	74	Washer	1
28	Needle roller	26	75	Lifting gear	1
29	Second level bushing	1	76	Machine frame	1
30	Deep groove ball bearing	1	77	Copper bush	1
31	First level planet carrier	1	78	Housing	1
32	Second level planet gear	2	79	Lifting handle	1
33	Pin	2	80	Gear wheel	1
34	Needle roller	26	81	Screw	2
35	Deep groove ball bearing	1	82	Deep groove ball bearing	1
36	Circlips	1	83	Screw	4
37	Deep groove ball bearing	1	84	Spindles bushing	1
38	Second level planet carrier	1	85	Splindles	1
39	Third level planet carrier	3	86	Needle bearing	3
40	Pin	3	87	Circlips	4
41	Deep groove ball bearing	1	88	Tool bit	1
42	Third level planet carrier	1	89	Screw	3
43	Driving gear	1	90	Wedge block	3

44	Flat key	2	91	Screw	6
45	Copper bush	1	92	Expanding block	6
46	Lower housing	1	93	Screw	3
47	screw	8			

## SMG-252-630-1-ISE BEVELING MACHINE

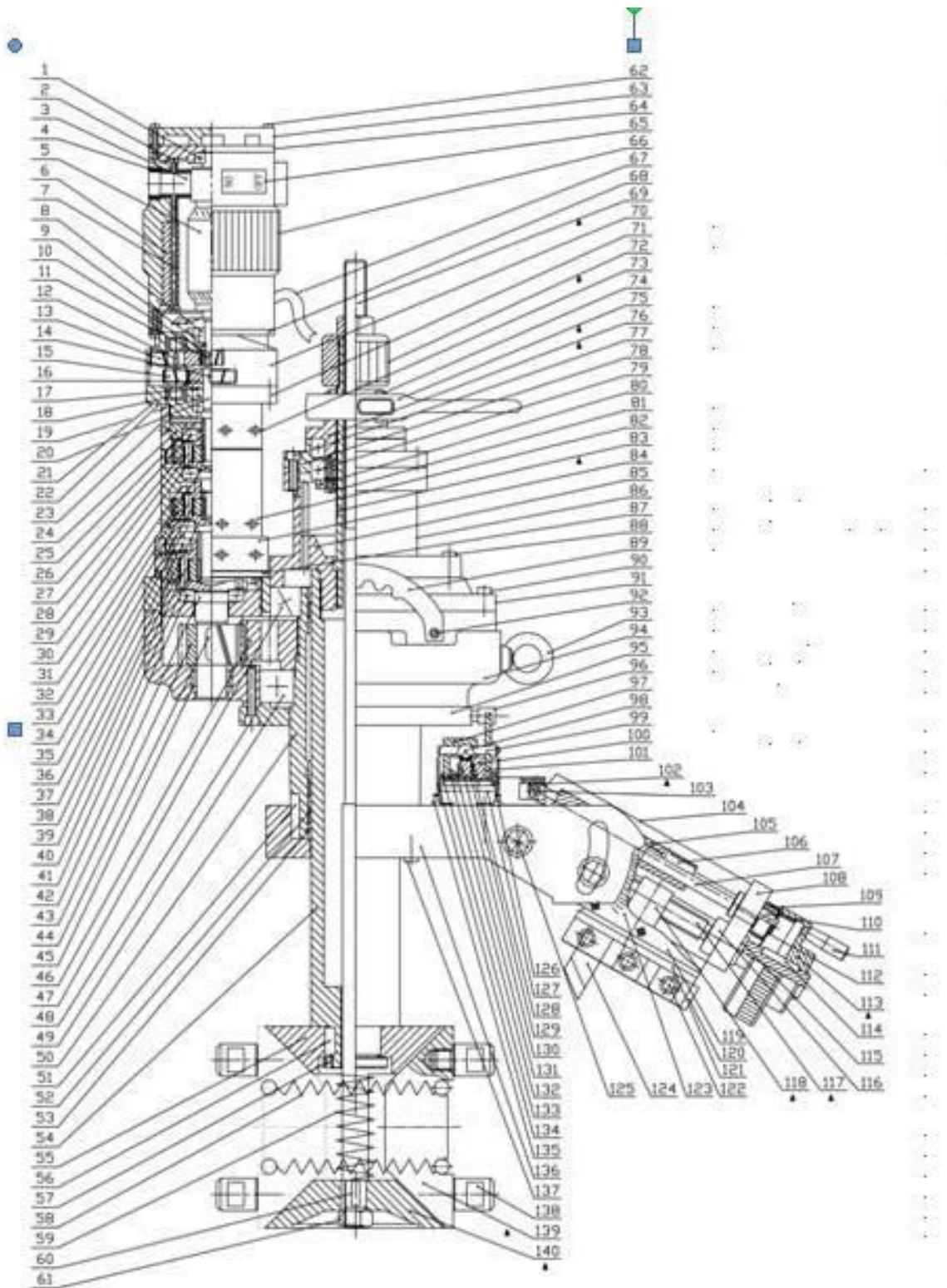


No	Description	Qty	No.	Description	Qty	No	Description	Qty
1	Deep groove ball	1	36	Second level	1	71	Bear pedestal	1
2	Carbon brush screw	2	37	Bearing	1	72	Screw	4
3	Carbon brush	2	38	Third level planet	3	73	Circlips	1
4	Carbon brush holder	2	39	Pin	3	74	First level gear ring	1
5	Motor rotor	1	40	Needle roller	39/	75	Tool feedback ratchet	1
6	Stator	1	41	Bearing	1	76	Tool feedback ratchet	1
7	Screw	2	42	Third level planet	1	77	Screw	3/6
8	Motor gasket	1	43	Driving gear	1	78	Ratchet wheel	1
9	Deep groove ball	1	44	Flat key	4	79	Plane bearing	2
10	Deep groove ball	1	45	Needle bearing	1	80	Ratchet wheel cover	1
11	Flat key	1	46	Deep groove ball	1	81	Screw	3/6
12	Output helical gear	1	47	Gear wheel	1	82	Second level gear	1
13	Screw	4	48	Thrust bearing	1	83	Threaded sleeve	1
14	Deep groove ball	4	49	Screw	6	84	Machine frame	1
15	Flat key	1	50	Spindles bushing	1	85	Third level gear ring	1
16	Input helical gear	1	51	Screw	10/	86	Screw	4/5
17	Output helical tooth	1	52	Flat key	1	87	Lifting gear	1
18	Input helical gear	1	53	Needle bearing	2/3	88	Washer	1
19	Flat key	1	54	Circlips	4	89	Screw	6/8
20	Circlips	1	55	Splindles	1	90	Upper housing cover	1
21	Deep groove ball	2	56	Upper expansion	1	91	Lifting handle	2
22	Output shaft	1	57	Flat key	1	92	Screw	4
23	Circlips	1	58	Check nut	1	93	Lifting ting	1
24	First level bushing	1	59	Spring	1	94	Housing	1
25	Circlips	1	60	Spring	2	95	Lower housing cover	1
26	Deep groove ball	2	61	Flat key	2	96	Screw	2
27	First level planet gear	2	62	Screw	1	97	Cutter	1
28	Pin	2	63	Ventilation cover	1	98	Tool holder	2
29	Needle roller	26	64	Motor cover	1	99	Tool bit	2
30	First level planet	1	65	Motor switch	1	100	Screw	4



31	Second level planet	2/3	66	Motor housing	1	10 1	Wedge block	3
32	Pin	2/3	67	Cable	1	10 2	Expanding block	6
33	Needle roller	26/ 7	68	Pull-rod	1	10 3	Lower expansion	1
34	Second level bushing	1	69	Expansion nut	1	10 4	Nut	1
35	Deep groove ball	2	70	Reducer	1			

## SMG-252-630-2-ISE BEVELING MACHINE



No	Description	Qty	No.	Description	Qt	No.	Description	Qty
1	Deep groove ball	1	48	Screw	6	95	Lower housing	1
2	Carbon brush screw	2	49	Thrust bearing	1	96	Bushing	1
3	Carbon brush	2	50	Spindles bushing	1	97	Feed unit	1
4	Carbon brush holder	2	51	Flat key	1	98	Rack	1
5	Motor rotor	1	52	Needle bearing	2/3	99	Spring gib	1
6	Motor stator	1	53	Circlips	4	100	Feed unit cover	1
7	Screw	2	54	Spindles	1	101	Feed convex block	1
8	Motor gasket	1	55	Upper expansion plate	1	102	Connect block	1
9	Deep groove ball	1	56	Flat key	1	103	Pin	2
10	Deep groove ball	1	57	Check nut	1	104	In-feed cover	1
11	Deep groove ball be	1	58	Spring	2	105	Connecting shaft	1
12	Output helical gear	4	59	Spring	1	106	Hook-headed key	1
13	Screw	4	60	Flat key	2	107	Connecting shaft	1
14	Deep groove ball	1	61	Nut	1	108	In-feed binder plate	1
15	Flat key	1	62	Screw	4	109	Tool feed gear	1
16	Input helical gear	1	63	Ventilation cover	1	110	Flat key	1
17	Output helical tooth	1	64	Motor cover	1	111	Tool feed gear ring	1
18	Input helical gear	1	65	Motor switch	1	112	Circlips	1
19	Flat key	1	66	Motor housing	1	113	Tool feed gear ring	1
20	Circlips	1	67	Cable	1	114	Circlips	1
21	Deep groove ball	2	68	Pull-rod	1	115	Flat key	1
22	Output shaft	1	69	Reducer	1	116	Lead screw washer	1
23	Circlips	1	70	Bearing pedestal	1	117	Lead screw	1
24	First level bushing	1	71	Screw	4	118	Feed nut	1
25	Circlips	1	72	Expansion nut	1	119	Carrier	1
26	Deep groove ball	2	73	First level gear ring	1	120	Screw	5
27	First level planet gear	2	74	Circlips	1	121	Tool holder	1
28	Pin	2	75	Tool feedback ratchet	1	122	Screw	3
29	Needle roller	26	76	Tool feed ratchet wheel	1	123	Tool holder carrier	1
30	Deep groove ball	2	77	Screw	3/6	124	Tool bit	1
31	First level planet	1	78	Ratchet wheel bearing	1	125	Screw	4
32	Second level planet	2/3	79	Plane bearing	2	126	Universal joint	1
33	Pin	2/3	80	Ratchet wheel cover	1	127	Universal joint	1
34	Needle roller	26/7	81	Screw	3/6	128	Gear washer	2
35	Second level bushing	1	82	Second level gear ring	1	129	Ratchet wheel	1
36	Deep groove ball	1	83	Threaded sleeve	1	130	Gear	1
37	Second level planet	1	84	Third level gear ring	1	131	Circlips	1
38	Third level planet	3	85	Lifting gear	1	132	Copper bush	1

39	Pin	3	86	Machine frame	1	133	Circlips	1
40	Needle roller	39/7	87	Washer	1	134	Spring	2
41	Deep groove ball	1	88	Screw	4/5	135	Screw	2
42	Third level planet	1	89	Lifting handle	2	136	In-feed carrier	1
43	Driving gear	1	90	Screw	6/8	137	Screw	4
44	Flat key	2	91	Upper housing cover	1	138	Expanding block	6
45	Needle roller bearing	1	92	Screw	4	139	Wedge block	3
46	Gear wheel	1	93	Lifting ring	1	140	Lower expansion	1
47	Deep groove ball	1	94	Housing	1			