

Thanks for choosing Fe Powertools



Before using machine please make sure read the manual completely

FE PBM

ID-Mounted Pipe Beveling Machine

Operation manual



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PART 1 EQUIPMENT INTRODUCTION

FE PBM

ID-Mounted Pipe Beveling Machine

With the advent of the era of industrial 4.0, the degree of automation is higher and higher
In our field, the application of automatic welding is more and more widely.

The beveling for automatic welding required: OD Beveling, Facing and Internal beveling

FEATURES:



1. Cutter can hold 3 tool bits process in one time
Automatic welding require the OD Beveling, facing and internal beveling
Only 3 side processing finish in one time can guarantee the precision of beveling
The cutter can install 3 pcs tool bits, meet the demands.



2. New expanding structure
New designed expanding structure makes the fix more stable
And low failure rate



3. New-design main shaft fixation
There will be smaller gap of the machine.
Performs beveling more smooth, less vibration

FAST SETUP

- Set up and operate from storage case to pipe within 1 minutes
- Expanding nut makes the installation quickly
- One adjustment, universal three-leg chunk centering the machine in pipe I.D. automatically
- Install or adjust tool bits in seconds
- Can be installed any direction: horizontal, vertical or slant

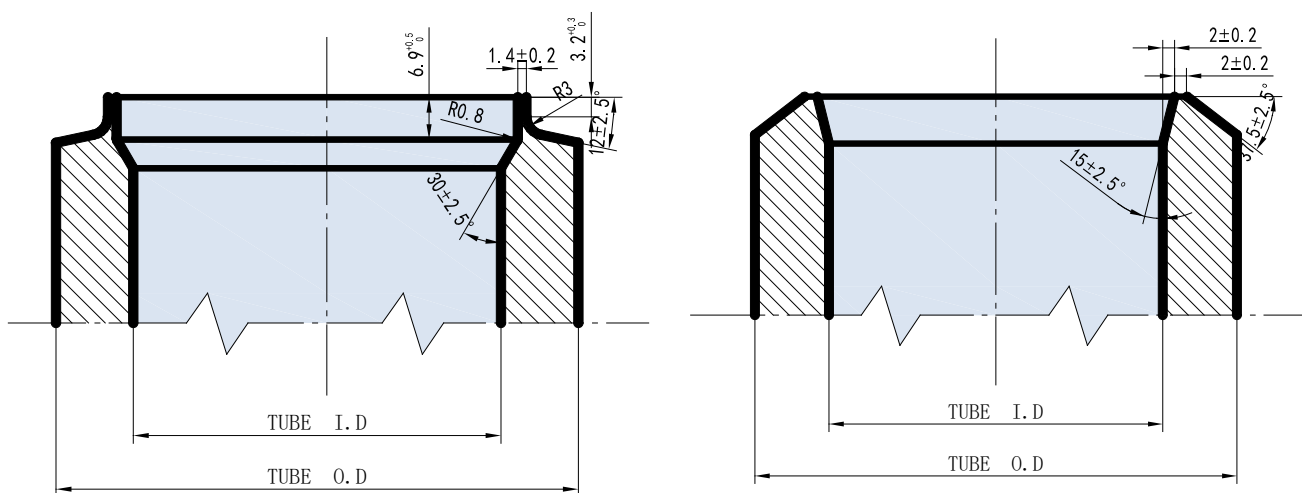
EASY OPERATION

- The design of miniaturization is suitable for the homework place of low-clearance
- Ratchet wheel design makes tool feed easy, absorbs torque, reduces operator fatigue and increases safety
- In-feed structure with scale for precise measurement

TYPICAL FUNCTION DESIGN

- Adopts aluminum housing, light weight
- The equipment can machining V and U welding seam
- High strength mandrel and large-area expanding block mostly improve the rigidity
- Two/three bevel tools can be installed on cutter, pipe can be worked synchronously

TYPICAL Buttwelding seam



PACKAGE

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

PART 2 SAFTY 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 injuring the operator and the machines

INSPECT MACHINE & ACCESSORIES

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

ALWAYS READ SIGNS AND LABLES

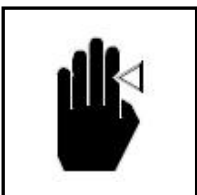
Please read the marks and signs. All the marks and signs should be clear and easy to read, and you should carefully to keep them.



DANGER! ELECTRIC SHOCK

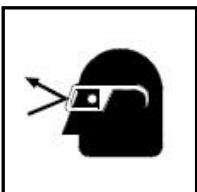
Always disconnect machine to power source before moving or removing motor

Security of the electricity.



CAUTION INJURE HAND

Keep hands, arms and fingers clear of all moving parts



WEAR SAFETY GOGGLE

Eye protection required. When using equipment,
Please wear safety goggle. No goggle no work

PART 3 MACHINE SPECIFICATIONS

Driven option: Air, Electric

Air requirement: 900-1500L Per minute @ 0.6/0.7Mpa

Electric requirement: 220-240V 1PH 50/60HZ

FE PBM

Model	FE PBM 25 Air		FE PBM 25
Driven	Pneumatic		Bosch Motor
Power Supply	900L/Min@0.6Mpa		220-240V 1PH 50/60HZ
Motor Power	1 HP		850W
Clamping Range(ID)	16-25mm		16-25mm
Working Range(OD)	1"(33.4mm)		1"(33.4mm)
Wall Thickness	≤8mm		≤8mm
Rotation Speed	66r/min		48r/min
Working Weight	7kg		8kg
Shipping Weight	14kg		16kg
Packing Size	540*410*170mm		540*410*170mm
Tool Number	2		2

FE PBM

Model	FE PBM 76 Air		FE PBM 76
Driven	Pneumatic		Bosch Motor
Power Supply	900L/Min@0.6Mpa		220-240V 1PH 50/60HZ
Motor Power	1 HP		850W
Clamping Range(ID)	25-76mm		25-76mm
Working Range(OD)	3"(88.9mm)		3"(88.9mm)
Wall Thickness	≤15mm		≤15mm
Rotation Speed	66r/min		48r/min
Working Weight	8.5kg		9kg
Shipping Weight	15kg		16kg
Packing Size	540*410*170mm		540*410*170mm
Tool Number	3		3

FE PBM

Model	FE PBM 159 Air		FE PBM 159
Driven	Pneumatic		Bosch Motor
Power Supply	900L/Min@0.6Mpa		220-240V 1PH 50/60HZ
Motor Power	1 HP		1000W
Clamping Range(ID)	60-159mm		60-159mm
Working Range(OD)	6"(168.28mm)		6"(168.28mm)
Wall Thickness	≤20mm		≤20mm
Rotation Speed	61r/min		38r/min
Working Weight	16kg		17kg
Shipping Weight	29kg		31kg
Packing Size	560*550*250mm		560*550*250mm
Tool Number	3		3

FE PBM

Model	FE PBM 210 Air	FE PBM 210
Driven	Pneumatic	Electric
Power Supply	1200L/Min@0.6Mpa	220-240V 1PH 50/60HZ
Motor Power	1.5 HP	1200W
Clamping Range(ID)	65-210mm	65-210mm
Working Range(OD)	8"(219.08mm)	8"(219.08mm)
Wall Thickness	≤20mm	≤20mm
Rotation Speed	50r/min	24r/min
Working Weight	26kg	28kg
Shipping Weight	41kg	44kg
Packing Size	650*280*250mm	650*280*250mm
Tool Number	3	3

FE PBM

Model	FE PBM 340 Air	FE PBM 340
Driven	Pneumatic	Electric
Power Supply	1200L/Min@0.6Mpa	220-240V 1PH 50/60HZ
Motor Power	1.5 HP	1500W
Clamping Range(ID)	145-340mm	145-340mm
Working Range(OD)	14"(355.6mm)	14"(355.6mm)
Wall Thickness	≤20mm	≤20mm
Rotation Speed	18r/min	20r/min
Working Weight	46kg	48kg
Shipping Weight	68kg	70kg
Packing Size	800*430*410mm	830*430*410mm
Tool Number	2 or 3	2 or 3

PART 4 INSTALLATION AND OPERATION

SECTION 1

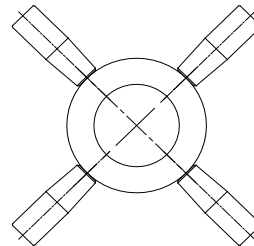
TOOL FEED / BACK INSTRUCTION

A. tool feed / back hand wheel

See right figure

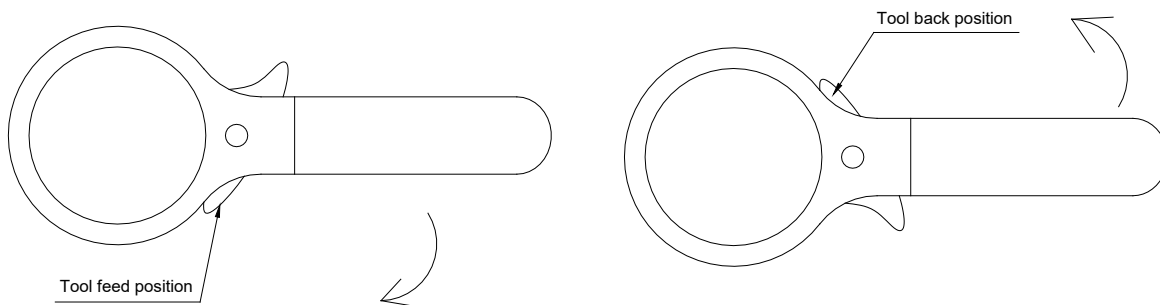
Tool Feed: rotate clockwise

Tool Back: rotate anticlockwise



B. adopt tool feed/back ratchet spanner

See below figure



Tool Feed: Press pawl clockwise, pull spanner clockwise

Tool Back: Press pawl anticlockwise, pull spanner anticlockwise

OPERATION PROCEDURE

1. Measure the ID of the pipe, and then choose the proper expanding block according to the diagram of expanding block, see the figure on the expanding block, choose the proper one, fixed them on the wedge block, and tighten them.

2. Install the proper tool bit on the cutter. Make sure the tool bit in **clockwise**.

Caution: The tool bit can not touch the spindles; otherwise may damage the machine

3. Back the travel of tool bit by tool feed hand wheel (tool feed/back ratchet spanner). Insert the expandable mandrel into the pipe, fasten the expansion nut **lightly**, shake the machine (in order to centering, and make the expanding block properly contact the ID pipe), the machine will be centering, and then fasten the expansion nut **tightly**, make sure the equipment and the pipe are integrated.

Caution: The expandable mandrel should not be inserted too deep, it's better to keep a 2-3mm

distance between tool bit and pipe end high point.

4. Turn on the motor then turn off, turn on then turn off, let the cutter rotate 1 circle, in order to confirm the machine and tool bit installed correctly, turn on the motor, rotate the tool feed hand wheel (tool feed/back ratchet spanner) manually, the machine start working

Explanation:

Turn on the motor then turn off: Tool bit feed required from the high point of pipe end (rough end), this operation is to avoid tool bit not feed from pipe end high point. If the tool bit not feed from high point, will damage the tool bit and machine, also may cause danger.

Caution:

4.1 Tool feed evenly, not fast, not slow.

4.2 Continue spray coolant (saponification oil) while working, make the beveling smoothly and prolong the tool bit life

4.3 If the tool bit becomes blunt, edge it or replace with a new one

4.4 While working, take care of electric, avoid scrap-iron goes into motor.

5. After beveling completed, back the travel of tool bit by tool feed hand wheel (tool feed/back ratchet spanner) **firstly**, then turn off the motor, loosen the expansion nut, and take off the machine.

Caution: If not back the travel of tool firstly, the feed wheel may damage, result in expansion nut and feed wheel stuck, the machine can not work any more. Please repeat the above, if the machine is for continuous working, in order to make sure the machine normal operation.

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

Caution: When loosen the expansion nut, and take the machine out or adjust the location of machine, do not make it slip into the pipe, damage the tool blade

NOTES FOR PNEUMATIC SERISE

1. Compressed air required: Dehydration and filtrated air

Required air treatment: air **filter**, **regulator** and atomized **lubricator** (FRL system)

Air filter makes the compressed air dry and clean, avoid make air motor part rust and be jammed.

Atomized lubricator makes the air motor parts lubricating

If you do not have FRL system, required add lubricating oil (engine oil and kerosene 1:1) at air in-inlet every time before and after use, and clean the motor parts regularly

Caution: This is a remedy, indeed requires the air filter and atomized lubricator maintain air motor

2. While working, if the tool feed speed too fast or low air pressure makes the cutter stop rotating, turn off the air valve, back the tool immediately, then can re-start working.

PART 5 IMPORTANT NOTES

1. The carbon brush was adjusted before dispatch, they can feed automatically. Please do not adjust it once again;

Note: After 100 working hours, check the wear condition. Replace the carbon brush in time. If the carbon brush wear out, please turn off the machine immediately, otherwise the motor will be damaged. We suggest: when carbon brush wear 2/3, pay attention to replace the carbon brush, avoid that due to the carbon brush wear out, make the motor damage.

2. If the tool bit blunt, bevel resistance increased, result in spline shaft, motor and reducer parts will be damaged. Please edge it or replace with a new one.

If you can edge the tool bit, one tool bit can be used times

If the tool bit blunt and tool feed too much, may cause the motor stop, please turn off the power immediately, otherwise the motor, machine will be damaged.

The way to check the tool bit blunt or not:

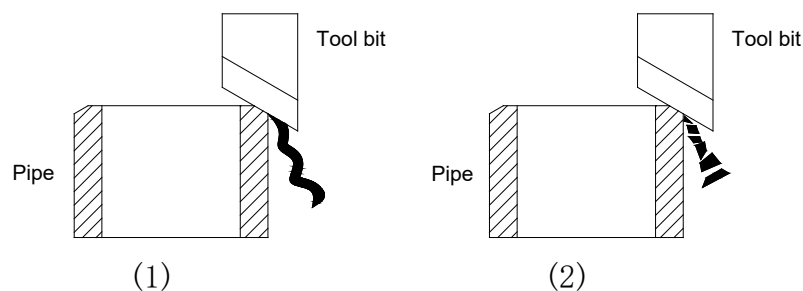


Figure 1: tool bit is sharp, scrap-iron is strip

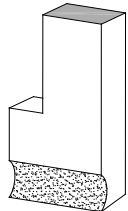
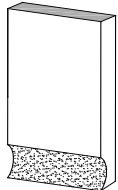
Figure 2: tool bit is blunt, scrap-iron is fragment

3. Continue spray coolant (saponification oil) while working, make the beveling smoothly and prolong the tool bit life
4. Before beveling, please remove the rough edge and other incidentals after flame cutting with hammer. If the pipe end surface is full of bumps and holes, the tool bit feed from the high point, and feed the tool bit carefully.
5. When work with small size tube, please use a bench clamp or other tool fix the tube
6. adopt tool feed/back ratchet spanner, it is convenient for operator, but must control the feed speed. If feed too much, may damage machine.
7. Motor may stop caused by tool bit blunt or tool feed too much, cut-off the power supply immediately, otherwise will damage the motor or make electric motor burnt.
8. Operator must read this manual completely before operation, the damage caused by wrong operation out of warranty scope.

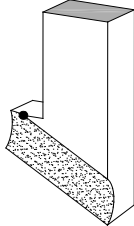
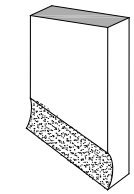
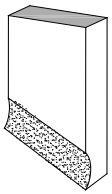
PART 6 DIAGRAM OF BEVELING TOOL BIT

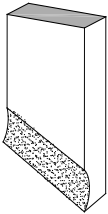
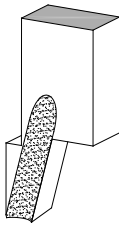
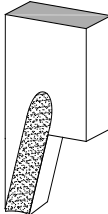
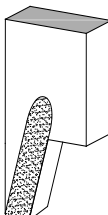
M42 Tooling Chart

Facing tools

Description	Part Number	Application	Sketch
Facing tool Material:AISI M42 Width:22mm Thk:6mm Step type	42F-0622S		
Facing tool Material:AISI M42 Width:22mm Thk:8mm Step type	42F-0822S		
Facing tool Material:AISI M42 Width:22mm Thk:8mm	42F-0822		
Facing tool Material:AISI M42 Width:25mm Thk:10mm	42F-1025		

Beveling tools

Description	Part Number	Application	Sketch
Beveling Tool Material:AISI M42 Width:22mm Thk:6mm Step type	42B-0622S-30°		
	42B-0622S-37.5°		
	42B-0622S-a		
Beveling Tool Material:AISI M42 Width:22mm Thk:8mm Step type	42B-0822S-30°		
	42B-0822S-37.5°		
	42B-0822S-a		
Beveling Tool Material:AISI M42 Width:22mm Thk:8mm	42B-0822-30°		
	42B-0822-37.5°		
	42B-0822-a		

Beveling tools			
Description	Part Number	Application	Sketch
Beveling Tool Material:AISIM42 Width:25mm Thk:10mm	42B-1025-30°		
	42B-1025-37.5°		
	42B-1025-a		
Inner Beveling tools			
Description	Part Number	Application	Sketch
Inner Beveling tool Material:AISI M42 Width:22mm Thk:8mm Step type	42IB-0822S-12°	a is beveling angle required	
	42IB-0822S-15°		
	42IB-0822S-a		
Inner Beveling tool Material:AISI M42 Width:22mm Thk:8mm	42IB-0822-12°	a is beveling angle required	
	42IB-0822-15°		
	42IB-0822-a		
Inner Beveling tool Material:AISI M42 Width:25mm Thk:10mm	42IB-1025-12°	a is beveling angle required	
	42IB-1025-15°		
	42IB-1025-a		

* Consult with us for special application

Note:

For inconel, duplex, please consult with us.

PART 7 DIAGRAM OF THE EXPANDING BLOCK

Expanding block (extension legs)

Model	FE PBM 25	FE PBM 76	FE PBM 159	FE PBM 210		FE PBM 340
No Block	15-17	25-29.5	60-70	65-75	Plus pad 145-155	145-185
1	17-19	29.5-34	70-80	75-85	Plus pad 155-165	185-225
2	19-21	34-38.5	80-90	85-95	Plus pad 165-175	225-265
3	21-23	38.5-43	90-100	95-105	Plus pad 175-185	265-305
4	23-25	43-47.5	100-110	105-115	Plus pad 185-195	305-345
5		47.5-52	110-120	115-125	Plus pad 195-205	
6		52-56.5	120-130	125-135	Plus pad 205-215	
7		56.5-61	130-140	135-145		
8		61-65.5	140-150			
9		65.5-70	150-160			
10		70-74.5	150-160			
11		74.5-79				

PART 8 TROUBLE SHOOTING

Trouble	Possible reason	Remedy
Machine does not work	The cable is not connect well ; Air motor drive may have a entry problem	Check the cable and the air entry device to see if it is well installed
Machine wave when working	The expansion structure is not fastened or the expanding block wrongly choose; Long time working, the screw loose	Check the expansion screw or change a proper expanding block Check the screw on the cutter
Working face not good	The bevel tool bit is blunt or damaged	Edge the tool bit or replace with new tool bits
Air Motor weak	The motor vane(blade) wear	Replace with new motor vane
Air Motor does not work	Dirt jam; Parts rust	Clean the air motor and adopt the air treatment (filter / regulator / lubricator) for compressed air
Electric motor burnt	scrap-iron or water goes into; unsteady power voltage; Tool bit blunt, result in high load;	Replace with new motor rotor or stator; Replace complete motor

Note:

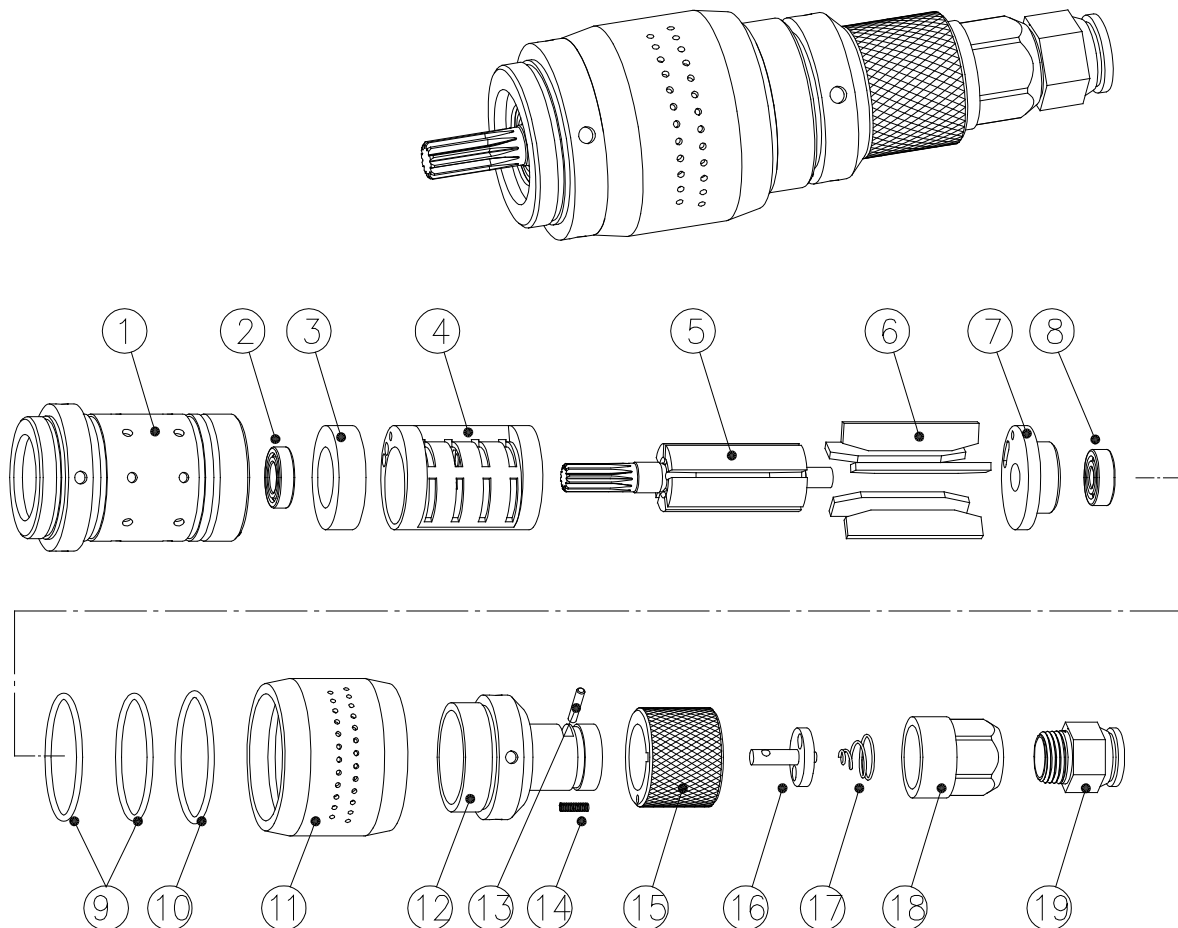
If a problem not listed in the chart, stop operation and contact us for additional instructions

PART 9 EXPLODED VIEWS AND PARTS LIST

Important Note:

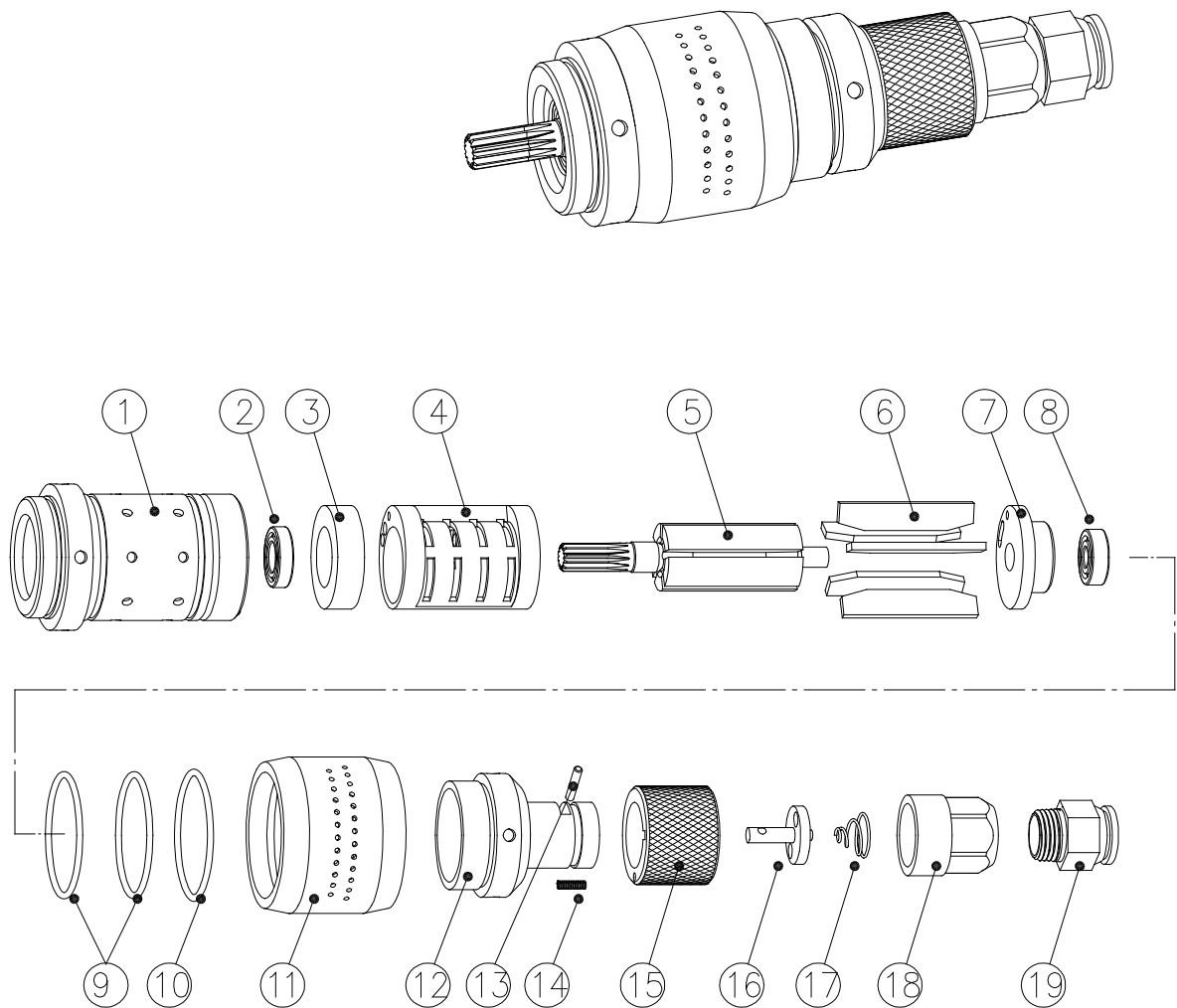
When need the replace part, please advise machine Model No. & Part No.

Air Motor Assembly



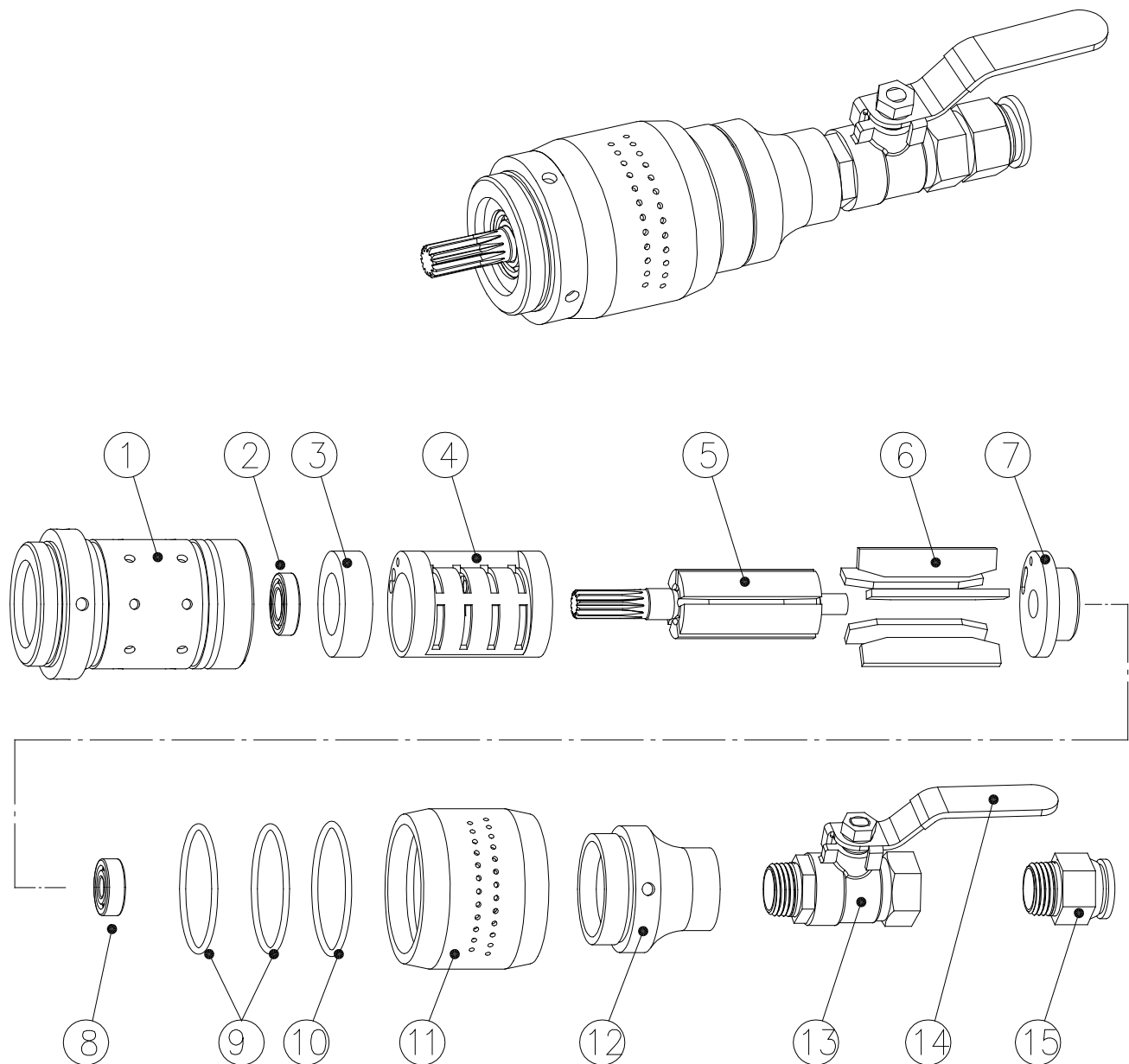
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	AM6001	Housing	1	11	AM6011	Exhaust cover	1
2	AM6002	Deep groove ball bearing	1	12	AM6012	Motor rear cover	1
3	AM6003	Rotor front cover	1	13	AM6013	Pin	1
4	AM6004	Eccentric stator	1	14	AM6014	Cylinder spring	1
5	AM6005	Motor rotor	1	15	AM6015	Rotation Switch	1
6	AM6006	Blade	5	16	AM6016	Valve element	1
7	AM6007	Rotor rear cover	1	17	AM6017	Taper spring	1
8	AM6008	Deep groove ball bearing	1	18	AM6018	Nut	1
9	AM6009	O ring	2	19	AM6019	Quick coupling	1
10	AM6010	O ring	1				

Air Motor Assembly



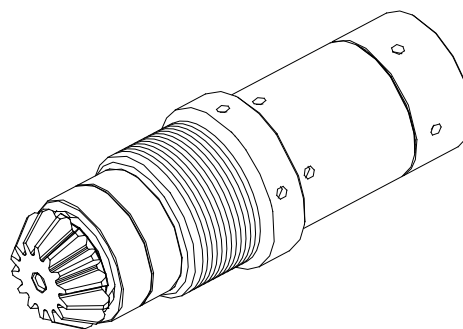
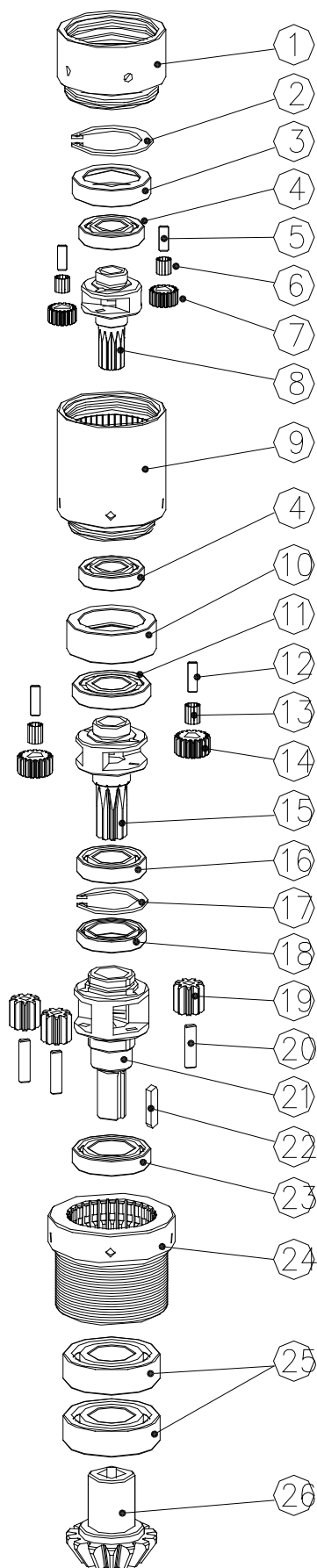
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	AM8001	Housing	1	11	AM8011	Exhaust cover	1
2	AM8002	Deep groove ball bearing	1	12	AM8012	Motor rear cover	1
3	AM8003	Rotor front cover	1	13	AM8013	Pin	1
4	AM8004	Eccentric stator	1	14	AM8014	Cylinder spring	1
5	AM8005	Motor rotor	1	15	AM8015	Rotation Switch	1
6	AM8006	Blade	5	16	AM8016	Valve element	1
7	AM8007	Rotor rear cover	1	17	AM8017	Taper spring	1
8	AM8008	Deep groove ball bearing	1	18	AM8018	Nut	1
9	AM8009	O ring	2	19	AM8019	Quick coupling	1
10	AM8010	O ring	1				

FE PBM 340P Air Motor Assembly



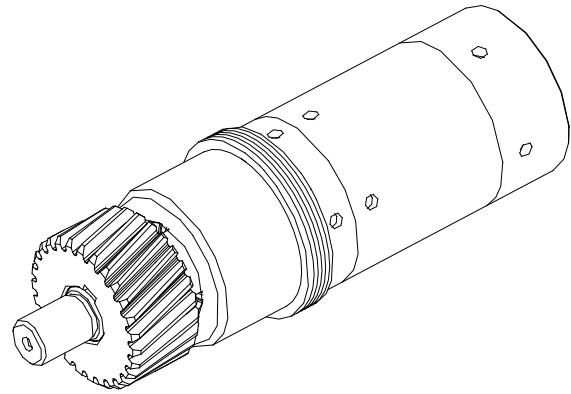
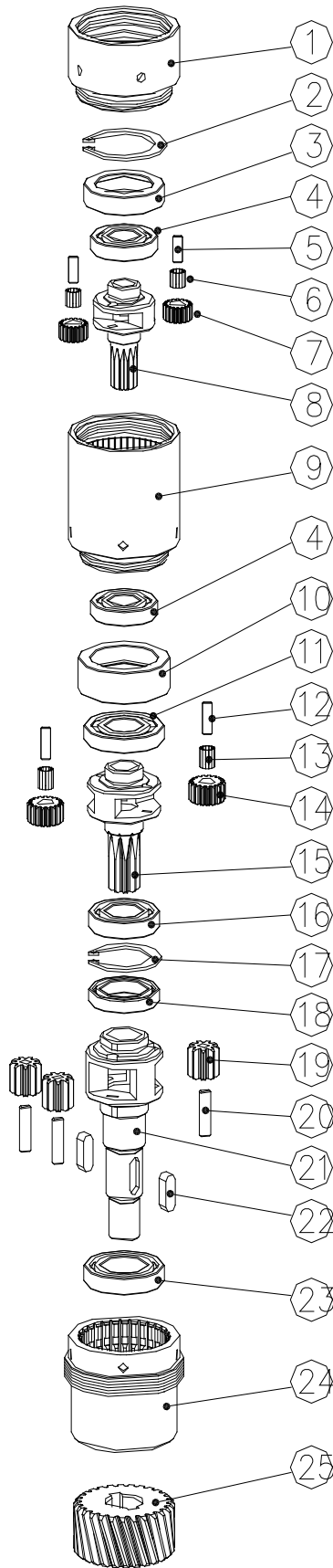
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	AM14001	Housing	1	9	AM14009	O ring	2
2	AM14002	Deep groove ball bearing	1	10	AM14010	O ring	1
3	AM14003	Rotor front cover	1	11	AM14011	Exhaust cover	1
4	AM14004	Eccentric stator	1	12	AM14012	Motor rear cover	1
5	AM14005	Motor rotor	1	13	AM14013	Ball Valve	1
6	AM14006	Blade	5	14	AM14014	Switch handle	1
7	AM14007	Rotor rear cover	1	15	AM14015	Quick coupling	1
8	AM14008	Deep groove ball bearing	1				

FE PBM 25,76,159 Reducer Assembly



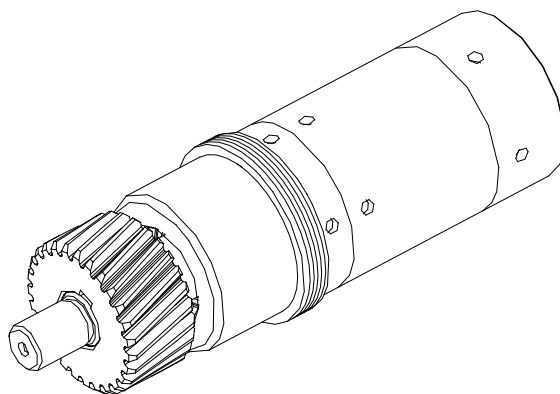
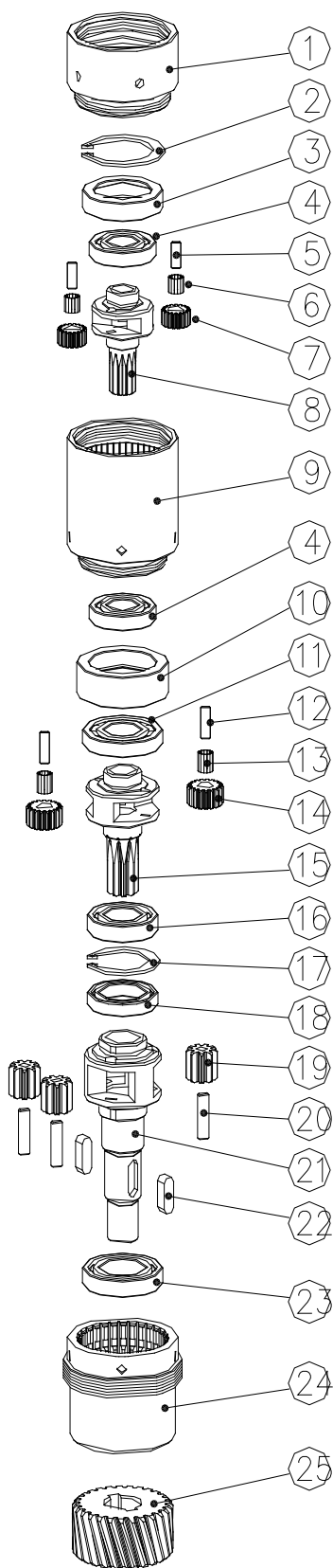
No.	Part No.	Description	Qty
1	R6001	First stage gear ring	1
2	R6002	Internal circlip	1
3	R6003	First stage bushing	1
4	R6004	Deep groove ball bearing	2
5	R6005	Cylindrical pin	2
6	R6006	Roller pin	24
7	R6007	Primary planet gear	2
8	R6008	First stage planet carrier	1
9	R6009	Secondary gear ring	1
10	R6010	The secondary bushing	1
11	R6011	Deep groove ball bearing	1
12	R6012	Cylindrical pin	2
13	R6013	Roller pin	24
14	R6014	The secondary planetary gear	2
15	R6015	The secondary planet carrier	1
16	R6016	Deep groove ball bearing	1
17	R6017	Internal circlip	1
18	R6018	Deep groove ball bearing	1
19	R6019	Three stage planetary gear	3
20	R6020	Cylindrical pin	3
21	R6021	Third stage planet carrier	1
22	R6022	Flat key	1
23	R6023	Deep groove ball bearing	1
24	R6024	Third stage gear ring	1
25	R6025	Deep groove ball bearing	2
26	R6026	Bevel pinion	1

FE PBM 210 Reducer Assembly



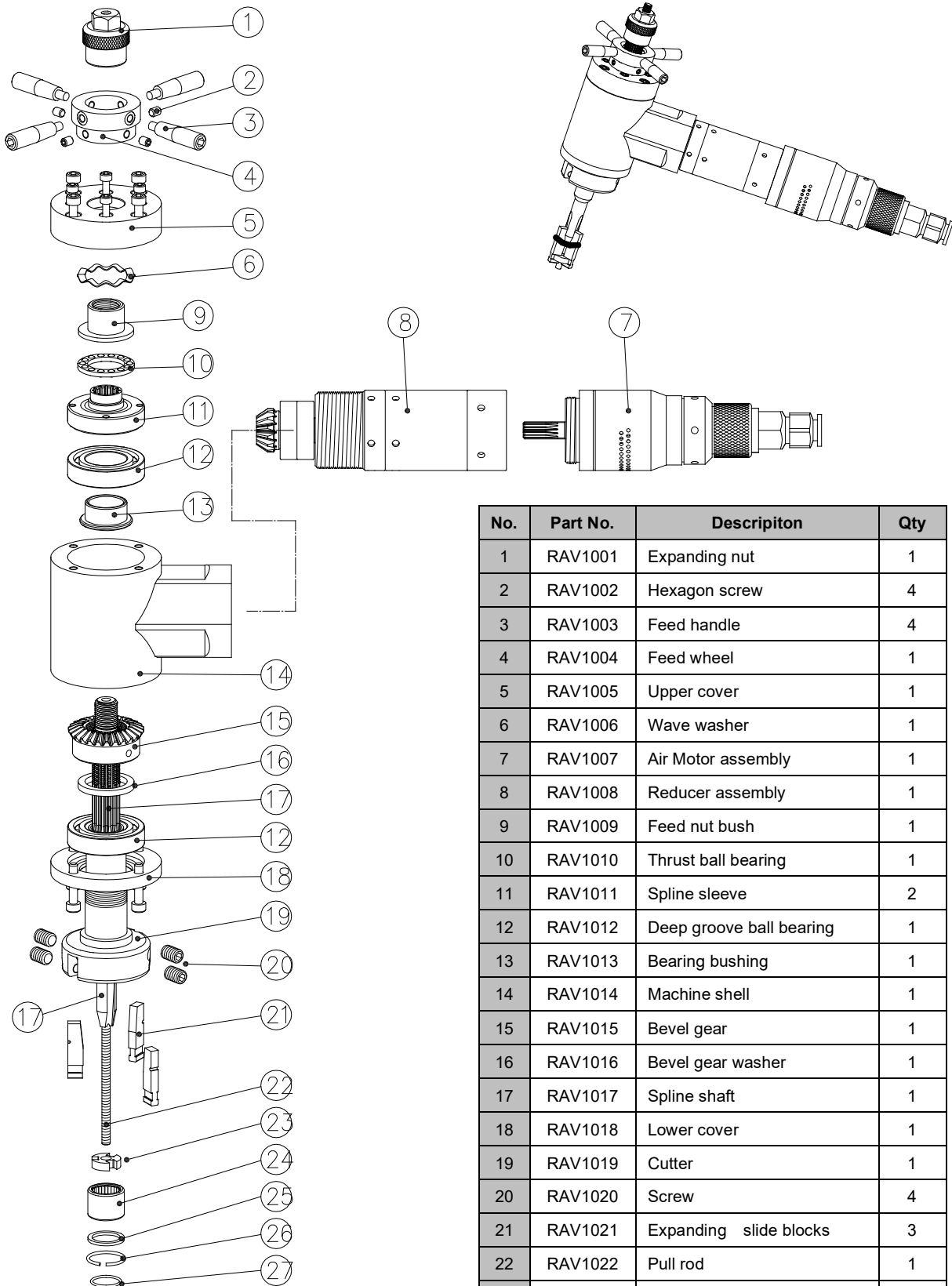
No.	Part No.	Description	Qty
1	R8001	First stage gear ring	1
2	R8002	Internal circlip	1
3	R8003	First stage bushing	1
4	R8004	Deep groove ball bearing	2
5	R8005	Cylindrical pin	2
6	R8006	Roller pin	24
7	R8007	First stage planet gear	2
8	R8008	First stage planet carrier	1
9	R8009	Secondary gear ring	1
10	R8010	Secondary bushing	1
11	R8011	Deep groove ball bearing	1
12	R8012	Cylindrical pin	2
13	R8013	Roller pin	24
14	R8014	Secondary planetary gear	2
15	R8015	Secondary planet carrier	1
16	R8016	Deep groove ball bearing	1
17	R8017	Internal circlip	1
18	R8018	Deep groove ball bearing	1
19	R8019	Third stage planetary gear	3
20	R8020	Cylindrical pin	3
21	R8021	Third stage planet carrier	1
22	R8022	Flat key	2
23	R8023	Deep groove ball bearing	1
24	R8024	Third stage gear ring	1
25	R8025	Bevel pinion	1

FE PBM 340 Reducer Assembly



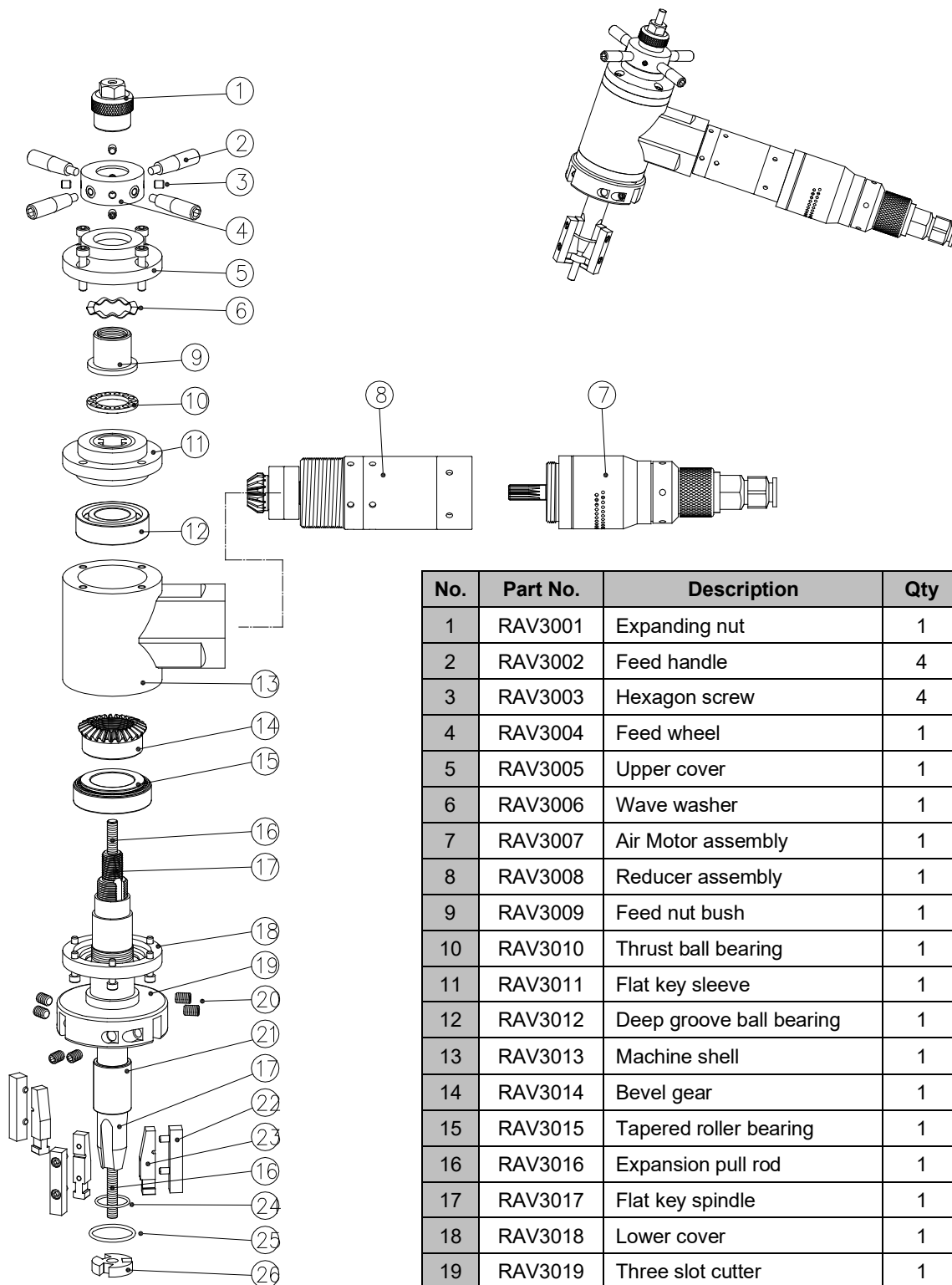
No.	Part No.	Description	Qty
1	R14001	First stage gear ring	1
2	R14002	Internal circlip	1
3	R14003	First stage bushing	1
4	R14004	Deep groove ball bearing	2
5	R14005	Cylindrical pin	2
6	R14006	Roller pin	24
7	R14007	First stage planet gear	2
8	R14008	First stage planet carrier	1
9	R14009	Secondary gear ring	1
10	R14010	Secondary bushing	1
11	R14011	Deep groove ball bearing	1
12	R14012	Cylindrical pin	2
13	R14013	Roller pin	24
14	R14014	Secondary planetary gear	2
15	R14015	Secondary planet carrier	1
16	R14016	Deep groove ball bearing	1
17	R14017	Internal circlip	1
18	R14018	Deep groove ball bearing	1
19	R14019	Third stage planetary gear	3
20	R14020	Cylindrical pin	3
21	R14021	Third stage planet carrier	1
22	R14022	Flat key	2
23	R14023	Deep groove ball bearing	1
24	R14024	Third stage gear ring	1
25	R14025	Bevel pinion	1

FE PBM 25 Beveling Machine



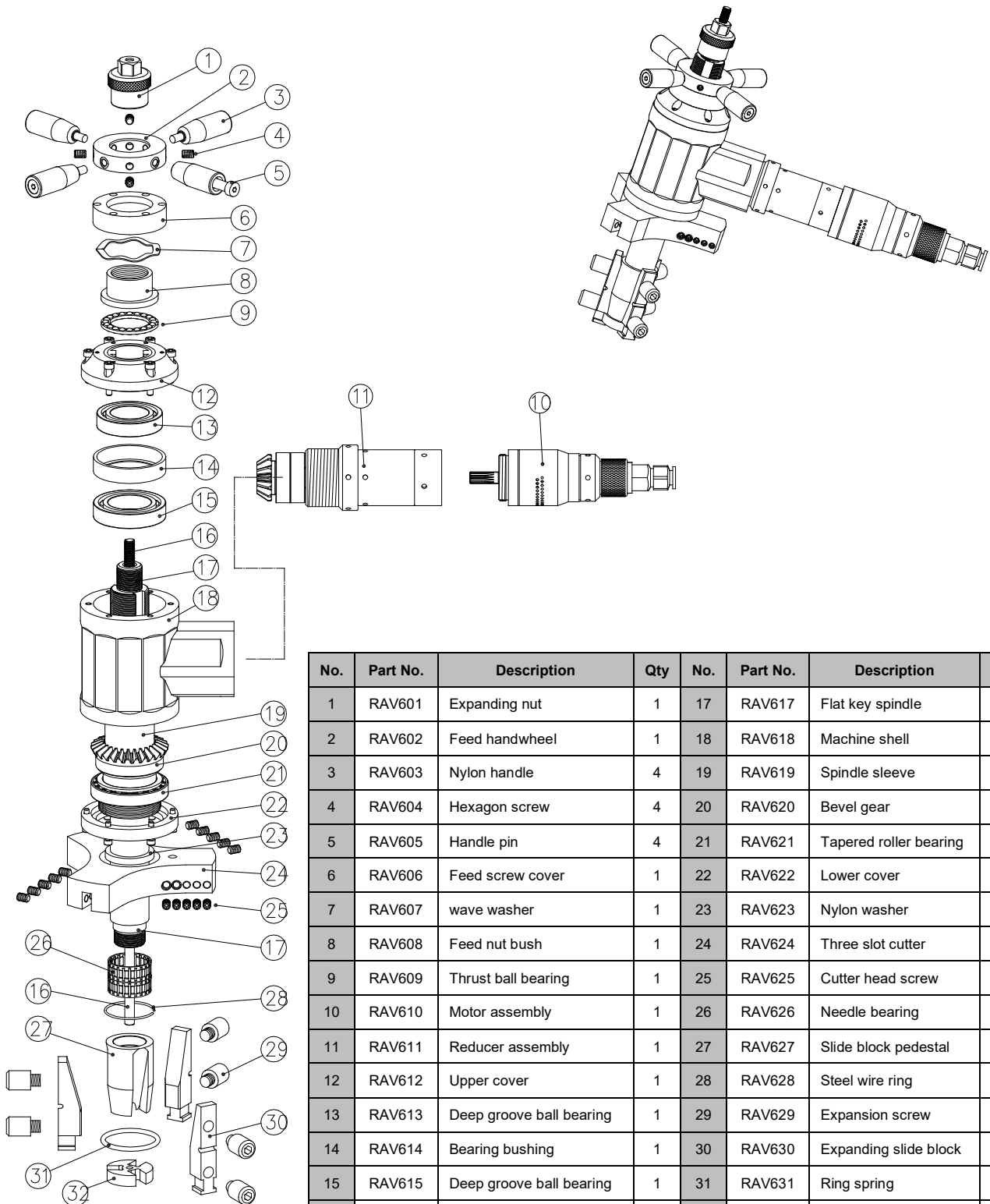
No.	Part No.	Descripton	Qty
1	RAV1001	Expanding nut	1
2	RAV1002	Hexagon screw	4
3	RAV1003	Feed handle	4
4	RAV1004	Feed wheel	1
5	RAV1005	Upper cover	1
6	RAV1006	Wave washer	1
7	RAV1007	Air Motor assembly	1
8	RAV1008	Reducer assembly	1
9	RAV1009	Feed nut bush	1
10	RAV1010	Thrust ball bearing	1
11	RAV1011	Spline sleeve	2
12	RAV1012	Deep groove ball bearing	1
13	RAV1013	Bearing bushing	1
14	RAV1014	Machine shell	1
15	RAV1015	Bevel gear	1
16	RAV1016	Bevel gear washer	1
17	RAV1017	Spline shaft	1
18	RAV1018	Lower cover	1
19	RAV1019	Cutter	1
20	RAV1020	Screw	4
21	RAV1021	Expanding slide blocks	3
22	RAV1022	Pull rod	1
23	RAV1023	Pull up plate	1
24	RAV1024	Needle bearing	1
25	RAV1025	Nylon washer	1
26	RAV1026	Steel ring	1
27	RAV1027	O ring	1

FE PBM 80 Beveling Machine



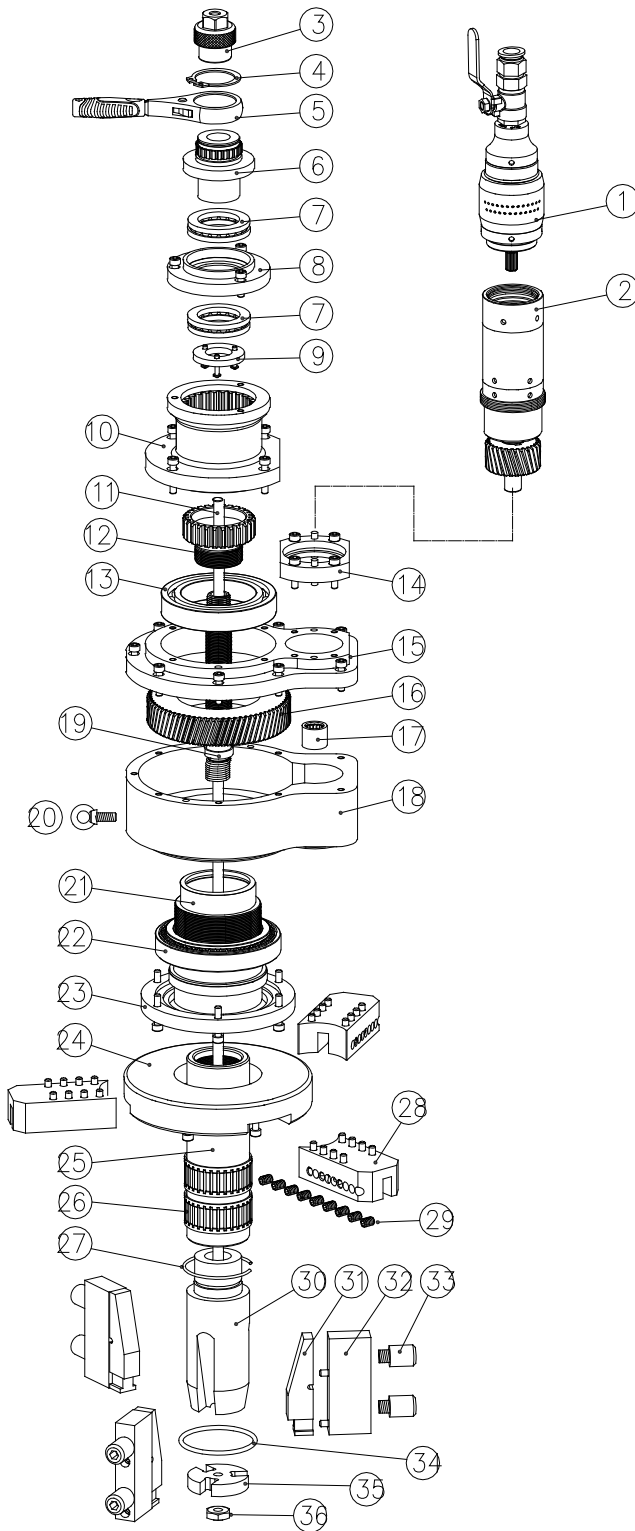
No.	Part No.	Description	Qty
1	RAV3001	Expanding nut	1
2	RAV3002	Feed handle	4
3	RAV3003	Hexagon screw	4
4	RAV3004	Feed wheel	1
5	RAV3005	Upper cover	1
6	RAV3006	Wave washer	1
7	RAV3007	Air Motor assembly	1
8	RAV3008	Reducer assembly	1
9	RAV3009	Feed nut bush	1
10	RAV3010	Thrust ball bearing	1
11	RAV3011	Flat key sleeve	1
12	RAV3012	Deep groove ball bearing	1
13	RAV3013	Machine shell	1
14	RAV3014	Bevel gear	1
15	RAV3015	Tapered roller bearing	1
16	RAV3016	Expansion pull rod	1
17	RAV3017	Flat key spindle	1
18	RAV3018	Lower cover	1
19	RAV3019	Three slot cutter	1
20	RAV3020	Cutter head screw	6
21	RAV3021	Graphite copper sleeve	1
22	RAV3022	Expansion block assembly	3
23	RAV3023	Expanding slide blocks	3
24	RAV3024	O type sealing ring	1
25	RAV3025	Ring spring	1
26	RAV3026	Pull up plate	1

FE PBM 159 Beveling Machine



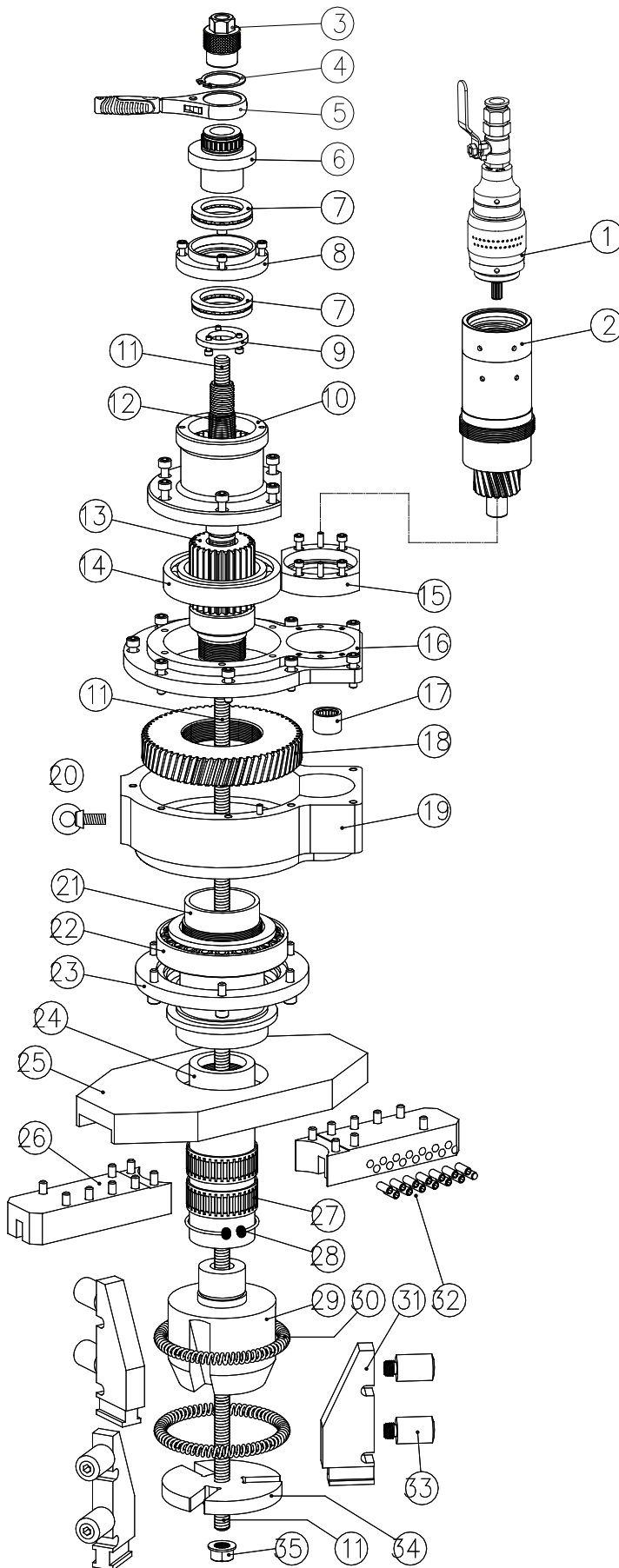
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	RAV601	Expanding nut	1	17	RAV617	Flat key spindle	1
2	RAV602	Feed handwheel	1	18	RAV618	Machine shell	1
3	RAV603	Nylon handle	4	19	RAV619	Spindle sleeve	1
4	RAV604	Hexagon screw	4	20	RAV620	Bevel gear	1
5	RAV605	Handle pin	4	21	RAV621	Tapered roller bearing	1
6	RAV606	Feed screw cover	1	22	RAV622	Lower cover	1
7	RAV607	wave washer	1	23	RAV623	Nylon washer	1
8	RAV608	Feed nut bush	1	24	RAV624	Three slot cutter	1
9	RAV609	Thrust ball bearing	1	25	RAV625	Cutter head screw	15
10	RAV610	Motor assembly	1	26	RAV626	Needle bearing	2
11	RAV611	Reducer assembly	1	27	RAV627	Slide block pedestal	1
12	RAV612	Upper cover	1	28	RAV628	Steel wire ring	1
13	RAV613	Deep groove ball bearing	1	29	RAV629	Expansion screw	6
14	RAV614	Bearing bushing	1	30	RAV630	Expanding slide block	3
15	RAV615	Deep groove ball bearing	1	31	RAV631	Ring spring	1
16	RAV616	Expansion pull rod	1	32	RAV632	Pull up plate	1

FE PBM 210 Beveling Machine



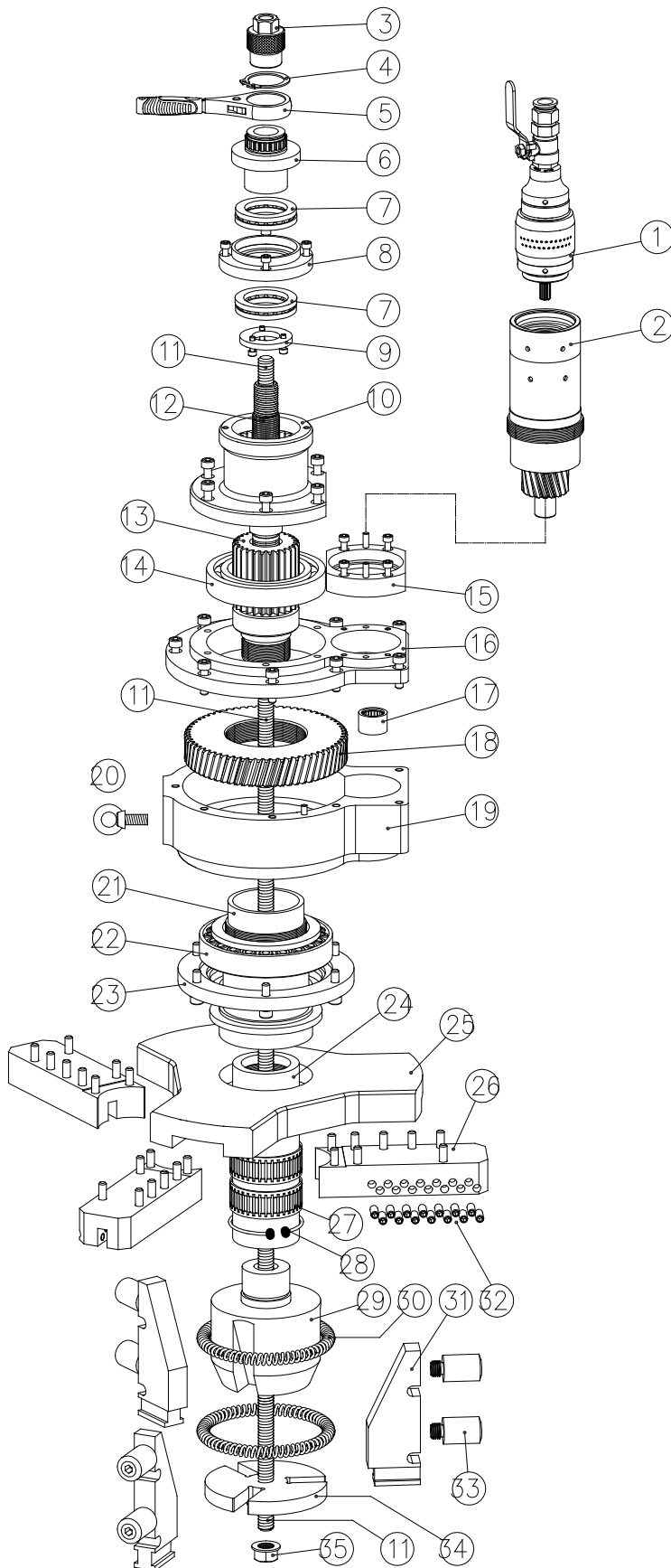
No.	Part No.	Description	Qty
1	S08001	Air Motor assembly	1
2	S08002	Reducer assembly	1
3	S08003	Expansion nut	1
4	S08004	Circlip	1
5	S08005	Ratchet handle	1
6	S08006	Ratchet feed screw sleeve	1
7	S08007	Thrust ball bearing	2
8	S08008	Thrust ball bearing seat	1
9	S08009	Thrust bearing gland	1
10	S08010	Lifting gear sleeve	1
11	S08011	Expansion pull rod	1
12	S08012	Lifting gear	1
13	S08013	Deep groove ball bearing	1
14	S08014	Reducer flange	1
15	S08015	Upper cover	1
16	S08016	Big helical gear	1
17	S08017	Needle bearing	1
18	S08018	Machine shell	1
19	S08019	Threaded sleeve	1
20	S08020	Rings	1
21	S08021	Spindle sleeve	1
22	S08022	Tapered roller bearing	1
23	S08023	Lower cover	1
24	S08024	Three slot cutter	1
25	S08025	Principal axis	1
26	S08026	Needle bearing	2
27	S08027	Steel ring	4
28	S08028	Tool holder	3
29	S08029	Tool fix screw	27
30	S08030	Slide block pedestal	1
31	S08031	Slide block	3
32	S08032	Extension block	3
33	S08033	Expanding screw	6
34	S08034	Ring spring	1
35	S08035	Pull up plate	1
36	S08036	Hexagon nut	1

FE PBM 340 Beveling Machine (2 Cutter)



No.	Part No.	Description	Qty
1	S14201	Air Motor assembly	1
2	S14202	Reducer assembly	1
3	S14203	Expansion nut	1
4	S14204	Circlip	1
5	S14205	Ratchet handle	1
6	S14206	Ratchet feed screw sleeve	1
7	S14207	Thrust ball bearing	2
8	S14208	Thrust ball bearing seat	1
9	S14209	Thrust bearing gland	1
10	S14210	Lifting gear sleeve	1
11	S14211	Expansion pull rod	1
12	S14212	Threaded sleeve	1
13	S14213	Lifting gear	1
14	S14214	Deep groove ball bearing	1
15	S14215	Reducer flange	1
16	S14216	Upper cover	1
17	S14217	Needle bearing	1
18	S14218	Big helical gear	1
19	S14219	Machine shell	1
20	S14220	Rings	1
21	S14221	Spindle sleeve	1
22	S14222	Tapered roller bearing	1
23	S14223	Lower cover	1
24	S14224	Principal axis	1
25	S14225	Cutter	1
26	S14226	Tool Holder	2
27	S14227	Needle bearing	3
28	S14228	Steel ring	1
29	S14229	Slide block pedestal	1
30	S14230	Ring spring	2
31	S14231	Slide block	3
32	S14232	Tool fix screw	28
33	S14233	Expanding screw	6
34	S14234	Pull up plate	1
35	S14235	Hexagon nut	1

FE PBM 340 Beveling Machine (3 Cutter)



No.	Part No.	Description	Qty
1	S14301	Motor assembly	1
2	S14302	Reducer assembly	1
3	S14303	Expansion nut	1
4	S14304	Circlip	1
5	S14305	Ratchet handle	1
6	S14306	Ratchet feed screw sleeve	1
7	S14307	Thrust ball bearing	2
8	S14308	Thrust ball bearing seat	1
9	S14309	Thrust bearing gland	1
10	S14310	Lifting gear sleeve	1
11	S14311	Expansion pull rod	1
12	S14312	Threaded sleeve	1
13	S14313	Lifting gear	1
14	S14314	Deep groove ball bearing	1
15	S14315	Reducer flange	1
16	S14316	Upper cover	1
17	S14317	Needle bearing	1
18	S14318	Big helical gear	1
19	S14319	Machine shell	1
20	S14320	Rings	1
21	S14321	Spindle sleeve	1
22	S14322	Tapered roller bearing	1
23	S14323	Lower cover	1
24	S14324	Principal axis	1
25	S14325	Cutter	1
26	S14326	Tool holder	3
27	S14327	Needle bearing	3
28	S14328	Steel ring	1
29	S14329	Slide block pedestal	1
30	S14330	Ring spring	2
31	S14331	Slide block	3
32	S14332	Tool fix screw	42
33	S14333	Expanding screw	6
34	S14334	Pull up plate	1
35	S14335	Hexagon nut	1

PART 10 ORDERING INFORMATION

ORDERING OR MORE INFORMATION

To place an order or get more detailed information:

Tel: +31-1720474727

Email: info@fepowertools.com

Web: www.fepowertools.com

ORDERING REPLACEMENT PARTS

Please refer to parts lists provided in manual. Advise us part number and description of replacement parts to help expedite order and ensure proper parts are being ordered.

Or take photo for replacement parts, send email to us.

REPAIR INFORMATION

Please call Fe Powertools BV Company prior to returning any equipment for repair. We will advise you of shipping and handling. Please enclose with machine to be repaired your name, address, phone number and a brief description of problem or work to be done or estimated.

All repair work done at our plant will be estimated and the customer advised of cost and time required to complete repair.

POSTAL ADDRESS

Fe Powertools BV

Jac.P.Thijssseweg 16, 2408 ER, Alphen aan den Rijn, The Netherlands

Tel: 31- 172 474727

Email: info@fepowertools.com

Web: www.fepowertools.com



FE Powertools BV, Jac.P.Thijssseweg 16, 2408 ER, Alphen aan den Rijn, The Netherlands

WARRANTY CARD

Company name			
Address			
Contact person		Phone number	
Model No.			
Series No.		Production date	
Warranty period	12 months (Electric motor 6 months)		
 Inspector: Company seal:			

Warranty Rules:

1. **Warranty period start from the date shipped on board, 12 month free warranty.**
2. **Over warranty period, spare parts charge at cost price.**
3. **Within warranty period, the following conditions are not included in guarantee:**
 - a) **Improper operations not following the operation manual**
 - b) **Damage by self-maintain**
 - c) **Damage by force majeure or transport**
 - d) **Can not present this certificate**

