WARCO

OPERATOR'S MANUAL

Variable Speed Horizontal/Vertical Milling Machine

Warren Machine Tools Ltd

Warco House, Fisher Lane, Chiddingfold,Surrey GU84TD
Tel: 01428 682929 Fax: 01428 685870
E-mail: warco@warco.co.uk
Web: www.warco.co.uk

CONTENT

⚠ WARNING

1. Read and understand the entire instruction manual before operating machine.

2. Always wear approved safety glasses/face shields while using this machine.

3. Make certain the machine is properly grounded.

4. Before operating the machine ,remove tie,rings,watches,other jew -elry,and roll up sleeves above the elbows. Remove all loose clothing and confine long hair.DO NOT wear gloves.

5. Keep the floor around the machine clean and free of scrap material, oil and grease.

6. keep machine guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately.

7. Do NOT over reach. Maintain a balanced stance at all time so that you do not fall or lean against blades or other moving parts.

8. Make all machine adjustments or maintenance with the machine un-

plugged from the power soure.

9. Use the right tool. Don t force a tool or attachment to do a job which it was not designed for.

10. Make certain the motor n switch is in the OFF position before con-necting the machine to the power supply.

11. Keep visitors a safe distance from the work area.

12. Never attempt any operation or adjustment if the procedure is not understood.

13.Keep fingers away from revolving parts and cutting tools while in operation.

14. Do not attempt to adjust or remove tools during operation.

15. Always keep cutters sharp.

16. Keep away from the turning handwheel, especially high speed.

17. Must pour the machine oil into the Gear Box and the power Feed ri (optional)rightly.

18. Failure to comply with all of these warnings may cause serious injury.

1. Attention

1.1 Inspection And Acceptance

Please check carefully when open the packge and make sure no parts are missing.

1.2 Safety

Please read the operation manual cafefully defore the installation and adjustment of the machine. when finish the installation, check all the details and trial run the machine idlly before put it into operation.

1.3 Caution

Keep in mind the safety measures for electrical and operating protection.

2. Work Environment

2.1 The elevation of workshop has to be 2000m or less.

2.2 No conductive dust allowed .

2.3 No explosive factor allowed .

2.4 No corrosive gas or steam which may corrode metal or

damage the insulaton .

2.5 Keep away from the source of impact or vibration .

3 Operation Instruction

3.1.1 Befroe starting the machine, read carefally the operation manual and be fully acquainted with all the details .

3.1.2 The oprater should be familiar with all the rules and points of attention of running and maintaining the machine .

3.1.3 Remove all the anti-rust coating or grease from the machine.

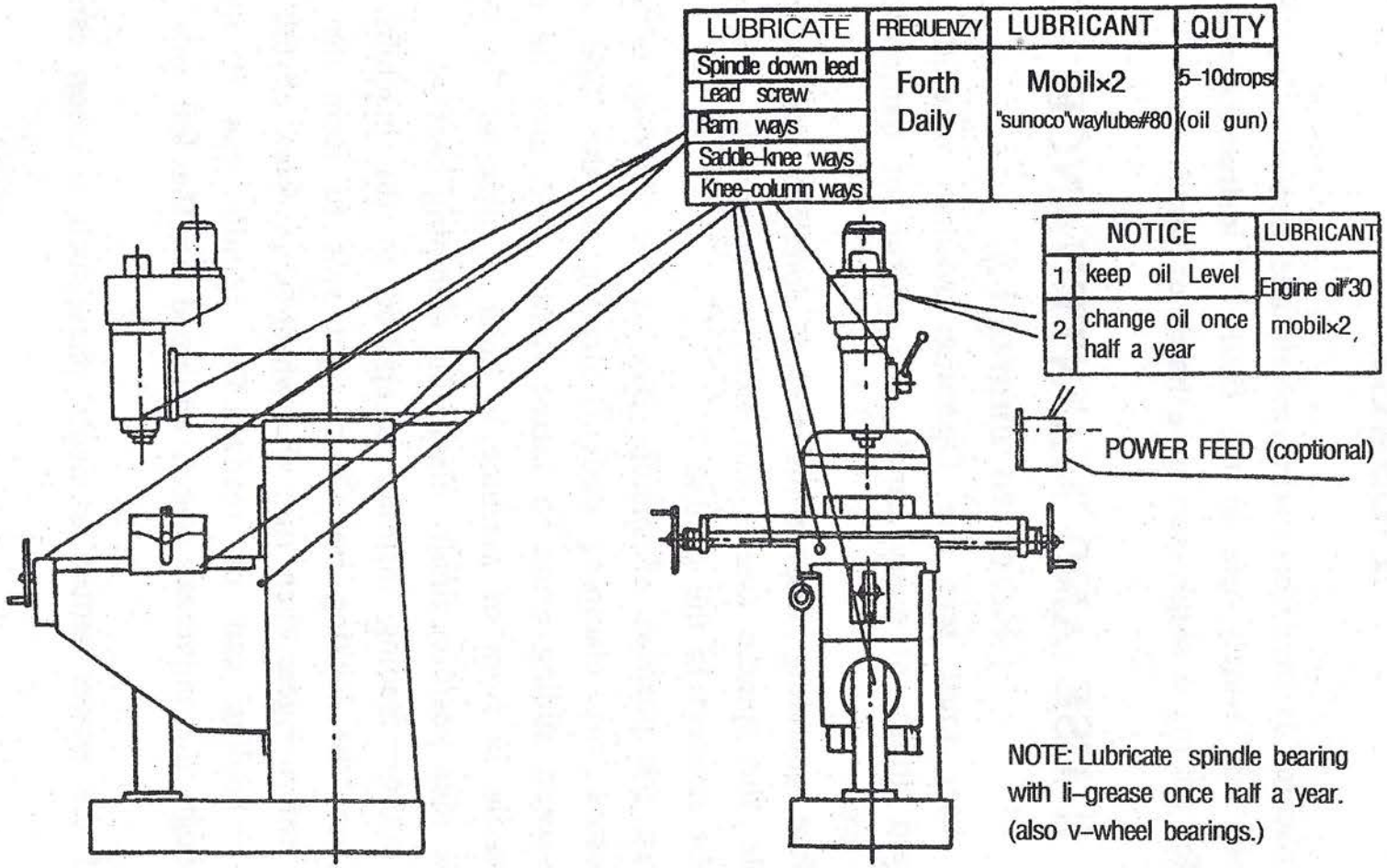
3.1.4 There's a reliable ground protection the ground wire must be connected properly before it in operation .

4. Lubrication

Lubricate the sliding and rotating part before trial run .

Pour NO. 40 machine oil into the Gear Box and the power Feed (op-tional). Till indicating through the oil level indicators then do a overall check .

Keep oil level above the mark .



LUBRCIATION

I USAGE

The machine is used for cutting metals and nometals. It's suitable to drill, mill and widely use in the field for instrument, machining, repairing for cutting a single part or a batch of parts .

II USE AND MAINTENANCE

(Refer to chartg l .)

1.The user must read the Operation Manual carefully , know structure and ability of every handle , the system of transmition and lubrication well.

2. Before operating , inspect the normal conditions of the column lock handle , the spindle sleeve and electric equipemnts . The ground line must be connect in the ground .

3. When the position of spindle Box to the working table need to be adjusted , two clamping shaft ① locating on the right side of Hoist—De-scend sliding must be lossed firstly , then turn the hoist—descend handle in front of machine, to hoist or descend the working table to the idea position, finally clamp the clamping shaft①.

4. A micro—feeding institute is applied to the machine, before using, pls turn the locking bolt ③ in right side to form the handle body with micro—gear, then turn the wheel ④ in front of the head , the micro—feeding can be realized.The spindle can revolve for tapping,through the universal switch equipped on the left side of the head.

But if the power motor is single phase,such function can t be realized.

5. The handle body must be seperated from micro—gear during

drill-ing,when drilling finished , loosen the handle⑤ . the sleeve will reset automatically . The elastic force can be adjusted after loosing the screw locating in bottom of Spindle Box and turning the spring to different position . The spindle sleeve clamping handle ⑥ should be clamped for milling . To obtain the best effect , pls choose the 3 - blade vertical milling tool , the most , the working table must be hoisted to the nearest position to the spindle when the 2—blade milling tool is used .

6. The boring function can be realized after equipping relative accessaries.It is better to apply to micro—feeding during milling and boring.

7. The spindle box can turn ±90° in vertical plane.for turning the spindle box,pls firstly loosen the three tighting nut connecting with spindle box,turn the spindle to the needed angle through turning micro-worm⑧,finally pls tight the nut.

The Gear box can turn ±45° in vertical plane.

8. The cross-slide of spindle box can be realized through the ram moving.for cross-sliding,pls firstly loosen the two clamping bolts ⑨locating on the right side of the ram,turn the gear shaft⑩,to move the ram and spindle box,and tight the two clamping bolts.

9. The spindle box can turn360° around the colnmn in the horizntal plane.To realize this,pls firstly loosen the 4 pcs of clamping nuts(11)under the ram,turn the ram to the suitable position,finally tight the 4 pcs of clamping nuts.

10. The spindle's turn and revolve can be realized by the switch located in right side of Hoist--descend sliding.

11. The Horizontal milling can be realized by turn the vertical spindle box 90° .The spindle box must be turn 180° when the Tool shaft and jack applied for assistance.

12.If the machine doesn't work well or have irregular noise,pls imme diately shut off machine.

III MAIN PARAM

Item	Ability \ Model			
1	Max drilling dia		30-(1 1/4")	30-(1 1/4")
2	Max horizontal milling width..		80-(3/18")	80(3/18")
3	Max vertical milling dia		25-(1")	25-(1")
4	Spindle taper		ISO40or ISO30orR8	ISO40or ISO30orR8
5	Sindle Speed number		8(3PH)	8(3PH)9
			9(1PH)	9(1PH)
			4(1PH)	
			8(3PH)	8(3PH)9
6	Spindle speed range 50HZ(60HZ)		230-1825(276-2190)	230-1825(276*2190) 60-1350(72-1620)
			220-2400(270-2950)	220-2400(270-2950) 60-1350(72-1620)
			230-1750(280-2100)	
			115-1750(140-2100)	115-1750(240-2100) 60-1350(72-1620)
7	Distance between spindle and surface of column		200-550(8"-21")	200-700(8"-27")
8	Distance between spindle and table		100-480(4"-18") 60-400(optional)	100-480(4"-18") 60-400(optional)
9	Distance between the axis of spindle and table			0-380(0-14") 0-320(optional)
10	spindle travel		120(5")	120(5")
11	Table trsvel	Standard	800 × 240 × (311/2" × 97/16 ")	800 × 240 (311/2" × 97/16"
		Optional	1000 × 240(39"" × 97/16")	1000 × 240 × (39" × 97/16"
12	Table travel		350 × 230(13" × 8")	350 × 230 × (13 × 8")
			460 × 250(18" × 8")	460 × 230(18" × 8")
13	Motor		YD100L-8/4/0.85/1. 5KWYL90L-4(1PH)1 .5KW	YD100L-8/4/0.85/1.5KW 90L-61.1KW(optional) Y90L-41.5KW
14	Overall size		1100 × 1100 × 1920 43" × 43" × 56"	1280 × 1100 × 1920 51" × 43" × 76"
	N.W.		700kg	970kg

III MAIN PARAM

Item	Model / Ability		
1	Max .drilling dia	50	50
2	Max.horizontal milling width	100	100
3	Max.vertical milling dia	25	25
4	Max.tapping dia.	M16	M16
5	Max.boring dia	120	120
6	Spindle taper	M.T.4	M.T.4
7	Spindle speed number	8 9 8	8,9 9,9 8,9
8	Spindle speed range 50/60HZ	230-1825(276-2190)	230-1825(276-2190) 60-1350(72-1620)
		220-24009270-2950)	220-24009270-2950) 60-1360(72-1620)
		115-1750(140-2100)	115-1750(140-2100) 60-1360(72-1620)
9	Distance between spindleand surface of column	200-700	200-700
10	Distance between spindle and table	100-480 60-400(optional)	100-480 60-400(optional)
11	Distamce between the axis of spimdle and table		0-380 60-400(optional)
12	Spindle travel	120	120
13	Table size	800*240	800*240
		1000*240	1000*240
14	Table travel	350*230	350*230
		460*230	460*230
15	Motor	YD100L-8/40.85/1.5KW YI90L-4 1.5KW (1PH)	YD100L-8/4 0.85/1.5K Y90L-4 1.5KW YL901-4 1.5KW(1PH)
16	Overall size	1120 × 1060 × 2035	1120 × 1060 × 2035
	N.W.	770kg	970kg

We reserve the tight to modify and improve our products.

Ⅳ THE SYSTEM OF TRANSMITION AND CHANGED SPEED

1. Vertical shaft: when changing speed,open the two side cover of upper spindle box ,loosen the tightend bolt of motor ,move handle on the rightside to loosen the belt ,change belt to the position needed ,removr motor and make belt fitted ,tighten the tightened bolt and then work .

Horizontal shaft: when chaning speed, open the cover of the reav vertical-column ,first loale the nut lie between vertical-column and the surport of motor ,then loosen nut that make belt loosed or tightened ,adjust belt to the position required finally tighten the nut .

2. The gear machine power is tranamitted through gear on the shaft of motor and moving-gears to the gear of spindle. when chang speed ,first cut of power ,then change the handle to the position (A of B, C or D) you want .

3. H/V Dring and milling machine power is transmitted from motor to pindle through V-belt and trichanged speed .

NOTICE: Stop motor before changing speed !

V THE LUBRICATION OF MACHINE AND ROLLING BEARING

1.Each rolling bearing to lubricated with lubricationg fat on time (prefer to chart -2)

2.Spindle,sleeve,column,table etc, should be lubricated at the right moment.

Ⅵ ELECTRIC SYSTEM

1. The electical control system to be equipped in the left--side machine head .the control electical system of horizontal spindle to be equipped under the right-front.Electical circutit adopt the advanced international cornponcnt to make up, which make the machinge easy to operate and safe .

Ⅶ TRANSPORT AND ATTENTION

1. While transporting machine, must be careful to carry and put down .
2. In one year ,we' llmake promise to provide aftersales service.
3. Before Use the machine ,the power feed the spindle' s running and the coolant' s running must be the same directin as the label . Otherwise two phase of power cord must de exchanged .(power feed and coolant optional accessories.)

Ⅷ SIMPLE MALFUNCTION & OBVIATION

1.If the motor does not turn, please inspect it is right to connect wire or check electrical source.

2.If the radial run out of spindle is big with noise and heat, please inspect wether spindle is too loose.

pls spindle the nut on the spindle assembly to be fittest.

3.When the machine wobble, pls check the motor mount and lever lock nut screw ,machine head surport on the spindle,if loosing ,pls adjust and lock .

4.It is difficult for the spindle to rise, fall or not replacing, pls inspect wether there is scrap iron and other.something in the connection between spindle sleeve and gear shaft and fatigue of spindle, If finding them, pls clean them and apply oil and adjust spring to fittest.

5.If the knee table slide carrige does not rise steadily with noise, the table is steady, pls confirm wether wedge ship loose or not, and clean scrap iron.add oil adjust wedge ship to fittest.

6.If there is noise in gear box, pls stop machine immediately to conform the position you require, then check that the oil meet standard.

7.prohibitted maintaining the machine with electric.

NOTICE

I: The spindle box that transmitted by the belt can be surivled at90° (by gear ± 45°).when operating ,pls loose the three retaining nut and pay attention these nutes need only 1 pitch ,then swivlescew lever by socket headscew wrench (s21-24)to make the spindle box swivle to the place required(clockwise turn the nut,the spindle box will counter clockwise turn,or otherwise),while turning,pay attention to the following item:

i:While the spindle box turn from horizontal position clined position to vertical position pls help push the upper of spindle box and gently twitter it.

ii:While the spindle box turn from verival position to horizontal position or clined position,pls push the upper of spindle box with hand and twitter it gently.

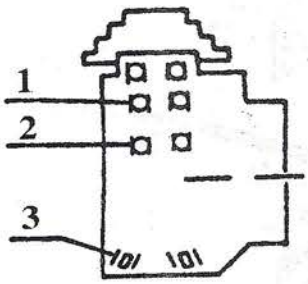
II :The rotary table(optional)can surivle at 45° when operate. first loose two screw of back way cover and remove the way cover.Then loose the four nut. turn the table to hte direction you want.

III:Adjust the perpendicular between spindle and table gauge magnetize on end face of spindle.Tracing pin turn 360° about dia Φ 250-300mm on the surface of the table.This is perpendicular between spindle and table if measuring range is variable between 0 and0.02mm.

ROLLING BEARING

Item	Location point	Bearing	Model	Quantity	
1	Spindle & belt pulley	Single dustdefence radial ball bearing	60/109/P6	2	2
2	Spindle sleeve	Single dustdefence radial ball bearing	60/109/P6	1	1
3	Spindle sleeve	Single tapered radial bearing	2007110/P6	1	1
4	Middle wheel	Single dustdefence radial ball bearing	60103		2 2
5	Spindle	Single tapered roller bearings	2007111/p6		1
6	Spindle	Single tapered roller bearings	7308e/p6		1
7	wheel shaft	Single dustdefence radial ball bearing	60105		2
8	I . II . III	Single dustdefence radial ball bearing	60204/P6		6

Rolling bearing position



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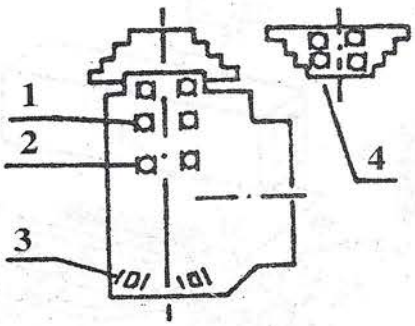

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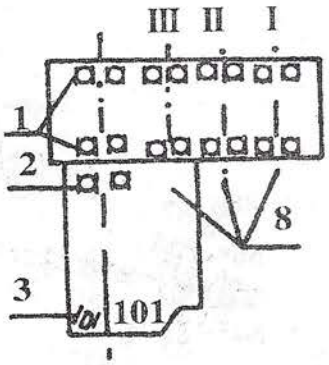

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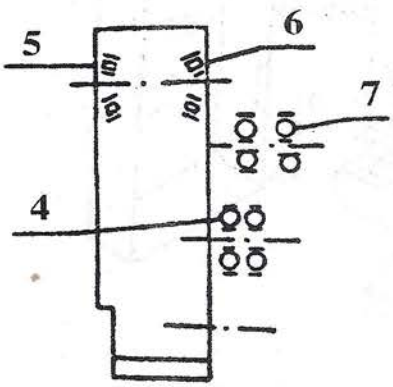
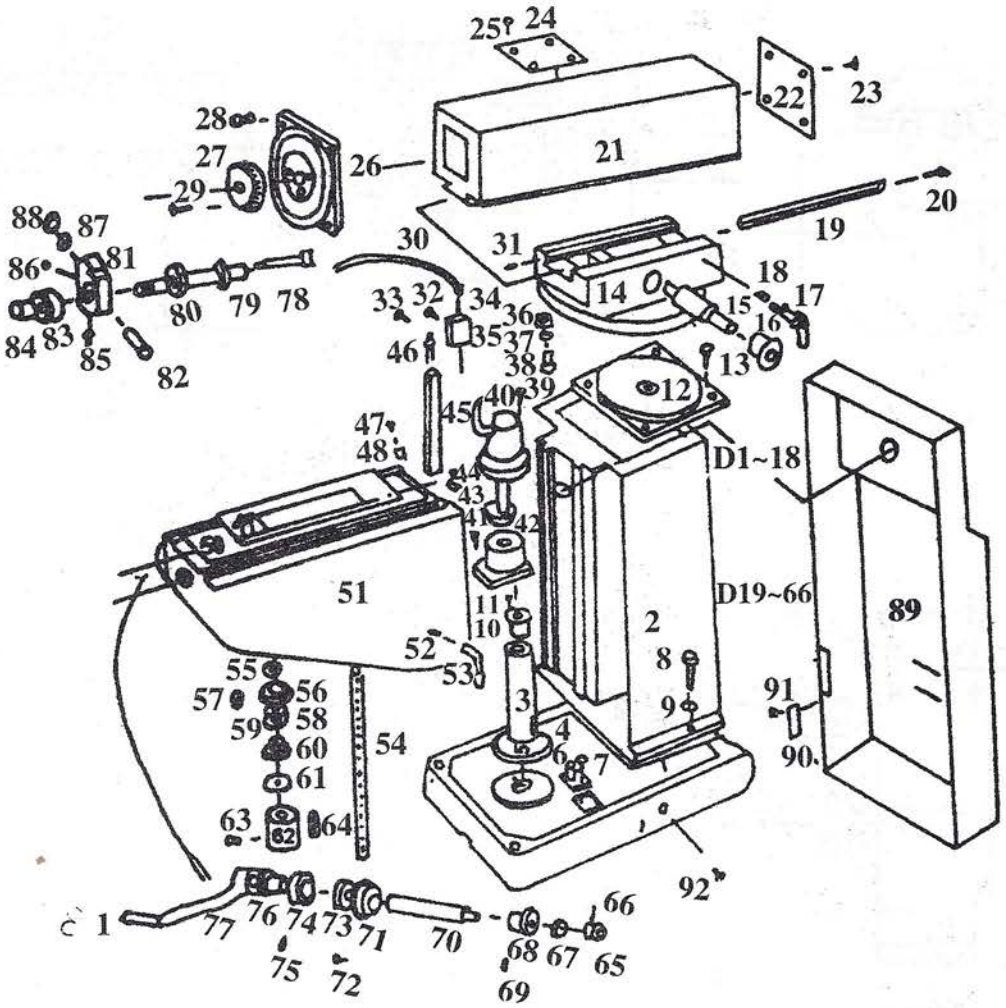
Chart 2



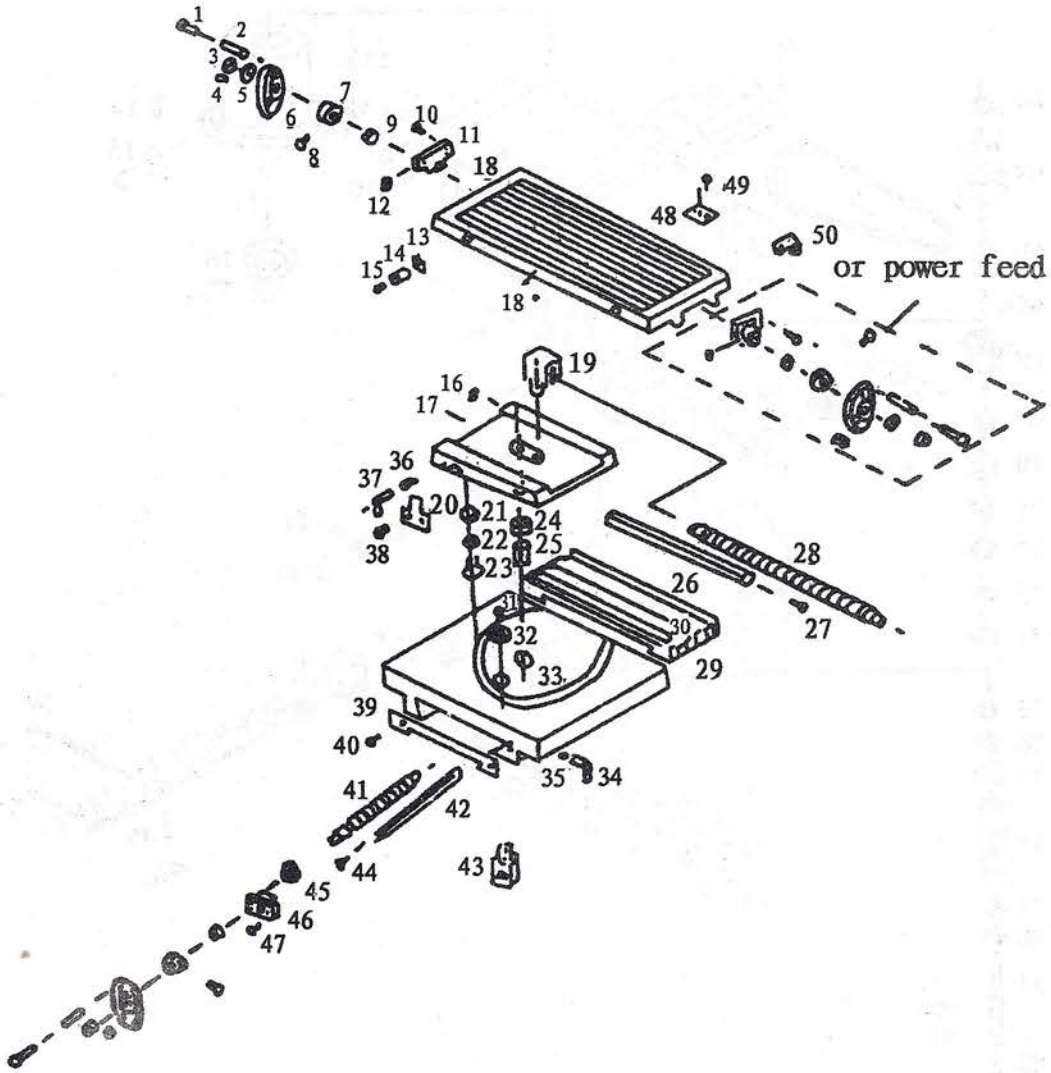
No.2d

PARTS DIVISION AND PARTS LIST
A : COLUNM PART

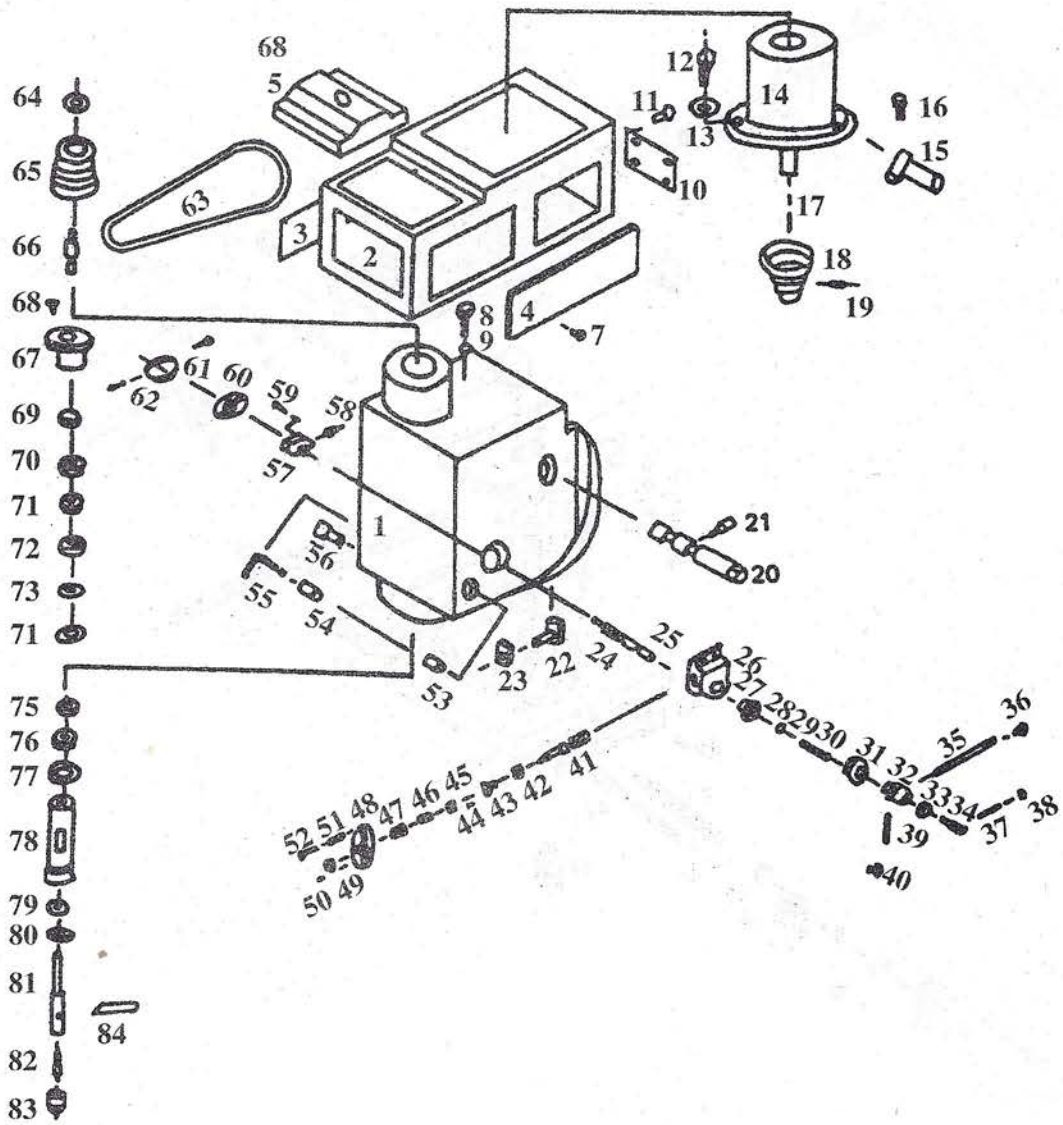


(optional accessory : cooting system)

B : Rorary table (optional)



C : HEAD PART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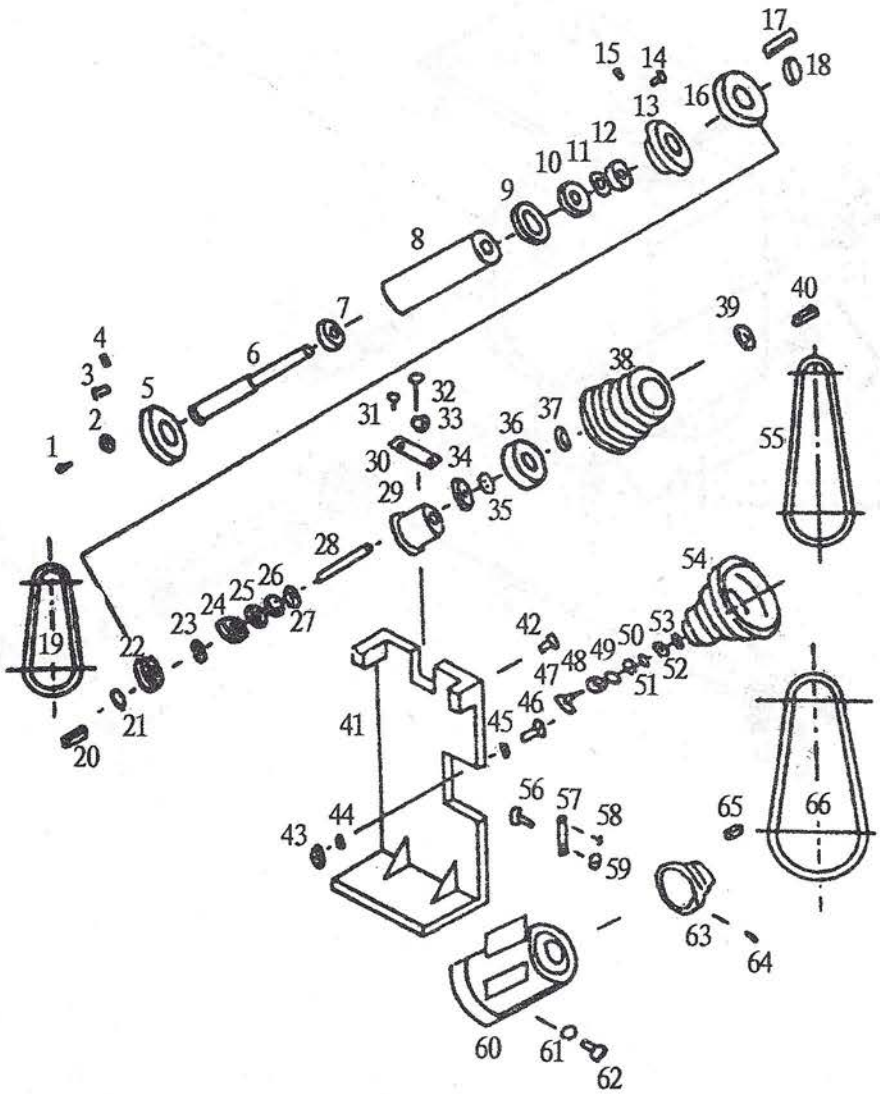
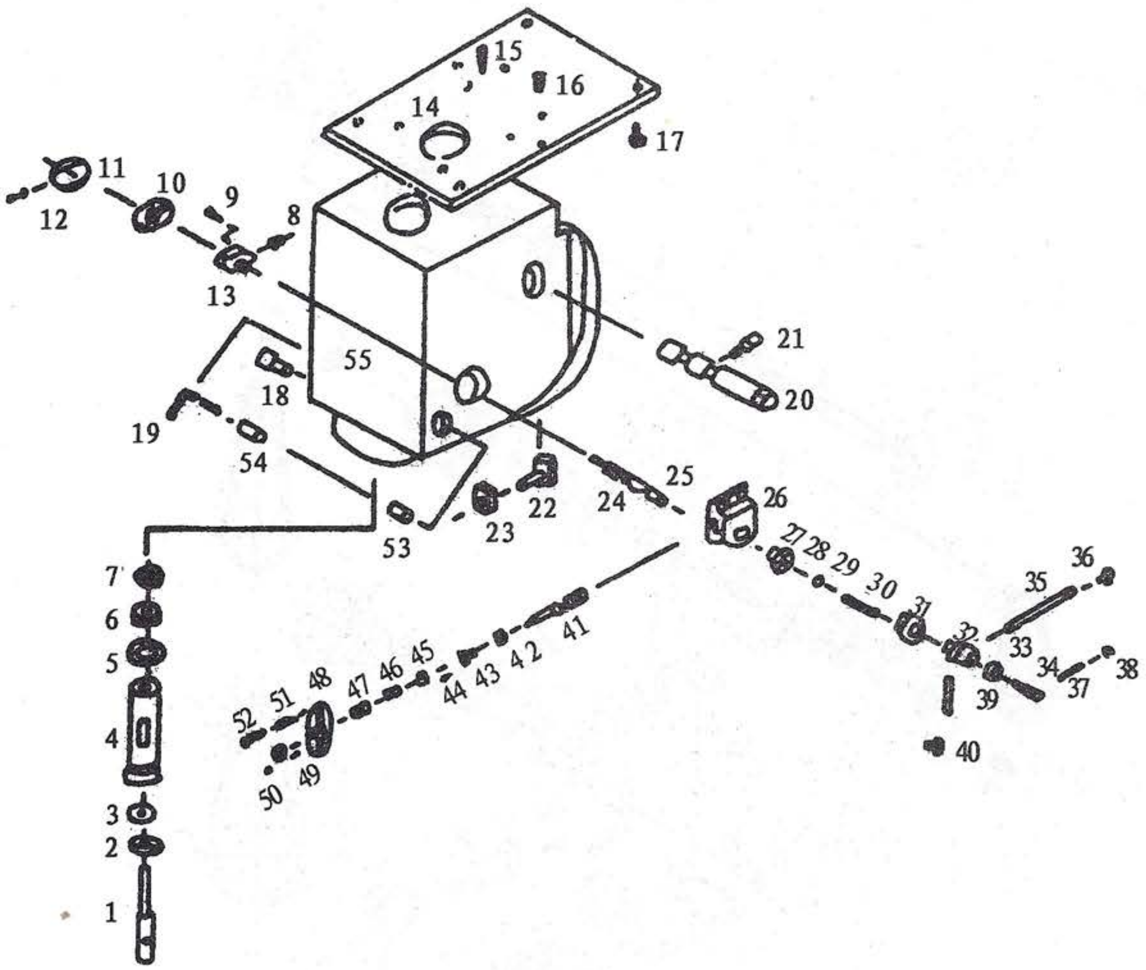
D:HORIZONTAL SPINDLE PART



E: Gear box



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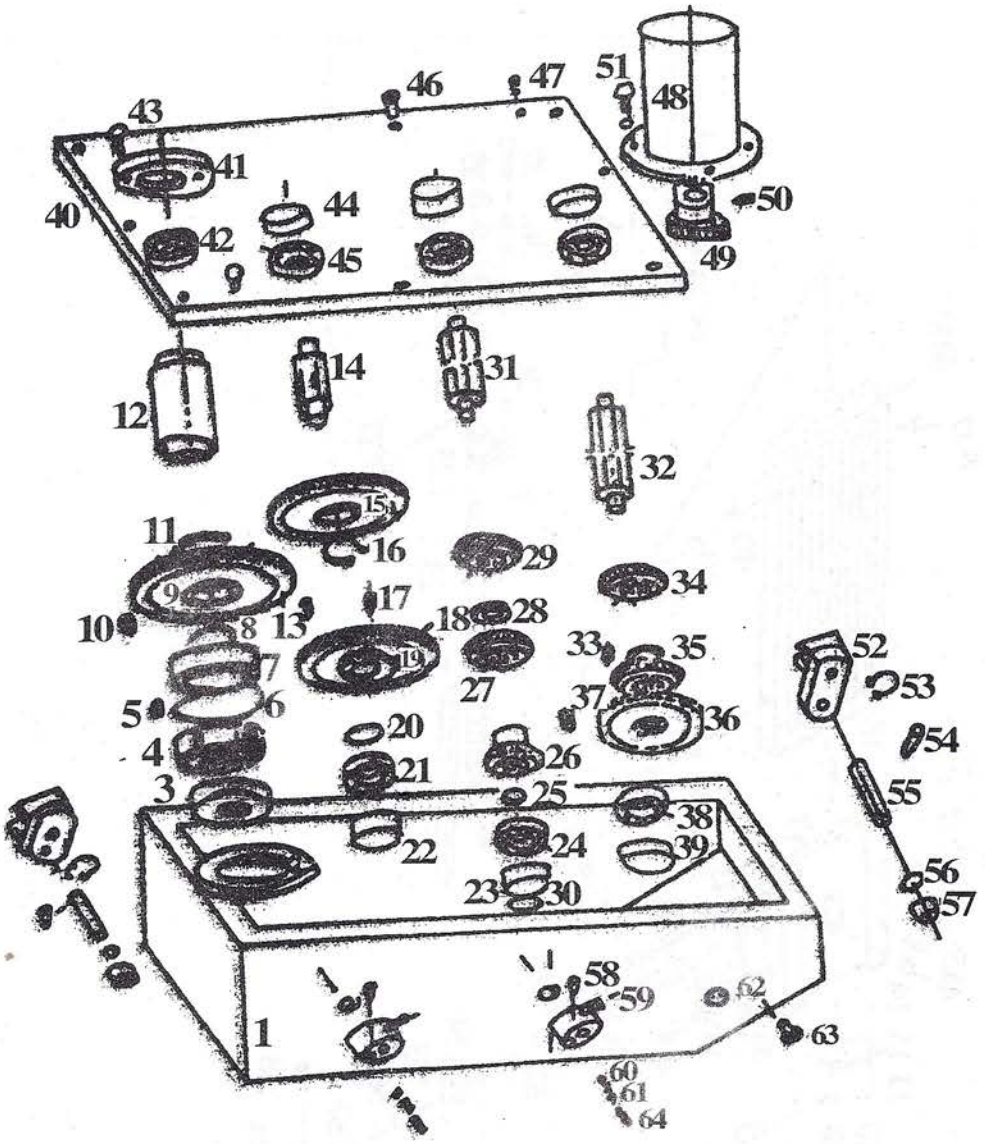
F: Gear head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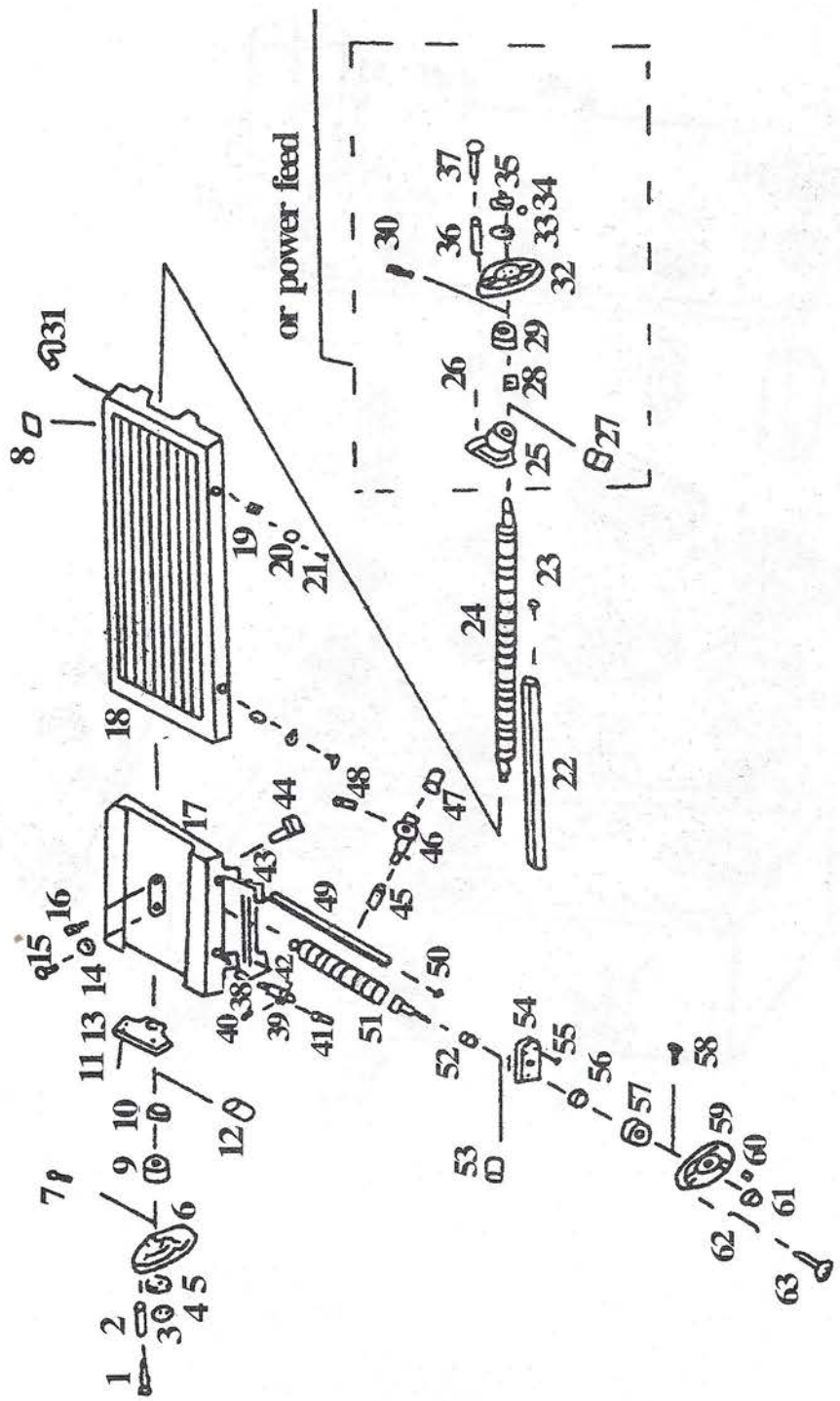
G: Table



NUMBERP	NAME	QUASTITY
A1	BASE	1
2	COLUMN	1
3	ELEV ATING SCREW HOUSING	1
4	SCREW	4
5	WASHER	4
6	CONNECT TUBE	1
7	SCREW	2
8	BOLT	6
9	WASHER	6
10	COLLAR	1
11	SCREW	4
12	HOLD SURRORT	1
13	SCREW	6
14	AROUND BRACKET	1
15	FEED SHAFT	1
16	COLLAR	1
17	CLAMP BOLT	2
18	CLAMP BLOCK	2
19	BEVEL IRON	1
20	SCREW	1
21	OVERARM	1
22	COVER	1
23	SCREW	4
24	COVER	1
25	SCREW	4
26	HOLD BRACKET	1
27	GEAR	1
28	SCREW	4
29	BOLT	2
30	NOZZLE	1
31	OIL CUP	2

NUMBERP	NAME	QUASTITY
32	SCREW	2
33	BOLT	1
34	CONNECT TUBE	1
35	HOLD BRACKET	1
36	NUT	4
37	WASHER	4
38	T BOLT	4
39	BOLT	4
40	ELECTRIC PUMP	1
41	BOLT	4
42	SUPPORT	1
43	DUST COVER	1
44	SCREW	2
45	BEVEL IRON	1
46	ADJUST SCREW	1
47	SCREW	2
48	WIPER PLATE	1
49	WIPER PLATE	1
50	WIPER PLATE	2
51	KNEE	1
52	CLAMP BLOCK	2
53	CLAMP BOLT	2
54	HOIST DESCEND LEAD SCREW	1
55	CIRCULAR NUT	2
56	CONICAL GEAR	1
57	KEY	1
58	BALL BEARING	1
59	ADJUST WASHER	1
60	COLLAR	1
61	BALL BEARING	1
62	NUT	1

NUMBERP	NAME	QUASTITY
63	SCREW	1
64	KEY	1
65	CONECAL GEAR	1
66	PIN	1
67	WASHER	1
68	COLLAR	1
69	SCREW	1
70	SHAFT	1
71	COLLAR	1
72	SCREW	4
73	BALL BEARINGP	1
74	SCALE RING	1
75	SCREW	1
76	COLLAR	1
77	HANDLE	1
78	LIFT BAR	1
79	TOOLHOLDER	2
80	CUTTER BAR COLLAR	10
81	SUPPORT	1
82	BOLT	1
83	COLLAR	1
84	NUT	1
85	SCREW	1
86	OIL CUP	1
87	WASHER	1
88	NUT	1
89	BEHIND COVER	1
90	HINGE	2
91	SCREW	16
92	SCREW	1

NUMBERP	NAME	QUTY
B1	HANDLE	3
2	HANDLE COLLAR	3
3	NUT	3
4	KEY	3
5	WASHER	3
6	HAND WHEEL	3
7	SCALE RING	3
8	SCREW	3
9	BEARING	3
10	SCREW	10
11	SUPPORT	2
12	OIL CUP	3
13	SCREW BRACKET	2
14	DOG	2
15	SCREW	2
16	OIL CUP	2
17	ROTARY BRACKET	1
18	TABLE	1
19	NUT	1
20	LIMIT ASSEMBLY	1
21	NUT	1
22	WASHER	4
23	T-BOLT	4
24	SHAFT MOUNT	1
25	SHAFT	1
26	LONG BEVEL IRON	1
27	ADJUST SCREW	1
28	LONGITUD INALLEAD SCREW	1
29	WAY COVER	

NUMBERP	NAME	QUTY
30	SCREW	2
31	SCREW	1
32	WASHER	1
33	SADDLE	1
34	SCREW	2
35	CLAMP BLOCK	2
36	CLAMP BLOCK	2
37	SCREW	2
38	SCREW	2
39	WIPER PLATE	1
40	SCREW	1
41	CROSSWISE LEAD SCREW	1
42	SHORT BEVEL IRON	1
43	NUT	1
44	ADJUST SCREW	1
45	BEARING	2
46	SUPPOT	1
47	SCREW	4
48	OIL COVER	1
49	SCREW	2
50	CONNECT TUBE	1

NUMBERP	NAME	QUASTITY
C1	SPINDLE BOX	1
2	MOTOR BASE	1
3	LEFT COVER	1
4	RIGHT COVER	1
5	PULLEY COVER	1
6	SCREW	4
7	SCREW	4
8	BOLT	6
9	WASHER	6
10	COVER	1
11	SCREW	4
12	BOLT	2
13	WASHER	1
14	MOTOR	1
15	HANDLE	1
16	BOLT	2
17	KEY	1
18	MOTOR PULLEY	1
19	HEADLESS SEAT SCREW	1
20	WORM GEAR	1
21	PIN	1
22	T BOLT	3
23	NUT	1
24	FEED SHAFT	1
25	KEY	1
26	WORM BOX	1
27	SCREW	3
28	BEVEL GEAR	1
29	RETAINING RING	1
30	SPRING	1
31	SCALE RING	1

NUMBERP	NAME	QUASTITY
32	HANDLE BRACKET	1
33	COVER	1
34	BOLT	1
35	HANDLE BAR	3
36	KONB	3
37	HANDLE	1
38	HANDLE COLLAR	1
39	SCALE	1
40	RIVET	2
41	WORM GEAR	1
42	BALL BEARING	1
43	SMALL COVER	1
44	SCREW	3
45	BALL BEARING	1
46	COLLAR	1
47	SCALE RING	1
48	HANDLE WHEEL	1
49	HANDLE COLLAR	1
50	HANDLE	1
51	NUT	1
52	KEY	1
53	CLAMP BLOCK	1
54	CLAMP BLOCK	1
55	CLAMP HANDLE	1
56	SCREW	1
57	SPRING SEAT	1
58	SCREW	1
59	SCREW	1
60	SPRING PLATE	1
61	SPRING CAP	1
62	SCREW	2

NUMBERP	NAME	QUASTITY
63	V BELT	1
64	NUT	1
65	SPINDLE PULLEY	1
66	SPRING SLEEVE	1
67	COLLAR	1
68	SCREW	3
69	RETAINING RING	3
70	BALL BEARING	1
71	COLLAR	1
72	BALL BEARING	1
73	RETAINING RING	1
74	RETAINING RING	1
75	PULLEY NUT	1
76	WASHER	1
77	BALL BEARING	1
78	SLEEVE	1
79	BALL REARING	1
80	DUST COVER	1
81	SPINDLE	1
82	SPINDLE BAR	1
83	DRILL CHUCK	1
84	WEDGE SHIFTER	1

NUMBERP	NAME	QUASTITY
D1	SCREW	4
2	KEY	2
3	SCREW	4
4	OIL CUP	1
5	COVER	1
6	SPINDLE	1
7	BALL BEARING	1
8	COLLAR	1
9	BALL BEARING	1
10	WASHER	1
11	WASHER	1
12	NUT	1
13	COVER	1
14	SCREW	4
15	OIL CUP	1
16	SPINDLE PULLEY	2
17	KEY	1
18	RETAINING RING	1
19	V BELT	2
20	KEY	1
21	RETAINING RING	1
22	WHEEL	1
23	BALL BEARING	1
24	BALL BEARING	1
25	BALL BEARING	1
26	COLLAR	1
27	BALL BEARING	1
28	SMALL SHAFT	1
29	COLLAR	1
30	SUPPORT	1
31	SCREW	2

NUMBERP	NAME	QUASTITY
32	BOLT	1
33	NUT	1
34	RETAINING RING	1
35	RETAINING RING	1
36	NUT	2
37	RETAINING RING	1
38	PULLEY	1
39	RETAINING RING	1
40	KEY	1
41	MOTOR BASE	1
42	SCREW	6
43	NUT	1
44	WASHER	1
45	WASHER	1
46	SMALL SHAFT	1
47	CONNECT	1
48	RETAINING RING	1
49	BALL BEARING	1
50	COLLAR	1
51	BALL BEARING	1
52	RETAINING RING	1
53	RETAINING RING	1
54	PULLEY	1
55	V-BELT	1
56	ADJUST SCREW	1
57	SUPPORT	1
58	SCREW	1
59	NUT	1
60	MOTOR	1
61	WASHER	4
62	BOLT	4

NUMBERP	NAME	QUASTITY
63	MOTOR WHEEL	1
64	SCREW	1
65	KEY	1
66	V-BELT	1

E: GEAR BOX

NUMBERP	NAME	QUTY
E1	SPINDLE	1
2	DUST COVER	1
3	BEARING	1
4	SLEEVE	1
5	BEARING	1
6	WASHER	1
7	NUT	1
8	SCREW	1
9	SCREW	1
10	SPRING PLATE	1
11	SPRING CAP	1
12	SCREW	1
13	SPRING SEAT	1
14	BASE	1
15	PIN	2
16	SCREW	6
17	SCREW	6
18	BOLT	1
19	CLAM HANDLE	1
20	WORM GEAR	1
21	PIN	1
22	T-BOLT	3
23	NUT	3
24	FEED SHAFT	1
25	KEY	1
26	WORM BOX	1
27	SCREW	3
28	BEVEL GEAR	1
29	CRESCENT RING	1
30	SPRING	1

NUMBERP	NAME	QUTY
31	SCALE RING	1
32	HANDLE BRACKET	1
33	COVER	1
34	BOLT	1
35	HANDLE BAR	3
36	KNOB	3
37	HANDLE	1
38	HANDLE COLLAR	1
39	SCALE	1
40	RIVET	2
41	WORM GEAR	1
42	BEARING	1
43	SMALL COVER	1
44	SCREW	3
45	BEARING	1
46	COLLAR	1
47	SCALE RING	1
48	HANDLE WHEEL	1
49	HANDLE	1
50	HANDLE	1
51	NUT	1
52	KEY	1
53	CLAMP BLOCK	1
54	CLAMP HANDLE	1
55	BOX	1

GEAR HEAD

NUMBERP	NAME	QUTY
F1	BOX	1
2	COLLAR	1
3	OIL SEAL	1
4	BALL BEARING	1
5	SCREW	1
6	O — RING	1
7	COLLAR	1
8	RETAINING RING	1
9	GEAR	1
10	KEY	1
11	RETAINING RING	1
12	SHAFT	1
13	KEY	1
14	DRIVING SHAFT	1
15	GEAR	1
16	RETAINING RING	1
17	SCREW	1
18	GEAR	1
19	GEAR	1
20	O — RING	2
21	BALL BEARING	1
22	COLLAR	1
23	COLLAR	1
24	BALL BEARING	1
25	RETAINING RING	1
26	GEAR	1
27	GEAR	1
28	COLLAR	1
29	GEAR	1
30	O — RING	1

NUMBERP	NAME	QUTY
31	DRIVING SHAFT	1
32	DRIVING SHAFT	1
33	SCREW	1
34	GEAR	1
35	GEAR	1
36	GEAR	1
37	KEY	1
38	BEARING	1
39	COLLAR	1
40	BOX COVER	1
41	COLLAR	1
42	BEARING	1
43	SCREW	4
44	COLLAR	3
45	BEARING	3
46	SCREW	6
47	PIN	2
48	MOTOR	1
49	GEAR	1
50	SCREW	1
51	BOLT	4
52	LIFT FORK	2
53	CRESCENT RING	2
54	PIN	2
55	SHAFT	2
56	O — RING	2
57	COLLAR	2
58	PIN	2
59	HANDLE	2
60	BALL	2
61	SPRING	1
62	OIL POSTTION	1
63	BOLT	1
64	SCREW	2

NUMBERP	NAME	QUTY
G1	HANDLE	1
2	HANDLE COLLAR	1
3	NUT	1
4	KEY	1
5	WASHER	1
6	HAND WHEEL	1
7	SCREW	1
8	OIL COVER	1
9	SCALE RING	1
10	BALL BEARING	1
11	SCREW	1
12	OIL CUP	1
13	SUPPORT	1
14	WASHER	1
15	SCREW	1
16	NUT	1
17	SADDLE	1
18	TABLE	1
19	SCREW BRACKET	2
20	DOG	2
21	SCREW	2
22	LONG BEVEL IRON	1
23	ADJUST SCREW	1
24	BALL SCREW	1
25	SUPPORT	1
26	SCREW	4
27	OIL CUP	1
28	BALL BEARING	1
29	SCALE RING	1

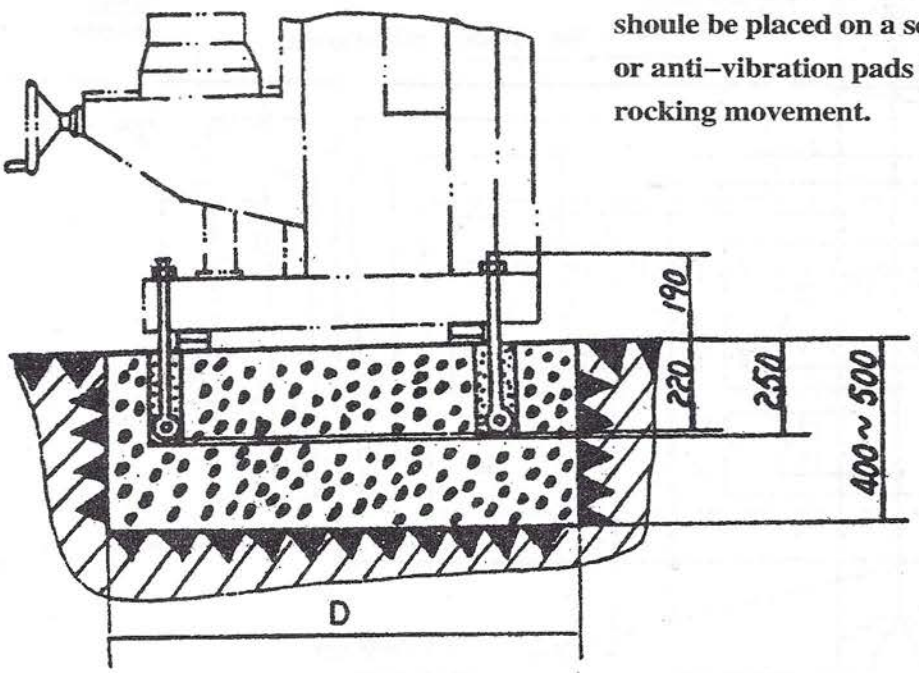
NUMBERP	NAME	QUTY
30	SCREW	1
31	CONNECT TUBE	1
32	HAND WHEEL	1
33	WASHER	1
34	KEY	1
35	NUT	1
36	HADLE COLLAR	1
37	HANDLE	2
38	CLAMP BLOCK	2
39	PIN	2
40	SCREW	2
41	HAND BOARD	2
42	SCREW	3
43	WIPER PLATE	2
44	NUT	1
45	CLAMP BLOCK	2
46	SCREW	2
47	HANDBOARD	2
48	PIN	2
49	BEVEL IRON	1
50	ADJUST SCREW	1
51	BALL SCREW	1
52	BALL BEARING	1
53	OIL CUP	1
54	SUPPORT	1
55	SCREW	1
56	BALL BEARING	1
57	SCALE RING	1
58	SCREW	

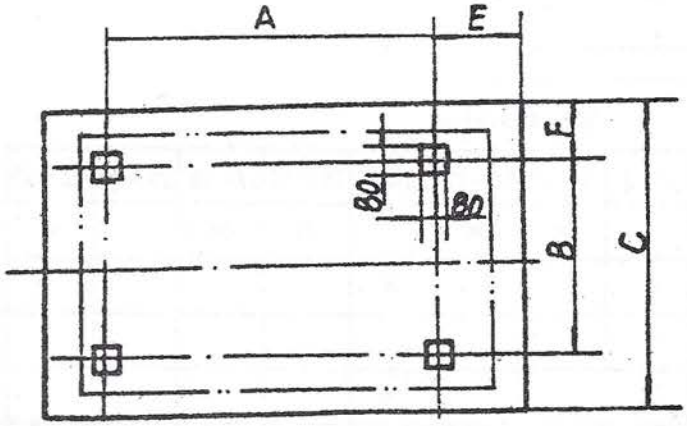
NUMBERP	NAME	QUTY
59	HANDLE WHEEL	1
60	KEY	1
61	NUT	1
62	HANDLE COLLAR	1
63	HANDLE BAR	1

Installation

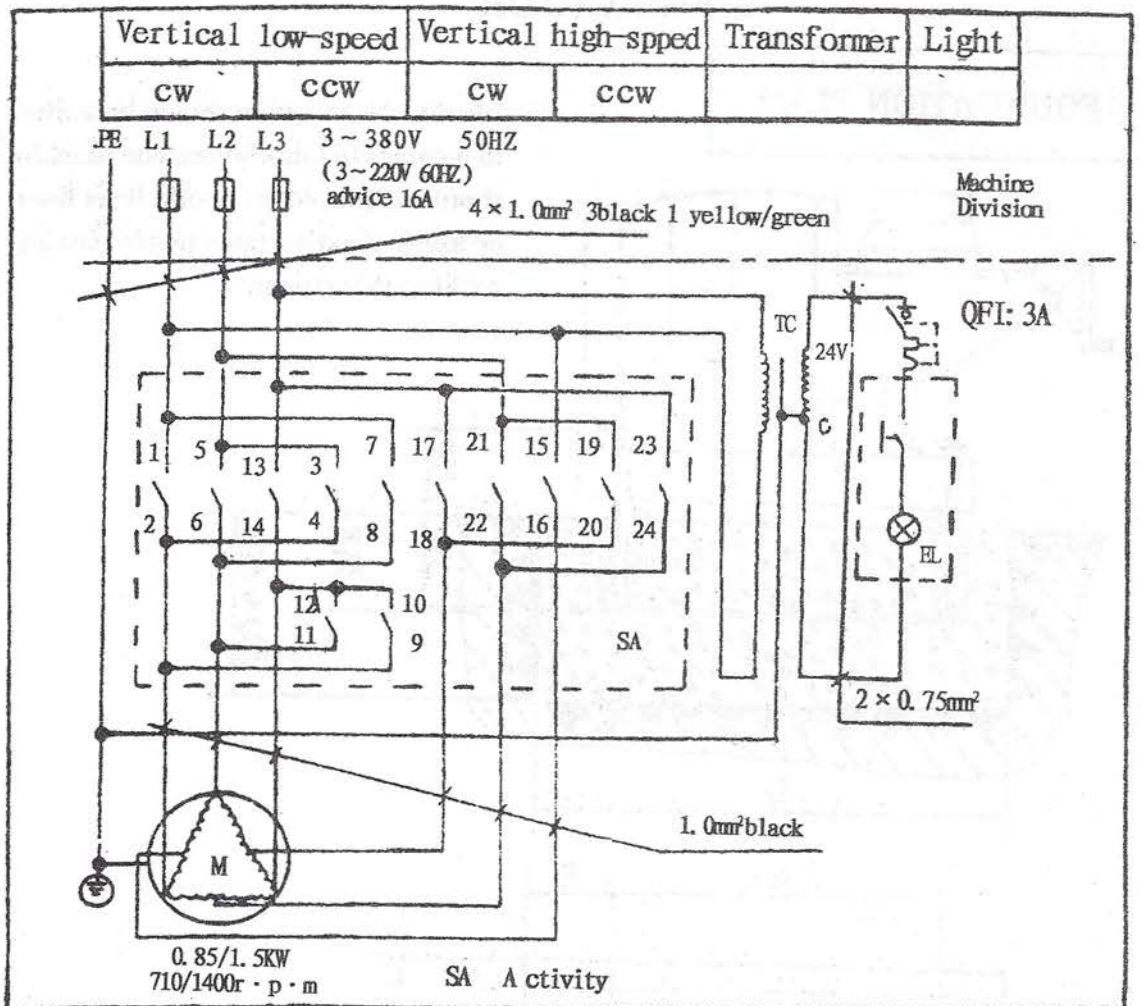
FOUNDATION PLAN

Ideally this machine shoule be bolted to a concrete foundation,The machine shoule be placed on a solid level floor. or anti-vibration pads to prevent any rocking movement.





MODEL	A	B	C	D	E	F
	678	445	745	1110	220	150
	845	466	760	1285	220	150



	1~2	3~4	5~6	7~8	9~10	11~12	13~14	15~16	17~18	19~20	21~22	23~24
135°					×	×		×	×		×	
45°	×		×				×					
0°												
45°		×		×			×					
135°					×	×		×		×		×

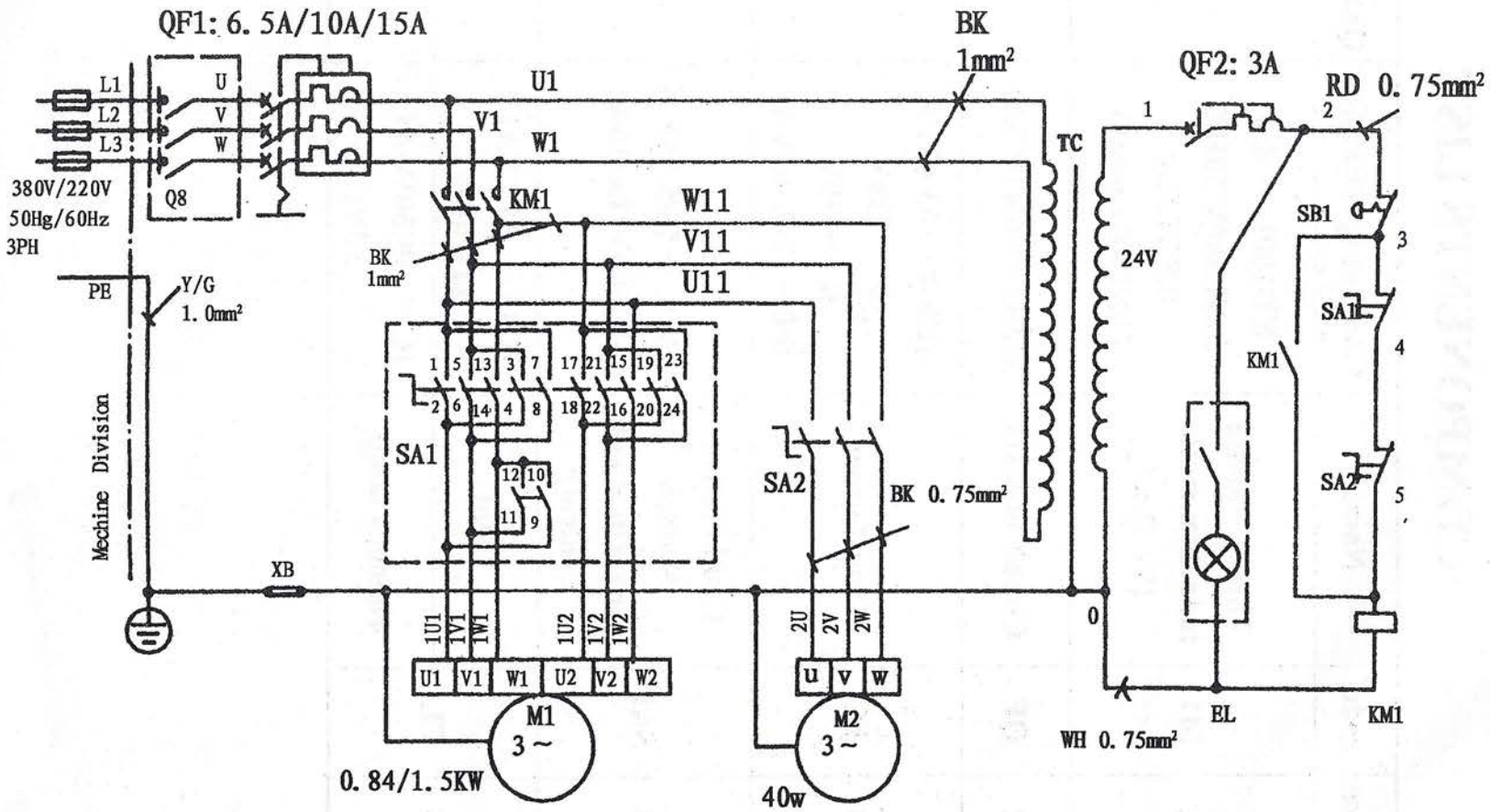
Used

When power volatage of 220V 60HZ, the motor' s Volatage, transformer' s input and Ac contactor will be changed into 220V 60HZ, the others unchanged

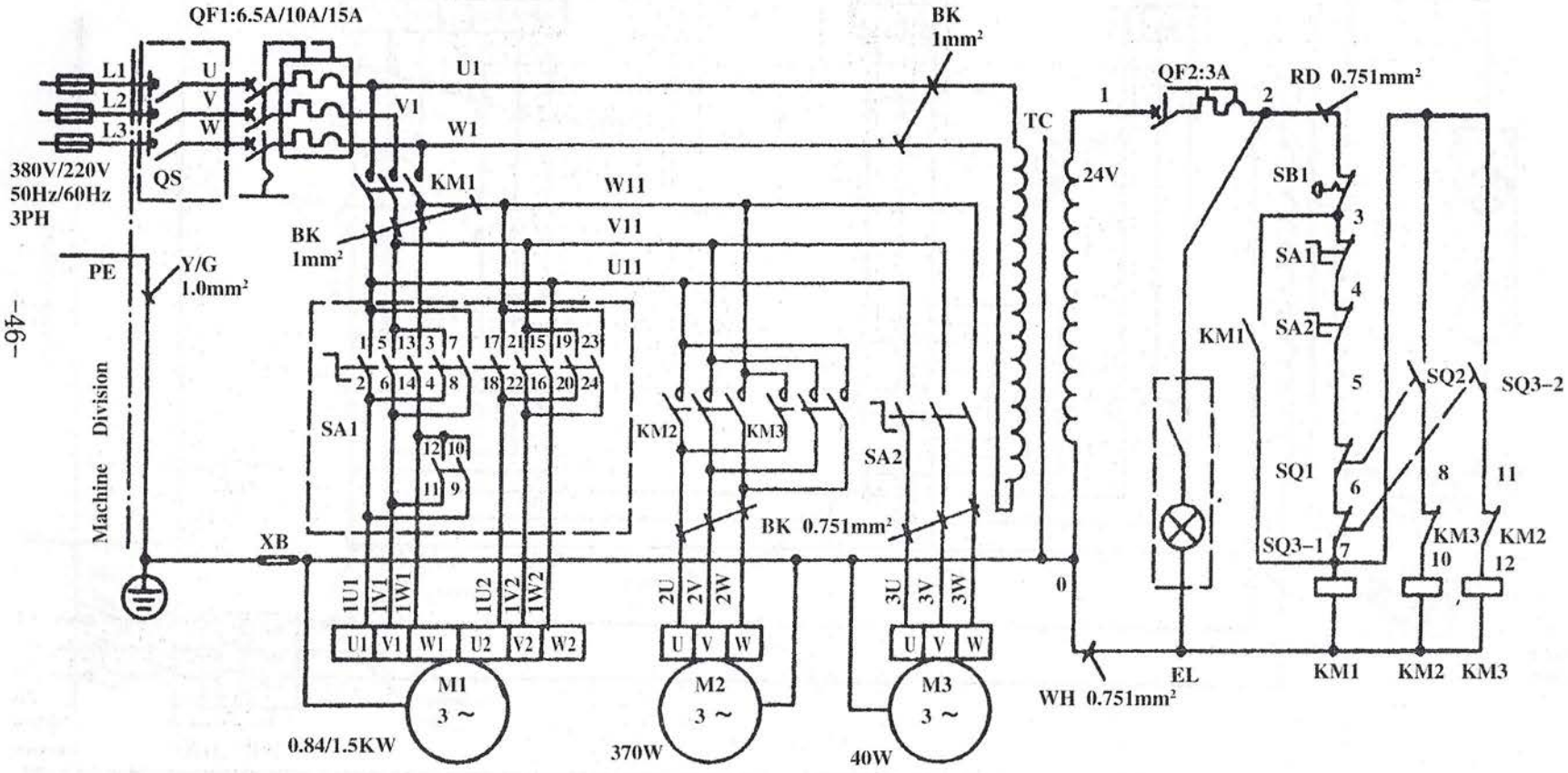
COMPONENTS LIST

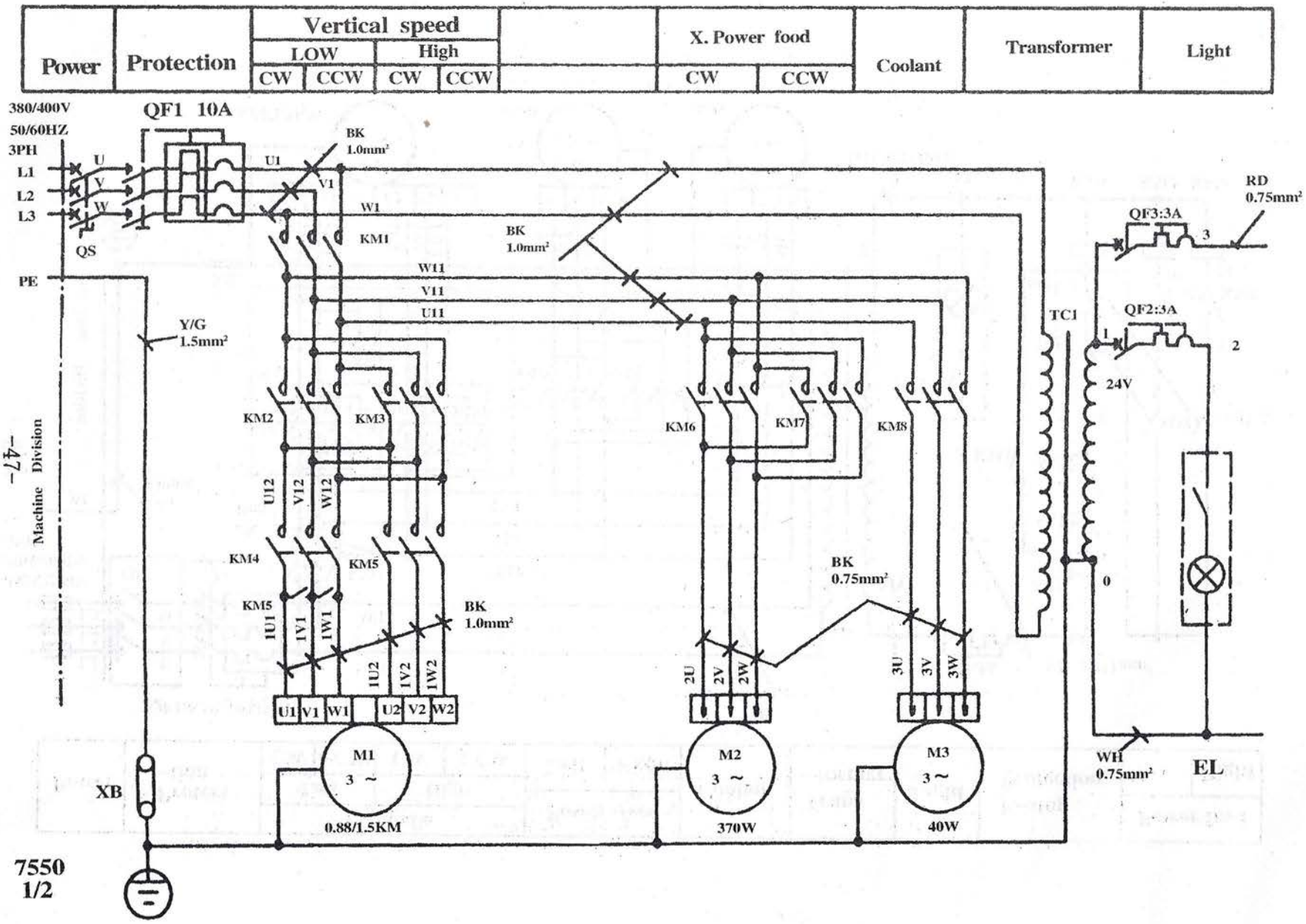
Item	code	Name	Model or specification	Quantity	Note
1	M1	Three — phase induction motor (Vertical)	YD100L — 8/4 3PH 380V 50HZ 0.85/1.5kv 710/1400r.p.mv1	1	
2	QF	Circuit breaker	DZ47 — 63(1P 3A)	1	
3	TC	Transformer	JBK4 — 63 63VA I: 0 — 220V 0 — 380V 0:0 — 24V 63VA	1	
4	SAI	Combination Switich (for vertical mill control)	LW5 — 16/5.5SN/6 Ue:500V Le:16A	1	
5	EL	Light	JC11 — 1E27(AC: 24V 40W)	1	
		Halogen lamp	JC — 38(50W AC: 24V)	1	optional accessory

Power	Protec -tion	V-spindle				Coolant	Trans -former	Ligut	E-stop Protection
		Low		High					
		CW	CCW	CW	CCW				

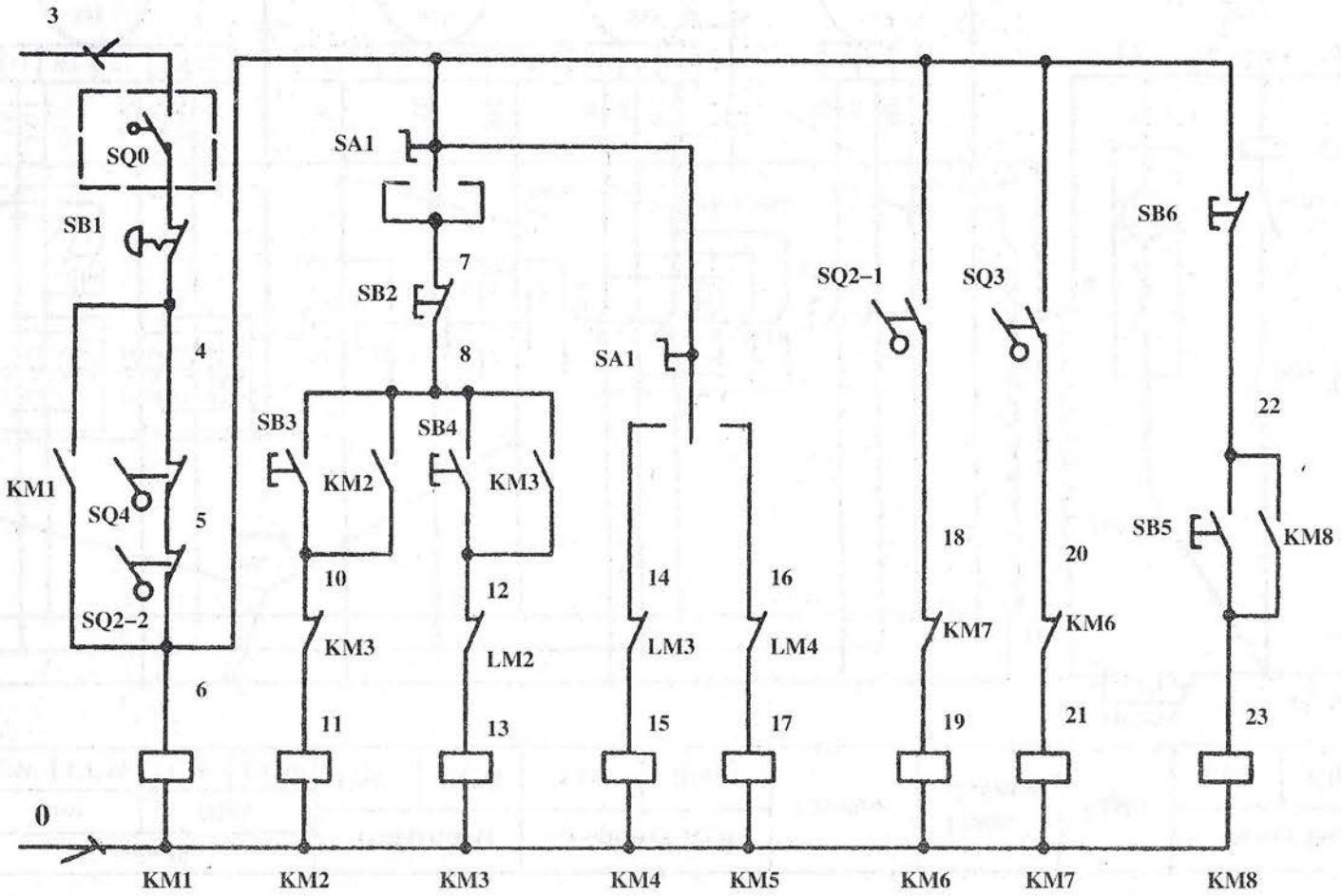


Power	Protect –tion	V–spindie				Power feed		Coolant	Trans –former	Light	E–stop Protection	Power feed	
		Low		High		Left	Right					Left	Right
		CW	CCW	CW	CCW								



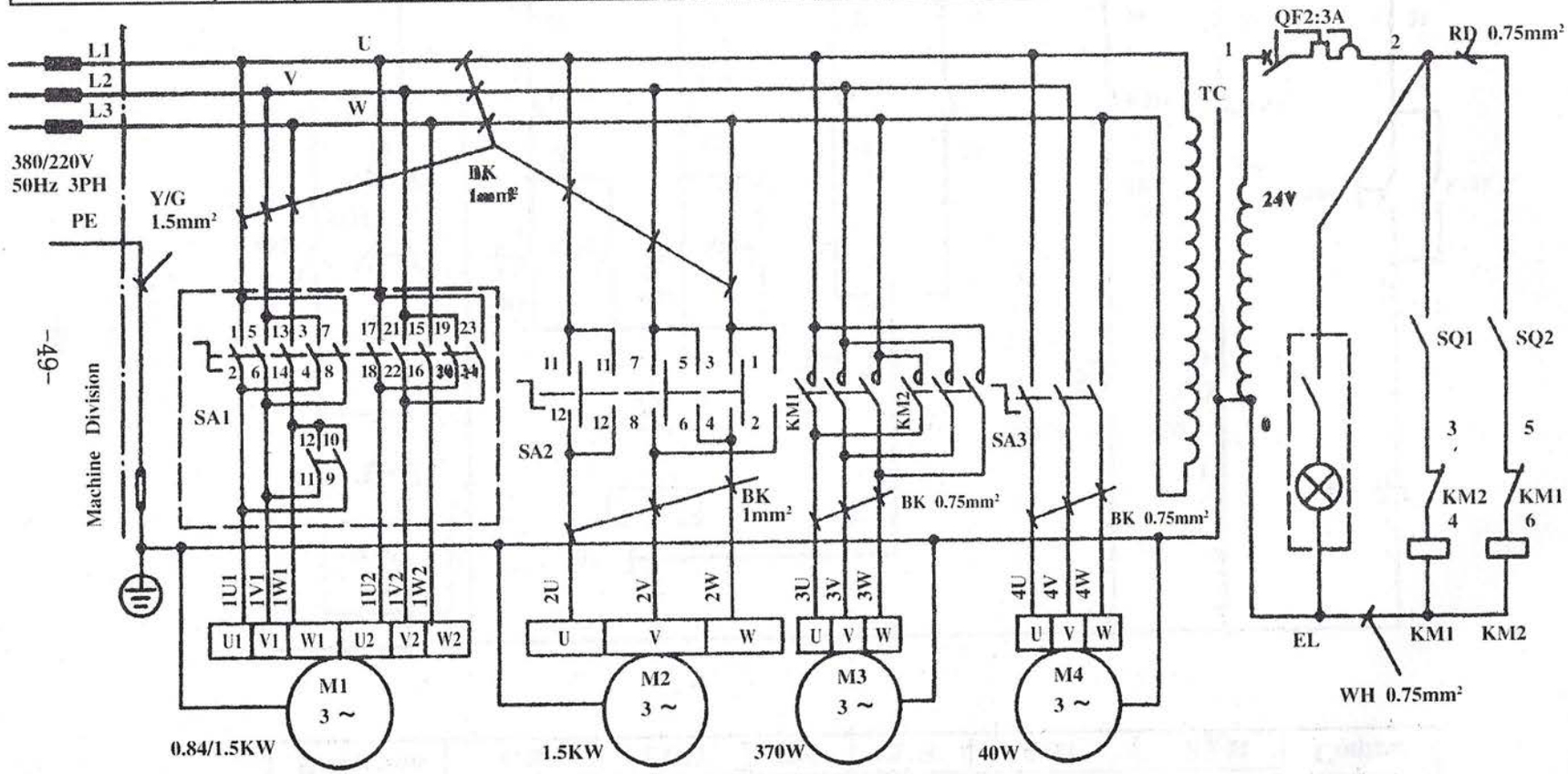

Power
Protection
Vertical speed
LOW
High
CW
CCW
CW
CCW
X. Power food
CW
CCW
Coolant
Transformer
Light
380/400V
50/60HZ
3PH
L1
L2
L3
QF1 10A
QS
PE
Y/G
1.5mm²
BK
1.0mm²
KM1
KM2
KM3
KM4
KM5
KM6
KM7
KM8
U11
V11
W11
U12
V12
W12
1U1
1V1
1W1
1U2
1V2
1W2
2U
2V
2W
3U
3V
3W
M1
3 ~
0.88/1.5KM
M2
3 ~
370W
M3
3 ~
40W
XB
TC1
24V
QF3:3A
QF2:3A
RD
0.75mm²
WH
0.75mm²
EL
7550
1/2
Machine Division
-47-

E. stop Protection	Vertical speed				X. Power feed		Coolant Control
	CW	CCW	CW	CCW	Left	Right	

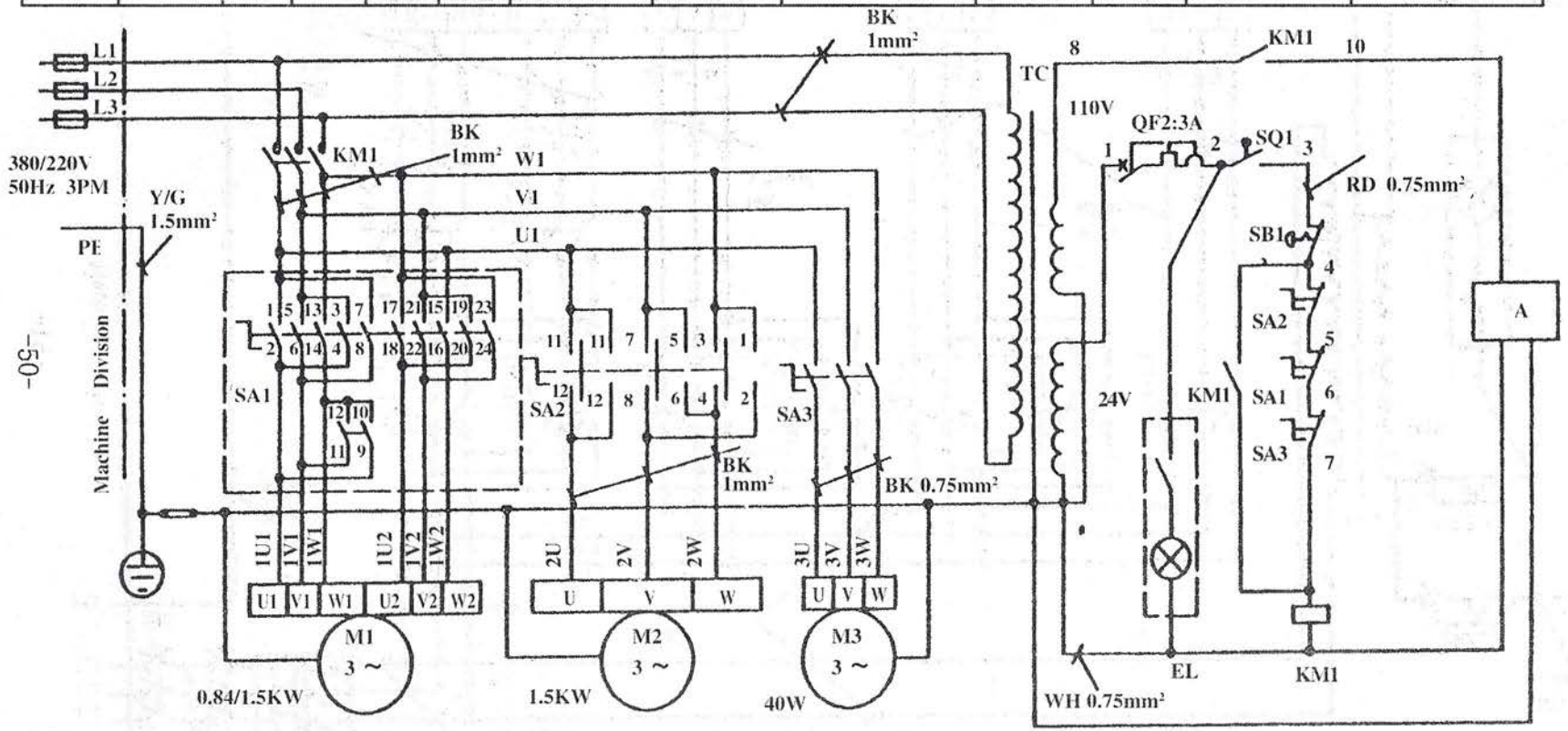


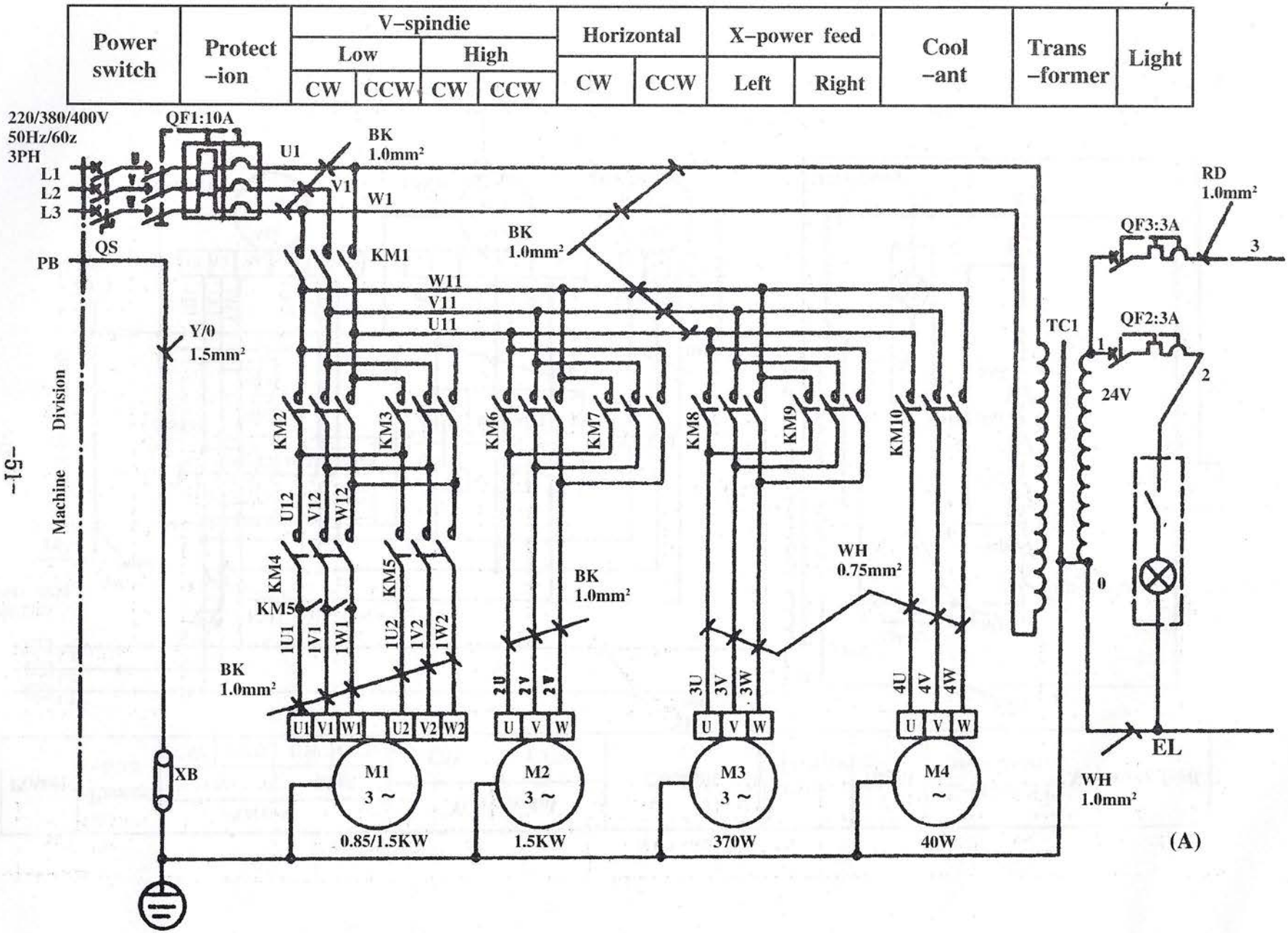
7550
2/2

Power	V–spindie				Horiznntal		X–powcr feed		Coolant	Trans –former	Light	Power feed	
	Low		High										
	CW	CCW	CW	CCW	CW	CCW	Left	Right				Left	Right

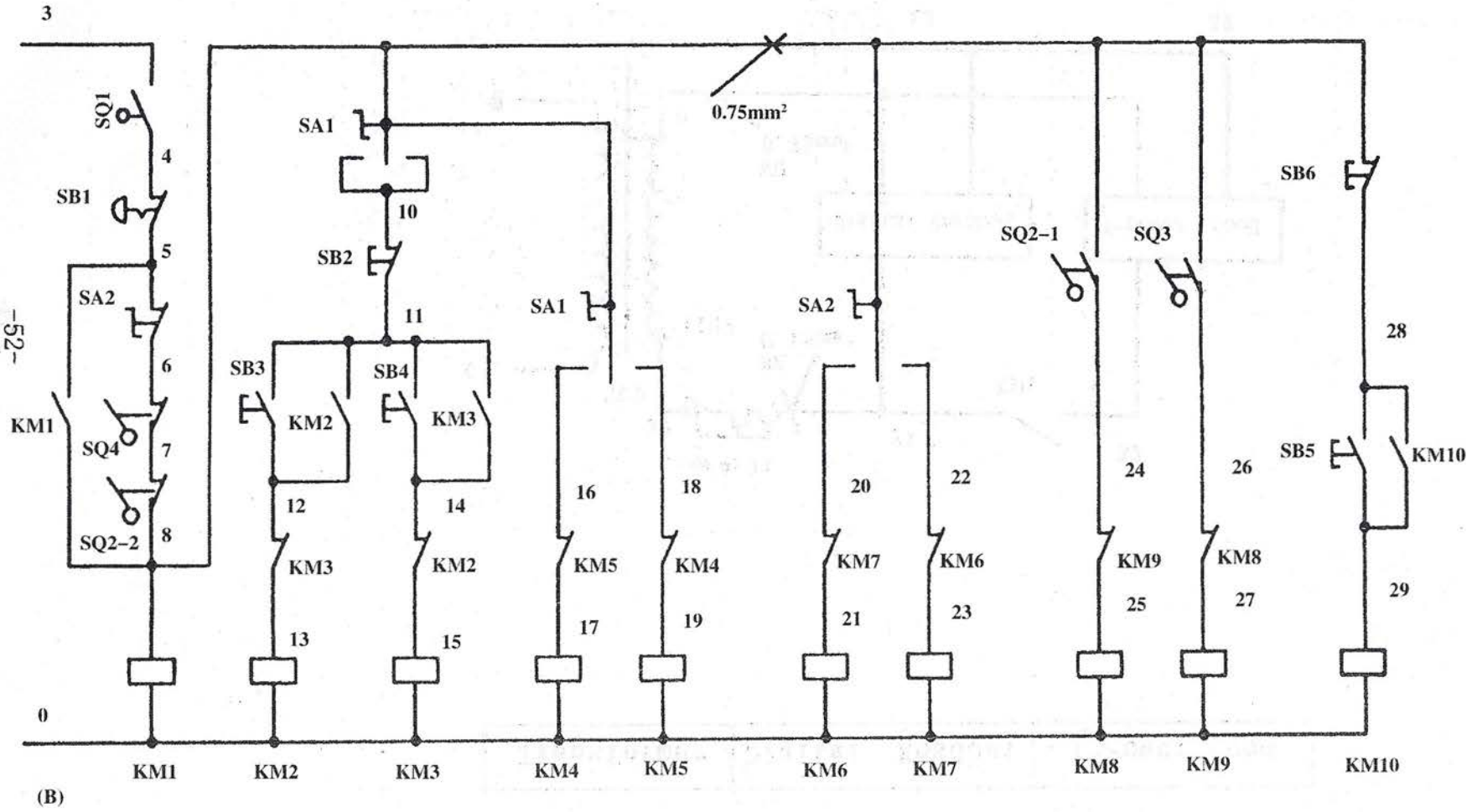


Power	Protec –tion	Vertical				Horizntal		Coolant	Trans –former	Light	E–stop protection	X–powcr feed
		Low		Rligh		CW	CCW					
		CW	CCW	CW	CCW							

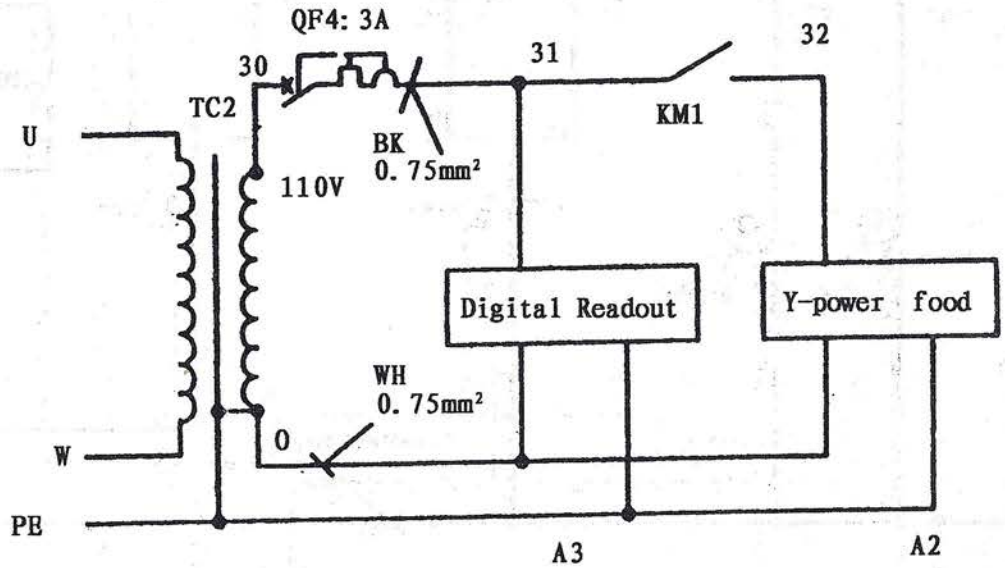



Power switch
Protect -ion
V-spindie
Low
High
CW
CCW
CW
CCW
Horizontal
CW
CCW
X-power feed
Left
Right
Cool -ant
Trans -former
Light
220/380/400V
50Hz/60z
3PH
L1
L2
L3
QF1:10A
U1
V1
W1
BK 1.0mm²
QS
PB
KM1
W11
V11
U11
Y/0 1.5mm²
KM2
KM3
KM6
KM7
KM8
KM9
KM10
U12
V12
W12
KM4
KM5
1U1
1V1
1W1
1U2
1V2
1W2
BK 1.0mm²
WH 0.75mm²
BK 1.0mm²
XB
U1 V1 W1 U2 V2 W2
U V W
M1 3 ~
M2 3 ~
M3 3 ~
M4 ~
0.85/1.5KW
1.5KW
370W
40W
TC1
24V
0
QF3:3A
QF2:3A
RD 1.0mm²
WH 1.0mm²
EL
(A)
Machine Division

E–stop Protection	Vortloal control				Horizontal control		X. Power feed		Coolant Control
	CW	CCW	CW	CCW	CW	CCW	Left	Right	

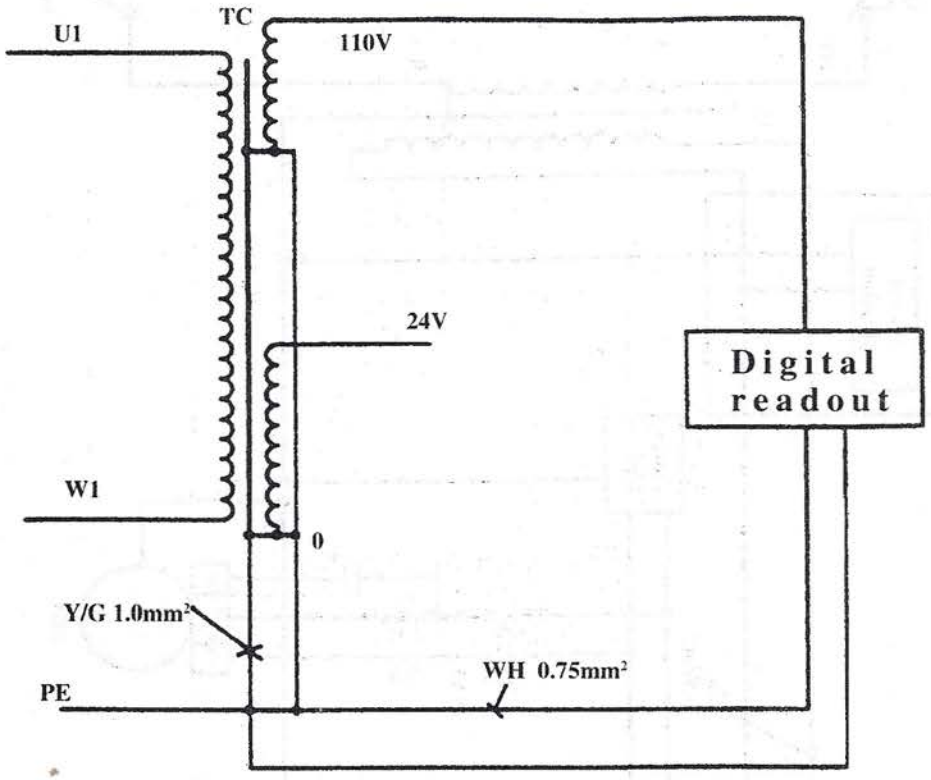


Transformer	Digital Readout	Y-Power food

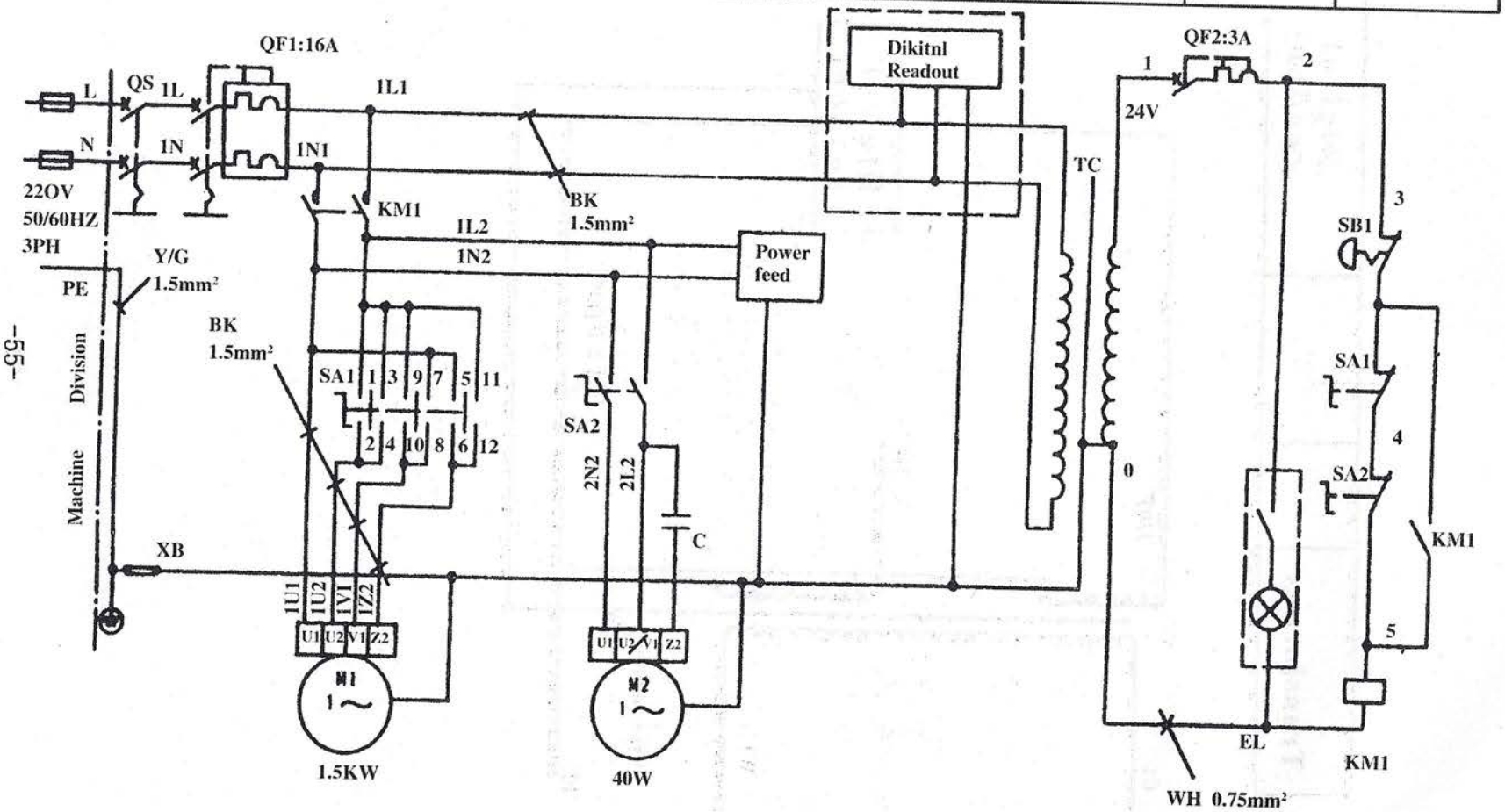


(0)

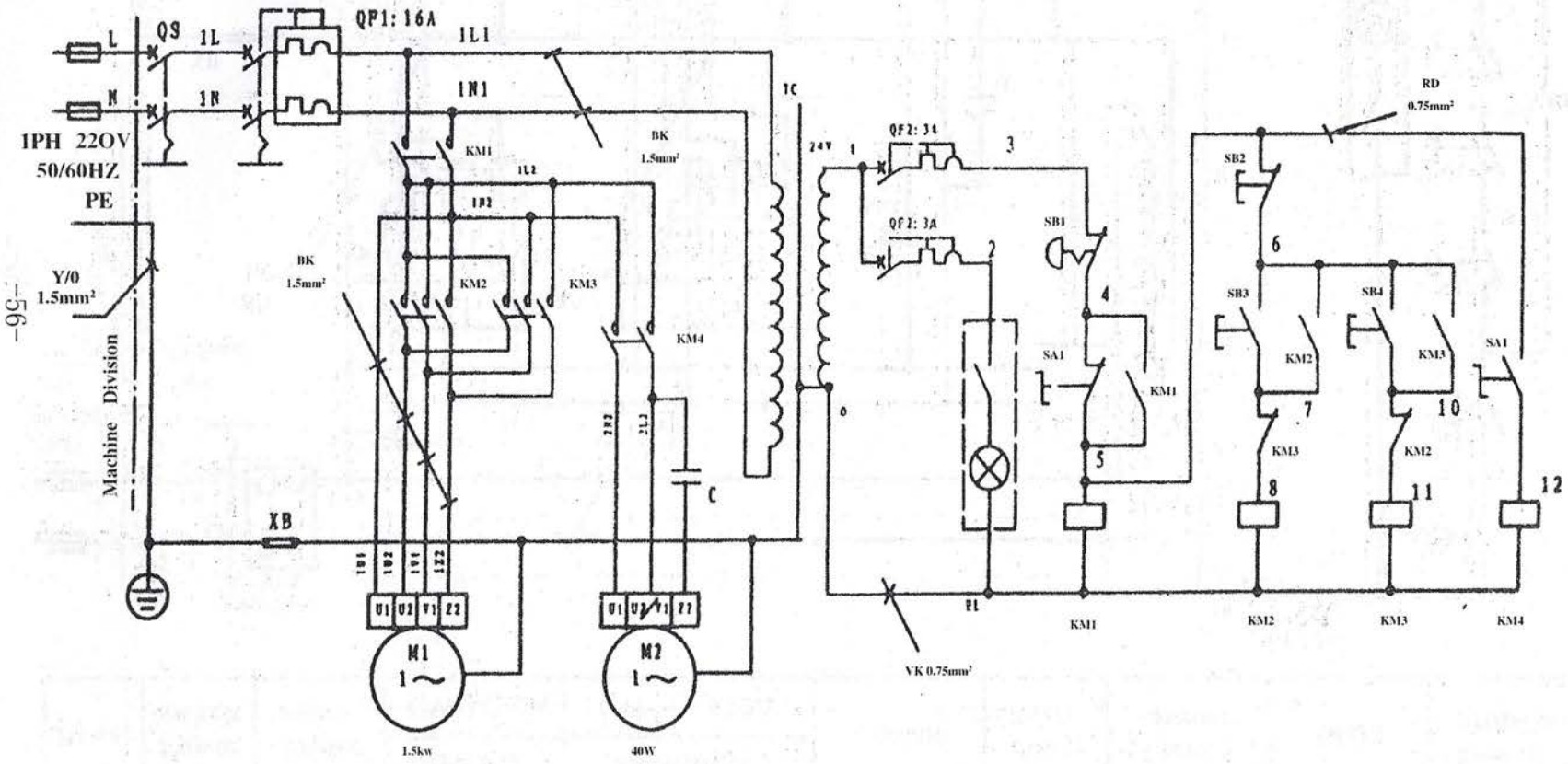
Transformer			Digital readout



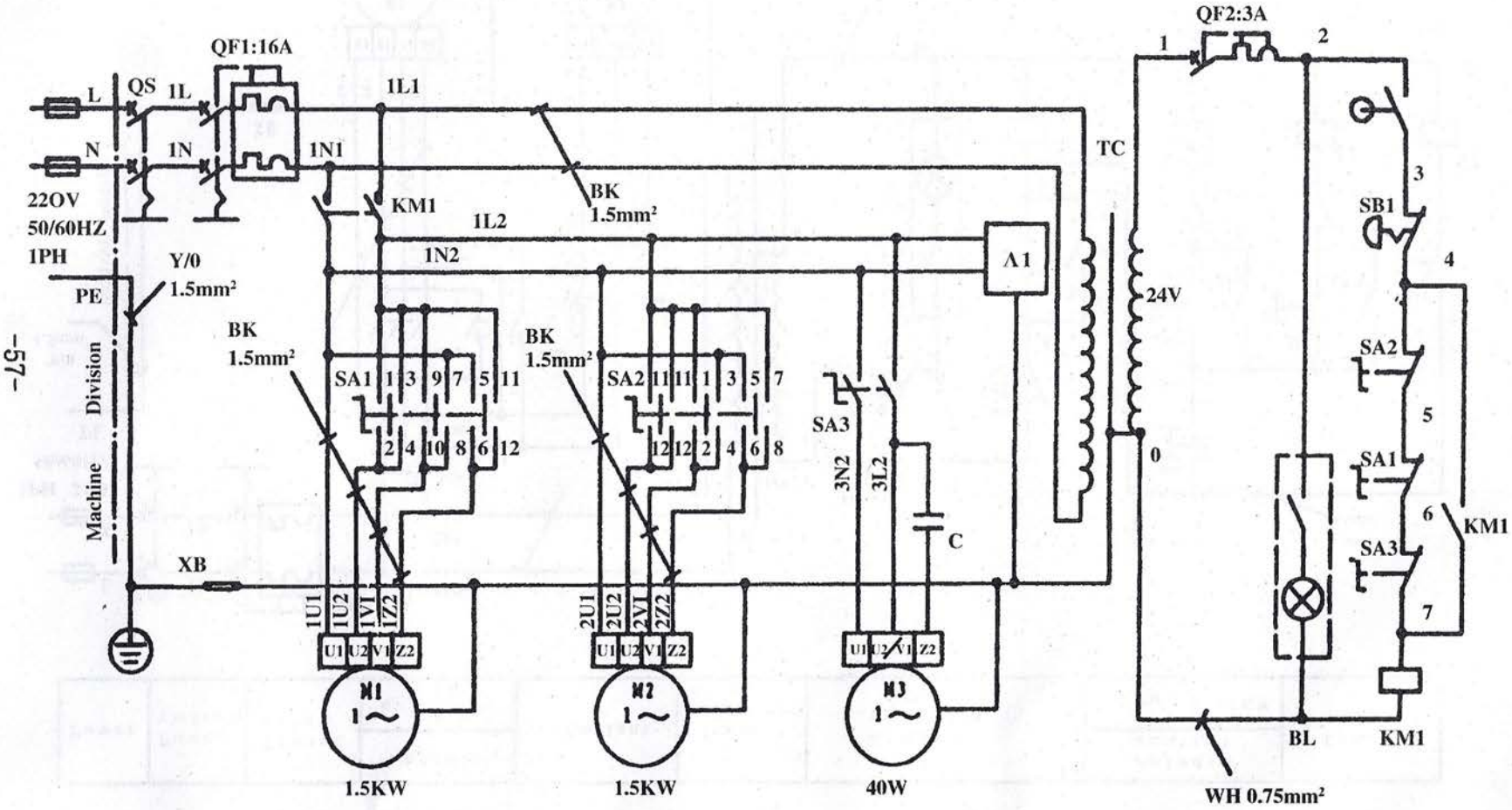
Power	Power switch	Protec -tion	Vertical		Coolant	Power feed		Trans -former	Light	E-stop protection
			CW	CCW						



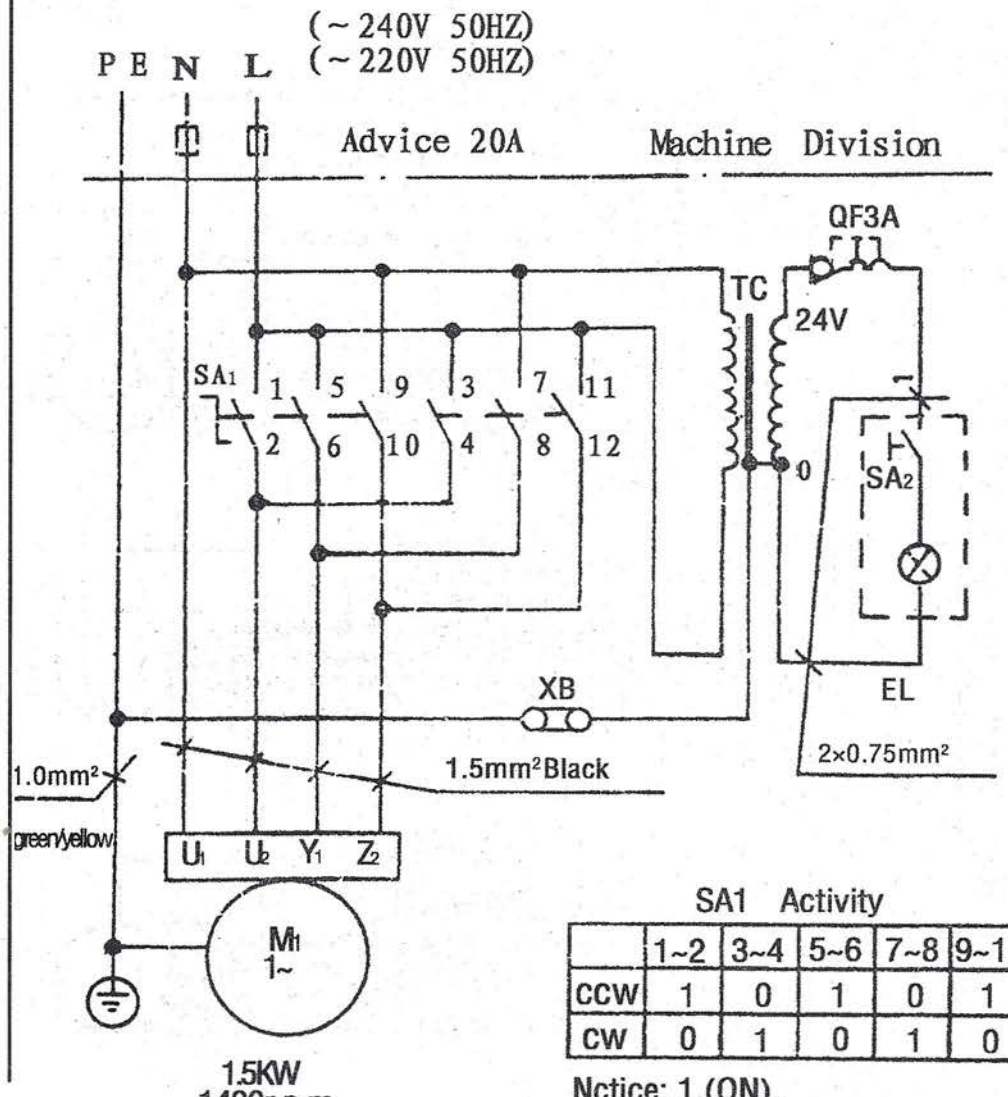
Power	Power switch	Protec -tion	spindle		Coolant	Trans -former	R-stop protection	spindle control		Coolant control
			cw	ccw				CW	CCW	



Power	Power switch	Protec –tion	Vertical		Horlznntal		Coolant	Power feed	Trans –former	Light	E–stop protection
			CW	CCW	CW	CCW					



C W	C C W	Transformer	Light



SA1 Activity

	1~2	3~4	5~6	7~8	9~10
CCW	1	0	1	0	1
CW	0	1	0	1	0

Nctice: 1 (ON).
0 (OFF).