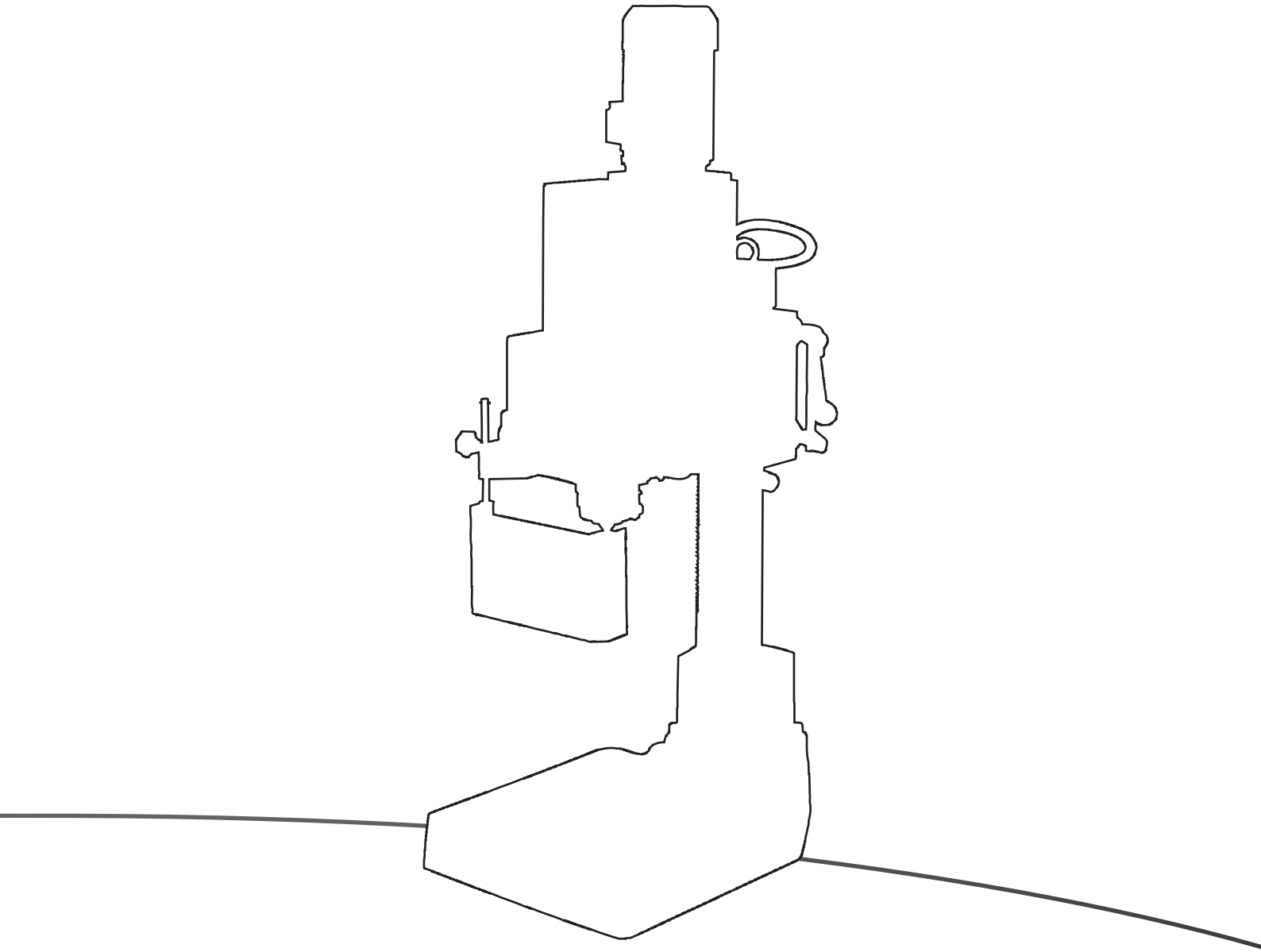

DRILLING MACHINES

HU 25 T

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Drilling machine HU 25 T

1. General safety rules for all machines

N.B.: Read the instructions carefully in order to avoid any problems.

As with all machinery there are certain hazards involved with operation and use of this machine. Using the machine with respect and caution will considerably lessen the possibility op personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may occur. Observe these rules insofar as they are applicable to this particular machine.
This machine was designed for certain applications only. We strongly recommend that this machine NOT be modified in any way and/or used for any application other than for which it was designed.
If you have any questions relative to its application DO NOT use the machine until you have contacted your dealer.

1. For your own safety read the instruction manual before operating the tool.
2. Keep all guards in place and in working order.
3. Ground all tools.
4. Remove adjusting keys and wrenches. Make a habit of checking the machine before turning it on.
5. Keep the work area clean. Cluttered areas and benches invite accidents.
6. Do not use in a dangerous environment, such as damp or wet locations or expose to rain. Always keep the work area well-lit.
7. Keep children and visitors away. They must be kept at a safe distance from the machine at all times.
8. Make sure that the work area is not accessible to unauthorised persons. Use padlocks, master switches, remove starter keys etc.
9. Never overload the machine. The capacity of the machine is at its largest when properly loaded.
10. Do not force the machine or attachment to do a job for which it was not designed.
11. Wear proper apparel. No loose clothing, gloves, neckties, rings, necklaces, bracelets or jewellery: they may get caught in moving parts. No slip footwear is recommended. Wear a hairnet to contain long hair.
12. Always wear safety glasses and work according to safety regulations. Use a face or dust mask if operation is dusty.
13. Always secure workpiece tightly using a vise or clamping device. This will keep both hands free to operate the machine.
14. Do not overreach. Keep your proper footing and balance at all times.
15. Maintain tools in top condition. Keep them sharp and clean. Read the instructions carefully and follow the instructions for cleaning, lubrication and tool replacement.
16. Lubricate the machine and fill all oil reservoirs before operation.
17. Disconnect tools before servicing and when changing accessories such as blades, bits, cutters etc.
18. Use only recommended accessories. Consult the owner's manual for recommended accessories. The use of improper accessories may cause hazards.
19. Avoid accidental starting. Make sure the on/off switch is in the "OFF" position before plugging in the power cord.
20. Never stand on the machine or tools. Serious injury could occur if the machine is tipped or if the cutting tool is accidentally touched.
21. Check damaged parts. Replace or repair damaged parts immediately. Check machine for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation.
22. Direction of feed. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
23. Never leave tool running unattended. Do not turn power off until it has come to a complete stop.
24. Alcohol, medication, drugs. Never us the machine while under the influence of alcohol, medication or drugs.
25. Make sure the tool is disconnected from the power supply, before servicing, repairing etc.
26. Keep the original packing for future transport or relocation of the machine.

Additional safety rules

Always keep in mind that:

- the machine must be switched off and disconnected from the power supply during maintenance and repairs,
- clamped workpieces may only be measured when the machine is switched off.

Never lean over the machine, mind loose clothing, ties, jewellery etc. and wear a cap.
Do not remove safety devices or guards. Never use the machine while a guard is open.
Always use safety glasses for machining rough materials.
Burrs and chips should only be removed using a sweeper or other aid, never with your bare hands!
Never leave the machine running unattended.

Always wear safety glasses.

2. Main specifications and features

This is a general- purpose drilling machine for hole machining operation. Two sets of motions, one is the rotational movements of the spindle in its transmission box, the other is the rotational and vertical travel movements of the spindle box along the vertical column, fulfil the machining operations of drilling, tapping, reaming, boring, chamfering and spotfacing on different shapes of workpieces. The gear transmission system has been applied, Which results in the compact structure and high rigidity to meet the needs of strong force cutting operation. The double-speed motor has led a wide speed range and very easy and safe shifting. The drilling machine suits the needs of machinery manufacturing and various kinds of repairing applications.

3. Several usage regulations

1. Carefully read this user manual before start the machine.
2. Wearing gloves is not allowed when operate this machine, contacting the spindle and tools are also forbidden when it is running.
3. The workpiece must be safely fastened, holding it with hands when in operation is strictly objected.
4. The machine has not short – circuit protection, the user is so required to connect a 6A protection switch. Earth protection mist be well done.
5. Whenever a failure happens, call the qualified personal to repair it.

4. Main specifications & parameters

Max. drilling dia.	25mm
Max. Spindle travel	150mm
Spindle hole taper	Morse No.3
Spindle speed variations	8
Speed Speeds	50Hz: 100 250 345 440 690 885 1450 2900rpm 60Hz: 126 245 415 530 830 1060 1740 3480rpm
Distance between spindle centre line and vertical column surface	225mm
Bottom base dimension	300 X 305
Max. Distance between spindle face and bottom base	445mm
Double-speed, 3 phase	0.55/0.75KW, 50Hz: 1400/2800rpm 60Hz: 1680/3360rpm
Machine overall dimension	58X470X1000mm
Weight	170kg

5. Parts drawings and list

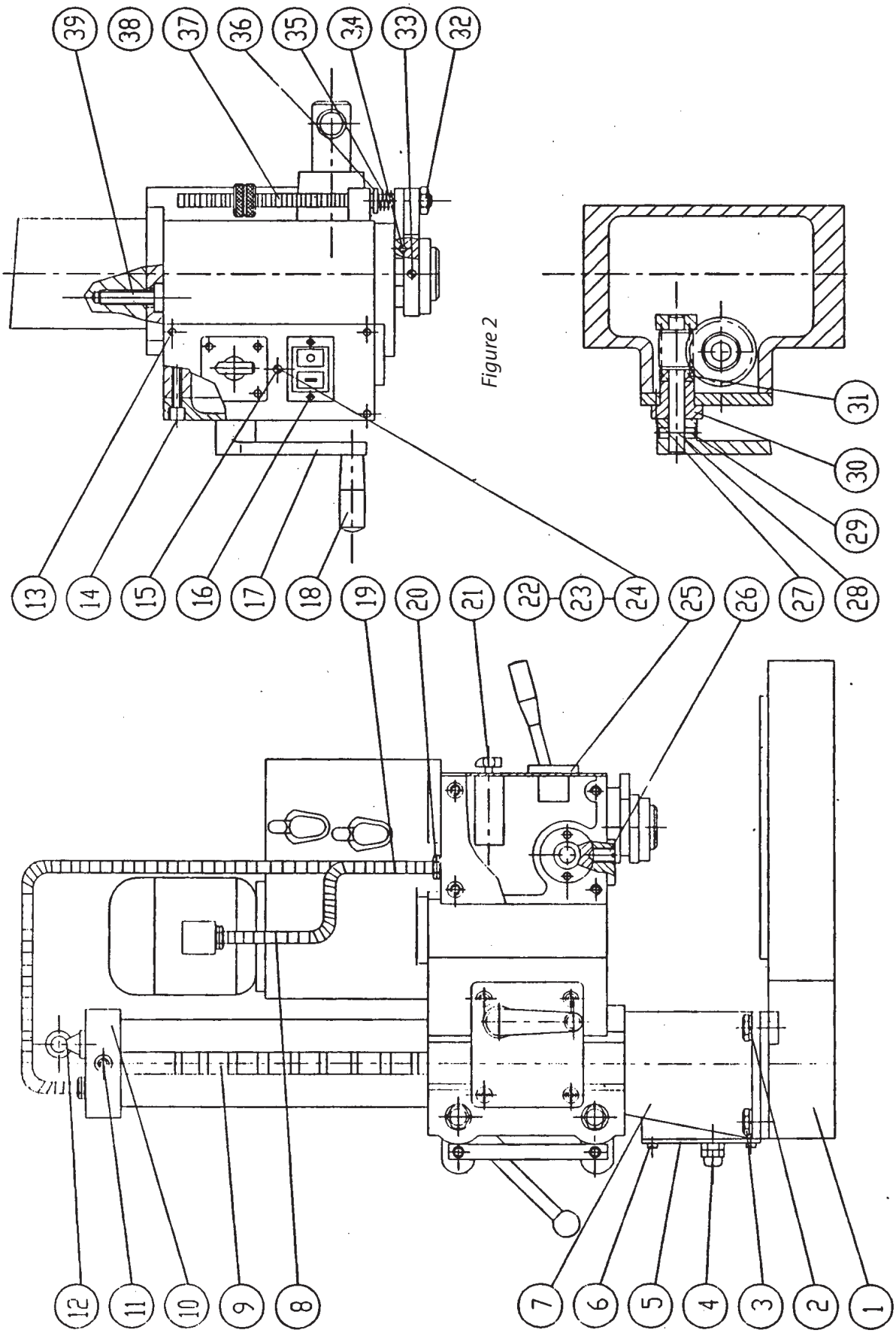


Figure 2

Figure 3

Figure 1

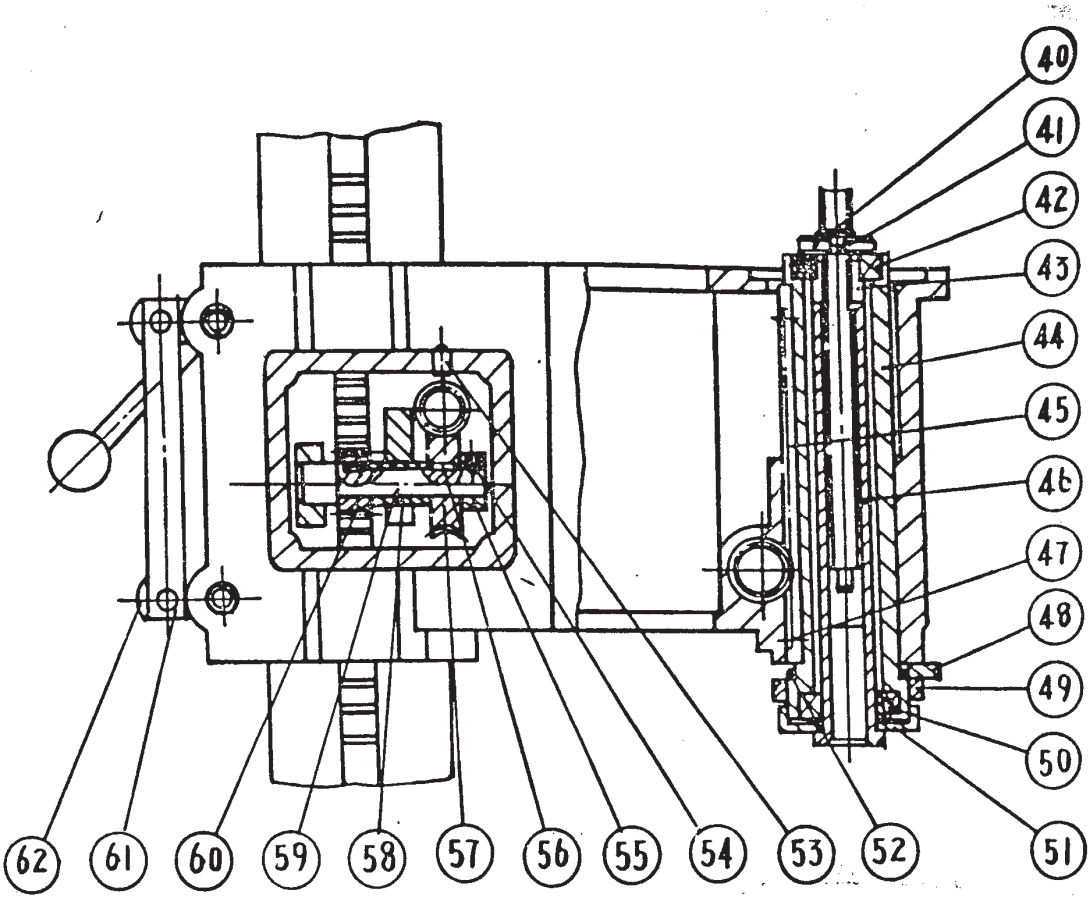


Figure 4

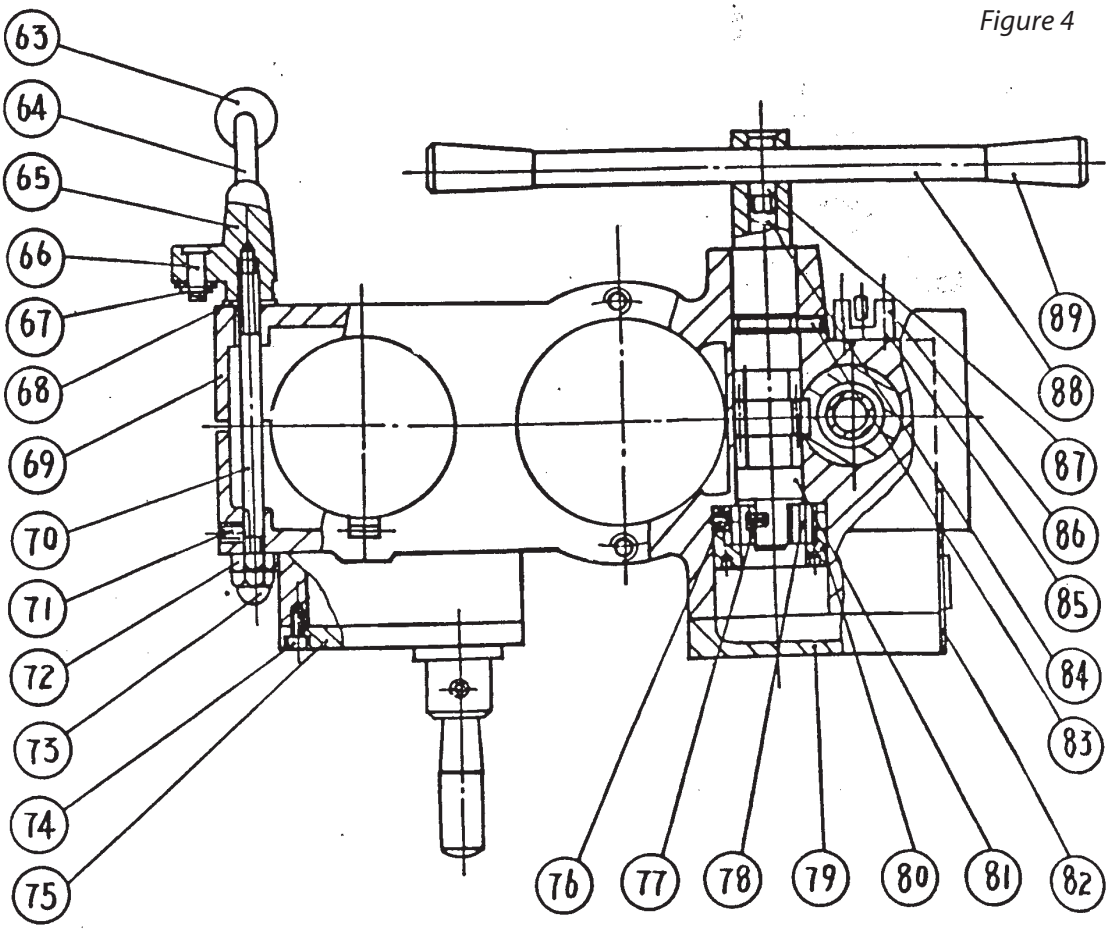


Figure 5

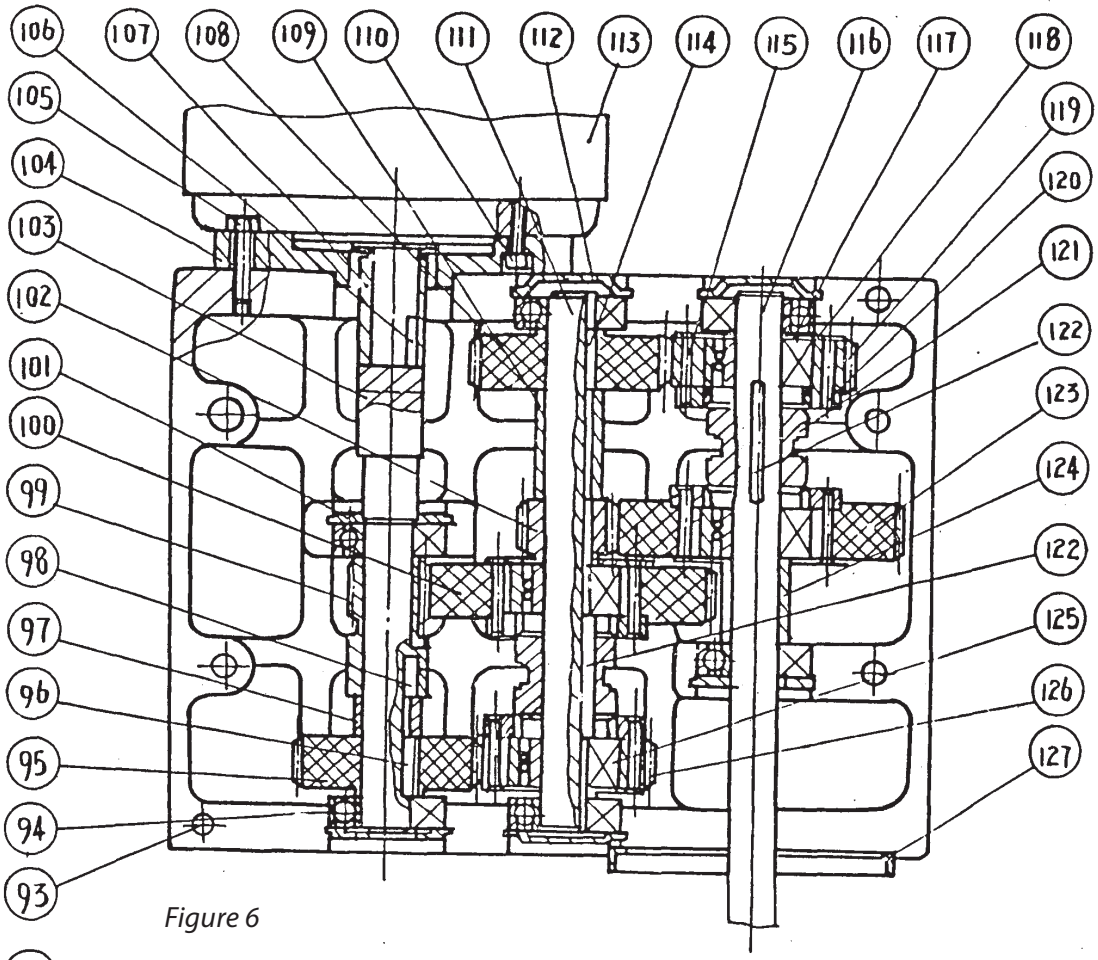


Figure 6

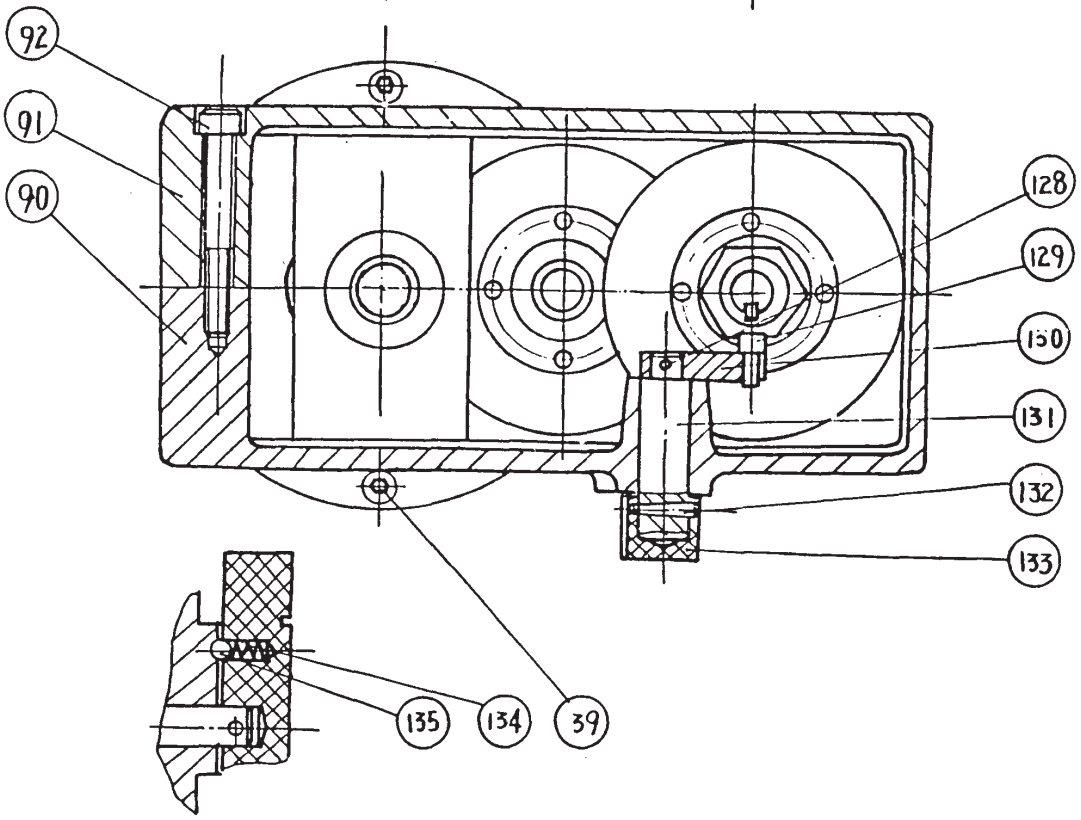


Figure 7

No.	Description	No.	Description
1	Bottom base	69	Spindle box
2	Spring washer	70	Fasten bolt
3	Hex nut	71	Round head fasten screw
4	Hose connector	72	Hex nut
5	Cover plate	73	Cover nut
6	Round head screw	74	Round head nut
7	Vertical column	75	Cover plate
8	Flexible metal pipe	76	Sink screw
9	Lift gear rack	77	Sink screw
10	Vertical column top cover	78	Coil spring
11	Inner hex screw	79	Cover plate
12	Eye screw	80	Spring base
13	Cross slot screw	81	Lift gear shaft z16
14	Inner hex screw	82	Electric panel
15	Carth plate	83	Round head fasten screw
16	Cross slot screw	84	Spring
17	Handle	85	Round head screw
18	Handle	86	Ruler base
19	Flexible metal prpe	87	Spring sleeve
20	Hose connector	88	Handle rod
21	Change switch	89	Handle sleeve
22	Sping washer	90	Gear box
23	Toothed washer	91	Gear box
24	Round head screw	92	Round head screw
25	Electromagnetic	93	Taper pin
26	Tapered head fasten screw	94	Bearing 80203
27	Round head screw	95	Gear z42
28	Worm shaft	96	Key
29	Taper pin	97	Sleeve
30	Bush	98	Key
31	Bearing 8102	99	Gear z16
32	Hex nut	100	Gear z68
33	Taper head fasten screw	101	Cover
34	Round pin	102	Gear z16
35	Spring	103	Motor connect shaft
36	Washer	104	Motor base
37	Scaled ruler	105	Round head screw
38	Knurled nut	106	Key
39	Round head screw	107	Sleeve
40	Round nut	108	Gear z34
41	Anti-motion washer	109	Sleeve
42	Bearing 80205^{e}	110	Round head screw
43	Guide key	111	Middle shaft
44	Spindle sleeve	112	Cover plate
45	Feed gear rack	113	Motor
46	Spindle	114	Key
47	Round head screw	115	Rivet

48	Handle	116	Center shaft
49	Sleeve fasten ring	117	Sleeve
50	Bearing 7206^{e}	118	Connect sheet
51	Bearing cover	119	Gear z33
52	O shape seal	120	Inner gear sheet
53	Oil cup	121	Connector
54	Taper head fasten screw	122	Key
55	Fixture sleeve	123	Gear z51
56	Key	124	Sleeve
57	Worm gear z28	125	Bearing 3056203
58	Sleeve	126	Gear z42
59	Small shaft	127	Fixture ring
60	Gear z17	128	Taper ring
61	Connection rod	129	Pin
62	Handle base	130	Arm
63	Handle ball	131	Shaft pin
64	Handle bar	132	Tape pin
65	Handle base	133	Handle
66	Pin	134	Spring
67	Elastic block ring	135	Steel ball
68	Washer		

6. Structure and adjustment

The vertical column is mounted on the bottom base, loosen the fasten handle 63 (fig.5) and rotate handle 17 (fig.2), the spindle box can move along the vertical column, loosen the fasten handle 63, the spindle box fixed at any position, so to suit the different machining requirements, loosen cover nut 73 (Fig.5) and rotate nut 72, the swivel angle of the fasten handle can be adjusted and the tightness of the spindle box can also be changed, when adjustment completes, fasten the cover nut.

The gear box is mounted on top of the spindle box, rotate the feed handle 89 (Fig.5) the spindle will move up and down along with the sleeve Remove the gear box, loosen the anti-motion washer 41 (Fig.4), adjust nut 40, the clea ance of the spindle bearing can be altered. The above adjustments have been set when put to shipment, nonqualified personal is not allowed to de this adjustments.

7. Transmission system

The spindle rotate (Fig. 6) through motor and gear 95;126 or 99;100 to shaft . Through gear 102; 123 or 108;119 to shaft. Through guide and transmission key to spindle. The motor has double- speed, through changing the transmission gears, the spindle will rotate in 8 grades of speeds.

Spindle feed motion. The spindle feed movement is controlled manually, the handle 88 (Fig.5) through gear, gear rack transmission, to make the spindle sleeve move downwards so realise the feed motion.

The up and down motion of the spindle box. It is also controlled by hand, loosen the fasten handle 63 (Fig. 5), move handle 17 (Fig.2), the spindle box will move up or down.

8. Operation

Before start the motor, first rotate the change switch (21) on the spindle box till teach the required position (high speed to "2R", Low speed to "1R", low speed and reverse direction to "1L") , then press down the start switch "1" (green) ; for stop the machine press "O" button (red): for reverse rotation, fist to stop the machine and rotate the speed change switch to "1L" or "2L" wait till the motor to stop completely and then press the start switch.

The speed selection is realised through handle 133 (Fig.7), adjust handle 133 to realise 4 kinds of speed variations, matched with double speed motor, we can gain 8 grades of speeds ranging from 100 rpm to 2900 rpm. It should be noted that the speed variations could only be done when the machine has stopped so to avid any possible damages to the gears and couplers.

About the drilling depth, you only need to adjust the nut 38 (Fig.2) to the require dimension. The drill automatic release applies to GB1443-85 (ISO 296-1974). Morse 3 outer taper with flat tail, its operation is 1:ke this: put out the handle 48 (Fig.4), rotate handle 88 (Fig.5), then the sleeve will lead the drill to the highest position, the drill end touches the enter shaft end so to be pushed out, then push 48 to its original position, install the tool.

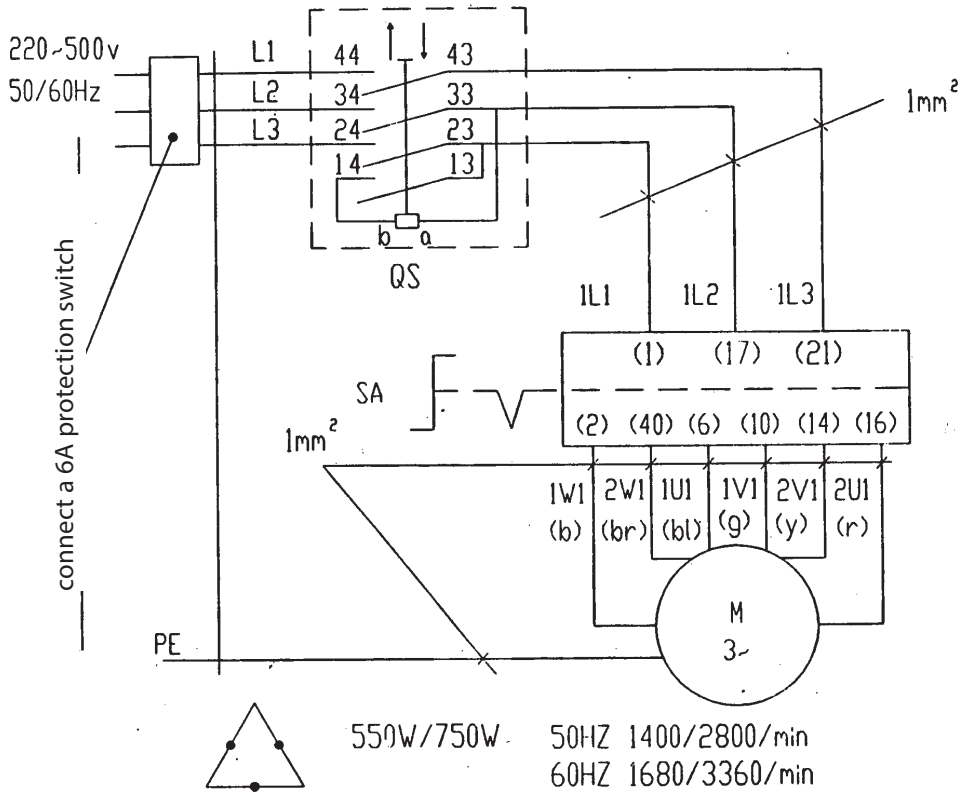
9. Lubrication

The spindle sleeve lubrication uses precision machine tool grease No. 2, change it every 1 year, The spindle box handle should be oiled every shift using No. 30 oil.

10. Transportation and installation

Before lifting the machine for transportation, the spindle box must be fastened first.
The machine can be installed on any hard place, it can also be tightened by bolts.

11. Electric system



SA connection ("X" means connected)

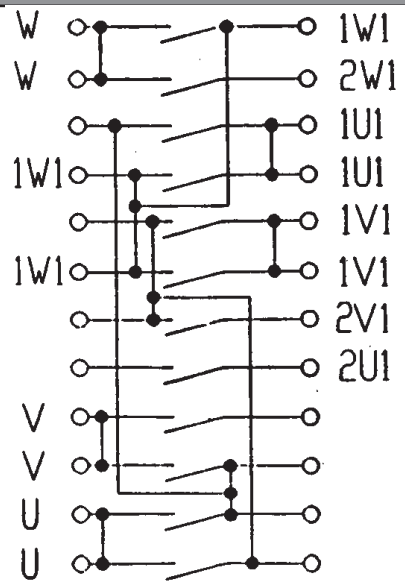
No.	LW6-4/F525	No.	Low speed			0	High speed		
			1L CCW	0	1R CW		2R CW	0	2L CCW
1		2	X		X				
3		4					X		X
5		6	X		X				
7		8					X		X
9		10	X		X				
11		12					X		X
13		14					X		X
15		16					X		X
17		18			X		X		
19		20	X						X
21		22			X		X		
23		24	X						X

Figure 8

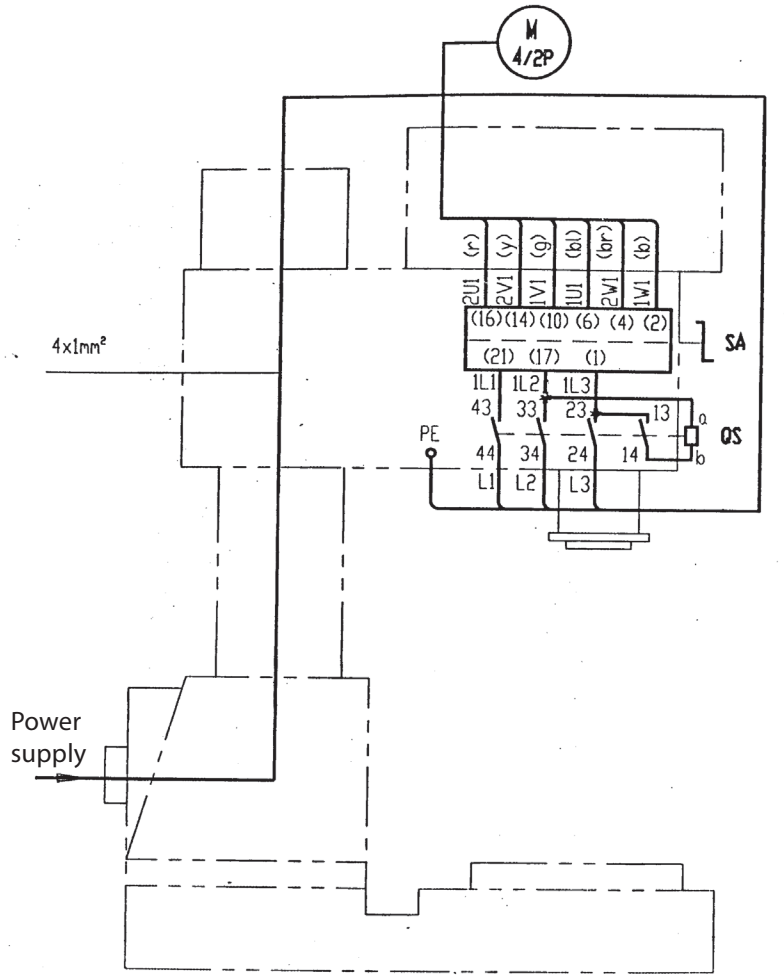


Figure 9

The circuit diagram is shown as Fig. 8, the electric connection is shown as Fig. 9. The machine uses 3 phase, 50Hz or 60Hz, 220V, 380V, 420V power supply, which are user selectable.
The double-speed motor rotates at 1400/2800 rpm for 50Hz and 1680/3360 rpm for 60Hz, the motor power is 550/750W, the two speeds are selected by SA switch, the reverse direction can also be selected, the start and stop are realised by push button QS.

12. Accessories

No.	Name	Specification	Qty
1.	3-Jaw Drill chuck	diameter 13	1
2.	Bar of connecting Drill chuck		1
3.	Tapered middle sleeve	3/1	1
4.	Tapered middle sleeve	3/2	1
5.	Wedge for taper shank tool		1

Our products are frequently updated and improved. Minor changes may not yet be incorporated in this manual. Always state the year of build, type and serial number of the machine in correspondence.

Manufacturer and importer assume no responsibility for defects which result from not reading the manual carefully or wrong use of the machine. No rights can be derived from this manual.

 Internet: www.huvema.nl

CE DECLARATION OF CONFORMITY

(in accordance with supplement II A of the Machinery Directive)

Industrie & Handelsonderneming Huberts bv, Kennedylaan 14, 5466 AA Veghel, the Netherlands, in the capacity of importer, is to be held responsible for declaring that the Huvema machine:

Drilling machine HU 25 T

which this declaration relates to, is conform the following norms:

NEN-EN ISO 12100:2010, NEN-EN IEC 60204-1:2006/C11:2010, NEN-EN IEC 61000-6-4:2007/A1:2011, NEN-EN IEC 61000-6-2:2005/C11:2005

and meets the basic requirements of the:

- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC

Veghel, the Netherlands, January 2014

L. Verberkt
Managing director

Hüvema