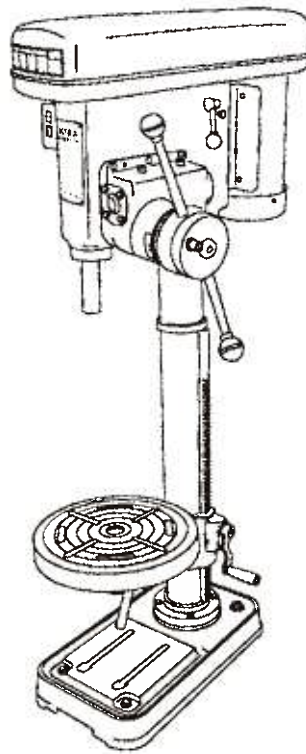


KIRA

Bench type Drilling Machine KRDG-420P INSTRUCTION MANUAL



CAUTION



- ◆ *This instruction manual includes important information for using the KRDG-420P properly and safely.
Be sure to read and understand this document before using the bench type drilling machine.*

KIRA CORPORATION

PREFACE

Thank you for purchasing the Model KRDG-420P KIRA Bench type Drilling Machine. This instruction manual uses a number of illustrations to help your understanding. Be sure to read and understand the instruction manual before starting the KRDG-420P operations. Place the manual in a location where it can be accessed whenever necessary.

SIGNAL WORDS

The signal words as used in this instruction manual and on the KRDG-420P represent the following three levels of hazards:







⚠ DANGER	◆ Indicates an imminently hazardous situation which, if not a voided, will result in death or serious injury.
⚠ WARNING	◆ Indicates a potentially hazardous situation which, if not avoided, could result in death or serious Injury.
⚠ CAUTION	◆ Indicates a potentially hazardous situation which, if not avoided, many result in minor or moderate injury, or property damage to the equipment.





NOTE

Indicates something that must be considered in handling the equipment.

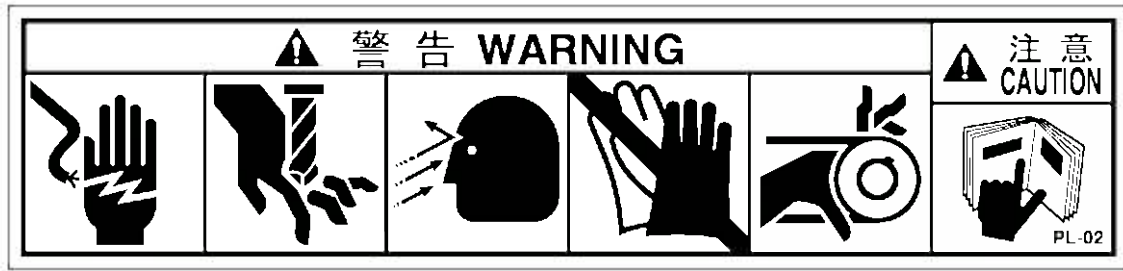
ICONS

This instruction manual uses the following icons to raise your attention:

Caution (including Danger and Warning)		Electric shock
		Injured by spindle or tool
		Flied out
		Caught in rotating part
		Fire
		Get caught in belt

Caution		Other general cautions
	Prohibition	
		Do not disassemble
		Do not wear gloves
Compulsion		Refer to instruction manual
		Ground

DESCRIPTION OF SIGNAL-WORD LABELS



[Risk of electrical shock]

High voltage runs in the electric control cabinet. Getting an electric shock may result in death.

Therefore, before opening the door on the electric control cabinet, be sure to shut off the main power.



[Warning of electrical shock label]

There might be had an electric shock because high voltage runs in the electric control cabinet if the control panel is opened carelessly or is attached with a wet hand.

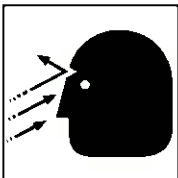
Don't open or remove the portion which is attached this label.



[Risk of injured by spindle]

The spindle has a sharp cutter that rotates at a high speed. Touching the spindle during its rotation results in serious injury like severing. Therefore, do not put your hand or foot close to the rotating spindle.

Even if the spindle stops, do not touch it with a bare hand.



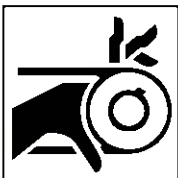
[Risk of eye injury]

"Chips / cutting oil / broken tools" are scattered during processing. There is a chance to injuring eyes or face. The protection glasses must be worn while operating machine.



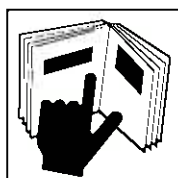
[Must not wear gloves while operating machine]

There is a chance to be injured by the rotating objects of machine pulls or rolls up the glove.



[Must not operating machine without covers]

There is a chance the rotating belt catches fingers or hands, if operate machine with opening cover etc. If the fingers or the hands are stuck in the belt, stop the machine immediately and turn off the main power. Then rotate the belt by hand in order to release the stuck fingers or hands. Turn off main power when open cover etc.



[Be sure to read and understand the contents of this manual before operating]

Improper operations may cause unexpected accidents or machine malfunctions. If the Instruction Manual is lost, please contact your dealer for purchasing new one.

LOCATIONS FOR STICKING SIGNAL-WORD LABELS

⚠ DANGER

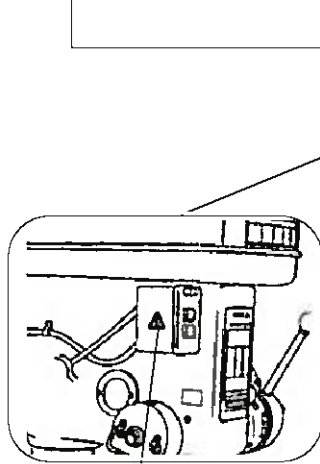
◆ Do not use the equipment when any of its signal-word labels is partially or totally broken, peeled off, or has a faded color. This may result in serious damage.

- * Two different kinds of warning label is stuck on the equipment.
- * If the warning label is broken, peeled, or discolored, contact your dealer with its label number.

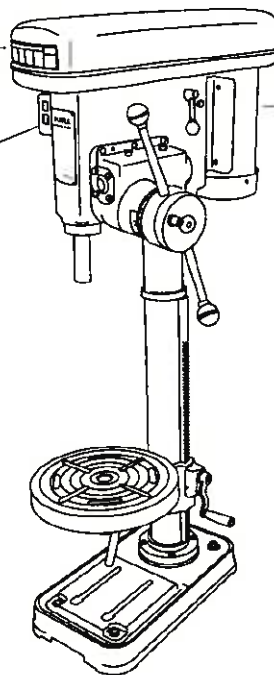
LABEL No. : PL-02



【Model】 KRDG-420P



POWER-SEAL-S



POWER-SEAL-M

SAFETY PRECAUTIONS

⚠ DANGER



- ◆ The main power must be shut down, before opening the door on the electric control cabinet.
- ◆ Do not operate switches by a wet hands.

⚠ WARNING



- ◆ Do not touch the spindle or chips during the operation.
Especially the cutter is very sharp. Do not touch it, even if the spindle is not rotating.



- ◆ Do not approach all fours to belt while rotating, may be caught in the belt.
- ◆ Do not operate machine with opening cover etc.
- ◆ Be careful not to punch hand between pulley and belt while belt changing operation.
- ◆ Turn off main power when open cover etc.



- ◆ Do not wear the gloves during operation.
Your gloves and hands may get stuck in the rotating part of the machine.



- ◆ The KRDG-420P may suddenly start moving after it temporarily stops during the operation.
Therefore, do not access the equipment without verifying its present state.

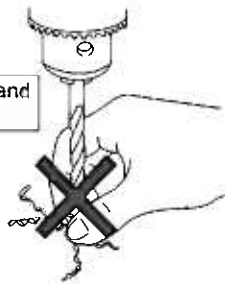


- ◆ If cutting oil attaches to your working wear, clean it off because it may catch fire.
- ◆ Exercise care in handling cutting oil. For example, in order to prevent fire occurring with cutting oil, do not use water-insoluble cutting oil when carrying out operation.
If the floor is made of wood, use sufficient care for fire because it is liable to catch fire. And please confirm the location of fire extinguisher before operation start.

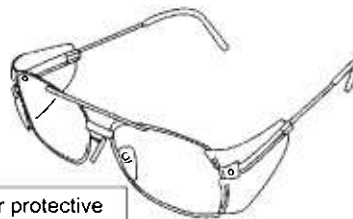


- ◆ To remove chip stuck on a tool, stop the spindle; checking that its rotation has completely stopped; and then brush off the chip while wearing protective glasses, and please do not touch cutting chips barehanded.

Not touching spindle and chip during turn.



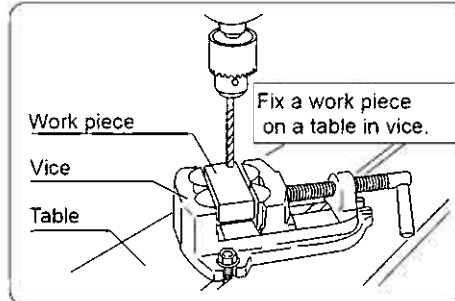
Wear protective glasses and work



⚠ WARNING



- ◆ Be sure to fix the work piece to the table using a vise, etc.
If machining is carried out without fixing the work piece, it would be rotated or lifted up to cause very dangerous situation.



- ◆ Please be careful to the handling of a work. Letting it fall on your foot will result in a bone fracture or a similar injury.



- ◆ Be sure to ground the equipment.
But, do not connect the grounding to the gas pipe and steel frame which have insufficient grounding.



- ◆ Be sure to connect the wire of power to the power supply in which a leakage breaker is set.

- ◆ Do not install the drilling machine outdoors, in the location where is much moisture, where is splashed by water, or where is exposed to direct sunlight.
- ◆ Do not use the machine in the location where is flammable liquid or gas.



- ◆ Confirm the position of button to stop spindle rotation immediately.
- ◆ Stop the machine and shut off the power before "Maintenance & inspection" or "Changing tool, cutter or fixture".
If any hazardous situation may be predicted, also shut off the power.
- ◆ Set up the caution plate in a conspicuous place around the service panel and the control box while working in order to prevent somebody turns on the power suddenly.



- ◆ Install the tooling and the cutter firmly to the normal position by appropriate procedures. Loosely or too much tighten is dangerous. Follow the procedures mentioned in manual.



- ◆ Before turning ON the power, check that the maintenance tools such as chuck handle, wrench, center drift etc. have been removed.

▲ CAUTION



- ◆ Be sure to follow the instructions given in this document, including the operation guidelines.
- ◆ Do not use the KRDG-420P for any purpose other than specified in manuals.
- ◆ Do not use the machine for any purpose of cutting wooden material and similar material.
- ◆ This model is vertical type, and install to strong working table etc to prevent overturning.



- ◆ Do not carry out disassembling or modifying by yourself.
- ◆ Use the KRDG-420P at the specified frequency and voltage.



- ◆ Check no damage on covers and other parts before operation.
- ◆ Clean up the machine and wipe up the cutting oil around the machine after operations. Then add the lubrication oil to the designated points.
- ◆ Perform maintenance / inspection regularly.



- ◆ Making operations with wearing appropriate clothes, safety shoes, safety glasses and other protective equipment.

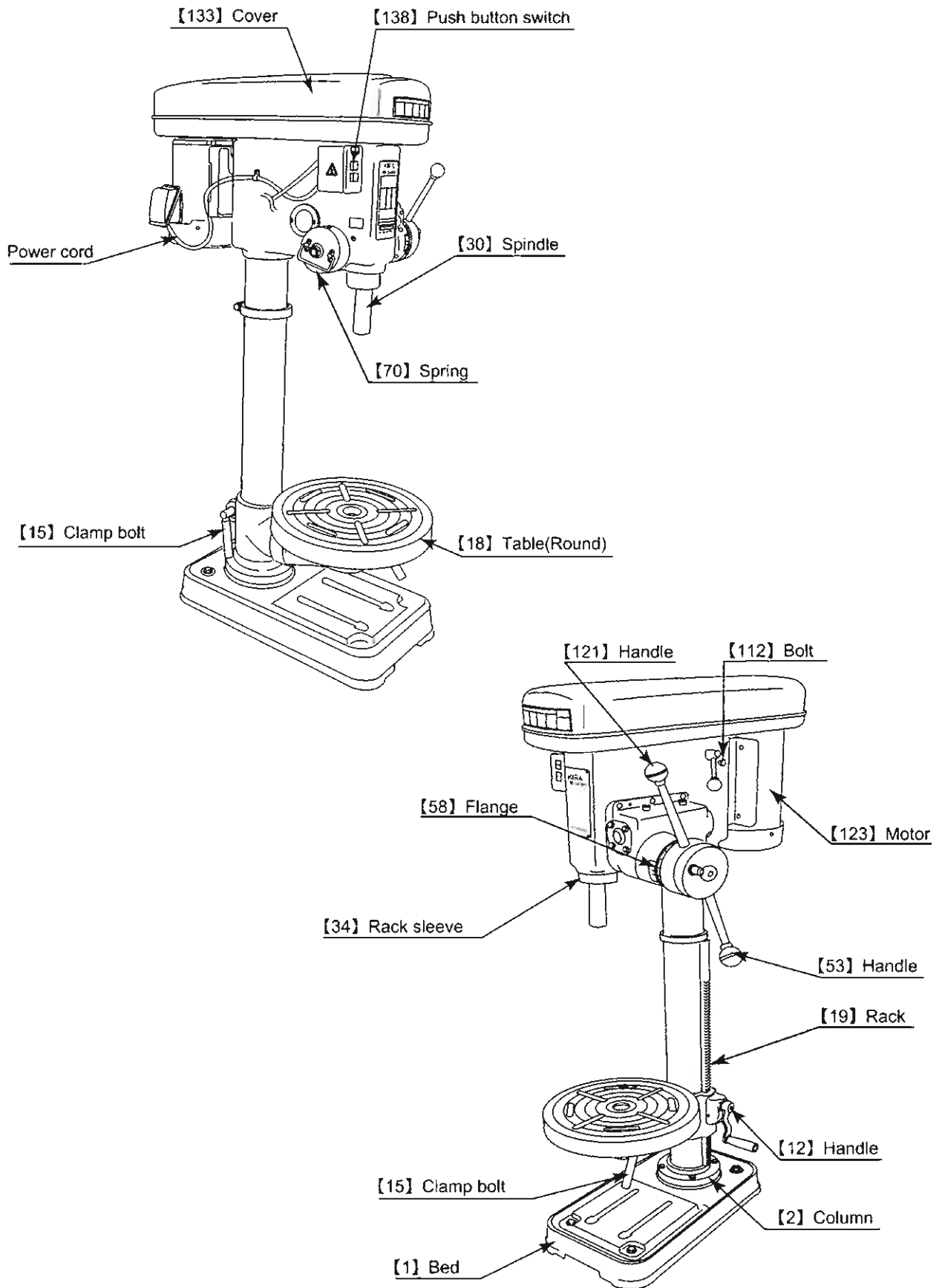


- ◆ Do not operate the machine other than the person in charge of operation. ✕
- ◆ Do not make uncertain operation or procedure.
- ◆ Do not place something not related to operations on the machine or around it.
- ◆ Shut off the power in case of power failure.
- ◆ Shut off the power while the machine is out of use.
- ◆ If the spindle crashes on the work piece, stop the operation immediately. Then contact your dealer or KIRA Corporation for asking recovery procedures.
- ◆ If you found any abnormal condition on the machine, stop the operation immediately. Then contact your dealer or KIRA Corporation.

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1. NAMES OF VARIOUS PARTS



2. SPECIFICATIONS

Unit : mm

Model		KRDG-420P	
Swing		420	
Drilling capacity	S45C	4~16	
	FC200	4~19	
Max. distance spindle to table		Round table	425
		Square table	473
Max. distance spindle to base		663	
Spindle stroke	Manual	120	
	Auto	115	
Spindle taper		MT2	
Size of table		Round table ϕ 370	Square table \square 300
Spindle speed(min^{-1})	50Hz	170, 250, 420, 950, 1150, 1750	
	60Hz	200, 300, 500, 1150, 1400, 2100	
Automatic feed of spindle (per rev.)		0.07, 0.11, 0.16, 0.24	
Drive motor		0.75kW 6P (Totally enclosed type)	
Type of V-Belt		A-34-R,A-27-R	
Machine total height		1272	
Net weight(kg)		145	
Dimension of base		340×600	
Standard Accessories		Center Drift 1pc.	
		V-Belt A-17,A-19,A-21,A-23 each 1pc.	

3. USE APPLICATION

Drilling of various materials, S45C(steel),FC200(Cast iron), etc.

4. PREPARATIONS FOR OPERATION

(1) Installation

Install the machine on the smooth top working table which is reserved enough space for making inspection and maintenance.

(2) Power supply

Confirm the capacity and the voltage on the specification plate of motor.

(3) Wiping off rust prevention paint

Wiping off the rust prevention paint of bed, table and column.

(4) Refilling of lubrication oil

Refill the lubricating oil to the following points. (Please refer to Fig.-1 and Fig.-2)

Lubrication point	Method	Quantity of oil	Brand name	Cycle
Oil cup (Fig-2)	Manually	3~4drops	Shell Tonna Oil S3M68	once / 1day
Spindle sleeve (Fig.-1)	Manually	3~4drops	Shell Tonna Oil S3M68	once / 1day
Pot of grease (Fig.-1)	Brush coating	3cc	Shell Alvania 2 grease	once / Month
Oil supply plug (Fig.-2)	Oil bus	Up to the middle level of the oil box	Shell Tonna Oil S3M68	once / 1day

*Applicable oil and grease is listed Shell brand. If you use other brand oil, please use equivalent oil and grease as above the table.

5. CHECK BEFORE OPERATION

(1) Confirmation of a power supply

Three phase/200V is the specification of this machine. Please check your power supply again.

(2) Connection of a power supply

As 2-m 4 core cab tire cord has come out from the control box, please connect the cab tire cord to a power supply breaker.

The green wire is the grounding wire(E), and please connect properly.

When power supply is turned on, the power indicator lamp lights up.

When ON button of Push-button switch is pushed, the spindle rotates.

If a spindle rotates counterclockwise direction to see from poll end side, connection is right. But if it rotates opposite direction, please replace connection of two of three power source wires, and ensure that it rotates counterclockwise direction.

Please check whether the earth wire is connected to the specified position (earth mark) in the control box.

⚠ CAUTION

- ◆ Please don't connect a power supply in the status of spindle automatic feed.
(The state that the spindle UP/DOWN handle turn right)
The machine will move suddenly and it's dangerous, and has adverse affect on the machine.
- ◆ Please make sure turn off power supply breaker before connecting the power cable.
 - As the 2m length 4 cares cab tire code is prepared, please connect to the breaker.
 - Please be sure to connect an earth wire (green) to a ground.
- ◆ Please be sure to connect power supply cable to the place where the earth leakage Breaker is prepared.

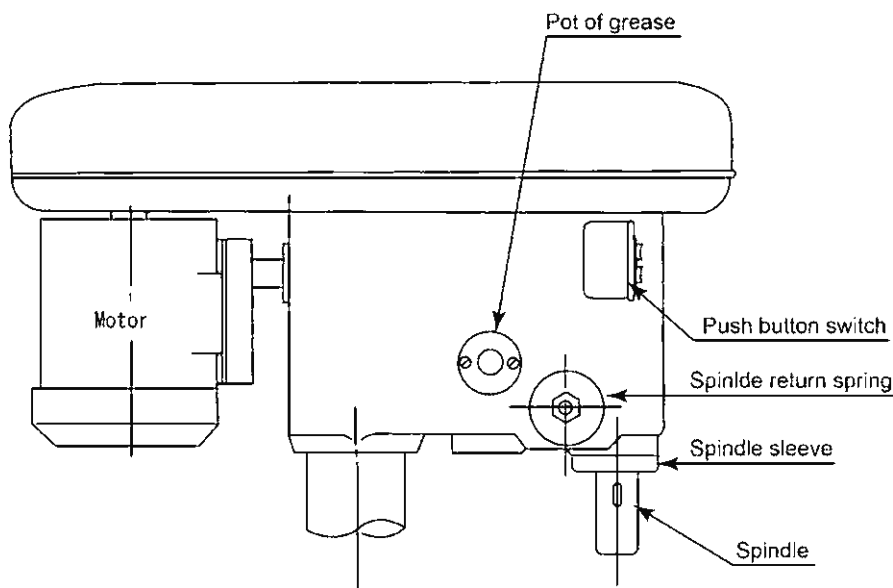


Fig.-1 Left side of machine

6. OPERATION OF MACHINE

(1) Spindle speed shifting

The spindle speed can be changed by changing belt position as indicated on the plate on the front of the machine. Change the belt position is easy: loosen the motor fixing screw (one each on the left and right) shown in Fig.-2 and move the motor shifting lever toward the left to loosen the belt.

After changing the belt position, please move the lever toward the right to tighten, and tighten the motor fixing screws (each side).

This model uses middle pulley to shift 6 different spindle speed as the name plate. If you need other spindle speed, please arrange belt and pulley without center pulley as the following "Table-1".

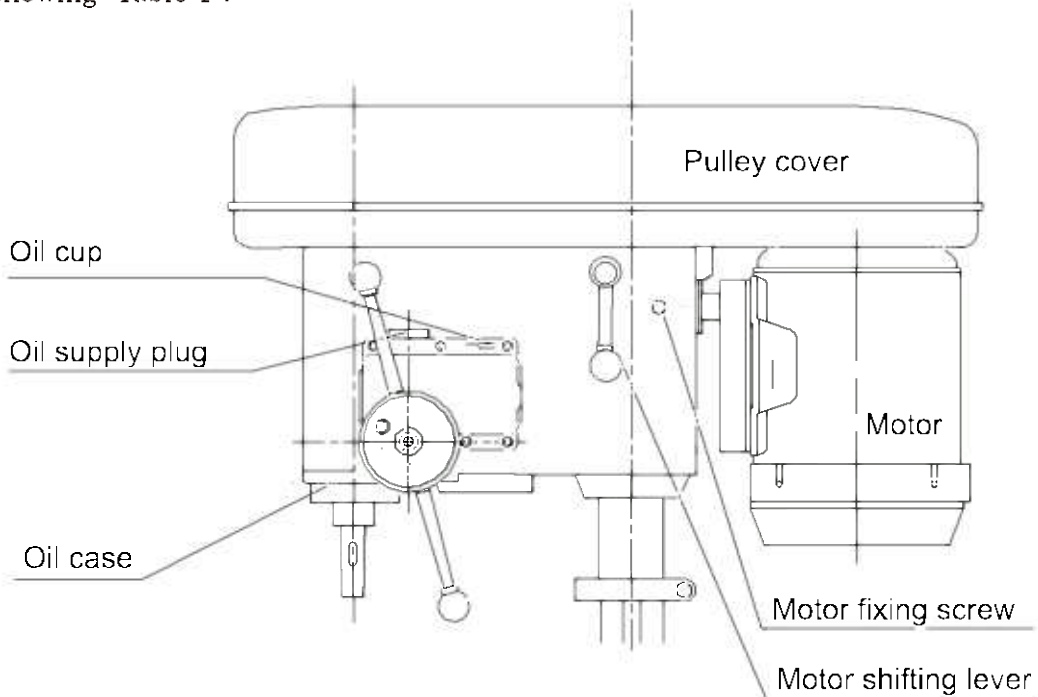
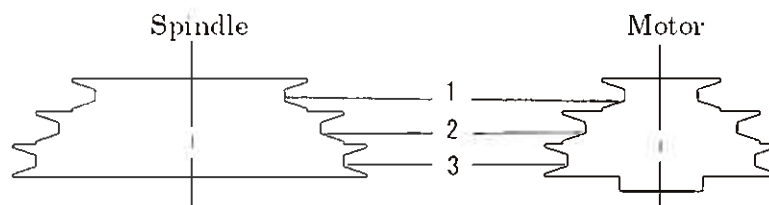


Fig.-2 Right side of machine

Table-1

	50Hz	60Hz	Type of V-Belt
1	470	560	A-46
2	630	770	A-51
3	650	780	A-53



(2) Spindle feed rate shifting

This machine has 4 different A type V-belts for the changing feed rate. Spindle feed rate can be changed by changing belt position as the name plate on the front of the machine. Please set proper belt to pulley position for the required feed rate as the following Fig-3. If you need to flip feed pulley, please loosen fixed bolt by hexagonal wrench (3mm), and set feed pulley properly. 4 different feed rate is available as“Table-2”. Please tighten feed pulley after finish setting. As feeding power is very small, so it is O.K. the V-belt tension is not tight.

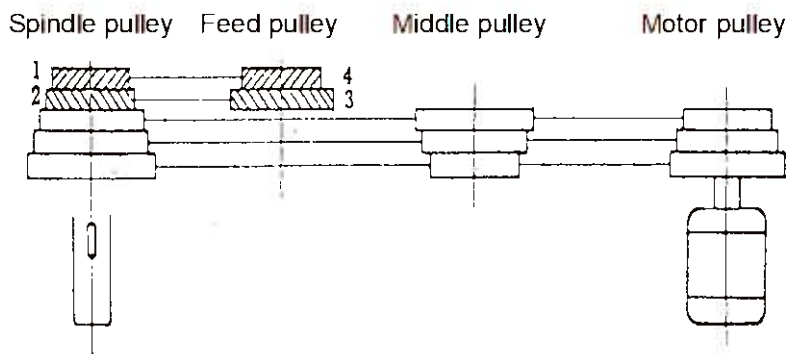


Fig.-3 Pulley Transmission Drawing

Table-2 Automatic Feed rate (Spindle 1 revolution)

	Feed rate	Type of V-belt
	0.07mm	A-21
	0.24mm	A-19
	0.16mm	A-17
	0.11mm	A-23

(3) Manual and Automatic feed operation of spindle

Manual feed is available when spindle UP/DOWN handle position is set at Manual as shown Fig.-4.

When the handle is set at Auto position, automatic feed is available. If you turn the handle to left during automatic feed, spindle stops, and returns to up position.

(4) Adjustment of the spindle feed depth

Loosen the scale fixing nut to make the scale ring, Fig-4 to rotate freely. One division of the ring is 1mm feed. Please tighten the scale fixing nut after set the spindle feed depth.

In case of manual feed, please set the scale ring to required feed amount at Manual feed stop line Fig-4. When spindle moves "0" of scale ring at the Manual feed stop line, spindle movement stops.

In case of automatic feed, please set the scale ring to required amount at Automatic feed stop line. For example, when you make 30mm depth drilling hole, move spindle until drill edge touches to workpiece, and rotate the scale ring until 30mm position become to Automatic feed stop line (target), then set Spindle UP/DOWN handle at Auto position, so spindle feeds automatically until "0" of the scale ring moves to the Automatic feed stop line. After spindle feeds to "0" position, spindle automatic feed stops, and spindle returns to up. If the machined drill depth is not match to required depth, please reset scale ring position as amount of difference.

*Maximum depth of automatic feed system is 115mm.

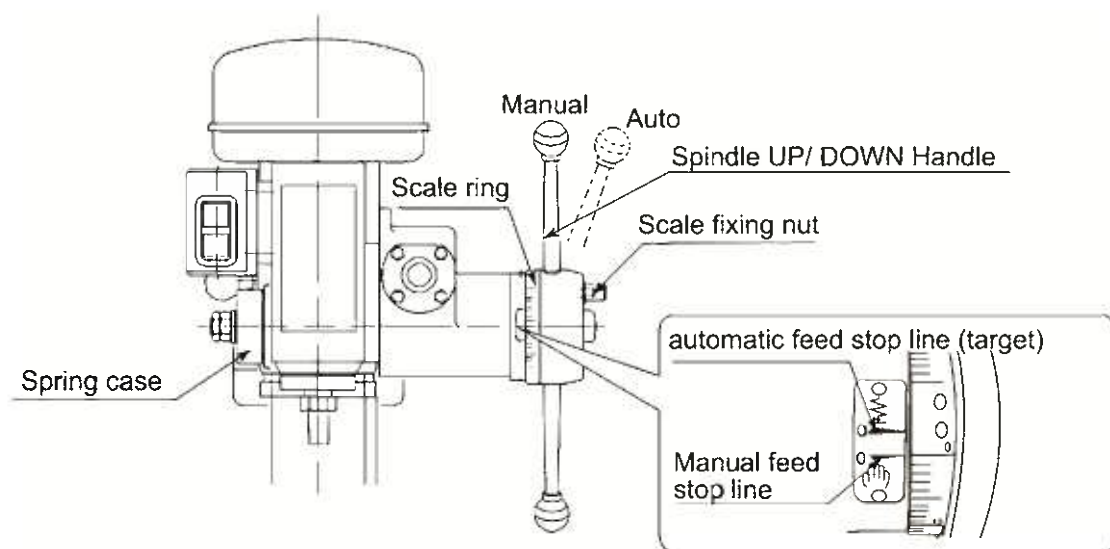


Fig.-4 Spindle up and down equipment

7. AUTOMATIC FEED SAFETY DEVICE

As shown in fig-5 the feed pulley is equipped with a safety device against overloads. The pulley will slip in case of an overload on the feed system. The machine is adjusted at the factory shipment that 16mm drill holes on steel with 0.11mm/rev. feed is available. If it is found to slip too easily for a particular piece of work, the strength of the safety device may be adjusted. It should not, however, be made too strong as it will then lose the purpose of safety for which it is intended and the machine would apt to be subjected to excessive overloads causing eventual damage to the machine.

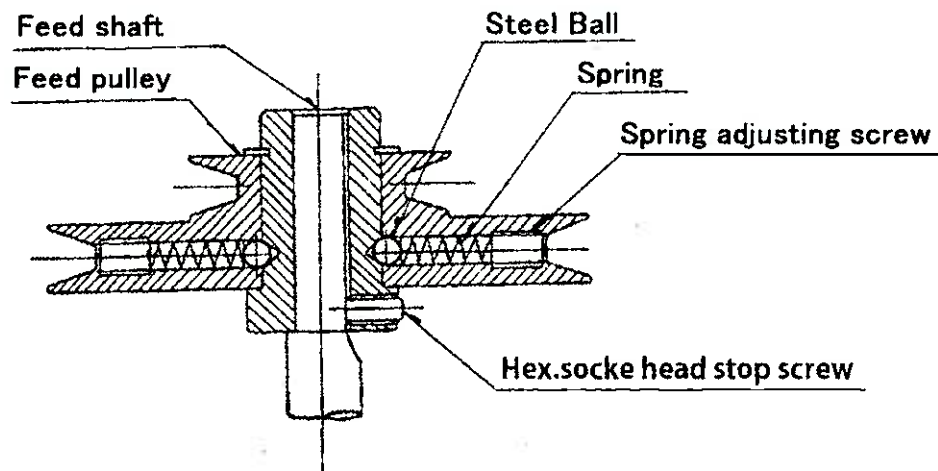


Fig.-5 Automatic feed safety device

8. EXCHANGE OF THE CUSHION RING FOR SPINDLE SLEEVE

A cushion ring (rubber ring) is installed for buffering to protect machine by impact when spindle sleeve returns by coil spring.

Note : If machine is used without cushion ring, the pinion shaft may break buy the impact.

The cushion ring is consumable. It may transform or cut during machine operation.

Please exchange to the following part number of cushion ring or O-ring promptly.

(If the coil spring is adjusted strong more than necessary, the cushion ring is transformed early.)

a. Cushion ring part number 2C-1114.

※ A replacement : Articles on free market O-ring

P62 (Inside diameter 61.6mm, thickness 5.7mm).

b. Installation

Please open cushion ring by hand like figure-6, and put in it from spindle bottom.

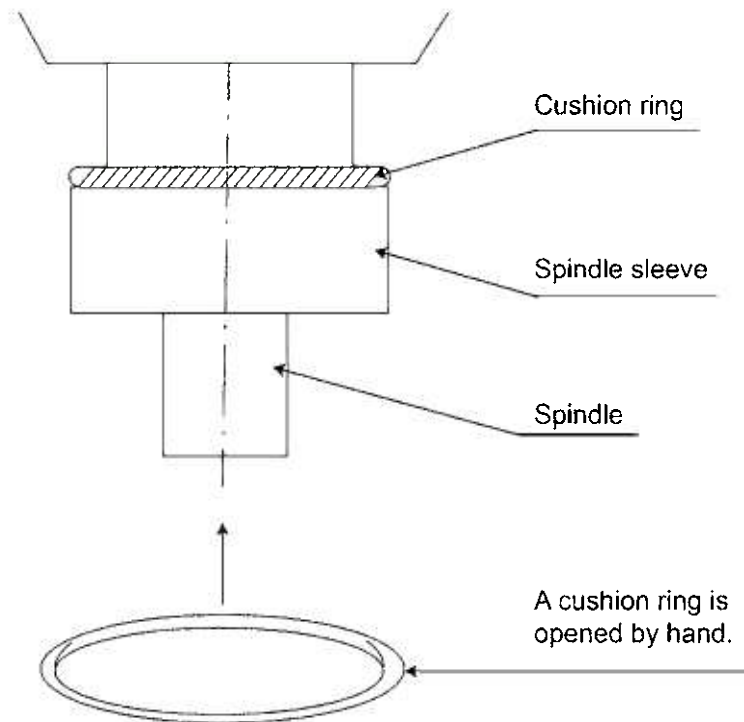
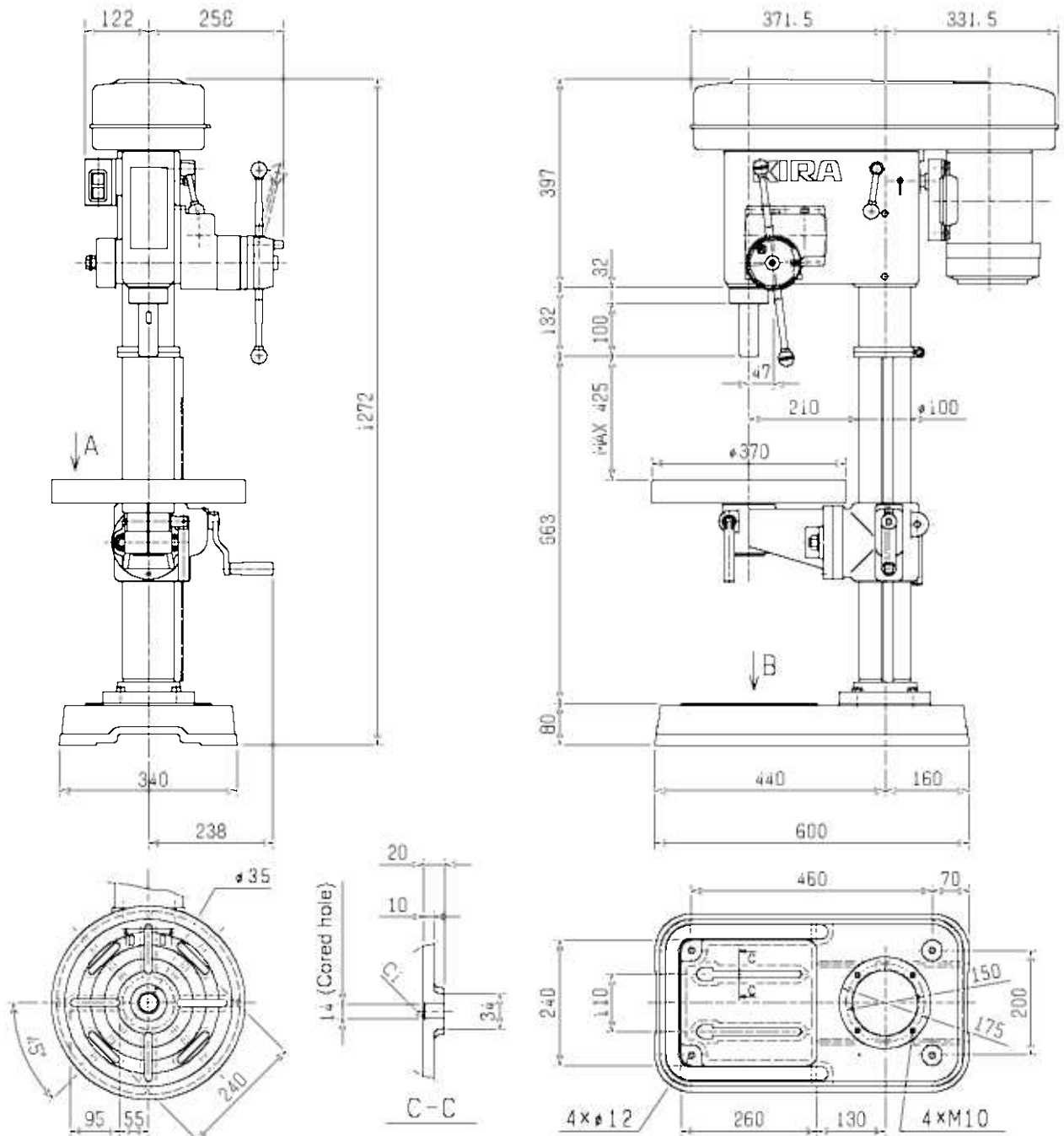


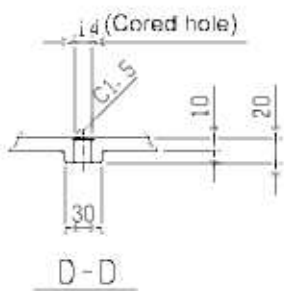
Fig.-6 Installation of the cushion ring

9.1 DIMENSION (Round table)

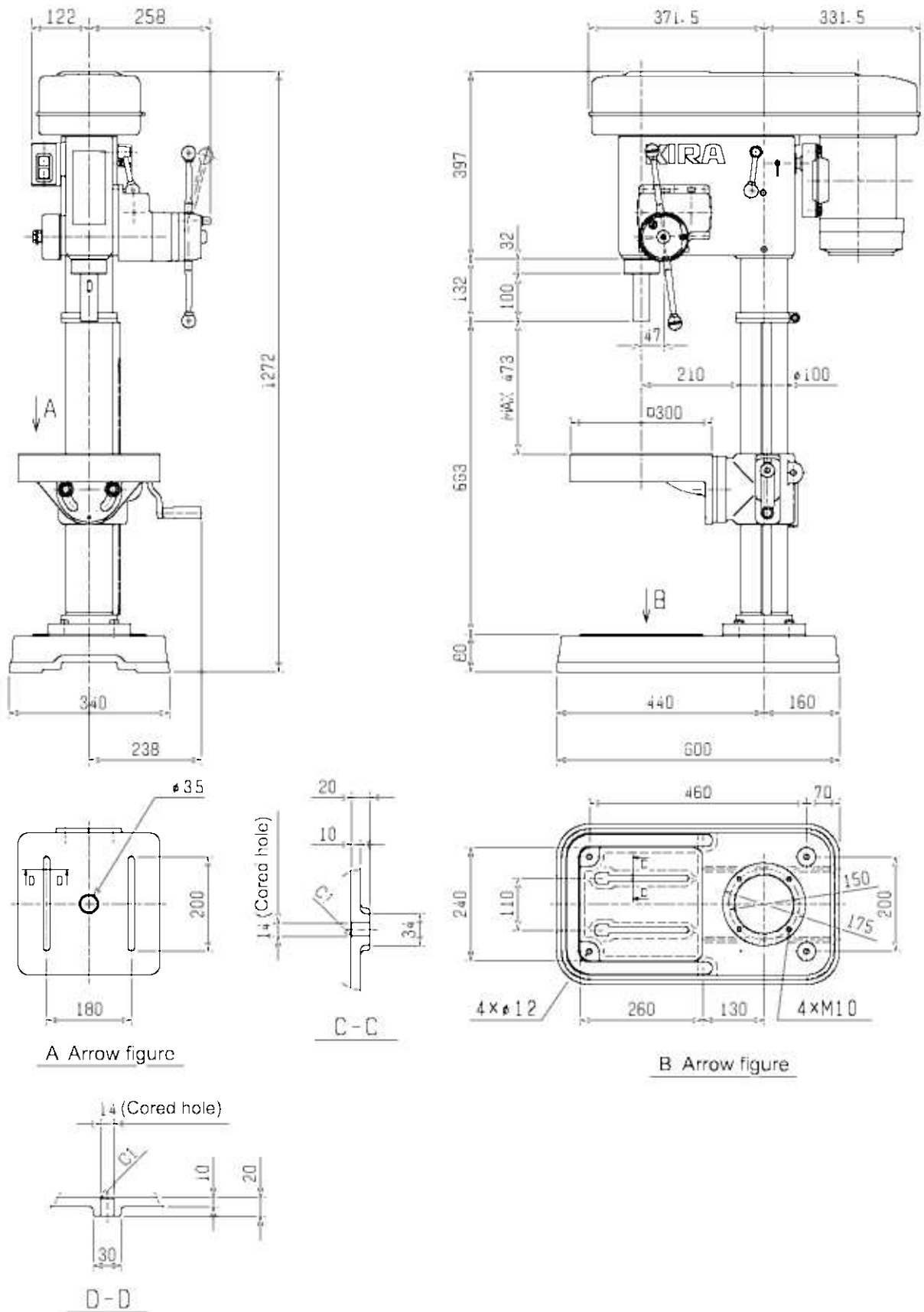


A Arrow figure

B Arrow figure



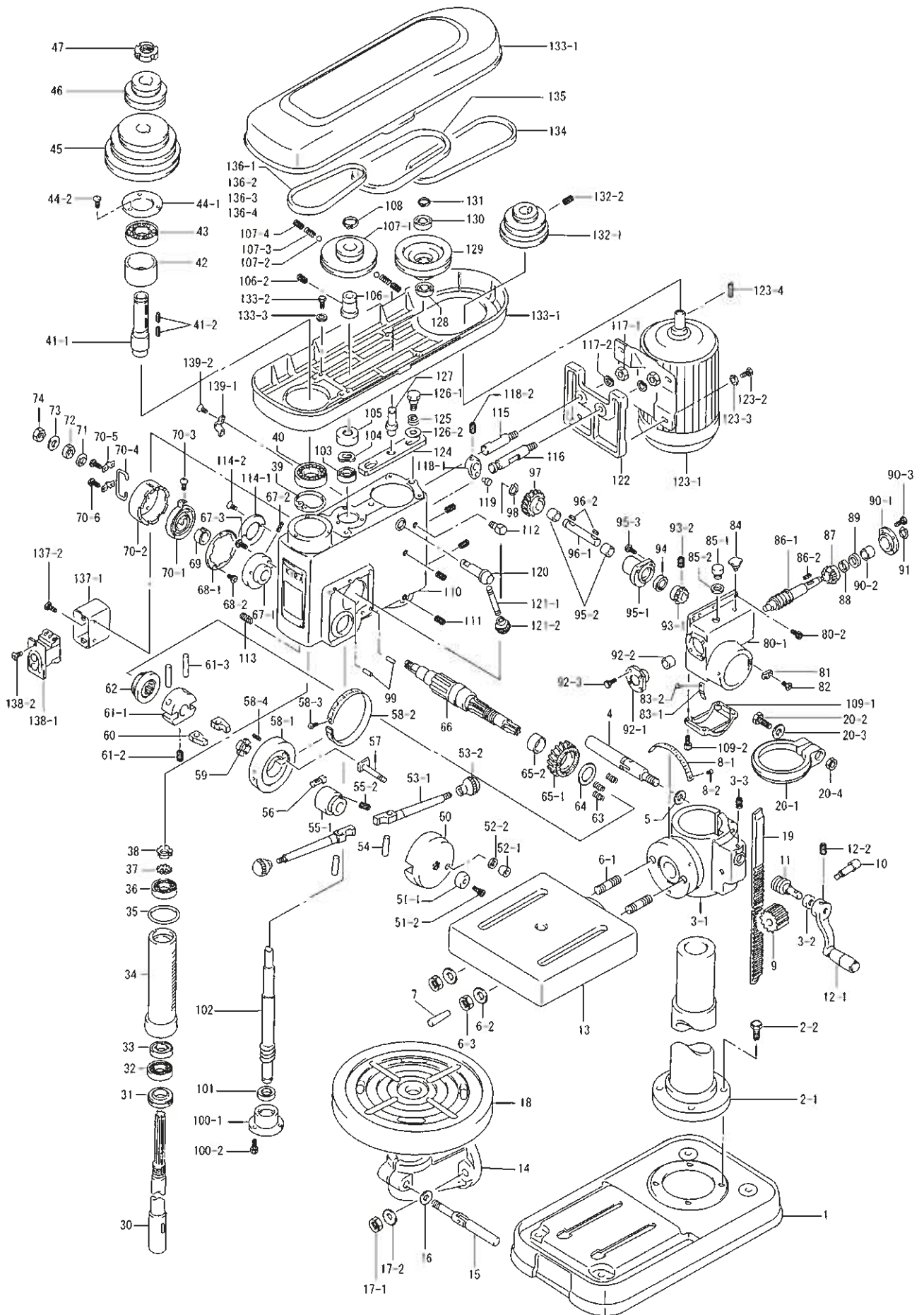
9.2 DIMENSION (Square table)



A Arrow figure

B Arrow figure

10. PARTS LIST



NO	Spec	Part number	Part name	Remark	Q'ty
1		KI-1-C	Bed		1
2-1	C	KI-2-F	Column		1
2-1	200L	KI-2-4D	Column	200mm(long)	1
2-2		BT1-M10*035	Hex. bolt	M10*35	4
3-1		KI-4-G	Bracket		1
3-2		KI-79-A	Bush		1
3-3		BTA-M06*015-K	Hex. socket head stop screw	M6*15 (Cup point)	1
4		AS1-KI-5-1B	Clamp bolt with handle		1
5		ZG1-M12	Plain washer	M12	1
6-1		KI-8-A	Bolt		2
6-2	S4	ZG1-5/8-A	Plain washer	5/8	2
6-3	S4	NT1-M16	Hex. nut	M16	2
7		PN2-06*030	Taper pin	6*30	1
8-1	S4	KI-4-2B	Name plate		1
8-2	S4	BTD-#2*5	Tack	#2*4.8	2
9		KI-76-A	Gear(16T)		1
10		KI-77-B	Shaft		1
11		KI-78-1	Shaft (Worm)		1
12-1		KI-81-D	Handle		1
12-1		KI-1059-C	Pin		1
12-1		KI-1060-D	Knob		1
12-2		BTA-M08*012-K	Hex. socket head stop screw	M8*12 (Cup point)	1
13	S4	KI-7-D	Table		1
14	R4	KI-4R-D	Holder		1
15	R4	AS1-KI-5-1B	Clamp bolt with handle		1
16	R4	ZG1-M12	Plain washer	M12	1
17-1	R4	NT1-M16	Hex. nut	M16	2
17-2	R4	ZG1-5/8-A	Plain washer	5/8	2
18	R4	KI-7R-D	Table		1
19		KI-85-D	Rack	16*20*620	1
20-1		KI-89-B	Stop ring		1
20-2		BT1-M08*055	Hex. bolt	M8*55	1
20-3		ZG1-M08-U	Plain washer	M8	1
20-4		NT1-M08	Hex. nut	M8	1
30		KI-20-5J	Spindle	(φ38*523)	1
31		KI-21-5B	Collar		1
32		BE1-6006ZZ	Ball bearing	6006ZZ	1
33		BE6-51106	Thrust ball bearing	51106	1
34		KI-15-5H	Rack sleeve		1
35		2C-2114-A	Packing		1
36		BE1-6005ZZ	Ball bearing	6005ZZ	1
37		ZG5-AW05	Bearing washer	AW05	1
38		NT3-AN05	Bearing nut	AN05	1
39		RG1-R072	Stop ring	R72	1
40		BE1-6207ZZ	Ball bearing	6207ZZ	1
41-1		4B-2301-5D	Shaft	(φ42*1830)	1
41-2		KY1-05*05*028RR	Parallel key	5*5*28RR	2
42		COL1-062070035B	Collar (1)	KI-29 (Previous)	1
43		BE1-6207ZZ	Ball bearing	6207ZZ	1
44-1		KI-30-A	Cover		1
44-2		BT6-M06*010	Cross recessed head machine screw	M6*10	3

10. PARTS LIST

NO	Spec	Part number	Part name	Remark	Q'ty
45		4B-2309-B	Pulley		1
46		4B-2310-A	Feed pulley		1
47		NT3-AN07	Bearing nut	AN07	1
50		2B-2216-9C	Boss		1
51-1		2C-2428-A	Collar		1
51-2		BT2-M06*015	Hex socket head bolt	M6*15	1
52-1		2B-2217-8A	Nut		1
52-2		ZG1-M08-U	Plain washer	M8	1
53-1		2B-2281-8D	Handle	(n 15*171)	2
53-2		KN-41-A	Knob		2
54		OTZ-8*40G	Grooved pin	G • 8*40	2
55-1		2B-2212-9D	Cam	(φ60*1830)	1
55-2		BTA-M05*008-K	Hex. socket head stop screw	M5*8 (Cup point)	1
56		2B-2214-8C	Cam		1
57		2B-2215-8E	Bolt		1
58-1		2B-2213-8E	Flange		1
58-2		2B-2803-8C	Name plate		1
58-3		BTD-#2*5	Tack	#2*4.8	2
58-4		PN3-05*012	Spring pin	5*12	1
59		NT3-AN05	Bearing nut	AN05	1
60		2B-2208-8A	Cam		2
61-1		2B-2209-8B	Bracket	(φ75*29)	1
61-2		BTA-M06*006-K	Hex. socket head stop screw	M6*6 (Cup point)	1
61-3		OTZ-8*40G	Grooved pin	G • 8*40	2
62		2B-2207-8D	Clutch	(φ80*32)	1
63		3B-2208-8A	Coil spring		3
64		COL1-028042003B	Collar (1)	3B-2205 (Previous)	1
65		AS0-4B2202-6	Gear (Ass'y)		1
65-1		4B-2202-6D	Gear		1
65-2		4B-2203-A	Bush		1
66		4B-2201-8H	Pinion shaft	(φ50*358)	1
67-1		2C-2246-B	Bush		1
67-2		PN3-06*020	Spring pin	6*20	1
67-3		BT6-M06*020-U	Cross recessed head machine screw	M6*20	3
68-1		2C-2261-B	Plate		1
68-2		BT7-M03*006-PL	Countersunk head screw	M3*6	3
69		2C-2252-A	Collar		1
70		2C-2250A	Spring case set		1
70-1		2C-2249-A	Spiral spring		1
70-2		2C-2250-2B	Case		1
70-3		BT6-M04*008-PL	Cross recessed head machine screw	M4*8	1
70-4		2C-2263-B	Handle		1
70-5		2C-2264-B	Handle stop ring		2
70-6		BT6-M04*006-PL	Cross recessed head machine screw	M4*6	4
70-7		ZG1-M04-PL	Plain washer	M4	1
71		COL1-015025006B	Collar (1)	2C-2253-2	1
72		3B-2219-A	Nut		1
73		ZG1-M14	Plain washer	M14	1
74		3B-2245-A	Nut		1
80-1		4B-2401-8D	Box		1

NO	Spec	Part number	Part name	Remark	Q'ty
80-2		BT2-M06*012	Hex socket head bolt	M6*12	4
81		2B-2280-8C	Cam		1
82		BT9-M05*015	Hex. socket countersunk head screw	M5*15	1
83-1		2B-2802-8A	Name plate		1
83-2		BTD-#2*5	Tack	#2*4.8	2
84		LCC-#211-1/4	Oil cup	1/4	1
85-1		2C-2612-A	Cap		1
85-2		2C-2613-A	Packing		1
86-1		4B-2481-B	Shaft	(φ36*171)	1
86-2		KY1-05*05*014RR	Parallel key	5*5*14RR	1
87		3B-2425-A	Bevel gear		1
88		COL1-015024008B	Collar(1)	4B-2486 (Previous)	1
89		BE6-51102	Thrust ball bearing	51102	1
90-1		3B-2482-B	Metal		1
90-2		2C-2418-B	Bush		1
90-3		BT1-M06*015	Hex. bolt	M6*15	4
91		RG1-S015	Stop ring	S15	1
92-1		3B-2483-B	Metal		1
92-2		2C-2418-B	Bush		1
92-3		BT1-M06*015	Hex. bolt	M6*15	4
93-1		3B-2424-C	Bevel gear	M6 thread	1
93-2		BTA-M06*006-K	Hex. socket head stop screw	M6*68 (Cup point)	1
94		BE6-51102	Thrust ball bearing	51102	1
95-1		4B-2432-1B	Metal		1
95-2		2C-2418-B	Bush		2
95-3		BT1-M06*020	Hex. bolt	M6*20	3
96-1		3B-2421-A	Shaft		1
96-2		KY1-05*05*014RR	Parallel key	5*5*14RR	2
97		4B-2422-B	Gear	50*1000	1
98		RG1-S015	Stop ring	S15	1
99		PN1-06*020	Parallel Pin	6h7*20	2
100-1		4B-2407-B	Case		1
100-2		BT2-M06*012	Hex socket head bolt	M6*12	3
101		BE1-6203ZZ	Ball bearing	6203ZZ	1
102		4B-2405-B	Shaft	(φ30*369)	1
103		BE1-6203ZZ	Ball bearing	6203ZZ	1
104		ZG6-VWV30	Wave washer	VWV30	1
105		4B-2412-2B	Case		1
106-1		4B-2415-E	Holder	(φ38*1830)	1
106-2		BTA-M06*010-K	Hex. socket head stop screw	M6*10 (Cup point)	1
107-1		4B-2414-A	Pulley		1
107-2		BEZ-1/4	Steel ball		2
107-3		4B-2208-2	Coil spring		2
107-4		BTG-M08*008	Slotted set screw	M8*8	2
108		RG1-S028	Stop ring	S28	1
109-1		4B-2631-B	Box		1
109-2		BT2-M06*012	Hex socket head bolt	M6*12	4
110		4B-2001-H	Head		1
111		BTA-M12*015-K	Hex. socket head stop screw	M12*15 (Cup point)	4
112		BT1-M10*030	Hex. bolt	M10*30	1
113		4C-2117-A	Key	(M10*25)	1

10. PARTS LIST

NO	Spec	Part number	Part name	Remark	Q'ty
114-1		3B-2605-A	Cover		1
114-2		BT6-M04*010	Cross recessed head machine screw	M4*10	2
115		4B-2366-2B	Guide		1
116		4B-2365-3B	Guide		1
117-1		NT1-M12	Hex. nut	M12	2
117-2		ZG2-M12-U	Spring washer	M12	2
118-1		3B-2374-A	Shifter		1
118-2		BTA-M10*012-K	Hex. socket head stop screw	M10*12 (Cup point)	1
119		3B-2376-A	Pin		1
120		4B-2368-2C	Shaft		1
121-1		2C-2341-A	Handle		1
121-2		KN-41-A	Knob		1
122		16B-2364-B	Base(Motor)		1
123-1		MO1-0.75KW*6*200B-A	Motor	MLK1097F(90L)	1
123-2		BT1-M08*020	Hex. bolt	M8*20	4
123-3		ZG1-M08-U	Plain washer	M8	4
123-4		OTZ-08*07*035HH	Parallel key		1
124		3C-2321-A	Holder		1
125		3C-2330-B	Coil spring		2
126-1		3C-2323-A	Pin		2
126-2		OTZ-M14-t3.2	Plain washer	M14	2
127		4C-2324-B	Shaft		1
128		BE1-6203ZZ	Ball bearing	6203ZZ	1
129		4B-2325-A	Pulley		1
130		BE1-6203ZZ	Ball bearing	6203ZZ	1
131		RG1-S017	Stop ring	S17	1
132-1		16B-2360-1A	Pulley(Motor))	4B-2360	1
132-2		BTA-M06*012-K	Hex. socket head stop screw	M6*12 (Cup point)	1
133-1		2C-2601-A	Cover (Ass'y)		1
133-2		BT1-M08*015	Hex. bolt	M8*15	4
133-3		ZG1-M08-U	Plain washer	M8	4
134		BL1-A-27-R	V Belt	A-27	1
135		BL1-A-34-R	V Belt	A-34	1
136-1		BL1-A-17	V Belt	A-17 (Accessory)	1
136-2		BL1-A-19	V Belt	A-19 (Accessory)	1
136-3		BL1-A-21	V Belt	A-21 (Accessory)	1
136-4		BL1-A-23	V Belt	A-23 (Accessory)	1
137-1		1C-2711-A	Box		1
137-2		BTH-M04*010-P3-M	Cross recessed head upset bolt	M4*010	2
138		KI-2702-2	Push button switch	BSP215NB3KRC	1
139-1		LCA-PZ0108	Pipe band	(PZ0108)	1
139-2		BT6-M04*006	Cross recessed head machine screw	M4*6	2

11. DISPOSAL AND RESELLING

11.1. Disposal

Please handle the following items as industrial wastes in accordance with regulation of your country.

(1) Cutting oil and lubrication oil

(2) Chip

(3) Tools

(4) Main unit

For disposing of them, contact us.

11.2 Reselling

CAUTION

- ◆ *To resell the KRDG-420P to any other party, strictly observe the following instructions. Be sure to hand the Instruction Manual to that new user. See the chapter indicating the locations of signal-word labels and make sure that all the labels are in place. If the Instruction Manual or any of the signal-word labels is missing, be sure to contact us to obtain it. Before reselling the KRDG-420P, contact us without fail.*
- ◆ *You, as purchaser of this machine, agree to follow the procedures for the export or transfer of the machine, under the Foreign Exchange and Foreign Trade Law, when you export or transfer the machine abroad. This machine was produced to meet the law and specifications in your country (or area). You, as purchaser of the machine, are not allowed to re-sell, re-export, or re-transfer the machine to any party in the country (or area) which has different law and specifications from those in your country.*

12. WARRANTY

12.1. Free Repairs

- 1) If a malfunction or a failure occurs during the normal use strictly based on the operation guidelines (given in the Instruction Manual), the Instruction Manual, the signal-word labels, and other instructions, then it is repaired free of charge within the warranty period.
- 2) Our warranty only covers the delivered main unit and does not apply to any loss and/or damage, direct or indirect, resulting from such malfunction or failure.
- 3) The warranty remains valid for one year after the delivery with your acceptance.

12.2 Charged repairs

- The repairs after the warranty period and those in the following cases within the warranty period are charged to you:
- 1) A malfunction, failure, or damage has resulted from the misuse of the KRDG-420P; or from the modification or repair made without obtaining our consent.
 - 2) A malfunction, failure, or damage has resulted from fire, acts of God, lightning, abnormal voltage, or any other unpredictable situation.
 - 3) A malfunction, failure, or damage has resulted from your improper handling such as falling during the transportation or transfer by you.
 - 4) A malfunction, failure, or damage has occurred because you have failed to follow the operation guidelines.
 - 5) Consumable items have been used up, worn out, or otherwise have deteriorated after the normal use.

12.3. Locations for contact

Sales Department of Main Office :

TOMIYOSI SHINDEN, KIRA-CHO NISHIO-CITY, AICHI PREF.,
444-0592, JAPAN

TEL 81-563-32-0100 FAX 81-563-32-3241

E-Mail :<info@kiracorp.co.jp>

KIRA CORPORATION

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KIRA