GHD- 35PFA DRILL PRESS

GB
Operating Instructions

JPW Tool Group Hong Kong Limited
98 Granville Road, Tsimshatsui East, Kowloon, Hong Kong, PRC
www.jettools.com

Импортёр в РФ: ООО «ИТА Технолоджи»
105082, Москва, Переведеновский пер., д. 17
www.jettools.ru

Made in PRC / Сделано в КНР

50000965T 2024-09

General safety notes

Milling machines can be dangerous if not used properly. Therefore the appropriate general technical rules as well as the following notes must be observed.

Read and understand the entire instruction manual before attempting assembly or operation.

Keep this operating instruction close by the machine, protected from dirt and humidity, and pass it over to the new owner if you part with the tool.

No changes to the machine maybe made.

Daily inspect the function and existence of the safety appliances before you start the machine.

Do not attempt operation in this case, protect the machine by unplugging the mains cable.

Do not wear gloves while operating this machine.
Remove all loose clothing and confine long hair.

Before operation the machine, remove tie, rings, watches, other jewelry, and roll up sleeves above the elbows.

Wear safety shoes; never wear leisure shoes or sandals.

Always wear the approved working outfit:
- Safety goggles
- Ear protection
- Dust protection



Install the machines so that there is sufficient space for safe operation and workpiece handling.

Keep work area well lighted.

The machine is designed to operate in closed rooms and must be placed stable on firm and levelled table surface.

Make sure that the power cord does not impede work and cause people to trip.

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

Stay alert !

Give your work undivided attention.

Use common sense. Do not operate the machine when you are tired.

Keep an ergonomic body position.

Maintain a balanced stance at all times.

Do not operate the machine under the influence of drugs, alcohol or any medication. Be aware that medication can change your behavior.

Never reach into the machine while it is operating or running down.

Never leave a running machine unattended. Before you leave the workplace switch off the machine.

Keep children and visitors a safe distance from the work area.

Do not operate the electric tool near inflammable liquids or gases.

Observe the fire fighting and fire alert options, for example the fire extinguisher operation and place.

Do not use the machine in a dump environment and do not expose it to rain.

Metal dust is explosive and can also represent a risk to health.

Dust form some tropical woods in particular, and form hardwoods like beach and oak, is classified as a carcinogenic substance.

Always use a suitable dust collection device.

Before machining, remove any nails and other foreign bodies from the workpiece.

Make sure to guide and hold the chisel with both hands safe and tight during machining.

Work only with well sharpen tools.

Machine only stock which is chucked securely on the machine, always check before switching the machine on.

Provide workpieces with center holes before clamping between centers.

Work large and unbalanced workpieces at low spindle speed only.
Workpieces with cracks may not be used.

Remove the chuck key or dowel pins before turning the machine on.

Always close the belt cover.

Specifications regarding the maximum or minimum size of the workpiece must be observed.

Test each set-up by revolving the work by hand to insure it clears the tool rest and bed. Check setup at the lowest speed before you increase to the operating speed.

Do not remove chips and workpiece parts until the machine is at a standstill.

Never stop workpiece with the hand during run out.

Do not attempt to engage the spindle lock pin until the spindle has stopped.

Never tale measurement on a rotating workpiece.

Do not stand on the machine.

Connection and repair work on the electrical installation maybe carried out by a qualified electrician only.

Have a damaged or worm power cord replaced immediately.

Make all machine adjustments or maintenance with the machine unplugged from the power source.

Sensitive Drilling Machine

Model：GHD-35PFA

Operation Manual

Max. Drilling Diameter: 35mm

Series Number:

Contents

1. Main use and features of the machine

2. Main technical data

3. Brief description of the driving system and its structure

4. Electrical system

5. Lubrication and coolant system

6. Hoisting and installation

7. Use and operation of the machine

8. Machine adjustment

9. Machine use and maintenance

10. Machine accessories

Dear end-user,

Thank you very much for choosing our products. Please let us have the model of your machine, series number, as well as the name, address and correspondence method of your company in order to facilitate us to let you have a good service.

Important notice:

1. Please immediately contact your dealer in case the machine, accessories or documents are not in conformity with those indicated in the packing list after the machine package is opened.

2. Please carefully read this Operation Manual particularly the electric part of this documents before installation, testing and running the machine.

3. Removing grease on the machine (particularly on the column) and checking lubrication oil in each place is well filled . Running the machine without lubrication oil is strictly forbidden. Lubrication of the machine as per the stipulation of this documents is required.

4. Ground wire of the machine shall be well connected. Push jog button in slow spindle speed to check if direction of spindle revolution is correct.(clockwise)

5 Machine must be stopped if spindle speed or feed rate change is necessary.

6. Please check if cutting tool or work piece is well clamped before machining.

7. The red mushroom push button located in front of the spindle box is an emergence push button for emergency purpose and stopped the machine stopped. Familiar with its position and its use are necessary.

8. Professional electric service engineer is required for electric maintenance.

9. When the machine working. The spindle box must be clamped otherwise. It will be hurt operator or the machine destoryed.

10. The machine must be stopped when you need removing away the cutting material around the drill. Moving the cutting material by hand or by hook is definitely forbidden.

11. Correct use and daily maintenance of the machine are required in order to keep machine accuracy and its lifetime in long time.

12. We will much appreciate if you could salve some problems of the machine.
In order to facilitate us for the service, please let us know the details regarding the places and phenomenon of the troubles if you could not solve problems.

1. **Main use and features of the machine:**

ZS series vertical drilling machines are our new products designed and developed by our-self based on our accumulated experience in so many years in this field. It is universal machine which could be widely used for small and middle sizes of work pieces for drilling, spot facing, reaming, tapping and etc. Besides, some machine tool accessories could also be used on this machine. The machines are suitable for the machining workshop, maintenance workshop and production line etc.

Features:

1.1 Good in appearance, easy in operation, convenience in maintenance and well consideration in safety protection

1.2 Two- speed motor is to be used for the main drive system with sufficient driving power but saving energy. Wide spindle speed range is adopted driven by gears.

1.3 The spindle features good rigidity and good wear resisting and equipped with tool disassembly and balancing device.

1.4 The spindle box could be turned round the column center line or horizontal shaft centerline and could be moving up and down following the column.

1.5 Main operation levers and push buttons could be reached easily that makes you comfortable when you operate the machine.

1.6 Spindle feed in mechanical , in manual and in electrical three modes,there are available in this series machines.

1.7 Superior quality material with special treatment for the wear-resisting purpose has been used for transmission parts such as gears, worm and worm shaft, rack, lead screw etc as well as for some key parts like spindle and spindle quill.

1.8 An adjustable safety protection clutch in the spindle feed device is available in order to prevent the machine and tools from damage when overloaded.

1.9 A safety protection guard under the spindle box is available as it is not only prevent coolant splash while cutting but also could observe the machining status.

The guard is interlocked with the spindle, so when the guard is opened, the spindle could not be running until the protection guard keeps his position.

2. Main technical data:

2.1 Main technical data

No.	Name of the items	Unit	Data
1	Max. drilling diameter (steel)	mm	35
2	Max. tapping diameter (steel)	mm	M22
3	Distance between spindle center line to the center line of column	mm	320
4	Max. distance between spindle end to the worktable surface of the base	mm	655
5	Max. stroke of the spindle	mm	155
6	Spindle taper	Morse	MT4
7	Number of speed steps of the spindle	Step	12
8	Spindle speed range	r/min	125~3030
9	Feed steps of the spindle	Step	3
10	Feed range of the spindle	mm/r	0.1,0.2,0.3
11	Max. stroke of spindle box	mm	550
12	Rotation degree of spindlebox in horizontal plane	degree	±45°
13	Working area of the worktable of the base (L x W)	mm	370×360
14	Numbers and width of the T slots for worktable of base	mm	2-T14
15	Diameter of column	mm	φ120
16	Power and speed of the main motor	kW, rpm	1.0/1.2 1440/2880
17	Power and flow rate of the coolant pump motor	kW, L/min	0.18 / 20
18	Machine dimension (L x W x H)	mm	810×460×1640
19	Net weight of the machine (Net weight)	Kg	

2.2 For the machine appearance and its main technical data, see diagram 1.

3. Brief description of the driving system and its structure:

The machine consists of spindle box, column, machine base, electric cabinet, coolant device and machine accessories, total six component parts. Spindle revolution is mainmotion of the machine. During drilling and milling processing, spindle movement along with its axis is a feed motion. Spindle box up and down movement and worktable turn round itself is an auxiliary motion.

Vertical motor realize machine transmission. A special pump supplies coolant water.

Two operating levers in the front of spindle box could make changes for the spindle speed in 12 steps. Changing either lever position could drive a triple gear and a double gear moving along with axis direction results the speed change. One of levers has an idle position that is for the spindle rotation by manual for loading and unloading of tool cutters as well as for the adjustment of work piece only. Adjustment of the feed rate could be realized by shifting a set of gears controlled by changing a lever position in the right corner of spindle box.

Up and down movement of the spindle box is completed by manual, Adjustment for the required distance of cutter and work piece could also be made by manual.

Please refer to the diagram 2 for the transmission system of the machine.
For the gear, worm and worm shaft, rack and pinion etc, please see table 1.
For the details of roller bears to be used on the machine, please refer to the diagram 3 and for a list of roller bears, please refer to the table 2.

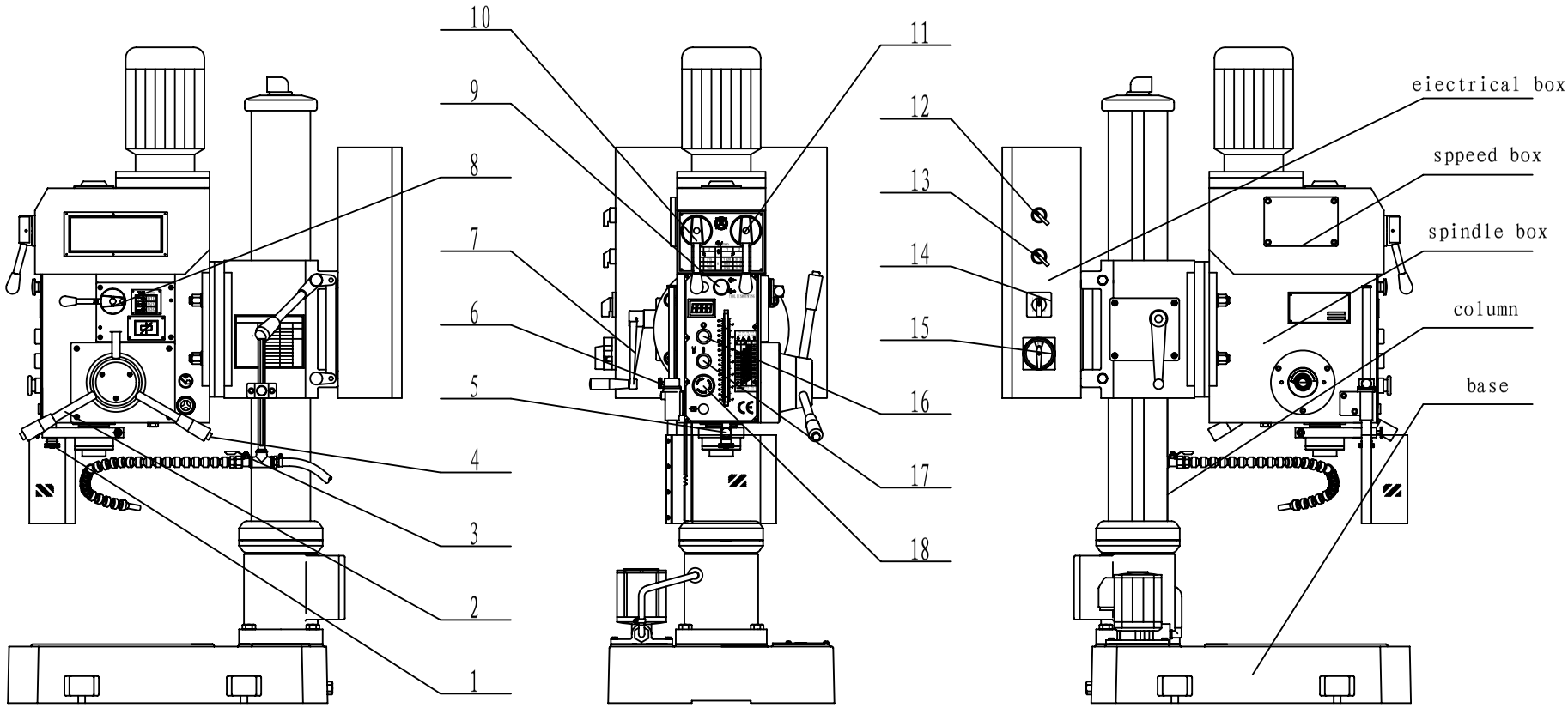
4. Electrical system

4.1 Brief description

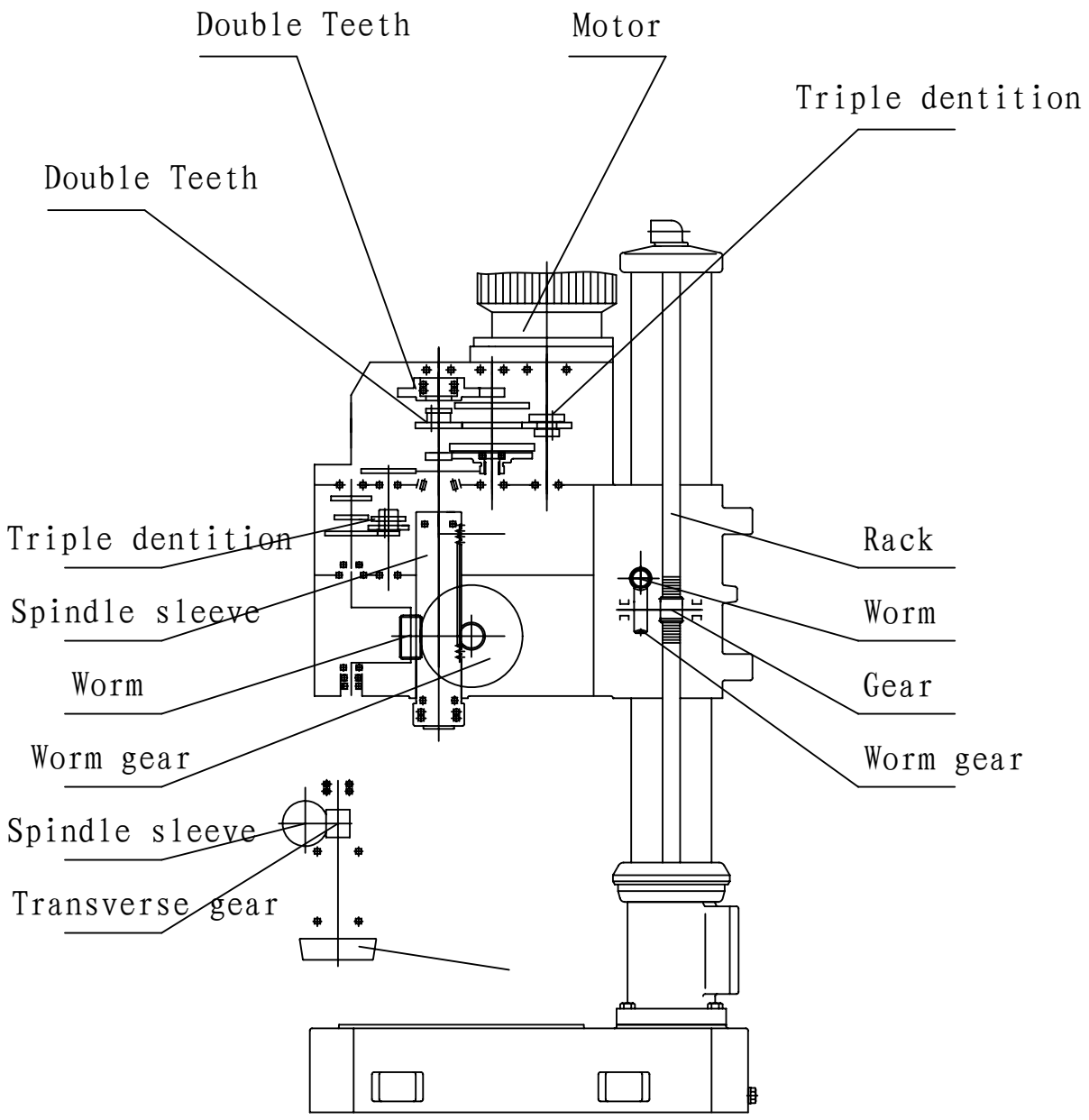
The machine with foreign advanced singlechip and superior quality electric element is controlled by electric system, the software system not only realize all kinds movement control ,but also has many protective function with catenation, the capability of this system is very good ,and the movement of this system is jarless and reliable.the move and stop of the main motor function are used by electric circuitry, and it improved the arrury of machine’s drilling.

4.2 Explanation of the circuit

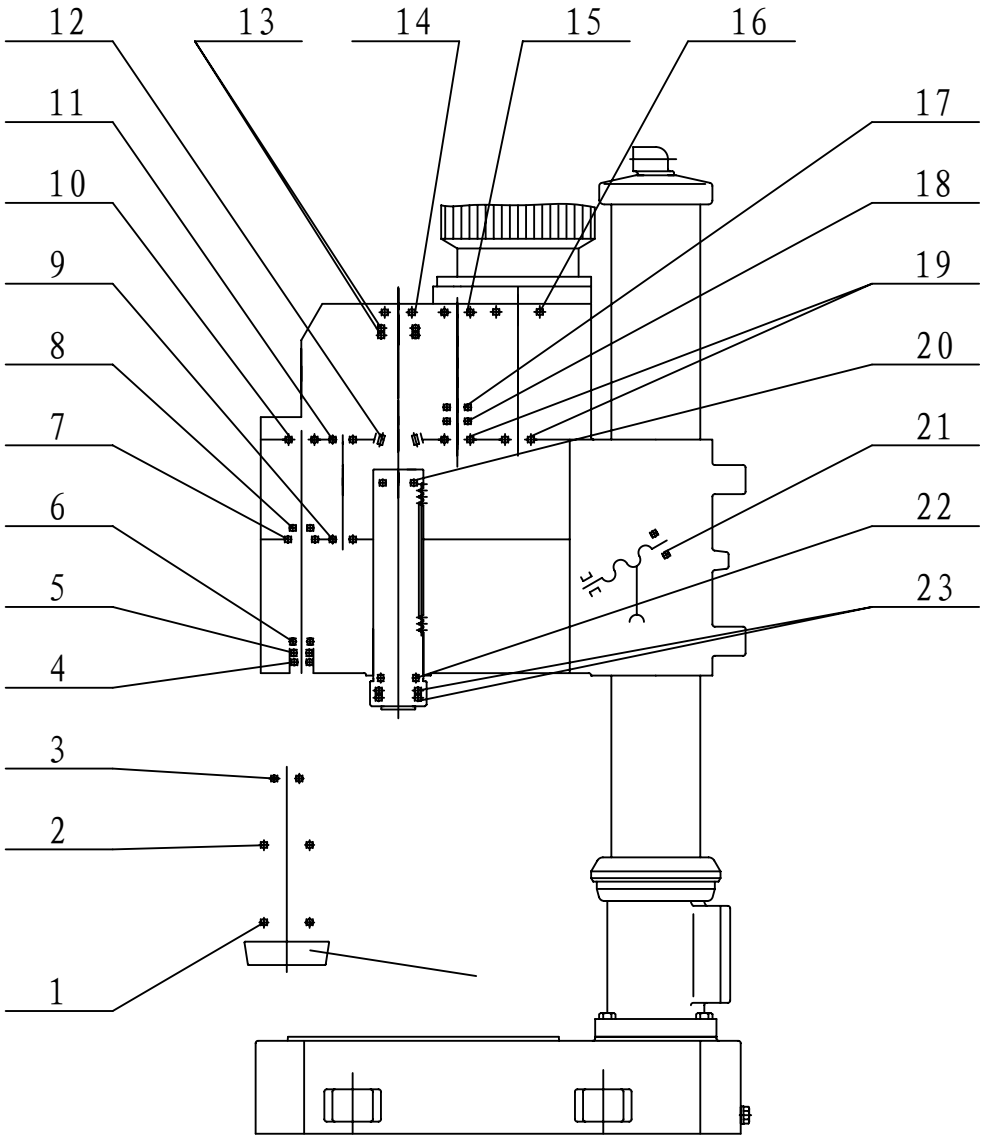
When using the machine,breaker QF1,QF2 which positioned electric box B1(drawing 4,5) must be closed,it can be opened when examined and repaired. The two breakers separately protect short circuit、over loading and short phase of spindle motor and pump motor .when close the chief switch QS1, the system is entering working state and the single lamp HL1 ligh up ,when break the chief electric source, the lamp crush out and working stopped.



drawing 1. picture of appearance of machine



drawing 2 .picture of transmission



drawing 3 . picture of roll bearing

Roller bearing table

Table (2)

No.	Model	Name	Specification	Q'ty	Accuracy
1	1180909K；GB276	Deep racing ball bearing	45×68×12	1	
2	1180909K；GB276	Deep racing ball bearing	45×68×12	1	
3	180104K；GB276	Deep racing ball bearing	20×42×12	1	
4	101；GB276	Deep racing ball bearing	12×28×8	1	
5	8101；GB301	Thrust bearing	12×26×9	1	
6	8102；GB301	Thrust bearing	15×28×9	1	
7	1000905；GB276	Deep racing ball bearing	25×42×9	1	
8	1000902；GB276	Deep racing ball bearing	15×28×7	1	
9	50202；GB277	Deep racing ball bearing with stop moving racing outside	15×35×11	1	
10	302；GB276	Deep racing ball bearing	15×42×13	1	
11	202；GB276	Deep racing ball bearing	15×35×11	1	
12	2007106；GB297	Taper roller bearing	30×55×17	1	
13	7000106；GB276	Deep racing ball bearing	30×55×9	2	
14	50204；GB277	Deep racing ball bearing with stop moving racing outside	20×47×14	1	
15	303；GB276	Deep racing ball bearing	17×47×14	1	
16	108；GB276	Deep racing ball bearing	40×68×15	1	
17	7000103；GB276	Deep racing ball bearing	17×35×8	1	
18	1000803；GB276	Deep racing ball bearing	17×26×5	1	
19	50303；GB277	Deep racing ball bearing with stop moving racing outside	17×47×14	2	
20	D1000906；GB276	Deep racing ball bearing	30×47×9	1	D
21	8103；GB301	Thrust bearing	17×30×9	1	
22	8108；GB301	Thrust bearing	40×60×13	1	
23	D7000108；GB276	Deep racing ball bearing	40×68×9	2	D

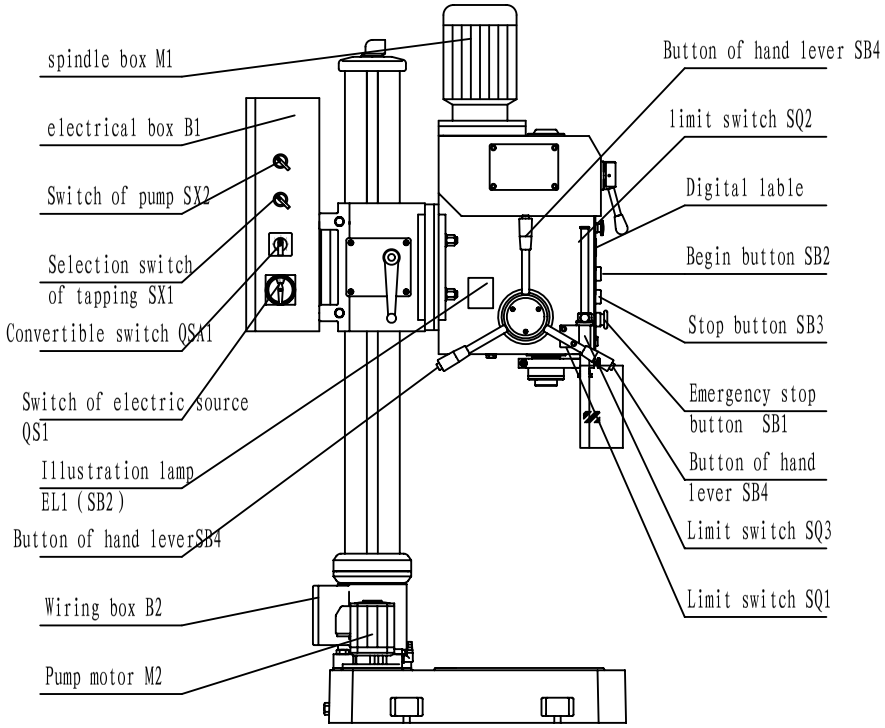
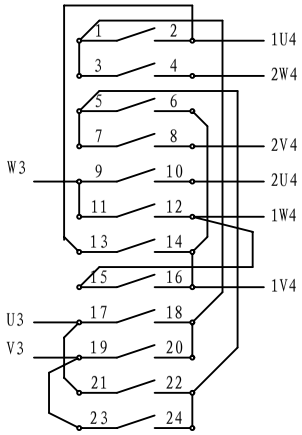


diagram of connecting wrie 6LBB-20A



6LBB-20A(QSA1) diagram of open and close connector

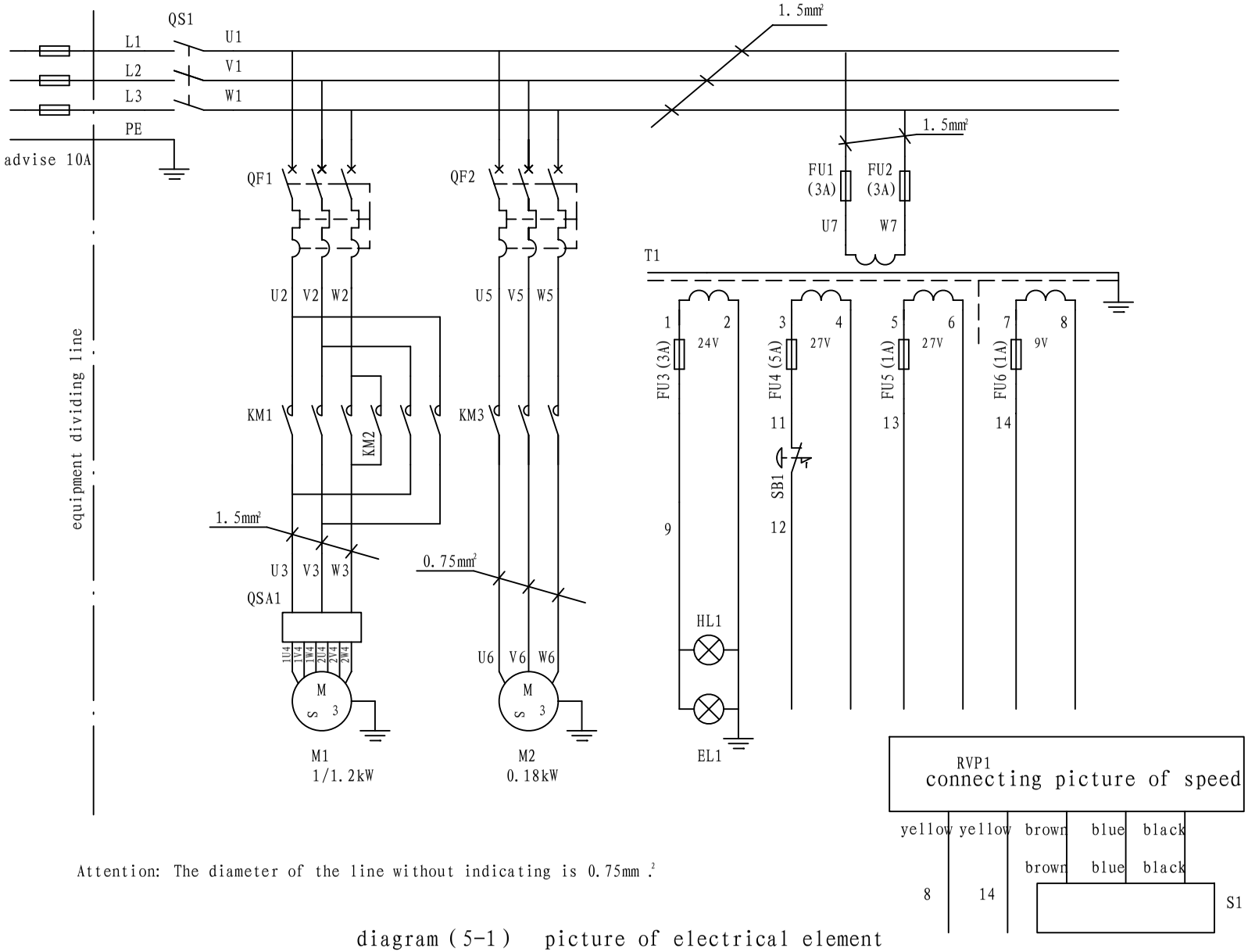
position of hand lever / Code	R 135°	0 90°	1 45°	0 0°	2 45°	0 90°	R 135°
1-2	×		×				
3-4					×		×
5-6	×		×				
7-8					×		×
9-10					×		×
11-12	×		×				
13-14					×		×
15-16					×		×
17-18			×		×		
19-20	×						×
21-22	×						×
23-24			×		×		

switch have connected
connection of inside :
1-3, 5-7, 9-11, 14-16, 18-20, 22-24.
connection of outside:
17-21, 19-23, 2-13, 3-20,
6-14, 7-24, 12-15.

diagram (4) picture of electrical element of machine

Total electric source	switch	spindle motor	pump motor	electric source of working

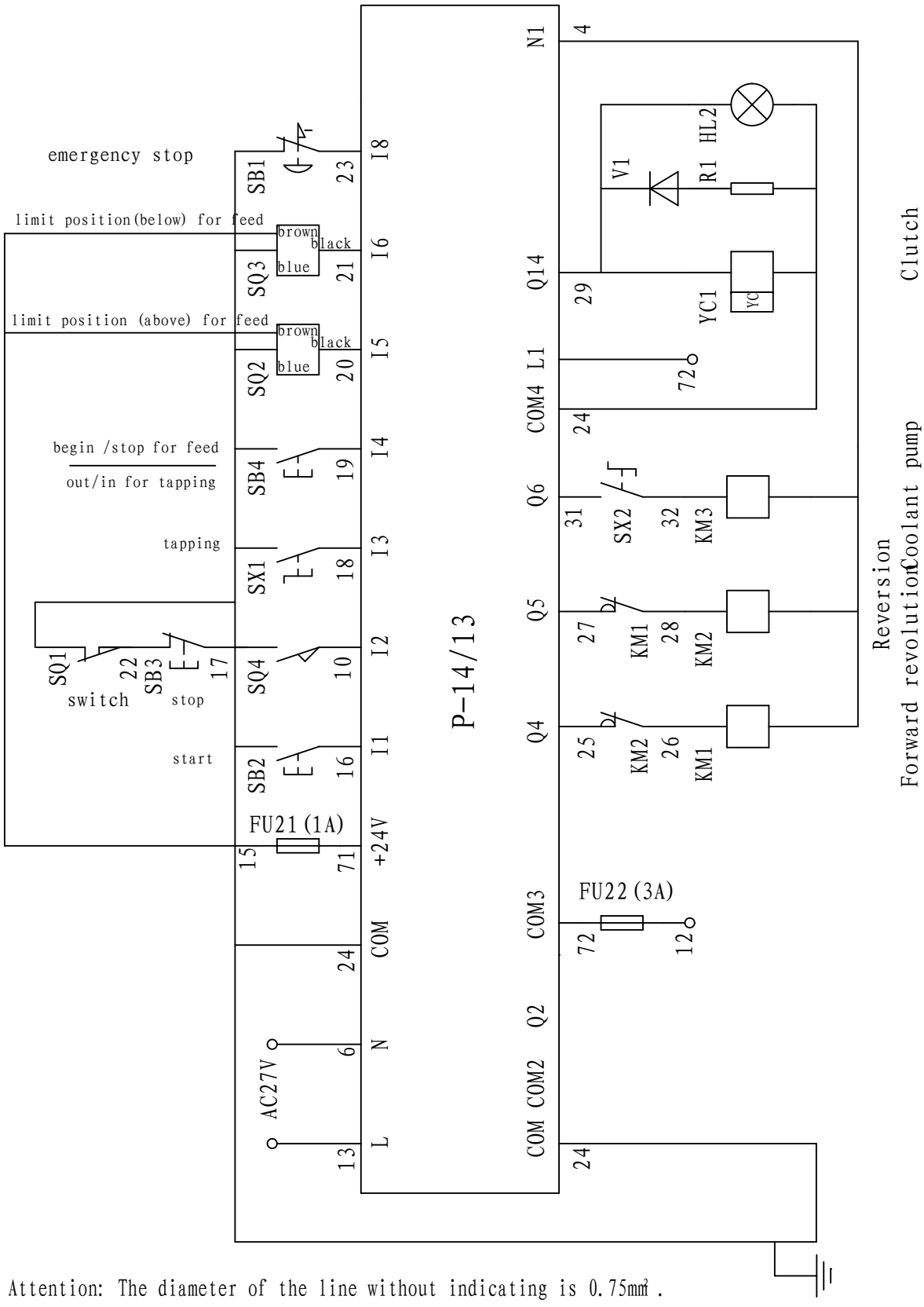
3ϕ AC400V 50Hz



Attention: The diameter of the line without indicating is 0.75mm².

diagram (5-1) picture of electrical element

P-14/13 picture of connection



Attention: The diameter of the line without indicating is 0.75mm².

diagram (5-2) electrical element of machine

4.3 Tapping operation

Electric Element for the tapping control mainly contactors KM1 and KM2, selection switch SX1 and limit switches SQ2 and SQ3 for tapping depth control.

Put the selection switch SX1 into the “1”(“0”is for hole drilling only),arrange the spindle revolution in clockwise direction KM1 engaged, put the spindle manual opration lever in down position until touches work piece, tapping job noe is starting. When requied depth is reached , the limit switch SQ3 works, the spindle immediately runs in counter clockwise direction (KM2 engaged), the tap returns out of the work piece, when spindle returns to the up highest position ,the limit switch SQ2 works, spindle runs in clockwise direction, now one tapping job is finished. If tapping stop is required, push the button (SB4) on the lever end , the spindle motor will immediately run in count clockwise direction, that’s all.

If the selection switch SX1 is in the “0”position, normal drilling work starts.

Attention: As the spindle motor works frequently during tapping,the motor will be hot quickly ,so the tapping job could not be down for a long time, eight times of tapping per minutes maximum is recommended as the motor needs cool when it is hot otherwise it will be burned.

4.4 Auto feed operation

When auto feed , moving spindle down 5-6mm, press a push button at the end of either one of the three levers, now feed clutch is engaged and indicator HL2 on the panel is lighted auto feed job is started.

When required drilling depth is reached ,the limited switch will be pressed, then spindle returns automatically. Press the push button of the lever once again, auto feed will be stopped and the spindle will return back to the original place.

4.5 Emergency stop operation

If emergency stop is necessary during operation, press emergency push button SB1 that makes the loss of electric power of the contactor KM1,so the machine is completely stopped .After eliminating the breakdown ,release the lock of the push button then restart the machine.

4.6 Coolant pump

Revolving the switch (SX2) of coolant pump right, then the coolant pump is moving and working with the spindle. When the spindle stopped, the coolant pump stopped too.

4.7 Installation of the main motor

Insert the key of the main motor into the solt position of the spline shaft then fixed by 4-M10×35 hex screw bolts.

Connect three phases and one ground wires to the power supply as per the electrical Diagram(5) of the machine.(please note the direction of main revolving).

4.8 Sheet metal guard

The sheet metal guard of this machine has a safety protection function, when it is opened .The spindle can’t working, until it is closed when the spindle is working now, it immediately stopped if the sheet metal guard is opened .

4.9 Maintenance of the electric equipment

Turn off the electric power before maintenance of the electric equipment starts.The electric equipment must keep on clean condition. Wave of power supply shall not be over ±10% requiedby the electric motor. Maintenance of electric equipment is absolutely important in order to keep machine works well.

Electric components list:

Table (3)

Code of elements	Name	Specification	Q'ty	Remark
QS1	Instruction switch	JCH13-20	1	
QF1	Breaker	DZ108-2.5/4A	1	
QF2	Break	DZ108-0.4/0.63A	1	
QSA1	Convertible switch	6LBB-20A V521.6	1	
SB1	Emergency stop button	LA42J-02/R	1	
SB2	Push button	CP1-10G-10	1	
SB3	Push button	CP1-10R-01	1	
SX1,SX2	Selection switch	C2SS2-10B-10	2	
SB4	Switch of handle	Made by ourself	1	
SQ1	Micro switch	LXP1-020-0A	1	
SQ2-SQ3	Switch	TL-Q5MC1	2	
KM1-2	Connector	LC1E1201B5N(AC24V)50Hz	2	
KM3	Connector	LC1-D0910(AC24V)	1	
HL1,HL2	Signal lamp	AD17-16AC24V	2	
EL	Illuminating light	25W AC24V	1	
T1	Transformer	JBK5-100TH 400/24,27,27,9	1	
R1	Resistor	RT 2W62 Ω	1	
V1	Diode	IN5404	1	
U1	Control panel	P-14/13	1	
RVP1	Tachometer	RSD-21	1	
SQ4	Door switch	JWM6-11A	1	

5. **Lubrication and coolant system:**

5.1 There are two types of lubrication in this machine:

a. Grease
b. Lubrication by manual filled oil

The volume of cooling liquid are aproxmately 8.8L.
The volume of lubricant above spindle box are aproxmately 1.5L.
The volume of lubricant under spindle box are aproxmately 1L.

5.2 Gears in the spindle box are lubricated by grease,it uses NO.3 Lithium industrial grease, for the new machine, washing and grease replacement after six months running. Later, washing and grease replacement once a year is required, in the Feed box ,gears are also lubricated by grease of NO.3 industrial Lithium ,worm wheel is lubricated by thin grease, oil tool must be inside of the bottom of the spindle box, and it needs to be exchanged once every six months, the machine has oil fill holes, oil lever and oil release hole (bottom side of the base),oil lever shall be a little bit highter than the centerline of the oil window, when you fill lubrication oil: too much oil filling will cause overflowing.

5.3 The machine needs manual oil fill lubrication.
Manual oil fill lubrication place,see diagram (6)

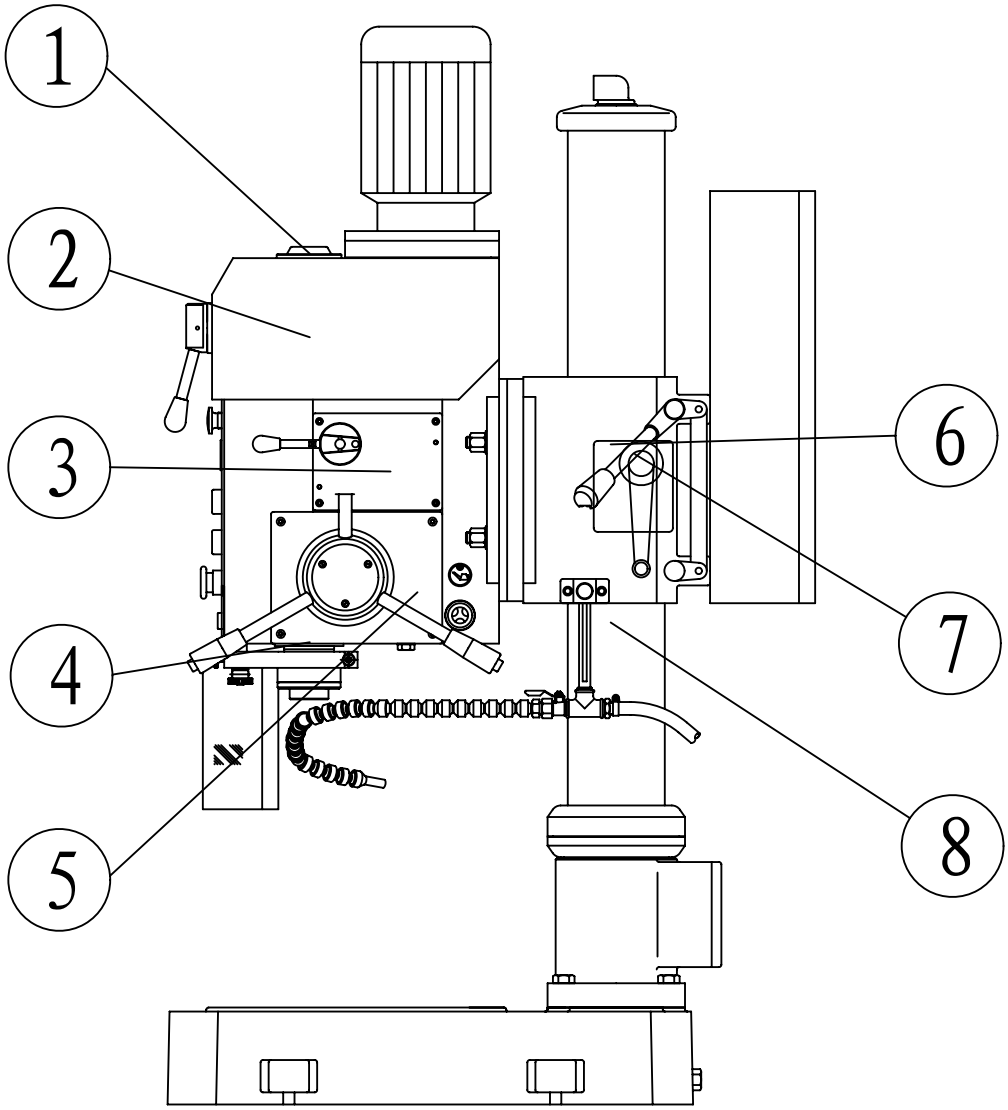
5.4 Coolant system:
A special pump will supply coolant both for tool cutter and for work piece during machining. Coolant liquid is stored in a compartment located at the backside of the machine base. Flow rate of the coolant could be adjusted by a ball valve. Regularly washing for the coolant system is necessary and coolant water shall be exchanged as per actual condition.

6 Hoisting and installation:

6.1 Hoisting:

The machine is strongly fixed inside of the crate. When hoisting the machine, please pay close attention to the sign outside of the crate (where the wire cable shall be placed and where the gravity center is).
The crate must not be reversed or inclined and must not be strongly stroked when lift up the machine.
Considering small size of the bottom and higher size of the height of the machine package, therefore, moving the machine by roller is forbidden. Lifting by a crane or by forklift is recommended.

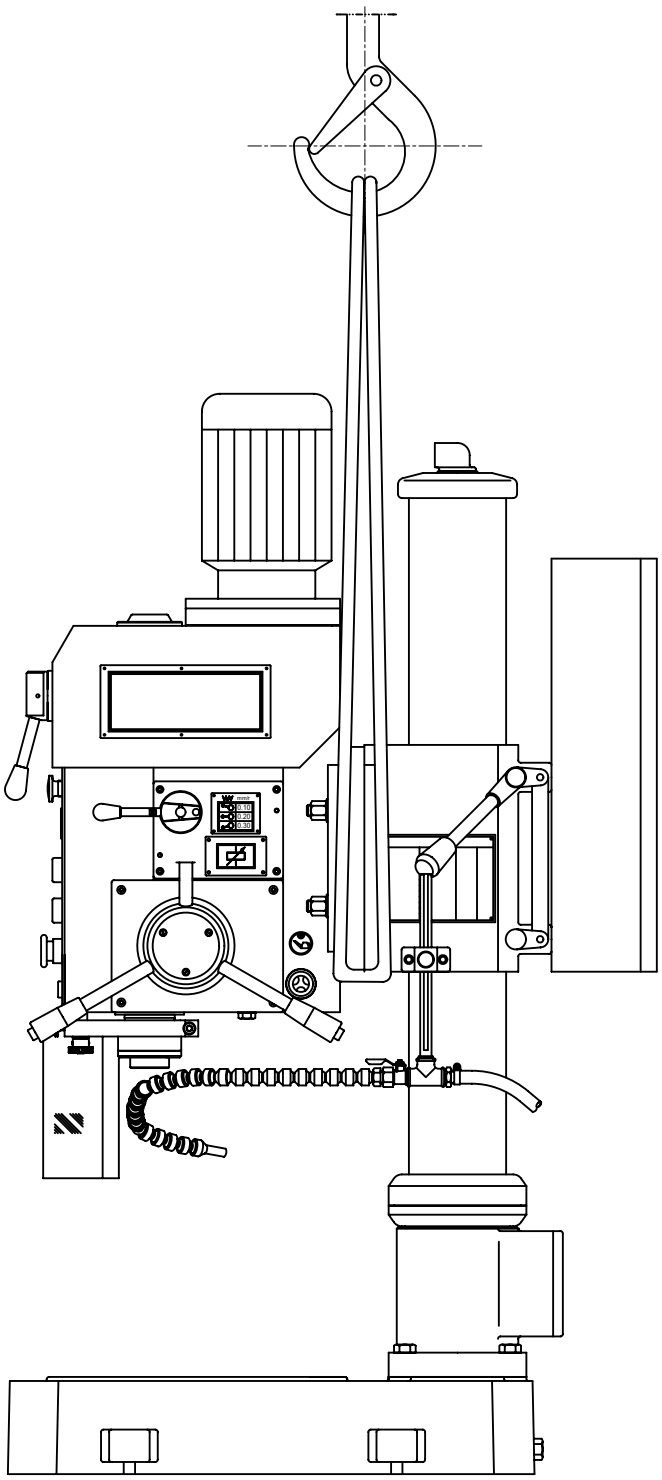
Please refer to the diagram 7 for the machine lifting. A soft pad between machine and wire cable is necessary in order to avoid paint damage of the machine. Lifting must be slow at beginning to see if the gravity center is correct.



drawing 6 .picture of lubrication

Chart of lubrication position

No.of lubrication position	lubrication position	lubrication period	Grease designation
1	Bearing on the main spindle box	add oil every three months	ZL-3 lithium base grease
2	Main drive gear	Once every six months	
3	Feed gear	add oil every three months	
4	Surface of spindle quill	Once every shift	ISO VG33 machinery oil
5	Feed wheel	Once every three months	
6	Spindle box lifting and worm support	Once every shift	
7	Spindle box lifting mechanism	Once every shift	
8	Column surface	Once every shift	



drawing 7 .picture of hoisting

6.2 Installation:

Working area of the machine shall be the size when the spindle box rounds its column in one cycle. Its diameter is about Ø2000mm. Further more, space for the work pieces, toolbox, and machine accessories as well as operating and maintenance space must be considered.

The machine should be placed on a solid ground. No foundation construction is required if ground of workshop is solid enough. However, we suggest that you'd better to make a foundation as per the attached drawing 8 and shall consider some space for foundation screw bolts use.

When the foundation is completely dry, the machine could be laid down on the adjustable pad. Concrete could be filled when screw bolts are placed. Fastening screw bolts after concrete is completely dry. Leveling the machine first, required tolerance should not be over 0.04/1000mm both in horizontal and cross plane. Checking all items of the accuracy as per the table sheet of the certificate. Accuracy value for each checked item must not be over the required value.

6.3 Preparation before machine running:

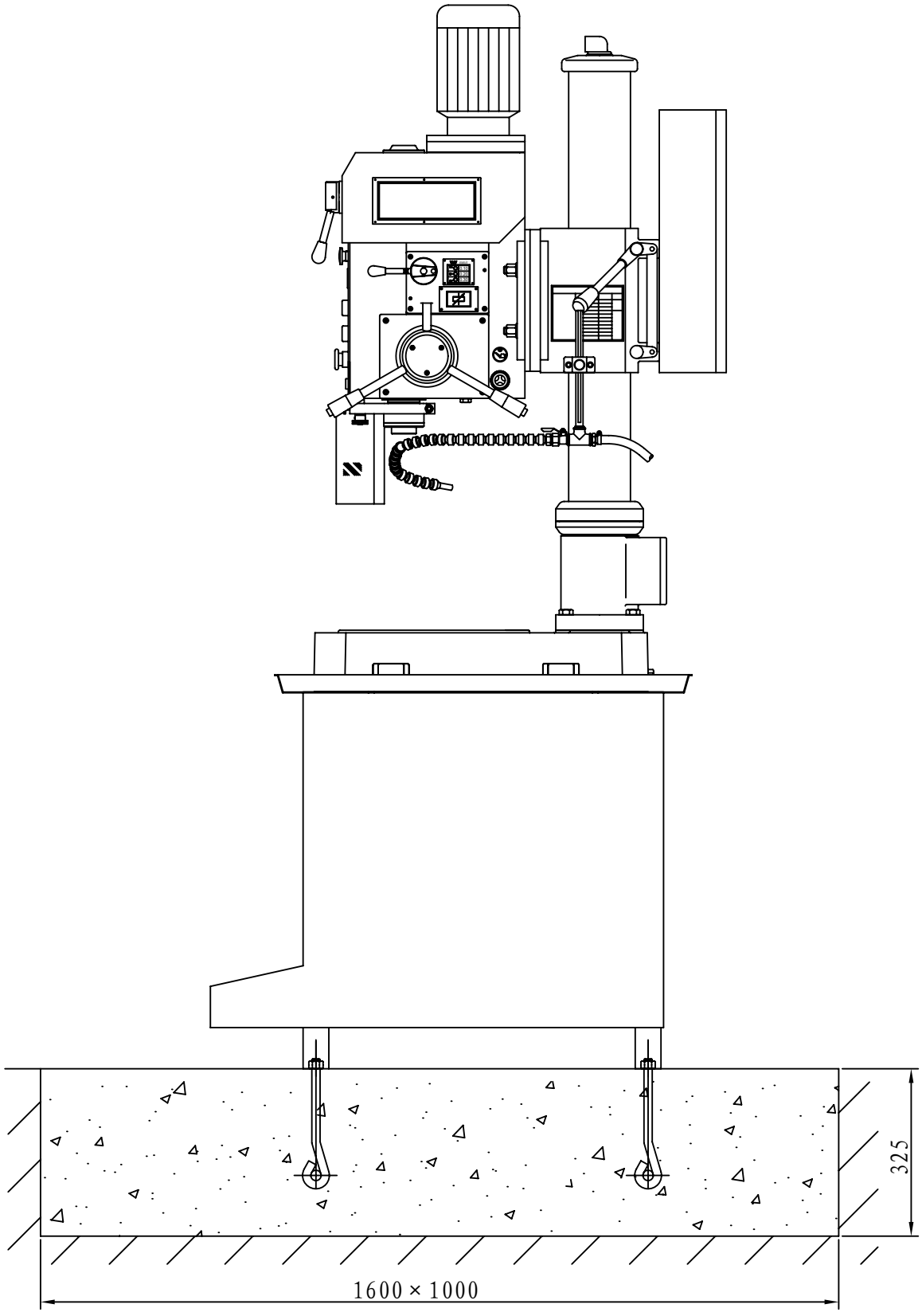
A strict checking, testing and try cutting of the machine have been made before machine delivery. No adjustment of the machine itself is necessary. Before machine running, clean all surfaces of the machine first by using cloth with kerosene or gasoline, checking all lubrication points then turn the main switch of the machine to the "on" position, running the machine with middle or slow speed and checking all revolution direction is correct, operating levers are in a correct position, checking machine noise and working temperature are all ok. The machine should be running for a certain period of time, then it could be used if no any un-normal condition happened.

7 **Use and operation of the machine**:

7.1 For the operating levers, handles, electric switches and buttons, please refer to the diagram 1 and diagram 4..

7.2 Mounting and dismounting of tool cutters:

The machine equipped with a tool dismounting device to be controlled by a nob (9). Push forward the nob (9) to the spindle box direction when tool mounting is required. As for dismounting tool cutters, pull out the nob (9), hold the tool cutter by left hand, meanwhile, turn the feed lever (4) by right hand, then the spindle quill goes up rapidly, the tool cutter will fall down until tool taper shank strokes the shaft of spindle.



drawing 8. foundation of installation of machine

In case too tight mesh between tool shank and spindle taper and the tool cutter could not fall down after several strokes, then you have to use the normal way by using a taper wedge to dismounting the tool cutter.

Warning: The nob (9) must not be pulled out while tool mounting or machine Running, otherwise, the spindle will goes up quickly which results tool cutter falls down. It is really dangerous.

7.3 Changes for the spindle speed and feed rate:

Spindle speed change could be made by moving the two levers (10) and (11) located in the front of the spindle box. Relations between spindle speed revolution and levers position is indicated at the speed change label. Meanwhile, the digital meter indicates the actual spindle revolution.

As mounting or dismounting tool cutter or adjustment of work piece needs spindle rotation by manual, therefore, the lever in the right side position shall be in the “idle” position, so spindle rotation could be easily obtained.

Changes of the feed rate could be realized by using the lever (8) in the upper right side position of the spindle box.

7.4 Selection and operation of the spindle feed:

There are two types of spindle feed selections for your choice as per the requirement of your machining:

Manual feed: Simply moving the feed lever(4) at the right side of the spindle box, the spindle will move down if turned the lever in counter clockwise and the spindle will move up if turned the lever in clockwise.

.

Auto feed: There are three levers(4), at the end of each lever equipped with a push button. Push one of any three buttons(SB4), auto feed could be realized as per your required pre-set feed rate. Push one of any three buttons(SB4)once again, the auto feed will be stopped immediately.

7.5 Cutting depth control:

For the batch production, you need control cutting depth. A scale in front of spindle box could meet your requirements. Loosening knurled screw (5) by turning nob (1), moving the scale to the required depth, then fastening the knurled screw(5). Now the machining depth could be controlled.

7.6 Tapping

Put the “Selection Switch”(12) on the tapping position first, turn the feed lever(4) and let the tap approaches the work piece, a proper manpower force (based on the size of screw) shall be exerted in order to let the tap comes into the hole. The spindle will be rotated in reverse when the screw depth is reached, promptly turn the feed lever(4) in counter clockwise direction, in order to let the tap comes out.
Suppose, tapping job needs stop, push button (SB4) then spindle will have reverse revolution. and tap returns back.

8 Machine adjustment:

8.1 Spindle balance force adjustment:

Balance of spindle is realized through a springiness from a coil spring device located at the left side of the spindle box. Balance force shall be adjusted to the point that the spindle together with its tool shall not go down itself when spindle stops. (go up a little bit shall be much better).
Over springiness or less needs adjustment. Simply loosening the screw on the cover of spring box, turn the spring box cover, the spring could be either fastening or loosening. Fastening screw on the cover if the balance force is ok

8.2 Adjustment for the feed safety clutch:

Feed safety clutch is mounted on upper side of the warm shaft. If too much feed resisting force is occurred, the feed safety clutch will be automatically slipped(sound “Ka” will be heard) in order to protect machine driving system not to be damaged.Clutch appearance could be seen when opening the cover below the feed change label.Using a tool to turn a slotted nut in clockwise, this will increase the feed resisting force, meanwhile, the counter clockwise will reduce the feed resisting force. The max.feed resisting force of this machine is 6400N, Over feed resisting force will cause un-safety, be sure to lock it by screw bolt or nut after adjustment.

9 Machine use and maintenance:

9.1 Before running the machine, carefully read the Operation Manual first, fully understand the structure of the machine and its performance and needs to familiar with locations for all levers and buttons.

9.2 Lubrication of the machine is very important. Daily lubrication work as per the requirements of the operation manual is necessary. Otherwise transmission parts and bearings will be damaged.

9.3 Max. spindle torque of this machine is 95 Nm. Max. feed resisting force in the driving system is 6400 N. Over permitted cutting feed range is not allowed. High spindle speed with big cutting feed is not good to the machine.

9.4 As standard drill with118 degree angle features big cutting force but quick wear-out, so diameter and roughness of holes is not so ideal after drilling, therefore, regrinding its edges particularly for the big diameter drills is necessary. It is better to use two different angles for the machining of cast iron material (Second angle could be 70°).

9.5 Spot facer with three edges is proffered for the spot facing machining, using a normal drill for spot facing job will cause vibration. However, it will have a better result for the spot facing machining if reducing the rear angle of the normal drill with two different angles and going down the cutting speed and feed rate.

9.6 Temperature of motor will be increased so quickly when tapping due to frequently Motor direction be changed. Therefore, rapid and continuous taping shall be avoided. Max. eight times per minutes of tapping is recommended. The machine shall be stopped for cooling if the motor is too hot.

9.7 Please turn off the coolant valve when mounting and dismounting tools, clamping or adjusting work piece or measuring work piece, as coolant is not necessary during this period. Stop coolant pump if these job takes more than ten minutes.

9.8 As gears are to be used for spindle and feed system, so it is not allowed to change spindle speed or change cutting feed rate when machine running, otherwise it will damage gears, shafts or relevant parts.

9.9 Do not extend spindle quill too much, instead, a proper working table height is suggested .Clean the spindle taper hole and tool taper shank first before tool mounting. Unqualified or rusted or damaged taper shank is forbidden to use.

9.10 Dry agent inside of the electric box and regularly removing dustiness are necessary. It is forbidden to us gasoline or kerosene or diesel oil to clean electric components. We suggest to use those no erosion and not be easily burned liquid such as carbon tetrachloride etc.

10. Machine accessories:

No.	Description	Specification/standard	Q'ty	Remark
1	Drill check with spanner	1-13/G86087	1	
2	Adapter for drill check		1	
3	Adaptor	4-3/JB3477	1	
4	Adaptor	4-2/JB3477	1	
5	Adaptor	3-1/JB3477	1	
6	Taper wedge for flat shape quill	Wedge 1/JB3482	1	
7	Taper wedge for flat shape quill	Wedge 3/JB3482	1	
8	Wrench	21x24/GB4388	1	
9	Fuse	Ø5×25 1A，3A，5A	2	

Sensitive Drilling Machine

Model：GHD-35PFA

Certificate of Inspection

Max. Drilling Diameter: 35mm

Series Number:

We certified that the machine has been inspected and all items of the machine are in conformity With Q/320684FNC01-2006 standard. Delivery is permitted.

Director of the company:

Date:

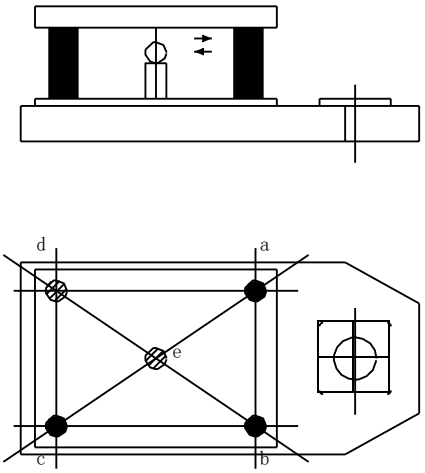
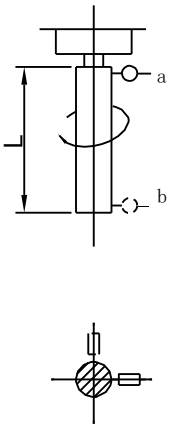
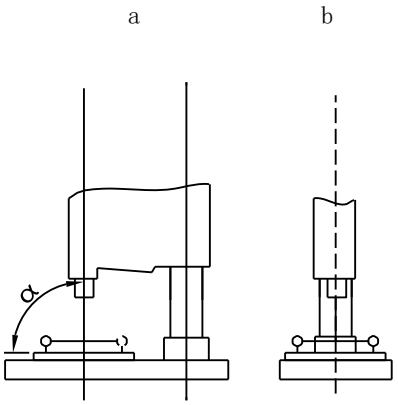
Director of quality inspection department:

Date:

Certificate of Inspection	Total 2 Page 1

Precesion Inspection Record

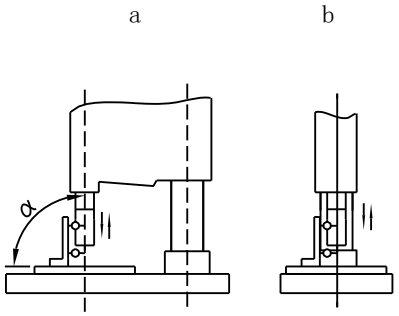
Germetrical Precision Test:

No.	Item	Brief Drawing	Precision	
			Allowance(mm)	Actual Test
G1	Parallelism of the base surface		0.06 at any tested Length of 300(flat or concave)	
G2	Spindle bore axis runout a) Close to spindle surface b)at a distance of L to spindle surface		L=100 a）0.02 b）0.035	
G3	Parpendicularity of the spindle axis to Base plate table surface		a 0.10/300* a≤90° b 0.10/300*	

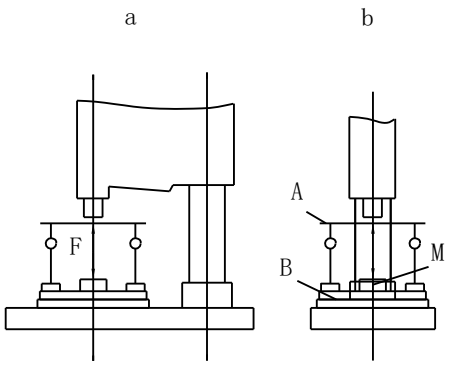
Certificate of Inspection

Precesion Inspection Record

Germetrical Precision Test:

No.	Item	Brief Drawing	Precision	
			Allowance(mm)	Actual Test
G4	Parpendicularity of the Spindle sleeve to Base plate table surface		a) 0.07/100* (a≤90°) b) 0.07/100*	

Work Accuracy:

P1	The change of Parpendiularity of spindle axis to work table surface under the axial force		F=5000N (500kgf) 2/1000	

*Distance between the two points of Indicator

Sensitive Drilling Machine

Model：GHD-35PFA

Packing list

Max. Drilling Diameter: 35mm

Series Number:

Packing list	Total 1 page 1

Case No.: 1/1
Dimension (L ×W × H): × × **CM**
Gross weight:
Net weight:

No.	Name	Specification and marks	Q'ty	Remark
1	Machine		1 piece	
2	Drill check with lever	1-13: GB6087	1 piece	
3	Drill check adaptor		1 piece	
4	Tool shank adaptor	4-3: JB3477	1 piece	
		4-2: JB3477	1 piece	
		3-1: JB3477	1 piece	
5	Taper wedge for shank	Wedge 1: JB3482	1 piece	
		Wedge 3: JB3482	1 piece	
6	Double end wrench	21x24; GB4388	1 piece	
7	Fuse	Φ5×25 1A、3A、5A	2 pieces each	
8	Operation manual		1 piece	
	Quality certificate		1 piece	
	Packing list		1 piece	

Inspector of the packing: Date:

Sensitive Drilling Machine

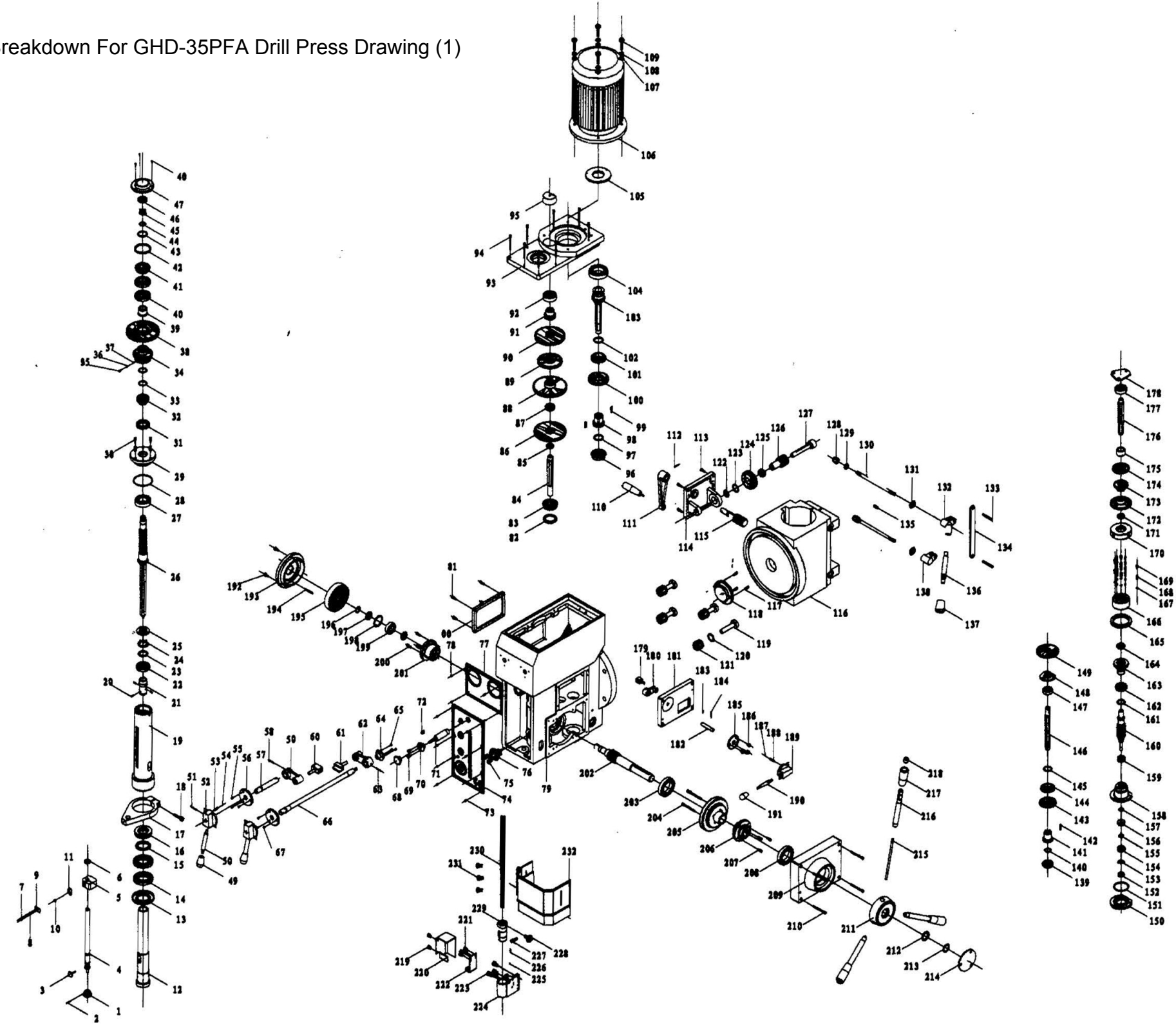
Model：GHD-35PFA

Ancillary page of Operation Manual

Max. Drilling Diameter: 35mm

Series Number:

Parts Breakdown For GHD-35PFA Drill Press Drawing (1)



Part List for GHD-35PFA DRILL PRESS

No.	Part no.	Descirption	Size	Qty.
1	GHD35PFA-1001	Knurled Knob		1
2	GHD35PFA-1002	Taper pin	3X20	1
3	GHD35PFA-1003	Knurled screw bolt		1
4	GHD35PFA-1004	Scaled screw		1
5	GHD35PFA-1005	Scaled nut		1
6	GHD35PFA-1006	Positioning board		1
7	GHD35PFA-1007	Cross recessed pan head screw	ZN. D2X6	2
8	GHD35PFA-1008	Slotted set screws with cone point	ZN.D2	
9	GHD35PFA-1009	Scaled indicator sheet		1
10	GHD35PFA-1010	Slotted cheese-head screw	ZN.D3X6	1
11	GHD35PFA-1011	Support for the vernier		1
12	GHD35PFA-1012	Main spindle		1
13	GHD35PFA-1013	Bearing cover		1
14	GHD35PFA-1014	Bearing		2
15	GHD35PFA-1015	Washer		1
16	GHD35PFA-1016	Bearing		1
17	GHD35PFA-1017G	Scale clamper		1
18	GHD35PFA-1018	Hexagon socket cap screws	M8X35	
19	GHD35PFA-1019	Spindle quill		1
20	GHD35PFA-1020	Taper pins with internal thread		6
21	GHD35PFA-1021	Spline quill		1
22	GHD35PFA-1022	Bearing		1
23	GHD35PFA-1023	Washer		1
24	GHD35PFA-1024	Washer		1
25	GHD35PFA-1025	Round nut		1
26	GHD35PFA-1026	Transmission shaft		1
27	GHD35PFA-1027	Bearing		1
28	GHD35PFA-1028	O-ring		1
29	GHD35PFA-1029	Bearing seat	63X2.65	1
30	GHD35PFA-1030	Hexagon socket cap screws	M6X16	4
31	GHD35PFA-1031	Sealed ring	B30X47X7	1
32	GHD35PFA-1032	Feed gear		1
33	GHD35PFA-1033	Gear		1
34	GHD35PFA-1034	External circlip		2
35	GHD35PFA-1035	Slotted set screw with flat point	M6x6	2
36	GHD35PFA-1036	Coil compression spring	0.8x4x12	2
37	GHD35PFA-1037	Steel ball	5	2
38	GHD35PFA-1038	Gear		1
39	GHD35PFA-1039	Bushing		1
40	GHD35PFA-1040	Bearing	7000106	2
41	GHD35PFA-1041	Bearing	50204	1
42	GHD35PFA-1042	Internal Circlip		1
43	GHD35PFA-1043	External circlip		1
44	GHD35PFA-1044	External circlip		1
45	GHD35PFA-1045	Washer	18	1
46	GHD35PFA-1046	Round nut	M18X1.5	1

Part List for GHD-35PFA DRILL PRESS

No.	Part no.	Descirption	Size	Qty.
47	GHD35PFA-1047	Cover		1
48	GHD35PFA-1048	Slotted cheese-head screw	M4X12	3
49	GHD35PFA-1049	Knob		2
50	GHD35PFA-1050	Handle		2
51	GHD35PFA-1051	Taper pin		2
52	GHD35PFA-1052	Handle seat		2
53	GHD35PFA-1053	Coil compression spring		2
54	GHD35PFA-1054	Steel ball	8	2
55	GHD35PFA-1055	Slotted cheese-head screw	M5X12	6
56	GHD35PFA-1056	Washer		2
57	GHD35PFA-1057	Short fork lever		1
58	GHD35PFA-1058	Taper pins with internal thread	6X30	1
59	GHD35PFA-1059	Lever		1
60	GHD35PFA-1060	Front fork lever		1
61	GHD35PFA-1061	Rear fork lever		1
62	GHD35PFA-1062	Lever		1
63	GHD35PFA-1063	Taper pins with internal thread	6X30	1
64	GHD35PFA-1064	Shaft sleeve		1
65	GHD35PFA-1065	Slotted cheese-head screw	M4X12	3
66	GHD35PFA-1066	Long fork shaft		1
67	GHD35PFA-1067	Slotted cheese head screws	M5X12	3
68	GHD35PFA-1068	Knob		1
69	GHD35PFA-1069	Slotted countersunk flat head screw	M3X6	3
70	GHD35PFA-1070	Bushing		1
71	GHD35PFA-1071	Positioning small shaft		1
72	GHD35PFA-1072	Key	3h9x3x10	1
73	GHD35PFA-1073	cross recess pan head screw		8
74	GHD35PFA-1074	Panel		1
75	GHD35PFA-1075	Slotted countersunk flat head screw	M5X10	3
76	GHD35PFA-1076	Block		1
77	GHD35PFA-1077	Speed brand		1
78	GHD35PFA-1078	Cross recess pan head screw	Cr.D3x6	4
79	GHD35PFA-1079G	Spindle box		1
80	GHD35PFA-1080G	Cover		1
81	GHD35PFA-1081	Hexagon socket head cap screw	M5x12	4
82	GHD35PFA-1082	Cover		1
83	GHD35PFA-1083	Bearing	50303	1
84	GHD35PFA-1084	Spline shaft		1
85	GHD35PFA-1085	Bearing	1180803K	1
86	GHD35PFA-1086	Feed gear		1
87	GHD35PFA-1087	Bearing		1
88	GHD35PFA-1088	Gear		1
89	GHD35PFA-1089	Gear		1
90	GHD35PFA-1090	Gear		1
91	GHD35PFA-1091	Gear		1
92	GHD35PFA-1092	Bearing		1

Part List for GHD-35PFA DRILL PRESS

No.	Part no.	Descirption	Size	Qty.
93	GHD35PFA- 1093G	Box cover		1
94	GHD35PFA-1094	Hexagon socket cap screws	M6x25	7
95	GHD35PFA-1095	Bearing cover		1
96	GHD35PFA-1096	Bearing	50303	1
97	GHD35PFA-1097	External circlip		1
98	GHD35PFA-1098	Gear		1
99	GHD35PFA-1099	Key	5h9x5x22	2
100	GHD35PFA-1100	Gear		1
101	GHD35PFA-1101	Gear		1
102	GHD35PFA-1102	External circlip		1
103	GHD35PFA-1103	Spline shaft		1
104	GHD35PFA-1104	Bearing		1
105	GHD35PFA-1105	Bearing Cover		1
106	GHD35PFA-1106	Motor	YD90S-4/2	1
107	GHD35PFA-1107	Washer		4
108	GHD35PFA-1108	Washer		4
109	GHD35PFA-1109	Hexagon bolt	M10x25	4
110	GHD35PFA-1110	Turning handle	M10×80	1
111	GHD35PFA-1111G	Lifting handle of bracket		1
112	GHD35PFA-1112	Taper pin	4x35	1
113	GHD35PFA-1113	Hexagon socket cap screws	M6x16	4
114	GHD35PFA-1114G	Lifting seat		1
115	GHD35PFA-1115	Lifting worm wheel		1
116	GHD35PFA-1116G	Lifting device		1
117	GHD35PFA-1117	Hexagon socket head cap screw	M6x12	3
118	GHD35PFA-1118	Positioning shaft		1
119	GHD35PFA-1119	Nut for T solt		4
120	GHD35PFA-1120	Washer	14	4
121	GHD35PFA-1121	Hexagon thick nut	M14	4
122	GHD35PFA-1122	Washer		1
123	GHD35PFA-1123	External circlip		1
124	GHD35PFA-1124	Lifting worm wheel of spindle box		1
125	GHD35PFA-1125	Sleeve		1
126	GHD35PFA-1126	Gear		1
127	GHD35PFA-1127	Shaft		1
128	GHD35PFA-1128	Cover type nut	M12	2
129	GHD35PFA-1129	Thin nut	M12	2
130	GHD35PFA-1130	Double end bolt		2
131	GHD35PFA-1131	Washer		2
132	GHD35PFA-1132G	Main nut for clamping board		1
133	GHD35PFA-1133	Pin	8m6x24	2
134	GHD35PFA-1134	Connecting board of bracket		1
135	GHD35PFA-1135	Bearing		1
136	GHD35PFA-1136	Handle lever		1
137	GHD35PFA-1137	Handle sleeve		1
138	GHD35PFA-1138G	Nut		1

Part List for GHD-35PFA DRILL PRESS

No.	Part no.	Descirption	Size	Qty.
139	GHD35PFA-1139	Bearing	50202	1
140	GHD35PFA-1140	External circlip		2
141	GHD35PFA-1141	Feed gear		1
142	GHD35PFA-1142	Key	4h9x4x22	1
143	GHD35PFA-1143	Feed gear		1
144	GHD35PFA-1144	Feed gear		1
145	GHD35PFA-1145	External circlip		
146	GHD35PFA-1146	Spline (III)		1
147	GHD35PFA-1147	Bearing		1
148	GHD35PFA-1148	Bearing cover		1
149	GHD35PFA-1149	Feed gear		1
150	GHD35PFA-1150	Cover		1
151	GHD35PFA-1151	o-ring	47x2.65	2
152	GHD35PFA-1152	Round nut	M10×1	1
153	GHD35PFA-1153	Washer	10	1
154	GHD35PFA-1154	Bearing	10	1
155	GHD35PFA-1155	Washer		1
156	GHD35PFA-1156	Bearing		1
157	GHD35PFA-1157	Washer		1
158	GHD35PFA-1158	Bearing seat		1
159	GHD35PFA-1159	Bearing		1
160	GHD35PFA-1160	Worm shaft		1
161	GHD35PFA-1161	External circlip		1
162	GHD35PFA-1162	Bearing		1
163	GHD35PFA-1163	Clutch (below)		1
164	GHD35PFA-1164	Bearing		1
165	GHD35PFA-1165	Round nut		1
166	GHD35PFA-1166	Overload protection sleeve		1
167	GHD35PFA-1167	Steel ball	8	8
168	GHD35PFA-1168	Cylindroid helical-coil compression spring		8
169	GHD35PFA-1169	Ball pin		8
170	GHD35PFA-1170	Round nut		1
171	GHD35PFA-1171	Washer for adjusting		1
172	GHD35PFA-1172	Feed gear		1
173	GHD35PFA-1173	Feed gear		1
174	GHD35PFA-1174	Feed gear		1
175	GHD35PFA-1175	Sleeve		1
176	GHD35PFA-1176	Spline shaft(IV)		1
177	GHD35PFA-1177	Bearing		1
178	GHD35PFA-1178	Bearing cover		1
179	GHD35PFA-1179	Fork		1
180	GHD35PFA-1180	Connecting block		1
181	GHD35PFA-1181G	Side cover		1
182	GHD35PFA-1182	Small shaft		1
183	GHD35PFA-1183	Taper pin	4x24	1
184	GHD35PFA-1184	Taper pin	4x20	1

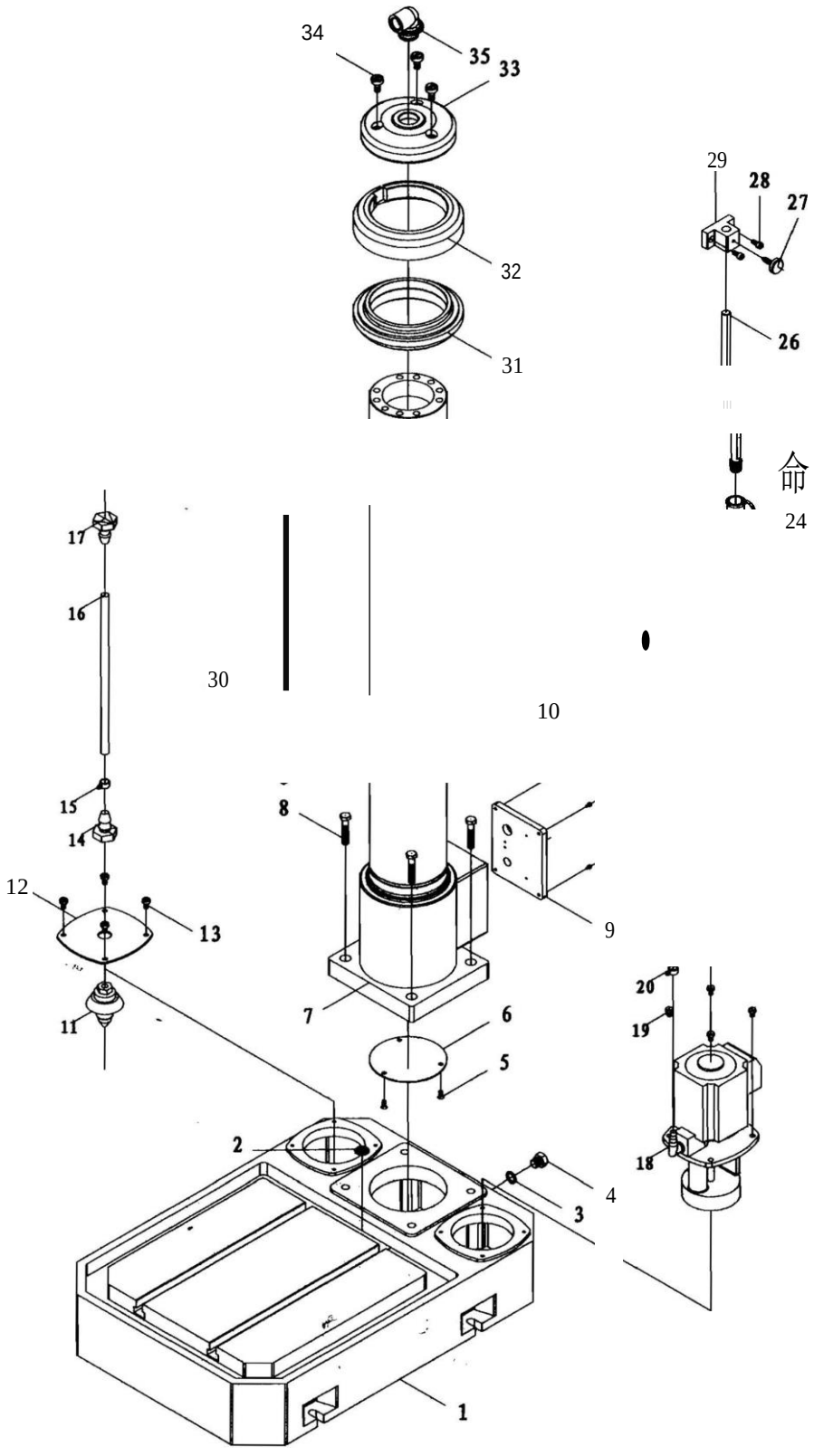
Part List for GHD-35PFA DRILL PRESS

No.	Part no.	Descirption	Size	Qty.
185	GHD35PFA-1185	Positioning board		1
186	GHD35PFA-1186	Slotted countersunk screw	M3x8	3
187	GHD35PFA-1187	Steel ball	8	3
188	GHD35PFA-1188	Coil compression spring		3
189	GHD35PFA-1189	Handle seat		1
190	GHD35PFA-1190	Hand lever		1
191	GHD35PFA-1191	Knob		1
192	GHD35PFA-1192	Slotted cheese head screw	M5×16	3
193	GHD35PFA-1193	Spring box cover		1
194	GHD35PFA-1194	Pin		1
195	GHD35PFA-1195	Coil spring		1
196	GHD35PFA-1196	External circlip		1
197	GHD35PFA-1197	Adjusting washer		2
198	GHD35PFA-1198	Internal Circlip		1
199	GHD35PFA-1199	Bearing		1
200	GHD35PFA-1200	Slotted cheese head screw	M5×12	3
201	GHD35PFA-1201	Bearing box		1
202	GHD35PFA-1202	Horizontal shaft		1
203	GHD35PFA-1203	Bearing		1
204	GHD35PFA-1204	Hexagon socket head cap screw	M5×25	3
205	GHD35PFA-1205	Worm wheel		1
206	GHD35PFA-1206	Sleeve		1
207	GHD35PFA-1207	Hexagon socket head cap screw	M5×12	3
208	GHD35PFA-1208	Bearing		1
209	GHD35PFA-1209G	Side cover		1
210	GHD35PFA-1210	Hexagon socket head cap screw	M6×45	4
211	GHD35PFA-1211	Handle seat		1
212	GHD35PFA-1212	Washer for adjusting		1
213	GHD35PFA-1213	External circlip		1
214	GHD35PFA-1214	Cover		1
215	GHD35PFA-1215	Lever		3
216	GHD35PFA-1216	Hand lever		3
217	GHD35PFA-1217	knob		3
218	GHD35PFA-1218	Core lever		3
219	GHD35PFA-1219	Slotted cheese-head screw	M4×30	2
220	GHD35PFA-1220	Cover		1
221	GHD35PFA-1221	Slotted cheese-head screw	M4×8	4
222	GHD35PFA-1222	Mounting plate		1
223	GHD35PFA-1223	Slotted cheese-head screw	M6×12	4
224	GHD35PFA-1224	Holder		1
225	GHD35PFA-1225	Steel ball	6	1
226	GHD35PFA-1226	Pin		1
227	GHD35PFA-1227	Lever		1
228	GHD35PFA-1228	Cock screw		1
229	GHD35PFA-1229	sleeve		1
230	GHD35PFA-1230	Supporting bar		1

Part List for GHD-35PFA DRILL PRESS

No.	Part no.	Descirption	Size	Qty.
231	GHD35PFA-1231	Slotted cheese-head screw	M5×12	2
232	GHD35PFA-1232	Guard		1

Parts Breakdown For GHD-35PFA Drill Press Drawing (2)

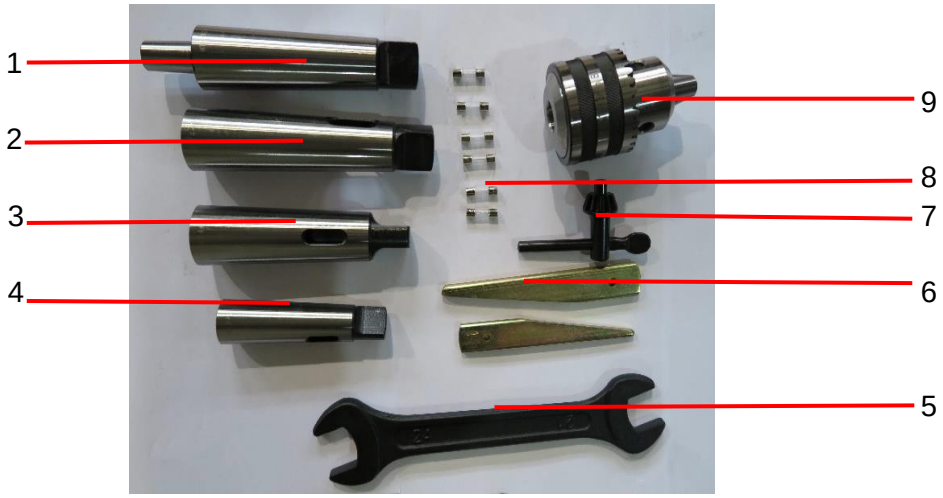


Part List for GHD-35PFA DRILL PRESS

No.	Part no.	Descirption	Size	Qty.
1	GHD35PFA-2001G	Base		1
2	GHD35PFA-2002	Drainage plate		1
3	GHD35PFA-2003	Washer	16	1
4	GHD35PFA-2004	Oil plug	M16x1.5	1
5	GHD35PFA-2005	Slotted cheese-head screw	M3x6	3
6	GHD35PFA-2006	Cover		1
7	GHD35PFA-2007G	Column		1
8	GHD35PFA-2008	Hexagon head bolt	M16x55	4
9	GHD35PFA-2009G	Cover		1
10	GHD35PFA-2010	Slotted cheese-head screw	M4×12	4
11	GHD35PFA-2011	Strainer		1
12	GHD35PFA-2012	Board		1
13	GHD35PFA-2013	Slotted cheese-head screw	M6x8	4
14	GHD35PFA-2014	Pipe joint		1
15	GHD35PFA-2015	Hose clamp		3
16	GHD35PFA-2016	Hose clamp		1
17	GHD35PFA-2017	Pipe joint		1
18	GHD35PFA-2018	Coolant pump (Same GHD-25-2-06)		1
19	GHD35PFA-2019	Slotted cheese-head screw	M6x20	4
20	GHD35PFA-2020	Hose clamp		1
21	GHD35PFA-2021	Hose clamp		1
22	GHD35PFA-2022	Hose		1
23	GHD35PFA-2023	Brass ball valve		1
24	GHD35PFA-2024	Tee joint		1
25	GHD35PFA-2025	Pipe joint		1
26	GHD35PFA-2026	Adjusting bar		1
27	GHD35PFA-2027	Screw		1
28	GHD35PFA-2028	Hexagon socket head cap screw	M6×14	2
29	GHD35PFA-2029	Mounting bracket		1
30	GHD35PFA-2030	Rack		1
31	GHD35PFA-2031	Baffle ring seat		1
32	GHD35PFA-2032	Baffle ring		1
33	GHD35PFA-2033G	Top cap of column		1
34	GHD35PFA-2034	Slotted cheese-head screw		3
35	GHD35PFA-2035G	Elbow		1
	GHD35PFA-2036G	Electric box		1

Standard Accessories List for GHD-35PFA Drill Press

No.	Part no.	Descirption	Size	Qty.
1	GHD55PFA-ACC01	Adapter	MT4-B16	1
2	GHD55PFA-ACC02	Adapter	MT4-3	1
3	GHD55PFA-ACC03	Adapter	MT4-2	1
4	GHD55PFA-ACC04	Adapter	MT3-1	1
5	GHD55PFA-ACC05	Double wrench	21X24	1
6	GHD55PFA-ACC06	Taper wedge for flat shape quill		2
7	GHD55PFA-ACC07	Key for drill chuck		1
8	GHD55PFA-ACC08	Fuse	1A, 3A, 5A	each 2
9	GHD55PFA-ACC09	Drill chuck	1-13mn B16	1



GB - ENGLISH

Environmental protection

Protect the environment.

Your appliance contains valuable materials which can be recovered or recycled. Please leave it at a specialized institution.

This symbol indicates separate collection for electrical and electronic equipment required under the WEEE Directive (Directive 2012/19/EC) and is effective only within the European Union.

DE - DEUTSCH

Umweltschutz

Schützen Sie die Umwelt!

Ihr Gerät enthält mehrere unterschiedliche, wiederverwertbare Werkstoffe.
Bitte entsorgen Sie es nur an einer spezialisierten Entsorgungsstelle.

Dieses Symbol verweist auf die getrennte Sammlung von Elektro- und Elektronikgeräten, gemäß Forderung der WEEE-Richtlinie (2012/19/EU). Diese Richtlinie ist nur innerhalb der Europäischen Union wirksam.

FR - FRANCE

Protection de l'environnement

Protégez l'environnement !

Votre appareil comprend plusieurs matières premières différentes et recyclables. Pour éliminer l'appareil usagé, veuillez l'apporter dans un centre spécialisé de recyclage des appareils électriques.

Ce symbole indique une collecte séparée des équipements électriques et électroniques conformément à la directive DEEE (2012/19/UE). Cette directive n'est efficace que dans l'Union européenne.

Warranty / Garantie

JPW Tool Group Hong Kong Limited guarantees that the supplied product(s) is/are free from material defects and manufacturing faults.
This warranty does not cover any defects which are caused, either directly or indirectly, by incorrect use, carelessness, damage due to accidents, repairs or inadequate maintenance or cleaning as well as normal wear and tear.
Further details on warranty (e.g. warranty period) can be found in the General Terms and Conditions (GTC) that are an integral part of the contract.
These GTC may be viewed on the website of your dealer or sent to you upon request.
JPW Tool Group Hong Kong Limited reserves the right to make changes to the product and accessories at anytime.

JPW Tool Group Hong Kong Limited garantiert, dass das/die von ihr gelieferte/n Produkt/e frei von Material- und Herstellungsfehlern ist.
Diese Garantie deckt keinerlei Mängel, Schäden und Fehler ab, die - direkt oder indirekt - durch falsche oder nicht sachgemäße Verwendung, Fahrlässigkeit, Unfallschäden, Reparaturen oder unzureichende Wartungs- oder Reinigungsarbeiten sowie durch natürliche Abnutzung durch den Gebrauch verursacht werden.
Weitere Einzelheiten zur Garantie können den allgemeinen Geschäftsbedingungen (AGB) entnommen werden.
Diese können Ihnen auf Wunsch per Post oder Mail zugesendet werden.
JPW Tool Group Hong Kong Limited behält sich das Recht vor, jederzeit Änderungen am Produkt und am Zubehör vorzunehmen.

JPW Tool Group Hong Kong Limited garantit que le/les produit(s)fourni(s) est/sont exempt(s) de défauts matériels et de défauts de fabrication.
Cette garantie ne couvre pas les défauts, dommages et défaillances causés, directement ou indirectement, par l'utilisation incorrecte ou inadéquate, la négligence, les dommages accidentels, la réparation, la maintenance ou le nettoyage incorrects et l'usure normale.
Vous pouvez trouver de plus amples détails sur la garantie dans les conditions générales (CG).
Les CG peuvent être envoyées sur demande par poste ou par e-mail.
JPW Tool Group Hong Kong Limited se réserve le droit d'effectuer des changements sur le produit et les accessoires à tout moment.

JPW Tool Group Hong Kong Limited
98 Granville Road, Tsimshatsui East, Kowloon, Hong Kong, PRC
www.jettools.com