JET

JMD-2S

Original:

GB

Operating Instructions

Milling Drilling Center



JPW (Tool) AG

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www.jettools.com



50000060M

2016-09

CE-Conformity Declaration

Product: Milling Drilling Center

JMD-2S

Stock Number: 50000060M

Brand: JET

Manufacturer: JPW (Tool) AG, Tämperlistrasse 5, CH-8117 Fällanden, Switzerland

On our own responsibility we hereby declare that this product complies with the regulations

* 2006/42/EC Machinery Directive

* 2014/30/EU EMC Directive (Electro Magnetic Compatibility)

designed with consideration of the standards
** EN ISO 12100, EN 60204-1, EN12717, EN13128, EN55014-1,
EN55014-2, EN6100-3-2, EN61000-3-3

Technical file compiled by: Hansjörg Meier, Product Management

2016-09-26 Alain Schmid, General Manager

JPW (Tool) AG, Tämperlistrasse 5, CH-8117 Fällanden, Switzerland

In addition to the safety requirements contained in these operating instructions and your country's applicable regulations, you should observe the generally recognized technical rules concerning the operation of metal machines.

Any other use exceeds authorization.

In the event of unauthorized use of the machine, the manufacturer renounces all liability and the responsibility is transferred exclusively to the operator.

General safety notes

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 may be 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 power cord.

Before operating the machine, remove tie, rings, watches, other jewellery, and roll up sleeves above the elbows. Remove all loose clothing and confine long hair.

Wear safety shoes; never wear leisure shoes or sandals.

Always wear the approved working outfit:

- safety goggles
- ear protection





Do not wear gloves while operating this machine.



Install the machine 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 bolted stable on firm and levelled table surface or on the supplied cabinet stand.

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.

Stav 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 behaviour.



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



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

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

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.

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

Work only with well sharpened tools.

Machine only stock which rests securely on the table.

Always close the chuck cover before you start the machine.

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

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

Do not stand on the machine.

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



Have a damaged or worn power cord replaced immediately.

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



Do not operate handle while machine running



IMPORTANT SAFETY INSTRUCTION

READ ALL INSTRUCTIONS AND WARNINGS BEFORE USING THIS TOOL

Operator

COMMON SENSE AND CAUTION ARE FACTORS WHICH CANNOT BE BUILT INTO ANY PRODUCT. THESE FACTORS MUST BE SUPPLIED BY THE OPERATOR. PLEASE REMEMBER:

- 1. When using electric tools, machines or equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.
- 2. Keep work area clean. Cluttered areas invite injuries.
- 3. Consider work area conditions. Do not use machines or power tools in damp, wet, or poorly lit locations. Do not expose equipment to rain, keep work area well lit. Do not use tools in the presence of flam-mable gases or liquids.
- 4. Keep children away, all children should be kept away from the work area.
- 5. Guard against electric shock. Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
- 6. Stay alert. Never operate if you are tired.
- 7. Do not operate the product if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes might be impaired.
- 8. Do not wear loose clothing or jewelry as they can be caught in moving parts.
- 9. Wear restrictive hair covering to contain long hair.
- 10. Use eye and ear protection. Always wear.
- 11. Keep proper footing and balance at all times.
- 12. Do not reach over or across running machines.

Before operations

- 1. Be sure the switch is OFF when not in use and before plugging in.
- 2. Do not attempt to use inappropriate attachments in an attempt to exceed the tool"s capacity. Approved accessories are available from the dealer or machine maker.
- 3. Check for damaged parts, before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function.
- 4. Check for alignment and binding of all moving parts, broken parts or mounting fixtures and any other condition that may affect proper operation. Any part that is damaged should be prop early repaired or replaced by a qualified technician.
- 5. Do not use the tool if any switch does not turn off and properly

Operation

- 1. Never force the tool or attachment to do the work of a larger industrial tool. It is designed to do the job better and more safely at the rate for which it was intended.
- 2. Do not carry the tool by its power cord.
- 3. Always unplug the cord by the plug. Never yank the cord out of the wall.
- 4. Always turn off the machine before unplugging.

<u>IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE,</u> <u>DO NOT OPERATE THE TOOL!</u>

Grounding Instructions

This machine has a three-prong plug, the third prong is the ground. Plug this cord only into a three-prong receptacle. Do not attempt to defeat the protection the ground wire provides by cutting off the round prong. Cutting off the ground will result in a safety hazard and void the warranty.

DO NOT MODIFY THE PLUG IN ANY WAY. IF YOU HAVE ANY DOUBT, CALL A QUALIFIED ELECTRICIAN.

Specification:

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Max. drilling capacity:	20 mm
End mill capacity	16 mm
Face mill capacity	50 mm
Distance between spindle center to column	190 mm
Max. distance spindle to table	340 mm
Spindle taper	MT-3
Spindle speed	100-2000 rpm ±10%
Table effective size	595x140 mm
T-slot size	12 mm x 3
Longitudinal travel	394 mm
Cross travel	185 mm
Headstock travel	260 mm
Mains	230V ~1/N/PE 50Hz
Motor power	750 W
Distance between spindle end and worktable surface	75 – 340 mm
Overall dimension (L*W*H)	725x620x880 mm
Packing size (L*W*H)	820x720x890 mm
Weight	110kg (NW) / 125 kg (GW)

Unpacking & Preparing for Use

Before unpacking you must check the package carefully, to find whether it is damaged and any may have effect on the machine, please connect with the distributor in advance.

Unpacking carefully, check the species of standard accessories and the quantity to find whether it is as same as the packing list in the package.

FEATURE



1	Base	2	Cross feed handwheel
3	Worktable	4	Column (with dustproof)
5	Drill chuck with arbor	6	Chuck guard assembly
7	Spindle sleeve locking handle	8	Depth display
9	Emergency stop switch	10	Knob with potentiometer
11	Electric control box	12	Speed display
13	Light	14	Forward/0/Reverse switch
15	Fine feeding handle	16	Spindle box
17	Vertical feed handwheel	18	Column back cover
19	Fine feeding locking handle	20	Spindle control handle assembly
21	Longitudinal feed handwheel	22	Saddle locking handle
23	Saddle	24	Worktable locking handle

Installation

CAUTION!

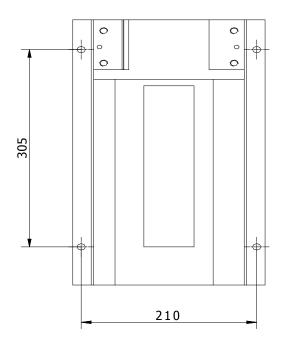
DO NOT ATTEMPT TO USE THE MACHINE UNTIL INSTALLTION IS CAMPLETED, AND ALL PRELIMINARY CHECKS HAVE BEEN MADE IN ACCORDANCE WITH THIS MANUAL.

MOUNTING THE MACHINE

The machine should be mounted on a strong, heavy workbench, of sufficient height so that you do not need to bend your back to perform normal operations.

Ensure the location is adequately lit and that you will not be working in your own shadow. We strongly recommend that the machine bolted firmly to strong workbench using the tapped holes used to secure the feet to the machine. This is to provide added stability and consequently, additional safety.

To do this, first drill four M12 clearance holes in a worktop, at the dimensions shown in the diagram opposite, and with appropriate length M10 bolts, or screws, with flat washers. (not supply, you need prepare these by yourself).



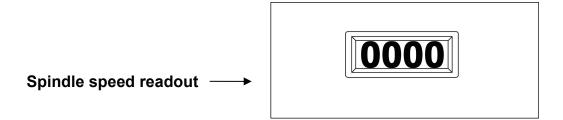
Application

This small mill machine is for milling or drilling, widely used in different places. Fine exterior, wide range of speed and easy to use.

Designed for industrial usage milling, drilling, tapping, reaming, steps and mill plane with metal and other material.

Operation

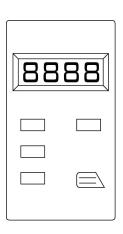
- 1. Before starts to use this machine, operator should go through the instructions carefully so as to acquaint with the construction of the machines, the functions of the various controls and also the driving systems.
- 2. This machine uses touching button (see operation panel below), operating steps refer to the flow chart.



Operation panel



Spindle depth readout



Operating steps

- 1. Insert the electric plug into its socket. Then release the emergency stop switch by turning the red round head of the switch (A). you can see the spindle speed readout (c) will bright, it means power on.
- 2. Change the Forward/off/Reverse switch (D) to forward or reverse position, then turn the potentiometer knob (B), the spindle speed will rise as you need. You can see the speed no. On the spindle speed readout (C).
- 3. If you want to stop the spindle you can anticlockwise turn the potentiometer to the "0" position, the spindle will stop.

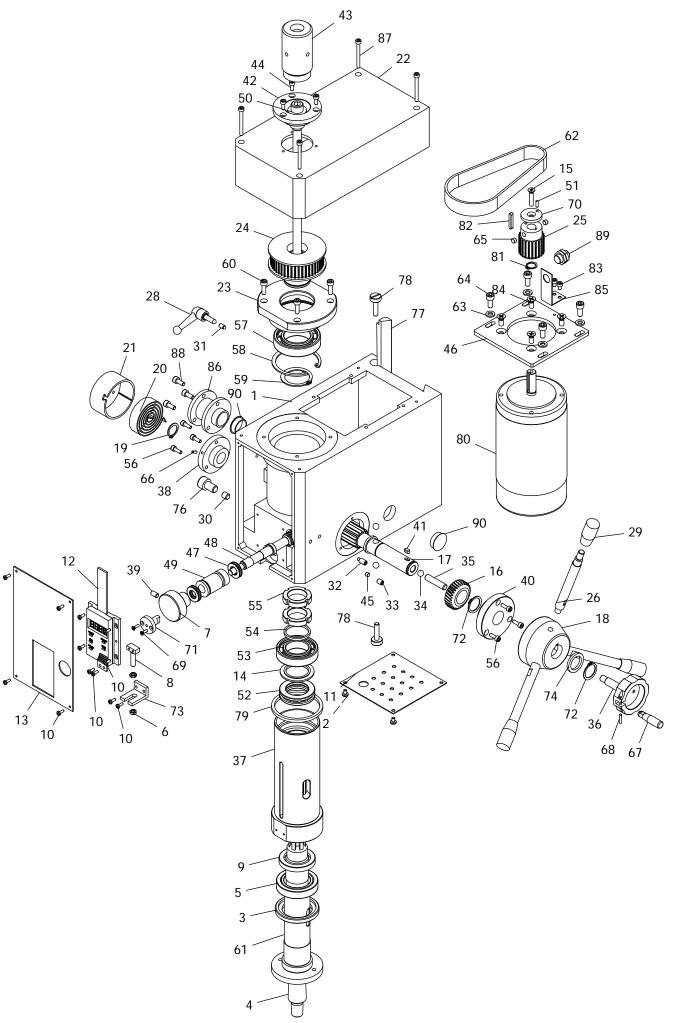
- 4. When you control the mill and need quickly stop the spindle speed, you can clap the emergency stop switch (A), as this time the fault yellow light (E) will bright. If you need restart the mill you need turn the F/O/R switch (D) to "0" position, then control as 1-2-3 steps.
- 5. Fine feeding function: When lock the Lock small handwheel (A), then the control handle (B) can not useable. Turn the fine feeding handwheel (C) the spindle will micro remove.



Notice:

After using should turn the power switch to position '0' and pull out the plug from socket.

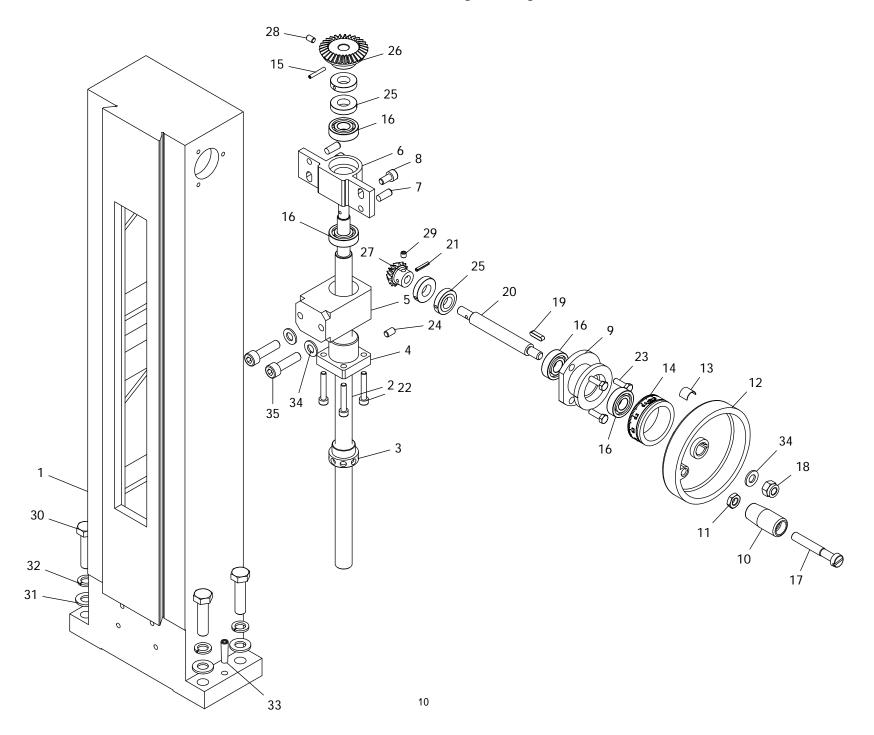
Parts Breakdown For JMD-2S Milling Drilling Center (I)



No.	Part no.	Descirption	Size	Qty.
1	JMD2S-I-01	Spindle box		1
2	JMD2S-I-02	Cross recessed small pan head screw H M3*8	M4X6	4
3	JMD2S-I-03	Spindle below oil seal ring I		1
4	JMD2S-I-04	B16 taper shank		1
5	JMD2S-I-05	Cone roller bearing 32907	32907	1
6	JMD2S-I-06	Hexagon headed nut M5	M5	2
7	JMD2S-I-07	Fine feeding handwheel		1
8	JMD2S-I-08	Display square screw		1
9	JMD2S-I-09	Spindle sleeve below oil seal ring II		1
10	JMD2S-I-10	Cross recessed small pan head screw Z M3*8	M3X8	12
11	JMD2S-I-11	Base plate		1
12	JMD2S-I-12	Display assembly		1
13	JMD2S-I-13	Panel		1
14	JMD2S-I-14	Up washer II		1
15	JMD2S-I-15	Cross recessed counter head screws H M5*25	M5X25	1
16	JMD2S-I-16	Bevel gear		1
17	JMD2S-I-17	Gear shaft		1
18	JMD2S-I-18	Handle seat		1
19	JMD2S-I-19	Check ring 16	16	1
20	JMD2S-I-20	Clock spring		1
21	JMD2S-I-21	Clock spring cover		1
22	JMD2S-I-22	Pindle box cover		1
23	JMD2S-I-23	Bearing seat		1
24	JMD2S-I-24	Spindle timing pulley		1
25	JMD2S-I-25	Motor timing pulley		1
26	JMD2S-I-26	Handle lever		3
27	JMD2S-I-28	Small handle assembly		1
28	JMD2S-I-29	Long handle sleeve		3
29	JMD2S-I-30	Spindle sleeve locking shaft		1
30	JMD2S-I-31	Tighten the top rod		1
31	JMD2S-I-32	Slotted headless set screws round end M6*14	M6X14	1
32	JMD2S-I-33	Inner six angle fastening screws-flat end M6*8	M6X8	1
33	JMD2S-I-34	Ball 8	8	3
34	JMD2S-I-35	Locking small shaft		1
35	JMD2S-I-36	Worm gear locking handle		1
36	JMD2S-I-37	Spindle sleeve		1
37	JMD2S-I-38	Shaft gear left support flange		1
38	JMD2S-I-39	Inner six angle fastening screws-flat end M6*10	M6X10	1
39	JMD2S-I-40	Shaft gear right support flange		1
40	JMD2S-I-41	Parallel key 4*8		1
41	JMD2S-I-42	Spindle up dust guard I		1
42		Spindle up dust guard II		1
43	JMD2S-I-44	Hexagon round head cap screw M4*10	M4X10	3

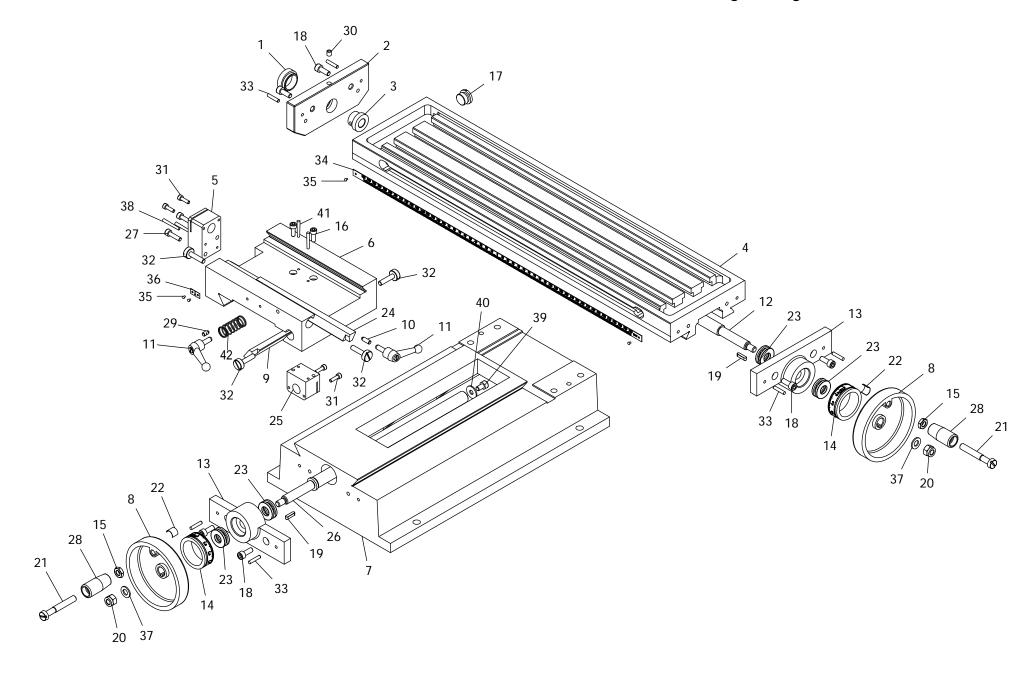
No.	Part no.	Descirption	Size	Qty.
44	JMD2S-I-45	Eccentric sleeve locking block		1
45	JMD2S-I-46	Motor connect plate		1
46	JMD2S-I-47	Thrust ball bearing single 7/70		2
47	JMD2S-I-48	Worm shaft		1
48	JMD2S-I-49	Worm eccentric sleeve		1
49	JMD2S-I-50	Tighten the top rod		1
50	JMD2S-I-51	Round pin A3*10	A3X10	1
51	JMD2S-I-52	Thrust ball bearing single 8106	8106	1
52	JMD2S-I-53	Deep groove ball bearing 80106	80106	1
53	JMD2S-I-54	Up washer		1
54	JMD2S-I-55	Slotted round nut		2
55	JMD2S-I-56	Hexagon round head cap screw M4*12	M4X12	6
56	JMD2S-I-57	Deep groove ball bearing 80107	80107	1
57	JMD2S-I-58	Check ring 62	62	1
58	JMD2S-I-59	Check ring 35	35	1
59		Hexagon round head cap screw M5*16	M5X16	4
60		Spindle MT3		1
61	JMD2S-I-62	•		1
62	JMD2S-I-63		6	4
63		Hexagon round head cap screw M6*14	M6X14	4
64		Φ6 Magnet steel	MOXIII	2
65		Spring round pin 3*8		1
66		Assist small handle		1
67		Round pin A3*14	A3X14	1
68		Cross recessed counter head screws H M3*10	M3X10	2
69	JMD2S-I-70			1
70	JMD2S-I-71	Spindle sleeve position shaft		1
71		Check ring 20		2
72		Display fixed bracket		1
73		Adjust washer		1
74	JMD2S-I-76	Hexagon round head cap screw M10*16	M10X16	1
75	JMD2S-I-77	Bevel wedge		1
76	JMD2S-I-78	Wedge screw		2
77		Sleeve limited washer		1
78		750W DC motor		1
79		Check ring 12	12	1
80		Parallel key 4*25	4X25	1
81		Hexagon round head cap screw M4*6	M4X6	2
82		Cross recessed counter head screws H M6*14	M6X14	4
83		Probe bracket		1
84		Attechment bracket		1
85		Hexagon round head cap screw M4*40	M4X40	4
86		Hexagon headed bolt M5*12	M5X12	3
87		Probe subassembly	1410/112	1
88	JMD2S-I-90	j		2
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Parts Breakdown For JMD-2S Milling Drilling Center (II)



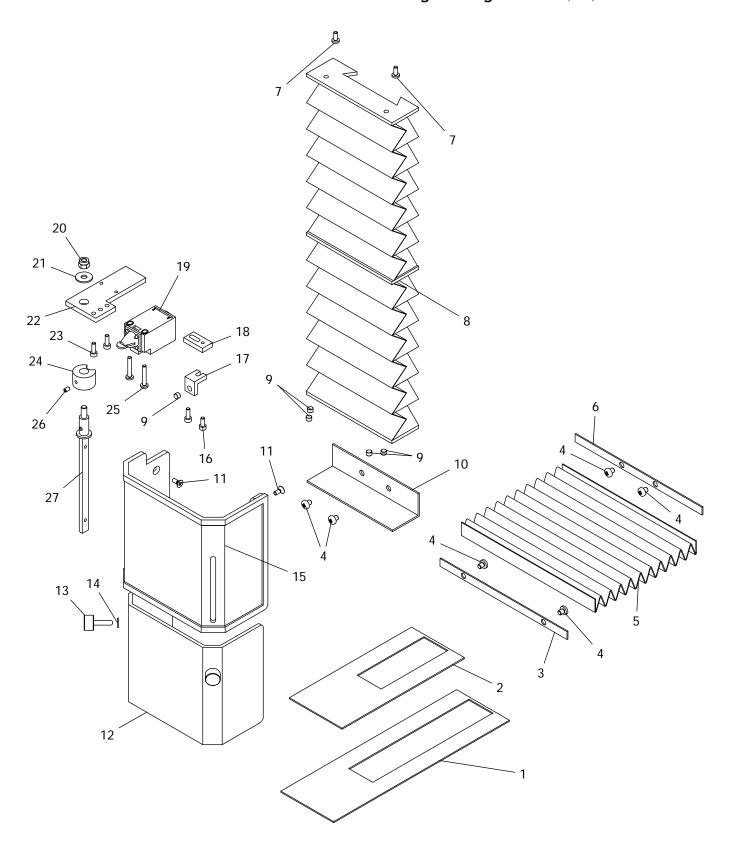
No.	Part no.	Descirption	Size	Qty.
1	JMD2S-II-01	Column		1
2	JMD2S-II-02	Metric rise and down leadscrew		1
3	JMD2S-II-03	Metric rise and down locking nut		1
4	JMD2S-II-04	Metric rise and down leadscrew nut		1
5	JMD2S-II-05	Column nut support		1
6	JMD2S-II-06	Leadscrew support		1
7	JMD2S-II-07	Taper pins with internal thread 6*16	6X16	2
8	JMD2S-II-08	Hexagon socket head cap screw M6*12	M6X12	2
9	JMD2S-II-09	Rise and down support seat		1
10	JMD2S-II-10	Handle		1
11	JMD2S-II-11	Hex nut M8	M8	1
12	JMD2S-II-12	Handle wheel		1
13	JMD2S-II-13	Spring piece		1
14	JMD2S-II-14	Metric rise and down scale dial		1
15	JMD2S-II-15	Spring round pin 3*20	3X20	1
16	JMD2S-II-16	Deep groove ball bearing 6001		4
17	JMD2S-II-17	Slotted large cheese head screws 85*55	85X55	1
18		Hex locking nut M8	M8	1
19		Parallet key 4*16	4X16	1
20	JMD2S-II-20	Rise and down shaft		1
21		Spring round pin 3*16	3X16	1
22	JMD2S-II-22	Hexagon socket head cap screw M5*20	M5X30	4
23	JMD2S-II-23	Hexagon headed bolt M5*16	M5X16	3
24	JMD2S-II-24	Inner six angle locking screws-flast end M6*10	M6X10	1
25	JMD2S-II-25	Locking nut		4
26	JMD2S-II-26	Big bevel gear wheel		1
27		Small bevel gear wheel		1
28	JMD2S-II-28	Inner six angle locking screws-cone end M5*8	M5X8	1
29	JMD2S-II-29	Inner six angle locking screws-cone end M5*5	M5X5	1
30	JMD2S-II-30	Hexagon headed bolt M10*40	M10X40	4
31	JMD2S-II-31	Washer 10	10	4
32	JMD2S-II-32	Spring washer 10	10	4
33	JMD2S-II-33	Taper pins with internal thread 6*24	6X24	2
34	JMD2S-II-34	Washer 8	8	1
35	JMD2S-II-35	Hexagon socket head cap screw M8*30	M8X30	2

Parts Breakdown For JMD-2S Milling Drilling Center (III)

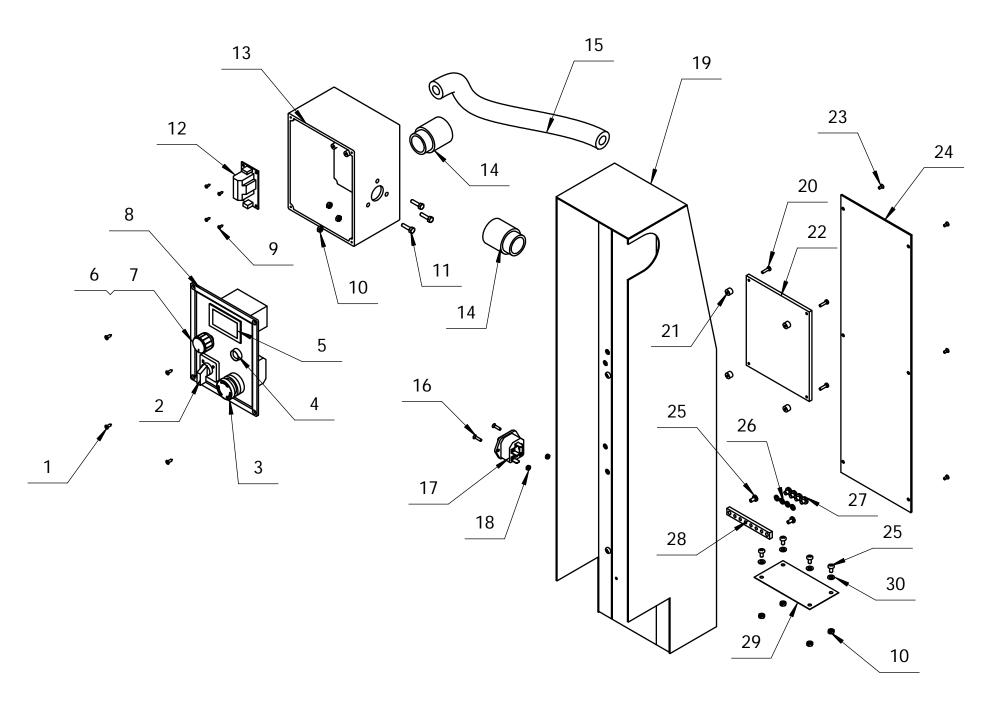


No.	Part no.	Descirption	Size	Qty.
1	JMD2S-III-01	The left bracket cover		1
2	JMD2S-III-02	_eft cover		1
3	JMD2S-III-03	Longitudinal leadscrew rod bracket left sleeve		1
4	JMD2S-III-04	Work table		1
5	JMD2S-III-05	Metric longitudinal leadscrew nut		1
6	JMD2S-III-06	Saddle		1
7	JMD2S-III-07	Base		1
8	JMD2S-III-08	Handwheel		2
9	JMD2S-III-09	Cross bevel wedge		1
10	JMD2S-III-10	Longitudinal wedge locking crown bar		1
11		Small handle assembly		2
12	JMD2S-III-12	Metric longjitudinal leadscrew		1
13	JMD2S-III-13	Longitudinal\cross leadscrew bearing seat		2
14		Metric longitudinal/cross scale dial		2
15	JMD2S-III-15	Hexagon nut	M8	2
16	JMD2S-III-16	Hexagon socket head cap screw	M5X14	2
17	JMD2S-III-17	Plug		1
18	JMD2S-III-18	Hexagon socket head cap screw	M6X16	6
19	JMD2S-III-19		4X16	2
20		Hexagon locking nut	M8	2
21		Slotted large cheese head screws	85*55	2
22	JMD2S-III-22			2
23	JMD2S-III-23	Thrust ball bearing	8101	4
24		Longjitudinal bevel wedge		1
25		Metric cross leadscrew nut		1
26	JMD2S-III-26	Metric cross leadscrew		1
27	JMD2S-III-27	Hexagon socket head cap screw	M5X20	2
28	JMD2S-III-28			2
29	JMD2S-III-29	Tighten the top rod		1
30	JMD2S-III-30	Pressure with pressure column oil cup	6	1
31	JMD2S-III-31	Hexagon socket head cap screw	M4X14	4
32	JMD2S-III-32	Wedge screw	A4X20	4
33	JMD2S-III-33	Round pin		6
34	JMD2S-III-34	Scale height		1
35	JMD2S-III-35	Label rivet	2X3	4
36	JMD2S-III-36	Zero lebel		1
37	JMD2S-III-37	Washer	8	2
38	JMD2S-III-38	Taper pin	A3X30	2
39		Hexagon socket head cap screw	M6X10	1
40	JMD2S-III-40		6	1
41	JMD2S-III-41		B3X26	2
42	JMD2S-III-42		= = = = = = =	2

Parts Breakdown For JMD-2S Milling Drilling Center (IV)



No.	Part no. Descirption		Size	Qty.
1	JMD2S-IV-01	Splash guard I		1
2		Splash guard II		1
3	JMD2S-IV-03	Filler strip		1
4	JMD2S-IV-04	Cross recessed counter head screws	M4X6	6
5	JMD2S-IV-05	Dust guard		1
6	JMD2S-IV-06	Dead plate		1
7	JMD2S-IV-07	Cross recessed counter head screws	M4X10	2
8	JMD2S-IV-08	Rise and down guideway cover		1
9	JMD2S-IV-09	Magnet steel	Ø6	5
10	JMD2S-IV-10	Shield baffle		1
11	JMD2S-IV-11	Cross recessed counter head screws	M4X10	3
12	JMD2S-IV-12	The inner shield		1
13	JMD2S-IV-13	Knurled screws	M5X20	2
14	JMD2S-IV-14	Washer 5	5	2
15	JMD2S-IV-15	Outer protective cover		1
16	JMD2S-IV-16	Hexagon socket head cap screw	M4X10	1
17	JMD2S-IV-17	Block		1
18	JMD2S-IV-18	Connecting plate		1
19	JMD2S-IV-19	Safety limit switch		1
20	JMD2S-IV-20	Hexagon locking nut	M6	1
21	JMD2S-IV-21	Washer	6	1
22	JMD2S-IV-22			1
23	JMD2S-IV-23	Hexagon socket head cap screw	M4X12	3
24	JMD2S-IV-24	Spacer bush		1
25	JMD2S-IV-25	Cross recessed counter head screws	M4X25	2
26	JMD2S-IV-26	Inner six angle locking screw-cone end metric	M4X6	1
27	JMD2S-IV-27	Rotate shaft		1



Parts Breakdown For JMD-2S Milling Drilling Center (V)

No.	Part no.	Descirption	Size	Qty.
1	JMD2S-V-01	Tapping screw		4
2	JMD2S-V-02	Change-over switch		1
3	JMD2S-V-03	Emergency stop		1
4	JMD2S-V-04	Lampholder		1
5	JMD2S-V-05	Digital readout		1
6	JMD2S-V-06	4.7K Potentionmeter		1
7	JMD2S-V-07	Knob		1
8	JMD2S-V-08	Electric box cover		1
9	JMD2S-V-09	Tapping screw		4
10	JMD2S-V-10	Hexagon headed nut	M4	7
11	JMD2S-V-11	Hexagon headed bolt	M4X16	3
12	JMD2S-V-12	Power panel		1
13	JMD2S-V-13	Electric box		1
14	JMD2S-V-14	Tube connecter		2
15	JMD2S-V-15	Tube		1
16	JMD2S-V-16	Cross recessed counter head screws	M3X12	2
17	JMD2S-V-17	Power socket		1
18	JMD2S-V-18	Hexagon headed nut	М3	2
19	JMD2S-V-19	Back cover		1
20	JMD2S-V-20	Cross recessed small pan head screw	M3X12	4
21	JMD2S-V-21	Foot-pad		4
22	JMD2S-V-22	PC board		1
23	JMD2S-V-23	Cross recessed counter head screws	M3X6	6
24	JMD2S-V-24	Back cover		1
25	JMD2S-V-25	Cross recessed small pan head screw	M4X8	6
26	JMD2S-V-26	Spring spacer	M5	4
27	JMD2S-V-27	Cross recessed small pan head screw	M5X6	4
28	JMD2S-V-28	Grounding bar		1
29	JMD2S-V-29	Blow dust gauze		1
30	JMD2S-V-30	Washer	4	4

Accessories Part List for JMD-X2S Milling Drilling Center

No.	Part no.	Descirption	Size	Qty.
1	JMD2S-ACCS-01	T nut		2
2	JMD2S-ACCS-02	Double end wrench	S1*S2:8*10,14*17, 17*19	each 1
3	JMD2S-ACCS-03	L hex wrench assemble		1
4	JMD2S-ACCS-04	L hex wrench	S:3,4,5,6,8	each 1
5	JMD2S-ACCS-05	Slanting wedge		1
6	JMD2S-ACCS-06	Fuse	230V/5A	1
7	JMD2S-ACCS-07	Oil cup		1



JMD-2S.....1~230V,50Hz

