



## M1450 - Universal

*M14 series cylindrical surface grinder is suitable for grinding outer/inner surface of cylinder and taper. The longitudinal movement of the workable is driven by hydraulic or by handwheel, the worktable can rotate to a certain degree so as to be suitable for grinding taper.*

*The wheelhead cross feed is driven by hydraulic, which realizes automatic periodical feed and rapid feed. It can also do rough and fine feed through handwheel.*

*M14 series universal cylindrical grinder has internal grinding apparatus, internal grinding spindle is supported by precise rollbearing.*

*The workhead spindle, wheelhead spindle, internal grinding spindle, coolant pump, hydrodynamic and hydrostatic oil pump are driven by separate motors*

*The spindle of M1450 series is supported by hydrostatic and hydrodynamic lubrication, its movement on low speed is smooth.*

*The spindle of M1450 series is supported by hydrostatic and hydrodynamic bearing of high rigidity, it makes the spindle have high rotary accuracy and perfect rigidity.*

*The wheelhead of the universal type (M1450) adopts inverter motor to realize stepless speed changing. The wheelhead spindle of the universal type (M1450) adopts sliding bearing structure. The clearance of the front bearing can be adjusted to make it suitable for the grinding use center or chuck. The workhead of the universal type can be rotated to any position within its counterclock direction 90 degrees so it can be suitable for grinding inner or outer surface of taper.*

*Each moving part of the machine has electric, hydraulic and mechanic interlock structure. The machine is well designed with pleasing appearance, all control levers are centralized in panel, making operation easy.*

*The wheel dresser can be assembled on the worktable surface or on the tailstock.*

*There are many different distances between the centers for choice.*

### Standard accessories:

- (1) complete set of electrical equipment
- (2) coolant equipment
- (3) wheel periphery dresser
- (4) wheel flange
- (5) wheel balancing arbor
- (6) leveling wedge
- (7) open type steady rest
- (8) carbide tipped center

### Optional accessories:

- (1) wheel balancing stand
- (2) magnetic separator
- (3) center grinding attachment
- (4) close type steady rest
- (5) end wheel dresser
- (6) radius wheel dresser

Model Description	Unit	Specifications			
		M1450 x1500	M1450 x2000	M1450 x3000	M1450 x4000

<b>General capacity</b>					
Distance between centers	m m	1500	2000	3000	4000
Centre heigh	m m	270	270	270	270
Dia.Ground(O.D)	m m	25~50 0	25~50 0	25~50 0	25~500
Dia.Ground(I.D)	m m	30~20 0	30~20 0	30~20 0	30~200
Max.length ground(O.D)	m m	1500	2000	3000	4000
Max.length ground(I.D)	m m	320	320	320	320
Max weight of work piece	kg	1000	1000	1000	1000
<b>Workhead</b>					
Swiveling angle		+90	+90	+90	+90
Center taper	M T	6	6	6	6
Spindle speed	r/ mi n	50HZ:2 5-224 STEPL ESS	50HZ:2 5-224 STEPL ESS	50HZ:2 5-224 STEPL ESS	50HZ:2 5-224 STEPL ESS
<b>Wheelhead</b>					
Wheel spindle speed	r/ mi n	1330/6 65	1330/6 65	1330/6 65	1330/6 65
Wheelhead rapid travel	m m	100	100	100	100
Max travel	m m	370	370	370	370
Swiveling angle	°	-30°	-30°	-30°	-30°
Hand feed per.rev	m m	rough: 4.0 fine:0.5	rough: 4.0 fine:0.5	rough: 4.0 fine:0.5	rough:4 .0 fine:0.5
Hand feed per.gra	m m	rough: 0.02 fine:0.0 025	rough: 0.02 fine:0.0 025	rough: 0.02 fine:0.0 025	rough:0 .02 fine:0.0 025
Max dimension of wheel(ODxWxID)	m m	500x7 5x305	500x7 5x305	500x7 5x305	500x75 x305

<b>Internal grinding</b>					
Spindle speed	r/ mi n	10000	10000	10000	10000
Dimension of wheel	m m	max:17 5x32x 32 min:30 x25x1 0	max:17 5x32x 32 min:30 x25x1 0	max:17 5x32x 32 min:30 x25x1 0	max:17 5x32x3 2 min:30 x25x10
<b>Table</b>					
Hand feed per rev.	m m	5	5	5	5
Max swivelling angle of table	°	clockwi se:3° widder shins:6 °	clockwi se:2° widder shins:5 °	clockwi se:2° widder shins:3 °	clockwi se:1° widders hins:2°
Longitudinal traverse speed of table	m/ mi n	0.1~3	0.1~3	0.1~3	0.1~3
<b>Tailstock</b>					
Center taper	M T	6	6	6	6
Quill travel	m m	70	70	70	70
<b>Motor</b>					
Wheelhead motor power	K w	5/7.5	5/7.5	5/7.5	5/7.5
Internal grinding	K w	1.5	1.5	1.5	1.5
Power of workhead motor	K w	4	4	4	4
<b>Machine</b>					
Gross weigh	K g	11200	13000	17400	20000

項目 Item / 型號 Model	單位 Unit		
		M1420	MW142
一般能力 General capacity			
頂尖距 Distance between centers	mm	520、750	500、750
中心高 Center height	mm	118	135
可磨外圓直徑範圍 Dia. Ground(O.D)	mm	8~200	5~200
可磨內孔直徑範圍 Dia. Ground(I.D)	mm	13~80	25~100
可磨外圓最大長度 Max. length ground(O.D)	mm	520、750	500、750
可磨內孔最大長度 Max. length ground(I.D)	mm	125	125
可磨工件最大重量 Max. weight of work piece	kg	50	100
頭架 Workhead			
體座回轉角度 Swiveling angle	°	+90°	+90°
中心錐度 Center taper(MT)	莫氏(MT)	3	4
主軸轉速 Spindle speed	r/min	60、85、230、120、170、460	50HZ:25~380
砂輪架 Wheelhead			
砂輪主軸轉速 Wheel spindle speed	r/min	1820	1670
快速進給量 Wheelhead rapid travel	mm	20	50
最大移動量 Max. travel	mm	150	205
回轉角度 Swiveling angle	°	-180 ~ +30°	+10°
手搖一轉砂輪架移動量 Hand feed per. rev	mm	1	粗 rough: 2
手搖一格砂輪架移動量 Hand feed per. gra	mm	0.00125	粗 rough:0.01 精
砂輪最大尺寸(外徑×寬度×孔徑) Wheel size (ODxWxD)	mm	400×40×203	400×50×203
砂輪線速度 Peripheral velocity	m/s	35	35
內圓磨具 Internal grinding device			
主軸轉速 Spindle speed	r/min	14000	10000/15000
砂輪尺寸 Dimension of wheel	mm	最大 max: 50×25×13 最小 min: 17×20×6	最大 max: 50×25×13 最小 min: 17×20×6
工作臺 Table			
手搖一轉工作臺移動量 Hand feed per. rev	mm	6	6
工作臺最大回轉角度 Max. swiveling angle of table	順時針 Clockwise	°	5° (520)、3° (750)
	逆時針 Anticlockwise	°	9°
工作臺縱向移動速度範圍 Longitudinal speed range of table	m/min	0.1~4	0.1~4
尾架 Tailstock			
中心錐度 Center taper(MT)	莫氏(MT)	3	4
尾架套筒手動移動量 Quill travel	mm	25	30
電動機 Motor			
砂輪架電機功率 Wheelhead motor power	kW	3	4
內圓磨具電機功率 Internal grinding	kW	(與砂輪架電機用同一電機) (The same motor with wheelhead motor)	
頭架電機功率 Workhead motor power	kW	0.25/0.37	1.1
機床 Machine			
毛重 Gross weight	t.	2.4 (520)、2.9 (750)	4.1 (500)、4.1 (750)
包裝體積 (長×寬×高) Packing dimension	cm	192×145×205(520) 213×145×205(750)	235×203×205 275×203×205

m

5100×  
2280×  
21005850×  
2280×  
21007850×  
2280×  
210010000×  
2280×  
2100

● 主要參數 Main parameter

项目 Description	型号 Model	参数 Specifications						
	单位 Unit	MW1320	MW1420	M1432B	M1350	M1450	M1363	M1380
<b>● 一般能力 General capacity</b>								
顶尖距 Distance between centers	mm	500, 750	500, 750	1000, 1500	1500, 2000, 3000	1500, 2000, 3000	3000, 4000, 5000	3000, 4000, 5000
中心高 Center height	mm	135	135	180	270	270	335	500
可磨外圆直径范围 Dia. Ground(O.D)	mm	5~200	5~200	8~320	25~500	25~500	30~630	50~800
可磨内孔直径范围 Dia. Ground(I.D)	mm	—	25~100	30~100	—	30~200		
可磨外圆最大长度 Max. length ground(O.D)	mm	500, 750	500, 750	1000, 1500	1500, 2000, 3000	1500, 2000, 3000	3000, 4000, 5000	3000, 4000, 5000
可磨内孔最大长度 Max. length ground(I.D)	mm	—	100	125		320		
可磨工件最大重量 Max. weight of work piece	Kg	—	100	150	1000	1000	3000	5000
<b>● 头架 Workhead</b>								
体座回转角度 Swiveling angle	°	—	+90°	+90°		+90°		
中心锥度 Center taper(MT)	MT	4	4	4	6	6	公制(metric)80#	公制(metric)100#
主轴转速 Spindle speed	r/min	50HZ:25~380	50HZ:25~380	50HZ:25~220	50HZ:18~140	50HZ:20~224	50HZ:8~150	50HZ:6~80
<b>● 砂轮架 Wheel head</b>								
砂轮主轴转速 Wheel spindle speed	rpm	1335	1670	1670	870	1330/665	740	740
快速进给量 Wheelhead rapid travel	mm	50	50	50	100	100	100	100
最大移动量 Max. travel	mm	205	205	246	437.5	370	475	550
回转角度 Swiveling angle	°		±30°	±30°		-30°		
手轮一转砂轮架移动量	mm	粗 rough: 2 精 fine: 0.5			粗 rough: 4 精 fine: 0.5		粗 rough: 6 精 fine: 0.5	
手轮一格砂轮架移动量	mm	粗 rough: 0.01 精 fine: 0.0025			粗 rough: 0.02 精 fine: 0.0025		粗 rough: 0.02 精 fine: 0.0025	
砂轮最大尺寸(外径×宽度×孔径) wheel size	mm	500×50×203	400×50×203	400×50×203	750×75×305	500×75×305	900×75×305	900×75×305
砂轮线速度	mm	35	35	35	35	35/17.5	35	35
<b>● 内圆磨具 Internal grinding device</b>								
主轴转速 Spindle speed	r/min	—	10000	10000	—	7000	—	—
砂轮尺寸 wheel size	mm	—	最大 max: 35×25×10 最小 min: 17×20×6	最大 max: 50×25×13 最小 min: 17×20×6	—	最大 max: 175×32×32 最小 min: 30×25×10	—	—
<b>● 工作台 Table</b>								
手轮一转工作台移动量 Hand feed per. rev	mm	6	6	6	5		5	5
工作台最大回转角度 Max. swiveling angle	顺时针 clockwise	°	3°	3°	3° (1500), 2° (2000, 3000)		2° (3000), 1° (4000, 5000)	
	逆时针 anticlockwise	°	9° (750), 8° (500)		7° (1000), 6° (1500)		6° (1500), 5° (2000), 3° (3000)	
工作台纵向移动速度范围	m/min	0.1~4	0.1~4	0.1~4	0.1~3	0.1~3	0.1~4	0.1~4
<b>● 尾架 Tailstock</b>								
中心锥度 Center tape(MT)	MT	4	4	4	6	6	公制(metric)80#	公制(metric)100#
套筒手动移动量 Quill travel	mm	30	30	30	70	70	100	100
<b>● 电动机 Motor</b>								
砂轮架电机功率 Wheelhead motor power	Kw	5.5	4	5.5	15	5/7.5	18.5	18.5
内圆磨具电机功率 Internal grinding	Kw		1.1	1.1		1.5		
头架电机功率 Workhead motor power	Kw	0.75	0.75	1.5	2.2/3.6	4	5	10
<b>● 机床 Machine</b>								
毛重 Gross weight	t <sub>s</sub>	4 (500), 4.2 (750)	4.1 (500), 4.3 (750)	5.3 (1000), 6.1 (1500)	11.2 (1500), 13 (2000), 17.4 (3000)		25(3000), 28 (4000), 30 (28/3000), 31 (4000), 35	
包装体积 (长×宽×高) Packing dimension	cm	260×206×205(500) 300×206×205(750)	260×206×205(500) 300×206×205(750)	338×200×205(1000) 438×200×205(1500)	540×270×210(1500) 610×270×210(2000) 810×270×210(3000)			

由于技术不断进步，更改恕不通知。Because of constant development of technique, the information will be changed without notice.