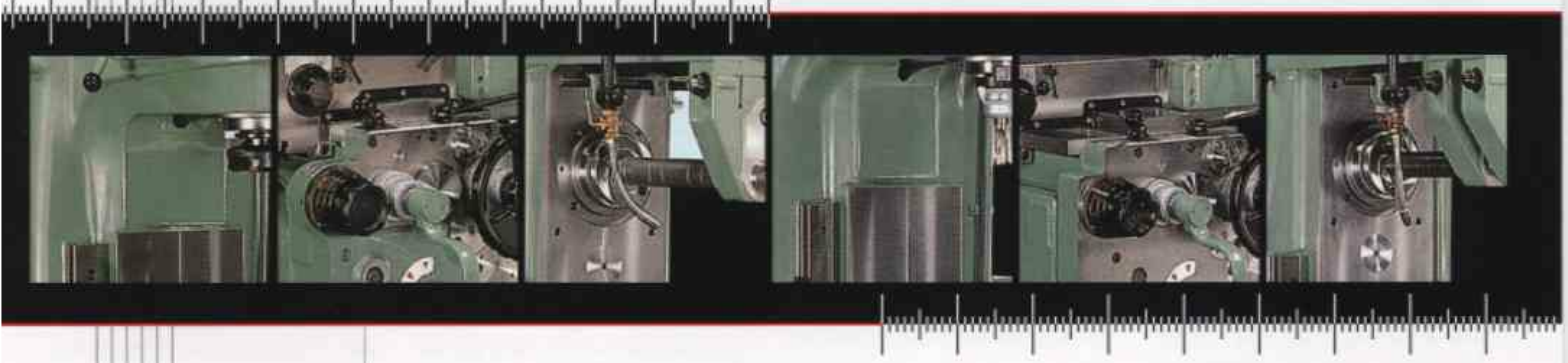
ETSUKI

VM SERIES

Multipurpose Milling Machine Vertical, Plain & Universal Type



VMR SERIES

Multipurpose Milling Machine Vertical, Plain & Universal Type

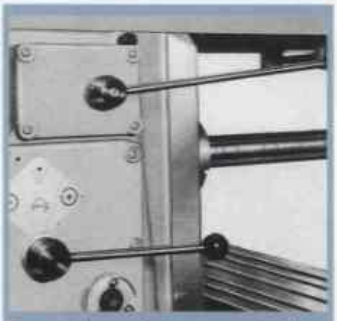
MOODY INTERNATIONAL CERTIFICATION

UKAS QUALITY MANAGEMENT

Etsuki Co., Ltd.

Features of MS and 2MF Series

Main Spindle

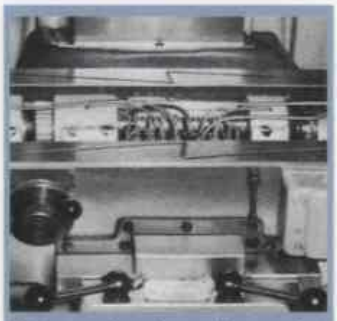


The main spindle supported by ultra-precision taper roller bearings enables powerful cutting and high-precision finishing cut. The levers and dials are arranged at the left side of the machine column to change the main spindle speed in 12 steps between 60 and 1800 rpm.

Table & Saddle

The table is durable enough for heavy cutting, and ensures stable sliding along the dovetail provided on the broad and thick saddle. The saddle slides smoothly the knee top surface along its large guide way. Each slide surface is protected against chips by cleaning up with a special wiper.

Down Cutting & Backlash Eliminator



High-speed reciprocating cutting performed by down cutting is enabled with the perfect backlash eliminator.

Stepless Variable Speed Change Device

The main spindle revolution speed selectable in a wide range and the stepless speed change of the table can always provide an appropriate cutting condition for a cutter diameter and/or work material. The stepless change for feed speed will be made freely during cutting operation.

Full-automatic Lubrication System

The full-automatic lubrication unit interlocked with the table feed is provided to lubricate the table sliding surface, saddle sliding surface and table lead screws. The automatic lubrication device interlocked with an up-and-down feed lever lubricates the knee sliding surface.

Tool Lock Device

(Optional)
The device is used to mount and remove a cutting tool quickly by operating a push button. A cutting tool is mounted in 2 to 3 seconds without using a clamping tool.

Vertical Milling Device

(Optional)
(Main spindle end: Fixed type JIS B6101 No.50, Rotating type JIS B6101 No.40)
The device is attached to the main spindle end of a horizontal or universal milling machine in order to use the machine for cutting work like a vertical milling machine. The fixed type is used for heavy cutting, and the rotating type, which provides free rotation of the main spindle in vertical plane, is used for machining angulate works.

Universal Milling Device

(Optional)
(Main spindle end: JIS B6101 No.40)
The device is attached to the main spindle end of a horizontal or universal milling machine. Since the device is rotated in a horizontal and vertical plane, it enables to cut racks and lead screws and also to machine an inclined plane without relocating a work.

Standard Accessories and Specifications

Item	Vertical	Plain	Universal
Arbor and collar* 1	none	1 set	
Arbor support	none	1 set	
Arbor draw-in bolt* 2	1 set		
Oiler	1		
Grease gun	1		
Wrenches	1 set		
Wiper for main spindle bore	1		
Leveling plates	1 set		

* 1 Standard arbor diameter: 31.75 mm
* 2 Arbor draw-in bolt: E1~8 thread UNC screws

MS SERIES

Multipurpose Milling Machines
Vertical, Plain and universal type

Powerful cutting, high accuracy and excellent operability
Best selling machine of high cost performance

Vertical type

Plain type

Specifications

Item			Vertical	Plain	Universal
Table	Table size (breadth x depth)	(mm)	1,100×270		
	T grooves (nom. size x space x number)	(mm)	16×60× 3		
	Movement (X-axis*1)	(mm)	600		
	Movement (Y-axis*2)	(mm)	250		
	Movement (Z-axis*3)	(mm)	360	400	360
	Feed change		stepless		
	Feed (X-axis)	(mm/min)	16~1,000 (50Hz), 19~1,200 (60Hz)		
	Feed (Y-axis)	(mm/min)	16~1,000 (50Hz), 19~1,200 (60Hz)		
	Feed (Z-axis)	(mm/min)	4~250 (50Hz), 5~300 (60Hz)		
	Quick feed (X-axis)	(mm/min)	2,800 (50Hz), 3,400 (60Hz)		
	Quick feed (Y-axis)	(mm/min)	2,800 (50Hz), 3,400 (60Hz)		
	Quick feed (Z-axis)	(mm/min)	700 (50Hz), 840 (60Hz)		
	Rotation angle	(degree)	—		±45
Main spindle	Main spindle end (nominal size)		JIS B6101 No.50		
	Steps of revolution change		12		
	Rotational speed*4	(rpm)	60~1,800		
Motors	Main motor	(kW)	3.7		
	Motor for table feed	(kW)	0.75		
	Motor for cutting fluid pump	(W)	60		
Floor space required		(mm)	2,125×1,505	2,125×1,945	2,125×2,150
Machine weight		(kg)	1,700		1,750

*1 Side to side axis relative to the operator position
*2 Back and forth axis relative to the operator position
*3 Vertical axis
*4 The maximum revolution may be limited by fixtures and tools applied.

2MF SERIES

Multipurpose Milling Machines
Vertical, Plain and universal type

Powerful cutting, excellent operability
Universal machines for cutting larger works

Vertical type

Plain type

Specifications

Item			Vertical	Plain	Universal
Table	Table size (breadth x depth)	(mm)	1,300×290		
	T grooves (nom. size x space x number)	(mm)	16×60× 3		
	Movement (X-axis*1)	(mm)	710		
	Movement (Y-axis*2)	(mm)	280		
	Movement (Z-axis*3)	(mm)	400	450	400
	Feed change		stepless		
	Feed (X-axis)	(mm/min)	16～1,000 (50Hz), 19～1,200 (60Hz)		
	Feed (Y-axis)	(mm/min)	16～1,000 (50Hz), 19～1,200 (60Hz)		
	Feed (Z-axis)	(mm/min)	4～250 (50Hz), 5～300 (60Hz)		
	Quick feed (X-axis)	(mm/min)	2,800 (50Hz), 3,400 (60Hz)		
	Quick feed (Y-axis)	(mm/min)	2,800 (50Hz), 3,400 (60Hz)		
	Quick feed (Z-axis)	(mm/min)	700 (50Hz), 840 (60Hz)		
	Rotation angle	(degree)	–		±45
Main spindle	Main spindle end (nominal size)		JIS B6101 No.50		
	Steps of revolution change		12		
	Rotational speed*4	(rpm)	60～1,800		
Motors	Main motor	(kW)	5.5		
	Motor for table feed	(kW)	0.75		
	Motor for cutting fluid pump	(W)	60		
Floor space required		(mm)	2,425×1,635	2,425×2,135	2,425×2,590
Machine weight		(kg)	2,000		2,050

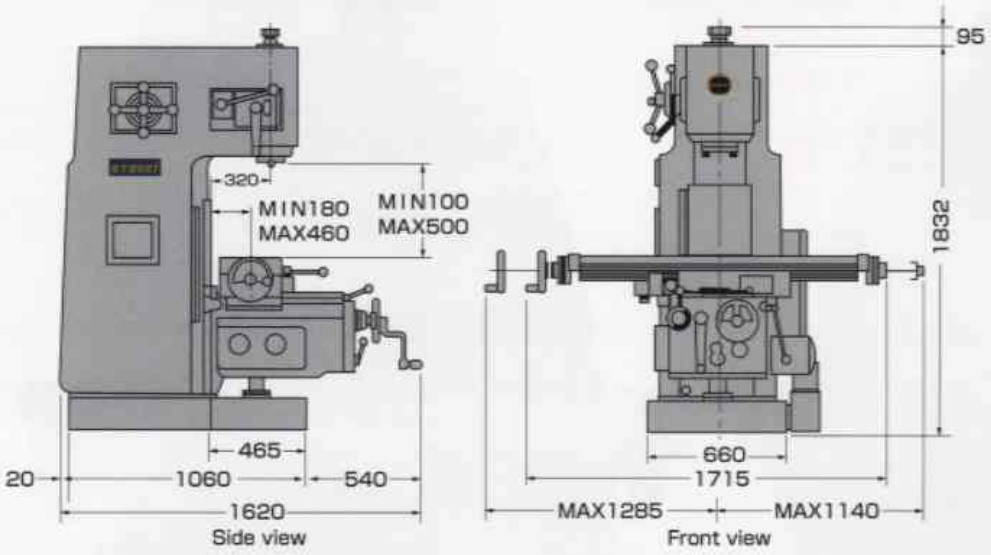
*1 Side to side axis relative to the operator position
*2 Back and forth axis relative to the operator position
*3 Vertical axis
*4 The maximum revolution may be limited by fixtures and tools applied.

2MF SERIES

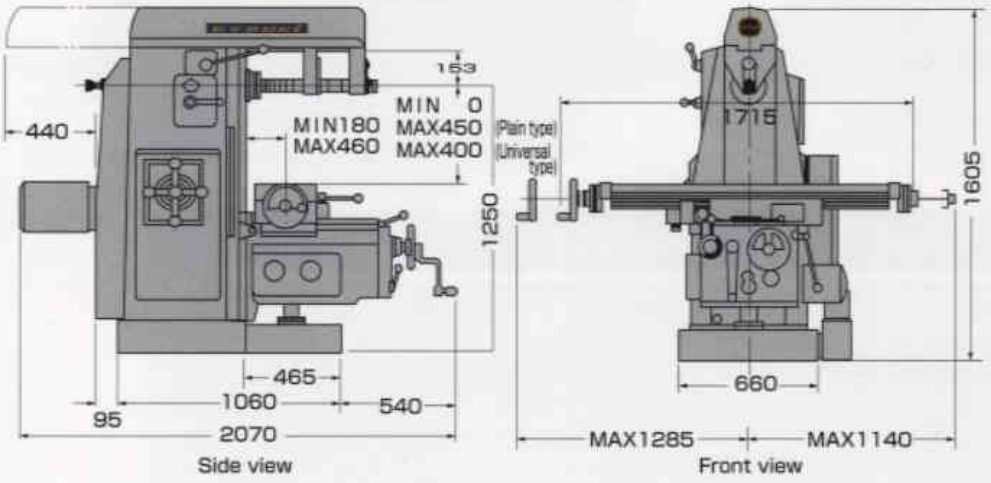
unit: mm

Elevation

Vertical type

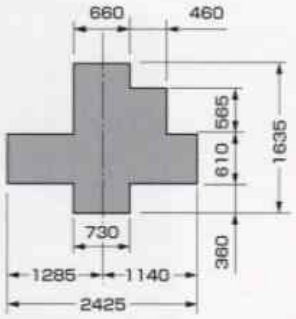


Plain and universal type

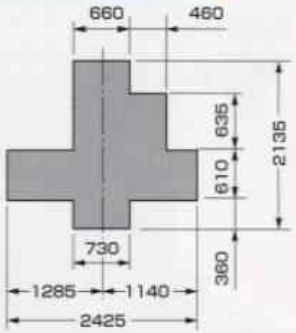


Floor plan

Vertical



Plain type



Universal type

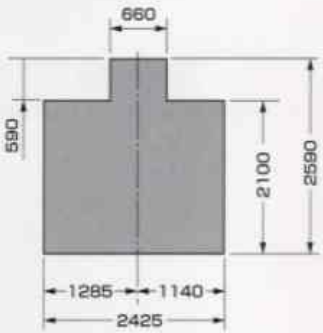
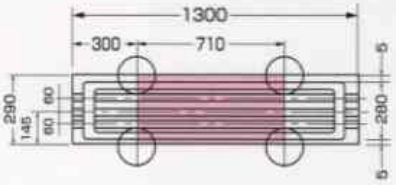
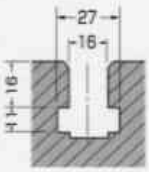


Table and T-slot

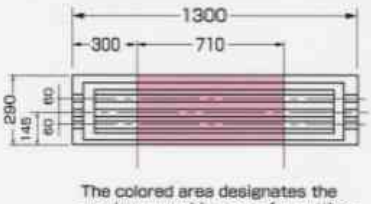
Vertical type



The colored area designates the maximum working area for cutting.



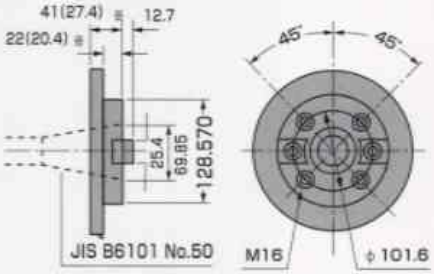
Plain and universal type



The colored area designates the maximum working area for cutting. (when the table is not rotated)

Spindle nose

Common



※Numbers in parentheses are for the vertical type.

●Please contact ETSUKI for more information.

Etsuki Co., Ltd.

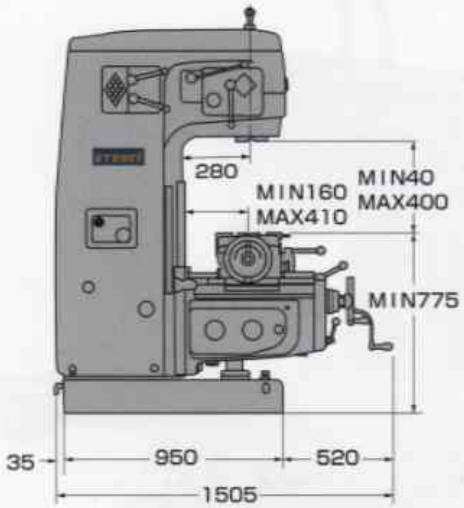
1403-1 Inakudashi, Murayama
Yamagata 995-0204 Japan
Phone:+81-237-56-3511 Fax:+81-237-56-3510
URL:http://www.etsuki.co.jp

MS SERIES

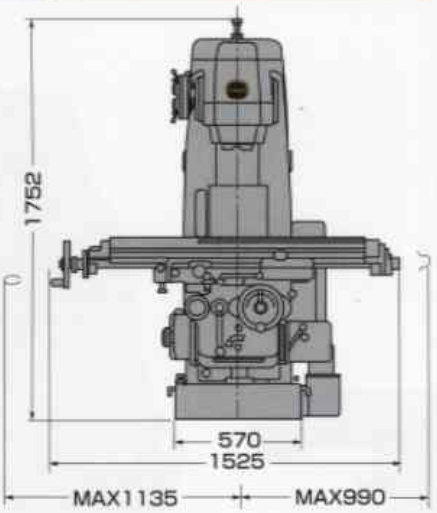
unit: mm

Elevation

Vertical type

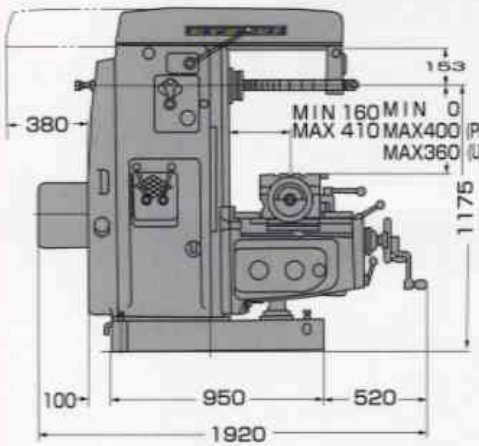


Side view

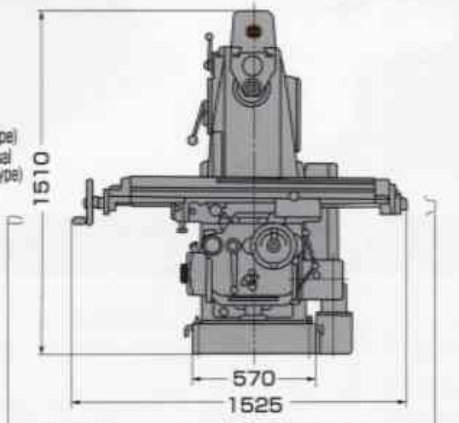


Front view

Plain and universal type



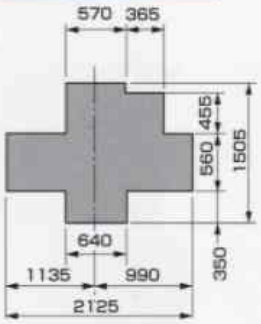
Side view



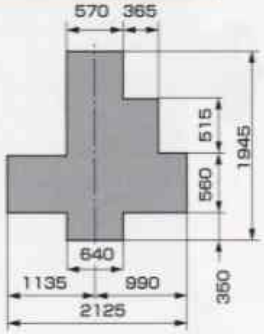
Front view

Floor plan

Vertical



Plain type



Universal type

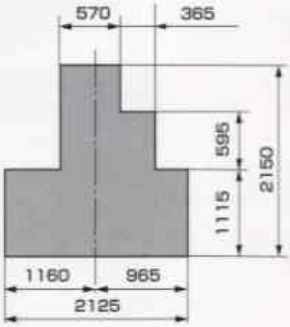
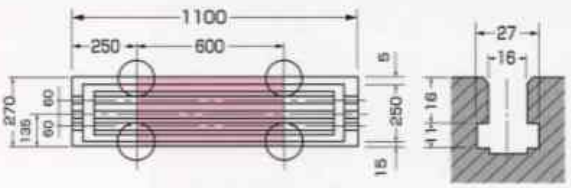


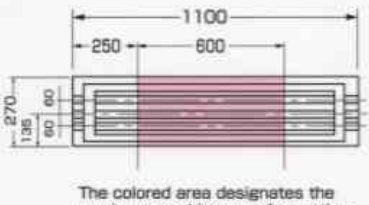
Table and T-slot

Vertical type



The colored area designates the maximum working area for cutting.

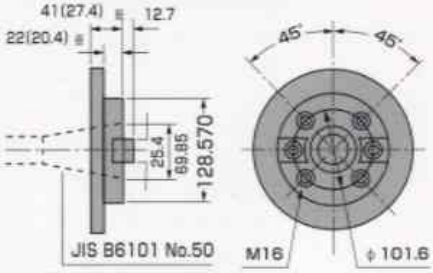
Plain and universal type



The colored area designates the maximum working area for cutting. (when the table is not rotated)

Spindle nose

Common



※Numbers in parentheses are for the vertical type.

Etsuki Co., Ltd.

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※The accuracy and cutting data shown in this brochure may change due to a cutting condition, ambient temperature and cutter. They are not performance guaranteed.
※The specifications may be changed without notice.
※For safe and appropriate use of the machines shown in this brochure, always read through the operating manual attached to a machine.