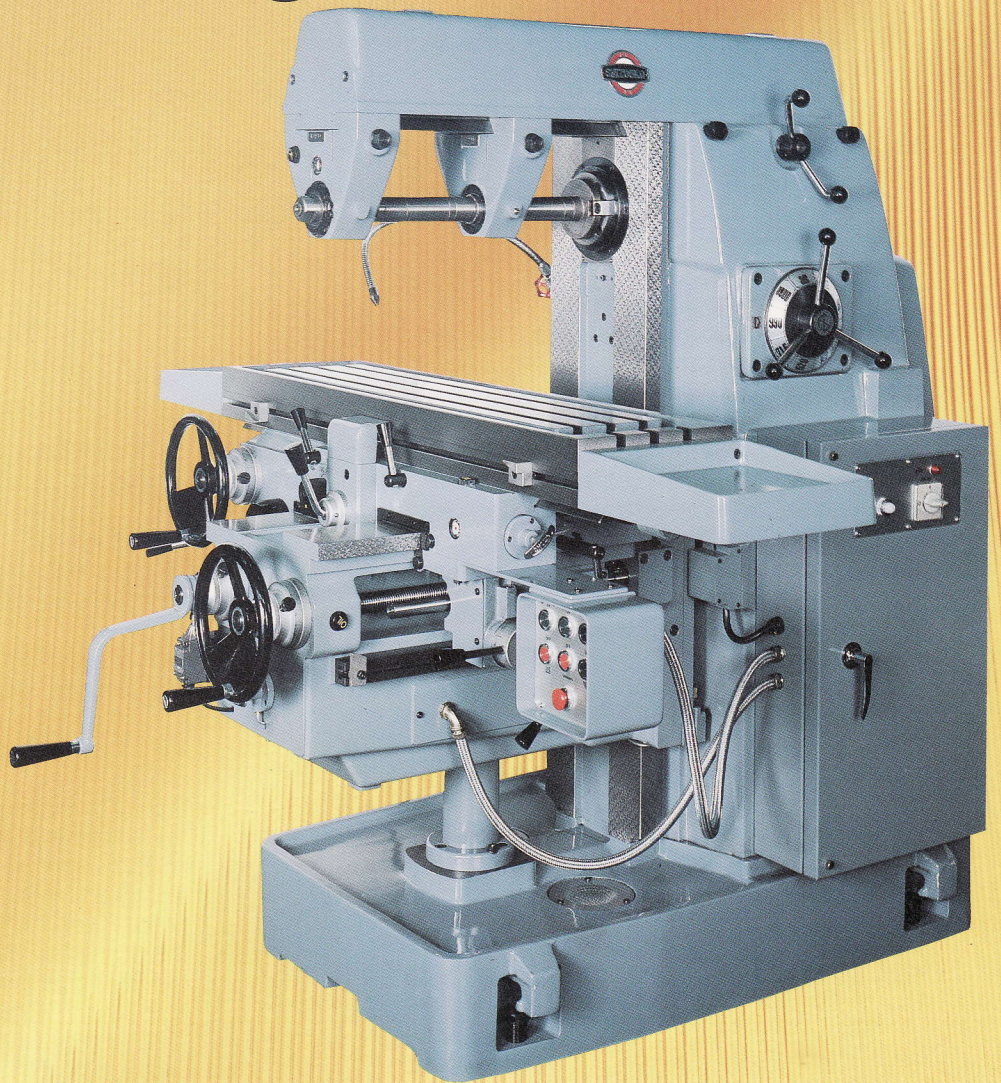


**HORIZONTAL
MILLING MACHINE**

SP-CH



SHIZUOKA MACHINE TOOL CO., LTD.



The World's "Basic" Machine

FEATURES

1. WIDE APPLICABILITY:

Rugged in construction, compact in size, this machine is versatile enough to suit almost any kind of ordinary milling job.

2. STABLE & SMOOTH CUTTING:

The main spindle is supported at three points and has a flywheel to make its rotation stable. This allows smooth and accurate cuts even under a heavy load.

3. HEAVY CUTTING:

The box-type overarm renders the machine enough width and strength to stand heavy cutting.

4. HIGH SPEED CUTTING:

The double arbor is supported with adjustable metal bearings eliminating seizure and wear from high speed cutting.

5. OPERABLE FOR VERTICAL MILLING:

Used with the special attachment for vertical milling, the machine can perform heavy-duty vertical milling. The mounting and dismounting of this attachment can be done easily within a short time with the aid of the jib crane fitted to the machine.

6. WIDE WORKING AREA:

Because of the large saddle, the table has a long travel as compared with other machines of this class, and can handle up to a 1,320 lb. work piece.

7. QUICK TRANSMISSION:

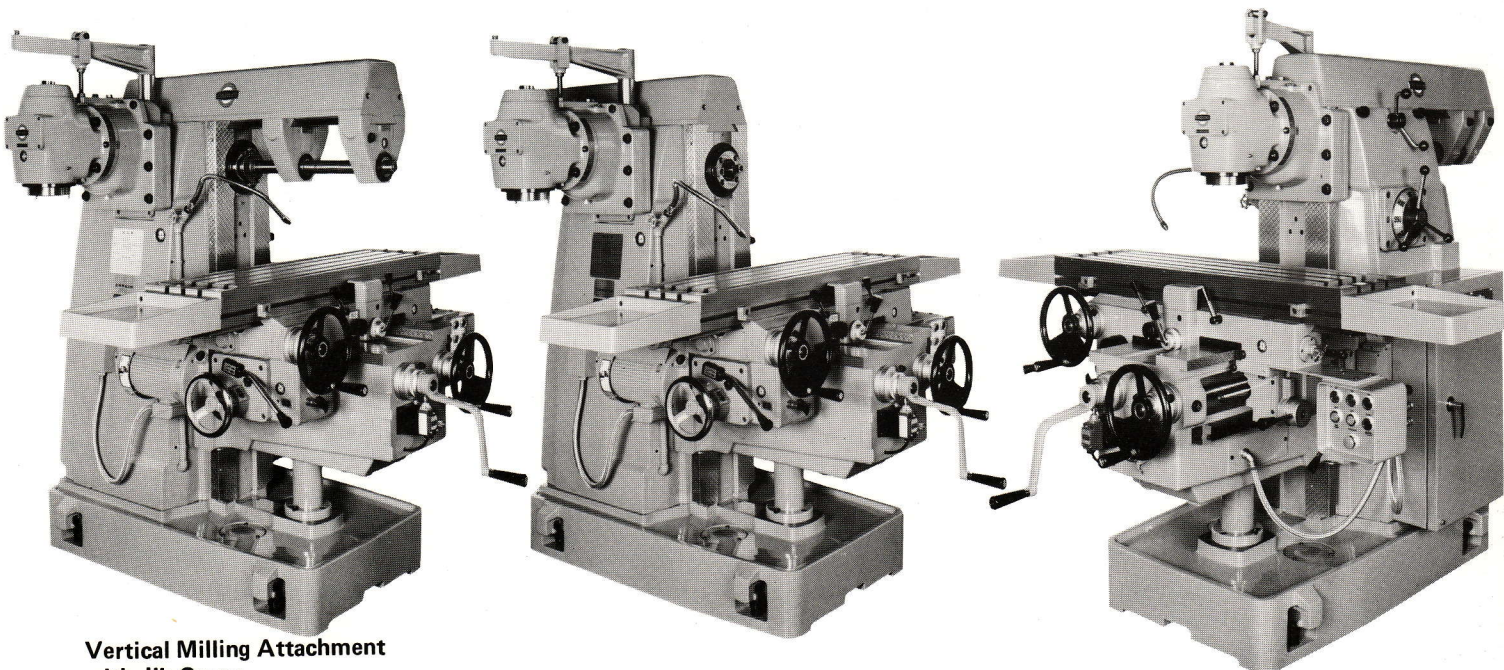
Main Spindle Speeds and Table Feeds can be accurately and quickly changed with the direct-reading dial. The Speed Change is very simple; one-touch operation by the operator completes the selection of the desired speed.

8. FORCED LUBRICATION:

Forced lubrication is performed by the two plunger pumps. One at the saddle and another at the knee, which insures a consistent and proper supply of oil to every sliding way on the column, table, saddle, knee, and the turning parts of bearings, feed screws, and gears.

9. SIMULTANEOUS FEED:

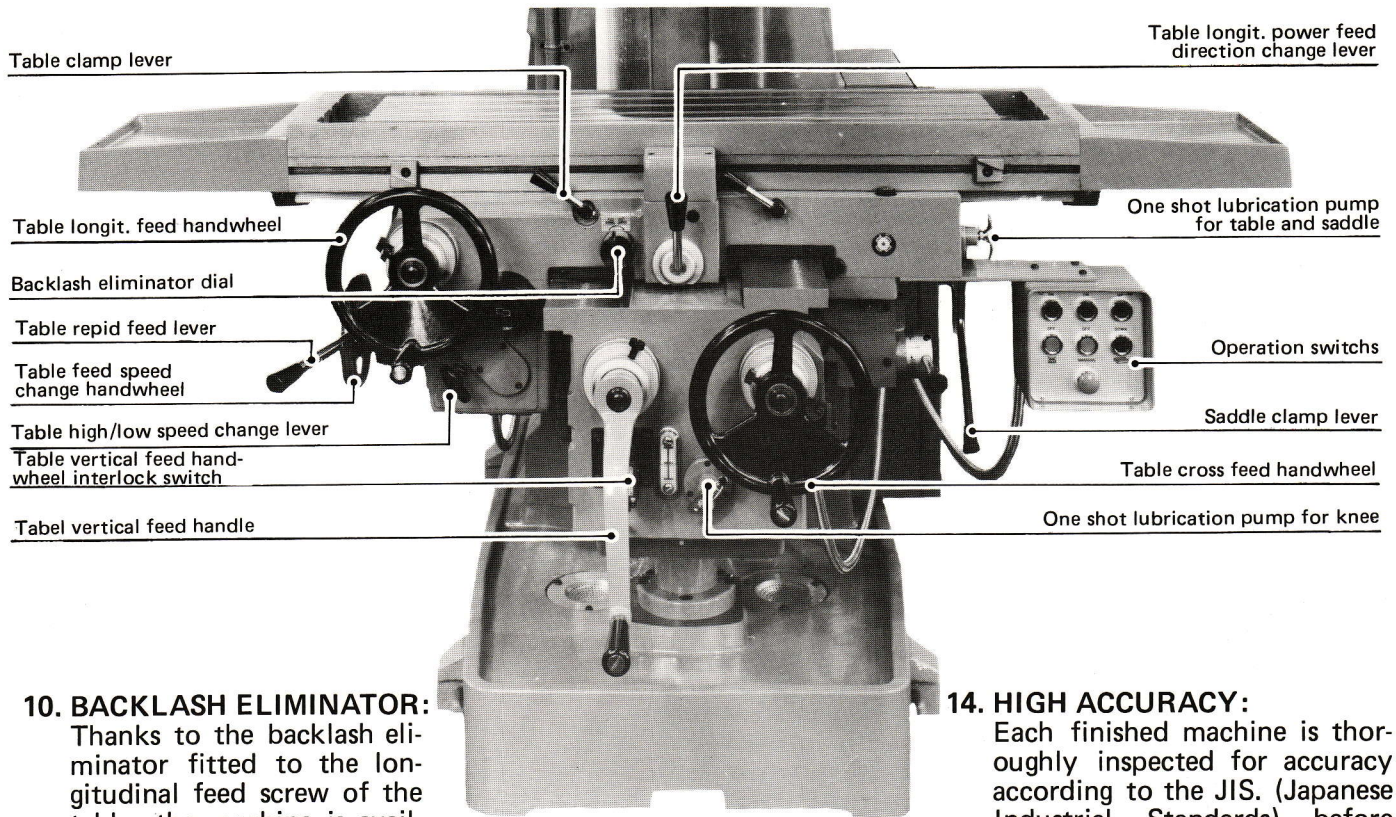
The rapid feed both in vertical and longitudinal directions can be performed simultaneously because each feed has its own motor. The operator can make a set-up within the shortest possible time.



Vertical Milling Attachment
with Jib Crane

Machine

SP-CH Horizontal Milling Machine



10. BACKLASH ELIMINATOR:

Thanks to the backlash eliminator fitted to the longitudinal feed screw of the table, the machine is available for down-cut milling. To adjust the backlash on the table cross-feed screws, an adjusting device is also provided.

11. SAFETY DEVICES:

The table longitudinal feed is started with the lever turned to the right or left, and stopped by the automatic stopper. In case an over-load is applied to the cutter, the feed is automatically stopped by the shear pin. For the upper and lower limits of knee travel, safety limit switches are provided. The control panel has switches with thermal-relays and a no-fuse breaker. The front operation panel provides an emergency switch. These safety measures keep the operator away from danger during machining operations.

12. COOLANT OIL:

The coolant oil is pumped up from the tank inside the base by a self-priming pump in the column and supplied to the cutter through the nozzle.

13. INSTALLATION:

Levelling of the machine can be easily adjusted with the four levelling bolts at the corners of the base.

14. HIGH ACCURACY:

Each finished machine is thoroughly inspected for accuracy according to the JIS. (Japanese Industrial Standards) before shipping. Only the machine that meet the strictest Standards are delivered to customers with an accuracy test certificate.

15. TABLE POWER CROSS FEED:

The machine is also available with a power cross feed upon request.

CONSTRUCTION:

- The body is a seasoned Meehanite Casting with a tensile strength of over FC30
- The main spindle and intermediate shafts are made of nickel-chrome steel or chrome molybdenum steel. The tapered way of the spindle nose, and the spindle and bearings are hardened and ground.
- All of the gears are made of alloy steel such as nickel-chrome, and are hardened. They are ground on MAAG Gear Grinding Machines or are crown shaved. They are all put in an oil bath to minimize noise and wear.
- The high precision lead screws are ground on Excello lead screw grinders.
- The machine is constructed with due consideration for the safety of electrical parts.

SP-CH HORIZONTAL MILLING MACHINE

SPECIFICATIONS

TABLE			
Working surface of table	(Option)	43-1/4" x 11" 51-1/4" x 11"	1100mm x 280mm 1300mm x 280mm
Longitudinal travel		29-1/2"	750mm
Cross travel		12"	300mm
Vertical travel		17-3/4"	450mm
T-slots (width x number x distance)		5/8" x 3 x 2-3/8"	16mm x 3 x 60mm
Longitudinal and cross feed	12 steps		
(cross feed; option)	60Hz	0.6" - 29" per min.	15 - 720mm/min.
	50Hz	0.5" - 24" per min.	13 - 600mm/min.
Longitudinal and cross rapid feed			
(cross feed; option)	60Hz	124-3/8" per min.	3000mm/min.
	50Hz	103-5/8" per min.	2500mm/min.
Vertical rapid feed	60Hz	41-1/4" per min.	800mm/min.
	50Hz	34-1/4" per min.	665mm/min.
MAIN SPINDLE			
Speed range	9 steps	90 - 1400 rpm. (Option; 45 - 700 rpm.)	
Nose taper		NST 40 or NST 50	
Distance from spindle center to table surface		1-3/16" - 18-15/16"	30 - 480mm
MOTOR			
Main spindle		3.7 kW	
Table longitudinal feed		0.75 kW (Incl. power cross feed 1.5 kW)	
Table vertical rapid feed		0.6 kW	
Coolant		100W	
WEIGHT			
Net weight		4,620 lbs.	2,100 kgs.

SPECIFICATIONS WHEN USED WITH VERTICAL ATTACHMENT:

Distance from spindle nose to table surface	0 - 15-1/2"	0 - 395mm
Distance from spindle center to column surface	11-13/16"	300mm
Spindle nose taper	NST40, NST50	

* Subject to change without advance notice.

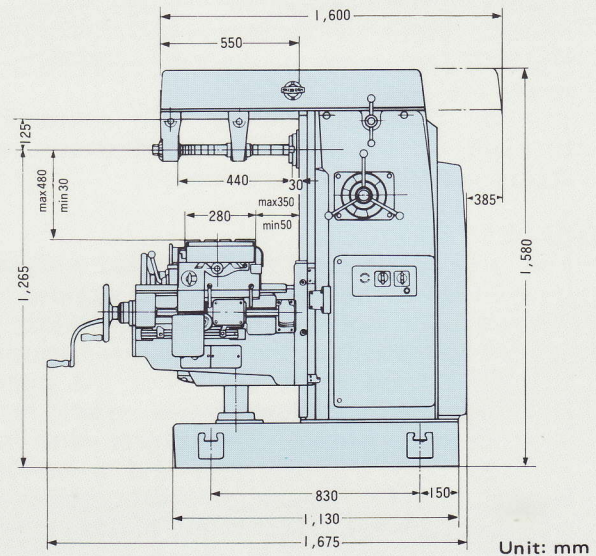
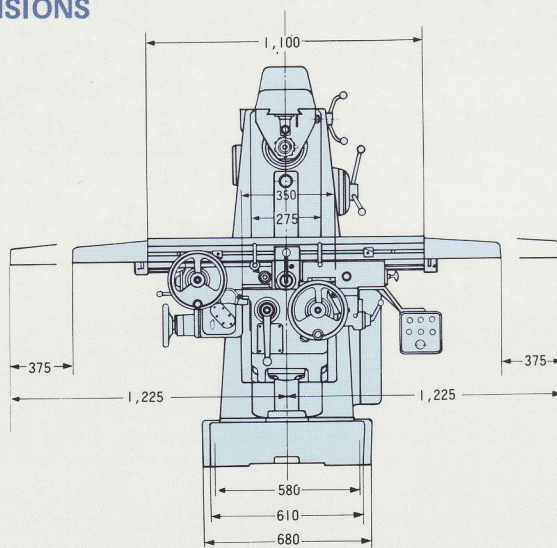
STANDARD ACCESSORIES

Coolant pump equipment	1 unit
1" milling arbor with collars	1 set
Arbor fastening bar	1 set
Levelling bolts	4
Hexagonal wrench key	1 set
Adjustable wrench	1
Spanners	1 set
Grease gun	1
Oiler	1
+ , - screwdriver	1 each
Tool box	1
Instruction manual	1
Accuracy test certificate	1

SPECIAL ACCESSORIES

- Vertical milling attachment with jib crane
- Milling arbor; 7/8", 1", 1-1/4"
- Cutter arbor (for face cutter) 3", 4", 5"
- Brace
- Rack milling attachment
- Lighting equipment
- Plain vise 6"
- Swivel vise 6"
- Universal dividing head
- Rotary table
- Milling chuck
- Quick change holder
- Coolant splash guard

DIMENSIONS



Unit: mm



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