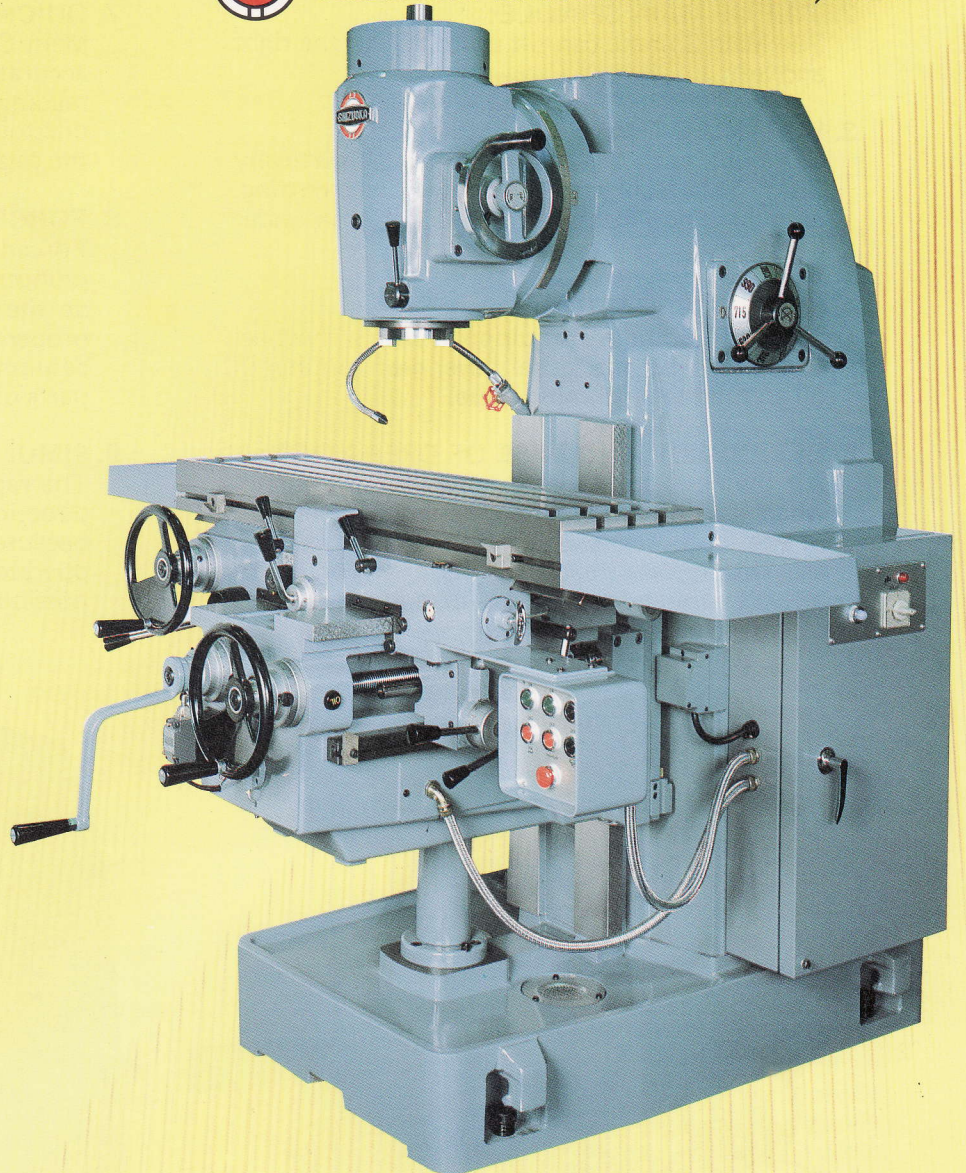


*VERTICAL
MILLING MACHINE*

SV-CH



SHIZUOKA MACHINE TOOL CO., LTD.



The World's "Basic" Machine

1. WIDE APPLICABILITY:

This machine is very rugged in construction and compact in design — providing the versatility as is usual with smaller machines, and toughness as is usual of larger machines.

2. TILT OF MAIN SPINDLE:

The Main Spindle can tilt up to 45° to the right and left.

3. VERTICAL TRAVEL OF SPINDLE:

The quill, with a 7" diameter, travels vertically 3½". This facilitates die sinking, deep cutting, grooving, step-machining, and operation under heavy load.

4. SILENT OPERATION:

The Main Spindle is equipped with a flywheel and driven by the spiral bevel gear running in oil to subdue machining noise.

5. EFFICIENCY AND EASE OF OPERATION:

All the controls, including the lever and hand-wheel for longitudinal, cross, and vertical feed of the table, and switches for the motors, etc., are within easy reach of the operator. This affords easy and speedy set-up, and a minimum of downtime.

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:

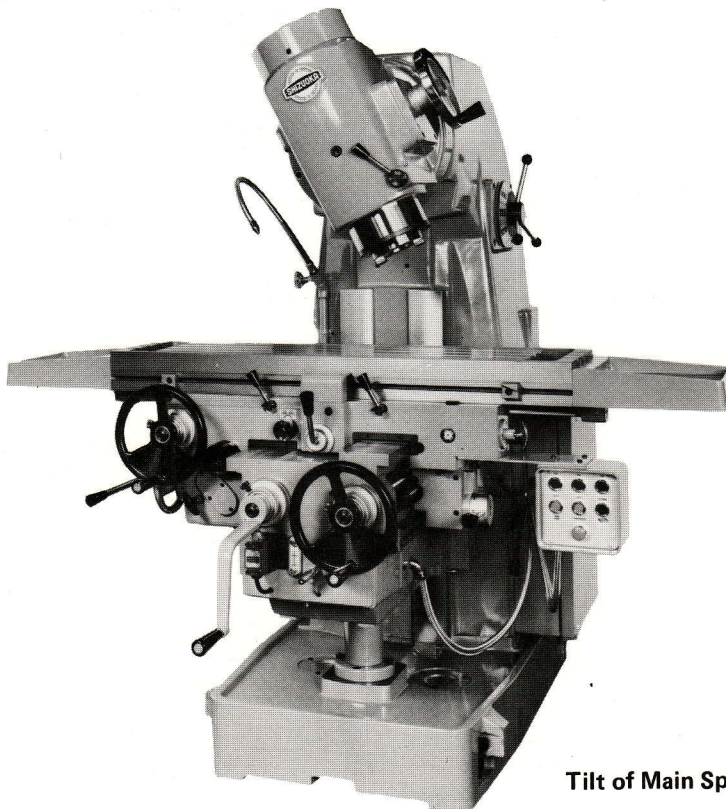
Main Spindle Speeds and Table Feeds can be accurately and quickly changed with the direct-reading dial. The Speed Change is very simple; one-touch operation by the operator completes the selection of the desired speed.

8. FORCED LUBRICATION:

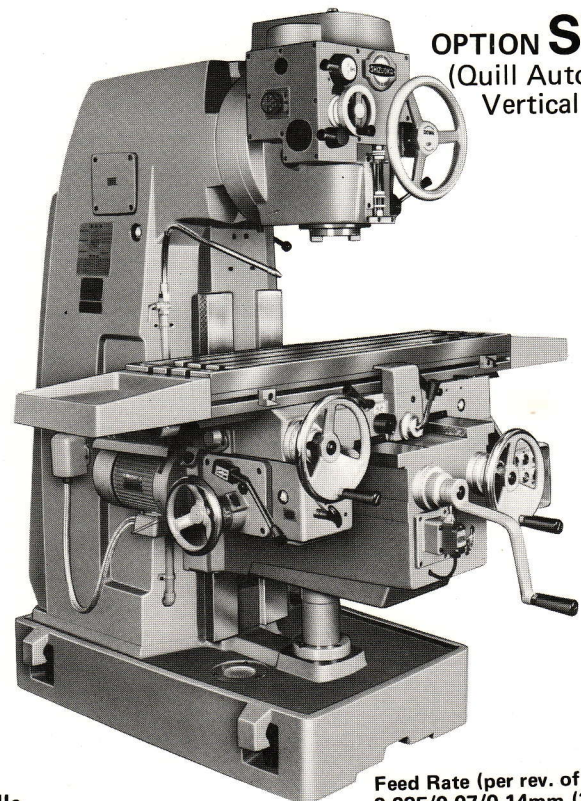
Forced lubrication is performed by the two plunger pumps. One at the saddle and another at the knee, which insures a consistent and proper supply of oil to every sliding way on the column, table, saddle, knee, and the turning parts of bearings, feed screws, and gears.

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.



Tilt of Main Spindle

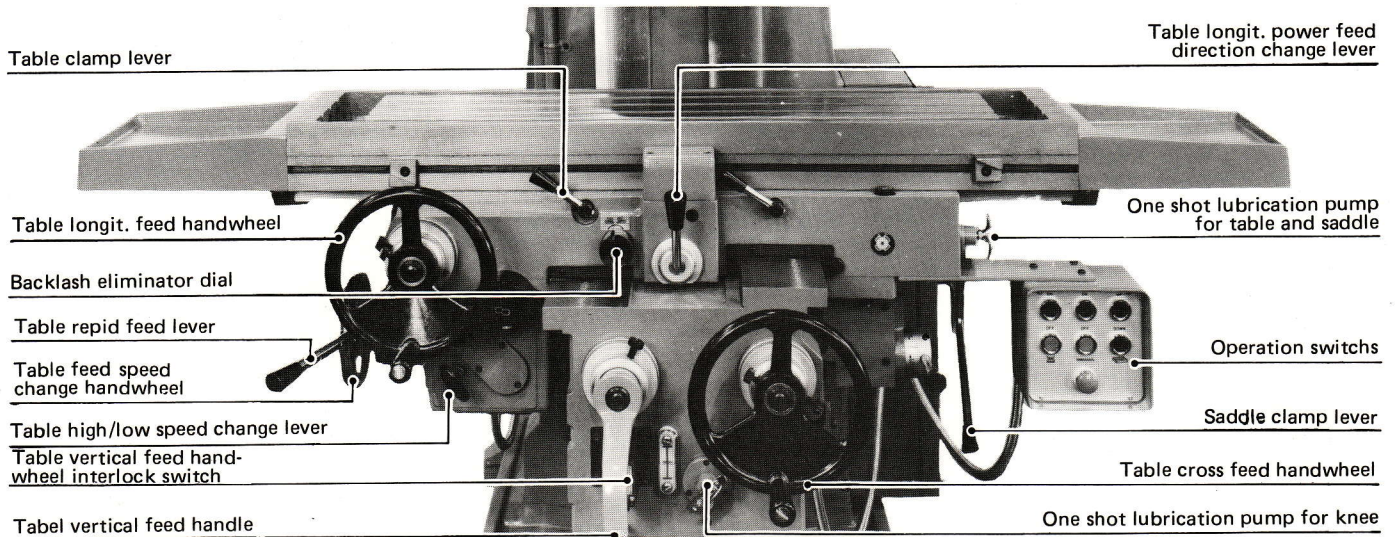


OPTION **SV-F**
(Quill Automatic
Vertical Feed)

Feed Rate (per rev. of spindle)
0.035/0.07/0.14mm (3-steps)

Machine

SV-CH Vertical 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.

SV-CH VERTICAL MILLING MACHINE

SPECIFICATIONS

TABLE			
Working surface of table		43-1/4" x 11"	1100mm x 280mm
	(Option)	51-1/4" x 11"	1300mm x 280mm
Longitudinal travel		29-1/2"	750mm
Cross travel		12"	300mm
Vertical travel		16-1/2"	420mm
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	32-1/4" per min.	665mm/min.
MAIN SPINDEL			
Speed range	9 steps		90 - 1400 rpm.
Nose taper			NST 40 or NST 50
Swivel of head to right or left			45°
Vertical quill travel		3-1/2"	90mm
Distance from spindle nose to table		1" - 17-3/4"	30 - 450mm
Distance from spindle center to column surface		12-5/8"	320mm
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		5,060 lbs.	2300 kgs.

* Subject to change without advance notice.

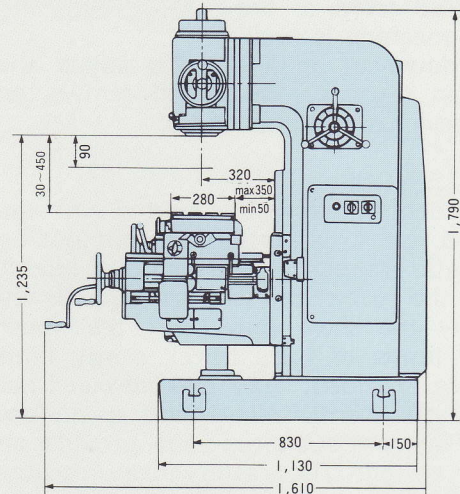
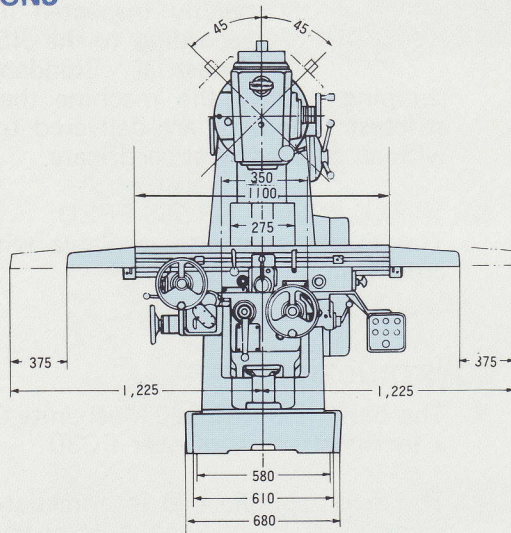
STANDARD ACCESSORIES

Coolant pump equipment	1 unit
Cutter arbor with spanner	1
Arbor fastening bar	1 set
Levelling bolts	4
Hexagonal wrench key	1 set
Adjustable wrench	1
Spanner	1
Grease gun	1
Oiler	1
+, - screwdriver	1 each
T-type wrench	1
Tool box	1
Instruction manual	1
Accuracy test certificate	1

SPECIAL ACCESSORIES

- Cutter arbor (for face cutter)
3", 4", 5", 6"
- 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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