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# Vertical & Horizontal

Milling Machine



CS-G450A / CS-G450B  
CS-G450C / CS-H450  
CS-U450

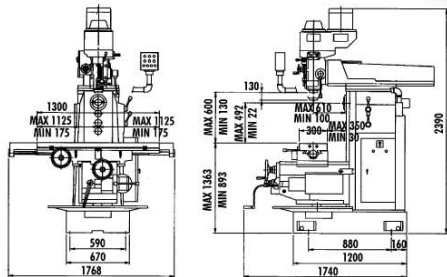
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**CHUNG SING MACHINERY CO., LTD.**

## Vertical & Horizontal Milling Machine

# CS-G450A

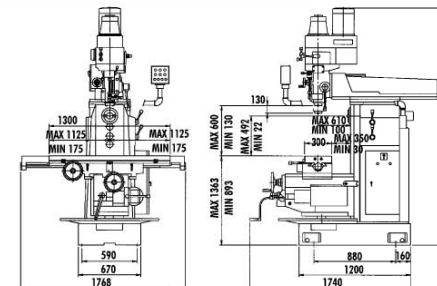
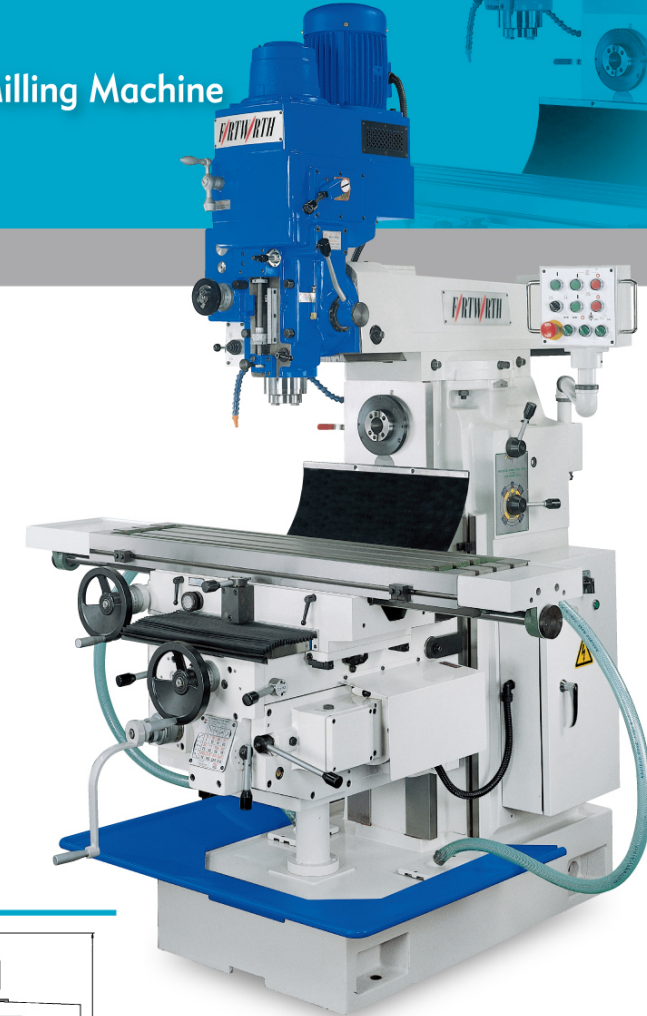
- Turret type milling head with 12 steps speed spindle.
- With electromagnetic brake for vertical spindle.
- Two direction boring on power quill feed.
- "Joystick" on vertical spindle used for tapping cycle.
- One horizontal arbor and two supports.
- Backlash eliminator on table travel.
- Central lubrication system.
- 3 axis power feed and rapid traverse by a single motor.
- Swivel table(option).
- With long table 1500x300mm and extend X-axis travel to 1050mm(option).



## Vertical & Horizontal Milling Machine

# CS-G450B

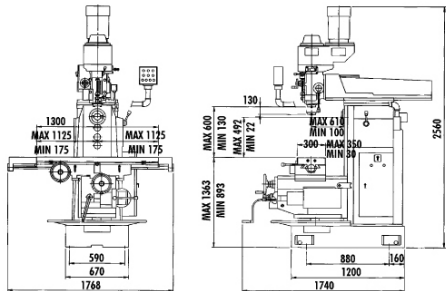
- Variable vertical spindle speed.
- With electromagnetic brake for vertical spindle.
- Two direction boring on power quill feed.
- "Joystick" on vertical spindle used for tapping cycle.
- One horizontal arbor and two supports.
- Backlash eliminator on table travel.
- Central lubrication system.
- 3 axis power feed and rapid traverse by a single motor.
- Swivel table(option).
- With long table 1500x300mm and extend X-axis travel to 1050mm(option).



## Vertical & Horizontal Milling Machine

# CS-G450C

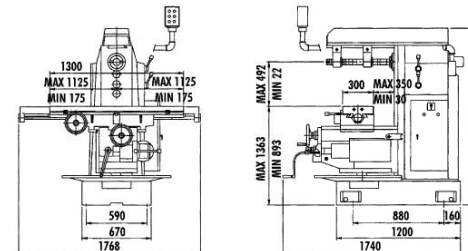
- Variable spindles speed controlled by an Inverter.
- With electromagnetic brake for vertical spindle.
- Two direction boring on power quill feed.
- One horizontal arbor and two supports.
- Backlash eliminator on table travel.
- Central lubrication system.
- 3 axis power feed and rapid traverse by a single motor.
- Swivel table(option).
- With long table 1500x300mm and extend X-axis travel to 1050mm(option).



## Horizontal Milling Machine

# CS-H450

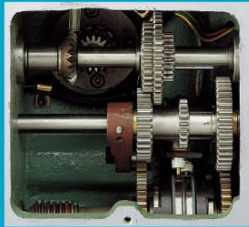
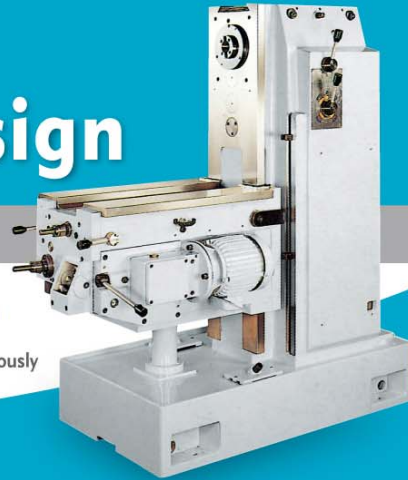
- One horizontal arbor and two supports.
- Backlash eliminator on table travel.
- Central lubrication system.
- 3 axis power feed and rapid traverse by a single motor.
- With 7.5HP motor for main spindle(option).
- Spindle nose ISO no.50 (option).
- Swivel table for model CS-U450.
- With long table 1500x300mm and extend X-axis travel to 1050mm (option).



# Exceptional Design

## X, Y and Z axes feed and rapid

X, Y and Z axes are driven by a single 3HP powerful motor for simultaneously operating rapid traverse and cutting feed of machine movement.



The power quill feed is electrically controlled for smooth movement and precision machining.

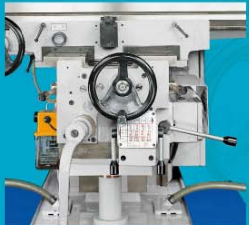


Inside Chrome-Moly Gear are hardened and precision ground, connecting with high precision bearings to offer a trouble-free drive system for spindle, even operated with maximum power.

## Two extra wide box-shape ways

Y-axis is constructed with two extra wide box-shape ways, which are hardened and ground, ensuring the best rigidity and accuracy and preventing table swing.

Y-axis adapts leadscrews which are mounted in the center of knee, preventing contamination and damage from coolant, dirt, chips etc, and keeping the table movement free of vibration caused by uneven surface contact between saddle and the knee.



## Climb Milling Compensator

permits the users to operate the machine horizontal climbing milling function smoothly and stably with ease.



## Automatic Central Lubrication System

provides the most proper volume of lube at desired time intervals to all contact surfaces of table, saddle and column slideways, ensuring clean lube supply at all times for trouble-free and smooth operation.



## SPECIFICATIONS:

● Design and specifications are subject to change without prior notice.

	CS-G450A	CS-G450B	CS-G450C	CS-H450	CS-U450
<b>Table</b>					
Working surface (length x width)	1300 x 300mm	1300 x 300mm	1300 x 300mm	1300 x 300mm	1300 x 300mm
Travel (longitudinal x cross x vertical)	950 x 320 x 470mm	950 x 320 x 470mm	950 x 320 x 470mm	950 x 320 x 470mm	950 x 320 x 470mm
T-slot (nominal size x No. x pitch)	16mm x 3 x 70mm	16mm x 3 x 70mm	16mm x 3 x 70mm	16mm x 3 x 70mm	16mm x 3 x 70mm
<b>Feeds 12 steps</b>					
Longitudinal x cross 60HZ	13-621 mm/min	13-621 mm/min	13-621 mm/min	13-621 mm/min	13-621 mm/min
Vertical 60HZ	7-361 mm/min	7-361 mm/min	7-361 mm/min	7-361 mm/min	7-361 mm/min
<b>Rapid Traverse</b>					
Longitudinal x cross 60HZ	2,960 mm/min	2,960 mm/min	2,960 mm/min	2,960 mm/min	2,960 mm/min
Vertical 60HZ	1,520 mm/min	1,520 mm/min	1,520 mm/min	1,520 mm/min	1,520 mm/min
Swivel table (left & right)	—	—	—	—	45 deg
<b>Vertical spindle</b>					
Spindle nose	ISO R297 No. 40	ISO R297 No. 40	ISO R297 No. 40	—	—
Spindle speed 60HZ	85-3150 rpm	120-3600 rpm	40-4000 rpm	—	—
Spindle speed 50HZ	70-2625 rpm	100-3000 rpm	40-4000 rpm	—	—
	12 steps	variable speed	variable speed	—	—
Distance from spindle end to table	130-600 mm	130-600 mm	130-600 mm	—	—
Distance from center of spindle to column	100-610 mm	100-610 mm	100-610 mm	—	—
Quill feeds	0.048, 0.096, 0.192 mm/rev	0.048, 0.096, 0.192 mm/rev	0.048, 0.096, 0.192 mm/rev	—	—
Quill travel	130 mm	130 mm	130 mm	—	—
Swivelling angle of head (left & right)	45 deg	45 deg	45 deg	—	—
Cross travel ram	510 mm	510 mm	510 mm	—	—
Horizontal rotating angle of ram	360 deg	360 deg	360 deg	—	—
<b>Horizontal spindle</b>					
Spindle nose	ISO R297 No. 40	ISO R297 No. 40	ISO R297 No. 40	ISO R297 No. 40	ISO R297 No. 40
Spindle speeds (12 steps)60HZ	45-1700 rpm	45-1700 rpm	45-1700 rpm	45-1700 rpm	45-1700 rpm
Spindle speeds (12 steps)50HZ	36-1415 rpm	36-1415 rpm	—	36-1415 rpm	36-1415 rpm
Distance from center of spindle to overarm	182 mm	182 mm	182 mm	135 mm	135 mm
Distance from center of spindle to table	22-492 mm	22-492 mm	22-492 mm	22-492 mm	0-470 mm
<b>Motors</b>					
For vertical spindle	AC 2.2 kW~4P	AC 3.7 kW~4P	AC 3.7 kW~4P	—	—
For horizontal spindle	AC 3.7 kW~4P	AC 3.7 kW~4P	AC 3.7 kW~4P	AC 3.7 kW~4P	AC 3.7 kW~4P
For table feed and rapid traverse	AC 2.2 kW~4P	AC 2.2 kW~4P	AC 2.2 kW~4P	AC 2.2 kW~4P	AC 2.2 kW~4P
For cutting fluid pump	AC 0.1 kW~2P	AC 0.1 kW~2P	AC 0.1 kW~2P	AC 0.1 kW~2P	AC 0.1 kW~2P
<b>Machine size</b>					
Overall height	2390 mm	2550 mm	2560 mm	1710 mm	1710 mm
Floor area	670 x 1200 mm	670 x 1200 mm	670 x 1200 mm	670 x 1200 mm	670 x 1200 mm
Net weight (approx)	2,650 kgs	2,650 kgs	2,650 kgs	2,350 kgs	2,350 kgs

### Standard Accessories:

Cutting fluid equipment 1 unit  
Cutting arbor and sleeve 1 unit  
Adjustment tools 1 set  
Tool box 1 set

Chip pan 1 pc  
Draw bar 1 pc  
Leveling blocks 4 pcs  
Leveling bolts 4 sets

### Options:

Digital Read Out  
Air Power Draw Bar