



# SUN FIRM MACHINERY

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## SUN FIRM MACHINERY IND.CO.,LTD.

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# SUN FIRM

## Heavy Duty CNC Lathe

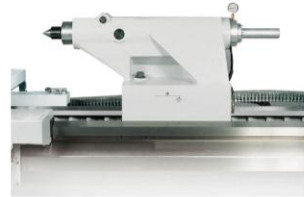


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## Machines Structure



Special coolant system for headstock will reduce the temperature of spindle.



### New Design Tailstock

Will make the tailstock slide more smoothly and eliminate the wearing as well as provide security in operating. This innovation includes a security devise to ensure operator safe even under a wrong operating.

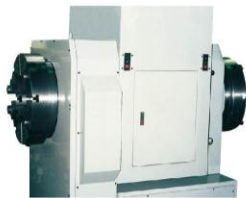


Integrated design of machine body and electrics, convenient in operating and maintenance.



### C-AXIS (Live Tooling)

It is able to make spindle high precision index position, fitted with power tooling turret, will complete with "turning" and "milling" capacities.



### Double Chuck Design (optional)

To work with extended long workpiece, we will provide special double chuck design to have stable clamping.



Large spindle bore supported by 3-point precision bearing which is suitable in accuracy and heavy cuttings. 9".10".12".14".16".21" bore is an option.



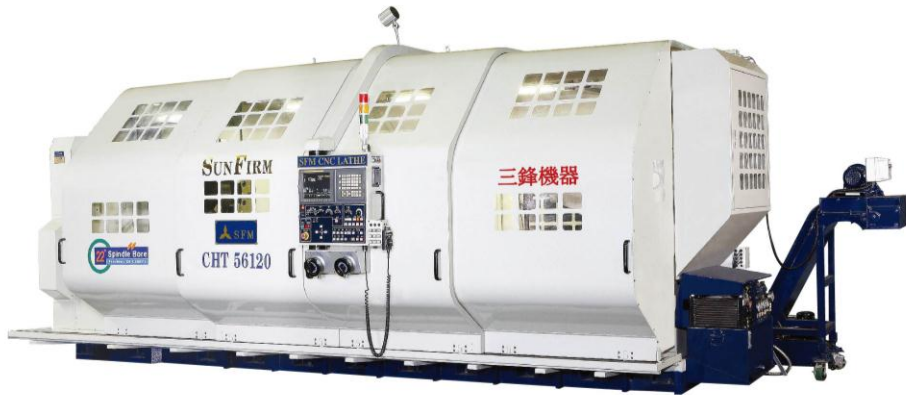
Spindle speed is controlled automatically by hydraulic system, 4 stages variable speed changing will ensure full horse power output even under low spindle RPM.



One piece box type machine base made of Meehanite castings, all bedways are hardened and ground which provides high hardness, rigidity and durability.

- Swing over bed 730m/m~3000m/m
- Distance between center 1000m/m~15000m/m
- Bed width 460m/m~2000m/m
- Spindle bore 105m/m~600m/m

We can provide special design to meet various requirement from the customers.



▲CHT 56120 with fully enclosed guard



▲CST 46160 with 6" spindle bore



▲CHT 56200 with 16" spindle bore



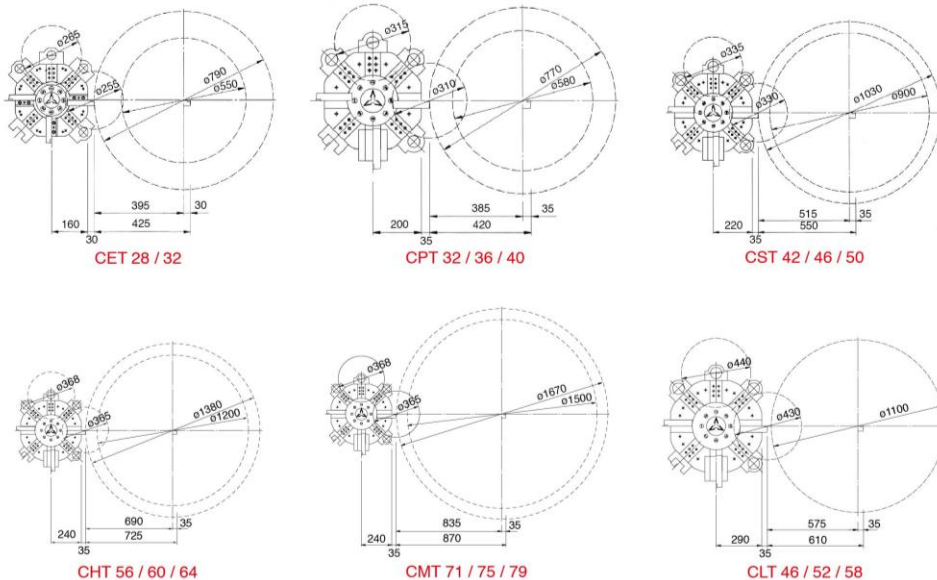
▲CMT 79320 with C Axis & D.R.O. for X, Z Axis

- High performance variable speed center lathe with constant surface speed cutting control



▲ CET 32120 with C Axis V8 Turret

### Capacities (with V8 Turret)

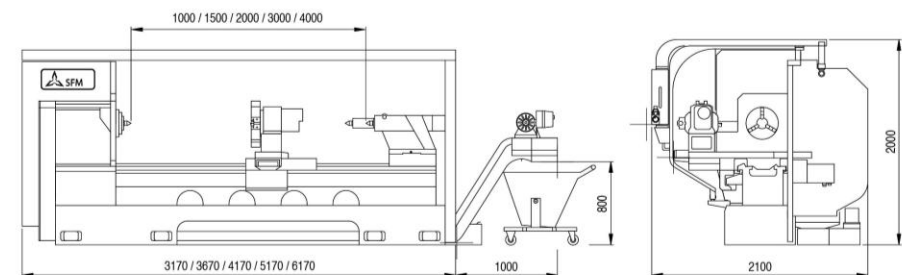


- Different Tailstock type affect Z-axis travel.
- X/Z Travel will be changed with different tool turret.
- Spindle speed will be changed by different motor.

### Specifications

Item	Model	CET Series	
		CET 28	CET 32
Capacity	Swing over bed	730 mm (28")	830 mm (32")
	Swing over cross slide	450 mm (17.7")	550 mm (21.6")
	Distance between center	1000 mm, 1500 mm, 2000 mm, 3000 mm, 4000 mm	
Headstock	Spindle nose	A2-8 / *A2-11, A2-15	
	Spindle bore	105 mm (4") / *153 mm (6"), 230 mm (9")	
	Range of spindle speed	3-1200 rpm / *3-1000 rpm, 2-800 rpm	
	No. of spindle speed	2	
Carriage	Cross slide travel (X-axis)	400 mm (16")	
	Longitudinal travel (Z-axis)	1000 mm, 1500 mm, 2000 mm, 3000 mm, 4000 mm	
	AC servo motor	X : 3 KW (4 HP) Z : 4 KW (5.4 HP)	
	Rapid feed	X : 10 m/min (393 inch/min.) Z : 8 m/min (315 inch/min.)	
	Cutting feed rate	X / Z : 0.001~500 mm/rev (0.0004"~20"/rev)	
Turret	Tool station (Random) available	H4 / *H6 , V8	
	Size of external turning	25×25 mm (1"×1")	
	Boring bar dia.	Ø 40 mm (1.57")	
Tailstock	Quill dia	95 mm (3.74") / *105 mm (4")	
	Quill stroke	230 mm (9")	
	Taper of center	MT NO.5 / *MT NO.6	
Motor	Main spindle (continuous)	AC 15 KW (20 HP)	
	Main spindle (30 min. rating)	AC 18.5 KW (25 HP)	
	Hydraulic pump	1.5 KW (2 HP)	
	Coolant pump	0.375 KW (0.5 HP)	
Bed	Width of bed	460 mm (18")	
Control	CNC control unit available	FANUC, FAGOR, SIEMENS	

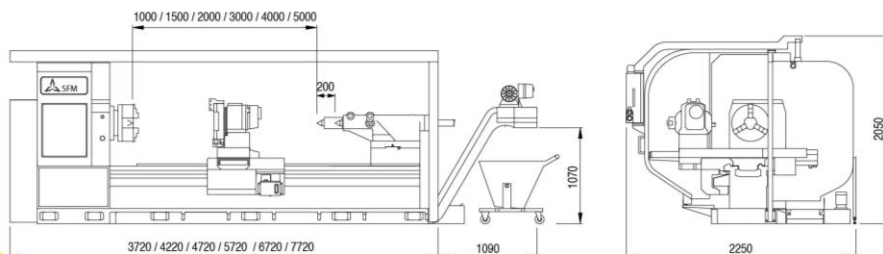
※ OPTIONAL -Specification Subject to change without notice.



## Specifications

Item	Model	CPT Series		
		CPT 32	CPT 36	CPT 40
Capacity	Swing over bed	840 mm (33")	940 mm (37")	1000 mm (40")
	Swing over cross slide	450 mm (17.7")	550 mm (21.6")	600 mm (23.6")
	Swing over gap	*1100 mm (44")	*1200 mm (48")	*1260 mm (50")
	Width of gap	*400 mm (16")		
	Distance between center	1000 mm, 1500 mm, 2000 mm, 3000 mm, 4000 mm, 5000 mm		
Headstock	Spindle nose	A2-11 / *A2-15		
	Spindle bore	140 mm (5.5") / *230 mm (9")		
	Range of spindle speed	1~1000 rpm / *1~680 rpm		
	No. of spindle speed	4		
Carriage	Cross slide travel (X-axis)	480 mm (19")		
	Longitudinal travel (Z-axis)	1300 mm, 1800 mm, 2300 mm, 3300 mm, 4300 mm, 5050 mm		
	AC servo motor	X : 3 KW (4 HP) Z : 7 KW (9.4 HP)		
	Rapid feed	X : 10 m/min (393 ipm) Z : 8 m/min (315 ipm)		
	Cutting feed rate	X / Z : 0.001~500 mm/rev (0.0004"~20"/rev)		
Turret	Tool station (Random) available	H4 / *H6, V8		
	Size of external turning	32x32 mm (1-1/4"x1-1/4")		
	Boring bar dia.	Ø50 mm (2")		
Tailstock	Quill dia	Ø125 mm (5")		
	Quill stroke	250 mm (10")		
	Taper of center	MT NO.6		
Motor	Main spindle (continuous)	AC 18.5 KW (25 HP)		
	Main spindle (30 min. rating)	AC 22 KW (30 HP)		
	Hydraulic pump	1.5 KW (2 HP)		
	Coolant pump	0.375 KW (0.5 HP)		
Bed	Width of bed	510 mm (20")		
Control	CNC control unit available	FANUC, FAGOR, SIEMENS		

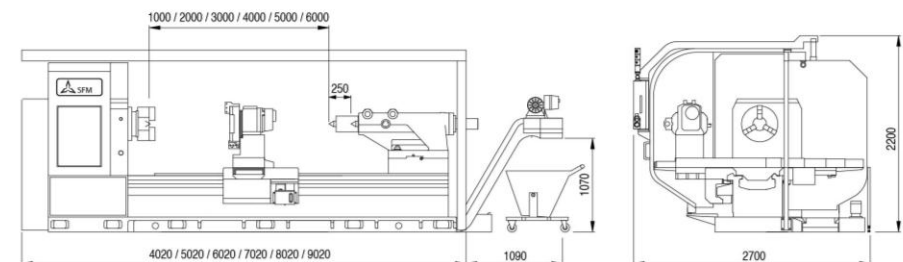
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## Specifications

Item	Model	CST Series				
		CST 42	CST 46	CST 50		
Capacity	Swing over bed	1070 mm (42")	1170 mm (46")	1270 mm (50")		
	Swing over cross slide	680 mm (27")	780 mm (31")	880 mm (35")		
	Swing over gap	*1400 mm (55")	*1500 mm (59")	*1600 mm (63")		
	Width of gap	*560 mm (22")				
	Distance between center	1000 mm, 2000 mm, 3000 mm, 4000 mm, 5000 mm, 6000 mm, 7000 mm				
Headstock	Spindle nose	A2-11 / *A2-15, A2-20				
	Spindle bore	153 mm (6")	*230 mm (9")	*255 mm (10")	*310 mm (12")	*356 mm (14")
	Range of spindle speed	1~680 rpm	1~450 rpm	1~420 rpm	1~400 rpm	1~350 rpm
	No. of spindle speed	4		2		
	Carriage	Cross slide travel (X-axis)	680 mm (26")			
Longitudinal travel (Z-axis)		1300 mm, 2300 mm, 3300 mm, 4300 mm, 5050 mm, 6050 mm, 7050 mm				
AC servo motor		X : 3 KW (4 HP) Z : 7 KW (9.4 HP)				
Rapid feed		X : 10 m/min (393 ipm) Z : 8 m/min (315 ipm)				
Cutting feed rate		X / Z : 0.001~500 mm/rev (0.0004"~20"/rev)				
Turret	Tool station (Random) available	H4 / *H6, V8				
	Size of external turning	32x32 mm (1-1/4"x1-1/4")				
	Boring bar dia.	Ø50 mm (2")				
Tailstock	Quill dia	Ø155 mm (6")				
	Quill stroke	250 mm (10")				
	Taper of center	MT NO.6				
Motor	Main spindle (continuous)	AC 22 KW (30 HP)				
	Main spindle (30 min. rating)	AC 26 KW (35 HP)				
	Hydraulic pump	1.5 KW (2 HP)				
	Coolant pump	0.375 KW (0.5 HP)				
Bed	Width of bed	665 mm (26")				
Control	CNC control unit available	FANUC, FAGOR, SIEMENS				

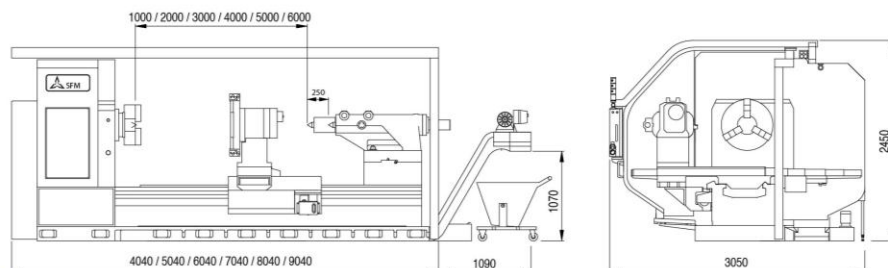
※ OPTIONAL • Specification Subject to change without notice.



## Specifications

Item	Model	CHT Series				
		CHT 56	CHT 60	CHT 64		
Capacity	Swing over bed	1420 mm (56")	1520 mm (60")	1620 mm (64")		
	Swing over cross slide	1000 mm (40")	1100 mm (44")	1200 mm (48")		
	Swing over gap	*1700 mm (68")	*1800 mm (72")	*1900 mm (76")		
	Width of gap	*610 mm (24")				
	Distance between center	1500 mm, 2000 mm, 3000 mm, 4000 mm, 5000 mm, 6000 mm, 7000 mm, 8000 mm				
Headstock	Spindle nose	A2-15 / *A2-20, A2-28, special				
	Spindle bore	153 mm (6")	*230 mm (9")	*310 mm (12") *406 mm (16") *532 mm (21")		
	Range of spindle speed	1-500 rpm	1-400 rpm	1-300 rpm	1-250 rpm	1-200 rpm
	No. of spindle speed	4		2		
	Carriage	Cross slide travel (X-axis)	900 mm (35")			
Longitudinal travel (Z-axis)		1800 mm, 2300 mm, 3300 mm, 4300 mm, 5050 mm, 6050 mm, 7050 mm, 8050 mm				
AC servo motor		X : 4 KW (5.4 HP) Z : 7 KW (9.4 HP)				
Rapid feed		X : 6 m/min (236 ipm) Z : 6 m/min (236 ipm)				
Cutting feed rate		X / Z : 0.001~500 mm/rev (0.0004"~20"/rev)				
Turret	Tool station (Random) available	H4 / *H6 , V8				
	Size of external turning	32x32 mm (1-1/4"x1-1/4")				
	Boring bar dia.	Ø60 mm (2.3")				
Tailstock	Quill dia	Ø200 mm (7.8")				
	Quill stroke	250 mm (10")				
	Taper of center	MT NO.6				
Motor	Main spindle (continuous)	AC 30 KW (40 HP)				
	Main spindle (30 min. rating)	AC 37 KW (50 HP)				
	Hydraulic pump	2.3 KW (3 HP)				
	Coolant pump	0.56 KW (0.75 HP)				
Bed	Width of bed	850 mm (33")				
Control	CNC control unit available	FANUC, FAGOR, SIEMENS				

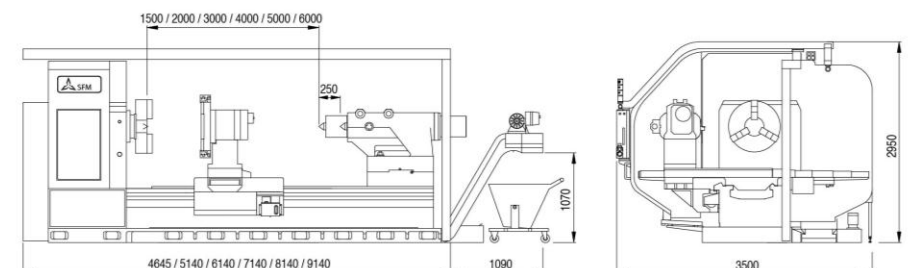
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## Specifications

Item	Model	CMT Series				
		CMT 71	CMT 75	CMT 79		
Capacity	Swing over bed	1800 mm (71")	1900 mm (75")	2000 mm (79")		
	Swing over cross slide	1300 mm (51")	1400 mm (55")	1500 mm (59")		
	Swing over gap	*2100 mm (82")	*2200 mm (86")	*2300 mm (90")		
	Width of gap	*750 mm (30")				
	Distance between center	1500 mm, 2000 mm, 3000 mm, 4000 mm, 5000 mm, 6000 mm, 7000 mm, 8000 mm				
Headstock	Spindle nose	A2-15 / *A2-20, A2-28, special				
	Spindle bore	153 mm (6")	*230 mm (9")	*310 mm (12") *406 mm (16") *532 mm (21")		
	Range of spindle speed	1-400 rpm	1-350 rpm	1-300 rpm	1-250 rpm	1-200 rpm
	No. of spindle speed	4		2		
	Carriage	Cross slide travel (X-axis)	1070 mm (42")			
Longitudinal travel (Z-axis)		1600 mm, 2100 mm, 3100 mm, 4100 mm, 5000 mm, 6000 mm, 7000 mm, 8000 mm				
AC servo motor		X : 4 KW (5.4 HP) Z : 9 KW (12.1 HP)				
Rapid feed		X : 6 m/min (236 ipm) Z : 6 m/min (236 ipm)				
Cutting feed rate		X / Z : 0.001~500 mm/rev (0.0004"~20"/rev)				
Turret	Tool station (Random) available	H4 / *H6 , V8				
	Size of external turning	32x32 mm (1-1/4"x1-1/4")				
	Boring bar dia.	Ø60 mm (2.3")				
Tailstock	Quill dia	Ø280 mm (11")				
	Quill stroke	250 mm (10")				
	Taper of center	MT NO.7				
Motor	Main spindle (continuous)	AC 37 KW (50 HP)				
	Main spindle (30 min. rating)	AC 45 KW (60 HP)				
	Hydraulic pump	3.75 KW (5 HP)				
	Coolant pump	0.75 KW (1 HP)				
Bed	Width of bed	1120 mm (44")				
Control	CNC control unit available	FANUC, FAGOR, SIEMENS				

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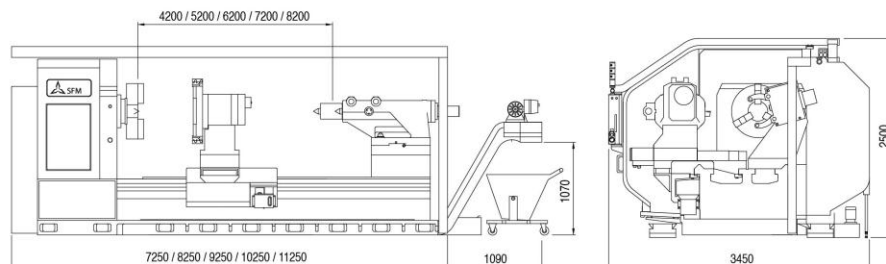


## Specifications

### MULTI-GUIDEWAYS

Item	Model	CLT Series		
		CLT 46	CLT 52	CLT 58
Capacity	Swing over bed	1170 mm (46")	1320 mm (52")	1470 mm (58")
	Swing over cross slide	780 mm (31")	940 mm (37")	1100 mm (43")
	Distance between center	4200 mm, 5200 mm, 6200 mm, 7200 mm, 8200 mm		
Headstock	Spindle nose	A2-15 / *A2-20		
	Spindle bore	153 mm (6")	*230 mm (9")	*310 mm (12")
	Range of spindle speed	1~680 rpm	1~450 rpm	1~400 rpm
	No. of spindle speed	4		
Carriage	Cross slide travel (X-axis)	610 mm (24")		
	Longitudinal travel (Z-axis)	4200 mm, 5200 mm, 6200 mm, 7200 mm, 8200 mm		
	AC servo motor	X : 4 KW (5.4 HP) Z : 7 KW (9.4 HP)		
	Rapid feed	X : 6 m/min (236 ipm) Z : 6 m/min (236 ipm)		
	Cutting feed rate	X / Z : 0.001~500 mm/rev (0.0004"~20"/rev)		
Turret	Tool station (Random) available	V8 / *H4		
	Size of external turning	32×32 mm (1-1/4"×1-1/4")		
	Boring bar dia.	Ø60 mm (2.4")		
Tailstock	Quill dia	Ø200 mm (7.9")		
	Quill stroke	250 mm (10")		
	Taper of center	MT NO.6		
Motor	Main spindle	AC 37 KW (50 HP)		
	Main spindle (Cons / 30 min.)	AC 45 KW (60 HP)		
	Hydraulic pump	3.75 KW (5 HP)		
	Coolant pump	0.75 KW (1 HP)		
Bed	Width of bed	1120 mm (44")		
	Width of way	1280 mm (50")		
Control	CNC control unit available	FANUC, FAGOR, SIEMENS		

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▲CLT 58240 -- VDI Power Tooling Turret

## Working Examples

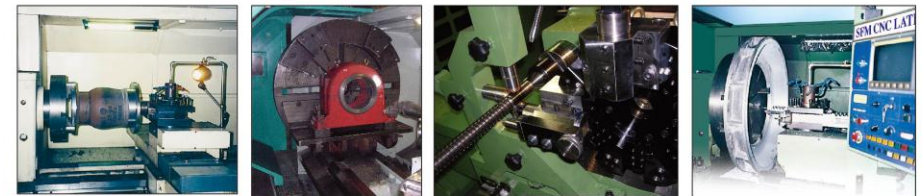


Tire Mould

Belt Pulley

Steel Drill Pipe

Steel Roller

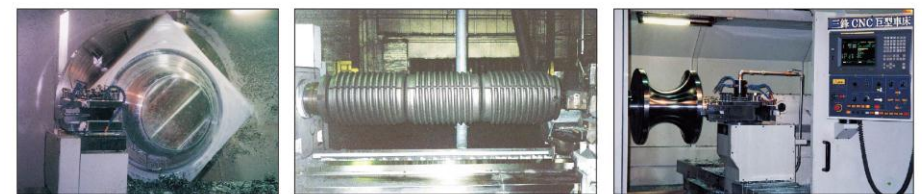


Pipe Valve

Bearing Box

Ball Screw




Truck Tire Mould



Plastic Mould

Graphite Bar

Press Roll

SUPPORT METHOD	MODEL	CET	CPT	CST	CHT	CMT	CLT
	SUPPORT CAPACITY						
LOAD BETWEEN CENTERS WITHOUT STEADY REST 		3000 kgs (6600 Lbs)	4500 kgs (9900 Lbs)	8000 kgs (17600 Lbs)	10000 kgs (22000 Lbs)	13000 kgs (28600 Lbs)	12000 kgs (26400 Lbs)
LOAD BETWEEN CENTERS WITH ONE STEADY REST 		3800 kgs (8370 Lbs)	6000 kgs (13200 Lbs)	10000 kgs (22000 Lbs)	12000 kgs (26400 Lbs)	16000 kgs (35200 Lbs)	15000 kgs (33000 Lbs)
CLAMP CAPACITY FACE PLATE TYPE 4-JAW CHUCK 		800 kgs (1760 Lbs)	1000 kgs (2200 Lbs)	1200 kgs (2640 Lbs)	1500 kgs (3300 Lbs)	1800 kgs (3960 Lbs)	1700 kgs (3740 Lbs)

## Optional Accessories



Double Turret



H4 Tool Turret



H6 Tool Turret



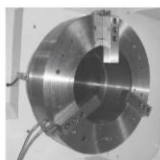
Self-Centering Steady Rest



Big Spindle Bore



3-Jaw Hydraulic Chuck



3-Jaw Air Chuck



Double Chuck



C-AXIS (Live Tooling)



4-Jaw Independent Chuck



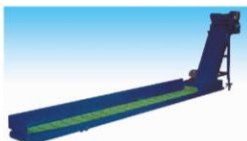
4-Jaw Face Chuck



Boring Attachment



Hydraulic Tailstock



Chip Conveyor



Fagor Control



Siemens Control



H4 Special Turret



Roller Steady Rest

## Standard Accessories

- Fanuc OiTD Control • Coolant System • 4 Way Tool Post • Hydraulic System • Lubrication System
- Center and Center Sleeve • Leveling Bolts and Nuts • Tool box + Tools • CNC Controller Manual

## Shipping Dimensions of SFM-CNC Series Machines

CET	Model	N.W.(kgs)	G.W.(kgs)	Model	N.W.(kgs)	G.W.(kgs)	L × W × H (cm)
	2840	7500	8300	3240	7800	8600	500 × 225 × 225
	2860	7900	8700	3260	8200	9000	550 × 225 × 225
	2880	8300	9200	3280	8600	9500	600 × 225 × 225
	28120	9200	10200	32120	9500	10500	700 × 225 × 225
	28160	10100	11200	32160	10400	11500	800 × 225 × 225

CPT	Model	N.W.(kgs)	G.W.(kgs)	Model	N.W.(kgs)	G.W.(kgs)	L × W × H (cm)
	3240	8500	9600	3640	8900	10000	550 × 260 × 240
	3260	8900	10000	3660	9300	10500	600 × 260 × 240
	3280	9300	10500	3680	9700	11000	650 × 260 × 240
	32120	10100	11500	36120	10500	12000	750 × 260 × 240
	32160	10900	12500	36160	11300	13000	850 × 260 × 240
32200	11700	13500	36200	12100	14000	950 × 260 × 240	

CST	Model	N.W.(kgs)	G.W.(kgs)	Model	N.W.(kgs)	G.W.(kgs)	Model	N.W.(kgs)	G.W.(kgs)	L × W × H (cm)
	4240	10800	12800	4640	11300	13800	5040	11800	13800	550 × 300 × 275
	4260	11300	13500	4660	11800	14000	5060	12300	14500	640 × 300 × 275
	4280	11800	14000	4680	12300	14500	5080	12800	15000	690 × 300 × 275
	42120	12800	15800	46120	13300	15800	50120	13800	16300	790 × 300 × 275
	42160	13800	16800	46160	14300	17800	50160	14800	17800	890 × 300 × 275
42200	14800	18000	46200	15300	18600	50200	15800	19200	990 × 300 × 275	

CHT	Model	N.W.(kgs)	G.W.(kgs)	Model	N.W.(kgs)	G.W.(kgs)	Model	N.W.(kgs)	G.W.(kgs)	L × W × H (cm)
	5660	15800	18800	6060	16400	19400	6460	17000	20000	670 × 330 × 300
	5680	16500	19500	6080	17100	20200	6480	17700	20800	720 × 330 × 300
	56120	17900	21000	60120	18500	21600	64120	19100	22200	820 × 330 × 300
	56160	19300	22600	60160	19900	23300	64160	20500	23900	920 × 330 × 300
	56200	20700	24200	60200	21300	24800	64200	21900	25400	1020 × 330 × 300

CMT	Model	N.W.(kgs)	G.W.(kgs)	Model	N.W.(kgs)	G.W.(kgs)	Model	N.W.(kgs)	G.W.(kgs)	L × W × H (cm)
	7160	22500	26600	7560	23200	27300	7960	23900	28000	680 × 380 × 350
	7180	23900	28000	7580	24600	28700	7980	25300	29500	730 × 380 × 350
	71120	25300	29600	75120	26000	30300	79120	26700	31000	830 × 380 × 350
	71160	27000	31500	75160	27700	32200	79160	28400	33000	930 × 380 × 350
	71200	28800	33600	75200	29500	34300	79200	30200	35000	1030 × 380 × 350

CLT	Model	N.W.(kgs)	G.W.(kgs)	Model	N.W.(kgs)	G.W.(kgs)	Model	N.W.(kgs)	G.W.(kgs)	L × W × H (cm)
	46160	23000	27000	52160	24000	28000	58160	25000	29000	950 × 370 × 285
	46200	25000	29000	52200	26000	30000	58200	27000	31000	1050 × 370 × 285
	46240	27000	31500	52240	28000	32500	58240	29000	33500	1150 × 370 × 285
	46280	29000	34000	52280	30000	35000	58280	31000	36000	1250 × 370 × 285
	46320	31500	37000	52320	32500	38000	58320	33500	39000	1350 × 370 × 285