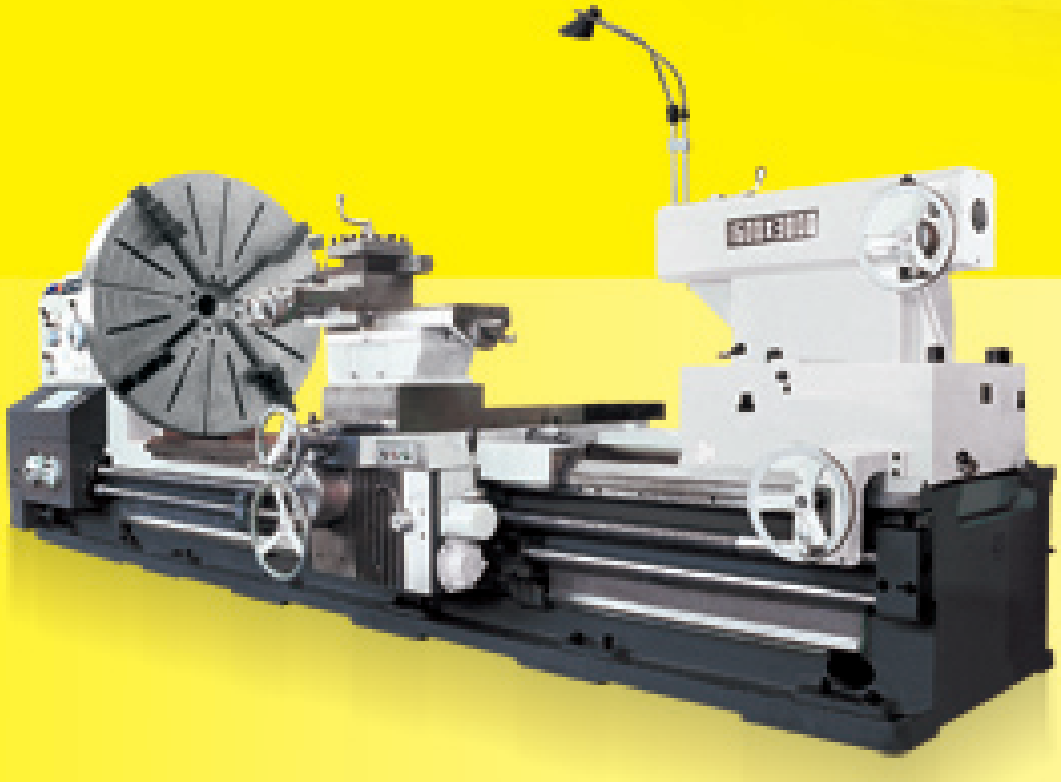
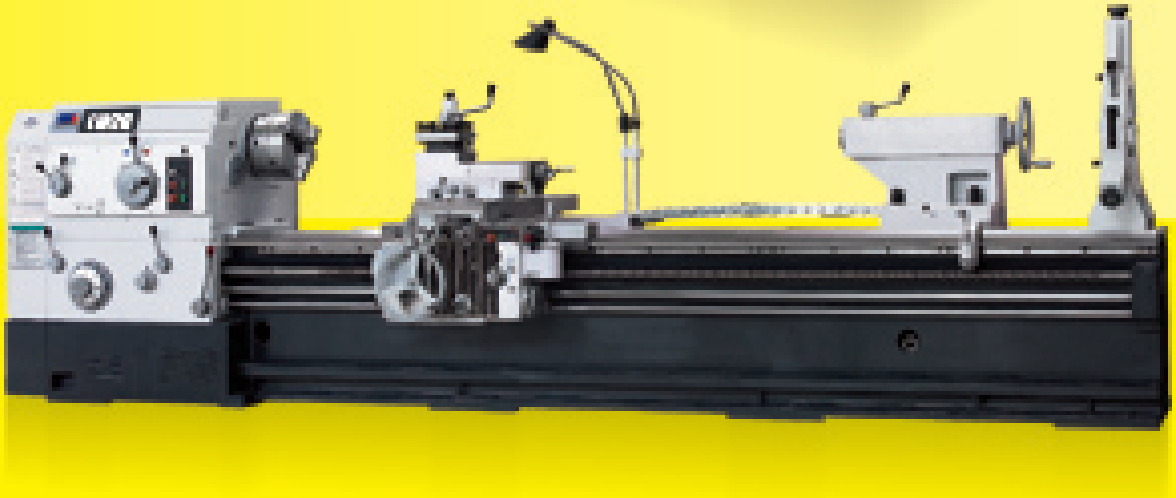
CW series





SHENYANG MACHINE TOOL (GROUP) CO., LTD.

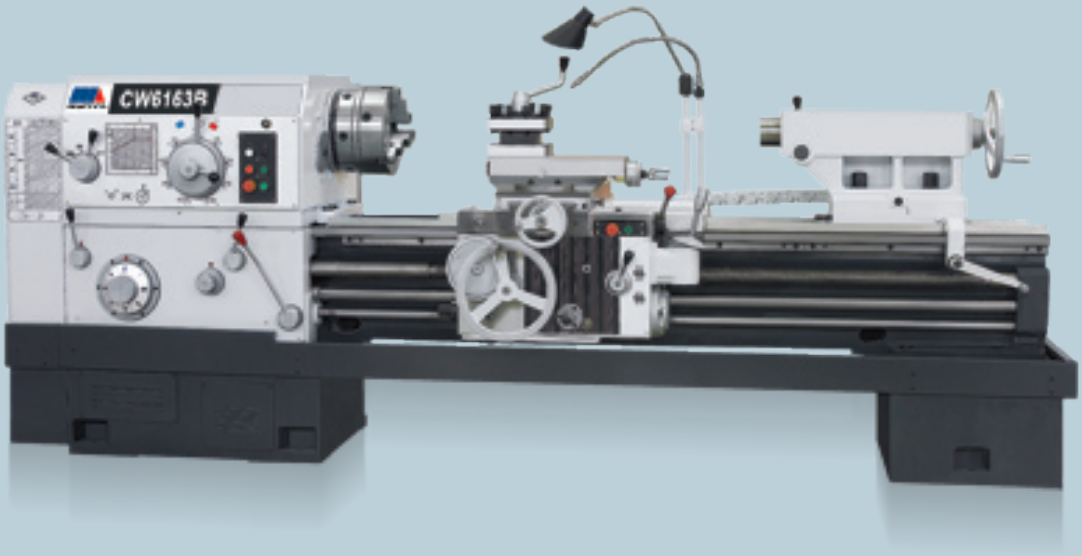
CW series

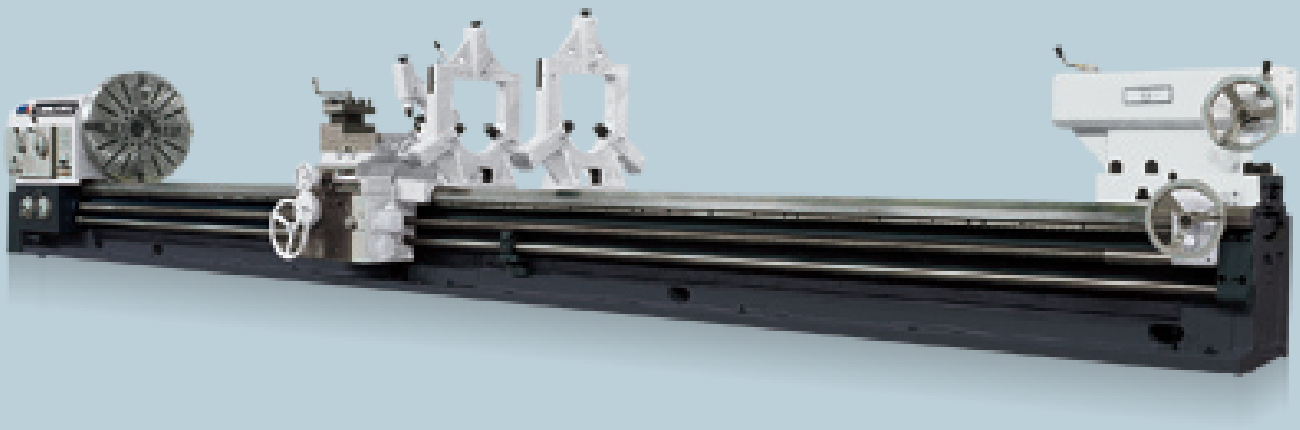
For the bed of this series, its double finning plate and inner finning plate on sidewall in width are designed for a composite structure between box type and diagonal bar, and thus the integral rigidity is increased by one third in comparison with that in single-wall and door shaped finning structure; the slide carriage is equipped with a quick travel mechanism, which can be operated visually with a monolever; to transform the main shaft direction of rotation or to brake is under hydraulic control, and the function of hand brake or foot brake can be operated easily and flexibly on the safe side; both structural rigidity and driving rigidity of the lathes are higher with steady precise and heavy cutting; the tailstock is equipped with a scale dial and scale mark and can be used visually; the lathes are of handsome appearance and easy cleaning and maintenance on the whole; the headstock are forcedly lubricated with pressure oil; and the cooling fits are handsome on the safe side with hydroelectric separation.

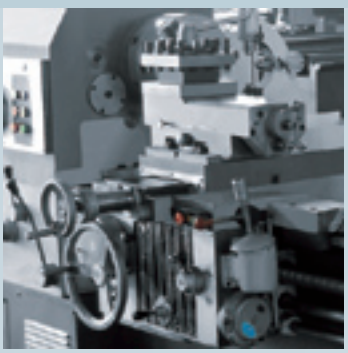
The series of lathes can undertake all kinds of lathe-turning operations, such as internal or external cylindrical surfaces, conical surfaces, surfaces of revolution, and end surfaces as well as metric thread, inch screw thread, modulus and diametrical pitch thread. They can also broach oil grooves and key grooves.

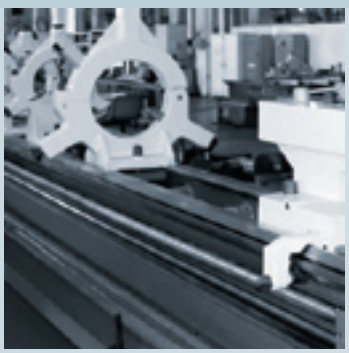
The series of lathes are suitable for processing metallic materials as cast iron, steel, and non-ferrous materials.

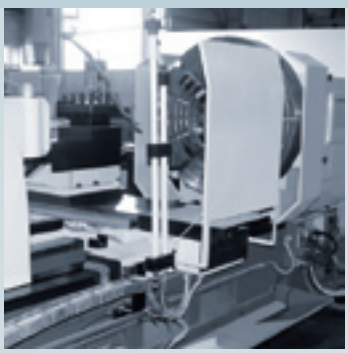
The series of lathes are widely used in automobile, petrochemical, military, railway, and machine manufacturing industries. They are sold in more than 30 countries and regions including Europe, America, Oceania, Africa, and Asia.

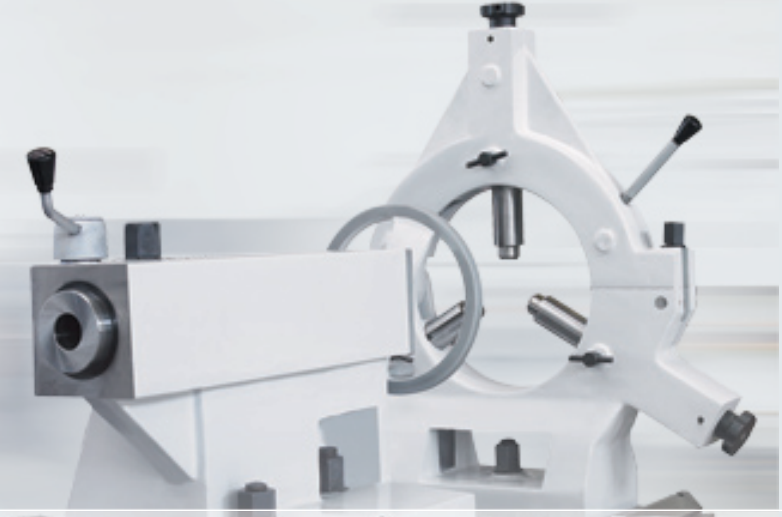

CW6163B



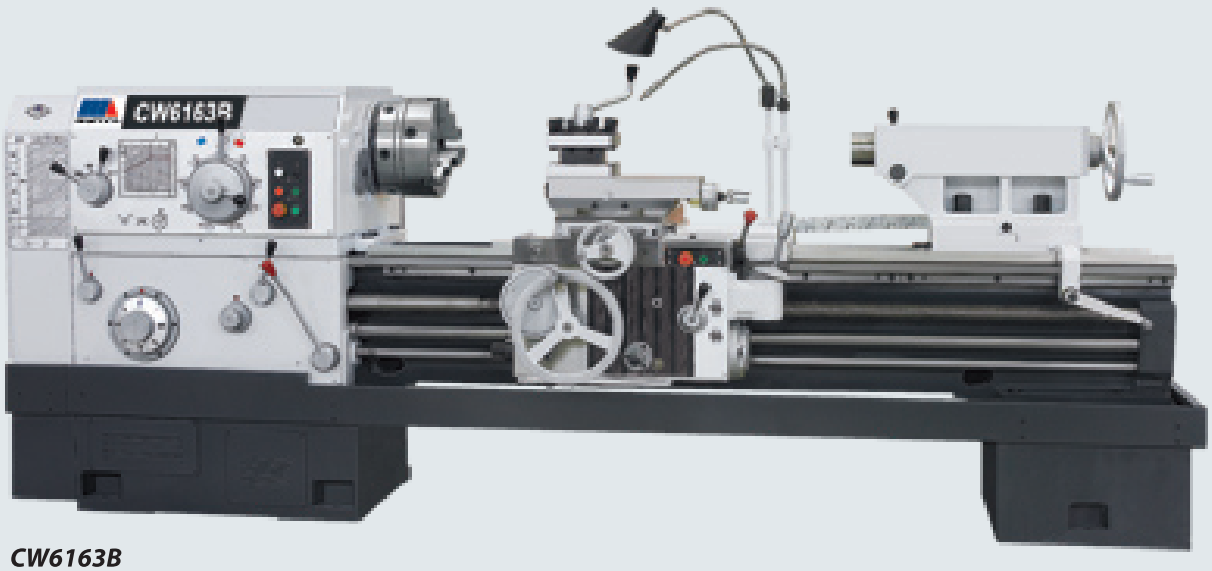








CW6163B
CW6263B



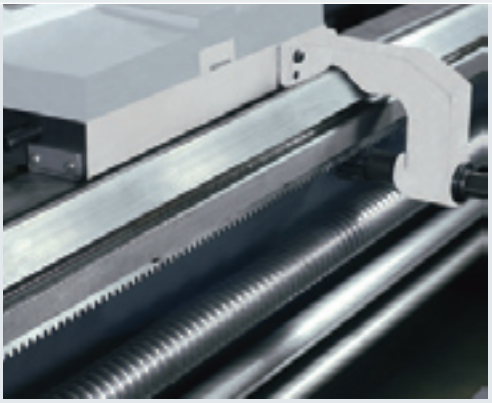
CW6163B

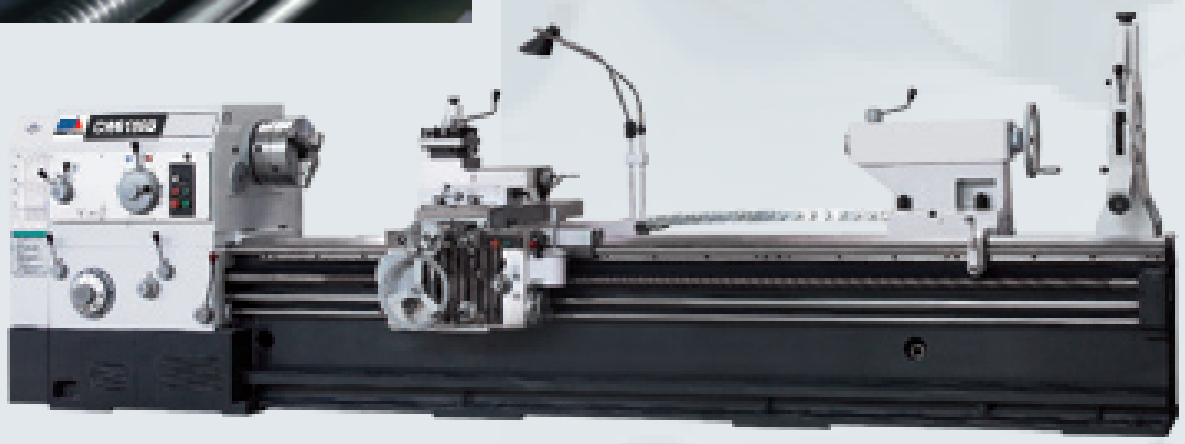
The lathes are equipped with hand brake or foot brake, which can be operated easily and flexibly on the safe side; the lathe beds in the series of CW80 are in a massive structure with 600mm span of lathe bed guide rail; the whole lathe bed in the series of CW63 is in basic size of 4m and over 4m, and it is available in size below 4m.

The lathes can reach working accuracy at IT6-IT7 with minor surface roughness.

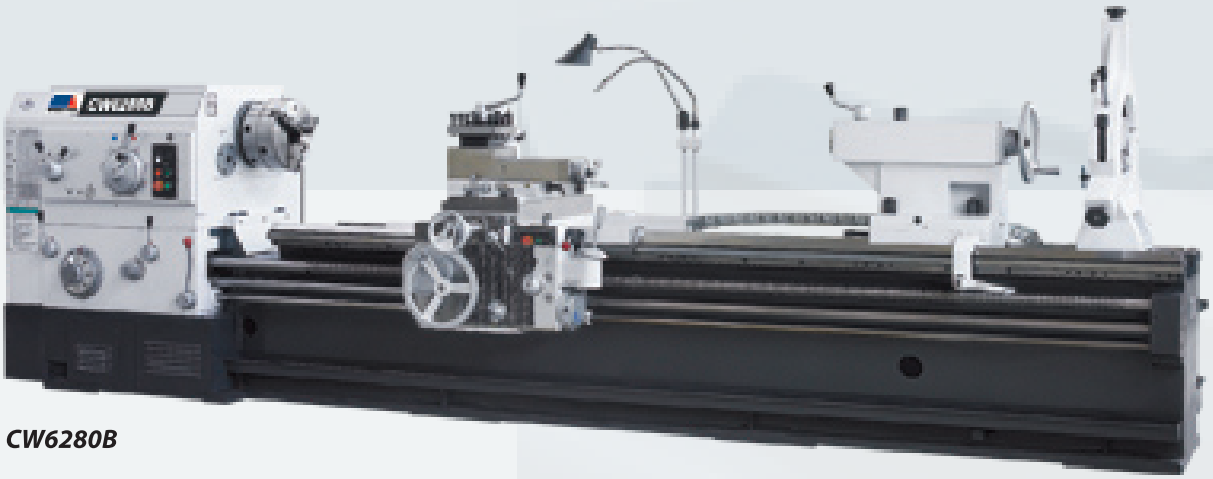
The saddle bed lathe is improved on the original lathe bed, and the lathe bed's diameter of gyration is increased; accordingly it is especially applicable to flat and unusual part manufacturing at the same time it is provided with the design features and application of the original lathe.

CW6180B
CW6280B

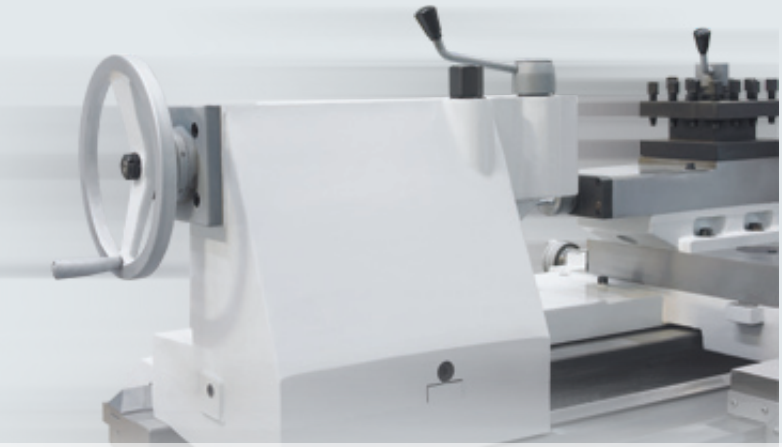




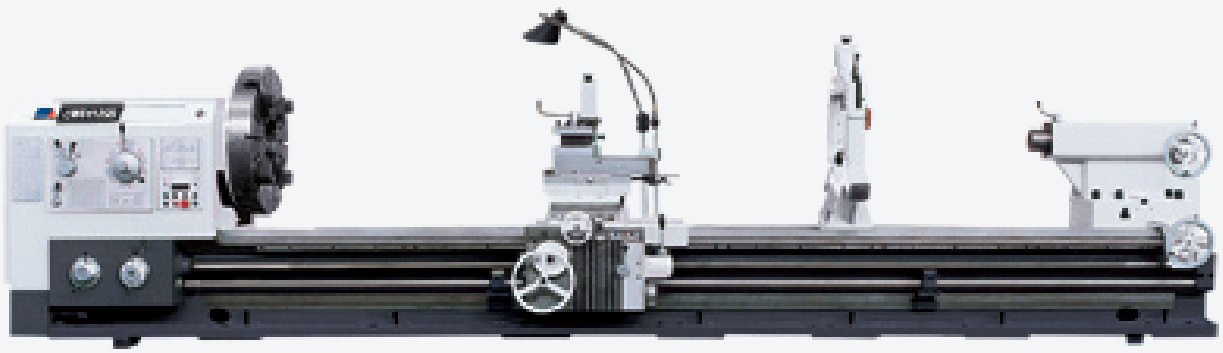
CW6180B



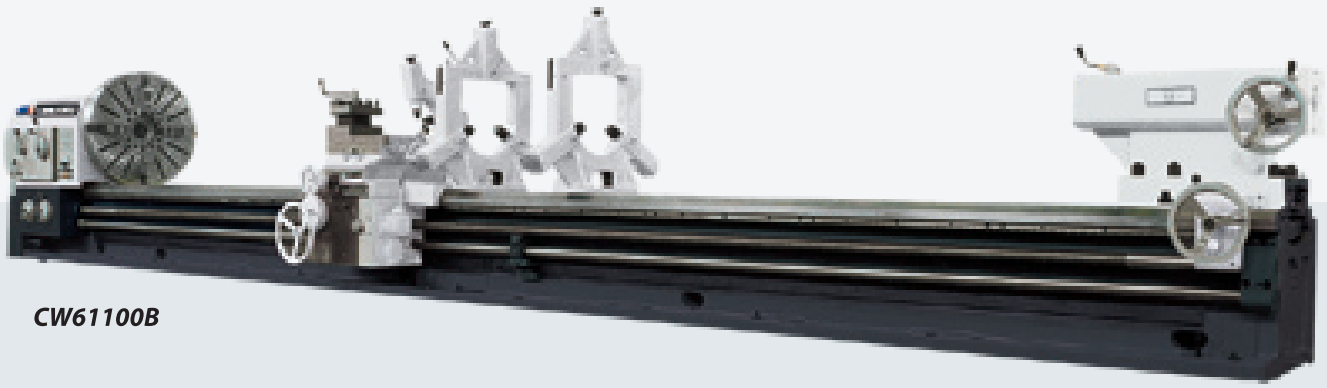
CW6280B



CW61100B
CW61125B

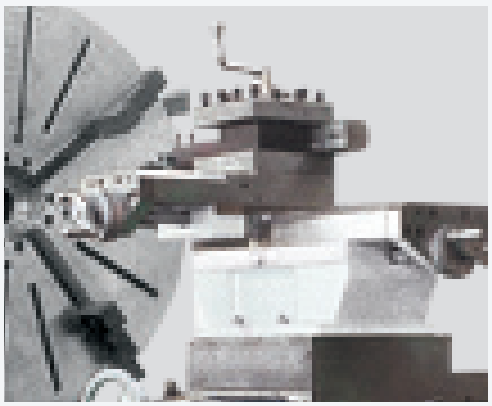


CW61125B



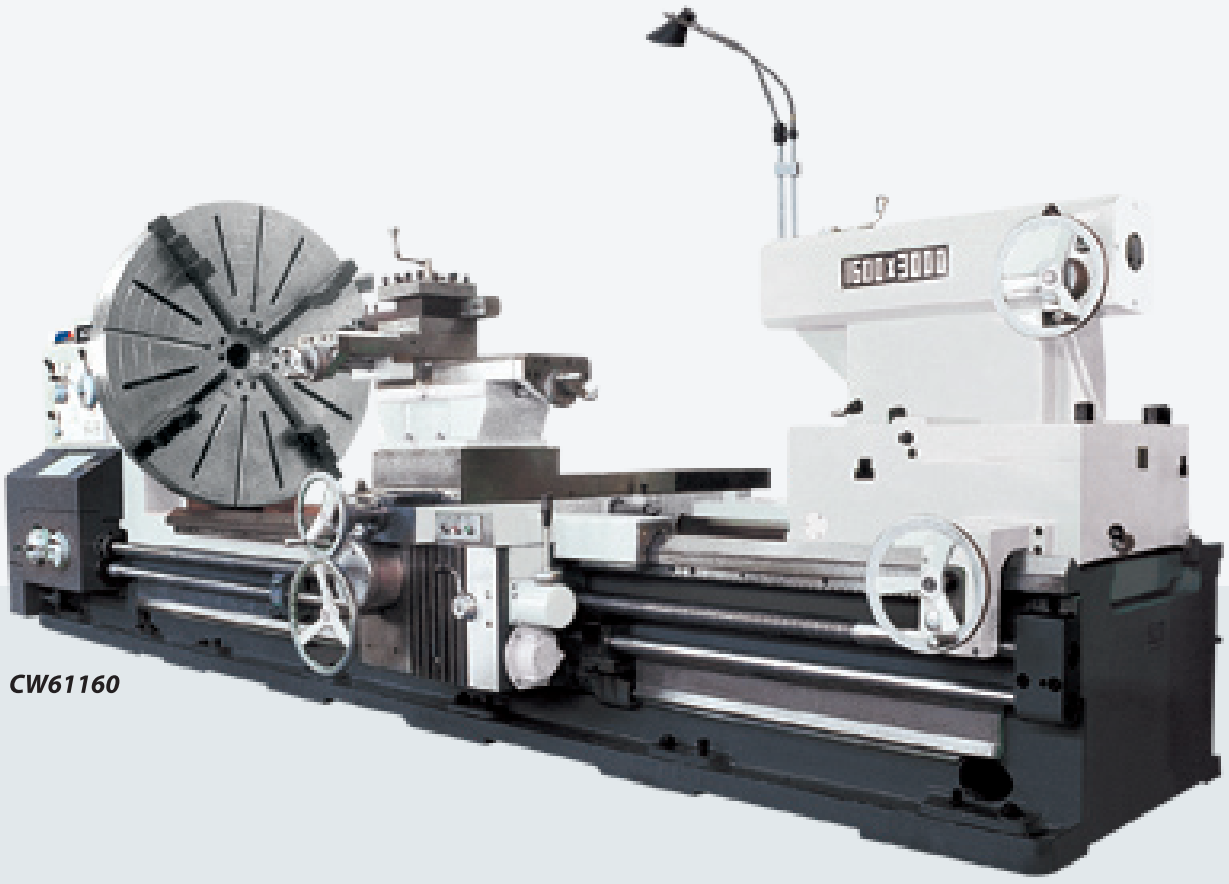
CW61100B

CW61160
CW61200

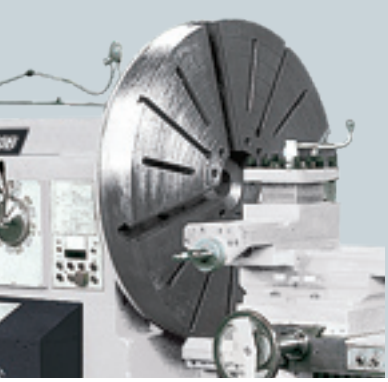


The safety mechanism is installed in the lathe slide carriage so as to prevent the late from being damaged by over loading. The upper turret is used to turning short cone work-piece, and the compound motion of longitudinal feed and lower turret feed can turn long cone work-piece. The lathe operating handles are assembled to use easily and flexibly. The main shaft braking and changeover between forward direction and reversal are quick response on the safe side under hydraulic control. To change in speed at 1 level is available by use of the press button without shut down.

The lathe is of high power, great rigidity, and wide range of spindle speed. It is applicable to heavy cutting. It can be used for turning end surfaces, excircles, and inner bores as well as metric thread, inch thread, modulus and diametrical pitch thread, and it can undertake boring, jacking, and internal boring technologies. The spindle speed is diversified for users to select.



CW61160



C61160

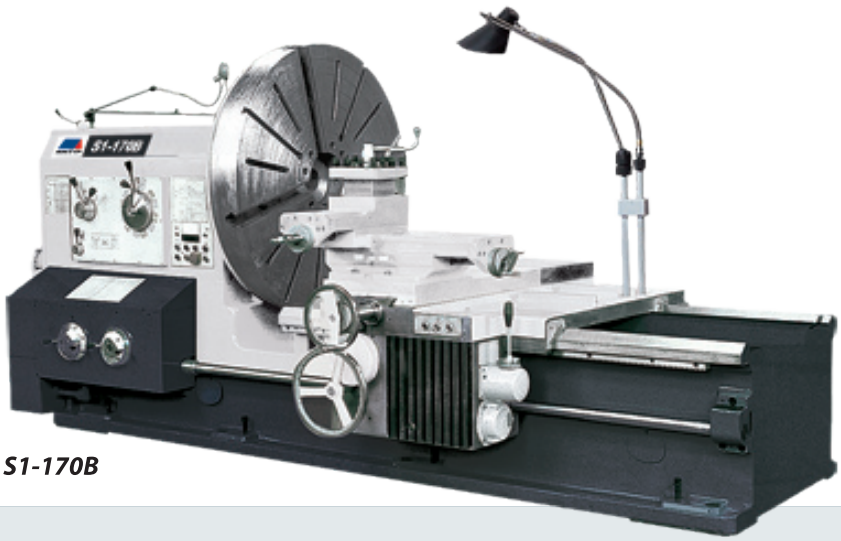
The lathe is a heavy-duty engine lathe improved on CW61160. Being provided with the whole functions of CW61160, it can realize lathe turning of heavy-duty and complex parts in the load capacity of 18 tons; the main motor is of frequency conversion and easily stepless speed regulation on the safe side.

It is mainly applicable to heavy part manufacturing of electric machine rotors, gas turbine rotors, and rollers in the industries of energy, power, and mining.

S1-170B

The one-way over running clutch is installed on the left of the lathe slide carriage, and it is used to connect at the same time for quick travel of the slide carriage while the feed shaft is in rotary movement slowly; three point support comes into use in the main shaft, and the front end is anti-friction bearing; and the spindle braking is operated by the hydraulic clutch.

The lathe is applicable to lathe turning of semi finishing and finish machining of inner circle, excircle, and plane. It is also used for processing of cone by power feed.

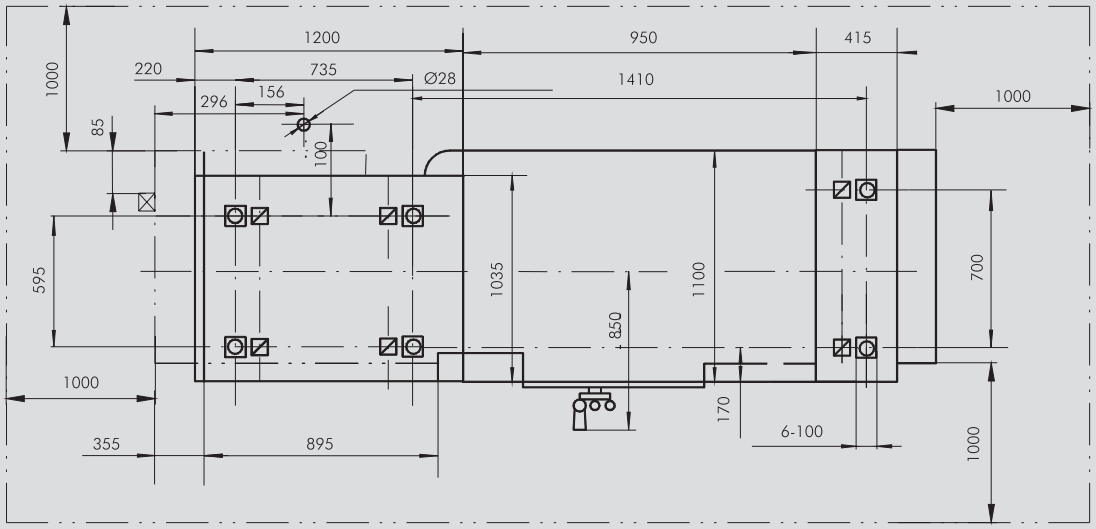


S1-170B

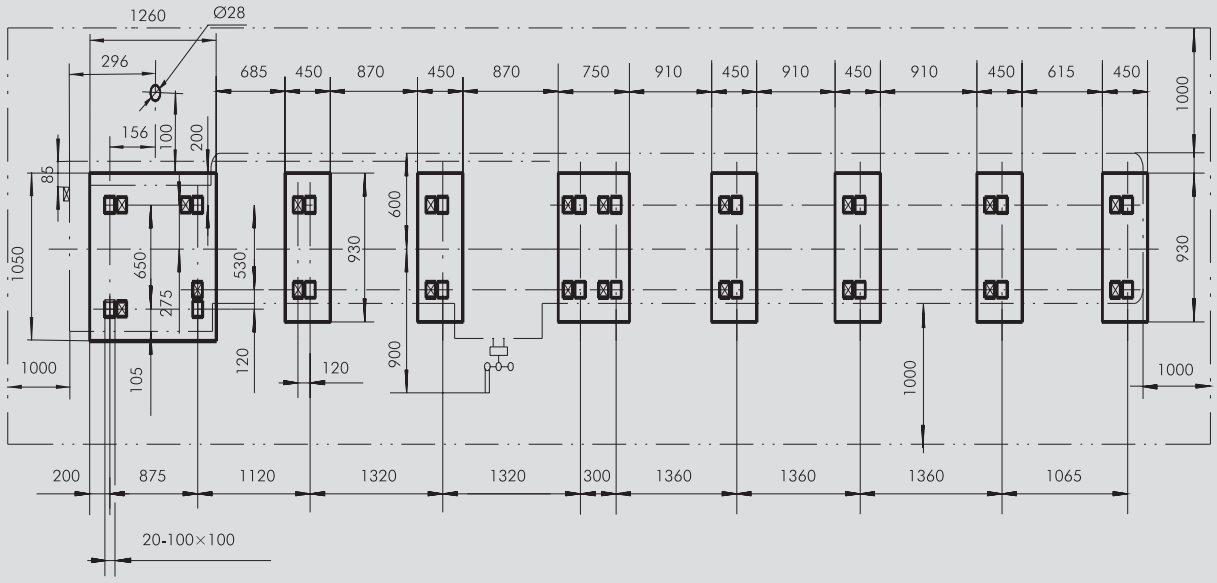
Main Technical Specifications

Foundation Layout

CW6163/CW6193 series

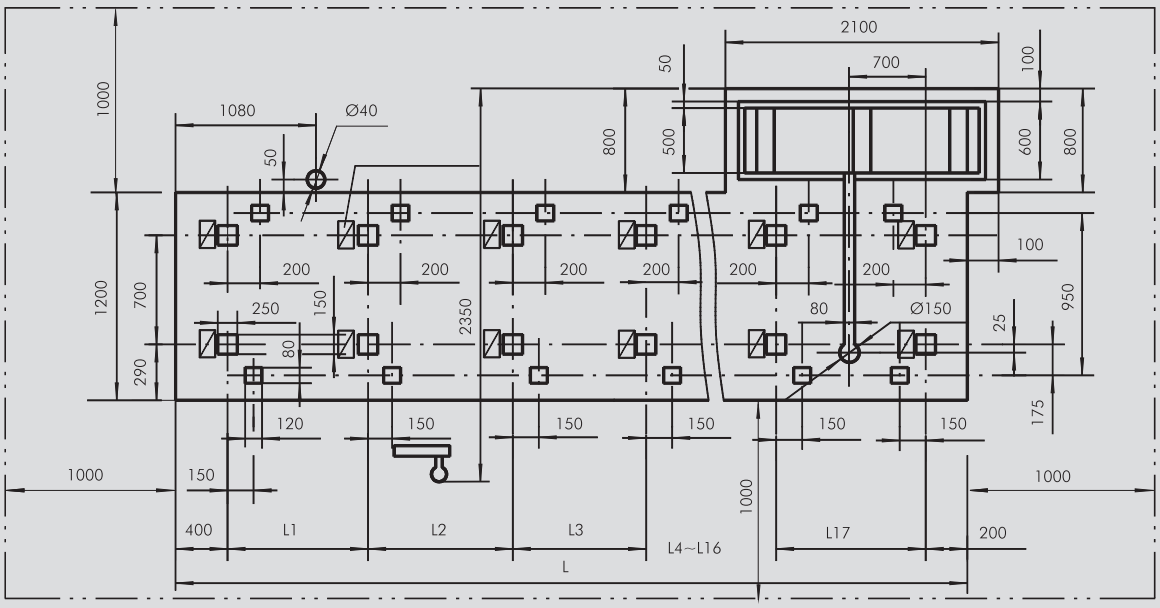


CW6280 series

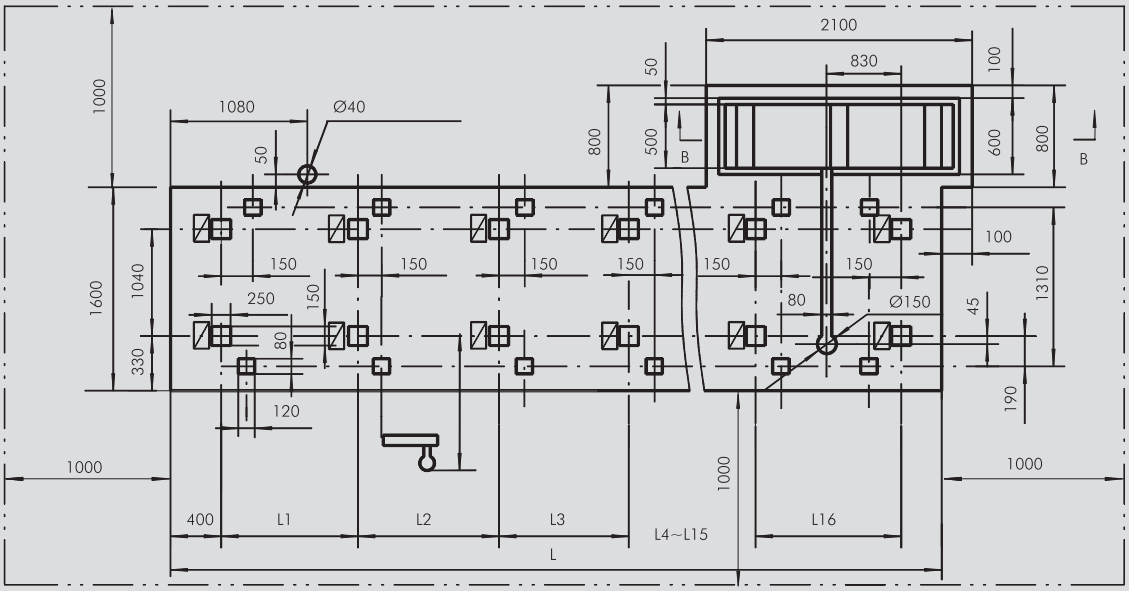


Main Technical Specifications

CW61100/CW61125 series



CW61160/CW61200/CW62200 series



Standard Accessories/Optional Accessories

Name	*Specification*	*CW6163B*	*CW6263B*	*CW6180B*	*CW6280B*	*CW6193B*	*CW61110B*
3-Jaw chuck	∅315	•	•	•	•	•	•
Follow rest	∅20-130	•	•				
	∅30-130			•	•		
	∅30-180					•	•
	∅50-220			★	★		
	∅200-310	★	★				
Steady rest	∅20-170	•	•	★	★		
	∅40-350			•	•		
	∅30-420					•	
	∅40-460						•
Face plate	∅650		•		★		
	∅800			★	•	★	★
	∅930					•	★
	∅1120						•
	∅1600						
Center and Center sleeve	Metric120; Morse5	•	•	•	•	•	•
	Metric120; Morse6						
Live center	Morse6						
	Metric80; Morse6						
Cooling device and illuminating equipment		•	•	•	•	•	•
Tools		•	•	•	•	•	•
3-Jaw chuck	∅380	★	★	★	★	★	★
	∅400	★	★	★	★	★	★
	∅500	★	★	★	★	★	★
4-Jaw chuck	∅400	★	★	★	★	★	★
	∅500	★	★	★	★	★	★
	∅630	★	★	★	★	★	★
	∅800					★	★
	∅1000						★
Steady rest	∅160-350	★	★				
	∅130-480			★	★		
	∅100-450			★	★		
	∅150-500			★	★		
	∅300-640					★	★
Taper attachment and thread cutting dial	L=500	★	★	★	★	★	★
Digital Display unit		★	★	★	★	★	★
Adjustable pads		★	★	★	★	★	★

• Standard accessories ★ Optional accessories

Note: The lathes CW6263B and CW6263B/750mm/1500mm are not accompanied with optional accessories for a follow rest or center rest. It is equipped with two center rests when maximum turning diameter of the lathe is ⩾1000mm, and length between 8000mm-10000mm; and it may be equipped with a blocking iron when maximum turning diameter of the lathe is ⩾1000mm, and length not less than 8000mm.

Standard Accessories/Optional Accessories

Name	*Specification*	*CW61100B*	*CW61125B*	*CW61160*	*CW61200*
3-Jaw chuck	∅380				
	∅500	★	★		
4-Jaw chuck	∅500	★	★		
	∅630	★	★		
	∅800	★	★		
	∅1000	•	•	★	★
	∅1400				
	∅1600			•	•
	∅2000				★
Steady rest	∅20-170				
	∅40-350				
	∅30-420				
	∅40-460				
Rotary steady rest	∅50-400	•			
	∅50-540		•		
	∅80-800			•	
	∅500-1000				•
Steady rest face plate	∅160-350				
	∅120-450	★	★		
	∅180-600	★	★		
	∅300-800				★
	∅360-850	★	★		
	∅800-1000				★
	∅1000-1500				★
Follow rest	∅20-130				
	∅30-130				
	∅30-180				
	∅50-220	•	•		
	∅80-350			•	•
Face plate	∅650				
	∅800				
	∅1000	★	★		
	∅1120				
	∅1600			★	★
Center and sleeve	Metric140; Morse6				
Live center	Morse6	•	•		
	Metric80; Morse6			•	•
Cooling device, illuminating equipment		•	•	•	•
Tools		•	•	•	•
Thread cutting dial	L=500	★	★	★	★
Digital Display unit		★	★	★	★
Adjustable pads		★	★	★	★

• Standard accessories ★ Optional accessories

Note: The lathes CW61100B/1500mm and CW61125B/1500mm are not accompanied with optional accessories for a follow rest or center rest. It is equipped with two center rests when maximum turning diameter of the lathe is ⩾1000mm, and length between 8000mm-10000mm; and it may be equipped with a blocking iron when maximum turning diameter of the lathe is ⩾1000mm, and length not less than 8000mm.

Main Technical Specifications

Item			*Units*	*CW6163B/C CW6263B/C*	*CW6193B/C CW6293B/C*	*CW6180B/C CW6280B/C*	*CW61110B/C CW62110B/C*
Max. swing diameter overbed			mm	630	930	800	1110
Max. swing diameter over carriage			mm	350	650	480	800
Max. workpiece length			mm	750, 1500 3000-8000	1500 3000-8000	1500, 3000, 4000, 5000-14000	
Max. swing dimeter and width in gap			mm	800/300	1100/300	1000/310	1300/310
Spindle bore and nose					∅104; D11(B series)	∅130; D11(C series)	
Taper in spindle nose and center					∅120 (B series)	∅140 (C series) Mores 5	
Range of spindle speed			r/min	18 kinds 7.5-1000(B series) 18 kinds 8.5-800(C series)	18 kinds 6-800(B series) 18 kinds 8.5-800(C series)	18 kinds 5.4-720	18 kinds 4.8-640
Range of longitudinal feed			mm/r	64 kinds 0.05-24.3	64 kinds 0.05-24.3	64 kinds 0.06-24.3	64 kinds 0.05-24.3
Range 1:1			mm/r		0.1-1.52		
Range 16:1			mm/r		1.6-24.3		
Micro feed scope of shift gear			mm/r				
Longitudinal and cross feed rate					1/2		
Rapid traverse of carriage			mm/min		4000		
Lead screw pitch					12(Metric); 1/2"		
Number, range of Metric thread			mm		50 kinds; 1-240		
Number, range of inch thread			t.p.i		26 kinds; 14-1		
Number, range of module thread			mm		53 kinds; 0.5-120		
Number, range of diametral thread			DP		24 kinds; 28-1		
Max. cross travel of lower slide			mm	315	500	500	500
Max. travel of top slide			mm	200	200	200	200
Max. travel of quill of tailstock			mm	250	250	250	250
Taper of quill of tailstock				Morse No.5	Morse No.5	Morse No.5	Morse No.5
Hardness of bed guideways			mm	550 RC52	550 RC52	600 RC52	600 RC52
Power of main motor			kW	11	11	11or15	11or15
Rapid motor power			kW	1.1	1.1	1.1	1.1
Cooling pump power			W	120	120	120	120
Machine W×H / Packing W×H			mm	1380×1450/1780×1890	1440×1835/1700×2100	1550×1630/1880×1910	1560×1900/1800×2520
Machine length /Packing dimension	Max. workpiece length	750	mm	2890/3440			
		1500	mm	3690/4240	3690/3900	3700/4150	3700/3900
		2000	mm	4070/4620			
		3000	mm	5190/5740	5190/5400	5250/5650	5250/5400
		4000	mm	6120/6640	6100/6350	6250/6650	6250/6450
		5000	mm	7200/7750	7200/7430	7250/8050	7250/7630
Machine weight (Net/Gross)	Max. workpiece length	750	mm	3400/4400			
		1500	mm	3700/4700	4200/4950	4900/6000	5500/6350
		2000	mm	4200			
		3000	mm	4700/5900	5200/6250	5500/6900	6100/7250
		4000	mm	5800/7700	6300/7500	6100/8000	6700/8150
		5000	mm	6800/8800	7300/8700	6900/9000	7500/9200
Max. weight of workpiece			kg	2000	2000	2000	2000

Main Technical Specifications

Item		Units	CW61100B/CW61125B	CW61160	CW61200/CW62200	S1-170B
Max. swing diameter over bed		mm	1000/1250	1600	2000	1400
Max. workpiece length		mm	1500/3000/5000-15000	3000/5000/6000-16000	3000/5000/6000-16000	1500
Max. swing diameter over carriage		mm	610/865	1200	1580/2500	800
Max. swing diameter over gap		mm				1600
Gap length		mm				440
Diameter of spindle bore		mm	130	130	130	104
Taper of spindle nose			Metric 140	Metric 140	Metric 140	Metric 140
Type of spindle speed Forward			21kinds	21 kinds	21 kinds	21 kinds
Type of spindle speed Reverse			12 kinds	12 kinds	12 kinds	12 kinds
Range of spindle speeds						
n^1★Forward		r/min	3.15-315	2-200	2-200	2-200
Reverse		r/min	3.5-278	2.24-178	2.24-178	2.24-178
n^2Forward		r/min	2-200			
Reverse		r/min	2.24-178			
Range of feed			56 kinds	56 kinds	56 kinds	56 kinds
Longitudinal		mm	0.1-12	0.1-12	0.1-12	0.06-7.2
Cross		mm	0.05-6	0.05-6	0.05-6	0.03-3.6
Upper turret		mm	0.025-3	0.025-3	0.025-3	0.015-1.8
Number, range of metric thread		mm	44 kinds 1-120	44 kinds 1-120	44 kinds 1-120	
Number, range of inch thread			31 kinds 24-1/4t.p.i	31 kinds 24-1/4t.p.i	31 kinds 24-1/4t.p.i	
Number, range of module thread		mm	45 kinds 0.5-60	45 kinds 0.5-60	45 kinds 0.5-60	
Number, range of diametral thread			38 kinds 1/2-56DP	38 kinds 1/2-56DP	38 kinds 1/2-56DP	
Max. travel of gap		mm	1450/2950/4950-14950	2800/4800/5800-15800	2800/4800/5800-15800	1500
Max. cross travel of lower turret		mm	520/630	960	1010	980
Max. travel of middle turret		mm		300	300	300
Max. travel of upper turret		mm	300	200	200	200
Rapid traverse of turret	cross	mm/min	3740	3740	3740	3740
	longitudinal	mm/min	1870	1870	1870	1870
Middle turret		mm/min	935	935	935	935
Quill of tailstock diameter		mm	160	180	180	
Max. travel of quill of tailstock		mm	300	300	300	
Taper of quill of tailstock			Morse No.6	Metric 80	Metric 80	
Power of main motor		kW	22	22	22	22
Dimension	length	mm	4600/6100/8100-18100	6400/8400/9400-194000	6400/8400/9400-194000	4287
	width	mm	2150	2320	2410	2370
	heighth	mm	1700/1825	2600	2770	2030
Width of guideways		mm	755	1100	1100	1100
Max. torque		KN.m	44	44	44	
Max. weight loaded		kg	6000	8000	8000	1500

★ Standard number of revolution

Note: Spindle's standard number of revolution is 2-200 r/s for a lathe 10000 mm over, and two turrets are assembled if a center distance is longer than 11000mm.

		1.5m	3m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m
Machine net weight (kg)	CW61100B	9200	10700	13000	13700	14700	15700	165000	17300	18900	19700	20500	21300	22100
	CW61125B	10200	11900	14500	15400	16300	17200	18000	18800	20400	21200	22000	22800	23600
	CW61160		16500	18600	19500	20700	22000	23200	24400	26500	27700	28900	30100	31300
	CW61200		18500	20600	21500	22700	24000	25200	26400	28500	29700	30900	32100	33300

Item		*Units*	*C61160*
Max. swing over bed		mm	1600
Max. length of workpiece		mm	3000/5000/6000/8000
Max. swing over turret		mm	1200
Max. turning length		mm	2800/4800/5700/7700
Max. weight loaded between centers		t	12/18
Width of guideways		mm	1100
Max. turning torque		KN.m	44
Spindle	Diameter of spindle bore	mm	130(5")
	Diameter of spindle bearing	mm	240/280
	Taper of spindle nose		Metric140;1:7
	Type of spindle speed		3 step stepless
	Range of spindle speed	r/min	n1: 1-6-18 n2: 3-18-55 n3: 9-55-160
Feed	Feed of spindle per revolution	kinds	56
	Longitudinal feed of spindle per revolution	mm	0.10-12(0.004"-0.473")
	Cross feed of spindle per revolution	mm	0.05-6(0.002"-0.036")
	Middle turret feed of turret per revolution	mm	0.025-3(0.001"-0.118")
	Kind of metric thread	kinds	44
	Range of metric thread	mm	1-120
	Kind of inch thread	kinds	31
	Range of inch thread		24-1/4
	Kind of module thread	kinds	45
	Range of module thread	mm	0.5-60
	Kind of diametral thread	kinds	38
	Range of diametral thread		1/2-56DP
Turret	Distance between spindle nose and surface of tools installed	mm	52
	Tool shank section	mm	50×50
	Swing angle of turret	°	±90
	Max. travel of gap	mm	2800/4800/5700/7700
	Max. cross travel of big turret	mm	960
	Max. travel of middle turret	mm	300
	Max. travel of small turret	mm	200
	Turret travel of per unit of the dial on big turret	mm	0.05(0.002")
	Turret travel of per unit of the dial on middle and small turret	mm	0.02
	Speed of rapid travel longitudinal	mm/min	4330
	Speed of rapid travel cross	mm/min	2165
	Diameter of center sleeve	mm/min	1082
Tailstock	Center sleeve diameter	mm	280
	Max. distance of center sleeve	mm	300
	Taper of quill of tailstock		Metric 80; 1:7
Motor	Main motor		AC37(frequence converter)AC45(frequence converter)
	Rapid motor		AC1.5
Lubrication and oil pump	Model emission(L/min)		Press(MPa) | Rotate speed(r/min)
	CB-B10 10		2.5 | 1450
Heighth		mm	2600
Width		mm	2320
Length		mm	6350/8400/9500/11500
Net weight		kg	17000/19000/20400/23000