

CS/CM/CL/CX series

CONVERSATIONAL PRECISION LATHE



FORCE ONE MACHINERY CO., LTD.

No.5, Ln. 272, Dalin Rd., Daya Dist. Taichung City 428, Taiwan

Tel: +886-4-2560 2506 Fax: +886-4-2560 2460

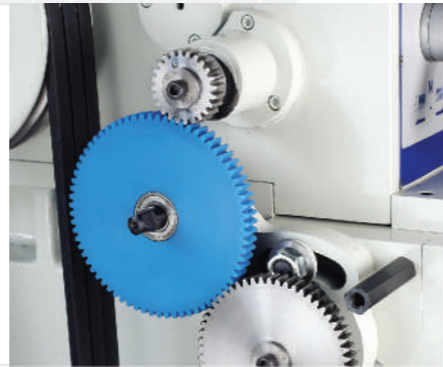
E-mail: sales@forceonecnc.com <http://www.forceonecnc.com>

First edition third print 07 . Aug . 2024

CS/CM/CL/CX series

CONVERSATIONAL PRECISION HIGH SPEED LATHE

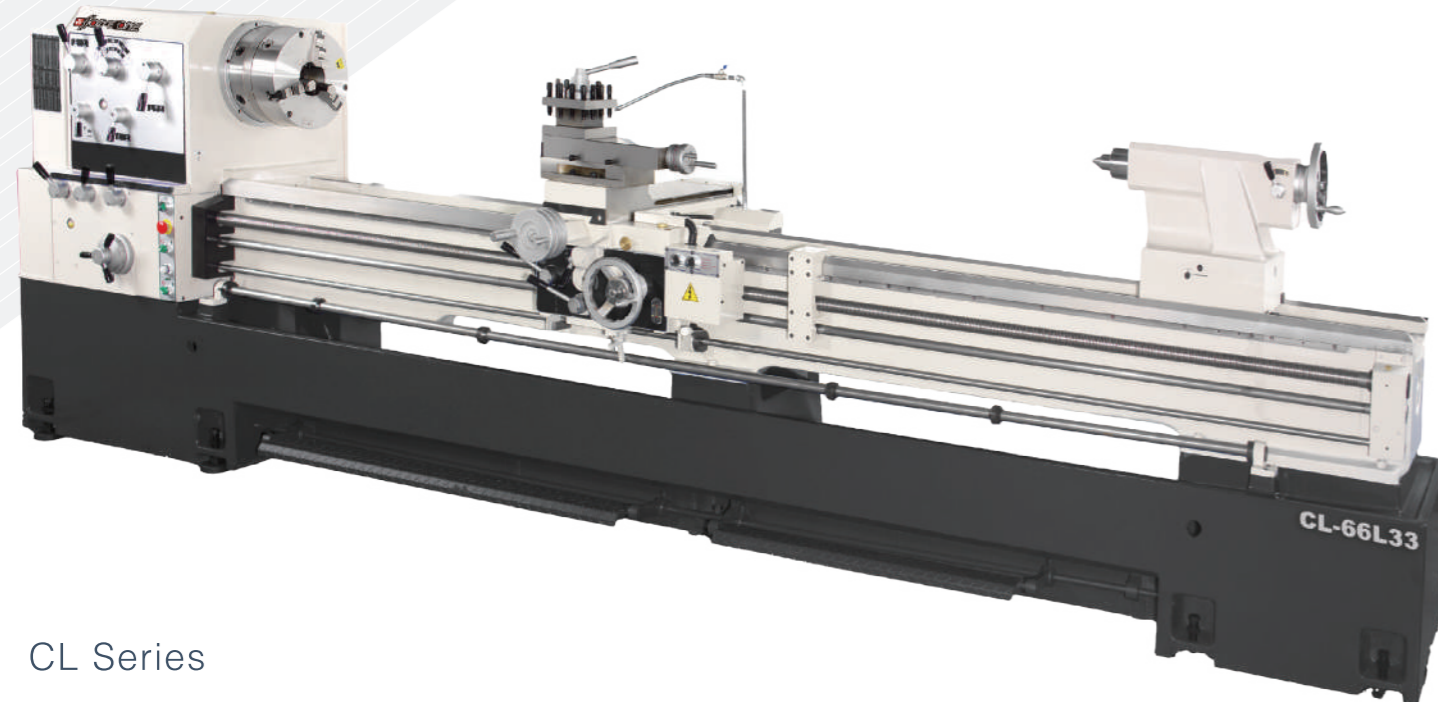
Force One conventional lathes include High-Speed (CS/CM/CL) and Heavy-Duty (CX) models. High-speed types use FAG/SKF bearings with $\varnothing 58\text{--}\varnothing 120$ mm spindles for precision turning. Heavy-duty models feature 3V bedways, $\varnothing 153/\varnothing 230$ mm spindles, and 3-point support for heavy cutting. All machines use heat-treated gears and support multiple thread types. Optional (Opt.) features include DRO, optical scale,



Optional plastic idler gear at the rear(S Series) ensure smooth, quiet operation and protects headstock gears and spindle



CS Series

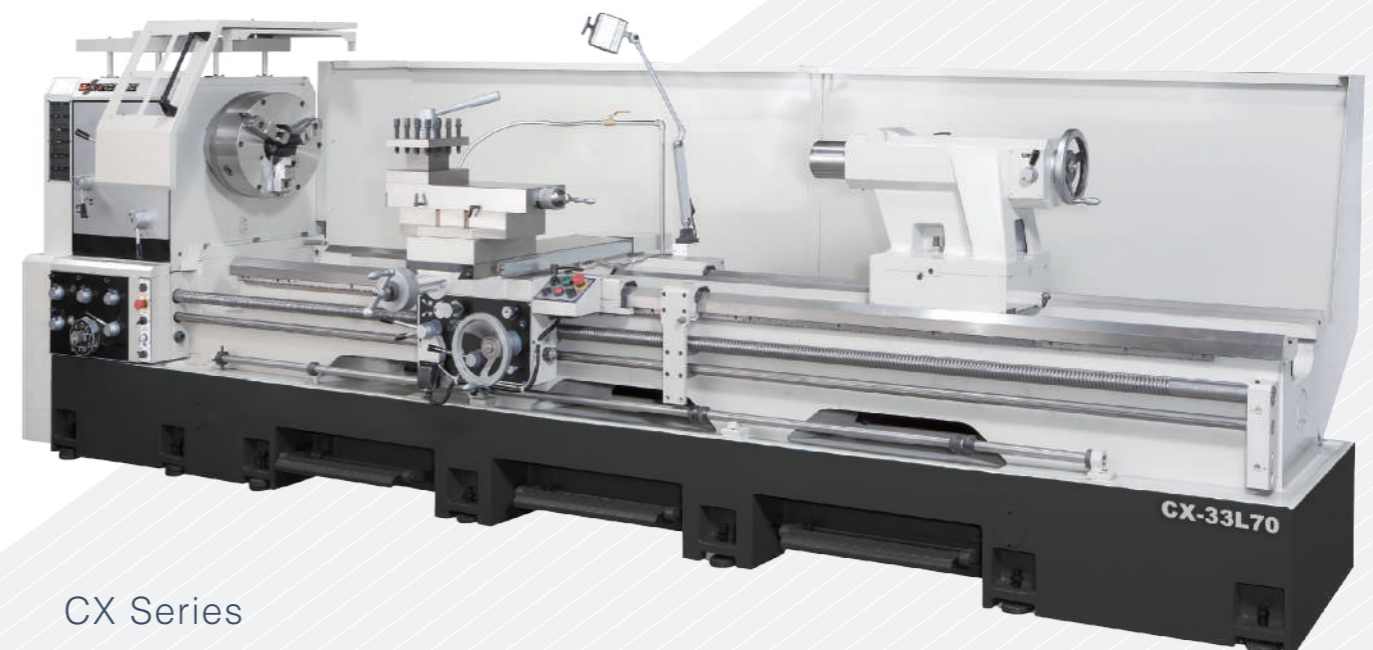


CL Series



INVERTER TRANSMISSION LATHE(OPT.):

1. Provides stable electric current, low power consumption and fine cutting trace.
2. Being controlled by a rotary switch, gear shifting is



CX Series

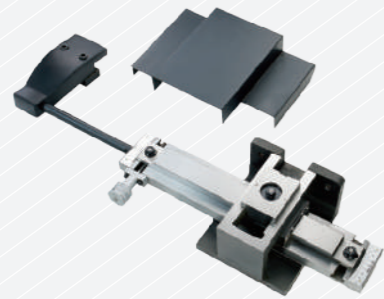


Bearings on the spindle are imported from Germany. Varied spindle bore diameters

OPTIONS



Change Gears for D.P. Taper Turning Attachment and Module Thread



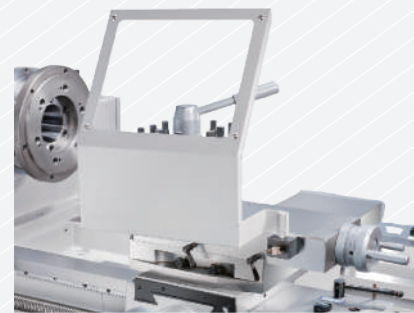
Chip Guard



Steady Rest



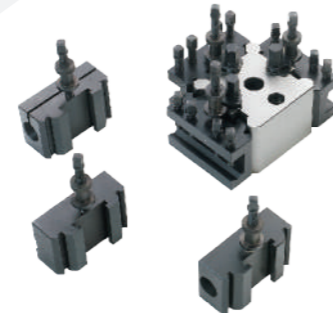
Follow Rest



Chuck Guard



Quick Change Tool Post American Tool Post



4-position Carriage Stop



Micro Carriage Stop



Rear Tool Post



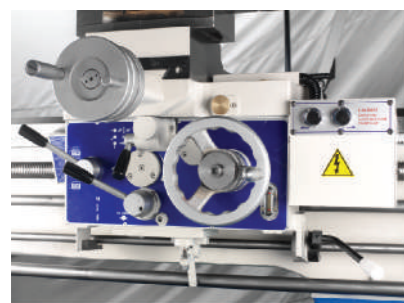
Rear Splash Guard



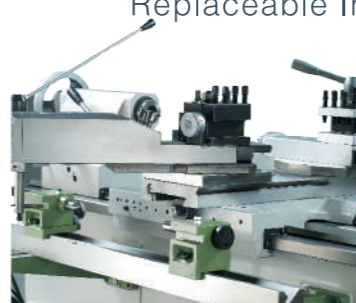
Face Plate



Driving Plate



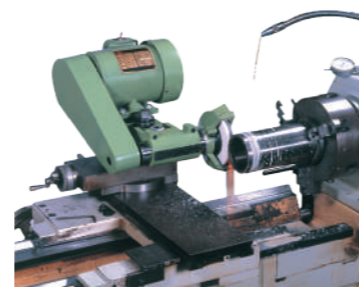
Rapid Traverse Device



Hydraulic Copying Machine



linear scale



ID/OD Grinder

SPECIFICATIONS

ITEM	UNIT	CS			CM	
		CS43	CS48	CS53	CM56	CM66
Swing Over Bed	mm	430(17")	470(18.5")	520(20.5")	560(22")	660(26")
Swing Over Cross Slide	mm	240(9.5")	280(11")	330(13")	340(13.4")	440(17.4")
Center Height	mm	215(8.5")	235(9.25")	260(10.25")	280(11")	330(13")
Center Distance	mm	560/760/1000/1500/2200 (22"/30"/40"/60"/90")	560/760/1000/1500/2200 (22"/30"/40"/60"/90")	560/760/1000/1500/2200 (22"/30"/40"/60"/90")	1500/2200 (60"/90")	1500/2200 (60"/90")
Swing Over Gap	mm	650(25.5")	690(27.125")	740(29.125")	788(31")	890(35")
Bed Width	mm	300(11.8")			350(13.75")	
Spindle Nose		ASA D1-6/D1-8(OPT.)			ASA D1-8	
Spindle Bore	mm	58(2.28")/80(3")(OPT.)		80(3")	85(3.4")/105(4")(OPT.)	
Taper of Spindle Bor		MT6/MT7(OPT.)			MT7	
Spindle Speed	rpm	Spindle bore 58(mm): 20~2000(12 STEPS.)/ Spindle bore 80(mm): 40~2000(12 STEPS.)			15-1500/14~1380(12 STEPS.)	
Inch Threads Range	TPI	4~56			2~56	
Metric Threads Range	mm	P0.5~P7			P0.5~P14	
Longitudinal Feeds Range	mm/rev	0.05~0.76(0.002"~0.03")			0.05~0.82(0.002"~0.032")	
Cross Feeds Range	mm/rev	0.03~0.49(0.0008"~0.011")			0.02~0.4(0.001"~0.0094")	
Leadscrew Diameter	mm	35(1.4")			38(1.5")	
Leadscrew Pitch	mm	6mm or 4TPI			6mm or 4TPI	
Taper of Tail Center		MT4			MT5	
Tail Spindle Travel	mm	150(5.875")			190(7.5")	
Tail Spindle Diameter	mm	58(2.28")	68(2.7")		75(2.95")	
Main Drive Motor	HP(KW)	5(3.75)/7.5(5.625)(OPT.)	7.5(5.625)/10(7.5)(OPT.)		7.5(5.625)/10(7.5)(OPT.)	
Coolant Pump	HP(KW)	1/8(0.1)			1/8(0.1)	
Compound Rest Travel	mm	125(4.921")			200(7.874")	
Cross Slide Travel	mm	250(9.8")	275(10.8")		350(13")	
Machine Dimensions	cm	L:165/189/215/265/342			L:278/353	
		W:81			W:99	
		H:119	H:122	H:125	H:125	H:130
Packing Dimensions	cm	L:182/200/228/279/355			L:294/367	
		W:95			W:115	
		H:168			H:193	
Net Weight	Kgs	1300/1380/1450/1600/2000	1350/1430/1500/1650/2050	1400/1480/1550/1700/2100	2200/2600	2250/2650
Gross Weight	Kgs	1400/1480/1570/1730/2170	1450/1530/1620/1780/2220	1500/1580/1670/1830/2270	2370/2800	2420/2850

- All specification, design and characteristics shown on this catalogue are subject to change without prior notice.

STANDARD ACCESSORIES OPTIONS ACCESSORIES

- Tool Box
- Centers
- Safety pin
- Screw wrench for cutter setting
- Back plate
- Coolant system
- 4-way tool post
- Auto-feed stopper ring
- Center sleeve
- Levelling pads
- 3-jaw scroll chuck
- 4-jaw independent chuck
- Face plate
- Steady rest
- Follow rest
- Work light
- 4-position carriage stop
- Micro carriage stop
- Live centers
- Rear cutter rest
- Taper turning attachment
- Rear splash guard
- Chuck guard
- American tool post
- Change gears for D.P. and module thread
- 5C lever collet closer
- Driving plate
- Quick change tool post
- linear scale
- Hydraulic copying machine
- Chip guard
- ID/OD Grinder
- Rapid Traverse(CL series)

SPECIFICATIONS

ITEM	UNIT	CL			
		CL56	CL66	CL76	CL83
Swing Over Bed	mm	560(22")	660(26")	760(30")	830(33")
Swing Over Cross Slide	mm	340(13.4")	440(17.4")	540(21.25")	610(24")
Center Height	mm	280(11")	330(13")	380(15")	415(16")
Center Distance	mm	1000/1500/2000/2500/3300/4300 (40"/60"/80"/100"/132"/172")			
Swing Over Gap	mm	788(31")	890(35")	990(39")	1060(42")
Bed Width	mm	400(15.75")			
Spindle Nose		ASA D1-8/D1-11(OPT.)		ASA D1-11	
Spindle Bore	mm	85(3.34")/120(4.5")(OPT.)		120(4.5")	
Taper of Spindle Bore		MT7			
Spindle Speed	rpm	Spindle Bore 85(mm): 15~1500(12 STEPS.)/ Spindle Bore 120(mm): 10~1000(12 STEPS.)			
Inch Threads Range	TPI	2~56			
Metric Threads Range	mm	P0.5~P14			
Longitudinal Feeds Range	mm/rev	0.05~0.82(0.002"~0.032")			
Cross Feeds Range	mm/rev	0.02~0.4(0.001"~0.0094")			
Leadscrew Diameter	mm	38(1.5")			
Leadscrew Pitch	mm	6mm or 4TPI			
Taper of Tail Center		MT5			
Tail Spindle Travel	mm	190(7.5")			
Tail Spindle Diameter	mm	85(3.4")			
Main Drive Motor	HP(KW)	10(7.5)/ 15HP/6P(11)(OPT.)		15HP/6P(11)	
Coolant Pump	HP(KW)	1/8(0.1)			
Compound Rest Travel	mm	200(8")			
Cross Slide Travel	mm	375(14.75")		450(17.75")	
Machine Dimensions	cm	L:238/290/347/398/473/555			
		W:103			
		H:126	H:131	H:137	H:141
Packing Dimensions	cm	L:270/315/361/410/485/588			
		W:115			
		H:196			
Net Weight	Kgs	2120/2420/2770/3120/3520/4420	2200/2500/2850/3200/3600/4500	2300/2600/2950/3300/3700/4600	2400/2700/3050/3400/3800/4700
Gross Weight	Kgs	2260/2590/2970/3350/3820/4820	2340/2670/3050/3430/3900/4900	2440/2770/3150/3530/4000/5000	2540/2870/3250/3630/4100/5100

- All specification, design and characteristics shown on this catalogue are subject to change without prior notice.

STANDARD ACCESSORIES OPTIONS ACCESSORIES

- | | | |
|-----------------------------------|----------------------------|-----------------------------|
| - Tool Box | - 3-jaw scroll chuck | - Rear splash guard |
| - Centers | - 4-jaw independent chuck | - Chuck guard |
| - Safety pin | - Face plate | - nd module thread |
| - Screw wrench for cutter setting | - Steady rest | - 5C lever collet closer |
| - Back plate | - Follow rest | - Driving plate |
| - Coolant system | - Work light | - Quick change tool post |
| - 4-way tool post | - 4-position carriage stop | - linear scale |
| - Auto-feed stopper ring | - Micro carriage stop | - Hydraulic copying machine |
| - Center sleeve | - Live centers | - Chip guard |
| - Levelling pads | - Rear cutter rest | - ID/OD Grinder |
| | - Taper turning attachment | - Rapid Traverse(CL series) |
| | - American tool post | |

ITEM	UNIT	CX		
		CX33	CX37	CX41
Swing Over Bed	mm	860(33.5")	960(38")	1060(42")
Swing Over Cross Slide	mm	625(24.75")	725(28.5")	825(32.5")
Swing Over Gap	mm	1180(46.5")	1280(50")	1370(54")
Width of Gap	mm	475(19")		
Center Distance	mm	1810/2310/3310/4310/5310/6310 (72"/92"/132"/172"/212"/252")		
Max. Length for Workpiece	mm	1650/2150/3150/4150/5150/6150 (65"/84.6"/124"/163.4"/202.75"/242")		
Spindle Bore	mm	158(6")/238(9")(OPT.)		
Spindle Nose		A2-11/A2-15(OPT.)		
Taper of Spindle Bore		MT7#1/20(OPT.)		
Spindle Speed	rpm	8-680/6-500		
Spindle Speed	TPI	12 STEPS.		
Spindle Center To Ground	mm	1178(46.4")	1228(48.3")	1278(50.3")
Longitudinal Feeds Range	mm/rev	0.05~0.7		
Cross Feeds Range	mm/rev	0.025~0.35		
Rapid Traverse	M/min	3.7(Z-axis)/1.8(X-axis)		
Inch Threads Range		2~28/in(D.P.4-56)		
Metric Threads Range	mm	0.8~14(M.P.0.5-7)		
Leadscrew pitch	mm	ø45 x 2 TPI or P12		
Cross slide Travel	mm	520(20.5")		
Compound Rest Travel	mm	330(13")		
Tool Shank		40X40		
Tail Spindle Diameter	mm	120(4")		
Tail Spindle Travel	mm	290(11.375")		
Taper of Tail Center		MT6#		
Bed Width	mm	510(20")		
Spindle motor	HP	20/30(OPT.)		
Bed		One Piece		
Machine Dimensions	cm	L:375/425/525/625/725/825 W:174		
Net Weight	Kgs	5700/6100/6800/7600/8400/9200		
Packing Dimensions	cm	L:373/425/531/625/728/850 H:211 W:185/185/191/191/191		

- All specification, design and characteristics shown on this catalogue are subject to change without prior notice.
- Foot Brake system is not available at lathe with Center Distance over 4310mm.

STANDARD ACCESSORIES OPTIONS ACCESSORIES

- | | |
|-------------------------------|----------------------------|
| - Back plate | - 3-Jaw scroll chuck |
| - Center sleeve | - 4-Jaw face plate |
| - Center | - Face plate |
| - Tool post wrench | - Taper turning attachment |
| - Anchor bolt | - Follow rest |
| - Tool box & Tool | - Rear splash guard |
| - Coolant pump | - 4 Position carriage stop |
| - Work light | - Micro carriage stop |
| - 4-Jaw independent chuck | - C.E. certificate |
| - 4-way rapid traverse device | - Quick change tool post |
| - Steady rest | - Live center |
| | - linear scale |