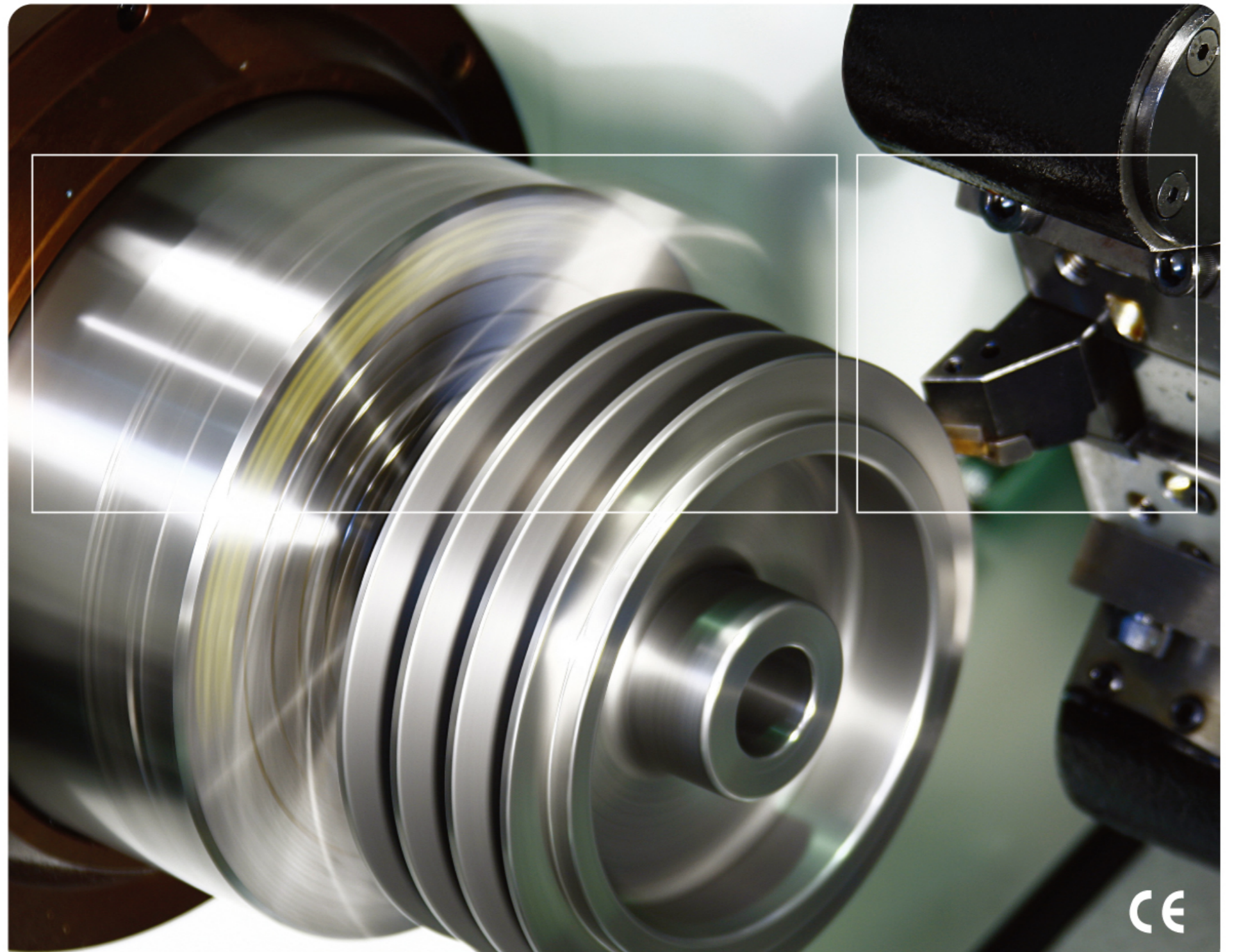




SUN MASTER



SUN MASTER

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Company History

Established in 1994, Shun Chuan Machinery Ind Co.,Ltd. specializes in the design and manufacture of metalworking machinery. Although Shun Chuan is still comparatively young, but derived extensive knowledge from a former reputed company's 25 years of precision manufacturing experience. Therefore, Shun Chuan is often referred to as "a young but experienced manufacturer."

Since establishment, Shun Chuan has dedicated itself to R&D and innovation based on extensive manufacturing experience. Shun Chuan has won a solid reputation for the dependability of its products.

In the early years, Shun Chuan produced the complete range of conventional lathes originally developed by the former reputed Company. Over the next several years, Shun Chuan constantly improved machine design, construction and developed new models including the currently popular conversational computerized lathes. At the moment, Shun Chuan produces the most complete range of lathes among Taiwan lathe manufacturers.

Shun Chuan machines have been sold to over 50 countries in Europe, America, Africa, the Middle East, and Asia. In addition to our current business, our new customers are gradually increasing providing Shun Chuan with the opportunity to expand our products and services. We will constantly develop new models to provide flexible choices and a competitive edge to our customers all over the world.

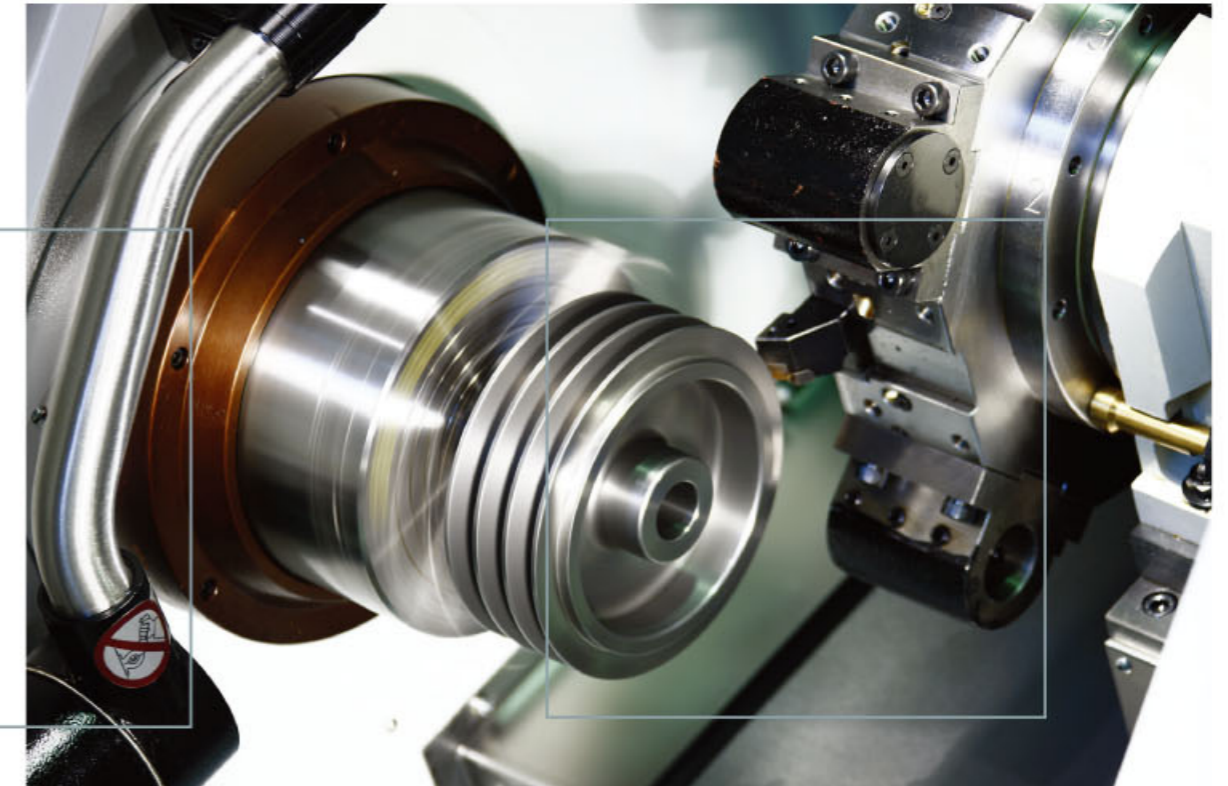
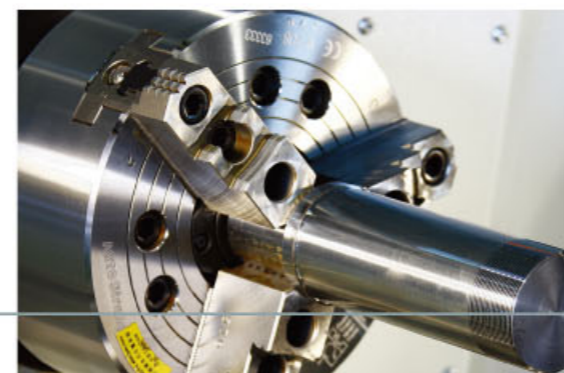
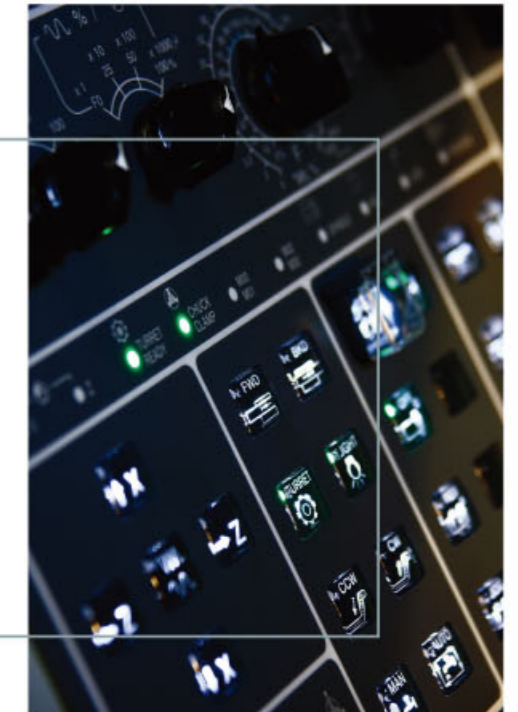
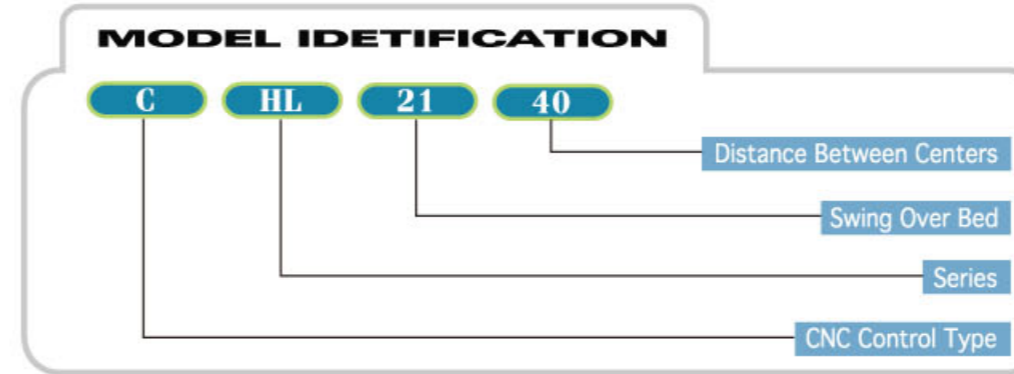


Advanced Turning Technology

Current Product Range

CNC LATHES:

-  **CNC 1440 / 1640 / 1660**
-  **CRL 1440 / 1640 / 1660**
-  **CNL 1740 / 1760**
-  **CSR 1840 / 1860**
-  **CML 2040 / 2060 / 2080**
-  **CHL 2140 / 2160 / 2180 / 21120**
-  **CHC 2240 / 2260 / 2280 / 22120**





CNC Series CNC-1440/1640/1660



STANDARD ACCESSORIES:

- 1 CNC controller: FANUC Oi Mate - TD
- 2 Hydraulic chuck 6" with rotary cylinder
- 3 Rotating center MT.4
- 4 Level pads --- 8pcs
- 5 Tool set & box
- 6 Machine light
- 7 Operation manual and parts list

OPTIONAL ACCESSORIES:

- 1 Electric H4 turret
- 2 Hydraulic P8 turret with boring bar holder Ø20 mm.....2 sets
boring bar holder Ø25 mm.....1 set
O.D / facing tool holder.....4 sets
I.D / facing tool holder.....1 set
- 3 Boring socket Ø6 x Ø20 ~ Ø16 x Ø20
- 4 Drilling socket MT.1 x Ø20
- 5 Steady rest w / ball bearing
- 6 High pressure coolant pump 3bar 750W
- 7 Quick change tool post
- 8 Hydraulic tailstock quill
- 9 Chip conveyor & chip bucket cart



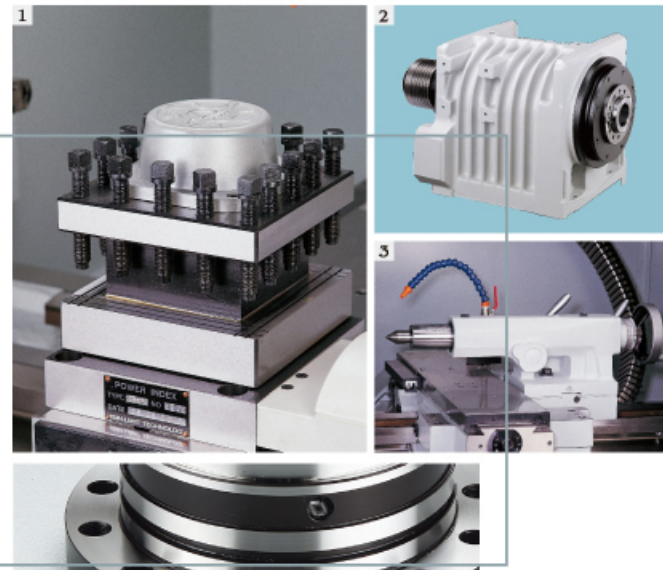
MODEL		CNC-1440	CNC-1640	CNC-1660
Capacity	No. of control axis	2 AXIS		
	Swing over bed	Ø360 mm (14.17")	Ø410 mm (16.14")	Ø410 mm (16.14")
	Distance between centers(Manual tailstock)	910 mm (35.82")	910 mm (35.82")	1420 mm (55.9")
	Max. working length	4 way tool post 700 mm (27.55") Hyd. P8 turret 680 mm (26.77")	700 mm (27.55") 680 mm (26.77")	1210 mm (47.63") 1190 mm (46.85")
Headstock and Main Spindle	Max. working dia.	4 way tool post Ø170 mm (6.7") Hyd. P8 turret Ø160 mm (6.29")	Ø220 mm (8.66") Ø210 mm (8.27")	
	Width of bed	260 mm (10.236")		
	Spindle nose, internal taper	ASA A2-5 , Ø52mm Taper 1/19.18		
	Spindle bore / Bar capacity	Ø46mm (1.811") / Ø36mm (1.417")		
Cross Slide (X-axis) and Carriage (Z-axis)	Range of spindle speed	40~5000 R.P.M.		
	No. of spindle speed	Infinitely variable		
	X-axis travel	4 way tool post 205 mm (8.07") Hyd. P8 turret 167 mm (6.57")	205 mm (8.07") 178 mm (7")	
	Z-axis travel	4 way tool post 865 mm (34") Hyd.P8 turret 710 mm (27.95")	865 mm (34") 710 mm (27.95")	1375 mm (54") 1220 mm (48.03")
Turret	AC servo motor (X-axis)	0.75kW 3.5N.m ~ FANUC β 4 / 4000is		
	AC servo motor (Z-axis)	1.2kW 7.0N.m ~ FANUC β 8 / 3000is		
	Dia. of ball screw (X-axis)	Ø20 mm (0.787") P5 C5		
	Dia. of ball screw (Z-axis)	Ø32 mm (1.259") P10 C5		
Tailstock	Rapid traverse speed (X-axis)	7.5 m/min (295.3 ipm)		
	Rapid traverse speed (Z-axis)	10 m/min (393.7 ipm)		
	Tool station	STD. Manual 4 way tool post	OPT. Electric H4	or Hydraulic P8
	Size of external turning tool	□20 mm	□20 mm	□20 mm
Motor	Boring bar diameter	Ø20 mm (0.787")		
	Manual style	Quill diameter Ø58 mm (2.283")		
	Taper of center	140 mm (5.5")		
	Main spindle motor	MT.No.4		
Tank Capacity	Hydraulic tank	STD.5.5kW / 7.5kW (30min, rated) OPT. 7.5kW / 11kW (30min. rated)		
	Coolant tank	STD. 0.75kW (1 HP) OPT. 1.5 kW (2 HP)		
	Hydraulic tank	1 / 6 HP		
	Coolant tank	40 Liter		
Measurements	Weight (Net / Gross) Approx.	2,100 kgs / 2,600 kgs	2,150 kgs / 2,650 kgs	2,250 kgs / 2,750 kgs
	Packing sizes	50 L		
	Length	70 L		
	Width x Height	70 L		
Weight (Net / Gross) Approx.		2,100 kgs / 2,600 kgs	2,150 kgs / 2,650 kgs	2,250 kgs / 2,750 kgs
Packing sizes		50 L		
Length		70 L		
Width x Height		70 L		

Specifications subject to change without notice.

1|1 Efficient, Accurate Power Turret (Optional) • The electric H4 turret is driven by a worm gear/worm wheel mechanism for convenient tool change. It is powered by a 375 W. motor with great clamping force up to 1 ton. • Specially designed post body prevents coolant and chips getting into post. Body will not move up and down during indexing. • P8 hydraulic turret and quick change tool post are also available upon request.

1|2 Unique Design Spindle • The spindle is supported by a single cylinder bearing housing equipped with SP level precision angular contact thrust bearings and lubricated with HI-class grease. The front spindle is designed with a labyrinthian collar and protector cover to prevent the entering of coolant or chips. • Encased in a well-ribbed headstock for maximum heat dissipation. Prevents any thermal distortion after long periods of turning thereby ensuring accurate cutting.

1|3 Tailstock • Rigid construction and increased throat depth on tailstock with MT#4 interior taper quill. When applying manual 4-way tool post, electric H4 turret or hydraulic P8 turret, it allows free cutting of long workpieces. When performing manual drilling, the quill can be set to zero for drill depth measurement. Can be optionally equipped with a hydraulic quill to automatically forward and reverse.



CRL Series

CRL-1440/1640/1660



STANDARD ACCESSORIES:

- | | |
|------------------------|-----------------------------------|
| 1 CNC controller | 4 Tool set and box |
| 2 Rotating center MT.4 | 5 Machine light |
| 3 Level pads - 8pcs | 6 Operation manual and parts list |

OPTIONAL ACCESSORIES:

- | | |
|--|---|
| 1 3-Jaws scroll 8" chuck | 7 Steady rest w / ball bearing |
| 2 4-Jaws independent 10" chuck | 8 High pressure coolant pump 3bar 750W |
| 3 Electric H4 turret | 9 Quick change tool post |
| 4 Hydraulic P8 turret with boring bar holder Ø20 mm.....2 sets | 10 Hydraulic tailstock quill |
| boring bar holder Ø25 mm.....1 set | 11 Chip conveyor & chip bucket cart |
| O.D / facing tool holder.....4 sets | 12 Hydraulic hollow chuck 8" with rotary cylinder / bar capacity Ø40 for A1-6 spindle only (Working length increased more 25mm) |
| I.D / facing tool holder.....1 set | |
| 5 Boring socket Ø6 xØ20~Ø16 x Ø20 | |
| 6 Drilling socket MT.1 x Ø20 | |

	MODEL	CRL-1440	CRL-1640	CRL-1660
Capacity	No. of control axis		2 AXIS	
	Swing over bed	Ø360 mm (14.17")	Ø410 mm (16.14")	Ø410 mm (16.14")
	STD. D1-6 distance between centers	890 mm (35")	890 mm (35")	1400 mm (55")
	STD. D1-6 max. 4 way tool post working length	750 mm (29.52")	750 mm (29.52")	1260 mm (49.61")
	Hyd. P8 turret	630 mm (24.80")	630 mm (24.80")	1140 mm (44.88")
	Max. 4 way tool post working dia.	Ø170 mm (6.7")	Ø220 mm (8.66")	Ø210 mm (8.27")
Headstock and Main Spindle	Hyd. P8 turret working dia.	Ø160 mm (6.29")	Ø210 mm (8.27")	
	Width of bed		260 mm (10.236")	
	Spindle nose, internal taper		STD. D1-6, MT. No.6	OPT. A1-6, MT. No.6
	Spindle bore		STD. Ø52.5 mm (2.066")	OPT. Ø51 mm (2")
Turret	Gear steps			L 25~480 R.P.M. H 481~3000 R.P.M.
	Spindle speed: / Range		Pneumatic change 2 steps/	
Cross Slide (X-axis) and Carriage (Z-axis)	Cross slide travel (X-axis) STD.	205 mm (8.07")	205 mm (8.07")	205 mm (8.07")
	Longitudinal travel (Z-axis) STD.	815 mm (32.08")	815 mm (32.08")	1325 mm (52.16")
	AC servo motor (X-axis)		0.75 kW 3.5 N.m ~ FANUC B 4 / 4000is	
	AC servo motor (Z-axis)		1.20 kW 7.0 N.m ~ FANUC B 8 / 3000is	
	Dia. of ball screw (X-axis)		Ø20 mm (0.787") P5 C5	
	Dia. of ball screw (Z-axis)		Ø32 mm (1.259") P10 C5	
Turret	Rapid traverse speed (X-axis)		7.5 m/min (295.3 ipm)	
	Rapid traverse speed (Z-axis)		10 m/min (393.7 ipm)	
Turret	Tool station	STD. Manual 4 way tool post	OPT. Electric H4 turret or	Hydraulic P8 turret
	Size of external turning tool	□20 mm	□20 mm	□20 mm
	Boring bar diameter			Ø20 mm (0.787")
Tailstock	Quill diameter		Ø58 mm (2.283")	
	Quill travel		140 mm (5.5")	
	Taper of center		MT.No.4	
Motor	Main spindle		5.5kW/7.5kW (30min, rated)	
	Hydraulic oil pump		OPT. 0.75 kW (1 HP)	OPT. 1.5 kW (2 HP)
	Forced lubrication for headstock		1/4 HP	
	Coolant pump		1/6 HP	
Tank Capacity	Hydraulic tank		OPT. 40 Litre	
	Coolant tank		50 L	
Measurements	Weight (Net / Gross) Approx.	2,100 kgs / 2,600 kgs	2,150 kgs / 2650 kgs	2,250 kgs / 2,750 kgs
	Packing sizes	Length	2470 mm (97.24")	
		Width x Height	Width 2030 mm (79.92") x Height 2200 mm (86.61")	

Specifications subject to change without notice.



1| Efficient, Accurate Power Turret (Optional) • The electric H4 turret is driven by a worm gear/worm wheel mechanism for convenient tool change. It is powered by a 375 W. motor with great clamping force up to 1 ton. • Specially designed post body prevents coolant and chips getting into post. Body will not move up and down during indexing. • P8 hydraulic turret and quick change tool post are also available upon request.

2| Headstock • Rugged headstock and gears are hardened by MAAG or REISHAUER. Ground for smooth, quiet and vibration-free running. • Pressurized cyclic lubrication from separate electric pump and oil reservoir provides a constant flow to all gears and bearings which maintains excellent thermal stability. Hot oil does not stay in the headstock thus reducing thermal expansion and workpiece intolerance. • The 4 parallel V-belt assures drive in extremely stable, smooth running with minimum vibration.

3| Convenient Manual Control • Providing convenient manual control for X, Z axis. Moveable operation control box is also equipped with two electronic handwheels. • Comprehensive, waterproof function keys and push buttons enhance operational convenience.



CNL Series CNL-1740/1760



STANDARD ACCESSORIES:

- 1 CNC Controller
- 2 Rotating center MT.4
- 3 Level pads - 6 pcs
- 4 Tool set and box
- 5 Machine light
- 6 Operation manual & parts list

OPTIONAL ACCESSORIES:

- 1 3-Jaw scroll 8" chuck
- 2 4-Jaw independent 10" chuck
- 3 Electric H4 turret
- 4 Hydraulic P8 turret with boring bar holder $\varnothing 20$ mm.....2 sets
boring bar holder $\varnothing 25$ mm.....1 set
O.D / facing tool holder.....4 sets
I.D / facing tool holder.....1 set
- 5 Boring socket $\varnothing 6 \times \varnothing 20 \sim \varnothing 16 \times \varnothing 20$
- 6 Drilling socket MT.1 x $\varnothing 20$
- 7 Steady rest w / ball bearing
- 8 High pressure coolant pump 3bar 750W
- 9 Quick change tool post
- 10 Hydraulic tailstock quill
- 11 Chip conveyor & chip bucket cart
- 12 Hydraulic hollow chuck 8" with rotary cylinder / bar capacity $\varnothing 40$ for A1-6 spindle only (Working length increased more 25mm)



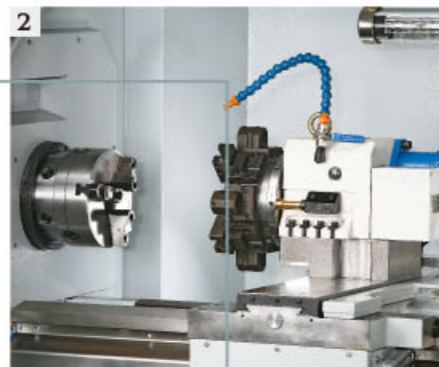
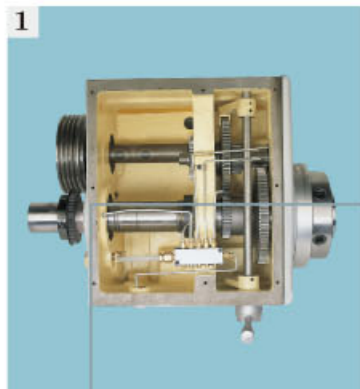
MODEL

CNL-1740

CNL-1760

Capacity	No. of control axis	2 AXIS	
	Swing over bed	$\varnothing 432$ mm (17")	
	STD. D1-6 distance between centers	950 mm (37.40")	1450 mm (57.08")
	STD. D1-6 max. 4 way tool post working length	800 mm (31.50")	1300 mm (51.18")
Headstock and Main Spindle	Max. 4 way tool post working diameter	650 mm (25.59")	1150 mm (45.27")
	Width of bed	230 mm (9.0")	
	Spindle nose, internal taper	STD. D1-6, MT. No.6	OPT. A1-6, MT. No.6
	Spindle bore	STD. $\varnothing 52.5$ mm (2.066")	OPT. $\varnothing 51$ mm (2")
Cross Slide (X-axis) and Carriage (Z-axis)	Gear steps	Pneumatic change 2 steps / Infinitely variable	
	Spindle speed: / Range	L 30~450 R.P.M. H 451~2800 R.P.M.	
Turret	Cross slide travel (X-axis) STD.	230 mm (9.05")	
	Longitudinal travel (Z-axis) STD.	900 mm (35.43")	1400 mm (55.11")
	AC servo motor (X-axis)	1.2kW 7.0N.m ~ FANUC $\beta 8 / 3000$ is	
	AC servo motor (Z-axis)	1.2kW 7.0N.m ~ FANUC $\beta 8 / 3000$ is	
	Dia. of ball screw (X-axis)	$\varnothing 20$ mm (0.787") P5 C5	
	Dia. of ball screw (Z-axis)	$\varnothing 40$ mm (1.57") P10 C5	
	Rapid traverse speed (Z-axis)	7.5 m/min (295.3 ipm)	
Tailstock	Tool station	STD. Manual 4 way tool post	OPT. Elec H4 or Hydraulic P8
	Size of external turning tool	$\square 20$ mm	$\square 20$ mm
	Boring bar diameter		$\varnothing 20$ mm (0.787")
Motor	Quill diameter	$\varnothing 68$ mm (2.677")	
	Quill travel	153 mm (6")	
	Taper of center	MT.No.4	
Tank Capacity	Main spindle continuous rated 30min. rated	STD. AC7.5 kW (10 HP) STD. AC11 kW (15 HP)	
	Hydraulic oil pump	OPT. 0.75kW (1HP) OPT. 1.5kW (2HP)	
	Forced lubrication for headstock	1/4 HP	
Measurements	Coolant pump	1/6 HP	
	Hydraulic tank	OPT. 25 Liter	OPT. 40 Liter
Measurements	Coolant tank	60 L	85 L
	Weight (Net / Gross) Approx.	2,150 kgs / 2650kgs	2,400 kgs / 2,900 kgs
	Packing sizes	Length 2660 mm (104.72") Width x Height 2015 mm (79.33") x 2240 mm (88.2")	

Specifications subject to change without notice.



111 Headstock (Gears and Bearings) • Headstock bearings and gears are supplied with oil delivered by a pump attached to take on the rear plinth. • A distributor within the headstock supplies oil to the drive bearings and gears.

121 Rear Hydraulic Turret P8 Station (Opt.)



CSR Series

CSR-1840/1860



STANDARD ACCESSORIES:

- 1 CNC Controller
- 2 Rotating center MT.4
- 3 Level pads6pcs
- 4 Tool set & box
- 5 Machine light
- 6 Operation manual & parts list

OPTIONAL ACCESSORIES:

- 1 3-Jaws scroll 8" chuck
- 2 4-Jaws independent 10" chuck
- 3 Electric H4 turret
- 4 Hydraulic P8 turret with boring bar holder $\varnothing 20$ mm.....2 sets
- 5 Boring bar holder $\varnothing 25$ mm.....1 set
- 6 Drilling socket M.T.1 x $\varnothing 20$
- 7 Steady rest w / ball bearing
- 8 High pressure coolant pump 3bar 750W
- 9 Quick change tool post
- 10 Hydraulic tailstock quill
- 11 Chip conveyor & chip bucket cart
- 12 Hydraulic hollow chuck 8" with rotary cylinder / bar capacity $\varnothing 52$
- O.D / facing tool holder.....4 sets
- I.D / facing tool holder.....1 set



	MODEL	CSR-1840	CSR-1860
Capacity	No. of control axis	2 AXIS	
	Swing over bed	$\varnothing 460$ mm (18.11")	
	STD. D1-6 distance between centers	900 mm (35.43")	1400 mm (55.11")
	STD. D1-6 max. 4 way tool post working length	750 mm (29.52")	1250 mm (49.21")
	Hyd. P8 turret	600 mm (23.62")	1100 mm (43.3")
	Max. 4 way tool post working diameter	260 mm (10.2")	
Headstock and Main Spindle	Hyd. P8 turret	250 mm (9.84")	
	Width of bed	305 mm (12")	
	Spindle nose, internal taper	STD. A2-6, $\varnothing 69$ mm Taper 1/20	OPT. D1-6, MT.No.6
	Spindle bore	STD. $\varnothing 65$ mm (2.56")	OPT. $\varnothing 60$ mm (2.36")
Spindle speed:	Gear steps	Pneumatic change 2 steps /	L 27~830 R.P.M.
	Range	Infinitely variable	H 831~2500 R.P.M.
Cross Slide (X-axis) and Carriage (Z-axis)	Cross slide travel (X-axis) STD.	230 mm (9.05")	
	Longitudinal travel (Z-axis) STD.	850 mm (33.46")	1350 mm (53.15")
	AC servo motor (X-axis)	1.2 kW 7.0N.m ~ FANUC $\beta 8 / 3000$ is	
	AC servo motor (Z-axis)	1.2 kW 7.0N.m ~ FANUC $\beta 8 / 3000$ is	
	Dia. of ball screw (X-axis)	$\varnothing 20$ mm (0.787") P5 C5	
	Dia. of ball screw (Z-axis)	$\varnothing 40$ mm (1.57") P10 C5	
Rapid traverse speed (X-axis)	7.5 m/min (295.3 ipm)		
Rapid traverse speed (Z-axis)	10 m/min (393.7 ipm)		
Turret	Tool station	STD. Manual 4 way tool post	OPT. Electric H4 or Hydraulic P8
	Size of external turning tool	$\square 25$ mm	$\square 20$ mm
	Boring bar diameter	$\varnothing 20$ mm (0.787")	
Tailstock	Quill diameter	$\varnothing 68$ mm (2.677")	
	Quill travel	153 mm (6")	
	Taper of center	MT. No.4	
Motor	Main spindle	continuous rated	STD. AC7.5 kW (10 HP)
		30min. rated	STD. AC11 kW (15 HP)
	Hydraulic oil pump	OPT. 0.75kw (1HP)	OPT. 1.5kw (2HP)
	Forced lubrication for headstock	1/4 HP	
Tank Capacity	Coolant pump	1/6 HP	
	Hydraulic tank	OPT. 25 Liter	OPT. 40 Liter
Coolant tank	60 L	85 L	
Measurements	Weight (Net / Gross) Approx.	2,350 kgs / 2,850 kgs	2,600 kgs / 3,100 kgs
	Packing sizes	Length	2860 mm (112.6")
		Width x Height	Width 2115 mm (83.3") x Height 2240 mm (88.2")

Specifications subject to change without notice.



1|1 Advanced User-Friendly CNC Control Interface

2|2 Well-Machined Parts



CML Series

CML-2040/2060/2080



STANDARD ACCESSORIES:

- 1 CNC Controller
- 2 Rotating center MT.5
- 3 Level pads (2040/2060/2080).....8pcs

- 4 Tool set & box
- 5 Machine light
- 6 Operation manual & parts list

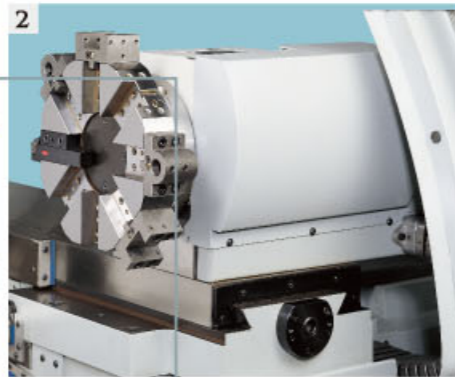
OPTIONAL ACCESSORIES:

- 1 3-Jaw scroll 12" chuck
- 2 4-Jaw independent 14" chuck
- 3 Elec.H4 turret
- 4 Hydraulic P8 turret with boring bar holder $\varnothing 20$ mm.....2 sets facing tool holder $\square 20$ mm.....2 sets
- 5 Boring socket $\varnothing 6 \times \varnothing 20 \sim \varnothing 16 \times \varnothing 20$
- 6 Drilling socket MT.1 $\times \varnothing 20$
- 7 Steady rest w / ball bearing

- 8 High pressure coolant pump 3bar 750W
- 9 Quick change tool post
- 10 Manual quill feed 1/1 & 1/4
- 11 Hydraulic tailstock quill
- 12 Automatic gears shift by M code
- 13 Hydraulic hollow chuck 10" with rotary cylinder / bar capacity $\varnothing 68$ for A2-8 spindle only (Working length increased more 70mm)

MODEL		CML-2040	CML-2060	CML-2080	
Capacity	No. of control axis	2 AXIS			
	Swing over bed	$\varnothing 533$ mm (20.98")			
	STD. D1-8 distance between centers	845 mm (33.27")	1345 mm (52.95")	1845 mm (72.64")	
	STD. D1-8 max. 4 way tool post working length	620 mm (24.41")	1120 mm (44.09")	1620 mm (63.78")	
	Hyd. P8 turret	530 mm (20.87")	1030 mm (40.55")	1530 mm (60.24")	
	Max. working diameter	$\varnothing 305$ mm (12")			
	Width of bed	345 mm (13.58")			
Headstock and Main Spindle	Spindle nose, internal taper	STD. D1-8 OPT. A2-8, $\varnothing 85$ mm Taper 1/19.18			
	Spindle bore	$\varnothing 80$ mm (3.149")			
	Spindle speed: / Range	Manual change 4 steps / Infinitely variable	STEP 1 20~60 R.P.M STEP 2 61~200 R.P.M STEP 3 201~670 R.P.M STEP 4 671~2000 R.P.M		
	Gear steps	STEP 1 20~60 R.P.M STEP 2 61~200 R.P.M STEP 3 201~670 R.P.M STEP 4 671~2000 R.P.M			
Cross Slide (X-axis) and Carriage (Z-axis)	Cross slide travel (X-axis)	300 mm (11.8")			
	Longitudinal travel (Z-axis) STD.	720 mm (28.3")	1220 mm (48.0")	1720 mm (67.7")	
	AC servo motor (X-axis)	1.8kW 11N.m ~ FANUC $\beta 12$ / 3000is			
	AC servo motor (Z-axis)	2.5kW 20N.m ~ FANUC $\beta 22$ / 2000is			
	Dia. of ball screw (X-axis)	$\varnothing 25$ mm (0.98") P5 C5			
	Dia. of ball screw (Z-axis)	$\varnothing 50$ mm (1.97") P10 C5			
	Rapid traverse speed (X-axis) Rapid traverse speed (Z-axis)	5 m/min (196.8 ipm) 7.5 m/min (295.3 ipm)			
Turret	Tool station	STD. Manual 4 way tool post	OPT. Hydraulic P8		
	Size of external turning tool	$\square 25$ mm	$\square 20$ mm		
	Boring bar diameter	$\varnothing 20$ mm (0.787")			
Tailstock	Quill diameter	$\varnothing 85$ mm (3.346")			
	Quill travel	178 mm (7")			
	Taper of center	MT.No.5			
Motor	Main spindle	Inverter Motor AC 7.5 kW (10 HP), Yaskawa Inverter (15 HP)			
	Hydraulic oil pump	OPT. 0.75 kW (1HP)	OPT. 1.75 kW (2HP)		
	Forced lubrication for headstock	1/4 HP			
	Automatic gear shift	OPT. 60 W			
Tank Capacity	Coolant pump	1/6 HP			
	Hydraulic tank	OPT. 25 Liter	OPT. 40 Liter		
	Coolant tank	60 L	120 L	180 L	
Measurements	Weight (Net / Gross) Approx.	3,100 kgs / 3,500 kgs	3,500 kgs / 3,900 kgs	3,900 kgs / 4,300 kgs	
	Packing sizes	Length	2950 mm (116.1")	3450 mm (135.8")	3950 mm (155.5")
		Width x Height	Width 2200 mm (86.6") x Height 2240 mm (88.2")		

Specifications subject to change without notice.



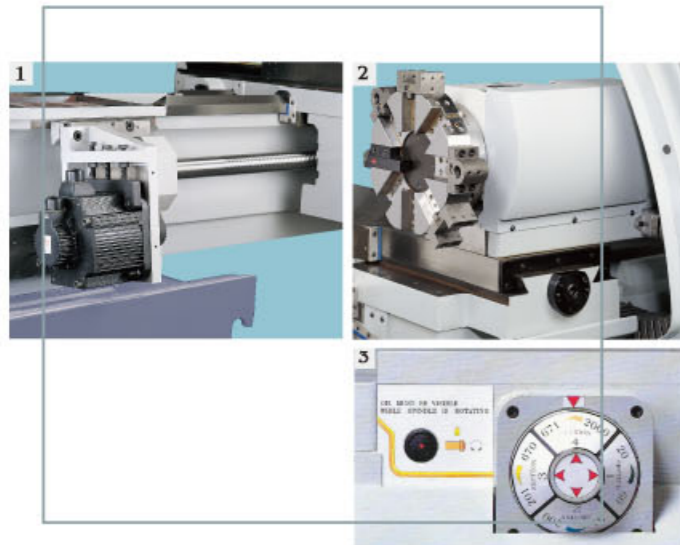
111 Extra Rigid Solid Construction Bracket, for Ball Screw and Motor (Z-axis)

121 8-Station Hydraulic Turret (Optional)



CHL Series

CHL-2140/2160/2180/21120



1|1 Extra Rigid Solid Construction Bracket for Ball Screw and Motor (Z-axis)

2|2 8-Station Hydraulic Turret (Optional)

3|3 Headstock • Four gear range of spindle speeds driven by built-in AC motor. The operator can input the required spindle speed by M code, and the spindle will automatically reach the required speed. • The headstock has forced oil lubrication, with lubricant pumped from a large tank to maintain constant temperature. • The 3 ultra-precision bearing spindle support maintains stability in heavy cuts. Ø80 mm (Ø3.15") spindle bore through diameter shafts. • ASA A2-8 short taper for power chuck or Cam-Lock D1-8 spindle nose for quick and accurate chuck mounting.

STANDARD ACCESSORIES:

- 1 CNC Controller
- 2 Rotating center MT.5
- 3 Level pads (2140/2160/2180) 8pcs
- Level pads (21120) 10pcs
- 4 Tool set and box
- 5 Machine light
- 6 Operation manual & parts list

OPTIONAL ACCESSORIES:

- 1 3-Jaw scroll 12" chuck
- 2 4-Jaw independent 14" chuck
- 3 Hyd. VDI 40 disc V8 w/o tool holder
- 4 Hydraulic P8 turret with boring bar holder Ø32 mm.....2 sets
- facing tool holder □25 mm.....2 sets
- 5 Boring socket Ø8 x Ø32~Ø25 x Ø32
- 6 Drilling socket MT.1 x Ø32, MT.2 x Ø32, MT.3 x Ø32
- 7 Steady rest w / ball bearing
- 8 High pressure coolant pump 3bar 750W
- 9 Quick change tool post
- 10 Manual quill feed 1/1 & 1/4
- 11 Hydraulic tailstock quill
- 12 Chip conveyor & chip bucket cart
- 13 Hydraulic hollow chuck 10" with rotary cylinder / bar capacity Ø68 (Working length increased more 70mm)

MODEL	CHL-2140	CHL-2160	CHL-2180	CHL-21120		
Capacity	2 AXIS					
No. of control axis	2 AXIS					
Swing over bed	Ø533 mm (20.98")					
STD. D1-8 distance between centers	845 mm (33.27")	1345 mm (52.95")	1845 mm (72.64")	2845 mm (112.0")		
4 way tool post	620 mm (24.41")	1120 mm (44.09")	1620 mm (63.78")	2620 mm (103.1")		
	530 mm (20.87")	1030 mm (40.55")	1530 mm (60.24")	2530 mm (99.61")		
	490 mm (19.29")	990 mm (38.98")	1490 mm (58.66")	2490 mm (98.03")		
Hyd. P8 turret						
Hyd. VDI disc						
Max. working diameter	Ø305 mm (12")					
Width of bed	345 mm (13.58")					
Spindle nose, internal taper	STD. D1-8 OPT.A2-8, Ø 85 mm Taper 1/19.18					
Spindle center sleeve	Ø85 mm Taper 1/19.18 x MT.No.5					
Spindle bore	Ø80 mm (3.149")					
Spindle speed: Gear steps / Range	M code automatic 4 steps /					
	M41 20~60 R.P.M.					
	M42 61~200 R.P.M.					
	M43 201~670 R.P.M.					
M44 671~2000 R.P.M.						
Cross Slide (X-axis) and Carriage (Z-axis)	Cross slide travel (X-axis) STD. 300 mm (11.8")					
	Longitudinal travel (Z-axis) STD.	720 mm (28.3")	1220 mm (48.0")	1720 mm (67.7")	2720 mm (107.1")	
	AC servomotor (X-axis)	1.8kW 11N.m ~ FANUC β 12 / 3000is				
	AC servomotor (Z-axis)	2.5kW 20N.m ~ FANUC β 22 / 2000is				
	Dia. of ball screw (X-axis)	Ø25 mm (0.98") P5 C5				
	Dia. of ball screw (Z-axis)	Ø50 mm (1.97") P10 C5		Ø63 mm (2.48") P10 C5		
Rapid traverse speed (X-axis)	7.5 m/min (295 ipm)					
Rapid traverse speed (Z-axis)	10 m/min (394 ipm)					
Turret	Tool station	STD. Manual 4 way tool post	OPT. Hyd. VDI V8	or Hydraulic P8		
	Size of external turning tool	□ 25 mm	□ 25 mm	□ 25 mm		
	Boring bar diameter		Ø40 mm (1.575")	Ø32 mm (1.26")		
Tailstock	Quill diameter	Ø85 mm (3.346")				
	Quill travel	178 mm (7")				
	Taper of center	MT.No.5				
Motor	Main spindle (continuous rated)	AC 9 kW (12 HP) Wide range heavy duty FANUC AC spindle motor				
	(30 min. rated)	AC 11 kW (15 HP) MODEL 8iIp18/6000				
	Hydraulic oil pump	OPT. 0.75 kW (1HP)		OPT. 1.5 kW (2HP)		
	Forced lubrication for headstock	1/4 HP				
	Automatic gears shift	60 W				
Coolant pump	1/6 HP					
Tank Capacity	Hydraulic tank	OPT. 25 Litre		OPT. 40 Litre		
	Coolant tank	60 L	120 L	180 L	240 L	
Measurements	Weight (Net / Gross) Approx.	4,050 kgs / 4,450 kgs	4,400 kgs / 4,900 kgs	4,800 kgs / 5,400 kgs	5,300 kgs / 6,000 kgs	
	Packing sizes	Length	3200 mm (126")	3700 mm (145.7")	4200 mm (165.4")	5200 mm (204.7")
		Width x Height	Width 2300 mm (90.6") x Height 2240 mm (88.2")			

Specifications subject to change without notice.



CHC Series

CHC-2240/2260/2280/22120



STANDARD ACCESSORIES:

- | | |
|--|---------------------------------|
| 1 CNC Controller: FANUC Oi Mate-TD | 5 Tool set and box |
| 2 Hydraulic chuck 10" with rotary cylinder | 6 Machine light |
| 3 Rotating center MT.5 | 7 Operation manual & parts list |
| 4 Level pads (2240/2260/2280).....8pcs | |
| Level pads (22120).....10pcs | |

OPTIONAL ACCESSORIES:

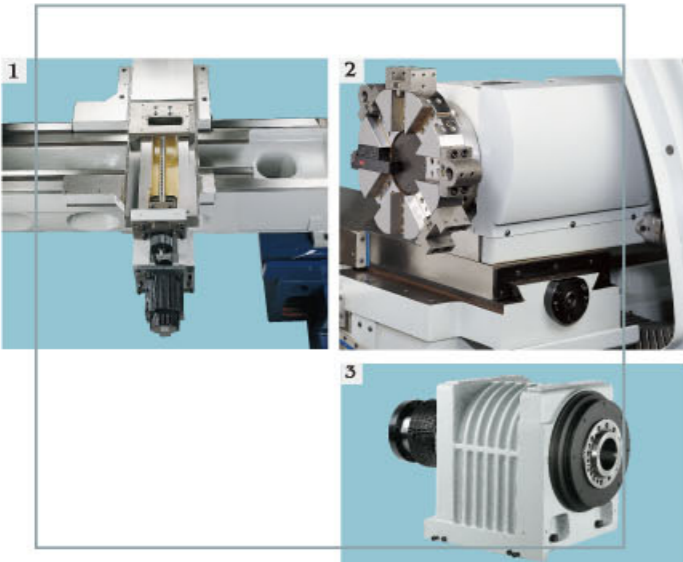
- | | |
|---|--|
| 1 Hyd. VDI 40 disc V8 w/o tool holder | 5 Steady rest w / ball bearing |
| 2 Hydraulic P8 turret with boring bar holder \square 25mm..... 2 sets | 6 High pressure coolant pump 3bar 750W |
| facing tool holder \square 25mm..... 2 sets | 7 Quick change tool post |
| 3 Boring socket \varnothing 8 x \varnothing 32~ \varnothing 25 x \varnothing 32 | 8 Manual quill feed 1/1 & 1/4 |
| 4 Drilling socket MT.1 x \varnothing 32, MT.2 x \varnothing 32, MT.3 x \varnothing 32 | 9 Hydraulic tailstock quill |
| | 10 Chip conveyor & chip buck cart |



MODEL

	CHC-2240	CHC-2260	CHC-2280	CHC-22120	
Capacity			2 AXIS		
No. of control axis			2 AXIS		
Swing over bed			\varnothing 550mm (21.653")		
Distance between centers	870mm (34.25")	1370mm(53.93")	1870mm(73.62")	2870mm(113.0")	
Max. working length	4 way tool post	680mm (26.77")	1180mm(46.45")	1680mm(66.14")	
	Hyd. P8 turret	590mm (23.22")	1090mm(42.91")	1590mm(62.60")	
	Hyd. VDI disc	550mm (21.65")	1050mm(41.33")	1550mm(61.02")	2550mm(100.4")
Max. working diameter			\varnothing 325mm (12.8")		
Width of bed			345mm (13.58")		
Headstock and Main Spindle	Spindle nose , Internal taper	ASA A2-8, \varnothing 97mm Taper 1/20			
	Spindle bore / Bar capacity	\varnothing 91 mm (3.582") / \varnothing 78 mm (3.07")			
	Range of spindle speed	35 ~ 3500 R.P.M			
	No. of spindle speed	Infinitely variable			
Cross Slide (X-axis) and Carriage (Z-axis)	Cross slide travel (X-axis) STD.	300mm (11.8")			
	Longitudinal travel (Z-axis) STD.	780 mm (30.7")	1280 mm (50.4")	1780 mm (70.1")	2780 mm (109.4")
	AC servo motor (X-axis)	1.8kW 11N.m ~ FANUC β 12 / 3000is			
	AC servo motor (Z-axis)	2.5kW 20N.m ~ FANUC β 22 / 2000is			
	Dia. of ball screw (X-axis)	\varnothing 25mm (0.98") P5 C5			
	Dia. of ball screw (Z-axis)	\varnothing 50 mm (1.97") P10 C5		\varnothing 63 mm (2.48") P10 C5	
Turret	Rapid traverse speed (X-axis)	7.5 m/min (295 ipm)			
	Rapid traverse speed (Z-axis)	10 m/min (394 ipm)			
	Tool station	STD. Manual 4 way tool post	OPT. Hyd. VDI V8	or	Hydraulic P8
Tailstock	Size of external turning tool	\square 25 mm		\square 25 mm	
	Boring bar diameter	\varnothing 40 mm (1.575")		\varnothing 32 mm (1.26")	
	Quill diameter	\varnothing 85mm (3.346")			
Motor	Quill travel	178mm (7")			
	Taper of center	MT. No.5			
	Main spindle (continuous rated)	AC 9 kW (12 HP) Wide range heavy duty FANUC AC spindle motor			
Tank Capacity	(30 min. rated)	AC 11 kW (15 HP) MODEL β iP18/6000			
	Hydraulic oil pump	STD. 0.75kW (1 HP) OPT. 1.5 kW (2 HP)			
	Coolant pump	1/6 HP			
Measurements	Hydraulic tank	STD. 25 Litre OPT. 40 Litre			
	Coolant tank	60 L	120 L	180 L	240 L
Weight (Net/Gross) Approx.		4,050 kgs/4,450 kgs	4,400 kgs/4,900 kgs	4,800 kgs/5,400 kgs	5,300 kgs/6,000 kgs
	Packing sizes	Length	3200 mm (126")	3700 mm (145.7")	4200 mm (165.4")
	Width x Height	Width 2300 mm (90.6") x Height 2230 mm (87.8")			

Specifications subject to change without notice.



- 1| Enlarged Saddles and Fully Supported Cross Slide (X-axis) • Bed ways and cross slide are hardened and ground to min HS70. •Turcite "B" coating between the bed and carriage.
- 2| 8-Station Hydraulic Turret (Optional)
- 3| Unique Design Spindle • The spindle is supported by a single cylinder bearing housing equipped with SP level precision double row cylindrical roller bearings angular contact thrust bearings and lubricated with HI-class grease. The front spindle is designed with a labyrinthian collar and protector cover to prevent the entering of coolant or chips. • Encased in a well-ribbed headstock for maximum heat dissipation. Prevents any thermal distortion after long periods of turning thereby ensuring accurate cutting.