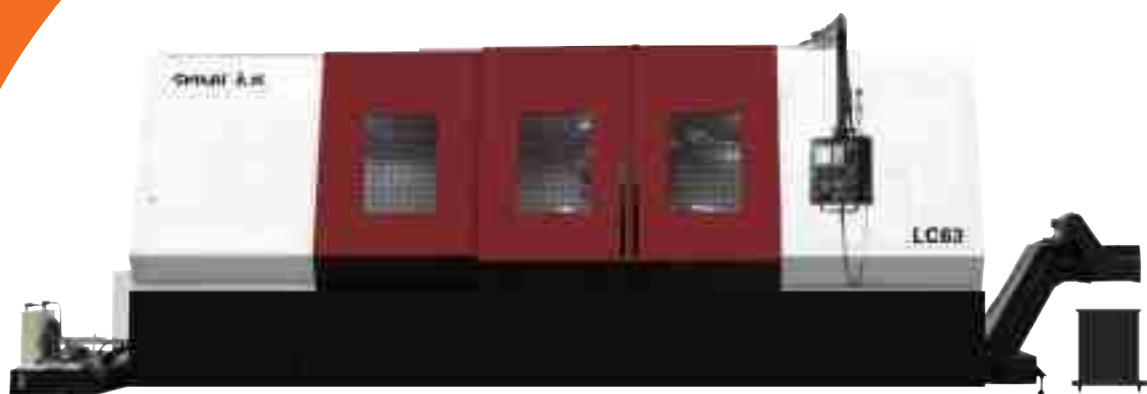


# LC Series Hydraulic cylinder CNC Lathe

## LC系列液压缸数控车床



 **新誉集团**  
New United Group

**SHINRI® 新瑞**

**江苏新瑞重工科技有限公司**  
JIANGSU SHINRI HEAVY INDUSTRY SCIENCE & TECHNOLOGY CO., LTD.

LC系列液压缸数控车床系三坐标（几何轴两个、尾架驱动轴一个）两轴联动、半闭环控制全功能数控车床。本机床控制系统采用日本FANUC 0i-TD系统和 $\alpha$ iF纵横向、 $\beta$ iF尾架伺服驱动系统，配备RS232标准通讯接口和图形功能（带刀具路径图形）。

本系列机床采用模块化设计，可以根据配置的不同变化和用户的特殊要求，提供具备特殊功能或个性化产品，同时还可以配成车削中心或双主轴车削中心产品。

### 机床特点

- ☑ 卧式倾斜75°床身，高刚性的设计，导轨经淬硬处理；
- ☑ 机电液一体化设计，结构紧凑，布局合理，操作与维修方便；
- ☑ 采用高性能的主轴伺服系统，变速范围大，可实现恒线速切削；
- ☑ 纵、横向驱动采用高性能交流伺服电机及高精度滚珠丝杠，定位精度高，动作灵活可靠；
- ☑ 采用自动集中润滑装置，润滑充分可靠，润滑周期自动控制；
- ☑ 配置编程尾架，回转精度高，与主轴随动性能好，方便可靠，采用伺服电机及滚珠丝杠驱动，移动行程大、速度快，移动至工作位置后采用液压双向自动锁紧定位；
- ☑ 配置伺服转塔刀架，可快速正反向就近自动换刀；
- ☑ 冷却系统采用高扬程软体泵，具备强劲的切屑清理和冷却效果；
- ☑ 采用液压动力卡盘，上、下料方便可靠，减轻工人劳动强度；
- ☑ 配置带滚轮可调式托料架，方便上、下料，调整手柄安装在正面，调整方便；
- ☑ 采用悬挂式可旋转操纵台，操作方便；
- ☑ 机床防护门推拉轻便，内防护板安装牢固可靠；
- ☑ 机床整体结构形式方便缸筒类零件的工艺安排和精度保证。

### 机床加工对象和用途

- ☑ 加工几何形状复杂，尺寸繁多，精度要求高的缸体类零件内止口；
- ☑ 加工圆柱面、圆锥面、阶梯面、球面及其它各种回转曲面；
- ☑ 加工各种公、英制内外螺纹；
- ☑ 加工外圆、切槽及倒角，进行钻、扩、铰、滚压及内孔车削加工；
- ☑ 适用于各种缸体类零件的大、中、小批量及单件生产。

LC Series Hydraulic cylinder CNC lathe is a three-axis (two geometric axes, one tailstock drive shaft) two-axis linkage, semi-closed loop control full function digital control lathe. The system adopts Japanese FANUC 0i-TF system,  $\alpha$ iF vertical and horizontal direction, its tail frame servo drive system, with RS232 standard communication interface. (With tool path graph)

Adopt modularization design to satisfy the special requirements from customers according to the different configurations. Provide special functional or personal products. Turning center or double spindle turning center can be equipped at the same time.

## Main Feature

- ☑ Lathe bed tilts 75° horizontally, with high rigid design and hardened guide pair.
- ☑ Electromechanical and hydraulic integration design, compact structure, reasonable layout, the convince of the chip removal and maintenance.
- ☑ Adopts high-performance and frequency conversion motor or spindle servo system, the range of the shifting is wide to realize constant linear cutting.
- ☑ Adopts high-performance servo AC motor vertically and horizontally ensures high positioning accuracy and flexible and reliable action.
- ☑ Automatic concentrated oil lubrication device is sufficient and reliable and the lubricate period is automatic controlled.
- ☑ Configuration programmable tailstock for high rotary accuracy and good follow-up performance with the spindle, result in convenient and reliable. Driven by servo motor and ball screw, result in large travel and fast speed, two-way automatic locking positioning after moving to the working position.
- ☑ Configuration servo turret for fast forward and approach automatic tool change.
- ☑ The cooling system adopts the high-lift soft pump, which has strong chip cleaning and cooling effect.
- ☑ Hydraulic power chuck is adopted to make loading and unloading, convenient and reliable and reduce labor intensity of workers.
- ☑ Configuration adjustable material carrier with roller for conveniently loading and unloading. The adjustment handle is installed on the front for easy adjustment.
- ☑ The hanging rotatable control board is adopted for convenient operation;

- ☑ The protective door of the machine is easy to push and pull.
- ☑ The overall structure of the machine is convenient for the technological arrangement and accuracy assurance of the cylinder parts.

## Processing Object And Use

- ☑ Cylinder type parts inside the mouth, with complex geometric shape, various size, high precision requirements are machinable.
- ☑ The parts with cylindrical surface, conical surface, stepped surface, spherical and other various rotary surfaces are machinable.
- ☑ Various metric, imperial internal and external threads are machinable.
- ☑ Turning round ,grooving, chamfering, Drilling, expanding, reaming, rolling and turning the inner hole.
- ☑ Suitable for large, medium and small batch and single piece production of various cylinder parts.



快速响应



国内外领先



安全保障

☑ 性能**稳定**

☑ 配套**先进**



# Main Specifications

## 主要规格

规格	技术参数	单位	LC20	LC30
加工能力 Machining capacity	床身防护上最大回转直径 Max.swing over bed proction	mm	φ 560	φ 660
	床鞍上最大回转直径 Max.swing over bed saddle	mm	φ 460	φ 560
	最大车削直径 Max.turning diameter	mm	φ 400	φ 450
	外圆最小车削直径 Min.turning diameter	mm	0 (刀尖过主轴中心) tool nose through the spindle center	0 (刀尖过主轴中心) tool nose through the spindle center
	最大车削长度 Max.turning length	mm	2000/3000(外圆) OD	2500(外圆) OD
行程 Travel	最大行程 X/Z Max.travel	mm	245/2160/3160	270/2550
主轴箱 spindle box	主轴转速范围 Spindle speed range	r/min	20 ~ 1250	20 ~ 2000
	主轴拐点转速 Spindle turning point speed	r/min	250	133
	主轴头部型号 Spinde nose type code		A <sub>2</sub> -8	A <sub>2</sub> -8
	主轴前轴径 Spinde front axis diameter	mm	φ 130	φ 140
	锥孔锥度 Spindle taper	公制	80	100
	主轴通孔直径 Spindle hole diameter	mm	φ 68	φ 80
	主轴中心至床面高度 Distance from spindle centre to the bed	mm	355	420
	主轴中心至地面高度 Distance from spindle centre to the ground	mm	1050	1150
编程尾架 prommgoamal tailstock	头部型号/锥孔规格 Spinde nose type code/Spindle taper type		A <sub>2</sub> -6	莫氏6# Mose
	结构型式 structure type		主轴式装卡盘 spindle type chuck	芯轴式装死顶尖 shaft type dead center
	锁紧力范围 locking force range	N	3000-6000	4000-10000
	行程 travel	mm	全行程 total travel2200, 单一工件 single workpiece ≥ 1000	全行程total travel3000, 单一工件single workpiece ≥ 1000
	进给速度 feeding speed	m/min	6	6
	锥孔锥度 Taper of tailstock quill		莫氏6# Mose	莫氏6#Mose
刀盘 cutter	驱动方式 drive mode		液压hydraulic	液压hydraulic
	刀位数 tool potion	把	12	12
	外圆刀方尺寸OD shank size	mm	25 × 25	25 × 25
	最大镗刀杆直径Max.diameter of boring bar	mm	φ 50	φ 60
	刀尖最大回转直径 Max.turning diameter	mm	φ 440	φ 460
卡盘 Chuck	驱动方式 drive mode		液压 hydraulic	液压hydraulic
	卡盘规格 Chuck type		10" +8"	12"
中心架 steady rest	驱动方式drive mode		液压hydraulic	液压hydraulic
	架持范围 frame range	mm	φ 35— φ 235	φ 100— φ 320
进给量及螺距范围 load and pitch range	快进 X/Z rapid speed	m/min	10/12	10/12
	工进 X/Z Feeding speed	mm/min	0.001 ~ 500/0.001 ~ 500	0.001 ~ 500/0.001 ~ 500
	螺紋导程 lead	mm/r	0.01 ~ 500	0.01 ~ 500
主轴电机功率 spindle power		kW	18.5/22	18.5/22
数控系统 CNC concrol system			FANUC 0i-TF	FANUC 0i-TF
机床外形尺寸(长×宽×高) Overall dimension S(L/W/H)		mm	6840/8080 × 2300 × 2200	7115 × 2160 × 2550
机床重量 Machine weigh		T	14.5/15.1	18.1

注：根据客户需求，可选配其它数控系统，如西门子、发那科等；同时还可选配电动刀台。

Tips:According to the request of the customers,can adopt other systems,such as Siemens ,GSK ec.The Hydraulic tool post is optional .

根据配置的不同变化和用户的特殊要求，提供具备特殊功能或个性化产品，同时可配成车削中心或双主轴车削中心产品，技术参数另行提供，欢迎索取。

According to the different and special requests of the customers,provide speclal and personal products, turning center or double spindle turning center canbe equipped at the same time . Technical parameters will be provided separately and available upon request.



# Main Specifications

## 主要规格

规格	技术参数	单位	LC40	LC63
加工能力 Machining capacity	床身防护上最大回转直径 Max.swing over bed proction	mm	φ 830	φ 1050
	床鞍上最大回转直径 Max.swing over bed saddle	mm	φ 800	φ 920
	最大车削直径 Max.turning diameter	mm	φ 630	φ 780
	外圆最小车削直径 Min.turning diameter	mm	0 (刀尖过主轴中心) tool nose through the spindle center	80
	最大车削长度 Max.turning length	mm	2800/3000(外圆) OD	3310(外圆) OD
行程 Travel	最大行程 X/Z Max.travel	mm	350/2850/3160	360/3440
主轴箱 spindle box	主轴转速范围 Spindle speed range	r/min	15 ~ 1000	15 ~ 800
	主轴拐点转速 Spindle turning point speed	r/min	100	90
	主轴头部型号 Spindle nose type code		A <sub>2</sub> -8	A <sub>2</sub> -11
	主轴前轴径 Spindle front axis diameter	mm	φ 150	φ 170
	锥孔锥度 Spindle taper	公制	100	120
	主轴通孔直径 Spindle hole diameter	mm	φ 85	φ 100
	主轴中心至床面高度 Distance from spindle centre to the bed	mm	500	620
	主轴中心至地面高度 Distance from spindle centre to the ground	mm	1250	1300
编程尾架 programmgoamal tailstock	头部型号/锥孔规格 Spindle nose type code/Spindle taper type		A <sub>2</sub> -8	A <sub>2</sub> -11
	结构型式 structure type		主轴式装卡盘 spindle type chuck	主轴式装卡盘 spindle type chuck
	锁紧力范围 locking force range	N	4000-10000	4000-10000
	行程 travel	mm	全行程total travel3000, 单一工件single workpiece ≥ 1200	全行程total travel3640, 单一工件single workpiece ≥ 1300
	进给速度 feeding speed	m/min	6	6
	锥孔锥度 Taper of tailstock quill		公制metric.system.100	公制metric.system100
刀盘 cutter	驱动方式 drive mode		液压hydraulic	液压hydraulic
	刀位数 tool potion	把	12	12
	外圆刀方尺寸OD shank size	mm	32 × 32	32 × 32
	最大镗刀杆直径Max.diameter of boring bar	mm	φ 60	φ 80
	刀尖最大回转直径 Max.turning diameter	mm	φ 520	φ 570
卡盘 Chuck	驱动方式 drive mode		液压hydraulic	液压hydraulic
	卡盘规格 Chuck type		400+400	400+400
中心架 steady rest	驱动方式drive mode		液压hydraulic	液压hydraulic
	架持范围 frame range	mm	φ 200— φ 460	φ 300— φ 600
进给量及螺距范围 load and pitch range	快进 X/Z rapid speed	m/min	10/12	10.6/12
	工进 X/Z Feeding speed	mm/min	0.001 ~ 500/0.001 ~ 500	0.001 ~ 500/0.001 ~ 500
	螺纹导程 lead	mm/r	0.01 ~ 500	0.01 ~ 500
主轴电机功率 spindle power		kW	22/30	22/30
数控系统 CNC conctrl system			FANUC 0i-TF	FANUC 0i-TF
机床外形尺寸(长×宽×高) Overall dimension S(L/W/H)	mm		7305/7675 × 2500 × 2900	8400 × 2400 × 2700
机床重量 Machine weigh		T	22	28.8

注：根据客户需求，可选配其它数控系统，如西门子、发那科等；同时还可选配电动刀台。

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