



SINCE 1978

Latest technology **I**nternationalized products **C**ompleted service **O**verall reliability

領先的技術 · 優良的品牌 · 完整的服務 · 全程的信賴

利高機械
LICO MACHINERY



利高機械工業股份有限公司
LICO MACHINERY CO., LTD.



感謝各位多年來的支持與愛護！

利高機械公司自1978年成立，一直是以生產CNC電腦車床及CAM凸輪式自動車床為主，至今我們已多次獲得「台灣精品獎」以及國家級創新研發獎，而且我們的銷售亦遍佈世界五十餘國，廣受各界好評。

我們秉持「品質至上·永續經營」的理念，不斷的提昇技術及服務品質，提供最佳的售前加工方案及完善的售後服務，更可依客戶需求訂製完全加工之整廠設備，進而為客戶創造最佳利潤，利高的用心，絕對讓您滿意。

Portrait

LICO Machinery Co., Ltd., established in 1978 under the leadership of president Mr. Hank Lin, is well known for manufacturing turning machines ranging from industrial cam operated single spindle automatic lathes to technical CNC turning centers. These machines are designed for the metalworking sector and have been adapted by various industries such as aviation, vehicles, computers, plumbing fittings, optical instruments and others. Today, LICO lathes become popular across the world thanks to in-house staff and satellite-contractors working in harmony with the management board.



ISO 9000

HANK LIN
PRESIDENT



利高機械 · 遍佈全球！
LICO MACHINE , ACROSS THE WORLD!

TA/TLA/LA SERIES

Single Spindle Automatic Lathe

TA/TLA/LA SERIES

Single Spindle Automatic Lathe

The single spindle automatic lathe model TA, TLA and LA, are used for the manufacture of a great variety of simple, bolts, screws, nuts, sleeves,...etc., all kinds of materials such as steel, brass, aluminum etc. can be machined on automatic lathes. The model LA25, can machine round and profiled bars up to a max. diameter of 25mm(1"), TA25 having the same range of application. The models LA32(H) and TA32(H) have a spindle capacity of 32mm(1-1/4") with hydraulic stock chucking, bar material up to dia. 32 mm can be machined. TA16 is for small material stock up to 16mm(5/8") and high speed turned parts. For secondary operation of pre-machined parts, the automatics can be equipped with a magazine feed attachment or a hand chucking device if only small volume are involved. The working scope of the basic machine can be extended considerably by the application of the various attachments.



TA16/ TA25/ TA32(H)
TLA16/ TLA25/ TLA32(H)



LA25/ LA32(H)

FEATURES:

*Max. collet capacity: 25mm round for LA25/TLA25/TA25, 32mm round for oversized LA32(H)/TLA(H)/TA32(H) machines and 16mm round for TA16/TLA16
*Spindle speed:

LA25/ TLA25	150 to 4,200 rpm by 40 steps
LA32/ TLA32	150 to 4,200 rpm by 32 steps
LA32(H)/ TLA32(H)	210 to 2,300 rpm by 28 steps
TA16	700 to 7,500 rpm by 20 steps
TLA16	200 to 6,000 rpm by 40 steps
TA25	550 to 4,200 rpm by 12 steps
TA32(H)	300 to 2,700 rpm by 12 steps

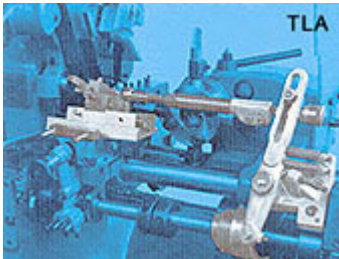
*Cross slide with toolholders, front and rear
*Double vertical slide with toolholders
*Tailstock with A-3 collet quill, draw bar and spring retraction
*Weight operated bar feed
*Adjustable swing stop
*Change gears set for feeds

*Automatic electrical shut off feed driven clutch and bar feed
*Cam setting dial
*Transparent coolant splash guard, front and rear
*Waterproof sealed fluorescent work lamp
*Oil resisting timing belt drive, speed counter for Mod. TLA16 / LA25 / TLA25 and LA32(H) / TLA32(H), good for drilling, reaming and threading operations during a working cycle.
*(H) models, the spindles are designed with hydraulic chucking system, and the mechanical chuck levers are not required.
*Available with or without the following special attachments: longitudinal turning, two-position air operated tailstock, four-position mechanical turret, thread/polygonal milling, gravity silent bar feed ect.
*Standard type A15 / 25 TRAUB cams and tooling can be used and interchanged.

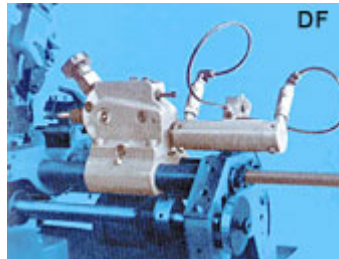
TA/TLA/LA SERIES

Single Spindle Automatic Lathe

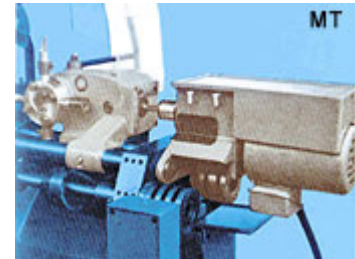
SPECIAL ATTACHMENTS



Longitudinal Turning ATT.
(25225000 Front/ 25228000 Rear)
Max. travel of turning. Slide: 70 mm
Max. angle of taper. Turning: ±15°



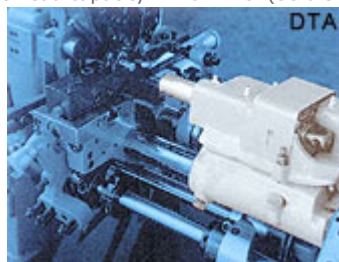
2-Position Tailstock(25230000)
Max. travel: 70 mm
Max. tapping capacity: M20 x 1.5P (Brass)
Max. thread capacity: M16 x 1.5P(38 die OD)



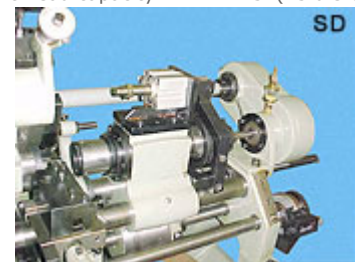
4-Position Mech. Turret(25300000)
Max. travel: 50 mm
Max. tapping capacity: M20 x 1.5P (Brass)
Max. thread capacity: M12 x 1.5P(25 die OD)



Thread Milling ATT.(25290000)
Polygonal Milling ATT. (25296000)
Max. length of thread: 22mm
Max. pitch of thread: 2mm
Max. speed of main spindle: 4,000rpm



Drilling and Threading Attachment(25.20000)
Max. drilling depth: Max. 35mm
External thread: M3~M10 x 30mm
Internal thread: M3~M10 x 25mm
Moter: 1HP 2/4P 1700/3400 rpm



Synchronized Drive(25410000)
Collet capacity: 16mm(5/8")
Ideal for slim bar components
Burr-less attachment for pip-free



Overhead Swing Stop(25182000)
Applied for some special set up when a standard stop is not applicable.



MACHINING SAMPLES

TA/TLA/LA SERIES

Single Spindle Automatic Lathe

Technical Data:

Model		TA16	TA25	TA32(H)
Maximum capacity	round	16mm(5/8")	25mm(1")	32mm(1 1/4")
	hexagon	13mm(1/2")	22mm(7/8")	27mm(1 1/16")
	square	11mm(7/16")	18mm(23/32")	22mm(7/8")
Maximum turning length(LTA)		70mm (2-3/4")		
Strock of cross slide		*22mm (7/8")		
Max. capacity of tailstock collet		13mm(1/2")		
Max. tailstock travel		100mm(4")		
Spindle speed		700-7,500 rpm (20 steps)	550-4,200 rpm (12 steps)	300-2,750 rpm (12 steps)
Production rate		28 to 2,100 pcs / hr		
Cycle time		1.71 sec/pc to 128.6 sec/pc		
Power rating	work spindle motor	1.5/1.8 kw (2.0/2.4 Hp)		1.8/2.2kw(2.4/2.9 Hp)
	feed drive motor	0.37 kw (1/2 Hp)		
	coolant pump motor	0.1 kw (1/8 Hp)		
Content of coolant tank		40 Liters		
Net weight of complete machine		660 kgs		760 ksg
Gross weight of complete machine		800 kgs		900 kgs
Measurement of seaworthy packing case		1.8 Cu. M		2.4 Cu. M

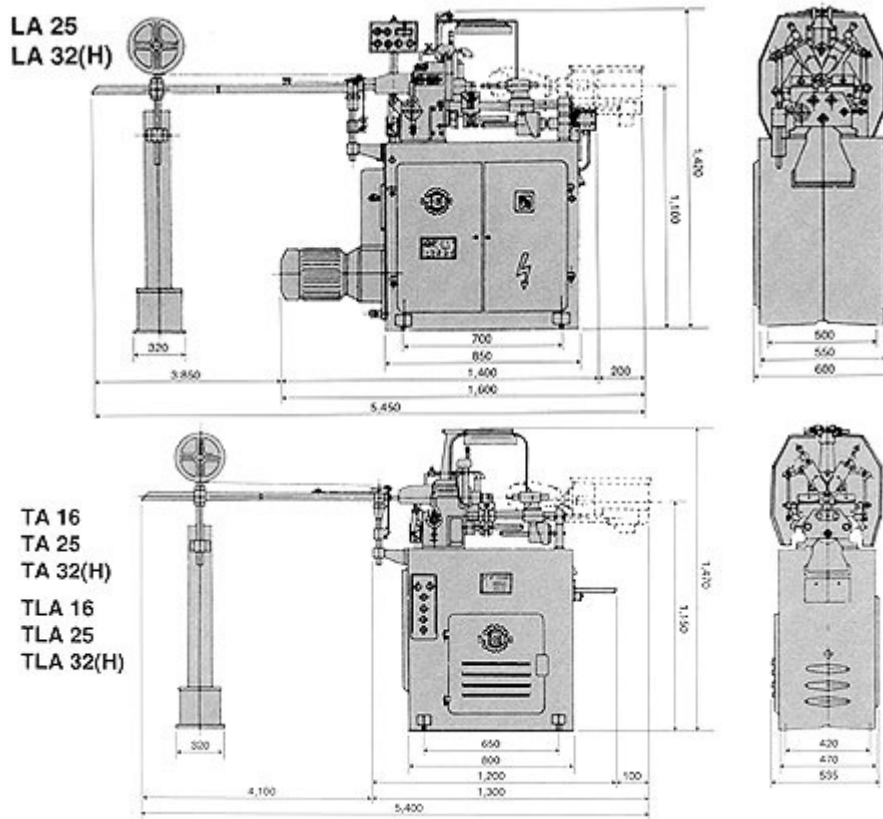
Model		TLA16	TLA25	TLA32(H)
Maximum capacity	round	16mm(5/8")	25mm(1")	32mm(1 1/4")
	hexagon	13mm(1/2")	22mm(7/8")	27mm(1 1/16")
	square	11mm(7/16")	18mm(23/32")	22mm(7/8")
Maximum turning length(LTA)		70mm (2-3/4")		
Strock of cross slide		*22mm (7/8")		
Max. capacity of tailstock collet		13mm(1/2")		
Max. tailstock travel		100mm(4")		
Spindle speed		200-6,000 rpm (40 steps)	150-4,200 rpm (40 steps)	150-2,200 rpm 210-2,300 rpm(H)
Production rate		28 to 2,100 pcs / hr		
Cycle time		1.71 sec/pc to 128.6 sec/pc		
Power rating	work spindle motor	2.6/0.65 kw (3.5/0.9 Hp)		
	feed drive motor	0.37 kw (1/2 Hp)		
	coolant pump motor	0.1 kw (1/8 Hp)		
Content of coolant tank		40 Liters		
Net weight of complete machine		660 kgs		760 ksg
Gross weight of complete machine		800 kgs		900 kgs
Measurement of seaworthy packing case		1.8 Cu. M		2.4 Cu. M

TA/TLA/LA SERIES

Single Spindle Automatic Lathe

Model		TA25	TA32(H)
Maximum capacity	round	25mm(1")	32mm(1 1/4")
	hexagon	22mm(7/8")	27mm(1 1/16")
	square	18mm(23/32")	22mm(7/8")
Maximum turning length(LTA)		70mm (2-3/4")	
Stroke of cross slide		*22mm (7/8")	
Max. capacity of tailstock collet		13mm(1/2")	
Max. tailstock travel		100mm(4")	
Spindle speed		150-4,200 rpm	150-4,200 rpm
		210-2,300 rpm(H)	210-2,300 rpm(H)
Production rate		28 to 2,100 pcs / hr	
Cycle time		1.71 sec/pc to 128.6 sec/pc	
Power rating	work spindle motor	2.6/0.65 kw (3.5/0.9 Hp)	
	feed drive motor	0.37 kw (1/2 Hp)	
	coolant pump motor	0.1 kw (1/8 Hp)	
Content of coolant tank		40 Liters	
Net weight of complete machine		860 kgs	960 kgs
Gross weight of complete machine		1,000 kgs	1,100 kgs
Measurement of seaworthy packing case		2.3 Cu. M	2.8 Cu. M

Dimensions:



LNA SERIES

AUTOMATICS UPGRADE CNC LATHE : LNA36

LNA SERIES

AUTOMATICS UPGRADE CNC LATHE : LNA36

Standard with Gang Tooling, Ideal for Bar Feeder or Robt Automation or Manual Loading Jobs



Best value, affordable and lean machine for all production shops.

1. High precision processing within 0.009mm for both roundness and surface precision.
2. Easy to connect with automatic bar feeder, robot loading system or manual loading Jobs.



Together with a rigid casting frame in compact size and an affordable price make LNA36 an appropriate machine for volume production at turning workahop. Yet, machining with optional optical digit scale drives LNA36 being an ideal machine for 0.009mm precision required jobs at today's turning industry. Still more, its flexibility and expansibility of connection with automatic bar feeder or robot or designed manual loading system enhance LNA36 become a cost-saver in this ever-increasing competitive industry.

Automation

To achieve an automations, LNA36 is able to connect with either gang-type or arm-type robot which saves secondary loading/ unloading operations and fulfills the automation.



Rapid and Precision Tool Turret

A rigid and durable bi-direction 8-position tool turret ensures high repeated positioning accuracy and rigidity. Single indexing time in 0.35 seconds, continuous 180° change in 1.3 nozzle sprays coolant directly to the tool tips, makes a fast cooking, brings tools a longer life.

LNA SERIES

AUTOMATICS UPGRADE CNC LATHE : LNA36

X/ Z Slides with Linear Way

Both X-axis and Z-axis are designed in a linear way gained both benefits of chips-free and well lubrication as well as to achieve precision positioning and rapid movement. On the slide of X-axis acn expand an option of economic gang tools with sub plate or the sophistic 8-position turret with thru coolant.



Hydraulic Rotary Cylinder

It is designed for ever-changing size machining jobs. Main spindle with collet chuck actuated by a hydraulic rotary cylinder. The design utilizes cylinder's powerful chucking force to clamping parts. The 48-pos. specialized for heavy job.

Bed and saddle

Bed and saddle are made of HIGH RIGID castion with stress relieved. Flat saddle construction makes set-up job easier.



CNC Control System

User-friendly console offers an easy operation even for inexperienced trainees. Standard with Mitsubishi M64, PC-based or other CNC controllers such as as Siemens, Fanuc are also available for requirments.

Wire Cabinet

A aizable wire cabinet with functional heat exchanger ensured a right temperayure for every electronic component during intensively cuttings. The succinct wiring design provides for maintenance, makes the job easier.



Collet Chuck

Standard spindle is equipped with F-type cillet chuck. For precision required parts can equipped with air chuck and apply spindle speed to 10,000rpm upon request.

LNA SERIES

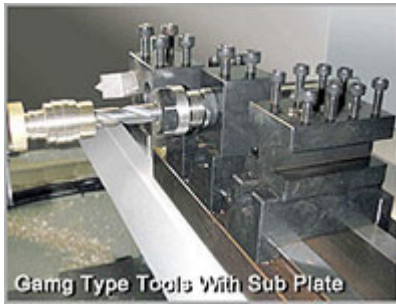
AUTOMATICS UPGRADE CNC LATHE : LNA36

Technical Data:

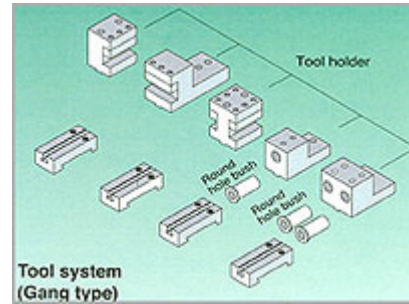
Model	LNA36
Unit	Metric (Inch)
CAPACITIES	
Collet bar capacity, dia.(through bore)	Ø36 (1.42")
Swing over bad	Ø150 (Ø5.9")
Swing over alide	Ø350 (Ø13.8")
Max. turning dia.(3-jaw power chuck)	Ø125 (Ø5")
Max. turning length	100(4")
SPINDLE	
Height of spindle center (approx.)	1,000(39.4")
Spindle nose	A2-4
Collet chuck type	F42
Power chuck type	Ø5"
Spindle/ draw bar through bore	Ø37(1.46")
SPINDLE DRIVE	
Motor power cont.(Mitaubishi)	3.7/5.5kw (5/7.5 HP)
Max. spindle speed	6,500rpm
SLIDE	
Cross silide travel(X-axis)	200mm(8")
Longitudinal slide travel(Z-axis)	200mm(8")
TOOL	
Turning tool section	20mm Sq.
Boring tool reception	Ø25mm(1")
SERVO MOTORS	
Working feeds, X-axis and Z	0~10,000 mm/min
Rapid traverses, X-axis and Z	15 M/min
Feed force, X-axis and Z (Mitsubishi)	4Nm
MACHINE SPACE, WELGHT and POWER REQUIREMENTS	
Overall dimension (LxWxH)	1,530 x 1,260 x 1,620 (60.2"x19.6"x63.8")
Machine weight	1,260 kg
Hydraulic tank capacity	30L
Hydraulic pump motor	0.75kw
Coolant tank capacity	180L
Coolant pump motor	0.187kw
Lubrication capacity	2L, 10cc/10min
Total power required (Mitsubishi)	8kVA

LNA SERIES

AUTOMATICS UPGRADE CNC LATHE : LNA36



Gang Type Tools With Sub Plate



Tool system (Gang type)

"MITSUBISHI" M64 CNC controller standard functions:

- * Part program storage length 600M
- * Graphic trace of tool path
- * Multiple canned cycles
- * Automatic chamfering & corner rounding
- * Simultaneously controllable 2 axes
- * Tool offset memory 80 sets
- * Tool life management
- * Constant surface speed control
- * Oriented spindle stop

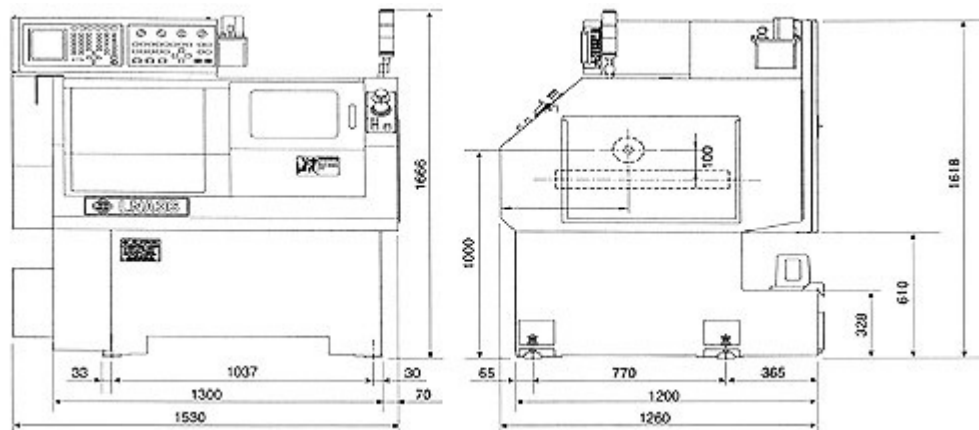
Standard Equipment:

1. Collet Chuck LNA36 F42 (Max. $\varnothing 36\text{mm}$)
2. 48-Pos Spindle Dividing System
3. Hydraulic System, Coolant System and Air Jet System
4. Automatic Lubrication System
5. Work Lamp and Front Door Interlock
6. Tool Box and Tool Kits
7. Control Cabinet Heat Exchanger

Optional Accessories:

1. Hollow Power Chuck $\varnothing 5"$
2. Precision Air Chuck $\varnothing 4"$
3. Parts Catcher
4. Optical Digit Scale for X/Z Slide
5. Tool Turret 8-station (No Tool Driven) VDI-30
6. Hydraulic Live Tool Unit (max. 1 set)
7. Air Live Tool Unit (max. 2 sets)
8. Sub-plate Assembly
9. Extra Tool Holders
10. Automatic Bar Feeder with Interface
11. Gantry Type Robot Loading System

Dimensions:



LNC SERIES

CNC AUTOMATIC LATHE : LNC42/LNC65

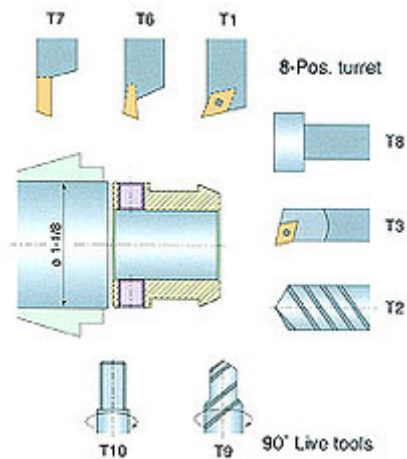
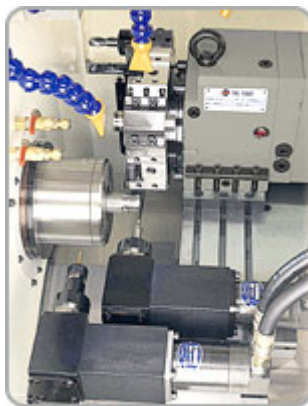
LNC SERIES

CNC AUTOMATIC LATHE : LNC42/LNC65

Gang Tooling as Standard, Options With Turret & Rotary Tools



- *Best value and most versatile machine available for all production shops.
- *Optional hydraulic live tools, Both facing and crossing, Allows secondary combined with 48-position spindle indexing or C-axis. Good for various secondary operation.
- *Can be used as a gang tool machine or an optional 8-position turret.
- *Use of an optional bar feeder for unattended high volume production.



Live tool

Hydraulic live tool with the spindle 48 dividing system and C-axis function can make secondary operation on the machine.

LNC SERIES

CNC AUTOMATIC LATHE : LNC42/LNC65



Live tool

Hydraulic live tool with the spindle 48 dividing system and C-axis function can make secondary operation on the machine.

High speed, high precision indexing turret

The 8-position tool turret ensures high repeated positioning accuracy and rigidity. Rapid indexing time from 0.15 sec. to 1.2 sec, The tool; disc has a built-in coolant nozzle that is directed straight to the tool tips.



Z-axis box beam

Insures high rigidity. TURCITE coating allows for smooth and precise movements. Telescopic cover protect the ballscrew.

The dovetail X-axis slide

permits mounting of gang tools(sub plate also available) and or hydraulic tooling spindle as well as an 8-position turret with thru coolant.



Standard controller

Either "MITSUBISHI" M64SL or "SIEMENS" 802D or FANUC OiMATE controller.

3-Jaw hydraulic chuck

This machine is equipped with a Ø6" or Ø8" 3-jaw hydraulic hollow chuck. For enlarge workpiece machine.



Wiring is enclosed

in a cabinet and a standard heat exchanger ensures cooler temperature for the electronic components.



Gang type tools

LNC SERIES

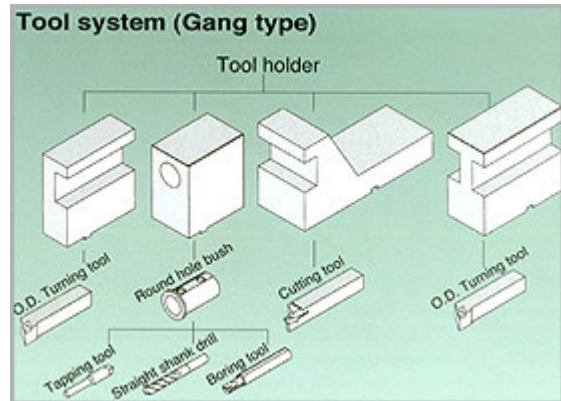
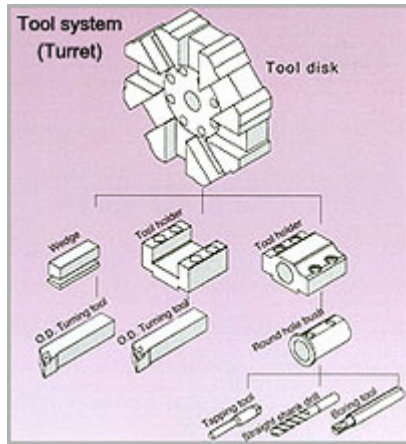
CNC AUTOMATIC LATHE : LNC42/LNC65

Technical Data:

Model		LNC42	LNC65
Unit		Metric(Inch)	Metric(Inch)
CAPACITIES			
Collet bar capacity, dia(through bore)		Ø42 (1.65", 1 5/8")	Ø65 (2.56", 2 9/16")
Swing over bad		Ø260 (Ø10.2")	
Swing over alide		Ø150 (Ø5.9")	
Max. turning diameter.(3-jaw power chuck)		Ø165 (Ø6.5")	Ø210 (Ø8.3")
Max. turning length (Turret type)	collet	205(8")	
	3-jaw power chuck	180(7")	165(6.5")
Max. turning length (Gang type)	collet	280(11")	
	3-jaw power chuck	255(10")	240(9.5")
SPINDLE			
Height of spindle center (approx.)		1030(40.55")	
Spindle nose		ISO A2-5	ISO A2-6
Collet chuck type		F48(Ø42)	F72(Ø65)
Power chuck reception		6"	8"
Spindle/ draw bar through bore		Ø53(Ø2.09") /Ø43(Ø1.69")	Ø78(Ø.07") /Ø66(Ø2.6")
SPINDLE DRIVE			
Motor power cont.(Mitaubishi/Siemens)		7.5/10kw (10/13.4HP)	
Max. spindle speed		5000rpm	4000rpm
SLIDE			
Longitudinal slide travel(Z-axis)		300(11.8")	
Cross silide travel(X-axis)		300(11.8")	
Resolution		0.001(0.0001")	
TOOL TURRET			
Number of tool positions		8	
Turning tool section		┘20 (┘3/4")	
Boring tool reception		Ø25 (Ø1")	
Indexing		0.35	
SERVO MOTORS			
Working feeds, X axis and Z		0~10000 mm/min (0~394 in./min)	
Rapid traverses, X axis and Z		15 M/min (590in.min)	
Feed force, X-axis and Z (Mitsubishi/Siemens)		5Nm(1.0kw/1.4kw)/3.68lb-ft(1.334 HP/1.87 HP)	
MACHINE SPACE, WELGHT and POWER REQUIREMENTS			
Overall dimension (LxWxH)		2000x1500x1700(78.7"x59.1"x66.9")(1800 Siemens)	
Approx. net weights of machine with electrical. cabinet(G.W.)		1850 kg(4070 lbs)	1950 kg(4290 lbs)
Machine weight		2200 kg(4840 lbs)	2300 kg(5060 lbs)
Packing size		7.5m3 (24.6ft3)	
Hydraulic tank capacity		30 L (0.79 gal.)	
Hydraulic tank capacity(Rotary tool)		40 L (1.05 gal.)	
Hydraulic pump motor		0.75kw (1 HP)	
Hydraulic pump motor(Rotary tool)		3.75kw (5 HP)	
Coolant tank capacity		150 L (3.96 gal.)	
Coolant pump motor		0.375 kw (0.5 HP)	
Lubrication capacity		2 L, 10c.c./10min	
Total power required (Mitsubishi/Siemens)		11KVA	

LNC SERIES

CNC AUTOMATIC LATHE : LNC42/LNC65



"MITSUBISHI" M64 CNC controller standard functions:

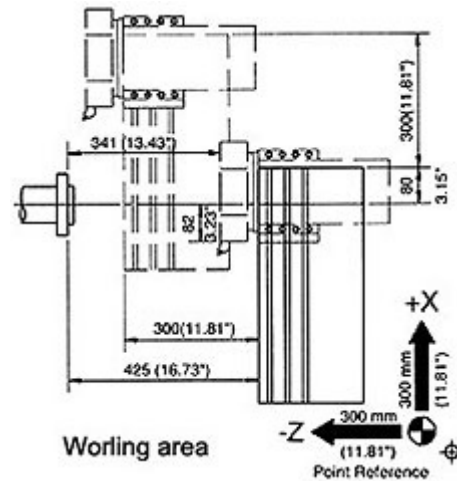
- * Part program storage length 600M
- * Graphic trace of tool path
- * Multiple canned cycles
- * Automatic chamfering & corner rounding
- * Simultaneously controllable 2 axes
- * Tool offset memory 80 sets
- * Tool life management
- * Constant surface speed control
- * Oriented spindle stop

Standard Equipment:

1. Collet chuck LNC42 F48 (Max. Ø42)
2. Collet chuck LNC65 F72 (Max. Ø65)
3. Hydraulic system
4. Coolant system
5. Automatic lubrication system
6. Work lamp
7. Front door safety interlock
8. Tool box and tool kits
9. Control cabinet heat exchanger
10. Air jet system
11. Spindle dividing system(48 pos.)
12. Foot pedal for collet & chuck open/close
13. Standard tool holders

Optional Accessories:

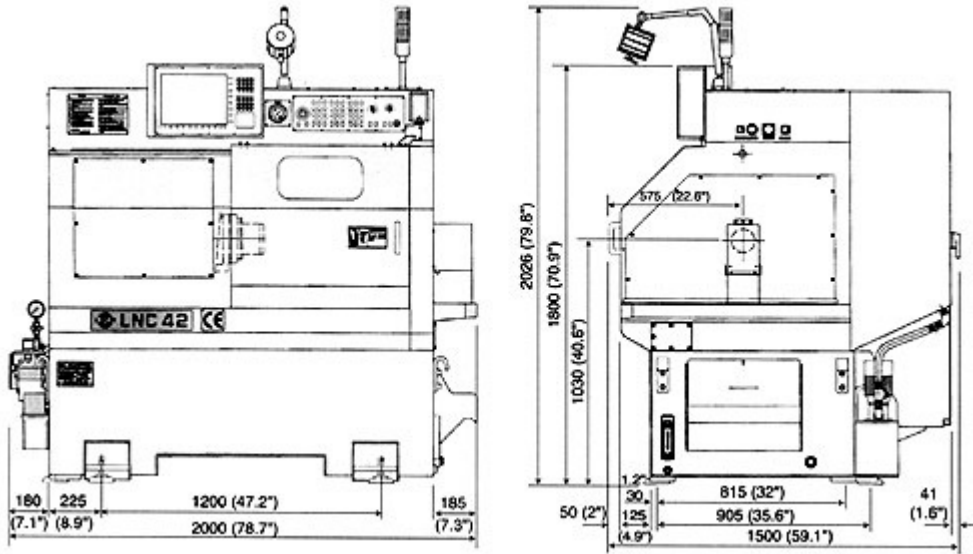
1. 6" hollow power chuck (LNC42)
2. 8" hollow power chuck (LNC65)
3. Chip conveyor with cart
4. Parts catcher
5. Extra tool holders
6. Automatic bar feeder
7. Tool turret 8 stations
8. Bar feeder live tool with hydraulic system
10. Sub plate ass'y
11. Door interlock(CE)



LNC SERIES

CNC AUTOMATIC LATHE : LNC42/LNC65

Dimensions:



LND SERIES

CNC AUTOMATIC LATHE : LND42/LND65

LND SERIES

CNC AUTOMATIC LATHE : LND42/LND65

Turret with Tailstock



Machining Samples

LND42/65 is the best machine for investing in CNC automations. For bar parts in length three times as distance as external diameter of bar materials up to in length 290mm, LND 42/65 is considered as one of masters. Equipped with bar loader, finished parts delivery mechanism and hydraulic tailatock, LND 42/65 continuously produce bar parts with longitudinal accuracy in 0.01mm tolerance at maximum speed. An optional 3-jaw hydraulic chuck transfers NLD 42/65 to a universal turning for precision bar up to 200mm diameter with manual feed.

Part Catcher



motion 1



motion 2



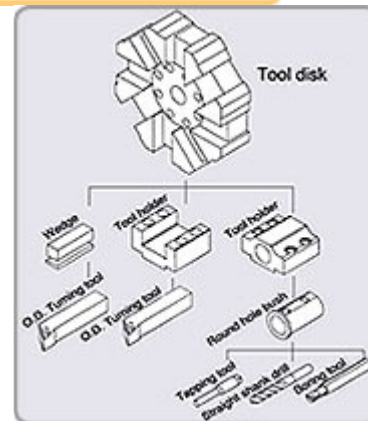
motion 3



Hydraulic Tailstock



Transformer (for 380V)



Tooling System for Turret

LND SERIES

CNC AUTOMATIC LATHE : LND42/LND65



The rigidity Z-axis machine bed

The Z-axis machine bed is made of box beam construction for achieving a maximum rigidity. TURCITE coating allows for smooth and precise movements. Telescopic covers protect the ballscrew.

The wide dovetail X-axis slideway is designed for high precision machining job

The fullysupported X-axis slideway is hardened ground and coated with TURCITE for ensuring a rapid movement and wear resistance.



The indexing turret offers high speed and high precision process

The sturdy 8-position tool turret ensures a high repeated positioning accuracy. Rapid indexing times are 0.35 seconds for every single indexing and continuous 180 in 1.3 seconds. The tool disk has a build-in cooling nozzle that is directly spray coolant to the tool tips, which make tools life last longer.

The remote servo motor ensures electric control trouble-free

The limit switches for both axes are remote from the coolant and from every metal chips, eliminate problems and make service much easuer.



CNC Control System

User-friendly console offers an easy operation even for inexperienced trainees. Standard machine with Mitsubishi M64AL, Siemens, Fanuc are also available for requirements.

LND SERIES

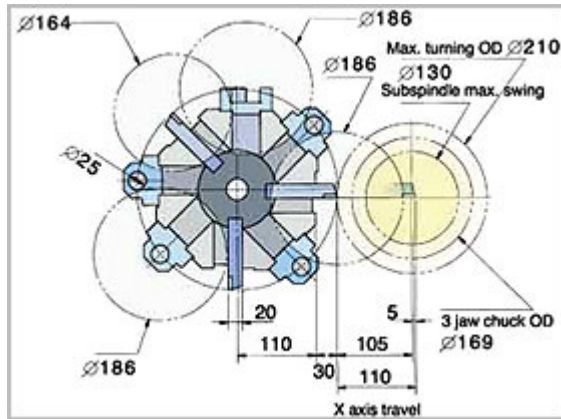
CNC AUTOMATIC LATHE : LND42/LND65

Technical Data:

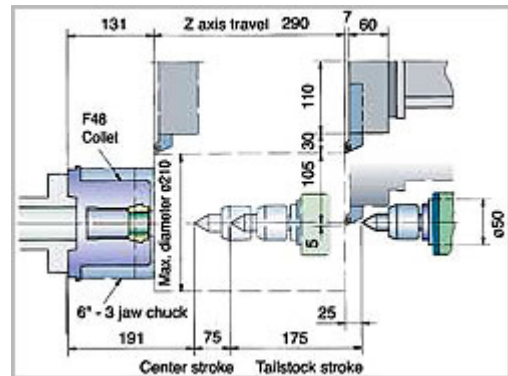
Model	LND42	LND65
Unit	Metric(Inch)	Metric(Inch)
CAPACITIES		
Collet bar capacity, dia(through bore)	Ø42 (1.65")	Ø65 (2.56")
Swing over bad	Ø355 (Ø14")	
Max. turning dia.(3-jaw power chuck)	Ø210 (Ø8.2")	
Max. turning lenght	290(11.4")	
SPINDLE		
Height of spindle center (approx.)	1,030(40.5")	
Spindle nose	A2-5	A2-6
Collet chuck type	F48	F72
Power chuck type	(Ø6")	(Ø8")
Spindle/ draw bar through bore	Ø53(Ø2.08")	Ø78(Ø3.07")
SPINDLE DRIVE		
Motor power cont.	5.5/7.5kw (7.5/10HP)	
Max. spindle speed	5,000rpm	4,000rpm
SLIDE		
Cross silide travel(X-axis)	100mm(4")	
Longitudinal slide travel(Z-axis)	290mm(11.4")	
Resolution	0.001(0.0001")	
TOOL TURRET		
Number of tool positions	8(12)	
Turning tool section	20mm Sq (3/4")	
Boring tool reception	Ø25mm (Ø1")	
Indexing time	0.35 sec	
SERVO MOTORS		
Working feeds, X axis and Z	0~10,000 mm/min	
Rapid traverses, X axis and Z	15 m/min	
Feed force, X-axis and Z (Siemens)	5Nm(3.4 lb-ft)	
HYDRAULIC TAILSTOCK		
Quill diameter	Ø70 (Ø2.76")	
Quill taper	MT-3 (Moese)	
Quill max. stroke	55(2.16")	
Manual sdjustable stock	200(7.87")	
Adjustable pressure	5~30 kg/cm2 (70~400 psi)	
MACHINE SPACE, WELGHT and POWER REQUIREMENTS		
Overall dimension (LxWxH)	2,350x1,400x1,800(92"x55"x71")	
Machine weight	2,000 kg(4,400 lbs)	
Hydraulic tank capacity	40 L (10 gal.)	
Hydraulic pump motor	0.75kw (1 HP)	
Coolant tank capacity	120 L (30 gal.)	
Coolant pump motor	0.375 kw (1/2 HP)	
Lubrication capacity	2 L, 6c.c./15min	
Total power required	11kVA	

LND SERIES

CNC AUTOMATIC LATHE : LND42/LND65



Turret space diagram



Machining range

"MITSUBISHI" M64 CNC controller standard functions:

- * Part program storage length 600M
- * Graphic trace of tool path
- * Multiple canned cycles
- * Automatic chamfering & corner rounding
- * Simultaneously controllable 2 axes
- * Tool offset memory 80 sets
- * Tool life management
- * Constant surface speed control
- * Oriented spindle stop

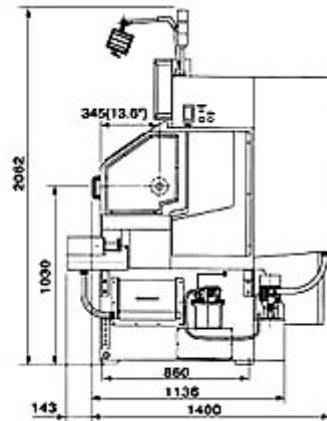
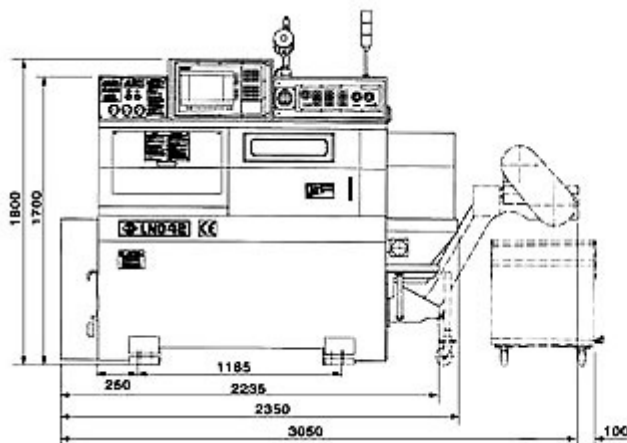
Standard Equipment:

1. Collet chuck LND42 F48 (Max. $\varnothing 42\text{mm}$)
2. Collet chuck LND65 F72 (Max. $\varnothing 65\text{mm}$)
3. Tool turret 8 stations (stationary)
4. 48-pos Spindle dividing system
5. Hydraulic system, coolant system and air jet system
6. Automatic lubrication system
7. Work lamp and front door interlock
8. Control cabinet heat exchanger
9. Tool box and tool kits
10. Standard tool holders

Optional Accessories:

1. Hollow power chuck $\varnothing 6''$ (LND42)
2. Hollow power chuck $\varnothing 8''$ (LND65)
3. 12-Station-Power-Turret
4. Tailstock MT #3
5. Parts catcher
6. Parts conveyor
7. Extra tool holders
8. Door interlock(CE)
9. Chip conveyor with cart
10. Automatic bar feeder with interface
11. Foot pedal for collet & chuck open/ close

Dimensions:



LND A-SERIES

CNC AUTOMATIC LATHE : LND42/LND65

LND A-SERIES

CNC AUTOMATIC LATHE : LND42/LND65

Optional 12-Station-Power-Turret and Tailstock



Working Samples

To complete complex turning jobs in one cycle, **LND42/LND65 A-series** with optional 12-Station-Power-Turret is considered as an ideal selection.

Besides, for shaft machining, **LND42/LND65 A-series**, has expansibility of equipping tailstock for high volume productions.

LND42/LND65A-series, is designed for ever-increasing competitive metalworking industry, such as, computers, plumbing fittings, optical instruments, vehicles as well as aviation.



12-Station-Power-Turret

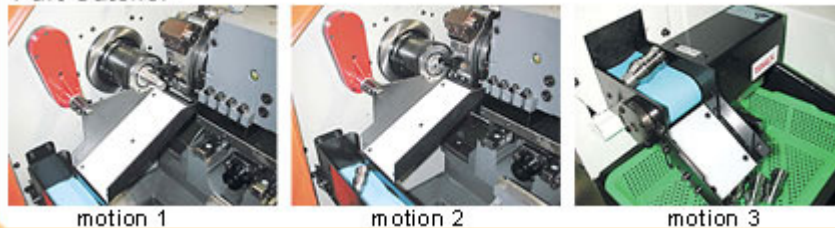
A sophisticated 12-Station-Power-Turret ensures LND42/LND65 A-series high repeated positioning accuracy and rigidity. Single indexing time in 0.4 seconds, continuous 180° change in 1.3 seconds. A build-in cooling nozzle sprays coolant directly to tool tips, makes a fast cooling, brings tools a longer life.

Bed and saddle

Bed and saddle are made of HIGH RIGID casting with stress relieved. Flat saddle construction makes set-up job easier.



Part Catcher



LND A-SERIES

CNC AUTOMATIC LATHE : LND42/LND65



The Z-axis is widen linear way construction

High rigid Z-axis, the alide base and bed are one-piece made, which be able to provide with a widen-working-space and ensure every precision work during high-speed movement.

The widen X-axis alide way

Wear-lasting X-axis, with fully travel support and protection cover, allows high-speed movement. It is an ideal for precision machining job even in a long period working run.



The remote servomotor ensures electric control trouble-free

The servomotor is separated from cutting zone, which avoid the damages from coolant and chips makes electrical components last longer.

Servomotor direct transmission construction can avoid backlash and vibration benefit with precision as well.

Hydraulic tailstock

MT-3 hydraulic tailstock with programmable function of center is easy for adjusting and strong supporting, good for long shaft machining.



Counter spindle and back machining(option)

For the secondary operations and get best precision, saving loading/ unloading and machining time.

High performance CNC Control System

Providing an user-friendly console, creates an easy operation environmwat. Controller Mitsubishi M64SL, Fanuc OiMATE are available.



LND A-SERIES

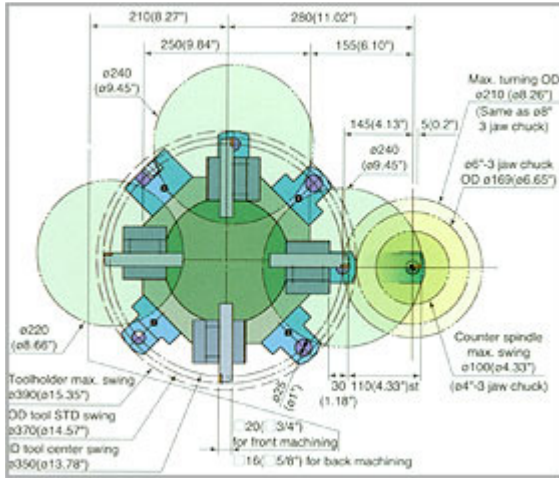
CNC AUTOMATIC LATHE : LND42/LND65

Technical Data:

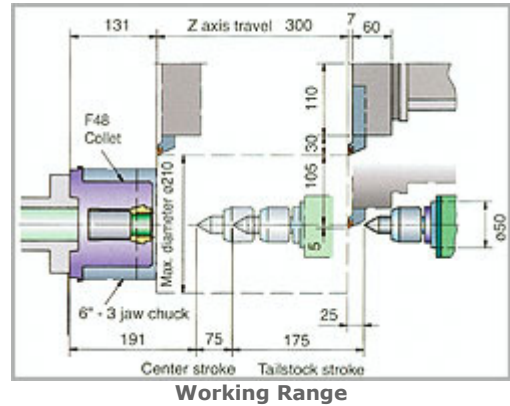
Model	LND42	LND65
Unit	Metric(Inch)	Metric(Inch)
CAPACITIES		
Collet bar capacity, dia(through bore)	Ø42 (1.65")	Ø65 (2.56")
Swing over bad	Ø355 (Ø14")	
Max. turning dia.(3-jaw power chuck)	Ø210 (Ø8.2")	
Max. turning lenght	290(11.4")	
SPINDLE		
Height of spindle center (approx.)	1,030(40.5")	
Spindle nose	A2-5	A2-6
Collet chuck type	F48	F72
Power chuck type	(Ø6")	(Ø8")
Spindle/ draw bar through bore	Ø53(Ø2.08")	Ø78(Ø3.07")
SPINDLE DRIVE		
Motor power cont.	5.5/7.5kw (7.5/10HP)	
Max. spindle speed	5,000rpm	4,000rpm
SLIDE		
Cross silide travel(X-axis)	100mm(4")	
Longitudinal slide travel(Z-axis)	290mm(11.4")	
Resolution	0.001(0.0001")	
TOOL TURRET		
Number of tool positions	8(12)	
Turning tool section	20mm Sq (3/4")	
Boring tool reception	Ø25mm (Ø1")	
Indexing time	0.35 sec	
SERVO MOTORS		
Working feeds, X axis and Z	0~10,000 mm/min	
Rapid traverses, X axis and Z	15 m/min	
Feed force, X-axis and Z (Siemens)	5Nm(3.4 lb-ft)	
HYDRAULIC TAILSTOCK		
Quill diameter	Ø70 (Ø2.76")	
Quill taper	MT-3 (Moese)	
Quill max. stroke	55(2.16")	
Manual sdjustable stock	200(7.87")	
Adjustable pressure	5~30 kg/cm2 (70~400 psi)	
MACHINE SPACE, WELGHT and POWER REQUIREMENTS		
Overall dimension (LxWxH)	2,350x1,400x1,800(92"x55"x71")	
Machine weight	2,000 kg(4,400 lbs)	
Hydraulic tank capacity	40 L (10 gal.)	
Hydraulic pump motor	0.75kw (1 HP)	
Coolant tank capacity	120 L (30 gal.)	
Coolant pump motor	0.375 kw (1/2 HP)	
Lubrication capacity	2 L, 6c.c./15min	
Total power required	11kVA	

LND A-SERIES

CNC AUTOMATIC LATHE : LND42/LND65



Turret space diagram



Working Range

"MITSUBISHI" M64 CNC controller standard functions:

- * Part program storage length 600M
- * Graphic trace of tool path
- * Multiple canned cycles
- * Automatic chamfering & corner rounding
- * Simultaneously controllable 2 axes
- * Tool offset memory 80 sets
- * Tool life management
- * Constant surface speed control
- * Oriented spindle stop

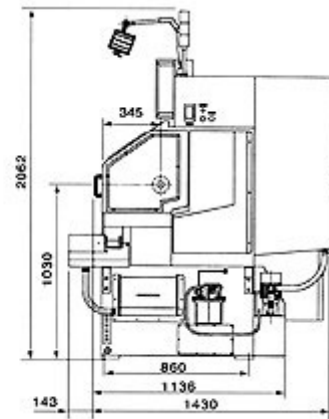
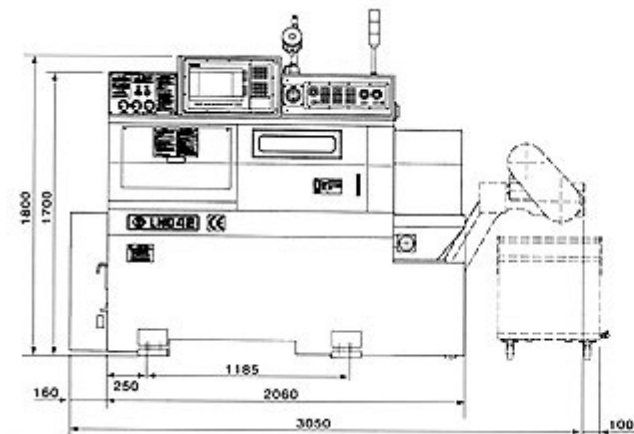
Standard Equipment:

1. Collet chuck LND42 F48 (Max. Ø42mm)
2. Collet chuck LND65 F72 (Max. Ø65mm)
3. Tool turret 8 stations (stationary)
4. 48-pos Spindle dividing system
5. Hydraulic system, coolant system and air jet system
6. Automatic lubrication system
7. Work lamp and front door interlock
8. Control cabinet heat exchanger
9. Tool box and tool kits
10. Standard tool holders

Optional Accessories:

1. Hollow power chuck Ø6"(LND42)
2. Hollow power chuck Ø8"(LND65)
3. 12-Station-Power-Turret
4. Tailstock MT #3
5. Parts catcher
6. Parts conveyor
7. Extra tool holders
8. Door interlock(CE)
9. Chip conveyor with cart
10. Automatic bar feeder with interface
11. Foot pedal for collet & chuck open/ close

Dimensions:



LNT D-SERIES

CNC MultiSlide Automatics: **NET36**

LNT D-SERIES

CNC MultiSlide Automatics: **NET36**

The Newest Generation of Automatic Bar Machines

Better Than Traditional Cam Operated Single Spindle Automatics Flexible Via CNC Technology



Machining Samples

The LNT D-SERIES automatics are designed for the metalworking sector. It has been adapted by various industries such as aviation, vehicles, computers, plumbing fittings, optical instruments and others. With much wider materials choice, not only free cutting steel, brass, aluminum, but also alloy steel, stainless steel can be machined.

An appropriate production proposal with production rate defined by tool arrangement, cycle time and attachments can be offered before your purchasing.

LICO, A leading manufacturer of automatics in Taiwan, Recently announced a newly developed automatic bar machine. "The **real** CNC MultiSlide Automatics" models **LNT36 D-SERIES**. They combine the advantages of conventional cam-operated automatic lathes with modern **PC-based** multi-axis CNC controller with both bar chart page and common CNC programming, provides fast set up and easy operation for both experienced operator and new comers.

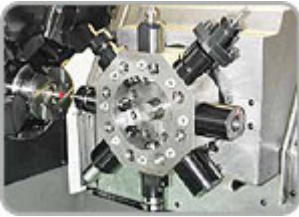
The machine comprises 4 rugged infeed or compound slides and a non-driven (8ST) **8-pos. turret on compound slide**. They permit longitudinal turning, complex contouring, thread chasing, by simple carbide inserted tools for O.D. work as well as drilling, boring, threading, recessing and tapping for I.D. conventional form tool can be used.

Optional accessories, such as Parts Catcher, Chip Conveyor, Workpiece Belt Conveyor and available with varies brands Automatic Bar Feeder.

During the operation, there are 3~5 tools overlapping and working simultaneously, thus dramatically reducing and optimizing cycle times as we or increase machining efficiency tremendously. On larger runs they are more economic than cam-operated automatics. On medium quantity runs they beat CNC lathes down.

LNT D-SERIES

CNC MultiSlide Automatics: NET36



High speed, high precision indexing turret

The 8-position tool turret ensures high repeated positioning accuracy and rigidity. Rapid indexing time from 0.4 sec. to 1.2 sec, The tool disc has a built-in coolant nozzle that is directed straight to the tool tips.

The cabinets on the top side and heat-exchanger ensure the temperature to be very low for the electronic components to adapt and environment. The wiring is very simple, clean and neat easy for maintenance.

The machine base has built in large coolant tank and ample chip volume for easy collection and removal for easy collection and removal. Automatic lubrication system, hydraulic system, high and low coolant pumps are all attached on the machine. So, it is compact, easy and convenient to move.



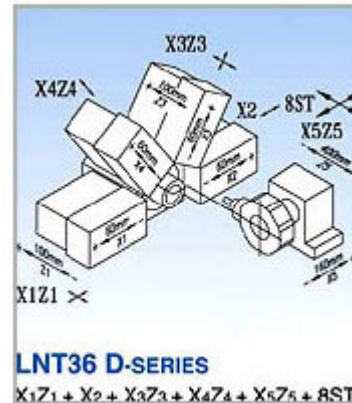
The LICO eM515A2 PC-based CNC control system was tailor made for LNT D-SERIES series Multi Slide Automatics.

Simultaneous max. 15-axis and 5-channels are available. The concept of programming is very similar with to cam automatics and common CNC lathes. It's very easy and friendly for users.



Bar Feeder Interface is standard equipment, several automatic bar feeders can be selected to connect with the LNT D-SERIES automatics.

Combination Examples:



LNT D-SERIES

CNC MultiSlide Automatics: NET36

Technical Data:

Model	LNA36 D-SERIES
Unit	Metric (Inch)
CAPACITIES	
Collet bar capacity, dia.(through bore)	Ø36 (1.42")
Max. turning length	120(4.72")
SPINDLE	
Center height of spindle(approx.)	1,000(39.37")
Collet chuck type	F42
Power of spindle motor	5.5/7.5KW(7.5/10HP)
Max. spindle speed	6,000rpm
COMPOUND SLIDE	
Cross silide travel(X-axis)	60mm(2.36")
Longitudinal slide travel(Z-axis)	100mm(3.94")
Type of tool shank	Ø25.4MM(1") ; ϕ16MM(ϕ5/8")
Rapid traverses, X-axis and Z	15 M/min
Woring feeds, X-axis and Z	5 M/min
Resolution	0.001mm (0.0001")
TOOL TURRET SLIDE	
Number of tool positions	8
Type of tool shank	Ø25.4MM(1") ; ϕ16MM(ϕ5/8")
Cross slide travel(X-axis)	+10mm(0.4")/ -80mm(3.15")
Longitudinal slide travel(Z-axis)	165mm(6.5")
Indexing time	0.4 sec/ 180° -1.2sec
MACHINE SPACE, WELGHT and POWER REQUIREMENTS	
Overall dimension (LxWxH)	2,000 x 1,260 x 1,650 (79"x51"x65")
Machine weight	2,500 kg(5,500 lb)
Hydraulic tank capacity	30 L
Hydraulic pump motor	1 kw
Coolant tank capacity	150 L
Coolant pump motor	0.5 kw
Lubrication capacity	2L, 10cc/15min
Total power required (Mitsubishi)	15kVA

LICO eM515A2 PC-Based CNC control

- * Simultaneous 15-Axis/ 5 channels (Max. 5-set X/Z)
- * Concurrent bar chart display
- * Tool path tracing & tool nose radius compensation
- * Automatic chamfering & corner rounding
- * Constant surface speed control
- * Thread chasing & multiple canned cycles

Optional Accessories:

1. Spindle-collet chuck F48 (Max. Ø42mm)
2. Automatic bar feeder ABF
3. Chip conveyor with cart (screw type) CCS
4. Workpiece belt coneyeyor WBC
5. Smoke collector SC

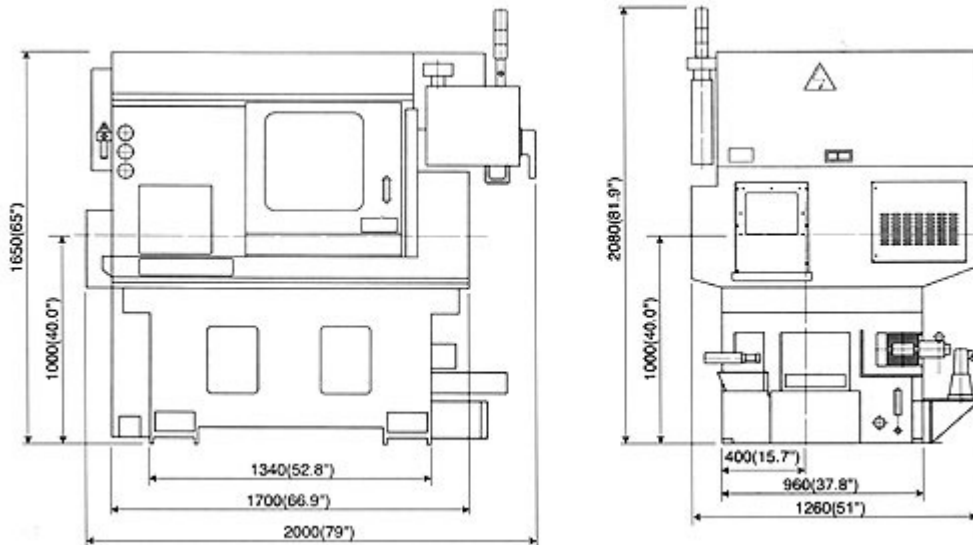
Standard Equipment:

1. Spindle-Collet Chuck F42 (Max. Ø36mm)
2. 8-Pos tool turret (non-dricen) 8ST
3. Air blow, coolant & hydraulic system
4. Automatic lubrication system
5. Bar feeder interface
6. Front door interlock and work lamp
7. Tool box and tool kits
8. Control cabinet heat exchanger

LNT D-SERIES

CNC MultiSlide Automatics: NET36

Dimensions:



LNE SERIES

CNC TURNING CENTER: LNE42

LNE SERIES

CNC TURNING CENTER: LNE42

All operations that materials to designed parts can be completed on one LNE42.

To complete machining bar parts in one manufacturing operation, the C-axis, sub-spindle and live tools as well as back machining tools work coordinately to minimize cycle time while keeping measurements within designed tolerance.



Automations with Bar Feeder(1M~3.2M)

For non-stop operations, the LNE42 is capable to accommodate nearly every brand bar feeder. Selected bar feeder or designed secondary job magazine loader aids LNE42 in full automation and priced in favour of your budget.

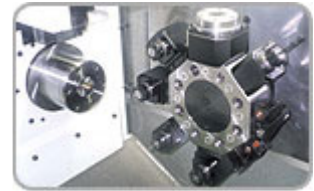


Machining samples

LNE42 is designed to the metalworking sector. It has been adapted by various industries such as aviation, vehicles, computers, plumbing fittings, optical instruments and others. An appropriate production proposal with production rate defined by tool arrangement, cycle time and attachments can be offered before you purchasing.

8-station servo turret with rotary live tools

With bi-directional tool change feature, the servo-controlled 8-station turret rationally combined with a variety of rotary live tools give a beyond performance over classical turnings centers in both multiple machining and production efficiency. (i.e. rapid indexing time is 0.3sec./45° ; 8sec/180°)



Synchronous sub-spindle and back machining (Max. 4 tools)

The synchronous driven sub-spindle is a sophisticated design by LICO self. It is mounted in one station of turret to bring LNE42 the edge on pip-free parting off job and back machining. Due this feature, LNE42 shortens cycle times and increases machining flexibility.

The Siemens 800-series Controller

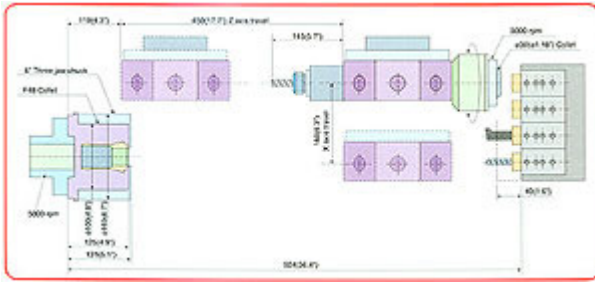
Siemens 840D control system, providing a user-friendly console with a dialogue program, creates a simple operation environment. Particularly, the graphic trace of tooling path makes trainings and operations easier.

Background edit allows for reprogramming while machine running, this function minimizes waiting time and keeps efficiency at a possible top rank.



LNE SERIES

CNC TURNING CENTER: LNE42



The working space

The X-axis of quill-type travels at speed of 15 meters per minute within its full traverse of 160mm. The linear-way Z-axis travels at speed of 25 meyers per minute within its full traverse of 450mm. The compound design offers the machanic rigidity with rapid movement.



Parts catcher with conveyor

The finished workpiece can be discharged via a designed parts catcher on spindle or match with sub-spindle on rear side. In addition, for finished parts safe, a belt conveyor can be installed either on the front or the rear side of machine to deliver the parts to the preset tray.



The spindle package

Main spindle with a 7.5° increment, the 48-position dividing system is able to do more heavy-duty milling jobs. C-axis projects 0.001° increment enhances the capability of contour milling.

The Siemens 800-series Controller

Siemens 840D control system, providing a user-friwndly console with a dialogue program, creates a simple operation environment. Particularly, the graphic trace of tooling path makes trainings and operations easier.

Background edit allows for reprogramming while machine running, this function minimizes waiting time and keeps efficiency at a possible top rank.



The chucking system

Either with standard F48 or optional Hainbuch 42 collet transfers LNE42 to bar-feeding operations up to diameter of 42mm (1 5/8 inch). An optional power chuck creates a chuck-machining up to diameter of 165 mm (6.5 inches) either with a manual feeding operation or the designed automatic loading system.

Servo controlled part-off slide

The programmable feed part-off alide is controlled by the servo system with prompt response to cut workpiece off precisely.



LNE SERIES

CNC TURNING CENTER: LNE42

Technical Data:

Model	LNE42
Unit	Metric(Inch)
CAPACITIES	
Collet bar capacity, dia.(through bore)	Ø42/ Ø1.65"(1-5/8")
Max. swing	Ø330 (Ø13")
Max. turning diameter (6"3-jaw power chuck)	Ø165 (Ø6.5")
SPINDLE	
Height of spindle center (approx.)	900(35.4")
Spindle nose	ISO A2-5
Collet chuck type	F48 (MAX. Ø42)
Power chuck reception	6"
Spindle/ draw bar through bore	Ø53 (Ø2")/ Ø43 (Ø1.7")
SPINDLE DRIVE	
Motor power (continuously)	7/10kw (9.5/13.5 HP)
Max. spindle speed	5,000rpm
SLIDE	
Longitudinal slide travel(Z-axis)	450(17.7")
Cross silide travel(X-axis)	160(6.3")
Parting off tool slide travel (B-axis)	160(6.3")
Resolution	0.001(0.0001")
TOOL TURRET	
Number of tool stations	8
Turning tool section	ϖ20 (ϖ3/4")
Tool holder	VDI Ø30x55(DIN 69880)
Indexinf time	0.3(45°)/ 0.8(180°) sec
BACK MACHINING	
Turning tool section	ϖ20 (ϖ3/4")
Boring tool reception	Ø25(Ø1")
SERVO MOTORS	
Working feeds, X-axis and Z	0~10,000 mm/min(0~394 in./min)
Rapid traverses, X-axis and Z	15/25 m/min(590/984 in./min)
Feed force, X-axis and Z (Mitsubishi)	5Nm (1.4kW)
SUB SPINDLE	
Chuck type	TNS32
Sub spindle max. turning diameter	Ø32 (Ø1.26")
Sub spindle motor(Rotary)	4.2 kW (5.6HP)
Max. sub spindle speed	3,000 rpm
SPACE REQUIREMENT AND WEIGHT	
Hydraulic tank capacity	25L (6.6 gal.)
Hydraulic pump motor	1.5kw (2HP)
Coolant tank capacity	150L (39.6 gal.)
Coolant pump motor	0.375kw (0.5HP)
Lubrication capacity	2L, 3~8c.c./ 10min
Overall dimension (LxWxH)	2180 1620x1740 mm (85.8x63.8x68.5")
Approx. net weights of machine with electrical cabinet(N.W.)	2400kg (5290 lbs)
Packing size	8.4m3
Total power required	20kVA

LNE SERIES

CNC TURNING CENTER: LNE42

CNC controller 840D standard functions:

- * Part program storage at length of 3,000M
- * Graphic trace of tool path
- * Multiple canned cycles
- * Automatic chamfering & corner rounding
- * Simultaneously controllable 2 axes
- * Interface RS232C
- * Tool offset memory 100 sets
- * Tool nose radius compensation
- * Constant surface speed control
- * Oriented spindle stop
- * Rigidity tapping
- * C-axis

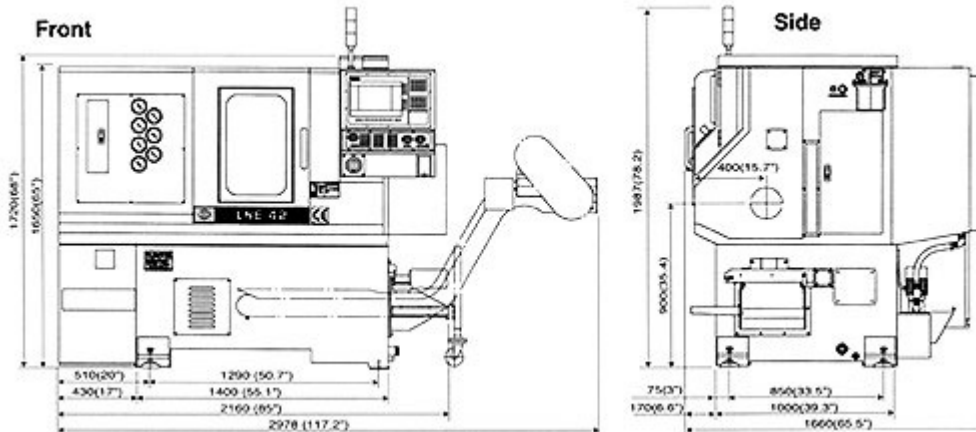
Standard Equipment:

1. A2-5 spindle nose, F48 collet chuck
2. Hydraulic system
3. Coolant system
4. Automatic lubrication system
5. Work lamp
6. Front door safety interlock
7. Tool box & tool lits
8. 8-station servo driven turret
9. Control cabinet heat exchanger
10. Air jet system
11. 48-position spindle diving system

Optional Accessories:

1. 6" hollow power chuck
2. Hainbuch 42 collet system for main spindle
3. Hainbuch 32 collet system for sub spindle
4. Chip conveyer with removable cart
5. Parts catcher
6. VD130 tool holders
7. Automatic bar feeder with interface
8. Live tools
9. Synchronous sub spindle
10. Back machining attachment
11. Servo parting-off slide

Dimensions:



LNT S-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNT36

LNT S-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNT36

Explore New Concepts

The LICO CNC Multi-slide Automatics for Highly Productive Turning

Lico, a leading manufacturer of automatics in Taiwan, Announces an all-new automatic bar machine. It's a truly high production Multi-slide Automatic Lathe, combining the advantages of cam operated automatics and modern CNC multi-axis control technology. The LNT36 S-series are equipped with a Siemens 840D control, providing fast set up and easy operation for experienced and non-experienced operators.

Enter Into a New Era of High Efficiency with LICO New LNT-S Series CNC Automatics.

The innovative LICO CNC Automatics comprises of three to four compound cross slide and one all-tool-driven 8-position turret, which are all fully CNC controlled. It provides amazing production output, and is unmatched to cam operated automatics and conventional CNC lathes.

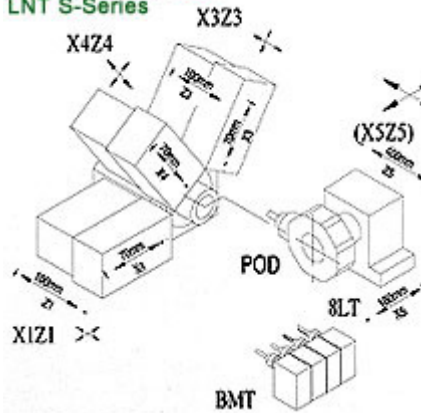


Machining Samples

Machining Samples

The LICO LNT Series Automatics are specially designed for metalworking industries such as for aviation, vehicles, computers, plumbing fittings, optical instruments and many others. It is ideal for machining all kinds of materials, ranging from aluminum, brass, steels, high alloy steels to stainless steels.

**CNC AXES LAYOUT
LNT S-Series**



Rigidity , Stability, and Lifetime Deformation-free

All This Can Be Found On LICO CNC

Lico engineers have combined years of practical automatic lathe design experience with latest structural design concepts to ensure that Lico automatic lathes provide optimum structural and machining accuracy.

Ruggedly constructed machine bed with scientifically rib reinforcement achieves the best possible stability.

Z-axis slide base and bed are one-piece constructed for added rigidity.

* Extra wide span between Z-axis linear ways with full travel support largely increases machining stability and accuracy.

* X1 Z1, X3 Z3, X4 Z4 ball screws are directly driven by Siemens servomotors.

* Precision linear guideways on Z5axis.

* Automatic lubrication to all slideways.

LNT S-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNT36



RIGID HEADSTOCK

- *The headstock is ruggedly constructed for maximum rigidity and stability.
- *The spindle runs on class P4 high precision bearings, providing maximum speed up to 6,000 rpm.
- *The collet chuck-type spindle is actuated by a rotary cylinder, providing fast workpiece chucking.

SIEMENS 840D CNC CONTROL

- *The machine is equipped with a Siemens 840D CNC control, providing dialog programming for user-friendly operations.
- *Graphic tool tracing makes training and operations much easier.
- *During operation, additional programs can be edited for reducing programming time.
- *The CNC control box can be swiveled for added operational convenience.



POWERFUL HYDRAULIC POWER UNIT

- *The hydraulic power unit is used for controlling the motions of turret and collet in the spindle.
- *The hydraulic system consists of top performance hydraulic parts to ensure stable motions, powerful hydraulic pressure and long service life.

RIGID CROSS SLIDES

- *The LICO CNC automatic lathe can be designed with three to four compound cross slides. They are used to perform various operations such as, longitudinal turning, complex contouring, thread chasing, part-off, etc. by using single point carbide tipped tools or conventional form tools.



MULTIPLE COMPOUND SLIDES

- *Module designed servo controlled X-Z compound slides are mounted around main spindle, good for OD turning or ID boring and multiple tools can perform machining simultaneously for greatly shorten cycle time.

8-POSITION SERVO TURRET

Featuring Turret and Gang Slide Functions

- *The newly-designed servo turret also provides the functions on a gang slide. Mounted on the compound slide, the turret is transmitted by a precision ball screw. It features extra long travel, high speed and two axes interpolation function. Available to fit with VDI fixed or driving tool to perform contour or compound machining.



LNT S-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNT36



BACK MACHINING

- *The pick-off device with collet is mounted on the turret and actuated by a hydraulic system and servo driven synchronously with the main spindle. It catches the workpieces before cutting off.
- *After indexing to the opposite direction, the workpiece is ready for back machining.
- *The back machining tool platform allows for mounting up to 4 gang tool holders or up to 3 live tool holders.



AUTOMATIC BAR FEEDER(OPTIONAL)

Choice of Bar Feeder Capacity 1.2 ~ 3.2 Meters.

The LICO CNC Automatic Lathe accommodates various brands of bar feeders. With the use of an automatic bar feeder, the CNC lathe will perform a fully automatic operations.

To enormously reduce labor costs, while upgrading your production efficiency, a bar feeder is recommended.

No special requirements or restrictions on material straightness.

Material rotates within machining area and spindle length of lathe.

Lathe spindle speed can be maximized.

Material can be round, hexagonal and shaped.

Material length can be uniform or random.

Easy to operate and maintain.

Small footprint.



SCREW-TYPE CHIP CONVEYOR

- * The screw-type chip conveyor comes equipped with a chip cart.
- * Link-type chip conveyor is available upon request.

PARTS OUTFEED CONVEYOR

*A parts conveyor is available to equip in the front side of the machine, which automatically delivers the finished parts into a collection tank for convenient handling.

*The parts conveyor running is program-controlled by Mcode and running frequency can be set as desired by the operator.



HEAT EXCHANGER FOR ELECTRIC CABINET

The electrical control cabinet is equipped with a high performance heat exchanger to ensure a constant temperature in the cabinet at all times. This ensures not only the normal performance of the control circuit but also extends the service life of electronic components.

LNT S-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNT36

Technical Data:

Model	LNE36 S-SERIES
Unit	Metric(Inch)
CAPACITIES	
Collet bar capacity, dia.(through bore)	Ø36mm(1.42")
Max. turning length	130mm (4.72")
SPINDLE	
Spindle center height (approx.)	1,000mm(40")
Collet chuck type	F42
Spindle motor power	10KW (13.4 HP)
Max. spindle speed	6,000 rpm
COMPOUND SLIDE	
Cross silide travel(X-axis)	70mm(2.760")
Longitudinal slide travel(Z-axis)	100mm(4")
Parting off tool slide travel (B-axis)	X:15 M/min / Z:15 M/min
Working feed rate, X-axis/ Z-axis	5 M/min
Resolution	0.001mm(0.0001")
TOOL TURRET SLIDE	
Number of tool position	Basic 8 positions + Extra Tools
Tool shank type	VDI-30x55
Cross silide travel(X-axis)	160mm(6.3")
Longitudinal slide travel(Z-axis)	400mm(15.8")
Turning tool section	16mmSq. (5/8")
Indexinf time	0.28 sec/180° -0.6sec
Sub spindle power	4.2KW (5.6HP)
Sub spindle speed	3,000 rpm
MACHINE SPACE, WEIGHT AND POWER REQUIREMENTS	
Overall dimension (LxWxH)	2,265x1,787x1,931 mm (89.0"x70"x76.2")
Machining weight	3,000kg(6,600lb)
Hydraulic tank capacity	30L
Hydraulic pump motor	1k W
Coolant tank capacity	180L
Coolant pump motor	0.5k W
Lubrication capacity	2L, 10c.c./ 11min
Total power required	25KVA

CNC controller 840D standard functions:

- * Part program storage at length of 3,000M
- * Graphic trace of tool path
- * Multiple canned cycles
- * Automatic chamfering & corner rounding
- * Simultaneously controllable 10 axes
- * Interface RS232C
- * Tool offset memory 100 sets
- * Tool nose radius compensation
- * Constant surface speed control
- * Oriented spindle stop
- * Rigidity tapping
- * C-axis

Optional Accessories:

1. Spindle-collet chuck F48(Max. Ø42mm)
2. Air live tool unit
3. Hydraulic live tool unit
4. Automatic bar loader
5. Chip conveyor with cart(screw/pallet-type)
6. Workpiece belt conveyor
7. Oil mist collector

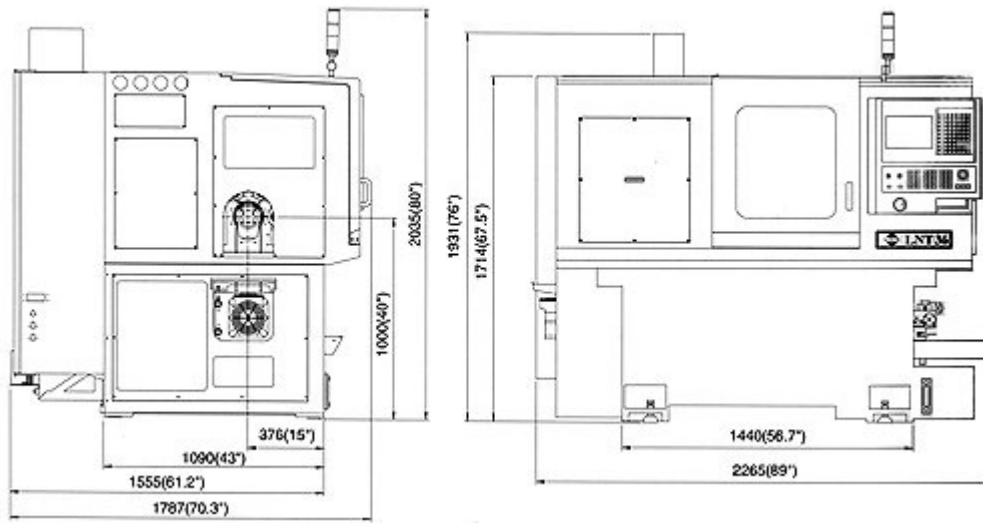
Standard Equipment:

1. Spindle-collet chuck F42 (Max. Ø36mm)
2. 48-pos. spindle dividing system
3. 8-pos. servo tool turret (with tool driven)
4. Air blower, coolant and hydraulic system
5. Automatic lubrication system
6. Bar loader interface
7. Front door interlock and work lamp
8. Tool box and tool kits
9. Control cabinet heat exchanger
10. Pick-off device
11. Back machining tool holders

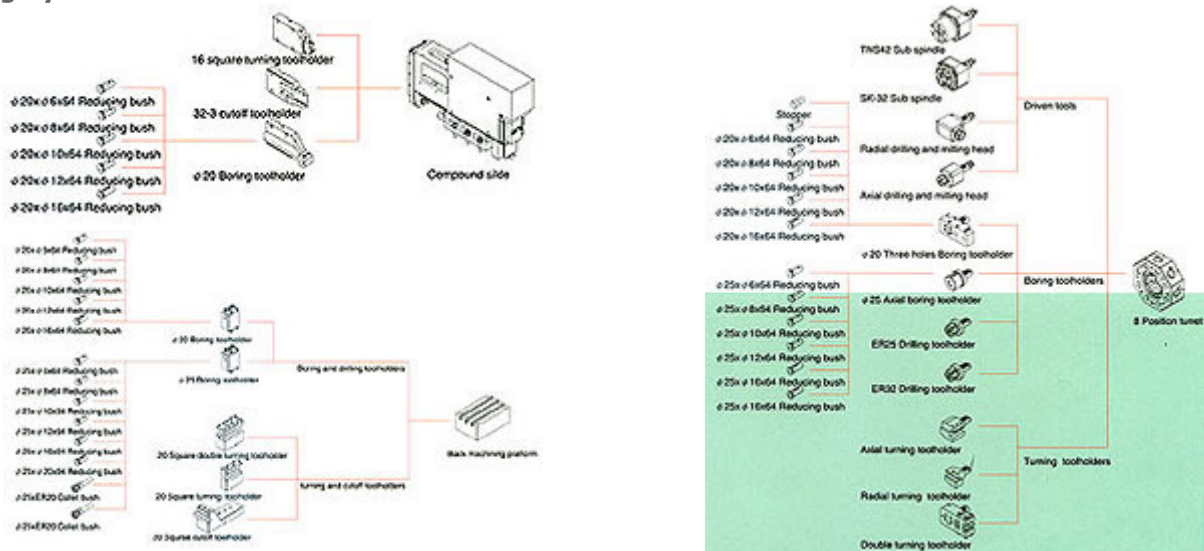
LNT S-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNT36

Dimensions:



Tooling System:



LNA T-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNA36T/LNA42T

LNA T-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNA36T/LNA42T

Simple CNC MultiSlide Automatics

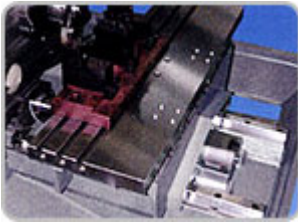


LICO, A leading manufacturer of automatics in Taiwan, announced a newly developed automatic bar machine. "The **Simple** CNC MultiSlide Automatics" models **LNA36/42 T-SERIES**. They combine the advantages of conventional cam-operated automatic lathes with modern multi-axis CNC controller and common CNC programming, provides fast set up and easy operation for both experienced operators and new comers.

The machine comprises double compound slides and a **gang slide**. They permit longitudinal turning, complex contouring, thread chasing, by simple carbide inserted tools for O.D. work as well as drilling, boring, threading, recessing and tapping for I.D. conventional form tool can be used.

Optional accessories, such as Parts Catcher, Chip Conveyor, Workpiece Belt Conveyor and available with caries brands Automatic Bar Feeder.

During the operation, there are 2~3 tools overlapping and working simultaneously, thus dramatically reducing and optimizing cycle times as we or increase machining efficiency tremendously. On larger runs they are more economic than cam-operated sutomatics. On medium quantity runs they beat CNC lathes down.



X/Z Slides with Linear Way

Both X-axis and Z-axis are designed with linear ways gained both benefits of chips-free and well lubrication as well as to achieve precision positioning and rapid movement. On the slide of X-axis can expand an option of economic gang tools with sub plate or the sophistic 8-position turret with thru coolant.

Collet Chuck

Standard spindle is equipped with F-type collet chuck. Option with 5C Chuck. For precision required parts can equipped with air chuck and apply spindle speed to 10,000rpm upon request.



Machining Samples

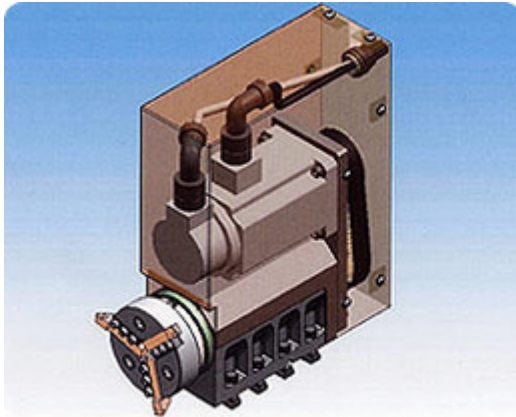
The LNA T-SERIES

automatics are designed for the metalworking sector. It has been adapted by various industries such as aviation, vehicles, computers, plumbing fittings, optical instruments and others. With much wider materials choice, not only free cutting steel, brass, aluminum, but also alloy steel, stainless steel can be machined.

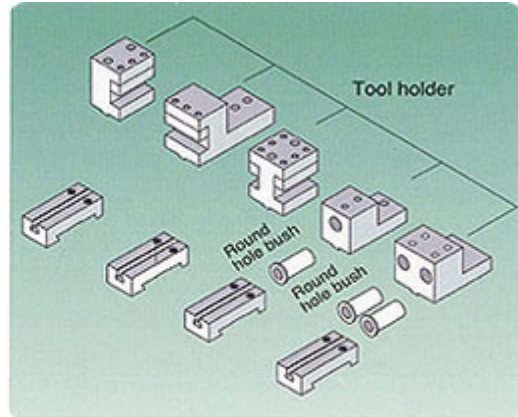
An appropriate production proposal with production rate defined by tool arrangement, cycle time and attachments can be offered before your purchasing.

LNA T-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNA36T/LNA42T



A Polygonal Turning Attachment



Tool system (Gang type)



Wire Cabinet

A sizable wire cabinet with functional heat exchanger ensures a right temperature for every electronic component during intensively cuttings. The succinct wiring design provides for maintenance, makes the job easier.

CNC Control System

User-friendly console offers an easy operation even for inexperienced trainees. Standard with for low cost CNC system PC-based T-1000, Mitsubishi M65, Siemens 840D, Fanuc 31i available upon request.



LNA T-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNA36T/LNA42T

Technical Data:

Model	LNA36T	LNA42T
Unit	Metric (Inch)	
CAPACITIES		
Collet bar capacity, dia.(through bore)	Ø36 (1.42")	Ø42 (1.65")
Swing over bad	Ø150 (Ø5.9")	
Swing over alide	Ø350 (Ø13.8")	
Max. turning dia.(3-jaw power chuck)	Ø125 (Ø5")	
Max. turning length	100(4")	
SPINDLE		
Height of spindle center (approx.)	1,000(39.4")	
Spindle nose	A2-4	A2-5
Collet chuck type	F42	F48
Power chuck type	Ø5"	Ø6"
Spindle/ draw bar through bore	Ø37(1.46")	Ø45(1.77")
SPINDLE DRIVE		
Motor power cont.(Mitaubishi)	3.7/5.5kw (5/7.5 HP)	3.7/10kw (10/13.4 HP)
Max. spindle speed	6,000rpm	5,000rpm
SLIDE		
Cross silide travel(X-axis)	250mm(10")	
Longitudinal slide travel(Z-axis)	200mm(8")	
TOOL		
Turning tool section	16mm Sq.	
Boring tool reception	Ø20mm(3/4")	
SERVO MOTORS		
Working feeds, X-axis and Z	0~10,000 mm/min	
Rapid traverses, X-axis and Z	24 M/min	
Feed force, X-axis and Z (Mitsubishi)	4Nm	
MACHINE SPACE, WELGHT and POWER REQUIREMENTS		
Overall dimension (LxWxH)	1,530 x 1,260 x 1,620 (60.2"x49.6"x63.8")	
Machine weight	1,660 kg	
Hydraulic tank capacity	30L	
Hydraulic pump motor	0.75kw	
Coolant tank capacity	180L	
Coolant pump motor	0.187kw	
Lubrication capacity	2L, 10cc/10min	
Total power required (Mitsubishi)	11kVA	

LNA T-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNA36T/LNA42T

INTEK T1000 PC-Based CNC Control System:

- * tool path tracing & tool rad.
- * Thread chasing & Multiple canned cycles
- * Automatic chamfering & corner rounding
- * Simultaneously controllable 10 axes
- * Constsnt surface speed control
- * Oriented spindle stop

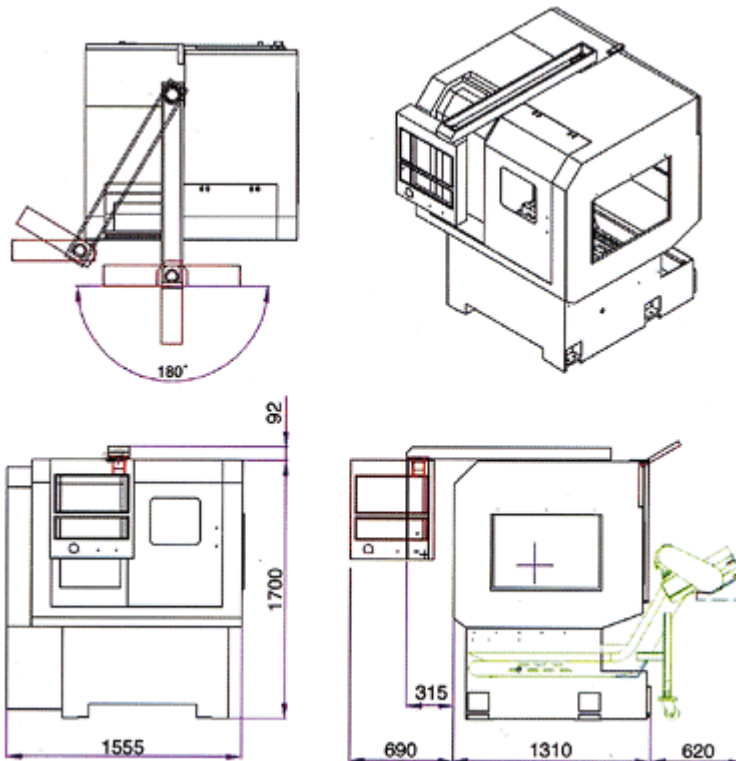
Standard Equipment:

1. Spindle Collet Chuck System
2. 48-Pos Spindle Dividing System
3. Hydraulic System, Coolant System and Air Jet System
4. Automatic Lubricstion System
5. Work Lamp and Front Door Interlock
6. Tool Box and Tool Kits
7. Control Cabinet Heat Exchanger

Optional Accessories:

1. Hollow Power Chuck Ø5"
2. Precision Air Chuck Ø4"
3. Parts Catcher
4. Tool Turret 8-station (No Tool Driven)
5. Hydraulic Live Tool Unit (max. 1 set) HLT
6. Chip Conveyor with Cart CCS/CCP
7. Automatic Bar Feeder with Interface ABF
8. Polyonal Turning/Milling Attachmeut PTA

DIMENSIONS



LNC D-SERIES

CNC MULTI-ALIDE AUTOMATICS:
LNC42D/ LNC65D/ LNC80D

LNC D-SERIES

CNC MULTI-ALIDE AUTOMATICS: **LNC42D/ LNC65D/ LNC80D**

The Economic Way of Complete Machining, Turn & Mill
Power Tools Turret, Counter Spindle, X/Z Slide and Back Machining



- * Best value, versatile machine available for all production shops.
- * Main spindle with infinite indexing, C-axis FUNCTION.
- * Several different arrangements to match your needs.
- * Short or oil-film automatic bar feeder available as option.

(-01)LNC42D-GANG (M64ALS; S802D; F0i Mate)
Quick and easy for simple jobs subplate available as option.

(-02)LNC42D-G-8ST (M64ALS; S802D; F0i Mate)
With hydraulic live tools up to 3-sets, Both X or Z DIRECTION, Eccentric or cross drilling, Tapping and milling operations.

(-11)LNC42D-8ST-BM (S810D; M64SL)
(-12)LNC42D-G-12LT (S802D; M64SL)
(-13)LNC42D-12LT-BM (S840D; M65SL)
Up to 12-position with live tooling, Good for turn and mill combination jobs.

(-21)LNC42D-8ST-BW-Z2X2 (S810D; M64SL; M70)
(-22)LNC42D-12LT-BM-Z2X2 (S840D; M65SL; M70)
Of complete machining, X/Z slide for parting-off and simple turning units are available.



Machining Samples



High speed, high precision bi-direction indexing turret 8 or 12-position with thru coolant available.
Indexing time is 0.35 seconds.

LNC D-SERIES

CNC MULTI-AXIS AUTOMATICS: LNC42D/ LNC65D/ LNC80D



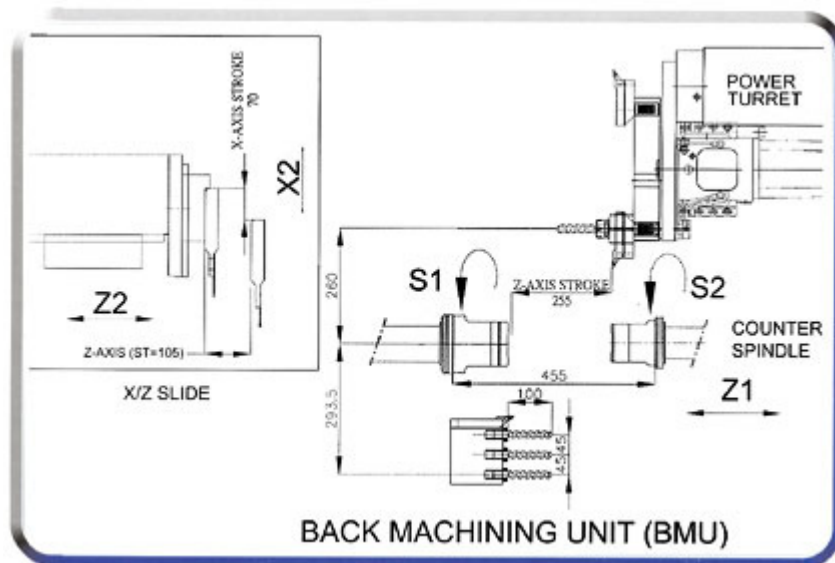
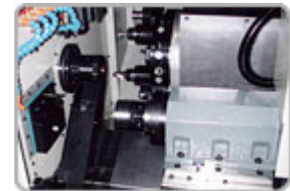
Both X/Z slides are box way construction, Chips-free and steady for all kinds of material stock. Additional X/Z tool slide gained both benefits of parting-off and overlap back side turning.

12-Station-Power-Turret ensures high repeated positioning accuracy and rigidity with a build-in cooling nozzle sprays coolant directly to tool tips.



CNC controllers
"MITSUBISHI" M64SL, SIEMENS 840D or FANUC 31i are available.

Counter spindle with 48-indexing collet chuck max, 36 mm, 4"-3J chuck as option.



LNC D-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNC42D/ LNC65D/ LNC80D

Technical Data:

Model	LNC42D	LNC65D	LNC80D
Unit	Metric (Inch)		
CAPACITIES			
Collet bar capacity, dia.(through bore)	Ø42 (1.65")	Ø65 (2.56")	Ø80 (3.15")
Swing over bad	Ø260 (Ø10.2")		
Swing over alide	Ø150 (Ø5.9")		
Max. turning dia.(3-jaw power chuck)	Ø165 (Ø6.5")	Ø210(Ø8.3")	Ø304 (Ø12")
Max. turning length (Turret type)	collet	205(8")	
	3-jaw power chuck	165(6.5")	155(6.1")
Max. turning length (Gang type)	collet	280(11")	
	3-jaw power chuck	240(9.5")	230(9.1")
SPINDLE			
Height of spindle center (approx.)	10300(40.55")		
Spindle nose	ISO A2-5	ISO A2-6	ISO A2-8
Collet chuck type	F48 (Ø42)	F72 (Ø65)	F90 (Ø80)
Power chuck reception	6"	8"	12"
Spindle/ draw bar through bore	Ø53 / Ø43	Ø78 / Ø66	Ø94 / Ø78
SPINDLE DRIVE			
Motor power cont. (Mitaubishi/Siemens)	7.5/10kw (10/13.4 HP)		
Max. spindle speed	5,000rpm	4,000rpm	3,000rpm
SLIDE			
Longitudinal slide travel(Z-axis)	300(11.8")		
Cross silide travel(X-axis)	350(13.9") for gang tgpe		
Resolution	0.001 (0.0001")		
TOOL TURRET			
Number of tool position	8 or 12 (Stationary)/ 12 (Power)		
Turning tool section	20mm SQ (3/4")		
Boring tool reception	Ø25(Ø1")		
tool drive	2.2 kW		
live tool max. speed	3,000 rpm		
Indexing	0.35 sec		
SERVO MOTORS			
Working feeds, X-axis and Z	0~10,000 mm/min (0~394 in./min)		
Rapid traverses, X-axis and Z	15 M/min (590 in./min)		
Feed force, X-axis and Z (Mitsubishi/Siemens)	5Nm (1.0 kW/ 1.4 kW)/ 3.68 lb-ft (1.334 HP/ 1.87 HP)		
SPACE REQUIREMENTS AND WELGHTS			
Overall dimension (LxWxH)	2,000 x 1,500 x 1,700 (78.7" x 59.1" x 66.9")(1800 Siemens)		
Approx. net weights of machine with electrical. cabinet(G.W.)	2,350 kg	2,450 kg	2,550 kg
	(5,170 lbs)	(5,390 lbs)	(5,610 lbs)
Machine weight	2,700 kg	2,800 kg	2,900 kg
	(5,940 lbs)	(6,160 lbs)	(6,380 lbs)
Packing size	7.5m ³ (24.6ft ³)		
Hydraulic tank capacity	30L (0.79 gal.)		
Hydraulic tank capacity (Rotary tool)	40L (1.05 gal.)		
Hydraulic pump motor	0.75kw (1HP)		
Hydraulic pump motor (Rotary tool)	3.75kw (5HP)		
Coolant tank capacity	150 L (3.96 gal.)		
Coolant pump motor	0.375 kW (0.5 HP)		
Lubrication capacity	2L, 10cc/10min		
Total power required (Mitsubishi/Siemens)	11kVA		16kVA

LNC D-SERIES

CNC MULTI-ALIDE AUTOMATICS: LNC42D/ LNC65D/ LNC80D

"MITSUBISHI" M64SL CNC controller with following functions as standard:

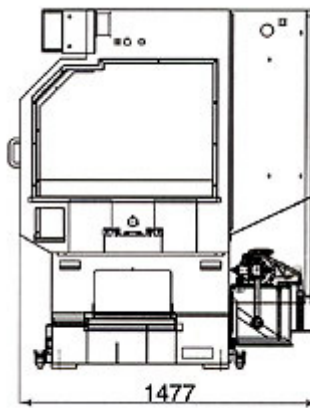
- * Part program storage length 600M
- * Graphic trace of tool path
- * Multiple canned cycles
- * Automatic chamfering & corner rounding
- * Simultaneously controllable 2 axes
- * Tool offset memory 80 sets
- * Tool nose radius compensation
- * Tool life management
- * Constant surface speed control
- * Oriented spindle stop

Standard Equipment:

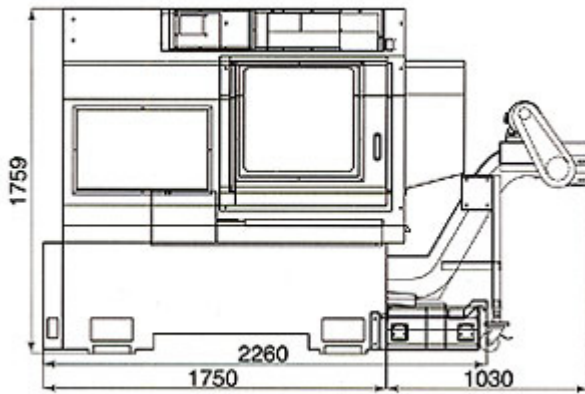
1. Spindle Collet Chuck System (Standard)
2. Main spindle with infinite indexing
3. Hydraulic system
4. Coolant and air jet system
5. Work lamp
6. Automatic lubrication system
7. Front door safety interlock
8. Parts catcher
9. Tool Box and Tool Kits
10. Bar feeder interface
11. Control cabinet heat exchanger

Optional Accessories:

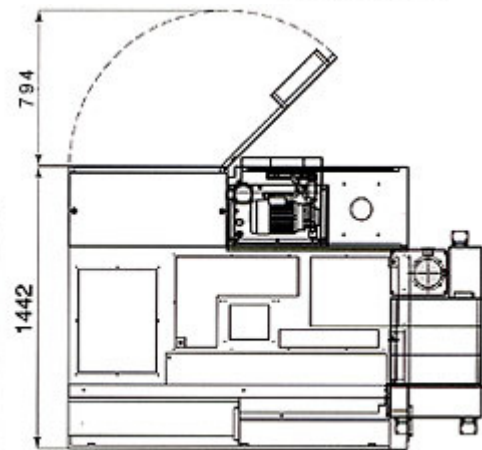
1. 6"; 8"; 12" hollow power chuck ()LNC42D; LNC65D; LNC80D
2. Tool turret 8 or 12 stations
3. Power turret 12 stations
4. Counter spindle CS36(std.)/ Ø4"-3J(opt.)
5. Hydraulic live tool with hydraulic system
6. Additional X/Z tool slide
7. Back machining unit
8. Foot pedal for collet & chuck open/ close
9. Vertical polygonal milling attachment
10. Chip conveyor with cart
11. Automatic bar feeder



Right View



Front View



Top View

公司沿革 Company Profile

- | | |
|---|--|
| 1978 利高機械工業股份有限公司正式在九月三日於桃園成立。 | 1978 LICO machinery co. was founded on Sep. 3, in Taoyuan by Hank Lin, Ray Cheng, Vic Lin, Knoll Chiu and other partners. |
| 1981 首次外銷單軸自動車床至美國及日本。 | 1981 LICO first exported single spindle automatic lathe to America and Japan. |
| 1984 利高機械首次參加馬來西亞機械展，積極拓展東南亞業務市場。 | 1984 LICO attended Mex 1984 machine show at Kuala Lumpur, Malaysia, and set-up a sales net in the South-East Asian market. |
| 1990 成立利根機械於潭子加工區。
成立美國利寶高公司，除銷售原有設備外，並銷售汽車零件以服務美國市場。
研發CNC多滑軌自動車床。 | 1990 LICO invested and set-up a new company in the Tai-Chung Export Processing Zone (Taiwan)--Likon Machinery Co., Ltd. LICO invested and set-up a new company with LIPO in Texas, U.S.A. --Lipoco Enterprises Inc. to produce automobile parts and sales for the American market.
LICO started to develop CNC machines, the first project was the "CNC Multi-Slide Automatic Bar Machine". |
| 1993 LNT-42 CNC 多滑座自動車床，榮獲第一屆「台灣精品獎」，並取得台灣、大陸、德國等專利。 | 1993 LICO developed multi-slide LNT-42 CNC Lathe and got the prize of "It's Very Well Made In Taiwan" No.1.
Got the patent from Taiwan, Mainland China and Germany. |
| 1994 利高公司發展LA32H自動車床榮獲第二屆「台灣精品獎」。 | 1994 LICO developed LA32H Cam Automatic Lathe and got the prize of "It's Very Well Made In Taiwan" No.2. |
| 1996 利高公司取得ISO-9000國際品保認證。 | 1996 LICO was passed the international quality assurance licence of ISO-9000. |
| 1999 利高公司發展複合加工多功能CNC車床，榮獲第八屆「台灣精品獎」。 | 1999 LICO Developed functional complex CNC lathe and got the prize of "It's Very Well Made In Taiwan" No.8. |
| 2001 利高公司經英國Amtriveritas取得CE認證，編號9002。 | 2001 The CE Mark approved by Amtriveritas in the UK. |
| 2002 LNE42複合加工CNC車銑加工機，榮獲第九屆國家級創新研發獎。 | 2002 LNE42 awarded the prize of "Innovative Research Award of SMEs" hosted by Taiwan Ministry of Economic Bureau. |
| 2004 利高開發LNT鍛胚自動送料，完全加工機。 | 2004 LICO developed LNT forged blank with automatic loading complete machining machine. |
| 2005 利高開發LNC-D自動棒材送料，有十二位複合加工及副主軸背面加工之CNC自動車床。 | 2005 LICO developed LNC-D automatic bar feeding with 12-position live tools and sub-spindle back machining CNC automatics. |
| 2006 利高開發CNA36P小型低成本之主軸移動式CNC車床，適用於長軸加工、不銹鋼球閥心軸套Y銑、手工具之多邊車削成形。 | 2006 LICO developed compact, affordable head stock sliding CNC automatic lathe for long shaft machining, stainless steel ball valve stem with Y-mill and hand tools with polygonal turning. |



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