



# CNC Lathe

Cutting the Complex Parts through both Turning and Milling

**TM Series**  
**NCL Series**

## Contact

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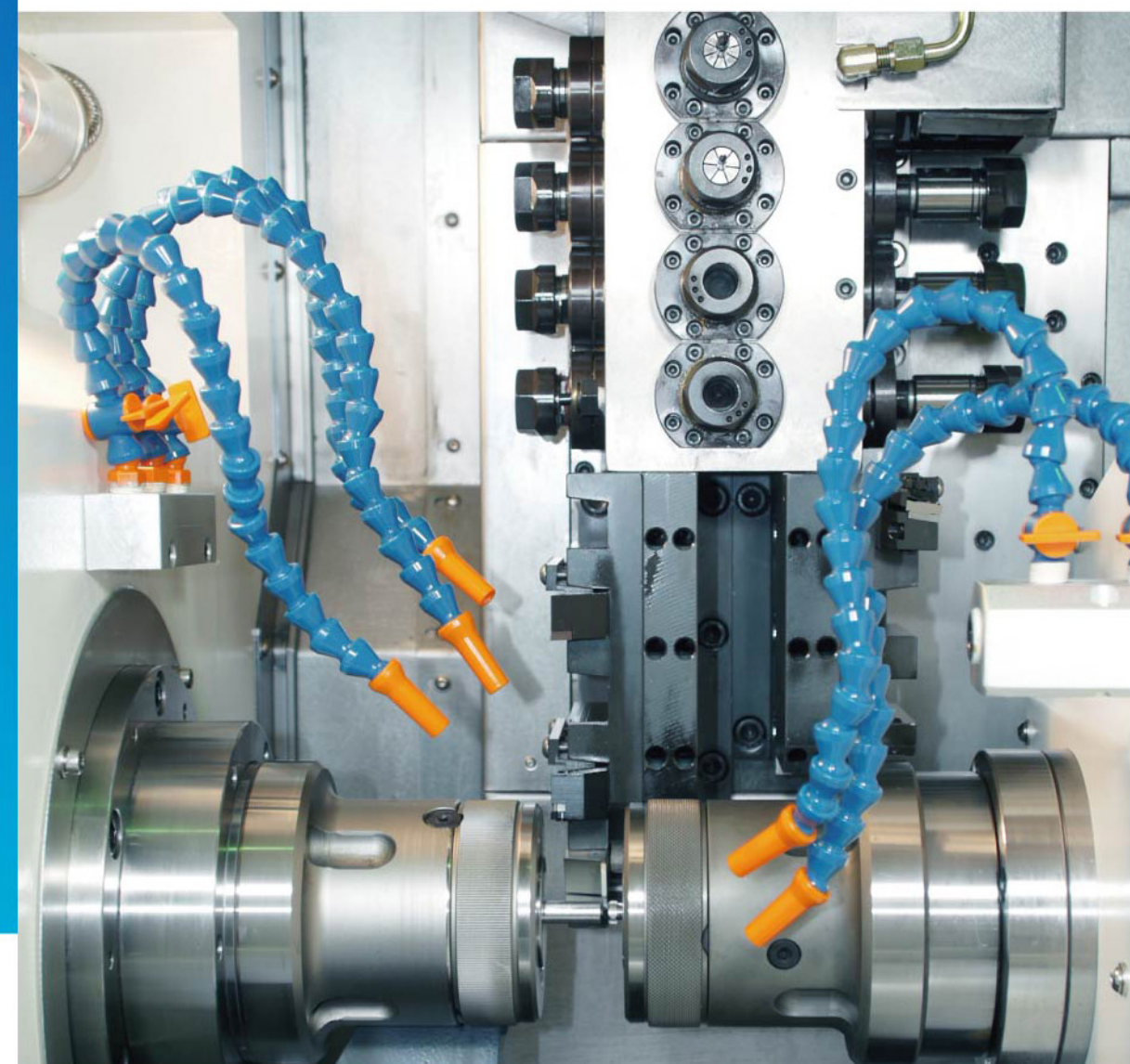


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ISO9001





## Company Profile

» ARIX CNC founded in 1995, provides every user with the high-end, low-cost technology and high performance machines. As products continue to diversify, product life cycle continue to shorten, the demand for lower manufacturing cost grows rapidly. Manufacturers face a growing need of increasing productivity with lower cost from market place. ARIX CMC machines have refined to meet the growing demand by high speed and high accuracy milling machines and also the CNC turning & milling machines.

The multi-purpose TMA series that can handle both turning and milling within one machine without any setup. TMA 42 can cut the bars (like copper, steel and stainless steel) up to 42mm. The complicated parts including turning, threading, drilling, tapping and milling operations can be done without any fixture. This can speed up the small lot and diversified part machining by an economic solution.

The new economic CNC lathe NCL series fill the expensive slanted bed lathe. Gap between mini bar machine unable to cut steel and too the item base makes the 3 mm depth of cut turning easily and efficiently.

The cost effective high speed machining centers provide customers the advantages to reduce machining cost. This series has passed the on site test for more than ten years. We provide both good product and service.

The slant bed CNC TEACH-IN lathe TS series give extraordinary machining capacity, stability and precision. The specially designed structure enhances the heavy cutting capabilities and easy operation TEACH-IN controller makes the quick and simple setup and programming.



### » Dear customers,

Thanks for your long-term support in ARIX product for years. ARIX have started from teach-in CNC milling machine for tool shop since 1995. They have gained reputation among our customers. Our team put all effort to simplify the operation and reduce the redundant time in setup and programming through our own CNC software since 1995. CNC series is our first step in European market.

In 2000, we announced our first high machining center V series and more focus on the mold making application. It has created advantage among our mold-making customers for its best performance to cost. For further accurate jobs, we created our gantry high speed machining centers DV series in 2003 and built up a lot of customers in Asian market.

Now we announce a complete line of CNC milling turning centers and lathe designed to meet the needs of the complex tough material like stainless and steel, parts machining. The new concept machines provide the cost effective solution for the tool shop and mass production factory. These let the one setup cutting and heavy duty cut possible on the small machines up to 60mm bar capacity. With these machines, we have turned CNC lathe to new levels of reliability, ease, accuracy and productivity. Sincerely Yours,

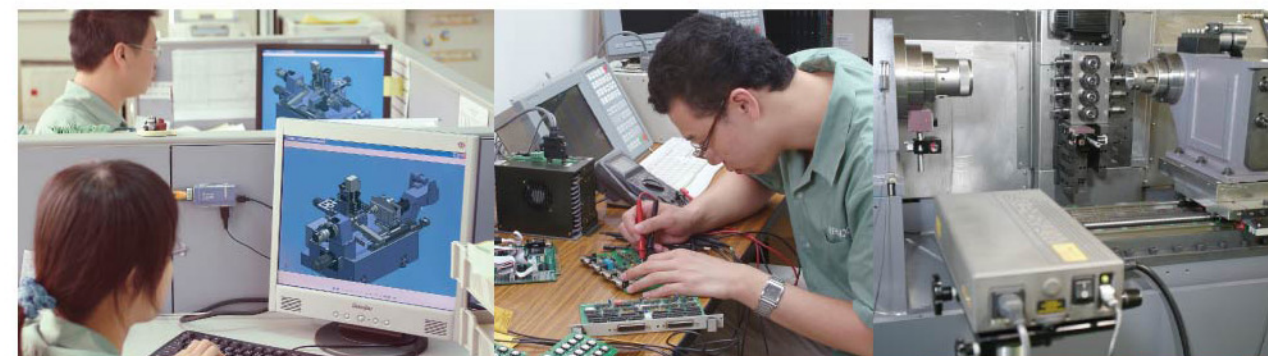


General Manager *Arix yang*

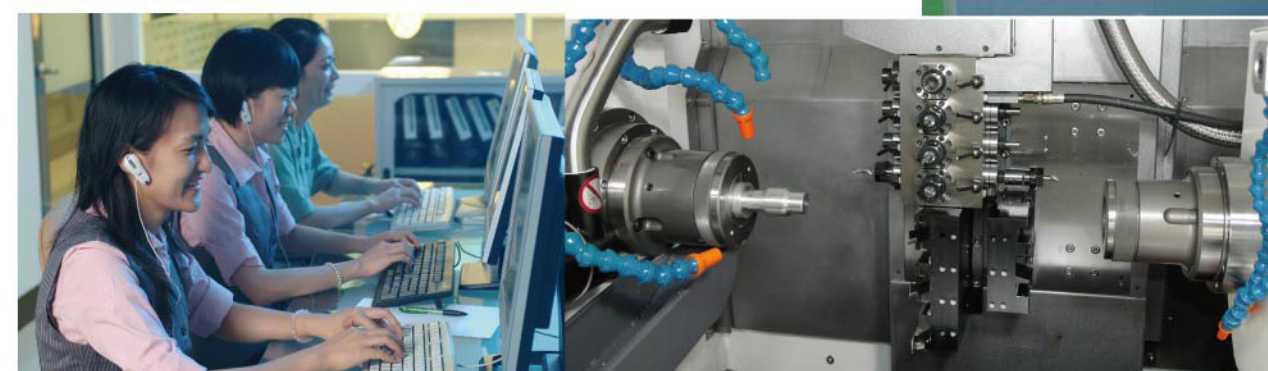
**ARIX CNC MACHINES CO., LTD**



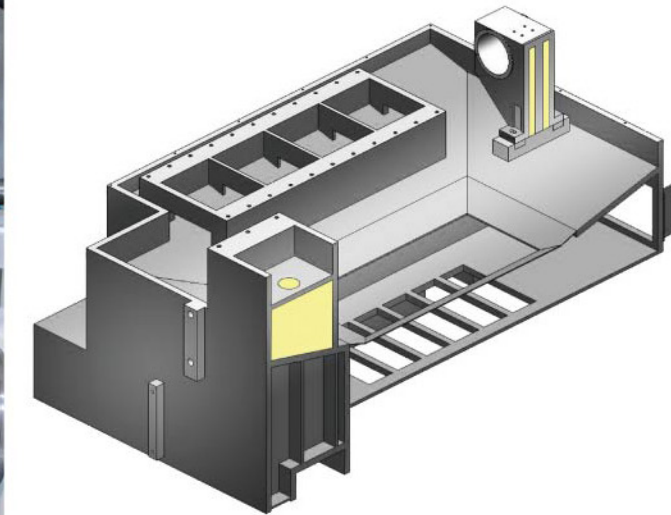
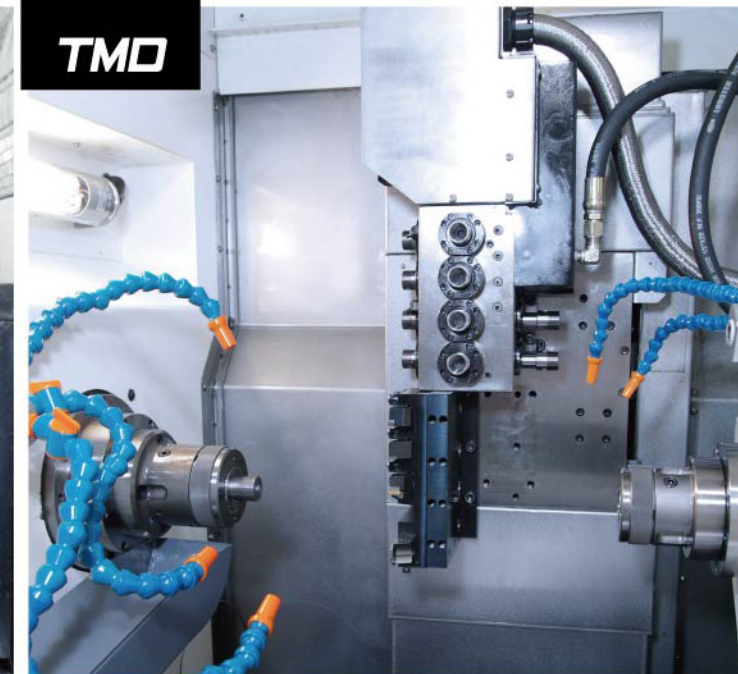
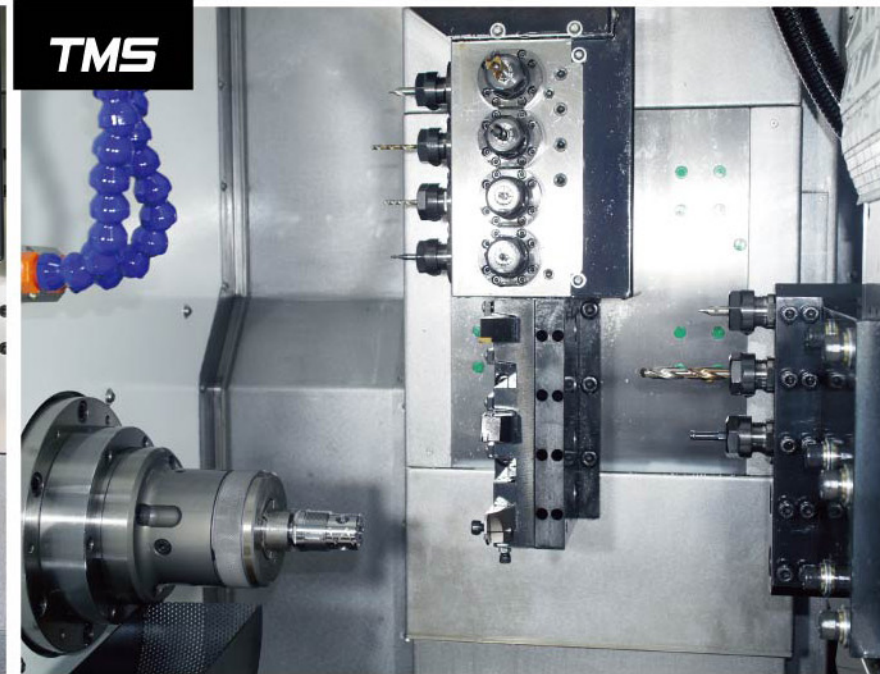
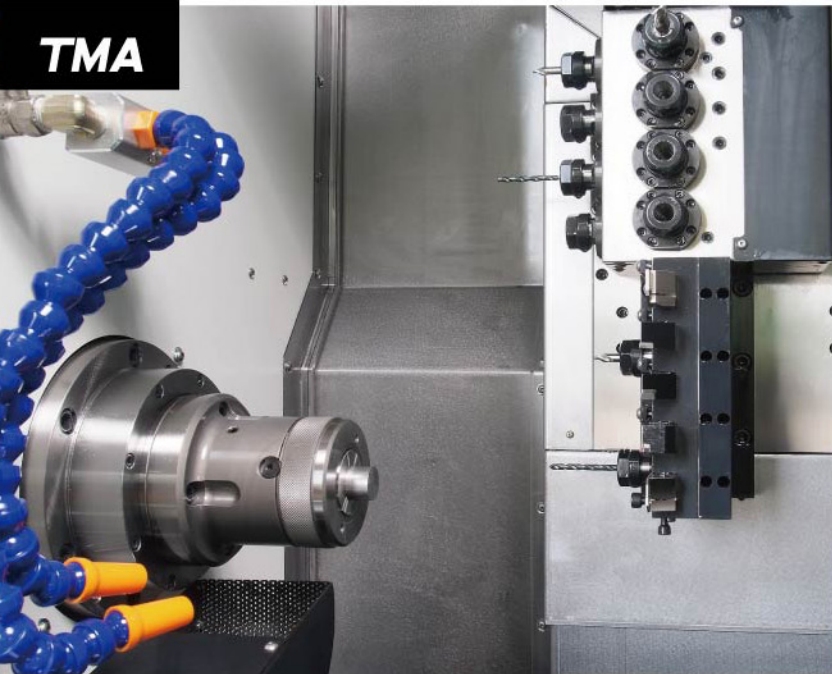
## The Best Design Supports the Best products.



» ARIX has a great RD team that integrates machine designers and software designers to develop our most advance machine and easy operation interface controller. It is our edge in the tool shop market. For production, our skill technicians use scrapping to get the best accuracy and rigidity in all contact surfaces of transmission mechanism parts. The inspection process is including the laser calibration, ball bar circularity test and machining test. All the machines get the optimal conditions before shipment. ARIX uses intelligent customer service software that can book, follow up and generate database for all the after service. All our customers can access to us in any time and get the fastest response.







## Simultaneous five axes control and twin synchronous spindles.

The simultaneous control of 5 axes gets machining part production times by full synchronization of main and back spindles.

### Special features:

1. The simultaneous control of 5 axes permits minimum part production times.
2. Flexible vertical tool holder system with 5 turning and 12 live tools.  
4 stations for front machining and 4 stations for back machining.
3. Main spindle with C axis function
4. The 3 axes linear turret is ideal for chip discharge and offers an extreme rigidity.
5. The mineral stone base guarantees the best damping capacity and best finishing surface.

### Bar Feeder Optional Accessories

Machining from the bar is made easier with the bar feeder. The hollow cylinder can clamp the bar of 42mm diameter.



**TMA42CL**

- The basic turning and milling machine that can handle single part or small lot complex parts.



**TMA50CL**

- The basic turning and milling machine that can handle single part or small lot complex parts.





**TMS42CL**  
Machining Integration

#### ► TMS42CL for Synchous Internal Turning Tailstock

For the short cycling time parts, the tailstock can cut the internal part simultaneously to reduce the machine time about 40%.  
The inclined bed is ideal for chip discharge and offers an extreme rigidity.

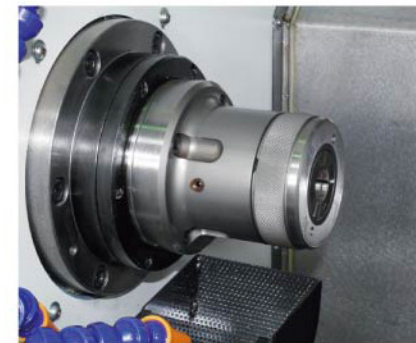


► The full synchronization of main and back spindles can cut both end and finished part without any fixture.

**TMD50CL**  
Machining Integrati

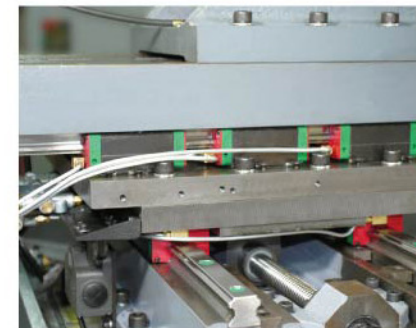


Standard



#### Hydraulic Chuck

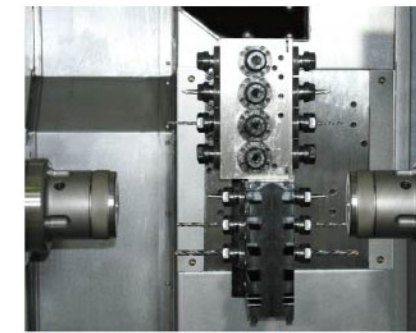
The standard hydraulic collect chuck controlled by a foot switch for efficient clamping. For the optional jaws chuck, inward or outward clamping can be set by parameters.



#### All axes are rigid linear guides

The six blocks support gives the highest rigidity and accuracy among similar specifications machines.

Optional



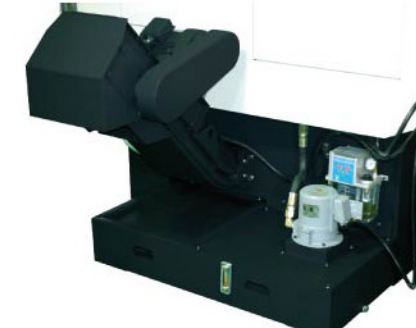
#### Linear Live Tools Turret

The turret provides quick tool change and reduces no-cutting time by linear transverse. The live tools are powerful enough to cut even stainless steel bar up to 42mm.



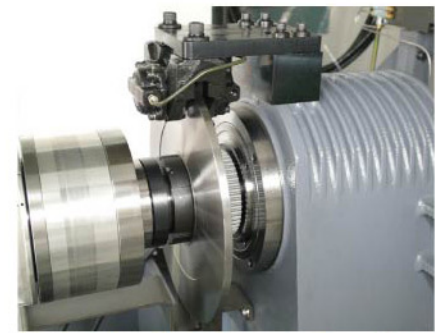
#### Precision Spindle

The cartridge type is conveniently removed allowing for convenient servicing. The spindle runs on class P4 precision bearings providing high axial thrust capability. This ensures high precision during heavy duty turning.



#### Chip Conveyor

The standard chip conveyor brings out all the chips efficiently and let the cutting area clean.



#### Spindle hydraulic brake

The two steps hydraulic brake that can ensure the smooth C axis motion for machining in light braking force. The heavy braking can stop and take all the vibration from milling operations.



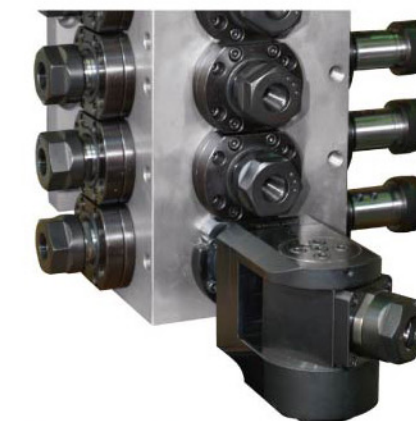
#### 8" Hydraulic Jaws Chuck (For TM50/TMD50)

The optional jaws chuck controlled by a foot switch for efficient clamping. The inward or outward clamping can be set by parameters.



#### Part Catcher

The standard part catcher makes the whole process more smoothly.



#### Adjustable Angular Heads



#### Oil Mister



# TMX55 CNC System for Turning Milling



- 10.4' Color LCD display**  
Full color 10.4" LCD display designed to work in the oil mist environment and can last long life. It can be clearly read under the bright light with the anti-glare glass.
- Stainless Steel Panel**  
The Stainless steel panel with fine-bushed surface is not only great look but also easy to clean. It resists any kind of scrap and corrosion.
- MPG unit:**  
All the machine tools have MPG. But in ARIX TMX55, the MPG used as the controlling device for the speed of the feedrate in the NC programming execution. The speed is controller by the rotation speed of the MPG and even can reverse the movement by CCW rotation.
- Integrated Operation Panel**  
The Operation panel provides one button operation to simplify the accessories operation.
- Compact Dedicated IPC System**  
The robust compact and durable industrial PC is the foundation of reliability. TMX55 is not a common desktop PC or NC from others. This means we can service the entire CNC machines with full responsibility. The service cost is low and in real time without delay.
- CF card reader/ Network interface**  
These allow user to access the NC program for store easily.

# Easy Programming Teach-In Functions

**TURNING**  
(STRAIGHT AND TAPER)

Input the profile data from the blueprint. Press the simulation key to generate the graphic tool path.

**FACING**  
(STRAIGHT AND TAPER)

Input the specific parameters for this operation according to the graphic guide.

**THREADING**  
(STRAIGHT, TAPER AND MULTIPLE)

For straight, taper or facial type of threads can be multiple as well.

**MPG SIMULATION**

After the machining program is loaded, select the MPG mode to let the NC program be executed according to the MPG rotation speed.

**END DRILLING**

Input the start, end point and drilling conditions to generate the NC program.

**GROOVING**  
(LONGITUDINAL AND AXIAL)

Do both longitudinal and axial grooving combining roughing and finishing.

## Durable and Compact Hardwares

Arix CNC TMx hardware has become more compact and reliable. The slimline operator panel has an extremely low mounting depth. High contrast and good readability even from extreme angle of vision make operation easier. All the keys arrangement is optimized for the operation on the TM series with bar feeder.



- ▲ The rigid IPC unit equips with the low power dissipation industrial Pentium CPU, reliable servo boards and I/O boards.
- ▲ All the spindle inverter, AC servo drivers and motors are durable and permit the best reliability.

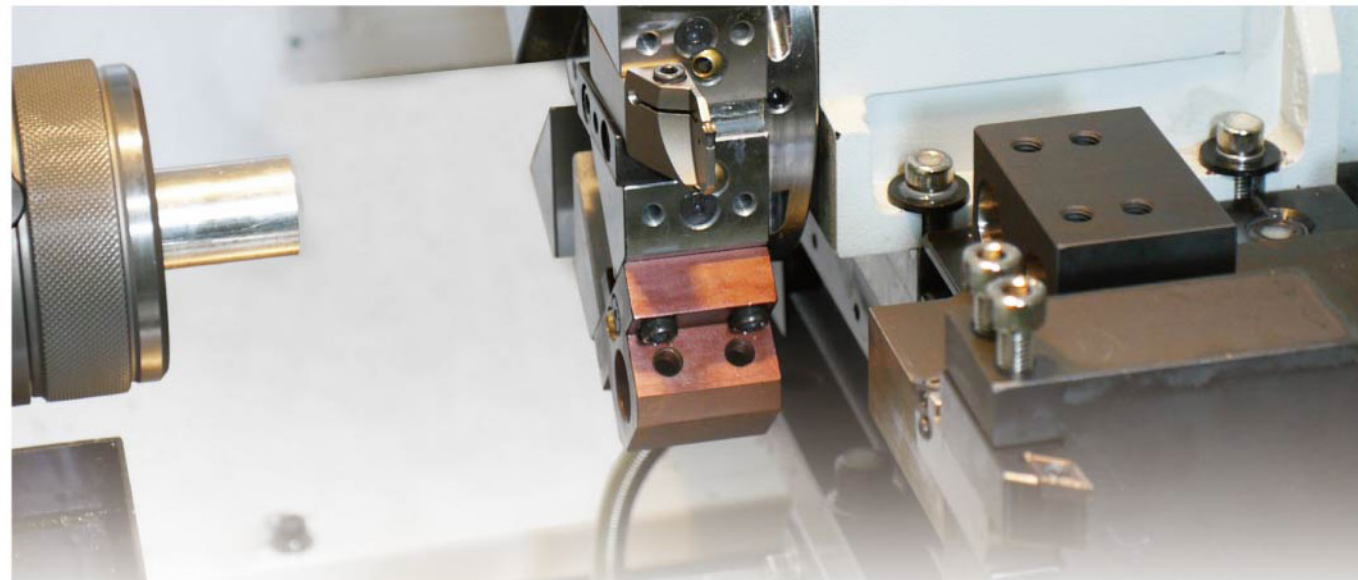
## Functions for Turning Milling





# NCL SERIES

## High performance Steel Bar/Part Turning Center



ARIX CNC Turning centers include the most innovative designs as the mineral stone filled base for high damping capacity, symmetrical ribs design for stability and rigidity, large headstock casting with a two pieces design for easy alignment; optional embedded chip conveyor that gives best sealing and efficient chip removal. The NN type bearings spindle design guarantees the best performance turning.

### Machines Features:

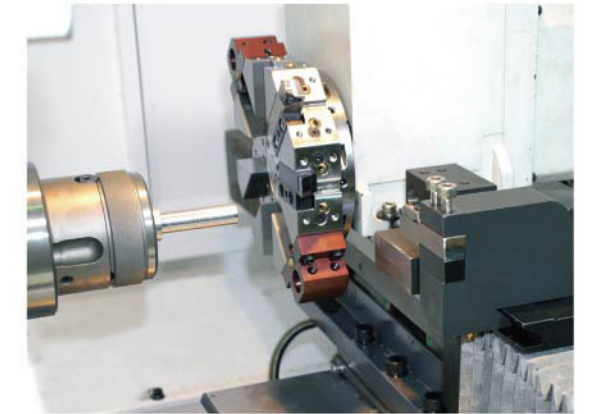
1. Interchangeable collets chuck and jaw chuck for different parts operation.
2. Standard gantry type turret provides the most fast and efficient turning.
3. Optional servo turret provides more flexible and faster tool change arrangement.
4. Mineral stone base generates the super finish surface and longer tool life.
5. Powerful vector torque motor option let the power up to 10HP.
6. High rigid spindle head unit can bear the spindle up to 60mm capacity.
7. The linear guides up to 30mm and 25mm ball screws guarantee the long-term rigidity and accuracy.
8. Coolant through drill option provides efficient and smooth drilling.



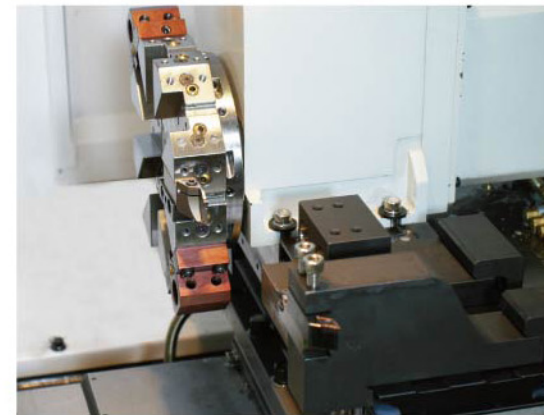
(Optional equipments included)



The Jaw chuck with gantry turret:  
The jaw chuck of 5" and 6" optional give the cutting range more flexible.



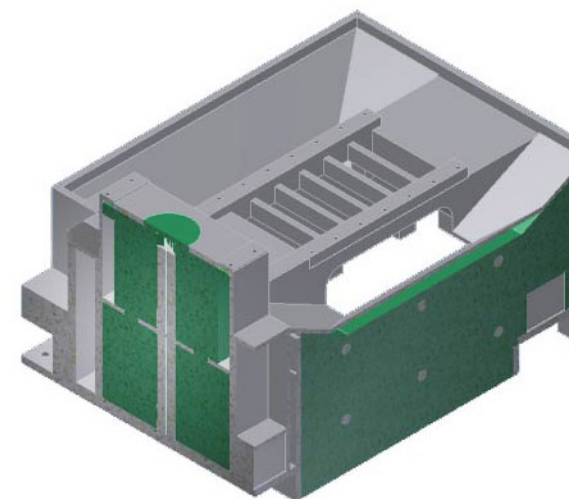
The optional servo turret gives a accurate and speedy tool change.



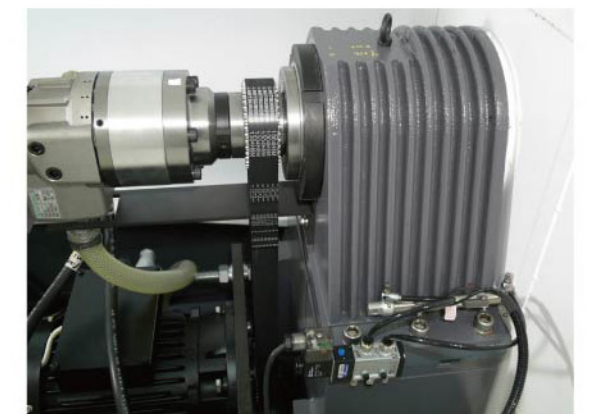
The combination of servo turret and gantry turret.



The coolant through drill option cuts the good finish holes.



The mineral stone base absorbs all the cutting vibration and generate super finish surface.



The large symmetrical head stock can bear bigger spindle up to 60mm capacity.



## TM - 42 / 50 / 60 Turning Milling CNC LATHE

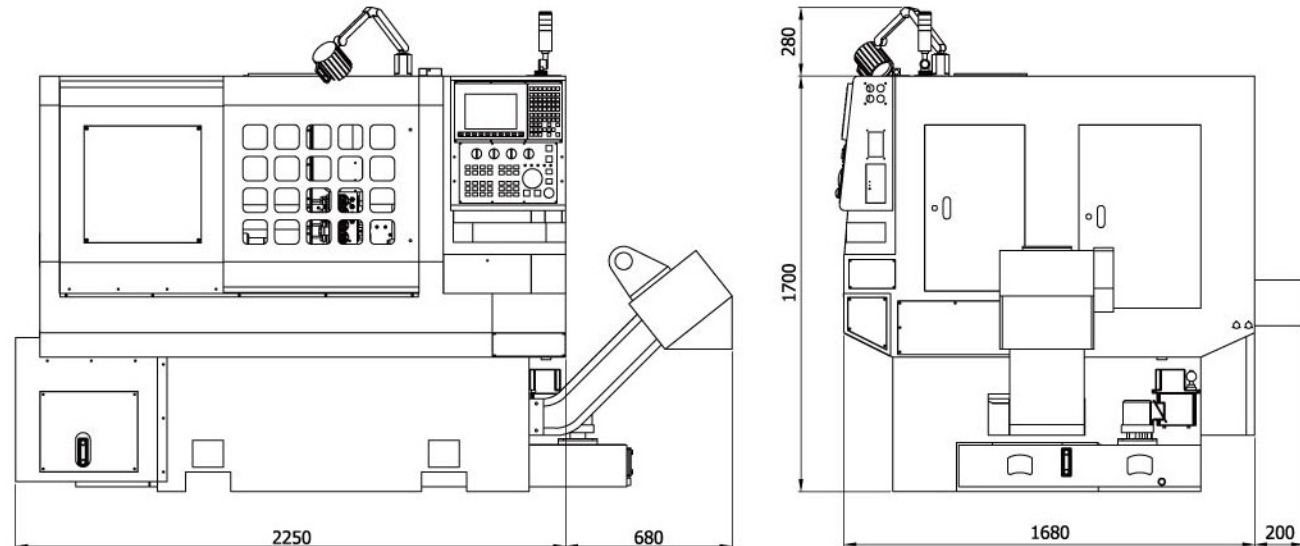
### Machine Specifications :

Specifications	Unit	TMA42CL	TMS42CL	TMD42CL	TMA50CL	TMD50CL	TMA60CL
Max. Turning Diameter	mm	130	130	130	100	150	100
Max. Turning Length	mm	160	160	160	160	300	160
Stroke of X	mm	225	225	225	225	270	225
Stroke of Z	mm	235	235	235	235	410	235
Stroke of Y	mm	385	385	385	385	370	385
Stroke of X1	mm	N/A	220	N/A	N/A	N/A	N/A
Stroke of Z1	mm	N/A	350	350	N/A	460	N/A
Main Spindle Bore	mm	56	56	56	62	66	76
Main Bar Capacity	mm	42	42	42	50	50	60
Main Spindle Nose		A2-5	A2-5	A2-5	A2-6	A2-6	A2-6
Main Spindle speed	r.p.m	40-4,000	40-4,000	40-4,000	40-4,000	40-4,000	40-3,000
Main Spindle Power	Kw	7.5	7.5	7.5	7.5	11	11
Sub Spindle Bore	mm	N/A	N/A	39	N/A	52	N/A
Sub bar Capacity	mm	N/A	N/A	26	N/A	30	N/A
Sub Spindle Nose		N/A	N/A	A2-4	N/A	A2-5	N/A
Sub Spindle speed	r.p.m	N/A	N/A	40-3,000	N/A	40-3,000	N/A
Sub Spindle Power	Kw	N/A	N/A	3	N/A	3	N/A
Number of fixed tools	PCS.	5 Turning + 4 I.D	5 Turning + 4 I.D	8 Turning + 7 I.D	5 Turning + 4 I.D	8 Turning + 7 I.D	5 Turning + 4 I.D
Turning tool diameter	mm	16 & 20	16 & 20	16 & 20	16 & 20	16 & 20	16 & 20
Boring tool diameter	mm	25	25	25	25	25	25
Number of live tools	PCS.	8 (ER20)	8 (ER20)	10 (ER20)	8 (ER20)	10 (ER20)	8 (ER20)
Power of live tools	Kw	0.85/1	0.85/1	0.85/1	0.85/1	0.85/1	0.85/1
Tailstock		N/A	5 I.D Tools	N/A	N/A	N/A	N/A
X axis servo motor	Kw	0.85/1	0.85/1	0.85/1	0.85/1	0.85/1	0.85/1
Y axis servo motor	Kw	0.85/1	0.85/1	0.85/1	0.85/1	0.85/1	0.85/1
Z axis servo motor	Kw	0.85/1	0.85/1	0.85/1	0.85/1	0.85/1	0.85/1
X1 axis servo motor	Kw	N/A	0.85/1	N/A	N/A	N/A	N/A
Z1 axis servo motor	Kw	N/A	0.85/1	0.85/1	N/A	0.85/1	N/A
Rapid Transverse	M/min	15	15	15	15	15	15
Coolant Tank Capacity	L	140	140	180	140	150	140
Coolant Pump	HP	1/4	1/4	1	1/2	1/2	1/2
Hydraulic Pump	HP	1	1	1	1	1	1
Dimension	M	2.5 x 1.9 x 1.8	3 x 1.9 x 1.8	3 x 2.1 x 1.8	2.5 x 1.9 x 1.8	2.5 x 2.5 x 2	2.5 x 1.9 x 1.8
Machine Weight	Kgs	3000Kgs	3500Kgs	3500Kgs	3100Kgs	3700Kgs	3100Kgs

■ Design and specifications are subject to change without prior notice.

#### Standard Accessories:

- Operative Lamp
- Tool Box
- Tapping Shaft
- Drilling Shaft
- Automatic Lubricant System
- Part Catcher
- Chip Conveyor
- Side Milling 4PCS + Front Side Milling 4 PCS



#### Optional Accessories:

- Auto Bar Feeder Machine
- Transformer
- Main Spindle speed upgrade 6000 rpm.

## NCL - 30 / 42 / 50 / 60 Gantry and Turret CNC TEACH-IN LATHE

### Machine Specifications :

Specifications	Unit	NCL-30	NCL-42	NCL-50	NCL-60
Gantry	mm	Ø30	Ø42	Ø50	Ø60
Turret	mm	Ø130	Ø150	Ø150	Ø150
Max. Turning length	mm	220	220	220	220
Max. bar capacity	mm	30	42	50	60
Spindle bore	mm	42	56	66	76
Collect chuck		CR30A4	CR42A5	CR60A6	CR60A6
Spindle nose		A2-4	A2-5	A2-6	A2-6
Spindle bearing diameter	mm	70	80	100	100
Spindle speed	r.p.m	40~6000	40~6000	40~4000	40~4000
Spindle motor power	HP	5	5	5	5
Stroke of X	mm	220	220	220	220
Stroke of Z	mm	380	380	380	380
Rapid Transverse X/Z	M/min	15	15	15	15
X/Z axis servo motor	kw	1	1	1	1
X/Z Ballscrew diameter	mm	25	25	25	25
X/Z Linear guide	mm	30	30	30	30
Gantry	PCS.	6 turning+4 I.D	6 turning+4 I.D	6 turning+4 I.D	6 turning+4 I.D
Turning of diameter	mm	16	16	16	16
Boring tool diameter	mm	20	20	20	20
Servo turret	mm	8	8	8	8
Turning of diameter	mm	16	16	16	16
Boring tool diameter	mm	20	20	20	20
Spindle run out	mm	0.005	0.005	0.005	0.005
Positioning of axis	mm	0.005	0.005	0.005	0.005
Repeatability of axis	mm	0.003	0.003	0.003	0.003
Min. setting unit	mm	0.001	0.001	0.001	0.001
Hydraulic Pump	HP	1	1	1	1
Coolant Tank Capacity	L	150	150	150	150
Coolant Pump	HP	1/4	1/4	1/4	1/4
Dimension(M)	M	2x1.5x1.8	2x 1.5x1.8	2x 1.5x1.8	2x 1.5x1.8
Machine weight	Kgs	3000	3500	3700	3700

■ Design and specifications are subject to change without prior notice.

#### Standard Accessories :

- Operative Lamp
- Tool Box
- Automatic Lubricant System

#### Optional Accessories :

- Auto Bar Feeder Machine
- Transformer
- Part Catcher
- Chip Conveyor

