

CITIZEN

Miyano

BND51

Fixed Headstock Type CNC Automatic Lathe



Best solution for machining of complex parts.

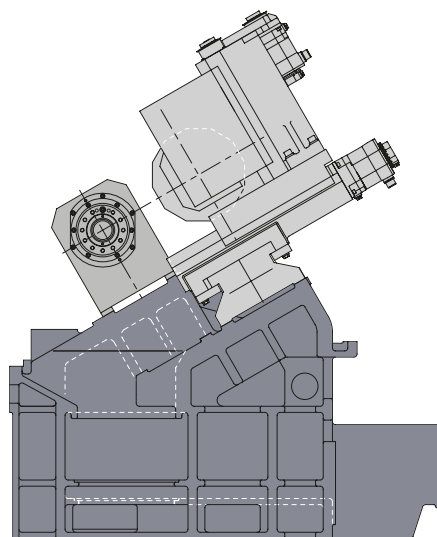
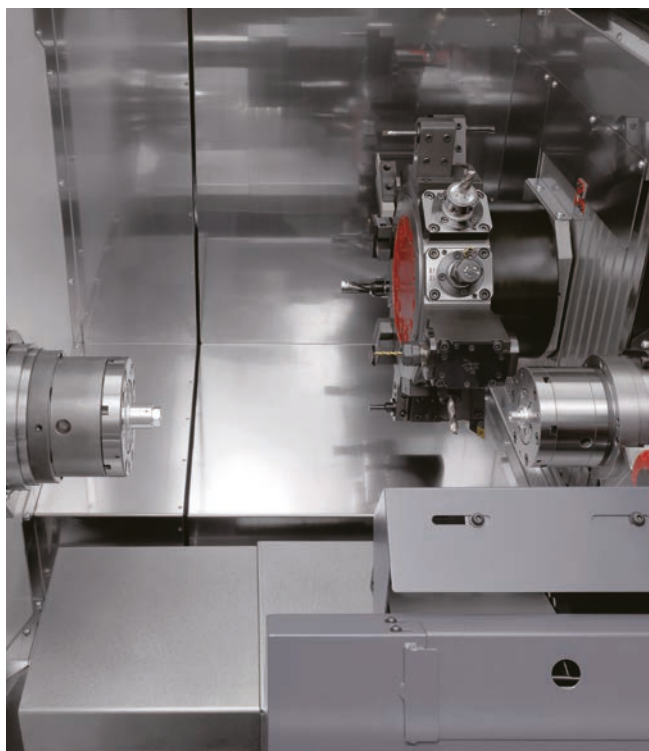
We introduce a new bar machine equipped with a subspindle and a Y axis that can machine bar material up to Ø 51 mm. The structure of the machine, consisting of precision scraped square guideways that provide high rigidity and excellent vibration damping characteristics and a heavy 30° slanted bed of a platform construction with appropriately arranged ribs ensuring good thermal stability and minimum dimensional changes over time, realizes consistent high machining accuracy.



Strong, Highly Rigid Construction.

Rigid square guideways are used for all axes. The 30° slanted bed where major machine units such as spindles and tool slides are mounted has been given a platform-like ribbed structure to provide rigidity and stability. This structure combined with exceptional rigidity ensures the Miyano characteristics of high precision, consistent production and extended tool life.

BND51



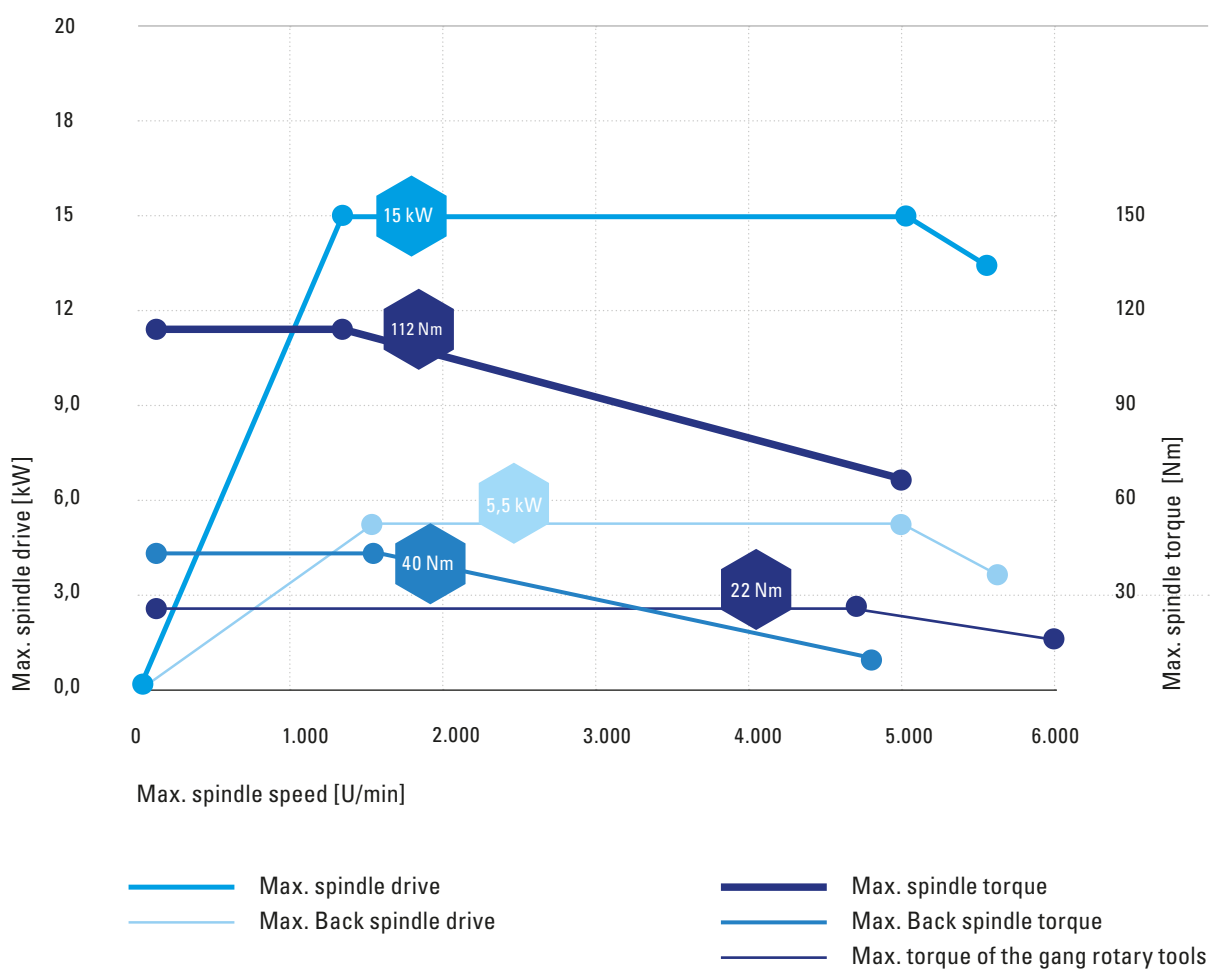
Complex Machining with Y Axis Control

The combination of independently driven revolving tools that can be mounted at all positions on the turret with the Y axis and the subspindle realizes a high level of process integration in complex machining.

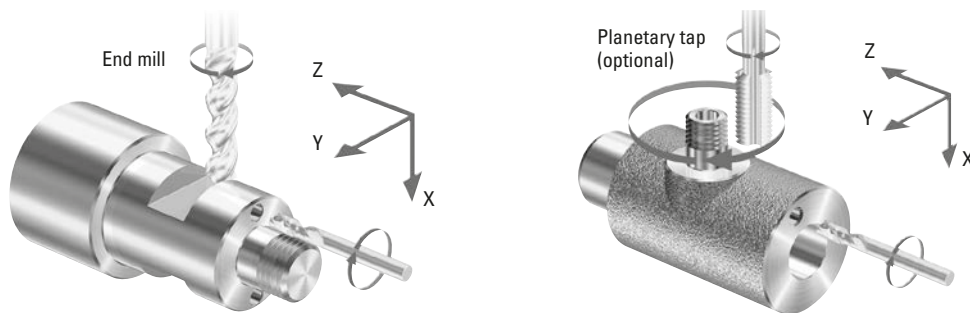
Easy to Use Tooling System

Double sleeve holders and double turning holders allow multiple tools to be mounted at a single position on the turret to maximize tooling flexibility.

Power and torque graph of the Miyano BND51

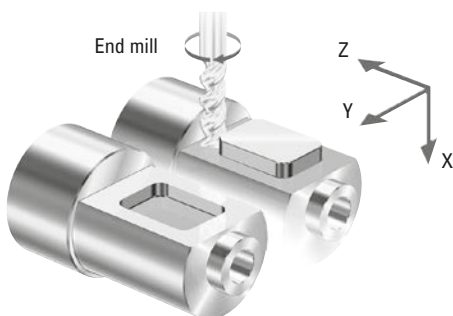


Wide Range of Complex Machining with Revolving Tools.



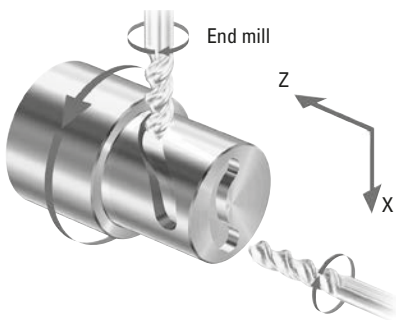
Basic complex machining

The ability to perform off-center cross-drilling, cross-tapping and end milling in the X-Y and Z-Y planes as well as milling by controlling the C axis allows machining of high level functional parts beyond the capabilities of conventionally available models.



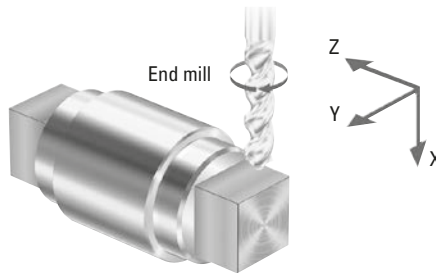
Large boss and pocket milling

Large boss and pocket milling can be done in the Y-Z plane using the circular and linear interpolation functions.



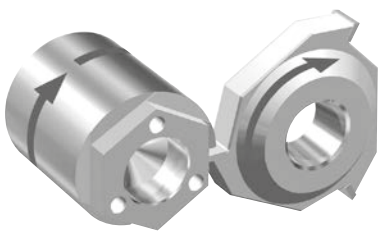
Contouring

Contouring using simultaneous 3-axis control (C, X and Z axes) is possible.



High-precision milling

High-precision complex machining thanks to the high C axis positioning accuracy and the ability to control the Y axis with high accuracy expands the range of machining.



Polygon machining (optional)

Synchronizing the revolving tool speed with the spindle speed at two times permits polygon machining, such as two-, four- and six-sided machining, with a polygon cutter.

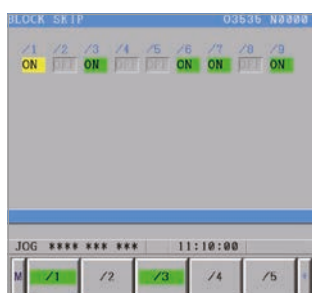
NC Custom Menu.

'One-touch' functions for faster set-ups



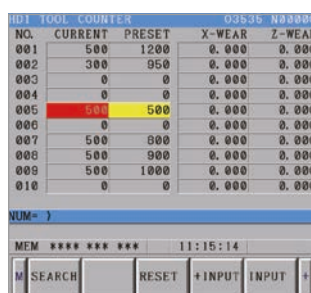
Custom menu

Displays the list of custom screens.



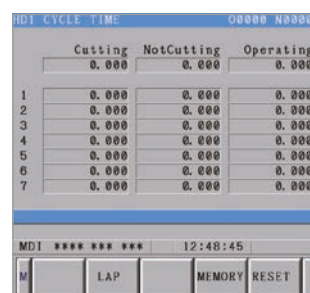
Block skip

Used to set block skip 1 to block skip 9.



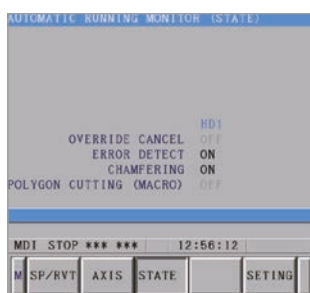
Tool counter

Used to set and reset the tool counter stop value and enter the tool wear offsets.



Cycle time

Measures the cutting time, noncutting time and running time in each cycle.



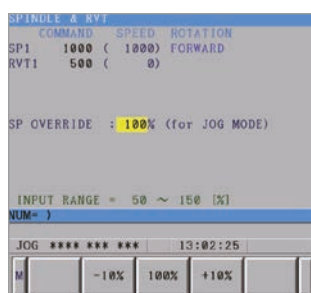
Automatic running monitor

Displays the control status of each axis. Used to set ON / OFF for the machine lock function.



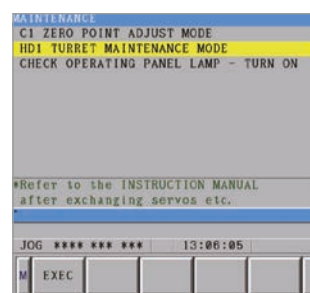
Start condition

Used to set the start conditions for automatic running.



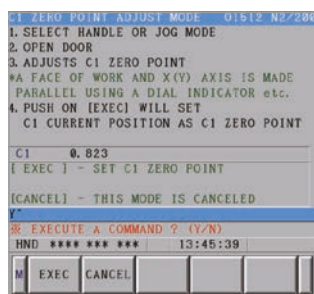
Spindle & RVT

Used to set the rotational speed of the spindle and revolving tools. Used to set the spindle override.



Maintenance

Used to set ON / OFF for the maintenance items. Used to set ON / OFF for turret zero point adjustment.



C Zero point adjust mode

Easy to adjust the C axis zero point.



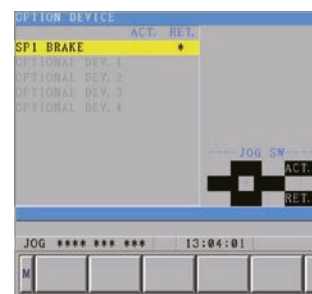
Turret Maintenance

Used to adjust the turret zero point.



Manual operation

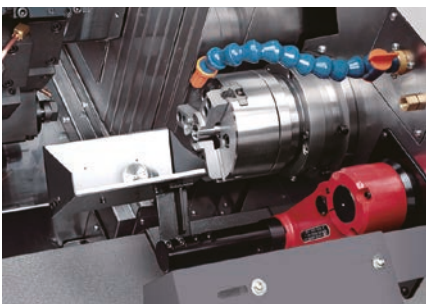
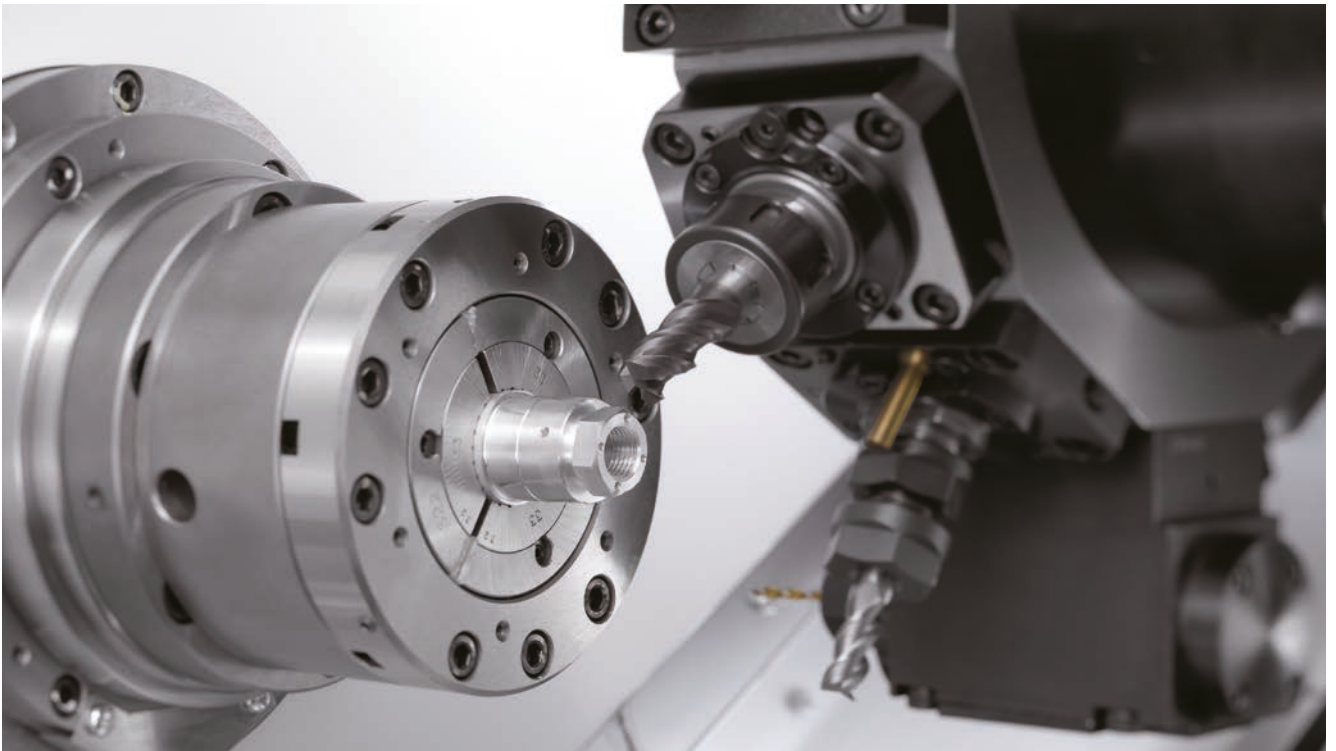
Displays the zero point lamp status and the machine coordinate of each axis.



Option device

Used to select an auxiliary device such as a part catcher to be operated manually.

Standard Equipment and Options.



Part catcher (standard)



Part conveyor (standard)

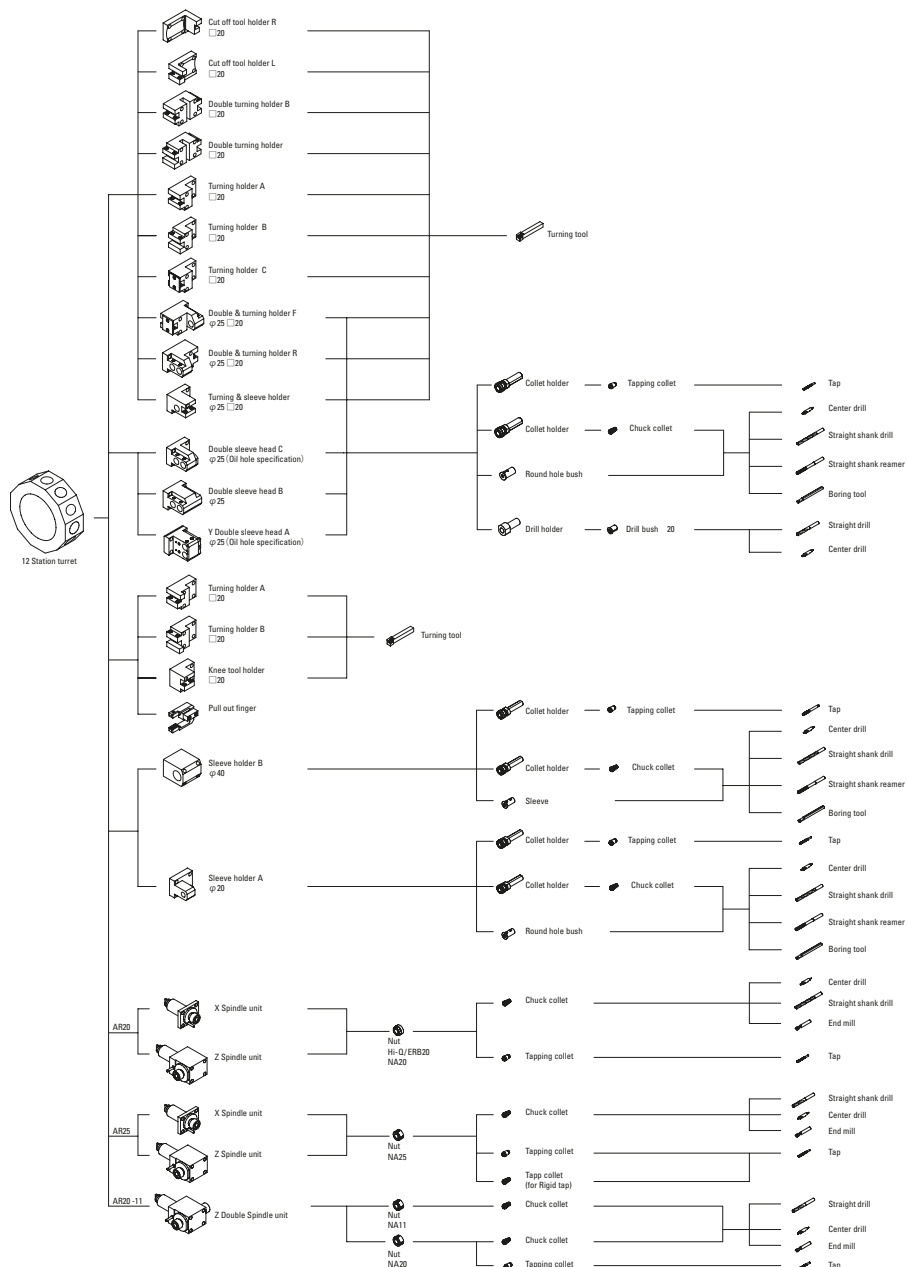


Chip conveyor (optional)

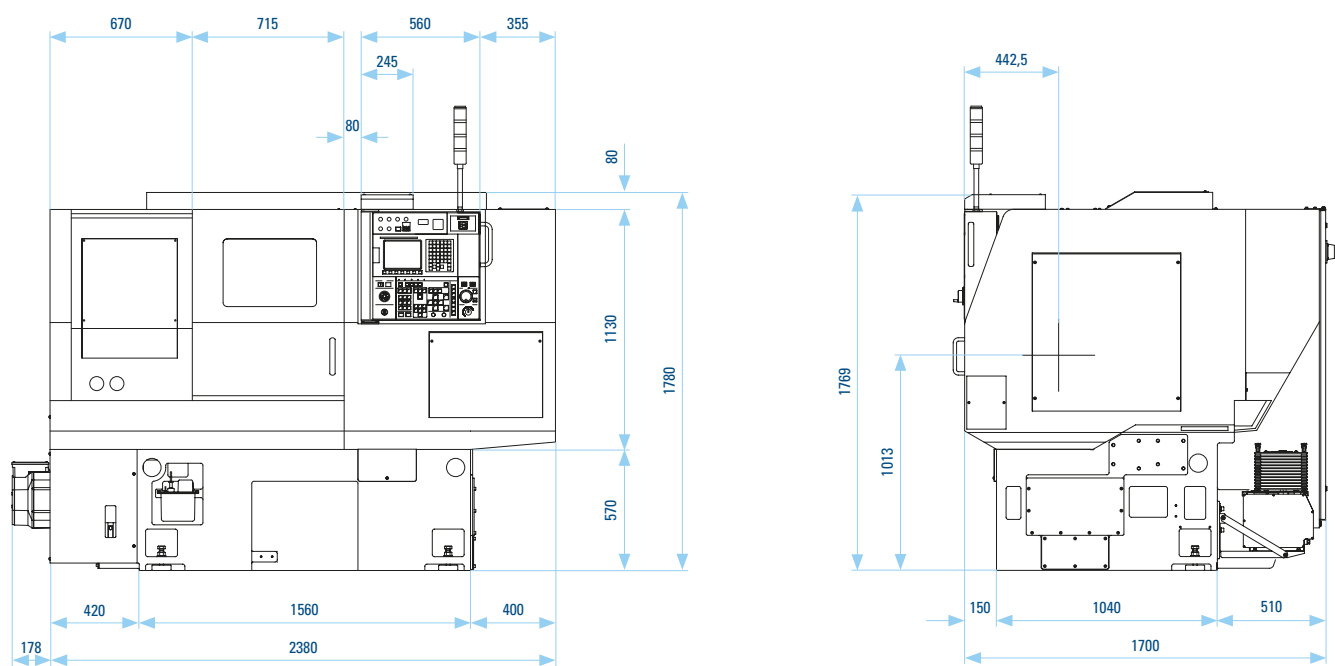
A large, solid blue hexagon is positioned on the right side of the page, partially overlapping the white background and the light blue footer area.



Tooling system.



External View.



Tradition and Global Innovation Power for Local Markets.

Citizen Holdings Co., LTD. is a Japanese manufacturer operating in micro-technology and also being the world market leader in this sector. Citizen Group is divided into the five business sectors Watches, Electronic components, Electronic products, Other products and Lathes. The Group employs approx. 18,000 employees worldwide. The holding company is headquartered in Tokyo, Japan. The company is listed on the Tokyo stock exchange. Citizen Machinery Europe stands for innovation on the highest international level, hand in hand with traditional German engineering. German customers profit from the strength of an international large-scale enterprise. At the same time, they may fall back on the more than 100-year old history in our local markets.

Excellent service – always in your vicinity and there for you.

With your decision in favor of a Citizen lathe, you have not only opted for absolute precision and efficiency - but also for our outstanding service included with every machine we deliver.

Together with you, we develop individual solutions for your production and accompany you through their optimization. In the process, we attach high importance to personal contact. In our three German Technology Centers, we are always in your vicinity and will be glad to advise and assist you in regular training courses and demonstrations, but will also be happy to meet you in person. Our central spare part warehouse is located in the South of Germany and will serve you quickly and reliably to support and ensure your smooth production processes. We will not rest until your production is as simple and efficient as possible. Make the most of your opportunities - we will show you how.



Well looked after throughout:

- Comprehensive service for your machine and your process
- Competent process support and optimization
- Always in your vicinity due to a close-knit service and distribution network
- Excellent availability and short reaction time in case of service calls
- Timely and fast delivery of spare parts

Professional hotline service for optimum availability in case of urgent issues*:

Cincom +49[0]711-3906-140
Miyano +49[0]7 41-174 07-13
E-Mail service@citizen.de

We are there for you –
whenever and wherever
you need us!

* Mo. through Fr. 7 am – 8 pm,
Hotline available throughout Germany

Machine specifications

Items		BND51SY2
Machining capacity		
Maximum work length 320 mm		320 mm
Maximum bar Dia.		51 mm Dia.
Maximum blank diameter	chucker	Max. 210 mm Dia.
Spindle		
Number of spindles		2
Spindle speed		50 - 5,000 min ⁻¹
Draw tube Dia	SP1	52 mm Dia.
	SP2	26 mm Dia.
Power chuck type		Hydraulic
Type of collet chuck	SP1	H-S22 Pads
	SP2	H-S16, S22 pads
Power chuck size and type	SP1	6" Through hole type
	SP2	5" Through hole type
Turret		
Number of turret		1
Turret stations		12 ST.
Shank size of square turning tool		20 mm Sq.
Diameter of drill shank		25mm Dia.
Turret index time		0.25 sec./1 pos.
Feed rate		
Slide stroke Xaxis		175 mm
	Zaxis	435 mm
	Yaxis	75 mm
	Baxis	530 mm
Rapid feed rate Xaxis		18 m/ min.
	Zaxis	20 m/ min.
	Yaxis	12 m/ min.
	Baxis	18 m/ min.
Revolving tool		
Number of revolving tools		Max12
Tool spindle speed range		60 - 6,000 min ⁻¹
Capacity	Drill	Max 13 mm Dia.
	Tap (Steel)	Max M8
	Tap (Al, Brass)	Max M8
Tank capacity		
Hydraulic oil tank capacity		10 L
Lubricatibg oil tank capacity		2 L
Coolant tank capacity		150 L
Machine dimensions		
Machine height		1.700 mm
Floor spase		2.560 mm × 1.700 mm
Machine weight		4.750 kg
Motors		
Spindle motor	SP1	AC 15/ 11 kW
	SP2	AC 5.5/ 3.7 kW
Revolving tool motor		AC 2.2 kW 20 Nm
Power supply		
Voltage		AC 200/ 220 V ± 10%
Capacity		37 KVA
Fuse		125 A
Air supply		0.5 MPa (5 kgf/ cm2)
Others		
Splash guard interlock, Revolving tool driving unit, Pneumatic, Spindle brake No.1, High pressure coolant, Parts Catcher, Parts conveyor, Work ejector & inner high pressure coolant.		

NC Specification	
	FANUC 0i-TD
Axial control	X, Z, Y, B, Cs
Simultaneous control axis	4 axis
Minimun setting unit	X: 0.0005mm, Z: 0.001mm Y: 0.001mm, B: 0.001mm, Cs: 0.001deg
Interpolation functions	G00, G01, G02, G03, G04, G32, G33
Program storage capacity	1 Mbyte (2560 m)
Spindle function	S4 digit
Cutting feed rate	F3.4 digits per revolution, F6 digits per minute directly specified
Feed rate override	0 - 150% (10% steps)
Rapid feed override	F0, 25, 50, 100%
Thread cutting	G32, G33, G92
Canned cycle	G90, G92, G94
Tool function	T AABB (AA=Tool number and geometry, BB=Wear offset number)
Tool position direct input function	by measured MDI Data input-and-output
	Memory card interface, USB memory interface, Auto data backup
Automatic operation	1 cycle/ Automatic operation, Single block, Block delete, Machine lock, Optional block skip, Dry run, Feed hold
Others	
8.4" color LCD/ MDI, Program storage capacity addition: 800pieces, A decimal point input, Manual pulse generator Memory protect, AC digital servo motor., The circle radius R command, Nose radius compensation, Constant surface speed control (G96), Back ground editing, Programmable date input (G10), Run hour/Parts count display, Multiple repetitive cycles (G70 - G76), Spindle rigid tap, Polar coordinate interpolation, Custom macro B, Canned cycles for drilling, Tool life management. etc. Tool life management. etc.	
NC Option	
Helical interpolation, Leader puncher interface, etc.	

Citizen Machinery Europe GmbH

Mettinger Straße 11 | D-73728 Esslingen
 Tel. +49 [0]711 / 3906-100 | Fax: +49 [0]711 / 3906-106
 cme@citizen.de | www.citizen.de

Japan | Citizen Machinery Co., LTD. | Cincom Company: 4107-6 Miyota, Miyota-machi, Kitasaku-gun, Nagano-ken, 389-0206, Japan, Tel. 81-267-32-5961, Fax 81-267-32-5928 | Miyano Company: 500 Akazawa, Yabuki-machi, Nishishirakawa-gun, Fukushima-ken, 969-0206, Japan, Tel. 81-248-44-3050, Fax 81-248-44-3051 | **South Asia** | Citizen Machinery Asia Co., Ltd. | 69 Moo 1 Phaholyothin Road, Sanubtube, Wang Noi, Ayutthaya 13170, Thailand, Tel. 66-35-721-833, Fax 66-35-721-835 | **Europe – UK** | Citizen Machinery UK Ltd. | 1 Park Avenue, Bushey, WD23 2DA, UK, Tel. 44-1923-691500, Fax 44-1923-691599 | **USA** | Marubeni Citizen-Cincom Inc. | Boroline Road Allendale, NJ 07401, U.S.A., Tel. 1-201-818-0100, Fax 1-201-818-1877

Cincom | Tel. +49 [0]711 / 3906-140 | service@citizen.de
 Miyano | Tel. +49 [0]741 / 17407-13 | service@citizen.de

Images may differ from original. All specifications are subject to change without prior notice. This product is an export control item subject to the foreign exchange and foreign trade act. Thus, before exporting this product, or taking it overseas, contact your CITIZEN machine dealer. Please inform your CITIZEN machine dealer in advance of your intention to re-sell, export or relocate this product. For the avoidance of doubt products includes whole or part, replica or copy, technologies and software. In the event of export, proof of approval to export by government or regulatory authority must be evidenced to CITIZEN. You can operate the machines after the confirmation of CITIZEN. CITIZEN, LFV technology, MultiStationMachiningCell and Ocean technology is a registered trademark of Citizen Holdings Co., Japan. All specifications are only for the Europe market. 09/2016.