

CITIZEN

Miyano

ANX42sYY

Fixed Headstock Type CNC Automatic Lathe



「個の量産」
いろんな一つを、たくさんつくる



The new model ANX featuring new functions opens up a new era for turret lathes.

Now a turret lathe from Miyano brand is equipped with LFV technology for the first time. This solves the problem of chip entanglement that had persisted for many years.

Another noteworthy feature is the operation panel featuring the new HMI (human machine interface).

Machine operating convenience has been improved, including compatibility of operations that assures ease of use even for users of the Cincom brand in addition to those of the Miyano brand.

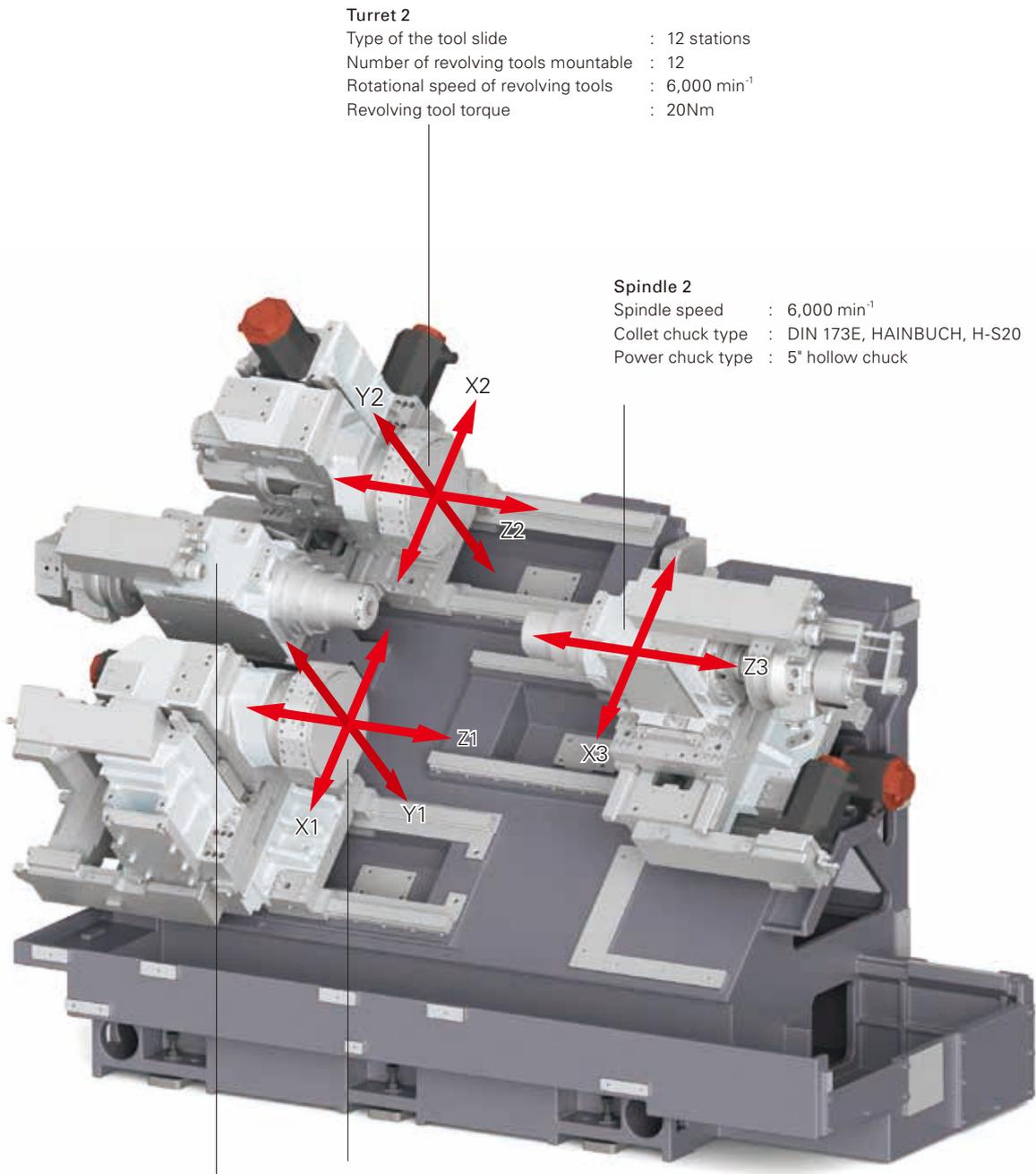
We propose new operating methods that lessen the feeling of struggling due to differences in NC systems and cross the boundaries between brands.

The machine is configured with two spindles, two turrets and a double Y axis, and the rapid traverse rate has been increased by adopting linear guides for all axes.

The spindles have built-in motors, which shortens acceleration/deceleration times and improves response time.

The turrets can use the same tool holders as the BNA Series, and accommodate 20 Nm revolving tools.

These advanced functions are packed into a compact machine body only 2,645 mm wide. The ANX achieves advanced functions, space savings and high productivity.



Turret 2
 Type of the tool slide : 12 stations
 Number of revolving tools mountable : 12
 Rotational speed of revolving tools : 6,000 min⁻¹
 Revolving tool torque : 20Nm

Spindle 2
 Spindle speed : 6,000 min⁻¹
 Collet chuck type : DIN 173E, HAINBUCH, H-S20
 Power chuck type : 5" hollow chuck

Turret 1
 Type of the tool slide : 12 stations
 Number of revolving tools mountable : 12
 Rotational speed of revolving tools : 6,000 min⁻¹
 Revolving tool torque : 20Nm

Rapid traverse rate
 X1, X2 : 24 m/ min
 Z1, Z2 : 24 m/ min
 Y1, Y2 : 18 m/ min
 X3 : 24 m/ min
 Z3 : 30 m/ min

Spindle 1
 Spindle speed : 6,000 min⁻¹
 Collet chuck type : DIN 173E, HAINBUCH, H-S20



LFV* is a technology for performing machining while vibrating the X and Z servo axes in the cutting direction in synchrony with the rotation of the spindle. It reduces various problems caused by chips entangling with the product or tool, and is effective for small-diameter deep hole machining and the machining of difficult-to-cut materials.

Type	Tr 1	Tr 2
ANX42SYY	✓	✓

Note 1. LFV machining cannot be performed with the Y axis.

Note 2. LFV machining can be performed simultaneously on a maximum of two axes.

Note 3. For LFV machining with rotary tools, the "LFV function" and "rotary tool feed per revolution" options are required.

* "LFV" is a registered trademark of Citizen Watch Co., Ltd.

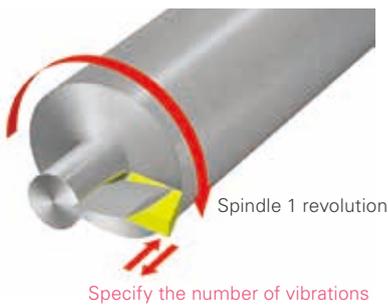
Difference in shape of chips of the same weight
SUS304

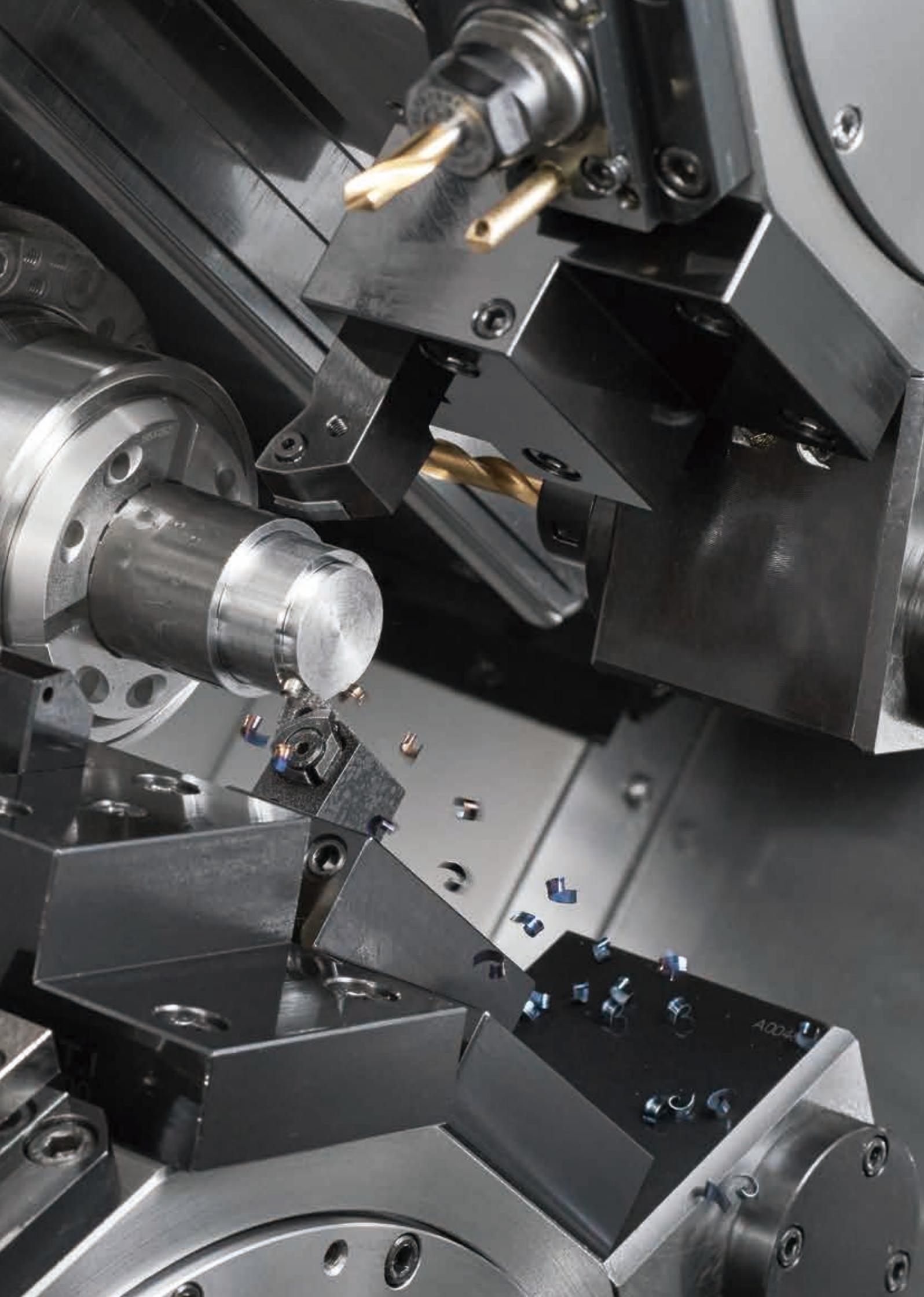


LFV mode 1

Ideal for outer/inner diameter machining and groove machining

Multiple vibrations per spindle revolution





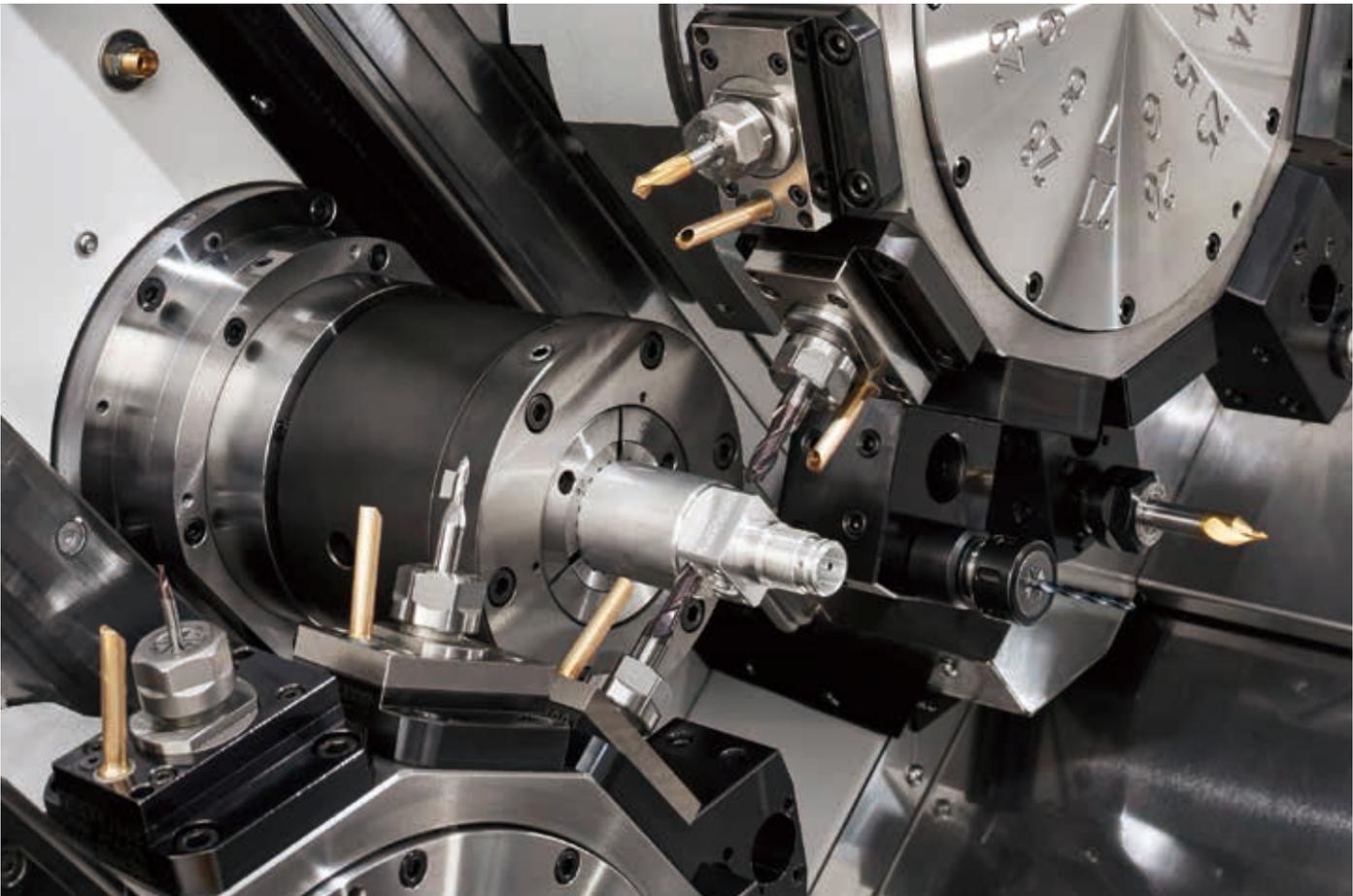
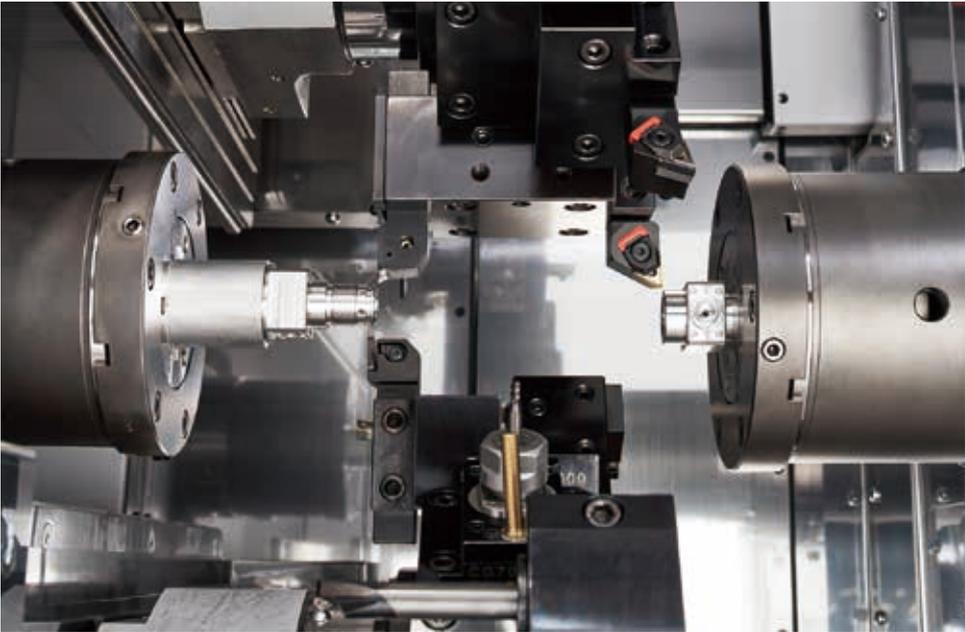


Turrets Common to the BNA Series and Spindles with Built-in Motors

The two 12-station turrets equipped with a Y axis have the same capability and adopt tool holders that are common to the BNA series, enabling use of the same tools. 20 Nm revolving tools can be mounted at all stations.

The two spindles also have the same capabilities and the built-in motor incorporated in each spindle achieves shorter acceleration and deceleration times and better response time than on existing models.

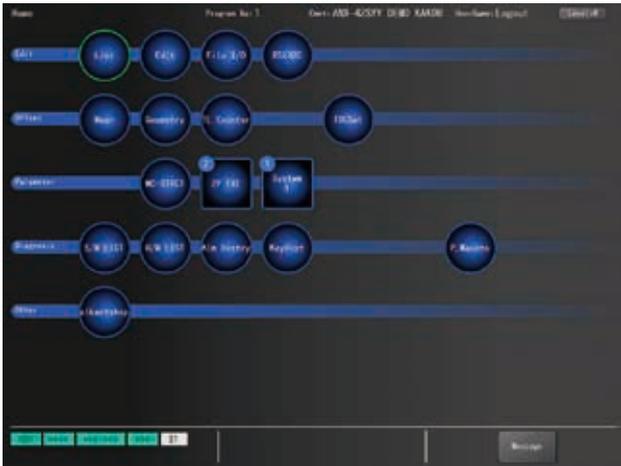
Complex machining including 3-axis simultaneous machining, superimposition machining and double Y axis machining are possible.





New HMI (Human Machine Interface) and Supporting Screens

Screens that display graphics and all the necessary information collectively are compatible with touch panels, greatly improving operating convenience.



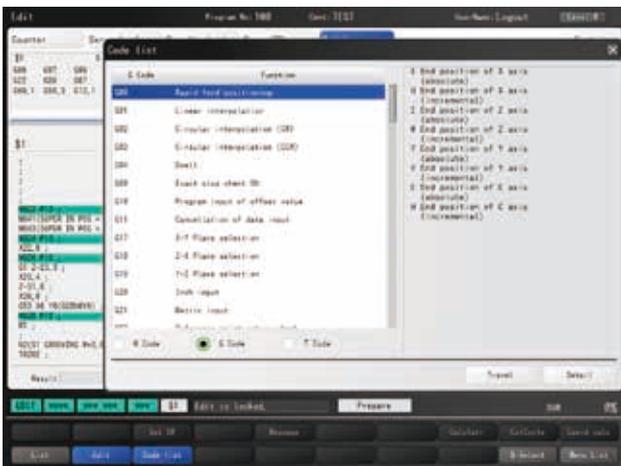
Home screen
 Displaying shortcut icons for screens that will inevitably be used in a group allows the screens in that group to be accessed easily.

Support for setup



Measurement tool setting screen
 Allows you to link face numbers and G numbers, actually cut workpieces, and input tool geometry offset values. All tool setting can be accomplished on this screen.

Support for Programming



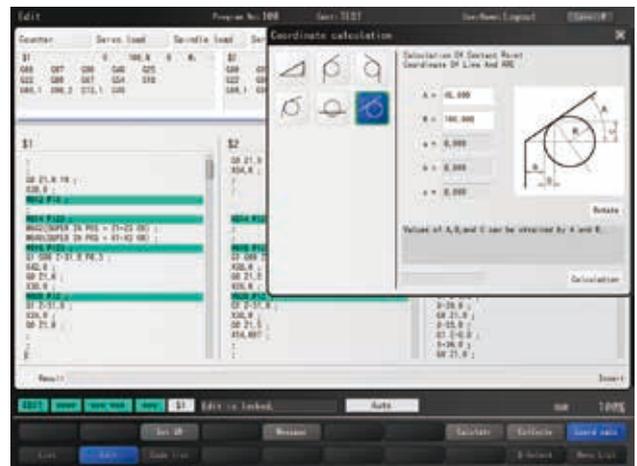
Code list
 Displays the usable G and M code arguments in a list. You can set arguments selected from this list and insert them into programs.



Edit screen
 Simultaneous display is possible with programs for three axis control groups. Synchronizing the displays when there is queuing between axis control groups provides an easy-to-understand view for even complex programs.



Peripheral unit screen
 During setup prior to operation, operation of the workpiece ejector, brake, and other items classified as peripheral units, can be checked just by tapping the screen and using the start button.



Coordinate calculation
 Complex intersection calculations can be performed on the display unit.

Machine Specifications

Item	ANX-42SYY		
Capabilities and requirements			
Maximum machining length	130 mm		
Max. machining diameter	S 1	42 mm Dia.	
	S 2	42 mm Dia.	
Slide stroke			
Tr 1	X 1	140 mm	
	Z 1	315 mm	
	Y 1	70 (±35) mm	
Tr 2	X 2	140 mm	
	Z 2	430 mm	
	Y 2	70 (±35) mm	
S 2	X 3	240 (±120)	
	Z 3	440 mm	
Spindle			
Number of spindles	2		
Spindle speed	S 1, S 2	6,000 min ⁻¹	
Draw tube through-hole diameter	S 1, S 2	46 mm Dia.	
Collet chuck type	S 1, S 2	DIN 173E(42 mm Dia.), HAINBUCH, H-S20	
Power chuck type	S 1	---	
	S 2	5" hollow chuck	
Machining capacity	S 1	Drilling	20 mm Dia.
		Tapping	M12 x 1.75
	S 2	Drilling	20 mm Dia.
		Tapping	M12 x 1.75
Spindle indexing			
Minimum spindle indexing command	S 1, S 2	0.001°	
Tool post			
Number of tool slides	2		
Type of the tool post	Tr 1, Tr 2	12-station turret	
Distance across turret head	Tr 1, Tr 2	300 mm	
Maximum indexing diameter	Tr 1, Tr 2	505 mm Dia.	
Turning tool	20 mm Suq.		
Drilling	25 mm Dia.		
Revolving Tool			
Number of revolving tools mountable	Max.12/ 12		
Revolving tool drive type	Single drive mechanism		
Rotational speed of revolving tools	6000 min ⁻¹		
Machining capacity	Drilling	Max. 12 mm Dia.	
		Tapping	Max. M8 x 1.25
Rapid traverse rate			
	X 1, X 2, X 3	24 m/ min.	
	Z 1, Z 2	24 m/ min.	
	Y 1, Y 2	18 m/ min.	
	Z 3	30 m/ min.	
Motor			
Motor for spindle	S 1, S 2	11/ 7.5 kW (10 min./ cont.)	
Motor for feed axes	X 1, X 2, X 3	1.8 kW	
	Z 1, Z 2, Z 3	1.2 kW	
	Y 1, Y 2	1.2 kW	
Motor for revolving tools	Tr 1, Tr 2	2.2 kW	
Coolant pump	0.18 kW x 2		
Motor for medium-pressure coolant (1 MPa) (option)	0.75/ 1.1 kW (50/ 60 Hz)		
Motor for medium-pressure coolant (2 MPa) (option)	1.5 kW		
Required electric power source			
Power source used	AC 200/ 220 V + 5 % - 10 % 50/ 60 Hz±1 %		
Rated power consumption ^{*1}	34 kVA		
Load operation average power ^{*2}	18.4 kVA		
Fuse capacity at machine side	125 A		
Pneumatic source	0.5 MPa		
Tank capacity			
Hydraulic tank capacity	18 L		
Lubricating oil tank capacity	2 L		
Coolant tank capacity	260 L		
Machine size			
Machine height	1,925 mm		
Required floor area	2,650 x 1,645 mm		
Machine weight	6,250 kg		

*1 This is the power consumption when the machine is operation at full capacity.

*2 This is the standard power consumption during machine operation.
The actual power consumption varies depending on the cutting conditions and other conditions.

Standard NC Functions

MIYANO SYSTEM Fs31i-B Plus	
15-inch XGA touch panel	USB slot
On-machine program check function	User authentication function
Operating time display	Product counter: max. 8 digits
Preparation function	Automatic power-off function
Collision detection function	B code I/F
Tool offset pairs 200	Tool offset pairs 60 pairs
Program storage area 10 MB	Program operation storage capacity 4 MB
User macro	Corner chamfering/ Corner rounding
Optional block skip (9 sets)	Spindle constant surface speed control function
Spindle C-axis function	Spindle synchronized control function
Canned drilling cycle	Helical interpolation function
Synchronized tapping function	Sub-micron specifications
Thermal displacement correction function	Milling interpolation function
Program start at function I	Inch command
Sub inch command	Eco display
Machine operation information display	

Special Additional NC Unit

Tool offset pairs 400	Tool offset pairs 99 pairs
Program storage capacity 100 MB	Program operation storage capacity 8 MB
Variable lead thread cutting	Circular thread cutting
Multiple repetitive cycle for turning	Cylindrical interpolation
Polygon turning function	LFV mode 1
Rotary tool feed per revolution	Additional common variables
alkarttransfer	Tool monitor
Options	
Spindle brake	Air blower
Workpiece ejector	Chip box
Part conveyor	Medium-pressure coolant (1 MPa)
Medium-pressure coolant (2 MPa)	Through-spindle air blower
Turret air blower	Part catcher
Part box	Chuck System
Chip conveyor	Mist collector duct & fire prevention damper
Through-spindle bushing	3-color signal tower
RS-232C	Unloader/ Buket
Long workpiece separator	Remnant bar catcher

Environmental Performance Information

Basic Information	Model		ANX-42SYY	
	Energy consumption	Supply voltage	AC 200V±10%	
Electrical power requirement		34 kVA		
Load operation average power		18.4 kVA		
Required pneumatic pressure		0.5 MPa		
Environmental Performance Information	Power consumption	Standby power ^{*1}	0.983 kW	
		Power consumption with model workpiece ^{*2}	0.074 kWh/cycle	
		Power consumption value above converted to a CO2 value ^{*3}	31.524 g/cycle	
	Air consumption	Required air flow rate	52.7 NI/min (max. 202.7 NI/min: when using air blow)	
		Lubricating oil consumption	At power ON	3.0 ccl/ 15 min
	Noise level	Value measured based on JIS	73 dB	
Approach to Environmental Issues	Recycling	Indication of the material names of plastic parts	Detailed in the Instruction Manual ^{*4}	
	Environmental management	We pursue "Green Procurement", whereby we make our purchases while prioritizing goods and services that show consideration for the environment.		

*1 This is the standby power in the idle stop mode (a function that turns servomotor excitation off when it is not necessary, for example during program editing).

*2 This is the power consumption in program operation (when not cutting) for one of our standard test pieces, shown for the purpose of comparing the environmental performance with that of existing models.

*3 This is the value converted in accordance with the CHUBU Electric Power CO2 emissions coefficient (actual emissions coefficient) for 2020 as published by the Ministry of the Environment.

*4 If polyvinyl chloride (PVC) and fluoroc resin are not processed correctly, they can generate harmful gases. When recycling these materials, commission a contractor that is capable of processing them appropriately.

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