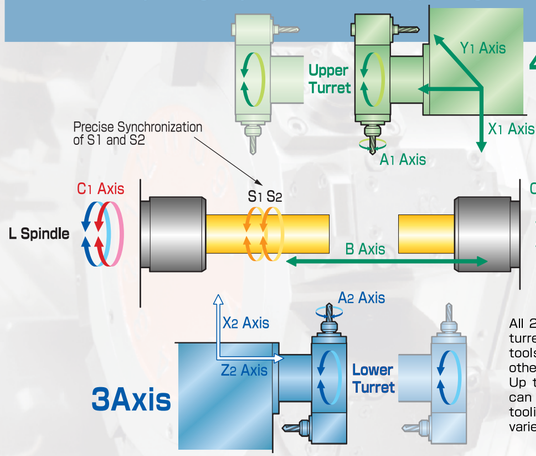
The Most Advanced Simultaneous Combined Machining with Y-Axis Slides

Your complex, high value-added parts can be produced more efficiently using Miyano's new concept design.

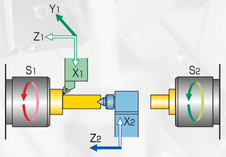


All 24 tool stations of the two turrets can accept revolving tools along with a variety of other tools.
Up to 48 tools for ID cutting can be attached. The large tooling capacity allows for a variety of complex machining.

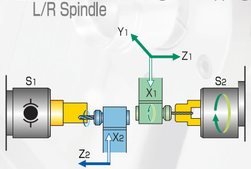
Example of Simultaneous Machining

The upper and lower turrets provide high productivity for a wide variety of work pieces. The Y-axis slide on the upper turret is capable of simultaneous machining, enabling more complex work than can be performed by conventional 2-spindle, 2-turret machines.

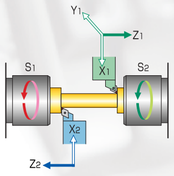
■Combined Turning, L or R Spindle



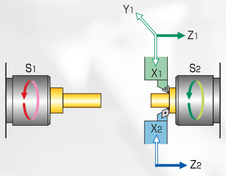
■Simultaneous Drilling and Tapping, L/R Spindle



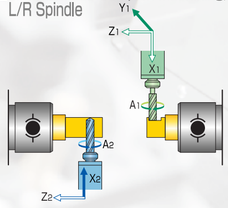
■Combined Turning, L/R Spindle



■Combined Turning, R Spindle



■Simultaneous Complex Machining, L/R Spindle



MACHINE SPECIFICATIONS

Items	Model Name	ABX-51SY	ABX-64SY
Machining capacity & chuck system			
Power chuck, size	L/R Spindle	6"/6" Oil hydraulic	–/6" Oil hydraulic
Max. bar capacity	L Spindle	φ51mm (2"dia.)	φ64mm (2.52"dia.)
	R Spindle	φ51mm (2"dia.)	φ51mm (2"dia.)
Type of collet chuck(Stationary)	L Spindle	S22 & DIN-177E	S26 & DIN-185E
	R Spindle	S22 & DIN-177E	S22 & DIN-177E
Max. turning work length (on std. parts catcher)		125mm (4.92")	125mm (4.92")
Spindle			
Spindle nose	L/R Spindle	A2-6 / A2-6	A2-8 / A2-6
Spindle motor 30min./Cont.Rate	L Spindle	15 / 11kW	15 / 11kW
	R Spindle	7.5 / 5.5 kW	7.5 / 5.5 kW
Spindle speed range	L Spindle	50~5,000 min⁻¹	40~4,000 min⁻¹
	R Spindle	50~5,000 min⁻¹	50~5,000 min⁻¹
R Spindle rapid traverse rate	B Axis	30 m/min	30 m/min
Upper L/R turret			
Type of turret	Upper & Lower Turret	12st. Turret	12st. Turret
Tool shank size	Upper & Lower Turret	□20mm (3/4"sq.)	□20mm (3/4"sq.)
Tool hole diameter	Upper & Lower Turret	φ25mm (1"dia.)	φ25mm (1"dia.)
Turret indexing time	Upper & Lower Turret	0.25 Sec. / 1st.	0.25 Sec. / 1st.
Turret indexing method	Upper & Lower Turret	Non lifting by 3-piece AC servo & Curvic C.	Non lifting by 3-piece AC servo & Curvic C.
Rapid traverse rate	Upper & lower turret X1 & X2 Axis	16m / min	16m / min
	Z1 & Z2 Axis	20m / min	20m / min
	Upper turret Y1 Axis	12m /min	12m /min
Revolving tools			
No. of revolving tool stations	Upper & lower turret	12	12
Tool spindle speed range	Upper & lower turret	60 ~ 6,000 min⁻¹	60 ~ 6,000 min⁻¹
Tool spindle driving motor	Upper & lower turret	AC servo 2.2/8.3 kW	AC servo 2.2/8.3 kW
Machine demensions			
Floor space		3,250×2,135 mm	3,335×2,135 mm
Machine weight (approximate)		9,200kg (20,280Lbs.)	9,300kg (20,500Lbs.)
Others			
Splash guard interlock, Coolant, Pneumatic unit, Machine light, Regular hand tools kit & tool box. Filler tube assembly, Signal Tower (3-step).			
Options			
Cut-off confirmation, Air blow for L&R chuck, High pressure coolant (through R spindle, through tools), Hinge type chip conveyer, Chip box, R spindle inner coolant and work ejector, Parts carrier through R spindle(Max.φ45mm), Magazine loaded automatic bar feeder, Coolant mist collector & anti back-fire dumper, Automatic power shutoff, Part catcher and parts conveyer.			

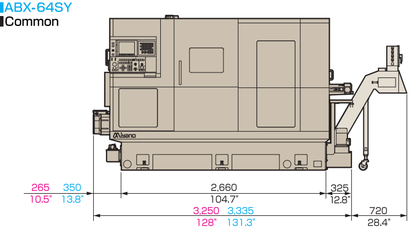
NC SPECIFICATIONS MIYANO-FANUC

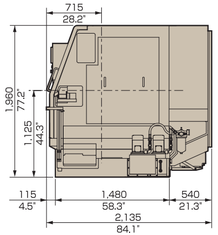
・Simultaneously controllable axes	4 Axis + 3 Axis
	X1,X2, Z1,Z2, Y1, Cs1,Cs2-Axis
・Min. input increment	0.001mm, 0.0001inch, 0.001degree
・Min. output resolution	X-Axis : 0.0005mm, Z-axis : 0.001mm
・Part program storage capacity	64 kByte(approx.160m tape length)
・Spindle functions	Spindle speed S4 digits direct specification,
	Constant cutting speed control.
・Cutting feed rate	F3.4 digit direct specification.
・Cutting feed rate override	0~150% (10% steps)
・Rapid feed override	0, 25, 50, 100%
・Interpolation	G01, G02, G03, Polar coordinate interpolation.
・Threading	G32, G92.
・Canned cycle	G90, G92, G94
・Work coordinate setting	Automatic setting, 32 sets by the geometry offset function
・Tool selection and work coordinate system selection	Tool selection 1~32 can be done by the first digit of the T-4 digit code.
・Tool wear offset	Last two digits of the T-4 digit code.
・Direct input of the tool position	Measured value can be directly key in.
・Input/Output interface	RS-232C, PC card slot.
・Automatic operation	1Cycle operation/Continuous operation, MDI operation,
	Single block operation, Optional Block skip, Machine lock,
	Dry run, Feed hold.
・Others	
10.4" Color LCD, Decimal point input, Manual pulse generator Program protect, Start interlock,	
AC digital servo, Y-axis offset, 63 storage parts programs, Synchronous mixing feed Function.	
・Basic options	
Chamfering/Corner R control, Tool nose R compensation(G40, G41, G42), Cs-axis control,	
Inch/Metric conversion, Constant cutting speed control(G96), Background editing,	
Alarm display, Multi-start thread cutting(G33), Programmable data input(G10),	
Run hour/Parts number countering, Continuous multi-lead thread cutting,	
Multiple repetitive canned cycle(G70~G76),	
●NC Options	
Additional parts program storage (total:128k, 256k, 512k, 1M, 2M, 4M, 8MByte),	
Rigid tapping function(Spindle/Revolving tools), Total & preset counter,	
Tool life management system, Variable lead thread cutting, Cylindrical interpolation,	
custom macro B, Manual retrace function, Absolute positioning detection.	

Note : The specifications are subject to change without notice. Machines in photos may not look exactly the same as the actual products.
Standard equipment package may vary by region.

EXTERNAL VIEW

■ABX-51SY
■ABX-64SY
■Common





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ISO 9002 Certificate Number: 35819

JQA-EM5711 HEADQUARTERS PLANT, NAGANO PLANT, FUKUSHIMA PLANT, KITAKAMI PLANT
DESIGN AND MANUFACTURE OF SALES AND SERVICING OF CNC LATHES, CNC TURNING CENTERS, AUTOMATIC BAR AND PERIPHERAL EQUIPMENTS.

JQA-QM4675 KITAKAMI PLANT
DESIGN, DEVELOPMENT, MANUFACTURE, SALES, INSTALLATION, TECHNICAL SERVICE AND MAINTENANCE OF NC LATHES, BUILT-IN MOTOR AND THE RELATED APPLIANCES.

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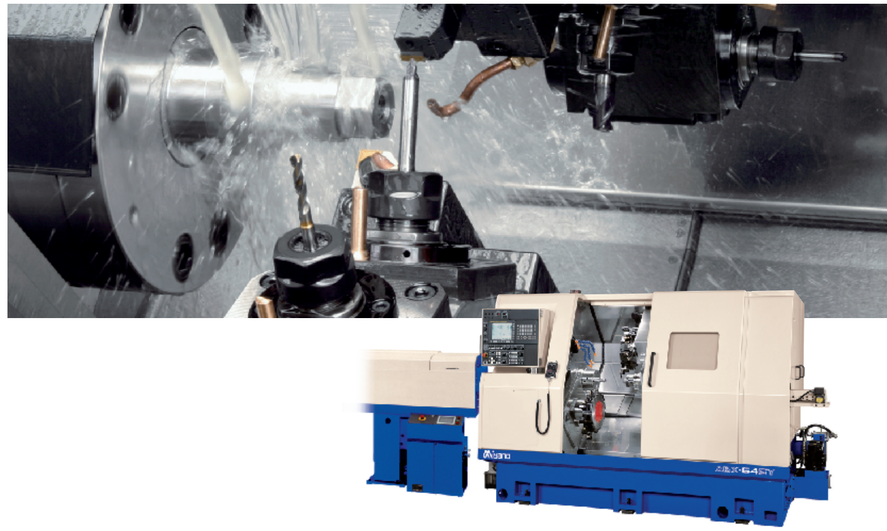
Miyano
The World Leader in Precision

2 Spindles, 2 Turrets and 1 Y-axis Slides CNC Turning Center
ABX-SY series

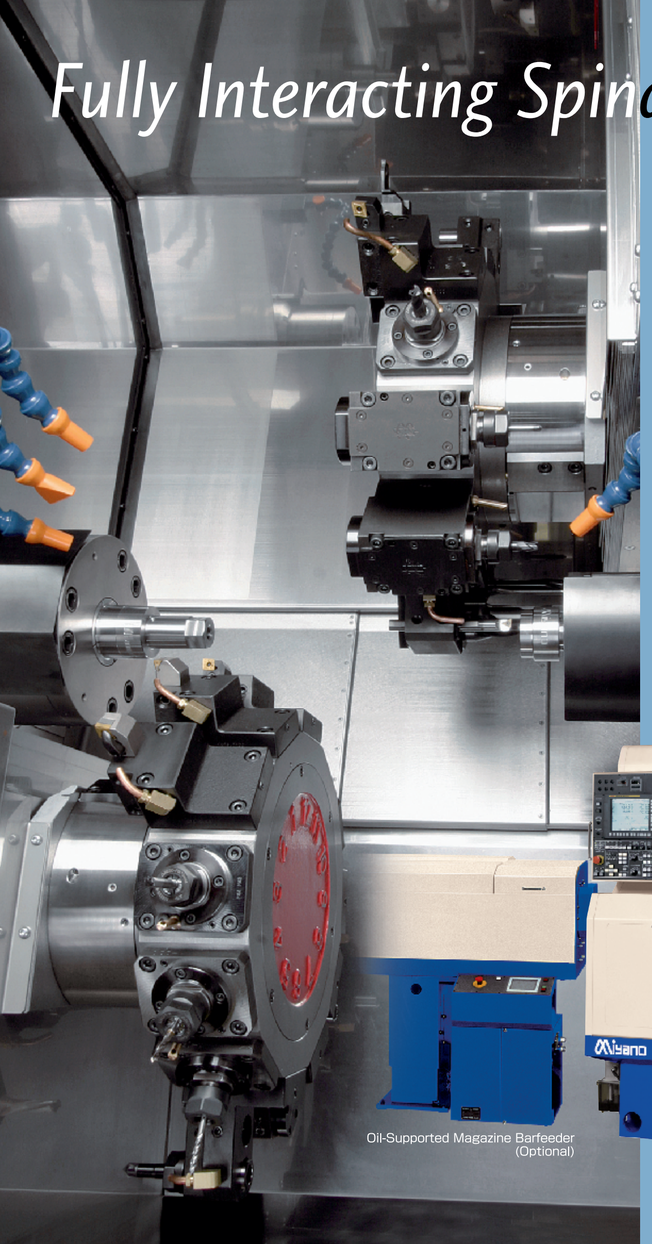


ABX-51SY
ABX-64SY

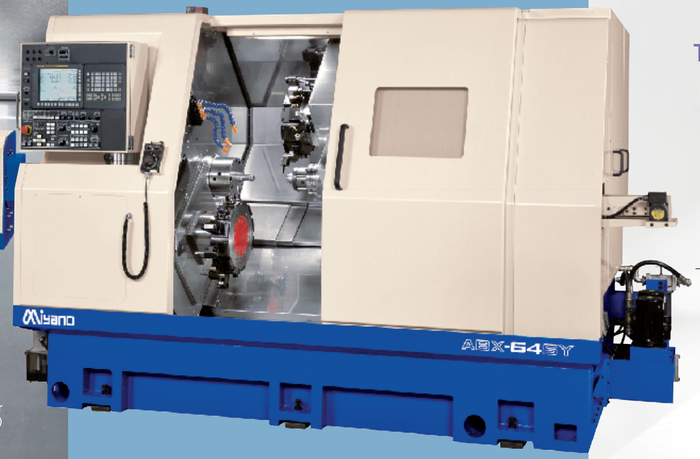
Fully Interacting Spindles and Turrets Plus Y-Axis to Conquer That Complicated Piece

Models ABX-51SY and 64SY are equipped with **two spindles, two turrets,** and **one Y-axis slide.** A total of 24 tool stations take up to 24 live tools and 48 ID tools. The upper and lower turrets have long slide travels enabling them to work on the left and right spindles without interference and perform a wide variety of simultaneous turning or milling jobs using the Y-axis. "Non-lifting" turrets indexing by an AC servomotor and a 3-piece curvic coupling support virtually eliminates chip troubles in the turrets. Extremely complicated pieces can now be completed in one machine setup, with unprecedented throughput magnitude.

ABX-51SY
ABX-64SY

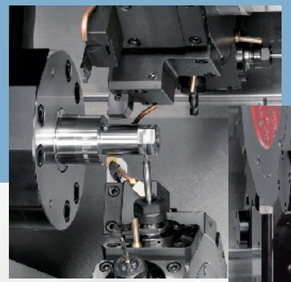


Oil-Supported Magazine Barfeeder (Optional)



Fully Interactive Twin Turning & Milling Components

The upper and lower turrets are identical in size and capacity and accept revolving tools on all tool stations.

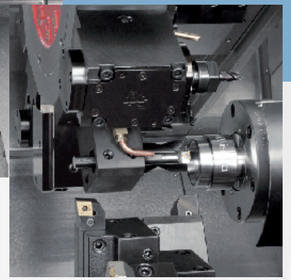


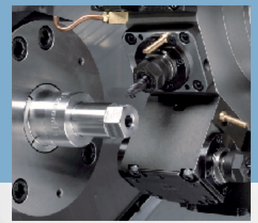
Combined Machining on L-Spindle

The upper and lower turret can simultaneously work on the L-spindle, which is fixed on the base.

Combined Machining on R-Spindle

The R-spindle can travel to the best longitudinal position to perform combined machining with the L & R turrets.

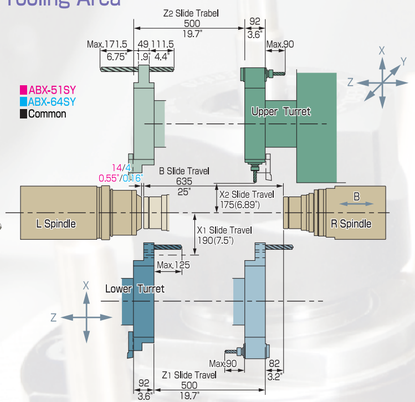




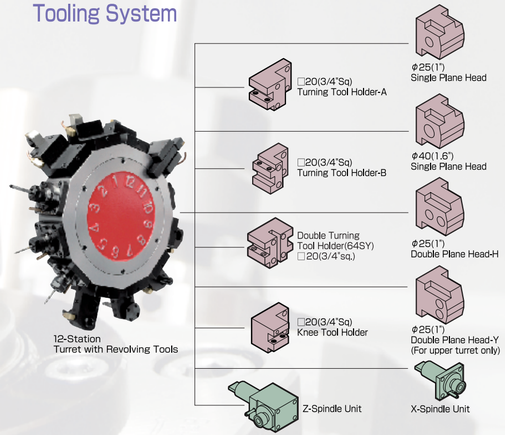
Live Tools on All Tool Stations

Live tools can be attached on all 12 stations on the upper turret (with Y-axis) and lower turret, making programming and tooling easy.

Tooling Area



Tooling System



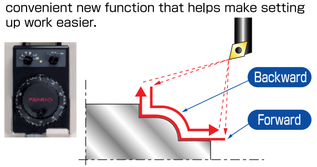
12-Station Turret with Revolving Tools

A Variety of Options

A variety of options are provided to facilitate long hours of operation.

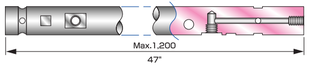
●Manual Retrace Function on Tool Path

This new function retraces programmed tool paths using pulses generated by a manual pulse generator, instead of a spindle encoder. Backward tracing is also possible. It's a convenient new function that helps make setting up work easier.



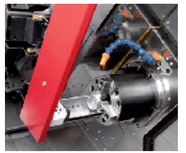
●Long-Shaft Turning System

Enables efficient processing of precision, smaller-diameter long shaft bar-work in one machine, which used to require multiple machines. A machined work-piece is pushed through the R-spindle and taken for storage.



●PC Card Slot

A low cost, ATA flash memory card and Ethernet card can be used for data transfer.



Swing Type Parts Catcher

●Parts Catcher and Parts Conveyer

There is a pneumatic swing type dedicated for the R-spindle and an electric servo type for both the L- and R-spindles, which can move in a longitudinal direction.

●Cut-off Confirmation (Electrical Type)

Confirms that a machined piece is completely cut-off by detecting that there is no load on the R-spindle when it is commanded to make a complete stop with the parted off piece, while the L-spindle, holding the remaining bar stock, is commanded to run at a slow speed.

●High Pressure Coolant
●Chip Conveyer and Chip Box.
●Magazine Loaded Automatic Bar Feeder