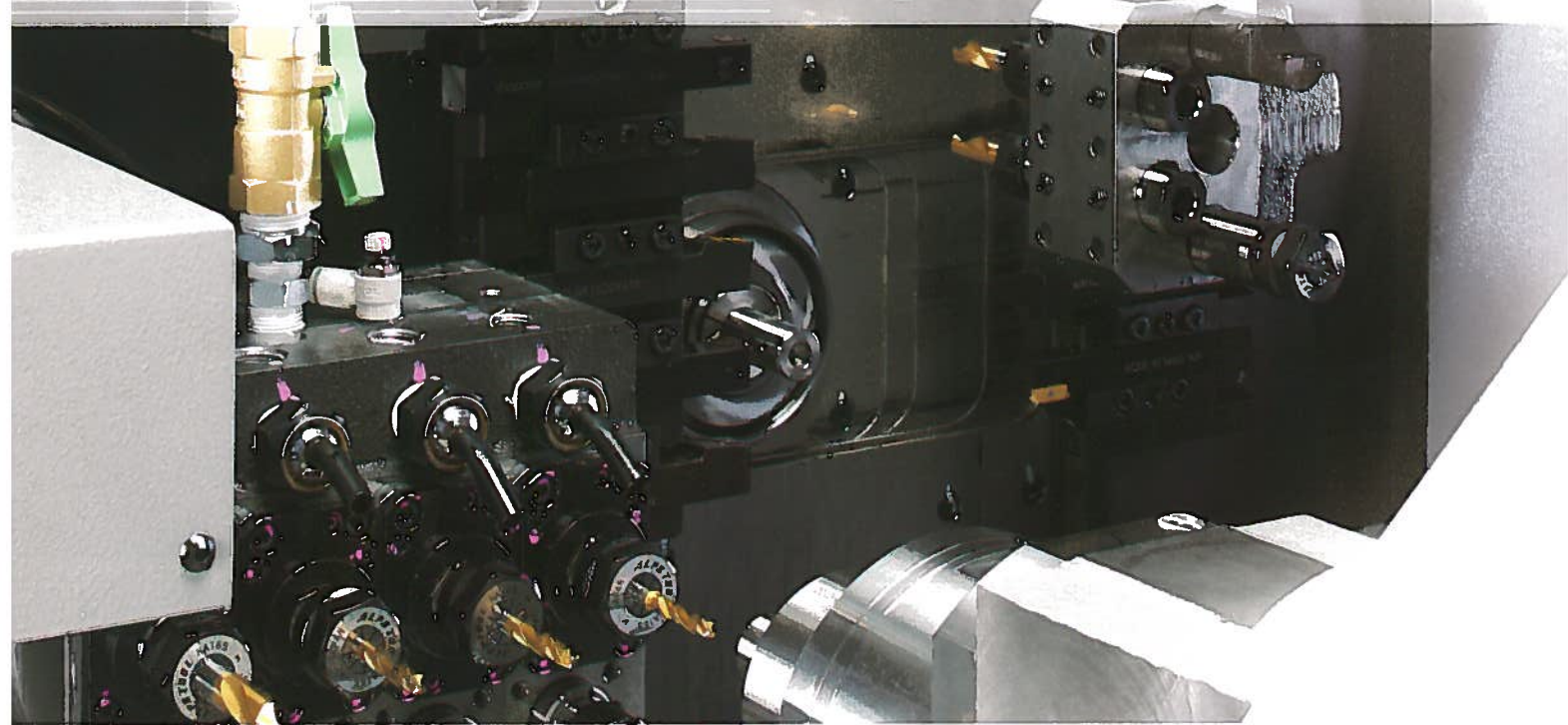


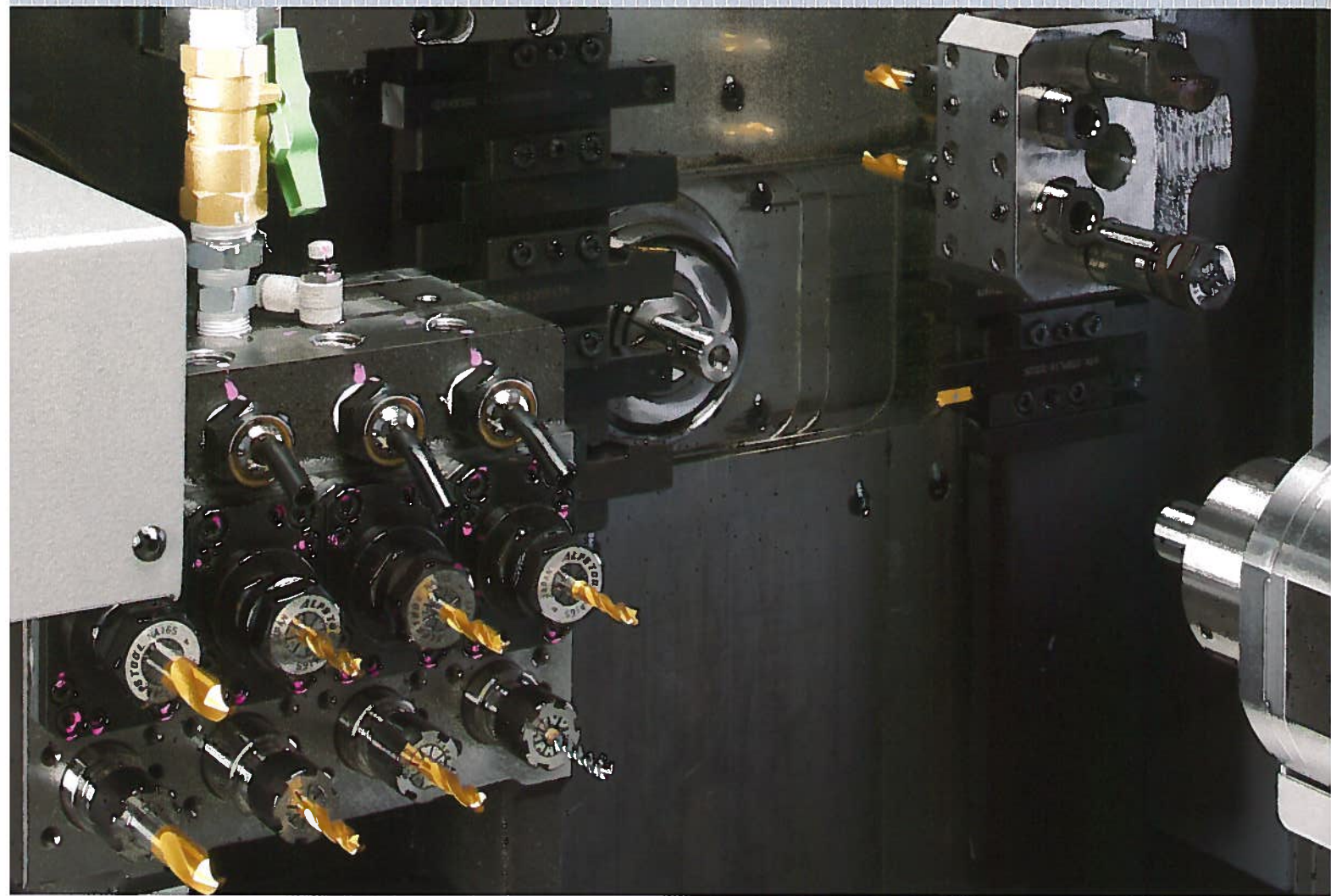
CNC Precision Automatic Lathe

B0265-II/B0325-II **B0266-II/B0326-II**



Opposed gang-tool slide type Swissturn
Suitable for variable item and variable volume production
of complicated workpieces with a wide range of capability
and well equipped options



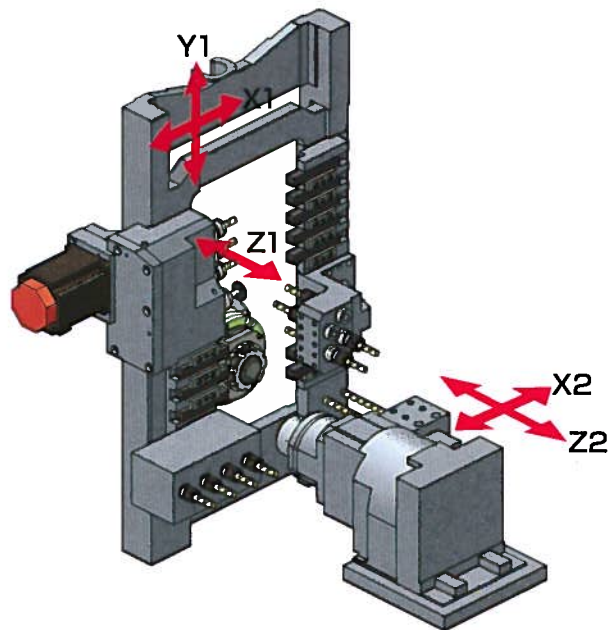


The basic Swissturn

B0265-II B0325-II

φ26 mm 5-axis control

φ32 mm 5-axis control



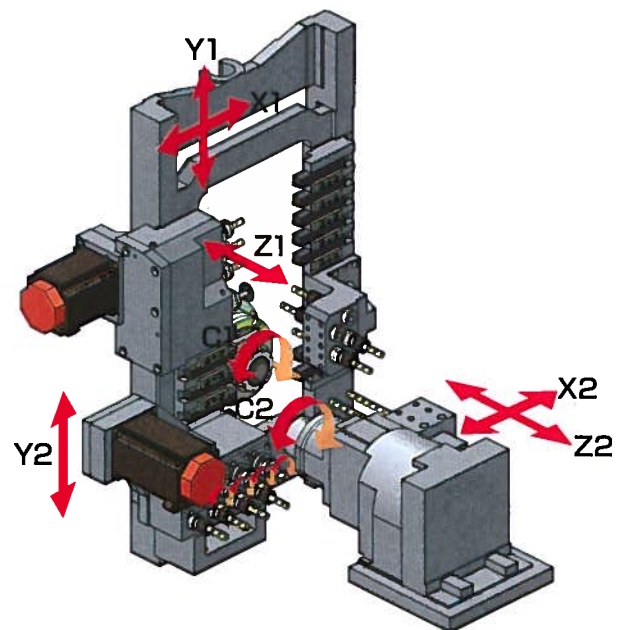
4-spindle cross rotary tool	Standard	Guide-bush-less unit	Op.
Rear drive rotary tool	Op.	C axis	Op.
Back rotary tool	Op.	Cross rigid tap	Op.
Rotary tool beside the back spindle	Op.	Back rigid tap	Op.
Direct-drive guide bushing	Op.		

Front and back simultaneous processing including milling with Y2 axis

B0266-II B0326-II

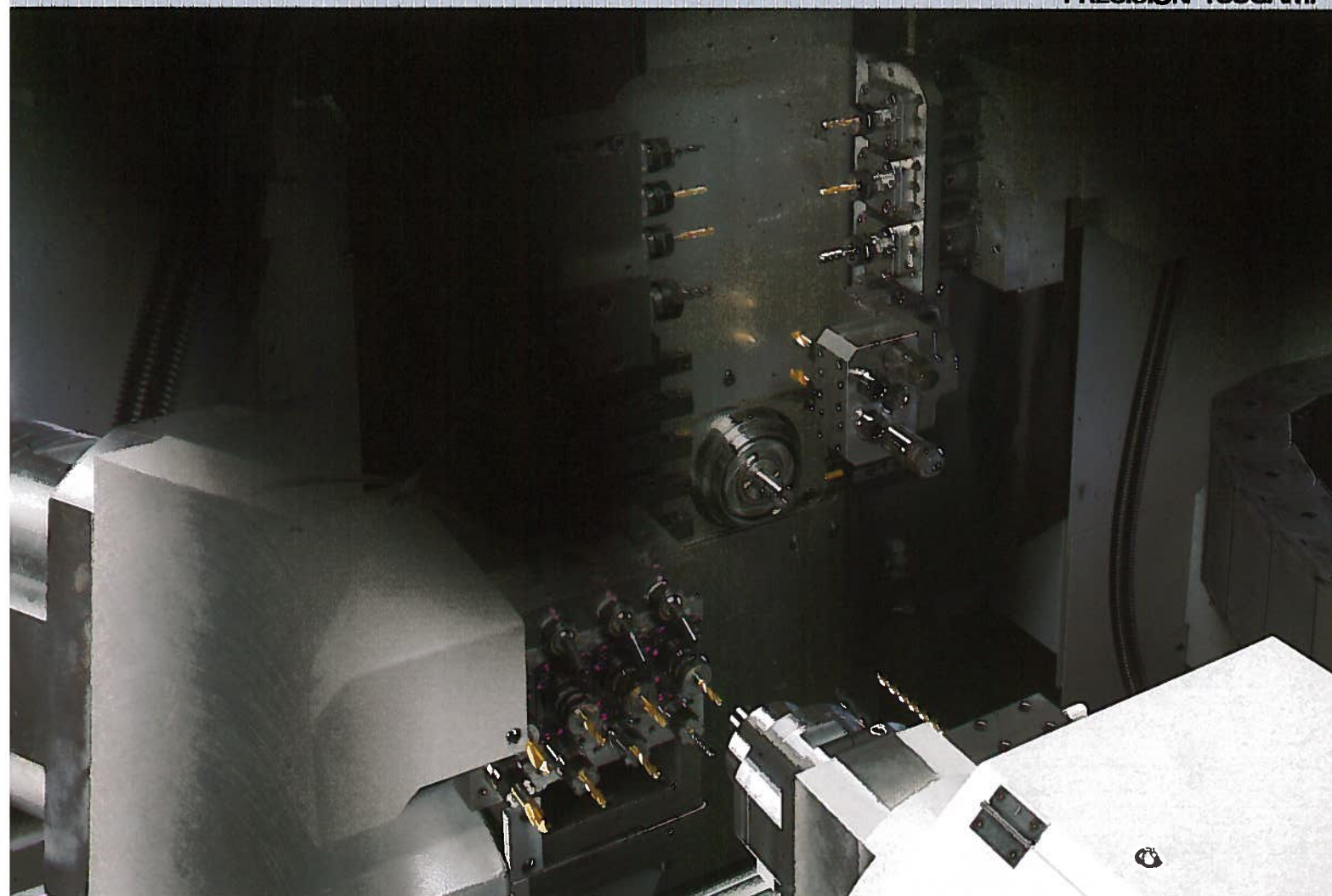
φ26 mm 6-axis control

φ32 mm 6-axis control



4-spindle cross rotary tool	Standard	Guide-bush-less unit	Op.
Rear drive rotary tool	Op.	C axis	Standard
Back rotary tool	Op.	Cross rigid tap	Op.
Rotary tool beside the back spindle	Op.	Back rigid tap	Op.
Direct-drive guide bushing	Op.		

Note that the combination of C-axes and rotary tool has restrictions.

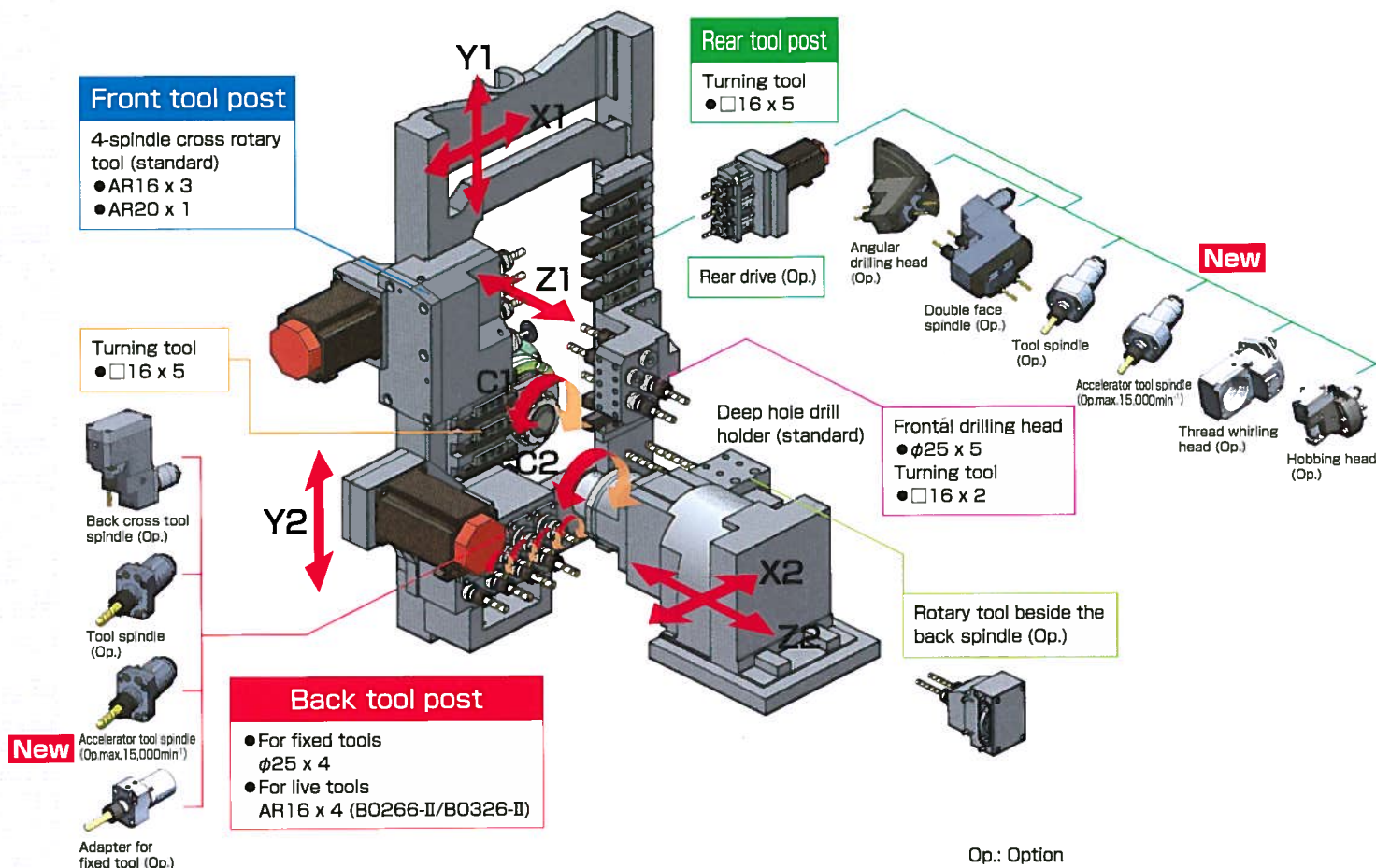


1. Machine complex parts using the main and back spindle simultaneously with the Y-axis tool post (B0266-II/B0326-II).
2. Modular tooling using cartridge type live tools (option) for optimum allocation of machining capability.
3. Beside the back spindle, additional tool post is attached. Deep hole drilling (up to 100 mm) can be realized.
In addition, by adopting optional rotary tool beside the back spindle, the ability of front off-center machining is increased.
4. Optional direct-drive rotary guide bushing provides high speed and accurate machining.
5. Guide-bush type or guide-bushless type is selectable according to workpieces.
6. Pursuing operatability thanks to enriched standard softwares
7. Automatic programming system prepared as standard

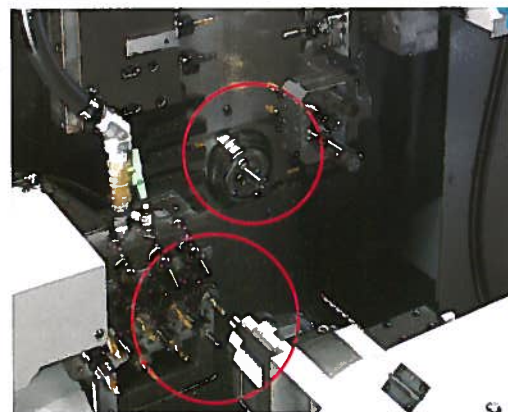
*Note: Options are attached on the picture above and the figure shown left.
Options:
Back tool post: Tool spindle

Modular tooling

Free arrangement of rotary tools, ID holders and turning holders



With the Y axis tool post (B0266-II/B0326-II), back milling operation can be overlapped with the machining of main spindle side. Flexibly respond to the workpieces requiring complex back machining.



Modular tooling using cartridge type live tools (option) for optimum allocation of machining capability.

Rear tool post

- Tool spindle
- Double face spindle
- Angular drilling head
- Additional drill holder
- Hobbing head
- Thread whirling head, etc.

Back tool post

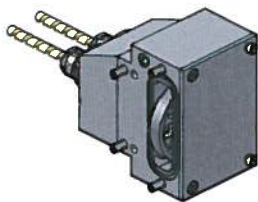
- Tool spindle
- Back cross tool spindle
- Adapter for fixed tool, etc.

High speed and accurate machining with direct-drive rotary guide bushing (Op.)
 Direct-drive guide bushing for $\phi 26$ mm and $\phi 32$ mm are newly developed.
 Improved form accuracy, dimensional accuracy and surface roughness with high speed and quiet operation (Newly developed)

	B0265-II/B0266-II	B0325-II/B0326-II
Max. speed	10,000 min ⁻¹	8,000 min ⁻¹
Max. machining length	270 mm	320 mm
Applicable guide gushing	2621-1196	2621-6216

Increasing front milling machining abilities by the optional rotary tool beside the back spindle. (Newly developed)

Deep hole drilling up to 100 mm can be realized by mounting standard front drilling holder.



●Rotary tool beside the back spindle (Op.)

Max. spindle speed	8,000 min ⁻¹
Applicable collet	AR16
Max. drilling diameter	$\phi 8$ mm
Max. tapping diameter	M6



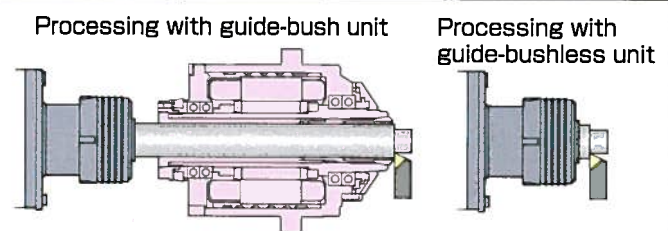
●Holder spec. (standard)

$\phi 25$ hole	2 positions
Effective machining length	100 mm

Maximum back spindle speed of B0265-II/B0266-II is limited to 8,000min⁻¹ when the rotary tool beside the back spindle is mounted.

Guide-bush type or guide-bushless type is selectable according to the workpiece

- Possible to switch between the guide-bush type and guide-bushless type. Most suitable system for the workpiece can be chosen.
- The guide-bushless type does not require ground bars, enabling high speed and high precision machining from cheap cold-drawn bars.



(Direct-drive rotary guide bush unit)

	Chuckling collet for main spindle	Chuckling collet for back spindle	Rotary guide bushing
B0265-II B0266-II	2601-1196	2601-1196	2621-1196
B0325-II B0326-II	2601-5216	2601-5216	2621-6216

Abundant software (Standard)

- Shortening cycle time
 - M code output during movement
 - Other axis start commanding during movement (Other axis is moved at a certain coordinate position, and overlapped operation is possible without interference.)
- Operatability
 - Automatic cut-off function
 - Automatic facing function
 - Automatic workpiece discharge
 - Interference check function (checks such as the back spindle and drill holder)

These functions work with push button or M code automatically. Enables easy setting up.
- Thermal displacement compensation (Production is possible from non-warm-up status)
- Tool height compensation (Tool-height difference is compensated only by inputting measured value of the cutting 2 points at outer diameter in the setting screen.)
- Tool life counter and periodic maintenance screen (Required tools and maintenance parts can be checked on the screen, and the messages of times for replacement and maintenance are displayed.)
- Automatic programming system (Application software running on PC)
 - Matching of machine, tooling and software are preferentially applied. Creating high quality standardized programs suit for complex or high accuracy workpieces. Created NC programs by the automatic programming software enables the optimized tool-waiting in synchronous controlled operation and can reduce the cycle time.
 - Main- and back-spindle side machining motion can be checked from all points of view by 3D simulation 3D graphic simulator can be checked from all view points.

Standard Specifications of Machine (Standard Specifications)

Item	B0265-II	B0266-II	B0325-II	B0326-II	
Machine capacity, Machining range	Chuckling barstock dia. $\phi 8$ to $\phi 26$		$\phi 8$ to $\phi 32$		
	270 mm (Direct-drive rotary guide bushing)		320 mm (Direct-drive rotary guide bushing)		
			$\phi 12$		
			M10		
	$\phi 26$			$\phi 32$	
			$\phi 10$		
			M8		
			$\phi 8$		
			M6		
			$\phi 45$		
Machine	Main spindle speed	200 to 10,000 min ⁻¹		200 to 8,000 min ⁻¹	
	Back spindle speed	200 to 10,000 min ⁻¹ *		200 to 8,000 min ⁻¹	
	Rotary guide bushing		200 to 10,000 min ⁻¹		
	Tool spindle speed		200 to 5,000 min ⁻¹		
	Total tool storage capacity (Standard/Max.)	27/39	31/43	27/39	31/43
	Tool size	16 x 16 x 100 mm			
Rapid traverse rate	32 m/min (X1,Y1,Y2: 24 m/min)				
Motors	Main spindle	3.7/5.5			
	Back spindle	2.2/3.7 kW			
	Tool spindle	1.0 kW			
	Rotary guide bushing	1.5/3.0 kW			
	X1, Y2	0.5 kW			
	Y1, Z1, X2, Z2	0.75 kW			
	Coolant pump	400 W			
	Lubricating pump	3 W			
Power supply, etc	Weight	3,400 kg			
	Power source requirements	21.4 KVA			
	Compressed air requirement	0.4 MPa or above			
	Air discharge rate	40 NL/min			
	Coolant tank capacity	180 L			
Width x depth x height	2,150 x 1,280 x 1,930 mm				

Note: Maximum back spindle speed is limited to 8,000min⁻¹ when the rotary tool beside the back spindle is mounted.

NC Specifications

Item	B0265-II/B0325-II	B0266-II/B0326-II
NC unit	FANUC Oi-TD	
Controllable axes	X1, Z1, Y1, X2, Z2	X1, Z1, Y1, X2, Z2, Y2, C1, C2
Least input increment	0.001 mm (Diametrical designation for X1 axis)	0.001 mm (Diametrical designation for X1,X2 axes)
Least command increment	X1,X2 axes 0.0005 mm Other axes 0.001 mm	X1,X2 axes 0.0005 mm Other axes 0.001 mm
Maximum commandable value	± 8 digits	
Interpolation method	Linear/circular	
Rapid traverse rate	32 m/min (X1, Y1: 24 m/min)	32 m/min (X1, Y1, Y2: 24 m/min)
Cutting feed rate	1 to 6,000 mm/min	
Feed rate override	0 to 150 %, 10 % step	
Dwell	G04 0 to 99999.99	
Absolute/incremental command	X, Y, Z: Absolute U, V, W: Incremental	X, Y, Z, C: Absolute U, V, W, H: Incremental
Amount of tool offset	± 6 digits	
No. of tool offsets	64	99
LCD/MDI	10.4" Color LCD	
Display language	English	
Part program storage size	1 Mbyte (equivalent to 2,560 m) (Main and back in total)	64 Kbyte (equivalent to 80 m tape length for each path system)
No. of registerable programs	800 (Main and back in total)	63 (Main and back in total)
Miscellaneous function	M5 digits	
Spindle function	S5 digits	
Tool function	T4 digits	

Machine standard accessories

Item	Item	Item
Front tool post: 4-spindle cross drill	Main spindle adapter	Standard tools
Deep hole drill holder ($\phi 25$ x 2 holes)	Back spindle adapter	Transit clamps
Automatic programming system	Automatic cutting-off function, Automatic facing function	Automatic power shut-off
Tool-height displacement compensation	Door interlock (Tooling zone side door/Main spindle side door)	Back spindle air purge
Tool counter	Coolant level switch	Cross drill air purge
Periodic maintenance screen	Spindle cooling unit	Main spindle brake

NC standard accessories

Item	Item	Item
Chasing function	Spindle synchronous control (rotary, phase)	Expanded program editing
Continuous thread cutting	Z1/Z2-axis synchronous control	Canned cycle drilling
Manual pulse generator	Tool geometry / wear offset	Rigid tap (main spindle, back spindle)
Memory card I/O interface	Programmable data input	Cut-off detection (Differential)
Back ground editing	Chamfering and corner R	Spindle speed fluctuation detection
Run time/parts number display	Tool nose radius compensation	Stored stroke check 2,3
Custom macro	HRV control	
Constant surface speed control	Multiple repetitive cycle	

Option

Item	Item	Item
Guide bushing	Direct drive guide bushing	High-pressure pump (4MPa)
	Guide-bush-less kit	M code oil blow
	Back spindle brake	Oil-mist separator
	Back spindle 15 degree indexing	Work conveyor
Advanced function system	Rotary tool beside the back spindle	Work catcher
	0.1µm specification	Front discharge
	C-axis function (B0265-II/325-II)	Rear discharge
	Rear drive	Chip disposal
	Tool spindle	Chip conveyor
Live tools (Rear tool post)	Double face spindle	Operation support functions
	Angular drilling head	Automatic tool setting
	Thread whirling head	Set gauge
	Hobbing head	Tap breakage detector
	Back drive (B0265-II/325-II)	Signal indicator
Live tools (Back tool post)	Tool spindle	Main spindle adapter
	Back cross tool spindle	Back spindle adapter
	Back tool adapter	Drill holder
	High-pressure pump (1.5 MPa)	Part program storage size 128 kbytes
	High-pressure pump (2MPa)	Part program storage size 256 kbytes
		Part program storage size 512 kbytes
		G-code system B/C
		Direct drawing dimension program
		Variable-lead thread cutting
		Thread cutting cycle retract
		Number of registerable programs expansion 1
		Standard program storage size: 120 programs
		128 KB : 250 programs
		256 KB : 500 programs
		512 KB : 1,000 programs
		Polar coordinate interpolation
		Cylindrical interpolation
		Display language (simplified Chinese)
		Internal work light
		Automatic fire extinguisher
		Manual pulse generator with program check function
		Rotary tool rigid tapping
		RS232C interface
		Inch/metric conversion
		Abnormal load detection

Option restriction of C axis and rotary tool (B0265-II/B0325-II)

Possible combination	Front cross (Standard set)	Rotary tool			Index function	
		Rear drive (Cross)	Back drive	Main spindle	Back spindle	
Guide-bushless unit selected	①	○	○	Speed command by S code, Rigid tap is invalid	C axis	C axis
	②	○	○	Speed command by S code, Rigid tap is invalid	C axis	C axis
	③	○	○	Speed command by S code, Rigid tap is invalid	C axis	1°/15°
Direct drive guide bush selected	④	○	○	Speed command by S code, Rigid tap is invalid	1°	C axis
	⑤	○	○	Speed command by S code, Rigid tap is invalid	1°	1°/15°
	⑥	○	○	Speed command by S code, Rigid tap is invalid	1°	1°/15°
	⑥	○	○	Speed command by S code, Rigid tap is invalid	1°	1°/15°

Option restriction of C axis and rotary tool (B0266-II/B0326-II)

Possible combination	Front cross (Standard set)	Rotary tool			Index function	
		Rear drive (Cross)	Back drive	Main spindle	Back spindle	
Guide-bushless unit selected	①	○	○	○	C axis	C axis
Direct drive guide bush selected	②	○	○	○	C axis	C axis

Rigid tap function

	B0265-II/B0325-II	B0266-II/B0326-II
Main spindle rigid tap	Standard	Standard
Back spindle rigid tap	Standard	Standard
Rotary tool rigid tap	Option ("○" marked on above column can be selected.)	



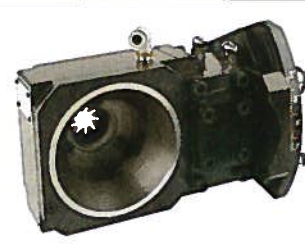
Work catcher
Conveying the workpiece discharged from back spindle through the chute and stored inside the work bin.



Angular drilling head
Inclined drilling can be performed



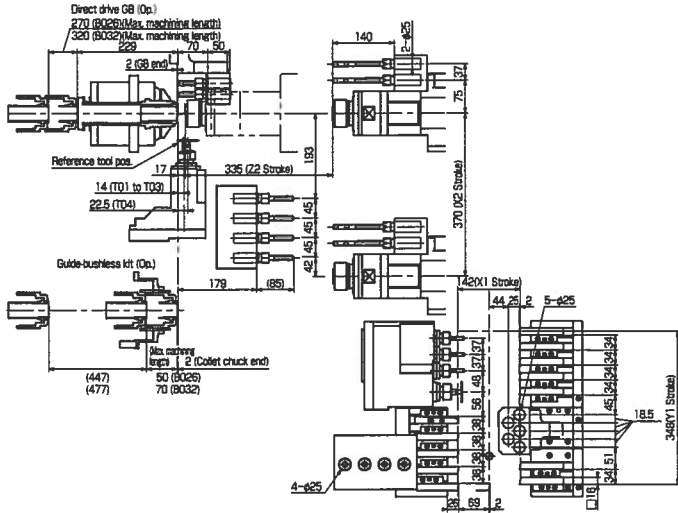
Back cross tool spindle



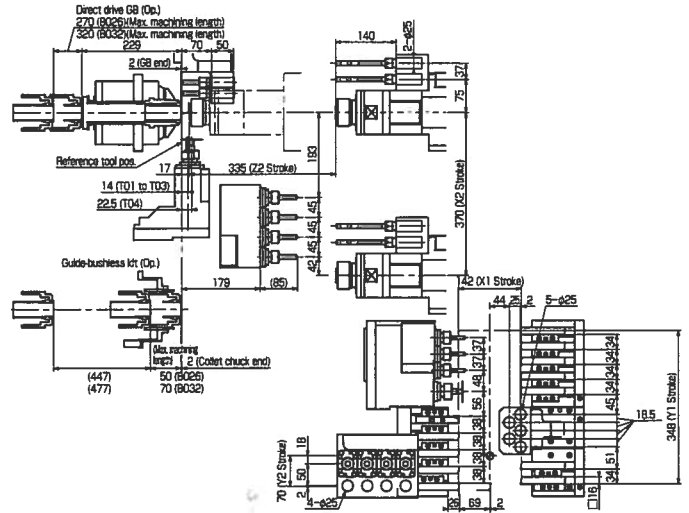
Thread whirling head
Processing bone screws or long threads

Tooling Zone

B0265-II/B0325-II

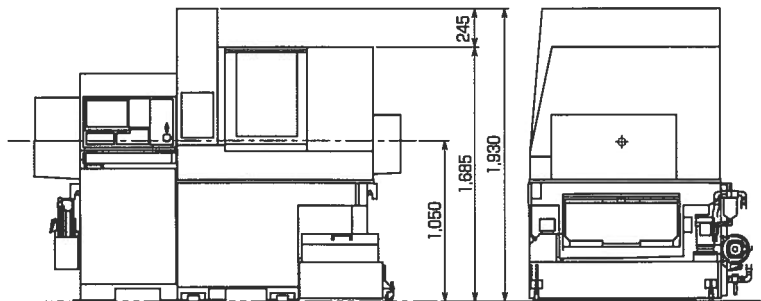
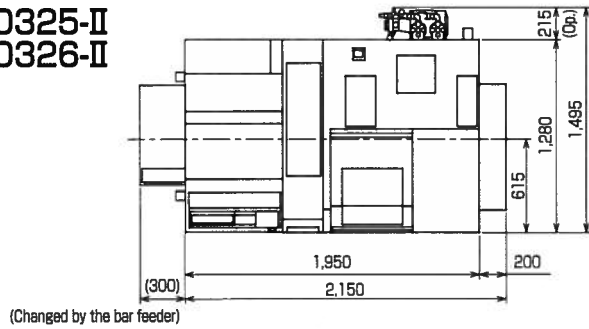


B0266-II/B0326-II



External View

B0265-II/B0325-II B0266-II/B0326-II



Export permission by the Japanese Government may be required for exporting our products in accordance with the Foreign Exchange and Foreign Trade Law. Please contact our sales office before exporting our products.

The specifications of this catalogue are subject to change without prior notice.



TSUGAMI CORPORATION

12-20, TOMIZAWA-CHO, NIHONBASHI,
CHUO-KU, TOKYO 103-0006, JAPAN
Phone : 03-3808-1172
Facsimile : 03-3808-1175