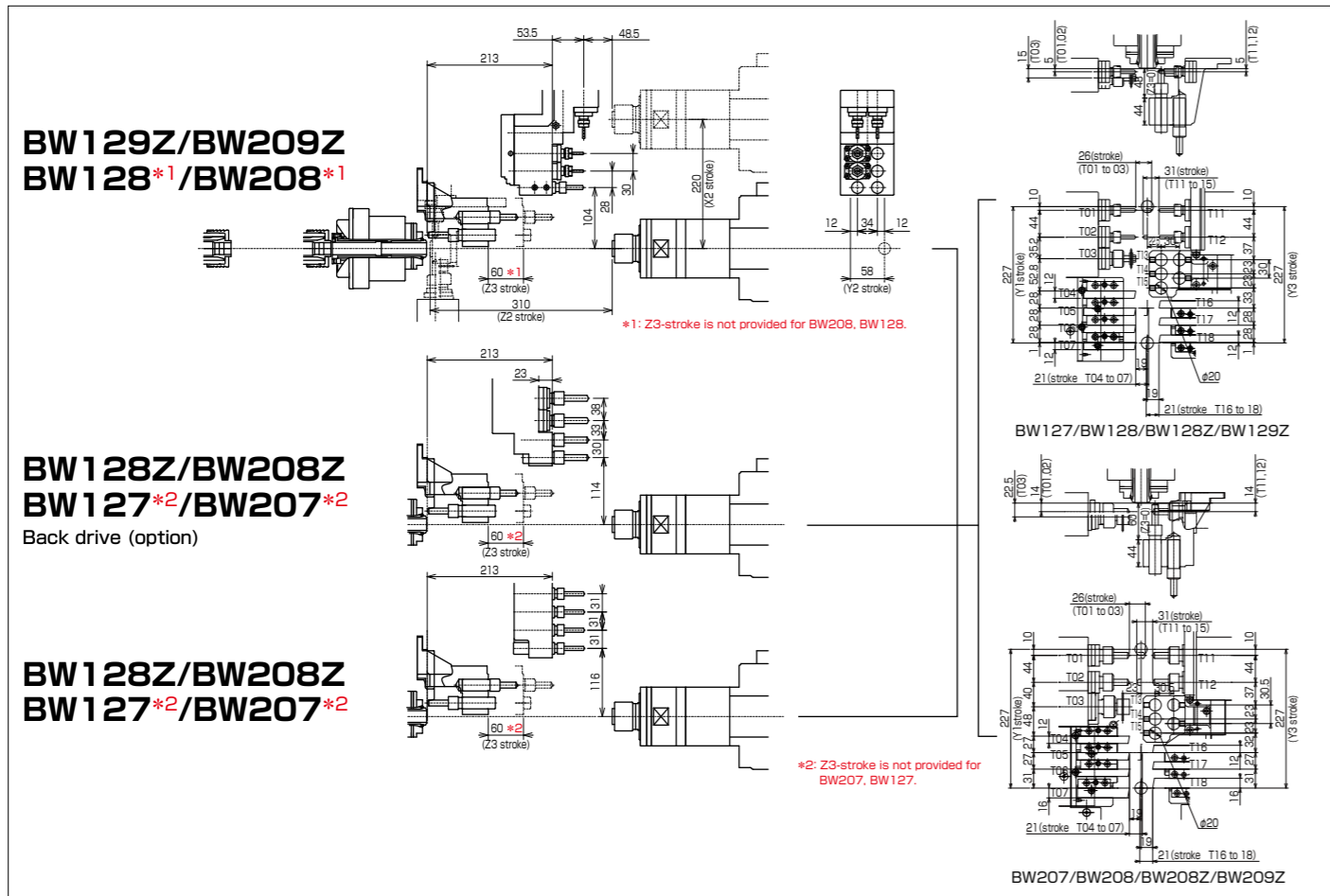
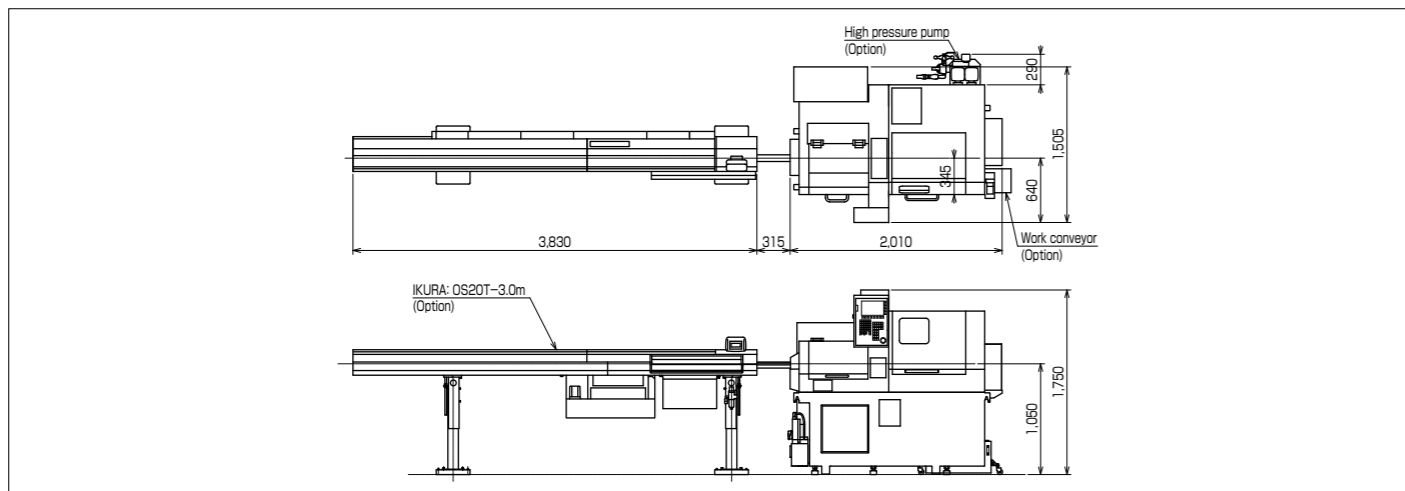


Tooling zone



Layout



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

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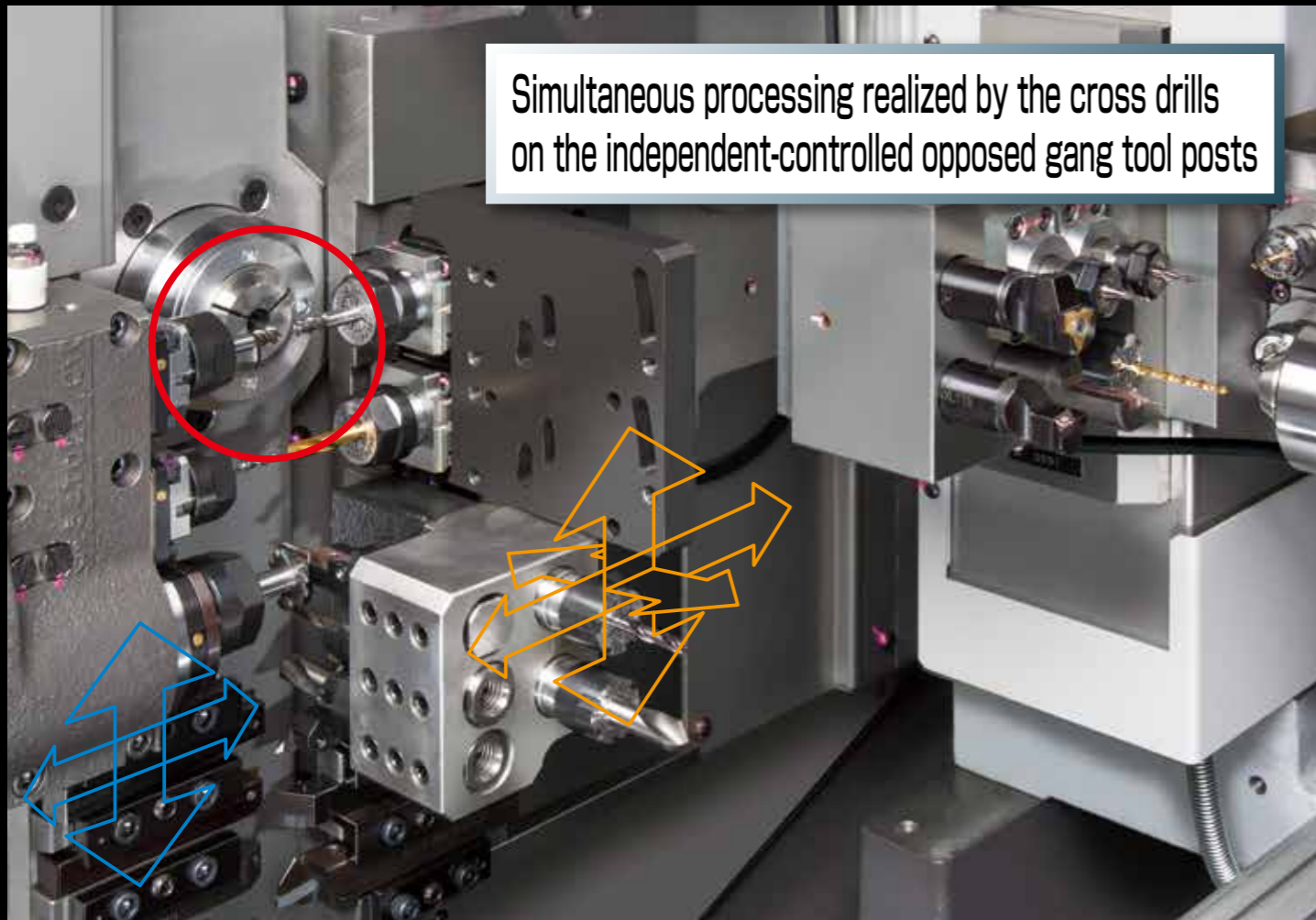
CNC Precision Automatic Lathe

BW127/BW128
BW128Z/BW129Z
BW207/BW208
BW208Z/BW209Z

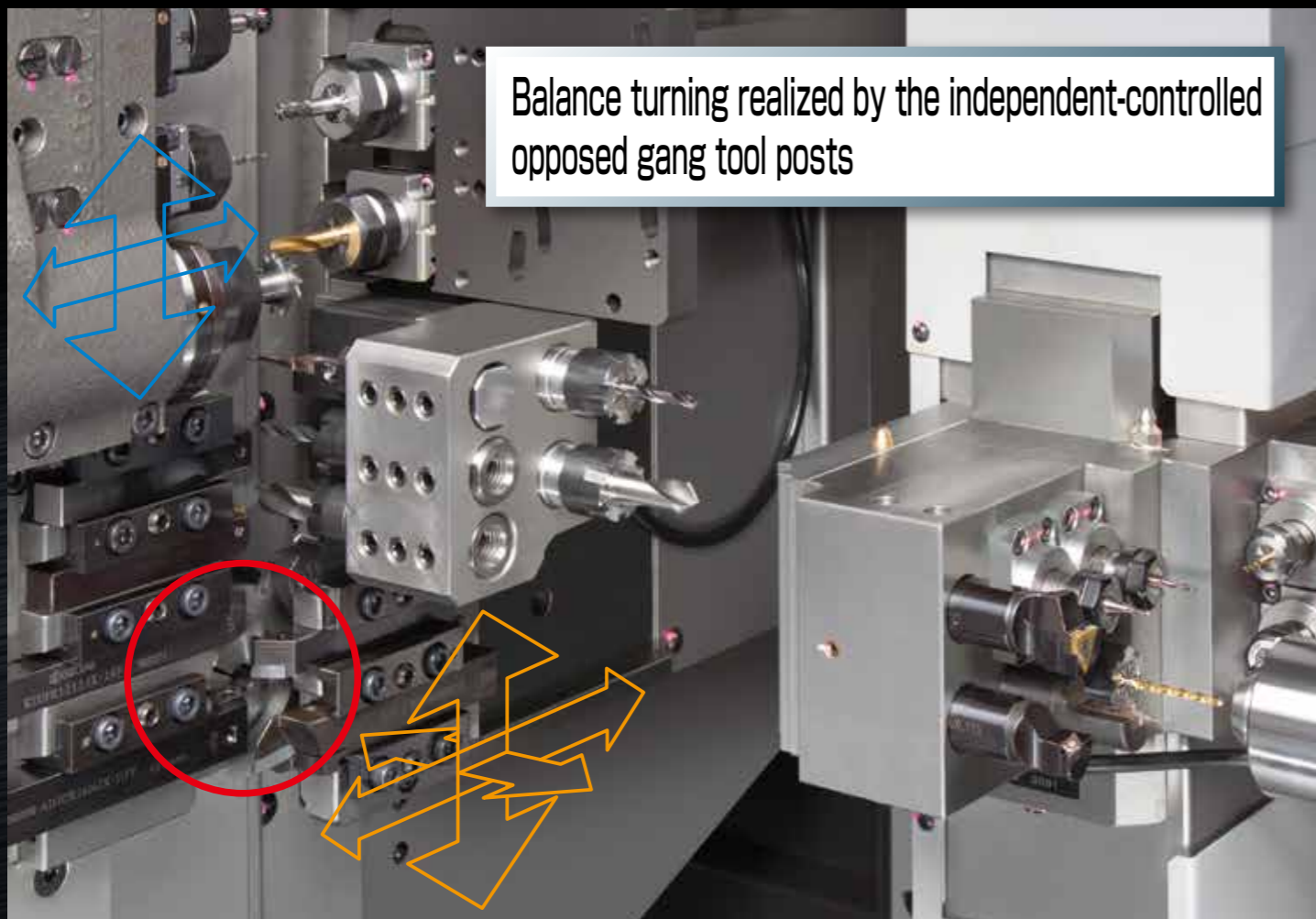


Productivity is dramatically improved by diverse simultaneous processing





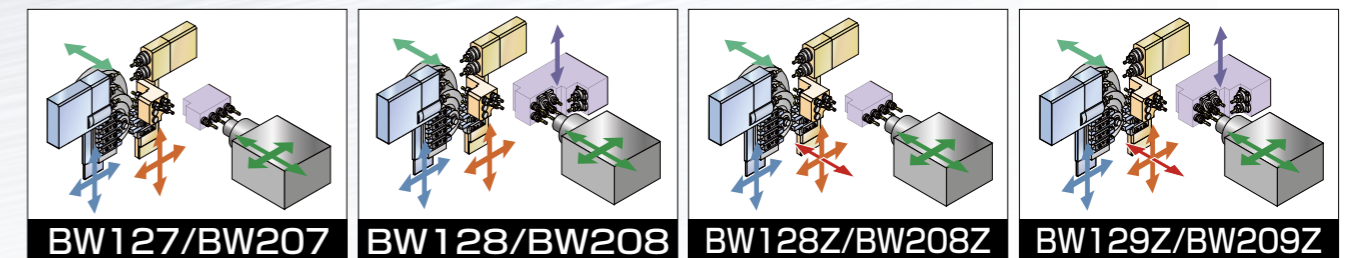
Simultaneous processing realized by the cross drills on the independent-controlled opposed gang tool posts



Balance turning realized by the independent-controlled opposed gang tool posts

Drastically shortened cycle time

- By simultaneous 3-path control on independent tool posts, diverse processing is possible.
- Simultaneous processing is realized thanks to the Z-axis movement of rear tool post. (BW128Z/BW129Z/BW208Z/BW209Z)
- Highly value-added workpiece can be machined by the Y axis on the back tool post. (BW128/BW129Z/BW208/BW209Z)
- Zero tool change time by simultaneous 3-path control
- Mounting Y axis on three tool posts. (BW128/BW129Z/BW208/BW209Z)
- Optional direct-drive rotary guide bushing provides high speed and accurate machining.
- Optional guide-bush type or guide-bushless type is selectable according to workpieces.
- Automatic programming system prepared as standard.



Z3 axis	—	—	○	○
Y2 axis	—	○	—	○

Machining Patterns

Cycle time is shortened by diverse simultaneous processing

Balance turning

BW127 BW207	BW128 BW208	BW128Z BW208Z	BW129Z BW209Z
○	○	○	○

Simultaneous processing

BW127 BW207	BW128 BW208	BW128Z BW208Z	BW129Z BW209Z
—	—	○	○

Simultaneous processing

BW127 BW207	BW128 BW208	BW128Z BW208Z	BW129Z BW209Z
○	○	○	○

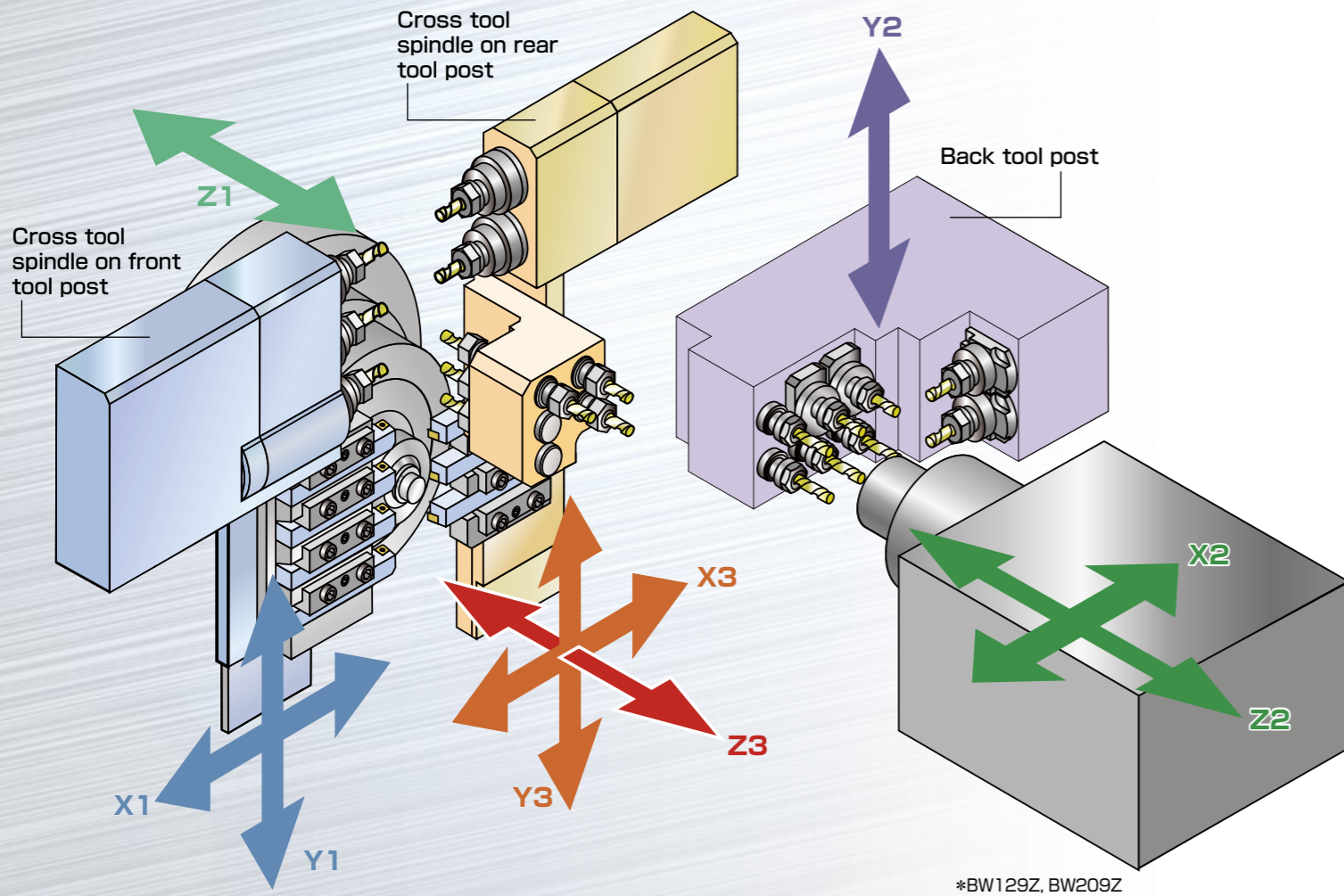
Simultaneous processing

BW127 BW207	BW128 BW208	BW128Z BW208Z	BW129Z BW209Z
—	—	○	○

Simultaneous processing

BW127 BW207	BW128 BW208	BW128Z BW208Z	BW129Z BW209Z
○	○	○	○

Diverse machining patterns realized by simultaneous 3-path control



*BW129Z, BW209Z

Cross tool spindle on the front/rear tool post (Standard)

Drilling, tapping or milling from cross direction is executed with the main spindle indexing.



Cross tool spindle on front tool post			
Item	BW127/BW128/ BW128Z/BW129Z	BW207/BW208/ BW208Z/BW209Z	
Maximum speed	8,000 min ⁻¹ Note 1		
3 spindles:	2 spindles ER11 φ7	2 spindles ER16 φ10	
Modular type	1 spindle ER16 φ10	1 spindle ER20 φ13	

(Note 1): Continuous rotation speed: 7,000 min⁻¹ or less

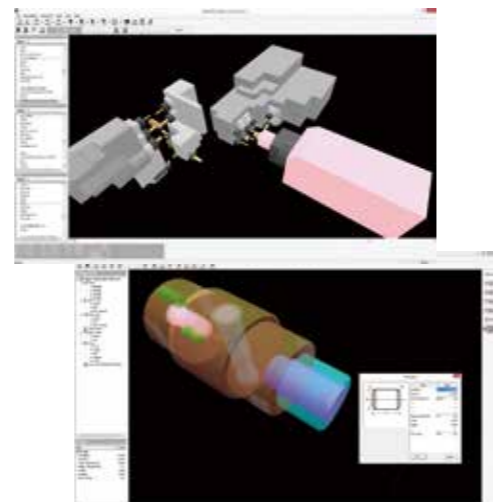


Cross tool spindle on rear tool post			
Item	BW127/BW128/ BW128Z/BW129Z	BW207/BW208/ BW208Z/BW209Z	
Maximum speed	8,000 min ⁻¹ Note 1		
2 spindles:	2 spindles ER11 φ7	2 spindles ER16 φ10	
Modular type			

(Note 1): Continuous rotation speed: 7,000 min⁻¹ or less

Automatic programming system Abile is provided as standard.

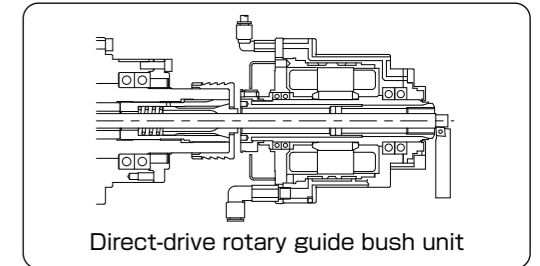
Program for 3-path controlled machine can be easily and quickly created by automatic programming system.



Direct-drive rotary guide bushing (Option) assures increase of spindle speed.

Improving geometrical accuracy, dimensional accuracy, and surface roughness with high-speed and quiet operation.

	Max. speed	Machining length
BW127/BW128/ BW128Z/BW129Z	12,000 min ⁻¹	170 mm
BW207/BW208/ BW208Z/BW209Z	10,000 min ⁻¹	170 mm

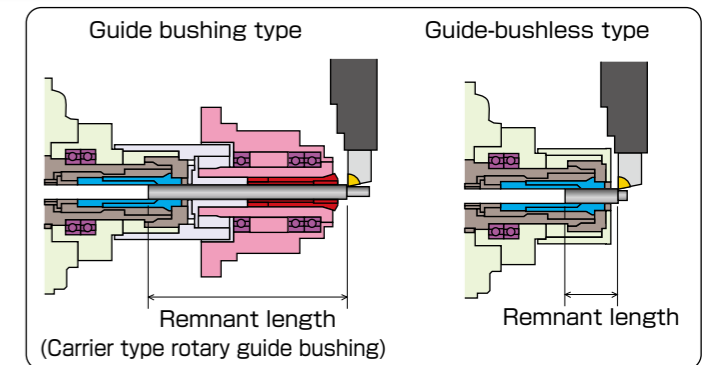


Direct-drive rotary guide bush unit

Optional guide-bush type or guide-bushless type is selectable according to workpieces.

- Stationary guide bushing
- Carrier type rotary guide bushing
- Guide-bushing-less kit
- Direct-drive rotary guide bushing

- Machining optimum for the workpiece length is realized by switching the guide bushing and guide-bushing-less type.
- The machining without a guide bushing does not require ground bar, enabling high-speed and accurate machining from cold drawn bars. The shortest possible remnant length is 30 mm.



Machine Models	BW127/BW128/BW128Z/BW129Z, BW207/BW208/BW208Z/BW209Z		
Type	Carrier type rotary guide bushing	Direct-drive guide bushing	Guide-bushless
Remnant length	180 mm + α mm	210 mm + α mm	30 mm + α mm

Back tool post By back live tool with Y2 axis, back side off-center drilling, tapping, cross milling or back milling can be overlapped with front side processing.

Machining patterns of back processing



Back tool post		
Live tool	End face	Cross
	ER11 x 2	
	Max. speed: 8,000 min ⁻¹ Note 1	
Fixed tool	Non-modular type φ20 x 4 holes	

(Note 1): Continuous rotation speed: 7,000 min⁻¹ or less

Item	Specification
Max. drilling dia.	φ6 Note 2
Max. tapping dia.	M5 Note 3
Motor output	1.0 kW

(Note 2, Note 3) Machining capacity is based on JIS S45C or equivalent.
(Note 3) Tapping capacity is based on the cutting tap.

Machine specifications

Item	BW127	BW128	BW128Z	BW129Z	BW207	BW208	BW208Z	BW209Z	
Machine capacity, Machining range Note 1	Barstock chucking diameter	φ3 to φ12 mm			φ3 to φ20 mm				
	Max. machining length	210 mm (stationary guide bushing), 80 mm (carrier type rotary guide bushing), 170 mm (direct-drive rotary guide bushing), 45 mm (guide-bushless)							
	Max. main spindle drilling diameter	φ7			φ10				
	Max. main spindle tapping diameter	M6			M10				
	Main spindle through ID	φ16			φ32.5				
	Max. back spindle chucking dia.	φ12			φ20				
	Max. back spindle drilling diameter	φ7			φ8				
	Max. back spindle tapping diameter	M8							
	Max. cross drilling diameter	φ6							
	Max. cross tapping diameter	M5 x 0.8							
	Max. tool spindle slotting cutter dia. (T03)	φ30			φ45				
	Max. back drilling diameter	φ6							
	Max. back tapping diameter	M5							
Machine	Main spindle speed	200 to 12,000 min ⁻¹			200 to 10,000 min ⁻¹				
	Back spindle speed	200 to 12,000 min ⁻¹							
	Rotary guide bushing speed	200 to 8,000 min ⁻¹ : Carrier type rotary guide bushing, 200 to 12,000 min ⁻¹ : Direct-drive guide bushing			200 to 8,000 min ⁻¹ : Carrier type rotary guide bushing, 200 to 10,000 min ⁻¹ : Direct-drive guide bushing				
	Cross tool spindle speed	200 to 8,000 min ⁻¹ Note 3							
	Tool storage capacity	OD tool	7	7	7	7	7	7	7
		ID tool	8	8	8	8	8	8	8
		Live tools on front tool post	3	3	3	3	3	3	3
		Live tools on rear tool post	2	2	2	2	2	2	2
		Back tool post	Fixed: 4	8 (Fixed: 4, live: 4)	Fixed: 4	8 (Fixed: 4, live: 4)	Fixed: 4	8 (Fixed: 4, live: 4)	Fixed: 4
	Tool size	12 mm x 12 mm x 85 mm (T04, T05, T06, T07, T16, T17, T18)			12 mm x 12 mm x 85 mm (T04, T05, T06, T16, T17), 16 mm x 16 mm x 85 mm (T07, T18)				
	Rapid traverse rate	32 m/min (Z1·Z2·X2)		24 m/min (Y1·Y3)	15 m/min (Y2)	12 m/min (X1·X3·Z3)			
	Controlled axes (linear axes)	7	8	8	9	7	8	8	9
	Motors	Main spindle	1.5/2.2 kW			2.2/3.7 kW			
Back spindle		1.5/2.2 kW							
X1, Y1, Z1, X2, Y2, Z2, X3, Y3		0.5 kW							
Cross tool spindle		1.0 kW							
Back tool spindle		1.0 kW							
Coolant pump		0.25 kW							
Power supply and others	Lubricating oil pump	3 W							
	Power source requirement	13.2 kVA	13.7 kVA	13.7 kVA	14.1 kVA	14.4 kVA	14.9 kVA	14.9 kVA	15.4 kVA
	Net weight	2,850 kg	2,900 kg	2,850 kg	2,900 kg	2,850 kg	2,900 kg	2,850 kg	2,900 kg
	Compressed air requirement	0.4 MPa or above							
	Air discharge rate	50 NL/min							
	Coolant tank capacity	120 L							
	Width x depth x height	2,010 mm x 1,505 mm x 1,750 mm							

(Note 1): Machining capacity is based on JIS S45C or equivalent. Tapping capacity is based on the cutting tap.
 (Note 2): Stationary guide bushing, carrier type rotary guide bushing and direct-drive rotary guide bushing and guide-bushless are optional.
 (Note 3): Continuous rotation speed: 7,000 min⁻¹ or less

NC Specifications

Controlled axes	X1,Y1,Z1,X2,Y2,Z2,X3,Y3,Z3,C1,C2	ABS/INC command	X,Y,Z,C: absolute, U,V,W,H: Incremental
Least input increment	0.001 mm (X1/X2/X3-axis in diameter)	LCD/MDI	10.4" color LCD
Least command increment	0.001 mm (X1/X2/X3-axis in diameter)	Display language	English
Maximum programmable value	±8 digits	Part program storage size	Sum of all paths: 64 kbytes (equivalent to 160 m)
Interpolation method	Linear, circular	Registerable programs	Sum of all paths: 63
Feedrate	1 to 6,000 mm/min	Miscellaneous functions	M5-digits
Feedrate override	0 to 150% in 10% increments	Spindle function	S5-digits
Dwell	G04 0 to 99999.99	Tool function	T4-digits
Tool offset pairs	Sum of all paths: 200 pairs		

Standard Accessories

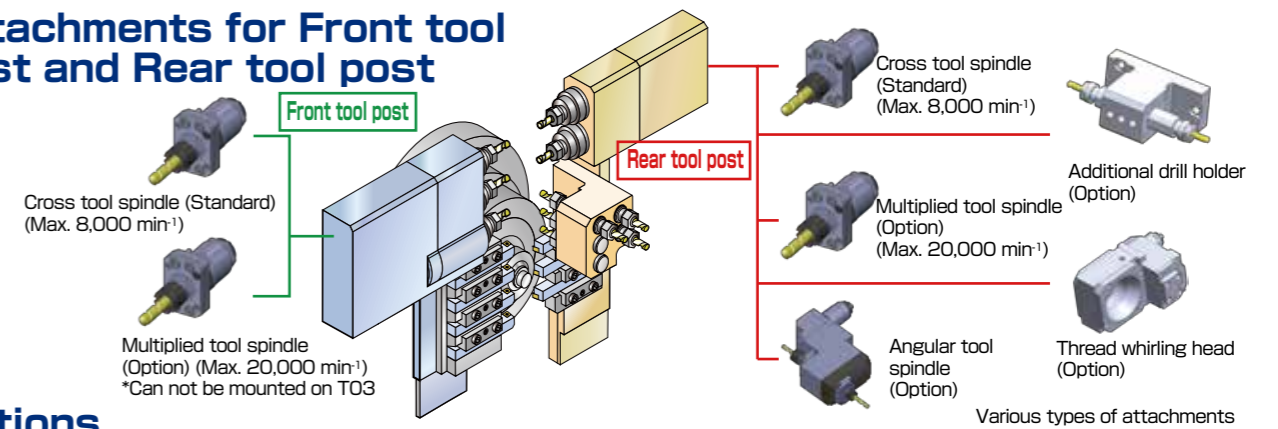
Automatic programming system	Cross tool spindle on front tool post (BW127/128/128Z/129Z ER11:2, ER16:1) (BW207/208/208Z/209Z ER16:2, ER20:1)	Retractable coolant nozzle
Tool height compensation		Standard tools
Tool life counter		Transit clamps
Periodic maintenance screen	Cross tool spindle on rear tool post (BW127/128/128Z/129Z ER11:2) (BW207/208/208Z/209Z ER16:2)	Automatic power shut off
Main spindle adapter		Automatic cut-off function/Automatic facing function
Back spindle adapter	Tool spindle on back tool post (End face ER11:2, Cross ER11:2) Note*	C-axis control for main/back spindles (Brake is provided as option separately.)
Back drive (back tool post) Note*		
Door interlock		
Coolant level switch	Spindle cooling unit	

(Note*) Only for BW128/BW129Z/BW208/BW209Z

NC standard accessories

Chasing function	Constant surface speed control	Multiple repetitive cycle
Continuous thread cutting	Spindle synchronous control (rotation/phase/tracing)	Extended program editing
Manual pulse generator	Tool geometry/wear offset	Canned drilling cycle
Memory card input/output interface	Programmable data input	Rigid tap (Main spindle, back spindle)
Back ground editing	Chamfering & corner R	Spindle speed fluctuation detection
Run time & parts number display	Tool nose radius compensation	Cut-off detection (Speed Differential type)
Custom macro	HRV control	Pitch error compensation

Attachments for Front tool post and Rear tool post



Options

Guide bushing	Stationary guide bushing	Machine maintenance and monitoring functions	Cut-off detection (Touch switch type)	
	Carrier type rotary guide bushing		Signal indicator	
	Direct-drive guide bushing		Part program storage size 128kbyte	
	Guide-bushing-less kit		Part program storage size 256kbyte	
Advanced function system	Main spindle brake		Part program storage size 512kbyte	
	Back spindle brake		G-code system B/C	
High precision system	Coolant oil temperature controller		Direct drawing dimension program	
	Coolant related		Mist collector	Variable-lead thread cutting
			High pressure pump unit	Thread cutting cycle retract
			M code oil blow	Number of registerable programs
WAVY coolant nozzle			Storage size 64 kbyte (Registerable programs: 120)	
Workpiece discharge system	Work catcher		Storage size 128 kbyte (Registerable programs: 250)	
	Work conveyor		Storage size 256 kbyte (Registerable programs: 500)	
	Front discharge	Storage size 512 kbyte (Registerable programs: 1,000)		
	Rear discharge			
Chip disposal	Chip conveyor	Polar coordinate interpolation		
	Tooling related	Adapter for non-round bar (main spindle)	Cylindrical interpolation	
Adapter for non-round bar (back spindle)		Display language		
Collet chuck with carbide lining		Safety and other		
Tool set gauge			Coolant flow switch	
Spindle liner	Automatic fire extinguisher			
Attachments for Front tool post	Multiplied tool spindle (T01, T02)		Illumination lamp	
	Multiplied tool spindle (T11, T12)		Bar feeder interface	
Attachments for Rear tool post	Angular tool spindle (T11, T12)		Manual handle retrace function	
	Thread whirling head (Any rotary tools cannot be mounted on the other position of rear tool post)		Live tool rigid tapping	
	Additional drill holder (T11, T12)		RS232C input/output interface	
			Inch/metric conversion	
			Abnormal load detection	