

C1/C2

6" – 8" Chucker Horizontal Turning Center
with Magazine & Y-Axis



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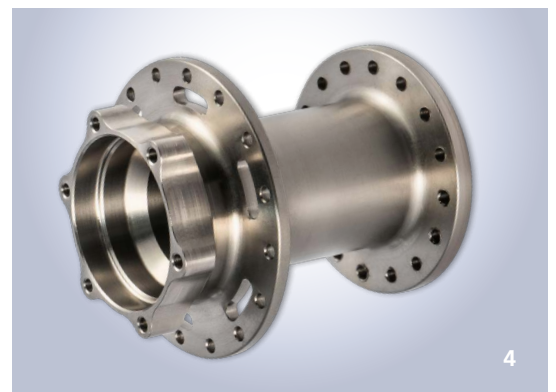
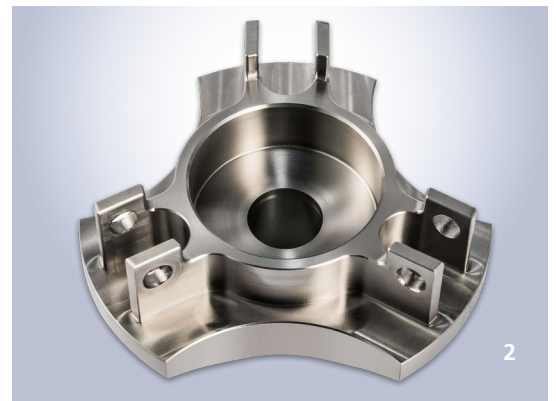
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- 1 Motor Case / RC Motor / Titanium
- 2 Joint / Tripod / Titanium
- 3 Part / Handflash / Aluminium
- 4 Hub / Bicycle / Titanium

Automatic Tool Changing 6" - 8" Multiplex Turning Center

C1, C2 is an integrated multiplex turning center that combines the processing capability of a turning center with the processing capability of a machining center obtainable through Y and C-axis control. It is capable to manufacture parts in complex geometry with a single chucking and its standard-fitted automatic tool changer enables prompt machining of parts that require many tools.



High Productivity (Reduced Non-cutting Time)

- 1 Process integrated machining
(multiplex machining combined of turning and milling)
- 2 Quick tool change
- 3 Tool expandability through magazines

Enhanced Machining Stability (Machining Accuracy Maintained for a Long Time)

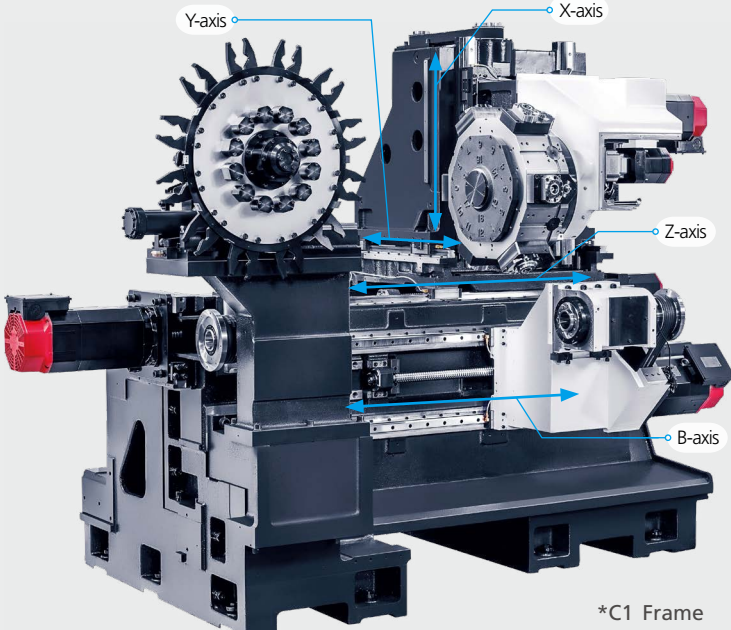
- 1 Orthogonal feed structure
- 2 Efficient turnmill cooling structure
- 3 Built-in Spindle (Main / Sub) - C2

Reduced Operating Cost

- 1 Reduced installation space (3 existing machine → 1 C1, C2)
- 2 Reduced machine purchase and maintenance costs

Basic Information

Basic Structure



Long time machining stability and accuracy ensured
"Independent Orthogonal Y-axis Feed System"

Easy to handle chips
"Vertical Bed Structure"

C1
 Max Cutting Dia **Ø530 mm (Ø20.87 inch)**
 Max Cutting Length **591 mm (23.27 inch)**

C2
 Max Cutting Dia **Ø630 mm (Ø24.8 inch)**
 Max Cutting Length **557 mm (21.93 inch)**

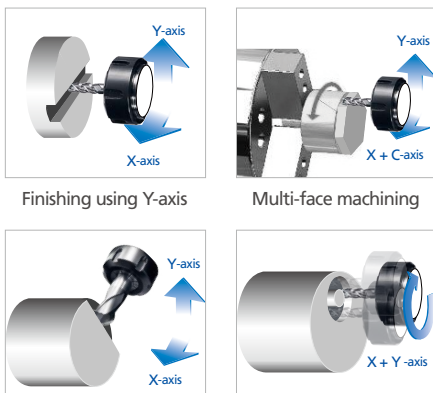
*C1 Frame

Type	Chuck Size inch	Max Stroke mm (inch)				Rapid Speed m/min (ipm)			
		X-axis	Y-axis	Z-axis	B-axis	X-axis	Y-axis	Z-axis	B-axis
C1	YMC 6 (OPT:8)	310 (12.2)	±50 (±1.97)	700 (27.56)	750 (29.53)	30 (1,181)	15 (591)	30 (1,181)	30 (1,181)
	YSMC 6 (OPT:8) / Sub:6								
C2	YMC 8 (OPT:10)	360 (14.17)	±60 (±2.36)	700 (27.56)	705 (27.76)	30 (1,181)	15 (591)	30 (1,181)	30 (1,181)
	YSMC 8 (OPT:10) / Sub:6								

*B-axis : tailstock and sub spindle feed

Y-axis Machining

"Maximized Y-axis Machining Performance"

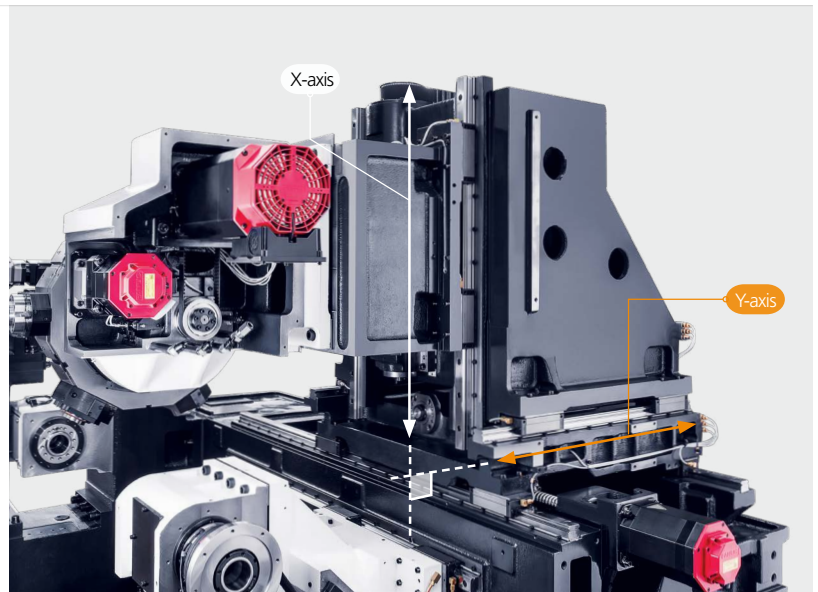


Finishing using Y-axis

Multi-face machining

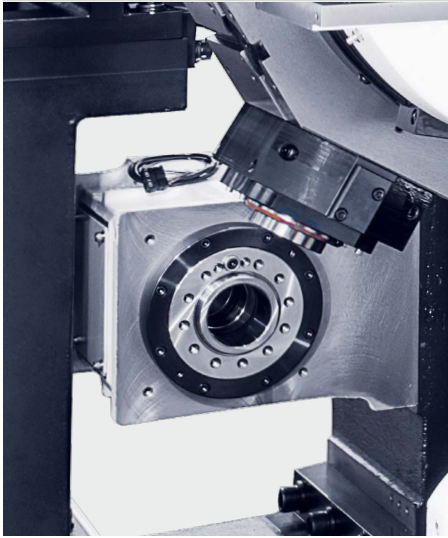
Milling at the position deviated from the center

Circular interpolation for X and Y axes

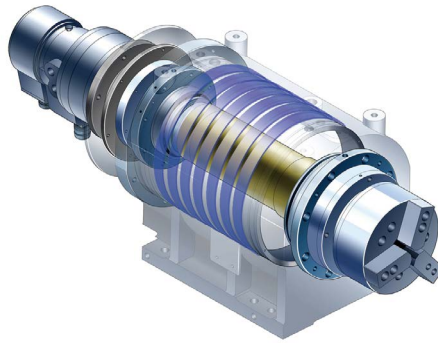


Type	Y-axis Stroke mm (inch)	Y-axis Rapid Speed m/min (ipm)	Inclination Angle (deg)	
			Slanted Bed	X-axis / Y-axis
C1	±50 (±1.97)	15 (591)		90
C2	±60 (±2.36)	15 (591)		90

Main Spindle



*C1 Main Spindle



*C2 Main Spindle

High power motor applied
(Capable of high precision cutting and
High torque heavy cutting)
"Enhanced Work Productivity"

C1

Max Spindle Speed **6,000 rpm**

Spindle Motor **11 kW**

C2

Max Spindle Speed **5,000 rpm**

Spindle Motor **15 kW**

Type	Max Spindle Speed rpm	Spindle Motor kW (HP)	Spindle Torque Nm	Max Bar Size mm (inch)	Type of Spindle Nose ASA
C1	6,000	11 / 7.5 (15 / 10)	93	Ø51 (Ø20.01)	A2-5
C2	5,000	15 / 11 (20 / 15)	477.3	Ø65 (Ø2.56)	A2-6

Sub Spindle

Control of synchronization between the main and the sub-spindle allows simultaneous completion of initial / post processing for maximized productivity

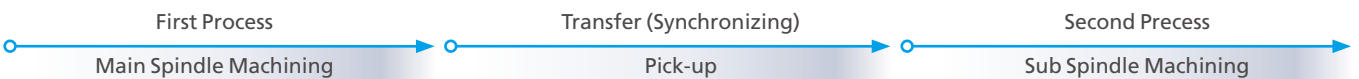
"Process Integrated Machining Realized"

Simultaneous multi-axes control is possible by associating with the turnmill function

"Multiplex Machining Realized Using Sub Spindle"

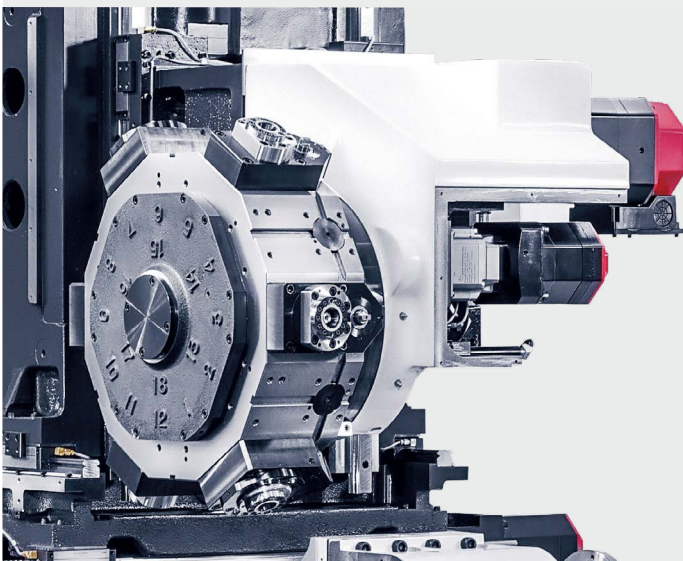


*C1 Sub Spindle



Type	Max Spindle Speed rpm	Spindle Motor kW (HP)	Spindle Torque Nm	Type of Spindle Nose ASA
C1 YSMC	6,000	7.5 / 5.5 (10 / 7.4)	63.5	A2-5
C2 YSMC	6,000	15 / 11 (20 / 15)	73.5	A2-5

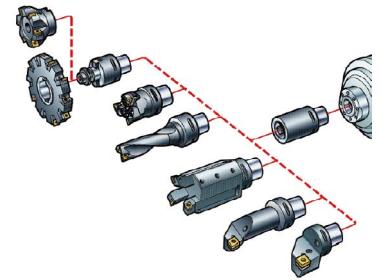
Turret/Turnmill



A high-precision, high-rigidity turret with a new style

- Easy maintenance
- Number of mountable tools : 12 Angles, 18 Tools
- Indexing Time : 0.47 sec/step
- Type of Tool Shank : Quick Change Capto C4 Tool (SANDVIK)
- Tool Size : □25 mm (□1 inch) × Ø40 mm (Ø1.5 inch)

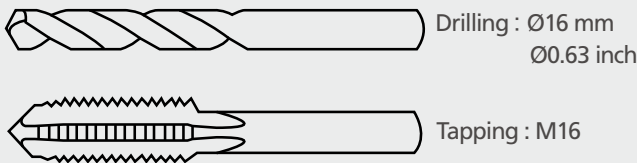
Easy to change tools
"Quick Tool Change"



Stable control of heat from the turnmill spindle is made possible via :

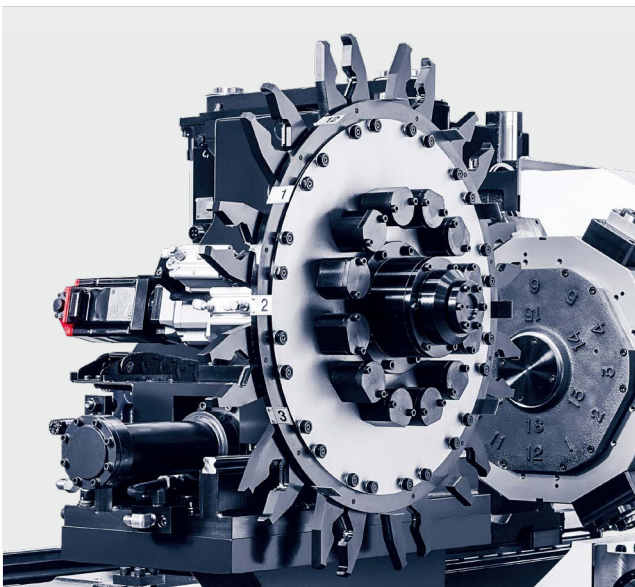
"Air-Oil Cooling"

STD Drill / Tap Size (ER25 Collet)



Type	Max Turnmill Spindle Speed rpm	Turnmill Spindle Motor kW (HP)	Turnmill Spindle Torque Nm	Turnmill Tools
C1	4,000	5.5/3.7 (7.4/5)	35	BMT 55 / CAPTO C4 + BMT 55
C2				

Magazine



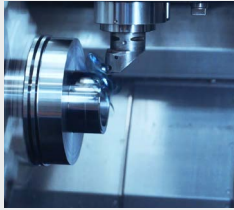
it is located in the front close to the operator for
"easy tool management and maintenance"

its standard-fitted automatic tool changer
"enables prompt machining of parts that require many tools"

- Type of Tool Shank : CAPTO C4
- Tool Storage Capacity : 12 ea
- Max Tool Dia : Ø40 mm (Ø1.5 inch)
- Max Tool Length (X/Z) - from Tool Shank Center
 - C1 : 100 mm (3.94 inch) / 145 mm (5.71 inch)
 - C2 : 150 mm (5.91 inch) / 145 mm (5.71 inch)
- Max Tool Weight : 6.2 kg,
- Tool Change Type : Armless
- Method of Tool Selection : Memory Random
- Drive Type : Servo Motor

Cutting Performance

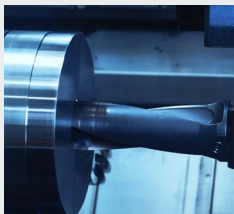
· Material : Carbon Steel (SM45C)



O.D Cutting						
Type	Material Dia mm (inch)	Material Removal Rate cm ³ /min	Spindle Speed rpm	Feed mm/rev	Cutting Depth mm (inch)	Cutting Speed m/min (ipm)
C1	66 (2.6)	231	1,168	0.35	3 (0.12)	220 (8,661)
C2	187 (7.36)	290.4	375	0.33	4 (0.16)	220 (8,661)



I.D Cutting						
Type	Process	Material Dia mm (inch)	Spindle Speed rpm	Feed mm/rev	Cutting Depth mm (inch)	Cutting Speed m/min (ipm)
C1	Finishing	70.6 (2.78)	675	0.1	0.1 (0.004)	150 (5,906)
	Roughing	71 (2.8)	414	0.34	1 (0.04)	100 (3,937)
C2	Finishing	56.4 (2.22)	847	0.1	0.1 (0.004)	150 (5,906)
	Roughing	67 (2.64)	476	0.34	1 (0.04)	100 (3,937)



U-Drill						
Type	Tool Dia mm (inch)	Material Removal Rate cm ³ /min	Spindle Speed rpm	Feed mm/rev	Cutting Depth mm (inch)	Cutting Speed m/min (ipm)
C1	55 (2.17)	96	674	0.06	20 (0.79)	120 (4,724)
C2	55 (2.17)	164.9	694	0.1	20 (0.79)	120 (4,724)



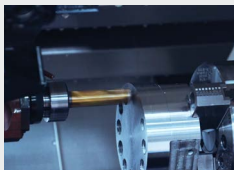
Groove						
Type	Cutting Speed m/min (ipm)	Material Removal Rate cm ³ /min	Feed mm/rev	Cutting Depth mm (inch)		
C2	150 (5,906)	105	0.14	5 (0.2)		



Face Cutter						
Type	Tool Dia mm (inch)	Material Removal Rate cm ³ /min	Spindle Speed rpm	Feed mm/min	Cutting Depth mm (inch)	Cutting Speed m/min (ipm)
C2	50 (1.97)	100	1,500	400	5 (0.2)	236 (9,291)



Turnmill Tap						
Type	Process	Tap Size	Spindle Speed rpm	Feed mm/rev	Tapping Depth mm (inch)	Cutting Speed m/min (ipm)
C1 & C2	Axial (Z-axis)	M20	1,500	2.5	30 (1.18)	95 (3,740)



Turnmill Drill						
Type	Tool Dia mm (inch)	Material Removal Rate cm ³ /min	Spindle Speed rpm	Feed mm/rev	Cutting Depth mm (inch)	Cutting Speed m/min (ipm)
C1 & C2	20 (0.79)	70	1,500	0.15	20 (0.79)	95 (3,740)



Turnmill Endmill						
Type	Tool Dia mm (inch)	Material Removal Rate cm ³ /min	Spindle Speed rpm	Feed mm/min	Cutting Depth mm (inch)	Cutting Speed m/min (ipm)
C1 & C2	16 (0.63)	67.2	1,500	210	20 (0.79)	76 (2,992)

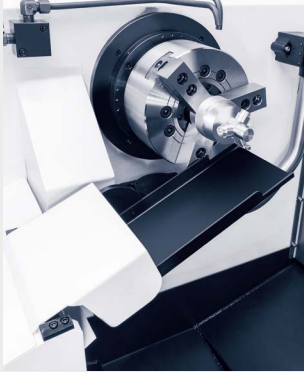
* The machining results above are examples based on the factory test standards, and are subjected to the changes in conditions.

Detailed Information

Standard / Optional Accessories Status

S : Standard O : Option X : Not available

NO.	Item	Description	C1 YMC	C1 YSMC	C2 YMC	C2 YSMC
1	Main Chuck	6 inch	S	S	X	X
2		8 inch	O	O	S	S
3		10 inch	X	X	O	O
4		No Chuck	O	O	O	O
5	Sub Chuck	6 inch	X	S	X	S
6		No Chuck	X	O	X	O
7	Jaw	Soft Jaw	S	S	S	S
8		Hard Jaw 6 inch	O	O	X	X
9		Hard Jaw 8 inch	O	O	O	O
10		Hard Jaw 10 inch	X	X	O	O
11	Chucking	Chucking Pressure Check Switch	O	O	O	O
12		Dual Pressure (C-axis brake)	O	O	O	O
13		Chuck Pressure Compensation	S	S	S	S
14		Chuck Clamp Confirm Switch	O	O	O	O
15	Turret	Main-ID Holder (CaptoC4)	O	O	O	O
16		Main-OD Holder (CaptoC4)	O	O	O	O
17		Sub-ID Holder (CaptoC4)	O	O	O	O
18		Sub-OD Holder (CaptoC4)	O	O	O	O
19		Radial Driven Holder for Auto Tool holder change	O	O	O	O
20		Main-ID Holder (CaptoC4) for Auto Tool holder change	O	O	O	O
21		Sub-ID Holder (CaptoC4) for Auto Tool holder change	O	O	O	O
22		Sub-Axial Driven Holder (BMT 55)	O	O	O	O
23		Sub-Radial Driven Holder (BMT 55)	O	O	O	O
24		Main-U-Drill Holder	O	O	O	O
25	Sub-U-Drill Holder	O	O	O	O	
26	Tailstock	Servo Type (use Servo motor & Ball screw)	S	X	S	X
27	Coolant Pump	0.6 MPa	S	S	S	S
28		1.5 MPa	O	O	O	O
29	Coolant Options	Coolant Gun	O	O	O	O
30		Coolant Blow for Main Chuck	O	O	O	O
31		Coolant Blow for Sub Chuck	X	O	X	O
32		Coolant Chiller	O	O	O	O
33		Oil Skimmer	O	O	O	O
34	Chip Disposal	Side Type Chip Conveyor (Hinge type)	O	O	O	O
35		Side Type Chip Conveyor (Scraper type)	O	O	O	O
36		Air Blow for Main Chuck	O	S	O	S
37		Air Blow for Sub Chuck	X	S	X	S
38	Automation	Tool Presetter (Main: Automatic / Sub.: Manual)	O	O	O	O
39		Parts Catcher & Work Conveyor	O	O	O	O
40		Workpiece Ejector	X	O	X	O
41		Barfeeder Interface	O	O	O	O
42		Robot Interface	O	O	O	O
43		Tool & Work Counter (Internal / External)	O	O	O	O
44	Software	Tool Load Detect (L-HTLD)	O	O	O	O
45		Arbitrary Speed Threading	O	O	O	O
46		Tool Life Management	O	O	O	O
47		Automatic Tool Offset (Tool presetter option is required)	S	S	S	S
48		Real Time Operating Status Monitoring Solution (M-VISION Plus)	O	O	O	O
49	ETC	Linear Scale X	O	O	S	S
50		Linear Scale Y	O	O	O	O
51		Linear Scale Z	O	O	O	O
52		NC Cooler	O	O	O	O
53		Signal Lamp with 3 Color (R, G, Y)	S	S	S	S
54		Transformer	O	O	O	O
55		Manual Guide i	S	S	S	S
56		10.4" Color LCD (FANUC)	S	S	S	S
57		15" Color LCD (FANUC)	O	O	O	O



Parts Catcher & Work Conveyor (OPT)

Thanks to its simple structure, the parts catcher is easy to attach / detach and it is possible to implement simplified automation if used with the bar feeder at the same time.

* Reduced the max Cutting diameter when applying part catcher

- Max workpiece size : $\varnothing 51$ mm ($\varnothing 2.01$ inch) / 120 mm (4.72 inch)
- C1**
- Weight : 2 kg,
 - Max Cutting Dia : $\varnothing 250$ mm ($\varnothing 9.84$ inch)
-
- Max workpiece size : $\varnothing 65$ mm ($\varnothing 2.56$ inch) / 120 mm (4.72 inch)
- C2**
- Weight : 3 kg,
 - Max Cutting Dia : $\varnothing 450$ mm ($\varnothing 17.72$ inch)



Main (Manual)



Sub (Automation)

Tool Presetter (OPT)

Available functions with automatic tool presetter

- With a simple touch on the sensor, it perfectly sets the coordinate system (within 15 seconds per tool).
- The tool shape error value is automatically calculated and entered.
- The automatic coordinate system is promptly configured according to the material geometry.

Automatic Coolant System (STD)

External Coolant Tank

A large capacity coolant tank is placed at the front of the machine for easy coolant exchange as well as easy tank cleaning and pump maintenance.

Oil Water Separation

A separate oil tank collects the lubricant remained after each feed unit is lubricated to extend the coolant service life and to keep the work environment clean.

Various Options

- Standard Coolant Pump : 0.6 MPa
- Optional Coolant Pump : 1.5 MPa
- Oil Skimmer (OPT)
- Lift Up Chip Conveyor :
Hinge / Scraper type (OPT)

Tank Capacity

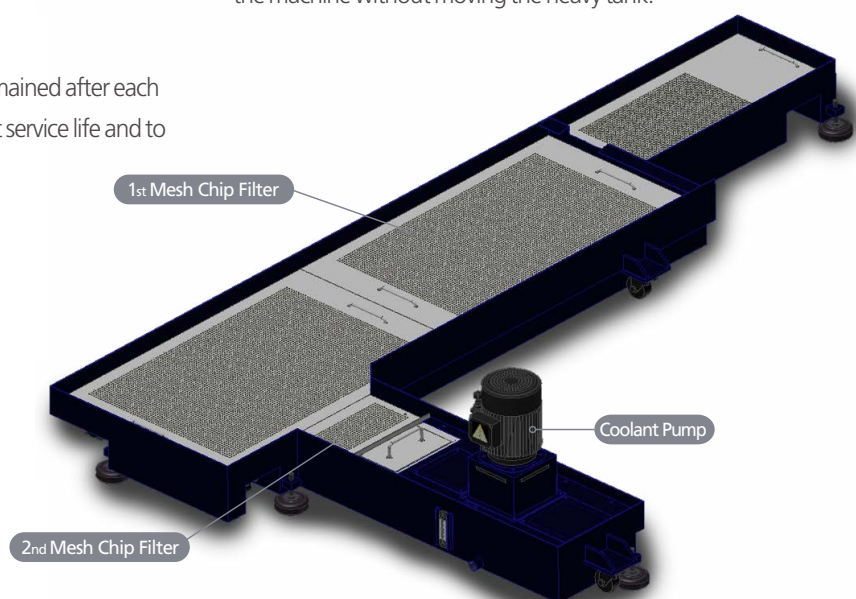
C1 : 200 ℓ (52.83 gal)
C2 : 230 ℓ (60.75 gal)

Pump Power

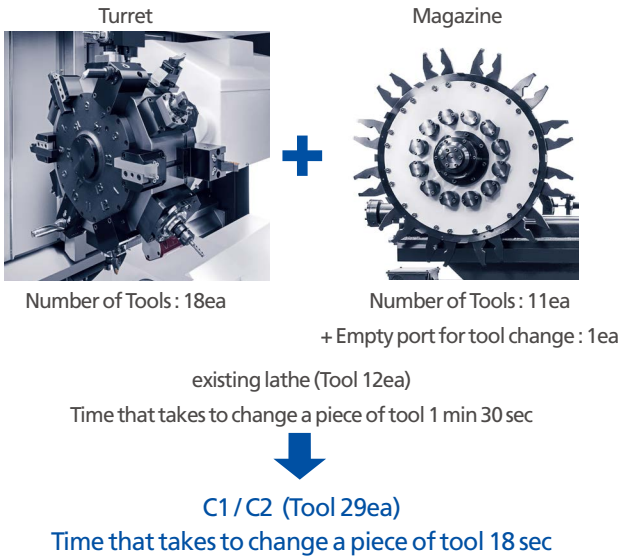
2.5 kW (for Turret)

Detachable Chip Bucket

The chip bucket is separately attached on the top of the tank so it is easy to remove chips discharged from the machine without moving the heavy tank.

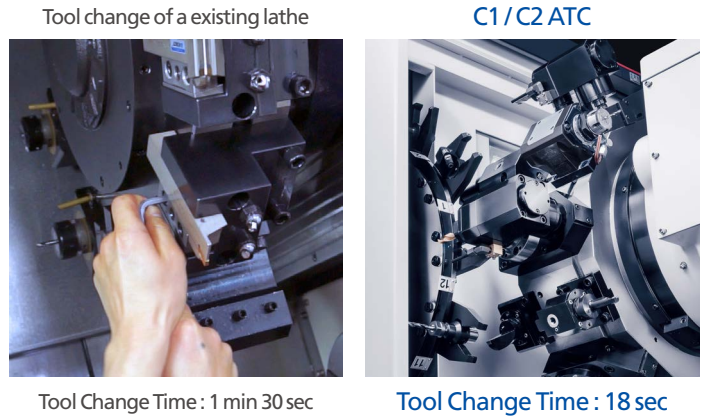


Tool expandability

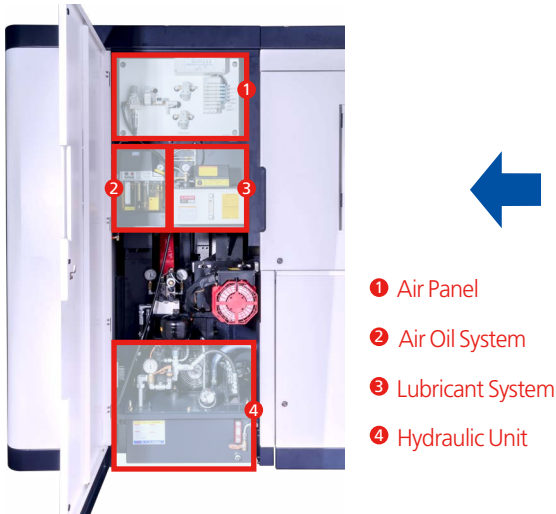


Reduced Non-cutting Time

Compared to turrets of existing lathes, it is possible to store up to 18 tools, so it has shorter tool change and setting times.



User Convenience

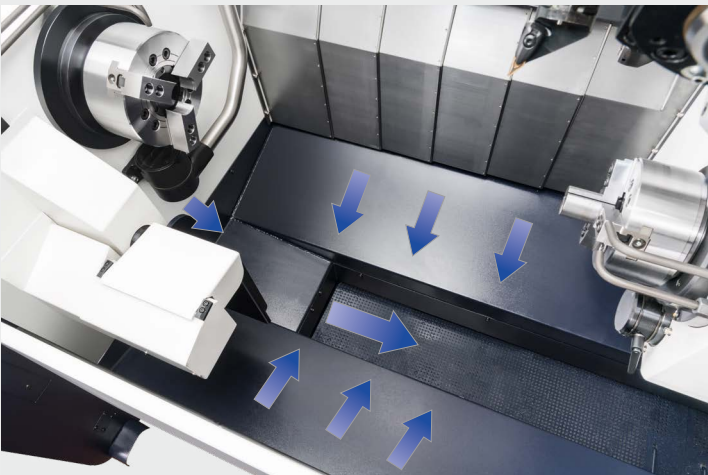


For easy maintenance, the necessary utilities such as the lubricating unit and the hydraulic unit are all in one place.

"All-in-One Utilities"



"Excellent Chip Disposal"



- The structure is designed to have chips fall perpendicular to the ground for easy chip discharge
- The inside is fully covered so that the scattering chips cannot have direct contact to the machine frame
- The side lift up chip conveyor removes chips from the tank conveniently and perfectly (OPT)

Convenient Operator Panel

90° Rotating Operator Panel (STD)



*15" Display (OPT)

The operator panel is newly designed from the operator's viewpoint and thus enhances the operator's convenience

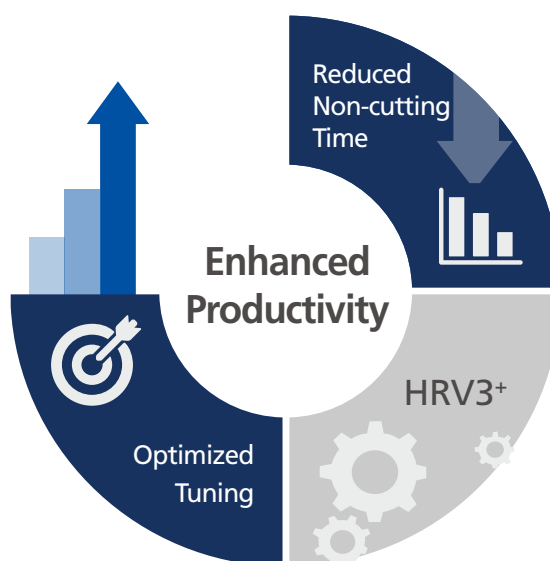
"User Friendly Design"

- 10.4" display as standard
(USB and PCMCIA cards as standard)
- Enhanced operability by optimizing the layout and improving the touch feeling of control buttons.
- Horizontal keys enhance user convenience.
- Long time continuous DNC operation with the CF card even without the data server.

Machine Optimization (STD)

- The cycle machining as well as the operating time and the acceleration / deceleration speed of feed system are optimized.
- Dramatically reduced non-cutting time during machining ensures optimal productivity.
- High precision, speed and smoothness are realized using the cutting-edge machining technology.
- Machining surface quality enhanced by HRV3+ control. (HRV3+: effectively prevents machine oscillation by controlling the servo current to enhance the machining surface quality.)

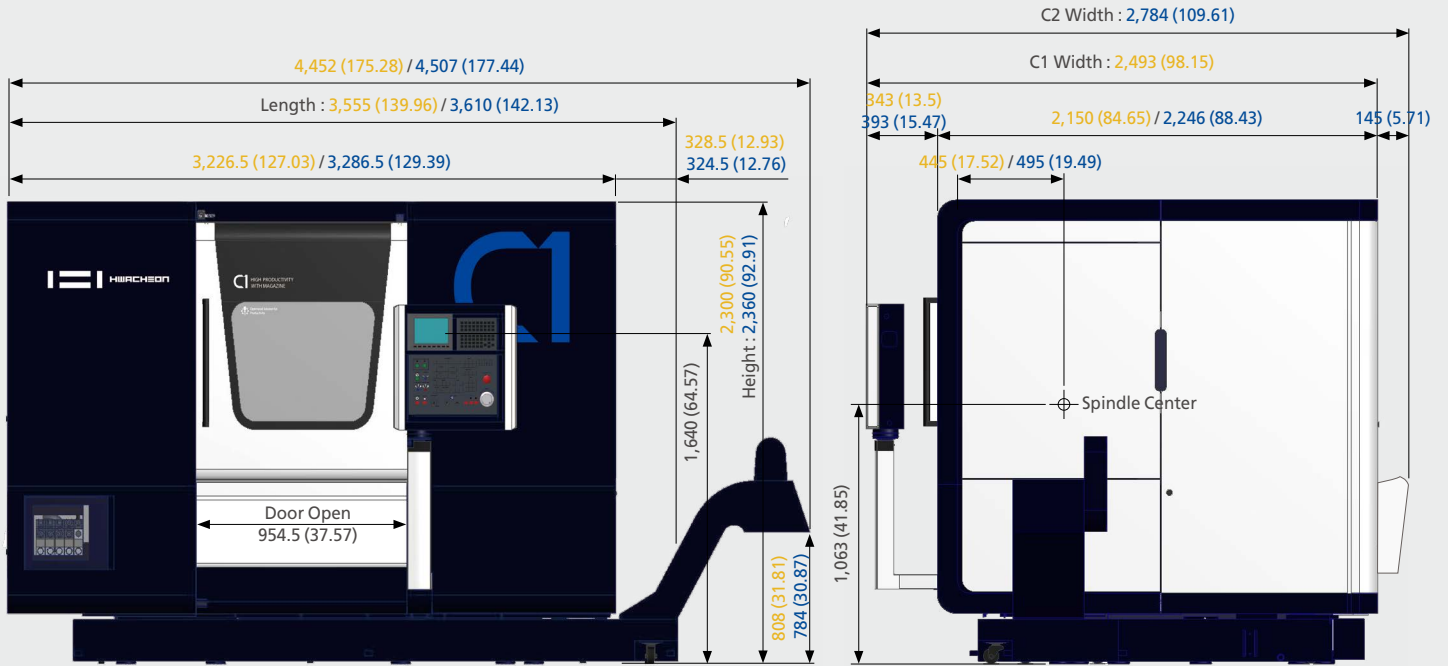
"Enhanced Productivity"



Machine Size : C1/C2



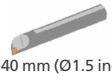

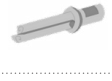









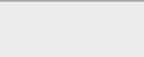

■ Common ■ C1 ■ C2

* Unit : mm (inch)



Tooling Diagram

* Unit : ea

Tool	Part name	Q'ty	Shape
 □25 mm (1 inch)	O.D Cutting Holder	Main: 3	
		Sub: 3	
 Ø40 mm (Ø1.5 inch)	Face Holder	Sub: 1	
 Ø40 mm (Ø1.5 inch)	I.D Holder	Main: 3	
		Sub: 2	
 Ø40 mm (Ø1.5 inch)	U-Drill Holder	Main: OPT	
		Sub: OPT	
 Ø40 mm (Ø1.5 inch)	I.D Holder	Main, Sub: 1	
	Sleeve (Ø12, 1/2")	1	
	Sleeve (Ø16, 5/8")	1	
	Sleeve (Ø20, 3/4")	1	
	Sleeve (Ø25, 1")	1	
 Ø40 mm (Ø1.5 inch)	Socket (MT#1)	1	
	Socket (MT#2)	1	
	Socket (MT#3)	1	
 Ø40 mm (Ø1.5 inch)	U-Drill Sleeve (Ø20, 3/4")	OPT	
	U-Drill Sleeve (Ø25, 1")		
	U-Drill Sleeve (Ø32, 1 1/4")		
 ER 25 : Ø3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 ER 251 : Ø1/16", Ø1/8", Ø3/16", Ø1/4", Ø5/16", Ø3/8", Ø7/16", Ø1/2", Ø9/16", Ø5/8"	ER 25 : Ø3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 ER 251 : Ø1/16", Ø1/8", Ø3/16", Ø1/4", Ø5/16", Ø3/8", Ø7/16", Ø1/2", Ø9/16", Ø5/8"	Each 1	
	Cap	6	

[BMT55]



Straight Rotary BMT Holder (OPT)

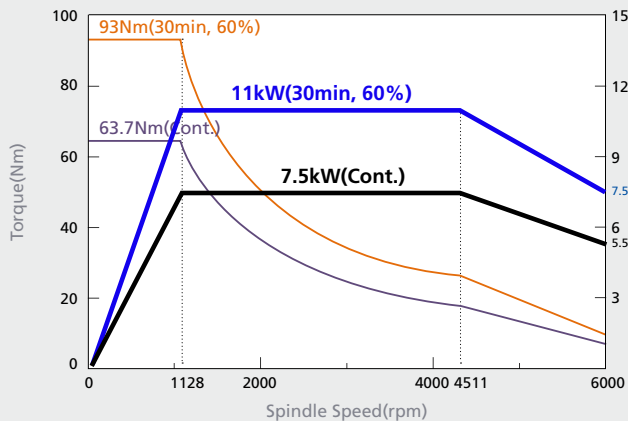


Angular Rotary BMT Holder (OPT)

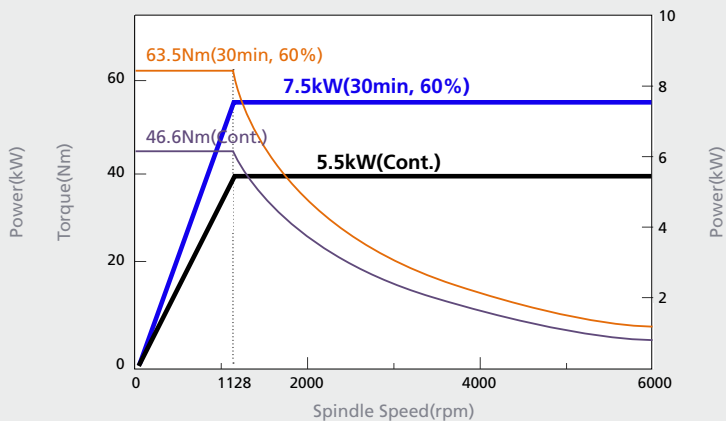


C1 Spindle Power – Torque Diagram

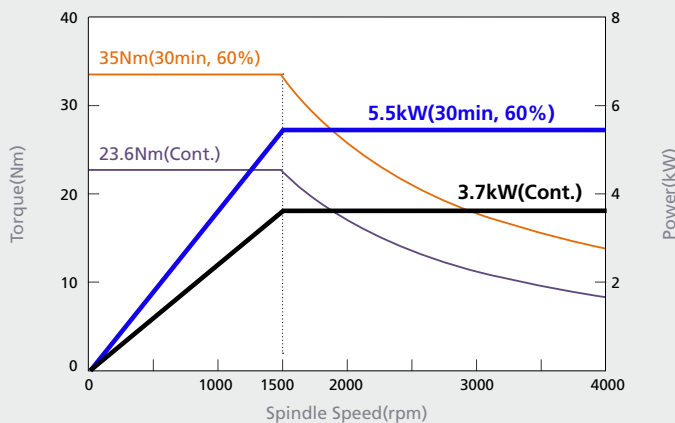
Main Spindle



Sub Spindle (OPT)

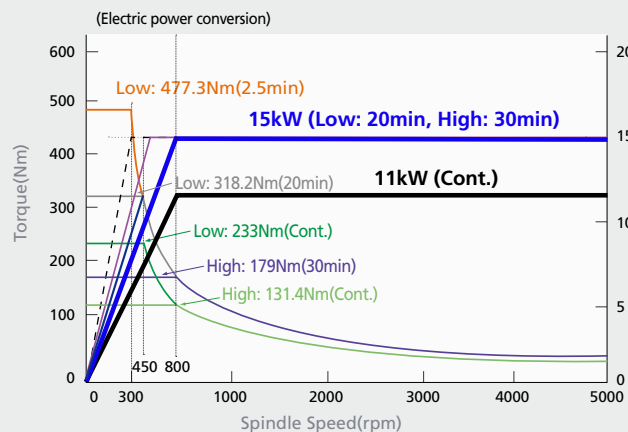


Turnmill

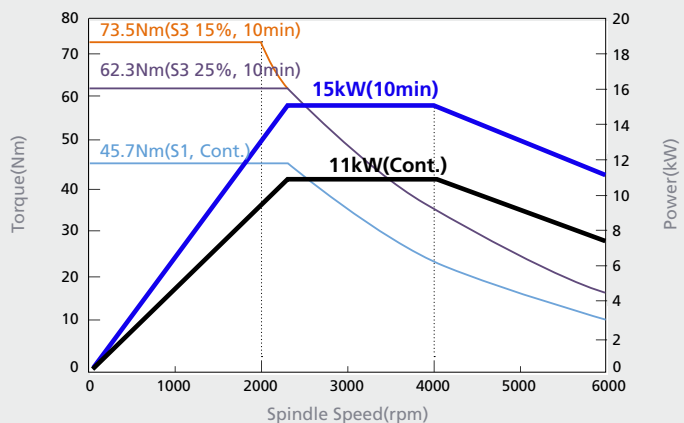


C2 Spindle Power – Torque Diagram

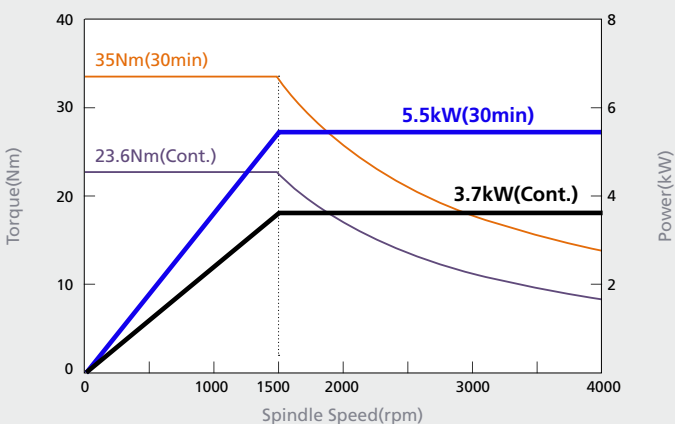
Main Spindle



Sub Spindle (OPT)



Turnmill

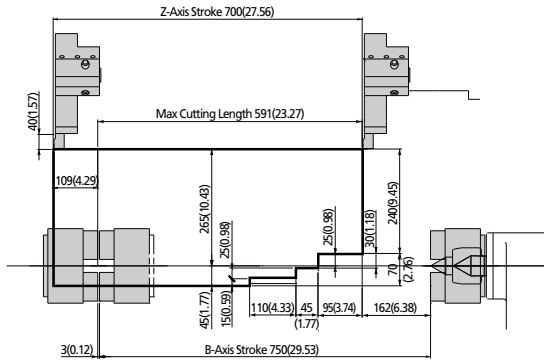


C1 Moving Range

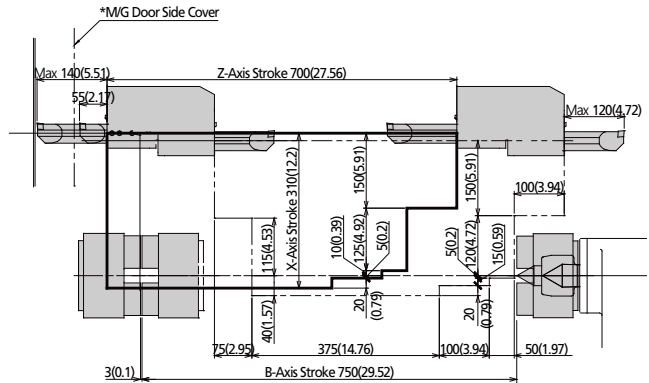
※ Unit: mm(inch)

Main Spindle

OD Holder [Fixed Tool]

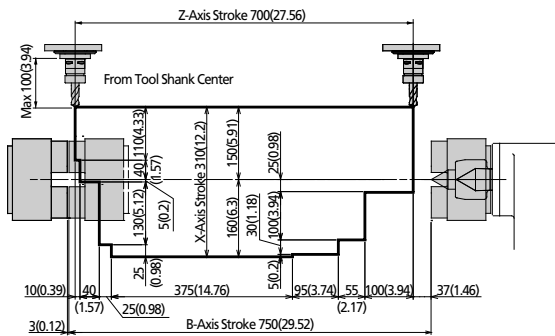


ID Holder [Fixed Tool]



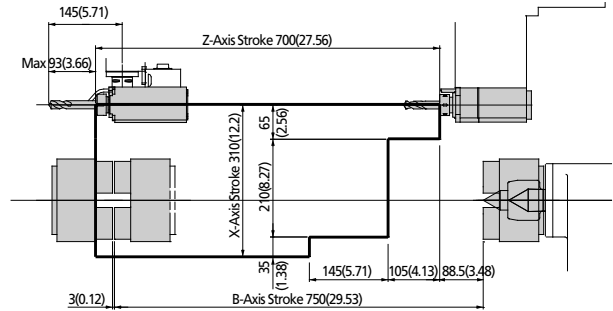
Main / Sub Spindle

Axial Turnmill Holder [Exchangeable Tool]



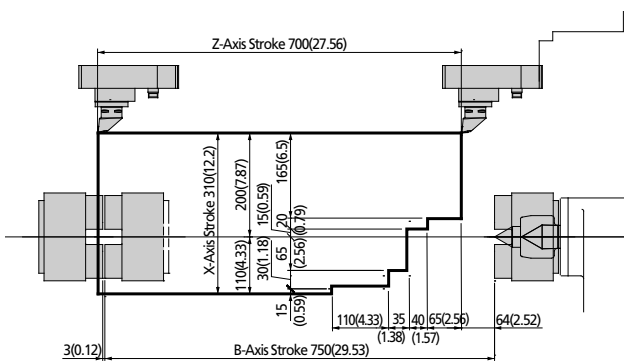
Main Spindle

Radial Turnmill Holder [Exchangeable Tool]



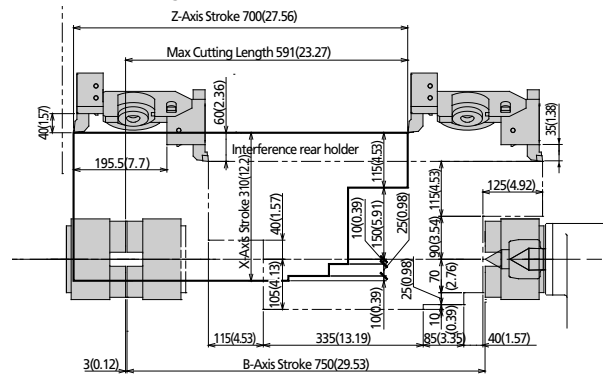
Main / Sub Spindle

OD Holder Capto C4 [Exchangeable Tool]



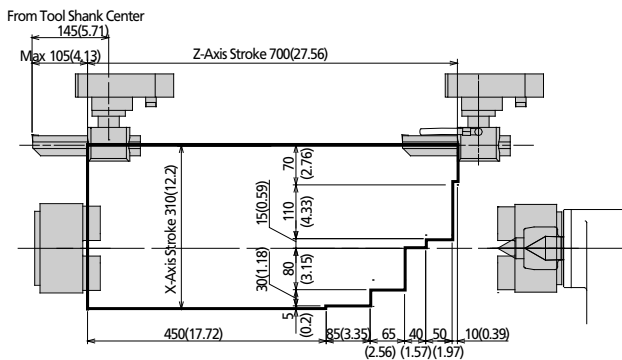
Main / Sub Spindle

External Turning Tool [Fixed Tool]



Main Spindle

ID Holder Capto C4 [Exchangeable Tool]

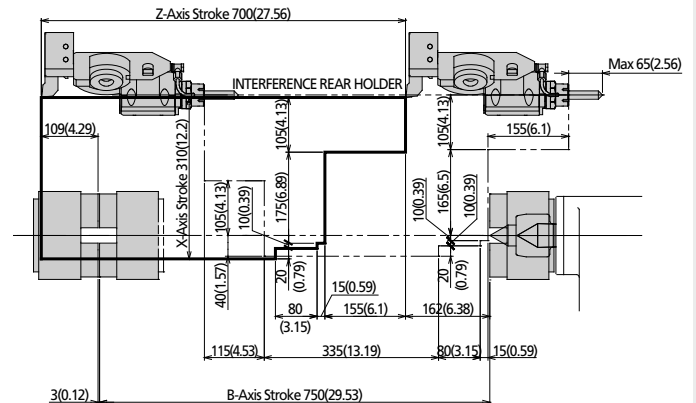


Main Spindle

Sub Spindle

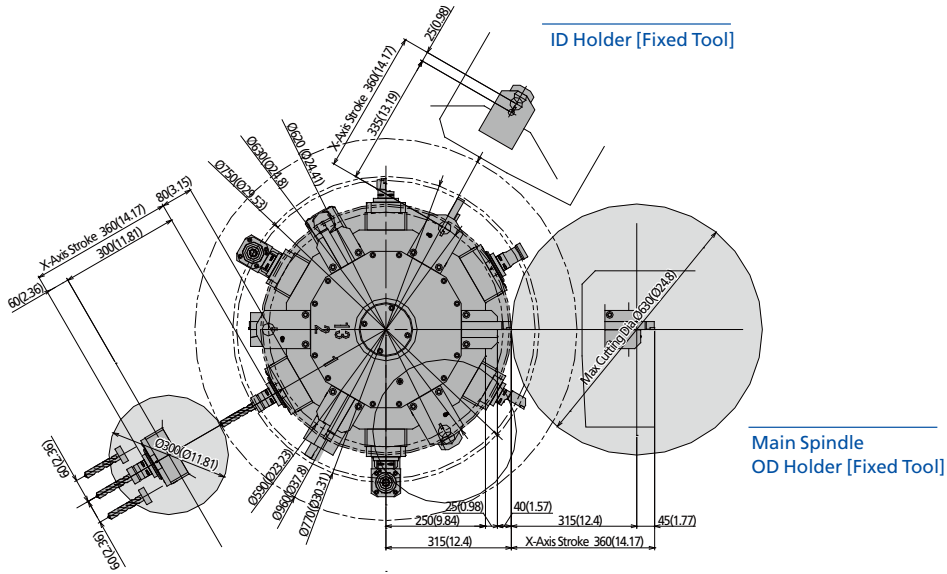
External Turning Tool [Fixed Tool]

Radial Turnmill Holder [BMT-55, Fixed Tool]



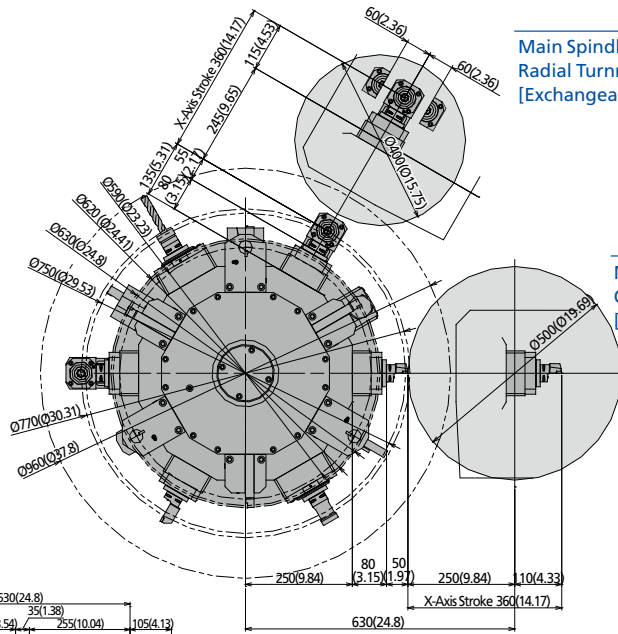
C2 Turret Interference Diagram

※Unit: mm(inch)

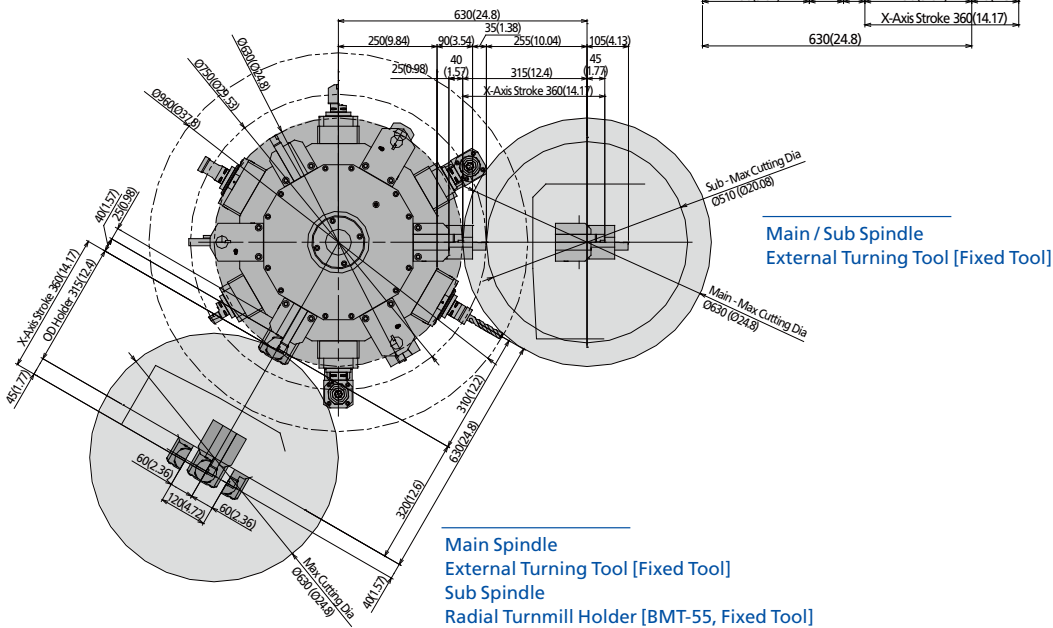


Main / Sub Spindle
Axial Turnmill Holder [Exchangeable Tool]

Main Spindle
Radial Turnmill Holder [Exchangeable Tool]



Main / Sub Spindle
OD Holder Capto C4 [Exchangeable Tool]



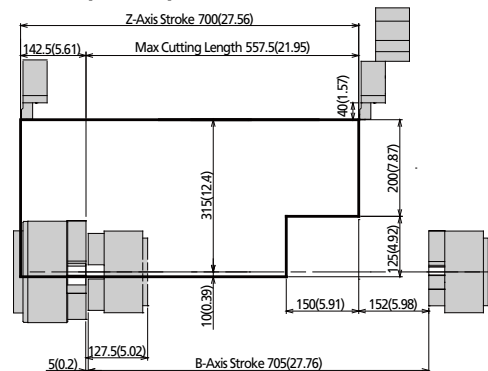
Main Spindle
External Turning Tool [Fixed Tool]
Sub Spindle
Radial Turnmill Holder [BMT-55, Fixed Tool]

C2 Moving Range

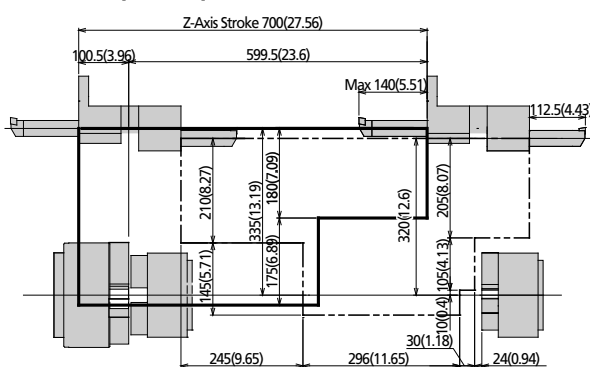
※ Unit: mm(inch)

Main Spindle

OD Holder [Fixed Tool]

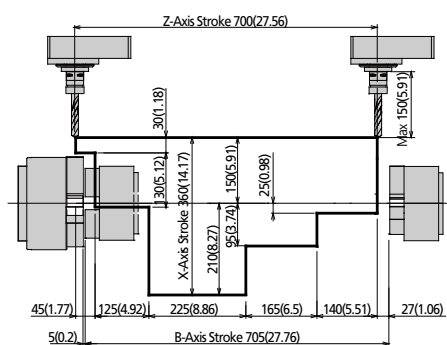


ID Holder [Fixed Tool]



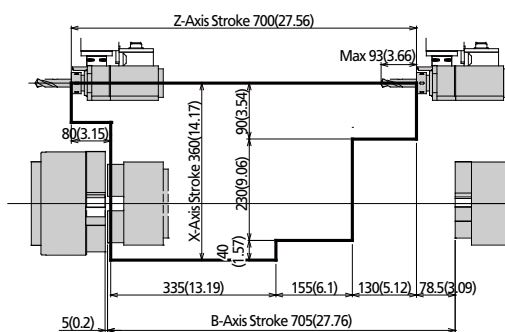
Main / Sub Spindle

Axial Turnmill Holder [Exchangeable Tool]



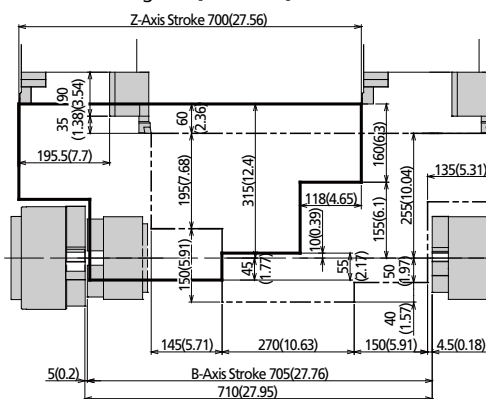
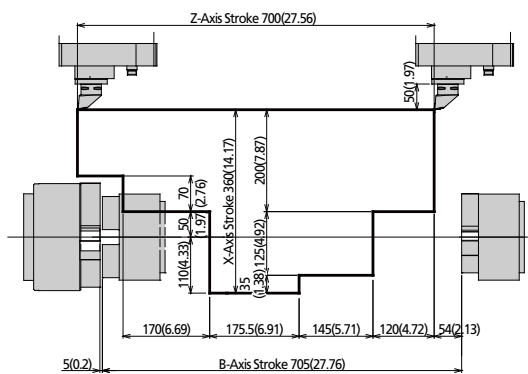
Main Spindle

Radial Turnmill Holder [Exchangeable Tool]



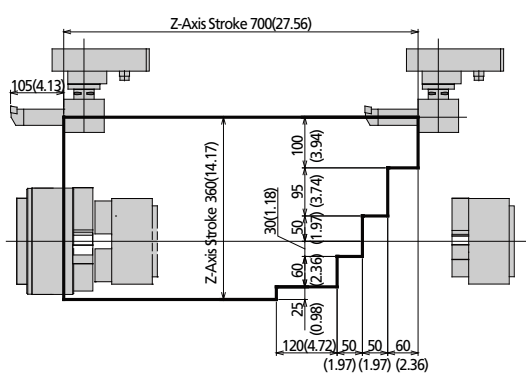
Main / Sub Spindle

External Turning Tool [Fixed Tool]



Main Spindle

ID Holder Capto C4 [Exchangeable Tool]

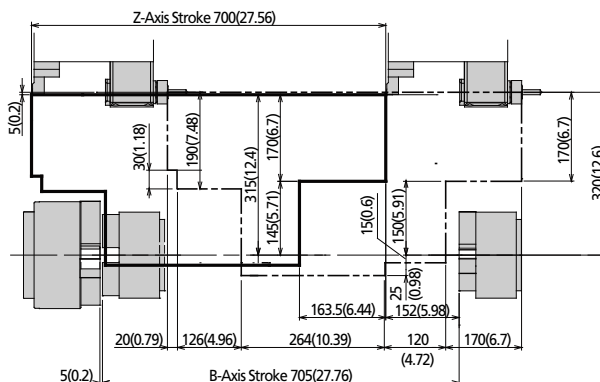


Main Spindle

Sub Spindle

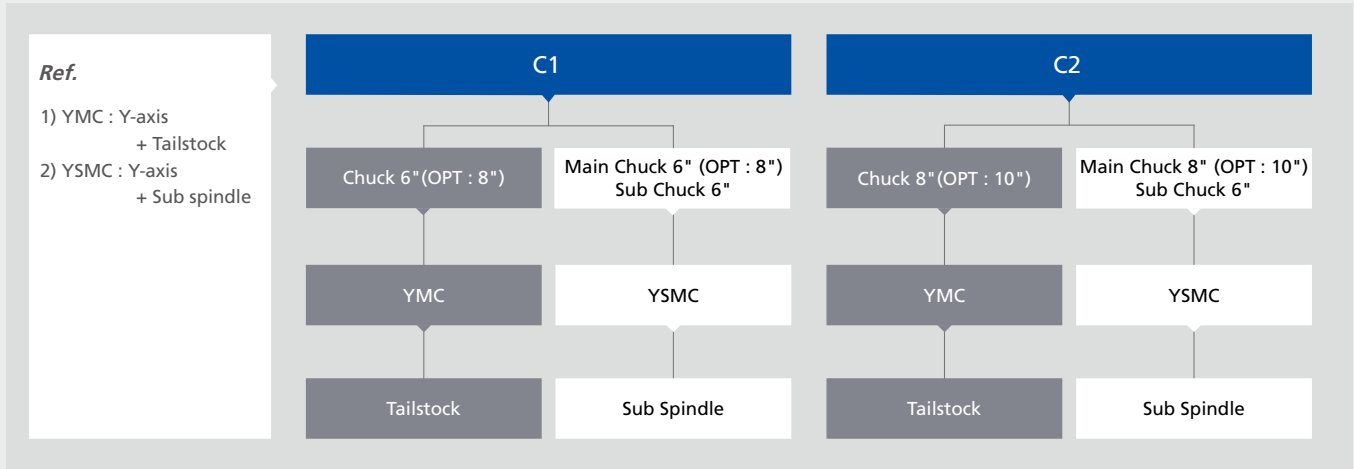
External Turning Tool [Fixed Tool]

Radial Turnmill Holder [BMT-55, Fixed Tool]



Product Configuration

Each product can be configured to fit your application.



Machine Specifications

ITEM		C1		C2	
		YMC	YSMC	YMC	YSMC
Capacity					
Swing over Bed	mm (inch)	Ø730 (Ø28.74)		Ø730 (Ø28.74)	
Max Cutting Diameter (Main / Sub)	mm (inch)	Ø530 (Ø20.87)	Ø530 (Ø20.87) / Ø410 (Ø16.14)	Ø630 (Ø24.8)	Ø630 (Ø24.8) / Ø510 (Ø20.08)
Max Cutting Diameter (Main / Sub) - When applying part catcher	mm (inch)	Ø250 (Ø9.84)	Ø250 (Ø9.84) / Ø410 (Ø16.14)	Ø450 (Ø17.72)	Ø450 (Ø17.72) / Ø510 (Ø20.08)
Max Cutting Length (Main / Sub)	mm (inch)	591 (23.27)	591 (23.27) / 579.5 (22.81)	557 (21.93)	557 (21.93) / 569 (22.4)
Chuck Size (Main & Sub)	inch	6 (OPT : 8)	6 (OPT : 8) / 6	8 (OPT : 10)	8 (OPT : 10) / 6
Spindle					
Type of Spindle Nose (Main / Sub)	ASA	A2-5		A2-5	A2-6 / A2-5
Max Spindle Speed (Main / Sub)	rpm	6,000	6,000 / 6,000	5,000	5,000 / 6,000
Through Spindle Hole Diameter (Main / Sub)	mm (inch)	Ø62 (Ø2.44)	Ø62 (Ø2.44) / Ø56 (Ø2.2)	Ø76 (Ø2.99)	Ø76 (Ø2.99) / Ø38 (Ø1.5)
Max Bar Size (Main / Sub)	mm (inch)	Ø51 (Ø2.01)	Ø51 (Ø2.01) / Ø45 (Ø1.77)	Ø65 (Ø2.56)	Ø65 (2.56) / Ø29 (Ø1.14)
Index Angle (Main & Sub)	deg	0.0001		0.0001	
Spindle Motor (Main, Sub)	kW(HP)	11/7.5 (15/10)	11/7.5 (15/10), 7.5/5.5 (10/7.4)	15/11 (20 / 15)	15/11 (20/15), 15/11 (20/15)
Turret					
Number of Tool Station	ea	18		18	
Tool Size / Type	mm (inch) / -	□25 x Ø40 (□1 x Ø1.5) / Capto C4		□25 x Ø40 (□1 x Ø1.5) / Capto C4	
Turret Indexing Time	sec/step	0.467		0.467	
Axes					
Rapid Speed (X / Z / Y / B)	m/min (ipm)	30 / 30 / 15 / 30 (1,181 / 1,181 / 5.91 / 1,181)		30 / 30 / 15 / 30 (1,181 / 1,181 / 5.91 / 1,181)	
Max Stroke (X / Z / Y / B)	mm (inch)	310 / 700 / ±50 / 750 (12.2 / 27.56 / ±1.96 / 29.53)		360 / 700 / ±60 / 705 (14.17 / 27.56 / ±2.36 / 27.87)	
Feed Motor (X / Z / Y / B)	kW(HP)	7.0 / 2.2 / 2.2 / 2.2 (9.4 / 3 / 3 / 3)		7.0 / 2.2 / 2.2 / 2.2 (9.4 / 3 / 3 / 3)	
Tailstock					
Quill Dia / Tailstock Body Stroke	mm (inch)	Ø80 (Ø3.15) / 750 (29.5)	-	Ø80 (Ø3.15) / 705 (27.87)	-
Quill Taper	MT	#4	-	#5	-
Magazine					
Type of Tool Shank	-	Capto C4		Capto C4	
Tool Storage Capacity	ea	12		12	
Max Tool Diameter	mm (inch)	Ø40 (Ø1.5)		Ø40 (Ø1.5)	
Max Tool Length (X / Z)	mm (inch)	100 (3.93) / 145 (5.71) (from Tool shank center)		150 (5.91) / 145 (5.71) (from Tool shank center)	
Max Tool Weight	kg _r (lb _r)	6.2 (13.7)		6.2 (13.7)	
Turnmill					
Spindle Motor	kW(HP)	5.5 / 3.7 (7.4 / 5)		5.5 / 3.7 (7.4 / 5)	
Max Spindle Speed	rpm	4,000		4,000	
Min Spindle Indexing Angle	deg	0.0001		0.0001	
BMT specifications / Turn mill tools	-	BMT 55 / Capto C4 + BMT 55		BMT 55 / Capto C4 + BMT 55	
Tank Capacity					
Lubrication / Hydraulic	ℓ (gal)	12 (3.17) / 50 (13.21)		12 (3.17) / 50 (13.21)	
Coolant	ℓ (gal)	200 (52.83)		230 (60.75)	
Power Source					
Electrical Power Supply	kVA	40		55	
Dimension					
Height / Floor Space (L x W)	mm (inch)	2,300 (90.55) / 3,555 (139.96) x 2,493 (98.15)		2,360 (92.91) / 3,610 (142.13) x 2,784 (109.61)	
Weight	kg _r (lb _r)	10,500 (23,149)		10,800 (23,810)	
NC Controller		Fanuc 0i-TF			

NC Specifications [Fanuc Oi-TF]

※ - : Not available S : Standard O : Option

ITEM	SPECIFICATION	YMC	YSMC	ITEM	SPECIFICATION	YMC	YSMC
Controlled axis				Program input			
Controlled axis (Cs axis)	-	4 - Axes	6 - Axes	G code system	A	S	S
Simultaneously controlled axes	-	4 - Axes	4 - Axes	Programmable data input	G10	S	S
Least input increment	0.001mm, 0.0001deg, 0.0001inch	S	S	Sub program call	10 folds nested	S	S
Least input increment 1 / 10	0.0001mm, 0.00001inch	O	O	Custom Macro B		S	S
inch/metric conversion	G20, G21	S	S	Addition of custom macro -common variables	#100 ~ #199, #500 ~ #999	S	S
Store Stroke Check 1		S	S	Canned Cycles		S	S
Store Stroke Check 2, 3		S	S	Multiple repetitive cycle		S	S
Chamfering on / off		S	S	Multiple repetitive cycle II		S	S
Backlash compensation		S	S	Canned Cycles for Drilling		S	S
Operation				Manual Guide i			
Automatic & MDI operation		S	S	Spindle speed function			
Program number search		S	S	Constant surface speed control	G96 / G97	S	S
Sequence number search		S	S	Spindle override	50 ~ 120%	S	S
Dry Run, Single Block		S	S	Spindle orientation		S	S
Manual handle feed / feed rate	1Unit / x1, x10, x100	S	S	Rigid tapping		S	S
Interpolation function				Spindle synchronous control			
Positioning / Linear interpolation / Circular interpolation	G00 / G01 / G02, G03	S	S	Tool function / Compensation			
Dwell (Per seconds)	G04	S	S	Tool function	T4-digits	S	S
Polar coordinate interpolation	G12.1 / G13.1	S	S	Tool offset pairs	128 pairs	S	S
Cylindrical interpolation	G7.1	S	S	Tool nose radius compensation		S	S
Threading	G32	S	S	Tool geometry / Wear compensation		S	S
Multiple threading		S	S	Tool life management		O	O
Continuous threading		S	S	Automatic tool offset	Tool presetter option is required	S	S
Threading retract		S	S	Direct input tool offset value measured B	Tool presetter option is required	S	S
Variable lead threading	G34	S	S	Editing operation			
Reference position return 1st	G28	S	S	Part program storage length	1,280m (512kB)	S	S
Reference position return check	G27	S	S	Number of register able programs	400ea	S	S
2,3,4th reference position return	G30	S	S	Background editing		S	S
Arbitrary Speed Threading		O	O	Extended part program editing		S	S
Feed function				Play Back			
Rapid traverse override	F0, F25, F50, F100	S	S	Operation / Display			
Feed per minute (mm/min)	G98	S	S	Clock function		S	S
Feed per revolution (mm/rev)	G99	S	S	Self-diagnosis function		S	S
Rapid traverse bell-shaped acceleration / Deceleration		S	S	Alarm history display		S	S
Feedrate override	0 ~ 150%	S	S	Help function		S	S
Jog feed override	0 ~ 1,260mm/min	S	S	Run hour and parts count display		S	S
Program input				Dynamic graphic display			
Tape code	EIA / ISO	S	S	Multi-language display			
Optional block skip	9ea	S	S	Korean, English, German, French, Italian, Chinese, Spanish, Portuguese, Polish, Hungarian, Swedish, Russian			
Program number	O4 - Digits	S	S	Data input / Output			
Sequence number	N8 - Digits	S	S	Reader / Puncher interface CH1	RS232C	S	S
Decimal point programming		S	S	Reader / Puncher interface CH2	RS232C	S	S
Coordinate system setting	G50	S	S	Ethernet interface		S	S
Coordinate System Shift		S	S	Memory card interface		S	S
Workpiece coordinate system	G54 ~ G59	S	S	USB card interface		S	S
Workpiece coordinate system preset	G92.1	S	S	Others			
Direct drawing dimension programming		S	S	Display unit	10.4" Color LCD	S	S

Hwacheon Global Network

 Hwacheon Headquarter  Hwacheon America  Hwacheon Europe  Hwacheon Asia



HWACHEON

Please contact us for product inquiries.

www.hwacheon.com

The product design and specifications may change without prior notice.
Read the operation manual carefully and thoroughly before operating the product,
and always follow the safety instructions and warnings labels attached on the surfaces of the machines.

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