

TAKUMI When Precision Matters

TAKUMI

BC Series



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BBC-02-EN-202210

Double Column Machining Center

BC3025

BC4025/4030

BC5025/5030/5035

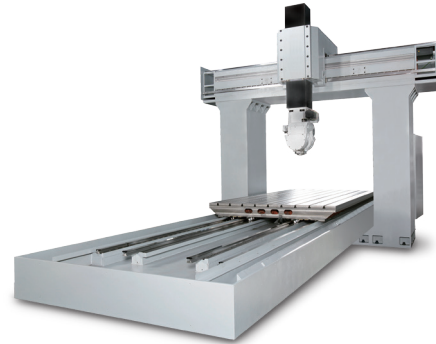
BC Series

The Takumi BC Series, double column machining center, is designed for heavy duty machining of large parts and high precision dies and molds. Thanks to the high rigidity frame structure and a variety of milling heads as option, BC Series enables a wider range of machining applications.



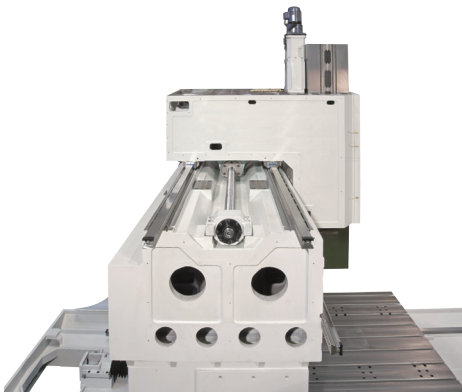
Robust column and beam design

Fixed columns and beam structure designed to provide the highest rigidity during heavy cutting and high-speed machining.



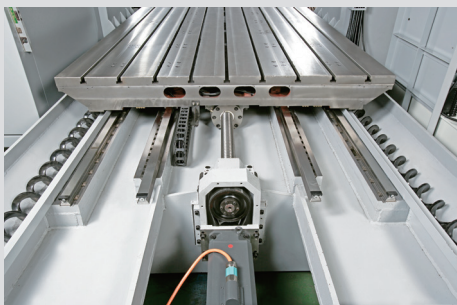
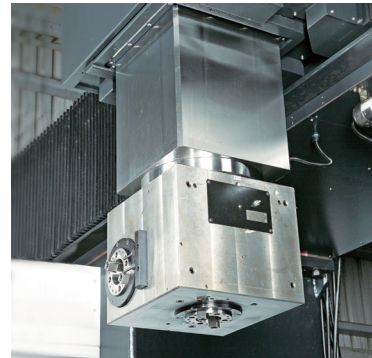
Three linear guideways design on Y-axis

Two are installed above the crossbeam in a horizontal direction; one is installed vertically at the lower front of the crossbeam. This design can completely avoid the phenomenon of spindle tilting and torque overturned during cutting to ensure the accuracy of Y-axis.



High rigidity headstock

The spindle head is made by special casting material. A 380 x 380mm section square ram is wholly surrounded by the 8-sided saddle which is attached with "RULON". The material has low friction coefficient and high abrasion resistance. This material is hand-scraped to achieve excellent accuracy.



Dual chip auger

Chip removal efficiency is greatly enhanced thanks to the dual screw type augers.

02 BC Series Spindle



High speed direct coupling spindle

A sturdy and compact spindle system by using direct coupling spindle. Standard long nose spindle design, with spindle oil cooler 6000rpm BT#50 taper.

Built-in spindle **option**

We offer a wide range of selection of built-in spindles. 10000rpm, BT#50 built-in spindle by using ceramic bearings for high-speed cutting applications. Max. torque/power is 420Nm/30kW. (FANUC only). 12000rpm or 15000rpm with HSK-A100 spindles are available as well.

Optimal solution for tough materials **option**

For cutting tough materials such as titanium or inconel alloy, we offer 6000rpm 63/73kW, torque is 1243/1966Nm with HSK-A100 taper.

Multi-face



VH-5F

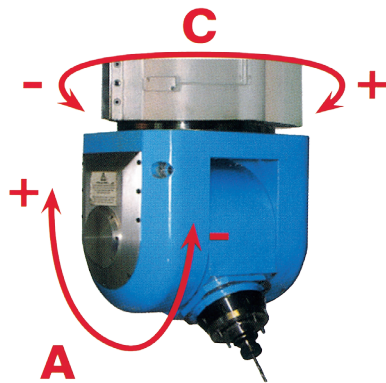


VH-1 / VH-2.5



ORT-2.5

04 Milling Head



M21



M21U

Model	VH-5F	VH-1 / VH-2.5	ORT-2.5	M21	M21U
Rotation speed		3500rpm			12000rpm
Taper		BT / CAT / SK#50			HSK-A100
Power (S1-S6)	22/26kW with Fanuc & 17/29kW with Siemens or Heidenhain control			34/42kW	
Torque (S1-S6)	560/672Nm with Fanuc & 648/1108Nm with Siemens or Heidenhain control			160/200Nm	
C-axis	5° x 72	1° x 360 / 2.5° x 144	2.5° x 144	0.001° x 360,000	
A-axis	5° x 72	1° x 360 / 2.5° x 144	2.5° x 144	0.001° x 360,000	

BC Series
Milling Head **03**

External Dimension

BC Series

Unit : mm

05
Diagrams

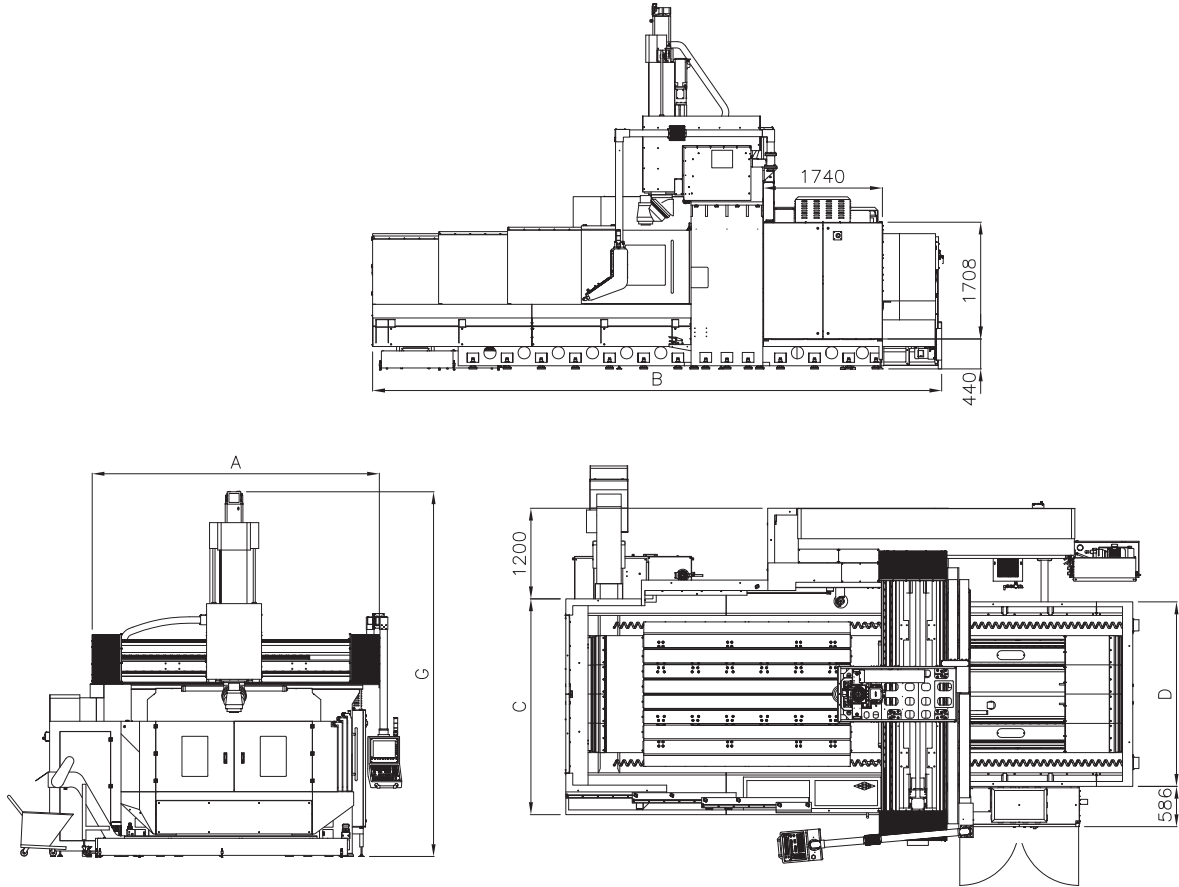
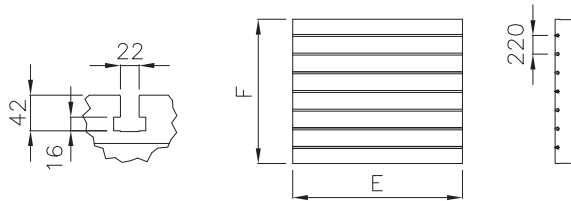


Table & T-Slot Dimension

Unit : mm



Z-Axis	G
700	4835
900	5035
1100	5235
1300	5435

Model	A	B	C	D	E	F
BC3025	3720	8002	3310	2600	3000	2100
BC4025	3720	10002	3310	2600	4000	2100
BC4030	4632	10002	3810	3100	4000	2600
BC5025	3720	12002	3310	2600	5000	2100
BC5030	4632	12002	3810	3100	5000	2600
BC5035	5132	12002	4310	3600	5000	3100

Machine Specification

Travel	BC3025	BC4025	BC4030	BC5025	BC5030	BC5035
X-axis	3200mm	4200mm			5200mm	
Y-axis	2600mm	2600mm	3100mm	2600mm	3100mm	3600mm
Z-axis				900mm		
Distance from spindle nose to table	Standard long nose; STD 130-1030mm ; OP 130-1230mm					
Distance between columns	2530mm		3030mm	2530mm	3030mm	3530mm

Table						
Dimension	3000 x 2100mm	4000 x 2100mm	4000 x 2600mm	5000 x 2100mm	5000 x 2600mm	5000 x 3100mm
Max. load	14000kg	16000kg	20000kg	18000kg	21000kg	25000kg
T-slot	22mm					

Spindle						
Spindle type	Direct coupling					
Spindle speed	40-6000rpm					
Spindle motor power	20/26kW Fanuc/Mitsubishi					
(cont./30min rated)	25kW (S6-40%) Heidenhain/Siemens					
Spindle taper	BT50					
Ram section	380 x 380mm					
	Box way 8 surface contacted (4 roller guideways)					

Feed						
Rapid feed (X/Y/Z)	15/15/10m/min	10/15/10m/min		10/10/10m/min		
Cutting feed	8000mm/min					

ATC & Magazine						
ATC type	Arm					
Number of tools	24T					
Max. tool diameter (next pockets empty)	110/200mm					
Max. tool length	350mm					
Max. tool weight	15kg					
Tool shank	BT50					

Supply						
Air pressure	5kgf/cm ²					
Electric power supply	60kVA					

Net Weight						
Machine weight	30000kg	38000kg	42000kg	49000kg	53000kg	56000kg

* The specifications and information may be changed without prior notice.

Standard & Optional

Standard:

- Fanuc 0iMF controller
- BT50 direct coupling with ZF gear box, speed 6000RPM, long nose spindle
- 24 tools, BT50, arm type ATC
- Glazed window type splash guard
- Programmable coolant system
- Automatic lubrication system
- Spindle air blast
- Working light
- Alarm lamp
- Manual pulse generator
- Indication lamp for dwell & end of job
- Leveling block and screws
- RS-232C interface
- Manuals
- Maintenance tools
- Screw type and chain type chip conveyors

Optional:

- Heidenhain NC640 controller
- Siemens ONE controller
- BT50 short nose spindle (Distance from spindle nose to table : 240-1140, 240-1340mm)
- Built-in spindle BT50 10000rpm 420Nm 30kW (Fanuc controller)
- Built-in spindle BT50 12000rpm (Heidenhain/Siemens controller)
- Built-in spindle HSK-A100 12000rpm 34kW 293Nm (Heidenhain/Siemens controller)
- Built-in spindle HSK-A100 15000rpm (Heidenhain/Siemens controller)
- Z axis travel 1100mm
- Magazine capacity 40T/60T/80T/120T/180T
- Tool shank : DIN69871, CAT50
- Ram section 420 x 420mm
- Embedded multi-face (five-face) milling heads
- Embedded 5-axis simultaneous milling heads
- Other attachment heads (Manual type, Semi-automatic type, Fully automatic with AHC)