

CNC • DOUBLE COLUMN BRIDGE MILL

DBC-SERIES

AUTOMATIC BC HEAD

BRIDGE MILL



*Does the work
of multiple
spindle heads,
in one setup*

- ▶ Allows for 3-dimensional multi-sided and multi-angled machining



VIPER



*Ultra-high
Machining
Efficiency*

DBC-Series

4340

5340

6340

7340

AUTOMATIC BC INDEXING HEAD

MULTI-FUNCTION WITH BIG CAPACITY

The Mighty Viper BC Head is not only versatile — it's a big capacity universal head, providing greater face milling and end milling cutting performance.

Application Industries

- Automotive and railway systems
- Industrial machinery
- Mold, jig and fixture manufacturing

50-taper
geared-head spindle

4,000 rpm
maximum speed

Does the Work of Multiple Milling Heads

No Time Wasted in Head Changing and Expensive Tool Changer

No matter what the machining type — 90°, 30° or any other angular machining, the BC head will handle all these operations in one setup. It provides state-of-the-art cutting efficiency, that yields maximum profitability.

Exclusive Features

- The spindle provides 3169 positioning angles, allowing for 3D multi-side and multi-angle machining. It exhibits ultra-high efficiency machining in only one setup.
- The spindle positioning angle can be change automatically .
- Multi-side and multi-angle machining can be achieved without need of the use of angular head, optional head and head compartment. No pollution on the interface and curvic teeth coupling to eliminate cleaning and maintenance procedure. It also dramatically upgrades positioning accuracy and ensures lifetime accuracy.
- Four linear ways on Z-Axis with three sides binding design to achieve the best static and dynamic accuracy.
- 5 degree indexing with 3D fully automatic curvic teeth positioning for the spindle. Positioning accuracy $\pm 6''$ Repeatability $\pm 4''$
- Up to 61 inch³/min.



Spindle

Spindle power	35 hp
Max. rpm	4,000 rpm
Gear lubrication	Oil mist
Spindle taper	BT50
Max. Spindle transfer torque	553 ft-lbs
Spindle tool clamping force	3,307 lbs
Spindle head coolant nozzle	Yes
Automatic tool clamp / unclamp	

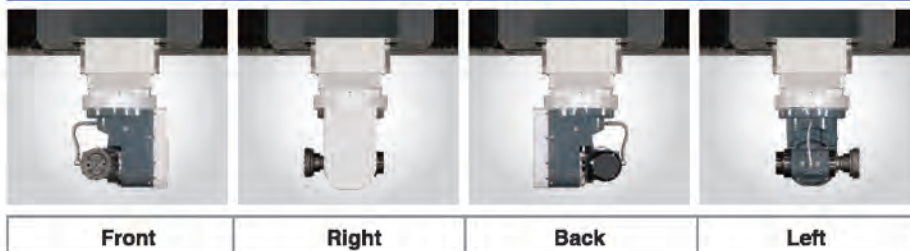
B axis

B axis auto indexing	5° x 44 step
B axis rotation	+/- 110°
B axis rotation	Automatic

C axis

C axis auto indexing	5° x 72 step
C axis rotation	+/- 180°
C axis rotation	Automatic

BC Universal Head Solution



Spindle provides 3,169 positioning angles • automatic 5° indexing.

MULTI-FUNCTION B/C AXIS MILLING HEAD

GO BEYOND SINGLE-PURPOSE MILLING BOUNDARIES

The Mighty Viper DBC-Series features an economic design — reduces investment cost, convenient machine operation, ensures cutting accuracy, and solid rigidity.

IDEAL USERS INCLUDE

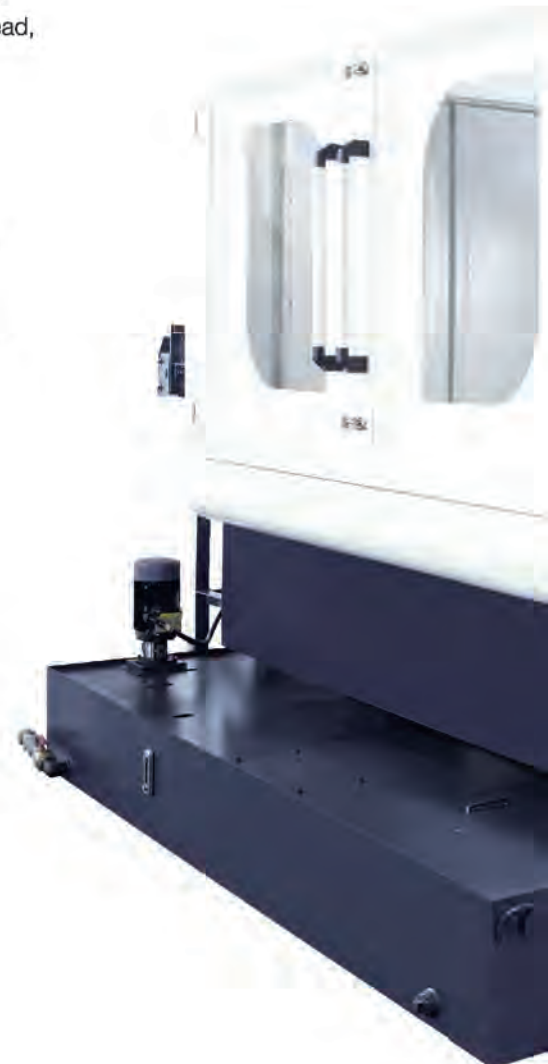
- Automobile Molds
- Plastic Injection Molds
- Aerospace Industries
- Oil Industries

MACHINE FEATURES

- With a multiple function B/C axis milling head to replace several single-purpose milling head, achieving multipurpose machining demands.
- No need to add extra milling head, reducing investment cost.
- Saving cost by eliminating the head storage compartment.
- Simplifies the structure of vertical/horizontal tool magazine, featuring further economy design.
- Capable of changing tools automatically, more convenient compared to the AHC-30 angle head, which cannot perform ATC function.
- Extra large milling capability.
- Z axis employs 4 linear guideways, increased cutting rigidity.
- Center support on Y axis ball screws to prevent moving vibration during rapid feed.
- Oil mist cooling on BC head, the spindle speed reaches up to 4000 rpm.
- Can be direct coupled with ZF gearbox, the straight ram features flexible milling path without interference problem.
- ZF gearbox is lubricated by oil chiller, increases gearbox lifetime and cutting performance.
- Floor type tool magazine is separated from machine main body, cutting accuracy will not be affected.

NEW DESIGN

PATENTED NO.	PATENT DESCRIPTION
■ M334051	Machine cooling device
■ M336108	Radial support device on transmission mechanism
■ 213692	A CNC machine tool with multiple tool setting and two-step alarm
■ 213743	Heat dissipation mechanism for spindle servo drive
■ 221954	Self-determined high-speed, high precision machining para
■ M293113	Tool monitor
■ M381008	Ball screw supported by buffering cylinder
■ M384945	Axial gearbox device
■ M384081	Ball screw supported by wearing roller
■ M381009	Ball screw supported by guide rod
■ M382172	Automatic calibration for Z-axis balancing cylinder
■ 1264343	Z Axis structural head for machining center



DBC-3210H

- ISO 50 spindle nose taper.
- 4000 rpm gear-drive spindle.
- 32/40/60 tools chain type magazine.
- Automatic brake for W-axis positioning (patent pending)

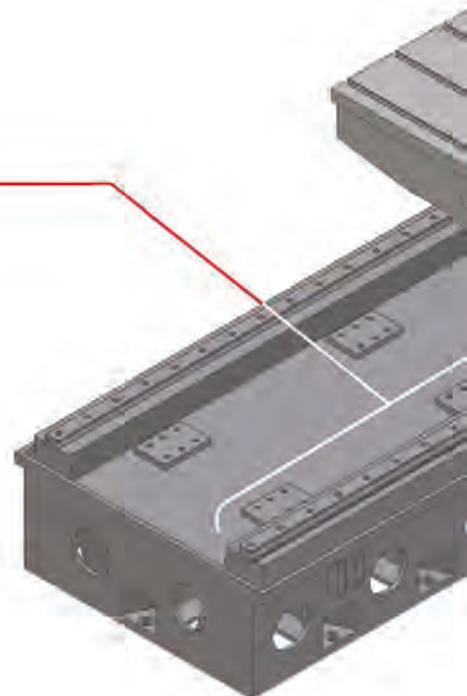


A SUPERIOR MACHINING VALUE

SPINDLE. STRUCTURE. ACCURACY.

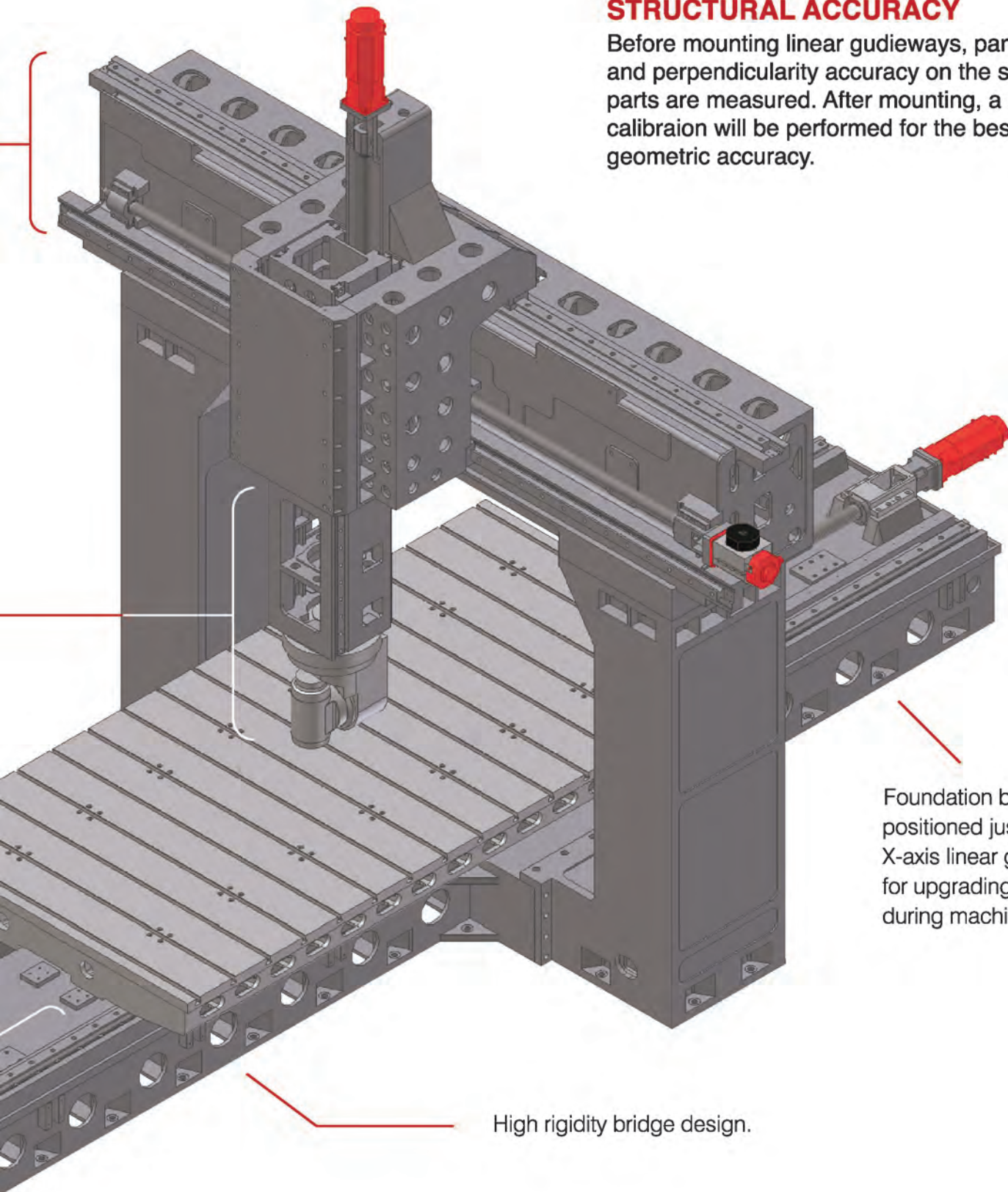
The Mighty Viper DBC has a solid design — maximum structural stability, axial accuracy, independent lubrication system and precision linear guideways.

- Specially designed column with fastening to beam creates a cantilever beam type machine. When the Y-axis moves to the tool change position, the slide is fully supported by the beam for maximum structural stability.
- Greater column thickness to increase machine rigidity.
- The beam slide guard is extended to fully guard the spindle head, thereby improving the machine's appearance.
- Newly designed spindle head guard.
- BT-50 gear spindle 4,000 rpm
- Highly precise, rigid and reliable Viper-made universal BC head.
- Each 3-meter X-axis linear guideway is equipped with 6 slide blocks for even load distribution, upgrading axial movement accuracy and improving machining accuracy.
- THK extra heavy-duty, high precision preloaded linear guideways on all three axes.
- Lubrication oil from all axes is separated from the coolant, thereby extending the coolant life, saving on production cost and protecting the environment.



STRUCTURAL ACCURACY

Before mounting linear guideways, parallelism and perpendicularity accuracy on the structural parts are measured. After mounting, a reassuring calibration will be performed for the best possible geometric accuracy.



Foundation bolts are positioned just under X-axis linear guideways for upgrading stability during machining.

High rigidity bridge design.

Flexible Machining with Powerful Features

A UNIVERSAL HEAD MAKES THE DBC-SERIES AN OUTSTANDING ASSET

OIL AND FLUID SEPARATED structure effectively extends the service life of cutting fluid, lowers production cost and meets environmental protection requirements, which is not found on some of the competitors' models. This, combined with the patented oil fluid separated coolant tank, provides a thorough oil fluid separation effect. Link-type chip conveyor system. Greater table elevation, chip augers at both sides which efficiently delivers chips to link-type chip conveyor, and a movable chip bucket is provided for handling chips efficiently. ■ (P3) Y-axis is equipped with the latest SRG65 high rigidity roller-type blocks with retainer. It increases movement rigidity and stability, eliminates moving friction between rollers, increases sensitivity and roller service life. ■ (P4) Four clamping devices are provided at both sides of W-axis to avoid W-axis slipping down at any position throughout its entire stroke, eliminating effect on machining accuracy.

■ Extra large span between columns. One piece fabricated oversized double column construction combined with 47 x 45 inch beam supporting face assure the best possible structural rigidity.

■ Square-type double column construction provides excellent resistance for up-and-down, right-and-left, and twisting loads, that ensures superior cutting rigidity and accuracy.

■ W-axis employs double hydraulic accumulators for counter-balancing, minimizing unparallel torque, while assuring the best travel accuracy.

Automotive Applications

- Bodies
- Sheet Metal Panels
- Engine Hoods
- Bumpers



DBC-4340W

*Special counter-balance system
on Z-axis (patent pending).*

*Automatic brake
for W-axis positioning
(patent pending).*



*Servo control systems throughout — including spindle,
3 axes, W-axis, magazine and head compartment.*

DBC-W

ADJUSTABLE HEIGHT CROSS RAIL BEAM

Increased Stability and Rigidity

Three axes and W-axes positioning feedback employs absolute encoder. Ball screws are directly coupled with servomotors. Bearings and ball screws are pretensioned to fully eliminate clearance, while increasing cutting rigidity and accuracy. The spindle, spindle stock and Z-axis transmission systems are located on the same center line to eliminate thermal displacement, reduces imbalanced torque while upgrading cutting stability.

Y-Axis and Z-Axis

Y and Z-axes employ THK SRG65 heavy-duty linear guideways. Linear guideways provide increased axial movement, rigidity and stability; eliminates moving friction between rollers. Yields increased accuracy and extends service life.



Counter Balance on Z-Axis

Hydraulic counter balance on Z-Axis increases Z-axis travel rigidity and axial movement stability.



W-Axis Synchronous Servomotors

Synchronous direct servomotor increases accuracy to 0.0012" (competitors couldn't make it to 0.0012" because they use LOCK PIN method.) Each W-axis is powered by a servomotor; motors are synchronized to each other for smooth and precise axial movement.





W-AXIS COLUMN COUNTER BALANCE

Each W-axis column employs a dual hydraulic suspension system, one hydraulic unit on top and another hydraulic unit on the bottom.



VERSATILE AND PRECISE MACHINING

■ W-axis is transmitted using double ball screws combined with a direct servomotor drive, yielding precise and consistent positioning accuracy.

■ W-axis machine height can be adjusted up to 100" high, providing a higher work envelope.

W-Travel: 43" / 59"*

Z-Travel: 28" / 39"*

Driven by servo type transmission.

EXPERIENCE SOLID RIGIDITY WITH ADVANCED DBC STRUCTURAL DESIGN

ONE PIECE FABRICATED BASE AND COLUMN

One-piece structure effectively solves problems of insufficient rigidity and excessive vibration. The entire structure is manufactured from high quality GB300 or GA350 Meehanite cast iron or precision welding, specially heat treated to relieve stress and ensure that the structure remains free of distortion for life.

GREATER MACHINE WEIGHT

All major castings are heavily and symmetrically ribbed to provide increased dynamic stability and keep vibration to a minimum in heavy-duty machining. Overall machine weight is much more than competitors' models, over 20 tons in some cases.

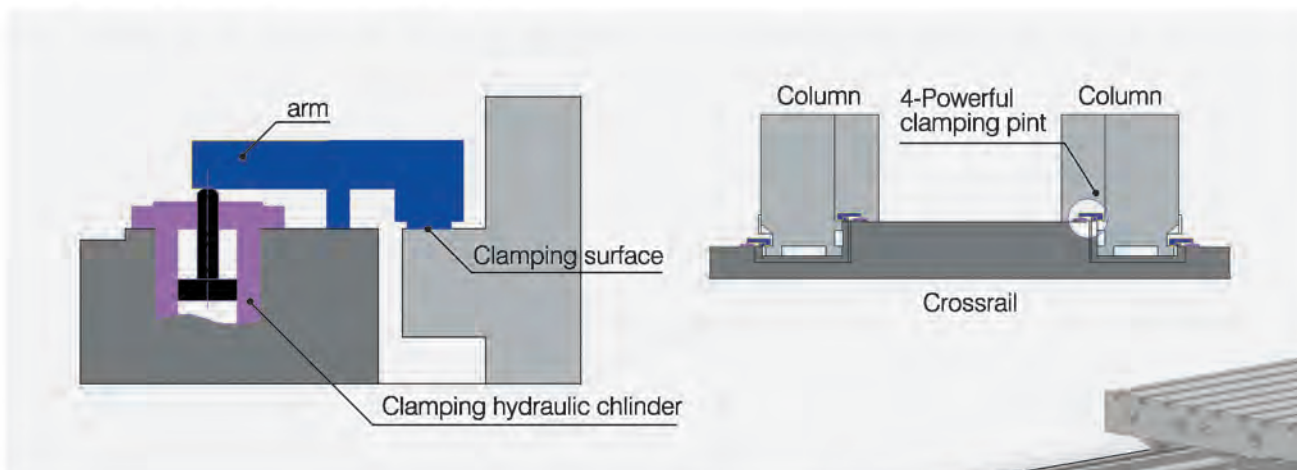
EXTRA-WIDE SQUARE SLIDEWAYS

Great span between columns. Extra-wide square slideways on W-axis feature full support for increased stability and low vibration. All slideways are hardened to above HS65 (HRC50). Compared to linear motion guides, the square slideways offer much lower stick-slip and vibration for heavy workpiece machining.

BEARING ON FEED SCREW

High rigidity cutting conditions are assured by using 60° angular contact ball bearings.

BED AND TABLE CONSTRUCTION



A Perfect Combination

Y-Axis Linear Guideway and Z-Axis Box Way



- ▲ Large column ensures solid structural rigidity.

Exclusive Vertical Column Structural Design

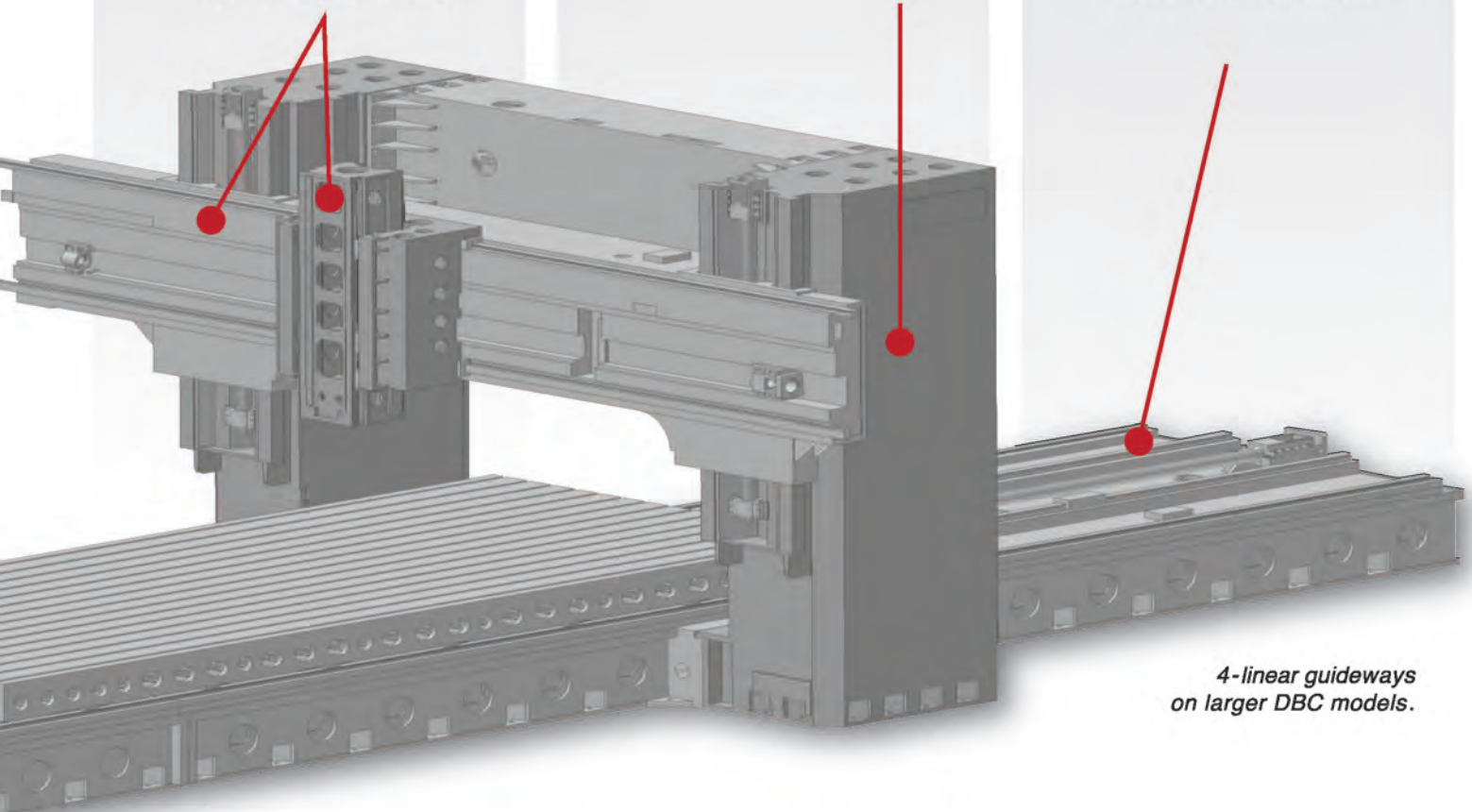


- ▲ One-piece fabricated, oversized double column construction.

Multiple Linear Guideways on X-Axis



- ▲ 3-linear guideways support work table, providing smooth and fast table movement.




4-linear guideways on larger DBC models.

NEW UNIVERSAL BC HEAD




MORE POWERFUL! MORE FLEXIBILITY!

DBC-Series bridge mill provides more machining flexibility, than bridge mill with automatic head change system and vertical / horizontal ATC.

ANGULAR HEAD	Head Compartment	Tool Arm	V/H Magazine
	 90° Head  30° Head	 Vertical and horizontal tool changer	 Complex floor-mounted tool magazine
VS			
BC HEAD	 Automatic BC head	 Vertical tool changer	 Side-mounted arm type tool magazine
 BC Head provides more flexible machining.			

AUTOMATIC BC HEAD PROVIDES GREATER CUTTING CAPACITY

The automatic BC head provides greater cutting than 90° head milling and 5-face head milling.

Head Solution	Cutting Condition		Vertical Milling		Horizontal Milling	
			Face Mill	End Mill	Face Mill	End Mill
 Automatic BC Head	Cutting Feedrate	ipm	130	66	112	63
	Cutting Width	inch	4	0.8	4	0.8
	Cutting Depth	inch	0.2	1.2	0.2	1.2
	Chip Removal Rate	in ³ /min.	801	61	70	59
 Automatic 90° Head AHC-Series	Cutting Feedrate	ipm	87	63	87	63
	Cutting Width	inch	4	2	4	2
	Cutting Depth	inch	0.1	1.2	0.1	1.2
	Chip Removal Rate	in ³ /min.	40	15	40	15
 5-Face Head VF-Series	Cutting Feedrate	ipm	126	47	87	47
	Cutting Width	inch	4	1.2	4	1.2
	Cutting Depth	inch	0.2	1.2	0.2	1.2
	Chip Removal Rate	in ³ /min.	78	66	54	66

■ **Face Mill Tool**
Ø4.9 x 6-flute

■ **End Mill Tool**
Ø2.5 x 3-flute

ENHANCED CNC CONTROLLER EASIER SET-UP AND MAINTENANCE

In-house designed software enhances programming. Specifically designed monitoring screen for each angle head, simplifies set-up and maintenance.

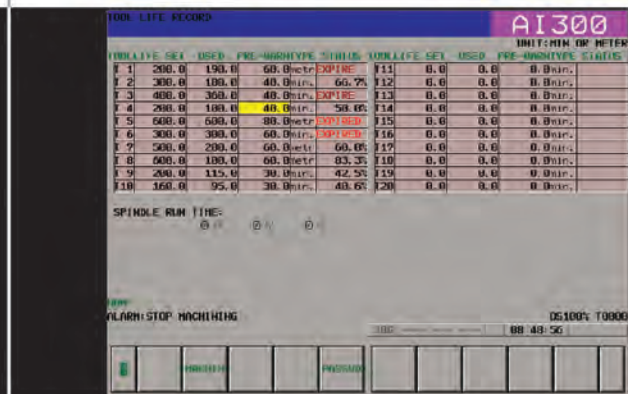


G17G18G19 CALIBRATION



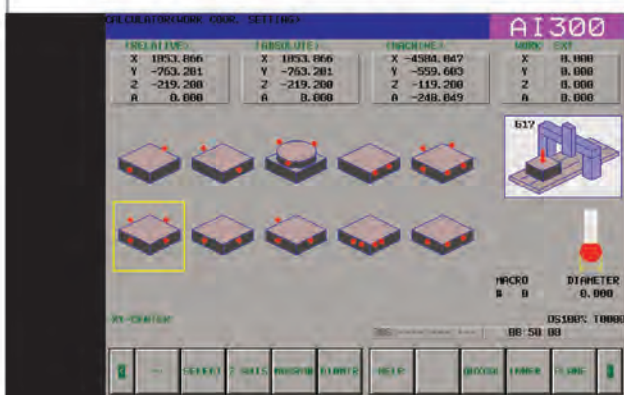
1. Over than 10 calibration patterns.
2. For workpiece coordinate set-up.
3. Available on G17 / G18 / G19 plane.

TOOL LIFE RECORD



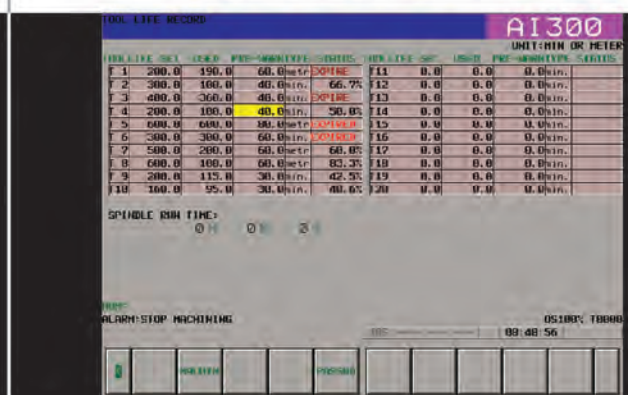
1. Slant angle is calculated from three points.
2. 3D coordinate conversion.
3. CNC program is simplified.

MULTI-ANGLE COMPENSATION



1. Support various angular heads.
2. Tool tip position compensation.
3. CNC program is simplified.

SPECIAL CANNED CYCLES



1. Support various patterns.
2. conversational programming.

G17G18G19 C

Simplified functions, easier production — Calibration, tool life record, three point measurement, multi-angle compensation, special canned cycles, tool magazine management.

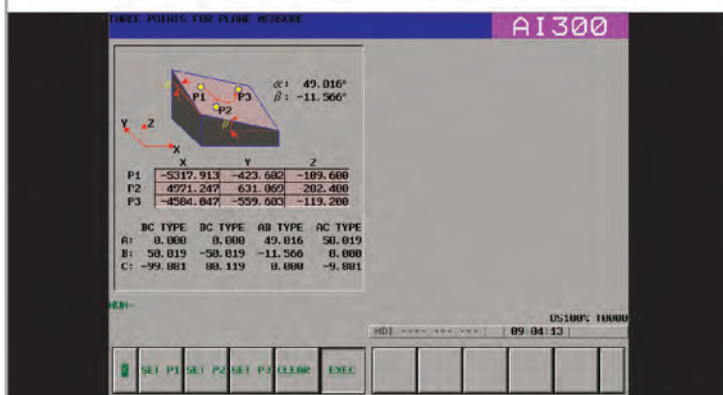


THREE POINT MEASUREMENT



1. Slant angle is calculated from three points.
2. 3D coordinate conversion.
3. CNC program is simplified.

TOOL MAGAZINE MANAGEMENT

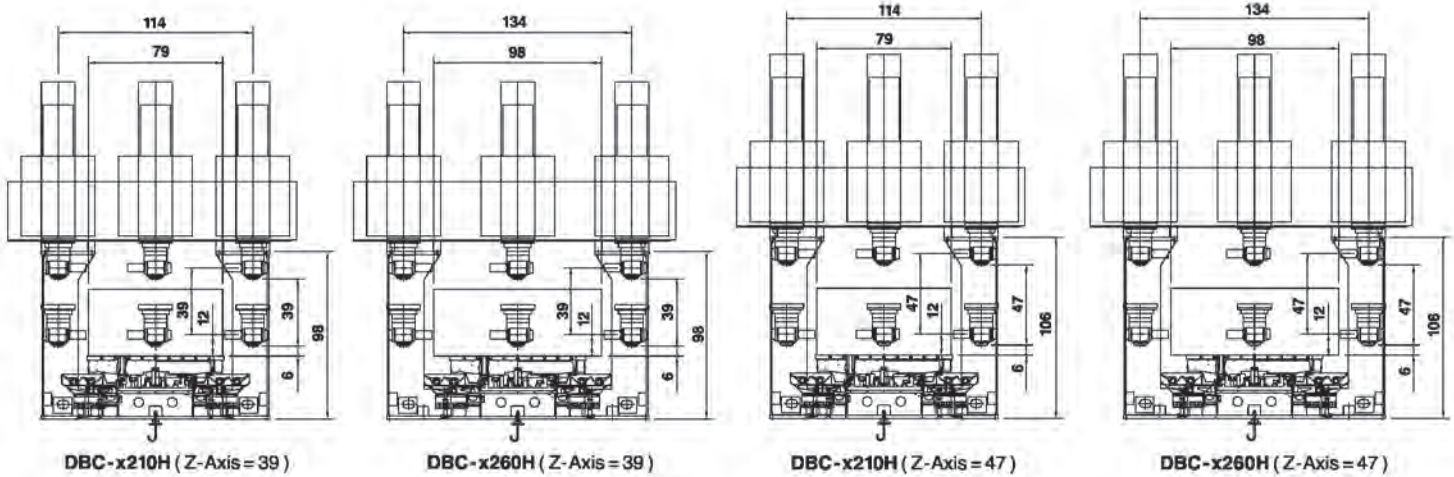


1. Tool magazine graphic display.
2. Available for big diameter tool.



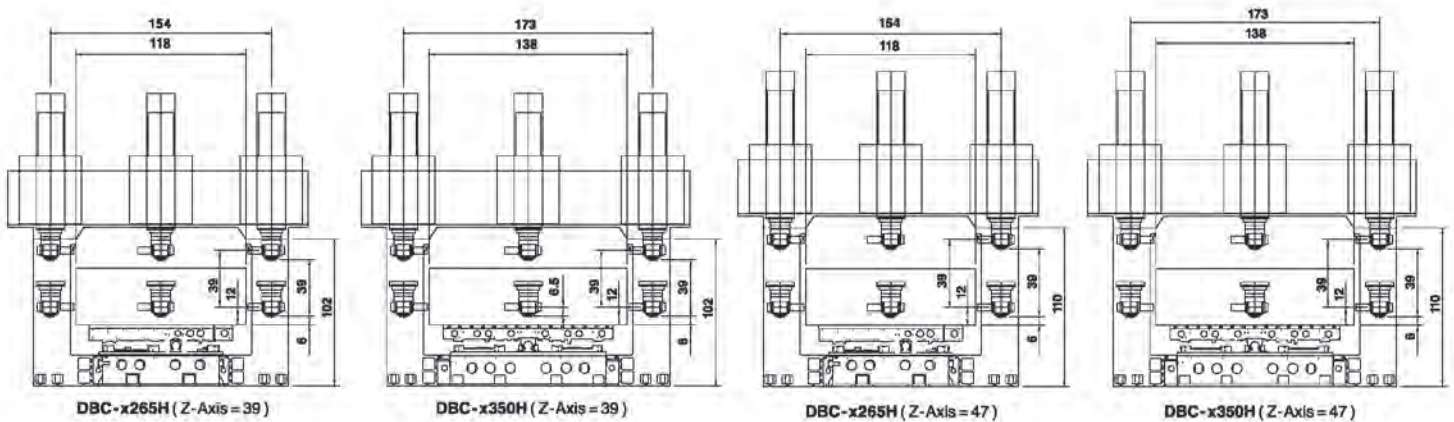
Deluxe Hartrol version is required.

CUTTING CAPACITY DRAWING



Horizontal

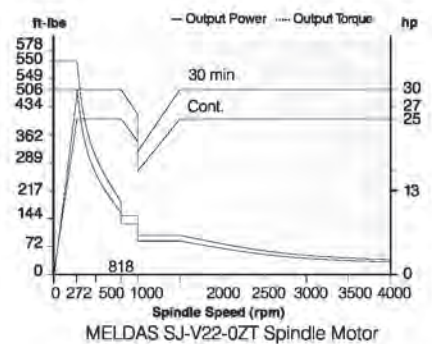
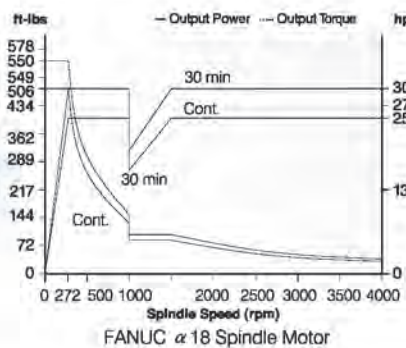
unit = inch



Automatic BC Head

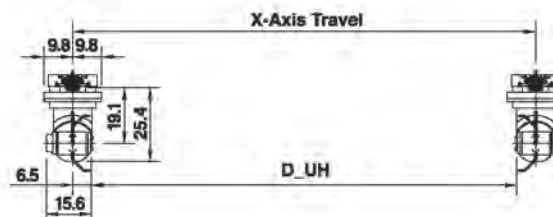
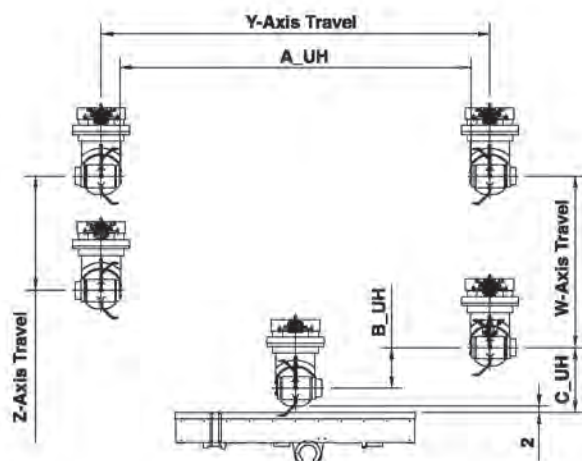
TORQUE CHARTS

33 hp / 553 ft-lbs.

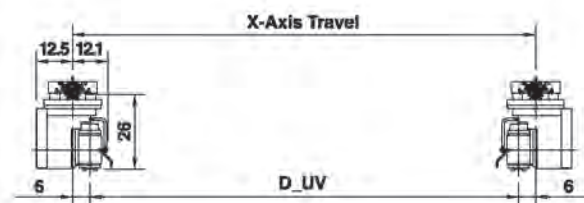
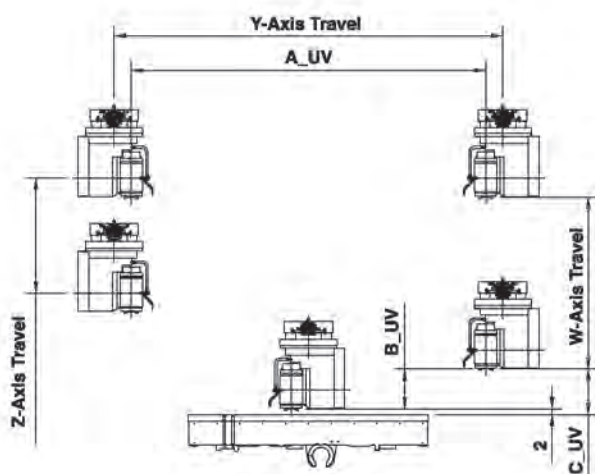
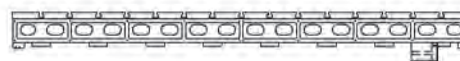


CUTTING CAPACITY DRAWING

unit = inch



Vertical

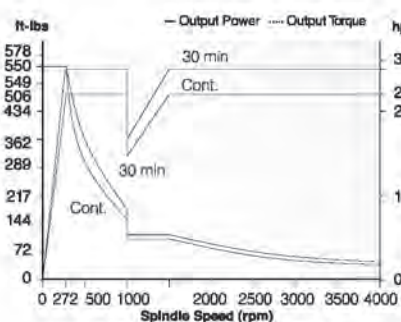


Vertical

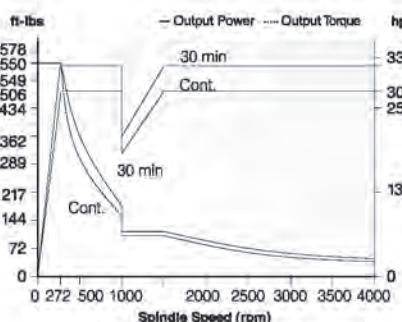


VW-4~5340 Z-Travel = 39"	H	A_UH Y-Axis Travel = 121"	B_UH = 52.2" 14"	B_UH = 60" 23"	C_UH = 52.2" 22"	C_UH = 60" 30"	D_UH X-Axis Travel = -13"
	V	A_UV Y-Axis Travel = 122.2"	B_UV = 52.2" 13.8"	B_UV = 60" 21.7"	C_UV = 52.2" 15.8"	C_UV = 60" 27.7"	D_UV X-Axis Travel = -11.8"
VW-6~8340 Z-Travel = 39"	H	A_UH Y-Axis Travel = 121"	B_UH = 52.2" 13.4"	B_UH = 60" 23"	C_UH = 52.2" 21.7"	C_UH = 60" 29.5"	D_UH X-Axis Travel = -13"
	V	A_UV Y-Axis Travel = 122.2"	B_UV = 52.2" 13.2"	B_UV = 60" 21.1"	C_UV = 52.2" 15.2"	C_UV = 60" 23"	D_UV X-Axis Travel = -11.8"

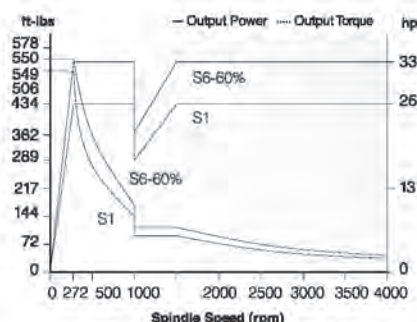
Units = inch • H = horizontal position V = vertical position



FANUC α22 Spindle Motor



MELDAS SJ-V26-0ZT Spindle Motor



HEIDENHAIN QAN260L Spindle Motor

(*) optional accessory.

MODEL	UNIT	DBC-3210 / 4210 / 5210 / 6210 / 7210 / 8210H
Table		
Working Surface	inch	124 / 163 / 203 / 236 / 276 / 315 x 80
T-slot (Size x Number x Pitch)	mm	22 x 13 / 17 / 21 / 25 / 29 / 33 x 250
Max. Table Load	lbs	17,636 / 22,046 / 26,455 / 30,864 / 35,273 / 39,683
Travel		
Longitudinal Travel (X-Axis)	inch	120 / 159 / 199 / 238 / 278 / 317
Cross Travel (Y-Axis)	inch	114
Vertical Travel (Z-Axis)	inch	40/47*
Distance From Spindle End To Table For V-axis	inch	6~45 (Z=39 / Column = 98) 6~53 (Z=47 / Column = 106)*
Distance From Spindle End To Table For H-axis	inch	12~52 (Z=39 / Column = 98) 12~60 (Z=47 / Column = 106)*
Distance From Spindle Center To Column	inch	18
Width Between Column	inch	87
Spindle		
Spindle Speed (Gear Type)	rpm	4,000
Spindle nose Taper	—	ISO50
Feed		
Cutting Feed Rate	ipm	315 / 315 / 197 / 197 / 197 / 197
Rapid Traverse (XYZ-Axis)	ft. / min.	X = 67 / 53 / 53 / 39 / 33 / 26 Y = 39 Z = 53
ATC		
Tool storage Capacity	Pcs	32T / 140 ~ 60* (Standard tool change in vertical position)
Max. Tool Weight	lbs	44
Max. Tool Size (Diameter x Length)	inch	Ø6 x 16
Tool Shank	—	BT50 / CAT50
Pull Stud Bolt	—	P50T-1
Motor		
Spindle Drive Motor (30 min. / Cont.)	hp	30/35*
X-axis Drive Motor (FANUC)	ft-lb	X3M: α30/3000i (216 ft-lb)
		X4M: α40/3000i+F (383 ft-lb)
		XSM: α60/3000i+F (687 ft-lb)
		X6M: α60/3000i+F (687 ft-lb)
		X7M: α is100 / 2500 (723 ft-lb)
		XSM: α is 200 / 2500 (1302 ft-lb)
Y-Axis Drive Motor (FANUC)	ft-lb	α30 / 3000i+F (217 ft-lb)
Z-Axis Drive Motor (FANUC)	ft-lb	α40 / 3000i+F+B (383 ft-lb)
Other		
Required Air Pressure	psi	92
Electric Power Consumption	kVA	60 / 65 / 70 / 75 / 80 / 85
Machine Weight	lbs	81,571 / 92,594 / 103,617 / 125,663 / 136,686 / 147,709
Floor Space (Full Guarding)	inch	383 / 476 / 557 / 641 / 732 / 810 x 268

STANDARD ACCESSORIES

- Adjusting Tools and Box
- Air Blast Through Spindle
- Auto Tool Length Measurement
- Automatic Angular Head
- Automatic Power-off Equipment
- Centralized Auto Lubrication System

- Cooling System
- Convection Heat Exchanger In Control Box
- Fluorescent Light
- Foot Switch for Spindle Clamping and Unclamping
- Gear Head 4,000 rpm

- Leveling Bolts and Blocks
- Oil Fluid Separator
- Oil Mist (for gear lubrication)
- Operation Finish Lamp
- Operation Manual and Electric Drawing
- Remote Manual Pulse Generator
- RS-232 Interface

DBC-3260 / 4260 / 5260 / 6260 / 7260 / 8260H	DBC-4265 / 5265 / 6265 / 7265 / 8265H	DBC-5350 / 6350 / 7350 / 8350H
124 / 163 / 203 / 236 / 276 / 315 x 80	157 / 197 / 236 / 276 / 315 x 100	197 / 236 / 276 / 315 x 118
22 x 13 / 17 / 21 / 25 / 29 / 33 x 250	28 x 20 / 25 / 30 / 35 / 40 x 200	28 x 24 / 29 / 34 / 39 x 200
17,636 / 22,046 / 26,455 / 30,864 / 35,273 / 39,683	35,273 / 39,683 / 44,092 / 48,501 / 52,910	48,501 / 55,115 / 61,729 / 66,138
120 / 159 / 199 / 238 / 278 / 317	159 / 199 / 238 / 278 / 317	199 / 238 / 278 / 317
134	153	173
40/47*	40/47*	40/47*
6~45 (Z=39 / Column = 98)	6~45 (Z=39 / Column = 102)	6~45 (Z=39 / Column = 102)
6~53 (Z=47 / Column = 106)*	6~53 (Z=47 / Column = 110)*	6~53 (Z=47 / Column = 110)*
12~52 (Z=39 / Column = 98)	12~52 (Z=39 / Column = 102)	12~52 (Z=39 / Column = 102)
12~60 (Z=47 / Column = 106)*	12~60 (Z=47 / Column = 110)*	12~60 (Z=47 / Column = 110)*
18	18	18
106	122	142
4,000	4,000	4,000
ISO50	ISO50	ISO50
315 / 315 / 197 / 197 / 197 / 197	197	197
X = 67 / 53 / 53 / 39 / 39 / 32 Y = 39 Z = 53	X = 39 / 39 / 39 / 39 / 33 Y = 53 Z = 53	X = 39 / 39 / 33 / 33 Y = 53 Z = 53
32T / 140 ~ 60* (Standard tool change in vertical position)	32T / 140 ~ 60* (Standard tool change in vertical position)	32T / 140 ~ 60* (Standard tool change in vertical position)
44	44	44
Ø6 x 16	Ø6 x 16	Ø6 x 16
BT50 / CAT50	BT50 / CAT50	BT50 / CAT50
P50T-1	P50T-1	P50T-1
30/35*	30/35*	30/35*
X3M: α30 / 3000i (216 ft-lb)	X4M: α40 / 3000i+F (383 ft-lb)	XSM: α60 / 3000i+F (687 ft-lb)
X4M: α40 / 3000i+F (383 ft-lb)	XSM: α60 / 3000i+F (687 ft-lb)	X6M: α is 100 / 2500 (723 ft-lb)
XSM: α60 / 3000i+F (687 ft-lb)	X6M: α is 100 / 2500 (723 ft-lb)	X7M: α is 200 / 2500 (1302 ft-lb)
X6M: α60 / 3000i+F (687 ft-lb)	X7M: α is 200 / 2500 (1302 ft-lb)	XSM: α is 200 / 2500 (1302 ft-lb)
X7M: α is 100 / 2500 (723 ft-lb)	X8M: α is 200 / 2500 (1302 ft-lb)	
XSM: α is 200 / 2500 (1302 ft-lb)		
α30 / 3000i+F (217 ft-lb)	αi40 / 3000i+F (383 ft-lb)	αi40 / 3000i+F (383 ft-lb)
α40 / 3000i+F+B (383 ft-lb)	α40 / 3000i+F+B (383 ft-lb)	α40 / 3000i+F+B (383 ft-lb)
92	92	92
60 / 65 / 70 / 75 / 80 / 85	105	105
90,389 / 101,412 / 112,435 / 134,481 / 145,505 / 156,528	114,640 / 136,686 / 158,732 / 174,165 / 189,597	160,937 / 189,597 / 216,053 / 242,508
383 / 476 / 557 / 641 / 732 / 810 x 287	500 / 580 / 658 / 18720 / 816 x 362	580 / 658 / 18720 / 816 x 404

- Semi-Splash Guard
- Screw Type Chip Conveyor
- Table Side Air Blast
- Tool Magazine-Arm Type

OPTIONAL ACCESSORIES

- Air Gun

- Auto Tool Length Measurement
- Closed Loop Linear Scale Positioning System
- Coolant Gun
- Full Splash Guard
- Imitative Mold Cutting System

- Link Type Chip Conveyor and Portable Chip Bucket
- Z-Axis Nitrogen Accumulator

Machine Specifications

(*) optional accessory.

MODEL	UNIT	DBC-4340 / 5340 / 6340 / 7340 / 8340W
Table		
Working Surface	inch	157 / 197 / 236 / 276 / 315 x 83
T-slot (Size x number x pitch)	mm	28 x 20 / 25 /30 / 35 / 40 x 200
Max. Table Load	lbs	33,069 / 35,273 / 37,478 / 39,683 / 44,092
Travel		
Longitudinal Travel (X-Axis)	inch	159 / 199 / 238 / 278 / 317
Cross Travel (Y-Axis)	inch	134
Vertical Travel (Z-Axis)	inch	28 / 39*
Vertical Travel (W-Axis)	inch	43 / 59*
Distance From Spindle End To Table (Vertical Axis)	inch	2 ~ 79 (Z=28 / W= 43)
		2 ~ 95 (Z=28 / W= 59)*
		2 ~ 91 (Z=39 / W= 43)*
		2 ~ 107 (Z=39 / W= 59)*
Distance From Spindle End To Table (Horizontal Axis)	inch	12 ~ 52 (Z=28 / W= 43)
		12 ~ 60 (Z=28 / W= 59)*
		12 ~ 60 (Z=39 / W= 43)*
		12 ~ 60 (Z=39 / W= 59)*
Distance From Spindle Center To Column	inch	26
Width Between Column	inch	96
Spindle		
Spindle Speed (Gear Type)	rpm	4,000
Spindle nose Taper	—	ISO50
Feed		
Cutting Feed Rate	ipm	236
Rapid Traverse (XYZ-Axis)	ft / min	X = 53 / 53 / 39 / 33 / 26 Y = 53 Z = 53 W = 10
ATC		
Tool storage Capacity	Pcs	32T / 40 ~ 60* (Standard tool change in vertical position)
Max. Tool Weight	lbs	44
Max. Tool Size (Diameter x length)	inch	Ø6 x 16
Tool Shank	—	BT50 / CAT50
Pull Stud Bolt	—	P50T-1
Motor		
Spindle Drive Motor (30 min. / Cont.)	hp	30/35*
X-axis Drive Motor (FANUC)	ft-lb	X4M: α40 / 3000i+F (383 ft-lb)
		X5M: α60 / 3000i+F (687 ft-lb)
		X6M: α60 / 3000i+F (687 ft-lb)
		X7M: α is 100 / 2500 (723 ft-lb)
		X8M: α is 200 / 2500 (1302 ft-lb)
Y-Axis Drive Motor (FANUC)	ft-lb	α30 / 3000i+F (217 ft-lb)
Z-Axis Drive Motor (FANUC)	ft-lb	α40 / 3000i+F+B (383 ft-lb)
W-Axis Drive Motor (FANUC)	ft-lb	α40 / 3000i+F+Bx2 (383 ft-lb)
Other		
Required Air Pressure	psi	92
Electric Power Consumption	kVA	90/90/100/120/120
Machine Weight	lbs	114,640 / 136,686 / 158,732 / 174,165 / 189,597
Floor Space (Full Guarding)	inch	488 / 579 / 681 / 760 / 839 x 323

DBC-5430 / 6430 / 7430 / 8430 / 9430 / 10430 / 13430W

197 / 236 / 276 / 315 / 354 / 393 / 512 x 118

28 x 24 / 29 / 34 / 39 / 44 / 49 / 64 x 200

48,501 / 55,115 / 61,729 / 66,138 / 70,548 / 77,162 / 88,185

199 / 238 / 278 / 317 / 356 / 396 / 514

173

40/47*

43 / 59*

6~45 (Z=28 / Column = 43)

6~45 (Z=28 / Column = 59)*

6~45 (Z=39 / Column = 43)*

6~53 (Z=39 / Column = 59)*

12~52 (Z=39 / Column = 43)

12~60 (Z=47 / Column = 59)*

6~45 (Z=39 / Column = 43)*

6~45 (Z=39 / Column = 59)*

26

138

4,000

ISO50

1 ~ 197

X = 39 / 39 / 33 / 33 / 33 / 33 / 33 Y = 53 Z = 53 W = 10

32T / 140 ~ 60*

(Standard tool change in vertical position)

44

Ø6 x 16

BT50 / CAT50

P50T-1

30/35*

X5M: α60 / 3000i+F (687 ft-lb)

X6M: α is 100 / 2500 (723 ft-lb)

X7M: α is 200 / 2500 (1302 ft-lb)

X8M: α is 200 / 2500 (1302 ft-lb)

X9M: α40 / 3000i+F (383 ft-lb)

X10M: α40 / 3000i+F (383 ft-lb)

X13M: α60 / 3000i+F (687 ft-lb)

αi40 / 3000i+F (383 ft-lb)

α40 / 3000i+F+B (383 ft-lb)

α40 / 3000i+F+B x 2 (383 ft-lb)

92

100/110/ 120/120/100 / 100 / 100

286,601 / 304,238 / 319,670 / 337,307 / 352,740 / 370,377 / 423,288

602 / 681 / 760 / 839 / 917 / 996 / 1248 x 384

STANDARD ACCESSORIES

- Adjusting Tools and Box
- Air Blast Through Spindle
- Auto Tool Length Measurement
- Automatic Angular Head
- Automatic Power-off Equipment
- Centralized Automatic Lubrication System
- Cooling System
- Convection Heat Exchanger in Control Box
- Fluorescent Light
- Foot Switch for Spindle Clamping and Unclamping
- Gear Head 4,000 rpm
- Leveling Bolts and Blocks
- Oil Fluid Separator
- Oil Mist (for gear lubrication)
- Operation Finish Lamp
- Operation Manual and Electric Drawing
- Remote Manual Pulse Generator
- RS-232 Interface
- Semi-Splash Guard
- Screw Type Chip Conveyor
- Table Side Air Blast
- Tool Magazine-Arm Type

OPTIONAL ACCESSORIES

- Air Gun
- Auto Tool Length Measurement
- Closed Loop Linear Scale Positioning System
- Coolant Gun
- Full Splash Guard
- Imitative Mold Cutting System
- Link Type Chip Conveyor and Portable Chip Bucket
- Z-Axis Nitrogen Accumulator

(*) optional accessory.

MIGHTY VIPER

Over 45 years, **Mighty Viper** has sold more than 25,000 machines nationwide, resulting in a world of satisfied customers and a wealth of feedback that has added to our arsenal of experience and fine craftsmanship. In keeping with our commitment to provide only the highest quality machining centers, every available resource is utilized to maintain a state-of-the art manufacturing process and to continue the delivery of cutting edge technologies.

MIGHTY USA, INC.

19706 Normandie Avenue
Torrance, CA 90502

Tel. 310.516.7478

Fax. 310.516.0368

Toll Free. 1.800.664.4489

E-mail. sales@mightyusa.com

Web. www.mightyviper.com