

DCV Series

Advanced Double Column Vertical Machining Center



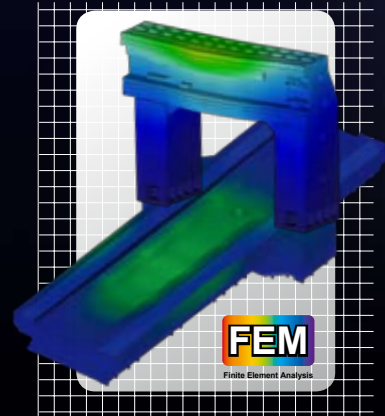
DCV 2012A - 2012B

Superb Body Structure

- One-piece Column
- One-piece Base

High Rigidity Guideways

- Roller type guideways on X/Y axis
- Horizontal and vertical support of the headstock
- Direct drive motors on 3 axes reduce backlash and ensure perfect axial accuracy



High Quality Work Table

- The work table is precisely ground before assembled to ensure DCV series excellent machining results



DCV2012A

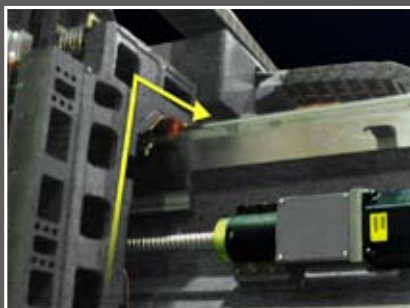
Z-axis is equipped with roller type guideway and 6 slider blocks to enhance cutting rigidity and smooth movement during 3D contouring operations

DCV2012B

Z-axis is equipped with box guideway reinforced through induction hardening process, precision ground and FEM analysis to offer superb cutting rigidity and short force flow



- Three axes adopt highly responsive servo motor, configuring ball screws with direct drive. Measuring with absolute encoder to ensure high rigidity and positioning accuracy without backlash.



■ Horizontal and Vertical Support of the Headstock



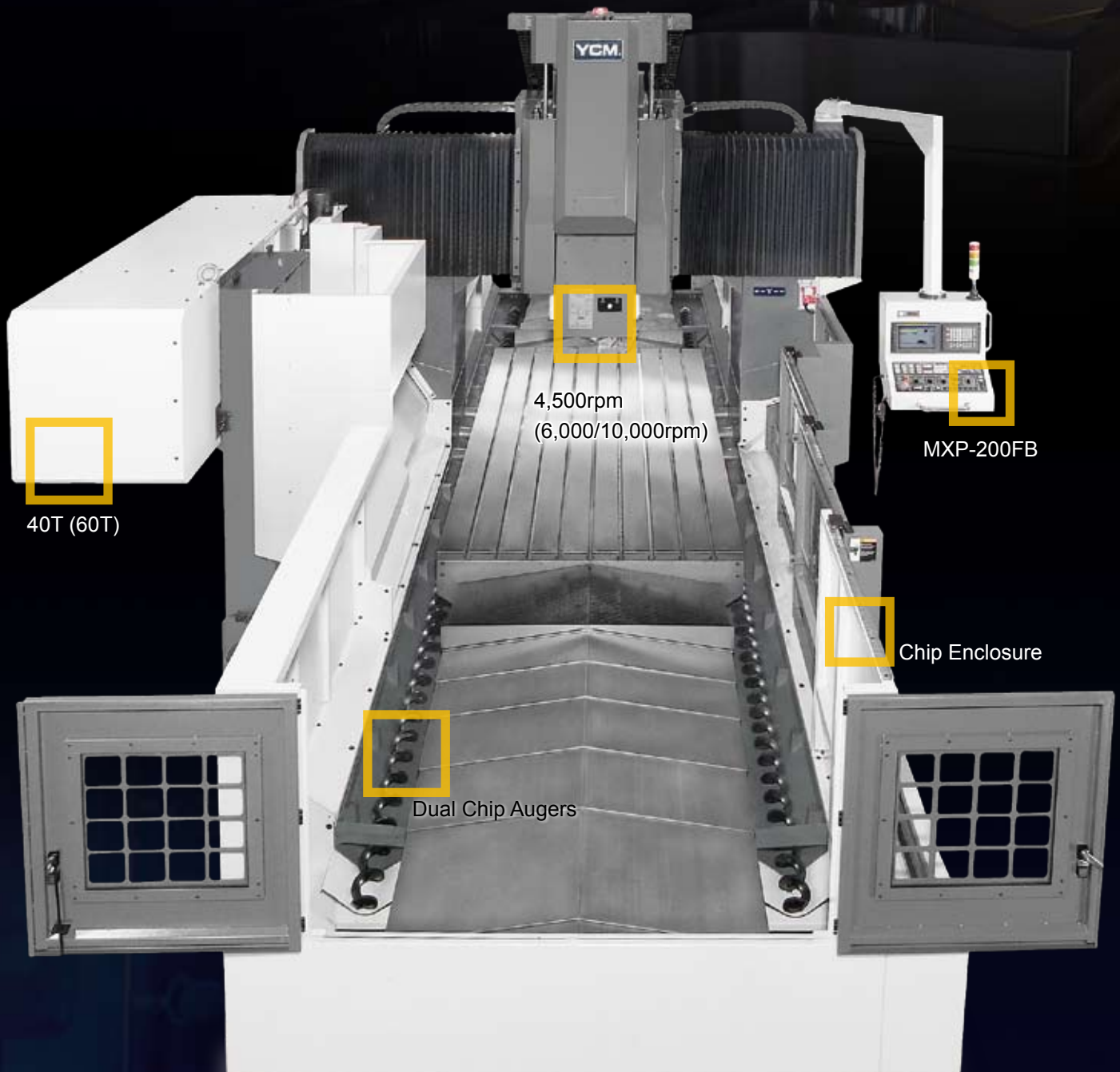
■ Roller Type Guideway on Z-axis (DCV2012A)



■ Hardened and Ground Box Guideway on Z-axis (DCV2012B)

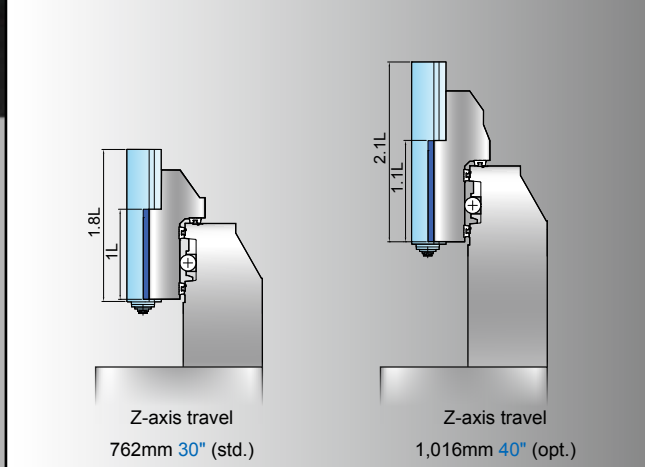
DCV 3016B · 4016B

YCM keeps building up the in-house ability and seriously examines the workflow for upgrading DCV series to the limit. DCV series is exactly the ultimate double column vertical machining center combining flawless accuracy, rigidity, and power.





■ Hardened and Ground Box Guideway on Z-axis



■ Rigid Proportion of the Headstock



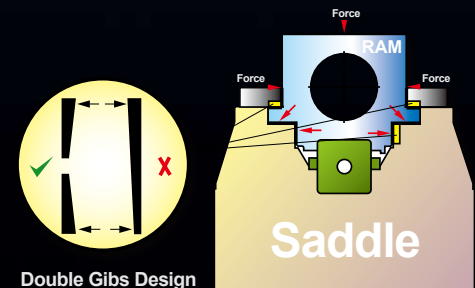
■ Horizontal and Vertical Support of the Headstock

Superb Body Structure

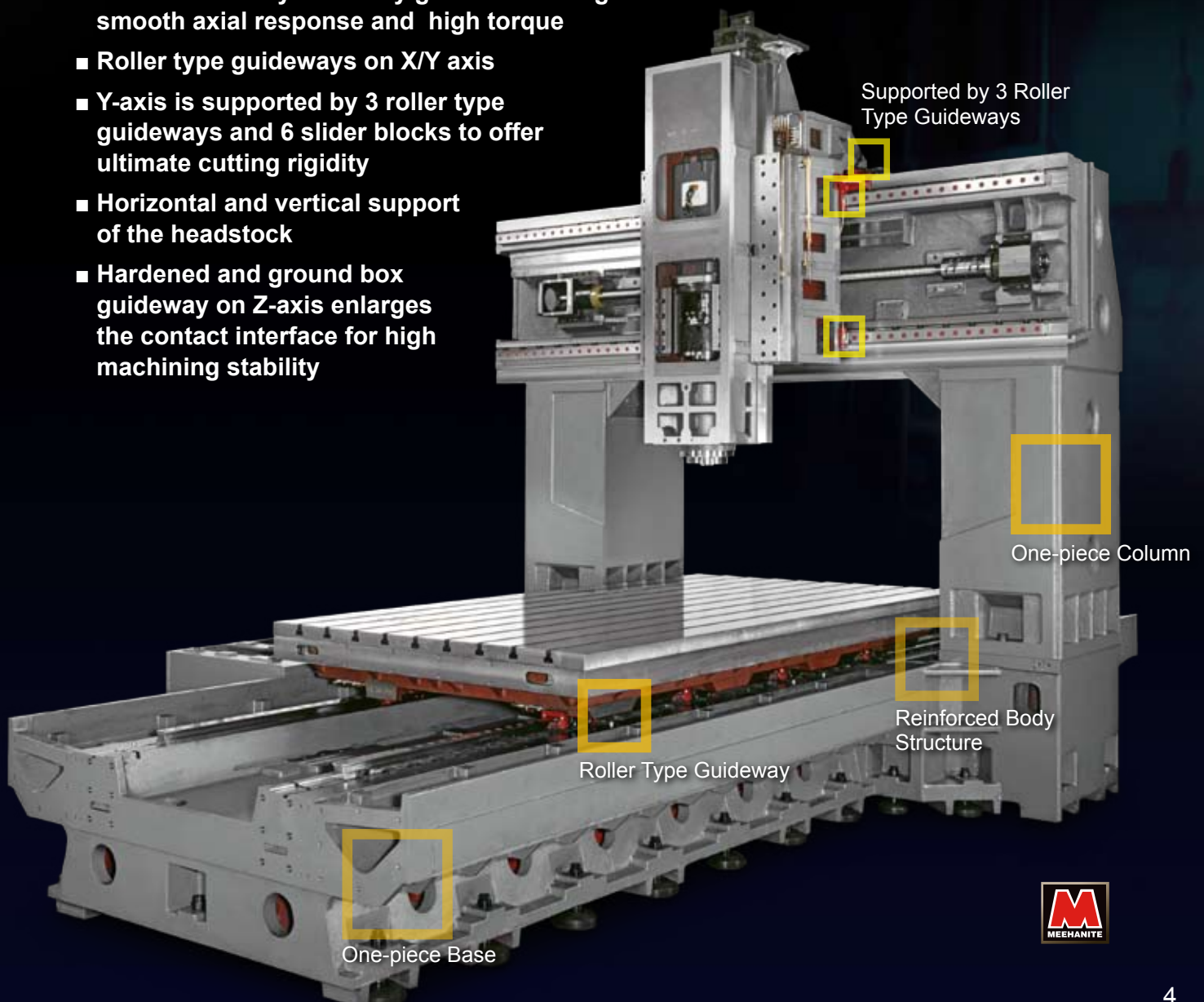
- One-piece Column
- One-piece Base
- Rigid proportion of the headstock

High Rigidity Guideways

- X-axis is directly driven by gearbox offering smooth axial response and high torque
- Roller type guideways on X/Y axis
- Y-axis is supported by 3 roller type guideways and 6 slider blocks to offer ultimate cutting rigidity
- Horizontal and vertical support of the headstock
- Hardened and ground box guideway on Z-axis enlarges the contact interface for high machining stability



Double Gibs Design



DCV^{3021B}·^{4021B} ^{3025B}·^{4025B}·^{4035B}

DCV series flawless accuracy, rigidity, and power are suitable for diverse requirements from automotive, die & mold, energy and aerospace industries.

Max. Tool Magazine Capacity: 120T (opt.)

YCM Self-developed STC PLUS Spindle Thermal Compensation Achieves High Accuracy (opt.)

Full Chip Enclosure (opt.)

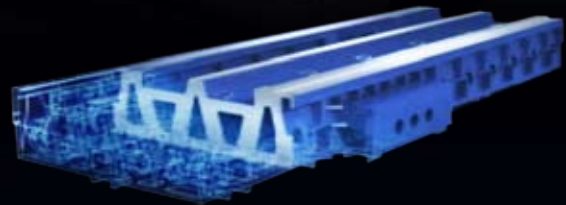
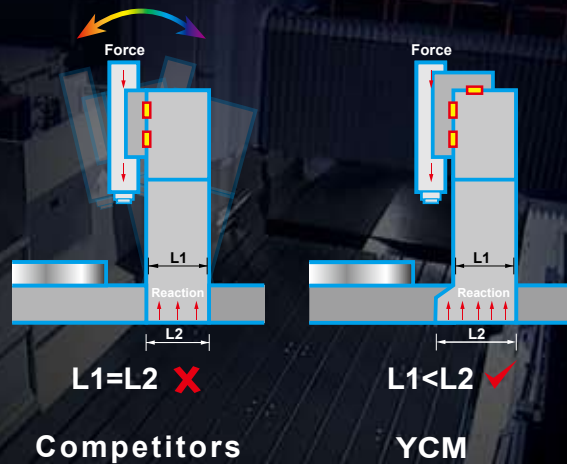
Front or Rear Chip Conveyor

DCV^{4025B}



Superb Body Structure

- Turcite-B design on Z-axis strengthens rigidity and damping capacity reducing overhang and vibration problems
- Extra wide column base with boots design prevents the headstock from leaning forward
- Internal ribs structure design through FEM analysis delivers high rigidity and stability



High Rigidity Internal Ribs Structure Design



- 40T
- 60/120T (opt.)
- Arm Type ATC System; Prevents Tools from Dropping; Tool to Tool: 3 Sec.



High Rigidity Guideways

- Direct drive gearbox design on X-axis offers smooth axial response, high torque, and low backlash
- X-axis is equipped with 3 roller type guideways and numerous slider blocks for great load capacity (3021B & 3025: 12 slider blocks / 4021B, 4025B & 4035B: 15 slider blocks)
- 3 roller type guideways on Y-axis strongly support the headstock and saddle



■ 3 Roller Type Guideways



■ Direct Drive with Compact Epicyclic Gear on X-axis



Advanced Double Column 5-axis Vertical Machining Center

DCV4030B-5AX

Equipped with ROBO I, YCM-made high performance universal milling head, DCV4030B-5AX is specialized for applications demanding complex machining such as aerospace, automotive, medical and energy industries.

Roller Type Guideways

Spindle Speed: 10,000rpm

Spindle Power: 46kW / 61.7HP

Max. Torque: 242Nm

B/C axes Max. Rotary Speed

300°/sec.

Extra Wide
Column Base with
Boots Design

One-piece Base

5AX ROBO I Achieves Perfect 3D Contouring Operations

- High rigidity symmetrical fork type structure design minimizes heat deformation during heavy cutting applications.
- The main structure is made of superior nodular graphite cast iron.
- High dynamic universal milling head, built-in motorized spindle with HSK-A100 taper offers max. spindle speed 10,000rpm.
- Coolant through spindle system: 20 bar.
- Superb spindle coolant system.



High Rigidity B/C Axis

- Direct drive motor design delivers high torque, low backlash and perfect clamping capacity.
- HEIDENHAIN encoder enhances the cutting accuracy.
- Disc type hydraulic clamping device.
- Rotary joint design prevents the damage on the hydraulic tubes caused during rotation.
- Double direction roller bearings for perfect cutting rigidity.
- Superb spindle coolant system.



- $\pm 110^\circ$ Swivel Angle (B-axis)
- $\pm 360^\circ$ Rotary Angle (C-axis)

Superb Body Structure & X/Y/Z Guideways Designs

- Massive MEEHANITE® casting through FEM analysis offers exceptional damping capacity.
- Direct drive gearbox design on X/Y/Z axis offers smooth axial response, high torque, and low backlash.
- Extra wide column base with boots design.
- Equipped with roller type guideways and numerous slider blocks for great load capacity and cutting rigidity.



300°/sec.



HEIDENHAIN Control

- 5-axis simultaneous control by HEIDENHAIN iTNC530 HSCI increases efficiency, tool life, and cutting accuracy.
- Tool center point management [TCPM], dynamic collision monitoring [DCM] and DFX converter (opt.).
- Program memory hard disk with 21GB.
- smarT.NC.



■ HEIDENHAIN iTNC530 HSCI

Max. Tool Magazine Capacity: 120T (opt.)

Chip Enclosure

Dual Chip Augers

High Accuracy 5-axis Double Column Vertical Machining Center

DCV2018A-5AX

DCV 2018A-5AX, a 5-axis double column vertical machining center, is combined with the advanced manufacturing technology of 5-axis milling head that integrates accuracy, rigidity and efficiency into this ultimate machining center.

Enlarged I value, enlarging rigidity as well

6 slide blocks on Z-axis improve rigidity with stable performance on 3 dimensions surface profile.

B/C-axis rotary speed

100 rev/min.

High torque upgrading machining efficiency

18,000rpm

70 kW



Reinforced Body Structure

- One-piece Column
- One-piece Base
- Ultimate rigidity and proportion of the headstock
- Internal double A type ribbed bed design through FEM analysis offers full support for table.
- 1,800 mm distance between columns increases the stability of machine

Extra Rigidity Guideways

- Roller type linear guideways on X / Y / Z-axis.
- Y axis linear guideways design with large span with horizontal and vertical directions which can take the saddle weight and machining force.
- Direct driven motors on Y / Z-axis reduce backlash and ensure perfect axial accuracy.
- X-axis is gearbox driven.

High Payload Table

- The work table is precisely ground before assembled to ensure DCV series excellent machining results.
- 8 tons maximum table machining loading.

B/C-axis Head

- DD motor drive, no backlash.
- B/C axis rotary speed 100 rev/min.
- C-axis includes three roller bearings to increase rigidity and accuracy.
- B-axis high rigidity and high accuracy cross roller bearing.
- Heidenhain accuracy encoder included as standard.
- Pneumatic positioning clamping equipment.
- Over travel protection design.
- B-axis anti-drop function at power outage.



DCV ACCURACY

DCV series is assembled through serious quality control process to ensure high dynamic accuracy during contouring operations.

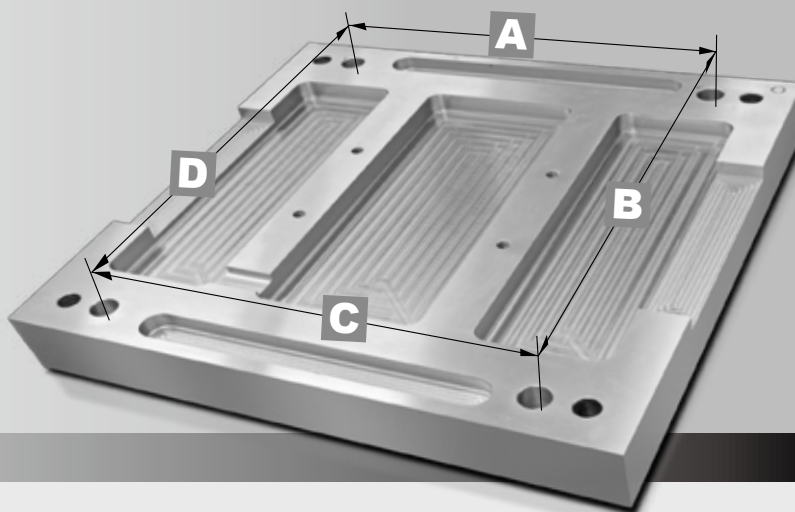
POSITIONING ACCURACY 614mm x 454mm

A -1.4 μ m/613.9986mm

B +4.8 μ m/454.0048mm

C -4.4 μ m/613.9956mm

D -2.8 μ m/453.9972mm




Test Model: DCV3016B

DCV 2012A/2012B/2018A-5AX		ACCURACY
Standard	ISO 10791-4	JIS B 6338
Tolerances		
Axial Travel	Full Length	—
Positioning A	0.015mm 0.00059"	0.010/300mm 0.00039"/11.81"
Repeatability R	0.010mm 0.00039"	±0.003mm ±0.00012"
VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R. All values shown above are measured for the machine in good air-conditioned environments.		

DCV 3016B/3021B/3025B/3018A-5AX ACCURACY			
Standard		ISO 10791-4	JIS B 6338
Tolerances			
Axial Travel		Full Length	
Positioning A		0.020mm 0.00079"	0.010/300mm 0.00039"/11.81"
Repeatability R		0.015mm 0.00059"	±0.003mm ±0.00012"
VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R. All values shown above are measured for the machine in good air-conditioned environments.			

DCV 4016B/4021B/4025B/4018A-5AX ACCURACY				
Standard		ISO 10791-4		JIS B 6338
Tolerances				
Axial Travel		Full Length		—
Positioning A		0.025mm 0.00098"	0.010/300mm	0.00039"/11.81"
Repeatability R		0.020mm 0.00079"	±0.003mm ±0.00012"	
VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R. All values shown above are measured for the machine in good air-conditioned environments.				

DCV 4035B/4030B-5AX		ACCURACY
Standard	ISO 10791-4	JIS B 6338
Tolerances		
Axial Travel	Full Length	—
Positioning A	0.025mm 0.00098"	0.010/300mm 0.00039"/11.81"
Repeatability R	0.020mm 0.00079"	±0.003mm ±0.00012"
VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R. All values shown above are measured for the machine in good air-conditioned environments.		

 4030B-5AX (B/C axis)		ACCURACY
Standard		ISO 10791-4
Tolerances		
Axial Travel		Full Length
Positioning A		20"
Repeatability R		15"
VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R. All values shown above are measured for the machine in good air-conditioned environments.		

DCV 2018A~4018A-5AX (B/C axis)		ACCURACY
Standard	ISO 10791-4	
Tolerances		
Axial Travel	Full Length	
Positioning A	20"	
Repeatability R	15"	
VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R. All values shown above are measured for the machine in good air-conditioned environments.		

The test data in this brochure is provided as an example under specific guidelines. Results may be different due to variation in machine settings or environmental conditions during machining and measuring.

Cutting Tests

BT50/4,500rpm

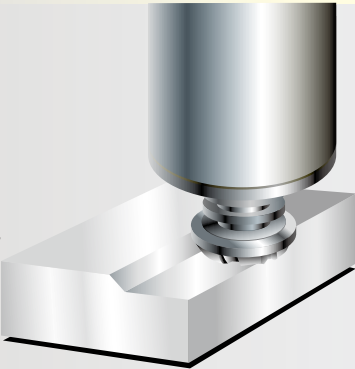
FACE MILLING

S45C Steel

Material Removal Rate

1,000
cc/min.

Tool $\varnothing 160\text{mm} \times 10\text{T}$
Spindle Speed 375rpm
Feedrate 1,600mm/min.
Width of Cut 125mm
Depth of Cut 5mm
Spindle Load 144%



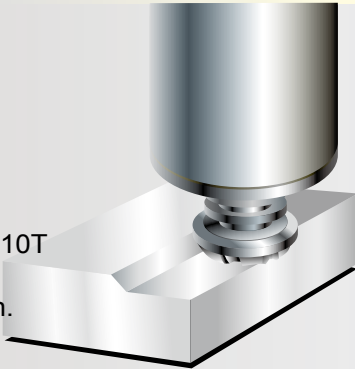
FACE MILLING

S45C Steel

Material Removal Rate

450
cc/min.

Tool $\varnothing 160\text{mm} \times 10\text{T}$
Spindle Speed 300rpm
Feedrate 400mm/min.
Width of Cut 125mm
Depth of Cut 9mm
Spindle Load 75%



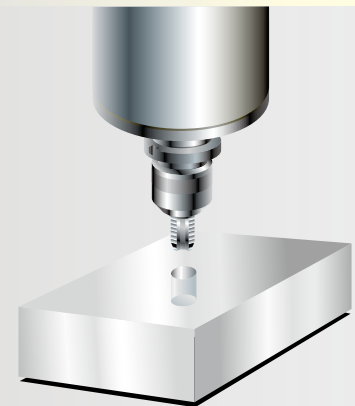
TAPPING

S45C Steel

TAP

M48

Tool M48 x 5P
Spindle Speed 45rpm
Feedrate 225mm/min.
Spindle Load 72%



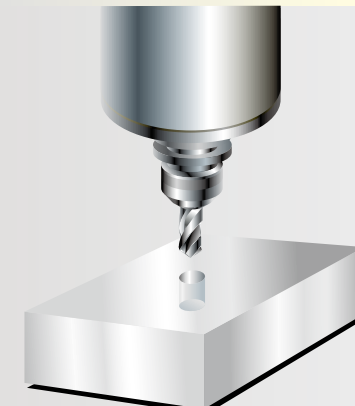
DRILLING

S45C Steel

Cutter Diameter

$\varnothing 60$
mm

Tool $\varnothing 60\text{mm}$
Spindle Speed 133rpm
Feedrate 48mm/min.
Spindle Load 25%



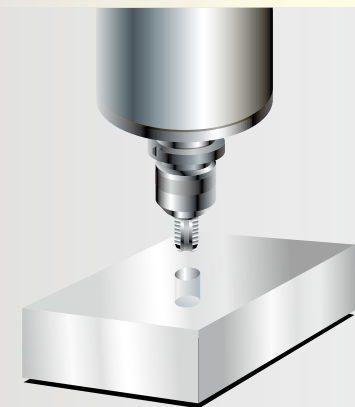
TAPPING

Aluminum

TAP

0#

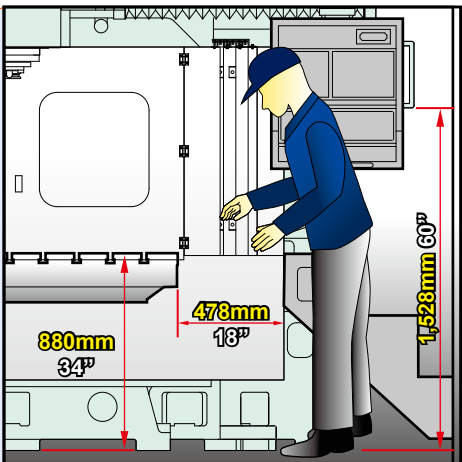
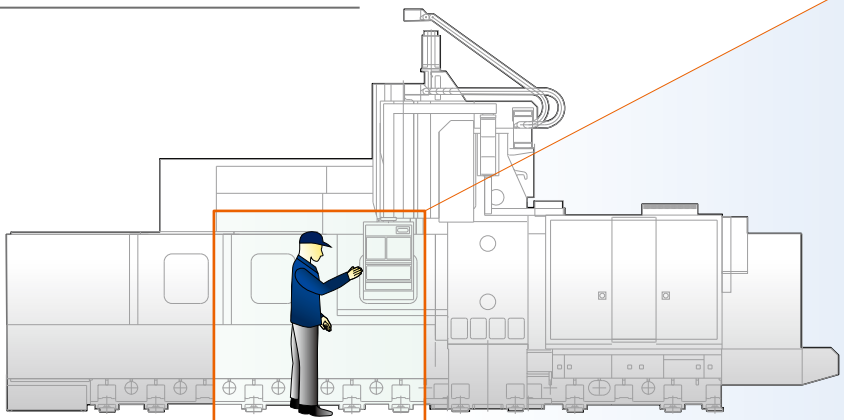
Tool 0#80UNF
Spindle Speed 1,200rpm
Feedrate 381mm/min.
Tooth Pitch 0.3175mm



Note: The above data is for reference only. All the cutting tests are designed to demonstrate maximum machining capabilities without preserving tool life.

User-friendly Design

Model: DCV3016B





Torque

89kgf-m
644 lb-ft

DCV Max. Torque at Low Speed

4,500rpm Spindle

With Hi-lo Gear Transmission

4,500rpm spindle speed is standard with 2-step gear transmission. The spindle incorporates roller type spindle bearings for extremely high cutting rigidity. The 2-step gear transmission provides 88.87kgf-m torque output at 241rpm ideal for machining hard material.

6,000rpm Spindle

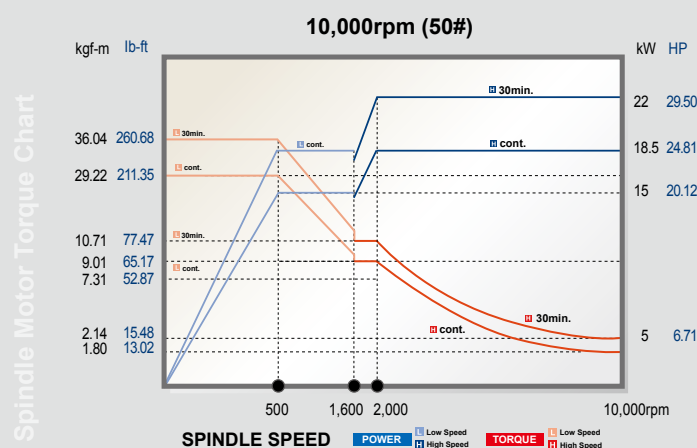
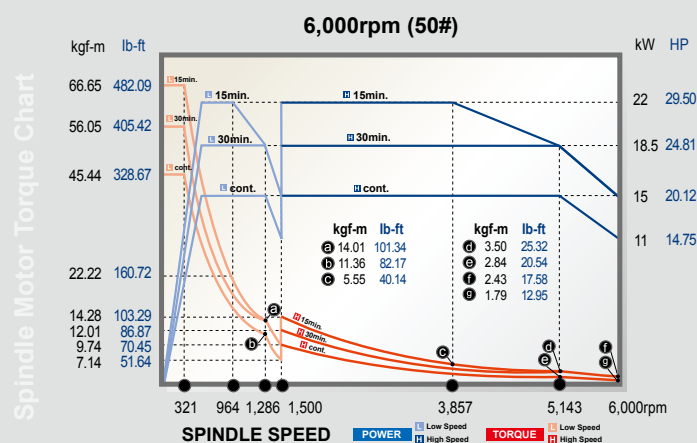
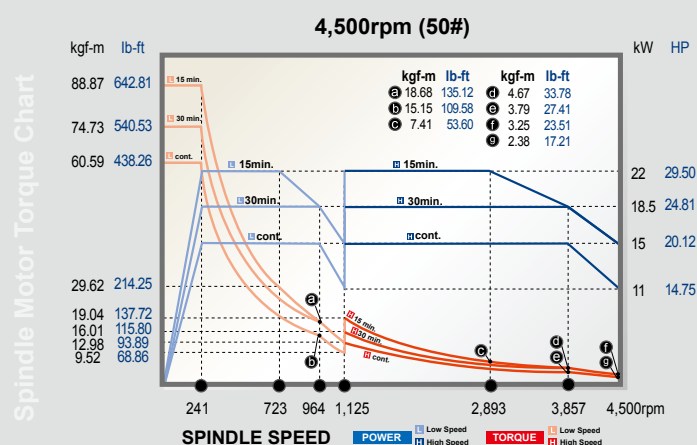
With Hi-lo Gear Transmission

6,000rpm spindle is available for diverse requirements. The design of 2-step gear transmission is complimented with a powerful AC digital spindle motor and ceramic roller type bearings. The 6,000rpm spindle is capable of reaching up to 22kW and 66.65kgf-m torque output at 321rpm. DCV series can easily achieve 1,000 cc/min. chip removal rate and promote productivity.

10,000rpm Spindle

Isolated Direct Drive Design

10,000rpm IDD spindle is optional to be equipped with DCV series. Driven by 22kW dual step AC digital spindle motor, the spindle is able to reach max. 36.04kgf-m torque output at 500rpm. Unique IDD design offers low spindle vibration and optimal heat isolation that results in excellent accuracy after long-term operation.

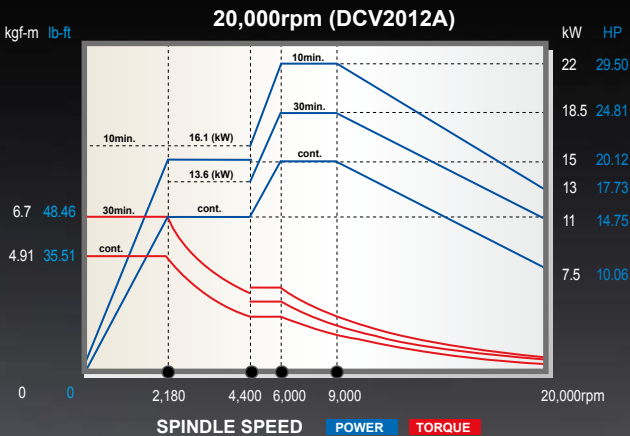


HIGH SPEED HIGH PRECISION SPINDLES

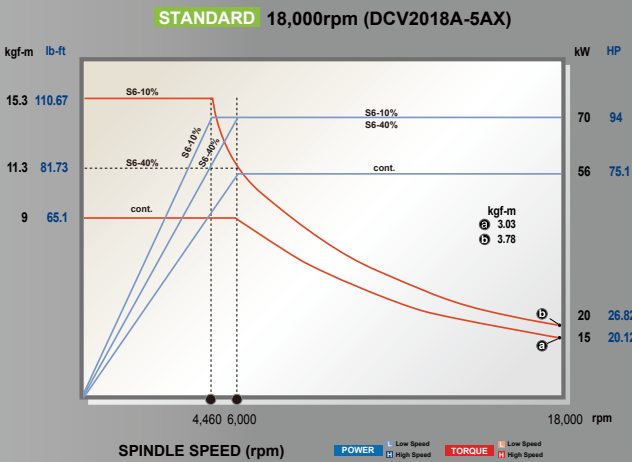
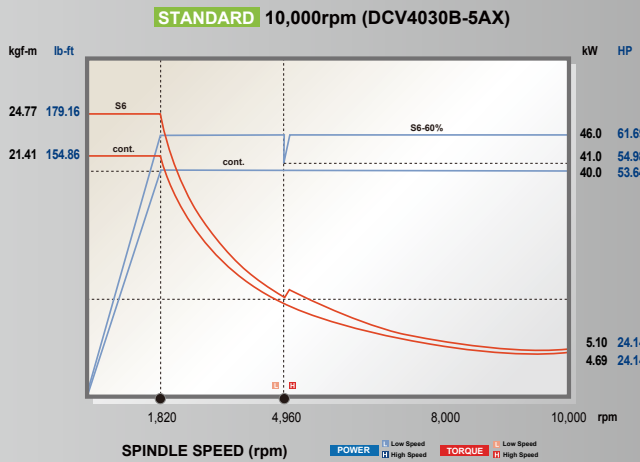
Built-in Motorized Spindle

DCV2012A is equipped with YCM made built-in motorized spindle delivering 20,000rpm high speed. The ultra smooth movement achieves various machining results.

- Patented circulated cooling system
- Patented suppressing vibration design
- Floating design of rear bearing
- Bearing with micro oil-air lubrication system
- BBT40 with simultaneous taper and flange contact design



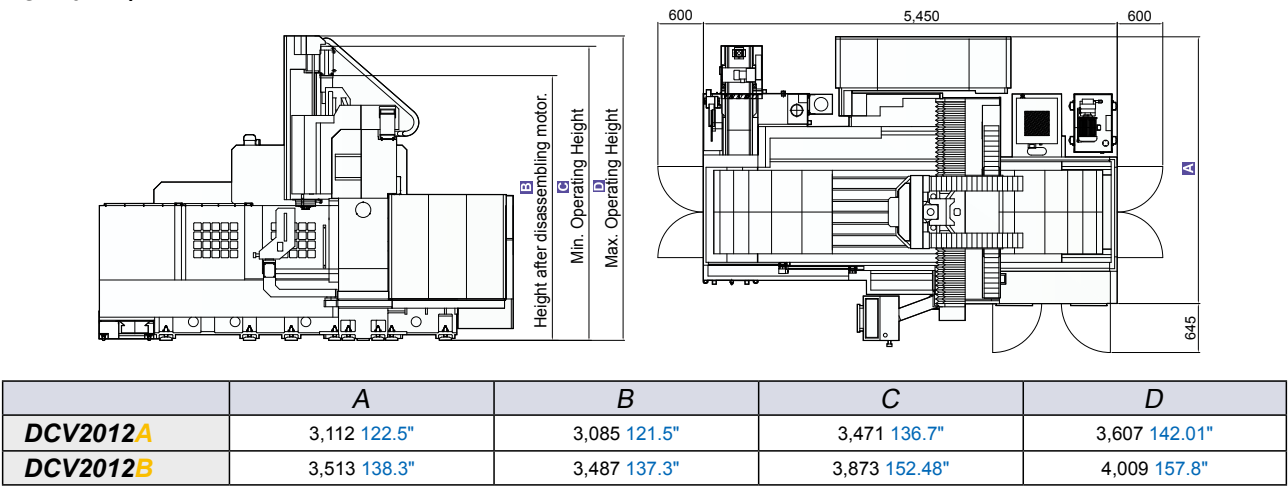
20,000rpm Spindle



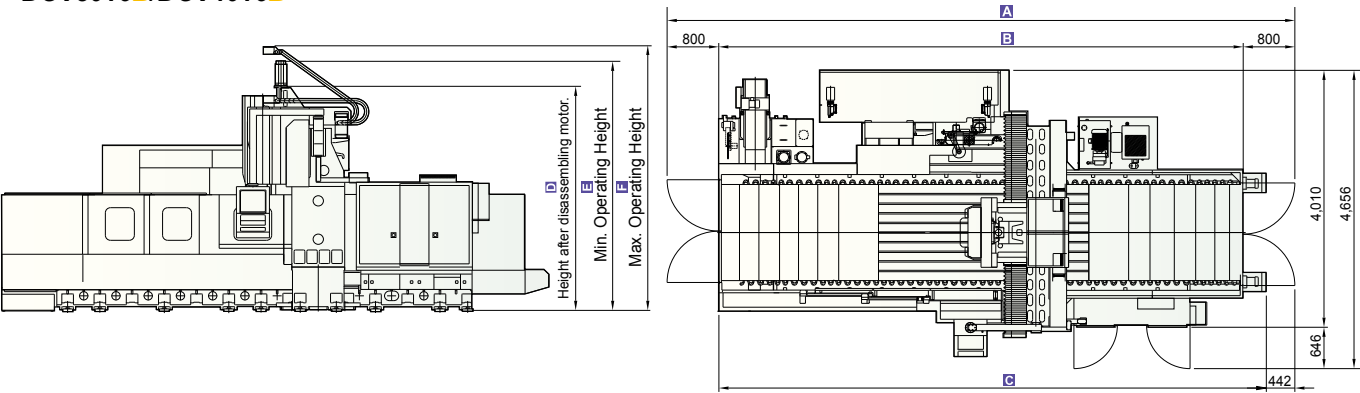
DIMENSIONS

Unit: mm inch

DCV2012A/B



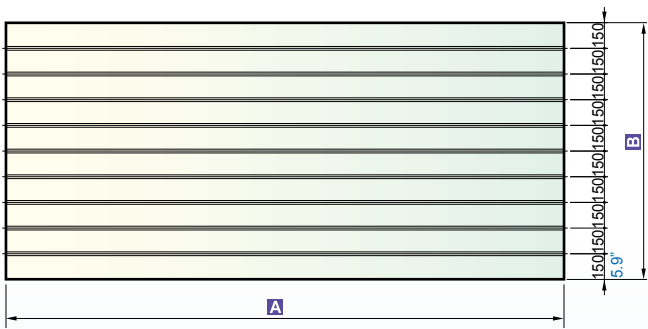
DCV3016B/DCV4016B



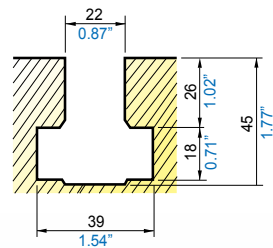
Standard (250mm Raised Column/Z-axis Travel 1,016mm)

	A	B	C	D	E	F
DCV3016B	9,730 383.1"	8,129 320.04"	8,485 334.1"	3,523 (3,773) 138.7" (148.5")	3,914 (4,164/4,483) 154.1" (163.9/176.5")	4,162 (4,412/4,845) 163.9" (173.7/190.8")
DCV4016B	11,730 461.8"	10,129 398.8"	10,485 412.8"	3,523 (3,773) 138.7" (148.5")	3,914 (4,164/4,483) 154.1" (163.9/176.5")	4,162 (4,412/4,845) 163.9" (173.7/190.8")

▼ TABLE SIZE



▼ T-SLOTS

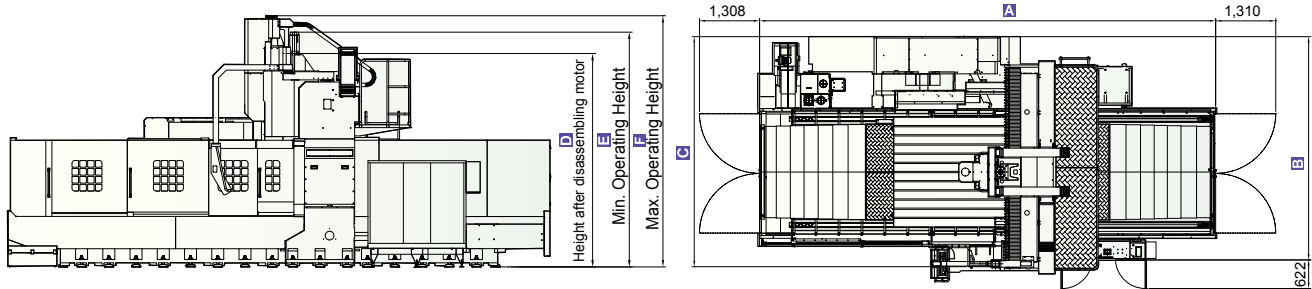


	A	B
DCV2012A/B	2,000 78.7"	1,100 43.3"
DCV3016B	3,260 128.4"	1,500 59.1"
DCV4016B	4,260 167.7"	1,500 59.1"

DIMENSIONS

Unit: mm inch

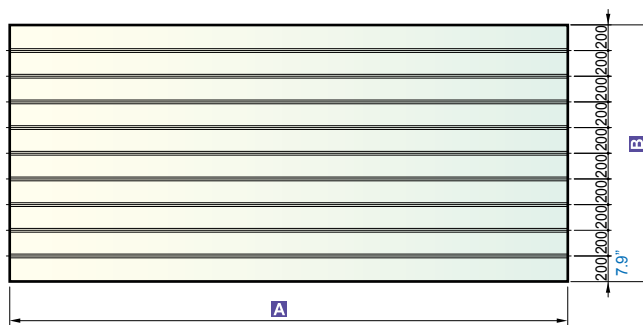
DCV3021B/DCV4021B/DCV3025B/DCV4025B/DCV4035B



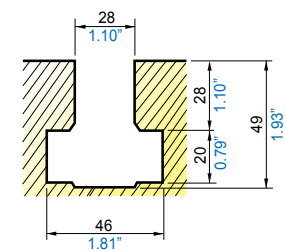
Standard (250mm Raised Column/Z-axis Travel 1,016mm)

	A	B	C	D	E	F
DCV3021B	7,945 312.8"	4,868 191.7"	5,015 197.4"	3,678 (3,928/4,178) 144.8" (154.7/164.5")	4,069 (4,319/4,709) 160.2" (170.04/185.4")	4,324 (4,517/5,011) 170.2" (177.8/197.3")
DCV4021B	9,945 391.5"	4,868 191.7"	5,015 197.4"	3,678 (3,928/4,178) 144.8" (154.7/164.5")	4,069 (4,319/4,709) 160.2" (170.04/185.4")	4,324 (4,517/5,011) 170.2" (177.8/197.3")
DCV3025B	7,945 312.8"	5,154 202.9"	5,379 211.8"	3,678 (3,928/4,178) 144.8" (154.7/164.5")	4,069 (4,319/4,709) 160.2" (170.04/185.4")	4,324 (4,517/5,011) 170.2" (177.8/197.3")
DCV4025B	9,945 391.5"	5,154 202.9"	5,379 211.8"	3,678 (3,928/4,178) 144.8" (154.7/164.5")	4,069 (4,319/4,709) 160.2" (170.04/185.4")	4,324 (4,517/5,011) 170.2" (177.8/197.3")
DCV4035B	9,945 391.5"	6,154 242.3"	6,379 251.1"	3,678 (3,928/4,178) 144.8" (154.7/164.5")	4,069 (4,319/4,709) 160.2" (170.04/185.4")	4,324 (4,517/5,011) 170.2" (177.8/197.3")

▼ TABLE SIZE



▼ T-SLOTS

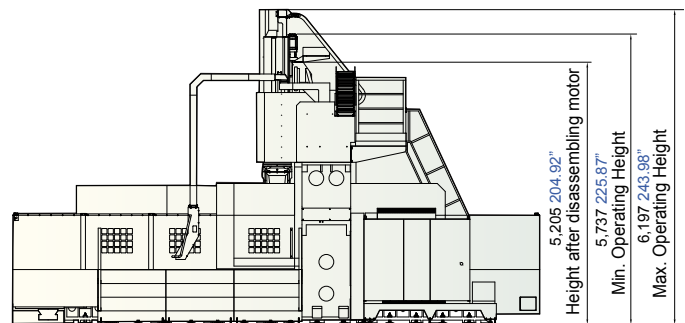
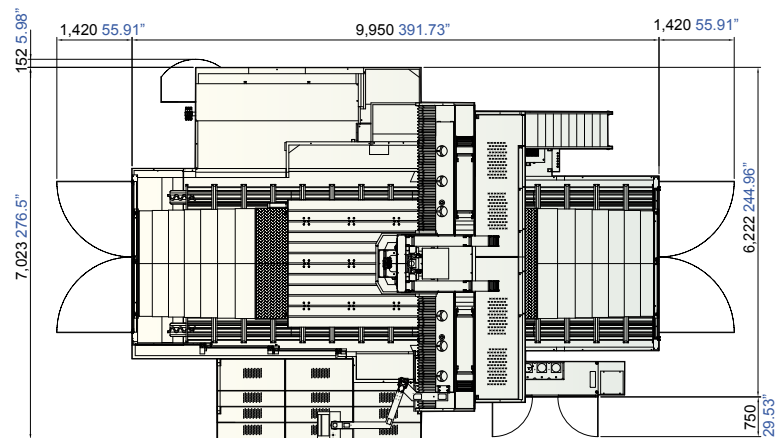


	A	B
DCV3021B	3,100 122.05"	2,000 78.7"
DCV4021B	4,100 161.4"	2,000 78.7"
DCV3025B	3,100 122.05"	2,400 94.5"
DCV4025B	4,100 161.4"	2,400 94.5"
DCV4035B	4,100 161.4"	2,400 94.5"

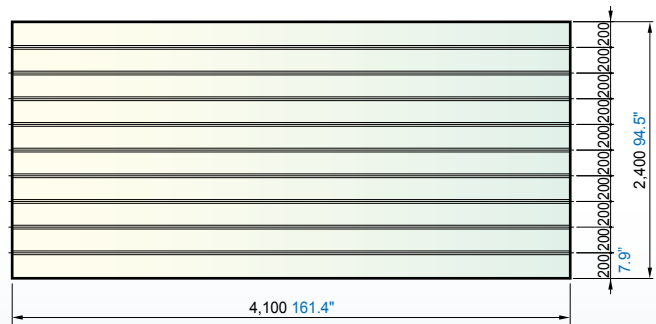
DIMENSIONS

Unit: mm inch

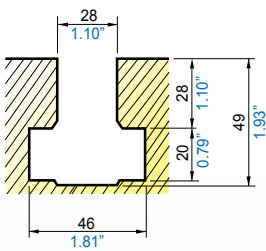
DCV4030B-5AX



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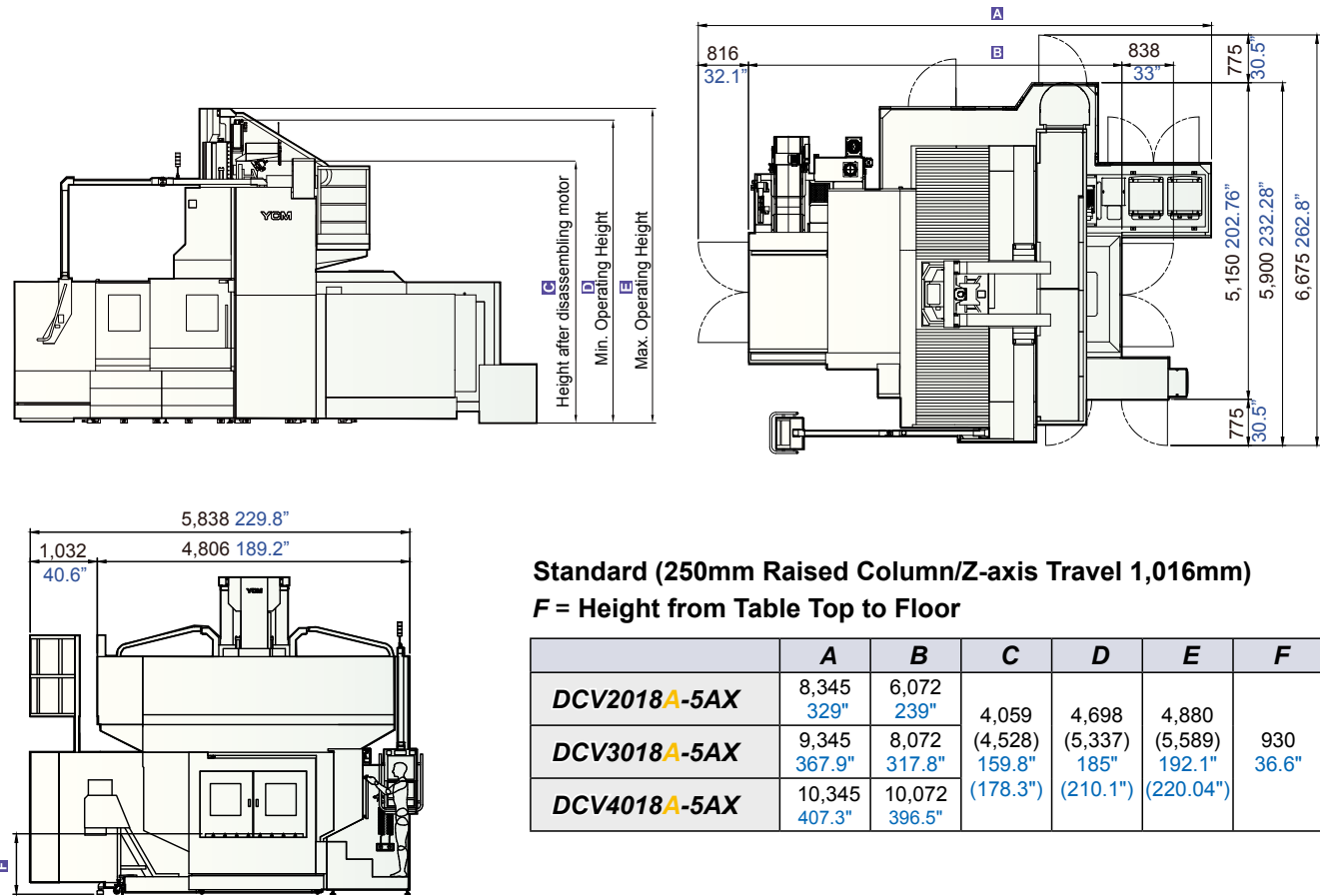
▼ T-SLOTS



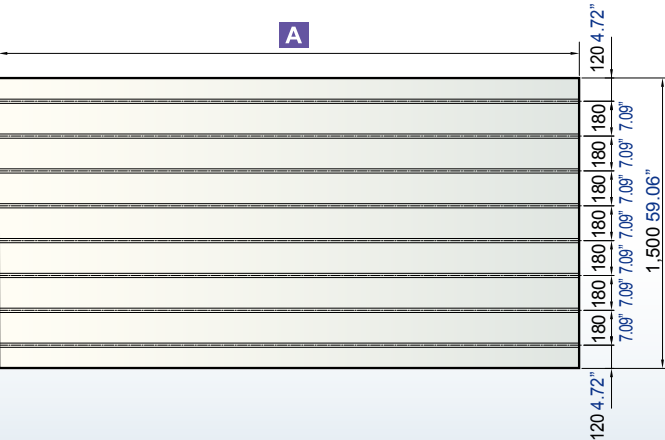
DIMENSIONS

Unit: mm inch

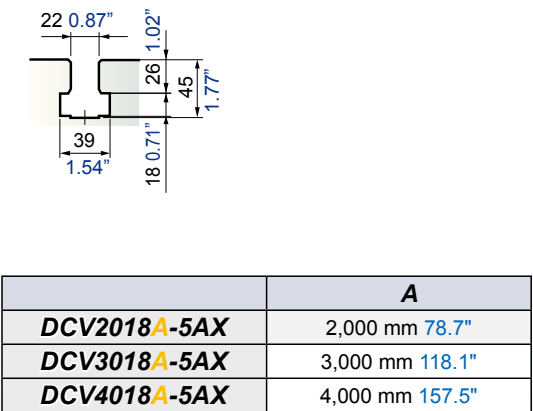
DCV2018A-5AX / DCV3018A-5AX / DCV4018A-5AX



▼ TABLE SIZE



▼ T-SLOTS



SPECIFICATIONS

	DCV2012A	DCV2012B	DCV3016B	DCV4016B
SPINDLE				
Spindle Speed/Power (std.)	20,000rpm 15/18.5/22 20/25/30HP (cont./30min./10min.)	10,000rpm 18.5/22 25/30HP (cont./30min.)	4,500rpm 15/18.5/22 20/25/30HP (cont./30min./15min.)	
Spindle Speed/Power (opt.1)	-	-	6,000rpm 15/18.5/22 20/25/30HP (cont./30min./15min.)	
Spindle Speed/Power (opt.2)	-	-	10,000rpm 18.5/22 25/30HP (cont./30min.)	
Spindle Taper	BBT40		BBT50	
TRAVEL				
X-axis Travel	2,000mm 78.74"		3,060mm 120.47"	4,065mm 160.04"
Y-axis Travel	1,200mm 47.24"		1,600mm 62.99"	
Z-axis Travel (opt.)	600mm 23.62"	762mm 30"	762mm (1,016mm) 30" (40")	
Distance Between Spindle Nose & Table Top	100~700mm 3.94~27.56"	200~962mm 7.87~37.87"	200~962mm 7.87~37.87" (250mm Raised Column: 450~1,212mm 17.72~47.72" Z-axis Travel 1,016mm: 200~1,216mm 7.87~47.87")	
Distance Between Columns	1,340mm 52.76"		1,820mm 71.65"	
TABLE				
Table Size	2,000 x 1,100mm 78.74" x 43.31"		3,260 x 1,500mm 128.35" x 59.06"	4,260 x 1,500mm 167.72" x 59.06"
No. T-slots x Size x Pitch	7 x 22mm x 150mm 7 x 0.87" x 5.91"		9 x 22mm x 150mm 9 x 0.87" x 5.91"	
Max. Load on Table	4,000kg 8,818 lb		10,000kg 22,046 lb	12,000kg 26,455 lb
FEEDRATE				
Rapid Feedrate (X/Y/Z)	24/24/15 m/min. 945/945/591ipm	20/20/15 m/min. 787/787/591ipm	15/15/15 m/min. 591/591/591ipm	12/15/15 m/min. 472/591/591ipm
Cutting Feedrate	1~10,000mm/min. 0.04~394ipm			
ATC				
Tool Magazine Capacity (opt.)	24T (30T)	32T (40T)	40T (60T)	
Max. Tool Weight	6kg 13.23 lb	20kg 44.09 lb		
Max. Tool Dimensions (W/O Adjacent Tool)	ø76 x 250mm (ø100 x 250mm) ø2.99 x 9.84" (ø3.94 x 9.84")		ø125 x 350mm (ø240 x 350mm) ø4.92 x 13.78" (ø9.45 x 13.78")	
Tool Changer Method	Arm Type			
Tool Selection Method	Random			
GENERAL				
Pneumatic Supplier	5.5kg/cm² 78.2psi			
Power Consumption (Transformer)	51kVA (65kVA)	69kVA (80kVA)		
Machine Weight	16,000kg 35,274 lb	21,000kg 46,297 lb	33,000kg 72,752 lb	38,000kg 83,775 lb

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms, etc. to improve the performance of the machine without notice. All the specifications shown above are just for reference.

Linear Encoder

- HEIDENHAIN linear encoders are available on 3 axes
- With the absolute measuring method, the position value is available from the encoder immediately upon switch-on
- The absolute position information is read from the scale graduation, which is formed from a serial absolute code structure



Auto Tool Length Measurement System

- BLUM Z-3D tool length & radius measurement
- Universal and economic solution for fast tool setting and breakage control



Laser Measuring System

- BLUM non-contact precise tool setting and breakage control
- The integrated electronic system checks each individual cutting edge at full speed



Workpiece Measurement System

- BLUM TC50 multidirectional touch probe
- Allows fast, precise, and automatic calculation of workpiece position and dimensions



SPECIFICATIONS

	DCV3021B	DCV4021B	DCV3025B	DCV4025B	DCV4035B	DCV4030B-5AX
SPINDLE						
Spindle Speed/Power (std.)	4,500rpm 15/18.5/22 20/25/30HP (cont./30min./15min.)					10,000rpm 40/46kW 54/62HP (cont./S6-60%)
Spindle Speed/Power (opt.1)	6,000rpm 15/18.5/22 20/25/30HP (cont./30min./15min.)					-
Spindle Speed/Power (opt.2)	10,000rpm 18.5/22 25/30HP (cont./30min.)					-
Spindle Taper	BBT50					HSK A100
TRAVEL						
X-axis Travel	3,060mm 120.47"	4,065mm 160.04"	3,060mm 120.47"	4,065mm 160.04"		
Y-axis Travel	2,100mm 82.68"		2,500mm 98.43"		3,500mm 137.8"	
Z-axis Travel (opt.)	762mm (1,016mm) 30" (40")					1,016mm 40"
Distance Between Spindle Nose & Table Top	200~962mm 7.87~37.87" (250mm Raised Column: 450~1,212mm 17.72~47.72" Z-axis Travel 1,016mm: 200~1,216mm 7.87~47.87")					270~1,286mm 10.63"~50.63"
Distance Between Columns	2,320mm 91.34"		2,720mm 107.09"		3,600mm 141.73"	3,100mm 122.1"
TABLE						
Table Size	3,100 x 2,000mm 122.1 x 78.7"	4,100 x 2,000mm 161.4 x 78.7"	3,100 x 2,400mm 122.1 x 94.5"	4,100 x 2,400mm 161.4 x 94.5"		
No. T-slots x Size x Pitch	9 x 28mm x 200mm 9 x 1.1" x 7.87"		11 x 28mm x 200mm 11 x 1.1" x 7.87"			
Max. Load on Table	15,000kg 33,069 lb	20,000kg 44,092 lb	15,000kg 33,069 lb	20,000kg 44,092 lb		
FEEDRATE						
Rapid Feedrate (X/Y/Z)	15/15/15 m/min. 591/591/591ipm	12/15/15 m/min. 472/591/591ipm	15/15/15 m/min. 591/591/591ipm	12/15/15 m/min. 472/591/591ipm		20/20/15 m/min. 787/787/591ipm
Cutting Feedrate	1~10,000mm/min. 0.04~394ipm					15/15/10 m/min. 591/591/394ipm
ATC						
Tool Magazine Capacity (opt.)	40T (60/120T)					
Max. Tool Weight	20kg 44.1 lb					13kg 28.7 lb
Max. Tool Dimensions (W/O Adjacent Tool)	ø125 x 350mm (ø240 x 350mm) ø4.92 x 13.78" (ø9.45 x 13.78")					
Tool Changer Method	Arm Type					
Tool Selection Method	Random					
GENERAL						
Pneumatic Supplier	5.5kg/cm² 78.2psi					
Power Consumption (Transformer)	65kVA (80kVA)					105kVA
Machine Weight	43,000kg 94,798 lb	47,000kg 103,616 lb	45,000kg 99,207 lb	49,000kg 108,025 lb	55,000kg 121,253 lb	58,500kg 128,969 lb

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms, etc. to improve the performance of the machine without notice. All the specifications shown above are just for reference.

Universal Milling Head (Manual)



90° Milling Head (Manual)



90° Milling Head (C-axis Auto Indexing Angle: 5°)



Extension 90° Milling Head (Manual)

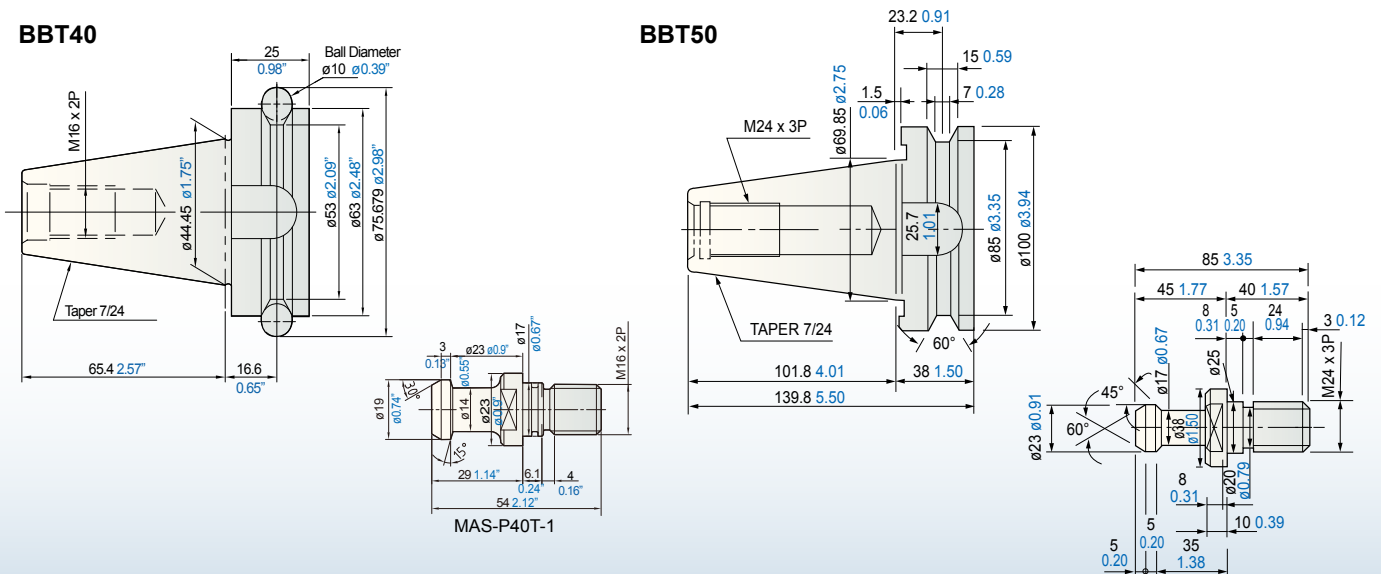


SPECIFICATIONS

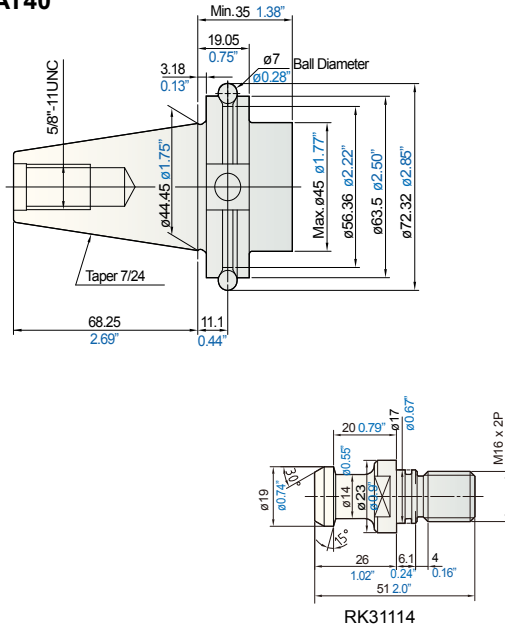
	2018A-5AX	3018A-5AX	4018A-5AX
SPINDLE			
Spindle Speed	18,000rpm		
Spindle Power	56 / 70kW 75 / 94 HP (cont. / S6-40%)		
Spindle Taper	HSK A63		
TRAVEL			
X-axis Travel	2,200 mm 86.6"	3,200mm 126"	4,200mm 165.3"
Y-axis Travel	2,400 mm 94.5"		
Z-axis Travel (opt.)	762mm (1,016mm) 30" (40")		
Vertical / Horizontal Distance Between Spindle Nose & Table Top	150~912 / 430~1,192mm 5.9"~35.9" / 16.9"~46.9" (250mm Raised Column / Z-axis Travel 1,016mm) (150~1,116 / 430~1,446mm 5.9"~43.94" / 16.93"~56.93")		
Distance between Column	1,800mm 70.9"		
B/C axis			
B-axis degree	± 105°		
C-axis degree	± 360°		
TABLE			
Table Size	2,000 x 1,500mm 78.7" x 59.1"	3,000 x 1,500mm 118.11" x 59.1"	4,000 x 1,500mm 157.5" x 59.1"
No. T-slots x Size x Pitch	8 x 22mm x 180mm 8 x 0.87" x 7.09"		
Max. Load on Table	8,000kg 17,637 lb	10,000kg 22,046 lb	12,000kg 26,455 lb
FEEDRATE			
Rapid Feedrate (X/Y/Z)	24 / 30 / 20 m/min. 945 / 1,181 / 787 ipm		
Cutting Feedrate	1~20,000mm/min. 0.04~787ipm		
ATC			
Tool Magazine Capacity (opt.)	40T (60/120T)		
Max. Tool Weight	6kg 13.2 lb		
Max. Tool Dimensions (W/O Adjacent Tool)	ø76 x 300 mm ø3" x 11.8" (ø125 x 300mm ø4.92" x 11.8")		
Tool Changer Method	Arm Type		
Tool Selection Method	Random		
GENERAL			
Pneumatic Supplier	5.5kg/cm² 78.2 psi		
Power Consumption (Transformer)	151kVA (160kVA)		
Machine Weight	26,000kg 57,320 lb	29,000kg 63,933 lb	32,000kg 70,547 lb

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms, etc. to improve the performance of the machine without notice. All the specifications shown above are just for reference.

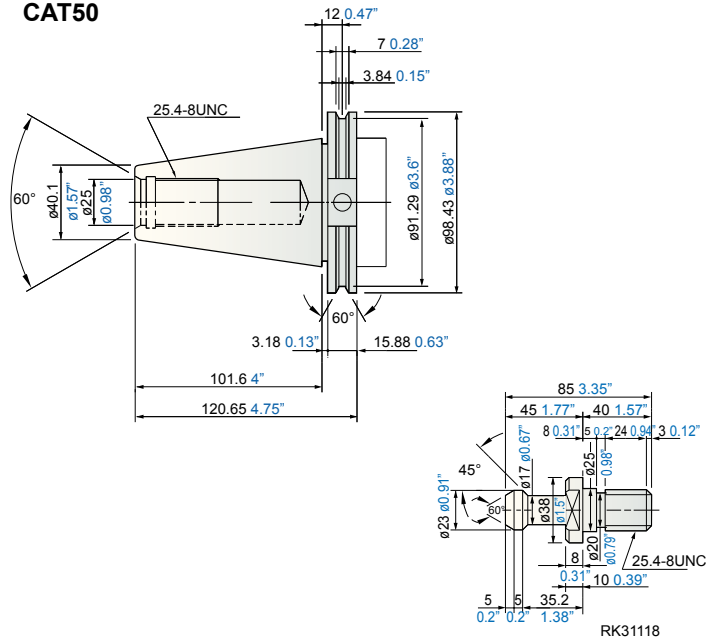
TOOL SHANK

Unit: mm **inch**

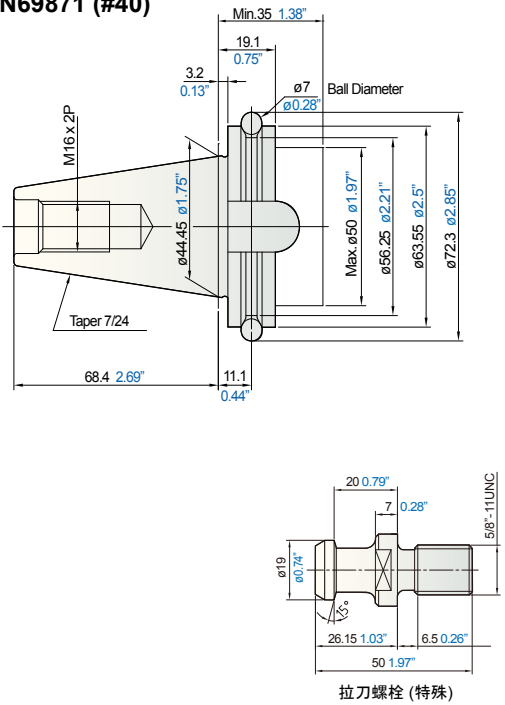
CAT40



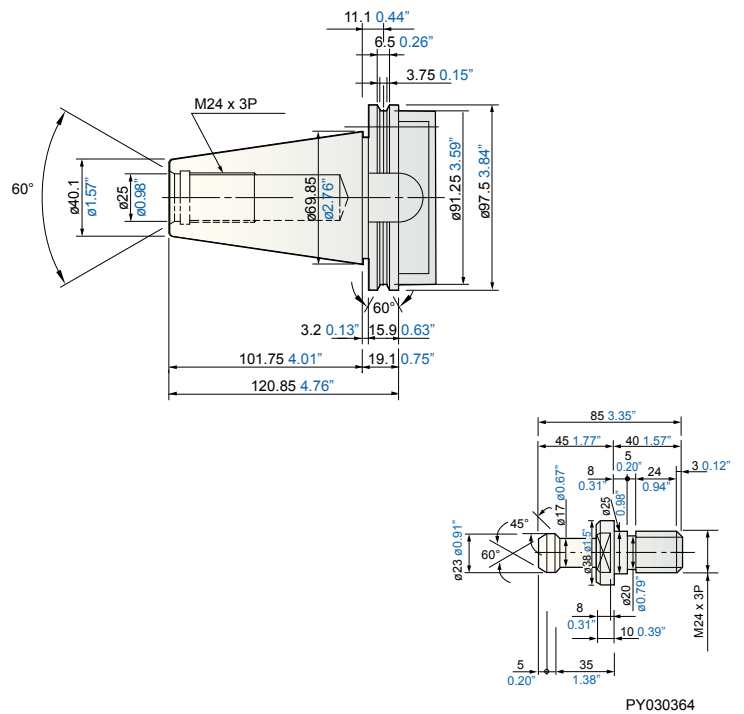
CAT50



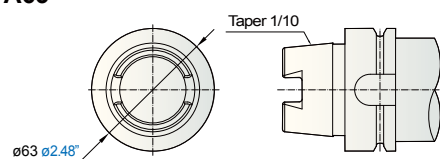
DIN69871 (#40)



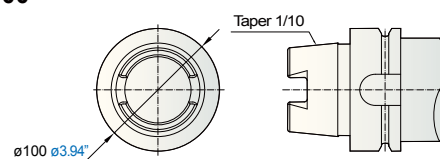
DIN69871 (#50)



HSK-A63



HSK-A100



ACCESSORIES

● Standard ○ Optional — None

	DCV			
	2012A	2012B	3016B	4016B
Tool Kit	●	●	●	●
Work Lamp	●	●	●	●
Pilot Lamp	●	●	●	●
Coolant Equipment System	●	●	●	●
Spindle Air Blast	●	●	●	●
Cutting Air Blast	●	●	●	●
Leveling Blocks and Foundation Bolts	●	●	●	●
Foundation Bolts	●	●	●	●
Central Lubrication System	●	●	●	●
A/C. Cooler for Electrical Cabinet	●	●	●	●
Full Chip Enclosure	●	○	○	○
Chip Enclosure	—	●	●	●
Workpiece Measurement System	○	○	○	○
Auto Tool Length Measurement System	○	○	○	○
4th Axis Rotary Table	○	○	○	○
Chip Conveyor	●	●	●	●
Dual Chip Augers	●	●	●	●
Mechanical, Electrical & Operating Manuals	●	●	●	●
Optical Scale	○	○	○	○
Oil-mist Coolant System	○	○	○	○
Coolant Through Spindle System	○	○	○	○
Spindle & Gearbox Coolant System	●	●	●	●
Hi-lo Gearbox	—	—	●	●
Oil Skimmer	●	●	●	●
Oil Hole Holder Function	○	○	○	○
Heavy Duty Coolant Pump	●	●	●	●
Unclamp Pedal	●	●	●	●
Air Gun	●	●	●	●
CNC Control: FANUC MXP-200FB	●	●	●	●
CNC Control: FANUC MXP-200FC	○	○	○	○
CNC Control: HEIDENHAIN iTNC-530 HSCI	○	○	○	○
30° Milling Head/2,000rpm	—	—	○	○
90° Milling Head/2,000rpm	—	—	○	○
Extension 90° Milling Head/2,000rpm	—	—	○	○
Universal Milling Head/2,000rpm	—	—	○	○
250mm Raised Column	—	—	○	○
Z-axis Travel 1,016mm	—	—	○	○

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms, etc. to improve the performance of the machine without notice.
All the specifications shown above are just for reference.

ACCESSORIES

● Standard ○ Optional — None

	DCV		
	3021B	4021B	3025B
Tool Kit	●	●	●
Work Lamp	●	●	●
Pilot Lamp	●	●	●
Coolant Equipment System	●	●	●
Spindle Air Blast	●	●	●
Cutting Air Blast	●	●	●
Leveling Blocks and Foundation Bolts	●	●	●
Foundation Bolts	●	●	●
Central Lubrication System	●	●	●
A/C. Cooler for Electrical Cabinet	●	●	●
Full Chip Enclosure	○	○	○
Chip Enclosure	●	●	●
Workpiece Measurement System	○	○	○
Auto Tool Length Measurement System	○	○	○
4th Axis Rotary Table	○	○	○
Chip Conveyor	●	●	●
Dual Chip Augers	●	●	●
Mechanical, Electrical & Operating Manuals	●	●	●
Optical Scale	○	○	○
Oil-mist Coolant System	○	○	○
Coolant Through Spindle System	○	○	○
Spindle & Gearbox Coolant System	●	●	●
Hi-lo Gearbox	●	●	●
Oil Skimmer	●	●	●
Oil Hole Holder Function	○	○	○
Heavy Duty Coolant Pump	●	●	●
Unclamp Pedal	●	●	●
Air Gun	●	●	●
CNC Control: FANUC MXP-200FB	●	●	●
CNC Control: FANUC MXP-200FC	○	○	○
CNC Control: HEIDENHAIN iTNC-530 HSCI	○	○	○
30°Milling Head/2,000rpm	○	○	○
90°Milling Head/2,000rpm	○	○	○
Extension 90° Milling Head/2,000rpm	○	○	○
Universal Milling Head/2,000rpm	○	○	○
250mm Raised Column	○	○	○
Z-axis Travel 1,016mm	○	○	○

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ACCESSORIES

● Standard ○ Optional — None

	DCV		
	4025B	4035B	4030B-5AX
Tool Kit	●	●	●
Work Lamp	●	●	●
Pilot Lamp	●	●	●
Coolant Equipment System	●	●	●
Spindle Air Blast	●	●	●
Cutting Air Blast	●	●	●
Leveling Blocks and Foundation Bolts	●	●	●
Foundation Bolts	●	●	●
Central Lubrication System	●	●	●
A/C. Cooler for Electrical Cabinet	●	●	●
Full Chip Enclosure	○	○	○
Chip Enclosure	●	●	●
Workpiece Measurement System	○	○	○
Auto Tool Length Measurement System	○	○	○
4th Axis Rotary Table	○	○	—
Chip Conveyor	●	●	●
Dual Chip Augers	●	●	●
Mechanical, Electrical & Operating Manuals	●	●	●
Optical Scale	○	○	○
Oil-mist Coolant System	○	○	○
Coolant Through Spindle System	○	○	○
Spindle & Gearbox Coolant System	●	●	●
Hi-lo Gearbox	●	●	—
Oil Skimmer	●	●	●
Oil Hole Holder Function	○	○	○
Heavy Duty Coolant Pump	●	●	●
Unclamp Pedal	●	●	●
Air Gun	●	●	●
CNC Control: FANUC MXP-200FB	●	●	—
CNC Control: FANUC MXP-200FC	○	○	—
CNC Control: FANUC 31i-MB5	—	—	○
CNC Control: HEIDENHAIN iTNC-530 HSCI	○	○	●
30° Milling Head/2,000rpm	○	○	—
90° Milling Head/2,000rpm	○	○	—
Extension 90° Milling Head/2,000rpm	○	○	—
Universal Milling Head/15,000rpm	○	○	—
250mm Raised Column	○	○	●
Z-axis Travel 1,016mm	○	○	●

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ACCESSORIES

● Standard ○ Optional — None

	DCV		
	2018A-5AX	3018A-5AX	4018A-5AX
Tool Kit	●	●	●
Work Lamp	●	●	●
Pilot Lamp	●	●	●
Coolant Equipment System	●	●	●
Spindle Air Blast	●	●	●
Cutting Air Blast	●	●	●
Leveling Blocks and Foundation Bolts	●	●	●
Foundation Bolts	●	●	●
Central Lubrication System	●	●	●
A/C. Cooler for Electrical Cabinet	●	●	●
Full Chip Enclosure	○	○	○
Chip Enclosure	●	●	●
Workpiece Measurement System	○	○	○
Auto Tool Length Measurement System	○	○	○
4th Axis Rotary Table	—	—	—
Chip Conveyor	●	●	●
Dual Chip Augers	●	●	●
Mechanical, Electrical & Operating Manuals	●	●	●
Optical Scale	○	○	○
Oil-mist Coolant System	○	○	○
Coolant Through Spindle System	○	○	○
Spindle & Gearbox Coolant System	●	●	●
Hi-lo Gearbox	—	—	—
Oil Skimmer	●	●	●
Oil Hole Holder Function	○	○	○
Heavy Duty Coolant Pump	●	●	●
Unclamp Pedal	●	●	●
Air Gun	●	●	●
CNC Control: FANUC MXP-200FB	—	—	—
CNC Control: FANUC MXP-200FC	—	—	—
CNC Control: FANUC 31i-MB5	○	○	○
CNC Control: HEIDENHAIN iTNC-530 HSCI	●	●	●
30° Milling Head/2,000rpm	—	—	—
90° Milling Head/2,000rpm	—	—	—
Extension 90° Milling Head/2,000rpm	—	—	—
Universal Milling Head/15,000rpm	—	—	—
250mm Raised Column	○	○	○
Z-axis Travel 1,016mm	○	○	○

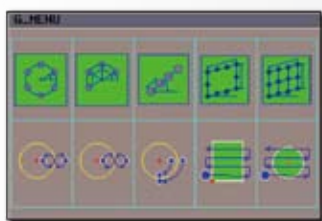
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MXP-200 FB/FC

YCM CONTROL
by **FANUC**

- High Performance AC Digital Servo & Spindle Drives with Super Precision Absolute Positioning Encoders
- AI NANO CNC Controller for High Precision Operation in Nanometers and Acknowledged HRV Control
- AICC II High Speed High Accuracy JERK Function & Auto Switching on/off Machining Control Function
- High Speed High Accuracy Rigid Tapping, Helical Interpolation, Custom Marco B, and Tool Path Graphics
- Manual Guide i with Big & Double Screen Display (MXP-200FC, opt.)
- Program File Management for Easy Program Classifying
- USB Drive Port for Easy Parameters & CNC Programs Transfer
- Large Program Capacity with 1,280 Meters of Memory
- High Speed Positioning Function (MXP-200FC, opt.)
- Memory Card Program Edit & Operation (opt.)
- 3D Interference Check (opt.)
- NANO Smooth (opt.)



G-menu Function

User-friendly G-menu function provides multiple machining cycles that greatly simplifies programming steps



Easy Shop-floor Programming Manual Guide i

Easy to use conversational software offers convenience of part programming right on the shop-floor with 3D graphical display and full simulation function



Intelligent Tool Data Management

Comprehensive tool data management function allows operators to monitor and manage all positions in tool magazine



Pop-up Alarm Display

Detailed troubleshooting procedures will be automatically displayed when machine alarm occurs that allows users to restore machine status and minimize down time



Automatic Tool Length Measurement

Pre-set macros and graphical procedure are provided for automatic tool length measurement function



Calculator Function

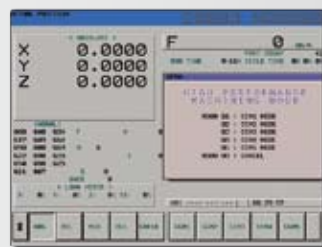
Convenient calculator function provides fast calculation and setting of workpiece offsets



Counter Function

Allows user to easily keep track on number of workpieces with:

- Main Counter
- Periodical Counter
- Daily Counter
- Over Cycle Alarm



High Speed Machining Mode: M400

Combined with artificial intelligence, M400 provides users more convenient and easier ways of operation and achieves fast cycle time for the best machining result.



Intelligent Maintenance Reminder

Pre-set maintenance schedules are programmed to remind operators to inspect periodically prolonging machine life



Manual Tool Length Measurement

Easy setup of tool length measurement provides convenient setting of tool offsets data from one tool to another



i OPERATION *Plus*

Software enhancement exclusively from YCM



Multi-function Display

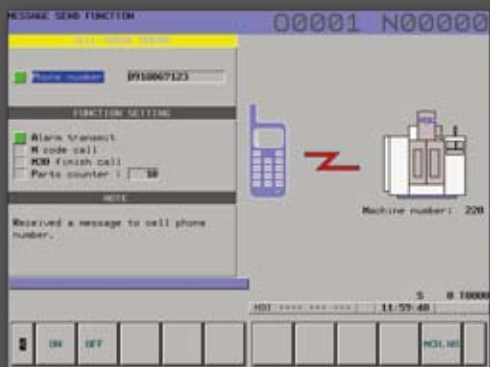
Easily select multiple windows from the following list of display for your monitoring needs.

- G-code Status
- M-code Status
- Spindle Status
- Controller Running Hours
- Feedrate
- Tool Data
- Work Coordination
- Spindle Load
- Parts Count
- Machining Hours
- Date and Time
- Function Display



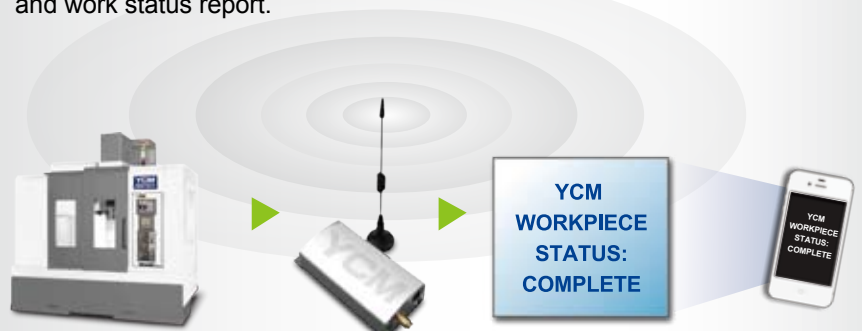
High Speed Machining Mode: M400

Artificially intelligent machining function that is developed from accumulation of all YCM knowledge and experience on high speed to achieve the fastest cycle time with best machining results. Machining efficiency improved by 25% without sacrificing machining accuracy.



Wireless Message Notification (opt.)

Integrating GSM communication and CNC technology, YCM developed the WMN system for wireless notification of machine and work status report.





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FAX : 886-4-2561-2966

