DCV Series

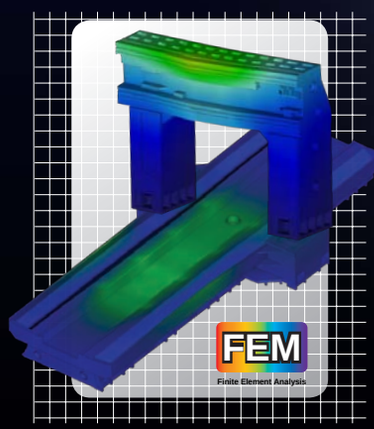
Advanced Double Column Vertical Machining Center

YCM®

DCV 2012A·2012B

Superb Body Structure

- One-piece Column
- One-piece Base

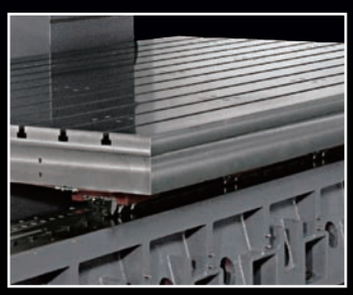


High Rigidity Guideways

- 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

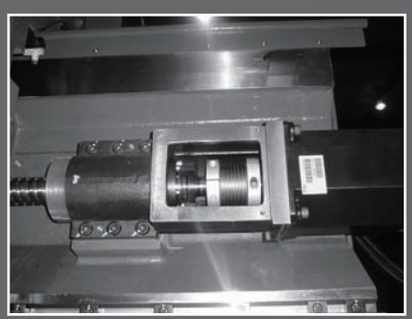


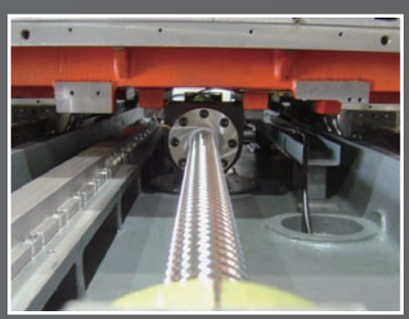
DCV2012A

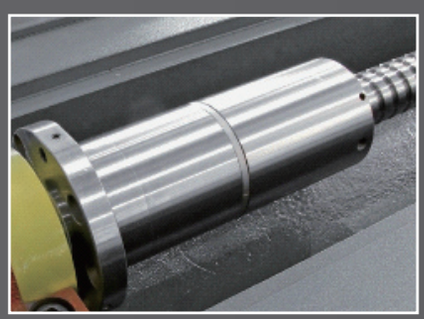
Z-axis is equipped with roller type guideway and 6 slider blocks to enhance cutting rigidity and smooth movement during 3D contouring operations

DCV2012B

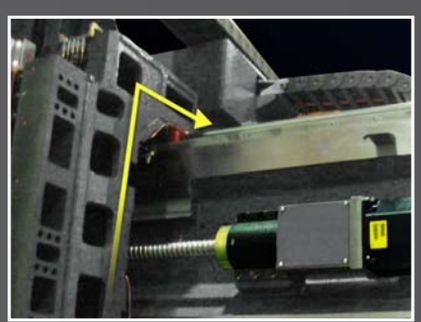
Z-axis is equipped with box guideway reinforced through induction hardening process, precision ground and FEM analysis to offer superb cutting rigidity and short force flow







- 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.



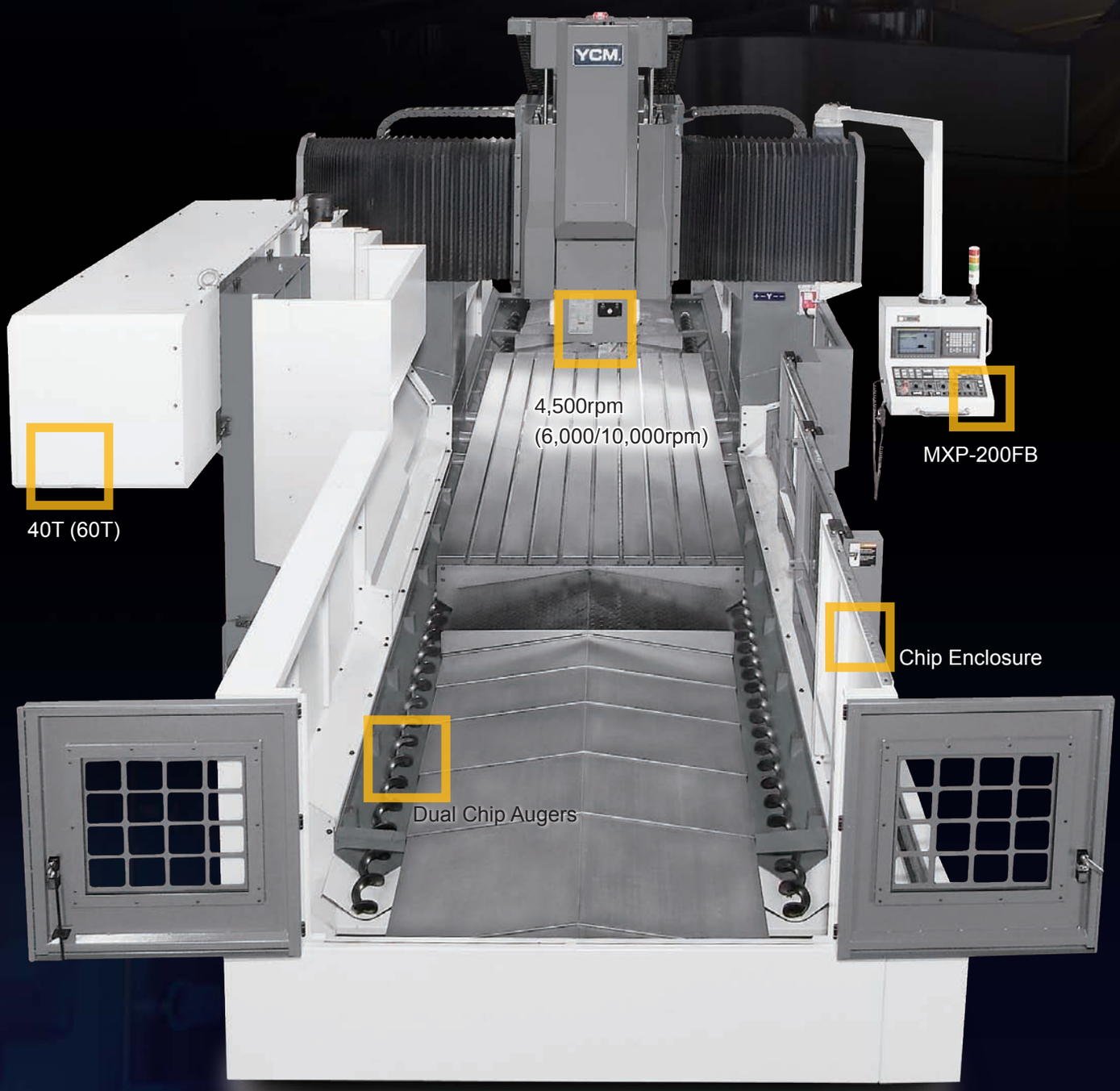
■ Horizontal and Vertical Support of the Headstock

■ Roller Type Guideway on Z-axis (DCV2012A)

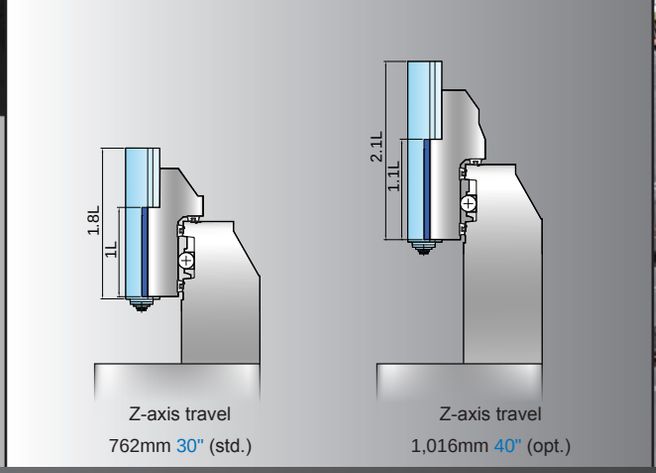
■ Hardened and Ground Box Guideway on Z-axis (DCV2012B)

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.



FEM
Finite Element Analysis



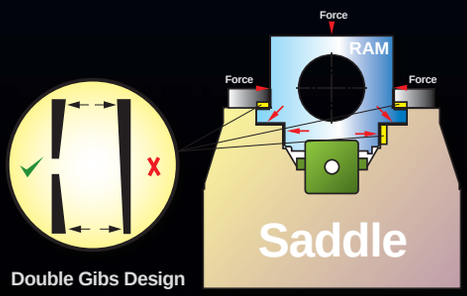
■ Hardened and Ground Box Guideway on Z-axis

■ Rigid Proportion of the Headstock

■ Horizontal and Vertical Support of the Headstock

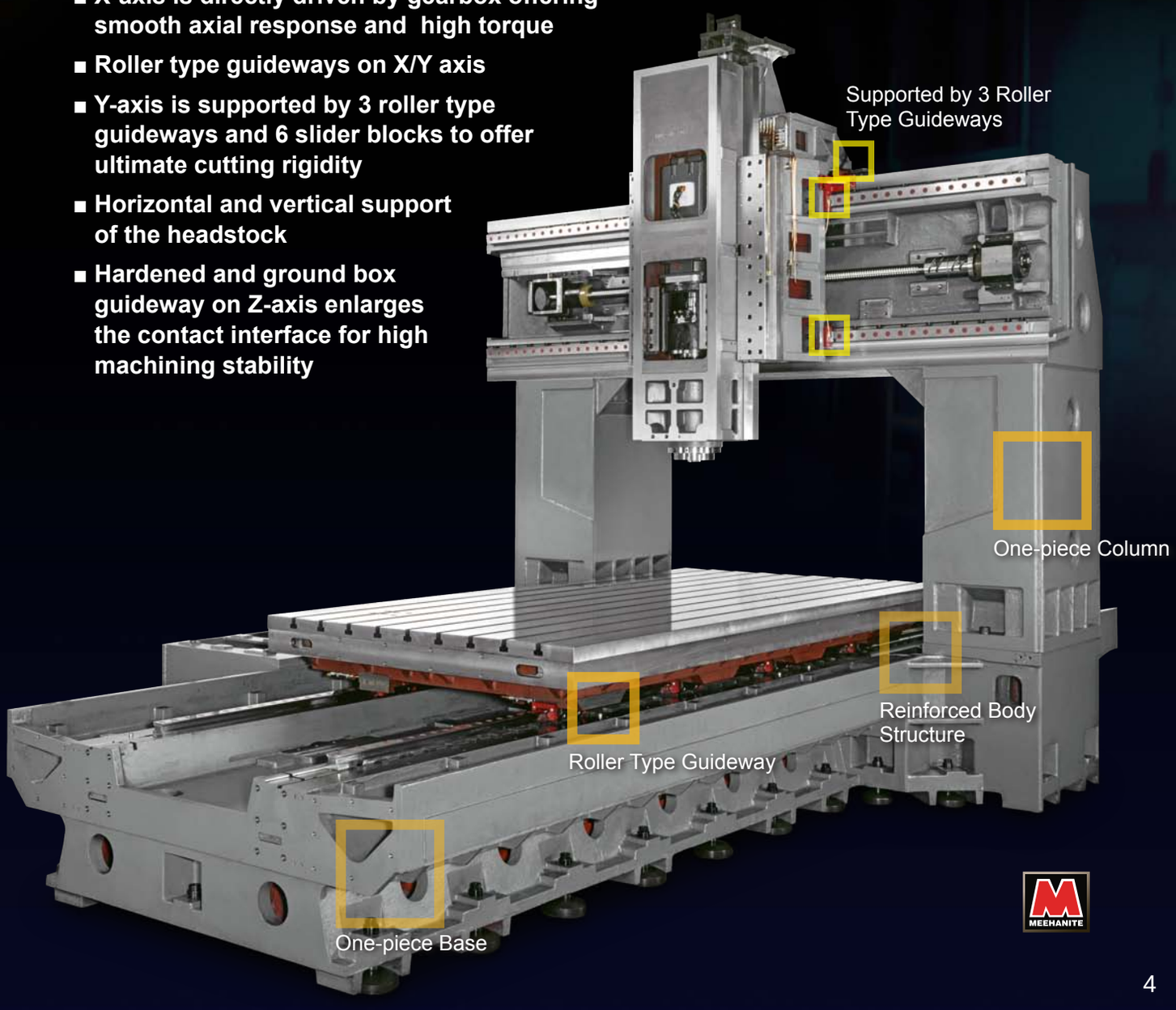
Superb Body Structure

- 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



DCV 3021B·4021B 3025B·4025B·4035B

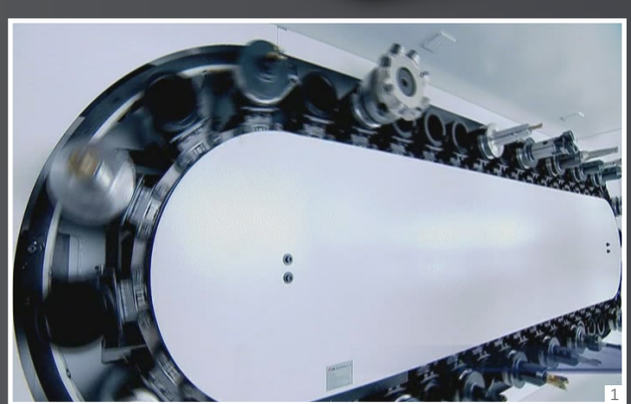
DCV series flawless accuracy, rigidity, and power are suitable for diverse requirements from automative, die & mold, energy and aerospace industries.

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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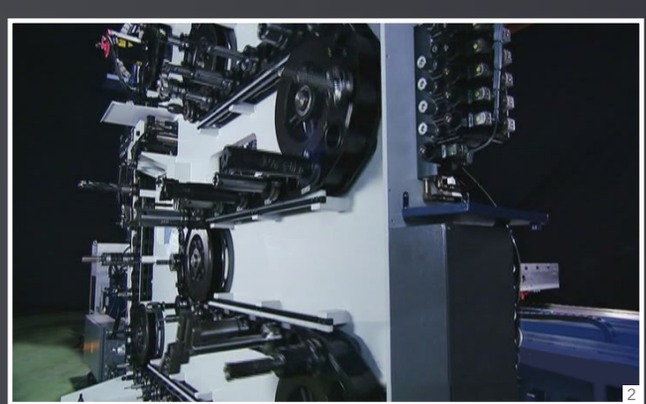
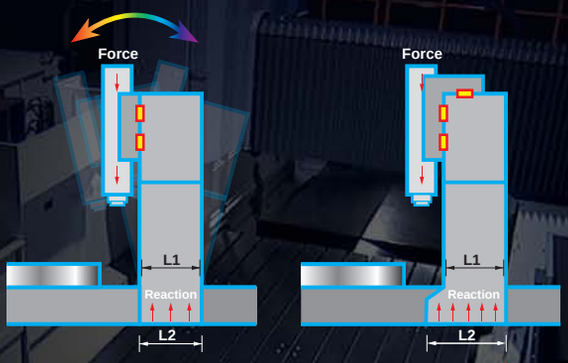

2

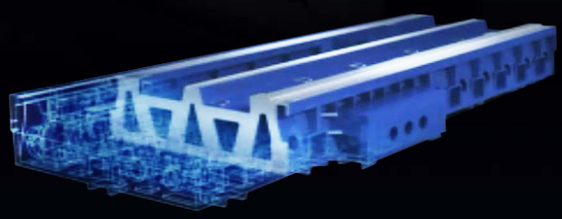
Superb Body Structure

- 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

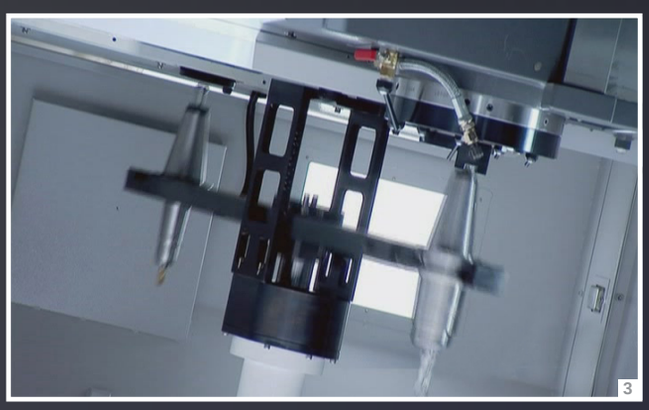


L1=L2 ✗ Competitors

L1<L2 ✓ YCM



High Rigidity Internal Ribs Structure Design

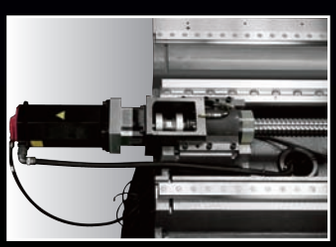


1. 40T
2. 60/120T (opt.)
3. Arm Type ATC System; Prevents Tools from Dropping; Tool to Tool: 3 Sec.

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

Hardened and Ground Box Guideway on Z-axis

22,000kg

Extra Wide Column Base with Boots Design

One-piece Base

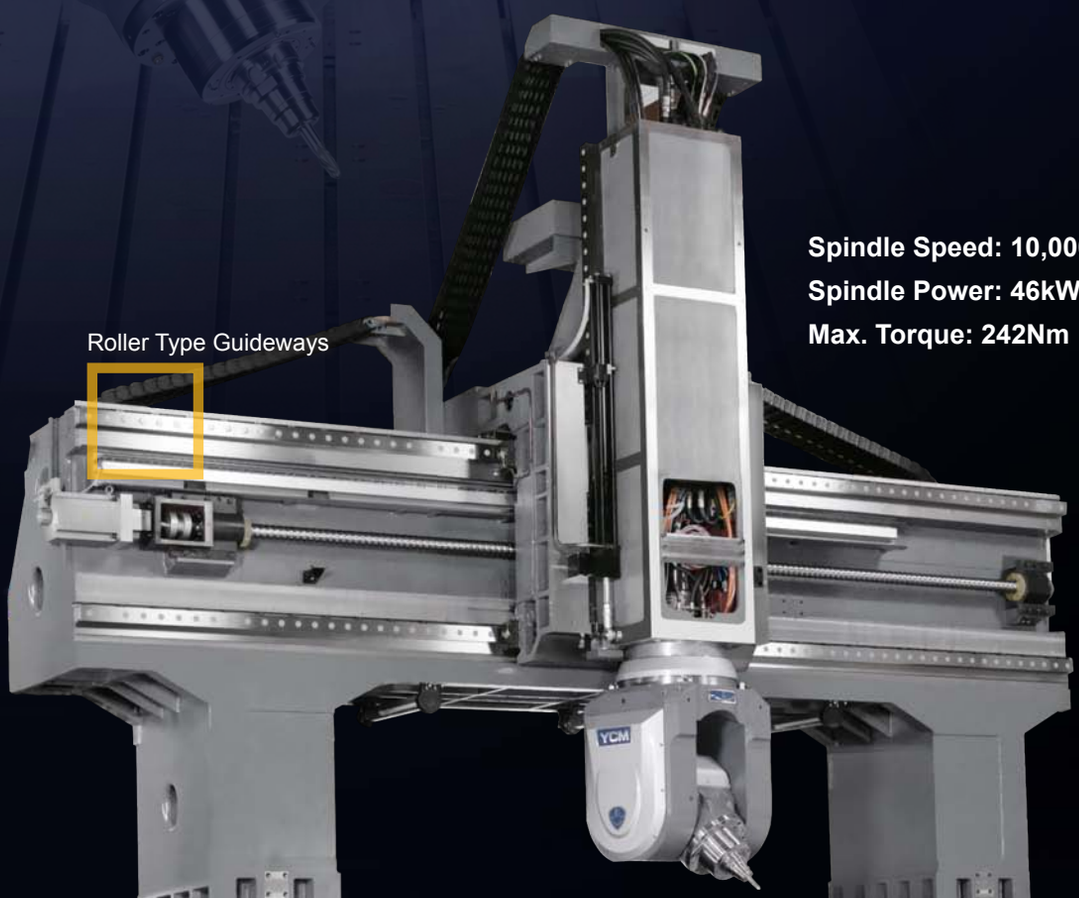
FEM Finite Element Analysis

MEEHANITE

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.



Spindle Speed: 10,000rpm
Spindle Power: 46kW / 61.7HP
Max. Torque: 242Nm

Roller Type Guideways

B/C axes Max. Rotary Speed
300°/sec.

Extra Wide
Column Base with
Boots Design

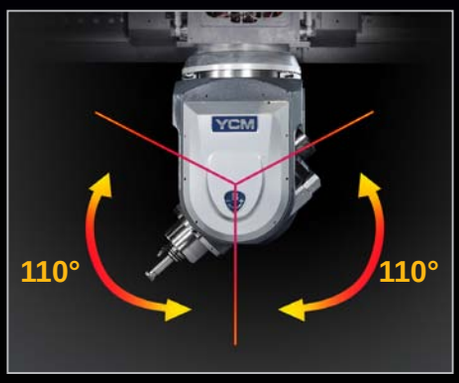
One-piece Base

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.



- ±110° Swivel Angle (B-axis)
- ±360° Rotary Angle (C-axis)

Superb Body Structure & X/Y/Z Guideways Designs

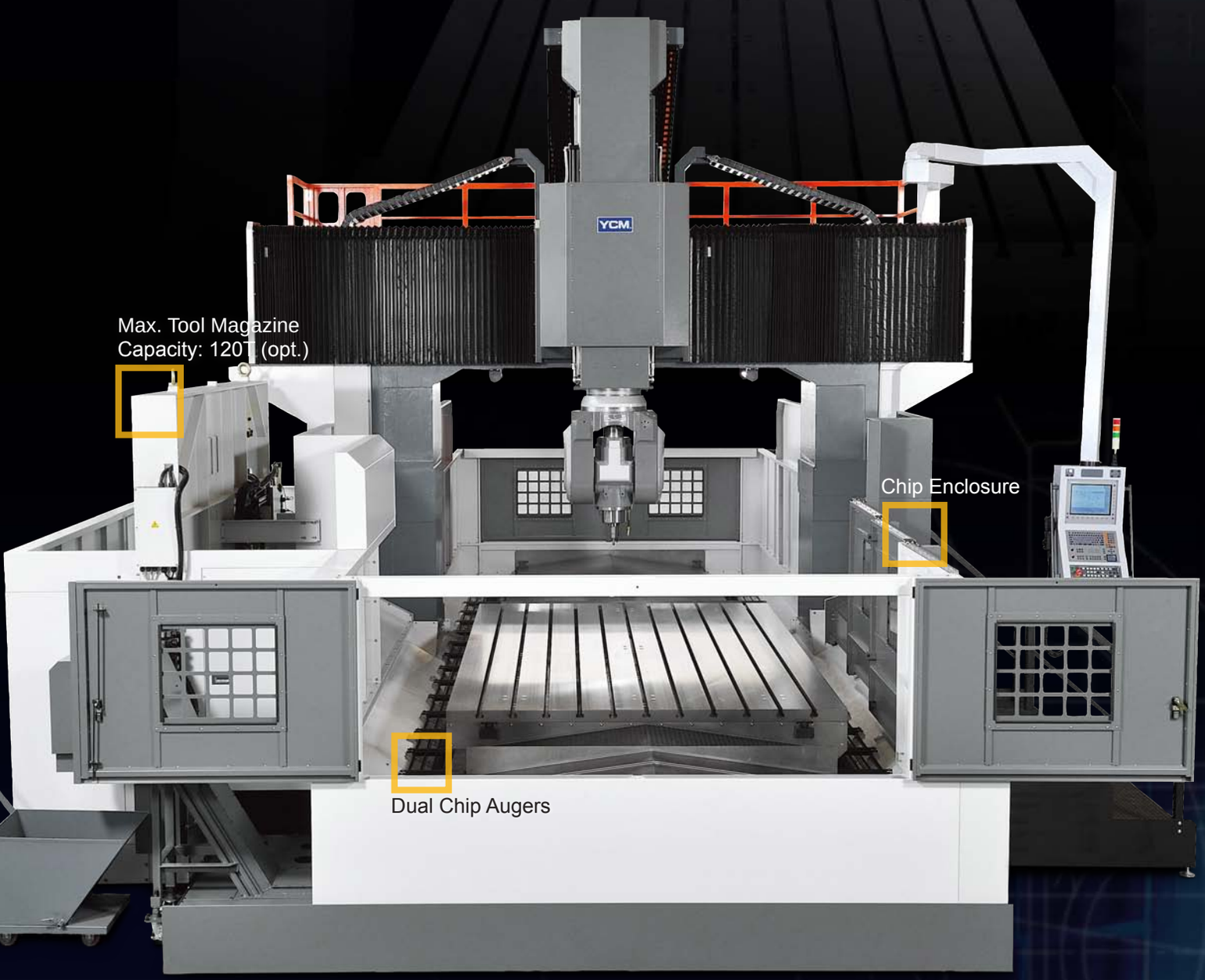
- Massive MEEHANITE® casting through FEM analysis offers exceptional damping capacity.
- Direct drive gearbox design on X/Y/Z axis offers smooth axial response, high torque, and low backlash.
- Extra wide column base with boots design.
- Equipped with roller type guideways and numerous slider blocks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



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.

B/C-axis rotary speed

100 rev/min.

High torque upgrading machining efficiency

18,000rpm

70 kW

FEM Finite Element Analysis

MEEHANITE

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

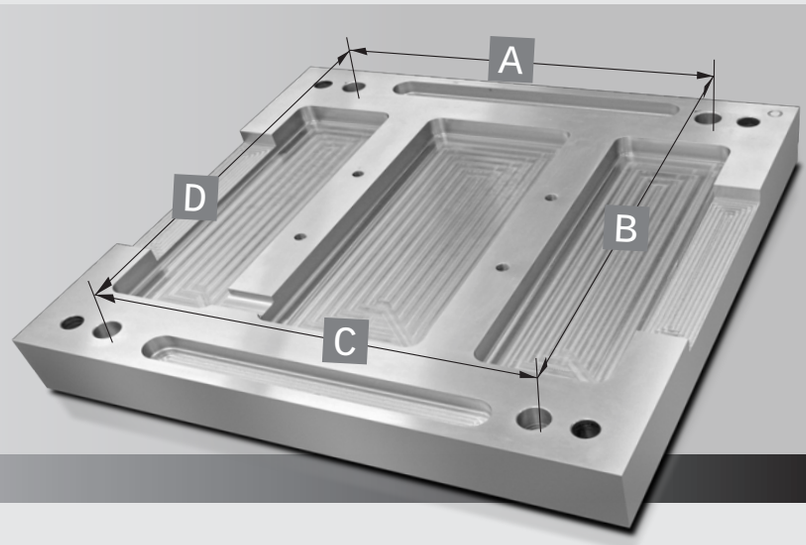
- DD motor drive, no backlash.
- B/C axis rotary speed 100 rev/min.
- C-axis includes three roller bearings to increase rigidity and accuracy.
- B-axis high rigidity and high accuracy cross roller bearing.
- Heidenhain accuracy encoder included as standard.
- Pneumatic positioning clamping equipment.
- 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 -1.4μm/613.9986mm
B +4.8μm/454.0048mm
C -4.4μm/613.9956mm
D -2.8μm/453.9972mm



Test Model: DCV3016B

DCV 2012A/2012B/2018A-5AX ACCURACY

Standard Tolerances	ISO 10791-4	JIS B 6338
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 Tolerances	ISO 10791-4	JIS B 6338
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 Tolerances	ISO 10791-4	JIS B 6338
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 Tolerances	ISO 10791-4	JIS B 6338
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 4030B-5AX (B/C axis) ACCURACY

Standard Tolerances	ISO 10791-4
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 Tolerances	ISO 10791-4
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

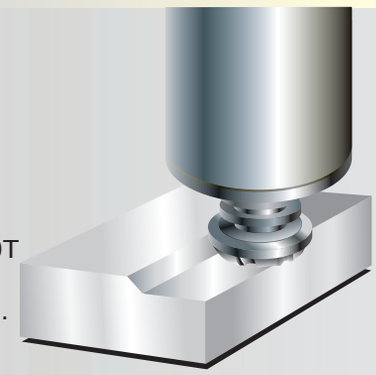
BT50/4,500rpm

FACE MILLING — S45C Steel

Material Removal Rate

1,000 cc/min.

Tool	ø160mm x 10T
Spindle Speed	375rpm
Feedrate	1,600mm/min.
Width of Cut	125mm
Depth of Cut	5mm
Spindle Load	144%

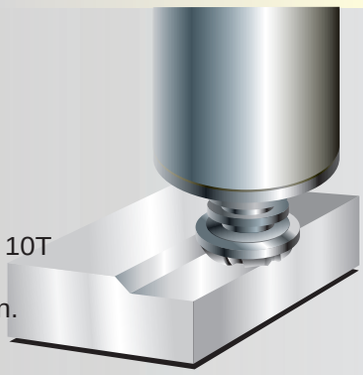


FACE MILLING — S45C Steel

Material Removal Rate

450 cc/min.

Tool	ø160mm x 10T
Spindle Speed	300rpm
Feedrate	400mm/min.
Width of Cut	125mm
Depth of Cut	9mm
Spindle Load	75%

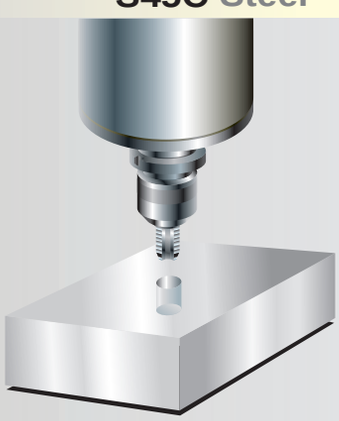


TAPPING — S45C Steel

TAP

M48

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

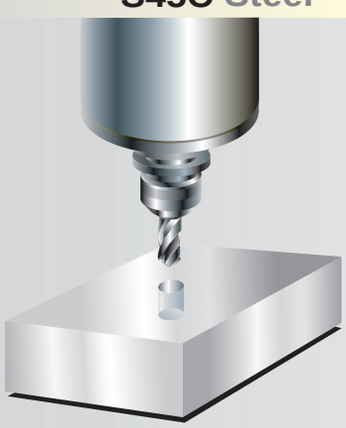


DRILLING — S45C Steel

Cutter Diameter

ø60 mm

Tool	ø60mm
Spindle Speed	133rpm
Feedrate	48mm/min.
Spindle Load	25%

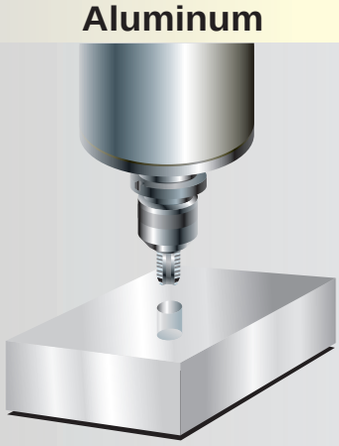


TAPPING — Aluminum

TAP

0#

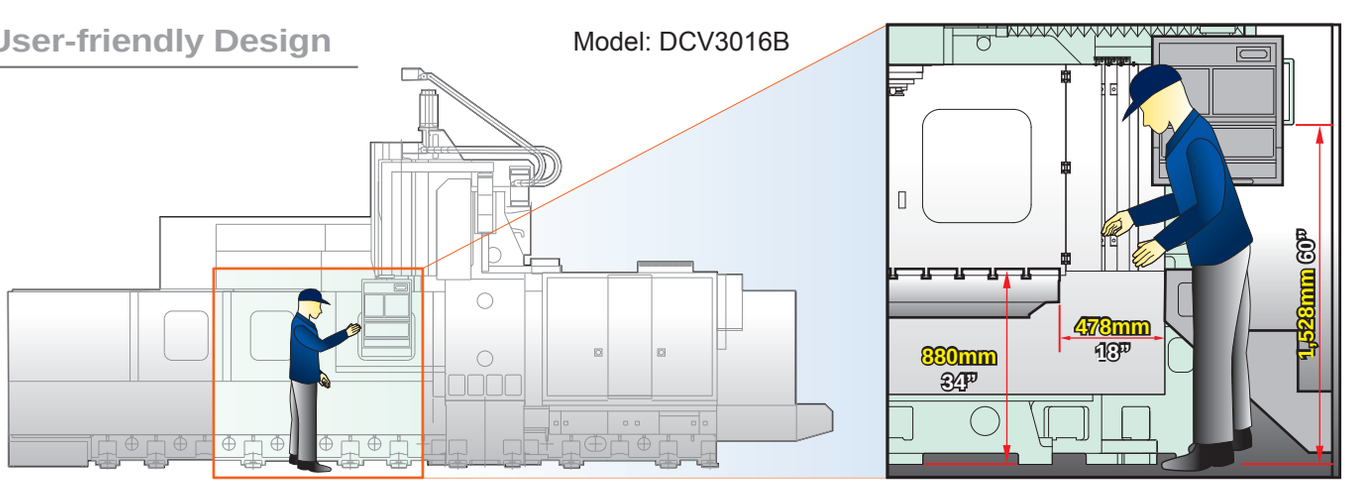
Tool	0#80UNF
Spindle Speed	1,200rpm
Feedrate	381mm/min.
Tooth Pitch	0.3175mm



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

89 kgf-m

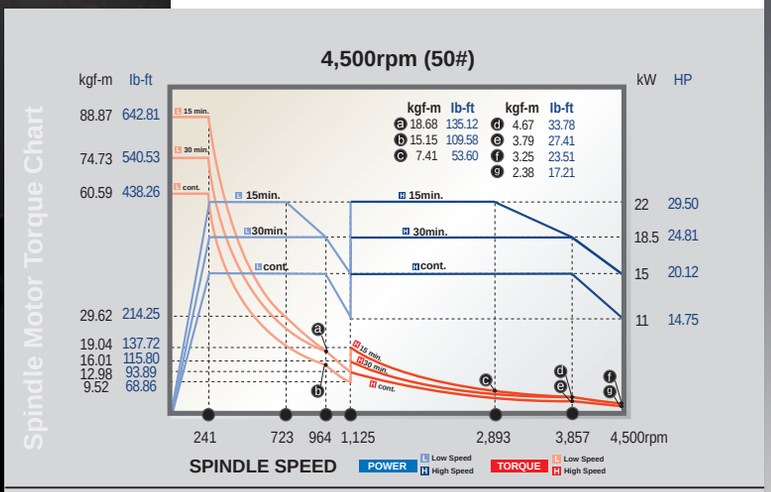
644 lb-ft

DCV Max. Torque at Low Speed

4,500rpm Spindle

With Hi-lo Gear Transmission

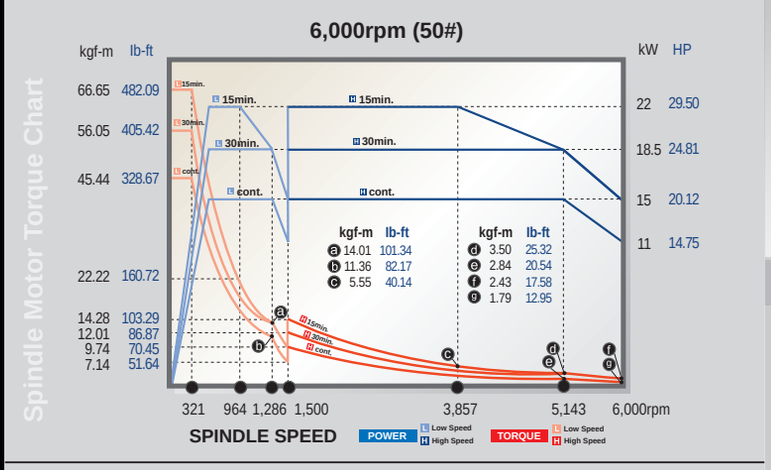
4,500rpm spindle speed is standard with 2-step gear transmission. The spindle incorporates roller type spindle bearings for extremely high cutting rigidity. The 2-step gear transmission provides 88.87kgf-m torque output at 241rpm ideal for machining hard material.



6,000rpm Spindle

With Hi-lo Gear Transmission

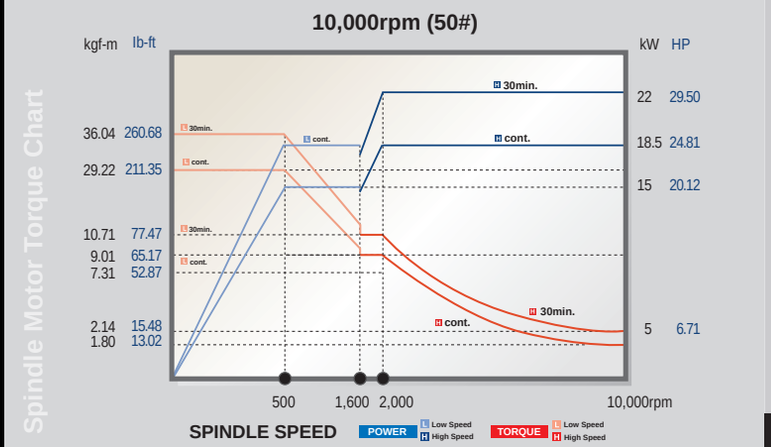
6,000rpm spindle is available for diverse requirements. The design of 2-step gear transmission is complimented with a powerful AC digital spindle motor and ceramic roller type bearings. The 6,000rpm spindle is capable of reaching up to 22kW and 66.65kgf-m torque output at 321rpm. DCV series can easily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

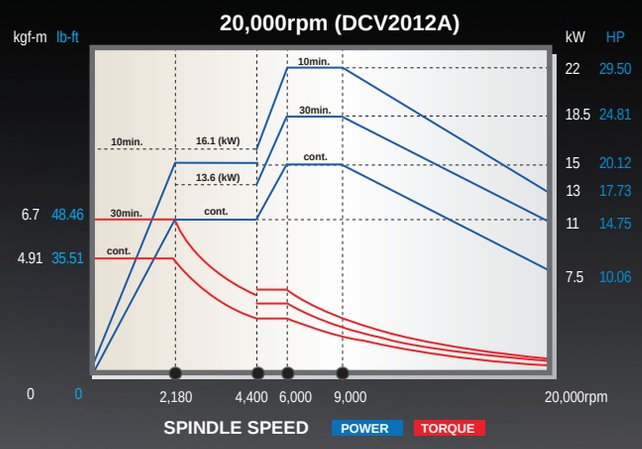


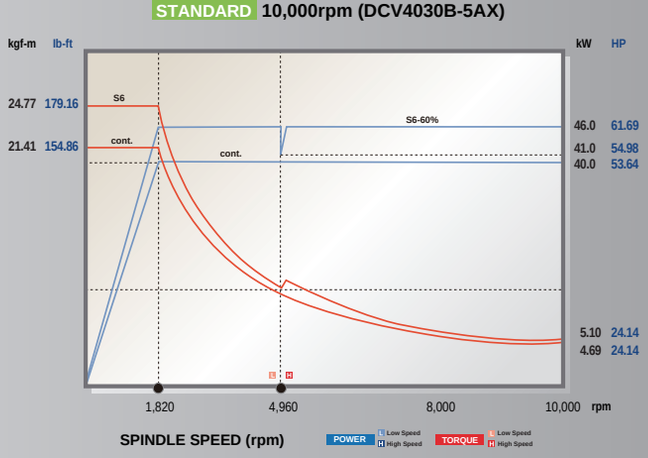
HIGH SPEED
HIGH PRECISION SPINDLES

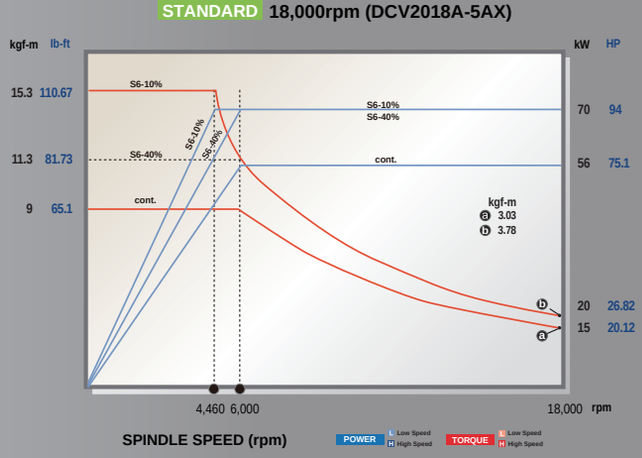
Built-in Motorized Spindle

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



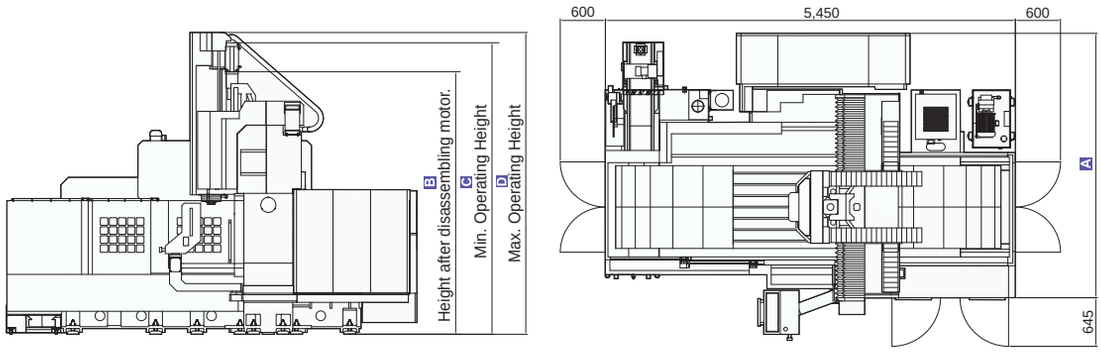




DIMENSIONS

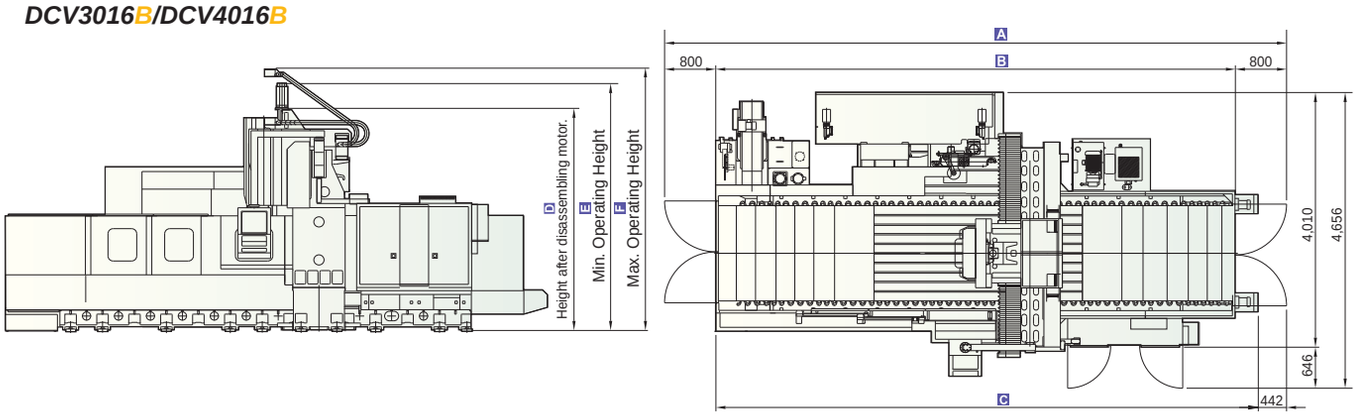
Unit: mm inch

DCV2012A/B



	A	B	C	D
DCV2012A	3,112 122.5"	3,085 121.5"	3,471 136.7"	3,607 142.01"
DCV2012B	3,513 138.3"	3,487 137.3"	3,873 152.48"	4,009 157.8"

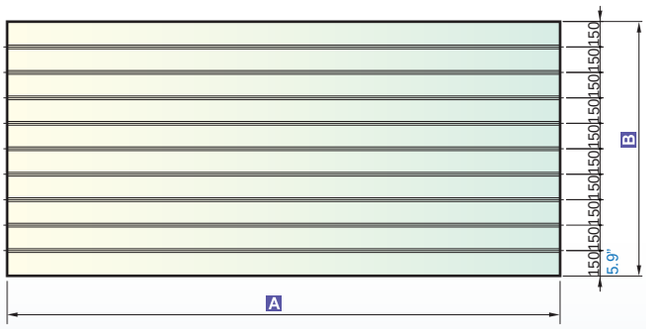
DCV3016B/DCV4016B



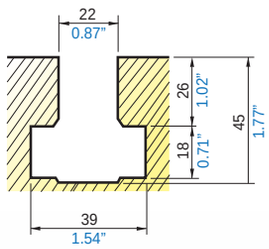
Standard (250mm Raised Column/Z-axis Travel 1,016mm)

	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

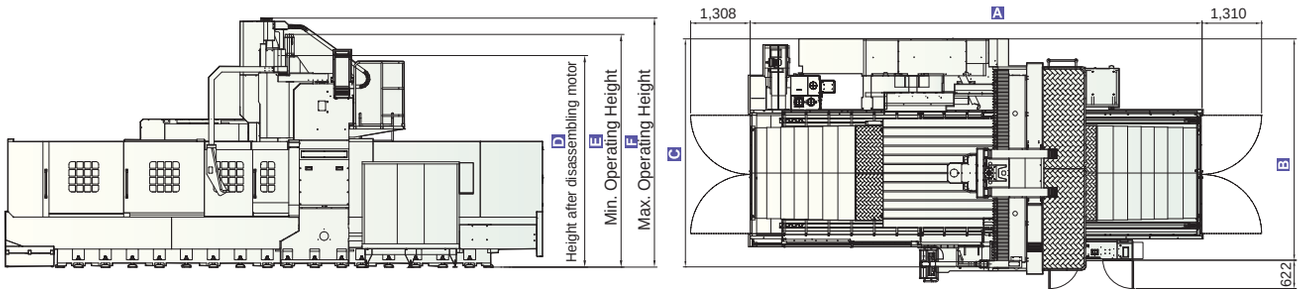


	A	B
DCV2012A/B	2,000 78.7"	1,100 43.3"
DCV3016B	3,260 128.4"	1,500 59.1"
DCV4016B	4,260 167.7"	1,500 59.1"

DIMENSIONS

Unit: mm inch

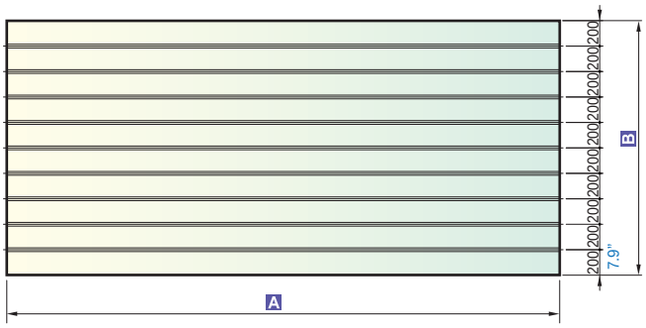
DCV3021B/DCV4021B/DCV3025B/DCV4025B/DCV4035B



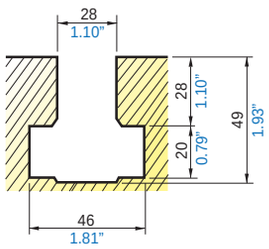
Standard (250mm Raised Column/Z-axis Travel 1,016mm)

	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

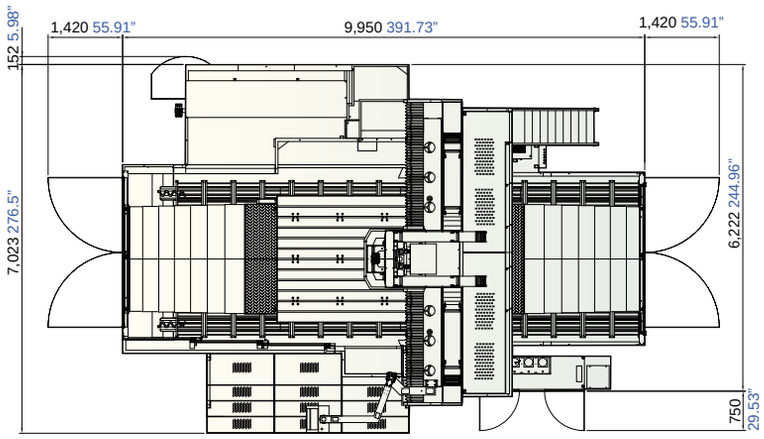


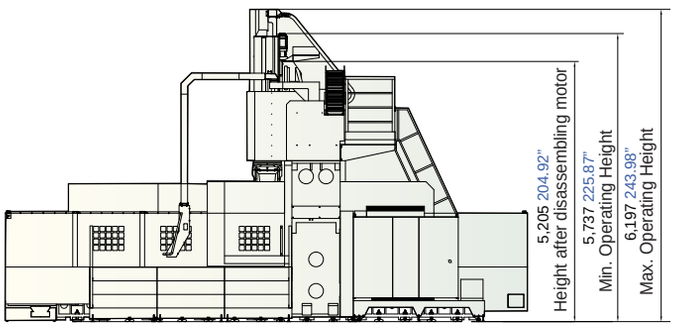
	A	B
DCV3021B	3,100 122.05"	2,000 78.7"
DCV4021B	4,100 161.4"	2,000 78.7"
DCV3025B	3,100 122.05"	2,400 94.5"
DCV4025B	4,100 161.4"	2,400 94.5"
DCV4035B	4,100 161.4"	2,400 94.5"

DIMENSIONS

Unit: mm inch

DCV4030B-5AX





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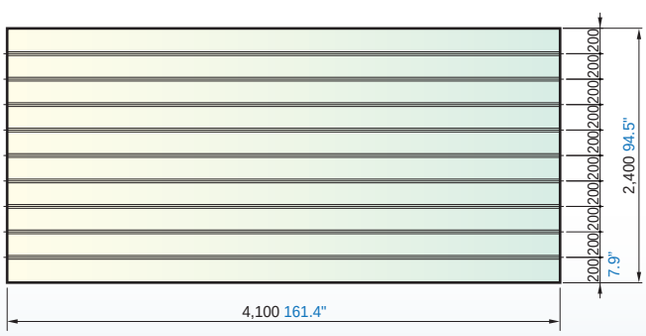

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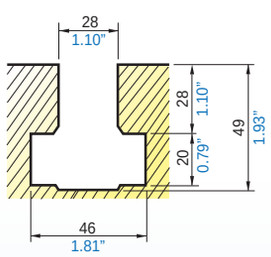
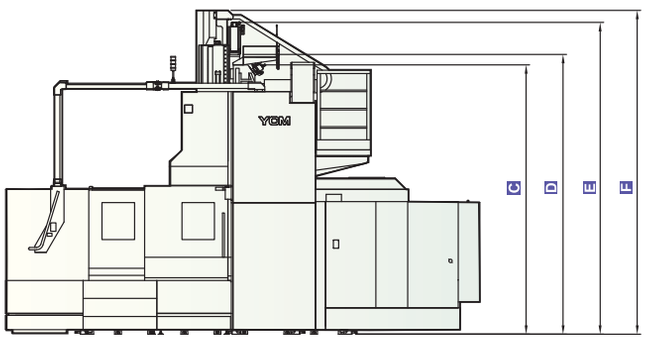
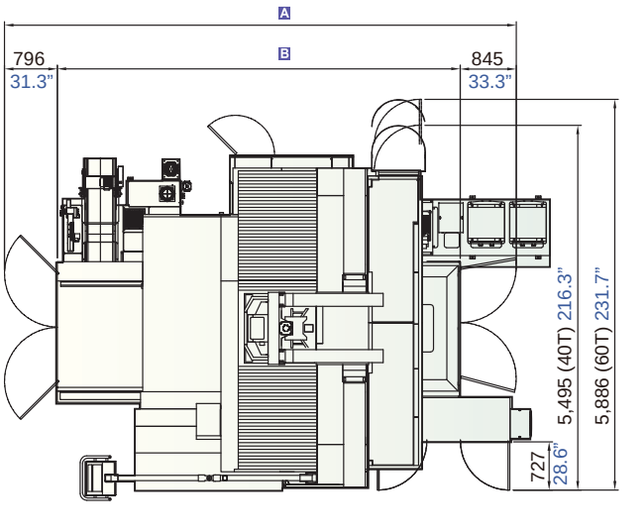


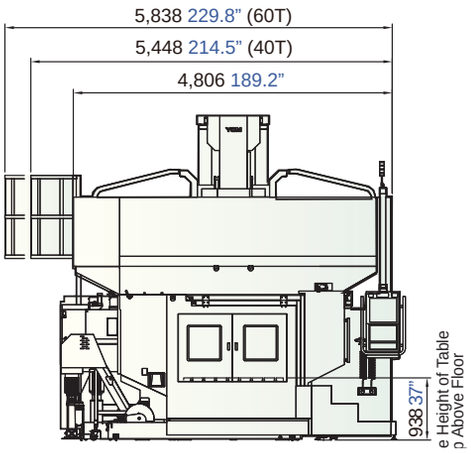
DIMENSIONS

Unit: mm inch

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



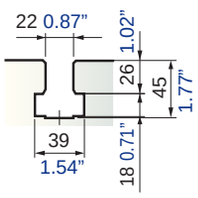




	Z-axis Travel : 30" Std. (40") Opt.					
	A	***B***	***C***	***D***	***E***	***F***
DCV2018A-5AX	7,713 303.6"	6,072 239.1"	4,067 (4,536) 160.1" (178.6")	4,225 (4,475) 166.3" (176.2")	4,706 (5,345) 185.3" (210.4")	4,888 (5,597) 192.4" (220.4")
DCV3018A-5AX	9,873 388.7"	8232 324.1"				
DCV4018A-5AX	12,033 473.7"	10,392 409.1"				

▼ TABLE SIZE

▼ T-SLOTS



	A
DCV2018A-5AX	2,000 mm 78.7"
DCV3018A-5AX	3,000 mm 118.1"
DCV4018A-5AX	4,000 mm 157.5"

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/cm^2 78.2psi			
Power Consumption (Transformer)	51kVA (65kVA)	69kVA (80kVA)		
Machine Weight	16,000kg 35,274 lb	21,000kg 46,297 lb	31,000kg 68,343lb	35,000kg 77,161 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

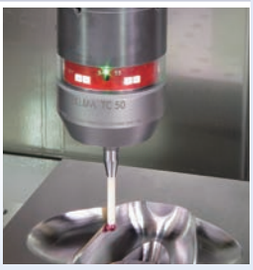
- BLUM Z-3D tool length & radius measurement
- Universal and economic solution for fast tool setting and breakage control

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	41,000kg 90,389 lb	44,000kg 97,002 lb	43,000kg 94,798 lb	46,000kg 101,412 lb	50,000kg 110,230 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 / 1,500 rpm

(Manual)

90° Milling Head / 2,000 rpm

(Manual)

90° Milling Head / 2,000 rpm

(Manual Head / Tool Change ; C-axis Auto Indexing Angle: 5°)

Extended 90° Milling Head / 2,000 rpm

SPECIFICATIONS

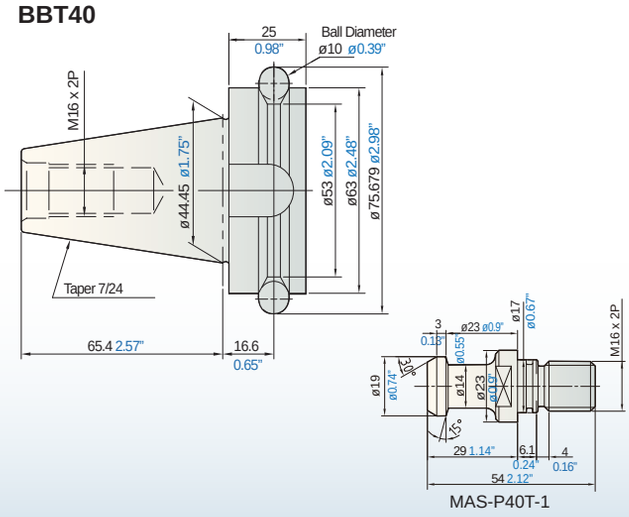
	DCV2018A-5AX	DCV3018A-5AX	DCV4018A-5AX
SPINDLE			
Spindle Speed	18,000rpm		
Spindle Power	56 / 70kW 75 / 94 HP (cont. / S6-40%)		
Spindle Taper	HSK A63		
TRAVEL			
X-axis Travel	2,200 mm 86.6"	3,200mm 126"	4,200mm 165.3"
Y-axis Travel	2,400 mm 94.5"		
Z-axis Travel (opt.)	762mm (1,016mm) 30" (40")		
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	±105º		
C-axis degree	±360º		
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.

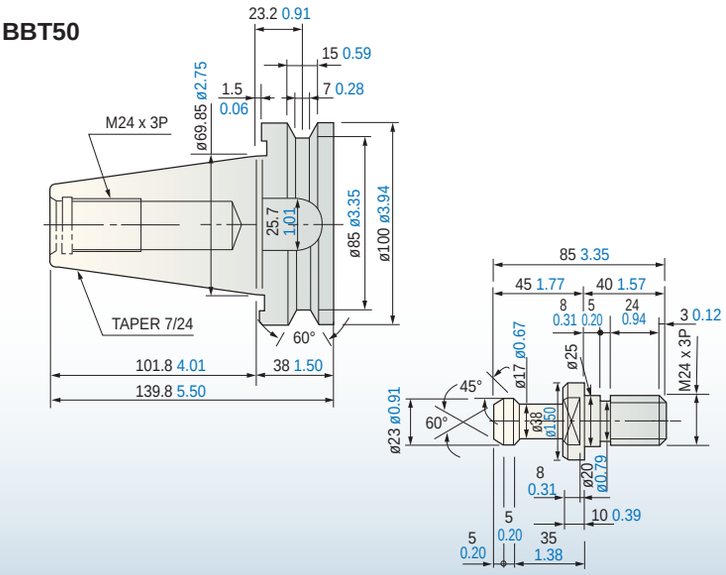
TOOL SHANK

Unit: mm inch

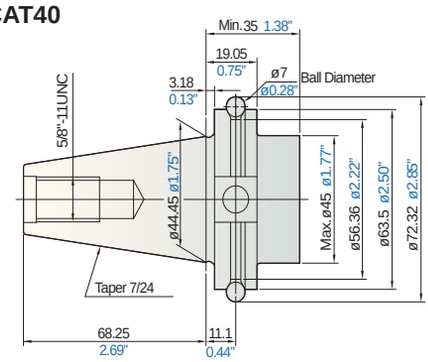
BBT40

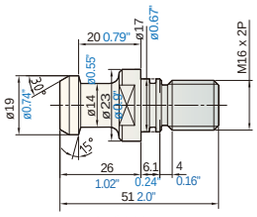


BBT50



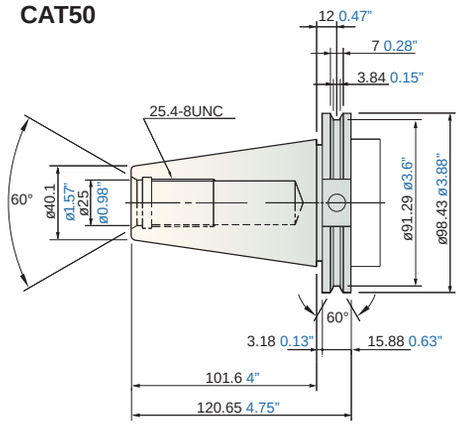
CAT40

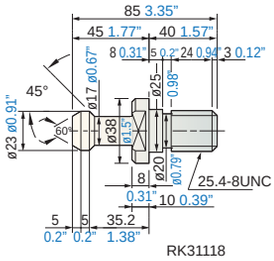




RK31114

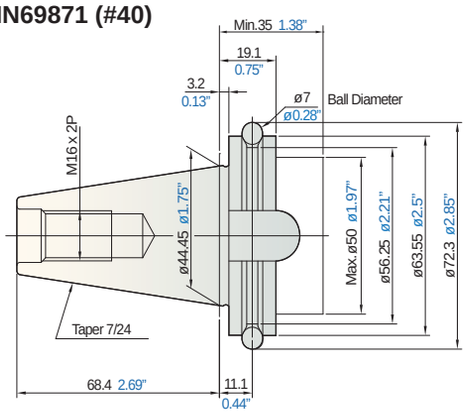
CAT50

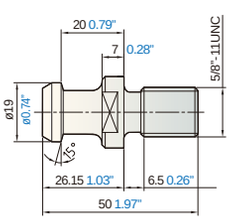




RK31118

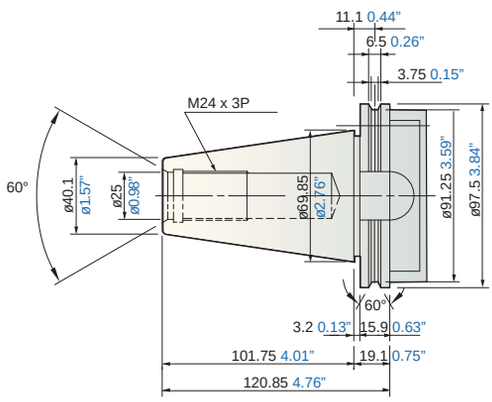
DIN69871 (#40)

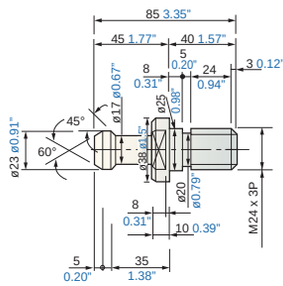




拉刀螺栓 (特殊)

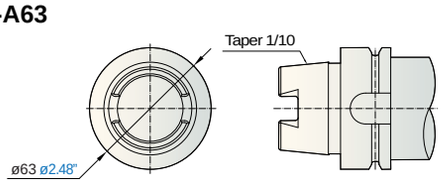
DIN69871 (#50)





PY030364

HSK-A63



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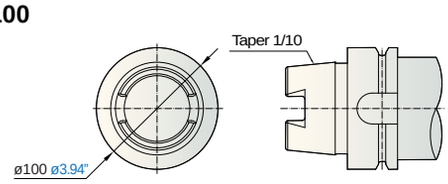

ACCESSORIES

● 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	—	—	○	○
Extended 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	○	○	○
Extended 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.
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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	○	○	●

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		
	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	○	○	○

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.

MXP-200 FB/FC

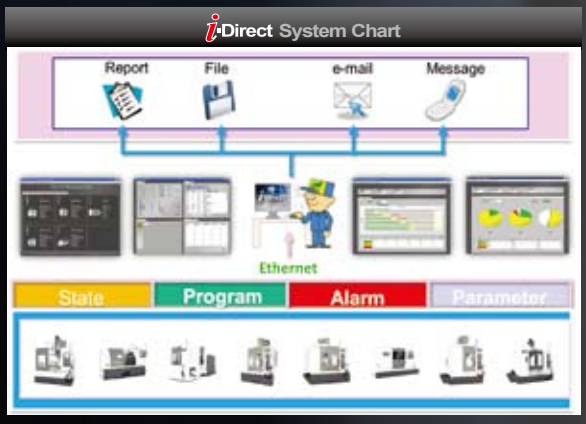
YCM CONTROL by FANUC

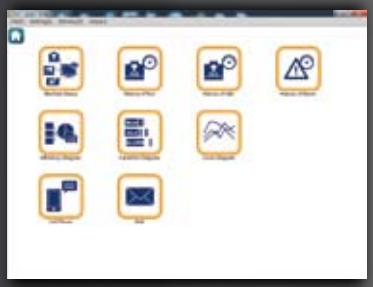
- High Response AC Digital Servo & Spindle Drives with High Definition
- AICC II High Speed High Accuracy with Manual / Auto Switching on/off Machining
- JERK Control Function
- High Rigidity Tapping, Helical Interpolation
- Custom Marco B and Tool Path Graphics
- Manual Guide i with large Screen Display .
- Program File Management for Easy Program Classifying
- USB Interface for Easy Parameters & CNC Programs Transfer
- 512KB Memory
- High Speed Positioning Function (MXP-200FB, opt.)
- Memory Card Program Edit & Operation
- NANO Smoothing Function (opt.)
- 400 Pairs Tool Offset, 1,000 (MXP-200FB 400) Total Registered Programs
- 48 Pairs of Workpieces Coordinate System
- Extended Parts Program Editing (Cut, Copy, and Paste. Maximum 4,000 Characters)

i-Direct

A remote monitoring system

The YCM Production Line Monitoring System i-Direct overcomes the limitations of time and distance. This software provides plant operators with instant production status, including production value, output, standby, alarm time, status display and malfunction records of the machine.
These data could be browsed online and printed. When incidents occur, i-Direct will automatically warn plant operators through e-mail or MMS message. With i-Direct Production Line Monitoring System the plant operators can easily keep track of production statuses regardless of time and distance.

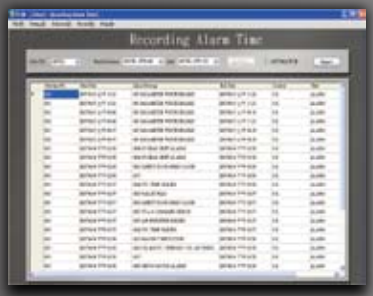




i-Direct Main Page

Plant Operation Status Monitoring

Single Machine Status Browsing



Machine Status Time Record

Production Status Process Record

Production Management Statistics

i-OPERATION Plus II

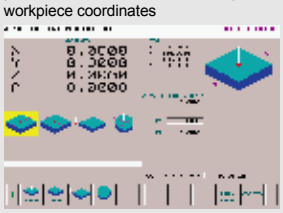
Software Enhancement Exclusively from **YCM**

Pre-machining Preparation

Intelligent Tool Data Management
Comprehensive tool data management function allows operators to monitor and manage all positions in tool magazine

Tool Length Measurement
Graphic measuring interface provides automatic tool length measurement function

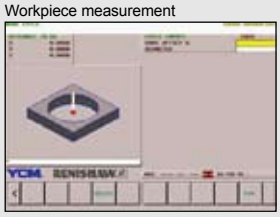
Workpiece Coordinate Calculation
Conversational operating window provides convenient and fast setup of workpiece coordinates



NEW **RENISHAW GUI System (Conversational Graphic Operating Interface)**

Tool measurement & measurement correction

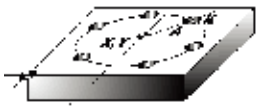
Workpiece measurement



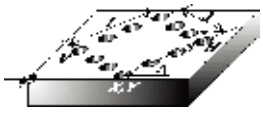
Programming

NEW **i_PATTERN**

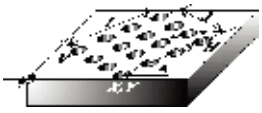
15 sets of machining cycle program
Reduces program input and memory time
Graphic interface & conversational command input



CIRCULAR HOLE PATTERN
(G120 P1) Function



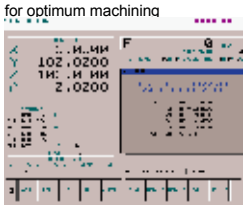
RECTANGULAR HOLE PATTERN
(G120 P4) Function



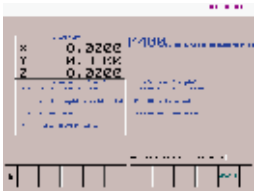
GRID HOLE PATTERN
(G120 P5) Function

Machining

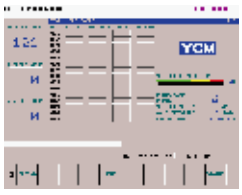
High Performance Machining Mode M300
With 5 sets of parameter settings, the users choose the most suitable mode for optimum machining



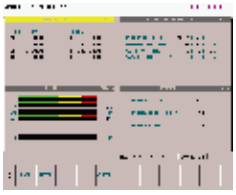
High Speed Machining Mode M400
Increases drilling and tapping speed, reduces machining time for job shop and precision mold machining



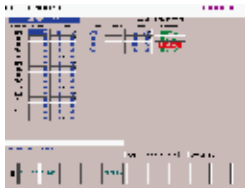
NEW **Tool Load Management**
Instant tool load monitoring with alarm function



Multi-display Fuction
Displays 4 statuses simultaneously with configurable status display

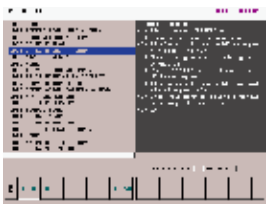


NEW **Tool Life Management**
Indicates tool status of each group with tool life alert



Instant Message Alert

Pop-up Alarm Display



Instantly provides troubleshooting procedure
Quick response to alarm

Smart control panel (iPANEL)

Easy to set up and operate important functions

Maintenance

Intelligent Maintenance

Provide users with periodic maintenance options and descriptions

Instantly provide users with maintenance notifications

Counter Function

Allow users to keep count of workpieces with the function of overtime cycle alarm provides easy control over machining cycle time

1. Main Counter
2. Periodical Counter
3. Daily Counter
4. Over Cycle Alarm

YCM®

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