

ISO14001 CERTIFIED MANUFACTURE

**YEONG CHIN MACHINERY INDUSTRIES CO., LTD.**

Headquarters : 888 Homu Road, Hsinchuang, Shengang, Taichung, Taiwan  
www.YCMCNC.com sales@YCMCNC.com

Agent

GENERAL TEL : 886-4-2562-3211  
FAX : 886-4-2562-6479  
886-4-2562-8399

SERVICE TEL : 886-4-2561-2965  
FAX : 886-4-2561-2966

082010-E02-2000

# DCV Series

*Advanced Double Column Vertical Machining Center*



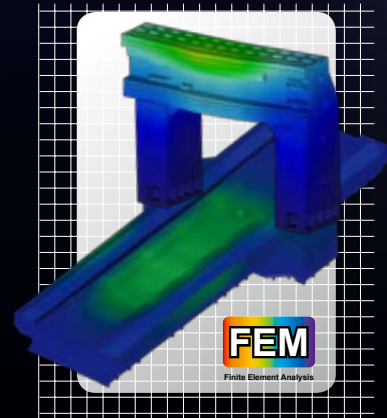
# DCV 2012A-2012B

## 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

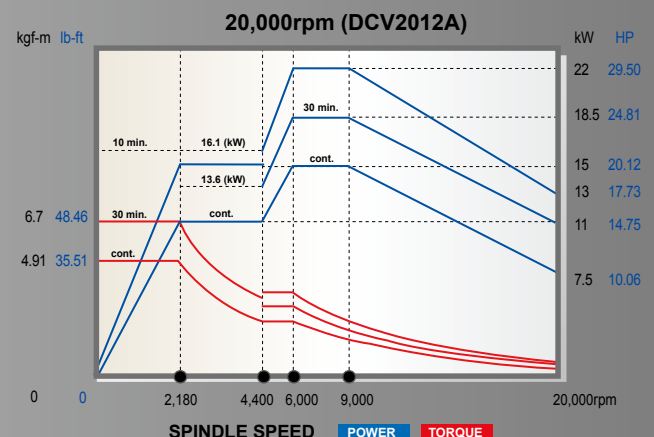
### DCV2012B

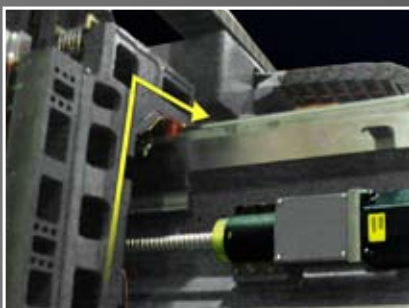
Z-axis is equipped with box guideway reinforced through induction hardening process, precision ground and FEM analysis to offer superb cutting rigidity and short force flow

## 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





■ Horizontal and Vertical Support of the Headstock



■ Roller Type Guideway on Z-axis (DCV2012A)

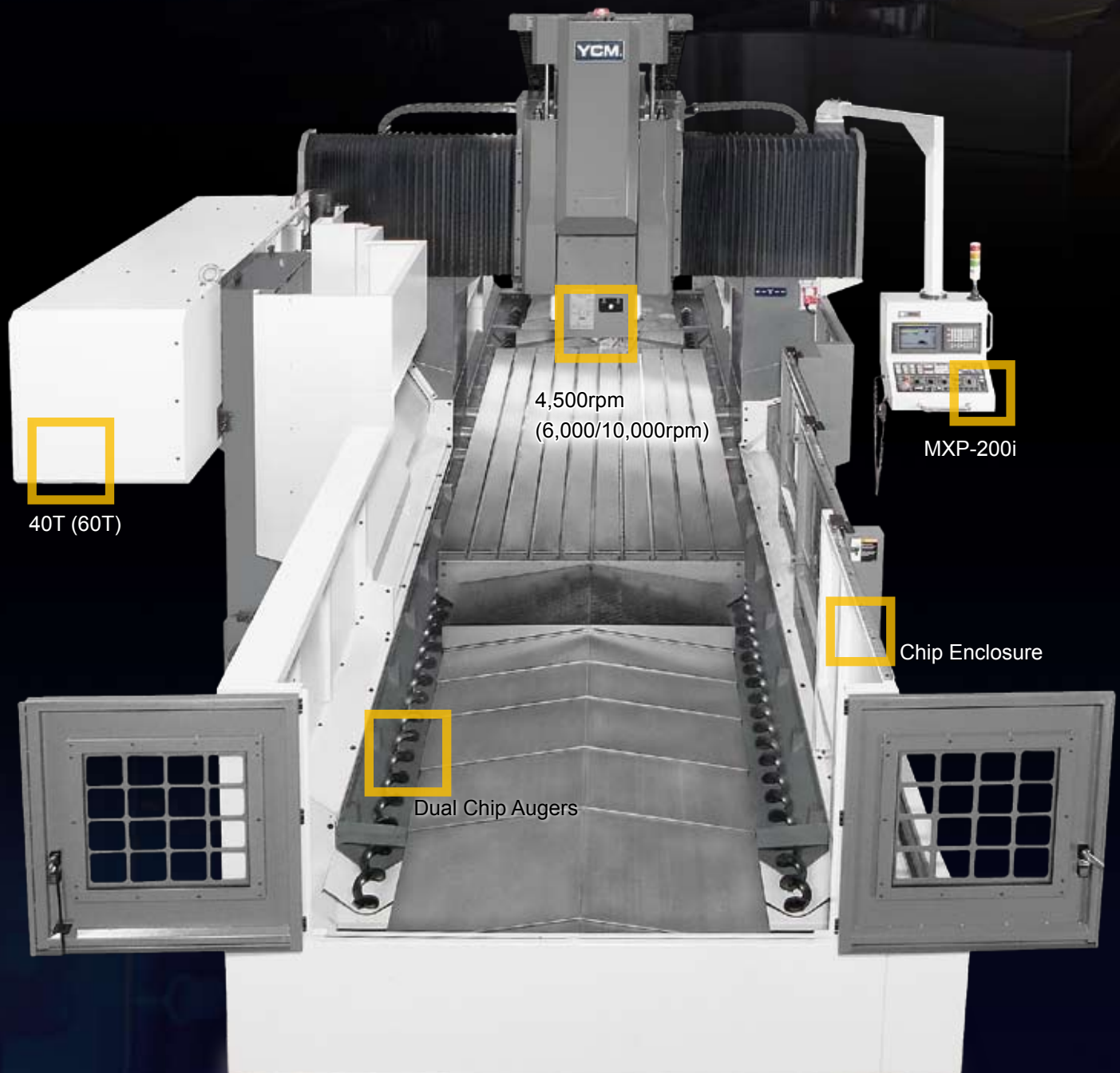


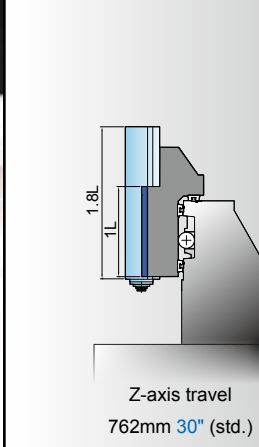
■ Hardened and Ground Box Guideway on Z-axis (DCV2012B)



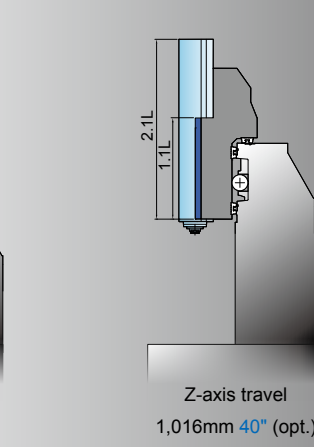
# DCV 3016B · 4016B

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.





Z-axis travel  
762mm 30" (std.)



Z-axis travel  
1,016mm 40" (opt.)



■ Hardened and Ground Box  
Guideway on Z-axis

■ Rigid Proportion of the Headstock

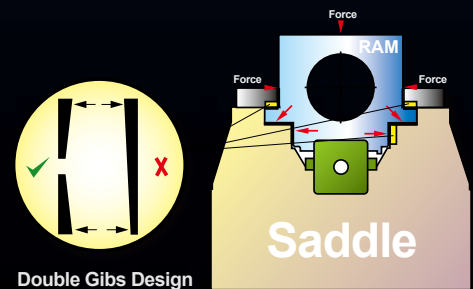
■ Horizontal and Vertical Support of  
the Headstock

## Superb Body Structure

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

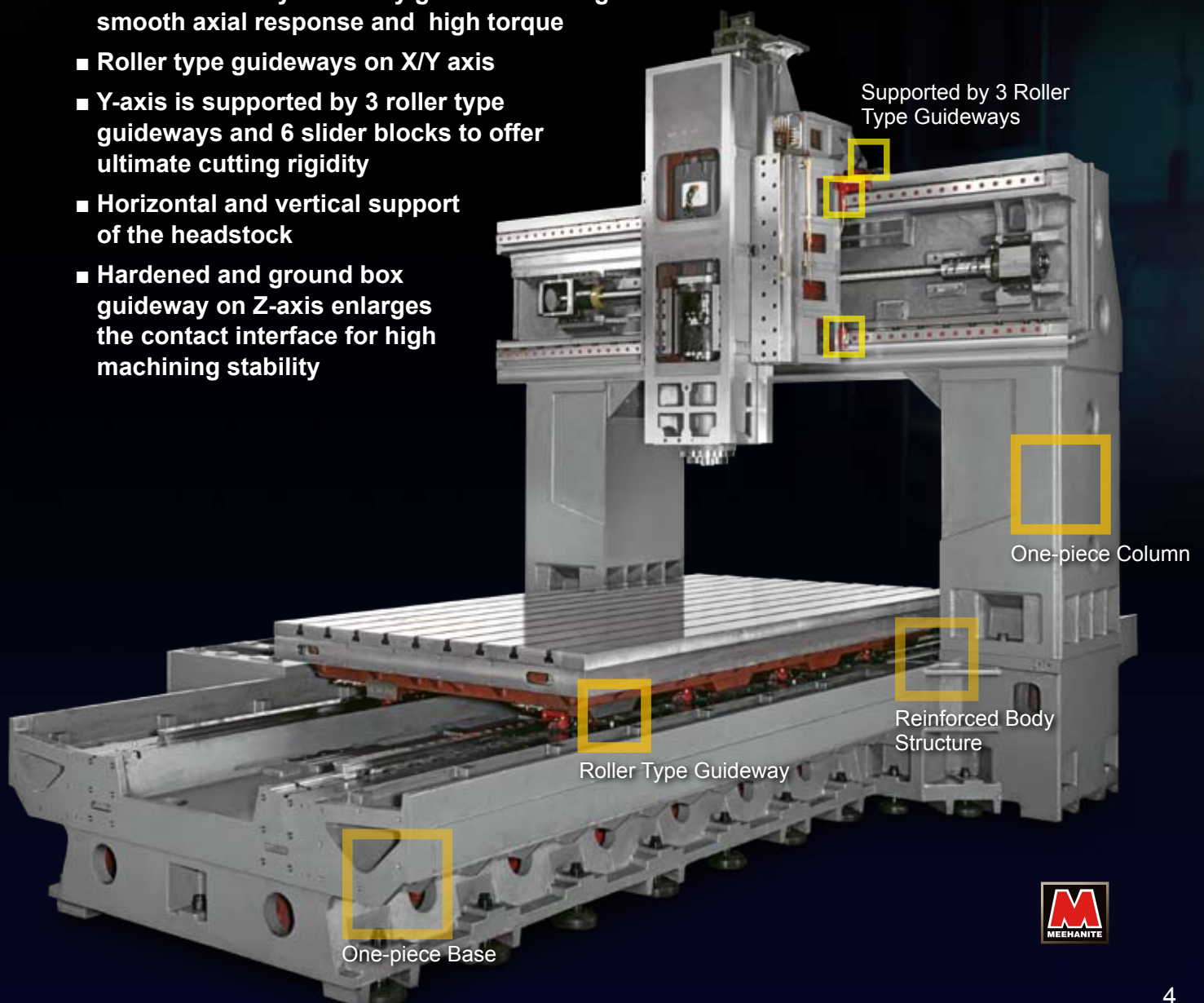
## High Rigidity Guideways

- 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

Saddle



# 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.

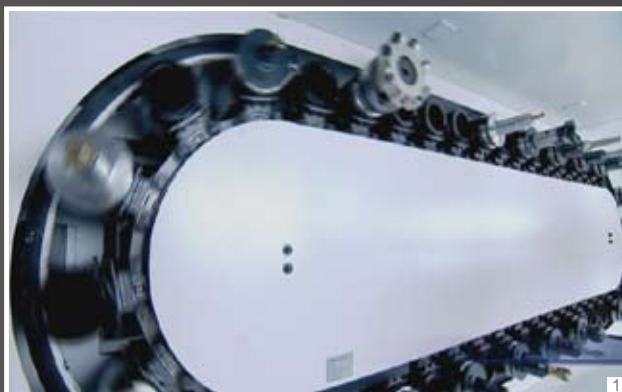
Max. Tool Magazine Capacity: 120T (opt.)

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

Full Chip Enclosure (opt.)

Front or Rear Chip Conveyor

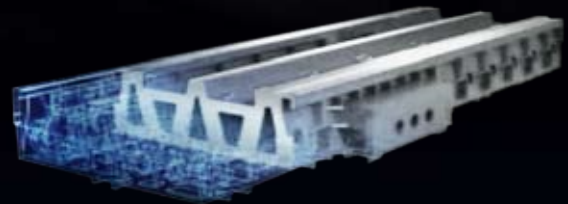
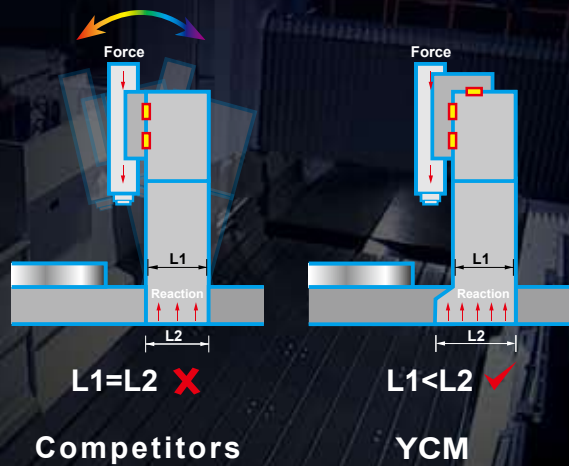
DCV 4025B



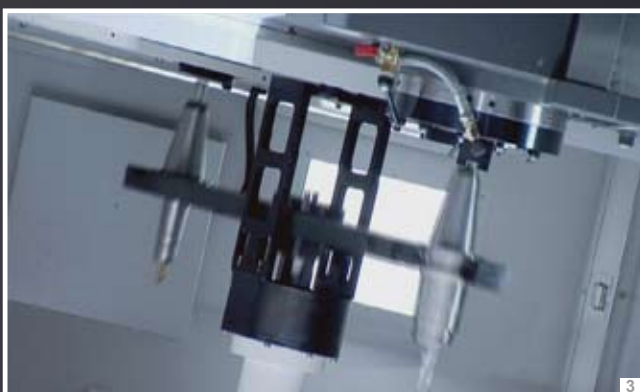


## Superb Body Structure

- 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



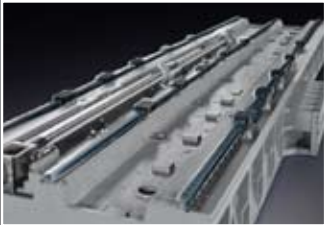
- 40T
- 60/120T (opt.)
- Arm Type ATC System; Prevents Tools from Dropping; Tool to Tool: 3 Sec.





## 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  
(DCV4025B & DCV4035B)



Hardened and Ground Box  
Guideway on Z-axis

**22,000kg**

Extra Wide  
Column Base with  
Boots Design

One-piece Base



Advanced Double Column 5-axis Vertical Machining Center

# DCV4035**B**-5AX

Equipped with ROBOI, YCM-made high performance universal milling head, DCV4035B-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.**

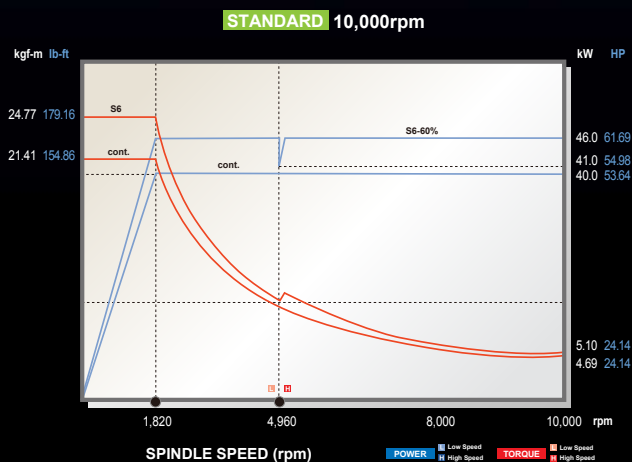
Extra Wide  
Column Base with  
Boots Design

One-piece Base



## 5AX ROBOI 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)

DCV 4035B-5AX (B/C axes)		ACCURACY
Standard		ISO 10791-4
Tolerances		
Axial Travel		Full Length
Positioning A		20"
Repeatability R		15"
<small>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.</small>		



## Superb Body Structure & X/Y/Z Guideways Designs

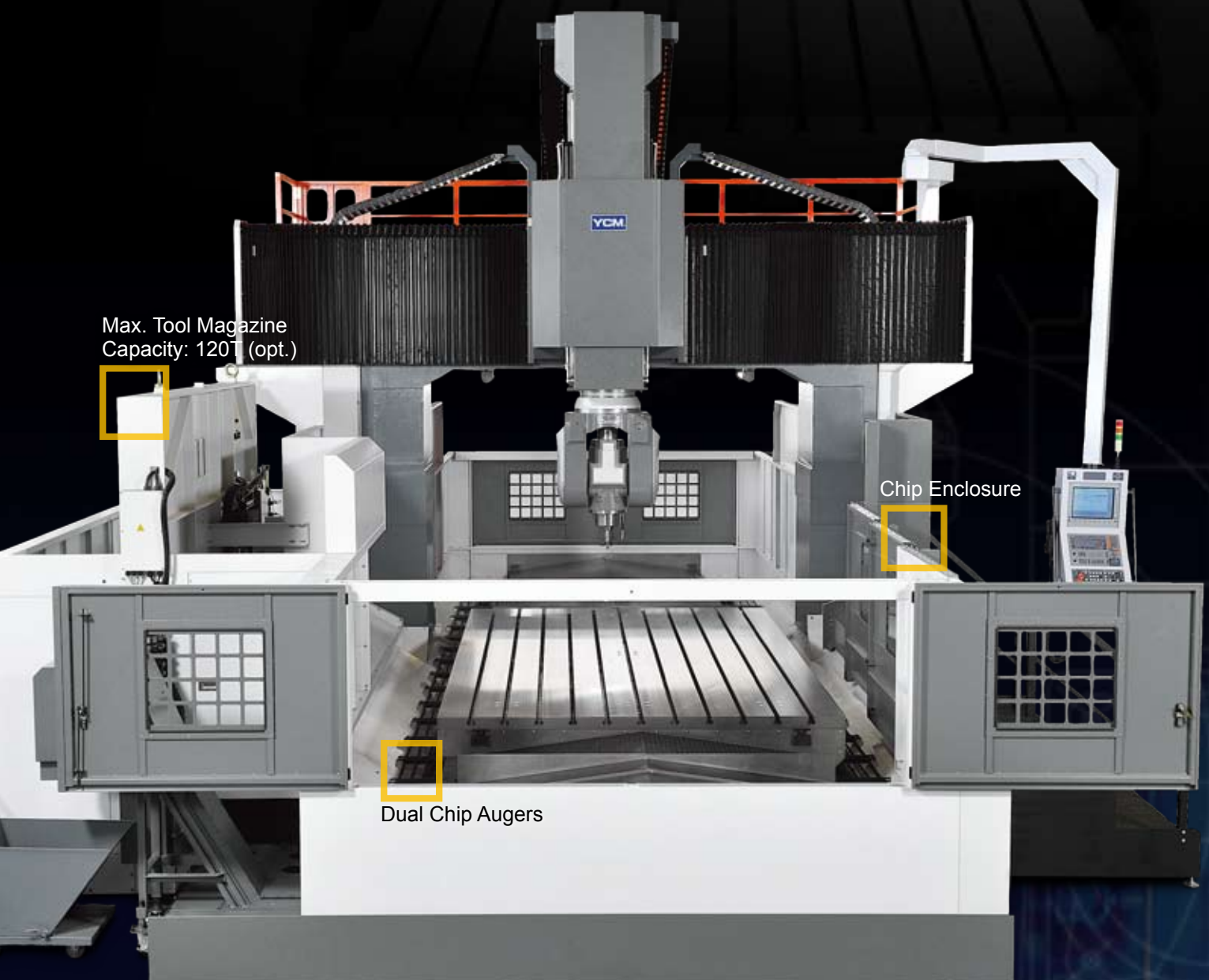
- Massive MEEHANITE® casting through FEM analysis offers exceptional damping capacity.
- Direct drive gearbox design on X/Y/Z axis offers smooth axial response, high torque, and low backlash.
- Extra wide column base with boots design.
- Equipped with roller type guideways and numerous slider blocks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

## HEIDENHAIN Control

- 5-axis simultaneous control by HEIDENHAIN iTNC530 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 26GB.
- smarT.NC.



■ HEIDENHAIN iTNC530

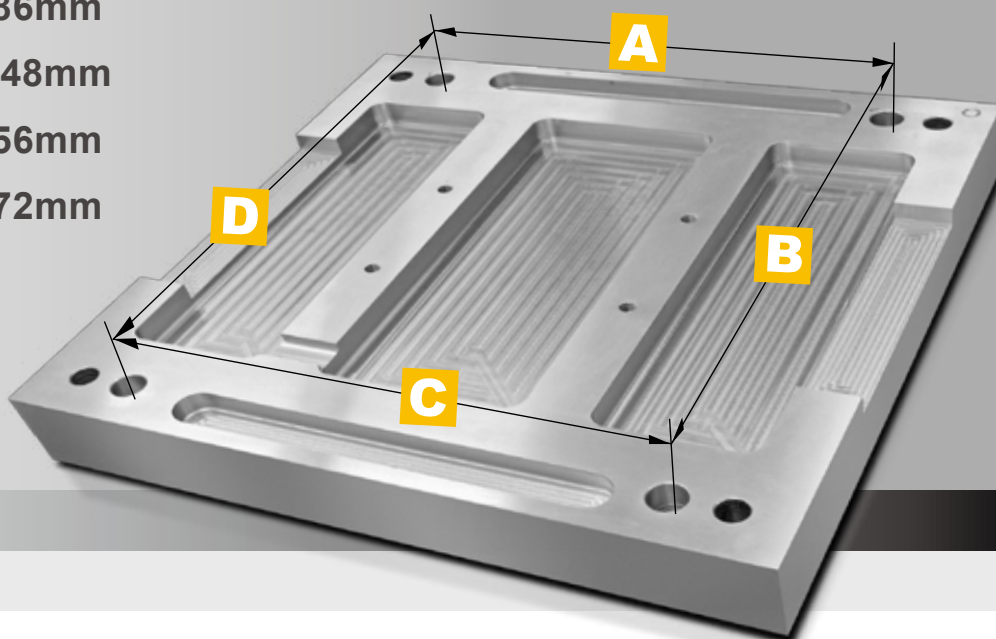


# DCV ACCURACY

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 $\mu$ m/613.9986mm
- B** +4.8 $\mu$ m/454.0048mm
- C** -4.4 $\mu$ m/613.9956mm
- D** -2.8 $\mu$ m/453.9972mm



Test Model: DCV3016B

■ DCV 2012A/2012B 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 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 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/4035B-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.		

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

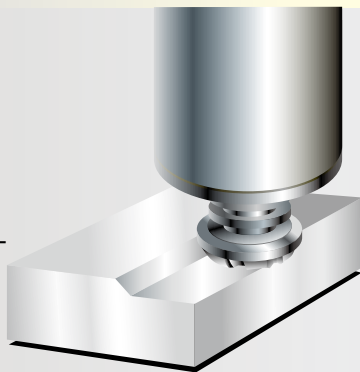
## FACE MILLING

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%



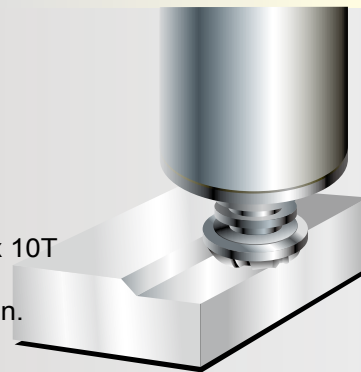
## FACE MILLING

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%



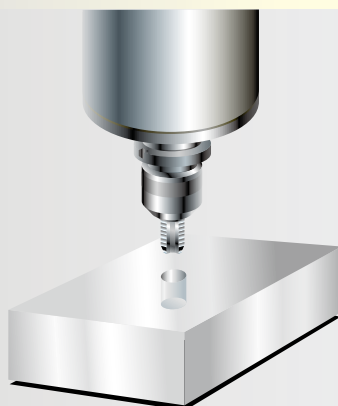
## TAPPING

S45C Steel

TAP

**M48**

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



## DRILLING

S45C Steel

Material Removal Rate

**135**  
cc/min.

Tool ø59mm (Fast Drilling)  
Spindle Speed 590rpm  
Feedrate 110mm/min.  
Spindle Load 148%



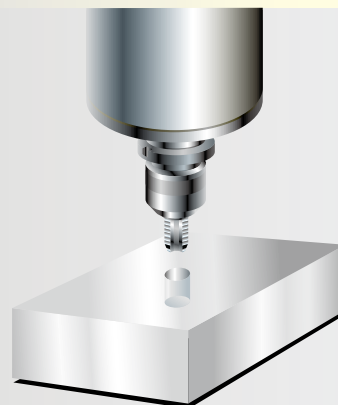
## TAPPING

AL Aluminum

TAP

**0#**

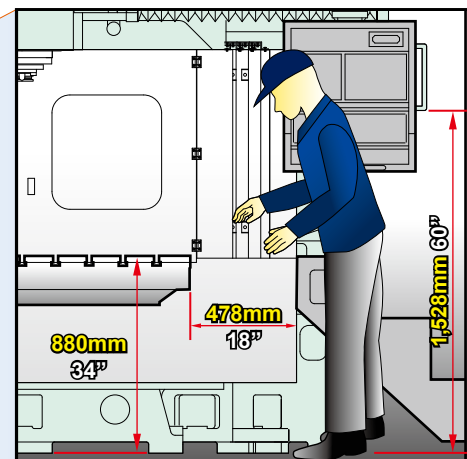
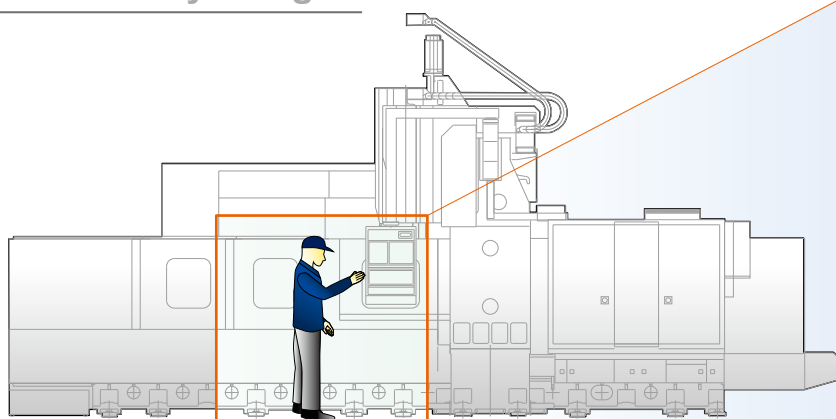
Tool 0#80UNF  
Spindle Speed 1,200rpm  
Feedrate 381mm/min.  
Tooth Pitch 0.3175mm



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







4,500rpm Spindle

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

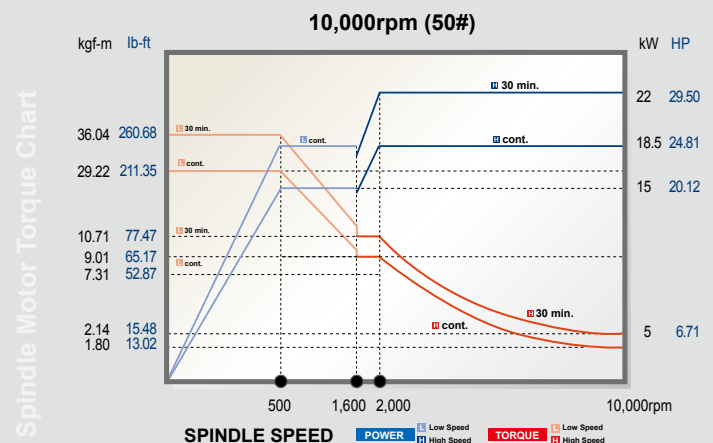
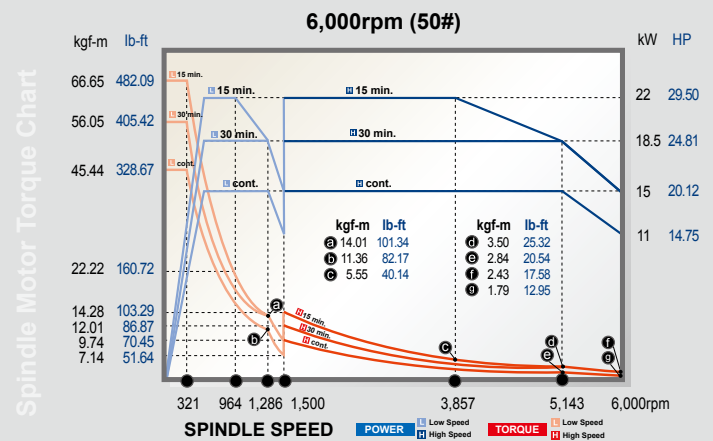
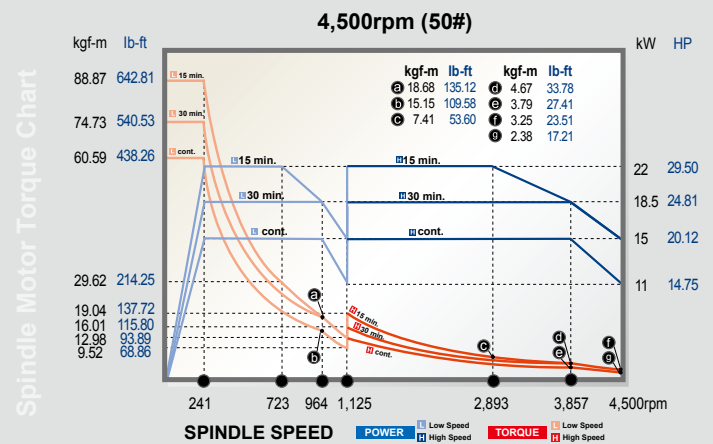
With Hi-lo Gear Transmission

**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

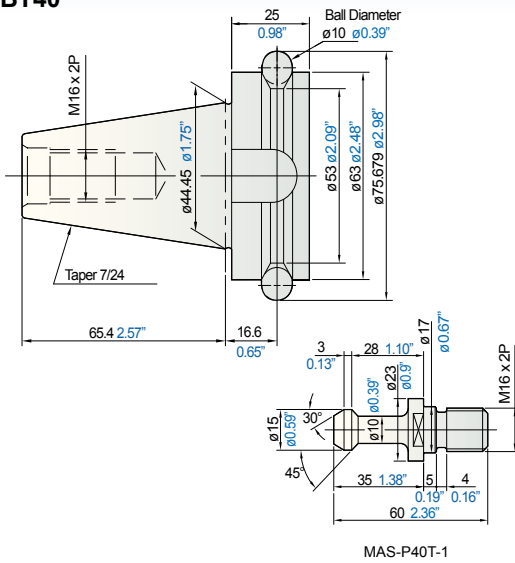
**10,000rpm IDD spindle is optional to be equipped with DCV series. Driven by 22kW dual step AC digital spindle motor, the spindle is able to reach max. 36.04kgf-m torque output at 500rpm. Unique IDD design offers low spindle vibration and optimal heat isolation that results in excellent accuracy after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



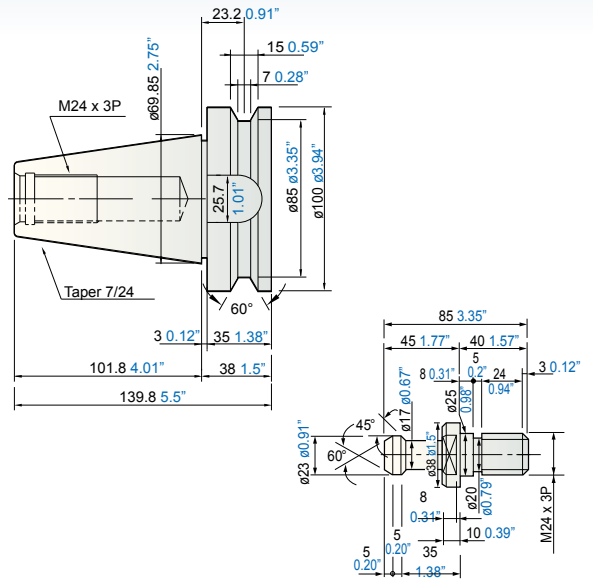
# TOOL SHANK

Unit: mm [inch](#)

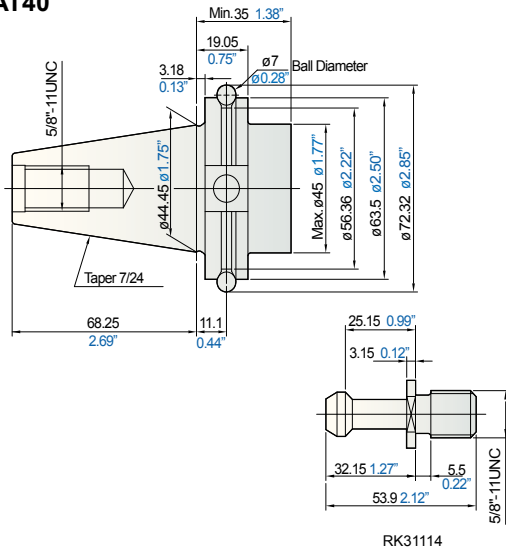
**BBT40**



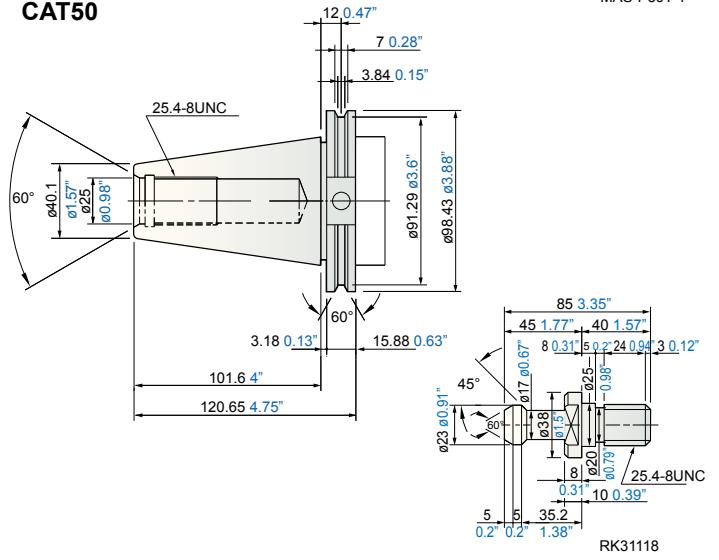
**BT50**



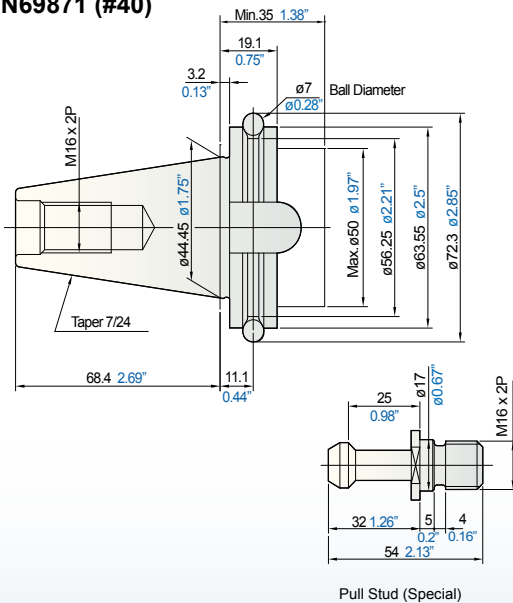
**CAT40**



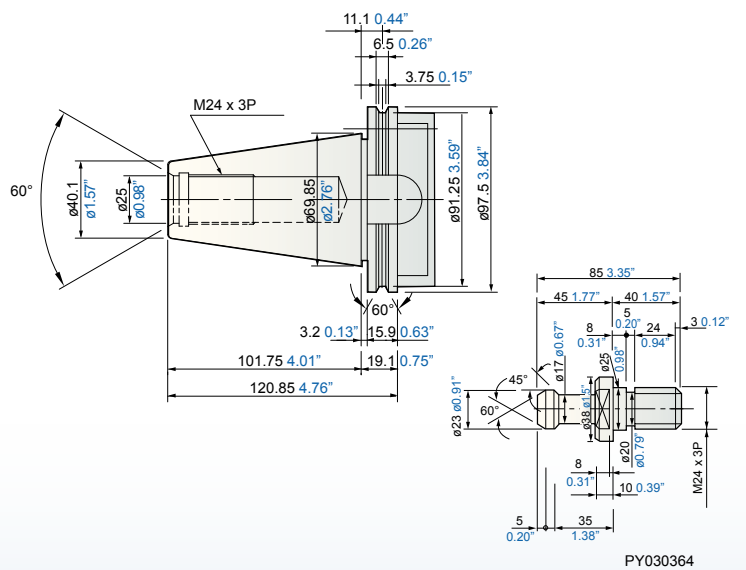
**CAT50**



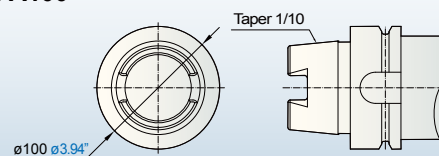
**DIN69871 (#40)**



**DIN69871 (#50)**



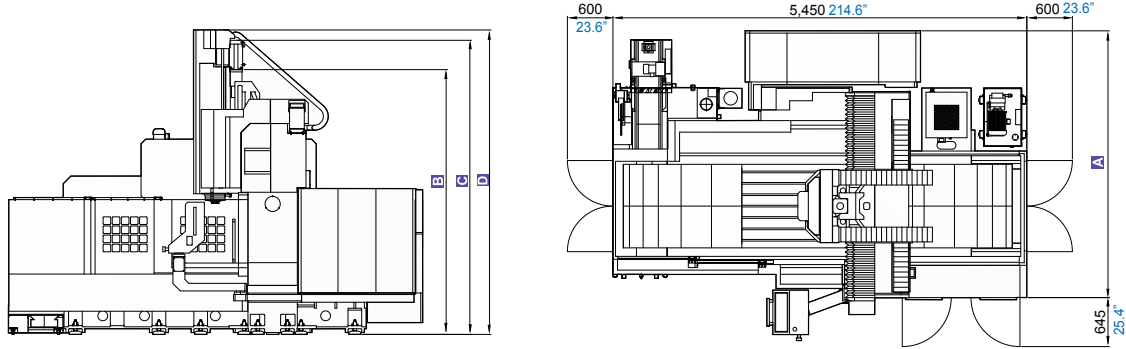
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# DIMENSIONS

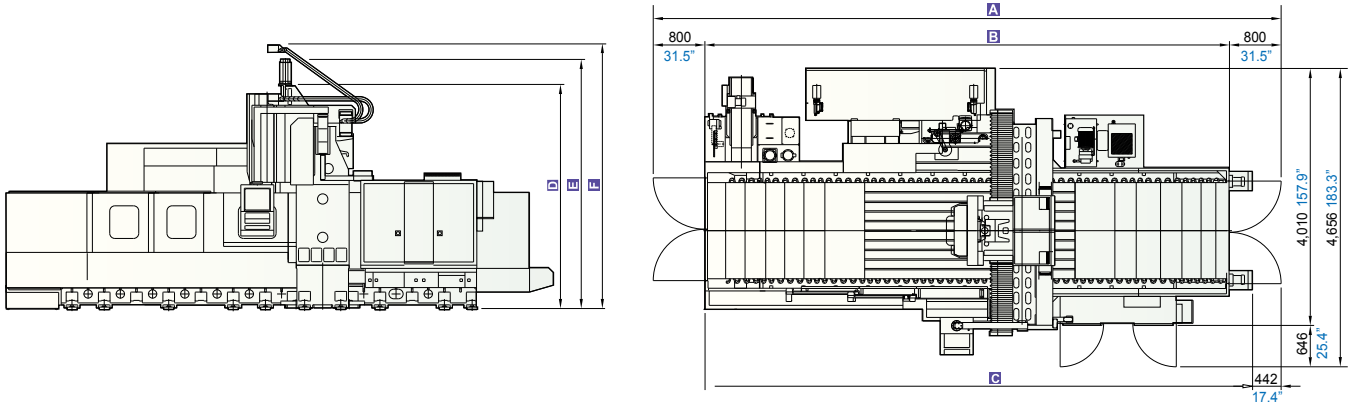
Unit: mm inch

## DCV2012A/B



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

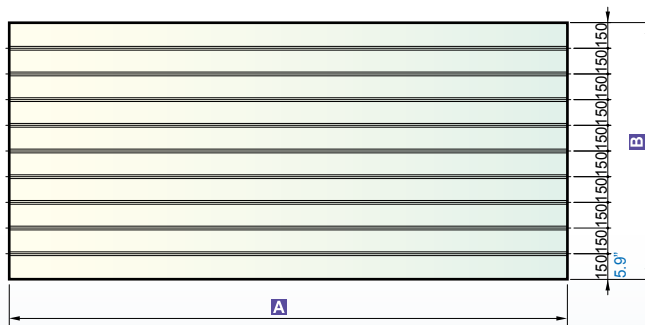
## DCV3016B/DCV4016B



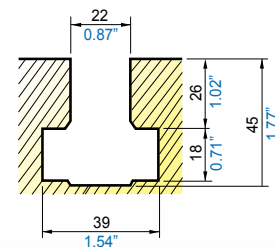
Standard (250mm Raised Column/Z-axis Travel 1,016mm)

	A	B	C	D	E	F
<b>DCV3016B</b>	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")
<b>DCV4016B</b>	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



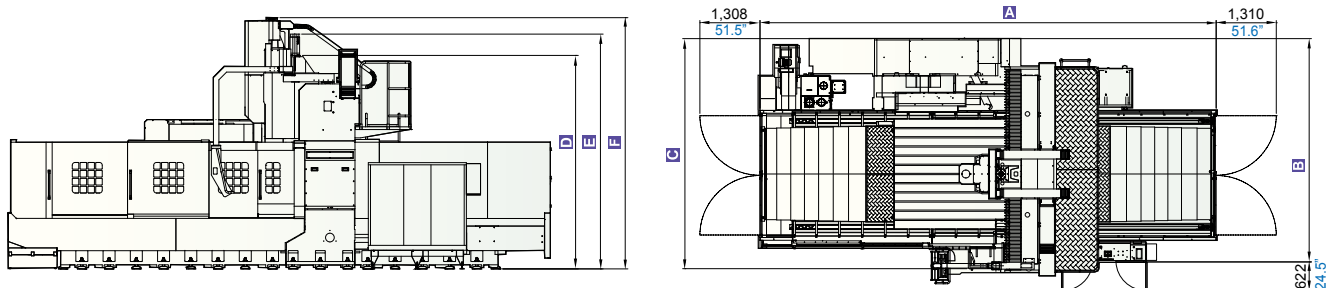
	A	B
<b>DCV2012A/B</b>	2,000 78.7"	1,100 43.3"
<b>DCV3016B</b>	3,260 128.4"	1,500 59.1"
<b>DCV4016B</b>	4,260 167.7"	1,500 59.1"



# DIMENSIONS

Unit: mm inch

## DCV3021B/DCV4021B/DCV3025B/DCV4025B/DCV4035B



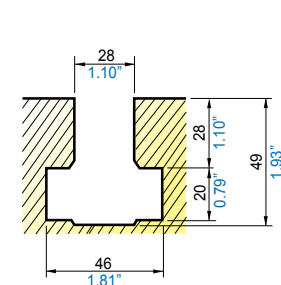
### Standard (250mm Raised Column/Z-axis Travel 1,016mm)

	A	B	C	D	E	F
<b>DCV3021B</b>	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")
<b>DCV4021B</b>	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")
<b>DCV3025B</b>	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")
<b>DCV4025B</b>	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")
<b>DCV4035B</b>	9,945 391.5"	6,154 242.3"	6,379 251.1"	3,778 (4,028/4,278) 148.7" (158.6/168.4")	4,169 (4,419/4,809) 164.1" (173.98/189.3")	4,424 (4,617/5,111) 174.2" (181.8/201.2")

### ▼ TABLE SIZE



### ▼ T-SLOTS

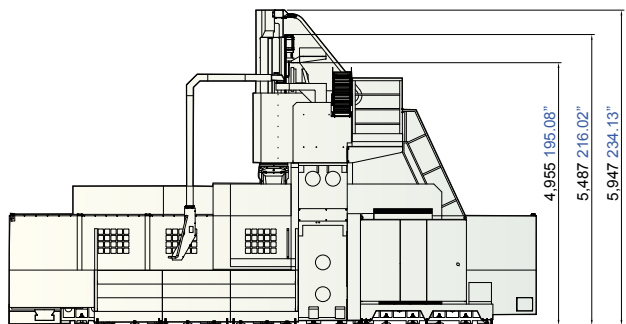
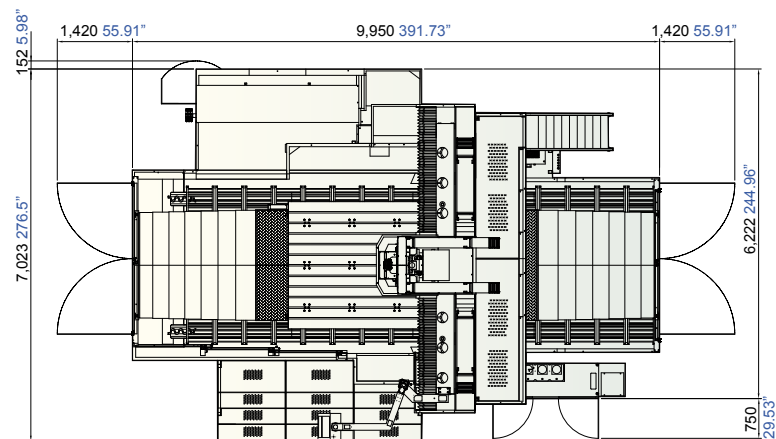


	A	B
<b>DCV3021B</b>	3,100 122.05"	2,000 78.7"
<b>DCV4021B</b>	4,100 161.4"	2,000 78.7"
<b>DCV3025B</b>	3,100 122.05"	2,400 94.5"
<b>DCV4025B</b>	4,100 161.4"	2,400 94.5"
<b>DCV4035B</b>	4,100 161.4"	3,000 118.1"

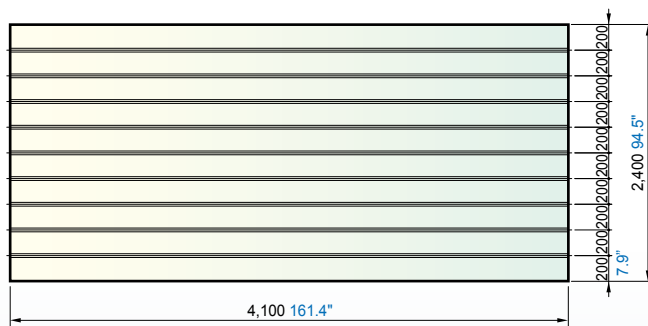
# DIMENSIONS

Unit: mm inch

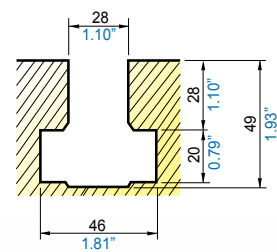
DCV4035B-5AX



## ▼ TABLE SIZE



## ▼ T-SLOTS



# ACCESSORIES

● Standard ○ Optional — None

	DCV									
	2012A	2012B	3016B	4016B	3021B	4021B	3025B	4025B	4035B	4035B-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: MXP-200i	●	●	—	—	●	●	●	●	●	—
CNC Control: MXP-200FB	—	—	●	●	○	○	○	○	○	—
CNC Control: MXP-200FC	—	—	○	○	○	○	○	○	○	—
CNC Control: HEIDENHAIN iTNC-530	○	○	○	○	○	○	○	○	○	●
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.



# SPECIFICATIONS

	DCV2012A	DCV2012B	DCV3016B	DCV4016B
SPINDLE				
Spindle Speed (opt.)	100~20,000rpm	100~10,000rpm	45~4,500rpm (6,000/10,000rpm)	
Spindle Power (max.)	22kW 29.5HP			
Spindle Taper	BBT40	BT50		
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)	46kVA (45kVA)	50kVA (65kVA)		
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	DCV4035B-5AX
SPINDLE						
Spindle Speed (opt.)	45~4,500rpm (6,000/10,000rpm)					10,000rpm
Spindle Power (max.)	22kW 29.5HP					46kW 61.7HP
Spindle Taper	BT50					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")				200~1,216mm 7.87~47.87"	20~1,036mm 0.79~40.8"
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"	4,100 x 3,000mm 161.4 x 118.1"	4,100 x 2,400mm 161.4 x 94.49"
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"		15 x 28mm x 200mm 15 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	22,000kg 48,501 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)	60kVA (65kVA)					120kVA
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	58,000kg 127,867 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.

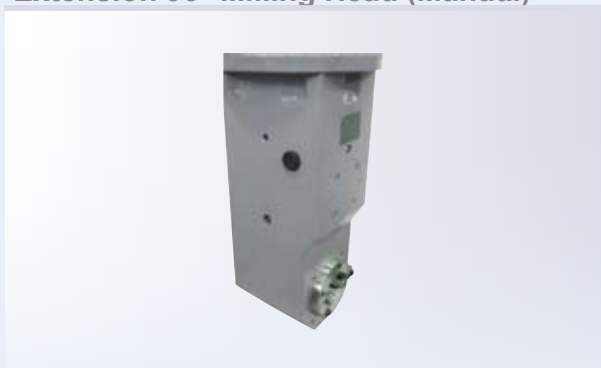
Universal Milling Head (Manual)



90° Milling Head (Manual)



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

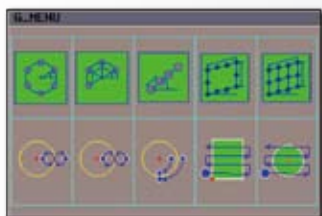




# MXP-200i

**YCM CONTROL**  
by **FANUC**

- High performance AC digital servo & spindle drives
- High responsive vector drives technology for high accuracy machining
- Powerful servo motors with super precision absolute positioning encoders
- High resolution 10.4" color LCD display with dynamic graphic display
- Manual guide i conversational function greatly reduces programming and setup time
- Built-in AI NANO CC and high-speed JERK function
- High speed rigid tapping, helical interpolation, custom macro B, and tool path graphics
- Large program capacity with 1,280 meters of memory
- Full alphanumeric keyboard allows easy program editing
- PCMCIA slot for easy file transfer and memory expansion
- RS-232C interface ready for fast program transfer
- Combined uses of many high performance microprocessors, high speed memory and the adoption of Multi-CPU system for super high speed control processing
- The most reliable CNC control, with the failure rate of under 0.01 per month



## ■ G-menu Function

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



## ■ Calculator Function

Convenient calculator function provides fast calculation and setting of workpiece offsets



## ■ 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



## ■ Counter Function

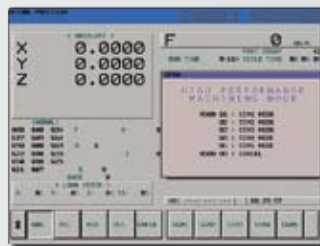
Allows user to easily keep track on number of workpieces with:

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



## ■ Intelligent Tool Data Management

Comprehensive tool data management function allows operators to conveniently monitor and efficiently manages all position in tool magazine



## ■ High Performance Machining Mode: M300

High performance mode with 5 settings that allows user to select for the best machining results



## ■ Pop-up Alarm Display

Detailed troubleshooting procedures are automatically displayed when machine alarm occurs that allows users to quickly restore machine status to minimize downtime



## ■ Intelligent Maintenance Reminder

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



## ■ Automatic Tool Length Measurement

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



## ■ Manual Tool Length Measurement

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



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

## High Speed Machining Mode: M400

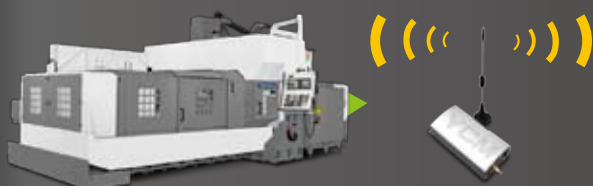
Artificially intelligent machining function that is developed from accumulation of all YCM knowledge and experience on high speed to achieve the fastest cycle time with best machining results. Machining efficiency improved by 25% without sacrificing machining accuracy.

# +25%

Efficiency increased by

## Wireless Message Notification (opt.)

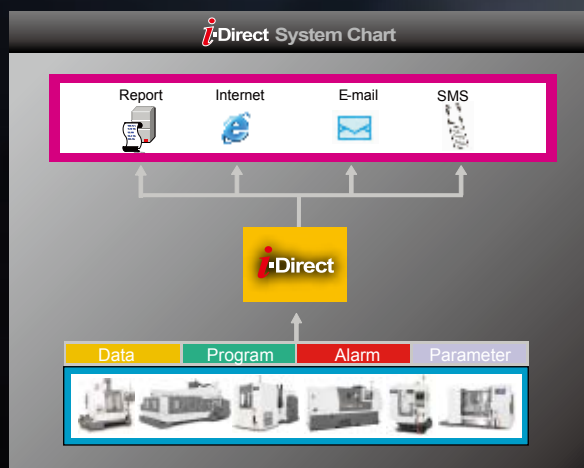
Integrating GSM communication and CNC technology, YCM developed the WMN system for wireless notification of machine and work status report.



# i-Direct

A remote monitoring system

i-Direct, the latest YCM software enhancement innovation is designed for remote monitoring of factory production line. Its powerful features include reporting back complete machine operation status, record, history and data analysis. As soon as the system gets an alarm signal, instant messages will be sent thru e-mail or SMS (can input 3 sets of cell phone numbers).



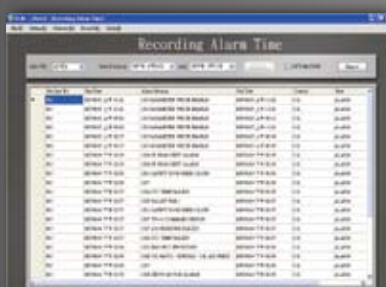
User account administration



Individual machine status display



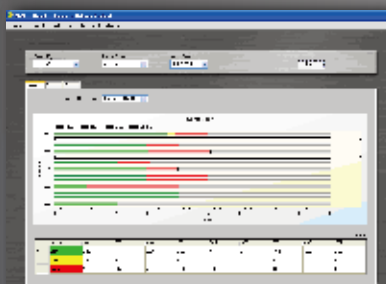
Machine model, number, e-mail, SMS and IP setup



Complete production, standby and down time record



Overall machines status display



Production data graphical analysis