

NDC Series

High Efficiency Double Column Machining Center



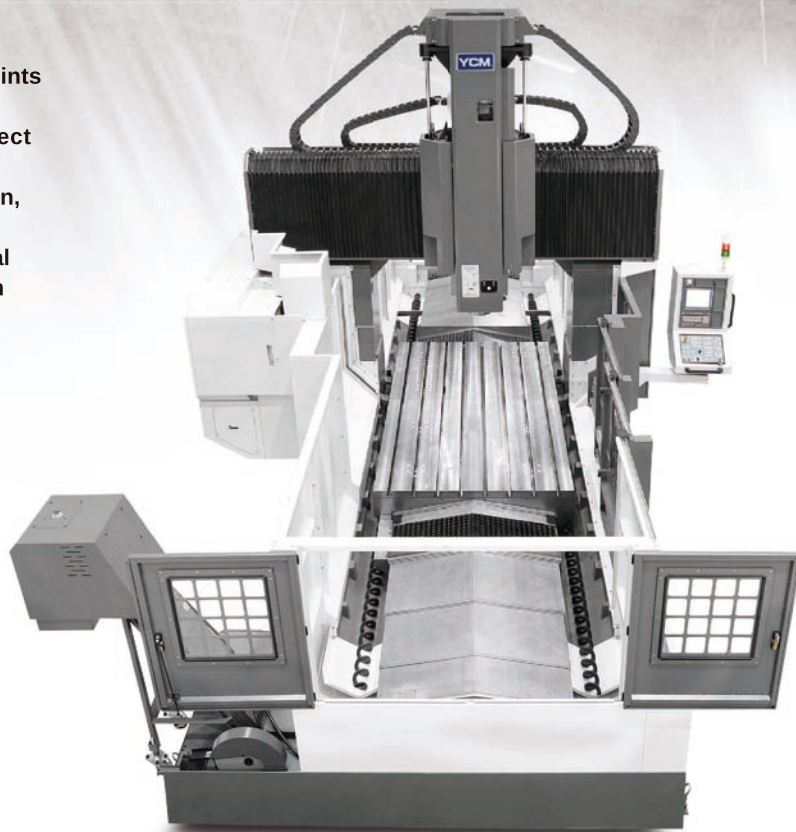
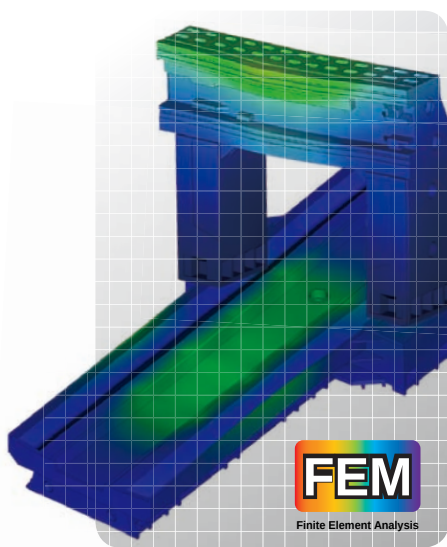
NDC 2016B / 3016B / 4016B

High Efficiency Double Column Machining Center

YCM persists on building the self-manufacturing capability and strict assembly inspection process for upgrading the NDC High Efficiency Double Column Machining Center to its limit of precision, rigidity and power.

High Rigidity Structural Design

- A-ribbed base structure with multiple supporting points provides X-axis with the best straightness
- Work table fully supported by base provides perfect dynamic accuracy
- One piece high rigidity column offers low deformation, providing Y-axis with the best straightness
- Wide span saddle provides both horizontal and vertical support which decentralizes the load caused from head weight and spindle during machining
- Roller type linear guideways on both X/Y-axis provides low friction, non-backlash, high rigidity and high precision
- High damping boxway on Z-axis absorbs vibration, prolongs tool life and enhances surface precision
- Dual chip augers with conveyor offer efficient chip removal
- Simple plate metal design reduces chip accumulation

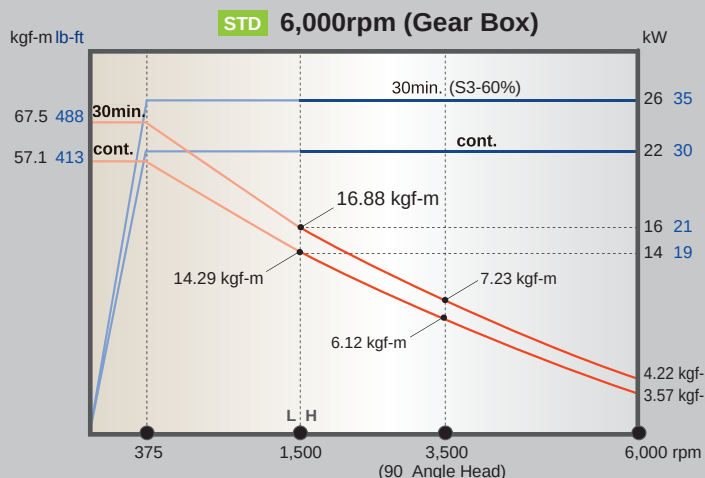


Note: This is non-aesthetic sheet metal.

■ NDC 2016B / 3016B / 4016B ACCURACY

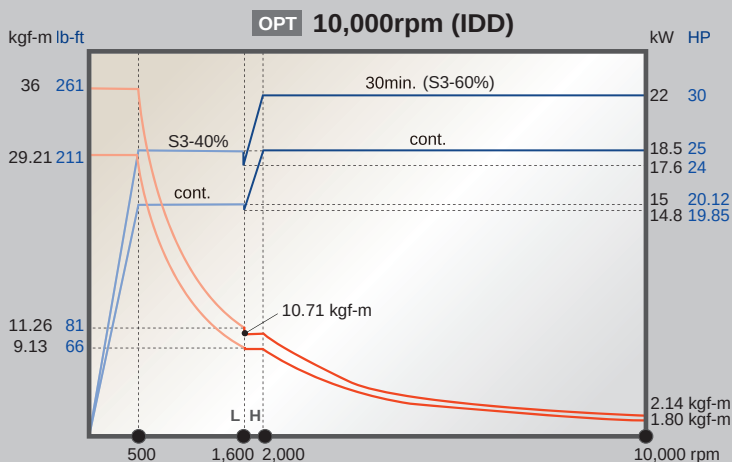
Accuracy	ISO 10791-4	YCM*
Axial Travel	Full Length	
Positioning A (X/Y/Z)	0.042 / 0.032 / 0.025 mm 0.00165" / 0.00126" / 0.00098"	0.020 / 0.020 / 0.015 mm 0.00079" / 0.00079" / 0.00059"
Repeatability R (X/Y/Z)	0.020 / 0.018 / 0.015 mm 0.00079" / 0.00071" / 0.00059"	0.015 / 0.015 / 0.010 mm 0.00059" / 0.00059" / 0.00039"

*All values shown above are measured for the machine in good foundation and air-conditioned environments.



SPINDLE SPEED

POWER Low Speed High Speed TORQUE Low Speed High Speed



SPINDLE SPEED

POWER Low Speed High Speed TORQUE Low Speed High Speed

NDC 2018B / 3018B / 4018B - AHC

High Efficiency Double Column Machining Center with Automatic 90° Angle Head Change

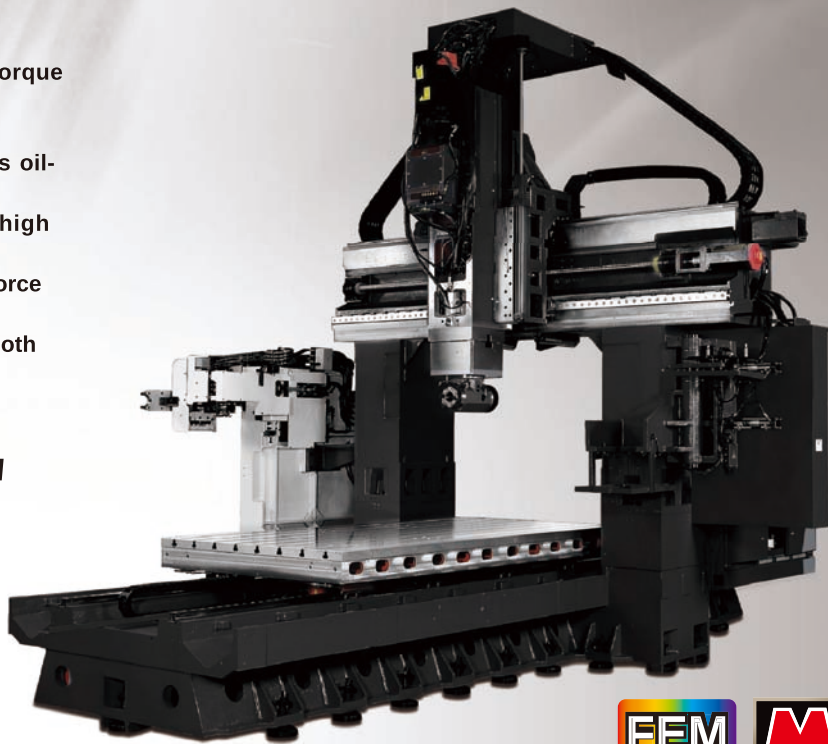
The NDC series is suitable for long workpiece machining. Multi-face machining could also be performed with the adoption of the 90° Angle head which changes automatically. The NDC-AHC can be used for machining applications such as large-scale castings, structural parts and semiconductor chamber components.

High Rigidity 90° Angle Head

- Self-manufactured gearbox provides high torque for both vertical and horizontal machining
- High rigidity octagonal milling head design
- Quiet precision grounded bevel gear, adopts oil-mist lubrication to reduce heat
- Large diameter toothed clutches provide high machining stability, precision and rigidity
- 4 independent pull studs with high clamping force
- 90° angle head anti-drop safety mechanism
- Coolant through spindle (CTS) optional for both vertical / 90° angle head (opt.)

Reliable AHC Vertical / Horizontal Automatic Tool Change

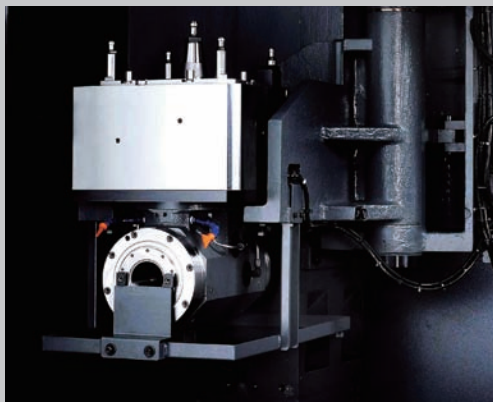
- Rotary head chamber design reduces space and provides rapid head change
- Automatic vertical / horizontal head change mechanism
- Reduce time for both fixture producing and workpiece installation, improving production efficiency
- Multi-face machining in one step increases machining efficiency and precision
- Vertical / Horizontal tool change system provides fast tool change, sensors and sequence scanning ensures tool change stability



■ NDC 2018B / 3018B / 4018B -AHC ACCURACY

Accuracy	ISO 10791-4	YCM*
Axial Travel	Full Length	
Positioning A (X/Y/Z)	0.042 / 0.032 / 0.025 mm 0.00165" / 0.00126" / 0.00098"	0.020 / 0.020 / 0.015 mm 0.00079" / 0.00079" / 0.00059"
Repeatability R (X/Y/Z)	0.020 / 0.018 / 0.015 mm 0.00079" / 0.00071" / 0.00059"	0.015 / 0.015 / 0.010 mm 0.00059" / 0.00059" / 0.00039"

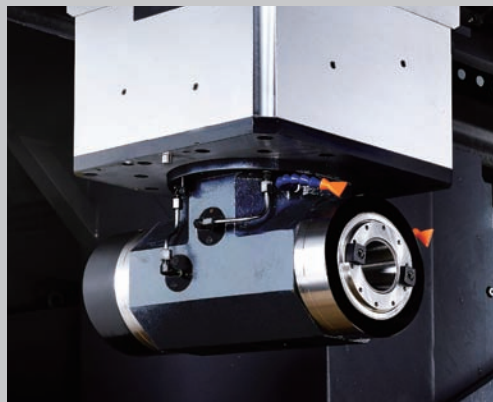
*All values shown above are measured for the machine in good foundation and air-conditioned environments.



■ Rotary Head Chamber Design



■ Stable Vertical Milling Head

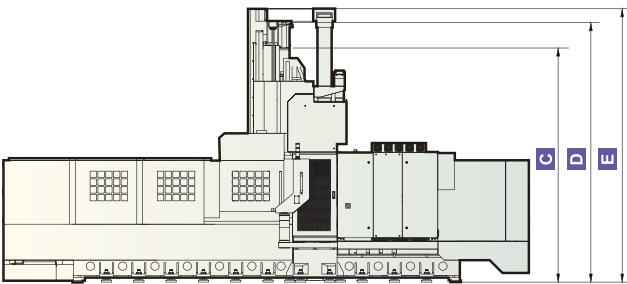
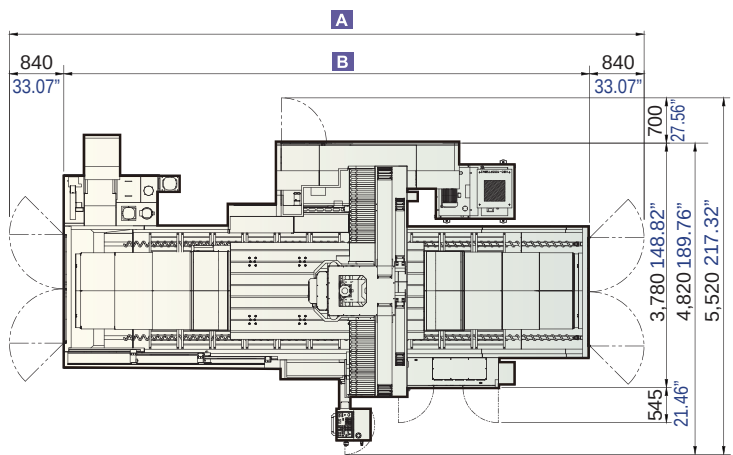


■ 90° Angle Head

DIMENSIONS

Unit: mm inch

► NDC 2016B / 3016B / 4016B

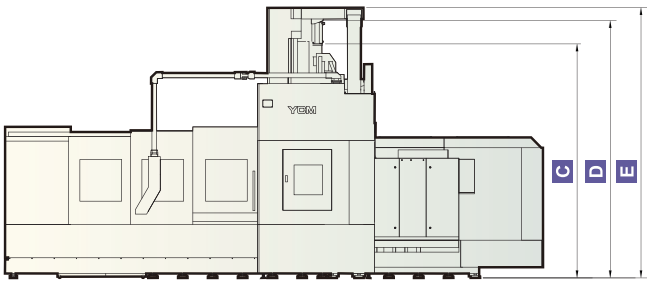
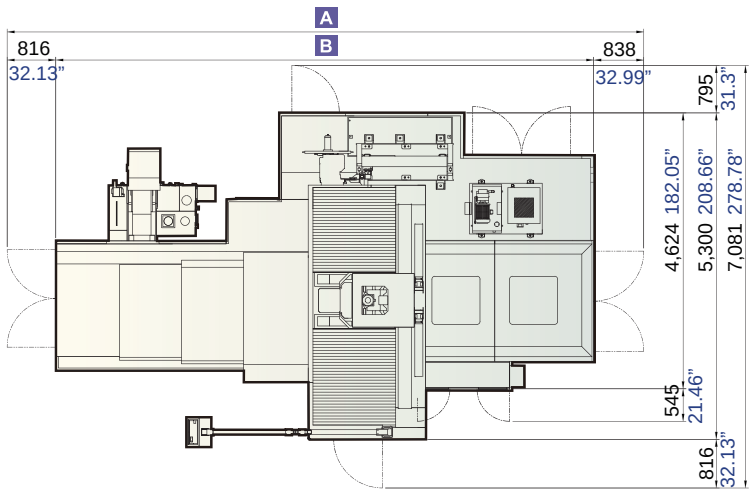


Standard (250mm 9.84" Raised Column)

Model	A	B	C	D	E
NDC 2016B	7,488 mm 294.8"	5,972 mm 235.12"	3,622 mm 142.6" (3,872 mm 152.44")	4,013 mm 157.99" (4,263 mm 167.83")	4,230 mm 166.54" (4,480 mm 176.38")
NDC 3016B	9,820 mm 386.61"	8,136 mm 320.31"			
NDC 4016B	11,800 mm 464.57"	10,150 mm 399.61"			

Note: This is non-aesthetic sheet metal; it will be replaced with aesthetic design in the near future. Dimensions will be modified due to aesthetic design of sheet metal. 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.

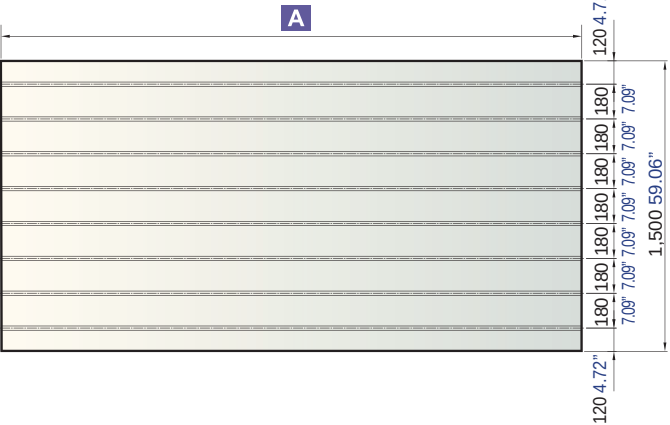
► NDC 2018B / 3018B / 4018B -AHC



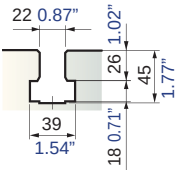
Model	A	B	C	D	E
NDC 2018B-AHC	8,530 mm 335.83"	6,876 mm 270.71"	3,922 mm 154.41"	4,313 mm 169.8"	4,530 mm 178.35"
NDC 3018B-AHC	10,670 mm 420.08"	9,016 mm 354.96"			
NDC 4018B-AHC	12,670 mm 498.82"	11,016 mm 433.7"			

Note: This is aesthetic sheet metal.

► TABLE SIZE



► T-SLOTS



Model	A
NDC 2016B / 2018B-AHC	2,000 mm 78.74"
NDC 3016B / 3018B-AHC	3,000 mm 118.11"
NDC 4016B / 4018B-AHC	4,000 mm 157.48"

ACCESSORIES

● : Standard ○ : Optional — : None

	NDC					
	2016B	3016B	4016B	2018B-AHC	3018B-AHC	4018B-AHC
Tool Kit	●	●	●	●	●	●
Work Lamp	●	●	●	●	●	●
Pilot Lamp	●	●	●	●	●	●
Safety Door	●	●	●	●	●	●
Rigid Tapping	●	●	●	●	●	●
Coolant Equipment System	●	●	●	●	●	●
Spindle Air Blast	●	●	●	●	●	●
Cutting Air Blast	●	●	●	●	●	●
Leveling Bolts and Pads	●	●	●	●	●	●
Foundation Bolts	●	●	●	●	●	●
Central Lubrication Equipment	●	●	●	●	●	●
A/C. Cooler for Electrical Cabinet	●	●	●	●	●	●
Chip Enclosure	●	●	●	●	●	●
Full Chip Enclosure	○	○	○	○	○	○
Workpiece Measurement System	○	○	○	○	○	○
Automatic Tool Length Measurement System	○	○	○	○	○	○
Laser Measuring System	○	○	○	○	○	○
4th Axis Rotary Table	○	○	○	○	○	○
Chip Conveyor (Chain Type)	●	●	●	●	●	●
Chip Conveyor (Wiper Type)	○	○	○	○	○	○
Dual Chip Augers (Screw Type)	●	●	●	●	●	●
Mechanical, Maintenance, Electrical & Operating Manuals	●	●	●	●	●	●
Optical Scale	○	○	○	○	○	○
Oil-mist System	○	○	○	○	○	○
Oil-mist Collector	○	○	○	○	○	○
Coolant Through Spindle System (Form A)	○	○	○	○	○	○
Spindle & Gear Box Cooling System	●	●	●	●	●	●
Hi/Low Gear Box	●	●	●	●	●	●
Oil Skimmer	●	●	●	●	●	●
Oil Hole Holder Function	○	○	○	○	○	○
Circular Coolant Nozzle	●	●	●	●	●	●
Tool Unclamping Pedal	●	●	●	●	●	●
Automatic Power Off Device	○	○	○	○	○	○
Elongating Portal Base for 250mm	○	○	○	—	—	—
STC Plus	○	○	○	—	—	—
Paper Filter Unit	○	○	○	○	○	○
30° 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 (Manual)	○	○	○	—	—	—
Universal Milling Head / 1,500 rpm (Manual)	○	○	○	—	—	—
90° Angle Head / 4,000 rpm (AHC)	—	—	—	●	●	●
Vertical/ Horizontal Arm Type Automatic Tool Change	—	—	—	●	●	●
CNC Control: MXP-200FA	●	●	●	●	●	●

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

SPINDLE			
Spindle Speed (opt.)	6,000 rpm (10,000 rpm)		
Spindle Power / Torque (opt.)	26 kW / 675 Nm 35HP (22 kW / 355 Nm 30HP)		
Spindle Taper	BBT50		
TRAVEL			
X-axis Travel	2,200 mm 86.61"	3,200 mm 125.98"	4,200 mm 165.35"
Y-axis Travel	1,600 mm 62.99"		
Z-axis Travel	762 mm 30"		
Distance Between Spindle Nose & Table Top	200~962 mm 7.87"~37.87"		
Distance Between Columns	1,800 mm 70.87"		
TABLE			
Table Size	2,000 x 1,500 mm 78.74" x 59.06"	3,000 x 1,500 mm 118.11" x 59.06"	4,000 x 1,500 mm 157.48" x 59.06"
No. T-slots x Size x Pitch	8 x 22 x 180 mm 8 x 0.87" x 7.09"		
Max. Load on Table	8,000 kg 17,637 lb	10,000 kg 22,046 lb	12,000 kg 26,455 lb
FEEDRATE			
Rapid Feedrate (X/Y/Z)	20/20/15 m/min 787/787/591 ipm		
Cutting Feedrate	1~10,000 mm/min. 0.04~394 ipm		
ATC			
Tool Magazine Capacity (opt.)	32T (40/60T)		
Max. Tool Weight	20 kg 44 lb		
Max. Tool Dimensions (W/O Adjacent Tool)	ø125 x 350mm ø4.92" x 13.78" (ø240 x 350mm ø9.45" x 13.78")		
Tool Changer Method	Arm Type		
Tool Selection Method	Random		
GENERAL			
Pneumatic Supplier	5.5 kg/cm² 78.2psi		
Power Consumption (Transformer)	75 kVA (80 kVA)		
Machine Weight	23,000 kg 50,706 lb	26,000 kg 57,320 lb	29,000 kg 63,933 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° Angle Head / 2,000 rpm

(Manual)



90° Angle Head / 2,000 rpm

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



Extended 90° Milling Head / 2,000 rpm

(Manual)



SPECIFICATIONS

SPECIFICATIONS	NDC2018B-AHC		NDC3018B-AHC		NDC4018B-AHC	
SPINDLE						
Spindle Speed (opt)	6,000 rpm / 4,000 rpm					
Spindle Power / Torque	26 kW / 675 Nm 35HP					
Spindle Taper	BBT50					
TRAVEL						
X-axis Travel	2,200 mm 86.61"	3,200 mm 125.98"	4,200 mm 165.35"			
Y-axis Travel	2,200 mm 86.61"					
Z-axis Travel	762 mm 30"					
Distance Between Spindle Nose & Table Top	500~1,262 mm 19.69"~49.69" / 130~892 mm 5.12"~35.12"					
Distance Between Columns	1,800 mm 70.87"					
TABLE						
Table Size	2,000 x 1,500 mm 78.74" x 59.06"	3,000 x 1,500 mm 118.11" x 59.06"	4,000 x 1,500 mm 157.48" x 59.06"			
No. T-slots x Size x Pitch	8 x 22 x 180 mm 8 x 0.87" x 7.09"					
Max. Load on Table	8,000 kg 17,637 lb	10,000 kg 22,046 lb	12,000 kg 26,455 lb			
FEEDRATE						
Rapid Feedrate (X/Y/Z)	20/20/15 m/min 787/787/591 ipm					
Cutting Feedrate	1~10,000 mm/min. 0.04~394 ipm					
ATC						
Tool Magazine Capacity (opt.)	40T (60T)					
Max. Tool Weight	20 kg 44 lb					
Max. Tool Dimensions (W/O Adjacent Tool)	ø125 x 350mm ø4.92" x 13.78" (ø240 x 350mm ø9.45" x 13.78")					
Tool Changer Method	Arm Type (V/H Tool Change)					
Tool Selection Method	Random					
GENERAL						
Pneumatic Supplier	5.5 kg/cm² 78.2psi					
Power Consumption (Transformer)	75 kVA (80 kVA)					
Machine Weight	26,000 kg 57,320 lb	29,000 kg 63,933 lb	32,000 kg 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.

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

- Tool length & radius measurement
- Universal and economic solution for fast tool setting and breakage control



Laser Measuring System

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



Workpiece Measurement System

- Multidirectional touch probe
- Allows fast, precise, and automatic calculation of workpiece position and dimensions



VMC

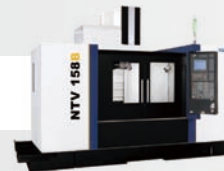
Vertical Machining Center

FP Series High Precision High Performance Die Mold Vertical Machining Center
/ High Precision Graphite Vertical Machining Center
FP55LX, FP66A, FP100A / FP66G



NXV Series High Performance Vertical Machining Center
NXV560A, NXV1020A/AM, NXV1380A, NXV1680A/B

TV Series Heavy Duty Vertical Machining Center
TV116B, TV146A/B, TV158B, TV188B, TV2110B, TV2610B



NTV Series High Efficiency T-base Vertical Machining Center
NTV158A/B

NMV Series High Performance High Rigidity Vertical Machining Center
NMV76A, NMV106A



WV Series Ultra Wide High Performance Vertical Machining Center
WV108A/B

FX Series High Performance 5-axis Vertical Machining Center
FX380A

NSV Series Ultra High Performance Vertical Machining Center
NSV66A, NSV85A, NSV102A, NSV156A



NDV Series High Precision Die Mold Vertical Machining Center
NDV66A, NDV85A, NDV102A

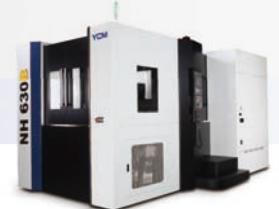
TCV Series High Performance Traveling Column Vertical Machining Center
TCV2000A, TCV3000A, TCV3000A-5AF, TCV3000A-5AX



DCV Series Advanced Double Column Vertical Machining Center

DCV2012A/B, DCV3016B, DCV4016B, DCV3021B, DCV4021B, DCV5021B, DCV6021B, DCV3025B, DCV4025B, DCV5025B, DCV4030B, DCV5030B, DCV6030B, DCV4035B, DCV5035B, DCV6035B, DCV4030B-5AX, DCV5030B-5AX, DCV6030B-5AX, DCV4030B-5AF

NDC Series High Performance Double Column Vertical Machining Center
NDC2016B, NDC3016B, NDC4016B, NDC2018B-AHC, NDC3018B-AHC, NDC4018B-AHC



HMC

Horizontal Machining Center

H Series High Production Horizontal Machining Center
H500A/B, H630B, H2612B

NH Series High Speed High Precision Horizontal Machining Center
NH450A, NH630B, NH800B

HBM

Horizontal Boring Milling Machining Center

BMP Series High Accuracy Heavy Duty Boring Machine
BMP1416B



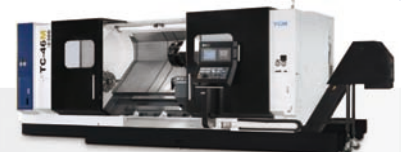
CNC LATHES

CNC Turning Center

NT Series High Performance Mill-axis Mill/Turn Center
NT-2000Y/SY, NT-2500Y/SY



GT Series High Performance Geo Turning Center
GT-200A/B/MA, GT-250A/B/MA/MB, GT-300A/B/LA/LB/MA/MB/LMA/LMB, GT-380A/B/LA/LB



TC Series High Performance High Precision CNC Lathe
TC-16A/B/LA/LB/MA/MB/LMA/LMB, TC-26, TC-26L, TC-36, TC-36W, TC-46, TC-46M



INTEGRATION AND SOLUTIONS

Integrated Operation Control System **iOPERATION Plus**

Spindle Thermal Compensation System **STC PLUS**

Remote Monitoring System **iDirect**

Automation Solutions



YEONG CHIN MACHINERY INDUSTRIES CO., LTD.

No. 888, Sec. 1, Homu Road, Shengang District, Taichung 42953, Taiwan

Tel : +886-4-2562-3211

Fax: +886-4-2562-6479

Web Page: www.YCMCNC.com

Email: sales@YCMCNC.com



201505-E02-2000