



Towards a Better Tomorrow

Assisting our customers with
intelligent **IoT** solutions and
automated system integration


EMO **Hannover**
18-23.9.2017

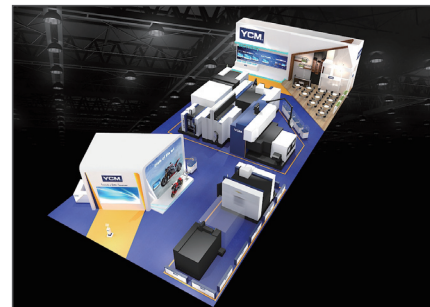
Guidebook
Hall 27 Stand C24

EMO 2017

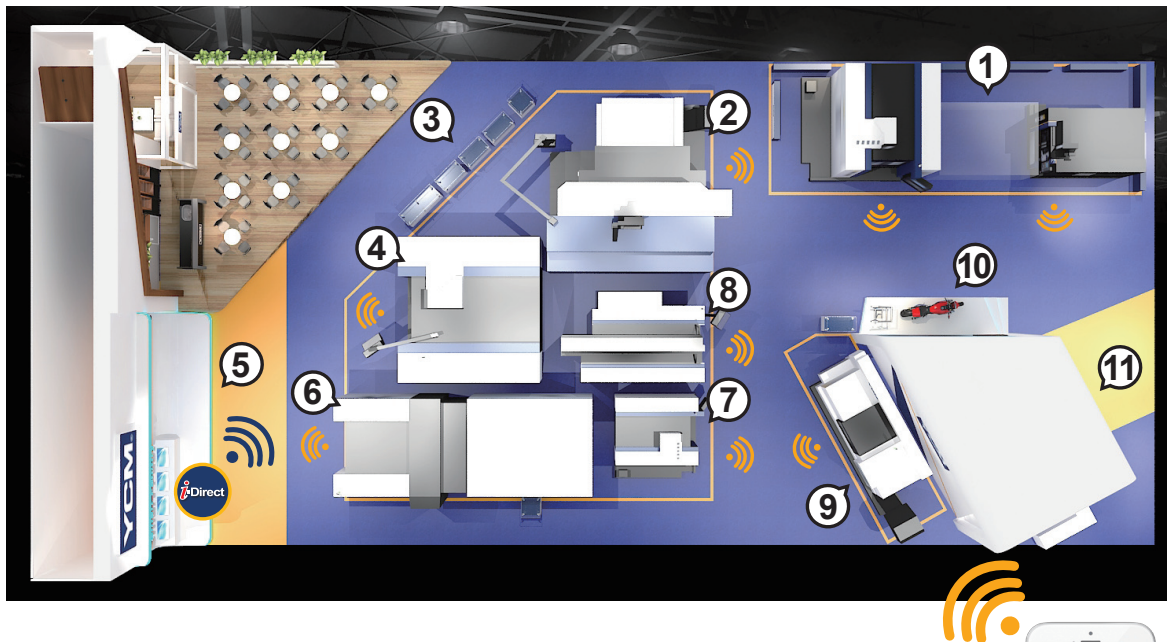
Thank you for visiting YCM at EMO Hannover 2017, Germany. We are glad to present you further information on YCM's groundbreaking products and how they benefit you with optimum features which are included:

- ▶ The 5-axis technology solutions for boosting machining accuracy, quality and efficiency.
- ▶ Advanced turning series with upgraded specifications.
- ▶ Live demonstration presenting new technologies.
- ▶ Customized automation solutions lead to greater output and less downtime.
- ▶ **iDirect** intelligent production management system for the best solution of Industry 4.0.

Enjoy your experience at the YCM booth! Your **YCM** Team



YCM at EMO 2017, Hall 27 Stand **C24**



- ① **Automation Solutions**
NFX380A, NXV1020A
Vertical Machining Centers
- ② **DCV2018A-5AX**
5-Axis Double Column Vertical
Machining Center
- ③ **Workpiece Display Area**
- ④ **NXV1680B**
Vertical Machining Center
- ⑤ **Smart Factory**
- ⑥ **NH500A-6PC**
Horizontal Machining Center
- ⑦ **NSV106A**
Vertical Machining Center
- ⑧ **NFX630A-T**
5-Axis Gantry Type Mill / Turn
Machining Center
- ⑨ **NTC-2000LSY**
CNC Turning Center
- ⑩ **Motorcycle Display Area**
- ⑪ **Motion Sensing Area**

YCM Overview



Reliable Manufacturing Process



Pre-Sales Assistance



Foundry



Machining Facility



Spindle Assembly Shop



After-Sales Support



Packaging



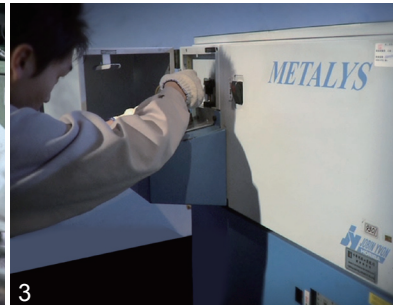
Quality Control



Assembly Factory

Foundry

YCM's state-of-the-art in house foundry allows for quality and control to be managed uniquely by YCM.



Enhanced Karl Fischer moisture meter / pH meter. -1

YCM castings are melted, poured and formed in-house. -2

Spectrum analysis to ensure consistent quality. -3

Annealing, aging process for casting stress relieve. -4



Machining Facility

The core components utilized in YCM machines are manufactured and machined using the highest quality machine tool brands in the world, which include our very own YCM machines.



- 5- YCM-built equipment for machining processes.
- 6- STUDER grinding machine / YASDA precision center.
- 7- SUMITOMO grinding machine.
- 8- ZEISS CMM.





YCM Smart Factory

Short lead time, customization demands, manpower shortage and global competitions are the future challenges for manufacturing. Thus, "Industry 4.0" has become imperative.

With respect to this trend, we would like to present the model of "Smart Factory" by YCM's integrating smart machines, and value-added automation and manufacturing management.





Diversified Production

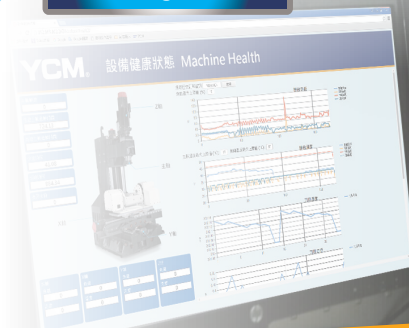


Intelligent Production Management



Smart Automation

YCM Smart Factory



Smart Machines

i Pros **MX** Intelligent Operating System

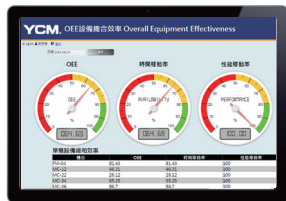
- ▶ Straightforward operation
- ▶ Complete 15 items of intelligent software APPs
- ▶ User-friendly interface



Intelligent Production Management



Real-time
visualization for
production
information



Production
Information



Equipment
Monitoring

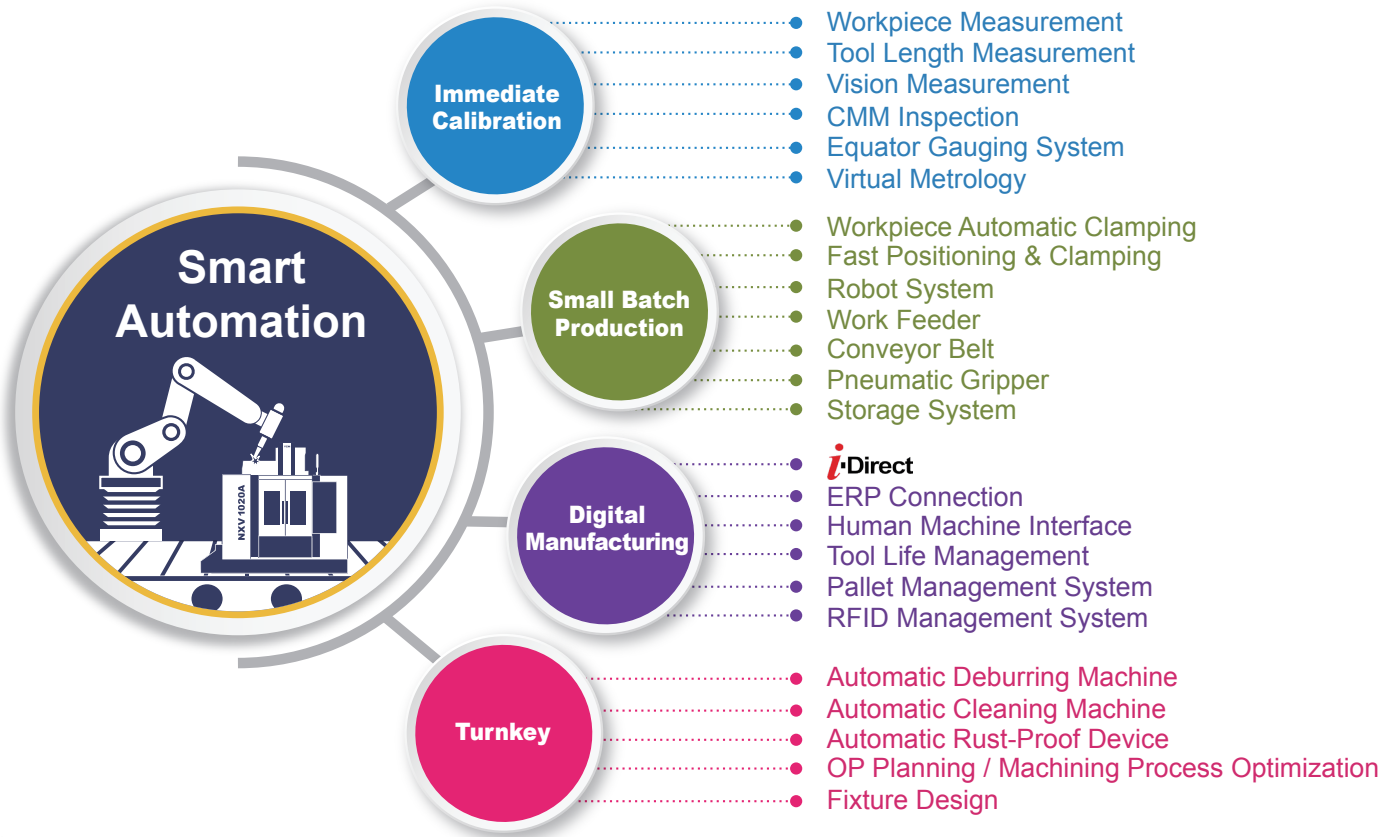


Maintenance



Quality
Assurance

Smart Automation



Jig & Fixture

Turnkey Service:

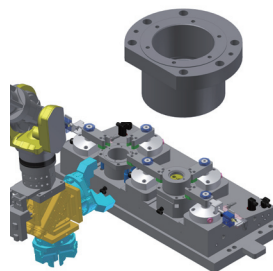


■ Valve of Grinding Machine :

- ◎ The concentricity and roughness of the hole

■ Manual Fixture :

- ◎ Easy to arrange space
- ◎ Reduce die change time
- ◎ Fixed by Wise Vise
- ◎ Suitable for multi-sided machining
- ◎ Easy to remove chips



■ Motor Mount :

- ◎ Face milling, drilling, tapping

■ Hydraulic Fixture :

- ◎ 2 OPs processing, just-in-time (JIT)
- ◎ Air pressure detection
- ◎ Possibility for automation production
- ◎ Mold Community

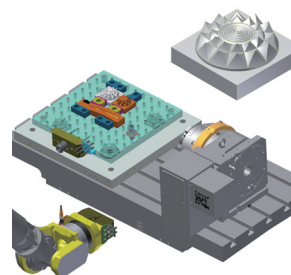


■ Wheel :

- ◎ High speed machining / form drilling

■ Hydraulic Fixture :

- ◎ Innovative fixture design for horizontal machining center
- ◎ Integrate OPs processing
- ◎ Reduce die change time



■ Mold :

- ◎ Forming processing

■ Manual Fixture :

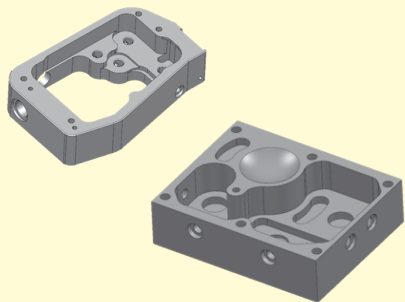
- ◎ Fixed by Wise Vise
- ◎ Easy to arrange space
- ◎ Flexible line production
- ◎ Customization
- ◎ Possibility for automation production



► **Automotive / Motorcycle / Aerospace / Electronics**

Display Feature

- ◎ Process configuration to ensure accuracy
 - a. Dimension accuracy ± 0.008 mm
 - b. Roundness 0.008 mm
 - c. Perpendicularity 0.008 mm
 - d. Position 0.015 mm



NXV 1020A

High Performance Vertical Machining Center

SPINDLE

Spindle Speed	12,000 rpm
Max. Spindle Power	18.5 kW 25 HP
Spindle Taper	BBT40

TRAVEL

X / Y / Z-axis Travel	1,020 / 520 / 540 mm 40.2" / 20.47" / 21.26"
Distance between Spindle Nose & Table Top	140~680 mm 5.51"~26.77"

TABLE SIZE

Table Size	1,120 x 520 mm 44" x 20.47"
Max. Load on Table	500 kg 1,102 lb

FEEDRATE

Rapid Feedrate (X / Y / Z)	48 / 48 / 32 m/min. 1,890 / 1,890 / 1,260 ipm
Cutting Feedrate	1~20,000 mm/min. 0.04~787 ipm
Acceleration (X / Y / Z)	1g / 0.8g / 1g

ATC

Tool Magazine Capacity	40 T
Max. Tool Weight	6 kg 13.2 lb
Max. Tool Dimensions (W/O Adjacent Tools)	$\phi 76$ x 300 mm ($\phi 125$ x 300 mm) $\phi 3"$ x 11.81" ($\phi 4.92"$ x 11.81")

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.



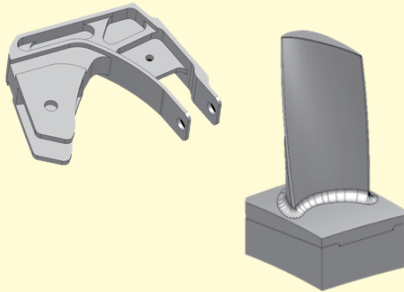
NFX 380A

High Performance 5-Axis Vertical Machining Center

► **Aerospace / Medical / Automotive / Motorcycle**

Display Feature

- ◎ 5-axis multi-face machining process to ensure accuracy
 - a. Dimension accuracy ± 0.01 mm
 - b. Position 0.02 mm
- ◎ Blade surface profile 0.05 mm



SPINDLE

Spindle Speed	12,000 rpm
Max. Spindle Power	17.5 kW 30HP
Spindle Taper	BBT40

TRAVEL

X / Y / Z-axis Travel	700 / 520 / 480 mm 27.56" / 20.47" / 18.9"
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A / C-axis

A / C-axis Rotation Range	+30° ~ -120° / $\pm 360^\circ$
A / C-axis Rotation Speed	33.3 rpm

TABLE SIZE

Table Size	$\varnothing 380$ mm $\varnothing 14.96"$
Max. Load on Table	200 kg 441 lb

FEEDRATE

Rapid Feedrate (X / Y / Z)	36 / 36 / 24 m/min. 1,417 / 1,417 / 945 ipm
Cutting Feedrate	1~10,000 mm/min. 0.04~394 ipm

ATC

Tool Magazine Capacity	60 T
Max. Tool Weight	6 kg 13.2 lb
Max. Tool Dimensions (W/O Adjacent Tools)	$\varnothing 76$ X 280 mm ($\varnothing 125$ x 280 mm) $\varnothing 3" \times 11.02" (\varnothing 4.92" \times 11.02")$

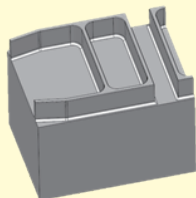
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► **Automotive / Motorcycle / Aerospace / Electronics**

Display Feature

- ◎ F2,500 mm/min grooving machining
- ◎ F5,000 mm/min raping cutting
- ◎ Optimized servo acceleration/ deceleration parameters
- ◎ Ø16mm End mill full slot with rapid cutting, showing chip removal capacity for aluminum material
- ◎ Process configuration to ensure accuracy
 - a. Dimension accuracy ± 0.01 mm
 - b. Perpendicularity 0.01 mm
 - c. Position 0.015 mm



NSV 106A

High Efficiency Vertical Machining Center

SPINDLE

Spindle Speed	12,000 rpm
Max. Spindle Power	22 kW 30 HP
Spindle Taper	BBT40

TRAVEL

X / Y / Z-axis Travel	1,020 / 600 / 600 mm 40.2" / 23.62" /23.62"
Distance between Spindle Nose & Table Top (opt.)	100~700 mm (350~950 mm) 3.9"~27.6" (13.8"~37.4")

TABLE SIZE

Table Size	1,120 x 650 mm 44.1" x 25.6"
Max. Load on Table	1,000 kg 2,204 lb

FEEDRATE

Rapid Feedrate (X / Y / Z)	48 / 48 / 48 m/min. 1,890 / 1,890 / 1,890 ipm
Cutting Feedrate	1~20,000 mm/min. 0.04~787 ipm
Acceleration (X / Y / Z)	1g / 1g / 1g

ATC

Tool Magazine Capacity	48 T
Max. Tool Weight	6 kg 13.2 lb
Max. Tool Dimensions (W/O Adjacent Tools)	Ø76 x 300 mm (Ø125 x 300 mm) Ø3" x 11.81" (Ø4.92" x 11.81")

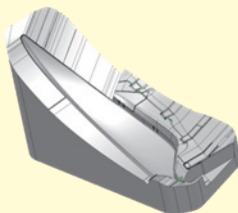
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► **Automotive / Motorcycle / Aerospace / Electronics**

Display Feature

- ◎ Ø125 mm face mill max. depth
- ◎ Ø65 mm max. drill
- ◎ M48 max. tap
- ◎ 4 linear guideways on Y-axis, best dynamic leveling design
- ◎ Max. load on Table: 2,000kg **4,409 lb**
- ◎ Quad-chip auger system ensures fluent chip removal prevent chips from piling up



NXV 1680B

High Performance Vertical Machining Center

SPINDLE

Spindle Speed	10,000 rpm
Max. Spindle Power	22 kW 30 HP
Spindle Taper	BBT50

TRAVEL

X / Y / Z-axis Travel	1,630 / 860 / 762 mm 64.2" / 33.9" / 30"
Distance between Spindle Nose & Table Top	200~962 mm 7.9" ~ 37.9"

TABLE SIZE

Table Size	1,730 x 860 mm 68.1" x 33.9"
Max. Load on Table	2,000 kg 4,409 lb

FEEDRATE

Rapid Feedrate (X / Y / Z)	24 / 24 / 24 m/min. 945 / 945 / 945 ipm
Cutting Feedrate	1~10,000 mm/min. 0.04~394 ipm

ATC

Tool Magazine Capacity	24 T
Max. Tool Weight	20 kg 44 lb
Max. Tool Dimensions (W/O Adjacent Tools)	ø110 x 350 mm (ø190 x 350 mm) ø4.33" x 13.78" (ø7.48" x 13.78")

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.



- **Curve / Special Circular / Multiface / Multi-angle / Die & Mold / Fixture / Aerospace Parts Machining**

Display Feature

- ◎ 5-axis simultaneous machining
- ◎ Motor power 70 kW **94 HP** / spindle speed 18,000 rpm / cutting feedrate 20,000 mm/min **787 ipm**
- ◎ Ø16mm end mill showing the capability of rapid feedrate 8,000 mm/min with chip removal capacity of 2,000 C.C.
- ◎ Characteristic machining sequence and unique machining skill to ensure high accuracy
 - a. Dimension accuracy ± 0.025 mm
 - b. Perpendicularity 0.025 mm
 - c. Position 0.025 mm
 - d. Flatness of 2-meter workpiece: 0.2 mm



DCV 2018A-5AX

High Accuracy 5-Axis Double Column Vertical Machining Center

SPINDLE

Spindle Speed	18,000 rpm
Max. Spindle Power	70 kW 94 HP
Spindle Taper	HSK A63

TRAVEL

X / Y / Z-axis Travel	2,200 / 2,400 / 762 mm 86.6" / 94.5" / 30"
Distance between Spindle Nose & Table Top	Vertical: 150~912 mm 5.9"~35.9" Horizontal: 430~1,192 mm 16.9"~46.9"
Distance between Columns	1,800 mm 70.9"

B/C-Axis

B / C-axis Rotation Range	$\pm 105^\circ$ / $\pm 360^\circ$
B / C-axis Rotation Speed	100 rpm

TABLE SIZE

Table Size	2,000 x 1,500 mm 78.74" x 59.1"
Max. Load on Table	8,000 kg 17,637 lb

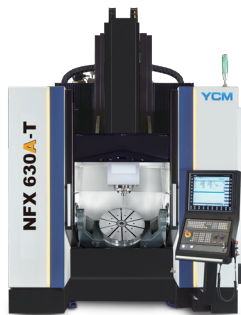
FEEDRATE

Rapid Feedrate (X / Y / Z)	24 / 30 / 20 m/min. 945 / 1,181 / 787 ipm
Cutting Feedrate	1~20,000 mm/min. 0.04~787 ipm

ATC

Tool Magazine Capacity	60 T
Max. Tool Weight	6 kg 13.2 lb
Max. Tool Dimensions (W/O Adjacent Tools)	$\phi 76$ x 300 mm $\phi 3"$ x 11.8" ($\phi 125$ x 300 mm $\phi 4.92"$ x 11.8")

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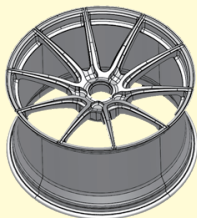
NFX 630A-T

High Precision 5-Axis Gantry Type Mill / Turn Machining Center

► **Aerospace / Automotive / Die & Mold**

Display Feature

- ◎ 5-axis simultaneously milling for achieving better surface machining quality Ra 1.6 μ m
- ◎ Integrates milling and turning functions into one that greatly increasing productivity and efficiency
- ◎ C-axis max. speed : 800 rpm
- ◎ A / C-axis
Positioning accuracy : 10 arc sec
Repeatability accuracy : 2 arc sec
- ◎ One-piece column design



SPINDLE

Spindle Speed	15,000 rpm
Max. Spindle Power	31.5 kW 42 HP
Spindle Taper	HSK T63

TRAVEL

X / Y / Z-axis Travel	800 / 1,000 / 650 mm 31.5" / 39.4" / 25.6"
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A/C-axis

A / C-axis Rotation Range	+30° ~ -120° / $\pm 360^\circ$
A / C-axis Rotation Speed	50 / 800 (S6) rpm

TABLE SIZE

Table Size	$\varnothing 630$ mm $\varnothing 24.8"$
Max. Load on Table	500 kg 1,102 lb

FEEDRATE

Rapid Feedrate (X / Y / Z)	60 / 60 / 60 m/min. 2,362 / 2,362 / 2,362 ipm
Cutting Feedrate	1~30,000 mm/min. 0.04~1,181 ipm

ATC

Tool Magazine Capacity	40 T
Max. Tool Weight	6 kg 13 lb
Max. Tool Dimensions (W/O Adjacent Tools)	$\varnothing 76 \times 300$ mm ($\varnothing 125 \times 300$ mm) $\varnothing 3" \times 11.8" (\varnothing 4.9" \times 11.8")$

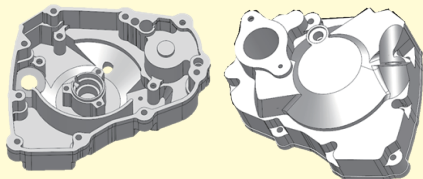
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► Automotive / Mechanical Parts

Display Feature

- ◎ Ø16mm face mill showing the capability of rapid cutting 10,000 mm/min
- ◎ Special tool plating improves machining efficiency
 - a. Dimension accuracy ± 0.01 mm
 - b. Roundness 0.008 mm
 - c. Position 0.015 mm
 - d. Concentricity 0.01 mm



NH 500A-6PC

High Accuracy Horizontal Machining Center

SPINDLE

Spindle Speed	20,000 rpm
Max. Spindle Power	22.5 kW 30HP
Spindle Taper	BBT40

TRAVEL

X / Y / Z-axis Travel	800 / 730 / 800 mm 31.5" / 28.7" / 31.5"
Distance between Spindle Center and Table Top	50~780 mm 1.97" / 30.7"
Distance between Spindle Nose & Table Top	150~950 mm 5.91" / 37.4"
Acceleration (X / Y / Z)	1g / 1g / 1g

TABLE SIZE

Table Size	500 x 500 mm 19.7" x 19.7"
Max. Load on Table	500 kg 1,102 lb
Max. Workpiece Dimensions	ø630 x 1,000 mm ø24.80" x 39.37"

FEEDRATE

Rapid Feedrate (X / Y / Z)	60 / 60 / 60 m/min. 2,362 / 2,362 / 2,362 ipm
Cutting Feedrate	1~40,000 mm/min. 0.04~1,575 ipm

ATC

Tool Magazine Capacity	120 T
Max. Tool Weight	10 kg
Max. Tool Dimensions (W/O Adjacent Tools)	ø80 x 400 mm (ø160 x 400 mm) ø3.15" x 15.8" (ø6.3" x 15.8")

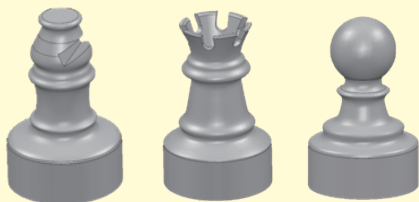
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- **Consumer Electronics / Automotive / Motorcycle / Medical**

Display Feature

- ◎ Modular design for multiple choices: selectable spindles, turrets, tail stock and travel
- ◎ Robot and automatic parts catcher interface preparation to achieve automation
- ◎ Hole through draw Tube :
SP1: $\varnothing 66\text{mm}$ $\varnothing 2.6"$ / SP2: $\varnothing 45\text{mm}$ $\varnothing 1.77"$



NTC-2000LSY

High Efficiency CNC Turning Center

MACHINING RANGE

Swing Over Bed / Swing Over Carriage	$\varnothing 710$ / $\varnothing 545$ mm $\varnothing 28"$ / $21.5"$
Max. Turning Diameter / Length	$\varnothing 310$ mm / 570 mm $\varnothing 12.2"$ / $22.4"$

SPINDLE

Chuck Size (SP1 / SP2)	8" / 6"
Hole Through Draw Tube (SP1 / SP2)	$\varnothing 66$ mm / $\varnothing 45$ mm $\varnothing 2.6"$ / $\varnothing 1.77"$
Spindle Speed (SP1 / SP2)	5,000 rpm / 6,000 rpm
Spindle Motor Power (SP1 / SP2)	SP1: 18.5 / 22 kW SP2: 7.5 / 11 kW SP1: 25 / 30HP SP2: 10 / 14.8 HP
C-axis Index Accuracy (SP1 / SP2)	0.001° / 0.001°

TRAVEL

X / Z / Y / B-axis Travel	160 / 570 / 90 (+50 / -40) / 650 mm $6.3"$ / $22.4"$ / $3.54"$ (+1.97" / -1.57") / $25.6"$
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FEEDRATE

Rapid Feedrate (X / Z / Y / B)	30 / 36 / 10 / 20 m/min. $1,181$ / $1,417$ / 393 / 787 ipm
Cutting Feedrate	1~10,000 mm/min. 0.04 ~ 394 ipm

TURRET

Tool Standard	BMT55 Live Turret
Live Tool Power / Rotation Speed	1.1 / 3.7 kW 1.48 / 4.96 HP / 4,000 rpm
Turret Capacity	12 T
Shank Height for Square Tool / Shank Diameter for Boring Bar	☐ 20 mm / $\varnothing 32$ mm ☐ $3/4"$ / $\varnothing 1.25"$

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