

# GVT830 SERIES

Vertical type Turning lathe



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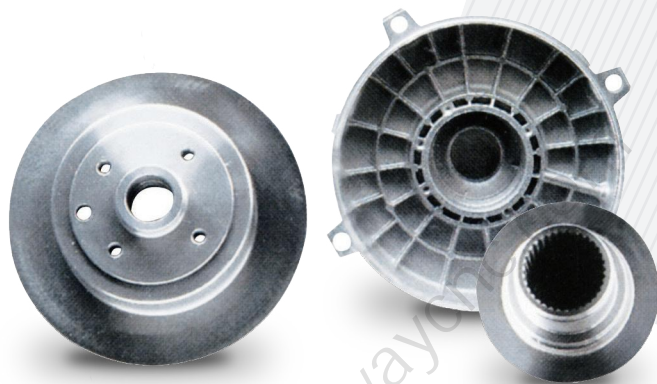
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# GVT830 SERIES

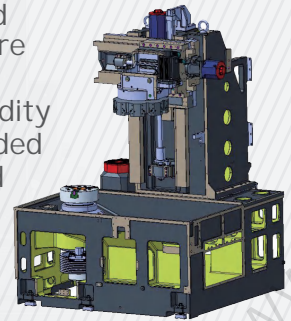
The GVT 830 is a new 15-inch vertical turning center developed for the Chinese market using the latest technology. The optimized bed structure extends the processing range, equipped with full-shaft hard rail and high-performance spindle, suitable for heavy duty cutting, and can create greater value for customers.





### 1 High rigidity, high stability structure

The all-axe hard rail bed structure ensures unparalleled rigidity, and the extended guide width and span improve processing stability.



### 2 Productivity

High efficiency spindles and a new servo turret increase production efficiency.



### 3 Convenience

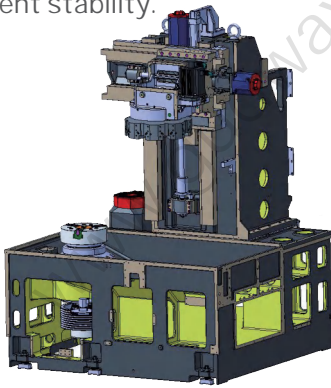
Equipped with swivel operating panel for maximum convenience.



# High rigidity, high stability structure

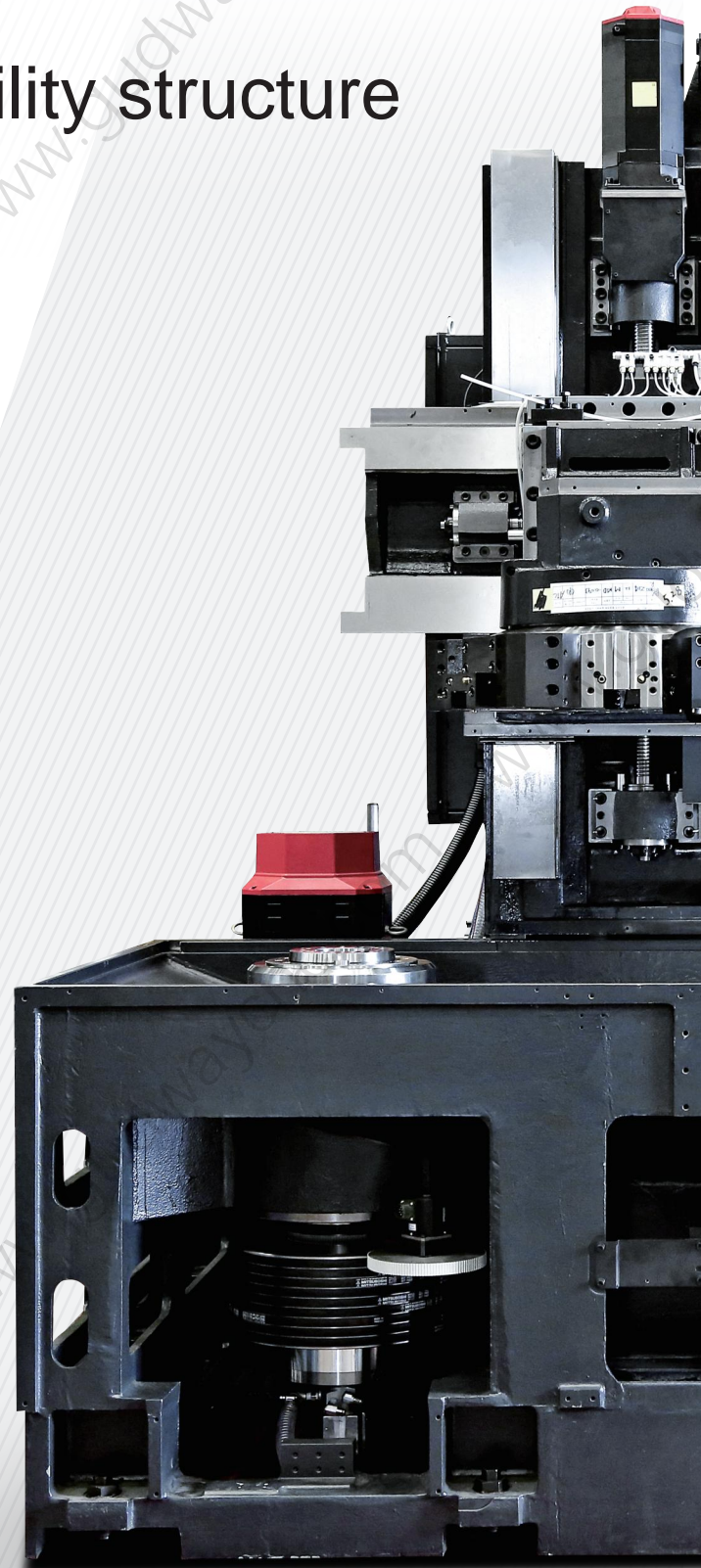
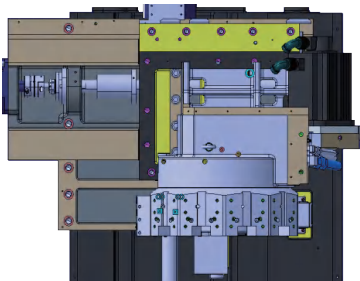
## High stability bed structure

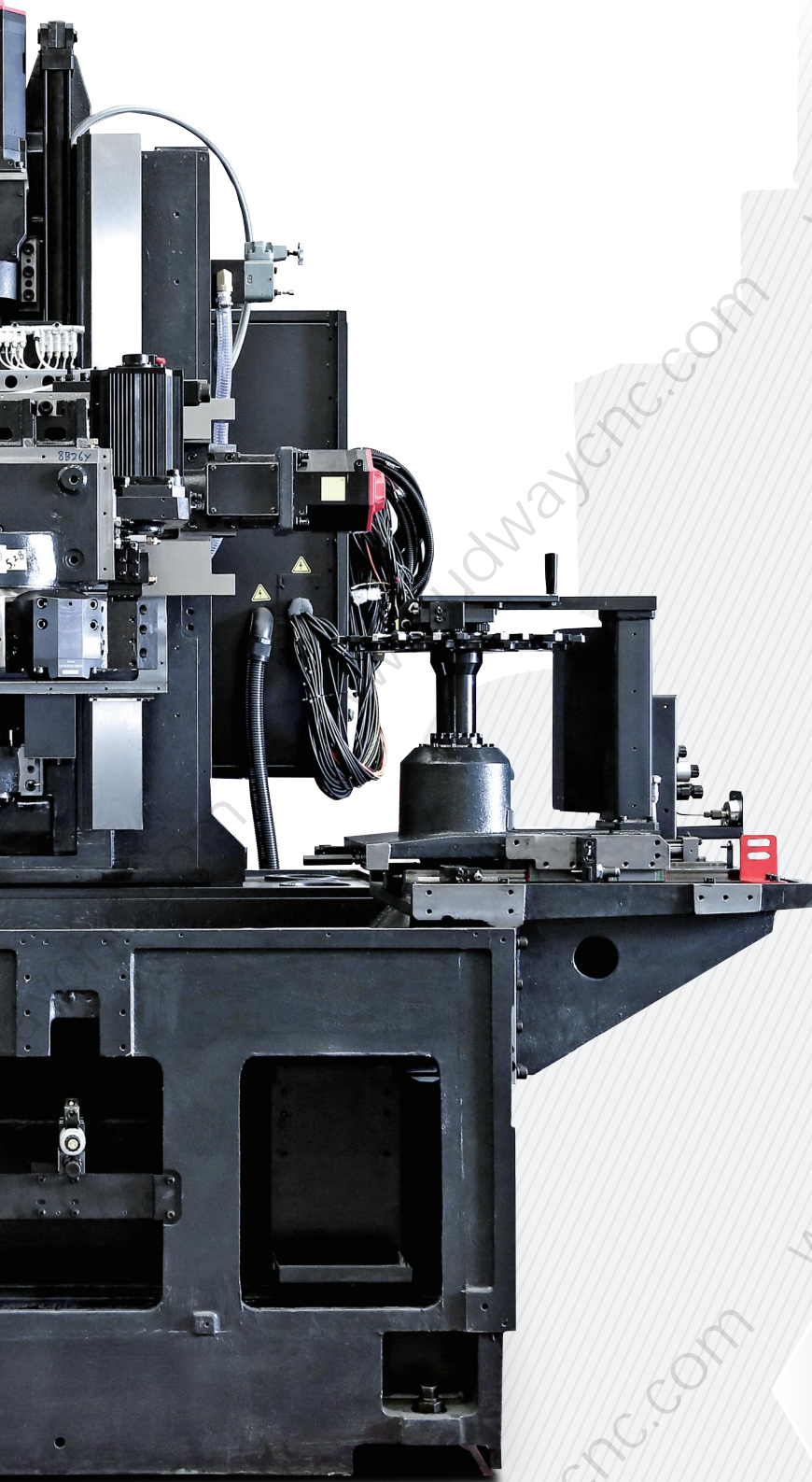
The bed is designed by FEM (finite element analysis) to ensure optimal use of the structure, while improving the lead screw pretension structure to achieve high equipment stability.



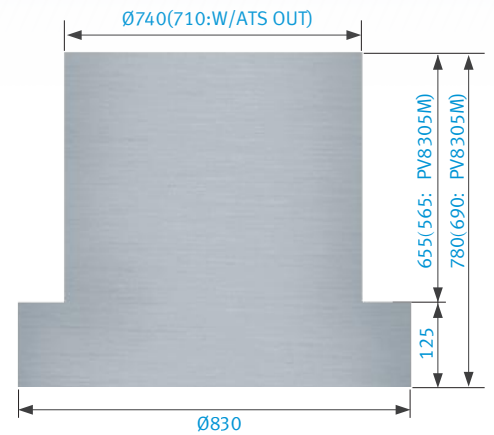
## High rigidity shaft feed structure

The full shaft hard rail structure is adopted, and the width and span of the guide rail are expanded to effectively improve the rigidity of the equipment, making the equipment more suitable for heavy duty cutting.





Wider processing range



Wider processing range, flexible to deal with a variety of parts processing.

Max. turning dia: **830** mm

Maxi turning height: **780** mm

**690** mm (GVT 830M)

Max workpiece rotation dia: **850** mm

3

X/Z  
axis travel  
495/780  
mm

Recommended  
turning diameter  
380 mm

Bed rotation  
diameter  
920 mm

# Powerful spindle with excellent performance

## High speed, high performance spindle

Equipped with a high-performance spindle, minimize the vibration and thermal errors generated during spindle machining, further improve the surface accuracy of machined parts, and extend the service life of the tool. High rigidity gear box spindle is available to provide higher spindle power and torque, easy to complete difficult-to-cut material parts processing.

	ST	ST	ST
Max spindle speed (r/min)		2000	2000
Spindle motor (kW)		45/37	45/37
Spindle max torque (N·m)		2592	2417
Spindle type	gear box	gear box	gear box



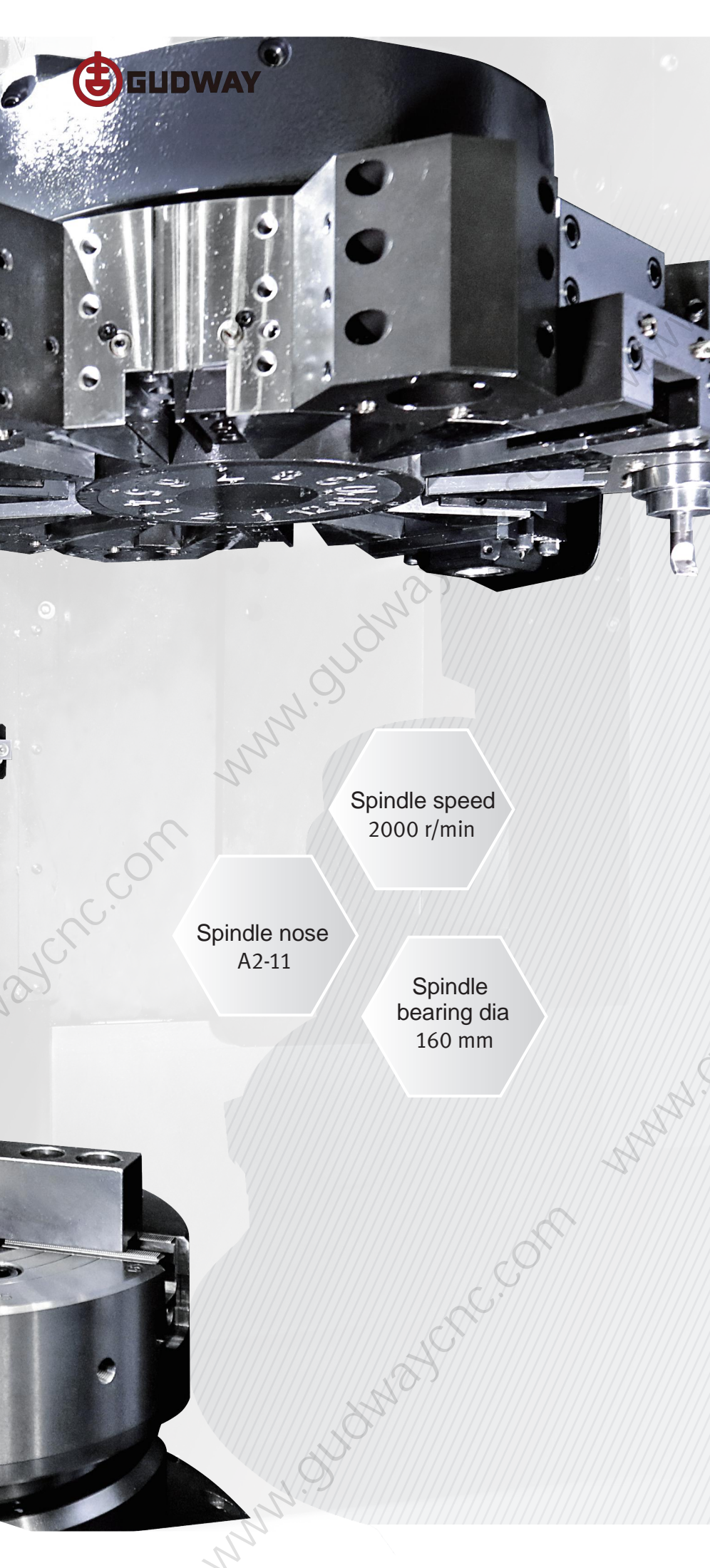
## Fast feed structure

Fast moving speed

X-axis **20** m/min

Z-axis **0** m/min





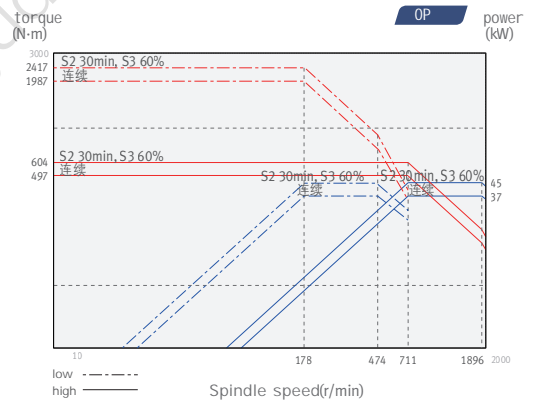
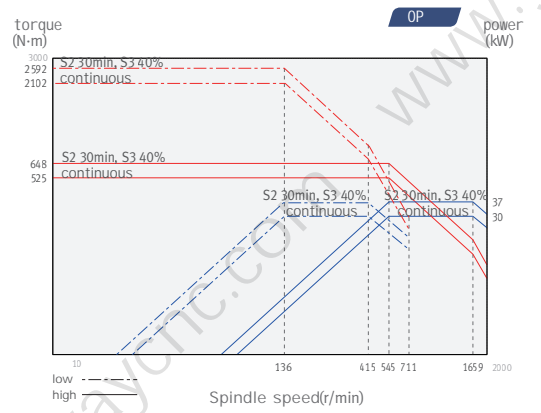
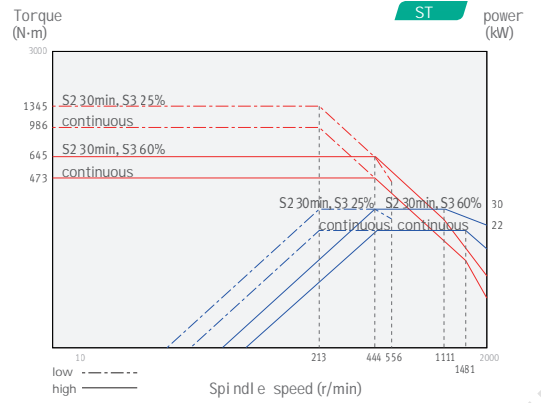
Spindle nose  
A2-11

Spindle speed  
2000 r/min

Spindle bearing dia  
160 mm

## Spindle power-torque diagram

### GVT 830



# High reliability tower

## High reliability tower

Servo turret has higher rotation speed and more accurate positioning accuracy, improving production efficiency

Tool number



Turret rotation time

### ATC

OP

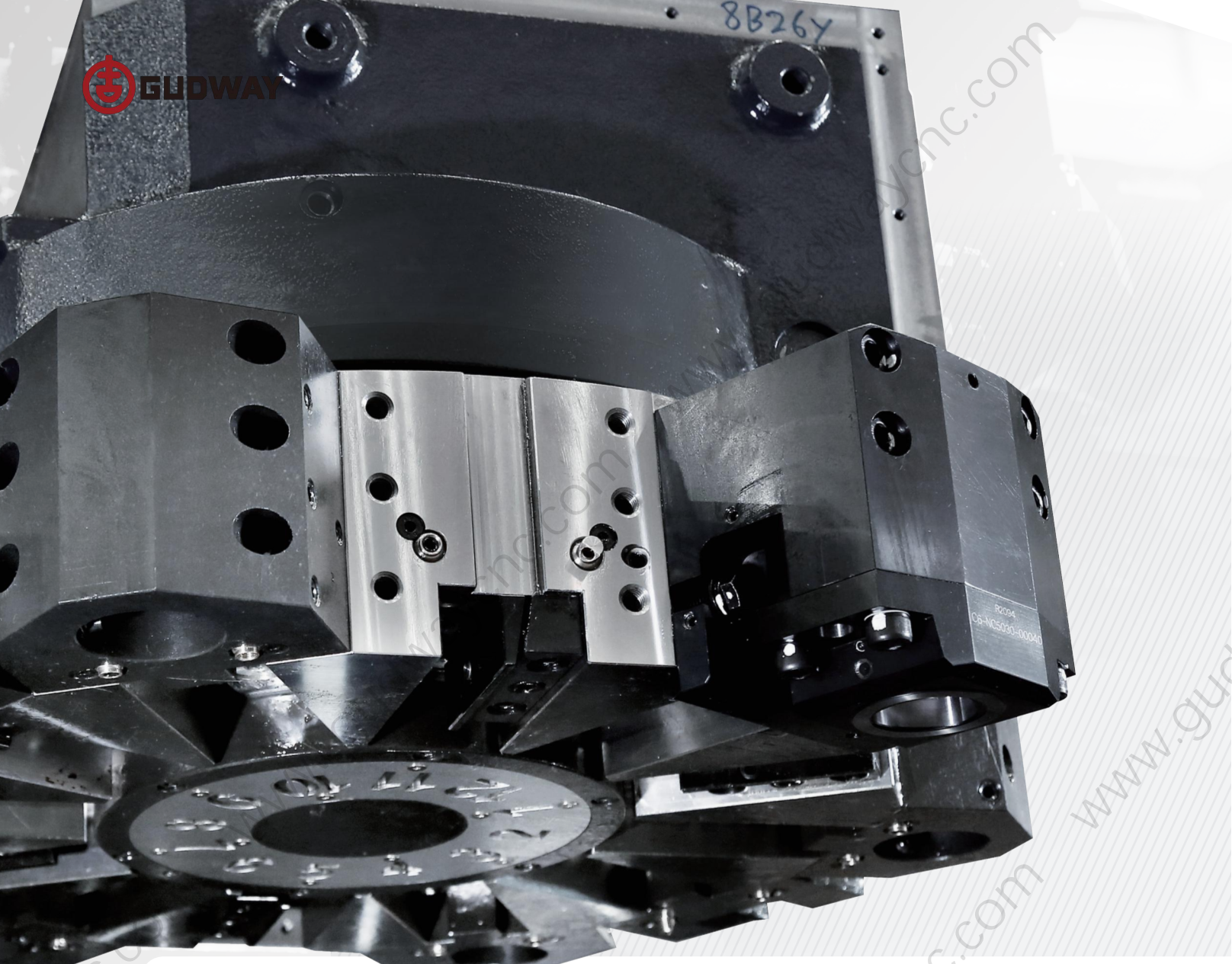
Optional off-machine ATC can flexibly respond to the additional requirements of the tool for difficult cutting materials, shorten the non-cutting time and improve production efficiency.



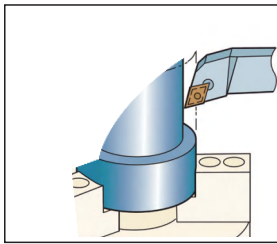
Note	Unit	Specification
Holder	-	CAPTO C6
Tool number	ea	12
Max tool diameter	mm	90
Max tool length	mm	375
Max tool weight	kg	10
Tool retrieval time (1 port)	sec	0.5
The number of CAPTO holders on the turret	ea	1~12

Tool magazine & ATC





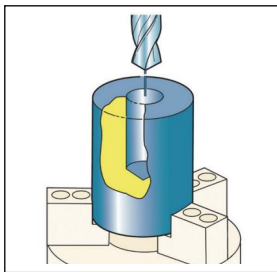
## Machinability



### OD turning

Carbon Steel (SM45C)

	UNIT	GVT 830
Chip removal rate	cm <sup>3</sup> /min	859
Cutting speed	m/min	203
Feed rate	mm/rev	0.5
Spindle speed	r/min	450
Cut Depth	mm	8



### U-type drill

Carbon Steel (SM45C)

	UNIT	GVT 830
Cutting speed	m/min	200
Feed rate	mm/rev	0.28
Spindle speed	r/min	1279
U-drilling diameter	mm	50

# High speed power turret

## High speed power turret

GVT 830M uses a 12-position servo turret for faster rotation speed and more accurate positioning, while the highly rigid BMT75P power turret provides superior milling performance and reduces thermal errors due to heat

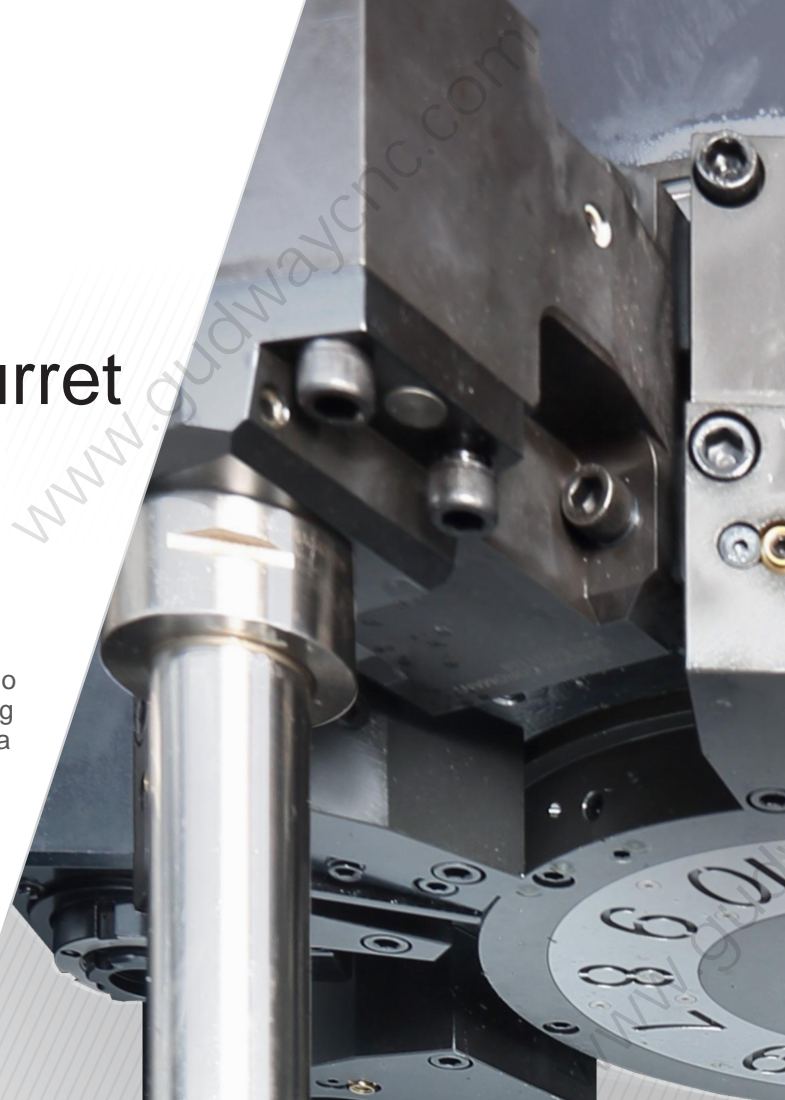
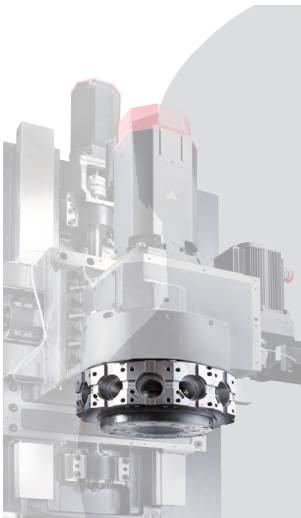
Tool number

Turret rotation time

Maximum rotating tool speed

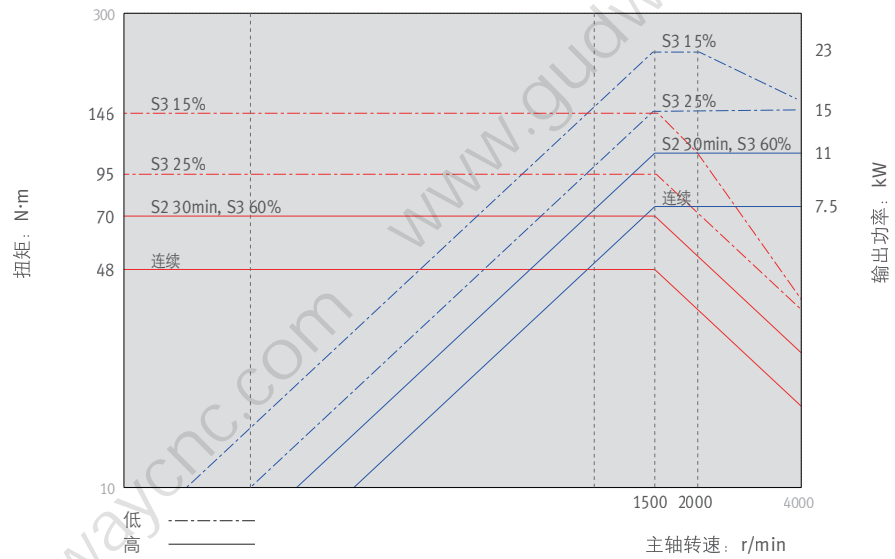
Rotary tool maximum power (15%/ continuous)

3 axis BMT75P turret





Milling tool spindle power torque diagram  
GVT 830M



# Convenience

## Easy operation

The newly designed operating panel enhances ease of operation with universal buttons and positioning.



8.4 inch display

- USB & PCMCIA card (ST)
- New ergonomic design
- Easy to install button switch additional options

120°

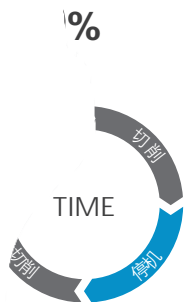


ATC control panel

## Simple software

Reduce non-cutting time, such as increasing turret rotation time, increasing shaft speed and accelerating/decelerating rate, thereby increasing production cycle time and optimizing productivity.

Reduced non-cutting time

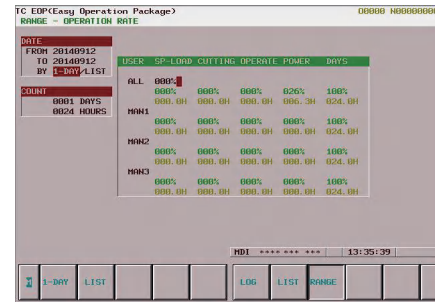


Non-cutting time reduction tool load management features



During cutting, abnormal loads due to tool failure can be monitored and alarms triggered to prevent further damage.

Operational detection function

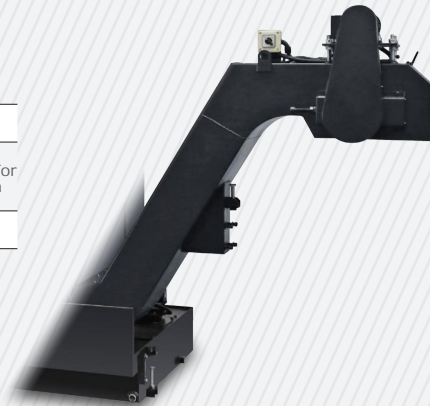


Features that allow users to easily track machine run time and number of completed parts.

# OPTIMAL

## Chip conveyor

Chip conveyor	Material	Note
hinge type	steel	The most typical type of chip conveyor is suitable for steel production of chips of 30mm or longer length
drag type	cast iron	The conveyor with magnet is suitable for the processing of cast iron with small and fine chips



drag type

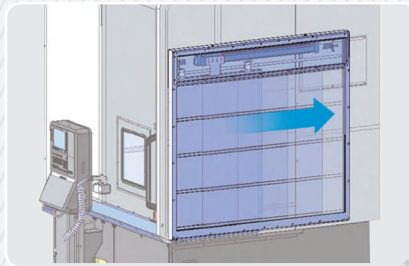


hinge type

## OP



Oil skimmer



Auto side door

OP



Double-sided tool preparation

OP



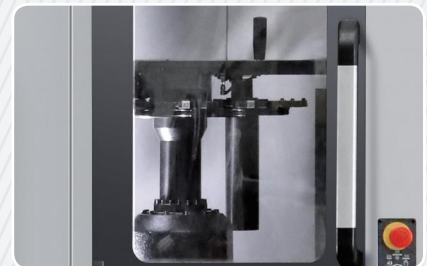
Oil mist collector

OP



Auto tool setting gauge

OP



ATC

OP

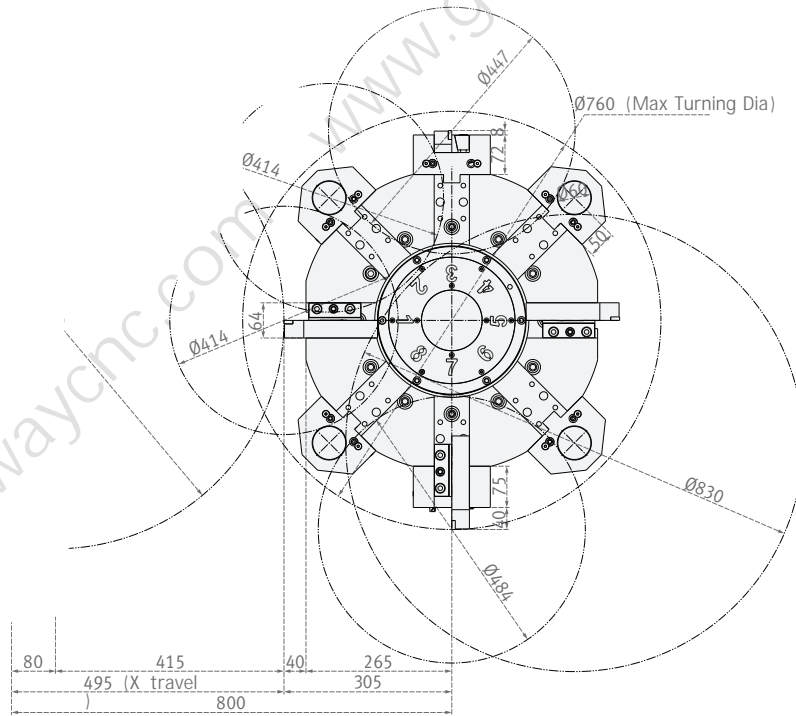
GVT 830

Tool interferogram

GVT 830

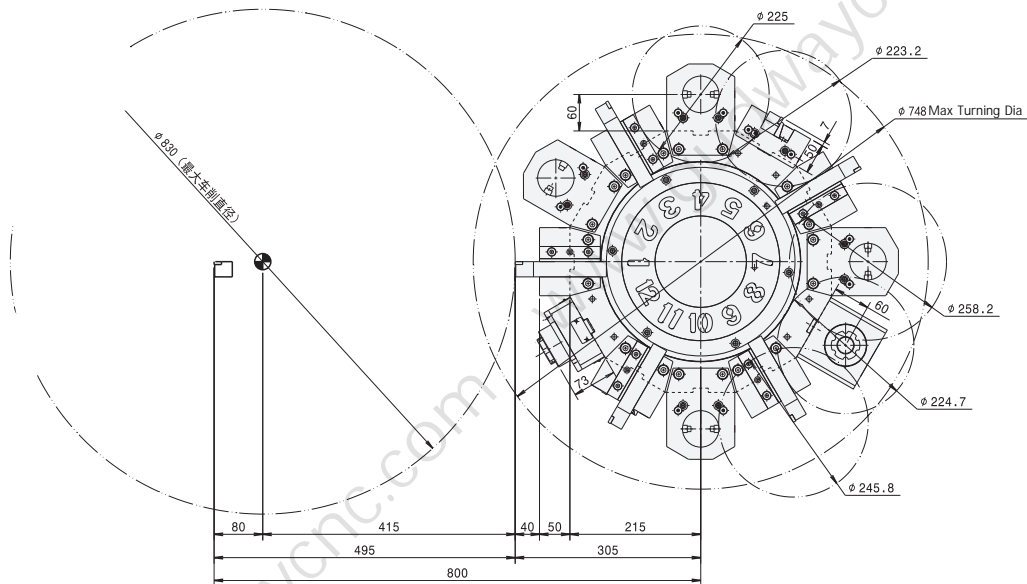
UNIT:mm

Ø830 (Max. turning dia)



GVT 830M

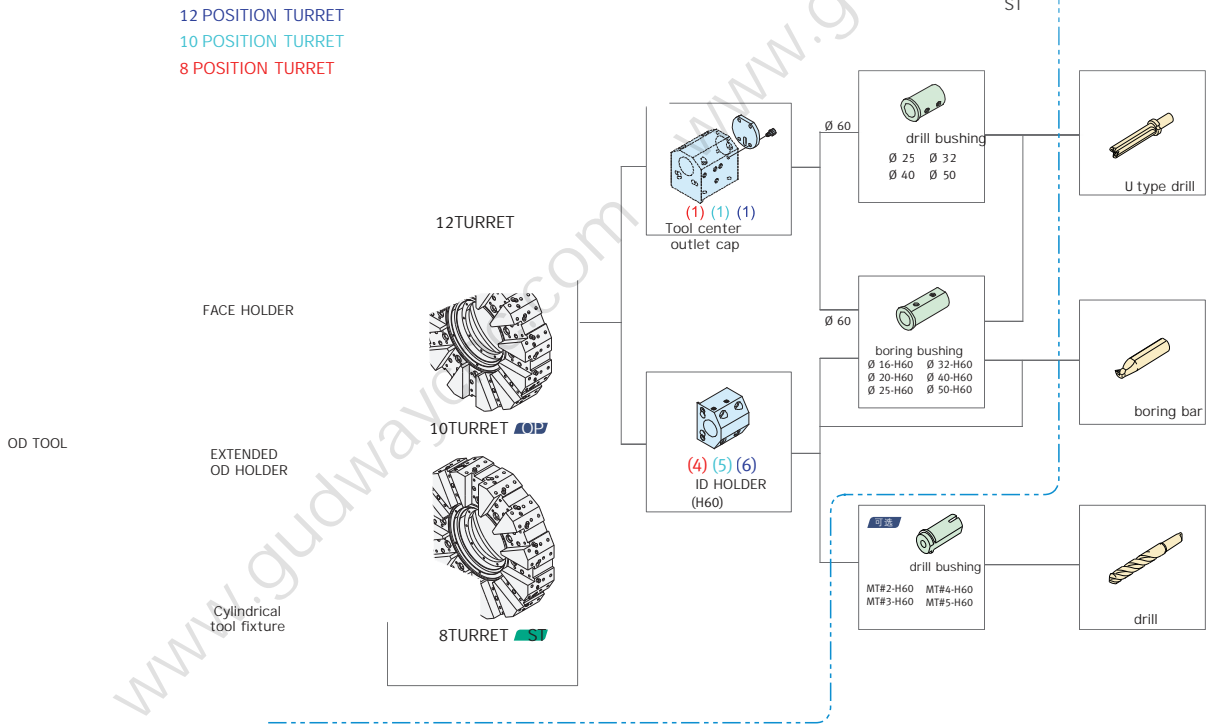
UNIT:mm



# Tooling system

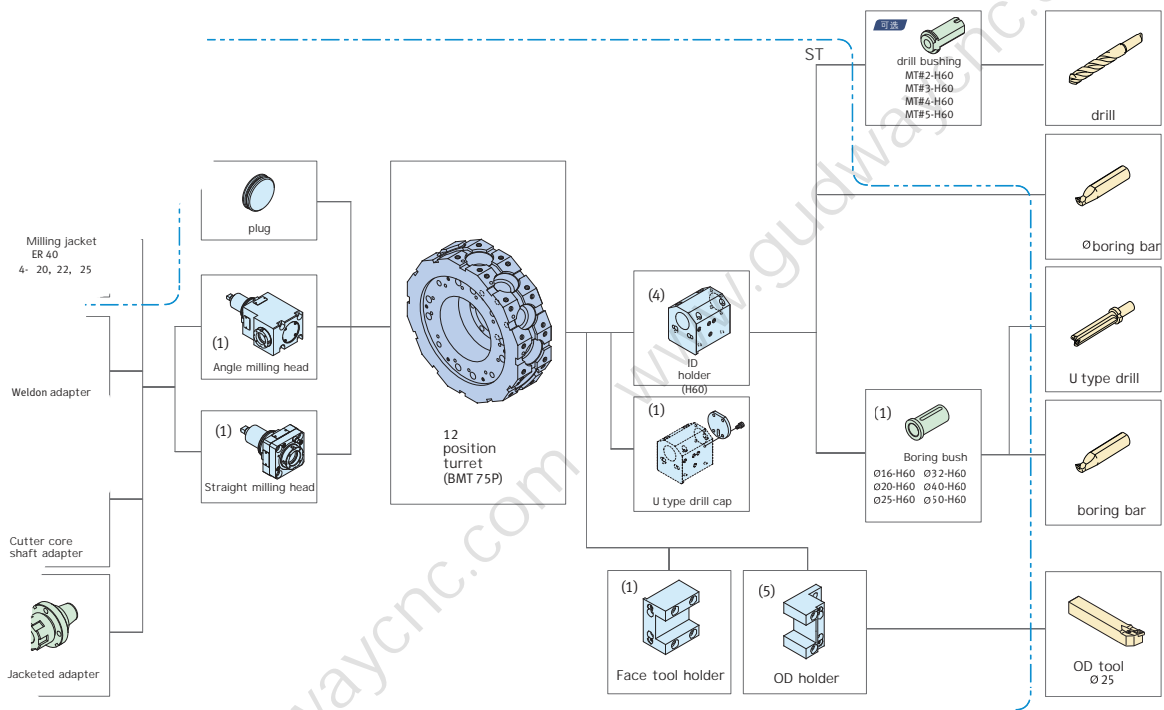
GVT 830

UNIT:mm



GVT 830M

UNIT:mm



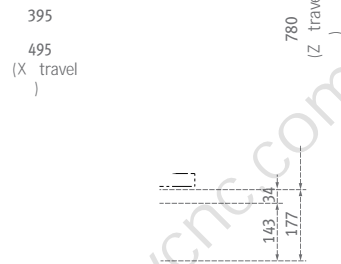
GVT 830

# Machining

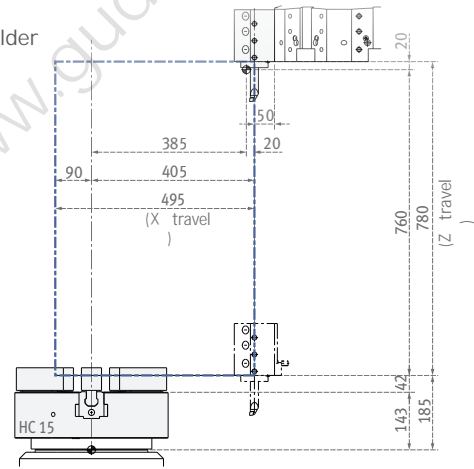
GVT 830

UNIT: mm

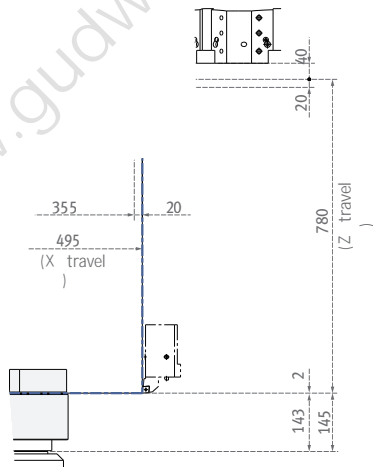
OD holder



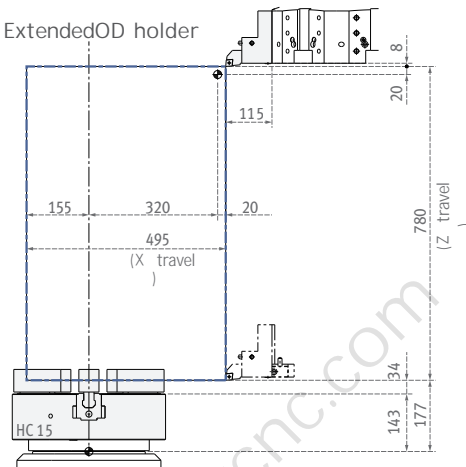
ID holder



Face holder



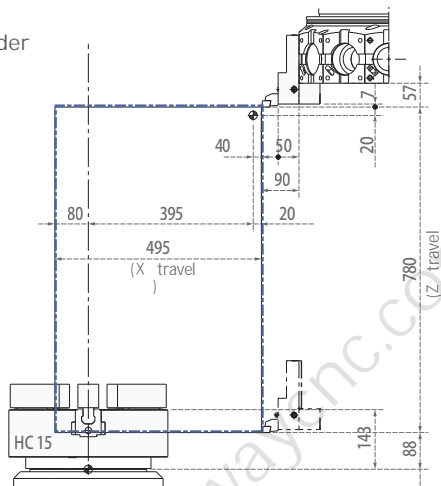
ExtendedOD holder



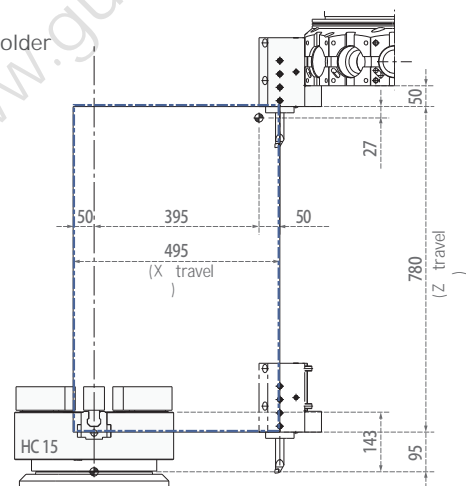
GVT 830M

UNIT: mm

OD holder



ID holder





GVT 830

## Machining range

GVT 830M

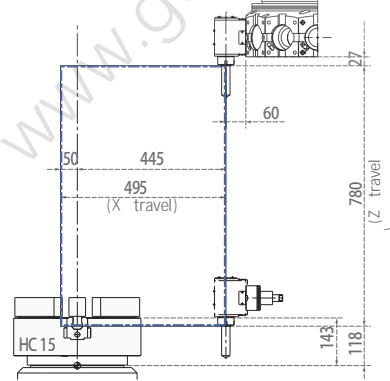
UNIT: mm

Face holder

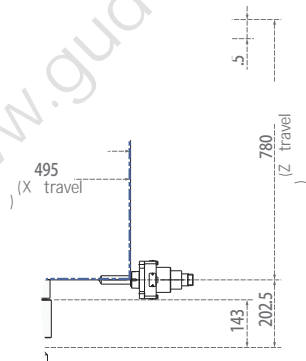
(X travel)



Straight milling tool holder

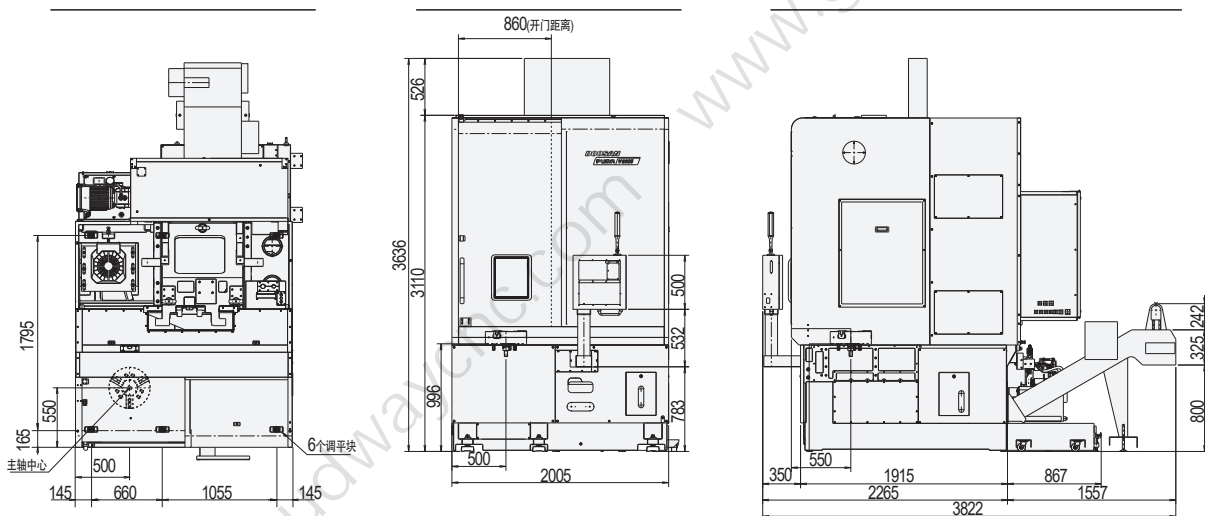


Angle milling tool holder



## Size

UNIT:mm



**Parameter**

Parameter	ITEM	UNIT	GVT 830	GVT 830M
Machining Capacity	Max swing diameter over bed	mm	920	
	SaddleMax Turning Dia	mm	740	
	Recommended turning dia	mm	550	
	Max. turning dia	mm	830	
	Max truning length	mm	780	690
Spindle	CHUCK SIZE	inch	15{18/21/24}	
	Max spindle speed	r/min	2000	
	Max torque	N.m	1345	
	Spindle motor power	KW	30/22	
	Spindle bearing dia (front)	mm	160	
	Spindle nose end	-	A2 11	
	Spindle type	-	BELT	
	Travel	X axis	mm	495
Z axis		mm	780	
Fastfeed	X axis	m/min	20	
	Z axis	m/min	20	
Turret	Tool number	ea	8{10/12}	12
	Cylindrical tool dimensions	mm	32x32	25x25
	Boring bar diameter	mm	60	
	Rotary tool motor power	kw		23/7.5
	Rotary tool spindle speed	r/min		4,000
Power	Power supply (rated capacity)	kVA	37.13	48.27
Size	Length x Width	mmxmm	2005x3114	
	Height	mm	3636	
	Weight	kg	9400	9500

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**STANDARD**

Hydraulic chuck&Rotary cylinder  
 Soft clamp  
 Chuck clamp detection switch  
 Hydraulic power unit  
 Cutting fluid supply equipment  
 Lubricating oil equipment  
 Work light  
 Foot switch  
 Front door interlock  
 Safety warning nameplate  
 Leveling bolts & pad iron  
 Stochastic toolbox  
 Condition light

**OPTI ONAL**

Chip remover  
 Chip truck  
 Coolant pump  
 Hard clasp  
 Automatic power off  
 Air gun  
 Chuck clamp detection switch  
 Oil skimmer  
 Additional holder&bush  
 Automatic tool setting  
 Auto side door  
 Clamp clean blowing  
 Special chuck  
 Double chuck pressure

**SPECIFICATION**  
**FANUC i**  
**Series**

Shaft control		Decimal point input/calculator decimal point input
Control path 1 path		Diameter/radius specified
Number of control axes X,Z(C-axis)		Coordinate offset direct input
Also control the number of axes		G Code Category B/C
Control shaft removal		10 times input UNIT
Reverse gap compensation		Mark Skip
Reverse clearance compensation for each quick feed and cut feed		Manual absolute value ON/OFF
Chamfer start/stop		Maximum instruction value
Advanced feedforward control		Compound fixed cycle
Position tracking		Confluent solid cycle
Servo HRV controls HRV2		Select Program segment Skip
Imperial/metric conversion		Parity check
Interlock all axes/all axes		Plane selection
Min input additions 0.001/0.0001 mm/inch		Program file name
Minimum setting UNITC ISXC		Programmable data input G10
Mechanical locking of all axes/shafts		Number N8 digits
Mirror		Make calls to layer 10 nested
Overpass		Paper tape code EIA RS422 /ISO840
Servo off		FANUC 10/11 system paper tape format
Storage Trip Detection 1		Workpiece coordinate system G52-G59
Abnormal load detection		Job coordinate system preset
Emergency stop		Tool function/tool compensation
Position switch		Moving tool compensation
Operation		Tool compensation value Measurement value entered directly in B T2+2
Auto run (memory)		Tool function
MDI run		Tool shape/wear compensation
Buffer register		Tool life management
DNC Operation		Tool radius compensation G43, G44, G49
A CF card and a dedicated adapter are required for DNC running with		Tool position offset 128 pairs
Scheduling function		Number of tool compensation
Empty run		Tool life management Extended
Incremental feed	X1,X10,X100	Program Edit
Handwheel feed interrupt		Background editing
JOG feed		Extended program editor
Manual intervention and return		Number of logged programs 400 ea
Hand wheel feed		Program editing
Manually return to reference points		Program protection
Program number retrieval		Program storage capacity 512 Kb
Program restart		Settings and Displays
Sequence number search		Show actual speed
Interpolation function		Display alarm information
Return to first reference Point Manual, G28		Show Alarm History
Second reference accounts for G30		Show current location
Return to reference points 3 and 4		Display the floppy directory
Nanointerpolating		Display the actual spindle rotation number /T code
Exact stopping mode		Help function
Tapping method		Display in languages by country
Cutting method		Display operating history
Accurate stop		Show parameter Settings
Arc interpolation G02,G03		Display program comment 32,31 characters
Continuous Thread Cutting		Show working time/number of parts
Cylindrical interpolation		Self-diagnostic function
Pause		Servo info screen
High Speed skip		Spindle info screen
Straight line interpolation G01		Graphic display knife path display
Multi-thread cutting		Status display
Locate G00		Clock function
Return to reference point Detect G27		Parameter checksum function
Thread cutting/synchronous feed		Data input/output
Thread cutting cycle recovery		External data entry
Feed function		External key input
Automatic acceleration/deceleration		External program number retrieves 1 to 9999
Cutting feed speed box system		External job number retrieves 9999
Feed per minute	G98	Input/output of memory card
Feed per turn	G99	Reader/puncher interface CH1. Interface
Feed speed multiplier (10%UNIT)	0-200%	RS232C interface
JOG multiplier (10%UNID)	0-2,000 mm /min	USB connection
Manual feed for each turn		Automatic data backup
Magnification cancellation		Other
Fast feed multiplier F0,50,100%		Start running and indicator light on
Fast feed speed		8.4 "color LCD /MD
Fast feed bell type acceleration and deceleration		Display unit 10.4 "color LCD/MDI(GVT 405 only)
Auxiliary/spindle speed function		Feed is held and indicator light is on
Spindle positioning		NC and servo preparation
Actual spindle speed output		PMC System OI-PMC
Auxiliary function locks		Ethernet features
Constant cycle speed control		Select specifications
Accessibility M8 digits		Data Server
Spindle function S5 digits		Interpolation type pitch error compensation
Spindle serial output S5 digits		Hand wheel feed back
Spindle magnification 0-150%		Program storage capacity 2M
Spindle output switching		Dynamic graphic display
Rigid tapping		Operating guide i
Program input		Operation Guide Oi
Absolute/incremental instruction		Tool load monitoring
Append user macro public variables		CF card (2GB)
Fixed loop for drilling		PROFIBUS-DP
Monoform fixed cycle		AI profile control I maximum number of pre-read segments 40
Arc radius R specified		PROFINET
Control input/output		CC-LINK
Coordinate set G50		Maximum number of pre-read segments 200
Frame offset		AI Contour control II
User macros		Fast Ethernet

**GVT 830 SERIES**


ITEM	UNIT	GVT 830	GVT 830M
Chuck size	1	15 {18/21/24}	
Max turning length	1	780	690
Max turning dia	1	830	
Spindle max speed	min	2000	
Spindle motor power	kW	30/22	
Tool number	ea.	8 {10/12}	12
	-	DOOSAN-FANUC i	

**SUZHOU GUDWAY CNC EQUIPMENT CO.,LTD**

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