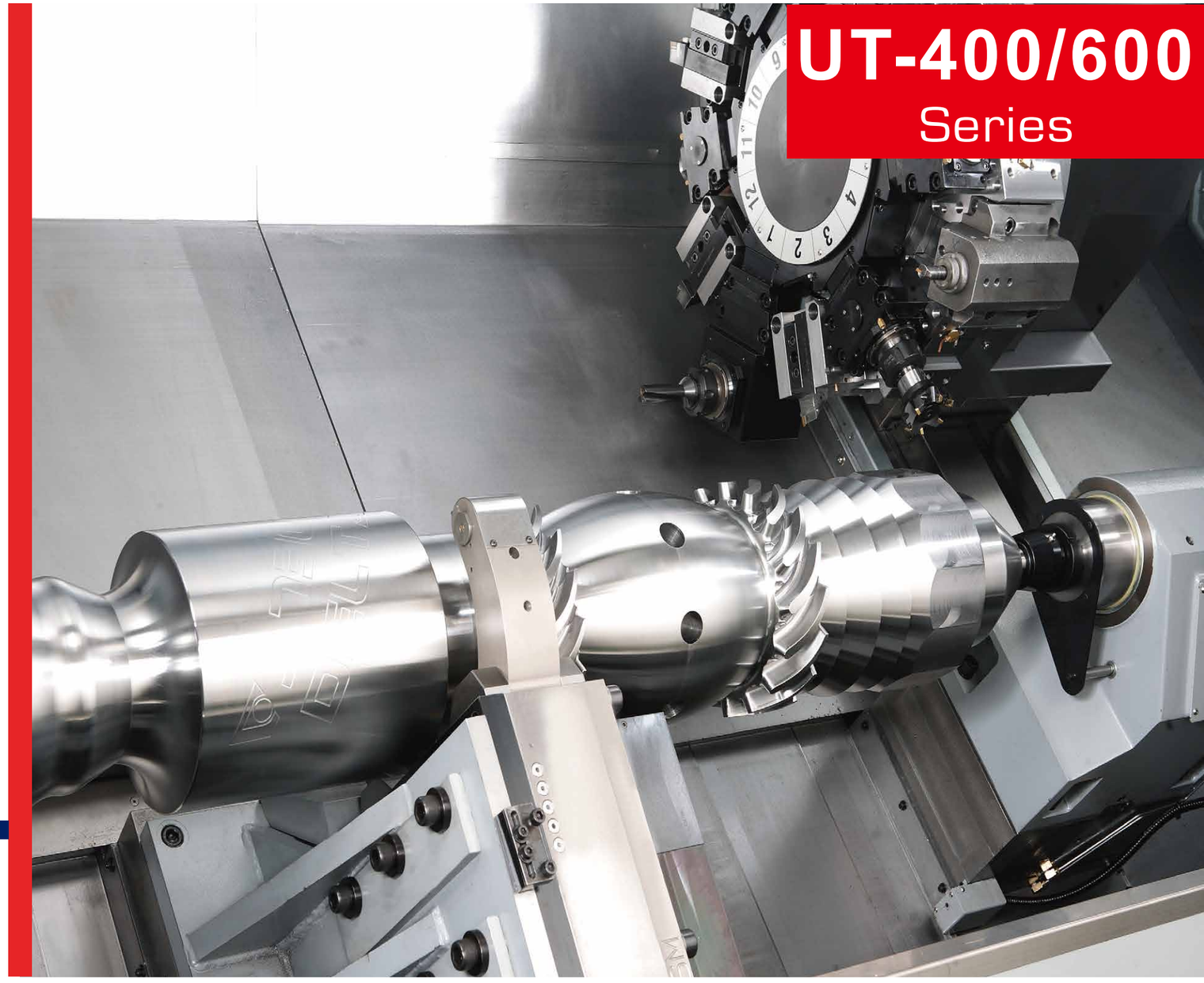
Super Heavy Duty Turning Center

UT-400/600
Series



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20220927

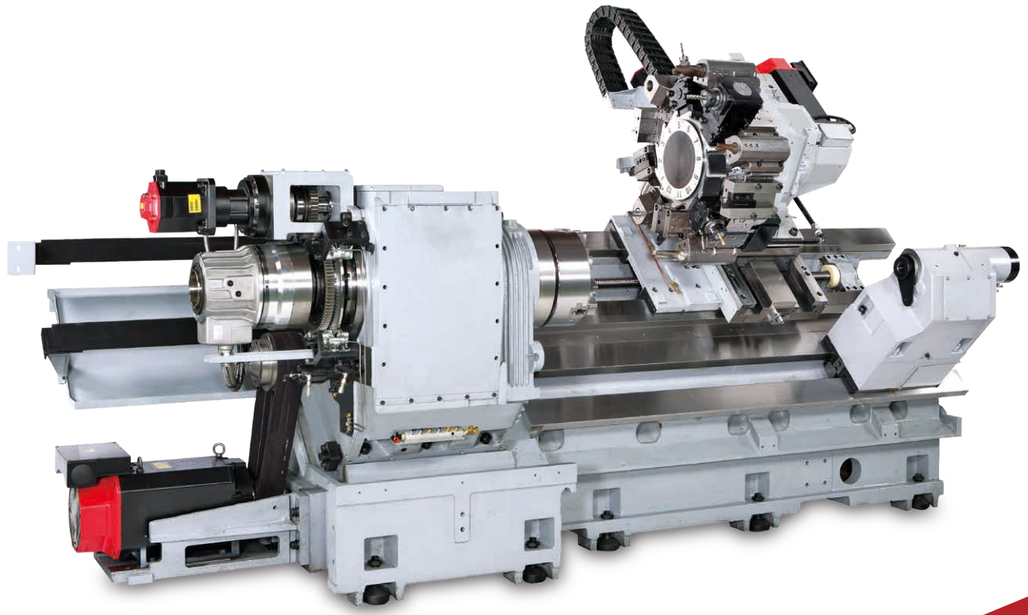
Rigid Frame Structure

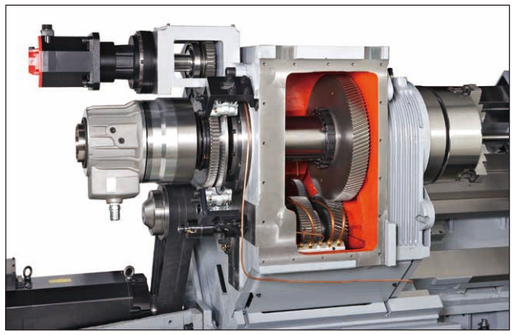
The 45 degree slant bed frame design comprises a one-piece bed and box way casting with low center of gravity, large swing diameter, and superior strength for easy disposal of coolant and chips and longer tool life.

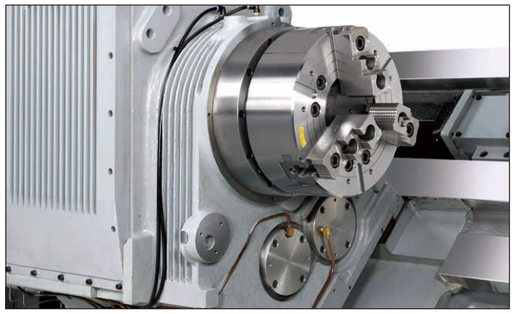
Bed structure is internally reinforced with numerous heavy ribs to reduce deformation from shear or bending stress.

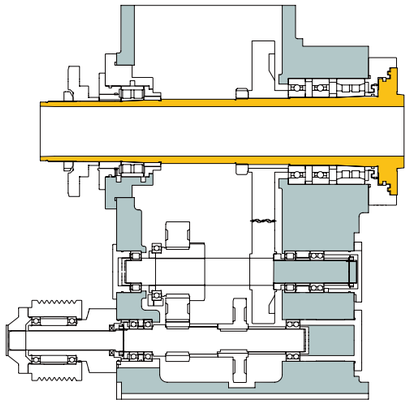
Sliding surface is coated with Turcite-B to obtain long and stable operating life even under rigorous impact loading conditions.

Wear resisting, shock-absorbing Meehanite cast iron is naturally seasoned and annealed to eliminate internal stress as well as to attain a dense fine grained micro- structure exhibiting exceptionally high physical properties. Guideways are induction hardened to reach high surface hardness and precisely ground to meet continuous heavy duty cutting demands.

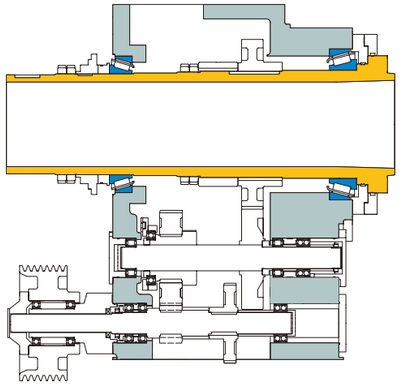








ϕ131/205mm spindle bore
2-step geared spindle



ϕ235/258mm spindle bore
2-step geared spindle

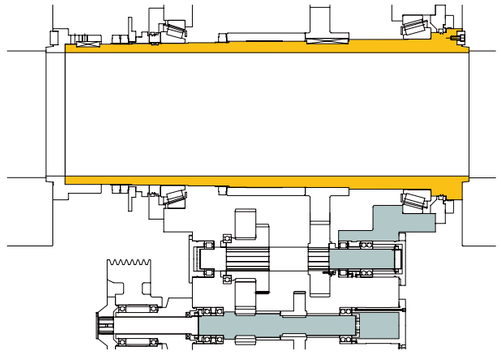
Powerful Main Spindle Design

- Power is delivered to the spindle through a two speed geared head allowing stable spindle speed changes as well as powerful torque output.
- Helical gears incorporated spindle reduces noise, increase contact area, and reduce backlash for even high precision cutting.
- Symmetrical heat-dissipating ribbed headstock design is precision-bored to remove heat distortion, maintain circularity and concentricity, thereby ensuring long-term cutting accuracy.
- Every spindle is assembled with headstock and bearings under temperature controlled environment with precise fitting jigs. Standard extensive run-in test is performed to eliminate bearing mismatches arising from elevated temperatures.

Spindle Design

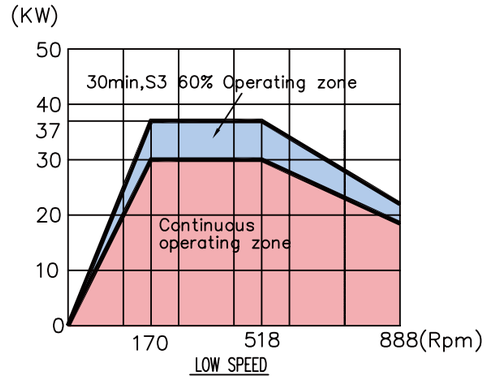
- High-precision spindle is supported by large-diameter, taper roller bearings and transmitted by 2-step gears.
- Optimized double supports resist combined axial and radial loading generated from high-speed precision turning or low-speed heavy-duty rough turning.

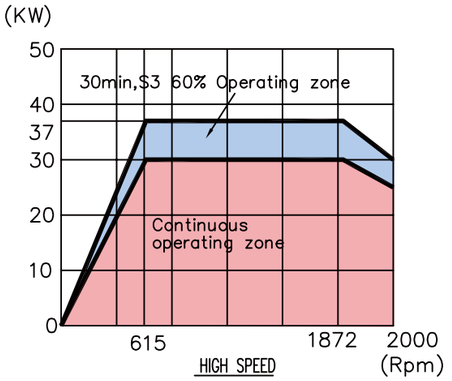
Spindle nose taper	Spindle hole diameter (mm)	Outer diameter of spindle bearings (mm)	Inner diameter of spindle bearings (mm)
A2-11	**ϕ131**	280	180
A2-15	**ϕ205**	360	260
A2-15	**ϕ235**	420	300
A2-15	**ϕ258**	440	320
A2-20	**ϕ375**	603	457

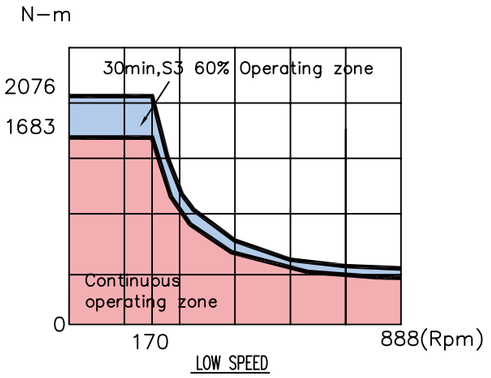


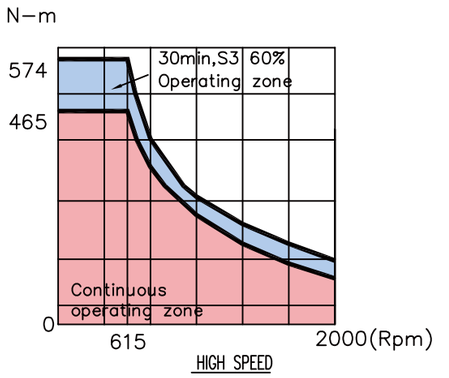
ϕ375mm spindle bore
2-step geared spindle

ϕ131 30/37 kW Spindle power/torque chart

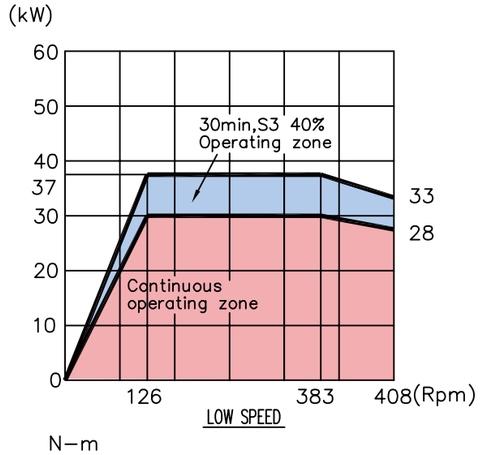


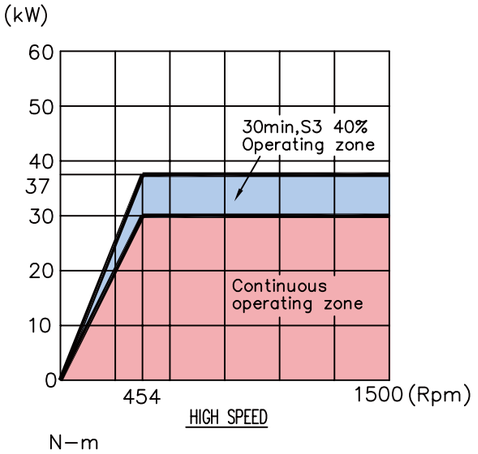


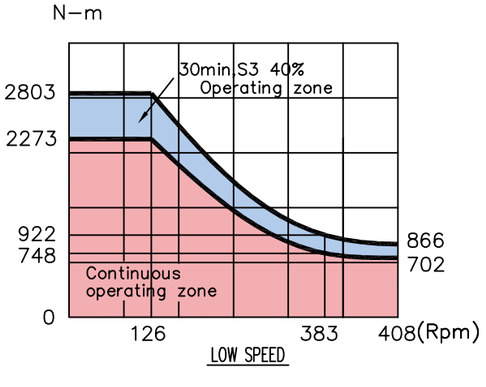


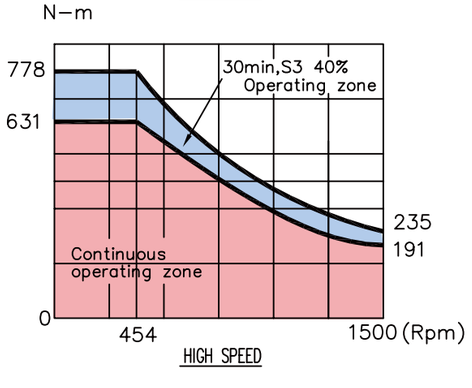


ϕ205 30/37 kW Spindle power/torque chart

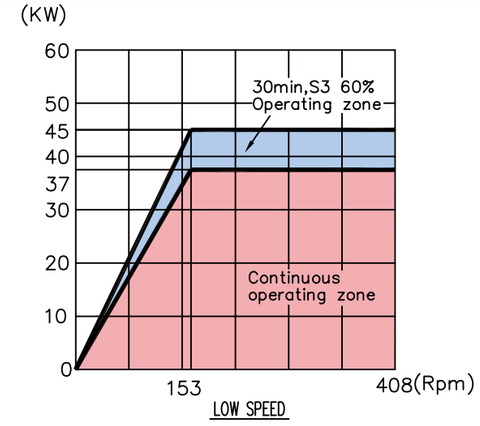


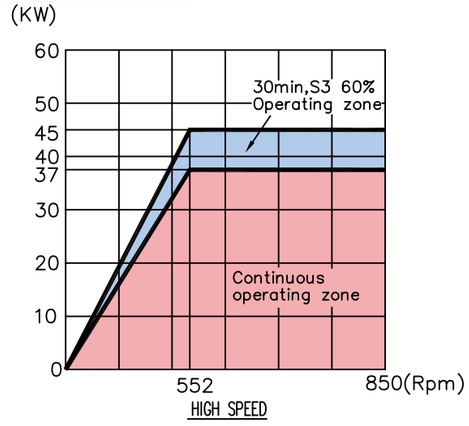


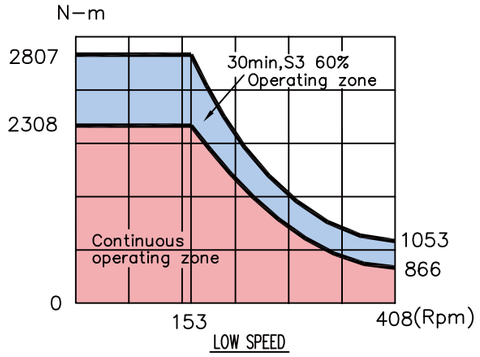


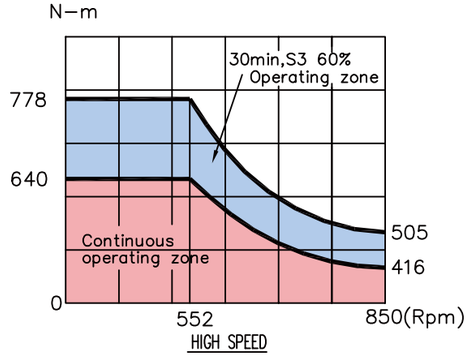


ϕ235 37/45 kW Spindle power/torque chart

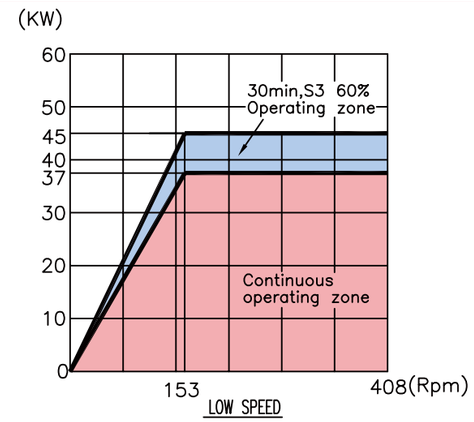


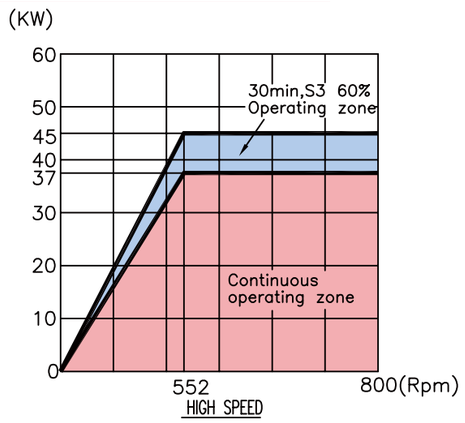


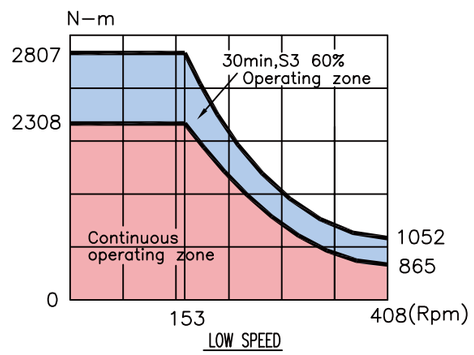


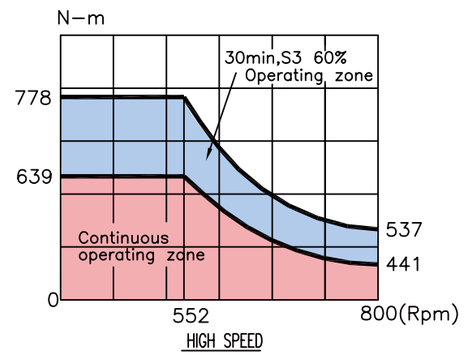


ϕ258 37/45 kW Spindle power/torque chart (option)

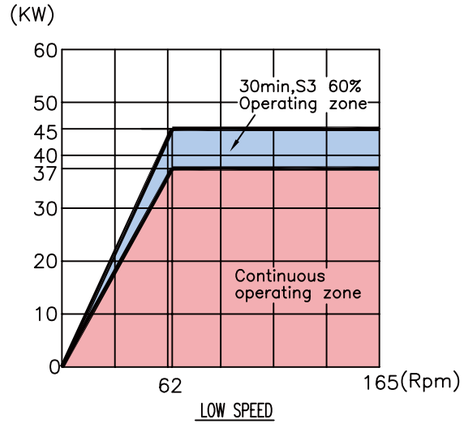


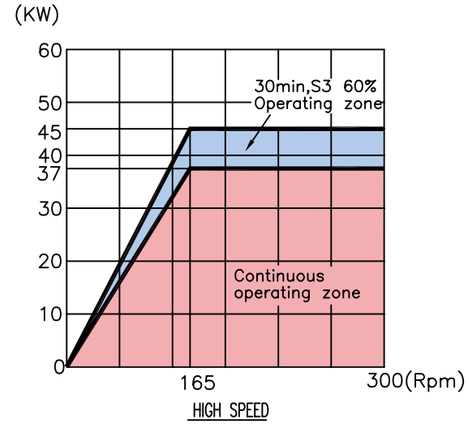


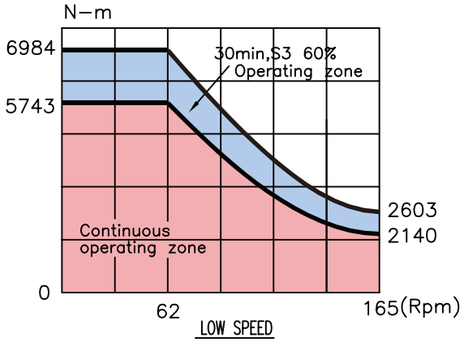


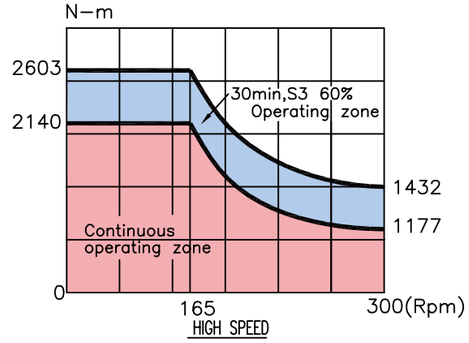


ϕ375 37/45 kW Spindle power/torque chart (option)

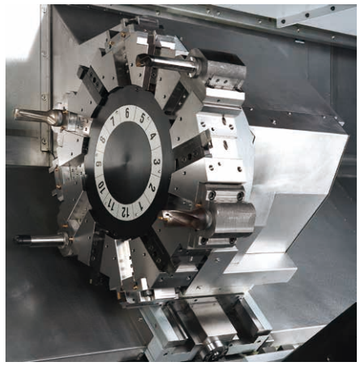




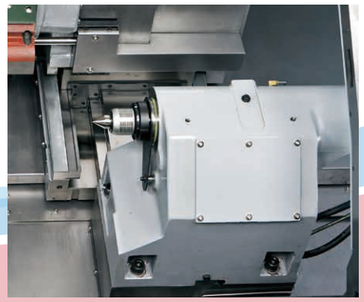




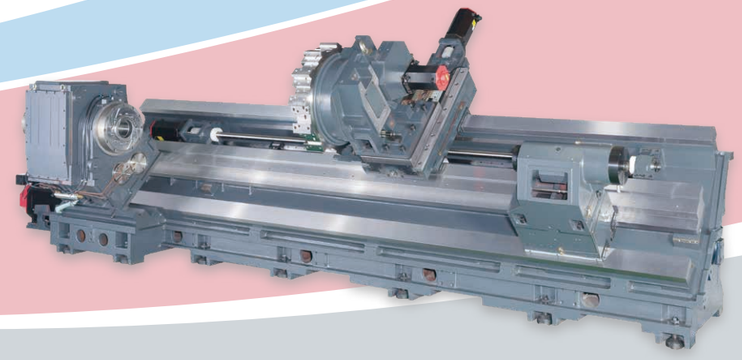
Special Turret Design and Precision Motion Control



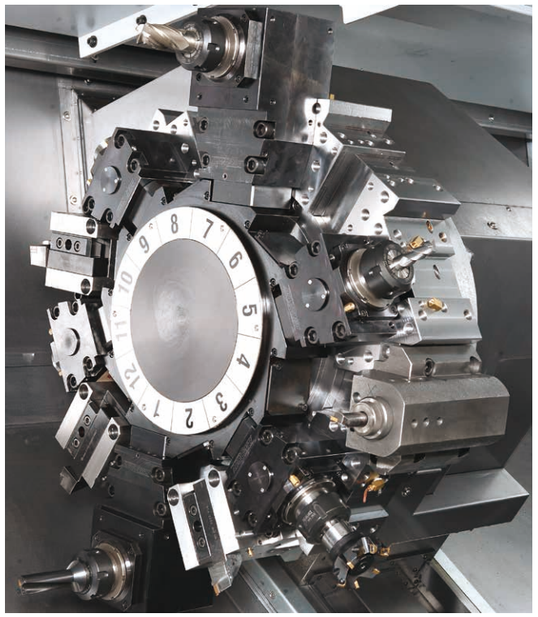
- Servo controlled heavy duty turret with 2-piece large diameter Hirth coupling provides strong clamping stiffness, high loading capacity, and precise positioning accuracy. Bi-directional non-stop indexing 12-station tool disc delivers fast 3 second tool to tool indexing time reducing idle cutting time.
- High-precision tailstock quill encased in a sleeve is fully programmable. Tailstock body mounted on box ways ensure maximum rigidity to support long and heavy workpiece between centers.

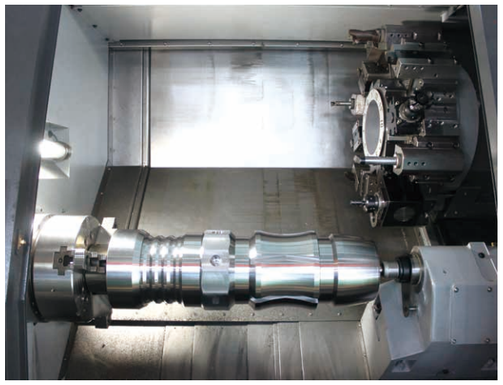


- Powerful standard MT6 taper with a live center or an optional rotating quill meet various requirements.
- C3 class precision ground ball screw offers sufficient high accuracy and reliability.



Strong Live Tooling for Long, Large Sized Workpieces



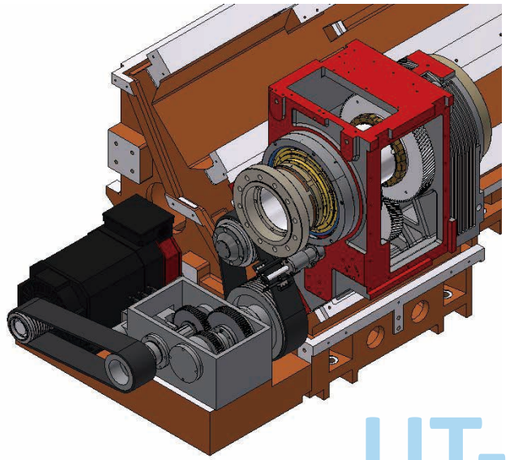


Heavy Duty Power Turret + C-axis index control

- Special high rigid 12-station base mount tooling turret is capable of driving rotary tools at any station, providing flexible machining capacity in just one set-up. Rotary radial and axial tool holder is securely tightened by 4 screws, allowing the turret to perform heavy-duty cutting, milling and drilling operations.
- To cope with rigorous heavy cutting demands, the most contemporary design power turret features a unique driving method delivering 11 kW of machining power for rotary tools to satisfy versatile heavy jobs.

Steady rest

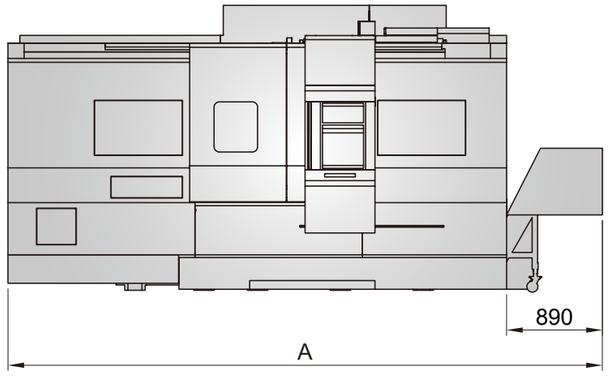
- To cope with rigorous heavy cutting demands, the most contemporary design power turret features a unique driving method delivering 11 kW of machining power for rotary tools to satisfy versatile heavy jobs.

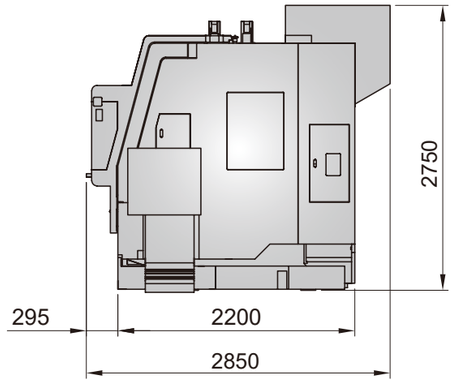


- The optional oil both 2-step gearbox provides huge torque, which can easily meet heavy cutting requirements.

UT-400 Machine Dimensions

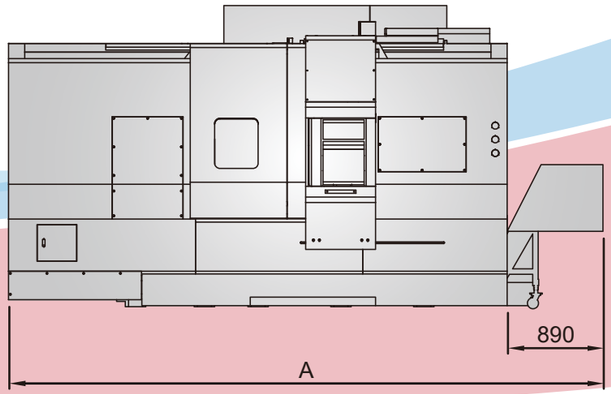
Model	UT-400L	UT-400LX2	UT-400LX3	UT-400LX4	UT-400LX5
A	6200mm	6900mm	8050mm	9050mm	11100mm

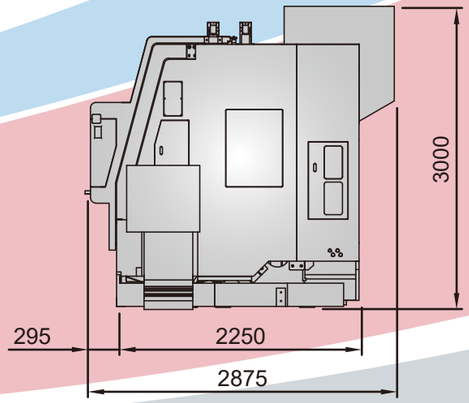




UT-600 Machine Dimensions

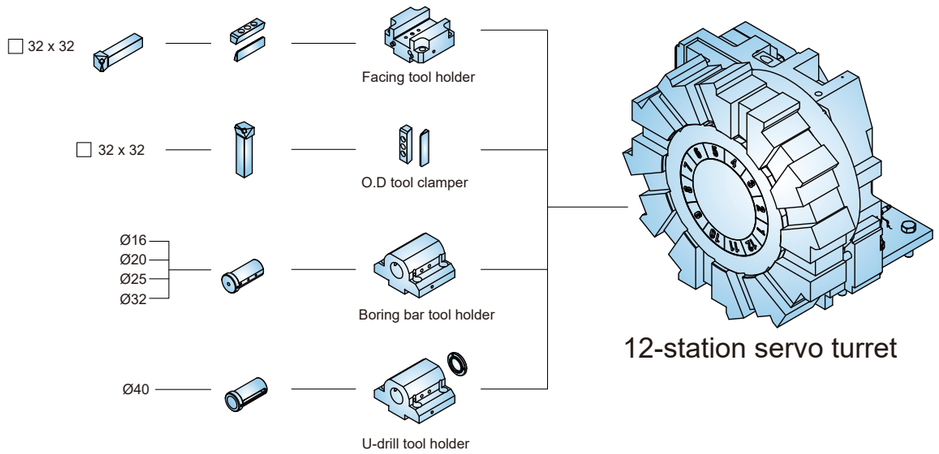
Model	UT-600L	UT-600LX2	UT-600LX3	UT-600LX4	UT-600LX5
A	6200mm	6900mm	8050mm	9050mm	11100mm



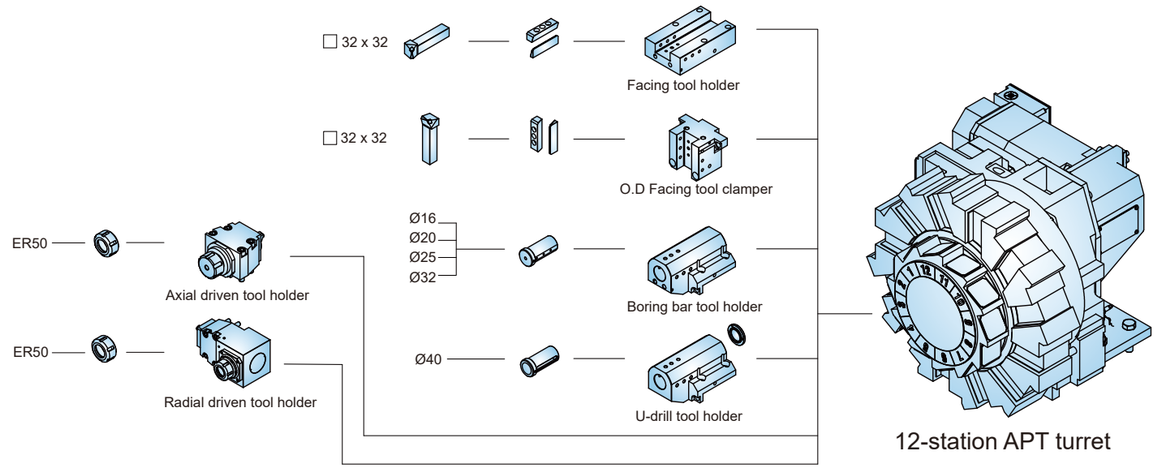


Tooling System

Standard 12-Station Servo Turret

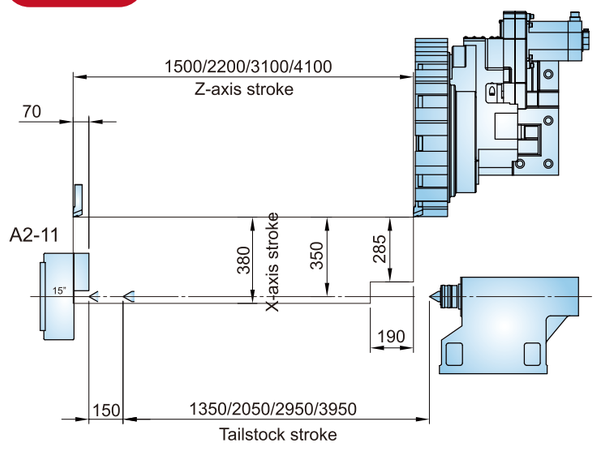


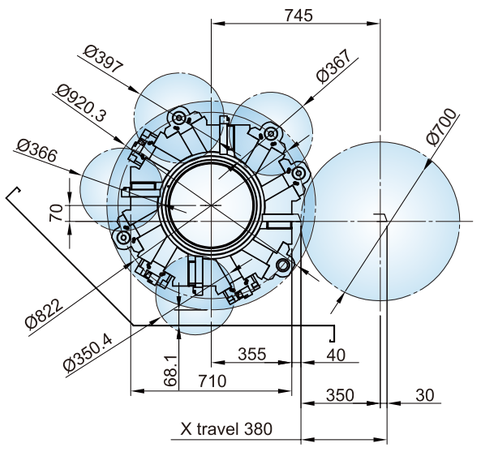
Standard 12-Station APT Turret



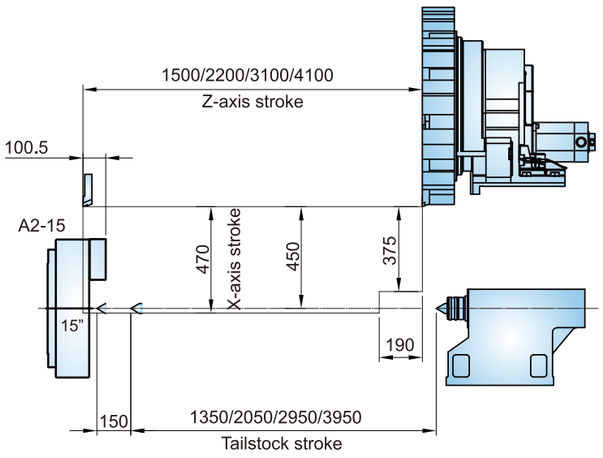
Working Range Diagram

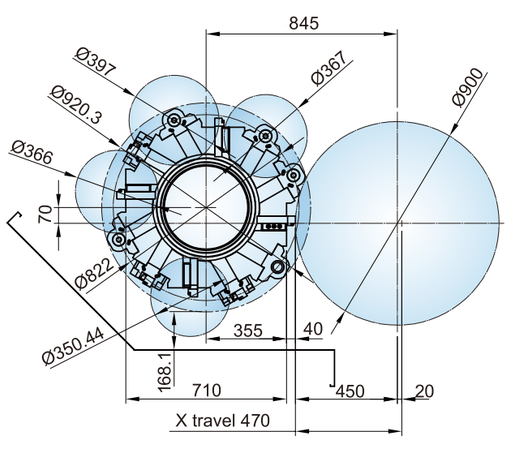
UT-400





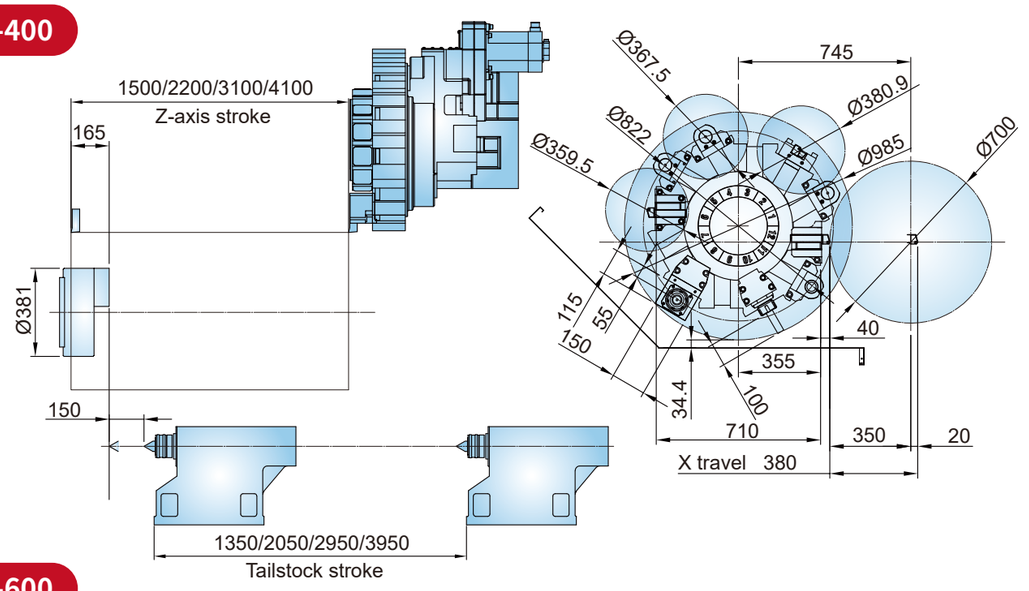
UT-600



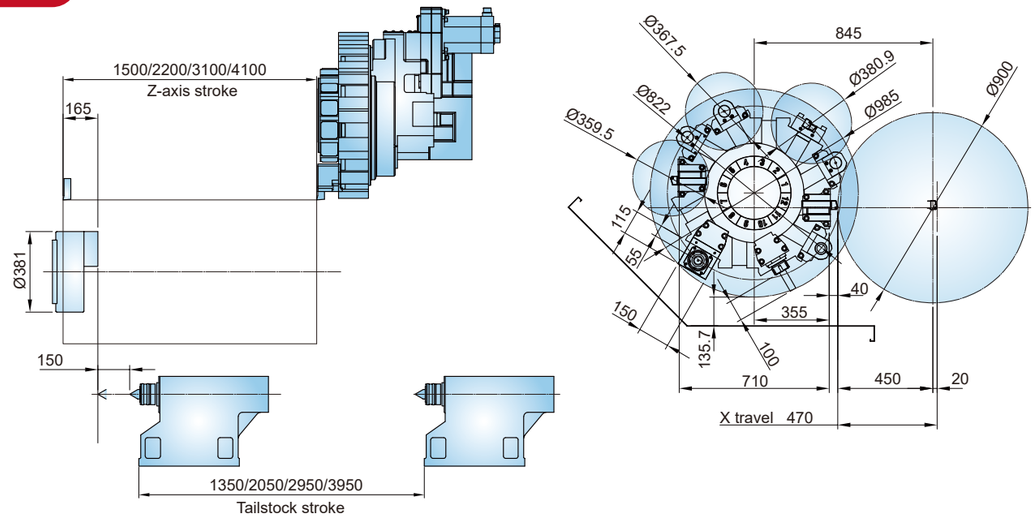


Working Range Diagram

UT-400



UT-600



Machine Specification

ITEM/MODEL		UT-400L	UT-400LX2	UT-400LX3	UT-400LX4	UT-400LX4Y
Controller		FANUC 0i-T				
CAPACITY						
Swing over bed	mm	900				1200
Swing over saddle	mm	745				1040
Max. turning diameter	mm	700				
Max. turning length	mm	1380	2080	2980	3980	3900
Guide way type		Box				
MAIN SPINDLE						
Spindle Nose	ASA	A2-11 (A2-15)				
Chuck Diameter	inch	15 (20/24)				
Spindle Hole Diameter	mm	131 (205/235/258)				
Spindle Speed	rpm	2000 (1500/850/800)				
Spindle Motor Power(Cont. / 30min)	kW	30/37 (37/45)+2-step gearbox				
TRAVELS						
X-axis Travel	mm	380				
Z-axis Travel	mm	1500	2200	3100	4100	
Y-axis Travel	mm	-				±75
Feeds						
X-axis Rapid Traverse Rate	m/min	20				
Z-axis Rapid Traverse Rate	m/min	24	15	10	6	
Y-axis Rapid Traverse Rate	m/min	-				10
TOOL TURRET						
Tooling System		BOT				BMT-85
Turret Driven Type		Servo mechanical				
Number Of Tools	station	12				
Square Tool Shank Size	mm	32				
Round Tool Shank Size	mm	50				
Max. Rotary Tool Speed	rpm	-				4000
Rotary Tool Driver Power	kW	-				7.5/11
TAILSTOCK						
Tailstock body travel	mm	1350	2050	2950	3950	
Quill travel	mm	150				
Quill diameter	mm	160				
Quill taper hole	MT#	6				
DIMENSIONS						
Machine Dimension L x W x H	m	6.2 x 2.8 x 2.7	6.9 x 2.8 x 2.7	7.9 x 2.8 x 2.7	9 x 2.8 x 2.7	9.4 x 3.2 x 3.1
Net Weight	kg	14000	17500	17950	22900	23000

ITEM/MODEL		UT-600L	UT-600LX2	UT-600LX3	UT-600LX4
Controller		FANUC 0i-T			
CAPACITY					
Swing over bed	mm	1030			
Swing over saddle	mm	950			
Max. turning diameter	mm	900			
Max. turning length	mm	1300	1900	2900	3950
Guide way type		Box			
MAIN SPINDLE					
Spindle Nose	ASA	A2-15 (A2-20)			
Chuck Diameter	inch	20 (24 / 32)			
Spindle Hole Diameter	mm	205 (235/258/320/375)			
Spindle Speed	rpm	1500 (850/800/400/300)			
Spindle Motor Power(Cont. / 30min)	kW	30/37 (37/45)+2-step gearbox			
TRAVELS					
X-axis Travel	m/min	495			470
Z-axis Travel	m/min	1500	2100	3100	4100
Feeds					
X-axis Rapid Traverse Rate	m/min	20			
Z-axis Rapid Traverse Rate	m/min	24	15	10	6
TOOL TURRET					
Tooling System		BOT			
Turret Driven Type		Servo mechanical			
Number Of Tools	station	12			
Square Tool Shank Size	mm	32			
Round Tool Shank Size	mm	50			
Max. Rotary Tool Speed	rpm	-			
Rotary Tool Driver Power	kW	-			
TAILSTOCK					
Tailstock body travel	mm	1350	2050	2950	3950
Quill travel	mm	150			
Quill diameter	mm	160			
Quill taper hole	MT#	6			
DIMENSIONS					
Machine Dimension L x W x H	m	6.2 x 2.9 x 3	6.9 x 2.9 x 3	8 x 2.9 x 3	9 x 2.9 x 3
Net Weight	kg	14500	20000	20450	25400

◆Specifications are subject to change without prior notice.