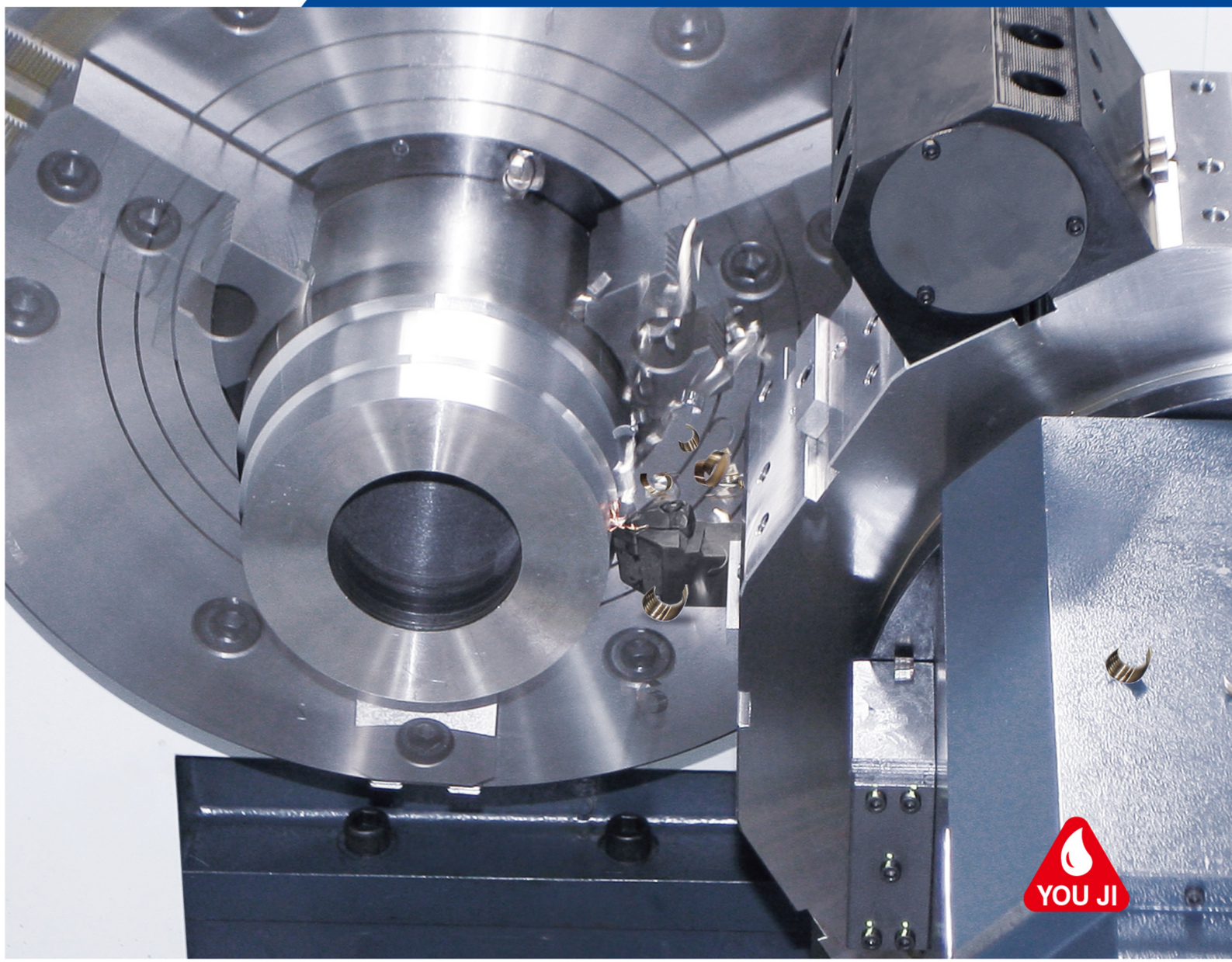
KEY to productivity

AH Series

You Ji Machine Industrial Company Limited

CNC Heavy Duty Horizontal Turning Center



YOU JI MACHINE IND. CO., LTD.

No.92, Huanqiu Rd., Zhuyuan Vil.,
Luzhu Dist., Kaohsiung City 82142, Taiwan
Tel: 886-7-695-2669
Fax: 886-7-695-3301
Email：youji@ms15.hinet.net

Distributor

Tailored to the oil & gas industry

The range of oil and gas products that are produced using machining techniques is broad – whether long shafts, tubing, flanges or connectors. However, with increasing business opportunities, customers also expect the machine tools manufacturer to provide updates on critical machining solutions at a lightning pace. With over 35 years of experience in the area of machine tools technology, You Ji is a strong partner in metalworking technology and optimum solution. As a consequence, manufacturers of oil and gas products can concentrate on their core objectives: the cost-effective production of innovative machining technology with the best possible quality.

The You Ji horizontal turning center AH Series offers more bar capacity, more power, and other facets required specifically of a heavy-duty machine. These large-capacity machines are available with a wide selection of high-productivity options, including high-torque live tooling, C axis, Y axis and variable turning lengths. The following chapters clearly show that the high-performance You Ji AH series is admirably suited to address all types of heavy cutting technology that customers in these industries require.

Advantages at a glance:

- Operator-friendliness, easy and fast tool/ job setting.
- Optimized box-structure design results in the highest stiffness and precision.
- Spindle drive system provides the highest torque and long-term accuracy.
- 3-step gearbox for AH06/09/12 features lower power consumption and greater cutting force.
- Rigid 12-station turret adapting an enlarged precision coupling, ensuring high stability in continuous heavy duty operation.
- Best workholding properties using robust programmable tailstock.
- Flexible options: bar capacity 4/5/6/9/12", and spindle front and rear chucks.

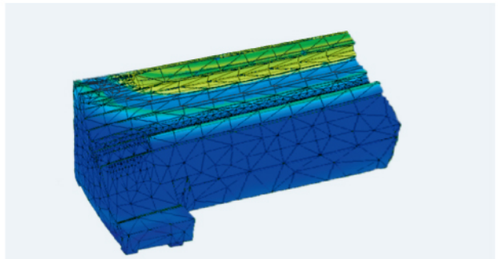
The foundation of power

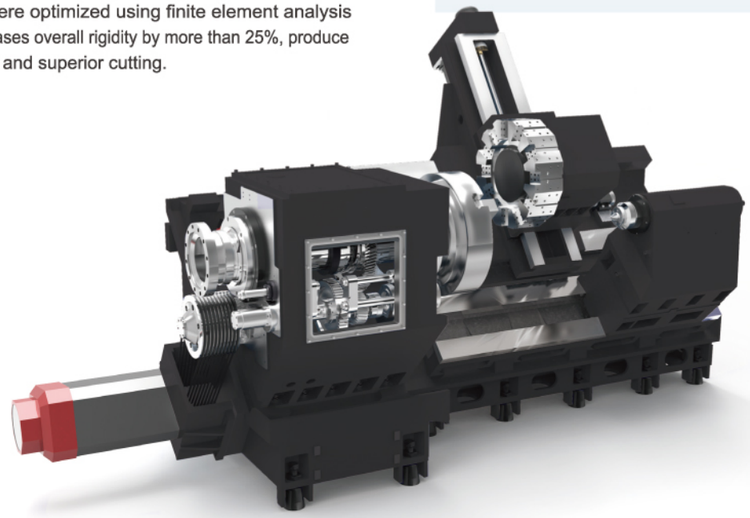
Perfect combination of rigidity and reliability

Machine base

- The box-structure designed machine base is made up of one-piece Meehanite casting, it absorbs vibration and harmonics and dissipating heat throughout the entire structure, ensures smooth surface finishes and great reliability in continuous heavy-duty operation.

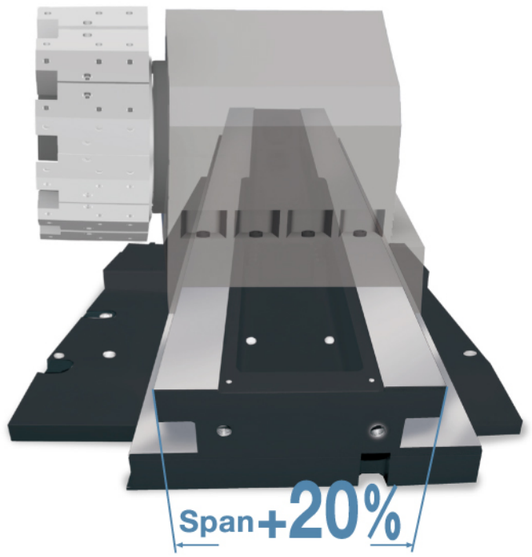
- For the You Ji AH series turning centers, all structural components were optimized using finite element analysis (FEA) that increases overall rigidity by more than 25%, produce the best rigidity and superior cutting.





Slideway

The robust slideway is widened to provide stable sliding properties. This increases rigidity in radial direction, while providing higher accuracy and reliability. Optimum slideway construction is d-esigned for easy disposal of chips, therefore simplifies maint-enance and service.

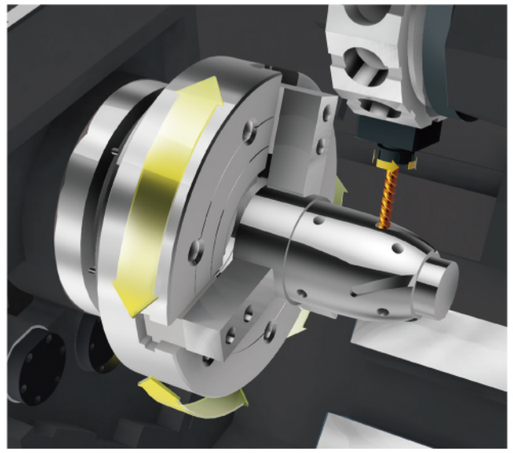


Exciting challenges for multi-tasking

Your partner for optimizing processes

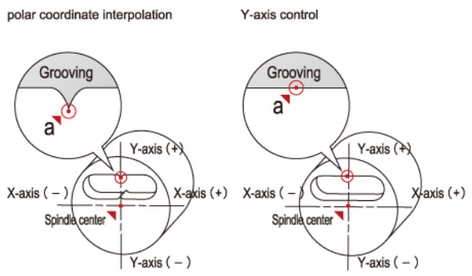
C-axis control

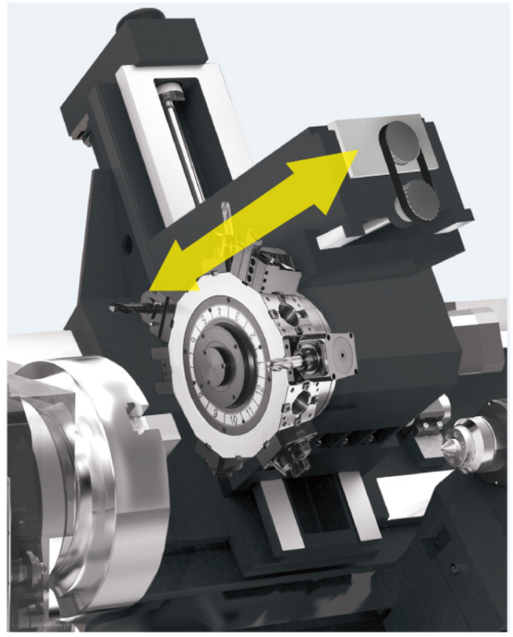
- The C axis provides high-precision (±0.01 degree) bidirectional spindle motion that is fully interpolated with X and/or Z motion. It is servo driven through a back-gear reduction to provide outstanding torque for precision milling. Speeds are programmable from 0.1 to 60 rpm, and Cartesian-to-polar interpolation allows programming of face machining operations using traditional X and Y coordinates.



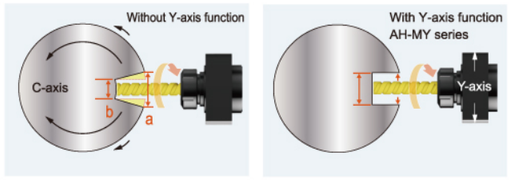
Y-axis control

Comparison between polar coordinate interpolation and Y-axis control Until now, slotting and contouring were done on turning centers by using polar coodinate interpolation, but the cutting conditions at the intersection point (a) of the workpiece center line and the machining line changed when the direction of travel on the X-axis was reversed. This affected the geometric accuracy. With the Y-axis control, however, the cutting conditions do not change, offering high geometric precision.





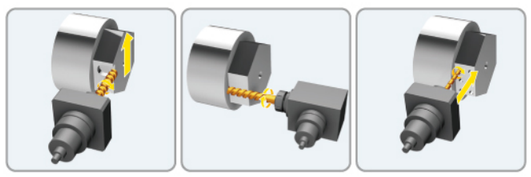
■ Key way milling using a turning center with the Y-axis function



Adjusting the key way width at the outside (a) and the inside (b) is difficult.

The key way width can be adjusted with the Y-axis function.

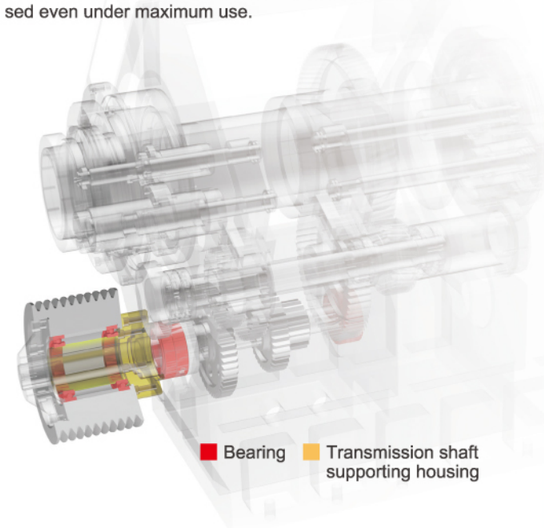
■ Bar machining with Y-axis control



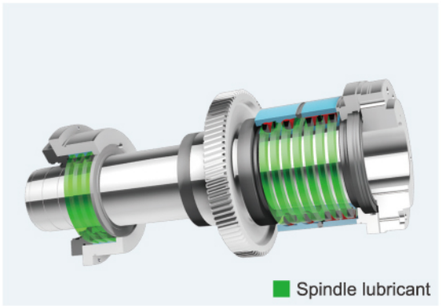
1. Side milling
2. Off-center keyway milling
3. Off-center drilling

Spindle head for AH06/09/12

- The AH Series big bore spindle option provides larger bar capacity and more power, 6", 9", and 12" bore spindles are available for different machine models. The spindle uses high accuracy precision bearings offering an ultra-rigid main spindle. Axial and radial loads are dissipated during the heavy machining cut. The spindle life will be greatly increased even under maximum use.

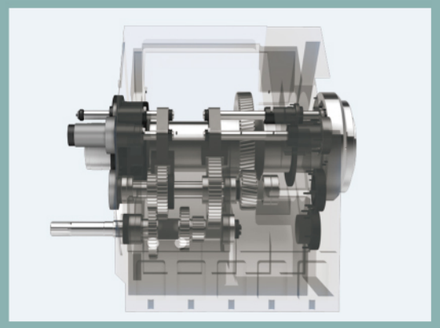


- The spindle bearings are lubricated by automatic circular lubrication system - in the exact area, and at the moment the lubrication is needed. The gear box incorporates automatic injection lubrication system and semi-immersed lubrication design. High-efficiency lubrication protects spindle bearings and gears against corrosion and wear, thus ensuring service life and stable temperature control.



Three-step gearbox

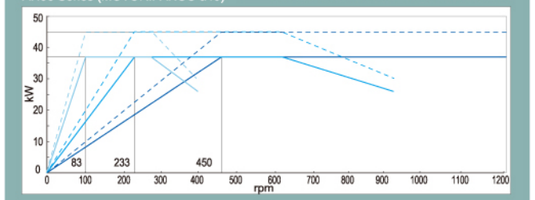
Experience the power with this You Ji-built, 3-speed gearbox is more than easy on all AH Series machines. The optimum-designed gear ratio performs continuous full-power output during gear shifting, achieves substantially more torque than other gearbox alternatives.



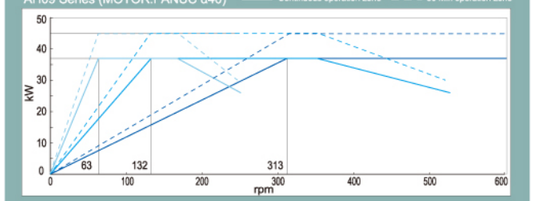
Unit:N-m

		1st gear	2nd gear	3rd gear
AH06	Continuous operation zone	3525	1511	783
	30 Min operation zone	4290	1839	952
AH09	Continuous operation zone	5640	2679	1128
	30 Min operation zone	6864	3260	1373
AH12	Continuous operation zone	7332	3483	1466
	30 Min operation zone	8923	4239	1785

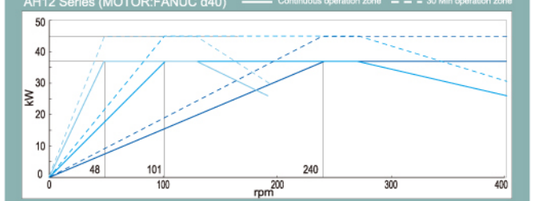
AH06 Series (MOTOR:FANUC α40) — Continuous operation zone - - - 30 Min operation zone



AH09 Series (MOTOR:FANUC α40) — Continuous operation zone - - - 30 Min operation zone



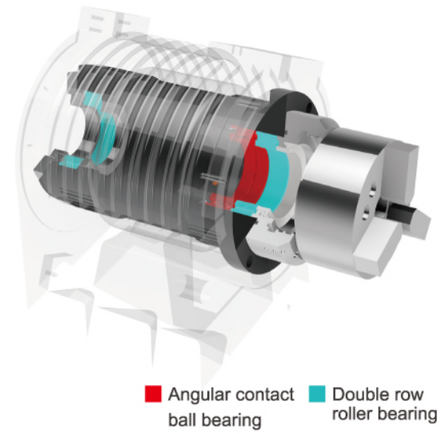
AH12 Series (MOTOR:FANUC α40) — Continuous operation zone - - - 30 Min operation zone



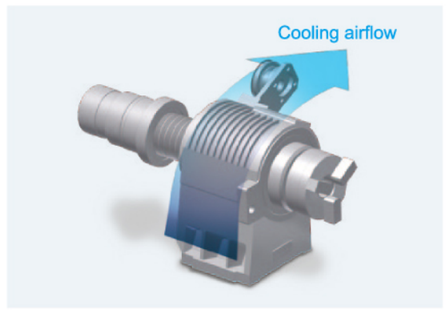
Designed for ultra torque
Unlimited power leads extraordinary cutting force

Spindlle head for AH04/05

- Our spindles boast double row roller bearings and angular contact ball bearings to maximize contact between surfaces. This guarantees high spindle rigidity, even under heavy axial and radial loads. for superior surface finishes.

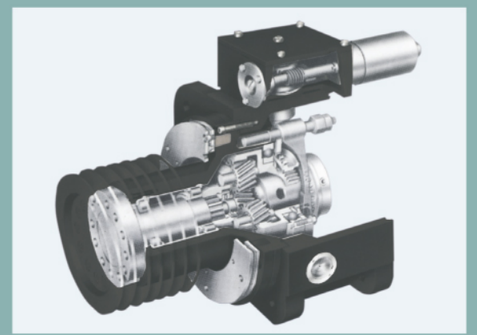


- The one-piece spindle castoing is heavily ribbed to reduce thermal distortion and minimize vibration.
- The spindle transmission uses a V-belt to minimize slip and heat distortion. This design delivers excellent precision, even duriing heavy-duty cuts.
- The sleeve-type soindle structure simplifies maintenance.



Features of Dual Speed Gearbox :

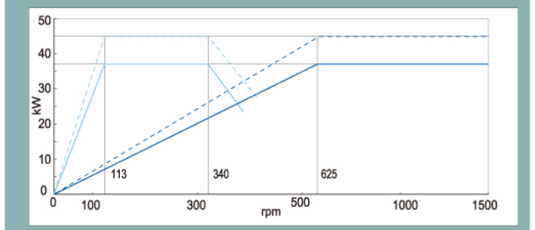
- Eliminates noise and heat transmission to spindle assembly.
- Eliminates vibration transmitted to the spindle.
- Separate lubrication systems for spindle and gearbox eliminate heat transmission.
- High transmitted efficiency (over 95%)
  Gear shift is controlled by integrated shift system.



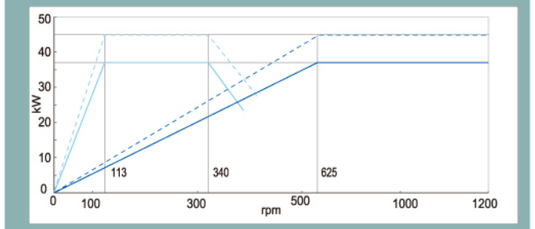
Unit:N-m

		1st gear	2nd gear
AH04	Continuous operation zone	3525	1511
	30 Min operation zone	4290	1839
AH05	Continuous operation zone	5640	2679
	30 Min operation zone	6864	3260

AH04 Series (MOTOR:FANUC α40) — Continuous operation zone - - - 30 Min operation zone

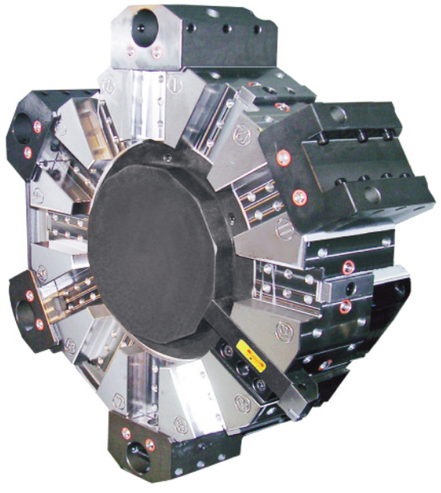


AH05 Series (MOTOR:FANUC α40) — Continuous operation zone - - - 30 Min operation zone



Projecting the capabilities of further cutting force

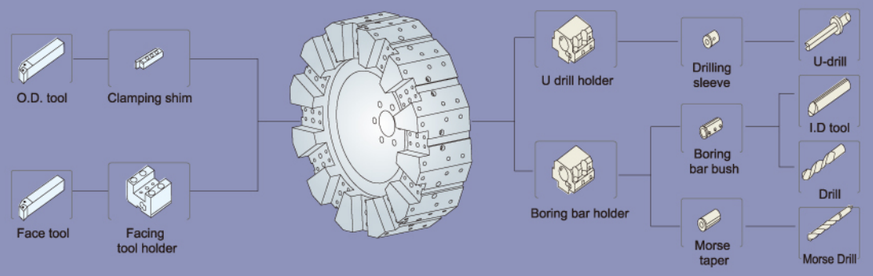
Tool for a higher degree of competitiveness



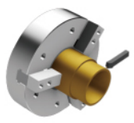
Standard 12-station turret

- The enlarged high-precision coupling provides high torsional stiffness for precision positioning, performing excellent durability and stability even under critical machining conditions.
- Speedy and accurate tool indexing mechanism takes only 0.5 seconds adjacent tool change time, and 1.5 seconds opposite tool change time. It efficiently reduces the cycle time and results greater productivity.
- This turret is designed for waterproof and chip proof that can be used for extreme conditions.
- Ø63 mm (2.5") or larger boring bar holder is applicable according to user's application demands.

■ Tooling system - 12-station turret head

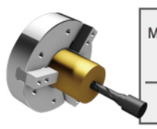


■ O.D cutting



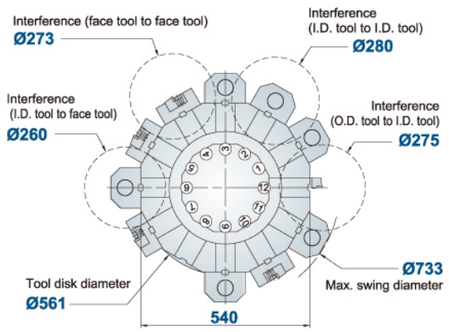
Material	Cutting tool (mm)	Processing diameter (mm)	Depth of cut (mm)	Feedrate (mm/rev)	Spindle speed (rpm)	Metal removal rate (cm³/min)
S45C	□32	Ø 215	12	0.6	195	950

■ Center drill



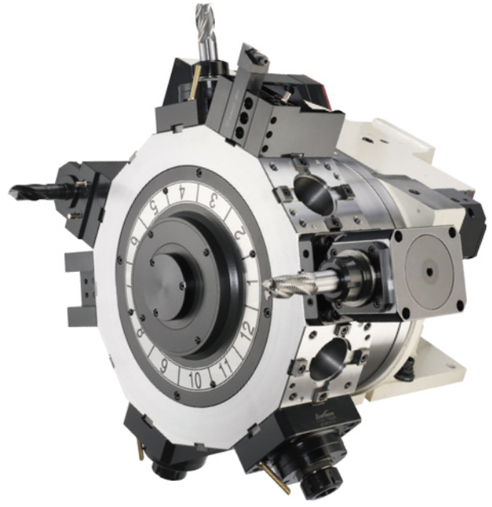
Material	Tooling (mm)	Processing diameter (mm)	Depth of cut (mm)	Feedrate (mm/rev)	Spindle speed (rpm)	Metal removal rate (cm³/min)
S45C	Ø 100 (U-drill)	Ø 100	100	0.1	318	250

■ Tool interference diagram



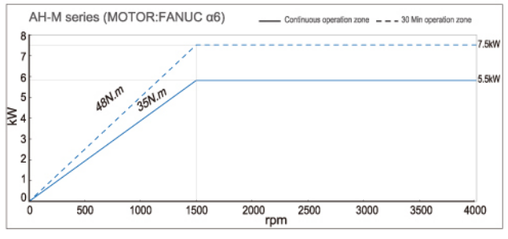
Exciting challenges for multi-tasking

Your partner for optimizing processes

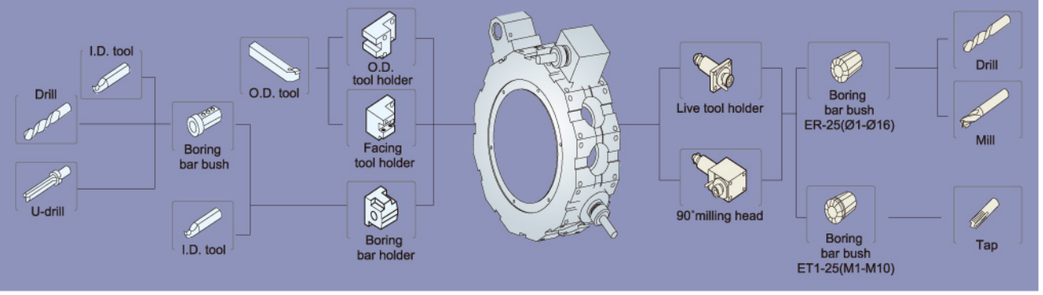


12-station BMT power turret

- Heavy-duty and multi-function turret features BMT tooling for your most demanding jobs, including turning, drilling, tapping, milling etc., integrating C axis to perform precise indexing. Reliable and precise structural interconnection of the turret and C axis unit is absolutely indispensable in order to guarantee process reliability.
- Live tool spindle provides machining flexibility and increases productivity. The live tooling option accepts radial and axial driven tools for various of machining demands. Most operations can be done without resetting, therefore reduces non-cutting time and saves labor cost.



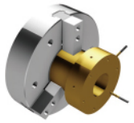
■ Tooling system - 12-station BMT power turret



■ Milling

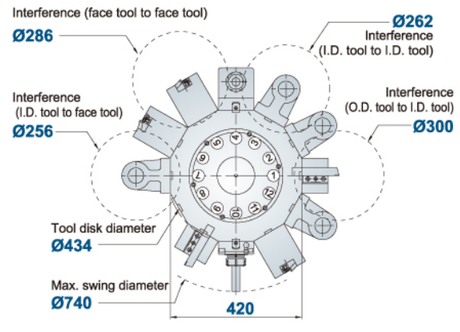
Material	Tooling (mm)	Width of cut (mm)	Depth of cut (mm)	Feedrate (mm/rev)	Live spindle speed (rpm)	Metal removal rate (cm³/min)
S45C	Ø32 (End mill)	20	10	0.4	1500	120

■ Drilling



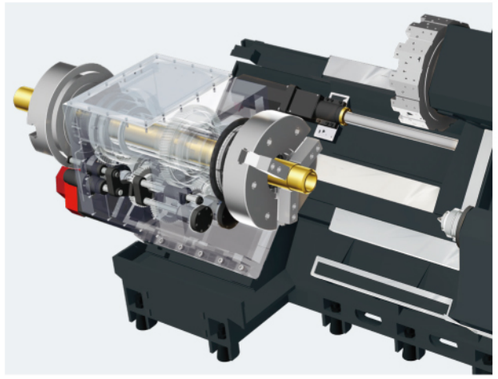
Material	Tooling (mm)	Width of cut (mm)	Depth of cut (mm)	Feedrate (mm/rev)	Live spindle speed (rpm)	Metal removal rate (cm³/min)
S45C	Ø 28 (U-drill)	Ø 28	50	0.12	1700	126

■ Tool interference diagram



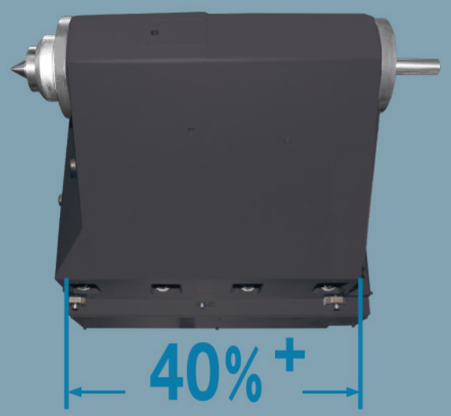
Spindle front and rear chucks

Spindle big-bore front & rear chucking system is applicable to long shaft machining. This solution efficiently reduces windup and distortion of the workpiece, while increasing machining accuracy and stability.



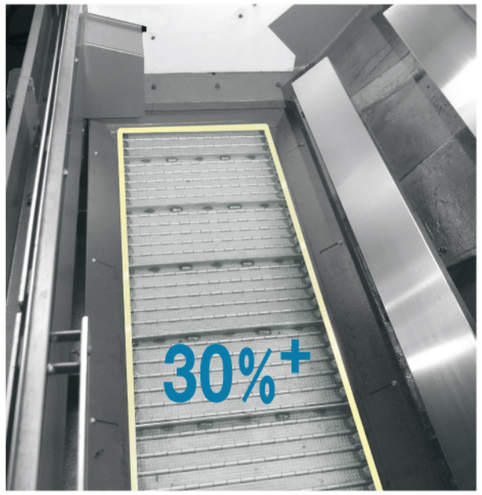
Programmable hydraulic tailstock

The compact, robust hydraulic tailstock can be activated via M code command. Enlarged tailstock body increases contact surface by 40%, superior clamping reliability can therefore be acquired.



High-capacity chip disposal

A tailored chip removal system on the AH Series machines feature high volume chip disposal ability. The large-capacity chip conveyor is designed to have bigger inner space - 30% more than previous models.



High pressure coolant system

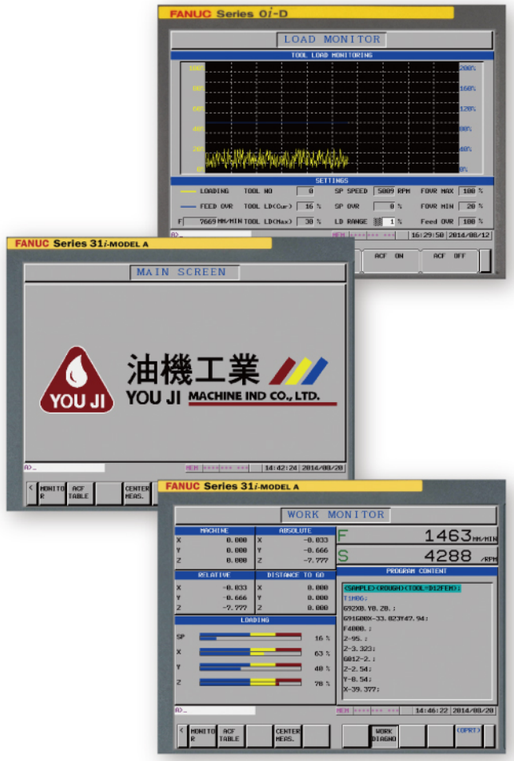
The optional high pressure coolant system is available with various pressure levels, it delivers several important production benefits:

- Higher quality
- Increase productivity
- Longer tool life
- Fast and easy changeouts
- Optional pressure level: 20 / 70 / 100 bar (300 / 1000 / 1500psi)

HMI - Human Machine Interface

Tool monitoring system
Tool monitoring system is one of the safety functions to protect the tool and spindle against possible damages caused by tool wear, breakage, or any other factors lead to abnormal load. This system is developed with following features:

- Easy operation
- Optimum feedrate control
- Longer tool life
- Higher efficiency

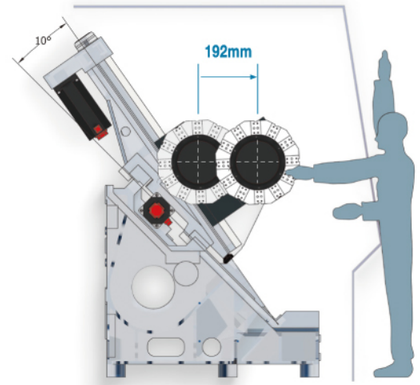


Task manager
All-in-one screen shows all the work-related information in one screen, displayed info including:

- Parts program
- Mechanical coordinates
- Spindle load
- Axes load
- Real-time cut monitoring

Operator-friendliness

The AH Series lathes incorporate an extremely rigid 45 degree slant bed and a 55 degree cross-slide inclination that make the working area more closed to the operator. Job setting and tool setting therefore become more convenient than ever. It also permits one operator to handle multiple machines more easily.

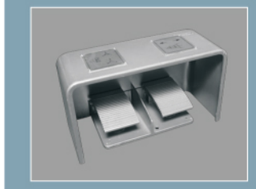


Safety features

The AH Series machines are very safe to use as they are designed to be as safe as possible. We are always looking for ways to improve all aspects of machine safety - including clamping stroke sensor, door interlock, safety window, foot pedal, etc. - to create the most safe and comfortable working environment for worldwide You Ji machine users.

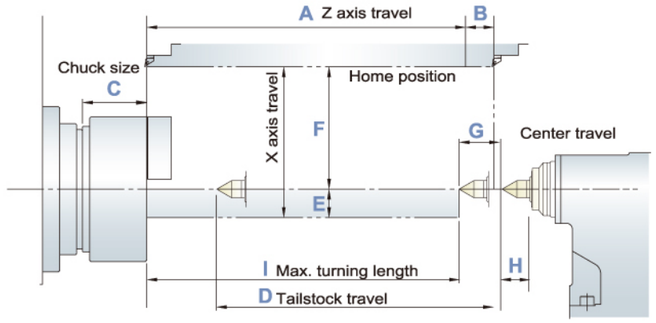

Clamping stroke sensor


Safety glass


Foot pedal


Door interlock

Working envelope

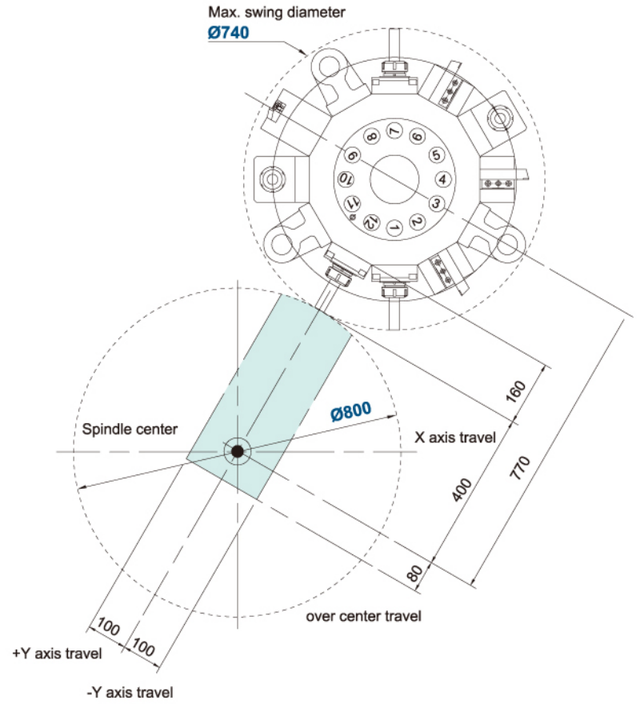


Model		A	B	C	D	E	F	G	H	I
AH04	100	1030	30	149	900	30	450	100	73	1000
	210	2130	30	149	2000	30	450	100	73	2100
	320	3230	30	149	3100	30	450	100	73	3200
AH05	100	1030	30	155	900	30	450	100	73	1000
	210	2130	30	155	2000	30	450	100	73	2100
	320	3230	30	155	3100	30	450	100	73	3200
AH06	100	1030	30	166	900	30	450	100	73	1000
	210	2130	30	166	2000	30	450	100	73	2100
	320	3230	30	166	3100	30	450	100	73	3200
AH09	100	1030	30	Opt.	900	30	450	100	73	1000
	210	2130	30	Opt.	2000	30	450	100	73	2100
	320	3230	30	Opt.	3100	30	450	100	73	3200
AH12	100	1030	30	Opt.	900	30	450	100	73	1000
	210	2130	30	Opt.	2000	30	450	100	73	2100
	320	3230	30	Opt.	3100	30	450	100	73	3200

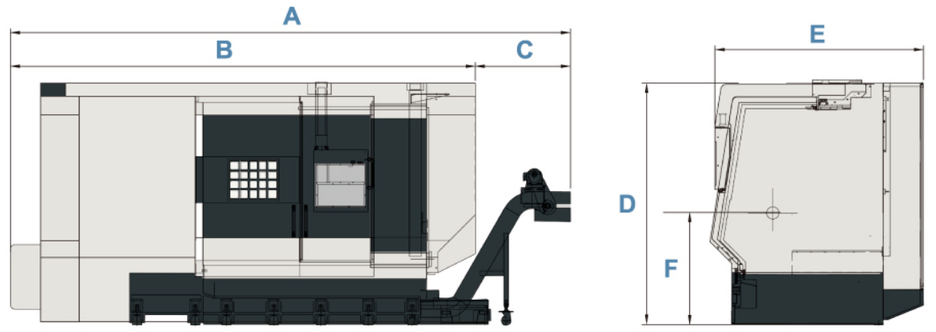
Model		A	B	C	D	E	F	G	H	I
AH04	100 M(MY)	1030	30	149	900	80	400	100	73	1000
	210 M(MY)	2130	30	149	2000	80	400	100	73	2100
	320 M(MY)	3230	30	149	3100	80	400	100	73	3200
AH05	100 M(MY)	1030	30	155	900	80	400	100	73	1000
	210 M(MY)	2130	30	155	2000	80	400	100	73	2100
	320 M(MY)	3230	30	155	3100	80	400	100	73	3200
AH06	100 M(MY)	1030	30	166	900	80	400	100	73	1000
	210 M(MY)	2130	30	166	2000	80	400	100	73	2100
	320 M(MY)	3230	30	166	3100	80	400	100	73	3200
AH09	100 M(MY)	1030	30	Opt.	900	80	400	100	73	1000
	210 M(MY)	2130	30	Opt.	2000	80	400	100	73	2100
	320 M(MY)	3230	30	Opt.	3100	80	400	100	73	3200
AH12	100 M(MY)	1030	30	Opt.	900	80	400	100	73	1000
	210 M(MY)	2130	30	Opt.	2000	80	400	100	73	2100
	320 M(MY)	3230	30	Opt.	3100	80	400	100	73	3200

Unit : mm

Working envelope



Machine layout dimension



Model		A	B	C	D	E	F
AH series	100 (M)	5925	4915	1010	2685	2395	1185
	210 (M)	7025	6015				
	320 (M)	8125	7115				

Model		A	B	C	D	E	F
AH series	100MY	5925	4915	1010	3200	2600	1300
	210MY	7025	6015				
	320MY	8125	7115				

Unit : mm

AH Series -
Machine specifications

AH04

Item		Unit	/100	/210	/320	/100M	/210M	/320M	/100MY	/210MY	/320MY
Capacity	Max. swing diameter	mm (inch)	Ø950 (Ø37.4)								
	Standard chuck	mm (inch)	Ø457 (Ø18)Hydralic								
	Max. turning diameter	mm (inch)	Ø900 (Ø35.4)			Ø800 (Ø31.5)			Ø800 (Ø31.5)		
	Max. turning length	mm (inch)	1000 (39.3)	2100 (82.6)	3200 (125.9)	1000 (39.3)	2100 (82.6)	3200 (125.9)	1000 (39.3)	2100 (82.6)	3200 (125.9)
	Swing over cross slide	mm (inch)	Ø750 (Ø29.5)								
	Bar capacity	mm (inch)	Ø115 (Ø4.5)								
Travel	X axis travel	mm (inch)	-30,+450 (-1.1,+17.7)			-80,+400 (-3.1,+15.7)			-80,+400 (-3.1,+15.7)		
	Z axis travel	mm (inch)	1030 (40.5)	2130 (83.8)	3230 (127.1)	1030 (40.5)	2130 (83.8)	3230 (127.1)	1030 (40.5)	2130 (83.8)	3230 (127.1)
	Y axis travel	mm (inch)							200 (7.8)		
Spindle	Spindle speed	rpm	1-300 300-1500								
	Spindle nose		A2-11								
	Spindle bearing diameter	mm (inch)	Ø180 (Ø7.08)								
	Live spindle speed	rpm				1~4000			1~4000		
Tailstock	Tailstock quill travel	mm (inch)	100 (4)								
	Tailstock taper		MT5								
Turret	Turret type		12-st.			12-st.(BMT75)			12-st.(BMT75)		
	OD tool shank size	mm (inch)	□32 (□1.2)								
	ID tool shank size	mm (inch)	Ø63 (Ø2.5)								
Feed rate	X axis rapid traverse	m/min (ipm)	12 (472.4)								
	Y axis rapid traverse	m/min (ipm)							10 (393.7)		
	Z axis rapid traverse	m/min (ipm)	15 (590.5)								
	Cutting feed rate	mm/rev	0.001-500								
	Manual feed rate	mm/min	0-1200								
Control	FANUC		0i-T								
Motor	Spindle motor	kW (Hp)	37/45 (49.6/60.3)								
	X axis motor	kW (Hp)	7 (9.3)								
	Y axis motor	kW (Hp)							2.5 (3.3)		
	Z axis motor	kW (Hp)	9 (12)								
	Live spindle motor	kW (Hp)				5.5/7.5 (7.3/10)			5.5/7.5 (7.3/10)		
	Power capacity	KVA	75			85			90		
Others	Coolant pump	W	550								
	Lubrication pump	W	75								
Tank capacity	Hydraulic tank	L	60								
	Lubrication tank	L	4.6								
	Coolant tank	L	250	400	550	250	400	550	250	400	550
Dimension	Machine height	mm (inch)	2685 (105.7)			2685 (105.7)			3200 (125.9)		
	Machine length	mm (inch)	5925 (234)	7025 (277)	8125 (320)	5925 (234)	7025 (277)	8125 (320)	5925 (234)	7025 (277)	8125 (320)
	Machine width	mm (inch)	2395 (94.3)			2395 (94.3)			2600 (102.3)		
	Machine weight	kg	14000	16000	18000	14500	16500	18500	15500	17500	19500

AH05

Item		Unit	/100	/210	/320	/100M	/210M	/320M	/100MY	/210MY	/320MY
Capacity	Max. swing diameter	mm (inch)	Ø950 (Ø37.4)								
	Standard chuck	mm (inch)	Ø508 (Ø20)Hydralic								
	Max. turning diameter	mm (inch)	Ø900 (Ø35.4)			Ø800 (Ø31.5)			Ø800 (Ø31.5)		
	Max. turning length	mm (inch)	1000 (39.3)	2100 (82.6)	3200 (125.9)	1000 (39.3)	2100 (82.6)	3200 (125.9)	1000 (39.3)	2100 (82.6)	3200 (125.9)
	Swing over cross slide	mm (inch)	Ø750 (Ø29.5)								
	Bar capacity	mm (inch)	Ø132 (Ø5.2)								
Travel	X axis travel	mm (inch)	-30,+450 (-1.1,+17.7)			-80,+400 (-3.1,+15.7)			-80,+400 (-3.1,+15.7)		
	Z axis travel	mm (inch)	1030 (40.5)	2130 (83.8)	3230 (127.1)	1030 (40.5)	2130 (83.8)	3230 (127.1)	1030 (40.5)	2130 (83.8)	3230 (127.1)
	Y axis travel	mm (inch)							200 (7.8)		
Spindle	Spindle speed	rpm	1-300 300-1200								
	Spindle nose		A2-15								
	Spindle bearing diameter	mm (inch)	Ø200 (Ø7.87)								
	Live spindle speed	rpm				1~4000			1~4000		
Tailstock	Tailstock quill travel	mm (inch)	100 (4)								
	Tailstock taper		MT5								
Turret	Turret type		12-st.			12-st.(BMT75)			12-st.(BMT75)		
	OD tool shank size	mm (inch)	□32 (□1.2)								
	ID tool shank size	mm (inch)	Ø63 (Ø2.5)								
Feed rate	X axis rapid traverse	m/min (ipm)	12 (472.4)								
	Y axis rapid traverse	m/min (ipm)							10 (393.7)		
	Z axis rapid traverse	m/min (ipm)	15 (590.5)								
	Cutting feed rate	mm/rev	0.001-500								
	Manual feed rate	mm/min	0-1200								
Control	FANUC		0i-T								
Motor	Spindle motor	kW (Hp)	37/45 (49.6/60.3)								
	X axis motor	kW (Hp)	7 (9.3)								
	Y axis motor	kW (Hp)							2.5 (3.3)		
	Z axis motor	kW (Hp)	9 (12)								
	Live spindle motor	kW (Hp)				5.5/7.5 (7.3/10)			5.5/7.5 (7.3/10)		
	Power capacity	KVA	75			85			90		
Others	Coolant pump	W	550								
	Lubrication pump	W	75								
Tank capacity	Hydraulic tank	L	60								
	Lubrication tank	L	4.6								
	Coolant tank	L	250	400	550	250	400	550	250	400	550
Dimension	Machine height	mm (inch)	2685 (105.7)			2685 (105.7)			3200 (125.9)		
	Machine length	mm (inch)	5925 (234)	7025 (277)	8125 (320)	5925 (234)	7025 (277)	8125 (320)	5925 (234)	7025 (277)	8125 (320)
	Machine width	mm (inch)	2395 (94.3)			2395 (94.3)			2600 (102.3)		
	Machine weight	kg	14000	16000	18000	14500	16500	18500	15500	17500	19500

AH06

Item		Unit	/100	/210	/320	/100M	/210M	/320M	/100MY	/210MY	/320MY
Capacity	Max. swing diameter	mm (inch)	Ø950 (Ø37.4)								
	Standard chuck	mm (inch)	Ø609 (Ø24)Hydralic								
	Max. turning diameter	mm (inch)	Ø900 (Ø35.4)			Ø800 (Ø31.5)			Ø800 (Ø31.5)		
	Max. turning length	mm (inch)	1000 (39.3)	2100 (82.6)	3200 (125.9)	1000 (39.3)	2100 (82.6)	3200 (125.9)	1000 (39.3)	2100 (82.6)	3200 (125.9)
	Swing over cross slide	mm (inch)	Ø750 (Ø29.5)								
	Bar capacity	mm (inch)	Ø153 (Ø6.05)								
Travel	X axis travel	mm (inch)	-30,+450 (-1. 1,+17.7)			-80,+400 (-3.1,+15.7)			-80,+400 (-3.1,+15.7)		
	Z axis travel	mm (inch)	1030 (40.5)	2130 (83.8)	3230 (127.1)	1030 (40.5)	2130 (83.8)	3230 (127.1)	1030 (40.5)	2130 (83.8)	3230 (127.1)
	Y axis travel	mm (inch)							200 (7.8)		
Spindle	Spindle speed	rpm	1~230 230~620 620~1200								
	Spindle nose		A2-15								
	Spindle bearing diameter	mm (inch)	Ø220 (Ø8.6)								
	Live spindle speed	rpm				1~4000			1~4000		
Tailstock	Tailstock quill travel	mm (inch)	100 (4)								
	Tailstock taper		MT5								
Turret	Turret type		12-st.			12-st.(BMT75)			12-st.(BMT75)		
	OD tool shank size	mm (inch)	□32 (□1.2)								
	ID tool shank size	mm (inch)	Ø63 (Ø2.5)								
Feed rate	X axis rapid traverse	m/min (ipm)	12 (472.4)								
	Y axis rapid traverse	m/min (ipm)							10 (393.7)		
	Z axis rapid traverse	m/min (ipm)	15 (590.5)								
	Cutting feed rate	mm/rev	0.001-500								
	Manual feed rate	mm/min	0-1200								
Control	FANUC		0i-T								
Motor	Spindle motor	kW (Hp)	37/45 (49.6/60.3)								
	X axis motor	kW (Hp)	7 (9.3)								
	Y axis motor	kW (Hp)							2.5 (3.3)		
	Z axis motor	kW (Hp)	9 (12)								
	Live spindle motor	kW (Hp)				5.5/7.5 (7.3/10)			5.5/7.5 (7.3/10)		
	Power capacity	KVA	75			85			90		
Others	Coolant pump	W	550								
	Lubrication pump	W	75								
Tank capacity	Hydraulic tank	L	60								
	Lubrication tank	L	4.6								
	Coolant tank	L	250	400	550	250	400	550	250	400	550
Dimension	Machine height	mm (inch)	2685 (105.7)			2685 (105.7)			3200 (125.9)		
	Machine length	mm (inch)	5925 (234)	7025 (277)	8125 (320)	5925 (234)	7025 (277)	8125 (320)	5925 (234)	7025 (277)	8125 (320)
	Machine width	mm (inch)	2395 (94.3)			2395 (94.3)			2600 (102.3)		
	Machine weight	kg	14000	16000	18000	14500	16500	18500	15500	17500	19500

AH09

Item		Unit	/100	/210	/320	/100M	/210M	/320M	/100MY	/210MY	/320MY
Capacity	Max. swing diameter	mm (inch)	Ø950 (Ø37.4)								
	Standard chuck	mm (inch)	Option								
	Max. turning diameter	mm (inch)	Ø900 (Ø35.4)			Ø800 (Ø31.5)			Ø800 (Ø31.5)		
	Max. turning length	mm (inch)	1000 (39.3)	2100 (82.6)	3200 (125.9)	1000 (39.3)	2100 (82.6)	3200 (125.9)	1000 (39.3)	2100 (82.6)	3200 (125.9)
	Swing over cross slide	mm (inch)	Ø750 (Ø29.5)								
	Bar capacity	mm (inch)	Ø232 (Ø9.13) Manual Ø205 (Ø8.07) Hydraulic								
Travel	X axis travel	mm (inch)	-30,+450 (-1.1,+17.7)			-80,+400 (-3.1,+15.7)			-80,+400 (-3.1,+15.7)		
	Z axis travel	mm (inch)	1030 (40.5)	2130 (83.8)	3230 (127.1)	1030 (40.5)	2130 (83.8)	3230 (127.1)	1030 (40.5)	2130 (83.8)	3230 (127.1)
	Y axis travel	mm (inch)							200 (7.8)		
Spindle	Spindle speed	rpm	1~140 140~320 320~600								
	Spindle nose		A2-15								
	Spindle bearing diameter	mm (inch)	Ø300 (Ø11.8)								
	Live spindle speed	rpm				1~4000			1~4000		
Tailstock	Tailstock quill travel	mm (inch)	100 (4)								
	Tailstock taper		MT5								
Turret	Turret type		12-st.			12-st.(BMT75)			12-st.(BMT75)		
	OD tool shank size	mm (inch)	□32 (□1.2)								
	ID tool shank size	mm (inch)	Ø63 (Ø2.5)								
Feed rate	X axis rapid traverse	m/min (ipm)	12 (472.4)								
	Y axis rapid traverse	m/min (ipm)							10 (393.7)		
	Z axis rapid traverse	m/min (ipm)	15 (590.5)								
	Cutting feed rate	mm/rev	0.001-500								
	Manual feed rate	mm/min	0-1200								
Control	FANUC		0i-T								
Motor	Spindle motor	kW (Hp)	37/45 (49.6/60.3)								
	X axis motor	kW (Hp)	7 (9.3)								
	Y axis motor	kW (Hp)							2.5 (3.3)		
	Z axis motor	kW (Hp)	9 (12)								
	Live spindle motor	kW (Hp)				5.5/7.5 (7.3/10)			5.5/7.5 (7.3/10)		
	Power capacity	KVA	75			85			90		
Others	Coolant pump	W	550								
	Lubrication pump	W	75								
Tank capacity	Hydraulic tank	L	60								
	Lubrication tank	L	4.6								
	Coolant tank	L	250	400	550	250	400	550	250	400	550
Dimension	Machine height	mm (inch)	2685 (105.7)			2685 (105.7)			3200 (125.9)		
	Machine length	mm (inch)	5925 (234)	7025 (277)	8125 (320)	5925 (234)	7025 (277)	8125 (320)	5925 (234)	7025 (277)	8125 (320)
	Machine width	mm (inch)	2395 (94.3)			2395 (94.3)			2600 (102.3)		
	Machine weight	kg	14000	16000	18000	14500	16500	18500	15500	17500	19500

AH12

Item		Unit	/100	/210	/320	/100M	/210M	/320M	/100MY	/210MY	/320MY
Capacity	Max. swing diameter	mm (inch)	Ø950 (Ø37.4)								
	Standard chuck	mm (inch)	Option								
	Max. turning diameter	mm (inch)	Ø900 (Ø35.4)			Ø800 (Ø31.5)			Ø800 (Ø31.5)		
	Max. turning length	mm (inch)	1000 (39.3)	2100 (82.6)	3200 (125.9)	1000 (39.3)	2100 (82.6)	3200 (125.9)	1000 (39.3)	2100 (82.6)	3200 (125.9)
	Swing over cross slide	mm (inch)	Ø750 (Ø29.5)								
	Bar capacity	mm (inch)	Ø306 (Ø12.06) Manual								
Travel	X axis travel	mm (inch)	-30,+450 (-1.1,+17.7)			-80,+400 (-3.1,+15.7)			-80,+400 (-3.1,+15.7)		
	Z axis travel	mm (inch)	1030 (40.5)	2130 (83.8)	3230 (127.1)	1030 (40.5)	2130 (83.8)	3230 (127.1)	1030 (40.5)	2130 (83.8)	3230 (127.1)
	Y axis travel	mm (inch)							200 (7.8)		
Spindle	Spindle speed	rpm	1~120 120~260 260~400								
	Spindle nose		A2-20								
	Spindle bearing diameter	mm (inch)	Ø406.4 (Ø16)								
	Live spindle speed	rpm				1~4000			1~4000		
Tailstock	Tailstock quill travel	mm (inch)	100 (4)								
	Tailstock taper		MT5								
Turret	Turret type		12-st.			12-st.(BMT75)			12-st.(BMT75)		
	OD tool shank size	mm (inch)	□32 (□1.2)								
	ID tool shank size	mm (inch)	Ø63 (Ø2.5)								
Feed rate	X axis rapid traverse	m/min (ipm)	12 (472.4)								
	Y axis rapid traverse	m/min (ipm)							10 (393.7)		
	Z axis rapid traverse	m/min (ipm)	15 (590.5)								
	Cutting feed rate	mm/rev	0.001-500								
	Manual feed rate	mm/min	0-1200								
Control	FANUC		0i-T								
Motor	Spindle motor	kW (Hp)	37/45 (49.6/60.3)								
	X axis motor	kW (Hp)	7 (9.3)								
	Y axis motor	kW (Hp)							2.5 (3.3)		
	Z axis motor	kW (Hp)	9 (12)								
	Live spindle motor	kW (Hp)				5.5/7.5 (7.3/10)			5.5/7.5 (7.3/10)		
	Power capacity	KVA	75			85			90		
Others	Coolant pump	W	550								
	Lubrication pump	W	75								
Tank capacity	Hydraulic tank	L	60								
	Lubrication tank	L	4.6								
	Coolant tank	L	250	400	550	250	400	550	250	400	550
Dimension	Machine height	mm (inch)	2685 (105.7)			2685 (105.7)			3200 (125.9)		
	Machine length	mm (inch)	5925 (234)	7025 (277)	8125 (320)	5925 (234)	7025 (277)	8125 (320)	5925 (234)	7025 (277)	8125 (320)
	Machine width	mm (inch)	2395 (94.3)			2395 (94.3)			2600 (102.3)		
	Machine weight	kg	14000	16000	18000	14500	16500	18500	15500	17500	19500

Standard accessories

- Fanuc 0i-T control
- Hydraulic chuck (AH06)
- Hard jaws 1 set (AH06)
- Soft jaws 3 set (AH06)
- Foot pedal (hydraulic chuck)
- Foot pedal (Tailstock)
- Hydraulic tailstock
- Live center
- Coolant pump
- 12 station hydraulic turret (AH06/09/12)
- Face tool holder 1 pc
- Boring bar holder 5 pcs
- Boring bar bush 1 set
- BMT power turret (AH-M series)
- Hydraulic unit
- Hydraulic oil cooler
- Auto lubrication unit
- Heat exchanger for electric cabinet
- Chip conveyor
- Chip trolley
- Full enclosure guarding
- Signal tower light (3-stage)
- Working lamp
- Tool box with tools
- Operation manual and part list

Optional accessories

- Fanuc 31i control
- Rigid tapping
- Manual steady rest
- Hydraulic steady rest
- Programmable dual pressure control (Chuck)
- Programmable dual pressure control (Tailstock)
- Oil skimmer
- Air gun
- Coolant level detector
- Coolant cooler
- Coolant gun
- Manual chuck
- Hydraulic chuck (AH09)
- Paper filter
- Oil mist collector
- Door interlock
- Bar feeder
- Work-piece sizing device
- Tool presetter
- Auto door
- Air conditioner for electric cabinet
- Transformer
- Over travel switch
- Overload monitoring system
- BMT tool holder(AH-M series)