

Compact and *Flexible* for various *Applications*

H S - 2 2 Series

This high precision lathe, designed for small and medium part machining, has a full box-way design and a high rigidity saddle structure. This not only ensures high performance in heavyduty cutting and finishing, but enlarges investment profits.

Our high precision and extra rigid spindle, integrated in a full box-way design, provides the most stable turning ability available.

Facilities with a limited machine area will benefit from a compact production line arrangement that offers the highest utility rate for factory floor space.

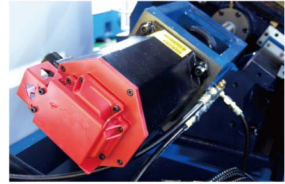
The power turret and C axis are available for the needs of multi-task machining that extends the machine function. This achieves the goal of a variety of applications on each single workpiece, thus shortens overall production time.

Tongtai's automatic loader with unique high capacity stocker makes true automation. The cycle time of workpiece change takes only 4.8 sec. That shortens idle time and maximizes the productivity.

Machine structure



High torque servo motor

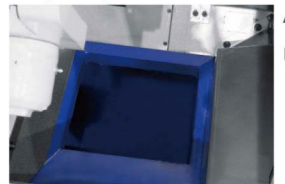


The servo motor connects with the ball screw by coupling. It provides rapid traverse and accurate positioning.

Easy daily maintenance

Compact machine design makes daily maintenance easy. It facilitates the operator's monitoring to correct mistakes in real-time.

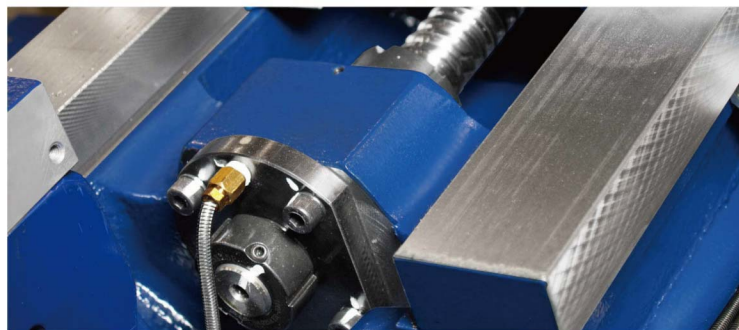
Chip disposal



A big drain hole design makes chip flow easy.

Stroke:
X axis: **155** mm Z axis: **220** mm

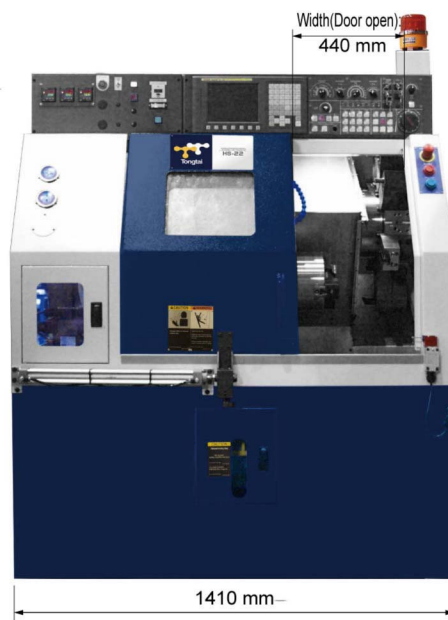
High rigidity box-way design



Full box-way design provides high machining stability because of its rigidity. Regardless of whether heavy duty cutting or intermittent cutting, the machine still keeps high accuracy.

Compact machine design

An excellent and compact machine structure design saves space for maximum utility of your floor space. The door opens to a width of up to 440 mm that makes the loading and unloading easier. In addition, the automatic loader with stocker and the power turret are also available to enhance the machining efficiency and extend the machine applications to satisfy all your needs.



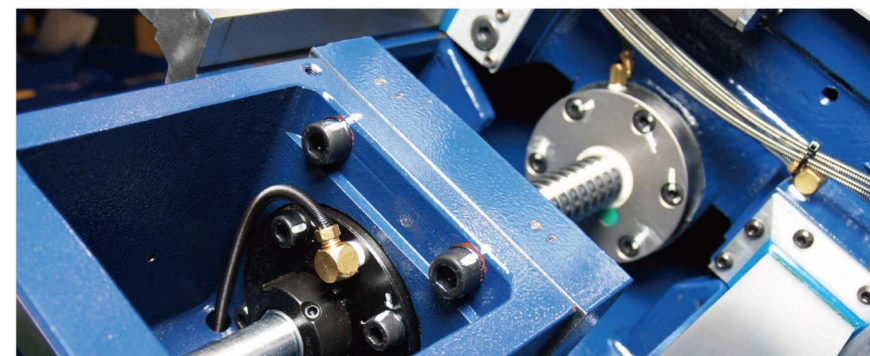
Scraping



The high precision scraping is carried out by skillful engineers to obtain the perfect lubrication with correct oil-film. The machine accuracy and the lifetime of slides are both raised accordingly.



Ball screw preloaded



The preloaded ball screw reduces thermal distortion and ensures the machine's performance and precision.

Ergonomic design



The ergonomic design facilitates the operator in monitoring the production process during program editing. It reduces mistakes and improves the working efficiency.

Tongtai proprietary design

High efficiency / High precision automatic loader

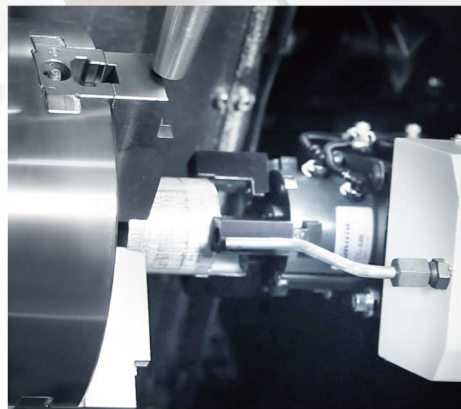
Compact machine design makes the time of workpiece change shortened to 4.8 sec. It reduces drastically non-cutting time and improves the productivity.

Ergonomic working area design makes the operators' maintenance easy.

Combined with the stocker unit and automatic loading / unloading system, it achieves the goal of automatic production to minimize labor costs and maximize investment returns



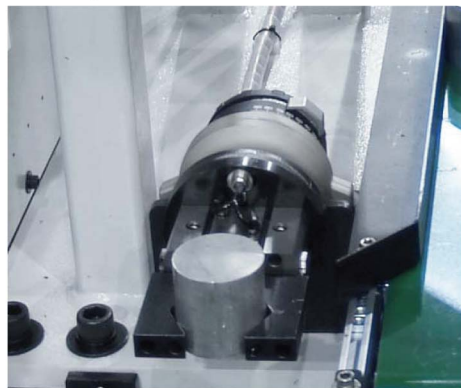
Workpiece change unit



Proprietary workpiece change system shortens the workpiece change time and dramatically enhances the processing efficiency.

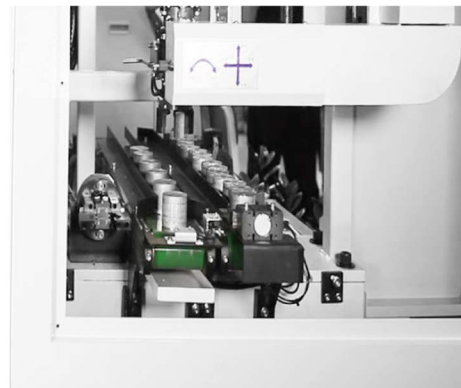
Patent No. 099219975

Workpiece turnover unit



Workpiece turnover unit allows different operations in one stop and fulfills the automation completely.

Robotic arm unit



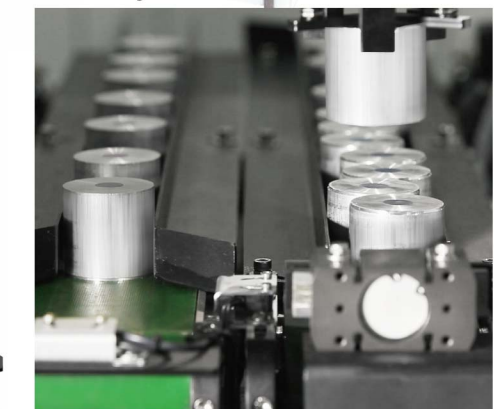
High speed and high precision mechanism allows loading/unloading workpieces rapidly.

- Workpiece diameter : Ø35-Ø100mm
- Max. workpiece length : 60 mm
- Max. workpiece weight : 3 kg (single side)

Stock unit

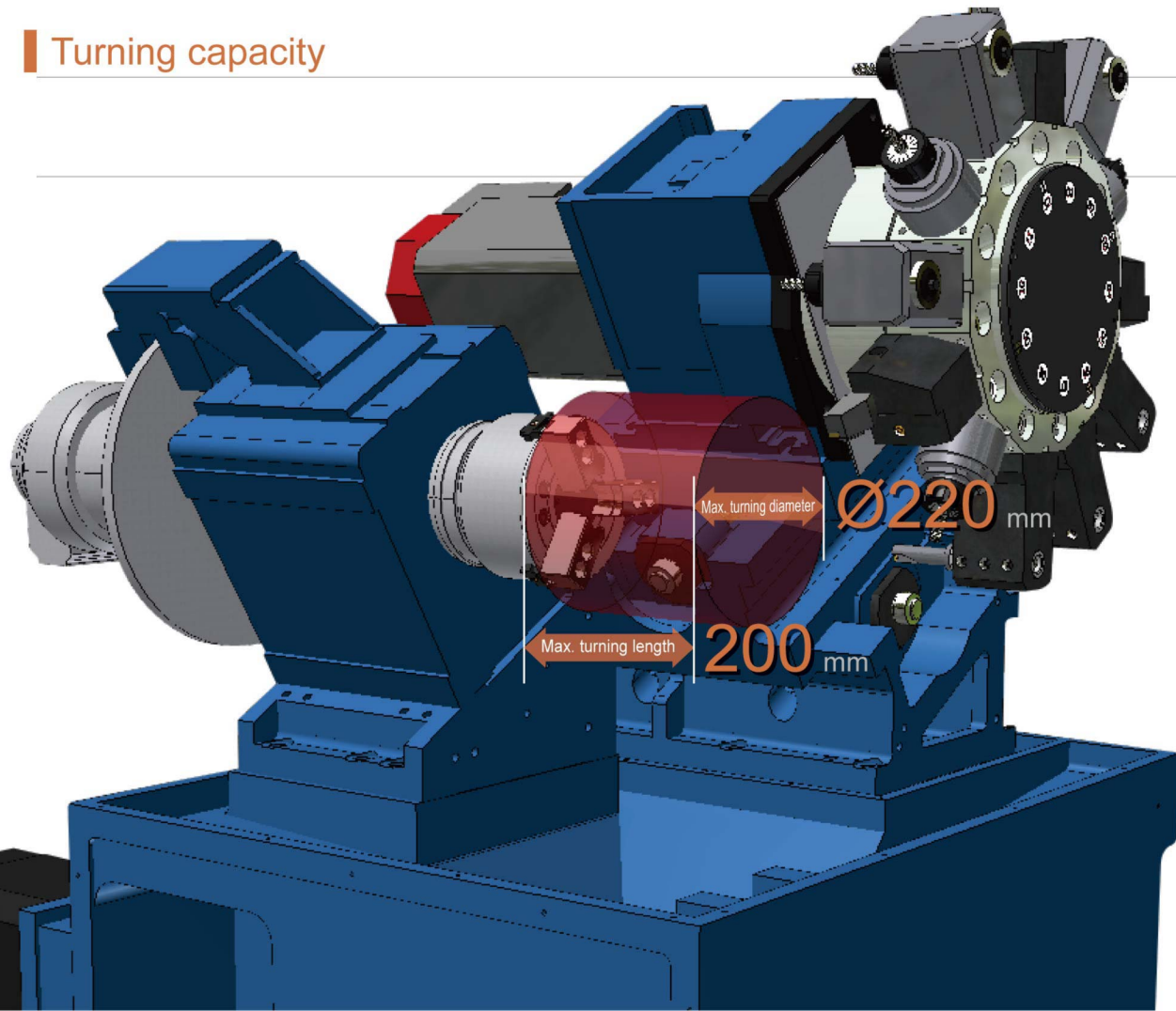


Conveyor unit



Depending on customers' demands, the part storage is possible to adopt the rotary stocker type or the conveyor type. These units maximize raw and finished part capacity, and extend the production time without operator.

Turning capacity



Examples of application



Turning capacity

Material : S45C

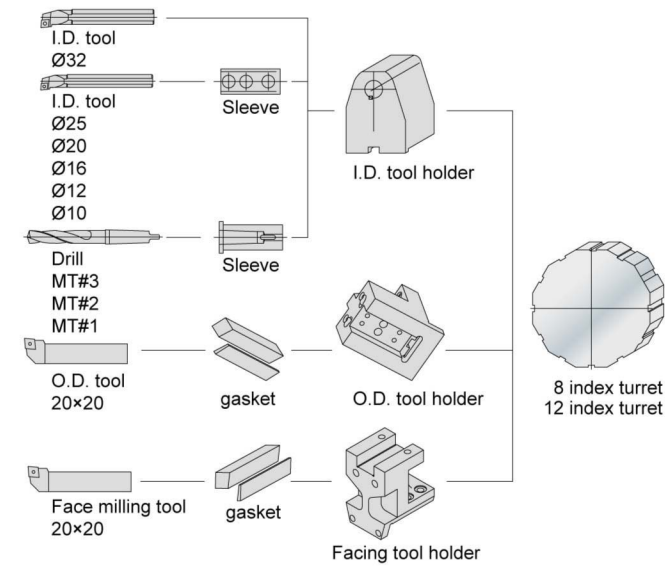
Item	Depth/Width or diameter×feedrate	Item	Depth/Width or diameter×feedrate
O.D. turning	4×0.3 mm×mm/rev	I.D. grooving	5×0.1 mm×mm/rev
I.D. turning	4×0.3 mm×mm/rev	Center drilling	Ø20×0.3 mm×mm/rev
Face milling	4×0.3 mm×mm/rev	Spindle motor	11/7.5 kw
O.D.grooving	5×0.1 mm×mm/rev	Max.spindle speed	4800 rpm

©Spindle's load arounds 110%-120%

Tooling systems and working area

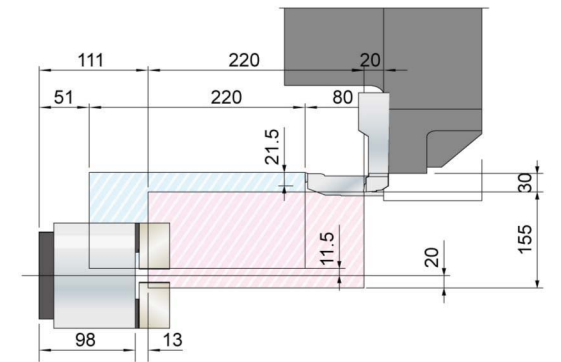
Tooling system of hydraulic turret

(unit : mm)



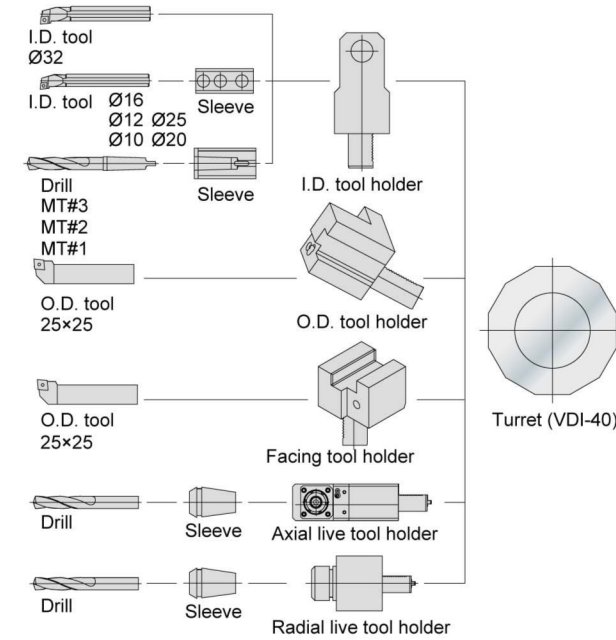
Working area

(unit : mm)



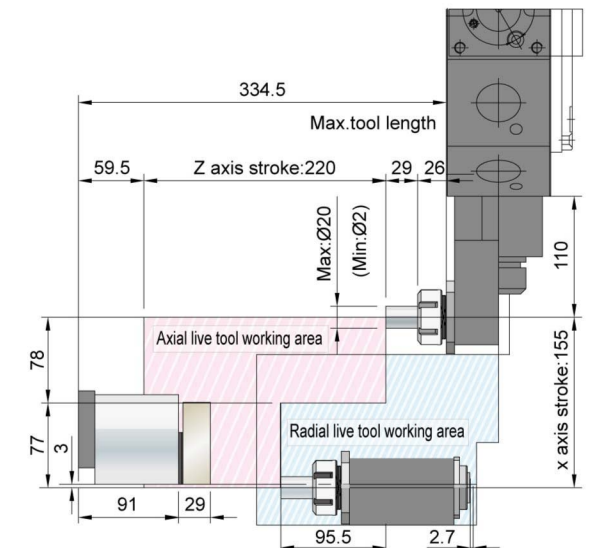
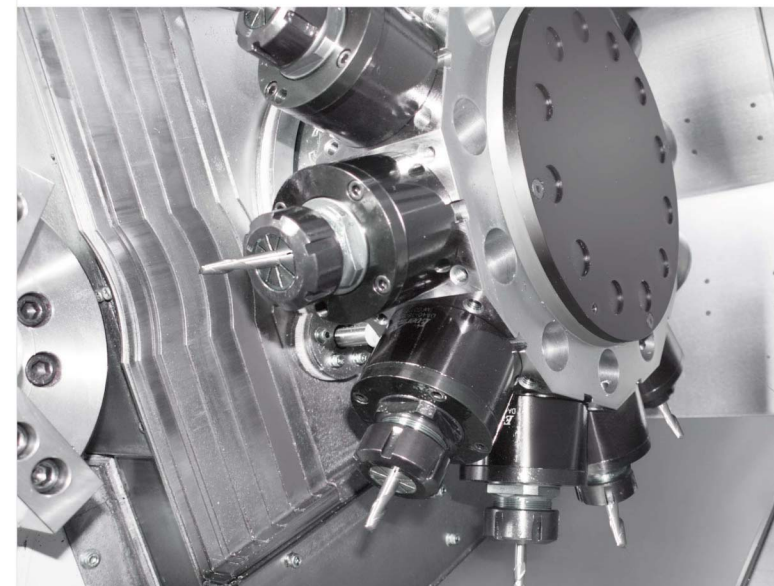
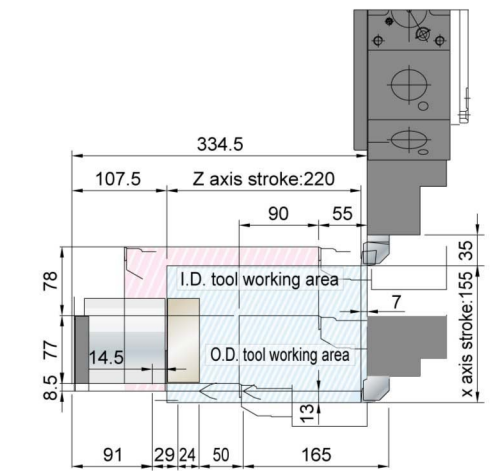
Tooling system of power turret

(unit : mm)



Working area

(unit : mm)



Specification



Item	Specification	Unit	HS-22	HS-22M
Turning capacity	Max. swing diameter	mm	Ø220	Ø220
	Max. turning diameter	mm	Ø220	Ø220
	Max. turning length	mm	200	200
Spindle	Spindle nose		A2-5[A2-6/A2-6]	
	Spindle speed	rpm	6000[4800/4500]	
	Chuck size	inch	6"(opt. 8")	
	Through-spindle hole diameter	mm	Ø35[Ø55/Ø62]	
	Bar capacity	mm	Ø26[Ø44/Ø51]	
Turret	Spindle bearing diameter	mm	Ø65[Ø85/Ø100]	
	Tool capacity	pc	12(opt. 8)	-
Power turret	O.D. tool	mm	20×20	-
	I.D. tool	mm	Ø32	-
	Tool capacity	pc	-	12(VDI-40)
Stroke	Motor	kw	-	5.5/3.7
	O.D. tool	mm	-	25×25
	I.D. tool	mm	-	Ø32
Feed	Max. speed	rpm	-	6000
	X/Z axis stroke	mm	155/220	
Tailstock (opt.)	X/Z axis rapid traverse	m/min	20/20	
	Cutting feedrate	mm/rev	0.01-500	
	Tailstock/Hydraulic stroke	mm	165(manual)/50	
Robotic arm (opt.)	Tailstock taper		MT#3	
	Quill diameter	mm	Ø90	
	Driving system		Manual	
	X/Y axis rapid traverse	m/min	30	
Hydraulic unit	Servo motor	kw	0.5	
	Gripper Capacity	kg	3	
	Loading/Unloading time	sec	4.8	
Coolant unit	Hydraulic tank capacity	L	30	
	Hydraulic motor	kw	1.5	
Motor	Coolant tank capacity	L	65	
	Coolant motor	kw	0.37	
Controller	Spindle motor (50% ED)	kw	11/7.5	11/7.5
	X/Z axis servo motor	kw	1.8/1.8	
Machine size			FANUC Oi-T	
	L×W×H	mm	1410×1450×1730	1560×1450×1760
Weight	kg	2350	2400	

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Optional accessories



Oil mist collector



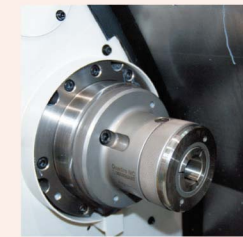
Tri-color warning light



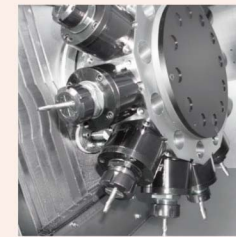
Bar feeder



Part catcher



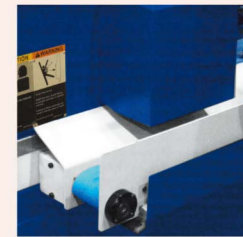
Collet chuck



Power turret



Sub-operation box



Part conveyor



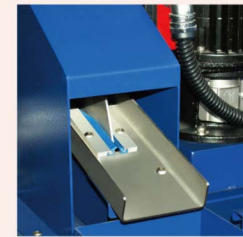
A/C for electrical cabinet



Transformer



Torque clutch



Oil skimmer

Machine dimensions

