CNC 1 Spindle 1 Turret
Precision Lathe

GSL series

TAKAMAZ

CNC1Spindle1Turret Precision Lathe

GSL series

NEW

GSL-10H

Chuck size **6** Inch

Max.turning diameter	ϕ 180mm
Max.turning length	190mm
Max.bar diameter	ϕ 26mm (Hollow)
Tool post type	8-station turret
Rapid traverse rate	X:12 Z:18 m/min
Spindle motor	AC 5.5/3.7 kW
Dimensions(L×W)	1,610 × 1,390 mm
Controller	TAKAMAZ & FANUC

Leading the World in Cost Performance

GSL-15 PLUS

Chuck size **8** Inch

Max.turning diameter	ϕ 310mm
Max.turning length	300mm
Max.bar diameter	Solid
Tool post type	8-station turret
Rapid traverse rate	X:18 Z:24 m/min
Spindle motor	AC 7.5/5.5 kW
Dimensions(L×W)	1,875 (With tailstock:1,990) × 1,680 mm
Controller	TAKAMAZ & FANUC

CNC 1 Spindle 1 Turret Precision Lathe

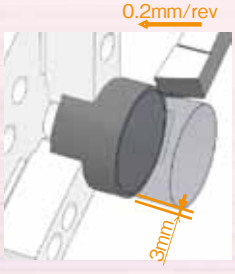
GSL-10H

Stroke Adjustable Chucking Cylinder Provided as Standard

Maximum turning diameter with a 6-inch chuck is ϕ180mm. With the machine's compactness in design taking up only 1,610mm x 1,250mm of floor space, installation is not a problem. Also components for routine maintenance are accessible on the front and back of the machine making side-by-side machine placement possible.

Turning Capabilities Equivalent to our Flagship Models

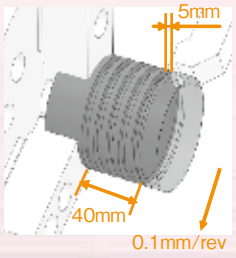
OD Heavy Load Cutting



■Cross-sectional cutting area(t*f)

0.6mm²/rev

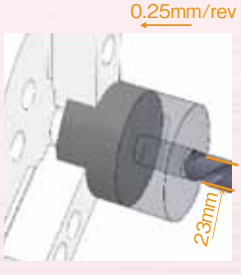
OD Grooving



■Groove width

5mm/40mm

Drill Cutting

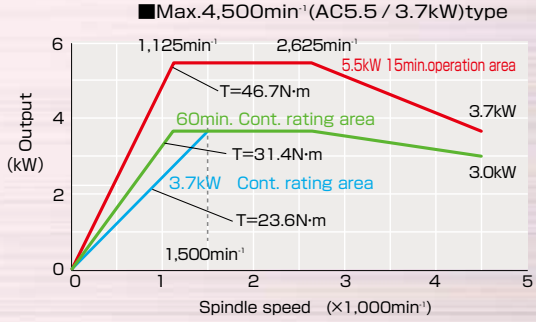


■Feed

0.25mm/rev

Work piece : S45C

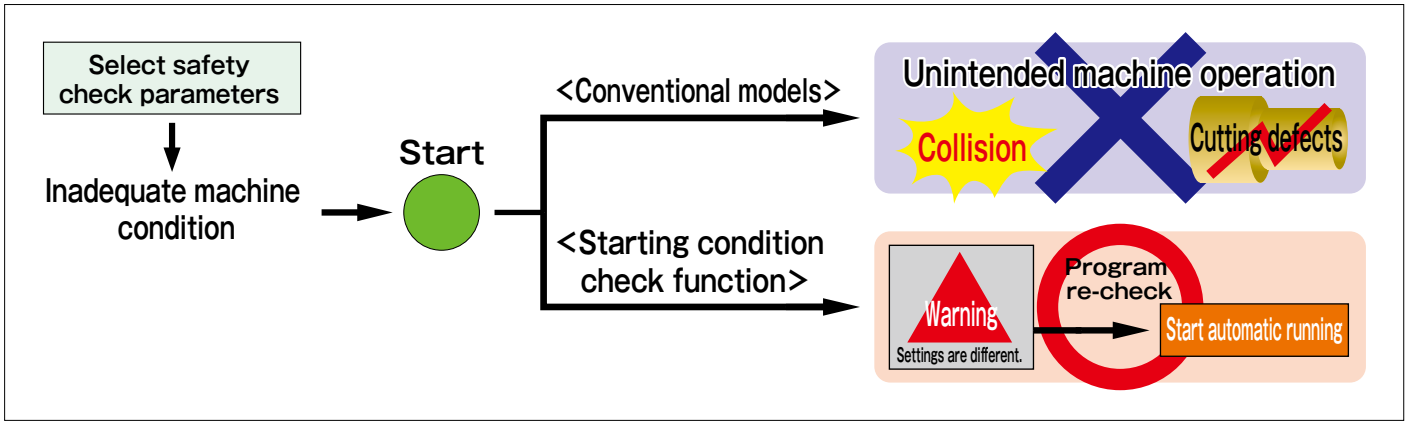
Spindle power characteristic curve



Simple machine that focuses on cost performance as well as ease of use.

The Start Condition Confirmation Function Prevents Machine Trouble.

After pressing the cycle start button, the machine checks the machine's presets and checks if conditions are met. If the conditions are not met, the machine will prompt a warning on the display. The enhanced software and safety features can prevent operator start-up errors, any mechanical damage, and even the outflow of defective products.

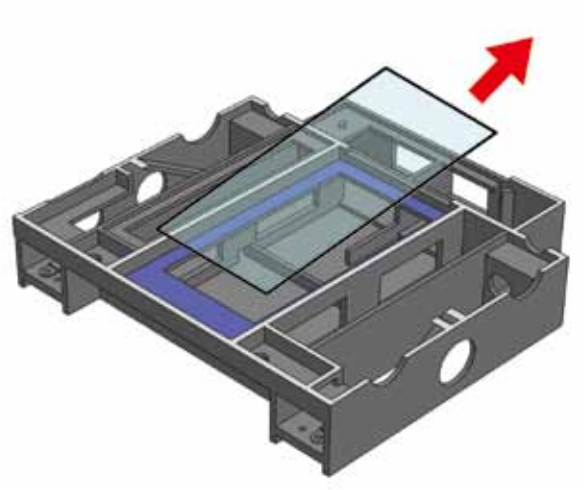


Improved Operability

Through ergonomic design, the machine operational panel has been installed at an optimal height. This makes the monitor easier to see from a comfortable posture. Buttons that are used in high frequency are easy to press and positioned on the right side. This improves workability as well as preventing malfunctions and mistakes. The variation in height of operators was considered in the design process of the door handles. The handle is made of stainless steel and elongated for easier opening and closing of the door.

Designed with the Operator in Mind

With the spindle height at 960mm and 270mm from the front of the machine, anyone can easily replace the chuck or work. Also, the overall height of the machine is only 1,585mm. This creates some open space for the operator so they will not feel cramped and confined. The cutting oil tank has a cover made of removable sheet metal. Now it is possible to clean up small chips that often remained and keep the machine clean.



CNC 1 Spindle 1 Turret Precision Lathe

GSL-15 PLUS

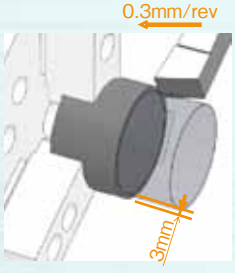
Designed for high quality and endurance

※ Holders are common-use with the GSL-15.

We have called on the technical knowhow on lathes that we have built up over many years, and adopted a spindle unit with the same bore diameter of 100 mm that has proven itself on our flagship model (XL-150). The machine will maintain endurance even in working environments outside Japan and minimize changes in finish dimensions if operating over long periods.

Stable Turning Accuracy

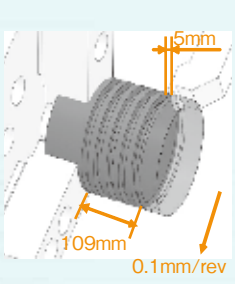
OD Heavy Load Cutting



■Cross-sectional cutting area(t*f)

0.9mm²/rev

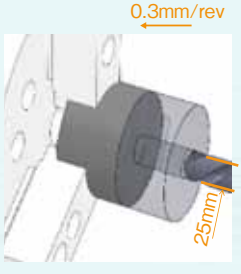
OD Grooving



■Groove width

5mm/109mm

Drill Cutting



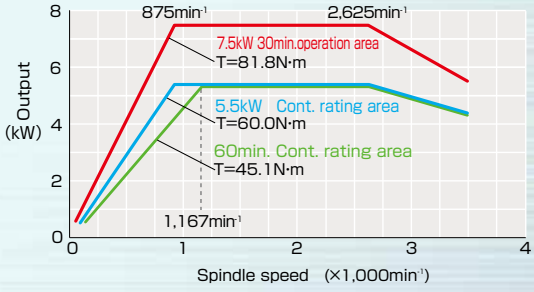
■Feed

0.3mm/rev

Work piece : S45C

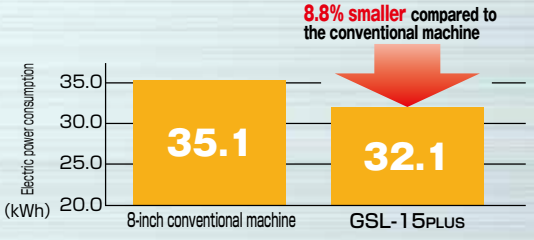
Spindle power characteristic curve

■Max.3,500min⁻¹(AC7.5 / 5.5kW)type



Pursuit of Energy Efficiency

Effect of reducing power consumption per machine



※Operating Condition: Power Consumption per Cycle Running performed with TAKAMAZ Measuring Standard Program

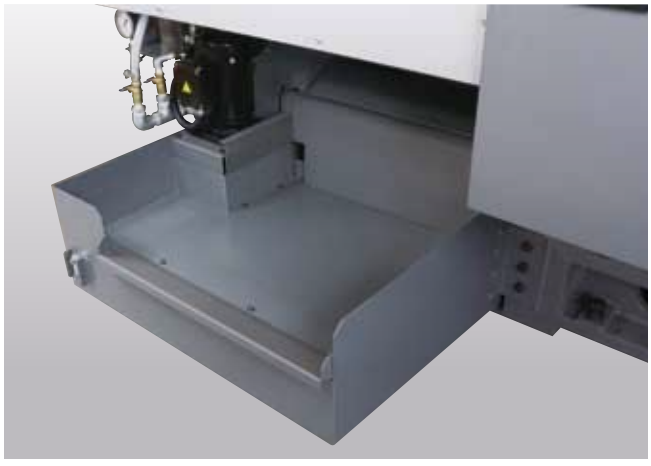
This is the Launch of a Universal Machine of Global Standards with Refined Utility and Endurance.

Simultaneous attainment of low costs and high reliability

Simplifying the structure realizes low costs and provides differentiation from existing machines. What is more, high reliability is maintained because, from parts to assembly, manufacture is completely done in Japan while achieving low costs.

Operator-friendly design

Excellent accessibility, with a spindle center height of 980 mm and a distance from the front of 315 mm, along with a low machine ceiling height of 1,400 mm, release operators from feeling constricted and allow even short-statured operators to work without strain. Maintainability is also improved by adopting a fixed-type coolant tank that can be cleaned inside simply by removing the lid.



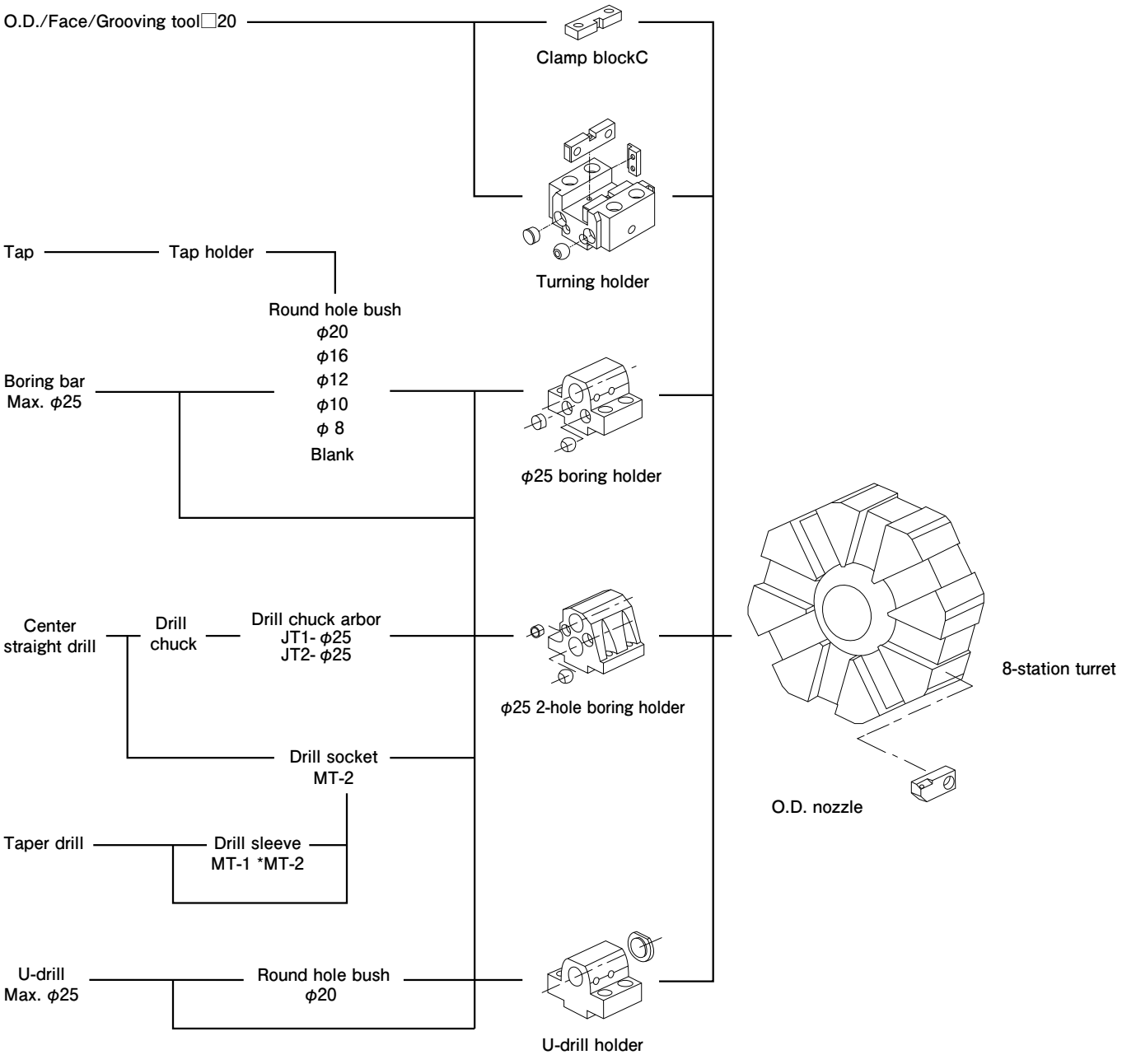
Equipped with a tailstock unit

The tailstock unit allows shaft work to be handled as well.

Item		Unit	
	Pointed End		MT - 4
	Quill O.D.	mm	ϕ56
	Quill stroke	mm	85
	Tailstock stroke	mm	220
	Max. thrust	kN	3.5

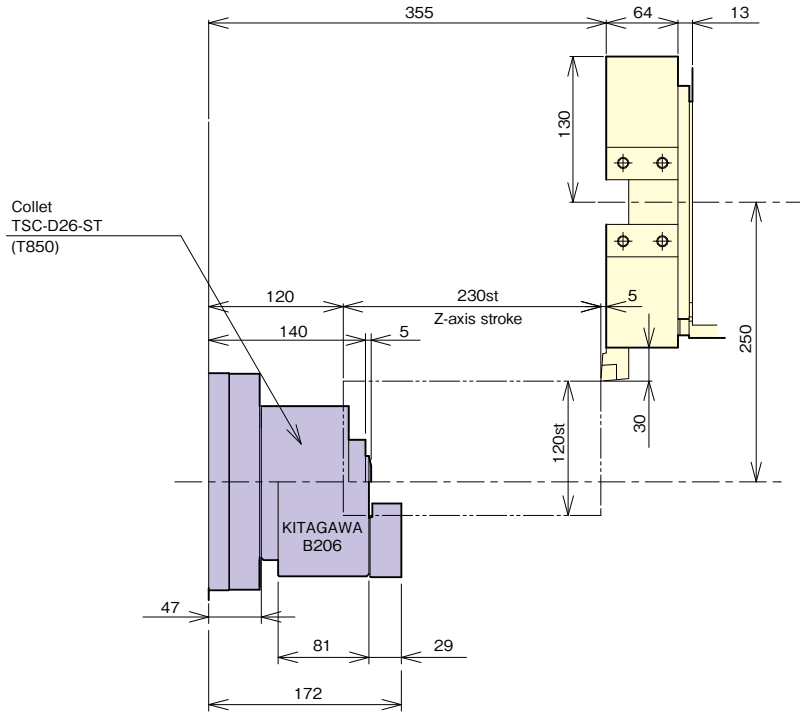
Tooling System

GSL-10H

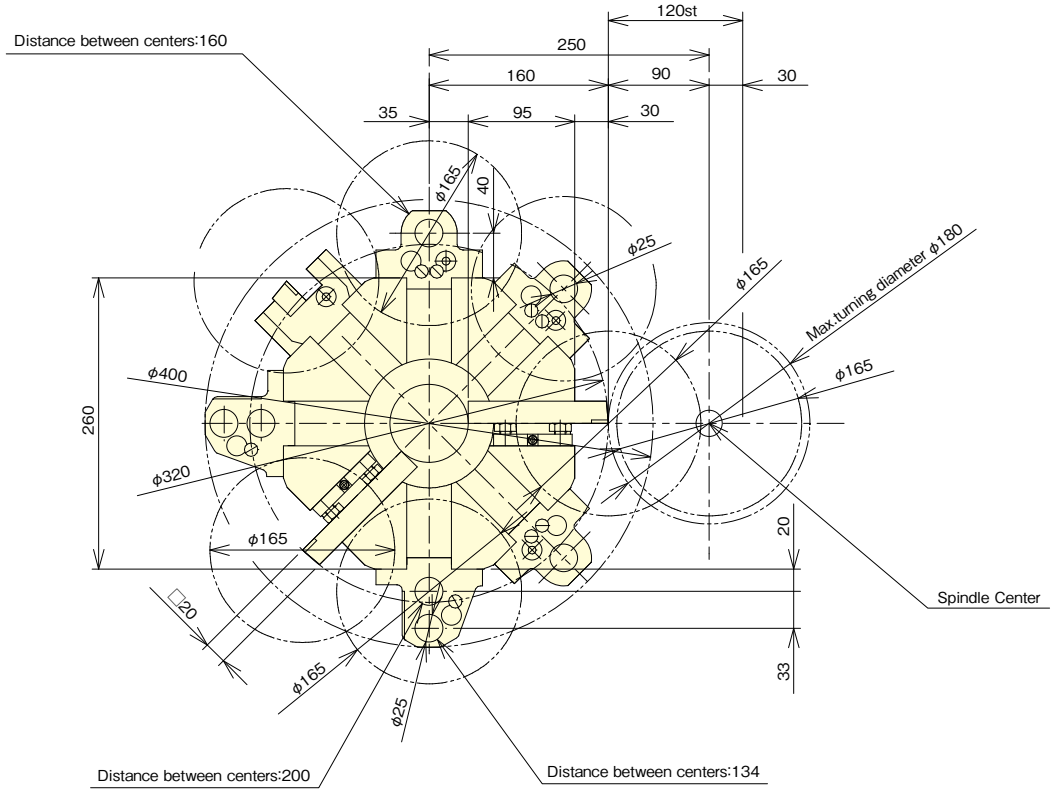


Stroke-Related Drawing

GSL-10H



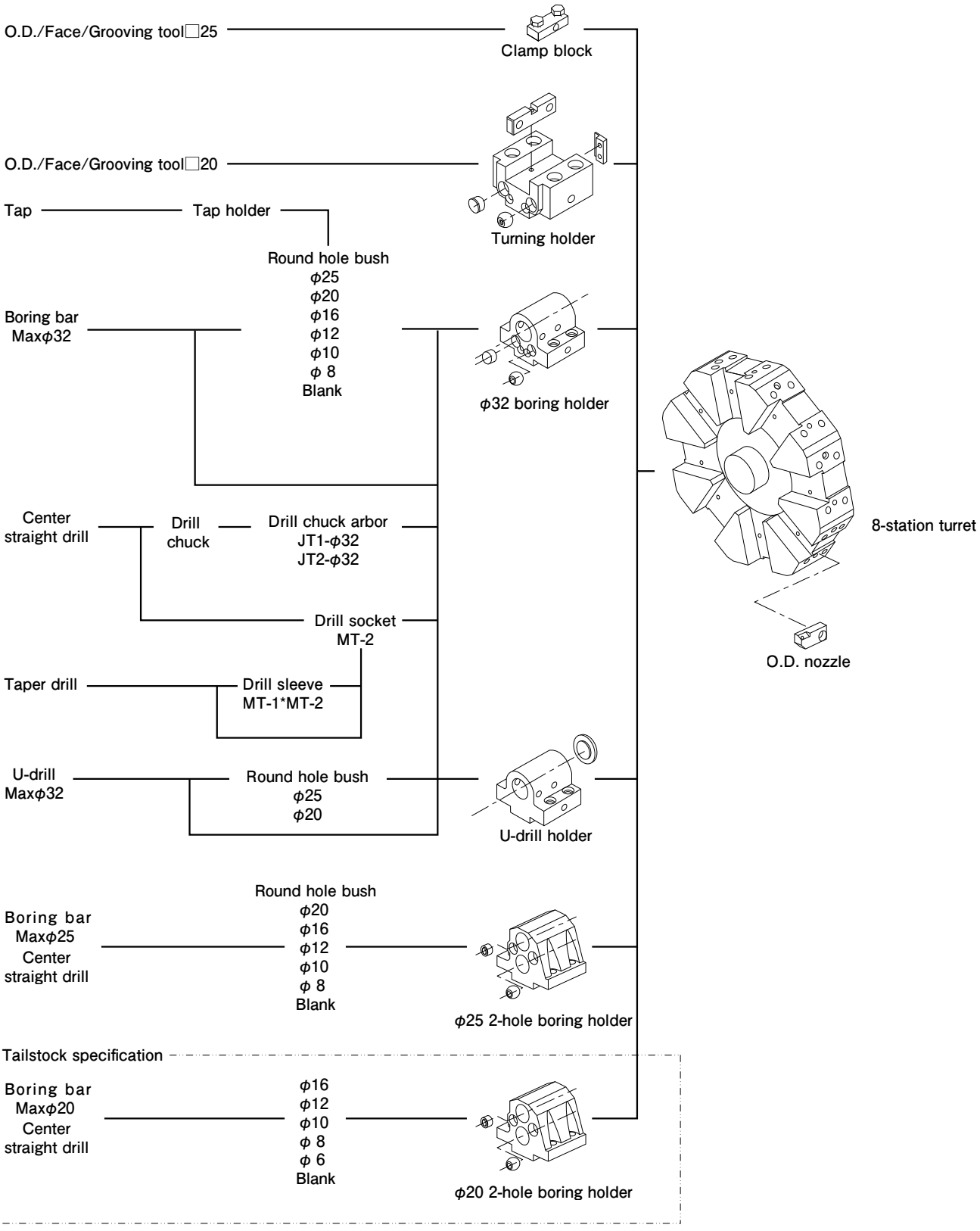
Turret Interference



Unit(mm)

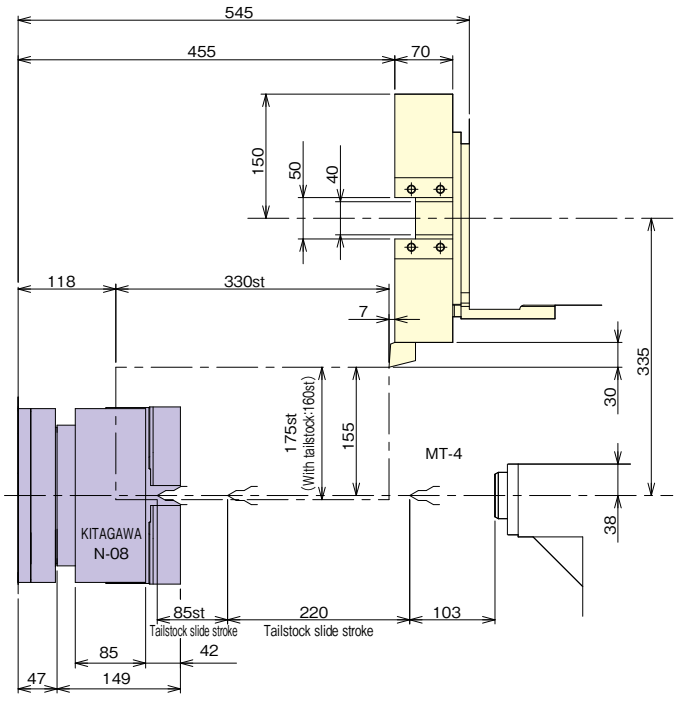
Tooling System

GSL-15 PLUS

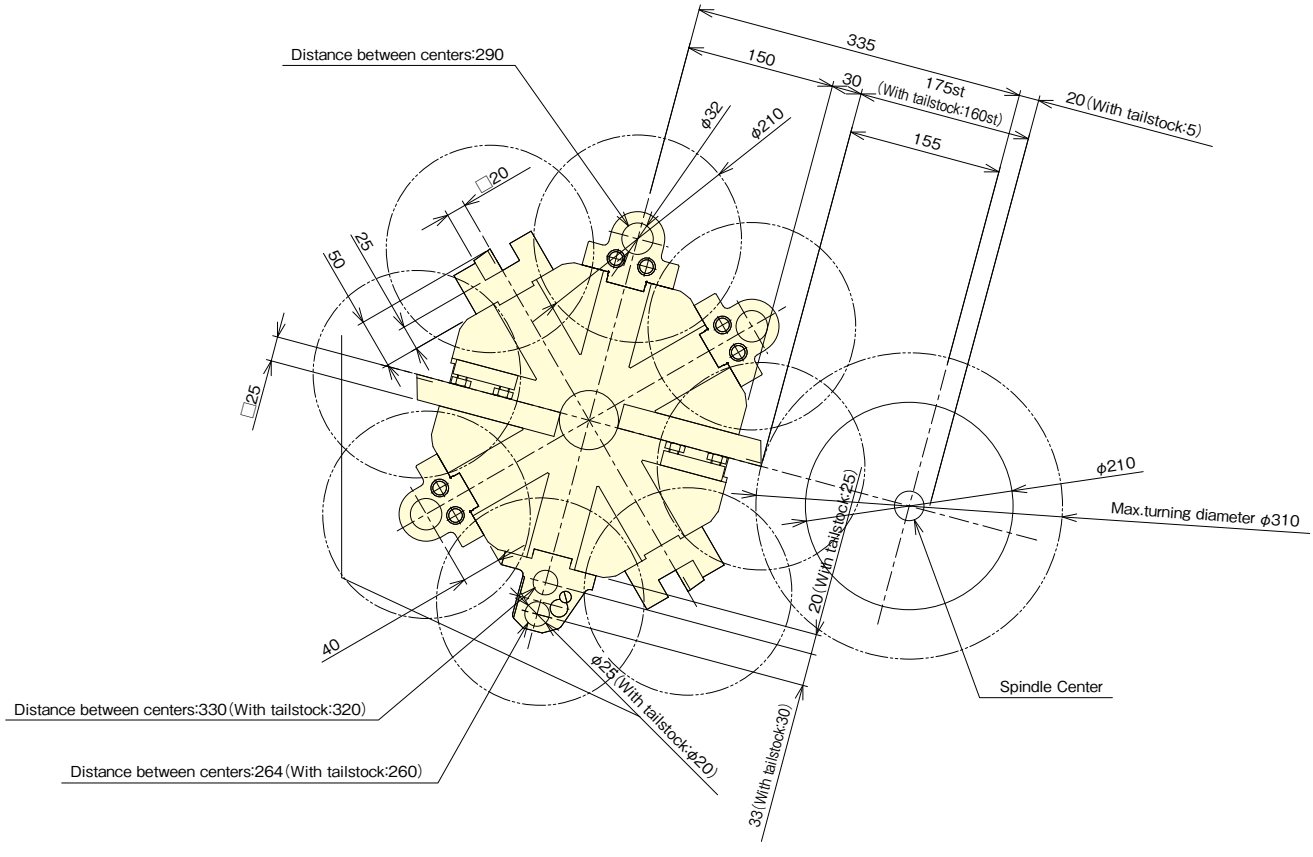


Stroke-Related Drawing

GSL-15 PLUS



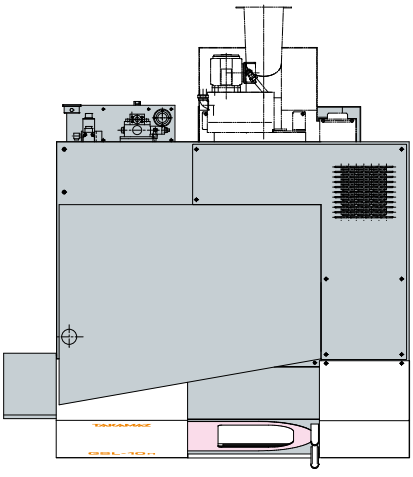
Turret Interference

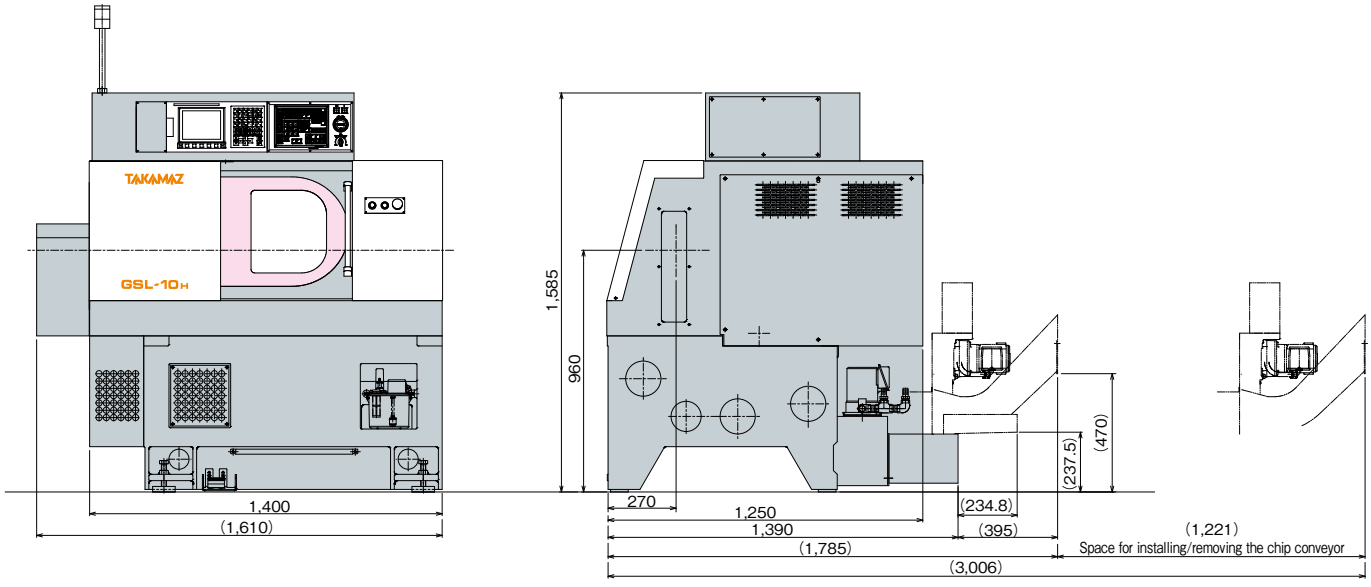


Unit(mm)

Floor Space

GSL-10H

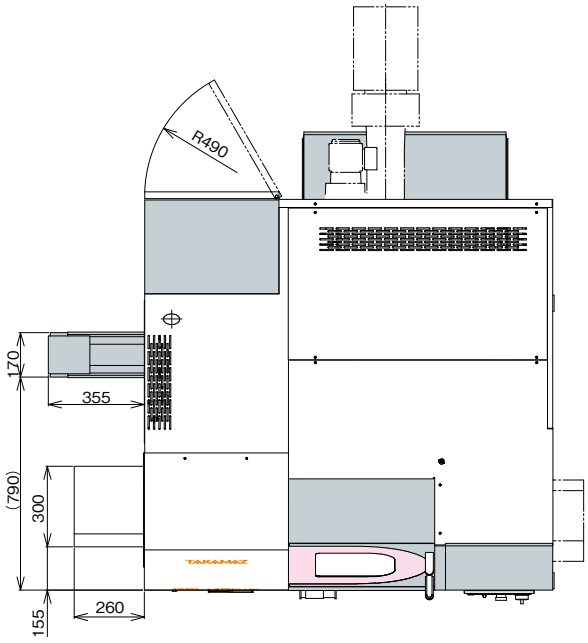


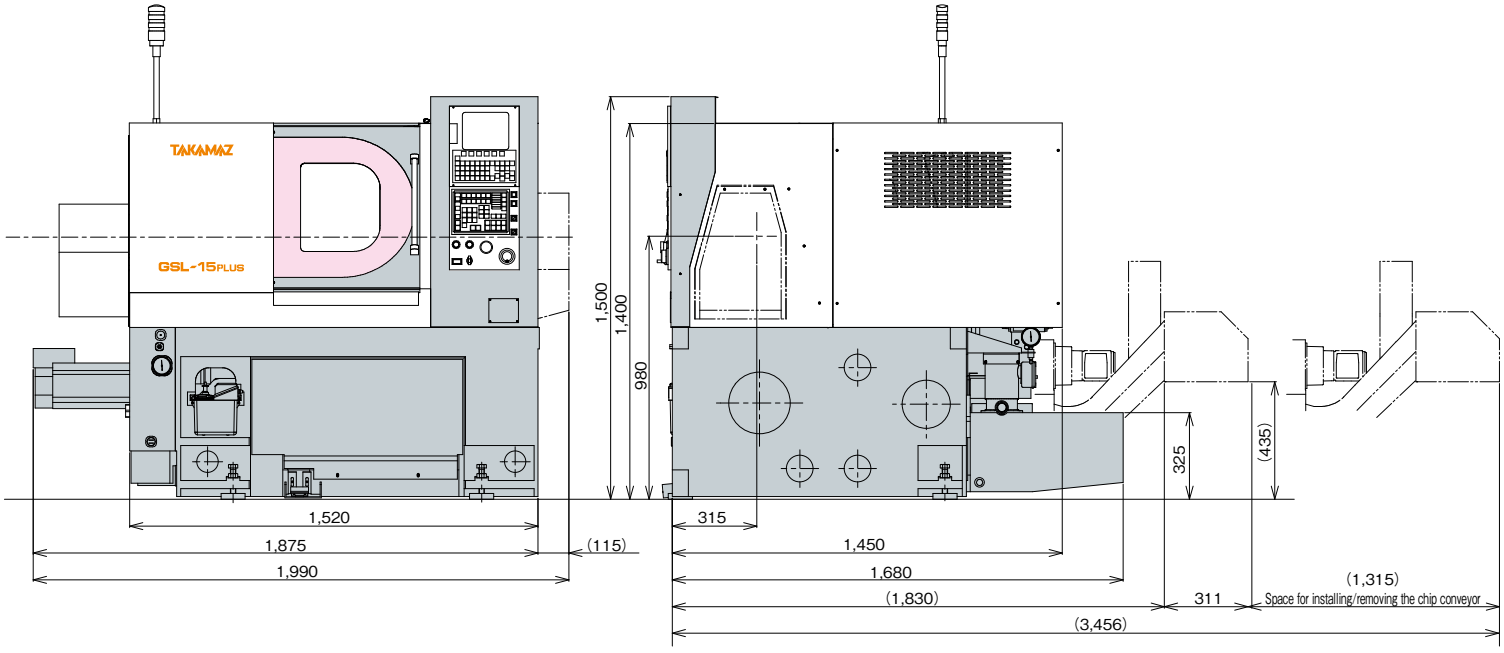


Unit(mm)

Floor Space

GSL-15 PLUS





Unit(mm)

Machine Specifications

Item		Unit	GSL-10H	GSL-15PLUS	
				Without tailstock	With tailstock
Capacity	Max. turning diameter	mm	φ180	φ310	
	Max. turning length	mm	190	300	
	Max. bar diameter	mm	φ26(Hollow)	Solid	
	Chuck size	inch	Collet,6	8	
Spindle	Spindle nose	JIS	A_2 - 5	A_2 - 6	
	Spindle bearing I.D.	mm	φ75	φ100	
	Through-hole on spindle	mm	φ46	φ61	
	Spindle speed	min^{-1}	Max.4,500	Max.3,500	
Tool post	Type		8-station turret	8-station turret	
	Tool shank	mm	□20	□25(I.D.□20)	
	Boring holder I.D.	mm	φ25	φ32	
	Max. stroke	mm	X : 120 Z : 230	X : 175 Z : 330	X : 160 Z : 330
	Rapid traverse rate	m/min	X : 12 Z : 18	X : 18 Z : 24	
Motors	Spindle motor	kW	AC5.5/3.7	AC7.5/5.5	
	Feed motor	kW	X : AC0.75 Z : AC1.2	X : AC1.2 Z : AC1.8	
	Coolant motor	kW	AC0.25	AC 0.4	
	Hydraulic motor	kW	AC0.75	AC 0.75	
Tailstock	Pointed End		–	–	MT-4
	Quill O.D.	mm	–	–	φ56
	Quill stroke	mm	–	–	85
	Tailstock stroke	mm	–	–	220
	Max. thrust	kN	–	–	3.5
Size	L×W×H	mm	1,610 × 1,390 × 1,585	1,875(With tailstock:1,990)×1,680×1,500	
	Machine weight	kg	1,620	2,300	2,500
Total electric capacity		KVA	12	14	

Standard Accessories

Item	GSL-10H	GSL-15PLUS
□Boring holder	2 sets	
□Clamp block	8 sets	
□Coolant block(O.D.nozzle)	8 sets (For reverse cutting tools)	
□Hydraulic chucks	– (Parts order)	1 set (Solid)
□Hydraulic chucking cylinder	1 set (Hollow)	1 set (Solid)
□Hydraulic unit	1 set	
□Thread cutting unit(Including constant surface speed control)	1 set	
□Coolant unit	1 set (125 lit.)	1 set (110 lit.)
□Work light	1 set	
□Signal light	1-tier	
□TAKAMAZ instruction manual	1 set	

Parts Order

Item	GSL-10H	GSL-15PLUS
□Tool holders	○	
□Collet chucks	○	–
□Hydraulic chucks	○	(Standard)
□Rear chip conveyor	○(Spiral type)	
□Front air blower	○	
□Automatic door system	○	

※Delivery will be separate from machine order.This is handled as parts order.

Controller Specifications

Item	GSL-10H	GSL-15PLUS
	TAKAMAZ & FANUC 0i Mate-TD	TAKAMAZ & FANUC 0i-TF
Controlled axes	2 axes (X, Z)	
Simultaneously controllable axes	Simultaneous 2 axes	
Least input increment	0.001mm (X in diameter)	
Least command increment	X : 0.0005mm Z : 0.001mm	
Auxiliary function	M-code 3 digit	
Spindle function	S-code 4 digit	
Tool function	T-code 4 digit	
Tape code	EIA (RS232C) / ISO (840) automatic recognition	
Cutting feedrate	1～5,000mm/min	1～7,000mm/min
Command system	Incremental/Absolute	
Linear interpolation	G01	
Circular interpolation	G02, G03	
Cutting feedrate override	0～150%	
Rapid traverse override	F0, 100%	
Program file name	–	32 characters
Program number	4 digits	–
Backlash compensation	0～9,999μm	
Program memory capacity	512Kbyte(1,280m)	
Tool offsets	64 sets	
Registered programs	400 pcs.	
Tool geometry/Wear offset	Standard	
Canned cycle	G90, G92, G94	
Radius designation on arc	Standard	
Tool offset measurement input	Standard	
Background editing	Standard	
Direct drawing dimension programming	Standard	
Custom macro	Standard	
Custom macro common variables	#100～#199, #500～#999	
Pattern data input	Standard	
Nose R compensation	G40, G41, G42	
Inch/Metric conversion	G20/G21	
Programmable data input	G10	
Run hour/Parts count display	Standard	
Extended part program editing	Standard	
Multiple repetitive cycle	G70～G76	
Multiple repetitive cycle Ⅱ	–	Pocket-shaped
Canned drilling cycle	Standard	
Constant surface speed control	G96, G97	
Continuous thread cutting	G32	
Variable lead thread cutting	G34	
Thread cutting retract	Standard	
Clock function	Standard	
Help function	Standard	
Alarm history display	50 pcs.	
Self-diagnosis function	Standard	
Sub-program call	Up to 10 loops	
Decimal point input	Standard	
2nd reference point return	G30	
Work coordinate system setting	G50, G54～G59	
Stored stroke check 1	Standard	
Stored stroke check 2,3	Standard	
Input/Output interface	USB Flash Memory, Memory card, Ethernet	
Alarm message	Standard	
Graphic display	Standard	
Conversational programming with graphic function	Standard	
Abnormal load detection	Standard	
Starting condition check function	Standard	
Automatic data backup	–	Standard
TAKAMAZ maintenance functions	Standard	
FANUC set of manuals	CD-ROM	DVD-ROM

Optional Specifications (Parts Order)

Item	GSL-15PLUS
Tool life management	
Multiple M codes in one block	Max.2
Spindle orientation	1 set/2～6 sets
TAKAMAZ Support Lite	Workpiece counter,Tool counter,Constant wear compensation

GSL series

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As such, the exportation must be authorized by the Japanese government as stipulated in the laws

This product is manufactured in accordance with the regulations and standards that prevail in the country or region of destination.

The user must not export, sell, or relocate the product, to anycountry with different regulations or standards.

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