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— GLOBAL NETWORK —

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GL-S SERIES CNC cylindrical grinder

GL3-SIII
GL4-SIII



<http://www.jtekt.co.jp>

Information presented in this brochure is subject to change without prior notice.

Available machines or machines shown may vary depending on optional equipment or periodic design changes.

The export of commodities or technical data, which are controlled by the Foreign Exchange and Foreign Trade Law, must be made under an export license issued by Japanese Government.

In case of re-transfer, re-sale, or re-export, a prior written consent of JTEKT is necessary.

Please contact your JTEKT representative for details. Always read manuals carefully before using any machinery to ensure safe and proper use.

CNC cylindrical grinder

GL-S SERIES

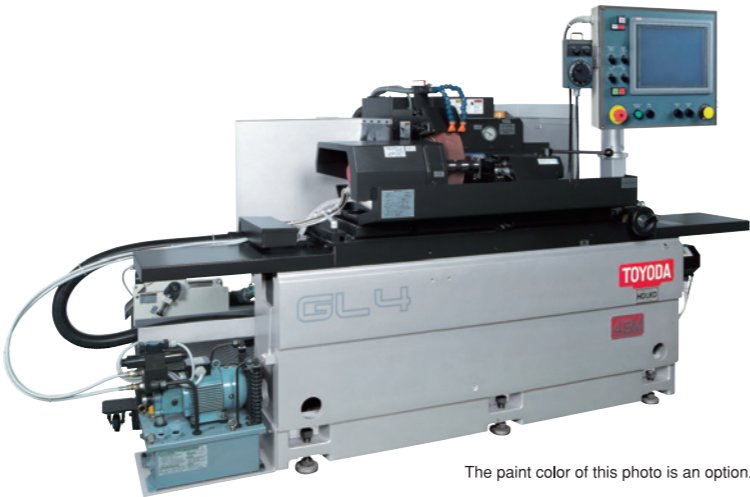
The best machine designed with simple machine construction for high accuracy and productivity.

Wheel spindle rotation accuracy 0.016μm



The paint color of this photo is an option.

GL3P-S III
GL3A-S III



The paint color of this photo is an option.

GL4P-S III
GL4A-S III

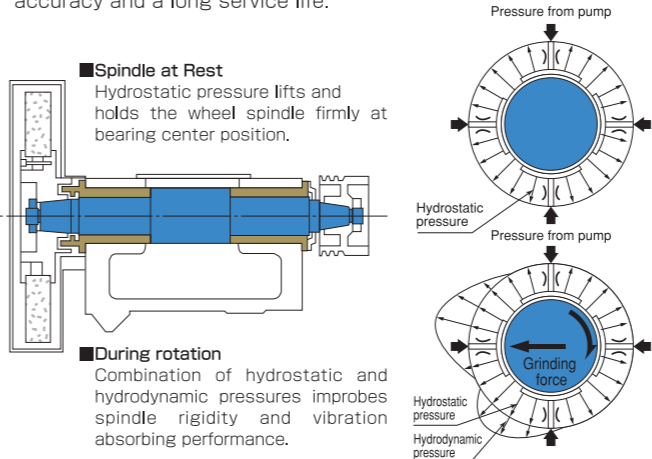
U. S. Patent on the machine: 5,140,863 and others.
This photo shows the machine with special specifications.
Standard painting color- The machine body comes only in neo white.
The hydraulic pump unit, coolant supply unit, etc is dark gray.
Note: Painting color shall be specified by mutual agreement.

GL-S series	Main function	Type	Wheelhead	Wheel dia. (φmm)	Swing over table (φmm)	Distance btw centers (mm)	CNC	Internal grinder
Repeated production	Continuous multi grinding	GL3P-SⅢ	Straight	φ355	φ200	250	GC50	Not available
		GL4P-SⅢ		φ405 (φ510)	φ320 (φ400)	320、500、630、 1,000、1,500		
	High precision X and Y axis contouring control grinding (option)	GL3A-SⅢ	Angular	φ355	φ200	250	FANUC21i (option)	
		GL4A-SⅢ		φ455	φ320 (φ400)	320、500、630、 1,000、1,500		

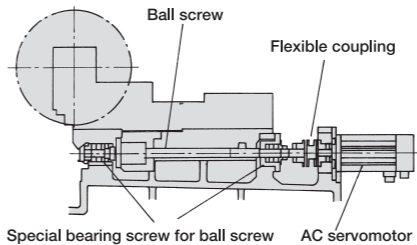
() shows special specifications. Please contact us about your request.

Assured High Precision

Equipped with the extremely rigid hybrid-type TOYODA STAT BEARING which provides no metal-to-metal contact and has a high vibration damping capacity, this grinder assures high accuracy and a long service life.

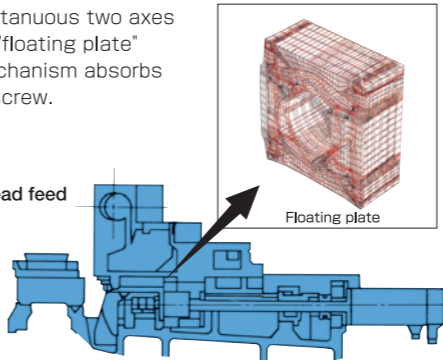


High precision cylindrical grinding is possible thanks to the high rigid wheelhead feed mechanism and the adjustable 0.1μm feed increments.



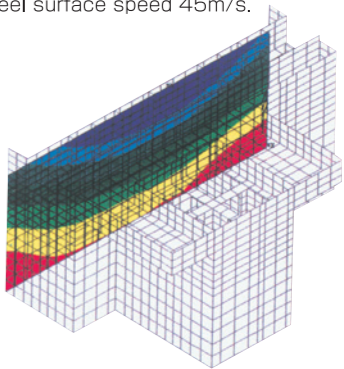
High precision simultaneous two axes control (option) The "floating plate" used in the feed mechanism absorbs the run out of feed screw.

Structure of wheelhead feed



High Rigidity

The highly rigid machine bed ensures high quality grinding even at wheel surface speed 45m/s.

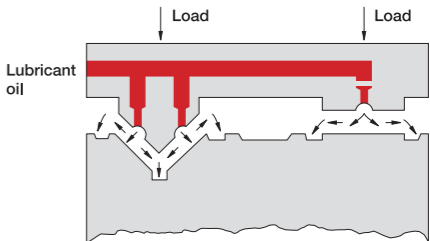


Also available are 45M specification (wheel surface speed 45m/s) and wide width wheel specification (wheel width 100mm). This machine is very suitable for highly efficient grinding by means of the high power wheel spindle motor.

Type	Item	Wheel spindle motor		Maximum wheel width
		30M specification	45M specification	
GL4P/A-S III	Standard wheel width specification	3.7kW	5.5kW	75mm
	Wide wheel width specification	3.7kW	5.5kW	100mm

A Long Service Life

The theory of the TOYODA STAT BEARING is applied to the wheelhead and table slideway as well. Fluid lubrication maintains smooth operation for a long time.

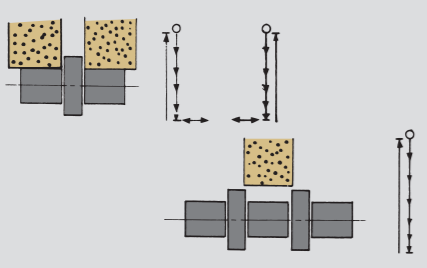
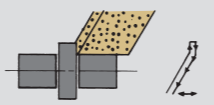
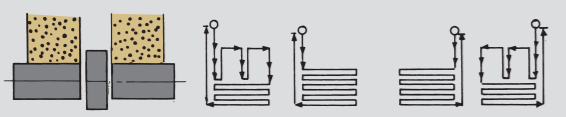
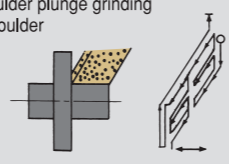
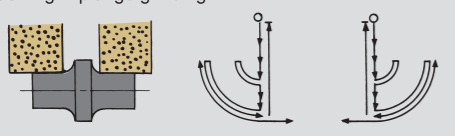
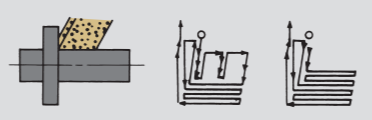
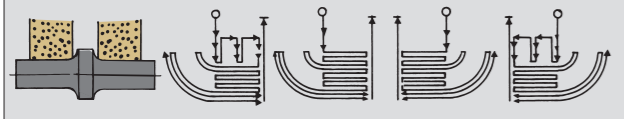
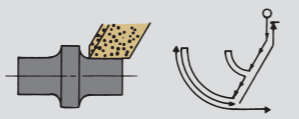
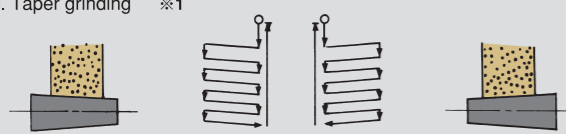

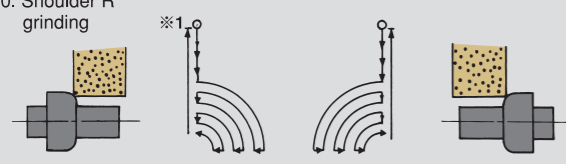
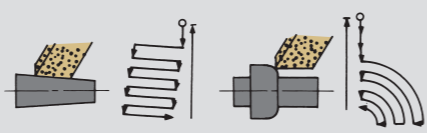


Economy

With enhanced model classification and plenty of accessory, just fitting to your facility investment plan.

Cycle Patterns

Grinding cycle ●:Standard accessory ○:Optional accessory ×:Responding to specified requirements

Straight type		GC50 (JTEKT)	21i-TB (FANUC)	Angular type		GC50 (JTEKT)	21i-TB (FANUC)
Grinding cycle	1. Direct sizing plunge grinding 2. Indirect sizing plunge grinding 	●	●	1. Direct sizing plunge grinding 2. Indirect sizing plunge grinding 	●	●	
	3. Direct sizing traverse grinding 4. Indirect sizing traverse grinding 	●	●	3. Direct sizing shoulder plunge grinding 4. Indirect sizing shoulder plunge grinding 	●	✕ ※2	
	5. Direct sizing R plunge grinding ※1 6. Indirect sizing R plunge grinding ※1 	○	✕ ※2	7. Direct sizing shoulder traverse grinding 8. Indirect sizing shoulder traverse grinding 	●	✕ ※2	
	7. Direct sizing R traverse grinding ※1 8. Indirect sizing R traverse grinding ※1 	○	✕ ※2	9. Direct sizing R plunge grinding (with shoulder) ※1 10. Indirect sizing R plunge grinding (with shoulder) ※1 	○	✕ ※2	
	9. Taper grinding ※1 	○	✕ ※2	11. Direct sizing R traverse grinding (with shoulder) ※1 12. Indirect sizing R traverse grinding (with shoulder) ※1 	○	✕ ※2	
	10. Shoulder R grinding ※1 	○	✕ ※2	13. Taper grinding ※1 14. Shoulder R grinding ※1 	○	✕ ※2	

Wheel dressing cycle

Wheel dressing	Point input 	25 points ※1	12 points ※1	Point input 	25 points ※1	12 points ※1

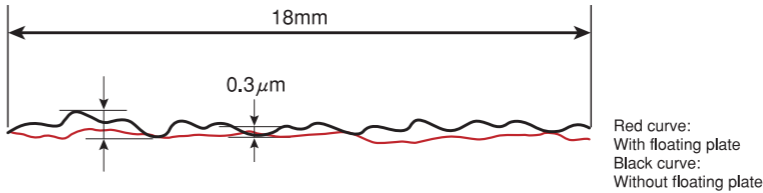
※1 Simultaneous two axes control specification (option) is required.
※2 For your specified cycle, contact our salesperson.
FANUC is the registered trademark of FANUC Ltd.

Grinding cycle and wheel dressing cycle General purpose specifications Attaching GC50 (made by JTEKT)

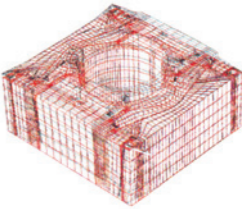
Straight type		Angular type		
Grinding cycle	1. Direct sizing plunge grinding (with right shoulder) 2. Indirect sizing plunge grinding (with right shoulder) 	3. Direct sizing plunge grinding (with left shoulder) 4. Indirect sizing plunge grinding (with left shoulder) 	1. Direct sizing plunge grinding 2. Indirect sizing plunge grinding 	
	5. Right shoulder 	6. Left shoulder 	3. Direct sizing traverse grinding 4. Indirect sizing traverse grinding 	
	7. Direct sizing traverse grinding (with right shoulder) 8. Indirect sizing traverse grinding (with right shoulder) 	9. Direct sizing traverse grinding (with left shoulder) 10. Indirect sizing traverse grinding (with left shoulder) 	5. Direct sizing shoulder plunge grinding 6. Indirect sizing shoulder plunge grinding 	
	11. Direct sizing right R plunge grinding (with shoulder) 12. Indirect sizing right R plunge grinding (with shoulder) 	13. Direct sizing left R plunge grinding (with shoulder) 14. Indirect sizing left R plunge grinding (with shoulder) 	7. Direct sizing shoulder traverse grinding 8. Indirect sizing shoulder traverse grinding 	
	15. Direct sizing right R traverse grinding (with shoulder) 16. Indirect sizing right R traverse grinding (with shoulder) 	17. Direct sizing left R traverse grinding (with shoulder) 18. Indirect sizing left R traverse grinding (with shoulder) 	9. Direct sizing R plunge grinding (with shoulder) 10. Indirect sizing R plunge grinding (with shoulder) 	
	19. Right taper grinding 	20. Left taper grinding 	11. Direct sizing R traverse grinding (with shoulder) 12. Indirect sizing R traverse grinding (with shoulder) 	
	21. Right shoulder R grinding 	22. Left shoulder R grinding 	13. Taper grinding 	
			14. Shoulder R grinding 	
	Automatic, manual wheel dressing cycles			
	Straight		Tapers	
Concave with taper on both sides		Concave with R on both sides		
Concave with left taper		Concave with left R		
Concave with right taper		Concave with right R		
Right infed NC forming (with 30 points) (example of 6-point forming)		Left infed NC forming (with 30 points) (example of 6-point forming)		
NC format input				
Special wheel dressing cycle				
A special dressing cycle is commanded during automatic grinding to perform cylindrical, R or shoulder grinding by means of a rounded tip wheel, or to perform taper grinding by means of taper tip wheel, as shown above.				
First only the taper section is dressed. Then the cylindrical and taper sections are dressed.				

High-accuracy simultaneous feed of two axes

High-accuracy simultaneous feed of two axes is made possible by using the floating plate which eliminates runout of the feed screw.



Accuracy of simultaneous feed of two axes



FEM analysis model of floating plate

Accessories GL3-SⅢ

(When an optional A accessory is chosen, the corresponding standard one is not supplied.)

● : Standard accessory ● : Optional A accessory ● : Optional B accessory ✕ : Not available

Category	No.	Name	GL3P-25SⅢ	GL3A-25SⅢ
1	Table	1 Swivel table	●	●
		2 Table end cover (fixed type)	●	●
		3 Table end cover (two-piece set, for machine width 1,900mm → 1,700mm) *1	●	●
		4 Table front cover (fixed type)	●	●
		5 Table front cover (insert type)	●	●
		6 Table front cover (manual operation type, without windows and confirmation device)	●	●
		7 Table front cover (automatic operation type, pneumatic type, with confirmation device, without windows)	Item 15-2 is required	Item 15-2 is required
2	Workhead	1 Dead spindle workhead with infinitely variable speed	●	●
		2 Live/Dead spindle workhead (infinitely variable speed, swiveling,)	●	●
		3 Carbide-tipped center (MT No.2)	●	●
		4 Spindle fix-position stop unit (One proximity switch type)	●	●
3	Footstock	1 Manual footstock (manual lever type: 25mm stroke)	●	●
		2 Manual footstock with manual taper corrector (manual lever type stroke: 25mm)	●	●
		3 Manual footstock with manual repositioning quill (manual lever type stroke: 25mm, quill stroke : 100mm)	●	●
		4 Hydraulic footstock (hydraulic stroke: 25mm, without confirmation device)	Item 5-2 is required	Item 5-2 is required
		5 Carbide-tipped center (MT No.2)	●	●
		6 Pedal operation *2	●	●
		7 Confirmation device (center retracted end/advanced end, no workpiece detect) *2	●	●
4	Wheelhead	1 Wheel surface speed: 30M single step speed specification	●	●
		2 Wheel surface speed: 45M single step speed specification (Incl. cooling unit)	●	●
		3 Wheel (φ355 × 38 × φ127)	●	●
		4 Standard wheel flange (round nut: 15~38mm in width)	●	●
		5 Wide wheel flange (round nut: 25~50mm in width)	●	●
		6 Cover mounted on wheelhead	●	●
5	Pump unit	1 Lubricant pump unit (6L, without low level detective device)	●	●
		2 Lubricant and hydraulic oil pump unit (20L, without low level detective device)	●	●
6	Coolant supply unit	1 Coolant supply unit (100L, without low level detective device)	●	●
		2 Coolant supply unit (150L, with cleaning pump, without low level detective device)	●	●
		3 Coolant supply unit with paper filter (200L, processing capacity 40L/min, without low level detective device)	●	●
		4 Magnetic separator (processing capacity 40L/min)	●	●
		5 Coolant Supply unit (with caster and stopper)	●	●
		6 Bed cleaning *3	●	●
		7 Table cleaning *3	●	●
		8 Auto sizer cooling *3	●	●
7	Wheel dresser	1 Wheel dresser (mounted on table)	●	●
		2 Angular wheel dresser (mounted on table)	●	●
		3 Radius truing device (mounted on table)	●	●
		4 Formed diamond tool (shank diameter: 8mm)	●	●
		5 Single-point diamond tool (shank diameter: 8mm)	●	✕
8	Tool	1 Tool (special tool kit)	●	●
		2 Tools (wrench/spanner)	●	●

Category	No.	Name	GL3P-25SⅢ	GL3A-25SⅢ
8	Tool	3 Wheel balancing stand	●	●
		4 Wheel balancing arbor	●	●
9	Steady rest	1 Manual steady rest (φ6~φ40mm)	●	●
10	Driving dog	1 Manual screwed type driving dog (φ5~φ50mm)	●	●
		2 Cam-locked type driving dog (φ5~φ45mm)	●	●
11	Chuck	1 3-jaw scroll chuck (3")	Item 2-2 is required	Item 2-2 is required
		2 Independent 4-jaw chuck (4")	Item 2-2 is required	Item 2-2 is required
		3 4-slot face plate (φ120mm)	Item 2-2 is required	Item 2-2 is required
12	Work holder	1 Work holder (one for each R and L φ5~φ50mm)	●	●
13	Auto sizer	1 Auto-sizer for OD (JTEKT made, amplifier built-in CNC, 3P, φ5~φ60mm) when equipped with GC50 CNC	Item 5-2 is required	Item 5-2 is required
		2 High-accurate auto-sizer for OD (JTEKT made, amplifier built-in CNC, 3P, φ5~φ60mm) when equipped with GC50 CNC	Item 5-2 is required	Item 5-2 is required
		3 Auto-sizer for OD (MARPOSS-made, amplifier built-in CNC, 3P, φ8~φ60mm) when equipped with FANUC CNC	Item 5-2 is required	Item 5-2 is required
		4 Spline auto sizer for OD (JTEKT made, amplifier built-in CNC, 3P, with retract, φ5~φ60mm) when equipped with GC50 CNC *4	●	●
14	Lateral locator	1 Automatic lateral locator (mounted on wheelhead, METROL made)	Item 5-2 is required	Item 5-2 is required
15	Other	1 Arrangement for accessories of GOP 10-30 (table-mounted unit, flange : slelection) *5	●	●
		2 Pneumatic unit	●	●
16	CNC	1 GC50 (JTEKT made)	●	●
		2 FANUC 21i-TB (FANUC made)	●	●
17	Control unit	1 Electric control unit	●	●
		2 Wheel spindle overload protector	●	●
		3 Manual pulse generator (mounted on operation panel)	●	●
		4 Coolant on/off switch	●	●
		5 Work spindle on/off switch	●	●
		6 Work spindle inching switch	●	●
		7 100V outlet (mounted on inside-of control box)	●	●
		8 USB flash drive for GC50 (JTEKT-made,one piece of stored backup data)	●	●
		9 USB flash drive for GC50 (JTEKT-made)	●	●
		10 Lighting unit (fluorescent jump)	●	●
		11 Lighting unit (spotlight)	●	●
18	Machine color	1 The machine body comes only neo·white.The hydraulic pump unit, coolant supply unit etc. is dark gray. *6	●	●
		2 Special color other than standard color	●	●
19	Customer's run off test	1 JTEKT's standard test pieces grinding	●	●
20	Instruction manual	1 One set each of machine specifications, operation manual and maintenance manual *7	●	●
21	Special specifications	1 CNC option Please refer to page 10. *8	●	●
22	CNC cycle	1 CNC standard cycle	●	●
		2 CNC optional cycle Please refer to page 3. *8	●	●
23	CNC	1 NC data format input	●	●

*1 Machine width is 2,350mm with hydraulic footstock.
*2 Item 3-4 hydraulic footstock is required.
*3 Item 6-2 is required.
*4 Item 5-2 and 15-2 are required.
*5 1) Table-mount unit: Because the width of the table-mounted unit differs from that for GOP10-30, a special fitting is attached.
2) Wheel flange: A coolant cover on the bearing side of the wheel guard is attached. (As for the wheel flange of GOP10-30, products manufactured in 1974 or later can be used.)

*6 Painting color shall be specified by mutual agreement.
*7 1 set of electric diagram without binding shall be delivered in the electrical control unit
*8 Available only when attaching CNC made by JTEKT.

Accessories GL4-SⅢ

(When an optional A accessory is chosen, the corresponding standard one is not supplied.)

● : Standard accessory ● : Optional A accessory ● : Optional B accessory × : Not available

Category	No.	Name	GL4P-SⅢ	GL4A-SⅢ
1	Table	1 Table swing unit	●	●
		2 Table end cover (fixed)	●	●
		3 Table end cover (slide)	●	●
		4 Table front cover (fixed)	●	●
		5 Table front cover (insert type)	●	●
		6 Table front cover (manual operation type, without windows, without confirmation device)	●	●
		7 Table front cover (automatic operation type, pneumatic type, with confirmation device, without windows) *1	●	●
2	Workhead	1 Dead spindle workhead infinitely variable speed	●	●
		2 Live/Dead spindle workhead (infinity variable speed, not swiveling type)	●	●
		3 Live/Dead spindle workhead (infinity variable speed, swiveling type) *2	●	●
		4 Dead spindle workhead with auto chuck (infinity variable speed) *3	●	●
		5 Live spindle workhead with chuck cylinder (infinity variable speed) *3	●	●
		6 Carbide-tipped center (MT No.4)	●	●
		7 Workhead spindle fixed position stop (one proximity switch type)	●	●
3	Footstock	1 Manual footstock (manual lever type, stroke: 25mm)	●	●
		2 Footstock with manual taper corrector (manual lever type, stroke: 25mm)	●	●
		3 Footstock with manual repositioning quill (manual lever type, stroke:25mm, quill stroke :160mm)	●	●
		4 Hydraulic footstock (hydraulic stroke:20mm, without confirmation device) *3	●	●
		5 Hydraulic footstock (hydraulic stroke:60mm, without confirmation device) *3	●	●
		6 Hydraulic footstock with manual taper corrector (hydraulic stroke: 60mm,without confirmation device) *3	●	●
		7 Hydraulic footstock with manual repositioning quill (hydraulic stroke: 30mm, quill stroke: 160mm, without confirmation device) *3	●	●
		8 Hydraulic footstock with manual repositioning quill with taper corrector (hydraulic stroke: 60mm, quill stroke: 160mm, without confirmation device) *3	●	●
		9 Footstock with auto repositioning quill (NC stroke: 190mm,with confirmation device) *3	●	●
		10 Footstock with auto repositioning quill (with taper corrector, NC stroke: 190mm,with confirmation device) *3	●	●
		11 Carbide-tipped center (MT No.4)	●	●
		12 Pedal operation *4	●	●
		13 Confirmation device (center retracted end/advanced end, no workpiece ditect) *5	●	●
4	Wheelhead	1 Wheel surface speed: 30M, single step speed (wheel spindle motor 3.7kW)	●	●
		2 Wheel surface speed: 30M, 2-step speed (wheel spindle motor 3.7kW)	●	●
		3 Wheel surface speed: 45M, single step speed (Incl. cooling unit, wheel spindle motor 5.5kW)	●	●
		4 Wheel surface speed: 45M, 2-step speed (Incl. cooling unit and over speed protection unit, wheel spindle motor 5.5kW)	●	●
		5 Wheel surface speed variable control unit (Inverter control : manual and speed-reduction control only)	●	●
		6 Wheel surface speed variable control unit (Inverter control, 3-step changing)	●	●
		7 Grinding wheel (straight type : $\phi 405 \times 75 \times \phi 127$, angular type : $\phi 455 \times 75 \times \phi 127$)	●	●
		8 $\phi 510$ specification (max. wheel width 50mm, wheel spindle motor 5.5kW, wheel surface speed 30M or 45M)	●	—
		9 $\phi 510$ specification (max. wheel width 100mm, wheel spindle motor 5.5kW, wheel surface speed 30M or 45M)	●	—
		10 Wheel flange (round nut, wheel width 33~80mm)	●	●
		11 Thin wheel flange (round nut , wheel width 20~65mm)	●	●
		12 Wide wheel flange (round nut , wheel width 50~100mm) *6	●	●
		13 Wide wheel guard (max.wheel width 100m)	●	●
		14 Wheel cover with adjusting handle for front cover (max.wheel width 100mm)	●	●
5	Pump unit	1 Lubrication pump unit (12L, without low level detective device)	●	●
		2 Pump unit of hydraulic and lubricating oil (20L, without low level detective device)	●	●
		3 Pump unit of hydraulic and lubricating oil (20L, with low level detective device)	●	●
		4 Pump unit of hydraulic and lubricating oil (20L, with low level detective device, fire law is applicable)	●	●
6	Coolant supply unit	1 Coolant supply unit (150L, without coolant low level detective device)	●	●
		2 Coolant supply unit (230L, with cleaning unit and low level detective device)	●	●
		3 Coolant supply unit with paper filter (200L, processing capacity 40L/min, without low level detective device)	●	●
		4 Coolant supply unit with paper filter (250L, processing capacity 80L/min, with cleaning pump and low level detective device) *7	●	●
		5 Magnetic separator (processing capacity 40L/min)	●	●
		6 Magnetic separator (processing capacity 80L/min) *7	●	●
		7 Bed cleaning *8	●	●
		8 Table cleaning *8	●	●
		9 Auto sizer cooling *8	●	●
7	Wheel dresser	1 Grinding wheel dresser (mounted on table)	●	●
		2 Formed diamond tool (shank diameter ; 8mm)	●	●
		3 Single point diamond tool (shank diameter ; 8mm)	●	×

Category	No.	Name	GL4P-SⅢ	GL4A-SⅢ
8	Tool	1 Tools (special tool kit)	●	●
		2 Tools (Wrench/Spanner)	●	●
		3 Wheel lifting hook	●	●
		4 Wheel balancing stand	● For type P	● For type A
		5 Wheel balancing arbor	●	●
		6 Jib crane for wheel change (to 100kg)	●	●
9	Steady rest	1 Manual steady rest ($\phi 10 \sim \phi 100 \text{mm}$)	●	●
10	Driving dog	2 Manual steady rest ($\phi 100 \sim \phi 200 \text{mm}$)	●	●
		1 Manual screwed type driving dog ($\phi 5 \sim \phi 50 \text{mm}$, $\phi 50 \sim \phi 80 \text{mm}$)	●	●
11	Chuck	2 Cam-locked type driving dog ($\phi 5 \sim \phi 45 \text{mm}$, $\phi 45 \sim \phi 80 \text{mm}$)	●	●
		1 3-jaw scroll chuck (Selection from 4",5",6",7") *9	●	●
12	Chuck	2 Independent 4-jaw chuck (Selection from 4",6",7",8") *9	●	●
		3 4-slot face plate ($\phi 228 \text{mm}$) *9	●	●
		1 Work holder (one each for R and L , $\phi 10 \sim \phi 120$)	●	●
13	Work holder	1 Auto-sizer for OD (JTEKT made, amplifier built in CNC, 3P, $\phi 5 \sim \phi 80 \text{mm}$) when equipped with GC50 CNC *3	●	●
		2 High-accurate auto-sizer for OD (JTEKT made, amplifier built in CNC, 3P, $\phi 5 \sim \phi 80 \text{mm}$) when equipped with GC50 CNC *3	●	●
		3 Auto-sizer for OD (MARPOSS made, amplifier built in CNC, 3P, $\phi 8 \sim \phi 92 \text{mm}$) when equipped with FANUC CNC *3	●	●
		4 Spline auto-sizer for OD (JTEKT made, amplifier built in CNC , with retractor ,3P, $\phi 5 \sim \phi 80 \text{mm}$) when equipped with GC50 CNC *10	●	●
14	Lateral locator	1 Automatic lateral locator (mounted on wheelhead, METROL made) *3	●	●
15	Other	1 Gap eliminator (AE sensor)	●	●
		2 Pneumatic unit	●	●
16	CNC	1 GC50 (JTEKT made)	●	●
		2 FANUC 21i-TB (FANUC made)	●	●
17	Control unit	1 Electric control unit	●	●
		2 Wheel spindle overload protector	●	●
		3 Manual pulse generator (mounted on operation panel)	●	●
		4 Coolant on/off switch	●	●
		5 Work spindle on/off switch	●	●
		6 Work spindle inching switch	●	●
		7 100V outlet (mounted on inside-of control box)	●	●
		8 USB flash drive for GC50 (JTEKT-made,one piece of stored backup data)	●	●
		9 USB flash drive for GC50 (JTEKT-made)	●	●
		10 Lighting unit (fluorescent lamp)	●	●
		11 Lighting unit (spotlight)	●	●
18	Machine color	1 The machine body comes only neo·white.The hydraulic pump unit, coolant supply unit etc. is dark gray. *11	●	●
		2 Special color other than standard color	●	●
19	Customer's run off test	1 JTEKT's standard test pieces grinding	●	●
20	Instruction manual	1 One set each of machine specifications, operation manual and maintenance manual *12	●	●
		1 Simultaneous 2 axes control (Floating plate specifications) *13	●	●
21	Special specification	2 CNC option Please refer to page 10.	●	●
		3 CNC general purpose spec. Please refer to page 10.	●	●
		1 CNC standard cycle	●	●
22	CNC cycle	2 CNC optional cycle Please refer to page 3. *13	●	●
		3 CNC general purpose cycle (with floating plate) Please refer to page 4. *13	●	●
23	CNC	1 NC data format input	●	●

* 1 Item 15-2 is required. Not available for GL4P-150SⅢ

* 2 When machine is operated with its work spindle swivelling, the workhead needs to be moved to avoid an interference between workhead and wheel dresser mounted on table.

* 3 Item 5-2, 5-3 or 5-4 is required.

* 4 Item 3-4, 3-5, 3-6, 3-7 or 3-8 is required for pedal operation.

* 5 Item 3-5, 3-6, 3-7 or 3-8 is required.

* 6 Item 4-13 or 4-14 is required.

* 7 Processing capacity 80 L/min.(coolant supply unit or magnetic separator) is recommended for a wide wheel specification or a large volume of coolant.

* 8 Item 6-2 or 6-4 is required.

* 9 Item 2-2 or 2-3 is required.

* 10 Item 15-2 and item 5-2, 5-3 or 5-4 are required.

* 11 Painting color shall be specified by mutual agreement.

* 12 1 set of Electric Diagram without binding shall be delivered in the Electrical Control Unit

* 13 Available only when attaching CNC made by JTEKT.

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Special application Please contact our sales for the unit mentioned below being applied to customers' specifications separately.

No.	Name	No.	Name
1	Corresponding to $\phi 400 \text{mm}$ swing on table	4	Totally full cover Manual open-close type, no confirmation, with bracket attaching the duct for collecting mist, distance between centers: 1000mm, 1,500mm (P only)
2	Fluid bearing workhead		
3	2-piece handle specification	5	Mist collector Model: ORD-1500R (made by Showa-Denki) Flow rate 14/17 m ³ /min, motor 1.5kW (2P)

Machine specifications

Item	Model	GL3-S III		GL4-S III	
				GL4P-S III	GL4A-S III
Swing over table	mm	φ200		φ320	
Distance between centers	mm	250		320/500/630/1,000/1,500	
Grinding diameter	mm	φ0~φ60		φ0~φ300	
Max. load between centers	kg	20		150	
Wheel	OD×width×ID	φ355x38(Max50)Xφ127		φ405X75(Max100)Xφ127	φ455X75(Max100)Xφ127
	Surface speed	30 (45)		30 (45)	
	Spindle speed	1,610 (2,420)		1,550 (2,120)	1,380 (1,885)
Wheelhead	Rapid feed rate	φ15		φ15	
	Min. input increment	φ0.0001		φ0.0001	
	Rapid feed rate	15		15	
Table	Min. input increment	0.0001		0.0001	
	Swiveling angle (Counterclockwise)	12.5~0、Clockwise 0~0.5		12.5~0/12.5~0/10~0	12.5~0/12.5~0/10~0
Workhead		Dead spindle		Dead spindle	
	Center taper	MT No.2		MT No.4	
	Spindle speed	32~1,000		21~500	
Footstock		Manual lever type		Manual lever type	
	Center taper	MT No.2		MT No.4	
	Quill stroke	25		25	
Electrical equipment		Power supply voltage	200V	Control circuit	DC24V
Drive motors	Wheel spindle	kW	2.2 (3.7)	(4P)	3.7 (5.5)
	Work spindle	kW	0.5 (0.75)		1.5 (1.2)
	Wheelhead feed	kW	1.3 (1.2)		1.3 (1.2)
	Table feed	kW	1.3 (1.2)		1.3 (1.2)
	Lubricant pump	kW	0.04 (4P)		0.04 (4P)
	Lubricant and Hydraulic oil pump	kW	0.75 (2P)		0.75 (2P)
	Wheel spindle bearing oil pump	kW	0.25 (2P)		0.25 (2P)
	Coolant pump	kW	0.10 (2P)		0.18 (2P)
	Cleaning pump	kW	0.10 (2P)		0.18 (2P)
	Wheel spindle cooling unit	kW	0.080		0.080
	Magnetic coolant separator	kW	0.025 (4P)		0.025 (4P)
	Lubricant	L	6		12
Tank capacity	Lubricant and hydraulic oil	L	20		20
	Wheel spindle bearing oil	L	5		15
	Coolant	L	100		150
Machine weight		kg	2,500	3,800/4,000/4,500	3,800/4,000/4,500
				5,000/6,000	5,000/6,000

The specification may be restricted according to the tooling of customer.

*1 Swiveling angle may be restricted when a footstock other than the standard manual footstock or front table cover of manual open/close-type is selected.

*2 () shows FANUC 21i-TB specification. (option)

*3 Dimensions in () indicate wide wheel specification.

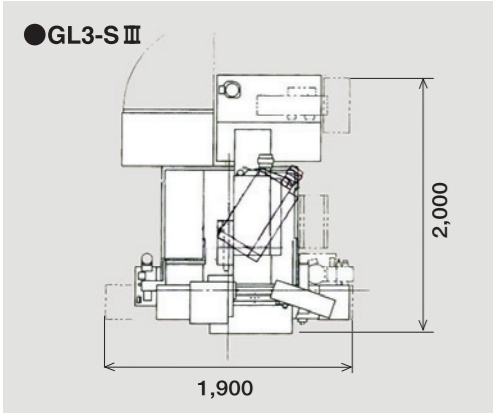
*4 Optional accessory

*5 Numbers in red color indicate 45M (wheel surface speed : 45m/s) specification. (option)

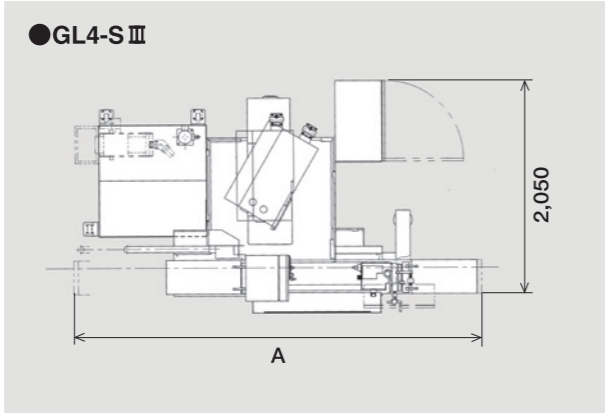
*6 In case of GL4P-150S or simultaneous 2 axes control specification, drive motor is 1.8kW.

Machine layout

●GL3-S III



●GL4-S III



Type	A (mm)
GL4P-32S III GL4A-32S III	3,400
GL4P-50S III GL4A-50S III	3,670
GL4P-63S III GL4A-63S III	4,100
GL4P-100S III GL4A-100S III	4,500
GL4P-150S III GL4A-150S III	6,070

CNC specifications

● : Standard accessory ○ : Optional accessory × : Not available

Item	No.	Specifications	CNC	
			GC50	FANUC 21i-TB
CNC specification	1	CNC unit	JTEKT	FANUC
	2	Servo motor and amplifier	SANYO	FANUC
Controlled axes	3	X axis (wheelhead feed)	●	●
	4	Z axis (table feed)	●	●
	5	Multi-axis specification	○ (Max. 6 axes)	○ (Max. 4 axes)
Display unit	6	Color LCD (Japanese)	● (Color 12")	● (Mono 9")
	7	Color LCD (English)	○ (Color 12")	○ (Mono 9")
File management	8	Structured data management (pre-grinding, grinding, maintenance)	●	×
	9	Grinding data patterns: max.64 (30 processes / pattern, max.1,920 processes)	●	×
	10	Grinding data patterns: max.10 (20 processes / pattern, max.200 processes)	×	●
Coordinate setting	11	Position memory	●	●
	12	Initial setting (each axis)	● (manual)	● (auto)
Compensation function	13	Backlash compensation	●	●
	14	Size compensation	●	●
Display	15	Operation monitor	●	●
	16	Lamp	●	●
	17	Sequence circuit monitor	●	●
	18	Sequence circuit edits	●	●
	19	Operation procedure	●	●
	20	Inspection, maintenance item	●	●
	21	Metric display	●	●
	22	Inch display	○	●
	23	Canned cycle	●	●
	24	Test cycle	●	×
Operation	25	Wheel dressing cycle	●	●
	26	Return cycle	●	●
	27	In-process start-up function	○	○
	28	Single block	●	●
	29	Pause	○※1	×

Item	No.	Specifications	CNC	
			GC50	FANUC 21i-TB
Operation	30	Grinding step skip	●	×
	31	Rapid feed override 0, 10, 50, 100%	●	●
	32	Grinding feed override 0~150%, 10% step	●	●
	33	Wheel dresser feed override 0~150%, 10% step	●	(one switch)
	34	Program No. search start	○※1	●
Auto-sizer	35	Auto sizer control section	○	○
Programming	36	Simple automatic determination function (Plunge and traverse grinding)	○※1	×
	37	NC data format input	○※1	●
Maintenance	38	Wheel change prediction	●	●
	39	Wheel change min. diameter display	●	●
	40	Self diagnosis function	●	×
	41	Alarm history display	512	25
	42	Batch saving	●	×
Counter (in-set display)	43	Production counter	●	●
	44	Quality check counter	●	○
	45	Wheel dressing interval counter	●	●
	46	Wheel truing cycle counter	●	×
Cycle time (in-set display)	47	Machine operation hours	●	●
	48	Processing cycle time	●	●
	49	Grinding cycle time	●	×
	50	Wheel dressing cycle time	●	×
Others	51	MDI on/off switch	●	●
	52	Automatic compensation on wheel dressing amount	●	×
	53	Corresponding to USB memory	●	×
	54	RS232C interface	×	●
	55	Computer link	○	×

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※1 : Numbers of 29,34,36 and 37 are options.



This photo is shown by standard paint color.

