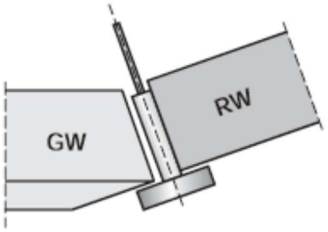
TOSHIN CORPORATION

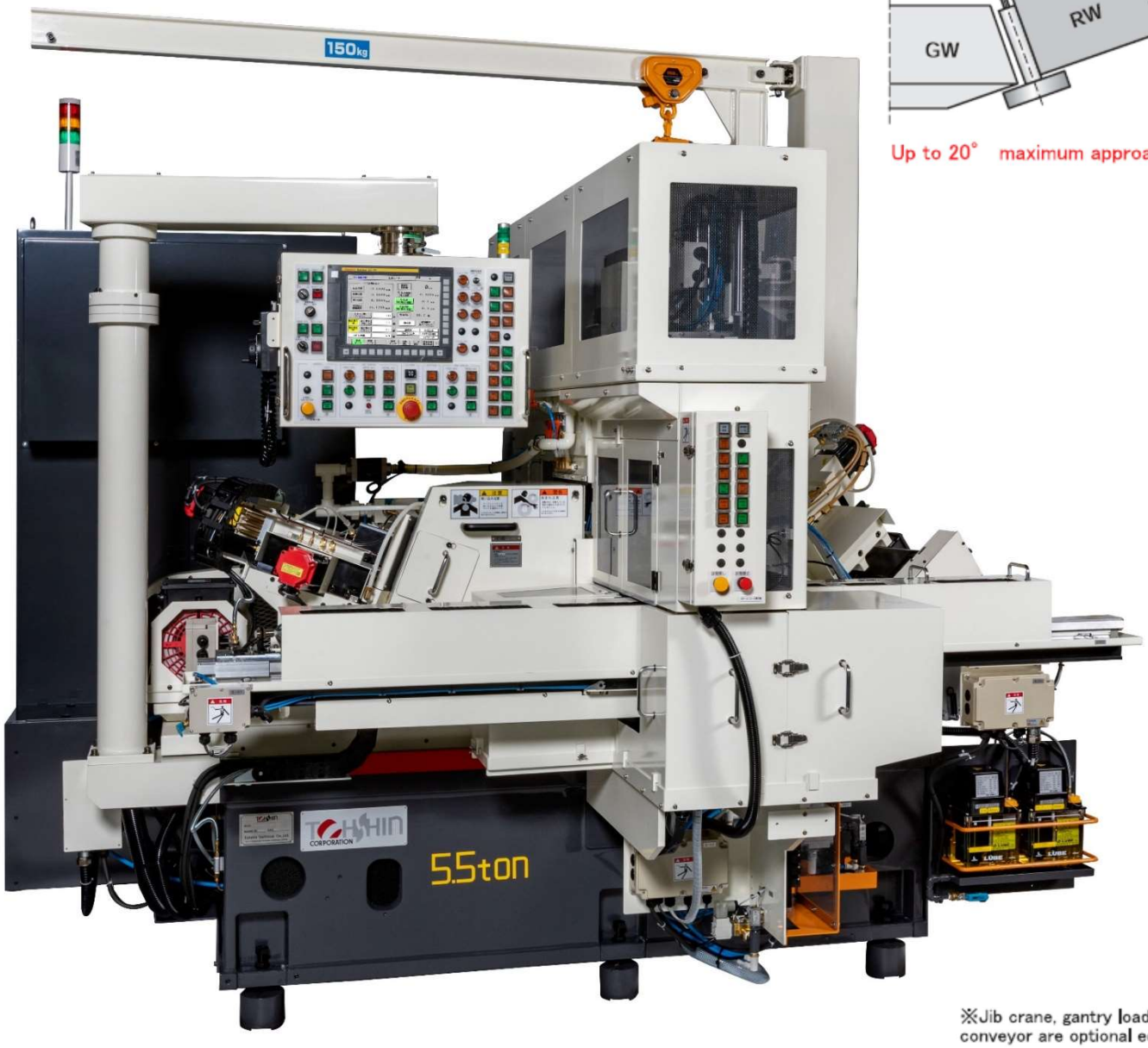
CNC Centerless Grinding Machine

Stabilized simultaneous production of surface and end-face with the grinding wheel periphery.

Ideal high-efficiency machine for long workpieces of small diameter.



Up to 20° maximum approach angle



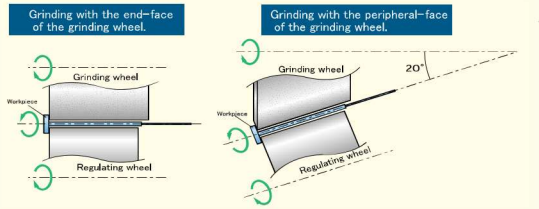
※Jib crane, gantry loader and conveyor are optional equipment.

TO-5010S-AR1

Features of the TO-5010S-AR1

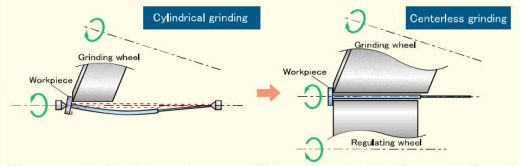
1 Stabilized simultaneous production of surface and end-face.

(In some cases it may not be possible to process complex shapes)
The periphery grinding wheel approach angle for processing of the end-faces can be increased up to a maximum of 20°.
By reducing the contact arc, thermal damage is less likely to occur. Additionally, the grinding speed and the dress-interval can be increased.



2 Long workpieces of small diameter can be ground in a short time.

Even for elongated workpieces that are unsuitable for cylindrical grinding, centerless grinding enables stable and highly efficient grinding without deformation of the workpiece.
Of course, it also supports infeed grinding with an approach angle of 0 °.

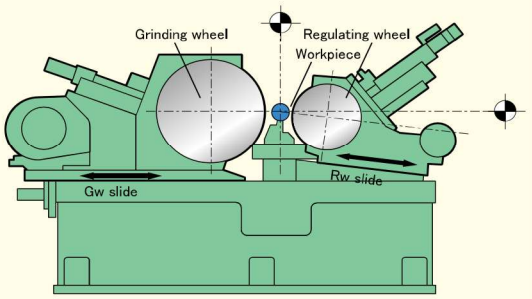


Since it is supported by the center, workpieces with low rigidity are deformed during machining and are not suitable for stable grinding.

Being supported by the regulating wheel, stable machining accuracy can be obtained without depending on the rigidity of the workpiece.

3 Stable machining conditions can be maintained due to the constant center-height angle.

Even if the diameter of the grinding wheel changes, the center-height angle fixing method is adopted so that the right angle between the outer diameter and the end face does not change.
The regulating wheel was supported by a slide tilted by the center-height angle with respect to the grinding wheel.



4 Fixed work rest

A fixed work rest mechanism is used whereby the grinding and regulating wheels are moved to the workpiece. As the loading apparatus can be fixed to the bedframe or floor, this facilitates the alignment of linked equipment.

Machine Specifications

		TO-5010S-AR1
Grinding capacity (one piece in cycle)	Grinding diameter	(Standard) φ3～40 mm
	Grinding diameter	(Large) φ30～100 mm
	Difference in diameter	MAX φ40 (Radius 20 mm)
	Grinding length	100 mm
Producable range	Approach angle	0～20° (Fixed)
	Center-height angle	7° (Fixed)
	RW angle	±1.0 (Fixed)
Grinding wheel	Dimensions	φ510×100×φ228.6
	Min. diameter	φ360
	Motor capacity	5.5 kW
Regulating wheel	Dimensions	φ330×100×φ203.2
	Min. diameter	φ280
	Drive system	V-belt
	Speed	1～750 rpm
	Motor capacity	3.5 kW (servomotor)
Machine dimensions		W2100×D1400×H2000 (Control panel included)
Machine weight		3500 kg

Attachments

Standard attachments
NC infeed unit
Two-axis NC dresser for GW
Two-axis NC dresser for RW
Automatic lubrication system

Optional attachments	
Grinding wheel	Electric workrest slide unit
Regulating wheel	Automatic measuring system
Diamond tool	Jib crane
GW rotary dresser	Mist collector
RW rotary dresser	GW dress sensor
Workrest holder	
Workrest	Registering of workpieces
Coolant filtration unit	Scale feedback system
Upper workrest	Specified color
Automatic loader	

* The specifications are subject to change without prior notice due to constant improvements.

CNC centerless grinding machines and other special-purpose machines and equipment

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