

**SCGC** series

## **Centerless Grinding Machine**

Every SHOKA center less grinding machine is designed and manufactured based on the following management concepts: "Application of the newest technology and innovation", "Endless improvement and progress" and "Customer satisfaction with accuracy and quality".

## **Features**

The CNC series center less grinding machines can be used for in feed grinding and thru feed grinding to ensure accuracy and high productivity in work pieces with diameters between 1 mm and 50 mm.

The NC series center less grinding machine features regulating wheel with ball and roller bearing and achieves 0.1 urn grinding precision. The regulating wheel can rapidly approach work piece and then speed down while initiating grinding. The grinding wheel comes with hydrostatic or hydrodynamic bearings for selection, and auto loading and unloading device is optional.

## CENTERLESS GRINDING MACHINE

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### Technical specifications

#### CNC series

Model	Unit	SCGC12	SCGC 18	SCGC 1812	SCGC 20
Grinding range (dia.)	mm	1-30	2-50	2-50	2-50
Grinding wheel size (dia. x width x hole)	mm	305 x 150 x 120	455 x 205 x 228.6	455 x 305 x 228.6	510 x 205 x 304.8
Regulating wheel size (dia. x width x hole)	mm	230 x 150 x 127	280 x 205 x 139.7	305 x 305 x 177.8	305 x 205 x 177.8
Grinding wheel speed (Peripheral Speed)	m/min	2000	2000	2000	2000
Regulating wheel speed	R.P.M.	10-300	10-300	10-300	10-300
Regulating wheel swivel angle	deg.	±5"	±5"	±5"	±5"
Regulating wheel tilt angle	deg.	±5"	±5"	±5"	±5"
Grinding wheel motor	HP	7.5	15	20	20
Regulating wheel molar (servo molar)	kw	1.3	1.8	2.9	2.9
Hydraulic pump motor	HP	1	1	1	1
Coolant pump motor	HP	1/8	1/4	1/4	1/4
Machine dimension (W x D x H)	mm	2,460 x 2,300 x 1,700	3,200 x 2,830 x 1,730	3,200 x 2,830 x 1,730	3,250 x 3,010 x 1,730
Machine weight	kg	2,100	4,200	4,500	4,800



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### Technical specifications

#### B/ S series

Model.	Unit.	SCGM12/ SCGM12B/ SCGM12S	SCGM16B	SCGM18/ SCGM18B/ SCGM18S	SCGM1812/ SCGM1812B	SCGM20 / SCGM20B
Grinding range (dia.)	mm	1-30	2-40	2-50	2-50	2-50
Grinding wheel size (dia. x width x hole)	mm	305 x 150 x 120	405 x 205 x 203.2	455 x 205 x 228.6	455 x 305 x 228.6	510 x 205 x 304.8
Regulating wheel size (dia. x width x hole)	mm	205 x 150x90 230 x 150 x 127 (B series)	280 x 205 x 139.7	255x205x111.2 280x 205 x 139.7 (B series)	255 x 305x 111.2 305 x 305 x 177.8 (B series)	305 x 205 x 127 305 x 205 x 177.8 (B series)
Grinding wheel speed (Peripheral Speed)	m/min	2000	2000	2000	2000	2000
Regulating wheel speed	R.P. M	21-300 (10 steps) 110- 300 (B/S series)	10-300	13-308 (10 steps) 110-300 (B series)	13-308 (10 steps) 110-300 (B series)	13-308 (10 steps) 110-300 (B series)
Grinding wheel motor	HP	7.5	10	15	20	20
Regulating wheel motor	HP/kw	1HP /1.3kw (servo motor B/S series)	1.8kw (servo motor)	2HP /1.8kw (servo motor B series)	2HP /2.9kw (servo motor B series)	3HP /2.9kw (servo motor B series)
Hydraulic pump motor	HP	1	1	1	1	1
Coolant pump motor	HP	1/8	1/4	1/4	1/4	1/4
Upper slide feed graduation	mm	3.5 (Rev.) 0.05 (Gra.)	3.5 (Rev.) 0.05 (Gra.)	3.5 (Rev.) 0.05 (Gra.)	3.5 (Rev.) 0.05 (Gra.)	3.5 (Rev.) 0.05 (Gra.)
Upper slide micro feed graduation	mm	0.1 (Rev.) 0.001 (Gra.)	0.1 (Rev.) 0.001 (Gra.)	0.1 (Rev.) 0.001 (Gra.)	0.1 (Rev.) 0.001 (Gra.)	0.1 (Rev.) 0.001 (Gra.)
Lower slide feed graduation	mm	10 (Rev.) 0.05 (Gra.)	10 (Rev.) 0.05 (Gra.)	10 (Rev.) 0.05 (Gra.)	10 (Rev.) 0.05 (Gra.)	10 (Rev.) 0.05 (Gra.)
Lower slide micro feed graduation	mm	0.2 (Rev.) 0.001 (Gra.)	0.2 (Rev.) 0.001 (Gra.)	0.2 (Rev.) 0.001 (Gra.)	0.2 (Rev.) 0.001 (Gra.)	0.2 (Rev.) 0.001 (Gra.)
Dressing device graduation	mm	1.25 (Rev.) 0.01 (Gra.)	1.75(Rev.) 0.01 (Gra.)	2 (Rev.) 0.01 (Gra.)	2 (Rev.) 0.01 (Gra.)	2 (Rev.) 0.01 (Gra.)
Regulating wheel tilt angle	deg.	+5°	±5°	+5°	±5°	±5°
Regulating wheel swivel angle	deg.	+5°	±5°	+5°	+5°	±5°
Machine dimensions (W x O x H)	mm	1,900 x 1,550 x 1,420	2,000 x 1,590 x 1,450	2,300 x 1,800 x 1,600	2,300 x 2,100 x 1,600	2,500 x 2,150 x 1,600
Machine weight	kg	1,700	2,400	3,300	3,500	3,900



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	CNC SERIES	B SERIES	ECONOMICAL/ S SERIES
Controller (FANUC/MITSUBISHI)	0	X	X
Inverter	▲	▲	▲
Linear Scale for Upper Slide Feed Screw	▲	▲	▲
Linear Scale for Lower Slide Feed Screw	▲	▲	▲
Coolant Tank with Pump	0	0	0
Work Lamp	0	0	0
Tools + Kits	0	0	0
Wheel Flange Extractor	0	0	0
Oil Mist Separator	▲	▲	▲
Paper Filter	▲	▲	▲
Magnetic Coolant Separator	▲	▲	▲
Hydro cyclone Coolant Separator	▲	▲	▲
Automatic Lubricator	0	▲	▲
Electric Cabinet Air Cooler	▲	▲	▲
Electric Cabinet Heat Exchanger	0	▲	X
Wheel Balancing Stand & Arbor	▲	▲	▲
Servo Motor for Regulating Wheel	0	0	X/O
Automatic In feed Attachment	X	▲	▲
Automatic Loading Attachment for In feed Grinding	▲	▲	▲
Automatic Unloading Attachment for In feed Grinding	▲	▲	▲
Manual Work Feeder for In feed Grinding	▲	▲	▲
Work Ejector (Hydraulic / Air)	▲	▲	▲
Unloading Attachment for Thru feed Grinding	▲	▲	▲
Auto. Loading Attachment for thru feed Grinding (Hopper Type)	▲	▲	▲
Auto. Loading Attachment for thru feed Grinding (Vibratory Feeder)	▲	▲	▲
Auto. Loading Attachment for thru feed Grinding (Magazine Type)	▲	▲	▲
Supporter for Long Bar Grinding	▲	▲	▲
Vibration Meter	▲	▲	▲
Grinding Wheel	0	0	0
Grinding Wheel Flange	0	0	0
Regulating Wheel	0	0	0
Regulating Wheel Flange	X	X	0
Jig Crane for Grinding Wheel	▲	▲	▲
Jig Hook for Grinding Wheel	▲	▲	▲
Jig Hook for Regulating Wheel	▲	▲	X
Grinding Wheel Face Dressing Unit	▲	▲	▲
Rotary-type Dressing Unit	▲	▲	▲
Diamond Dresser	0	0	0
Hydraulic Tank with Pump	0	0	0
Hydraulic Oil Cooler	0	▲	▲
Fully Enclosed Splash Guard	▲	▲	▲
In feed Work Rest + Carbide Blade	0	0	0
Thru feed Work Rest + V shape Front Supporter + Carbide Blade	0	0	0
Profile template (Grinding Wheel)	X	▲	▲
Profile template (Regulating Wheel)	▲	▲	▲
Special Thru feed Work Rest (Small Diameter)	▲	▲	▲
Work piece Presser	0	0	0
<b>0 Standard Equipment    ▲ Optional Equipment    X Not Equipped</b>			

**CENTERLESS GRINDING MACHINE**

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**Standard accessories**



Grinding Wheel + Flange



Regulating Wheel + Flange  
(B & H series don't use flange)



Infeed Work Rest 1 set + Carbide Blade



Thru fee Work Rest  
+ V shape Front Supporter  
+ Carbide Blade



Coolant Tank with Pump.



Hydraulic Tank with Pump



Diamond Tool for Truing



Hydraulic Cooling Fan



Work Lamp



Tools + Kits



Wheel Flange Extractor



Workpiece Pressor

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**Optional accessories**



Vibration Meter



Oil Mist Separator



Jib Crane with Hook for Grinding Wheel



Grinding Wheel Face Dressing Unit



Paper Filter



Magnetic Coolant separator



Hydrocyclone Coolant Filter



Work Ejector (Hydraulic/Air)



Supporter for Long bar Grinding



Hydraulic 011 Cooler



Rotary-Type Dressing Unit



Profile Template



Special Thrufeed Work Rest (Small Diameter)



Rotary-Type Dressing Unit



Auto. Unloading Attachment for Thrufeed Grinding



Auto. Loading Attachment for Thrufeed Grinding (Vibratory Feeder)



Auto. Loading Attachment for Thrufeed Grinding (Hopper Type)



Auto. Loading Attachment for Thrufeed Grinding (Magazine Type)



Auto. Loading Attachment for Infeed Grinding



Auto. Unloading Attachment for Infeed Grinding



Auto. Infeed Attachment