

Precision Vertical Rotary Grinding Machine VRG-DX Series



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*Prior to and while using our products you are requested to thoroughly go through the articles on danger, warning and attention for the sake of safety described in operation manual attached to the machine and also in the warning plates mounted on the machine.
*When the products fall under the export controlled goods stipulated in "Foreign Exchange and Foreign Trade Act", it requires the license or approval of Government of Japan when exporting out of Japan.
*Specifications subject to change without notice.



JQA-QMA10960
Annaka Factory



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Printed in Japan in February 2023 2023021000MTR-0

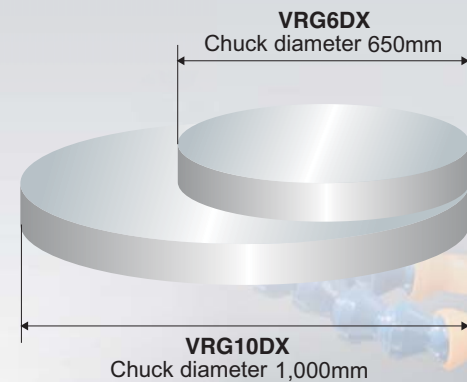
User friendly, high rigidity, highly productive new vertical rotary grinding machine VRG-DX Series

Original control system makes grinding easy

OKAMOTO's vertical axis rotary grinding machine is simple and easy to use !

- High-efficiency and high-rigidity rotary grinding machine equipped with vertical wheel spindle.
- 3-point support column structure for easy adjustment. The combination of made-in-house highly rigid column and bed allows you to maintain high precision for a long operating time.
- Okamoto original FX controller can prevent operational mistakes with minimum number of intuitive operations.
- Fully enclosed cover for safety and regulatory factory requirement.
- Ideal for grinding brittle materials such as glass/ceramics as well as metals.

Lineup	Chuck Size
VRG6DX	φ 650 mm
VRG10DX	φ 1,000 mm



VRG6DX

Series Name
Series Size
Vertical Rotary Grinding Machine

VRG6DX



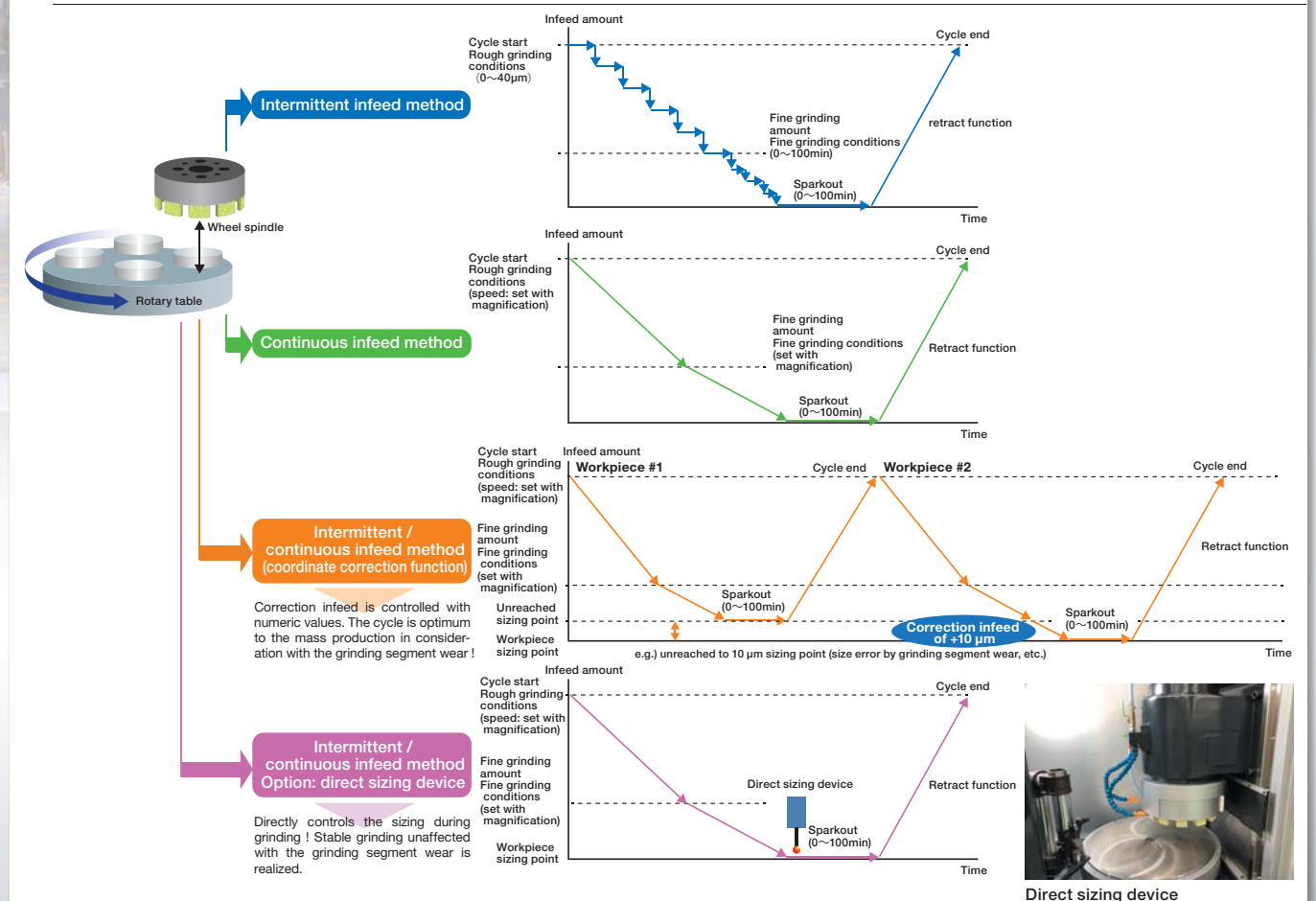
OKAMOTO original FX Controller

- **Grinding amount setting**
Equipped with an automatic grinding cycle as standard. Rough and fine finish grinding plus spark-out, and retract functions enable mass production in a good setup.
- **Interlock function**
The fully enclosed cover is equipped with an interlock function as standard. In view of safety and the factory environment, the machining cycle cannot be performed while the cover is open.
- **Vertical grinding feed and current position display**
Achieves a minimum vertical increment of 1 μm accuracy. The feed amount is changed by the magnification, and the current position is displayed on a clear LED.

■ Down-feed grinding method

Equipped with continuous mode and intermittent mode for plunge grinding. Please select the mode according to the workpieces to be ground and its application.

The down-feed grinding method is significantly different in grinding efficiency compared to an ordinary square slide grinding machine.



Simple structure and operability that makes use of the features of vertical axis. It achieves high efficiency and high productivity.

Switches are all laid on the front side of the machine to facilitate easy operation and access.

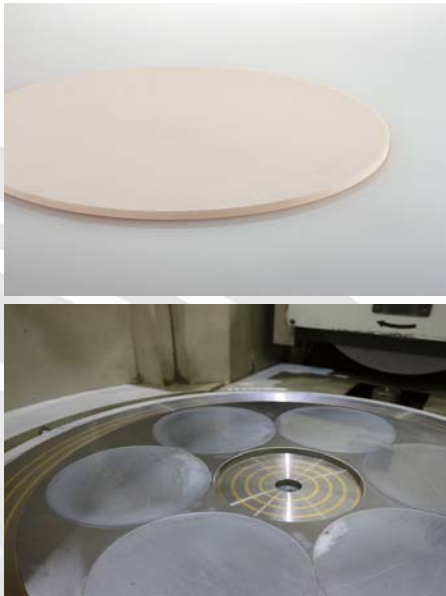
Fully enclosed cover slide is adopted as standard in consideration of safety and the factory environment.



Coolant unit is laid at the back for easy maintenance.



Grinding of brittle material workpieces such as ceramics and quartz glass with a diamond wheel is also available.



By adopting a 3-point support column structure, accuracy adjustment and surface quality adjustment are easily performed.

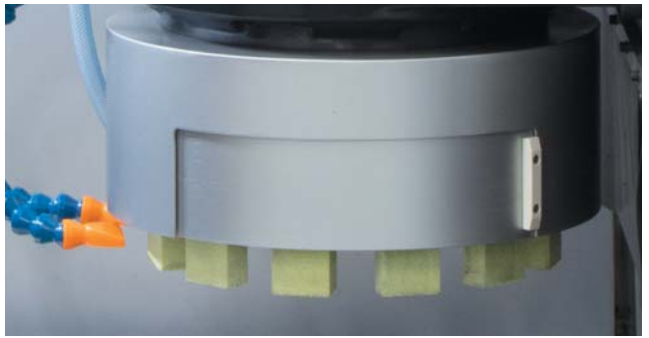


Rotary pattern



Cross hatch pattern

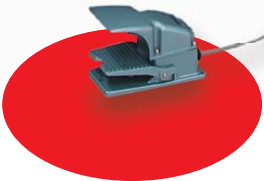
Easy-to-replace wheel segments. Achieves high-precision machining of the order of 1 μ m.



Uses Okamoto original FX controller. Minimal intuitive operation can prevent mistakes.

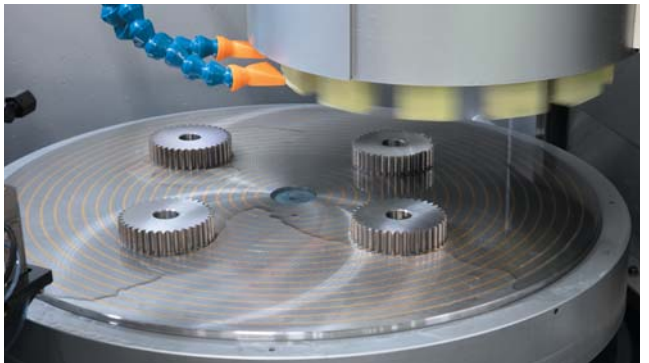


VRG6DX



Equipped with a rotary table foot switch as standard. Significantly improved setup and operability.

Highly efficient grinding is achieved with a vertical axis wheel. Greatly supports the needs for productivity.



Characteristics
and
comparison

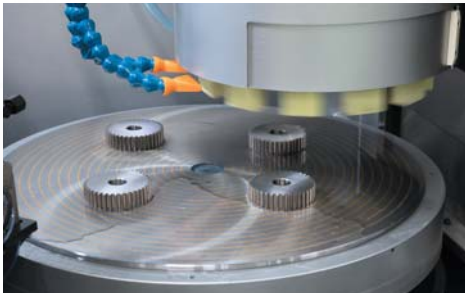
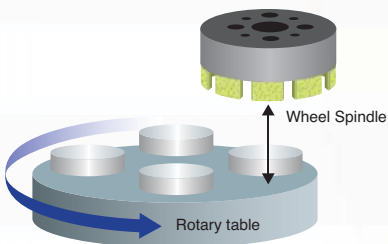
Lineup of 2 types of rotary grinding machines.
The optimum series can be selected
according to the grinding application!

Vertical axis & rotary table
VRG series

VRG6DX



Grinding methods
Down feed grinding

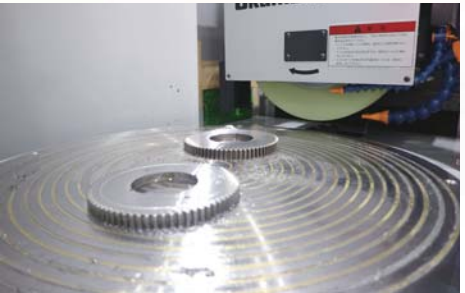
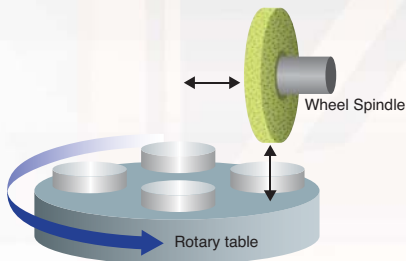


Horizontal axis & rotary table
PRG series

PRG8DXNC



Grinding methods
Plunge or traverse grinding

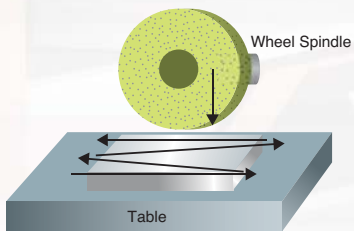


Horizontal axis & square table
PSG series

PSG63GX



Grinding methods
Plunge or traverse grinding



	Vertical axis & rotary table	Horizontal axis & rotary table	Horizontal axis & square table
Grinding wheel work area	Big	General	General
Spindle Motor	VRG6DX: 11kw VRG10DX: 37kw	PRG6DXNC: 11kw	PSG63GX: 3.7kw
Productivity	Maximum	Big	General
Grinding load	Big	Small	Small
Surface pattern	Cross hatch or rotary pattern	Rotary pattern	Grinding pattern
Generally recommend- ed workpieces	Round surface grinding, many numbers, large surface area		Square surface grinding High geometric tolerance items Items that require form grinding

*Results will vary depending on the workpiece, grinding wheel used, and target value.

Specifications

Items		Unit	VRG6DX	VRG10DX
Table	Table OD	mm	φ800	φ1,200
	Electromagnetic chuck OD	mm	φ650	φ1,000
	Table rotation speed	rpm	1~30	1~26
	Distance from chuck top face to segment bottom	mm	290 (at chuck self-grinding: 400)	
	Load capacity (excl chuck)	kg	250	500
Wheel head Vertical feed	Vertical stroke	mm	300	400
	Maximum wheel spindle feed speed	mm/min	300	
	Minimum infeed setting amount	mm	0.001	
	Continuous infeed speed	mm/min	0.06 to 2.4 (at 100% Override)	
Grinding wheel	Wheel diameter (segment)	mm	φ350	φ550
	Grinding segment (Length x Thk x Width)	mm	49.5×25×125	
	Maximum number of grinding segment	pcs	12	18
	Grinding wheel rotation	rpm	1,000/1,200 (50/60Hz)	590/710(50/60Hz)
Motors	Table rotation motor horsepower	kW	1.5	3.5
	Wheel spindle motor horsepower	kW	11	37
Main unit	Power supply	-	3-phase AC200V	
	Power requirement	kVA	20	Contact Okamoto for options
	Machine weight (incl load)	kg	4,000	6,500
	Machine dimension	mm	1,770×1,320×2,597	2,810×1,825×3,324
	Machine dimension (incl coolant unit and maintenance area)	mm	2,315×2,065×2,597	3,310×2,600×3,324

*Specifications are subjected to change without prior notice due to improvements.

Standard accessories

Items
Standard grinding wheel
Wheel flange (adaptor)
Electromagnetic chuck, controller
Fully enclosed cover
LED work light
Cover interlock
Leveling plate
Foot switch for table jogging
Necessary tools
Center coolant

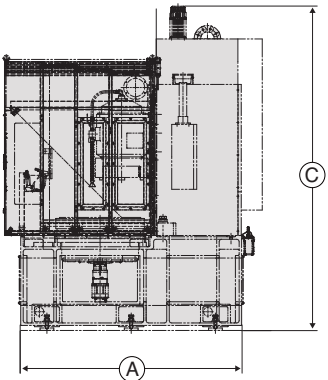
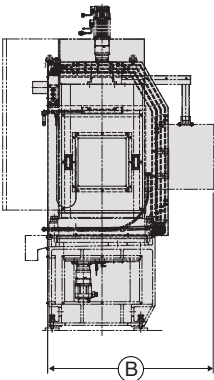
Optional accessories

Items
Coolant unit
Mist collector
Direct sizing device
Signal tower
Deburring device
Custom color

External view

	VRG6DX	VRG10DX
Length ①	1,770	2,810
Width ②	1,320	1,825
Height ③	2,597	3,324

* Exclude coolant unit



Recommended workpiece materials

Glass / Quartz
Sapphire
SiC
Die / Mold
Steel
Hydraulic & Pneumatic Parts
Bearings

