

**CNC Universal Grinder**

**CNC Universal Grinder IGM4VSP**

**CNC Universal Grinder UGM5V**



**Okamoto**

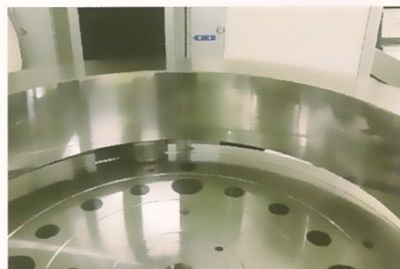
# High Precision Vertical Universal Internal Grinder

With the introduction of this new series of universal vertical internal grinding machines, Okamoto has combined years of internal grinding knowhow with a completely new and original design concept.

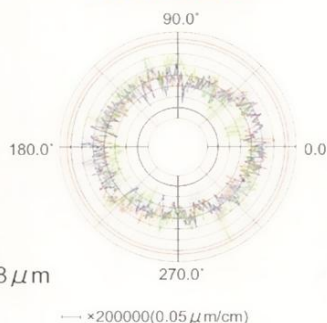
## CNC Universal Grinder IGM4VSP

### Achieves 0.18 $\mu$ m roundness accuracy

- Featuring an air static pressure bearing work table spindle with radial accuracy of less than 0.05 $\mu$ m, this machine can achieve a grinding roundness accuracy of 0.18 $\mu$ m on an internal diameter of 300mm.
- High accuracy results for work-piece size are achieved with the use of closed loop control on the vertical and longitudinal axes.
- Automatic wheel changer option available.
- Manually swivelling grinding wheel spindle included as standard.



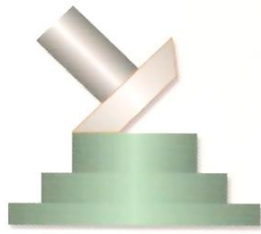
### Roundness accuracy **0.18 $\mu$ m**



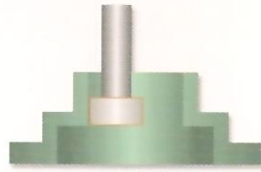
Outer $\times$ Internal $\times$ height :  $\phi$ 305 $\times$  $\phi$ 224 $\times$ 73mm  
Roundness accuracy(Internal diameter) : 0.18 $\mu$ m  
Lindricity(Outer diameter) : 0.24 $\mu$ m  
Roughness : Ra0.078 $\mu$ m

# Universal Grinding Process

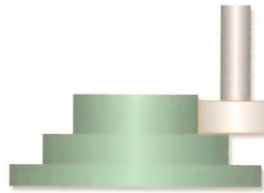
Single chucking guarantees high accuracy straightness and cylindricity.



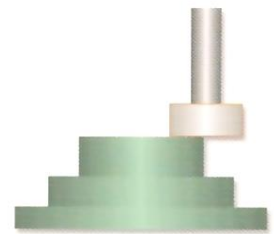
Angular grinding



Internal grinding



Cylindrical grinding



Shoulder grinding

## CNC Universal Grinder UGM5V

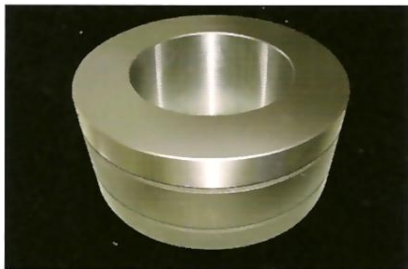
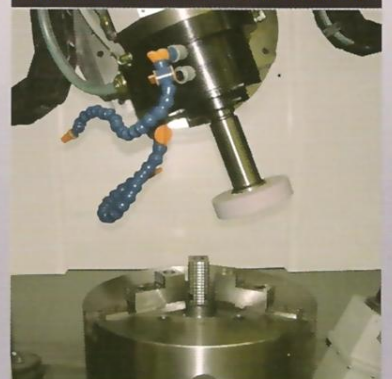


- Compact small footprint design
- The standard specification includes an automatically swivelling grinding wheel spindle head and automatic wheel changer.
- Rotary dressing device for large wheels included as standard.
- Closed loop control via linear scale feedback included as standard on both vertical and horizontal axes.

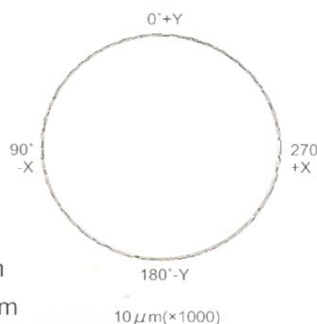
Auto wheel changer (4 Pieces)



Automatic wheel head swivel function



Roundness accuracy  
**0.9  $\mu\text{m}$**



Outer×Internal×height :  $\phi 210 \times \phi 125 \times 100\text{mm}$   
Roundness accuracy(Internal diameter) :  $0.9 \mu\text{m}$

## IGM4VSP / UGM5V specifications

Item	Unit	IGM4VSP	UGM5V
Swing	mm	Ø 700	Ø 550
Internal diameter to be ground	mm	Ø 70 ~ Ø 400	Ø 60 ~ Ø 400
Largest clamping diameter (std. Ø500mm chuck)	mm	Ø 700	Ø 500
Grinding Stroke	mm	150	450
Longitudinal feed (X-Axis)	Max travel	mm	1,600
	Rapid feed rate	mm/min	20,000
Vertical feed (Z- axis)	Max travel	mm	550
	Rapid feed rate	mm/min	20,000
Wheel spindle	Wheel spindle swivel angle	deg.	+0 / - 30 (Manual)
	Rotational speed	r. p. m.	2,500 ~ 10,000
	Grinding wheel's diameter	Mm	Ø 50 ~ Ø 250
	Motor Power	kW	15
Work spindle	Rotational speed	r. p. m.	150
Power supply	kVA	45	45
Machine space (width x depth x height)	cm	396 x 225 x 305	265 x 242 x 294
Machine net weight	kg	14,000	8,700

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### CAUTION

\*When and before using our products, you are requested to well 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.

\* Specification subject to change without notice.

\* When a product manufactured at our factory comes under the Foreign Exchange And Foreign Trade Control Law and is exported or carried overseas, it is necessary to receive permission or approval of the Japanese Government