

# PRECISION INTERNAL GRINDING MACHINE

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IGM15EXIII

IGM15NCIII

IGM15NCIII-2 SPINDLE



**Okamoto**

# IGM15EX III / 15NC III / 15NC III-2 SPINDLE

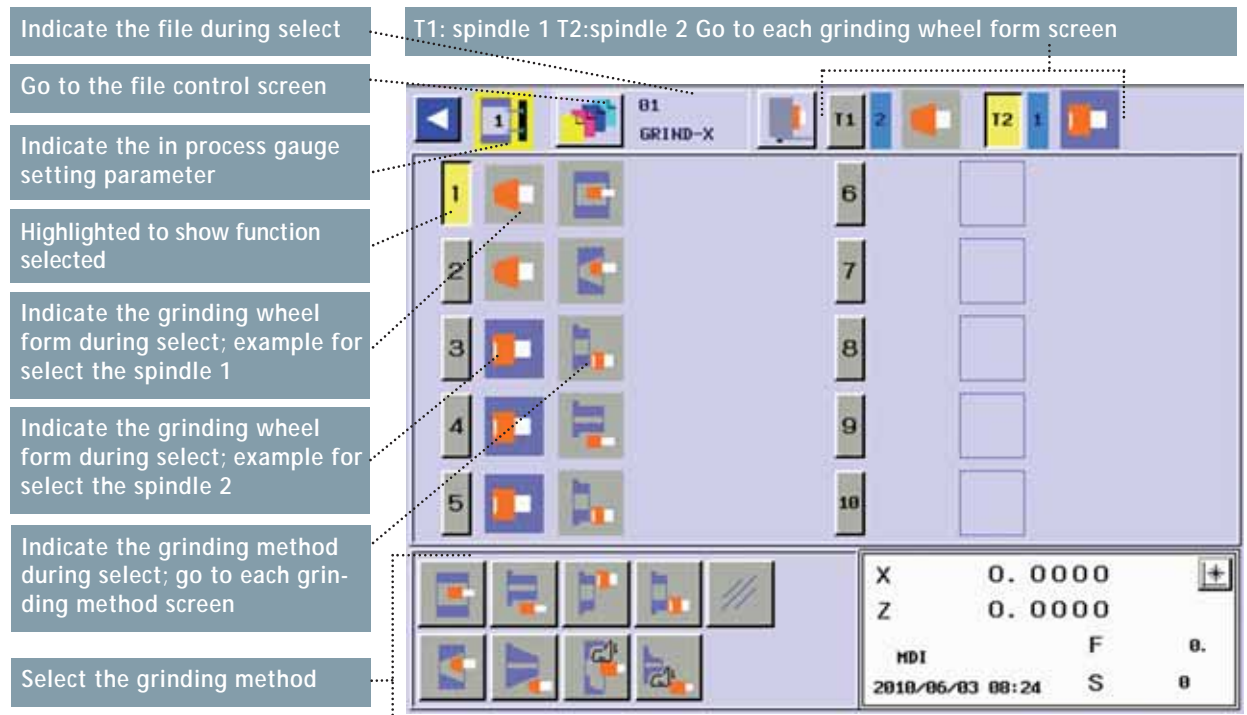
From standard operations to contour form grinding, data in

## Grinding data automatic setting function

The most suitable grinding parameters, according to our grinding experience, are automatically entered by inputting only the wheel grain size and wheel width.

## Touch panel input

There is no dialogue on the screen. All parameters, even those for complicated forms, are input via the touch screen and operator panel.



Main screen (Common 15EX III, 15NCIII-2)



IGM15EX III

Input time is much improved by the grinding data automatic setting function.

### File control

Data for 6 different grinding wheels and 21 work-pieces can be stored.

Select the dress form

As option

Select the abrasive grain

DIA CBN AL

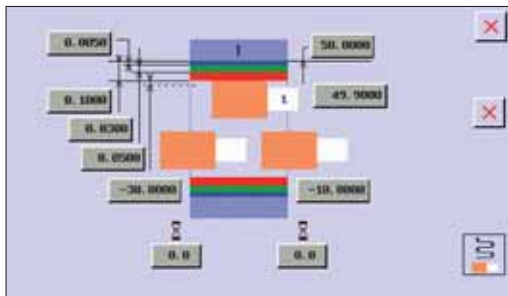
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DIA CBN AL

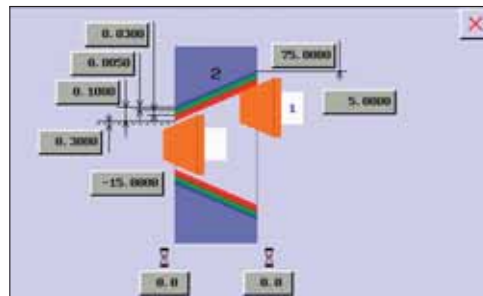
X 0.0000  
Z 0.0000  
HDI 0 F 0  
2010/06/03 08:39 S 0

## Main Screen

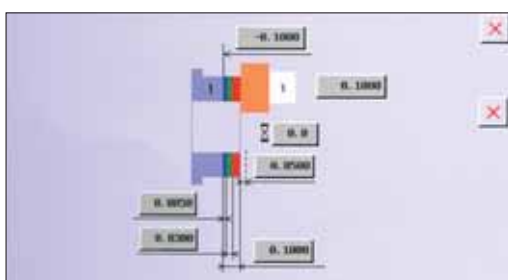
Straight grinding setting screen  
(Common for all machine models)



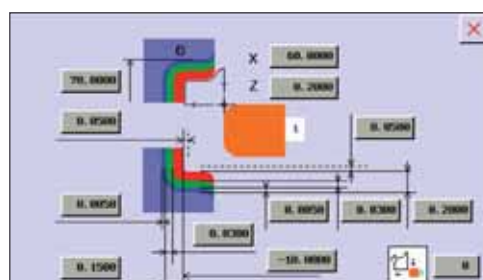
Taper grinding data setting screen  
(IGM15NCIII, 15NCIII-2 as option)



Face grinding data setting screen  
(Common for all machine models)



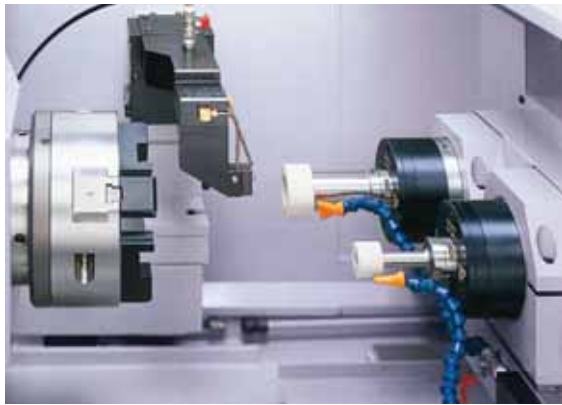
Contour grinding screen  
(IGM15NCIII, 15NCIII-2 as option)



nction.



IGM15EX III



IGM15NCIII-2

### IGM15EX III

**Internal grinder with 10 step conversational software, can be used like a conventional machine (single axis control)**

- The 10 step conversational software (previously only 1 step) has been developed especially for straight grinding and face grinding.
- Both the grinding wheel and work spindles are driven by AC servo motors as standard. The highest accuracy is possible.

### IGM15NC III

**Internal grinder with advanced conversational software and ISO G Code input via expanded keyboard. (2-axis simultaneous control)**

- Taper and contour form software are available via 2-axis simultaneous control. EDELAC Win for contouring programmes is recommended.
- Both the grinding wheel and work spindles are driven by AC servo motors as standard. The highest accuracy is possible.

### IGM15NC III-2

**Internal grinder with 2 spindles for multiple face grinding in one chucking**

- Advanced conversational software with 10 steps.
- Cross feed (X-Axis) has scale feed back system. Improved positioning accuracy is further enhanced by the use of a chiller type ball screw.

Standard accessories	IGM15EXIII	IGM15NCIII	IGM15NCIII-2
X-axis (cross feed) closed loop spec	-	0	0
Grinding wheel, X-axis ball screw oil cooling type	-	-	0
Grinding wheel spindle with holder 20000 min <sup>-1</sup> (grease packed)	0	0	-
High frequency spindle 10000 min <sup>-1</sup> , 20000 min <sup>-1</sup>	-	-	0
Wheel spindle inverter for high frequency spindle	-	-	0
Grinding wheel AC spindle motor	0	0	-
Work head AC servo motor	0	0	0
Oil mist lube system (small refuel type)	0	0	0
Tool nose radius compensation	0	0	0
10 steps grinding, no key board, straight face · grinding specs	0	-	-
10 steps grinding, key board specifications + G code input	-	0	0
Dress coolant system, through spindle coolant supply	0	0	0
Table cleaning nozzle	0	0	0
Preparation for mist extraction (hood)	0	0	0
LED lamp inside cover	0	0	0
Workhead shift device	0	0	0
Grinding wheel spindle load indicator	0	0	0
Work spindle RPM indicator	0	0	0
Working hour meter, No. of workpiece indicator	0	0	0
Full cover, interlocked door	0	0	0
Taper+contour form software available by the simultan. contr. 2 axis	-	0	0
Grinding wheel forming software (taper form, free form)	-	0	0

Optional accessories			
Items	IGM15EXIII	IGM15NCIII	IGM15NCIII-2
1. Coolant System			
1) with magnetic separator/paper filter	0	0	0
2) with magnetic separator/paper filter/temperature regulator	0	0	0
2. Sleeve type grinding wheel spindle (high frequency spindle, oil mist type)			
1) OH-10MB (10000 min <sup>-1</sup> )	0	0	Standard
2) OH-20MB (20000 min <sup>-1</sup> )	0	0	Standard
3) OH-30MB (30000 min <sup>-1</sup> )	0	0	0
4) OH-40MB (40000 min <sup>-1</sup> )	0	0	0
5) OH-60MB (60000 min <sup>-1</sup> )	0	0	0
3. Sleeve type grinding wheel spindle (oil mist type)			
1) GS-5 (60000 min <sup>-1</sup> , 40000 min <sup>-1</sup> )	0	0	-
2) B-32M (30000 min <sup>-1</sup> )	0	0	-
3) B-23M (20000 min <sup>-1</sup> , 16000 min <sup>-1</sup> , 13000 min <sup>-1</sup> )	0	0	-
4) R-7B-A (10000 min <sup>-1</sup> )	0	0	-
4. Grinding wheel spindle with holder (grease packed)			
1) OH-10G (10000 min <sup>-1</sup> )	0	0	-
2) OH-15G (15000 min <sup>-1</sup> )	0	0	-
3) OH-20G (20000 min <sup>-1</sup> )	Standard	Standard	-
4) OH-30G (30000 min <sup>-1</sup> )	0	0	-
5) OH-40G (40000 min <sup>-1</sup> )	0	0	-
6) OH-50G (50000 min <sup>-1</sup> )	0	0	-
5. Grinding wheel spindle with holder (oil mist type)			
1) OH-10M (10000 min <sup>-1</sup> )	0	0	-
2) OH-20M (20000 min <sup>-1</sup> )	0	0	-
3) OH-30M (30000 min <sup>-1</sup> )	0	0	-
4) OH-40M (40000 min <sup>-1</sup> )	0	0	-
5) OH-60M (60000 min <sup>-1</sup> )	0	0	-
6. Sleeve type grinding wheel spindle holder	0	0	-
7. Chucks			
1) 3-jaw scroll chuck	0	0	0
2) 4-jaw independent chuck	0	0	0
3) Micro centric chuck	0	0	0
4) Diaphragm chuck	0	0	0
5) Collet chuck	0	0	0
6) Finger chuck	0	0	0
7) Diaphragm finger chuck	0	0	0
8) Gear chuck	0	0	0
9) Various other power chucks available	0	0	0
10) Hydraulic pressure drive device for power chuck	0	0	0
8. Workhead spindle NC swing, swing min. setting unit: 0.00001°	-	0	0
9. Graphic conversat. software for workhead spindle NC swing angle setting	-	0	0
10. Workhead spindle rotation constant control	-	0	0
11. Auto programming software	-	0	0
12. Auto power cut-off device	0	0	0
13. Inprocess guage system	-	0	0
14. Rotary dressing device	0	0	0
15. Signal tower	0	0	0

Standard specification				
Item	Unit	IGM15EXIII	IGM15NCIII	IGM15NCIII-2
Internal diameter to be ground	mm	ø 6 ~ 150		ø 6 ~ 100
Grinding stroke	mm	max 125		
Swing over table	mm	ø 600		
Swing inside workpiece guard	mm	ø 260		
Distance from bottom of frame to centre of Chuck	mm	1000		
Wheel spindle cross feed (X-axis)	Max Travel	mm	170	300
	Feed rate	mm/min	0.001 ~ 10000	
	Rapid feed rate	mm/min	1000	
Table longitudinal feed (Z-axis)	Max Travel	mm	500	
	Feed rate	mm/min	0.001 ~ 15000	
	Rapid feed rate	mm/min	15000	
Least input increment	X-axis	mm	ø 0.0001	
	Z-axis	mm	0.0001	
Work spindle speed	min <sup>-1</sup>	100 ~ 850		
Work spindle swivel angle	deg.	-5 ~ 15		
Motor	Work spindle	kW	1.8 (AC servo motor)	
	Wheel spindle	kW	3.7	
	X-axis	kW	1.2	
	Z-axis	kW	1.2	
Power supply (including optional coolant system)	kVA	8		12
Machine space	mm	2525 x 1860 x 1800		2525 x 2010 x 1800
Machine net weight	kg	2300		2400

# GRIND-X

OKAMOTO PRECISION SYSTEMS

**Okamoto**

## OKAMOTO MACHINE TOOL EUROPE GMBH

Paul-Ehrlich-Str. 9, 63225 Langen, Deutschland  
 Tel: +0049-6103-201100, Fax: +0049-6103-2011020  
 www.okamoto-europe.de · info@okamoto-europe.de

## OKAMOTO MACHINE TOOL WORKS LTD.

SEKI 3 Bldg, 3-5-7 Nakamachidai, Tsuzuki-ku, Yokohama,  
 Kanagawa, 224-0041 Japan  
 Tel: +81-45-949-3881, Fax: +81-45-949-3787  
 URL: <http://www.okamoto.co.jp>



### 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.

\*Specifications 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.

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