

CNC Cylindrical Grinders

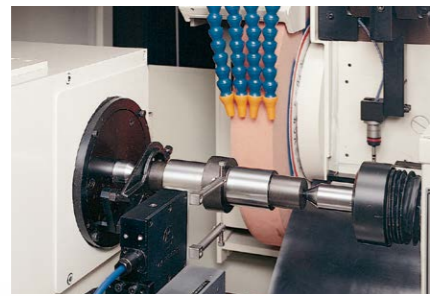
***GPW/GAW series***

***GP25W/GP26W/GA25W/GA26W***



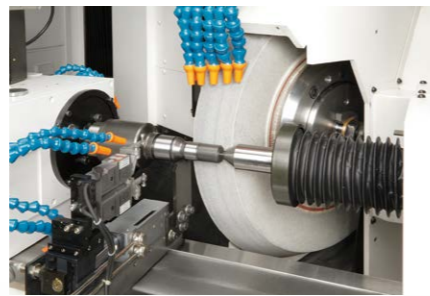
## ***GPW series***

Plain type



## ***GAW series***

Angle type



## A compact grinder with real power!

### **Improved accuracy and productivity**

- Handles heavy-duty grinding: Non-round plain bearing wheel spindle
- Rapid feedrates:  $\varnothing 30$  m/min
- Dressing during loading/unloading (machines with loaders)

### **Improved ease of use**

- “Easy Operation” with OSP-P300GA
- Automatic adjustment of distance between centers and tailstock thrust with the NC Tailstock (Optional)

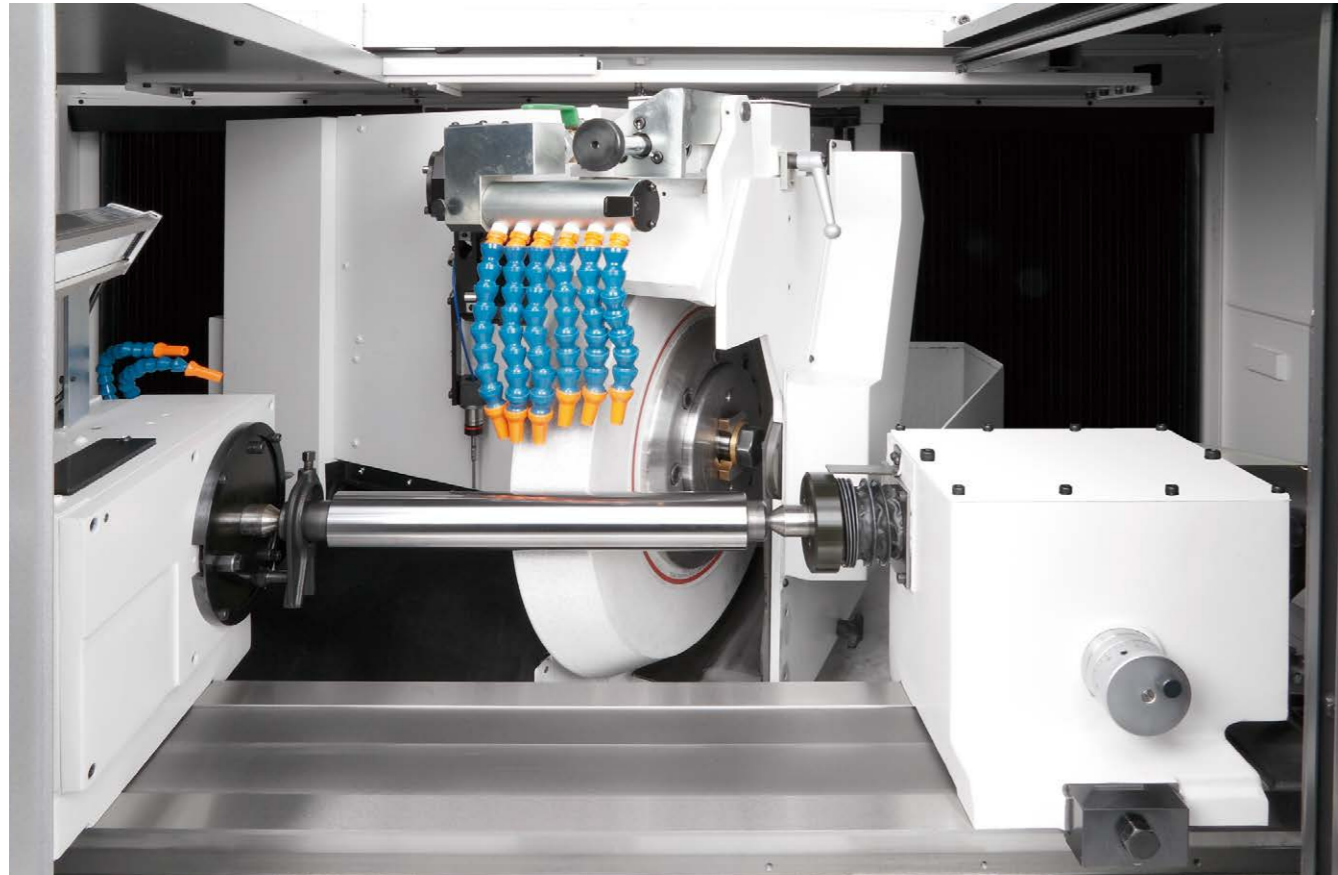
### **Powerful, fast grinding**

- Grinding wheel motor power: Max 22 kW (Optional)
- Wide V—Flat guideway structure
- Grinding wheel peripheral speed: 60 m/sec (Optional)



# The best monozukuri\* practices balance high-accuracy machining and workability

\* Craftsmanship-based manufacturing



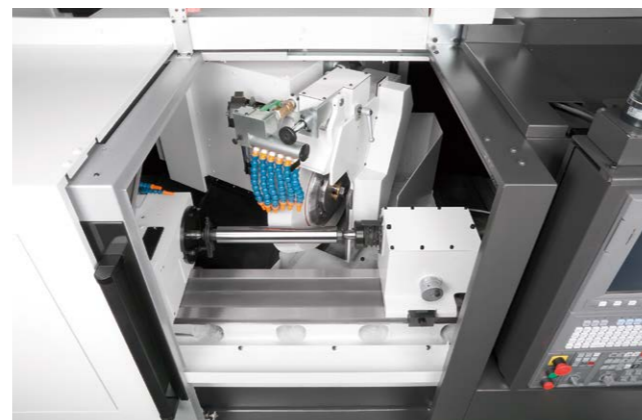
## Smaller machine space achieved with use of wheelhead traverse structure

A wheelhead traverse structure requires a stronger foundation than a table traverse structure. Okuma's high-rigidity technology meets the conditions needed for a wheelhead traverse structure to achieve a compact body.



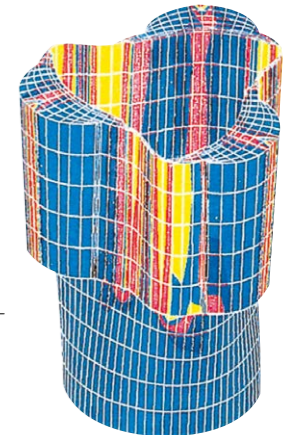
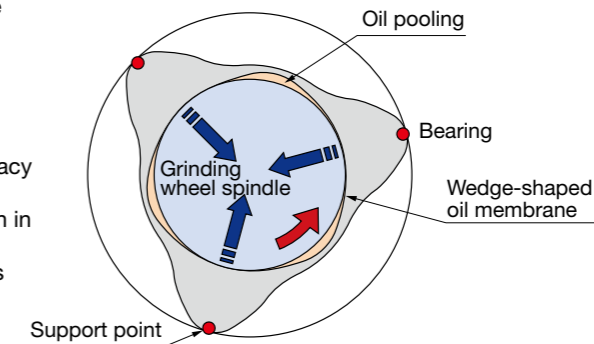
## Superior user-friendly design supports automation

The upper portion of the front door can accommodate various loader positions. Line flexibility from the space-saving design also contributes to greater automation.



## Hydrodynamic bearing provides for heavy-duty and highly accurate grinding—with shorter cycle times

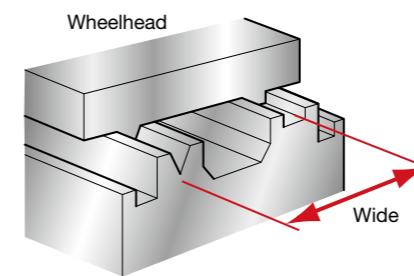
Non-round plain bearing wheel spindle with a dynamic pressure structure supports the wheel spindle with wedge-shaped oil film pressure that is generated by wheel spindle rotation. Retention strength is a powerful 1 t, in addition to which wheel rotation accuracy is kept to within 0.01  $\mu\text{m}$  for a good balance of high accuracy grinding even in heavy-duty cutting. Also, because the wheel spindle has no metal contact, its original performance is maintained semi-permanently.



Stress analysis with FEM analysis

## High machining efficiency maintained with wide V—Flat guideway

A widened V—Flat guideway system is used that expands the span between the V and Flat guideways beneath the saddle. Higher workpiece support rigidity enables grinding with full power of 7.5 kW (optional 15 kW). The grinding load on the wheelhead during heavy-duty grinding is supported by wide V—Flat guideway for high machining efficiency.



## Machining time is shortened with high speed feed at the top level in the class

Structure with unrivaled high following characteristics gives high feed speeds of  $\phi 30$  m/min on the X axis and 20 m/min on the Z axis. Shorter non-cutting times contribute to improved machining efficiency.

- X-axis feedrate:  $\phi 30$  m/min
- Z-axis feedrate: 20 m/min

## Reduced burden in adjusting for taper changes with use of tailstock with manual taper compensation function

Adjustments can be easily made for taper changes that occur with tailstock travel

## Technology on every part of the machine contributes to higher grinding accuracy

An oil pan structure to minimize effects on the coolant, high following characteristics carefully fitted with a V—Flat slideways, and other individual technologies on each part of the machine further improve machining accuracy.

## Chatter control function supports stable, high-accuracy grinding

“Chatter control function” automatically changes wheel speed and controls regenerative chatter. Stable machining accuracies can be maintained at all times.

## Reduced fixturing

### ■ Dimensions

#### ● Wide range sizing + NC tooling base (Optional)

For these wheel traverse grinders, a sizer is mounted on a tooling base—capable of longitudinal NC positioning—in front of the table to gauge diameters at any position.

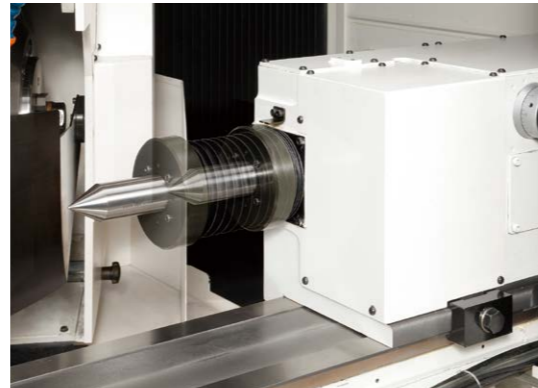


### ■ Distance between centers

#### ● NC Tailstock (sleeve) (Optional)

With an NC Tailstock, the tailstock sleeve can be advanced and retracted, and the workpiece support length and thrust can be adjusted, with the NC. The tailstock itself does not need to be moved to match the workpiece length even when there are multiple workpiece lengths. This improves workability.

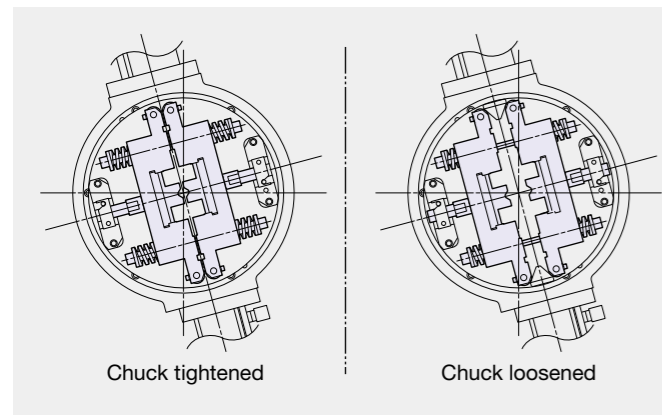
(Maximum workpiece length: 100 mm, tailstock thrust: 150 to 500 N)



### ■ Workpiece drive system

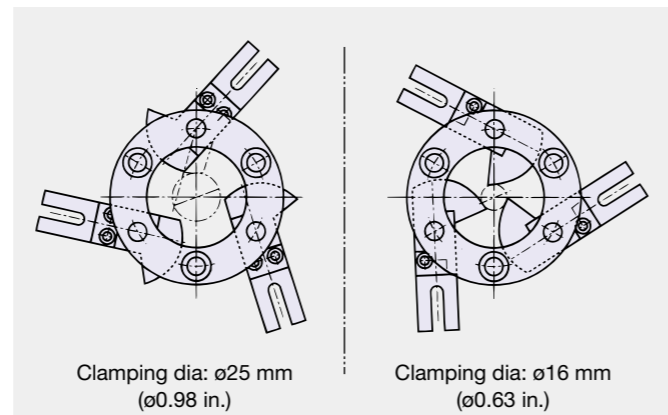
#### ● Nipper chuck (cartridge) (Optional)

V-blocks are spring clamped, enabling flexible holding of varying workpiece diameters.



#### ● Wide clamp-range cam-lock chuck (shaft work) (Optional)

This allows clamping workpieces with diameters ranging up to  $\phi 9$  mm (compared to previous  $\phi 1$ -mm range).



## Kit and application arrangements

	C-kit	T-kit	CT-kit
Headstock	Dead center workhead	Chucking headstock	Dead/live switchable headstock
Tailstock	Yes	No	Yes
Work	<p>Center work</p>	<p>Chuck work</p>	<p>Center + Chuck work</p>

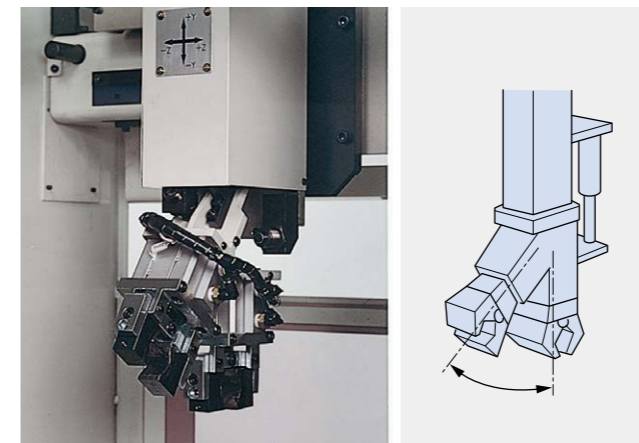
## Automated specifications (Gantry NC loaders) (Optional)

### ■ Easy loader applications

Since workpiece position is fixed, using loaders is easy.

Loader related part program and parameter operations can be done through the same grinder operation panel (Okuma OSP control).

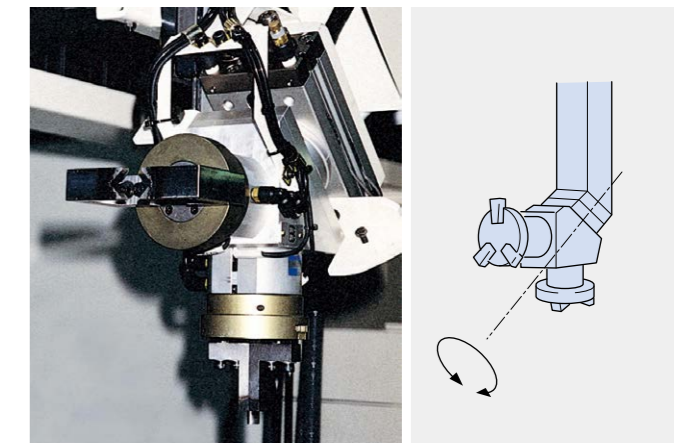
### ■ Loader grippers Swing type double-hand



Used on shaft workpieces

- Workpiece dia:  $\phi 65$  mm (2.56 in.)
- Workpiece length: 200 mm (7.87 in.)
- Workpiece weight: 3 kg  $\times$  2 (6.6 lb  $\times$  2)

### ■ Loader grippers Swivel-rotary type double-hand



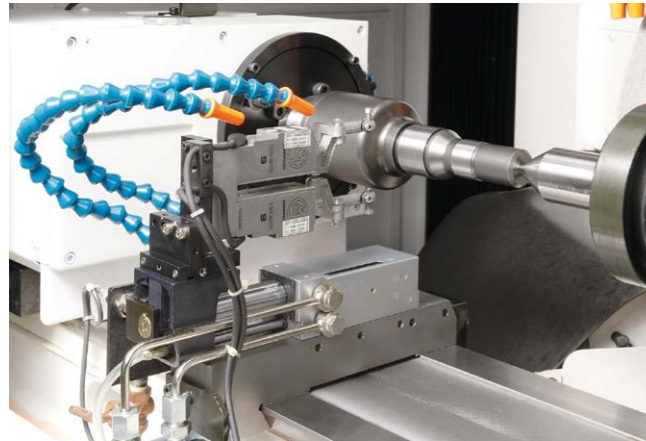
Used on chuck workpieces

- Workpiece dia:  $\phi 120$  mm (4.72 in.)
- Workpiece length: 60 mm (2.36 in.)
- Workpiece weight: 3 kg  $\times$  2 (6.6 lb  $\times$  2)

## Main optional accessories

### Auto direct sizer

Workpiece OD dimensions are managed with in-process gauges during machining.



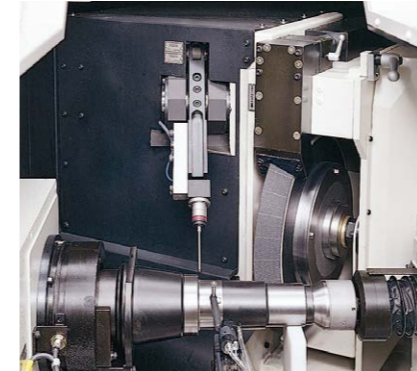
### Rotary dresser

Select for mass-production machining or when using CBN grinding wheel.



### NC locator

Compensation for variations in workpiece longitudinal reference position.



### Automatic dock

This dock enables mounting/removal with a single touch.



### Dog

Workpiece is clamped with bolts, and hooked on pin in V section for drive.



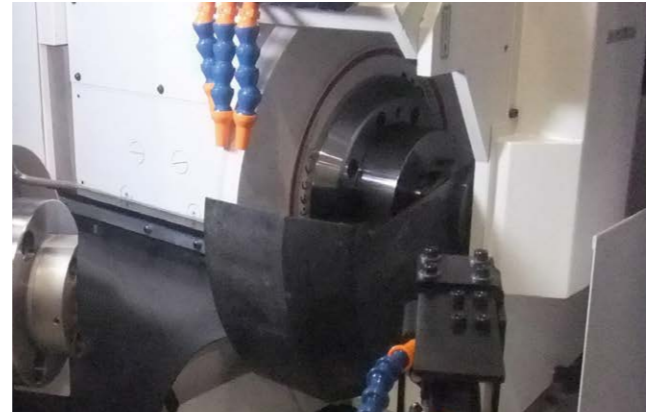
### Auto-follow auxiliary wheel guard

Triangular cover and coolant nozzle position are automatically adjusted to match decrease in wheel diameter with dressing.



### Auto wheel shutter

Prevents contact between rotating wheel and operator



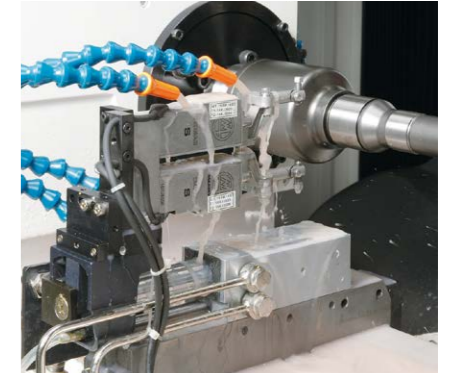
### Wheel balancing stand/balancing arbor

Grinding wheel, wheel flange, and balancing arbor are mounted and static balance of grinding wheel on rail is maintained.



### Coolant supply to sizer

With this specification, thermal deformation is minimized by constantly supplying the sizer with coolant.



### Coolant separator

Sludge is discharged to outside. With standard specifications there is only a magnetic separator (Ferrite magnet), but in SKD and SCM materials with weak magnetic properties combined use of a paper filter or a powerful (rare earths) magnetic separator are effective.



Magnetic separator



Combination magnetic separator, paper filter type

### Dresser (diamond tool)

Select depending on shape dressing and use, such as mass-production machining.



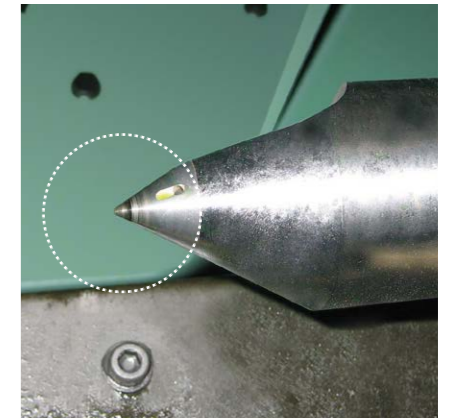
D6 type



LL type (multiple wheel type)

### Center with oil supply groove

Oil is supplied to reduce friction and heat in the center and workpiece center hole.



## Machine Specifications

Items	Unit	GP/GA25W		GP/GA26W	
		GP/GA25W × 40	GP/GA25W × 65	GP/GA26W × 40	GP/GA26W × 65
Distance between centers	mm (in.)	400 (15.75)	650 (25.59)	400 (15.75)	650 (25.59)
Swing over table	mm (in.)	ø330 (ø12.99)			
Max grinding dia	mm (in.)	ø200 (ø7.87)			
Max workpiece weight	Center supported	kg (lb) 50 (110)			
	Chuck supported	kg × mm (lb × in.) 40 × 200 (88 × 7.87)			
Wheel	Wheel size	mm (in.) ø510 × ø203.2 (ø20.08 × ø8)		ø610 × ø254 (ø24.02 × ø10)	
	Width	mm (in.) 75 (2.95) (GP: 150 (5.91) GA: 125 (4.92))			
	No. of speed ranges	Infinitely variable			
	Max grinding speed	m/min (fpm) 2,700 (8,858.7)			
Wheelhead (X-axis)	Travel	mm (in.) 420 (16.54)			
	Automatic cutting speed	mm/min (ipm) ø0.0012 to ø6,000 (ø0.0000472 to ø236.2)			
	Rapid traverse	m/min (fpm) ø30 (ø98.4)			
	Min command increment	mm (in.) ø0.0001 (ø0.000004)			
Saddle (Z-axis)	Travel	GP : 515 (20.28) / GA : 650 (25.59)	GP : 815 (32.09) / GA : 950 (37.40)	GP : 515 (20.28) / GA : 650 (25.59)	GP : 815 (32.09) / GA : 950 (37.40)
	Automatic cutting speed	mm/min (ipm) 0.0006 to 6,000 (ø0.0000236 to ø236.2)			
	Rapid traverse	m/min (fpm) 20 (65.6)			
	Min command increment	mm (in.) 0.0001 (0.000004)			
Workhead	Tapered bore	MT No.4 [Dead center workhead, Dead/live headstock] MT No.5 [Chucking headstock]			
	Speed	min <sup>-1</sup> 650			
	No. of speed steps	Infinitely variable			
Tailstock	Tapered bore	MT No.4			
	Auto travel	mm (in.) 50 (1.97) [80 (3.15)]			
	Manual taper offset	mm (in.) ±ø0.08 (ø0.003)			
Motors	Wheel spindle	kW (hp) 7.5 (10) [15, 22 (20, 30)]			
	Workhead	kW (hp) 2.2 (3)			
	Wheelhead feed	kW (hp) 2.2 (3)			
	Saddle feed	kW (hp) 2.2 (3)			
	Coolant pump	kW (hp) 1.1 (1.5)			
	Hydraulic oil-lube pump	kW (hp) 1.5 (2)			
	Wheel spindle lube pump	kW (hp) 0.075 (0.1)			
	Slideway lubricant pump	kW (hp) 0.017 (0.02)			
Tank capacity	Coolant tank	L (gal) 200 (52.84) [300 (79.26)]			
	Hydraulic oil-lube tank	L (gal) 20 (5.28)			
	Wheel spindle lube tank	L (gal) 20 (5.28)			
	Slideway lubricant tank	L (gal) 4.2 (1.1)			
Weight	kg (lb)	5,800 (12,760)	6,300 (13,860)	5,800 (12,760)	6,300 (13,860)
CNC		OSP-P300GA			

[ ] : Optional

## Standard Specifications

Specifications	Description
Workhead	Dead center workhead (Std: C type) MT No.4
	Chucking headstock (T specs standard) MT No.5
	Dead/live headstock (CT specs standard) MT No.4
Tailstock	Tailstock MT No.4 Tailstock quill stroke 50 mm
Wheelhead	Wheel spindle motor: 7.5 kW (10 hp) (inverter drive)
Coolant nozzle	For 75 mm (2.95 in.) width
Full enclosure shielding	Manual open / close front door
Work lamp	Waterproof LED light
Dresser	Attached to workhead rear
Center remover	
Hand tools	Wrenches, toolbox

## Optional Accessories

Coolant related	Coolant separator	
	Magnetic separator Enhanced type	Select for weakly magnetic alloy steel (SKD, SCM materials, etc)
	Magnet/paper filter combined system	Select to trap non-magnetic material such as abrasive grain
	Cyclone (centrifugal separation) system	Select for combined use with a magnetic separator, to discharge sludge of 11 µm environmentally friendly without use of paper
	Increased coolant specification 300 L	Select when machining many workpieces Select to reduce frequency of coolant refilling due to evaporation, etc, and to limit the proportion of coolant with temperature rise
	Coolant auto regulator	Select when controlling coolant temperature
Measurement related	Coolant supply to sizer	Used to counter thermal deformation in sizing equipment
	Bottom nozzle *	Coolant is discharged at grinding point from below to prevent grinding burn on axial face when grinding large axial faces
	Auto direct sizer w/o notch	This device measures grinding diameter during grinding For continuous surface measurement
	w/ notch	Select when there are keyways and other notches in measurement location. Finger is special
	NC locator	Compensates for variation in workpiece length position
	Wheelhead attachment *	Detects workpiece axial face position by movement of wheelhead on X, Z axes (Metrol E2A, Marpos T25G can be selected)
Grinding wheel trueing Device related	Table attachment *	Measures axial face position with measuring device mounted on table top
	NC Tailstock	The sizer can be positioned longitudinally on the NC
	Diamond tool	This is a tool to form the grinding wheel and perform dressing
	D-6	Thanks to wedge form, diamond tends not to lose its shape
	LL type	Embedded Prismatic diamond means little change in cutting ability from diamond wear
	Rotary dressing	Useful in mass-production machining because of low diamond wear. Required when using CBN grinding wheel
Tailstock related	NC Tailstock MT No.5	170 mm travel. Select to use with workpieces of different lengths without changing tailstock position NC thrust setting 150 to 500N
	Carbide-tipped center Standard type	Select MT No. 4 or No. 5 to match headstock and tailstock
	Long type	Use when grinding wheel interferes with headstock or tailstock
	Half type	Select MT No. 4 or No. 5 to match headstock and tailstock
	Umbrella type MT No. 4	Select when there is cutting in half of center, and grinding the outside diameter near the center
	Center hole lube supplier *	Select MT No. 4 or No. 5 to match tailstock
Drive related	Oil supplied automatically to the center hole. Lubrication uses coolant stock solution	
	Center with oil supply groove	Center needed to use center hole oil supplier
	Spindle side, tailstock side	Center with hole for oil supply to inhibit heat and friction of center from friction between workpiece and center
	Center washing *	Washes off sludge attached to center exterior on spindle side and tailstock side
	Chucking headstock MT No. 6	Select when center is live (center turns). Select for regular power chucks and collet chucks. However, cam lock and nipper chuck centers are dead
	Workpiece drive	
Other	Dog	Workpiece is mounted by tightening bolts, and is hooked on pin in V section to rotate (manual machines only)
	Automatic dog	Dog with which one touch mounting and dismounting is possible
	Cam lock chuck	Clamping force is produced by rotation of workpiece with wedge-shaped jaws, and unclamping is done with hydraulic piping.
	Nipper chuck	Clamp workpiece with paired V-shaped block and drive the workpiece. Since the workpiece is clamped with spring force, marks are less likely to be left on the gripped portion
	Work rest	Select when grinding sections with places that use work rest
	Auto-follow auxiliary wheel guard *	Maintains safe state even if grinding wheel becomes smaller with dressing, while also preventing machining defects from forgetting to adjust coolant nozzle.
	Wheel auto balancer	When there is an imbalance in the grinding wheel and wheel flange, sensors installed on rear part of grinding wheel spindle sense vibration and the position of weights inside the balancer is modified automatically to correct balance
	Wheel balancing stand	Required in order to use balancing arbor in adjusting static balance of grinding wheel
	Balancing arbor	Used when mounting on wheel flange to adjust static balance
	Wheel flange	Adaptor for grinding wheel and grinding wheel spindle
	Wheel jib crane	Used when changing grinding wheel. Weights up to 220 kg can be suspended
	Auto wheel shutter *	Prevents contact between grinding wheel and operator during operation
	Auto open/close ceiling cover *	Manual button, cycle continuous
	Workpiece seating confirmation *	Air system
Workpiece air blower *	To shut off water	
Spindle orientation		
Air control unit		
Workpiece ejector		
Tailstock quill interlock type		
Independent hydraulic piping drive system type		
Workpiece holder (stand)		
Fixed type V block change system	Decided shaft workpiece is placed on V block and clamping and unclamping is done	
Adjustment system	Workpiece holder with high general versatility is applied for adjustment of holder diameter in ø10 mm to ø150 mm range when there are various workpiece diameters	
Spare belt		
Headstock	Workpiece X-axis motor and spare continuous use belt	
Wheelhead	Grinding wheel spindle motor and spare continuous use belt	
Mist collector	Mist collector for mist accumulated in machine	
Grinding wheel spindle	22 kW	
Grinding wheel speed	60 m/sec	
High-speed specs		
Oil temperature regulator	Used in managing temperature of hydraulic unit and lubricating oil. Installation recommended in cold climates	
Distance collar	Used when combining 2 or more grinding wheels	

\* Separate air control unit required when selected.

**With revamped operation and responsiveness—  
 ease of use for machine shops first!**

Smart factories implement advanced digitization and networking (IoT) in "Monozukuri," (manufacturing) achieving enhanced productivity and added value. The OSP has evolved tremendously as CNC control suited to advanced intelligent technology. Okuma's new control uses the latest CPUs for a tremendous boost in operability, rendering performance, and processing speed. The OSP suite also features a full range of useful apps that could only come from a machine-tool manufacturer, making smart manufacturing a reality.

**Smooth, comfortable operation with the feeling of using a smart phone**

Improved rendering performance and use of a multi-touch panel achieve intuitive graphical operation. Enlarged instruction manual display and displays of tool data, programs and other lists can be done smoothly and easily with smart phone-like operations. The screen display layout on the operation screen can also be changed to suit operator tastes, and customized for needs from beginning to veteran operator.



Smooth operations even with wet or work-gloved hands

**Features you wanted – loaded with OSP suite apps!**

We made these real through the addition of Okuma's machining expertise based on requests we heard from customers in the machine shop. These are filled with intelligence that enhances the "strength in the field" that CNC control can accomplish because it's created by a machine-tool manufacturer.

**Maintenance Monitor**  
 Routine inspection support

The Maintenance Monitor displays items for inspections before starting daily operation and regular inspections and the rough estimate of inspection timing. Touching the [INFO] button displays the PDF instruction manual file of relevant maintenance items.

NO.	ITEM	WORK	PROGRESS	REMAN	INFO	EXECUTE
362	Oil level gauge of wheel spindle lubrication unit	Inspection	95%	9h	[INFO]	[EXECUTE]
363	Wheel spindle lubrication unit line filter	Cleaning	100%	1979h	[INFO]	[EXECUTE]
364	Wheel spindle lubrication unit line filter	Replace	0%	0	[INFO]	[EXECUTE]
390	Waste lubricant recovery	Cleaning	10%	1979h	[INFO]	[EXECUTE]
600	Operation door window	Replace	0%	0h	[INFO]	[EXECUTE]
600	Wheelhead belt tension	Inspection	95%	1979h	[INFO]	[EXECUTE]
630	Workhead belt tension	Inspection	95%	1979h	[INFO]	[EXECUTE]

[INFO] button

**Wheel Spindle Monitor**  
 Increased productivity through visualization of motor power reserve

**E-mail Notification**  
 Monitoring utilization status even when away from the machine

**Common Variable Monitor**  
 Comment display for greater ease of use and faster work

**Screen Capture**  
 Automatic saving of recorded alarms

**Scheduled Program Editor**  
 Easy programming without keying in code

**Easy Operation . . .  
 Do and see the things you want quickly and without difficulty**

**Operation screen**  
 Machine operation switches are brought together on a single screen. Work can be done with a single touch.

- Target operation selection
- Machine status indication
- Operations (function keys)

**I-GAP+ (Optional)**

Intuitive machining operations are made possible with advances in interactive program creation and efficient creation of part programs.

**Sheet programming**  
 With screen input of grinding conditions, the wheel runout, wheel dressing, and grinding programs needed for grinding can be created without regard to GM codes.

**Quick grinding**  
 Grinding can be done while checking the cycle being executed and position on the drawings. This is Easy Operation that feels like manual operation, from roughing to finishing, by simply setting the infeed amount.

Wheel dressing program create sheet

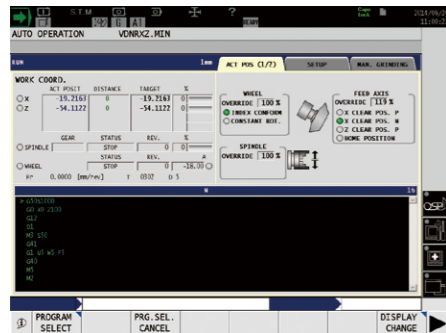
Grinding program create sheet

Quick grinding



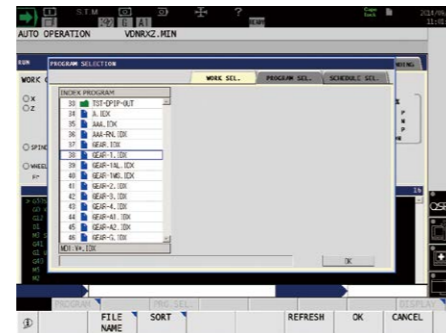
### Running screen indications

Automatic operations and setup work are done from the running screen. Press the “Running screen” key on the operation panel or the Auto/MDI mode key to display the running screen. You can switch to the actual position sheet, setup settings sheet, or manual grinding sheet as needed.



### Actual position sheet (program selection)

On the actual position sheet of the running screen, in addition to actual position display, workpiece selection/program selection/schedule selection are possible with use of the function keys.



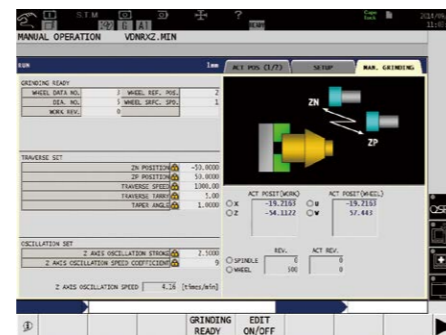
### Setup settings sheet

On the setup settings sheet on the running screen, guideways, various coordinate values, and other settings for different purposes are displayed. To minimize switching between screens, settings for running conditions selection/diagram zero point/zero point shift/workpiece locator offset can be made.



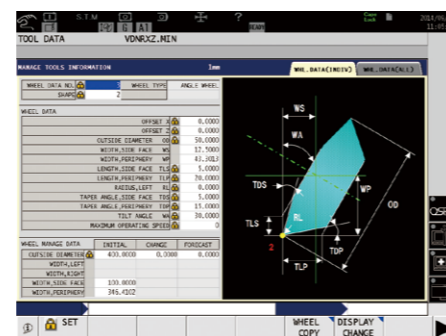
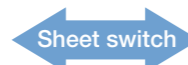
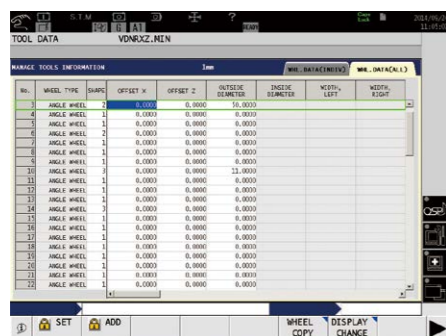
### Manual grinding sheet

On the manual grinding sheet on the running screen, setting parameters for the grinding wheel and spindle speed used, traverse running, and oscillation operation are displayed. To minimize switching between screens, operation and setting items related to manual operation are brought together on a single screen.



### Tool data setting

Grinding wheel data are managed in the tool data settings. Grinding wheel data are displayed by pressing the “tool data setting” button on the operation panel. The setting screen shows a list of registered grinding wheel data and individual screens related to each grinding wheel.



## Standard Specifications

Basic Specs	Control	Simultaneous X, Z axis: 2 axes, 2 linear axes
	Spindle control	BL motor spindle, S command 4-digit, constant speed, override 50 to 200%
	Grinding wheel spindle	Grinding wheel axis (interver control), Spindle speed (G99 mode), SW command 6-digit, peripheral speed command (G98 mode), SW command 6-digit, Grinding wheel speed function (G98), Grinding wheel axis override 50 to 120%, Maximum spindle speed setting (G50), maximum peripheral speed setting (G50)
	Position feedback	OSP full range absolute position detection
	Feed drives	Override switch 0 to 200% 15 steps
	Max/Min input	Decimal 8 digits, ±9999.9999 mm (±393.70078 in.), 0.0001 mm (0.1 μm)
Display / operating functions	Display	15-inch color LCD + multi touch panel operations
	“suite” apps	Applications to visualize and digitize information needed on the shop floor
	“suite” operation	Highly reliable touch panel suited to shop floors. One-touch access to suite apps.
	Easy Operation	Single screen operations
	Data setting function	Zero point offset, wheel, wheel management, diamond tool, software limits, chuck barriers, etc
	Program editing	Program one-touch editing, workpiece selection, sequence number arrange, WIN app editing
	Operations	Workpiece selection (index program), sequence restart, Manual interrupt, PLC monitor, parameter input/output
	Programming	Linear/circular interpolation, Workpiece coordinates (G11 X axis, Z axis) / Grinding wheel coordinates (G12 U axis, W axis), Grinding wheel data 80 sets, Diamond data 9 sets, Diamond data calculation command Fixed grinding cycle, Fixed wheel dressing cycle, Programming using both mm/rev and mm/min user task 1, Zero shift, Home position function
	Program capacity	Program storage: 2 GB, operation buffer: 2 MB
	Machining management	Display of results for each machining program, display of operation results (power ON time, cutting time, etc.), input of reasons for non-operation
Monitoring	Grinding load display, Grinding overload detection, Gap elimination function	
Communications / Networking	Ethernet (1000 Mbps), USB (2 ports)	
High speed/accuracy specs	Hi-G control, Droop control, Variable lost motion compensation	
Online help	Programming help, Alarm help, Operation help	

## Optional Specifications

Items	Kit Specs *	NML		3D		I-GAP	
		E	D	E	D	E	D
<b>Interactive operation</b>							
I-GAP+							
<b>Programming</b>							
Inch/metric switchable							
User task 2	Sub programs Calculation function operations						
	With I/O terminals						
Common variables Standard 200 sets	1,000 sets						
Programmable notes							
<b>Monitoring</b>							
Real 3D Simulation							
3-step status indicator lamp	Type B						
	Type C						
Operation end lamp	Yellow revolving light						
Alarm lamp	Red revolving light						
NC operation monitor							
Work counter	4-digit resettable						
	6-digit resettable or not						
Hour meters	Power ON, resettable						
	Spindle ON, resettable or not						
	Auto operation ON, resettable or not						
Displays wheel change indication							
Cycle time over check							
Displays wheel change warning							
<b>Measuring</b>							
Locator	Wheelhead mounted						
	Table mounted						

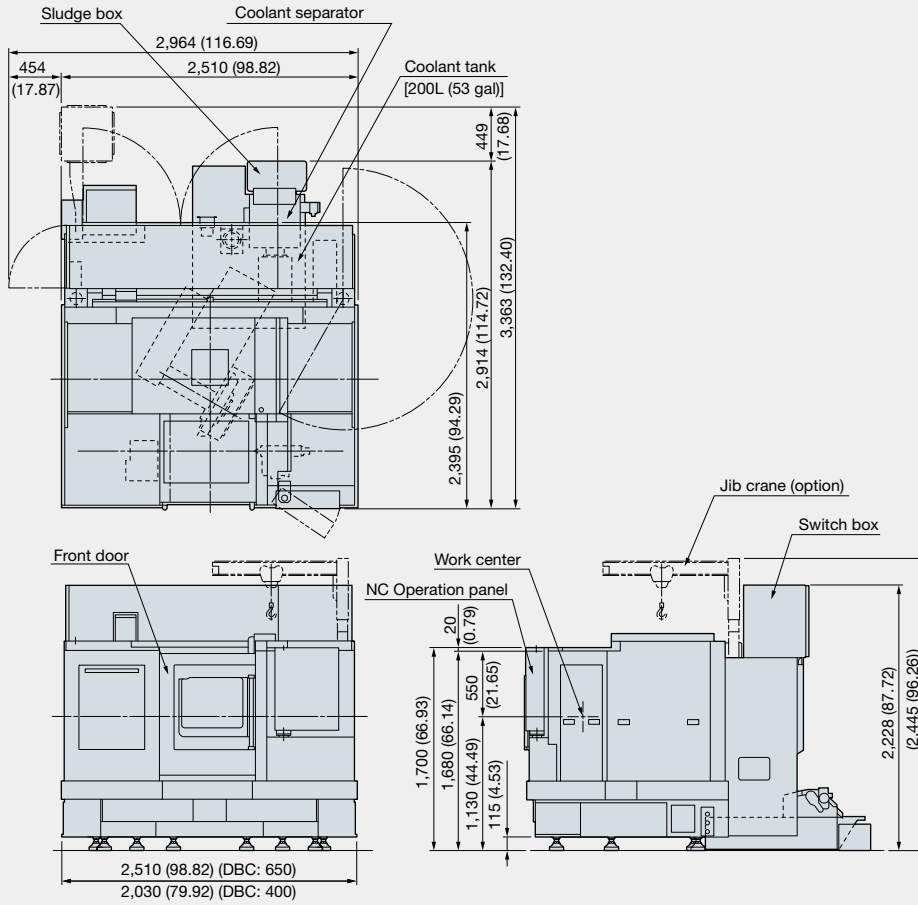
\* NML: normal, 3D: 3D simulation, E: economy, D: deluxe

Items	Kit Specs *	NML		3D		I-GAP	
		E	D	E	D	E	D
<b>External input/output communication</b>							
RS232C connector							
DNC link	DNC-T1						
	DNC-T3						
Additional USB	2 additional ports possible						
<b>Automated functions</b>							
Oriented spindle stop	Electric						
	Proximity SW						
Auto power shutoff	Machining completion, alarm						
	Above + external command						
<b>Warm-up</b>							
External workpiece selection	Rotary switch 8 types						
	Digital switch 99 types						
	External command BCD 2-digit						
	External command BCD 4-digit						
<b>Okuma robot, loader I/F (built-in)</b>							
<b>Okuma robot, loader I/F (independent)</b>							
Other manufacturers' robot, loader I/F	Okuma standard; B specs						
	Okuma standard; C specs						
<b>User designation</b>							
<b>Dressing during loading</b>							
Cycle time reduction							
<b>Other functions</b>							
<b>Control cabinet power socket</b>							
<b>Control cabinet lighting</b>							
<b>Earth leakage circuit breaker (ELCB)</b>							
Spare M code	2 sets						
	4 sets						
<b>Chuck/tailstock quill can be operated during program stop</b>							
Auto grinding wheel straightening							
Emergency return							
<b>OSP-VPS (OSP Virus Protection System)</b>							



GP/GA25/26W

Dimensional and installation drawings



Unit: mm (in.)

When using Okuma products, always read the safety precautions mentioned in the instruction manual and attached to the product.

● The specifications, illustrations, and descriptions in this brochure vary in different markets and are subject to change without notice.  
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This product is subject to the Japanese government Foreign Exchange and Foreign Trade Control Act with regard to security controlled items; whereby Okuma Corporation should be notified prior to its shipment to another country.