

**DOUBLE COLUMN GRINDING MACHINE**

**ACC-CH *iQ***  
**SERIES**



**Okamoto**

# ACC-CH *iQ* Series

## This double-column grinding machine satisfies

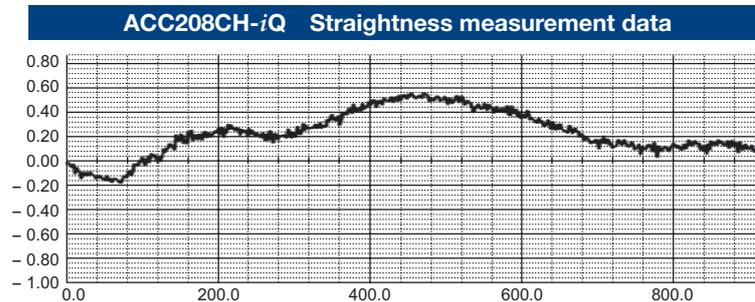
The ACC-CH *iQ* Series satisfies the demands for high accuracy required for machining the progressive dies used for motor cores or LC processing, while also offering the high efficiency needed by the die base processing industry.

### Highly accurate process

The accuracy of a double-column grinding machine depends on the crossrail. We have developed a crossrail mechanism that enables mechanical adjustments without NC correction.

Extremely high degrees of flatness can be obtained along the entire width of the working surface.

Accuracy can be adjusted with the cross rail attached after installation.



### Highly efficient process

- 1 Pass width with extra space enables the processing of cross lengths of up to 1000 mm.
- 2 The 22-kW spindle motor offers the maximum horsepower in this class, with approximately 3 times the power of our conventional column-type machines.
- 3 Dressing time has been shortened by combining upper dressing (option: dress correction function provided as standard) for rough dressing with tabletop dressing for finishing. Also, the shift-plunge grinding cycle contributes to reducing the processing time.



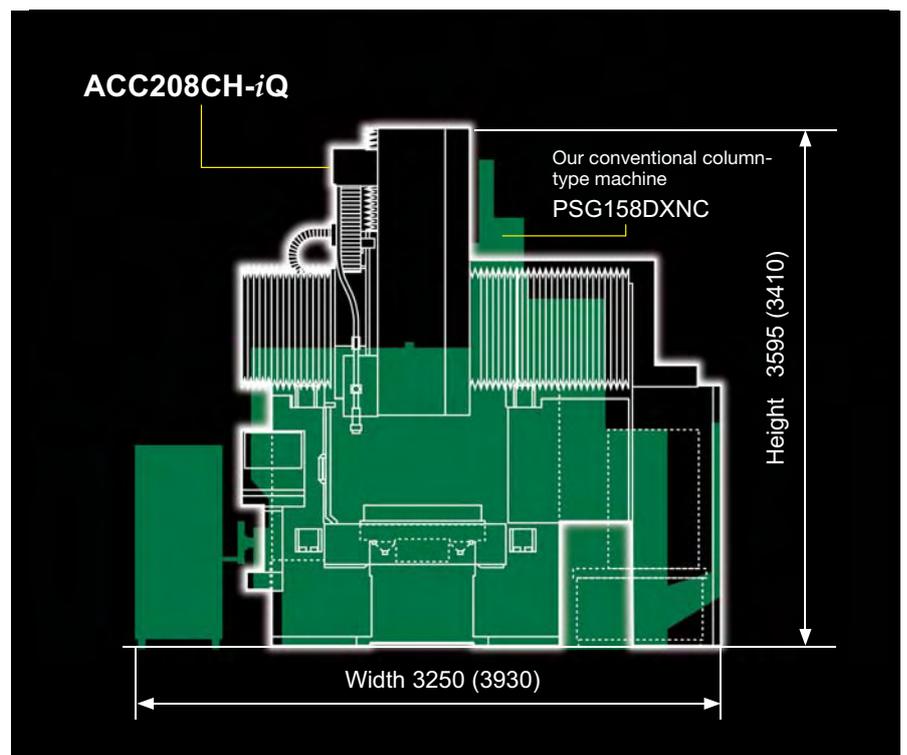
demands for high accuracy and high efficiency.



ACC208CH-iQ

**Space-saving design  
minimizes footprint**

This double-column grinding machine requires no more installation space than our CNC column-type machine.



Unit: mm      The dimensions in parentheses are those of our CNC column-type machine.

## **iQ software facilitates the processing of large workpieces with the double-column grinding machine.**

The innovative *iQ* software radically simplifies data input.  
Cycle time has been dramatically shortened.

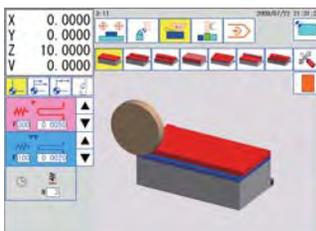
**iQ data is automatically generated by inputting the grinding wheel's grain size.**

Input the total machining allowance and precision machining allowance.  
Then, simply input the grinding wheel size to automatically create the optimum grinding wheel conditions based on our know-how and grinding process theory.

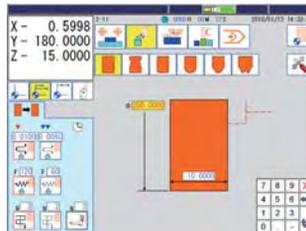
**Data input can be completed using only two screens.**

There is no text on the screen.

The panel buttons cover the full range of surface grinding and complicated grinding operations.



Grinding data setting screen



Dress data setting screen



### **Diversified iQ Functions**

#### **■ Keys to shortening cycle time (Fine- and rough-dressing selection)**

Optimum combination of upper dress for rough dressing and table top dress for finishing. An automatic diamond tracking device is provided with the upper dresser with dress cycle function (optional).

By using shift plunge grinding, the cycle time can be effectively shortened.

#### **■ Automatic setting of process conditions**

Grinding processes used to rely on the user's skill and intuition. To automate this processing, we developed a function for automatically setting the recommended process conditions based on grinding process theory and our know-how. The basic data on which this automatic setting is based is the grain size of the grinding wheel.

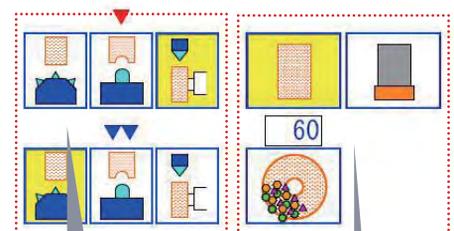
This software supports the use of both Alundum-type grinding wheels and ultra-abrasive-coating grinding wheels. Users can also input their own condition settings.

#### **■ iQ graphical display of actual grinding position**

The position at which grinding is to be performed is displayed on the screen.

#### **■ iQ cycle type projection**

The cycle end time is displayed, thus saving setup time.



#### **Fine and rough dress setting**

Supports an optimal combination of upper dress for rough dressing and on-the-table dress for fine dressing.

#### **Automatic setting of process conditions**

Select either a general grinding wheel or ultra abrasive coating grinding wheel, and then enter the grain size in the column below. The optimal grinding/dressing conditions are automatically set based on the grain size.

## Standard accessories

Grinding wheel adaptor
Foundation plate or Anchor bolt
Filling nozzle for 100-mm wide grinding wheel
Lifting bolt for grinding wheel adaptor
Dresser stand with diamond tool
Spindle speed controller 22 kW
Automatic oil temperature regulator
Automatic circuit breaker
iQ Software

## Optional accessories

Item	Specifications	Model			
		CH-iQ			
		208	258	358	
Coolant system 600 L	With magnetic dust separator	• Tank capacity: 600 L • Coolant pump:400 W2/P, Separator disposal capacity: 120 L/min	○		
	Magnetic dust separator with temperature regulator	• Tank capacity: 600 L • Coolant pump:400 W2/P, Separator disposal capacity: 120 L/min • Temperature regulator: 0.75 kW	○		
	Magnetic dust separator with auto. paper filter	• Tank capacity: 600 L • Coolant pump:400 W2/P, Separator disposal capacity: 120 L/min • Processing capacity: 120 L/min. (15- $\mu$ m mesh)	○		
	Magnetic dust separator with auto. paper filter and temperature regulator	• Tank capacity: 600 L • Coolant pump:400 W2/P, Separator disposal capacity: 120 L/min • Processing capacity: 120 L/min. (15- $\mu$ m mesh) • Temperature regulator: 0.75 kW	○		
Oil mist dust collector	• Dust collector motor: 1.5 kW/2P, Air flow: 19/23 (50/60 Hz)m <sup>3</sup> /min • Dust collection port: $\phi$ 150 mm	○			
Dust collection port	Diameter for OKB-20: $\phi$ 150 mm	• Mounted to the top of "left rear cover with top"	○		
Electro-magnetic chuck	2000×800×100 mm		○	-	-
	2500×800×100 mm		-	○	-
	3500×800×100 mm		-	-	○
Permanent electro-magnetic chuck	2000×800×100 mm		○	-	-
	2500×800×100 mm		-	○	-
	3500×800×100 mm		-	-	○
Demagnetizing controller	With automatic 20-A electro-magnetic adjustment	• Chuck "rated current" applicable range Max: 16 A	○		
Grinding wheel external diameter $\phi$ 610 mm		• Applicable grinding wheel: $\phi$ 610×50× $\phi$ 127 mm	○		
Spare grinding wheel diameter: $\phi$ 510 mm	100 mm	• $\phi$ 510×100× $\phi$ 127 mm (both concave)	○		
Spare grinding wheel diameter: $\phi$ 610 mm		• $\phi$ 610×100× $\phi$ 127 mm	○		
Spindle device		• 3.7kW	○		
Hydraulic upper dresser	For 100-mm wide grinding wheel, with automatic dress correction function	• Cross dressing stroke: 125 mm	○		
Dynamic balancing apparatus	BW-5 type (with standard arbor)	• Applicable grinding wheel diameter: $\phi$ 510 mm max. balance type	○		
	BW-6 type (with standard arbor)	• Applicable grinding wheel diameter: $\phi$ 610 mm max. balance type	○		
Balance arbor (balance type)	L = 268 mm, For both BW-5 and 6 types	• Grinding wheel internal diameter: $\phi$ 127 mm	○		
Automatic dynamic balancing apparatus	Full-automatic balancer non-contact electric type	• Full-automatic measurement and automatic correction • 3 electrical balance weights shift • Rotational speed: Max. 1200 min <sup>-1</sup> • Measurement range unbalanced vibration displacement: 0.01 to 100 $\mu$ m • Controller, ACC sensor-equipped, integrated controller	○		
Grinding wheel adaptor	For standard	• $\phi$ 510×100× $\phi$ 127 mm	○		
	For full automatic balancer	• $\phi$ 510×100× $\phi$ 127 mm	○		
Table T groove grinding	Number of grooves: 3	• Size of T groove and pitch: Okamoto's standard	○		
High column specification	200 mm up		○		
Hydraulic oil	GRIND-X NS-01B	• Required amount: 300 L	○		
Cycle end power shut off	For 22 kW spindle motor	• Power shut-off at cycle end	○		
Electro-magnetic chuck interlock	Spindle motor activates	• The spindle does not rotate unless the electro-magnetic chuck is "ON."	○		
	Table activates	• The table does not rotate unless the electro-magnetic chuck is "ON." • Should it switch to "OFF" while the table is rolling over, the table stops immediately.	○		
Door interlock	Table activates	• The table does not activate unless the door is "ON." • Should it switch to "OFF" while the table is rolling over, the table stops immediately.	○		
Grinding head meter relay			○		
Calendar timer		• A weekly timer turns the hydraulics "ON" at a set time.	○		
Three-stage signal tower	Red, Yellow, Green	Signal meaning	• Yellow: Lights at the end of a cycle. • Green: Lights during a cycle.		
Working light (LED)			• Mounted on the underside of the cross rail		
iQ Software	Forming dressing software		○		
	G code program		○		
	Automatic programming UP CAM		○		

## Specifications

Item		Unit	208CH-iQ	258CH-iQ	358CH-iQ	
Capacity	Table working size (Length×Width×Height)	mm	2000×800×600	2500×800×600	3500×800×600	
	Max. pass width	mm	1050			
	Table working cap (Length×Width)	mm	2050×850	2550×850	3550×850	
	Maximum weight of table (Including chuck)	kg	3200(1390)	3900(1690)	5500(2180)	
	Chuck size (Length×Width)	mm	2000×800	2500×800	3500×800	
Longitudinal feed	Max. travel feed	mm	2250	2750	3750	
	Longitudonal feed rate	m/min	2~30			
Cross feed	Max. travel feed	mm	910			
	Minimum increment	mm	0.0001			
	Max. rapid feed	mm/m	6000			
	Automatic feed	Continuous feed rate	mm/min	0~1000		
	Manual feed	Hand feed per revolution	mm	0.01/0.1/1.0		
Graduation of hand wheel		mm/m	0.0001/0.001/0.01			
Vertical feed	Max. travel feed	mm	620			
	Minimum increment	mm	0.0001			
	Max. rapid feed	mm/m	2000			
	Automatic feed	Rough grinding	mm	0.0001~0.9999		
		Fine grinding				
Manual feed	Hand feed per revolution	mm	0.01/0.1/1.0			
	Graduation of hand wheel	mm/m	0.0001/0.001/0.01			
Grinding wheel	Size (OD×W×ID)	mm	φ510×100×φ127 (Option : 610×50×127)			
	Spindle speed	mm <sup>-1</sup>	400~1600			
	Motor	kW/P	22/4			
Oil pressure unit	Capacity	L	300			
Machine space	Length×Width×Height	mm	7470×3850×3550	7750×3850×3550	10200×3850×3550	
Machine weight	Standard	kg	15500	17000	20000	

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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.

\*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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