

# Combination of easy operation and high precision grinding

Simple grinding program and data entry using UJG Lab

## Interactive operation screens

[Grinding data screen]  
Graphic display of workpiece shapes makes it easy to create and check grinding data



[Schedule screen]  
Supports scheduling combining multiple grinding data



[DXF load screen]  
Round holes and square holes can be automatically recognized from DXF data and read as workpiece shape data

[Measurement screen]  
Interactive operation is possible by displaying the procedure at the time of measurement work



Intelligent Jig Grinder

## UJG-35i

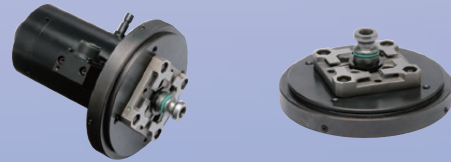
Machine standard specification	
<b>Work range</b>	
Table movement travel (left and right) x (front and back)	600 mm x 300 mm
Maximum distance from table top to grinding head	400 mm
<b>Table</b>	
Table working surface size (length x width)	700 x 320 mm
Number and shape of T-grooves (groove width x pitch)	3, 10 x 75 mm
Maximum allowable load	300 Kg
<b>Spindle head</b>	
Vertical movement travel	300 mm
<b>Spindle</b>	
Planetary rotation speed	0.25 to 300 min <sup>-1</sup>
Cutting travel in wheel radial direction	10 mm
<b>Quill</b>	
Vertical movement travel	120 mm
Oscillation stroke	0.05 to 100 mm
<b>Grinding head</b>	
High frequency motor	For low speed
Rotational speed	9,000 to 45,000 min <sup>-1</sup>
<b>Machine specifications</b>	
Width x length x height	2,100 x 2,245 x 2,700 mm
Weight	4,500 kg
Power supply	3-phase 200V 12 kVA
Maximum air consumption	400 NL/min [0.5 Mpa]

NC standard specification	
NC system	FS31i-MB
Number of control axes	5 axes (X, Y, Z, C, U)
Number of simultaneously controlled axes	4 axes
Memory editing capacity	256 KB (640 m)
Number of programs	Up to 500 programs
Interface software	UJG Lab
Display	19-inch color LCD (touch panel)

Special accessory	
High frequency motor for low speed (spare)	9,000 to 45,000 min <sup>-1</sup>
High frequency motor for high speed	18,000 to 90,000 min <sup>-1</sup>
Air turbine motor	150,000 min <sup>-1</sup>
Collet	For low speed Φ3, 4, 5, 6, 8, 10 mm For high speed Φ3, 4, 5, 6 mm
Workpiece measuring device	With quick change adapter
Measuring stylus	Φ 0.5, 1, 2, 3, 4, 5, 6, 8 mm
Quick change system	Spindle section
Quick change adapter	For motor
Dry dust collector	
Wet dust collector	Wet tank, mist collector
Coolant temperature controller	For wet tanks
Jig fixture	WAIDA original
Facing tool	
Parallel block for positioning	2 pieces/1 set
Grinding sound detector	
Eccentric plate	Φ 300 mm (with software)
Upper illumination	

## Accessories

One-touch exchangeable spindle motor and measuring device (One set is provided as a standard accessory.) (option)



For low speed  
(standard accessory)  
9,000~45,000min<sup>-1</sup>



For high speed  
(option)  
18,000~90,000min<sup>-1</sup>



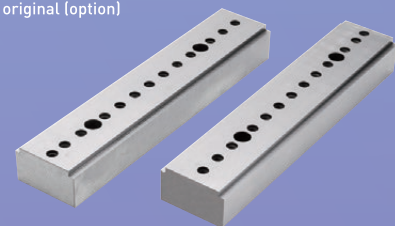
Air turbine motor  
(option)  
150,000min<sup>-1</sup>



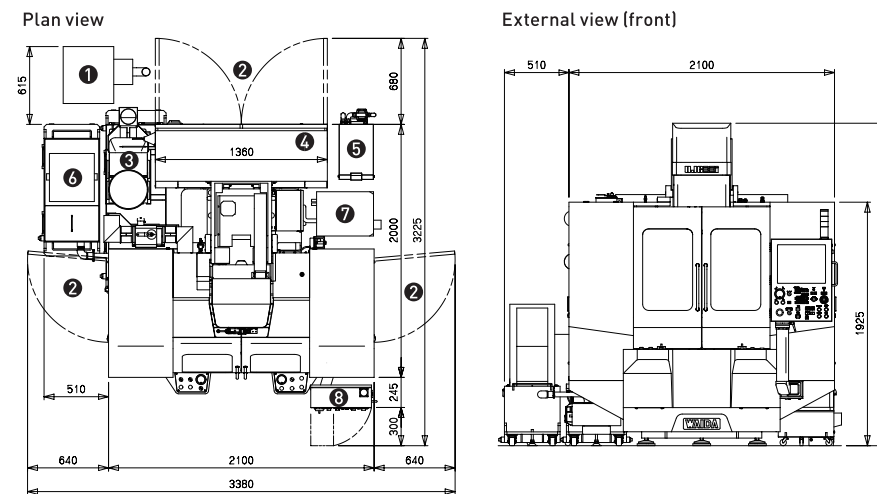
Measuring device that can be attached with one touch (option)



Jig fixtures for workpiece  
WAIDA original (option)



## Machine layout



- 1 Dry dust collector
- 2 Maintenance space
- 3 Wet dust collector (wet tank)
- 4 Air intake
- 5 Air dryer
- 6 Coolant temperature controller
- 7 Cooling unit
- 8 Main operation pendant

Note

※This product may be regulated by the Foreign Exchange and Foreign Trade Control Law. Be sure to consult us before exporting the product to outside of Japan.  
※Specifications in this catalog may be changed without notice due to improvement of the product.

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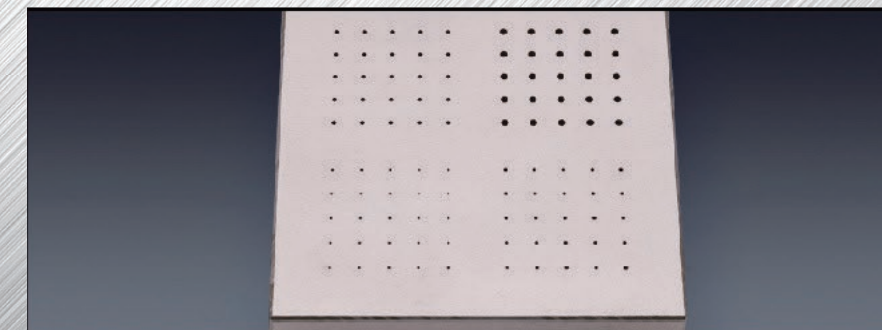
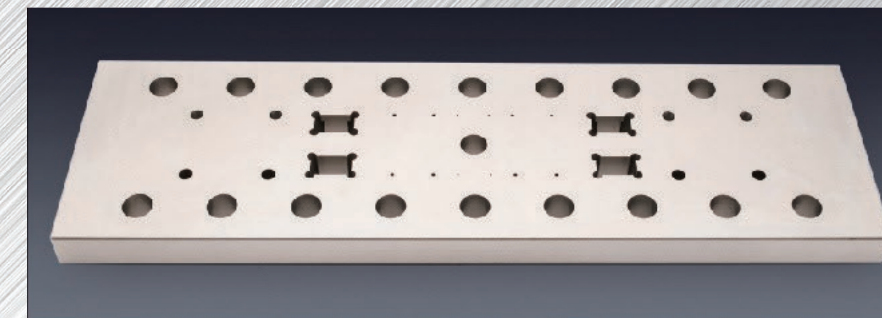
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WAIDA

Intelligent Jig Grinder

# UJG-35i



# Solve various problems of jig grinding process with WAIDA's proprietary U-axis structure and software!

## Problems at grinding work sites

- 1 Many types of holes slow down automation even using NC machines
- 2 Exceptional high precision grinding but the grinding time is too long
- 3 Shortage of skilled technicians with NC knowledge and grinding expertise
- 4 Unstable grinding due to oil adhesion to workpieces

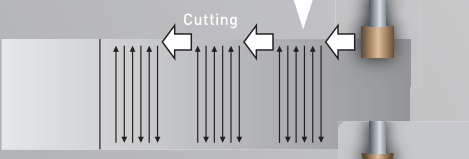
## Resolve with UJG-35i

- 1 Improves efficiency by automatically grinding different diameter holes including square holes continuously using **interface software UJG Lab** that utilizes **WAIDA's proprietary U-axis**
- 2 Significantly reduces the grinding time with **new method utilizing mechanical rigidity improvement and elimination of segmentation work losses**
- 3 **Interactive operator interface and preset value function** support the operator with easy operation and grinding know-how
- 4 **The oilless structure of the spindle head** completely eliminates oil troubles

## High efficiency and high accuracy by enhanced rigidity

### Conventional grinding cutting

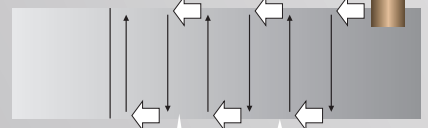
There may be some uncut parts on the surface unless about three round-trip oscillation cycles are not implemented



When cutting at only one end, uneven wear of the grinding wheel may occur or workpieces tend to be tapered

### UJG-35i double-end cutting

With UJG-35i, the enhanced rigidity of the spindle reduces uncut parts, and the U-axis can cut at both ends each time



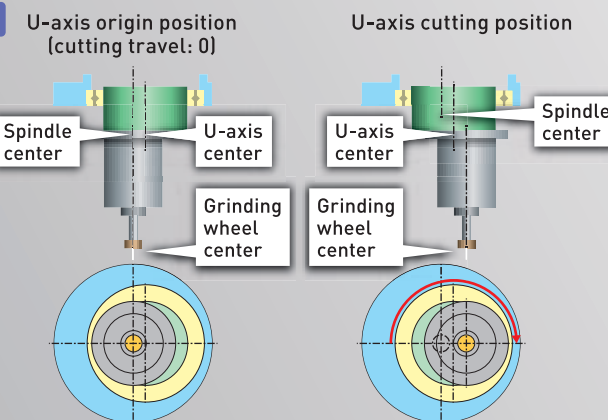
**High efficiency**  
Rough-grinding ability is several times higher than the conventional model

**Improved cylindricity of holes**

Possible to reduce the amount of each cutting travel less than the conventional model, minimizing damage to the grinding wheel

## Eccentric-cut U-axis mechanism

Patented



Cutting is performed by moving the grinding wheel center away from the spindle center, which is achieved by rotating the U-axis at the eccentric position with respect to the spindle center.

### Features of Eccentric Cutting System

- 1 Greatly enhanced rigidity with preloaded structure: Approximately doubled
- 2 Increased automatic cutting travel in compact size: 2 mm → 10 mm
- 3 The new feeding transmission system improved followability to indicated values

# We promise further cost performance!

WAIDA's jig grinders continue to evolve together with grinding technologies

# UJG-35i

Environmentally friendly full cover (standard accessory)



## Craftsmanship

The craftsmanship (accumulation of fundamental techniques and scraping work know-how) that has been cultivated as a manufacturer of machine tools since the company's founding in 1946 continues to live.

## First in the industry

## Grinding efficiency and NC setup

By enhancing the rigidity of the C-axis and U-axis, which have the industry's first structure, the grinding efficiency of round holes has tripled within our company. The UJG-35i provides setting screens that are convenient for grinding. In addition, CAD data can be imported and setup time for program creation can be shortened, making automatic grinding easy.

## High accuracy

## Accuracy superior to measuring instruments

Through accurate machining, careful assembly, adjustment work procedures and the pursuit for improving precision, the machine reduces errors that occur from a feed-type system, and improves yawing, pitching, and rolling accuracy with respect to various movement directions of each axis. It achieves precision that is superior to that of measuring instruments.

## On-board measurement system (option)

A measuring device can be attached with one touch, and accuracy evaluation can be performed on the machine.

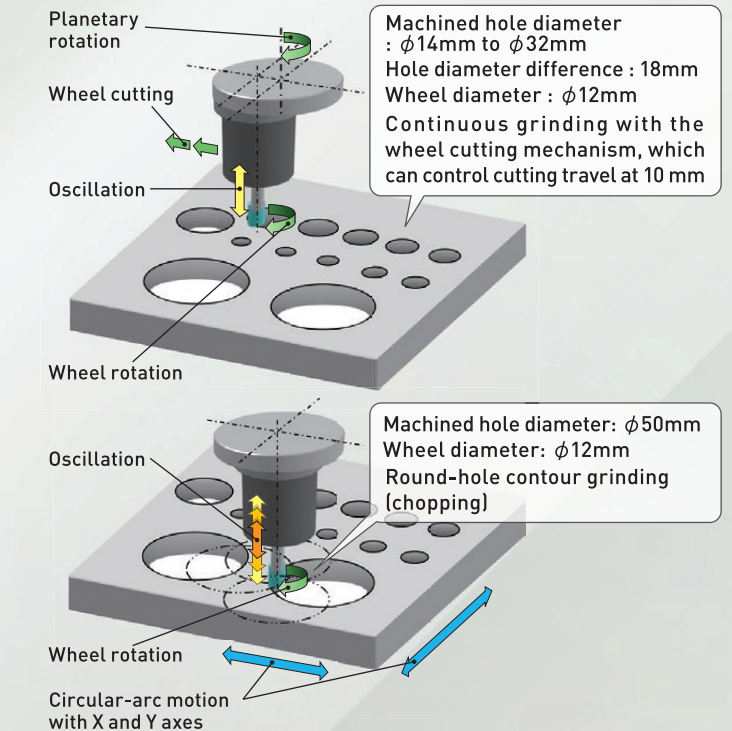
## The upcoming world standard Continuous Jig grinding

### Continuous grinding of holes with different diameters

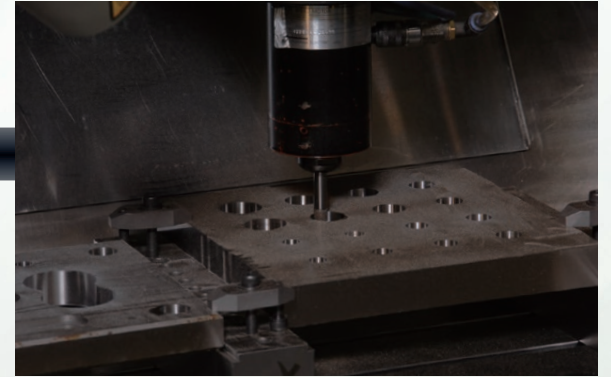
Continuous grinding of holes with different diameters ( $\phi 14$  mm to  $\phi 100$  mm) using one  $\phi 12$  mm grinding wheel.

- 1 Planetary grinding by the grinding wheel cutting mechanism (U-axis), which has a cutting stroke of 10 mm, and by planetary rotation (C-axis).
- 2 Round-hole contour grinding (chopping) through X/Y-axis table movement.

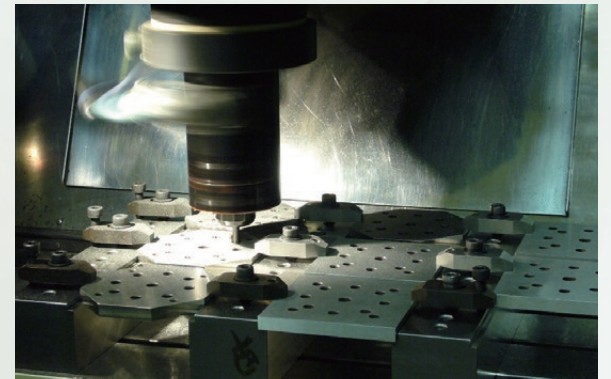
By implementing the above grinding method continuously, there is no need for setup including grinding wheel change



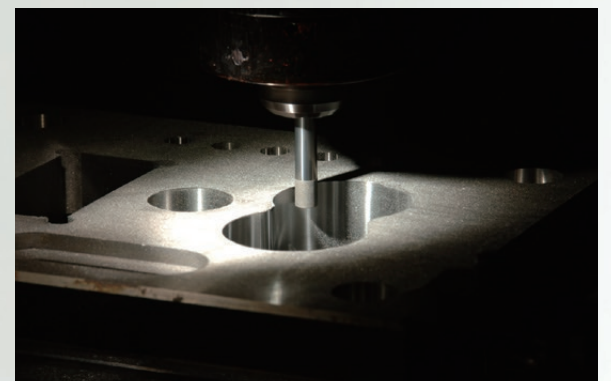
### Continuous grinding of holes with different diameters



### Continuous grinding of multiple workpieces (max. 48 pcs)



### Contour grinding



UJG Lab screen



FANUC screen

