

High-accuracy Universal Automatic Cutting Machine

ハイカット FINECUT HS-100 G-type

New advanced machine featuring superior extensibility and operability!



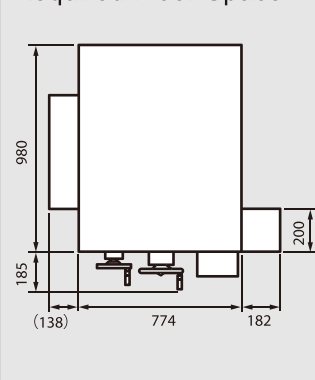
Characteristics

- 1 Oil-less spindle that features an original mechanism that improves stiffness and durability, and which is maintenance free.
- 2 Equipped with a 2.2Kw spindle motor in improving spindle rigidity. Improved cutting capability as vertical cutting using a left steering wheel is supported.
- 3 Utilizes a one touch button instead of a position sensor in the front-rear feed of the work table for positioning and thus faster positioning. Because of this, flat internal base realizes easy cleaning.
- 4 New digital adjustment system used to replace the former volume system provides a more uniform cutting speed.
- 5 Increased stiffness in the front-rear feed operating parts (lead screw) and a stainless front-rear feed cover in preventing any foreign materials entering it.
- 6 Includes a maintenance window in the machine cover for use in adjusting the spindle drive belt, which thereby eliminates having to remove the cover.
- 7 Equipped with a front cover interlock (safety device).

Standard Specifications

	HS-100G
Standard cutting capacity	□ pipe 45mm , ● solid bar 40mm , ▬ plate 20mm x 75mm
Flake cutting	0.02mm at φ20mm (hard metals)
Cutting tolerance	Squareness 0.05mm, parallelism 0.1mm for SK steel φ20mm
Work table travel (X, Y)	110mm with cross feed (manual)・240mm in cutting direction (steering wheel operation)
Spindle travel (Z)	135mm vertically (steering wheel operation), optional specification (max. 250mm)
Automatic cutting, Return speeds	4-300mm/min. 800mm/min. (constant)
Diameter of cutting wheel	Standard: φ230mm or φ205mm/φ25.4mm Optional specification: φ255mm/φ31.75mm
Diameter of flange	φ110mm (φ90mm: optional accessory)
Diameter of spindle, Revolutions per minute	φ25.4mm/3000rpm
Spindle motor	AC200 V・3 phase・2P・2.2kW
Coolant pump, Tank	AC200 V・3 phase・40 W, 60liters
Automatic cutting motor	DC24V・Pulse Motor
Dimensions (W x L x H)	1100 mm x 1170 mm x 1560 mm
Machine weight	500 kg
Accessories	Stainless steel standard vise, cleaning water gun, 1 set of cutting wheels for testing, FINECOOL, and 1 set of Paper Filters

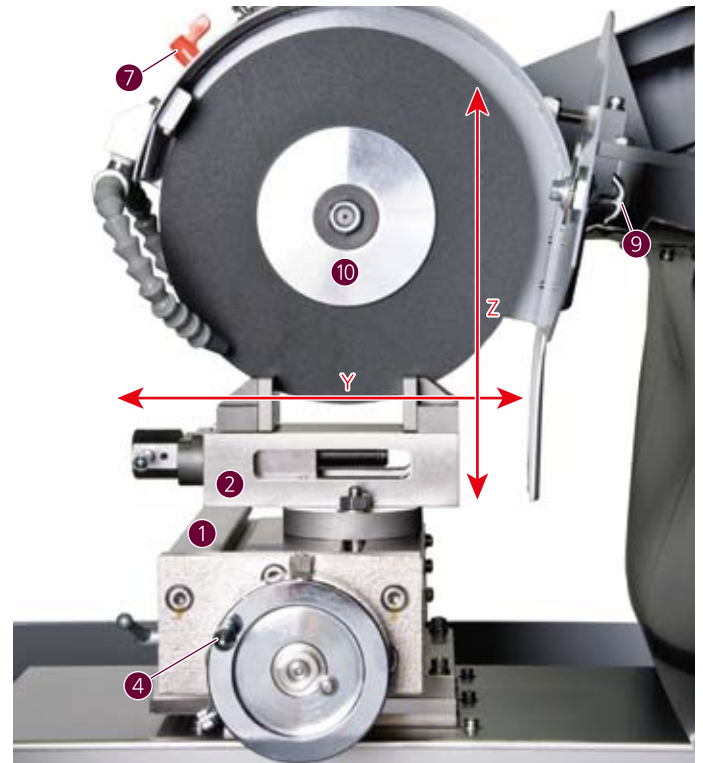
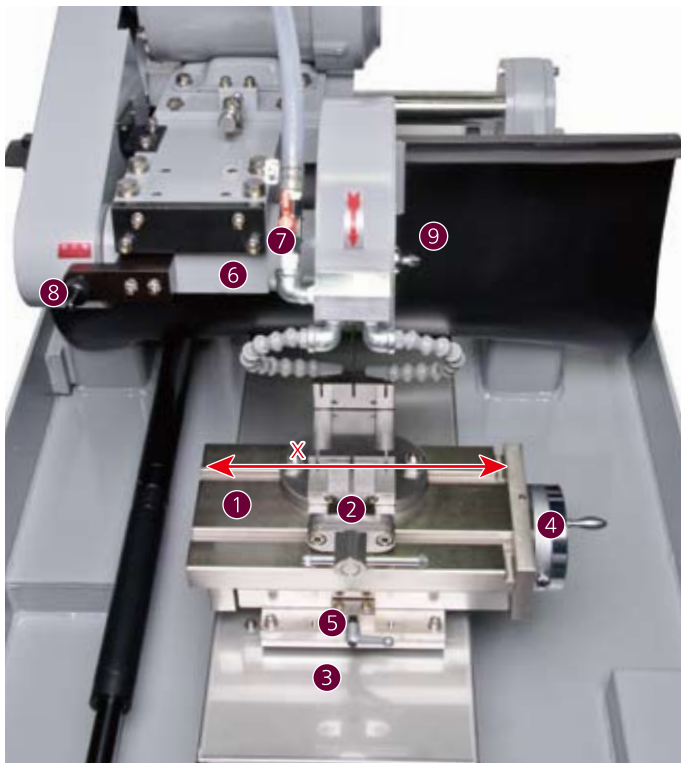
Required Floor Space



Vise Line Up

- ① Long Vise SP-V11
- ② Surface Rotary Vise SP-V12
- ③ Long-type Surface Rotary Vise SP-V13
- ④ Double Vise SP-V14
- ⑤ Long-type Double Vise SP-V15

* See the available options on pages 12-13 for the lineup of optional accessories and specifications.



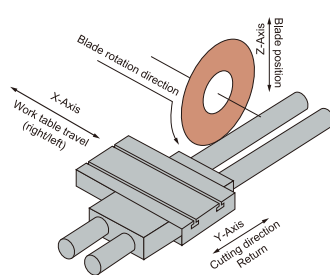
- ① Work table [electro-less nickel plating]
- ② Standard stainless steel vise [jaw opening size 0-80mm]
- ③ Stainless steel front-rear feed cover [contaminant-proof]
- ④ Work table cross-feed steering wheel [with graduated ring]
- ⑤ Work table stopper knob
- ⑥ Oil-less spindle [maintenance free]
- ⑦ Coolant discharge adjustment cock
- ⑧ Spindle stopper for use when changing cutting wheel

- ⑨ Cutting wheel cover open/close knob
- ⑩ Cutting wheel flange [aluminum]

- X Work table travel: 110 cross feed (manual)
- Y Cutting direction travel: 240mm front to rear movement (when operated with steering wheel on right side)
- Z Spindle travel: 135mm vertical movement (when operated with steering wheel on left side)

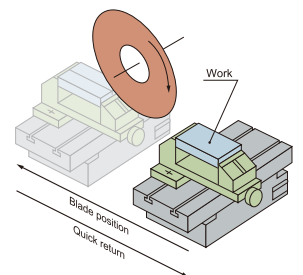
XYZ Mechanism

Both X-Axis work table travel (left to right movement) and Y-Axis cutting direction travel (front to rear movement) available. The blade can be vertically adjusted (Z-Axis) as needed using the left steering wheel handle provided at the front of the machine body; this mechanism allows the spindle to move vertically, thereby enabling angled cuts.



Automatic Cutting/Quick-return System


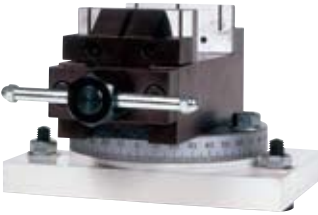
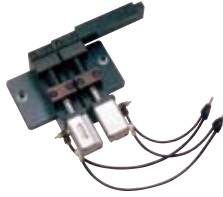
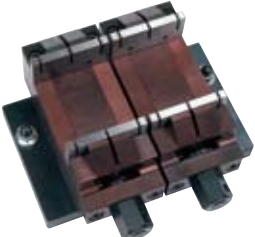

Manually set the cutting position (2mm/rotation) and cutting will automatically start. The cutting speed can be controlled to be between 4 to 300mm/min depending on conditions such as the material, product shape, and required level of accuracy. Use of the one-button control to position the cutting stroke fully automates the cutting operation, with the table returning to its original position to complete the cycle. As long as the machine is first set cutting can take place without an operator.



Options for **フインカット** FINECUT HS-100 G Type

1. Spindle vertical clearance device
A system in which the blade moves up and down during a quick-return after the cutting has completed.
2. Automatic stepping device
A slice system in which the table travel and cutting direction travel are automatically coordinated.

* Please contact us for more details on each system.
* The above systems may not be suitable depending on the shape of the material to be cut.

	<p>① Long Vise SP - V11</p> <p>Effective when cutting wider pieces of work that do not fit standard vises. The jaw opening size can be as wide as 120mm.</p>	<p>⑤ Long-type Double Vise SP - V15</p> <p>Long version of double vise (jaw opening size: 0-120mm).</p>	
	<p>② Surface Rotary Vise SP - V12</p> <p>Combination of a vise and flat table that rotates up to 90 degrees on both sides. Ideal for detailed cuttings that require the cutting position to be finely adjusted (jaw opening size: 0-80mm, scale of table: 1 degree).</p>	<p>⑥ Double Vise with Scale SP - V18</p> <p>Highly effective in constant-size cutting; the measuring stopper with fine adjustment scale enables more precise cutting.</p>	
<p>③ Long-type Surface Rotary Vise SP - V13</p>	<p>Combination of ② surface rotary vise and ① long vise. (jaw opening size: 0-120mm)</p>		<p>⑦ Air Vise SP - V17</p> <p>One-touch clamp with pneumatic ON/OFF switch.</p>
	<p>④ Double Vise SP - V14</p> <p>Ideal for not only fragile samples but also samples that can easily crack or be burred. (jaw opening size: 0-80mm)</p>		<p>⑧ Gonio Stage SP - V16</p> <p>A stage for cutting crystal orientations that supports angles from the flat surface up to up to 30 degrees along the X-axis and 20 degrees along the Y-axis.</p>
<p>⑨ Dedicated Jigs</p> <p>Dedicated jigs can be designed and produced corresponding to cut cores, glass lens, profiles, etc.</p>		<p>⑩ Special Flanges SP - W17</p> <p>Flanges of the required size can be produced.</p>	

List of Optional Visas and Products for FiNECUT Series

○ Applicable — Not applicable

Product Name	Model	Code No.	HS-100G	HS-45AC	HS-25/25A	ACE20	SP-7
① Long Vise		SP - V11	○	○	—	—	—
② Surface Rotary Vise		SP - V12	○	○	Dedicated type for 25	—	Dedicated type for SP
③ Long-type Surface Rotary Vise		SP - V13	○	○	—	—	—
④ Double Vise		SP - V14	○	○	—	—	Dedicated type for SP
⑤ Long-type Double Vise		SP - V15	○	○	—	—	—
⑥ Double Vise with Scale		SP - V18	○(requires consultation)	○(requires consultation)	—	—	Dedicated type for SP
⑦ Air Vise		SP - V17	○	○	—	—	Dedicated type for SP
⑧ Gonio Stage		SP - V16	○	—	Dedicated type for 25	—	—
⑨ Dedicated Jigs			○	○	○	○	○
⑩ Special Flange		SP - W17	○	○	○	○	○

Application Example of FiNECUT Series Cutting








Bundle Cutting

Place fine materials such as injection needles or materials to be cut in a thermal shrinking tube, heat the tube to shrink and thus bundle the materials, and then cut them in one go.

* Please use air or dryer or boiling water for the heating process.
* Please contact us for more detailed product information on the tubes.



Parts Name (nominal folding width: mm)	Applicable bundle diameter (mm)	Code No.
29.0	17.0	HC-15
41.0	24.0	HC-20
50.0	29.0	HC-25
59.5	34.0	HC-30
66.5	38.0	HC-35

	<p>① Simple Filter Separator</p> <p>ST – TF</p> <p>Removes abrasive grains and cut material contained in the coolant fluid easily.</p>		<p>④ Settling Tank Separator</p> <p>Separates sludge with a high specific gravity. Can also be used to collect noble metals.</p>
	<p>② Magnet Separator</p> <p>ST – TM</p> <p>Suitable for removing any magnetic material such as iron powder.</p>		<p>⑤ Pressure Filter Separator</p> <p>Excellent filtering capabilities; works very well with the precision cutting of nickel alloys and tungsten materials in which any coolant contamination can affect the cutting precision.</p>
	<p>③ Centrifugal Separator</p> <p>ST – TC</p> <p>Suitable for removing non-magnetic material such as carbon, glass, and stainless steel.</p>		<p>⑥ Standard Stainless Filter</p> <p>Stainless steel version of standard filter as a more environmentally-friendly option.</p>
			<p>⑬ Multi-blade</p> <p>OP – HM</p> <p>Multiple blades and spacers on the spindle enable multiple parts to be simultaneously processed.</p>

List of Optional Specifications for FiNECUT Series

Recommended option Standard equipment ○ Applicable — Not applicable

Type	Product Name	Code No.	HS-100G	HS-45AC	HS-25/25A	ACE20	SP-7
Coolant	① Simple Filter Separator	ST-TF	○	○	—	○	○
	② Magnet Separator	ST-TM	○	○	—	○	○
	③ Centrifugal Separator	ST-TC	○	○	—	○	○
	④ Settling Tank Separator		○	—	—	○	○
	⑤ Pressure Filter Separator		○	○	—	○	○
	⑥ Standard Stainless Filters		○	○	—	○	○
Safety Measures	⑦ Earth Leakage Circuit Breaker	OP-ELB	Standard Equipment	Standard Equipment	○	Standard Equipment	Standard Equipment
	⑧ Emergency Stop Button		○	○	○	○	○
	⑨ Front Cover Interlock	OP-IL	Standard Equipment	○	Standard Equipment	—	Standard Equipment
	⑩ Right/Left Cover Interlock		○	○	—	—	—
	⑪ Interlock with Magnetic Lock		○	○	—	—	○
	⑫ Indication Lights		○	○	○	○	○
Environment Measures etc.	⑬ Cleaning Water Gun (coolant circulation)	OP-WA	Standard Equipment	Standard Equipment	—	Standard Equipment	Standard Equipment
	⑭ Internal Light (ceiling moisture-proof LED)	OP-LF	○	○	—	—	Standard Equipment/○
	⑮ Moisture-proof LED Spot Light	OP-LS	○	○	—	—	○
	⑯ Multi-blade	OP-HM	○	—	—	—	—
	⑰ Enhanced Spindle Motor	OP-HI	—	—	—	—/○	○/—
	⑱ Embedded Spindle Rotation Inverter	OP-RCO	○	○	○	○/Standard Equipment	—/Standard Equipment
	⑲ Mist Collector	OP-MC	○	○	—	—	○
	⑳ Stainless Steel Upper Body Cover		○	○	—	—	○
	㉑ Antirust Treated Internal Body	OP-AC	○ (requires consultation)	○ (requires consultation)	○ (requires consultation)	○ (requires consultation)	○ (requires consultation)
	㉒ Colored Body	OP-CO	○	○	○	○	○
	㉓ Line Marker		○	○	—	—	—

Wax Cutting

Using thermo-softened wax materials that are difficult to clamp or are breakable are powerfully adhered to jigs for cutting. The material can be removed from the jig after the cutting by heating the wax.

Sample Cutting

* Please use an industrial dryer or hotplate for the heating process.

Wax Set

WS

- A wax (general purpose): softens at 68 degrees C/adhesive force 44kg/cm²
 - B wax (small adhesive area): softens at 75 degrees C/adhesive force 162kg/cm²
 - Cleaning liquid I/II
 - Cleaning tray
 - Wax melting container
 - Abrasive stick WA/GC (for dresser)
 - Glass mount plate for cutting samples
 - Bake mount plate for fixing vice
- (10 of the above 8 types of items are included in a set.)



Cutting Counseling Service



FAX
TO: HEIWA TECHNICA,
FINE CUT SALES
81-(0)46-255-5840

If you have any inquires, please feel free to contact us!
Please copy this page and fill up following:

Name _____

Company name _____

Department _____

Address _____

Country _____

TEL : _____ FAX : _____

e-mail : _____



•Please select as below:

- Send your products catalogue
- Select a suitable cutting machine
- Select a suitable cutting wheel
- Would like to see demonstration
- Free test-cutting my work piece and provide test-cutting data
- Paid test-cutting my work piece and provide test-cutting data
- Any other requests

• Please inform us current cutting method (→New)

• Purpose of cutting

- QC, Checking, study
- Production

QTY _____

Work piece, conditions

Material	_____
Size	_____
Precision	_____
Machine, model name	_____
Current cutting wheel	_____
Process condition	_____

•Please write your concerns as bellows:

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