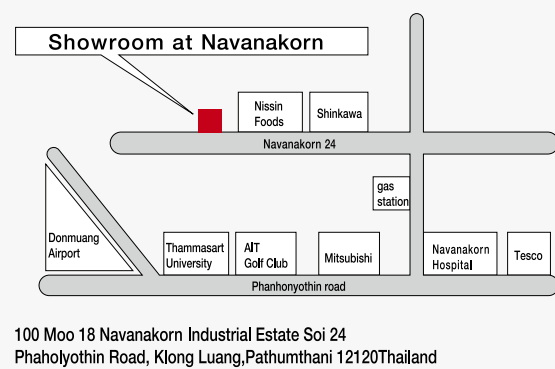
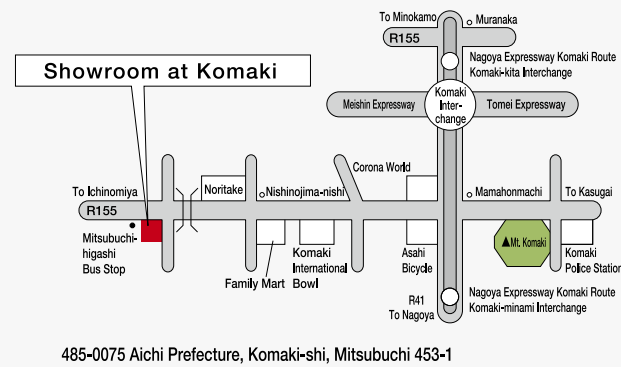
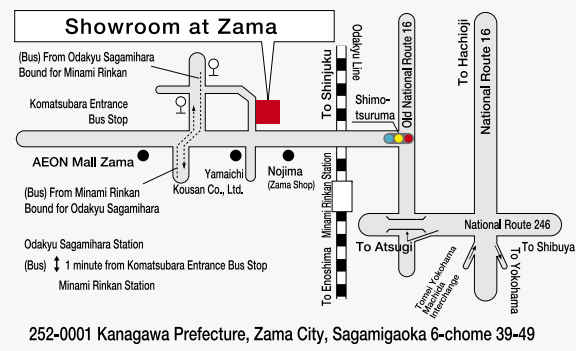


Showroom

Cutting Demonstration/Test Cut/Providing Data/Cutting Seminar



FiNECUT, NASTON =Manufacturer=



■ FINE CUT sales Department

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 6-39-49, Sagamigaoka, Zama-shi, Kanagawa-ken
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Total Cutting Solution

High Speed Precision Cutting Machine

FiNECUT

Precision Cutting Wheel

NASTON

Water-Soluble Cutting Fluid

FiNECOOL



NASTON Usage Examples



How to use NASTON (Materials/Product Names)

- 1 For quality control, research institutions, etc., it is being used to cut out various specimens, such as hardness measurement, metal structure observation, welding observation, etc.
- 2 In production departments, it is used for the cutting of hard materials such as carbide tools, rails, and precious metal products.
- 3 Through the cutting process of thin pipes and glass, it realizes the reduction of burrs and chipping, shortens the secondary process.
- 4 Thanks to the thin blades, it is possible to reduce cutting losses when cutting expensive materials such as titanium and medical equipment.

Quality Control

Materials	Product Name
Special Alloy	Jet Machine Turbine
Difficult to Grind Composite Agent	Vehicle Engine Parts
Titanium	Golf Club Head

Production Department

Materials	Product Name
Carbide Materials	Carbide Tool
Tungsten/Nickel	Electrical Installation
Stainless Steel	Base/Contact
	Guide/Rail

Research Institution

Materials	Product Name
Phenol/Epoxy Resin	Sample Embedding Material
Single Crystal Material	Ceramic Products
Precision Aluminum Casting	Piston Head

Cost Reduction

Materials	Product Name
Super-Hardened Quenched Product	Re-Ground Product
Stainless Steel Pipe	Electrical Component
Titanium	Medical Supplies

Target Cutting Materials

Hardened Steel	Glass Epoxy	Nonferrous Material
Steel	Silicon	Nitriding Steel
High-Speed Steel (HSS)	Hardened Resin	Titanium Alloy
Cemented Carbide	Bakelite	Cobalt Alloy
Ceramics	Carbon Fiber	Aluminum Alloy
Ferrite	Aramid Fiber	Magnesium Alloy
Tungsten	FRP	Nickel Alloy
Molybdenum	Phosphor Bronze	Corrosion and Heat-Resistant
Stainless Steel	Kovar	Superalloy
Titanium	Cermet	Precious Metal
Inconel	Tantalum	Magnetic Metal
Glass	Cast Iron	Difficult to Cut Composite
Quartz	Brass	Functional Material
Sapphire Glass	Rock	
Alumina-Based Sintered Material	Artificial Bone	
	Co-Ni Material	



Water-Soluble Cutting Fluid FINECOOL

NASTON

Features such as superior permeability, lubrication, and cooling capacity can prevent cutting wheel clogging and prolong its life span. It also enhances the rust-prevention effects.

The Role of Water-Soluble Cutting Fluid

- 1 Improve Processing Accuracy and Prevent Burning by Cooling Effect**
Absorbs the heat generated at the contact point of the cutting wheel and the workpiece, reduces thermal damage to the abrasive grains and the binding agent, prevents dimensional accuracy errors due to the thermal expansion of the workpiece, maintains the finished surface accuracy, and prevents the burning of the workpiece by heat.
- 2 Suppresses Workpiece Rust, Prevents Corrosion, and Prevents Rust Inside of the Machine Body**
There is no anticorrosive coating on the cut surface, and rust and corrosion are suppressed by the alkaline component of the cutting fluid.
- 3 Improved Finished Surface Roughness and Cutting Wheel Life Due to Permeability and Cleanability**
Having the abrasive grains fall off suitably and the new abrasive grains become the face of the wheel is the preferred condition for the cutting wheel. The grinding fluid quickly rinses out the fallen-off or crushed abrasive grains and cuttings, to improve the finished surface roughness, and extend the cutting wheel's life.
- 4 Suppression of Cutting Fluid Spoilage**
As microorganisms breed and pH and rust prevention capabilities decrease, the water-soluble cutting fluid spoils, developing a putrid smell. The anti-spoilage additive ingredient suppresses this progression.



Paper Filter

We have paper filters available for the high-speed precision cutting machine FINECUT. The paper filter that matches the machine model type is included in the filter box as a set.

FINECOOL Specs

Capacity (Liters)	Code No.	Container Size (Width x Depth x Height)
1.8	FC-018	120x95x180
3.6	FC-036	150x110x250
18.0	FC-180	230x235x355

Size (mm)	Code No.	Applicable Machines
165 x 165 (20 sheets)	SF-01	SS-31 Model, M-30 Model (former 31 Model), Birdie 2 Model
350 x 450 (20 sheets)	SF-02	N-7 Model, SS-33 Model (former 32 Model) HS-45AC Model, 32F-200/300
410 x 490 (20 sheets)	SF-03	100 Model, 45 Model, Ace 20/30 Model, Super Seven/310 Model, 32F-500
410 x 100 m roll	SF-11	
410 x 50 m roll	SF-12	For Simple Filter Separator

FINECUT Example of Cutting Applications

Binding Cutting



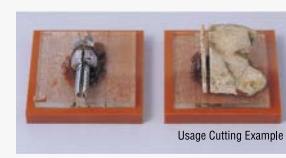
Using a heat compressive tube, put the thin materials you want to cut, such as injection needles, into the tube, add heat to shrink, and cut by binding.

Total No.	Central No. (n)	Outer No. (a)
7	3	2
19	5	3
37	7	4
61	9	5
91	11	6

Code No.	Cut Diameter (mm)	Suitable Binding Diameter (mm)
HC050	5.0	3.0
HC080	8.0	4.5
HC090	9.0	5.0
HC120	12.0	7.0
HC150	15.0	8.5
HC190	19.0	11.0
HC215	21.5	12.5
HC290	29.0	17.0
HC310	31.0	18.0
HC325	32.5	19.0

Note: For heating, please use an industrial dryer or hot water
Note: Please inquire separately regarding tube product standards.

Wax Cutting



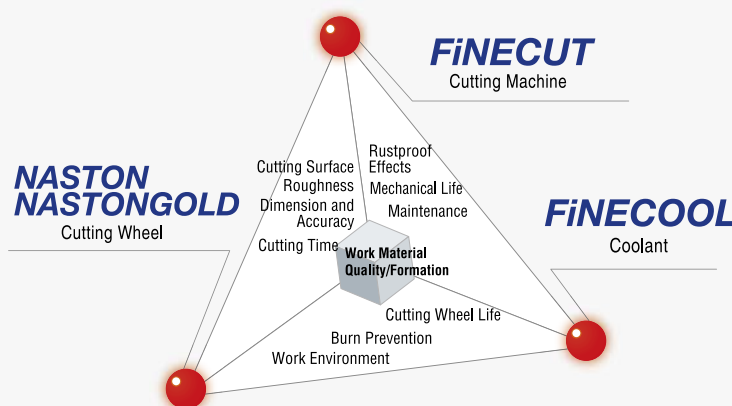
Heat-softening wax adheres strongly to the jig, and cuts materials of shapes that are difficult to clamp, and materials that break easily. The materials can be easily peeled from the jig by heating the wax after cutting.



- #### Wax Set
- | |
|----|
| WS |
|----|
- 1 A Wax (for general bonding) Softening Point 68 ° C, Adhesive Strength 44 kg/cm²
 - 2 B Wax (for small adhesive surfaces) Softening Point 75 ° C, Adhesive Strength 162 kg/cm²
 - 3 Cleaning Solution I, II
 - 4 Cleaning Tray
 - 5 Wax Dissolver
 - 6 Stick Wheel toys WA/GC (for dresser)
 - 7 Glass Mounting Plate for Cutting Sample
 - 8 Bake Mount Board for Vice Fixture (A set of 10 items of 8 types similar to the above.)
- Note: For heating, please use an industrial dryer or hot plate

Features of the FINECUT Series

The FINECUT series enables high-speed, stable precision cutting, even with materials that are difficult to cut, by using Heiwa's precision cutting wheel NASTONGOLD and NASTON.



- 1 | Mainly through use of the precision cutting wheel NASTON, stable, precision cutting of materials that are difficult to cut becomes possible.
- 2 | Supported by a long-life parts supply system and a quick-response maintenance system through internal production.
- 3 | Precision cutting processing can shorten or omit secondary processing, especially with expensive materials, to prevent material waste and contribute to cost reduction.

Processing with NASTON

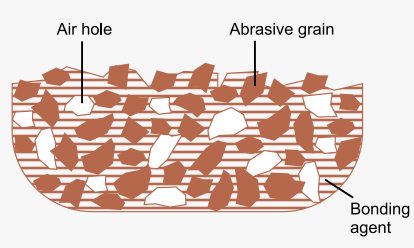


A type of precision processing method where a cutting wheel spinning at high speed is used to grind the material being processed via the extremely hard particles (abrasive grains) which the wheel consists of. The material can be gently processed without being damaged, while the superior precision cutting realizes a finely finished surface.

Characteristics

- 1 | Utilizes extremely hard mineral grains and hence, in addition to ordinal metal materials and hard brittle materials such as hardened steel and cemented carbide/ceramics can be cut.
- 2 | Excellent finish and superior size precision are realized by the extremely fine grinding process.
- 3 | The cutting speed is extremely high, thus making the overall cutting efficiency (volume of chips ground per hour) high even though the size of the chips is very small.

Mechanism



The body of the cutting wheel, as revealed by the illustration on the left, consists of 3 elements: abrasive grains, bonding agent, and air holes. The large number of abrasive grains on the working surface grinds the material away little by little because of their roughness. The abrasive grains gradually dull, get crushed, and eventually come away from the working surface. However, as grains fall off new abrasive grains sequentially appear on the surface. This means that the edge of the wheel remains at the end, although the external diameter does decrease in size.

Labeling and Characteristics of Cutting Wheels		A	100	N	B	205	×	0.8	×	25.4
		Abrasive Grains	Grain Size	Binding Degree	Bonding Agent	Outer Diameter		Thickness		Inner Diameter
A (Alundum)	GC (Green Carborundum)	# 80	#220	H, J, N, P, R (Soft/Hardness)	B: Resinoid Bond	φ75 mm - φ305 mm		0.3 mm - 1.2 mm		φ6 mm - φ31.75 mm
WA (White Alundum)	TC (Diamond)	#100	#320							
HA-NA (Heiwa Alundum)	AC (Alundum & Carborundum)	#150	#400							

Note: Abbreviated in the catalog and website

Abrasive Grains

Our abrasive grains have the following varieties, and the workpieces to be cut vary depending on their characteristics.

Classification	Symbol	Name
Alumina-Type	A	Alundum Bauxite is the main raw material, giving it high toughness (tenacity), and making it suitable for cutting materials with high tensile strength, such as iron and steel.
	WA	White Alundum The cutting edge is harder to purify than the A abrasive grains, sharpness is quickly generated, and there is low resistance on the overall body, so it does not generate a lot of heat. Depending on the workpiece, it's superior to the A abrasive grains.
	HA NA	Heiwa Alundum This original abrasive grain has a sharp blade and moderate abrasive grain, for high grindability, and is suitable for cutting hardened quenched items, etc.
Carbide-Type	GC	Green Carborundum Primarily composed of quartzite and carbonaceous materials, it is very hard but has low tenacity. Generally suitable for non-metal cutting.
	TC	Diamond The hardest among the abrasive grains, and suitable for cutting difficult materials for while the process using other abrasive grains would be difficult, weak to the generated heat during processing.
Blend	AC	Alundum & Carborundum A blend of the A and C abrasive grains. For cutting malleable cast iron.

Grain Size

Indicating the Size of Abrasive Grains
Our display range is from #80 - #400

Binding Degree

Strength at which the Binding Agent Binds the Abrasive Grains

The roughness of the finished surface is more or less determined by the granularity and the binding degree.

Display is from A to Z
Our company's display range is from H to R
The closer to A, the weaker the binding (soft)
The closer to Z, the stronger the binding (hard)
The strength of the binding is influenced by the cutting wheel friction and the grinding action (next important element after abrasive grains)

Cutting Wheel Binding Degree: weak (soft)

Since the force holding together the abrasive grains is weak, the grains fall off easily, resulting in the constant appearance of a new cutting edge. While it has an excellent cut, on the other hand, one characteristic is that the cutting wheel's friction is fast.

Cutting Wheel Binding Degree: strong (hard)

The abrasive grains don't fall off easily, so the abrasive grain protrusions are refined, and the grinding speed slows down. While the sharpness is inferior, one characteristic is that there isn't much grinding of the cutting wheel.

Help in the Selection of Cutting Wheels

By measuring the workpiece's hardness, it is possible to estimate the mechanical properties such as the material's strength and durability. By checking the hardness, it is possible to select the optimum abrasive grain and binding degree, so that it is possible to prevent the breakage of the workpiece and cutting wheel at the time of cutting, making for ideal cutting.



Note: The table displays the hardness comparison based on the Rockwell hardness (HRC) and Vickers hardness (HV)

Hardness Comparison	Rockwell Hardness (HRC)	Vickers Hardness (HV)
Extremely Hard	Above 75	Above 1478
Hard	About 60 - 70	About 697 - 1076
Regular	About 35 - 55	About 345 - 595
Soft	Around 30	Around 302
Extremely Soft	Below 20	Below 238

Types of Materials	Vickers Hardness (HV Conversion/Reference)	Cutting Wheel Standard Selection Example
Diamonds	7140 - 15300	TC-1/CA-1
SiC (Silicon Carbide)	2500	TC-1/TC-0/CA-1
Al2O3 (Sapphire)	2300	TC-1/CA-1
Cemented Carbide	1700 - 2050	TC-1/TC-0
Cermet	1650	TC-1/TC-0
Al2O3 (Alumina)	1400 - 2050	TC-1/TC-2/CA-1
Si3N4 (Silicon Nitride)	1500	TC-2/CA-1
ZrO2 (Zirconia)	1100 - 1300	TC-1/TC-0
Quartz (High Purity Quartz)	1103	TC-2/GC150H
Amorphous Metal	1100	GC150N-Naston C
AlN (Aluminum Nitride)	1000	TC-1/HA100J
SKH56 (High Speed Tool Steel, HSS)	723 -	HA100J/NA100J
Nitriding Steel	700 -	HA100J/NA100J
Tempered Glass	640	TC-2/GC150H
SUS440C (Martensitic Stainless Steel)	615	Stainless Steel A/31-A
Neodymium	600	TC-1
Borosilicate Glass	550 - 600	TC-2/GC150H
AFe204 (Ferrite)	530	TC-1/TC-2/GC320P
SKT6 (Alloy Tool Steel)	513 -	A100N/31-A
Cobalt Alloy	420 - 580	GC150H/A100N
Si-Cr Steel	500 -	HA100J/NA100J
Tungsten	430	GC150H/WA220R/TC-1
SUS630 (Precipitation Hardening-Type Stainless Steel)	375	WA100R/WA220R
NCF2B (Corrosion and Heat-Resistant Superalloy)	200 - 400	A100N/HA100J
SUP10 (Spring Steel Material)	364 - 430	A100N/31-A
High Tensile Strength Steel Sheet (High Tensile Material)	350 - 450	A100N/NA80N
SNiCrM815 (Nickel Chrome Molybdenum Steel)	311 - 376	HA100J/NA100J
SCM822 (Chromium Molybdenum Steel)	303 - 416	HA100J/31-A
SCM445 (Chromium Molybdenum Steel)	303 - 364	A100N/31-A
SNiCr815 (Nickel Chromium Steel)	286 - 389	A100N/31-A
SCr445 (Chromium Steel)	286 - 353	Stainless Steel A/31-A
Titanium Alloy 60 Types (64 Alloys)	280	GC150N/GC100N
SMnCr443 (Manganese Chromium Steel)	270 - 322	Stainless Steel A/HA80P
Molybdenum	260	WA100R/GC150N
NiTi Alloy	250	GC150L/HA100J
Corson Alloy	247	Stainless Steel A/31-A
SCr420 (Chromium Steel Gold)	248 - 336	A100N/31-N
SACM645 (Aluminum Chrome Molybdenum Steel)	242 - 303	Stainless Steel A/HA80P
Titanium Aluminum Alloy	240 - 320	GC150L/TC-2
SMn 443 (Manganese Steel)	230 - 303	Stainless Steel A/31-A
S55C (Carbon Steel for Machine Structural Use)	230 - 286	A100P/31-P

Types of Materials	Vickers Hardness (HV Conversion/Reference)	Cutting Wheel Standard Selection Example
Silver Tungsten	230	GC150H
SKS 7 (Alloy Tool Steel)	230 -	31-N/Stainless Steel A
Beryllium	220	WA220R/31-A
Iridium	220	TC-1/TC-2/H-15
Copper Tungsten	210 - 300	GC150L/Stainless Steel B
SUJ5 (High Carbon Chromium Bearing Steel)	213 -	A100N/HA100J
SK4 (Carbon Tool Steel)	204 - 287	A100P/31-P
SWCH16A (Carbon Steel Wire for Cold Forging)	204	A100P/31-P
S45C (Carbon Steel for Machine Structural Use)	202 - 270	A100P/31-P
Silicon Steel Plate	180 - 205	A100N/GC320R
SF640B (Carbon Steel Metal Product)	188	A100P/31-P
SUS304 (Austenitic Stainless Steel)	187	Stainless Steel A/Stainless Steel B
SUS430 (Ferritic Stainless Steel)	183	Stainless Steel A/Stainless Steel B
SM570 (Rolled Steel Material for Welded Structure)	160 - 220	A100P/31-P
SUM22 (Sulfur Combined Comfortable Steel)	156 - 228	A100P/31-P
Aluminum Alloy (7000 Series, Extra Super Duralumin)	155	A100N/HA100J/WA100R
S30C (Carbon Steel for Machine Structural Use)	153 - 213	A100P/31-P
Inconel (Heat Resistant Nickel Alloy)	150 - 280	HA100J/GC320R
Zirconium Steel	140	WA220R/31-A
Kovar	120 - 150	WA220R/GW320R
SS400 (Rolled Steel for General Structure)	120 - 140	A100P/31-P
Pure Iron	110	A100P/31-P
Titanium Alloy	110 - 150	GC150N/LH/WA100R
Hastelloy Alloy (Corrosion-Resistant Nickel Alloy)	100 - 230	HA100J/GC320R
Hard Platinum	100	H-15/H-32/H-40
Aluminum Alloy 2000 Series (Al-Cu-Mg Series)	100	A100N/Stainless Steel A/31-A
SPCC (Cold Rolled Steel Sheet)	95 - 170	A100P/WA220R
SECE (Electro-Galvanized Steel Sheet)	95 - 170	A100P
Aluminum Alloy 6000 series (Al-Mg-Si series)	95	HA80P/Stainless Steel A/31-A
Silver	90	H-15/H-32/H-40
Brass	80 - 150	GC150N/31-N
Aluminum Alloy 7000 series (Al-Zn-Mg series)	80	HA80P/Stainless Steel A
Tantalum	70	Stainless Steel B
Carbonyl Iron	56 - 80	A100N/31-N
Bronze	50 - 100	WA100R/GC320R/GC150N/L
Gold	58	H-15/H-32/H-40
Platinum (Pure Platinum)	50	H-15/H-32/H-40
Magnesium Alloy	49 - 75	A100N/GC150L/WA100R
Pure Magnesium	46	A100N/GC150L/WA100R
White Metal	15 - 30	Stainless Steel A/31-A/HA80P
Lead-Free Solder Material	20	Stainless Steel A

NASTON Trial Pack

In order to respond to cutting-edge needs for cutting processing of rare metal material etc., we have strengthened the Trial Pack line up.

For Stainless Steel/Tungsten Alloy			
S Size:	OTMS-S	L Size:	OTMS-L
31 - A	160x0.7	HA80P	205x0.8
Stainless Steel A	160x0.8	Stainless Steel A	205x1.0
GC150N	150x0.5	GC150N	205x0.8
Stainless Steel B	160x0.5	Stainless Steel B	205x0.7
GC320R	150x0.5	GC320R	205x0.8
WA100R	150x0.5	GW320R	205x0.8

For Titanium/Nickel Alloy			
S Size:	OTMN-S	L Size:	OTMN-L
HA100J	160x0.7	HA100J	205x0.8
Stainless Steel A	160x0.8	GC100P	205x0.8
GC150N	150x0.3	GC100N	205x0.8
GC150N	150x0.5	GC150L	205x0.8
GC150L	150x0.5	GC150H	205x0.8
GC150H	150x0.5	H-15	205x0.5

For Glass/Carbon			
S Size:	OTMG-S	L Size:	OTMG-L
GC150N	150x0.5	GC100P	205x0.8
GC150L	150x0.5	GC100N	205x0.8
GC150H	150x0.5	GC150N	205x0.8
GC320R	150x0.5	GC150L	205x0.8
GC320P	150x0.3	GC150H	205x0.8
GC400L	150x0.5	H-32	205x0.5

For General Steel Materials			
S Size:	OTMF-S	L Size:	OTMF-L
HA100J	160x0.7	HA100J	205x0.8
A100P	150x0.5	A100P	205x0.8
A100N	150x0.5	A100N	205x0.8
A100N	150x1.0	HA80P	205x0.8
31-A	160x0.7	NA100J	205x0.8
WA100R	150x0.5	WA100R	205x0.8

NASTON Photographs by NASTON size

S Size
Outer Diameter 150 mm
Inner Diameter 25.4 mm
(partial 160 mm is also included)

L Size
Outer Diameter 205 mm
Inner Diameter 25.4 mm

Diamond Cutting Wheel for Hard and Brittle Materials

NASTONGOLD



NASTONGOLD

Exhibits its capabilities in the cutting of hard and brittle materials, such as cementer carbide and ceramics, hard glass, and sapphire glass, as well as materials that are difficult to cut such as tungsten, ferrite, and sendust. Retaining its soft sharpness to the end, it reduces chipping and improves the processing quality. Please be sure to consult us when you are having problems with your cutting.

Note: The above is an example, and the selection may differ depending on size, shape, quenching, etc.

NASTONGOLD Standard Product Type Other Order Product Type

Product No.	Dimensions (mm)	Code No.	Application
	Outer Diameter x Thickness x Inner Diameter		
TC-1 (#140)	75 x 0.5 x 6.0	TC1-7505	Cemented Carbide Ferrite Tungsten Other Magnetic Materials
	90 x 0.5 x 10.0	TC1-9005	
	150 x 0.5 x 25.4	TC1-15005	
	180 x 0.6 x 25.4	TC1-18006	
	205 x 0.7 x 25.4	TC1-20507	
	230 x 0.8 x 25.4	TC1-23008	
TC-2 (#180)	75 x 0.5 x 6.0	TC2-7505	Ceramics Hard Glass Quartz, Crystals, etc.
	90 x 0.5 x 10.0	TC2-9005	
	150 x 0.5 x 25.4	TC2-15005	
	180 x 0.6 x 25.4	TC2-18006	
	205 x 0.7 x 25.4	TC2-20507	
TC-0 (#100)	230 x 0.8 x 25.4	TC2-23008	For Multi-Purpose High-Hardness Materials
	255 x 1.0 x 31.75	TC2-25510	
	150 x 0.5 x 25.4	TC0-15005	
	205 x 0.7 x 25.4	TC0-20507	

Note: Order units are 1 box (1 wheel).

NASTONGOLD Super

A multi-purpose product developed with a unique resin by increasing the mixing ratio of high-quality diamond abrasive grains. It boasts a high performance for cutting hard and brittle materials, and difficult to cut composites.

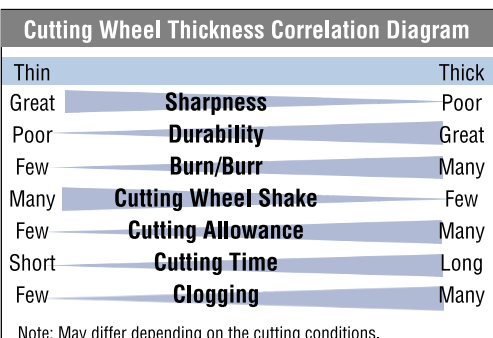
NASTONGOLD Super

Product No.	Dimensions (mm)	Code No.	Application
	Outer Diameter x Thickness x Inner Diameter		
CA-1	150 x 0.5 x 25.4	CA1-15005	Fine Ceramics Difficult to Cut Materials such as SiC, Si3N4, etc.
	180 x 0.6 x 25.4	CA1-18006	
	205 x 0.7 x 25.4	CA1-20507	

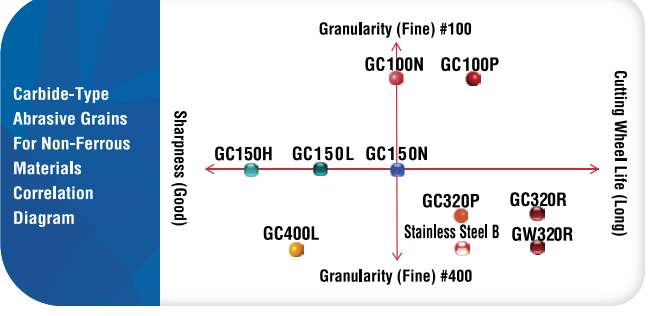
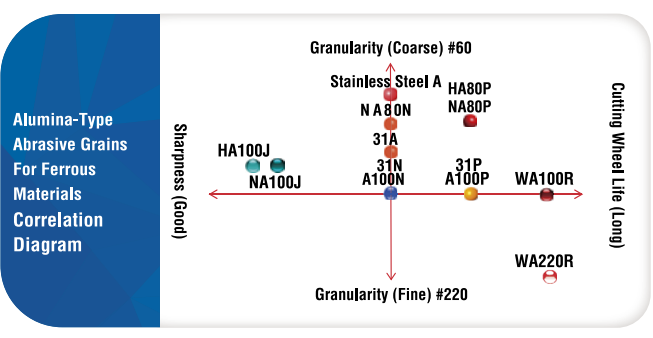
Note: Order units are 1 box (1 wheel).

Cutting Wheel Selection Examples for Each Hardness Material

Cutting Wheel Correlation Diagram



Thickness Outer Diameter	0.3	0.5	0.6	0.7	0.8	1.0	1.2	Inner Diameter mm
75								6.0
90								10.0
150								25.4
160								25.4
180								25.4
205								25.4
230								25.4
255								31.75
305								31.75



Product Number	Dimensions (mm) Outer Diameter x Thickness (Inner Diameter 25.4)	Code No.	Dimensions (mm) Outer Diameter x Thickness (Inner Diameter 25.4)	Code No.	Dimensions (mm) Outer Diameter x Thickness (Inner Diameter 25.4)	Code No.	Cutting Material	Processed Product Example	Features	Standard Selection	Focus on Sharpness	Focus on Life time						
Compatible Model		SS-31 Model - Birdie 2-Type (φ150-φ160)		HS-100G/G2 Model/HS-45AC Model /Ace 30Z Model							Most Standard Selected Varieties	Selected Varieties that Prioritize Sharpness over Standard Selection	Selected Varieties that Prioritize Cutting Wheel Life over Standard Selection					
		HS25/25A Model (φ150 only can be installed)		N-7 Model - SS-33 Model 32F-300/250A/200 Model		32F-500 Model												
For Ferrous Materials	A100P	150 x 0.5 150 x 1.0	A100P-15005 A100P-15010	205 x 0.8 205 x 1.0	A100P-20508 A100P-20510	230 x 1.0	A100P-23010	Hardness 100 200 HV General Carbon Steel (S-C) Tool Steel (SK) Mild Steel (SS)	Rolled steel material, bolt, nut, file, engraving, clutch, general steel material, pipe, wire, rasp, drill, punch, tool, press die, gauge, stamp, snap, extrusion pin for die, various springs	Commonly called "green wood," it is suitable for rolling steel for general structures. The cost performance for 31-P is excellent for the SS-31 and Birdie II models.	A100P	A100N	HA80P					
	H-10	—	—	205 x 0.5	H10-20505	230 x 0.6	H10-23006				31-P	31-N	HA80P					
	31-P	160 x 0.7	31P-16007	—	—	—	—				—	—	—					
	For Ferrous Materials	A100N	150 x 0.5 150 x 1.0	A100N-15005 A100N-15010	205 x 0.8 205 x 1.0	A100N-20508 A100N-20510	230 x 1.0	A100N-23010	Hardness 100 400 HV Alloy Tool Steel (SKS) Die Steel (SKD) Quenched items such as spring steel (SUP) Heat Resistant/Oxidation Resistant Steel	Tool, drill, quenched die, gauge, punching spring, torsion bar, spring, bellows, fastener, boiler tube, round saw, die casting type, extrusion tool, casting mold, press die, mechanical parts, high temperature corrosion resistant bolt, metallic foil for electron microscopy	Has a relatively wide defensive range, and is suitable for quenched products from general carbon steel. The cost performance for 31-N is excellent for the SS-31 and Birdie II models.	A100N	HA100J	A100P				
		H-12	—	—	205 x 0.5	H12-20505	230 x 0.6	H12-23006				31-N	HA100J	31-P				
		31-N	160 x 0.7	31N-16007	—	—	—	—				—	—	—				
		For Ferrous Materials	HA100J	160 x 0.7	HA100J-16007	205 x 0.8	HA100J-20508	230 x 1.0	HA100J-23010	Hardness 300 750 HV High-hardness hardened products such as special steel (SNCM) and high speed steel (SKH), high-strength steel super heat resistant alloy (Ni group, Fe group, Co group)	Crankshaft, shift knob, engine parts, bicycle frame, muffler for automobile / motorcycle, cutting tool, hard material cutting tool, ship, bridge, petrochemical parts, parts for heat treatment furnace, turbine blade, pressure vessel, medical equipment, high temperature bolt, thermocouple protection tube	Using sharpness as a priority, it's suitable for high-hardness quenched products, and nickel alloy steel.	HA100J	-	NA100J WA100R HA80P			
			NA100J	—	—	205 x 0.8	NA100J-20508	230 x 1.0	NA100J-23010				Stainless Steel A	-	-			
			NA80N	—	—	—	—	230 x 1.0	NA80N-23010				HA80P	Stainless Steel A, HA100J	-			
			For Ferrous Materials	Stainless Steel A	160 x 0.8	SUSA-16008	205 x 1.0	SUSA-20510	230 x 1.0	SUSA-23010	Including the materials above, it has a wide application range, and is excellent in durability. It's ideal for cutting macromolecular materials with a relatively large diameter, such as SCM, SKD, SUS.	Engine parts, bicycle frame, motorcycle brake disk, spring, nut, bolt, medical equipment, steam turbine, general scientific equipment, kitchen utensils, construction, building, vehicle, heat exchange	The cutting wheel eye is relatively coarse, making it suitable for solid materials with a relatively large diameter, such as chrome steel (SCM), die steel (SKD), and stainless steel (SUS).	HA80P	Stainless Steel A, HA100J	-		
				HA80P	—	—	205 x 0.8	HA80P-20508	230 x 1.0	HA80P-23010				NA80P	NA100J	Stainless Steel A		
				NA80P	—	—	—	—	230 x 1.0	NA80P-23010				31-A	31-N, A100N	HA80P		
For Ferrous Materials				31-A	160 x 0.7	31A-16007	205 x 0.8	31A-20508	230 x 1.0	31A-23010	Tungsten, stainless steel, kovar	Cutlery, work tool, railway car, IC lead frame, electric parts	It is suitable for solid materials with a relatively small diameter, such as tungsten and stainless steel.	WA100R	HA100J	-		
				WA100R	150 x 0.5	WA100R-15005	205 x 0.8	WA100R-20508	230 x 1.0	WA100R-23010				WA220R	WA100R	-		
				WA220R	150 x 0.5	WA220R-15005	205 x 0.8	WA220R-20508	230 x 1.0	WA220R-23010				H-22	—	—		
	For Non-Ferrous Materials			AC100J	—	—	205 x 0.8	AC100J-20508	230 x 1.0	AC100J-23010	Normal casting (FC), magnet steel, malleable cast iron, ductile	Engine parts, bicycle frame, motorcycle brake disk, spring, nut, bolt, medical equipment, steam turbine, general scientific equipment, kitchen utensils, construction, building, vehicle, heat exchange	Suitable for nonmetal and nonferrous metal cast iron materials.	AC100J	-	-		
				GC100P	—	—	205 x 0.8	GC100P-20508	230 x 1.0	GC100P-23010				GC100N	GC150N GC150L, GC150H	GC100P		
				GC100N	—	—	205 x 0.8	GC100N-20508	230 x 1.0	GC100N-23010				GC150N	GC150L GC150H	GC100P		
		For Non-Ferrous Materials		GC150N	150 x 0.3 150 x 0.5 150 x 1.0	GC150N-15003 GC150N-15005 GC150N-15010	205 x 0.8	GC150N-20508	230 x 1.0	GC150N-23010	Titanium, titanium aluminum, super heat resistant alloy (Ni group, Fe group, Co group), heat/oxidation resistant steel, nickel-cobalt alloy, tungsten, molybdenum, bakelite, rock, ceramics (alumina, magnesia, zirconia), composite materials (carbon fiber, glass fiber), quartz, high-purity quartz, hard glass, general soda glass, resin (phenol, epoxy, melamine, other), boron	Muffler for automobile/motorcycle, shift knob, turbocharger, automobile interior parts, high temperature corrosion resistant bolt, spring, bellows, fastener, petrochemical parts, parts for heat treatment furnace, turbine blade, pressure resistant container, gas turbine combustion cylinder, nitric acid production plant, high-heat heat exchanger, turbine parts for aircraft parts jet engines, compressors, ships and vehicles, electronic and electric parts, industrial plants, marine and space development, thermocouple protection tubes, medical materials, golf clubs, cameras, clocks, glasses, cemented carbide tools, incandescent lamps, filaments of electron tubes, lighting equipment, for embedding test specimens, connectors, glass processed products (syringe tube)	Suitable for cutting nonferrous metals such as titanium and aluminum alloys. Please choose the binding degree according to the material hardness.	GC150L	GC150H	GC150N, GC100P		
				H-15	—	—	205 x 0.5	H15-20505	230 x 0.6	H15-23006				GC150H	TC-2	GC150L, GC150N, TC-2		
				GC150L	150 x 0.5	GC150L-15005	205 x 0.8	GC150L-20508	230 x 1.0	GC150L-23010				GC320P	—	—		
			For Non-Ferrous Materials	GC150H	150 x 0.5	GC150H-15005	205 x 0.8	GC150H-20508	230 x 1.0	GC150H-23010	Stainless steel, copper alloy, magnesium alloy, tungsten, cobalt, nickel alloy, molybdenum, kovar, precious metals such as gold, silver and platinum, lithium, various precision pipes, thin pipes	Automobile wheel, steering wheel, seat frame, mechanical parts, chemical industry, ships, gears, connectors, welded pipe for gas piping, tube plate for heat exchanger, catalytic gas purification device, gasket, clock parts, wiring instruments, switch, relay, conductive hard material, contact material, dentistry alloy, injection needle, wire, jewelry accessories, small articles, musical instruments, hard tool material, batteries, personal computers, hard disk, camera, mobile phones	Ideal for cutting within the burrs on the cut surface, such as thin-walled pipes of stainless steel with detailed abrasive grain eyes, and small diameter wire of tungsten/cobalt.	GC320P	—	—		
				GC320P	150 x 0.3	GC320P-15003	—	—	—	—				GC320R	205 x 0.8	GC320R-20508	230 x 1.0	GC320R-23010
				GC320R	150 x 0.5	GC320R-15005	205 x 0.8	GC320R-20508	230 x 1.0	GC320R-23010				H-32	—	—		
For Non-Ferrous Materials				H-32	—	—	205 x 0.5	H32-20505	230 x 0.6	H32-23006	Tungsten, molybdenum, kovar	Blades, work tool, railway car, IC lead frame, electric parts	Engine parts for automobiles, machine tools, construction machinery, diesel engines for ships, cast iron tubes	GC400L	—	—		
				GW320R	—	—	205 x 0.8	GW320R-20508	230 x 1.0	GW320R-23010				Stainless Steel B	—	—		
				Stainless Steel B	160 x 0.5	SUSB-16005	205 x 0.7	SUSB-20507	—	—				GC400L	150 x 0.5	GC400L-15005	205 x 0.7	GC400L-20507
	For Non-Ferrous Materials			GC400L	150 x 0.5	GC400L-15005	205 x 0.7	GC400L-20507	—	—	Normal casting (FC), magnet steel, malleable cast iron, ductile	Engine parts for automobiles, machine tools, construction machinery, diesel engines for ships, cast iron tubes	Engine parts for automobiles, machine tools, construction machinery, diesel engines for ships, cast iron tubes	H-40	—	—		
				H-40	—	—	205 x 0.5	H40-20505	230 x 0.6	H40-23006				GC320R	255 x 1.2	GC320R-25512	—	—

ASTON Cutting Wheel

φ150 - 230
Standard Cutting Wheel Selection Examples

- Standard Product Variety
- Other Production Varieties

(Inner Diameter 31.75 mm - 1 box, 25 wheels)

Product Number	Dimensions (mm) Outer Diameter x Thickness (Inner Diameter 31.75)	Code No.	Dimensions (mm) Outer Diameter x Thickness (Inner Diameter 31.75)	Code No.	Cutting Material	Processed Product Example		
Compatible Model		SP-7/320Z Model						
For Ferrous Materials	A100P	255 x 1.2	A100P-25512	305 x 1.2	A100P-30512	Hardness 100 200 HV General Carbon Steel (S-C) Tool Steel (SK) Mild Steel (SS)		
	A100N	255 x 1.2	A100N-25512	305 x 1.2	A100N-30512		Hardness 100 400 HV Alloy Tool Steel (SKS), Die Steel (SKD) Quenched items such as spring steel (SUP) Heat Resistant/Oxidation Resistant Steel	
	HA100J	255 x 1.2	HA100J-25512	305 x 1.2	HA100J-30512			
	NA100J	255 x 1.2	NA100J-25512	305 x 1.2	NA100J-30512			
	For Ferrous Materials	NA80N	255 x 1.2	NA80N-25512	305 x 1.2	NA80N-30512	Hardness 300 750 HV High-hardness hardened products such as special steel (SNCM) and high speed steel (SKH), high-strength steel super heat resistant alloy (Ni group, Fe group, Co group)	
		Stainless Steel A	255 x 1.2	SUSA-25512	—	—		Including the materials above, it has a wide application range, and is excellent in durability. It's ideal for cutting macromolecular materials with a relatively large diameter, such as SCM, SKD, SUS.
		HA80P	255 x 1.2	HA80P-25512	—	—		
		NA80P	255 x 1.2	NA80P-25512	305 x 1.2	NA80P-30512		
		For Non-Ferrous Materials	WA220R	255 x 1.2	WA220R-25512	—	—	Tungsten, molybdenum, kovar
			AC100J	255 x 1.2	AC100J-25512	—	—	Normal casting (FC), magnet steel, malleable cast iron, ductile
			GC150N	255 x 1.2	GC150N-25512	305 x 1.2	GC150N-30512	Titanium, titanium aluminum, super heat resistant alloy (Ni group, Fe group, Co group), heat/oxidation resistant steel, nickel-cobalt alloy, tungsten, molybdenum, bakelite, rock, ceramics (alumina, magnesia, zirconia), composite materials (carbon fiber, glass fiber), quartz, high-purity quartz, hard glass, general soda glass, resin (phenol, epoxy, melamine, other), boron
			GC150L	255 x 1.2	GC150L-25512	305 x 1.2	GC150L-30512	—
GC150H			255 x 1.2	GC150H-25512	—	—	—	
GC320R			255 x 1.2	GC320R-25512	—	—	Stainless steel, copper alloy, magnesium alloy, molybdenum, kovar, precious metals such as gold, silver and platinum, lithium, various precision pipes, thin pipes	

ASTON Cutting Wheel

φ255 - 305
Standard Cutting Wheel Selection Examples

- Standard Product Variety
- Other Production Varieties

ASTON Cutting Wheel H Series (Inner Diameter 25.4 mm - 1 box, 25 wheels)

Product Number	Dimensions (mm) Outer Diameter x Thickness	Code No.	Dimensions (mm) Outer Diameter x Thickness	Code No.	Materials to be Cut
H-10	205 x 0.5	H10-20505	230 x 0.6	H10-23006	General Steel Materials
H-12	205 x 0.5	H12-20505	230 x 0.6	H12-23006	Heat-Treated Materials, Special Steel
H-15	205 x 0.5	H15-20505	230 x 0.6	H15-23006	General Non-ferrous Materials
H-22	205 x 0.5	H22-20505	230 x 0.6	H22-23006	Copper, Brass, Stainless Steel
H-32	205 x 0.5	H32-20505	230 x 0.6	H32-23006	Stainless Steel, Tungsten, Molybdenum
H-40	205 x 0.5	H40-20505	230 x 0.6	H40-23006	General Non-Ferrous Materials, Precious Metals Such as Gold, Silver

For Former Dry-Type Birdie Model (Inner Diameter 25.4 mm - 1 box, 25 wheels) For Former S-2 Model (Inner Diameter 6 mm - 1 box, 50 wheels)

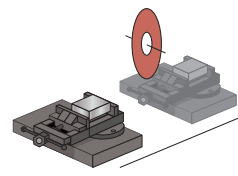
Product Number	Dimensions (mm)	Code No.	Grinding Material	Product Number	Dimensions (mm)	Code No.	Grinding Material
Naston A	160 x 0.7	BDA-16007	General Carbon Steel/Tool Steel	A100P	75 x 0.5	A100P-07505	General Carbon Steel/Tool Steel
Naston B	160 x 0.7	BDB-16007	Resin/Bakelite	GC150P	75 x 0.5	GC150P-07505	Resin/Bakelite
Naston C	160 x 0.7	BDC-16007	Copper/Brass/Stainless Steel	WA120P	75 x 0.5	WA120P-07505	Copper/Brass/Stainless Steel

For S-5 Model/Former MM-G Model (Inner Diameter 10 mm - 1 box, 50 wheels) End Surface Polisher Segment Grindstone for Fine Limiter

Product Number	Dimensions (mm)	Code No.	Grinding Material	Product Number	Finished Surface	No. of Sheets	Code No.	Grinding Material
A100P	90 x 0.5	A100P-09005	General Carbon Steel/Tool Steel	Mid-Level	Mid-Finish	6-Pack	B-6-6	For a wide range of precision grinding such as hard and soft iron alloy cast iron and stainless steel, etc., and for difficult grinding of tool steel, die steel, hardened alloy steel
GC320P	90 x 0.5	GC320P-09005	Stainless Steel, Resin, Precious Metals such as Gold, Silver	Detailed	Top-Finish	6-Pack	B-12-6	
WA120P	90 x 0.5	WA120P-09005	Copper/Brass/Stainless Steel			8-Pack	B-12-8	

Horizontal Cutting Method

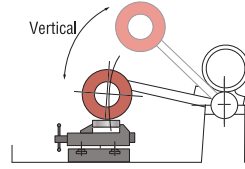
Utilized by the HS Series



This is a cutting method in which the vertical position (Z-axis) of the cutting wheel is fixed at an arbitrary height and the table on which the vise is placed cuts horizontally (Y-axis) toward the cutting wheel. (The cutting wheel is fixed and moves the cutting material toward the wheel.) As the table also moves to the left and right (X-axis), it can be applied to specimens, and cutting in the longitudinal direction. Stable precision cutting can be done for various shapes, but it is unsuitable for angled cutting.

Main Shaft Vertical Cutting Method

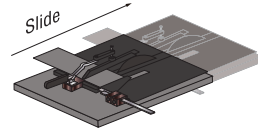
Utilized by the SP Series



Cutting method in which the vise is fixed, and the cutting wheel cuts down from the top and goes down cutting into the material. (The cutting material is fixed, the cutting wheel moves towards the cutting material.) This is powerful precision cutting that can be applied to cutting difficult-to-cut materials such as heavy shafts and Blocks and can also be applied to angled cutting. However, it is unsuitable for cutting board-shaped materials.

Table Movement Cutting Method

Utilized by the Safety 31-33/32F Series



Cutting method in which the sliding table is placed on the left/right rails of the unit body, and moved forward in order to cut. (The cutting wheel is fixed, and move the cutting materials that are fixed to the sliding table towards the cutting wheel.) Similar to lifting table saw used for woodworking, the cutting wheel comes out from the bottom of the table, Suitable for long-stroke cutting for boards.

Series	Model Type	Code No.	Cutting Method	Mounting Cutting Wheel Diameter (Outer Diameter mm)	Cutting Wheel Effective Usa Cost	Standard Cutting Ability (mm)			Cutting Wheel Flange Diameter (Specially Included)	Main Shaft Diameter (mm) • No. of Rotations (rpm)	Main Shaft Power	Work Table Movement		Spindle Movement Z Vertical Direction (mm)	Automatic Cutting • Return Speed (mm per minute)	Automatic Cutting Motor	Coolant Pump • Tank Volume	Electric Capacity (KVA)	Noise (during idle) (db)	Machine Size Width x Depth x Height (mm)	Machine Weight (kg)	Listed Page
						○ Pipe	● Solid Materials	■ Board Materials (Height x Length)				X Left/Right Direction (mm)	Y Cutting Direction (mm)									
SP	SP-7	SP7	Main Shaft Vertical Automatic/Manual	φ305 φ255	97.5 72.5	φ50	φ50	-	φ110	φ31.75 2000	AC200V 3-Phase/4P/2.2kW	-	-	63(Oil Pressure) 130(Manual)	0 - 100 3000 fixed	AC200V 3-Phase/75W (Oil Pump)	AC200V 3-Phase/60W/60L	3.1	57	650 x 1265 x 1550	450	18P
HS	HS-100G2	HS100G2	Horizontal Cutting, Automatic/Manual Main Shaft Vertical/Manual	φ230 φ205	60.0 47.5	φ45	φ40	20 x 75	φ110 (φ90)	φ25.4 3000	AC200V 3-Phase/2P/2.2kW	110 (Manual)	240 (Manual)	125 (Manual)	4 - 300 800 fixed	DC24V (Pulse Motor)	AC200V 3-Phase/40W/60L	3.0	59	1100 x 1170 x 1560	500	12P
	HS-45AC	HS45AC	Horizontal Cutting Automatic/Manual	φ230 φ205	60.0 47.5	φ40	φ30	15 x 75	φ110 (φ90)	φ25.4 3000	AC200V 3-Phase/2P/1.5kW	60 (Manual)	210 (Manual)	190 (Manual)	6 - 100 100 fixed	AC200V Single Phase/10W	AC200V 3-Phase/40W/30L	2.2	66	720 x 1035 x 1450	290	14P
	HS-25A	HS25A	Horizontal Cutting Automatic/Manual	φ150	35.0	φ25	φ20	5 x 50	φ80	φ25.4 3400/4100 (50/60Hz)	AC200V 3-Phase/2P/400W	60 (Manual)	150 (Manual)	50 (Manual)	3 - 47/3 - 57 (50/60Hz)	AC200V Single Phase/10W	AC200V Single Phase/10W/9L	1.0	55	620 x 670 x 580	85	15P
	HS-25	HS25	Horizontal Cutting Manual	φ150	35.0	φ25	φ20	5 x 50	φ80	φ25.4 3400/4100 (50/60Hz)	AC200V 3-Phase/2P/400W	60 (Manual)	150 (Manual)	50 (Manual)	-	-	AC200V Single Phase/10W/9L	1.0	55	620 x 670 x 580	85	15P
Manual	N-7	N7W N7PIN	Table Manual	φ205	38.0	φ30	φ30	-	φ90	φ25.4 3000	AC200V 3-Phase/2P/1.5kW	-	-	-	-	-	AC200V 3-Phase/40W/30L	2.0	65	705 x 940 x 1250	125	General 22P PIN Exclusive 24P
	Safety 33	SS33W SS33PIN	Table Movement Manual	φ205	48.0	φ30	φ25	10 x 75	φ80	φ25.4 2500/3000 (50/60Hz)	AC200V 3-Phase/4P/0.75kW	-	140 (Manual)	-	-	-	AC200V 3-Phase/40W/30L	1.3	68	415 x 742 x 1040	80	General 23P PIN Exclusive 25P
	Safety 31	SS31W SS31PIN	Table Movement Manual	φ160 φ150	35.0 30.0	φ20	φ15	5 x 80	φ56	φ25.4 3000/3600 (50/60Hz)	AC100V Single Phase/4P/400W	-	130 (Manual)	-	-	-	AC100V Single Phase/10W/4.5L	0.9	63	475 x 725 x 430	54	General 23P PIN Exclusive 25P
	Birdie 2	BD2	Main Shaft Vertical Manual	φ160 φ150	52.0 47.0	φ15	φ15	5 x 20	φ56	φ25.4 3200/3800 (50/60Hz)	AC100V Single Phase/2P/200W	-	-	-	-	-	AC100V Single Phase/10W/4.5L	0.6	59	400 x 470 x 550	40	26P
	S-5	S5	Main Shaft Vertical Manual	φ90 φ75	27.0 19.5	φ5	φ3	-	φ26	φ10.0/φ6.0 5300/6400 (50/60Hz)	AC100V Single Phase/150W	-	-	-	-	-	-	0.4	57	260 x 240 x 230	9.5	26P
Board Material	32F-300	32F300	Table Movement Manual	φ205	38.0	-	-	10 x 300	φ80	φ25.4 2500/3000 (50/60Hz)	AC200V 3-Phase/4P/0.75kW	-	400 (Manual)	-	-	-	AC200V 3-Phase/40W/30L	1.3	64	510 x 1250 x 1010	137	20P
	32F-250A	32F250A	Table Movement Automatic/Manual	φ205	38.0	φ30	φ25	5 x 250	φ80	φ25.4 2500/3000 (50/60Hz)	AC200V 3-Phase/4P/0.75kW	-	400 (Manual)	-	6 - 100 (Stepless Speed Change) 100 fixed	AC200V Single Phase/10W	AC200V 3-Phase/40W/30L	1.5	64	660 x 1230 x 1250	180	21P
	32F-200	32F200	Table Movement Manual	φ205	38.0	φ30	φ25	10 x 200	φ80	φ25.4 2500/3000 (50/60Hz)	AC200V 3-Phase/4P/0.75kW	-	400 (Manual)	-	-	-	AC200V 3-Phase/40W/30L	1.3	64	510 x 1250 x 980	143	20P

FINE CUT

Specification Comparison Chart by Machine Type

FINECUT

HS-100G2 Model

Automatic/Manual Cutting Type

HS100G2

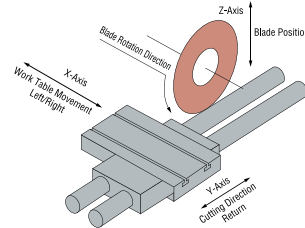
The installation of a touch panel that clarifies the status improves the affinity with operators!



Touch Panel

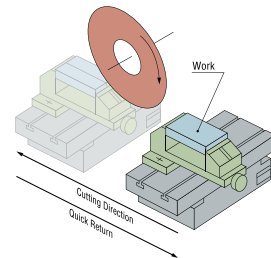


XYZ Composition



The work table can be moved left/right (X-axis) and forwards/backwards in the cross-cutting direction (Y-axis). Also, the blade cutting height (Z-axis) can be optionally adjusted using the round handle on the left front side of the machine, making for a mechanism that can cut up and down the main shaft.

Automatic Cutting - Quick Return Style



The cutting position is set with the touch panel, and after the settings have been made the cutting is done automatically. The cutting speed can be set controlled from 4-300 mm/min, according to the conditions such as the material, product shape, and accuracy. Once the cutting stroke is positioned by the one-touch button operation, from here the cutting is completed automatically, and the table quickly returns to the cycle stop. Once the settings have been made, the machine will finish cutting without an operator needing to be present.

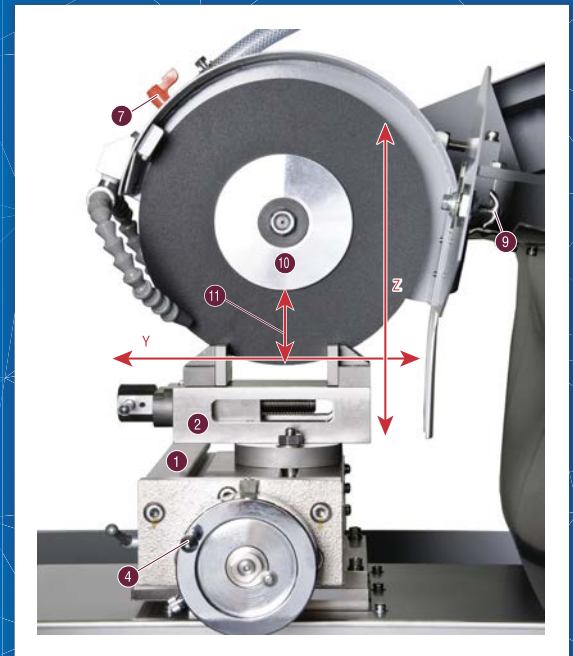
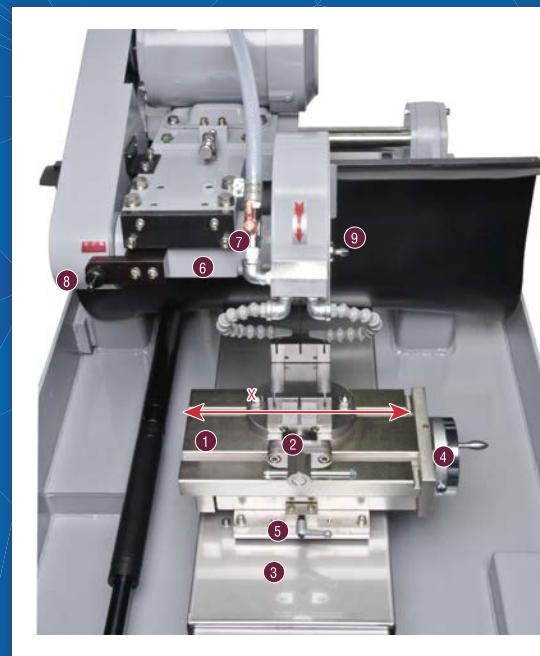
Vise Line-Up

1 0~120mm Long Vise Steel Type: SP-V11 Stainless Steel Type: ST-V11	2 0~80mm Flat Rotating Vise Steel Type: SP-V12 Stainless Steel Type: ST-V12
3 0~120mm Long Flat Rotating Vise Steel Type: SP-V13 Stainless Steel Type: ST-V13	4 0~80mm Double Vise Steel Type: SP-V14 Stainless Steel Type: ST-V14
5 0~120mm Long Double Vise Steel Type: SP-V15 Stainless Steel Type: ST-V15	6 0~80mm Double Vise w/Scale Steel Type: SP-V18 Stainless Steel Type: ST-V18
7 AIR ON/OFF Air Vise Steel Type: SP-V17	8 Gonio Stage Steel Type: SP-V16

9 Exclusive Jig

*1 Arrangement necessary
Note: Please inquire separately regarding stainless steel spec vise
Note: Please view option pages 16-17 for separate specifications

Main Unit Internal Composition

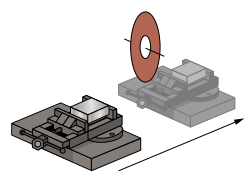


- 1 Work Table Part (Electroless nickel plating specification)
- 2 Standard Stainless Steel Vise (Vise opening 0 - 80 mm) (w/graduation ring and 0.02 mm scale movement)
- 3 Stainless Steel Front/Back Feed Cover (countermeasure specification for foreign objects)
- 4 Work Table Side Feed Handle (w/graduation ring)
- 5 Work Table Stopper Knob
- 6 Oil-Less Spindle (free maintenance specification)
- 7 Coolant Discharge Adjustment Tap
- 8 Main Shaft Stopper for Cutting Wheel Exchange
- 9 Cutting Wheel Cover Open/Close Knob
- 10 Cutting Wheel Flange (made from aluminum)
- 11 Cutting Wheel Effective Use Cost
- X Work Table Movement Amount: Left/Right 110 mm manual
- Y Cutting Movement Amount: Front/Back 240 mm (during front-right handle operation)
- Z Main Shaft Movement Amount: Vertical 125 mm (during front-left handle operation)

HS-100G2 Standard Specification

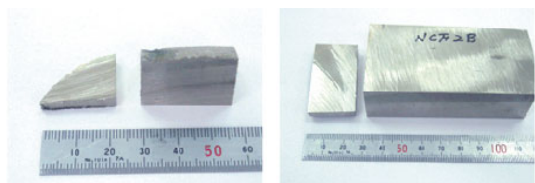
Standard Cutting Ability	□ Pipe Materials 45 mm ● Solid Materials 40 mm — Board Materials 20 x 75 mm
Cutting Wheel Effective Use Cost	60.0 mm/φ230 mm installed 47.5 mm/φ205 mm installed
Thin Piece Cutting	0.2 mm at φ20 mm (for hard metals)
Work Table Movement X/Y	Left/Right 100 mm (manual) Cutting Direction 240 mm (during front handle operation)
Spindle Movement Z	Vertical Movement 125 mm (during front handle operation)
Automatic Cutting/Return Speed	4-300 mm per minute/800 mm per minute (fixed)
Cutting Wheel Diameter	Standard φ230 mm/φ205 mm/φ25.4 mm Special Specification φ255mm/φ31.75mm
Cutting Wheel Fringe Diameter	φ110 mm (φ90mm special specification)
Main Shaft Diameter/Rotations	φ25.4 mm/3000 rpm
Main Shaft Power	AC200V/3-Phase/2P/2.2KW
Coolant Pump/Tank	AC200V/3-Phase/40W/60 liters
Automatic Cutting Motor	DC24V Pulse Motor
Machine Size	1100 x 1170 x 1560 (Width x Depth x Height)
Machine Weight	500 kg
Electrical Capacity	3.0 KVA
Noise	59 db (during idle)

Cutting Method

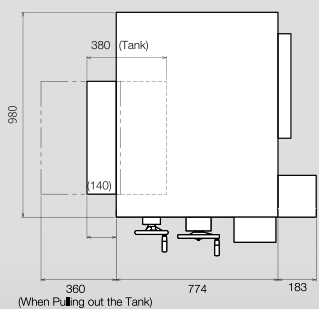


Horizontal Cutting Method

Cutting Example



Required floor area



Standard Specification/Included Items

SUS Stainless Steel Standard Vise	15 AUTO OFF Electrical Leakage Breaker	16 EMERGENCY Emergency Stop Button	19 STOP Interlock w/ Electromagnetic Lock	21 Cleaning Water Gun (Coolant Circulation Type)
TEST Cutting Wheel for Test	FINECOOL	Paper Filter	Grease	Exclusive Tools

Main Necessary Special Specification

11 Easy Filter Separator	18 Main Shaft Off Left/Right Cover Interlock	22 LED Anti-Humidity Roof-Installed LED
23 Anti-Humidity LED Spotlight	26 Rotating Speed Changeable Main Shaft Rotation Change Installation	27 Mist Collector
28 SUS Main Unit Upper Stainless Steel Cover	29 Main Unit Internal Anti-Rust Processing	31 Work Laser Line Marker

FINECUT HS-45A Model C Type

Automatic/Manual Cutting Type
HS45AC

Incorporating operability a rank above, and realizing space-saving and high precision corresponding to various work environments

FINECUT HS-25/25A Type

Manual Cutting Type
HS25

Automatic/Manual Cutting Type
HS25A

Developed for the research field, it is useful for the precise cutting of various samples such as cutting basic samples, cutting of crystal bodies in a physical property study, thin cutting of specimen for electron microscopes, etc.

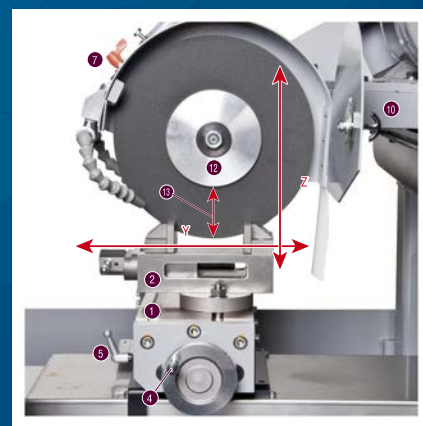
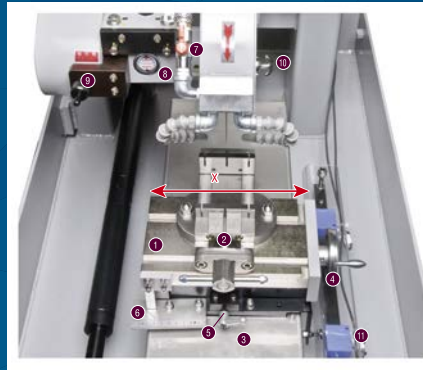


Vise Line-Up

1 Long Vise Steel Type: SP-V11 Stainless Steel Type: ST-V11	2 Flat Rotating Vise Steel Type: SP-V12 Stainless Steel Type: ST-V12	3 Long Flat Rotating Vise Steel Type: SP-V13 Stainless Steel Type: ST-V13
4 Double Vise Steel Type: SP-V14 Stainless Steel Type: ST-V14	5 Long Double Vise Steel Type: SP-V15 Stainless Steel Type: ST-V15	6 Double Vise w/Scale Steel Type: SP-V18 Stainless Steel Type: ST-V18
7 AIR ON/OFF Air Vise Steel Type: SP-V17	9 Exclusive Jig	

*1 Arrangement necessary
Note: Please inquire separately regarding stainless steel spec vise
Note: Please view option pages 16-17 for separate specifications

Main Unit Internal Composition



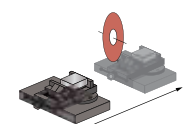
- Work Table Part (Electroless nickel plating specification)
 - Standard Stainless Steel Vise (Vise opening 0 - 80 mm)
 - Stainless Steel Front/Back Feed Cover (countermeasure specification for foreign objects)
 - Work Table Side Feed Handle
 - Work Table Stopper Knob
 - Silver Scale Direct Reading Method
 - Coolant Discharge Adjustment Tap
 - Oil Pot Window
 - Main Shaft Stopper for Cutting Wheel Exchange
 - Cutting Wheel Cover Open/Close Knob
 - Cutting Movement Position Sensor
 - Cutting Wheel Flange (made from aluminum)
 - Cutting Wheel Effective Use Cost
- X Work Table Movement Amount: Left/Right 60 mm manual
Y Cutting Movement Amount: Front/Back 210 mm (during front-right handle operation)
Z Main Shaft Movement Amount: Vertical 190 mm (during front-left handle operation)

Main Unit Internal Composition



- Work Table Side Feed Graduation Ring
 - Supplied Vise (Vise opening 0 - 25 mm)
 - Coolant Discharge Adjustment Tap
 - Cutting Wheel Cover Fixing Knob
 - Built-in Coolant Tank
 - Main Shaft Vertical Handle
- X Work Table Movement Amount: Left/Right 60 mm (manual)
(One scale graduation movement amount 0.04 mm)
Y Cutting Movement Amount: Front/Back 150 mm (during front handle manual operation)
Z Main Shaft Movement Amount: Vertical 50 mm (top handle manual)
(One scale graduation movement amount 0.1 mm)

Cutting Method

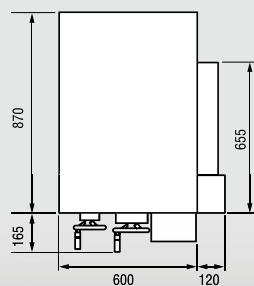


Horizontal Cutting Method

Standard Specification/Included

SUS Stainless Steel Standard Vise	15 AUTO OFF Electrical Leakage Breaker	17 Main Shaft Off Front Cover Interlock	21 Cleaning Water Gun (Coolant Circulation Type)	Cutting Wheel for Test
FINECOOL	Spindle Oil	Paper Filter	Grease	Exclusive Tools

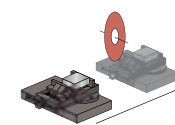
Required floor area



Main Necessary Special Specification

11 Easy Filter Separator	16 EMERGENCY Emergency Stop Button	18 Main Shaft Off Left/Right Cover Interlock	22 Anti-humidity Roof-Installed LED	23 Anti-humidity LED Spotlight
26 Rotating Speed Changeable Main Shaft Rotation Change Installation	27 Mist Collector	28 SUS Main Unit Upper Stainless Steel Cover	29 Main Unit Internal Anti-Rust Processing	31 Laser Line Marker

Cutting Method



Horizontal Cutting Method

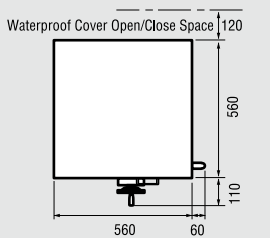
Standard Specification/Included

Cutting Wheel for Test	FINECOOL	Grease
Exclusive Tools	Spindle Oil	Main Shaft Stopper

Main Necessary Special Specification

26 Rotating Speed Changeable Main Shaft Rotation Change Installation	29 Main Unit Internal Anti-Rust Processing
Exclusive Vertical Rotating Vise	Exclusive Stand w/Caster

Required floor area



HS-45A Model C Type Standard Specifications

Standard Cutting Ability	□ Pipe Materials 40 mm ● Solid Materials 30 mm ■ Board Materials 15 x 75 mm
Cutting Wheel Effective Use Cost	60.00 mm/φ230 mm installed 47.5 mm/φ205 mm installed
Thin Piece Cutting	0.2 mm at φ20 mm (for hard metals)
Work Table Movement X/Y	Left/Right 60 mm (manual) Cutting Direction 210 mm (manual)
Spindle Movement Z	Vertical Movement 190 mm (during front handle operation)
Automatic Cutting/Return Speed	6-100 mm per minute stepless speed change style/100 mm per minute (fixed)
Cutting Wheel Diameter	φ230 mm/φ205 mm/φ25.4 mm
Cutting Wheel Fringe Diameter	φ110 mm (φ90mm special specification)
Main Shaft Diameter/Rotations	φ25.4 mm/3000rpm
Main Shaft Power	AC200V/3-Phase/2P/1.5kW
Coolant Pump/Tank	AC200V/3-Phase/40W/30 liters
Automatic Cutting Motor	AC200V/Single Phase/10W
Machine Size	720 x 1035 x 1450 (Width x Depth x Height)
Machine Weight	290kg
Electrical Capacity	2.2 KVA
Noise	66 db (during idle)

HS-25 Type Standard Specifications

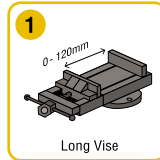
□ Pipe Materials 25 mm ● Solid Materials 20 mm ■ Board Materials 5 mm×50 mm	35.0 mm
0.1 mm at φ20 mm (for hard metals)	Left/Right 60 mm (manual) Cutting Direction 150 mm (manual)
Vertical Movement 50 mm (manual)	3 - 47 mm per minute / 3 - 57 mm (50/60Hz)/stepless speed change style
-	φ150 mm/φ25.4 mm
-	φ80 mm
-	φ25.4 mm/ 3400rpm (50Hz) / 4100rpm (60Hz)
-	AC200V/3-Phase/2P/400W
-	AC200V/Single Phase /10W/9 liter main unit internally loaded type
-	AC200V/Single Phase/10W
-	620 mm×670 mm×580 mm(Width x Depth x Height)
-	85kg
-	1.0KVA
-	55db (during idle)

HS-25A Type Standard Specifications

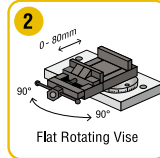
FINECUT Series Special Specification

Options to further enhance the excellent functionality

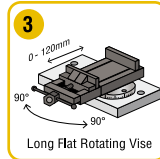
Special Specification Vise List (HS-100G2 Model/HS-45A Model C-Type Exclusive)



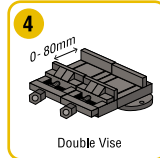
Steel Type: SP-V11 Stainless Steel Type: ST-V11
Effective for wide work cutting that cannot be fixed with standard vise. The opening of the vise is 0 to 120 mm for a very wide design.



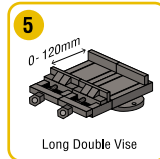
Steel Type: SP-V12 Stainless Steel Type: ST-V12
A combined unit featuring a flat pedestal and a vise that rotates 90 degrees horizontally. This is ideal for cutting work where fine adjustments of the cutting position will be made.
(Vise opening 0 - 80 mm, turntable scale 1 degree)



Steel Type: SP-V13 Stainless Steel Type: ST-V13
②A combination of the long vise ① and the flat rotating vise ②.
(Vise opening 0 - 120 mm)

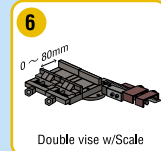


Steel Type: SP-V14 Stainless Steel Type: ST-V14
Great for cutting fragile samples, and is the most suitable for cutting specimens that are susceptible to chipping and burs during cutting.
(Vise opening 0 - 80 mm)

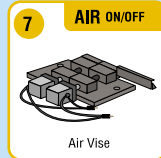


Steel Type: SP-V15 Stainless Steel Type: ST-V15
④Double Vise Long Version
(Vise Opening 0-120 mm)

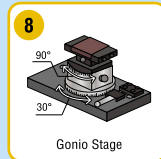
Separate Arrangement Necessary



SP-V18
This vise is very effective for size cutting. Protruding stoppers with fine-adjustment graduations allow more accurate cutting.



AIR ON/OFF
SP-V17
Vise that can be clamped on by pneumatic pressure by one touch with the on/off switch.
(Vise opening 3 - 43 mm)



SP-V16
In the crystal direction cutting stage, the plane angle can be voluntarily set to 30 degrees on the X-axis and 20 degrees on the Y-axis.



We design and manufacture dedicated jigs tailored to cut core, glass lens, profiles, etc.



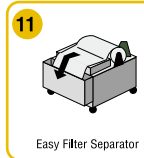
Will be made in accordance with your desired size.

FINECUT Series Special Specification

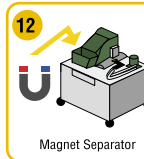
Type	Product Name	Code No.	HS-100G2Model	HS-45ACModel	HS-25/25AModel	Ace 30Z Model	SP-7/320Z Model
Coolant	① Easy Filter Separator 60 liters	ST-TF	○	○	-	○	○
	⑫ Magnet Separator 60 liters	ST-TM	○	○	-	○	○
	⑬ Stainless Steel Separator (each type)		○	○	-	○	○
	⑭ Special Separator		○	○	-	○	○
Safety Measures	⑮ Electrical Leakage Breaker	OP-ELB	Standard Equipment	Standard Equipment	○	Standard Equipment	Standard Equipment
	⑯ Emergency Stop Button		Standard Equipment	○	○	Standard Equipment	○/Standard Equipment
	⑰ Front Cover Interlock	OP-IL	Standard Equipment	Standard Equipment	Standard Equipment	-	Standard Equipment
	⑱ Left/Right Cover Interlock		○	○	-	-	-
	⑲ Interlock w/Electromagnetic Lock		Front Cover Standard Equipment ○	○	-	-	○/Standard Equipment
	⑳ Indicator Light (each type) *2		Standard Equipment	○	○	○	○
Environmental Measures, etc.	㉑ Cleaning Water Gun (Coolant Circulation Type)	OP-WA	○	Standard Equipment	-	Standard Equipment	Standard Equipment
	㉒ Internal Lightning (Anti-Humidity Roof-Installed LED)	OP-LF	○	○	-	-	Standard Equipment/○
	㉓ Anti-Humidity LED Spotlight	OP-LS	○	○	-	-	○
	㉔ Multi-Blade *2	OP-HM	-	-	-	-	-
	㉕ Main Shaft Power Increase Horsepower	OP-HI	○	-	-	○	○/-
	㉖ Main Shaft Rotation Change Installation	OP-RCO	○	○	○	Standard Equipment	○/Standard Equipment
	㉗ Mist Collector	OP-MC	○	○	-	-	○
	㉘ Main Unit Upper Stainless Steel Cover		○	○	-	-	○
	㉙ Main Unit Internal Anti-Rust Processing (each type) *2	OP-AC	○	○	○	○	○
	㉚ Main Unit Designated Color Paint	OP-CO	○	○	○	○	○
	㉛ Laser Line Marker			○	-	-	-

*2 Arrangement necessary

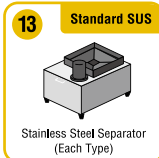
Special Specification Coolant List



ST-TF
Simply remove abrasive grains, cut grains, etc. contained in the coolant liquid.



ST-TM
Suitable for removing iron powder and other magnetic substances.



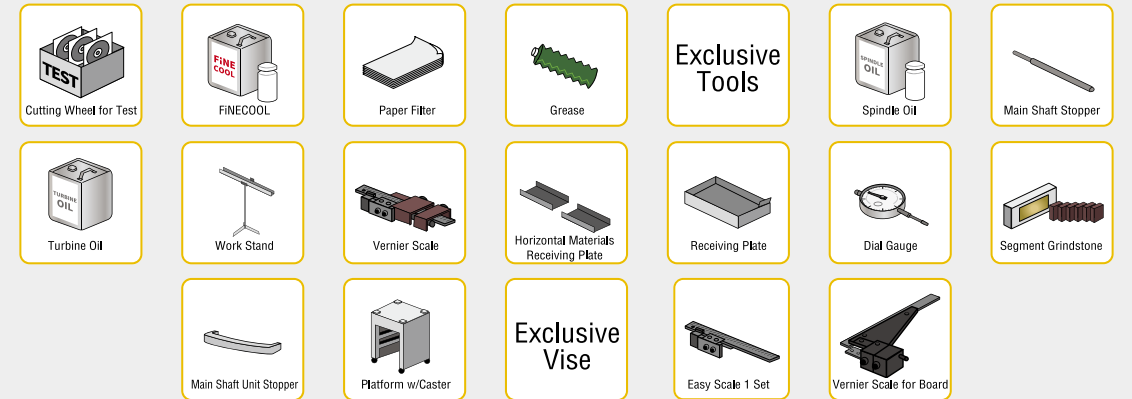
Standard SUS
As an environmental measures option, we will manufacture the standard tank material with stainless steel.



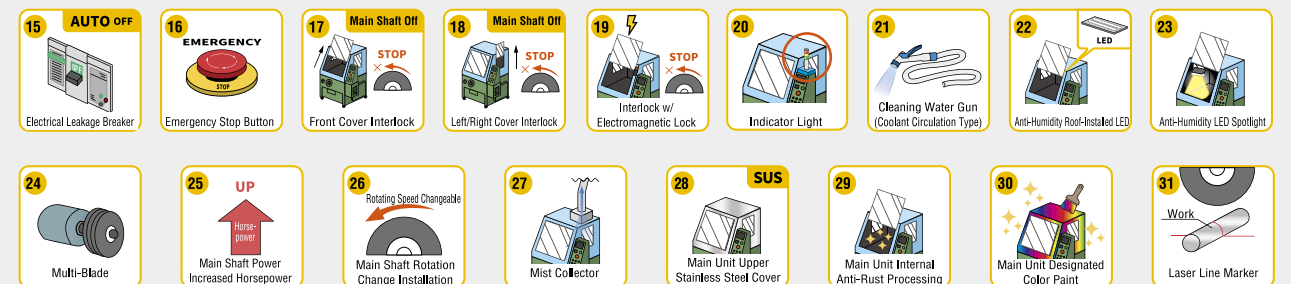
We will design and create a special separator.

The following icons are displayed for the special specifications/included items on each product page.

Included Items Icons



Specification Icons



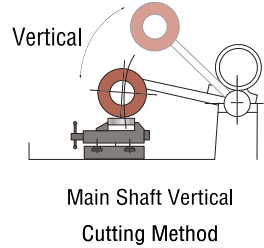
Designed with an emphasis on high rigidity, excellent in operability, and it enables stable and precise cutting with large-diameter quenched products, and cutting of irregular-shaped specimens.

Features

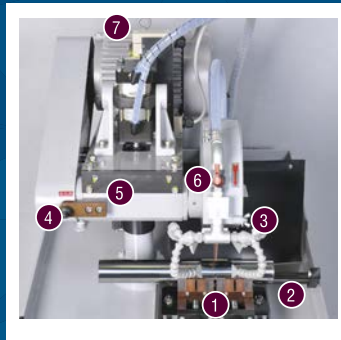
- 1 Equipped with an oil-less spindle which adopts an original mechanism, dramatic improvement of rigidity, durability, and free maintenance
- 2 Improve the rigidity of the main unit. In addition, it is possible to cut and swing (chopped cut) by one touch of the ascending button, thus enabling stronger precision cutting
- 3 Main spindle drive belt tension adjustment function included
- 4 Improved operability by changing the operation panel mounting position
- 5 Standard equipped with ceiling-mounted LED type internal lighting, cleaning water gun, and electric leakage breaker



Cutting Method

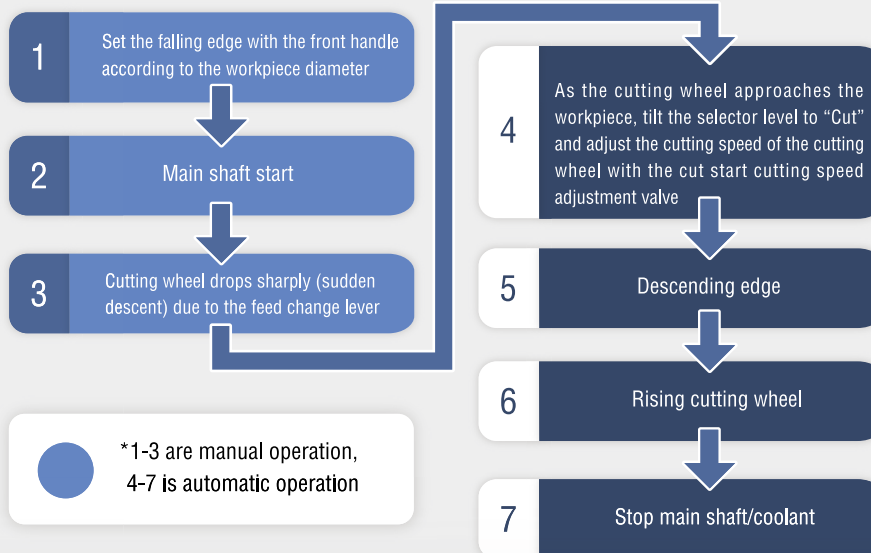


Main Unit Internal Composition



- 1 Dual Link Vise
- 2 Work Stopper
- 3 Cutting Wheel Cover Open/Close Knob
- 4 Main Shaft Stopper for Cutting Wheel Exchange
- 5 Oil-Less Spindle
- 6 Coolant Discharge Adjustment Tap
- 7 Limit Switch

Cutting Flow



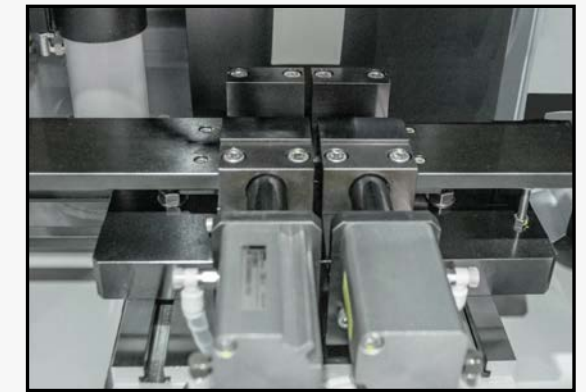
SP Model Standard Included Vise (Standard Specification)



Both sides of the workpiece can be clamped tightly, there are few burrs and chips, and the long piece can be clamped stably.

SP Model Exclusive Use Air Vise (Special Specification)

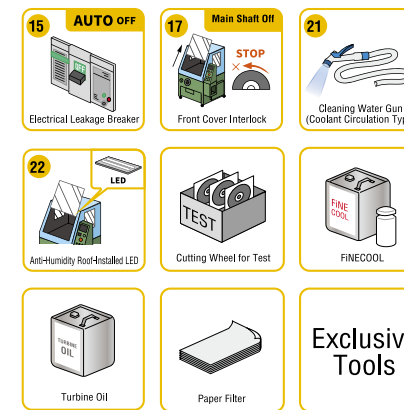
Separate arrangement necessary.



You can open and close the vise with one touch with the air pressure. The on/off switch is mounted on the foot switch or inside the control panel. If the operating ratio is high, productivity will be improved over a standard vise.

* A separate air source with a pressure of about 0.5 MPa is required

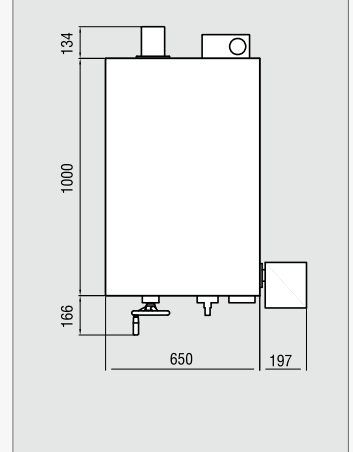
Standard



Main Necessary Special



Required floor area



Control Panel



Special Specification Example (Materials Receiving Unit)



We are preparing the right and left work cradle of the machine unit, convenient for cutting long-length workpieces, in accordance with the customer's specifications.

SP-7 Model Standard Specification

Standard Cutting Ability	○□ Pipe Materials 50 mm ●■ Solid Materials 50 mm
Cutting Wheel Effective Use Cost	97.5 mm/φ305 mm installed 72.5 mm/φ255 mm installed
Automatic Cutting/Return Speed	0-100 mm per minute/3000 mm per minute (fixed)
Main Shaft Vertical Stroke	63 mm (automatic range)/130 mm (manual range)
Cutting Wheel Diameter	φ305 mm/φ255 mm/φ31.75 mm
Cutting Wheel Fringe Diameter	φ110 mm
Main Shaft Diameter/Rotations	φ31.75 mm/2000 rpm
Main Shaft Power	AC200V/3-Phase/4P/2.2kW
Oil Pump	AC200V/3-Phase/75W
Coolant Pump/Tank	AC200V/3-Phase/60W/60 liters
Machine Size	650 x 1265 x 1550 (Width x Depth x Height)
Machine Weight	450 kg
Electrical Capacity	3.1 KVA
Noise	57 db (during idle)

Long stroke cutting is possible by clamping the board material such as FRP, carbon fiber, and glass/ceramics, in the vertical direction. We will separately manufacture and install clamp jigs etc. that are suitable for your work.

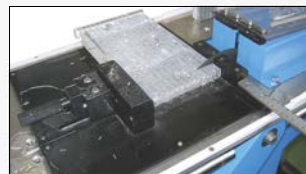
Handles wide-shaped materials, from boards to bars, and can double clamp in the forward and backwards directions to cut in long strokes.

32F-200 Model



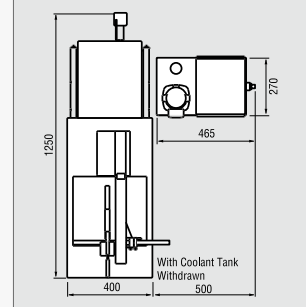
Uses the Double-Clamp Method

The scale unit has two types of standard equipment for bar and board materials



Note: Photographed without the clear cover

Required floor area



Cutting Method

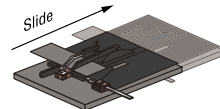


Table Movement Cutting Method

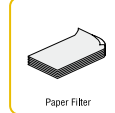
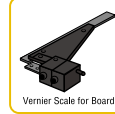
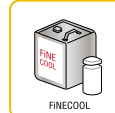
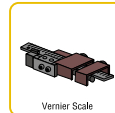
Clamp both materials to be cut, prevent chipping, cracking and burrs during cutting.

Cutting measurement can be done up to 150 mm cutting length of long and board materials.

32F-200 Model Standard Specifications

Standard Cutting Ability	□ Pipe Materials 30 mm ● Solid Materials 25 mm ■ Board Materials 10 x 200 mm (Thickness x Width)
Cutting Wheel Effective Use Cost	38.0 mm
Slide Table Movement	Cutting Direction 400 m (manual)
Automatic Cutting/Return Speed	-
Work Clamp Method	Double Clamp Style
Vise Opening	0 - 200 mm
Cutting Wheel Diameter	φ205 mm /φ25.4 mm
Cutting Wheel Fringe Diameter	φ80 mm
Main Shaft Rotations	2500 /3000rpm (50/60Hz)
Main Shaft Power	AC200V/3-Phase/4P/0.75kW
Coolant Pump/Tank	AC200V/3-Phase/40W/30 liters
Machine Size	510 mm x 1250 mm x 980 mm(Width x Depth x Height)
Machine Weight	143kg
Electrical Capacity	1.3KVA
Noise	64db (during idle)

Standard Specification/Included Items

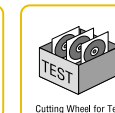
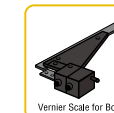


Exclusive Tools

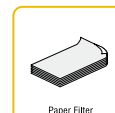
32F-250A Model



Standard Specification/Included Items



Exclusive Tools



Cutting Method

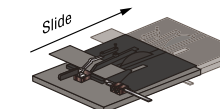
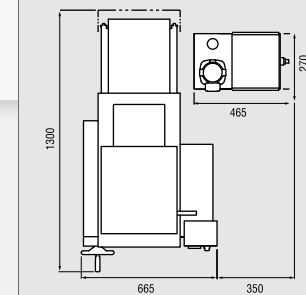


Table Movement Cutting Method

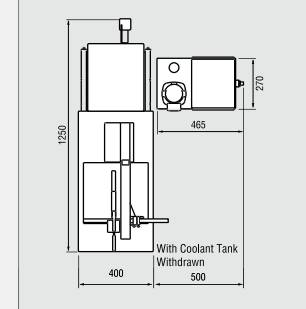
Required floor area



32F-300 Model



Required floor area



Cutting Method

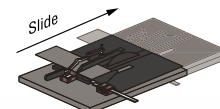
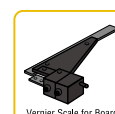


Table Movement Cutting Method

Standard Specification/Included Items



Exclusive Tools



32F-300 Model Standard Specifications

Standard Cutting Ability	■ Board Materials 10 x 300 mm (Thickness x Width)
Cutting Wheel Effective Use Cost	38.0 mm
Slide Table Movement	Cutting Direction 400 mm (manual)
Automatic Cutting/Return Speed	-
Work Clamp Method	Toggle Clamp Style
Vise Opening	-
Cutting Wheel Diameter	φ205 mm/φ25.4 mm
Cutting Wheel Fringe Diameter	φ80 mm
Main Shaft Rotations	2500/3000rpm (50/60Hz)
Main Shaft Power	AC200V/3-Phase/4P/0.75kW
Coolant Pump/Tank	AC200V/3-Phase/40W/30 liters
Machine Size	510 mm x 1250 mm x 1010 mm (Width x Depth x Height)
Machine Weight	137kg
Electrical Capacity	1.3KVA
Noise	66db (during idle)

32F-250A Model Standard Specifications

Standard Cutting Ability	■ Board Materials 5 mm x 250 mm (Thickness x Width)
Cutting Wheel Effective Use Cost	38.0 mm
Slide Table Movement	Cutting Direction 400 mm (manual/automatic exchangeable)
Automatic Cutting/Return Speed	Cutting (stepless speed change) 6 - 100 mm/min, Return (fixed): 100 mm/min
Work Clamp Method	Gate-Type Clamp 2-point Screw Vertical Movement Style
Cutting Wheel Diameter	φ205 x 0.7 - 1.0 x 25.4 mm (Outer Diameter x Thickness x Inner Diameter)
Cutting Wheel Fringe Diameter	φ80 mm
Main Shaft Rotations	2500/3000rpm (50/60Hz)
Main Shaft Power	AC200V/3-Phase/4P/0.75kW
Coolant Pump/Tank	AC200V/3-Phase/40W/30 liters
Machine Size	660 mm x 1230 mm x 1250 mm (Width x Depth x Height)
Machine Weight	180kg
Electrical Capacity	1.5KVA
Noise	64db (during idle)

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N-7 Model N7W

General Type

Table movement cutting method with a rack-type lever.

Safety 33 Model SS33W

Safety 31 Model SS31W

General Type

With a wide range of applications, and its quick, easy, precise cutting of rod and board materials, this cutting machine is a best seller.



Cutting Method

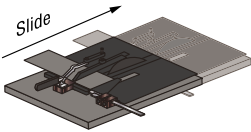
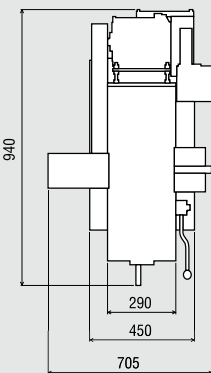


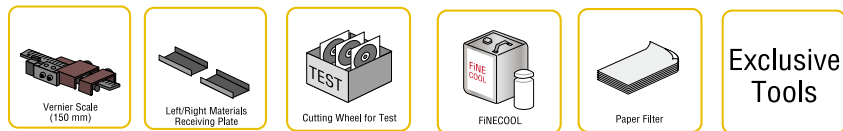
Table Movement Cutting Method

Required floor area



N7 General Use

Standard Specifications/Included Items



General-Type Vise

Double-clamp type with a cutting wheel passage gap of 3 mm that doesn't leave burrs. The effective cutting length is 3 - 150 mm, and a 150 mm Vernier sScale is standard equipped on the right side.



Vernier Scale

General type 150 mm standard equipped(Special specifications: 300 mm, 500 mm)

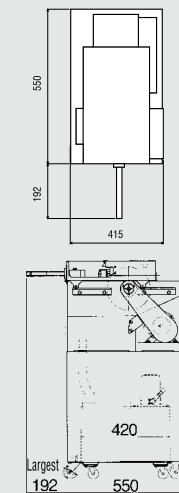
N-7 Model Standard Specification

Standard Cutting Ability	<input type="checkbox"/> Pipe Materials 30 mm <input checked="" type="checkbox"/> Solid Materials 30 mm
Cutting Wheel Effective Use Cost	38.0 mm/φ205 mm installed
Vise Opening	0 - 30mm
Table Feed	Manual Rack-and-pinion
Main Shaft Rotations	3000rpm/50Hz/60Hz
Cutting Wheel Diameter	φ205mm/φ25.4mm
Main Shaft Power	AC200V/3-Phase/2P/1.5kW
Coolant Pump/Tank	AC200V/3-Phase/40W/30 liters
Machine Size	705mm x 940mm x 1250mm (Outer Diameter x Thickness x Inner Diameter)
Machine Weight	125kg
Electrical Capacity	2.0KVA
Noise	65db (during idle)

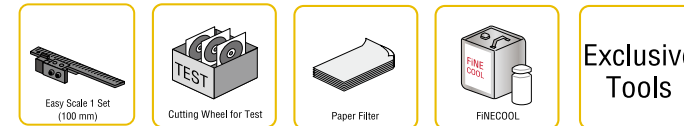
Safety 33 (General Type)



Required floor area



Standard Specifications/Included Items (Shared Specifications)



General Type Vise

Double-clamp type with a cutting wheel passage gap of 3 mm that doesn't leave burrs. Can cut small items.



Cutting Wheel Exchange Space

There is space on the table in order to exchange the cutting wheel. Safely and quickly exchange the cutting wheel without having to lift the table.



Main Shaft Stopper for Cutting Wheel Exchange

Installed in front of the belt cover on the right side of the main unit. When exchanging the cutting wheel you can lock the main shaft without using a special tool.



Simple Scale

A simple scale is standard installed on the right side, with a 100 mm material protrusion stopper.

Note: The Vernier Scale can be exchanged in special specifications (length: 150 mm, 300 mm, 500 mm).

Cutting Method (Common Specification)

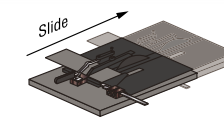


Table Movement Cutting Method

Safety 33 Model Standard Specification

Standard Cutting Ability	<input type="checkbox"/> Pipe Materials 30 mm <input checked="" type="checkbox"/> Solid Materials 25 mm <input checked="" type="checkbox"/> Board Materials 10 x 75 mm
Cutting Wheel Effective Use Cost	48.0mm
Work Table Movement	Manual type 140mm
Vise Opening	0 - 75mm Slide Type
Main Shaft Rotations	2500/3000rpm/50Hz/60Hz
Cutting Wheel Diameter	φ205mm/φ25.4mm
Main Shaft Power	AC200V/3-Phase/4P/0.75kW
Coolant Pump/Tank	AC200V/3-Phase/40W/30 liters
Machine Size	415mm x 742mm x 1040mm (Width x Depth x Height)
Machine Weight	80kg
Electrical Capacity	1.3KVA
Noise	68db (during idle)

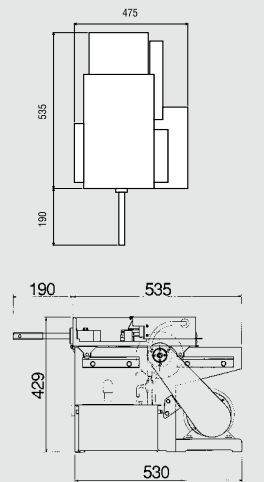
Safety 31 Model Standard Specification

Standard Cutting Ability	<input type="checkbox"/> Pipe Materials 20 mm <input checked="" type="checkbox"/> Solid Materials 25 mm <input checked="" type="checkbox"/> Board Materials 5 x 80 mm
Cutting Wheel Effective Use Cost	35.0mm/φ160mminstalled 30.0mm/φ150mminstalled
Work Table Movement	Manual type 130mm
Vise Opening	0 - 80mm Slide Type
Main Shaft Rotations	3000/3600rpm/50Hz/60Hz
Cutting Wheel Diameter	φ160mm/φ150mm/φ25.4mm
Main Shaft Power	AC100V/Single Phase/4P/400W
Coolant Pump/Tank	AC100V/Single Phase/10W/4.5 liters
Machine Size	475mm x 725mm x 430mm (Width x Depth x Height)
Machine Weight	54kg
Electrical Capacity	0.9KVA
Noise	63db (during idle)

Safety 31 (General Type)



Required floor area



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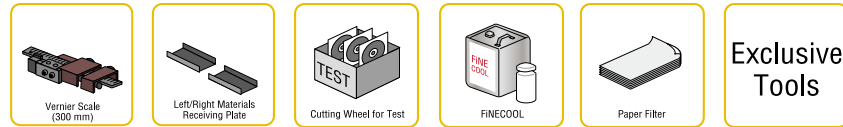
N-7 Model N7PIN

Pin Type



Cutting machine exclusively for die ejector bin cutting.

Standard Specification/Included Goods



Cutting Method

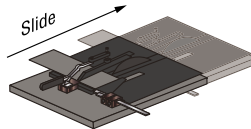
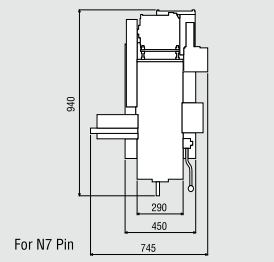


Table Movement Cutting Type

Required floor area



For N7 Pin



Pin Exclusive Type Vise

Dedicated ejector pin for die cutting. A 300 mm Vernier Scale is equipped as standard on the left side, measurement can be cut to 50 - 300 mm cutting dimensions.



Vernier Scale

* A 300 mm scale is standard equipped with the pin type. (Special specifications : 500 mm)

The standard specification for the N-7 Pin Type is the same as the N-7 General Type on the previous page.

Safety 33 Model SS33PIN

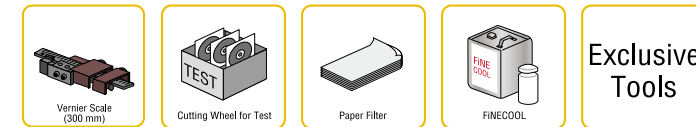
Safety 31 Model SS31PIN

Pin Type



Cutting machine exclusively for die ejector bin cutting.

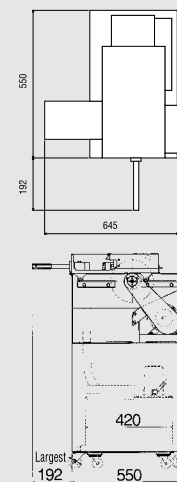
Standard Specification/Included Items (Common Specification)



Safety 33 Model Pin Type



Required floor area

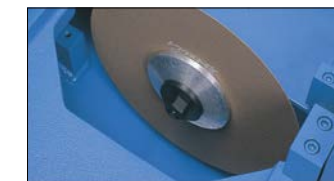


Largest



Pin Type Vise

Dedicated ejector pin for die cutting. A 300 mm Vernier Scale is equipped as standard on the left side, measurement can be cut to 50 - 300 mm cutting dimensions. *Vernier Scale 500 mm (special specification)



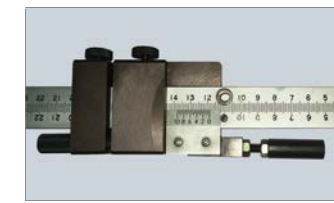
Cutting Wheel Exchange Space

There is space on the table in order to exchange the cutting wheel. Safely and quickly exchange the cutting wheel without having to lift the table.



Main Shaft Stopper for Cutting Wheel Exchange

Installed in front of the belt cover on the right side of the main unit. When exchanging the cutting wheel you can lock the main shaft without using a special tool.



Vernier Scale

Fine adjustment of the material protrusion position is easy to do. *For the Pin Type, 300 mm is the standard equipment (special specifications: 500 mm)

The standard specifications of Safety 33 Model, Safety 31 Model Pin Type are the same as the Safety 33 Model, 31 Model General Type on the previous page.

Cutting Method (Common Specification)

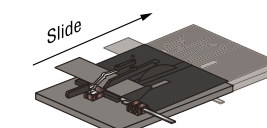
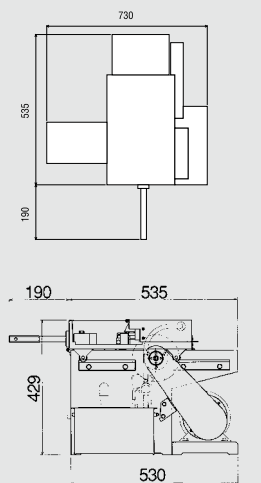


Table Movement Cutting Type

Safety 31 Model Pin Type



Required floor area



Face Grinder FINELIMITER

LMP

LMO

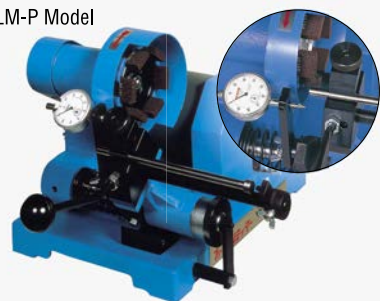
LM-P Model

LM-O Model

Length dimension finishing machine that polishes the end face of the ejector pin for die for which the length dimension is fixed.

LM-P Model

Beveled Part



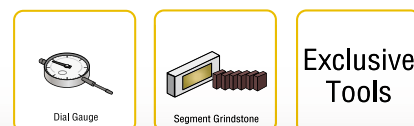
LM-P Model Standard Specification LM-O Model Standard Specification

Polishable Pin Diameter	● Solid Materials 2 - 20 mm	● Solid Materials 10 - 30 mm
Settable Pin Length	40 - 250 mm	40 - 250 mm
Main Shaft Power	AC100V/Single Phase/2P/200W	AC100V/Single Phase/4P/400W
Main Shaft Rotations	2890/3460rpm/50Hz/60Hz	2580/3090rpm/50Hz/60Hz
Grinding Scale	1/100mm	1/100mm
Setting Number	1	1
Machine Size	450mm x 610mm x 300mm (Width x Depth x Height)	470mm x 610mm x 320mm (Width x Depth x Height)
Machine Weight	30kg	42kg

Segment Grindstone

Machine Model	Cutting Wheel Types	Code No.	Finish Surface	No. Included (Box)	Characteristics
LM-P	Mid-Level	B-6-6	Middle Finish	6-Pack	It can be used for a wide range of precision and difficult grinding such as hard and soft iron alloy, cast iron, stainless steel, tool steel, die steel, and hardened alloy steel.
	Detailed	B-12-6	Upper Finish	6-Pack	
LM-O	Mid-Level	B-6-8	Middle Finish	8-Pack	
	Detailed	B-12-8	Upper Finish	8-Pack	

Standard Specification/Included Goods



Ejector Pin

Refers to a metallic shaft that plays a role of removing a molded product from a mold, when making a product with a mold (plastic mold, press mold, die casting, etc.). The pin exclusive type has a step on the structure of the bottom of the table, and it is possible to clamp the ejector pin flat.

General Type Table

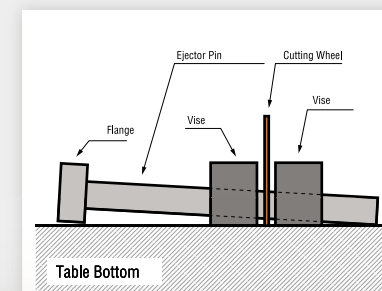


Table Bottom

Pin Type Table

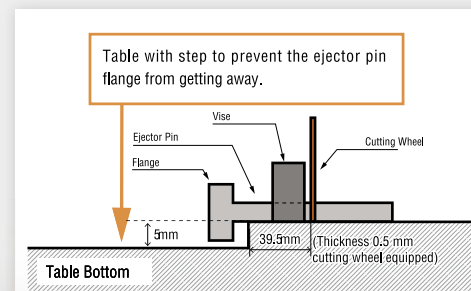


Table Bottom

Manual Cutting Machine

FINECUT

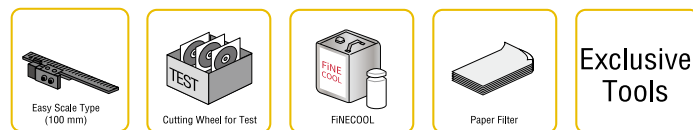
Birdie 2 Model **BD2**

Easily perform wet cutting.



Vise

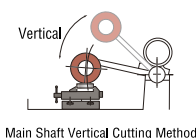
Standard Specification/
Included Items



Birdie 2 Model Standard Specification

Maximum Cutting Ability	<input type="checkbox"/> Pipe Materials 15 mm <input checked="" type="checkbox"/> Solid Materials 15 mm <input checked="" type="checkbox"/> Board Materials 5 mm x 20 mm
Cutting Wheel Effective Use Cost	52.0 mm/φ160 mm installed 47.0 mm/φ150 mm installed
Vise Opening	0 - 22 mm
Main Shaft Rotations	3200/3800rpm/50Hz/60Hz
Cutting Wheel Dimensions	φ160 mm/φ150 mm/φ25.4 mm
Main Shaft Power	AC100V/Single Phase/2P/200W
Coolant Pump/Tank	AC100V/Single Phase/10W/4.5 liters
Machine Size	400 mm x 470 mm x 550 mm (Width x Depth x Height)
Machine Weight	40kg
Electrical Capacity	0.6KVA
Noise	59db (during idle)

Cutting Method



Main Shaft Vertical Cutting Method



Special Specification Horizontal Rotating Vise
(Can cut at an angle up to 45 degrees)

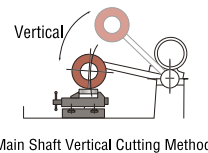
Dry-Type Small-Scale Precise Cutting Machine

FINECUT

S-5 Model **S5**

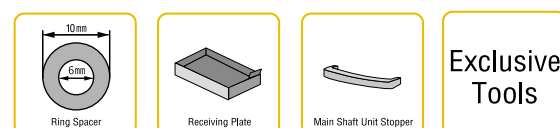
Exclusively for the dry type, there are few burrs and burns, so precision cutting can be done easily from precious metals to stainless steel, tungsten, and quenched products.

Cutting Method



Main Shaft Vertical Cutting Method

Standard Specification/
Included Items



S-5 Model Standard Specifications

Maximum Cutting Diameter	<input type="checkbox"/> Pipe Materials 5 mm <input checked="" type="checkbox"/> Solid Materials 3 mm
Cutting Wheel Effective Use Cost	27.0 mm/φ90 mm installed 19.5 mm/φ75 mm installed
Main Shaft Power	AC100V/Single Phase/150W
Main Shaft Rotations	5300rpm (50Hz)/6400rpm (60Hz)
Cutting Wheel Diameter	φ90 mm/10.0 mm φ75 mm/6.0 mm (ring spacer removed)
Machine Size	260 mm x 240 mm x 230 mm (Width x Depth x Height)
Machine Weight	9.5kg
Electrical Capacity	0.4KVA
Noise	57db (during idle)

Diamond Cutting Wheel for Hard and Brittle Materials
NASTONGOLD

TC-1 φ90 x 0.5 x 10.0 mm
(Outer Diameter x Thickness x Inner Diameter)



Cutting Materials: Cemented carbide, Tungsten, Quenching, Carbon fiber composite material, Rare metals

Cutting Counseling Service

Cutting Counseling Service

FAX
Heiwa Technica Co., Ltd.
Fine Cut Sales Department
046-255-5840
info@heiwa-tec.co.jp

We provide counseling for cutting work.
Even trivial matters are fine, so if you have any questions or concerns,
please do not hesitate to copy this form and fax it.

* We also accept inquiries by telephone.

TEL:046-251-3755

Company Name

Address

Department Name

Contact Name

TEL:

FAX:

mail:

Nobuyasu-kun,
keeping the trust



● Please check all that apply

- Would like technical consultation
- Would like to see a demonstration at the showroom
- Want to have a test cut/data provided (free of charge)
- Would like to have cutting wheel selected
- Would like to have a cutting machine selected
- Would like to rent a showroom (paid)
- Other

● Please Provide us With:

- Current Cutting Method (→ New)

• Cutting Purpose

- Inspection/Quality Control/Research
- Production

Cutting Amount

Pieces/Month-Day

● Please fill in the following with troubles, things you want to know, cutting reference drawings, etc.

Cutting Targets/Conditions

Material	
Size	
Cutting Accuracy	
Machine Name/Model	
Currently Used Blade	
Processing Conditions	