

Precision Cutting Machine/
Related Equipment/Consumable Supplies

General Catalog

High-speed Automatic Cutting Machine

Precision Cutting Wheel

FiNECUT NASTON



HEIWA TECHNICA CO., LTD.
We Challenge to Cut All New Materials

HEIWA TECHNICA improves the technical capabilities with the precision cutting of Small diameter difficult-to-cut materials while also providing customers with any necessary technical information.



Major Customers (random order)

Major Customers (random order)

Ministry of Defense, Technical Research and Development Institute

Ministry of Education, Culture, Sports, Science and Technology

High Energy Accelerator Research Organization

Japan Aerospace Exploration Agency
Okazaki National Research Institutes

Ministry of Land, Infrastructure, Transport and Tourism
Aircraft Accident Investigation Committee

Advanced Industrial Science and Technology
National Institute of Technology and Evaluation
National Institute for Materials Science
Japan Aerospace Exploration Agency
National Maritime Research Institute
Japan Nuclear Cycle Development Institute
National Space Development Agency of Japan
Japan Atomic Energy Agency

Hokkaido Industrial Technology Center
Akita Industrial Technology Center
Iwate Industrial Research Institute
Fukushima Technology Center
Industrial Research Institute of Niigata Prefecture
Tokyo Metropolitan Industrial Technology Research Institute
Kanagawa Industrial Technology Research Institute
Saitama Industrial Technology Center
Shizuoka Industrial Research Institute of Shizuoka Prefecture
Industrial Research Institute, Aichi Prefectural
Nagoya Municipal Industrial Research Institute
Gifu Prefectural Metal Research Institute
Shigaraki Ceramic Research Institute of Shiga Prefecture
Technology Research Institute of Osaka Prefecture
Hyogo Prefectural Center of Advanced Science & Technology
West Region Industrial Research Center of Hiroshima Prefecture
Industrial Technology Center of SAGA
Industrial Technology Center of Nagasaki
International Superconductivity Technology Center

Sokeizai Center (The Material Process Technology Center)
Railway Technical Research Institute
Central Research Institute of Electric Power Industry
Japan Bearing Inspection Institute
Japan Quality Assurance Institute

Employment Promotion Corporation, Vocational Training School
Employment Promotion Corporation, Polytechnic Center

Schools

Hokkaido University
Muroran Institute of Technology
Hirotsaki University
Iwate University
Tohoku University
Ibaraki University
University of Tsukuba
Chiba University
Chiba Institute of Technology
The University of Tokyo
Tokyo Medical and Dental University
Tokyo Institute of Technology
Tokyo University of Agriculture and Technology
Tokyo University of Mercantile Marine
Tokyo Metropolitan University
Waseda University
Keio University
Aoyama Gakuin University

Musashi Institute of Technology
Shibaura Institute of Technology
Yokohama National University
Niigata University
Nagaoka University of Technology
University of Toyama
Kanazawa University
Shinshu University
Gifu University
Nagoya University
Nagoya Institute of Technology
Toyoashi Institute of Technology
Mie University
Kyoto University
Kansai University
Osaka University
Kobe University
Okayama University
Hiroshima University

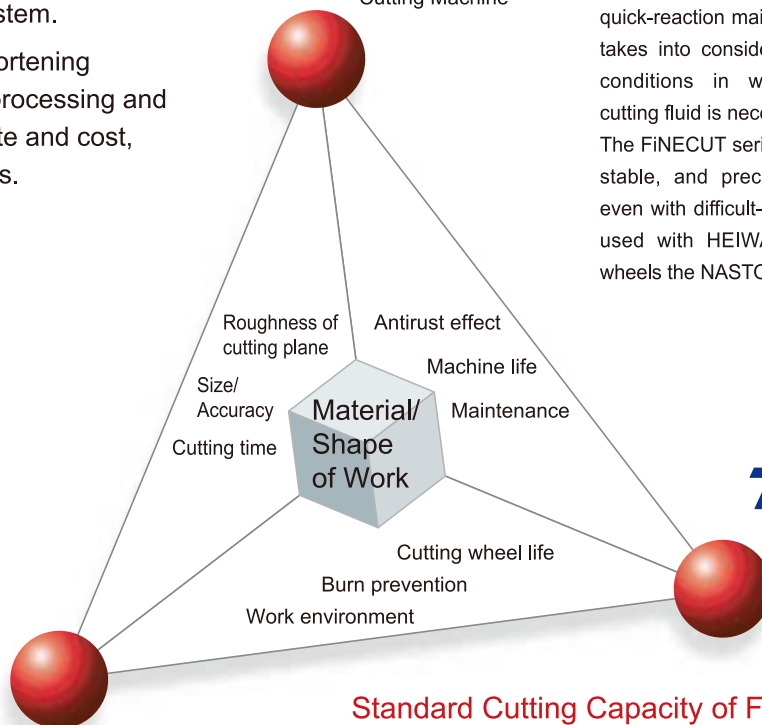
Tottori University
The University of Tokushima
Kyushu University
Kyushu Institute of Technology
Saga University
Kumamoto University
Meiji University
National University Corporation Shizuoka University

Characteristics of FiNECUT series

- ① The precision cutting wheel NASTON enables stable and precise cutting of even difficult-to-cut materials.
- ② Supported by a long-life part supply system and quick-response maintenance system.
- ③ Precision cutting enables the shortening or even omission of secondary processing and thus reduces the amount of waste and cost, especially with valuable materials.

**トウラストイン
ナストンゴールド**
NASTON
NASTON GOLD
Cutting Wheel

ファイナカット
FiNECUT
Cutting Machine



The FiNECUT series is supported by a long-life part supply system and quick-reaction maintenance system that takes into consideration severe usage conditions in which water soluble cutting fluid is necessary.

The FiNECUT series makes high-speed, stable, and precise cutting available even with difficult-to-cut materials when used with HEIWA's precision cutting wheels the NASTON GOLD or NASTON.

ファイナール
FiNECOOL
Coolant Oil

Cut Materials

Ceramics	Glass	Kovar
Ferrite	Quartz	Co-Ni materials
Alumina system sintered material	Cemented carbide	Phosphor bronze
Tungsten	Molybdenum	FRP
Stainless steel	Tantalum	Carbon fiber
Steel	High-speed steel	Agamid fiber
Fired materials (ceramics etc.)	Various extra-hard-tempered material products	Difficult-to-cut compound materials
Non-ferrous materials	Bakelite	
Resin	Rock	
Titanium	Cast iron	
Glass epoxy	Cermet	
Silicon	Artificial bone	

Standard Cutting Capacity of FiNECUT Models

	Model Name	○□Pipe	●■Solid Bar	■Plates	Page
General-Purpose Cutting Machine	SP-7	50mm	50mm	—	14
	H S-100G	45mm	40mm	20mm × 75mm	08
	H S-45AC	40mm	30mm	15mm × 75mm	10
	H S-25/25A	25mm	20mm	5mm × 50mm	11
	N-7	30mm	30mm	—	18
	SS-33	30mm	25mm	10mm × 75mm	20
	SS-31	20mm	15mm	5mm × 80mm	20
	Birdie II	15mm	15mm	5mm × 20mm	22
Automatic Cutting Machine	ACE 20	20mm	20mm	—	15
Dry-type Plate Cutting Machine	32 F -500	—	—	10mm × 500mm	16
	32 F -300	—	—	10mm × 300mm	16
	32 F -200	30mm	25mm	10mm × 200mm	17
	S-5	5mm	3mm	—	22

Private Companies

IHI Corporation	Nippon Mining & Metals Co., Ltd.	Sumitomo Electric Industries, Ltd.
Isuzu Motors Limited	Nissan Motor Co., Ltd.	JFE Steel Corporation
SMC Co., Ltd.	HI-LEX CORPORATION	Yamaha Corporation
Ebara Research and Development Center	NGK INSULATORS, LTD.	Hitachi Tool Engineering, Ltd.
ORIENTAL MOTOR Co., Ltd.	NSK Ltd.	Mitsubishi Electric Corporation
Kyocera Corporation	THE NIPPON SIGNAL CO., LTD.	Tokai Rubber Industries, Ltd.
Kuretake Electro-steel Co., Ltd.	The Japan Steel Works, LTD.	Mitsubishi Heavy Industries, Ltd.
NEC Corporation	NIPPON BEARING CO., LTD.	Bridgestone Corporation
SANYO Electric Co., Ltd.	PILOT Corporation	SUZUKI MOTOR CORPORATION
Showa Shell Sekiyu K.K.	Hitachi, Ltd.	
Daido Steel Co., Ltd.	FUJIFILM Corporation	
Tanaka Kikinzoku Kogyo K.K.	Fujikura Ltd.	
CHUBU Electric Power Co., Inc.	FUJI HEAVY INDUSTRIES Ltd.	
Central Japan Railway Company	Honda Motor Co., Ltd.	
Tokyu Car Corporation	Honda R&D Co., Ltd.	
Tokyo Gas Co., Ltd.	Matsushita Electric Industrial Co., Ltd.	
Kyocera Chemical Corporation	Mitsubishi Materials Corporation	
Tochigi Nikon Corporation	Rigaku Corporation	
TOPY Industries Ltd.	RIKEN CORPORATION	
Toyota Motor Corporation	YKK Corporation	
Toshiba Ceramics Co., Ltd.	NOK CORPORATION	
	OSG Corporation	

(Random order)

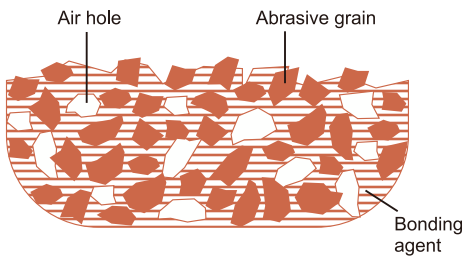


A type of precision processing method where a cutting wheel spinning at high speed is used to grind the material being processed via the extremely hard particles (abrasive grains) which the wheel consists of. The material can be gently processed without being damaged, while the superior precision cutting 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 Grain	Grain Size	Degree of Bond	Bonding Agent	Outer Diameter		Thickness		Internal Diameter
A (Alundum) WA (White Alundum) HA/NA (Heiwa Alundum) GC (Green Carborundum) TC (Diamond) AC (Alundum & Carborundum)	# 80 #100 #150 #220 #320 #400 #600	H, J, L, N, P, R (Soft ← → Hard)	B: Resinoid Bond	φ75 mm - φ305 mm		0.3 mm - 1.2 mm		φ6 mm - φ31.75 mm

Abrasive Grains

We have the following types of abrasive grain available, which depends on the material to be processed.

Classification	Symbol	Name	Characteristics and Application
Alumina System	A	Alundum	Bauxite is used as the major raw material and thus it is suitable for cutting iron or steel that is very tough (adhesiveness) and tensile.
	WA	White Alundum	The edge is likely to remain sharper than the A abrasive grain. A sharp edge is quickly generated and hence the overall resistance is low and very little heat generated. Superior to A with some materials.
	HA NA	Heiwa Alundum	Original abrasive grain. The sharp edge and moderate crushing characteristic ensure high cutting capabilities. Suits the cutting of hard products.
Carbide System	GC	Green Carborundum	Utilizes silica and carbon as the major raw materials and hence very hard but of a low level of toughness. Typically suits the cutting of non-ferrous materials.
	TC	Diamond	Hardest abrasive grain of all and thus suits the difficult-to-cut materials with which other abrasive grains do not work very well. Vulnerable to any heat generated during the processing.
Miscible System	AC	Alundum & Carborundum	Mixture of A and C abrasive grains. Suits the cutting of malleable cast iron.

Grain Size

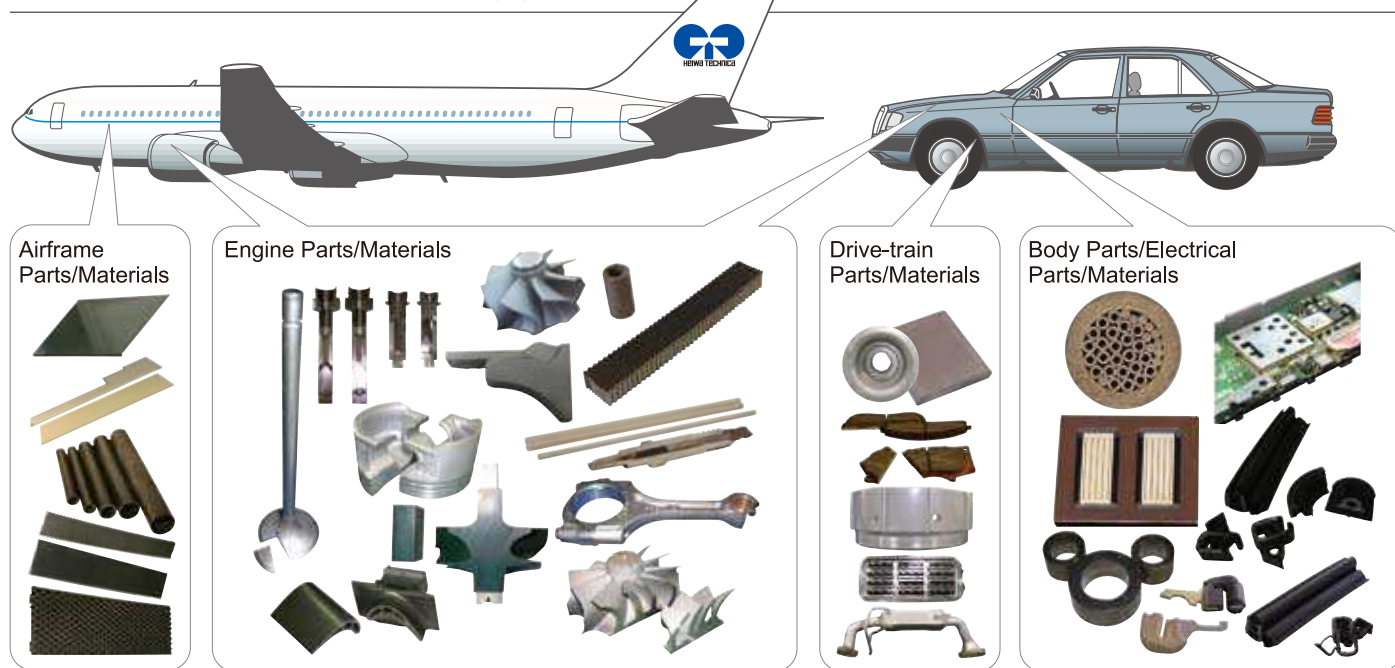
The grain size denotes the size of the abrasive grains used, with #80 through to #600 being available. The size of the grain and degree of the bond decide the roughness of the finished surface of the material to be processed.

Degree of Bond (hardness of cutting wheel move)

The degree of the bond denotes the strength of the bonding agent to the abrasive grains. The degrees range from A to Z, with the range we have available ranging from H to R. The degree of the bond is the weakest (softest) with A and the strongest (hardest) with Z. The degree of the bond affects its abrasive qualities, and hence the cutting effect of the cutting wheel, and therefore is the second most important factor after the abrasive grains themselves. A weak (soft) bond means that the abrasive grains come off easily as the bond that holds them in place is weak, and thus a new cutting edge is constantly appearing. This means that the wheel cuts well but wears out relatively quickly. A strong (hard) bonding means that not many abrasive grains so come off and hence the cutting speed decreases as their roughness becomes dull. It therefore has less cutting capabilities but is quite durable.

Examples of **トウカストイン** Utilization

NASTON



Application of **トウカストイン** (Material/Product Name)

NASTON

		Material	Product Name
Quality Control		Special alloy	Jet turbines
		difficult-to-cut compound materials	Vehicle engine parts
		Titanium	Golf-club heads
Production Division		Cemented carbide materials	Cemented carbide tools
		Tungsten/Nickel	PCB/joints
		Stainless steel	Guides and rails
Research and Development		Phenol and epoxy resin	Sample embedding materials
		Single-crystal material	Ceramic products
		Precision aluminum casting	Cylinder heads
Cost Reduction		Extra-hard-tempered material	Regrinding products
		Stainless steel pipes	Electrical components
		Titanium	Medical products

Material Cut	Processing Example	Parts No.	φ150・φ160	Code No.	φ205	Code No.	
			Size (mm) O.D. x T (I.D. 25.4)		Size (mm) O.D. x T (I.D. 25.4)		
Alloy tool steel (SKS) Die steel (SKD) Hardened products such as spring steel (SUP)	Drill rods and various other types of hardened products Metal flake for electronic microscope Gauge plates for hardened products and machine parts Small dia. Drills and cutting endmills	31-N	160 x 0.7	31N-16007	-	-	
		A100N	150 x 0.5	A100N-15005	205 x 0.8	A100N-20508	
			150 x 1.0	A100N-15010	205 x 1.0	A100N-20510	
General carbon steel (S-C) Tool steel (SK) Soft steel (SS)	Extrusion pins of dies and key gauges Drawn profile materials, springs pipes, and wire	31-P	160 x 0.7	31P-16007	-	-	
		A100P	150 x 0.5	A100P-15005	205 x 0.8	A100P-20508	
			150 x 1.0	A100P-15010	205 x 1.0	A100P-20510	
Applicable to a wide range of materials including steel, mentioned above, as well as extremely durable Ideal for cutting solid bar materials of larger diameter such as SCM, SKD, and SUS		31-A	160 x 0.7	31A-16007	205 x 0.8	31A-20508	
		STAIN-A	160 x 0.8	SUSA-16008	205 x 1.0	SUSA-20510	
		HA80P	-	-	205 x 0.8	HA80P-20508	
Extra-hard-tempered materials such as special steel (SNCM) and high-speed steel (SKH)		HA100J	160 x 0.7	HA100J-16007	205 x 0.8	HA100J-20508	
		NA100J	-	-	205 x 0.8	NA100J-20508	
Molybdenum and stainless steel	Electrical parts and metal parts for bags and pouches	WA100R	150 x 0.5	WA100R-15005	205 x 0.8	WA100R-20508	
		WA220R	150 x 0.5	WA220R-15005	205 x 0.8	WA220R-20508	
Ordinary casting (FC), magnetic steel, malleable cast iron, and ductile iron		AC100J	-	-	205 x 0.8	AC100J-20508	
Titanium Glass epoxy and resin Bakelite and stone General non-ferrous materials Quartz, Crystals, and hard glass General soda glass Ceramics	Parts made of composite materials Hard ornaments and denture specimens Processed glass products in general (syringe barrel)	GC100P	-	-	205 x 0.8	GC100P-20508	
		GC100N	-	-	205 x 0.8	GC100N-20508	
		GC150N	150 x 0.3	GC150N-15003	205 x 0.8	GC150N-20508	
			150 x 0.5	GC150N-15005	-	-	
			150 x 1.0	GC150N-15010	-	-	
		GC150L	150 x 0.5	GC150L-15005	205 x 0.8	GC150L-20508	
		GC150H	150 x 0.5	GC150H-15005	205 x 0.8	GC150H-20508	
Stainless steel, and general non-ferrous metals, Tungsten and molybdenum Noble metals such as gold and silver etc.	Various types of precise pipes and shafts Electrical contacts and injector needles Thin pipes and small ornamental artifacts	GC320P	150 x 0.3	GC320P-15003	-	-	
		GC320R	150 x 0.5	GC320R-15005	205 x 0.8	GC320R-20508	
		STAIN-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	

* Please place orders in the available minimum quantity of one box (contains 25 disks).

Diamond Abrasive Cutting Wheel for Hard Brittle Materials



The NASTON GOLD enables extremely precise cutting of hard brittle materials, including cemented carbide/ceramics/semiconductors/glasses, magnetic materials including ferrite/sendust, and difficult-to-cut compound materials. Has superior processing qualities that allow soft cutting with minimal chipping.



TC-1

The NASTON GOLD was developed for use in processing difficult-to-cut materials that cannot be cut using conventional blades and cutting wheels.

Please contact us if you need any further assistance with your cutting needs.

NASTON GOLD

Parts No.	Size (mm)	Code No.	Application
	O.D. x T x I.D.		
TC-1 (#140)	150 x 0.5 x 25.4	TC1-15005	Cemented carbide Ferrite Tungsten Other magnetic materials
	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	
	255 x 1.0 x 31.75	TC1-25510	
TC-2 (#180)	150 x 0.5 x 25.4	TC2-15005	Ceramics Hard glass Quartz/crystals etc.
	180 x 0.6 x 25.4	TC2-18006	
	205 x 0.7 x 25.4	TC2-20507	
	230 x 0.8 x 25.4	TC2-23008	
	255 x 1.0 x 31.75	TC2-25510	
TC-0	150 x 0.5 x 25.4	TC0-15005	Multipurpose ultra-hard materials
	205 x 0.7 x 25.4	TC0-20507	
MM-1	90 x 0.5 x 10.0	MM-1	S-5/MM-G models

* The minimum available order quantity is 1 box (1 disk).

NASTON GOLD "SUPER"

Parts No.	Size (mm)	Code No.	Application
	O.D. x T x I.D.		
CA-1	150 x 0.5 x 25.4	CA1-15005	Fine ceramics Difficult-to-cut materials such as SiC, Si ₃ N ₄ etc.
	180 x 0.6 x 25.4	CA1-18006	
	205 x 0.7 x 25.4	CA1-20507	

* The minimum available order quantity is 1 box (1 disk).

φ230 Size (mm) O.D. x T (I.D. 25.4)	Code No.	φ255 Size (mm) O.D. x T (I.D. 31.75)	Code No.	φ305 Size (mm) O.D. x T (I.D. 31.75)	Code No.
-	-	-	-	-	-
230 x 1.0	A100N-23010	255 x 1.2	A100N-25512	-	-
-	-	-	-	305 x 1.2	A100N-30512
-	-	-	-	-	-
230 x 1.0	A100P-23010	255 x 1.2	A100P-25512	-	-
-	-	-	-	305 x 1.2	A100P-30512
230 x 1.0	31A-23010	-	-	-	-
230 x 1.0	SUSA-23010	255 x 1.2	SUSA-25512	-	-
230 x 1.0	HA80P-23010	255 x 1.2	HA80P-25512	-	-
230 x 1.0	HA100J923010	255 x 1.2	HA100J-25512	305 x 1.2	HA100J-30512
230 x 1.0	NA100J-23010	255 x 1.2	NA100J-25512	305 x 1.2	NA100J-30512
230 x 1.0	WA100R-23010	-	-	-	-
230 x 1.0	WA220R-23010	255 x 1.2	WA220R-25512	-	-
230 x 1.0	AC100J-23010	255 x 1.2	AC100J-25512	305 x 1.2	AC100J-30512
-	-	-	-	-	-
-	-	-	-	-	-
230 x 1.0	GC150N-23010	255 x 1.2	GC150N-25512	305 x 1.2	GC150N-30512
-	-	-	-	-	-
-	-	-	-	-	-
230 x 1.0	GC150L-23010	255 x 1.2	GC150L-25512	305 x 1.2	GC150L-30512
230 x 1.0	GC150H-23010	255 x 1.2	GC150H-25512	-	-
-	-	-	-	-	-
230 x 1.0	GC320R-23010	255 x 1.2	GC320R-25512	-	-
-	-	-	-	-	-
-	-	-	-	-	-

Standard Selection

Standard Selection	Focus on Edge Sharpness	Focus on Cutting Wheel Durability
Most standard selection	Selection prioritizes cutting ability	Selection prioritizes cutting wheel lifetime
31-N	HA100J	31-P
A100N	HA100J	A100P
31-P	31-N	HA80P
A100P	A100N	HA80P
31-A	31-N, A100N	STAIN-A, HA80P
STAIN-A	-	-
HA80P	STAIN-A, HA100J	-
HA100J	-	NA100J WA100R, HA80P
WA100R	HA100J	-
WA220R	WA100R	-
AC100J	-	-
GC100N	GC150N GC150L, GC150H	GC100P
GC150N	GC150L GC150H	GC100P
GC150L	GC150H	GC150N GC100P
GC150H	TC-2	GC150L GC150N TC-2
Standard Selection	Focus on Finished Surface	Focus on Cutting Wheel Life
GC320R	STAIN-B GC400L	-

NASTON H Series (25 disks/box)

Parts No.	Size (mm) O.D. x T	Code No.	Size (mm) O.D. x T	Code No.	Material to be Cut
H-10	205 x 0.5	H10-20505	230 x 0.6	H10-23006	Steel materials in general
H-12	205 x 0.5	H12-20505	230 x 0.6	H12-23006	Heat-treated materials and special steel
H-15	205 x 0.5	H15-20505	230 x 0.6	H15-23006	Non-ferrous materials in general
H-22	205 x 0.5	H22-20505	230 x 0.6	H22-23006	Copper, brass and stainless steel
H-32	205 x 0.5	H32-20505	230 x 0.6	H32-23006	Stainless steel, tungsten, molybdenum, non-ferrous materials, and noble metals such as gold and silver etc.
H-40	205 x 0.5	H40-20505	230 x 0.6	H40-23006	

Metal Bond Diamond Wheel

Parts No.	Size (mm) O.D. x T x I.D.	Code No.	This cutting wheel uses a metal bond around a heavy-duty alloy to form the diamond abrasive grain layer.
SD	150 x 0.5 x 25.4	SD-15005	
	200 x 0.8 x 25.4	SD-20008	

* The minimum available order quantity is 1 box (1 disk).

Paper Filter (Filter paper)

Size (mm)	Code No.	Applicable Model
165x165 (20 sheets)	SF-01	SS-31, M-30, (former 31), Birdie II
350x450 (20 sheets)	SF-02	N-7, SS-33, (former 32), HS-45AC, 32F-200/300
410x490 (20 sheets)	SF-03	HS-100, HS-45, ACE-20/30 Super Seven/310, 32F-500
410x100m (1 roll)	SF-11	
410x50m (1 roll)	SF-12	For filter separator tank

For Dry-type BIRDIE (25 sheets/box)

Parts No.	Size (mm)	Code No.	Material
NASTON-A	160 x 0.7	BDA-16007	General carbon steel and tools steel
NASTON-B	160 x 0.7	BDB-16007	Resin and Bakelite
NASTON-C	160 x 0.7	BDC-16007	Copper, brass, and stainless steel

For S-5/MM-G (50 sheets/box)

Parts No.	Size (mm)	Code No.	Material
A100P	90 x 0.5	A100P-09005	General carbon steel and tools steel
GC320P	90 x 0.5	GC320P-09005	Stainless steel, resin, and noble metals such as gold and silver etc.
WA120P	90 x 0.5	WA120P-09005	Copper, brass, and stainless steel

For Baby-size Wheel for FINECUT S-2 (50 sheets/box)

Parts No.	Size (mm)	Code No.	Material
A100P	75 x 0.5	A100P-07505	General carbon steel and tools steel
GC150P	75 x 0.5	GC150P-07505	Resin and Bakelite
WA120P	75 x 0.5	WA120P-07505	Copper, brass, and stainless steel

Segment Grinding Stones for Face Grinder LM-P/LM-O

Parts No.	Finish	Set	Code No.	Material
Medium mesh	Medium finish	6 pcs	B-6-6	Hard/soft iron alloys
		8 pcs	B-6-8	Cast iron and a wide range of precise cut steels etc.
Fine mesh	Fine finish	6 pcs	B-12-6	Difficult-to-cut of tool steel, die steel, and tempered alloys
		8 pcs	B-12-8	

Water Soluble Cutting fluid Exclusively for NASTON GOLD/NASTON



FC-018 1.8ℓ	FC-036 3.6ℓ	FC-180 18.0ℓ	NC-018 1.8ℓ	NC-036 3.6ℓ	NC-180 18.0ℓ
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Its superior permeability/lubricity/cooling characteristics enable clogging to be prevented, thus prolonging the useful lifespan of the cutting wheels. It also features an improved antirust effect. Dilute FINECOOL about 40 times and FINECOOL 21 about in 30 times with water before using.



Performance	FINECOOL	NEW FINECOOL 21
Antirust	○	◎
Cutting wheel lifetime	◎	◎
Antiseptic	○	◎
Post-treatment (removal)	◎	◎
Machine contamination	○	○

High-accuracy Universal Automatic Cutting Machine



HS-100 G-type

New advanced machine featuring superior extensibility and operability!

Characteristics

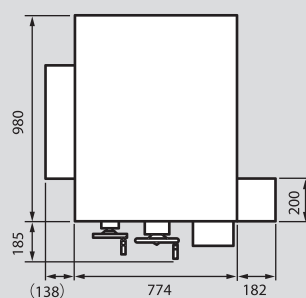
- 1 Oil-less spindle that features an original mechanism that improves stiffness and durability, and which is maintenance free.
- 2 Equipped with a 2.2Kw spindle motor in improving spindle rigidity. Improved cutting capability as vertical cutting using a left steering wheel is supported.
- 3 Utilizes 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 (Specification for using in Japan)

	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

*If need to change power supply such as voltage, please contact

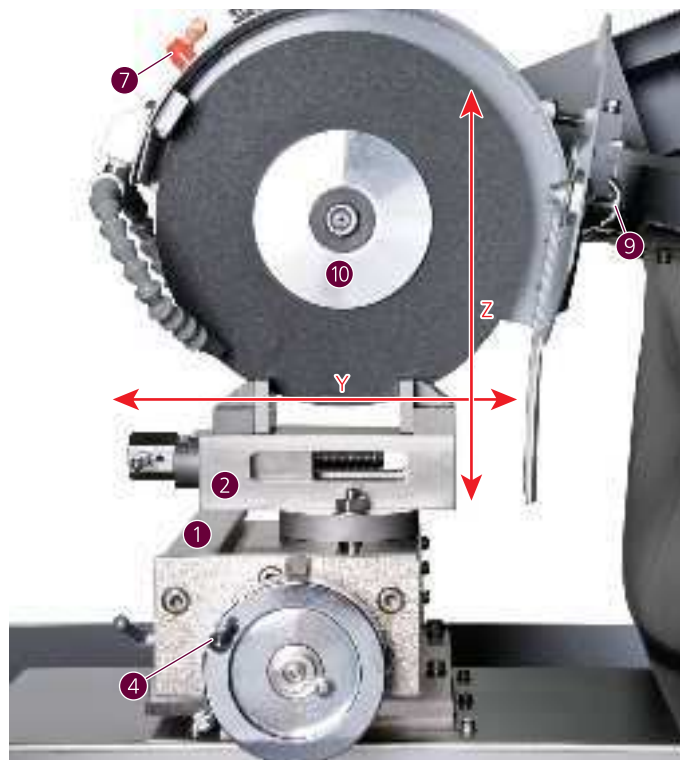
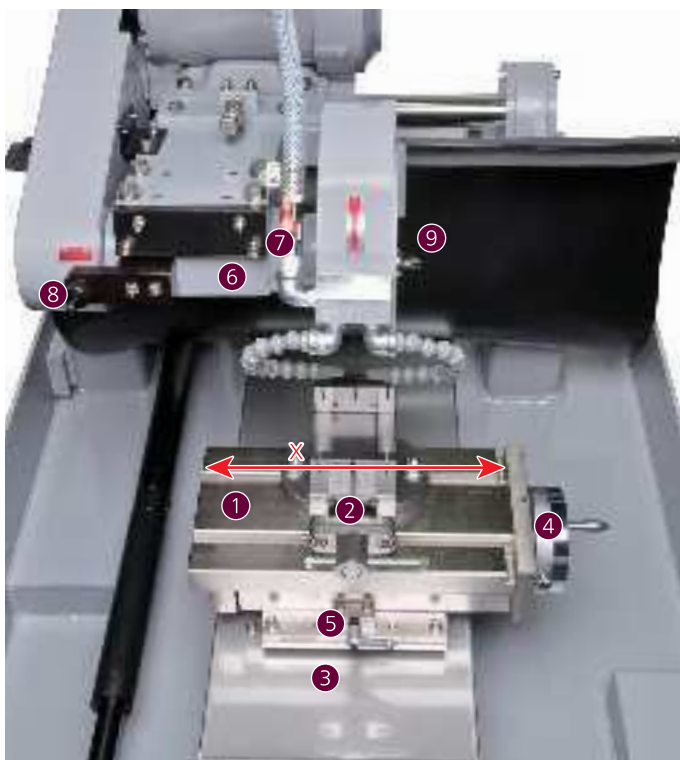
Required Floor Space



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.



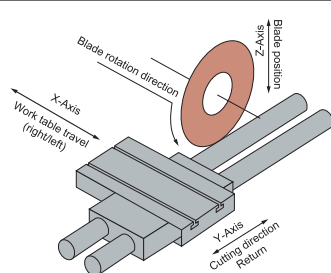
- ① Work table [electro-less nickel plating]
- ② Standard stainless steel vise [jaw opening size 0-80mm]
- ③ Stainless steel front-rear feed cover [contaminant-proof]
- ④ Work table cross-feed steering wheel [with graduated ring]
- ⑤ Work table stopper knob
- ⑥ Oil-less spindle [maintenance free]
- ⑦ 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)

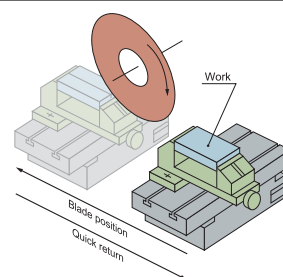
XYZ Mechanism

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 **フイノカット** 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.



Upgraded operability has resulted in less space being required and greater accuracy in corresponding to the various work environments.

Characteristics

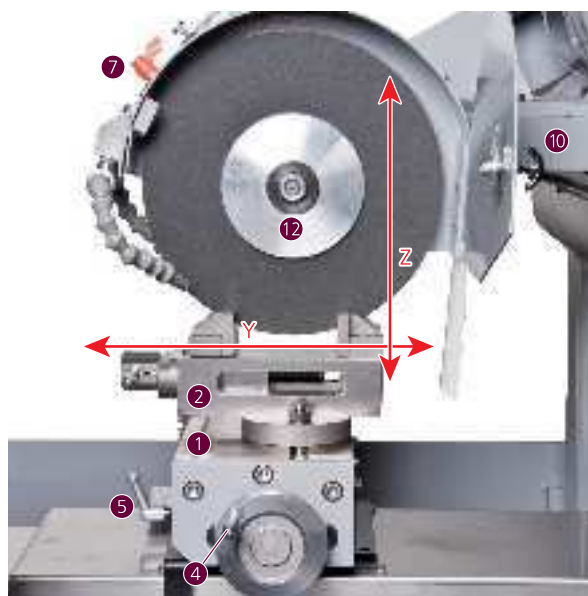
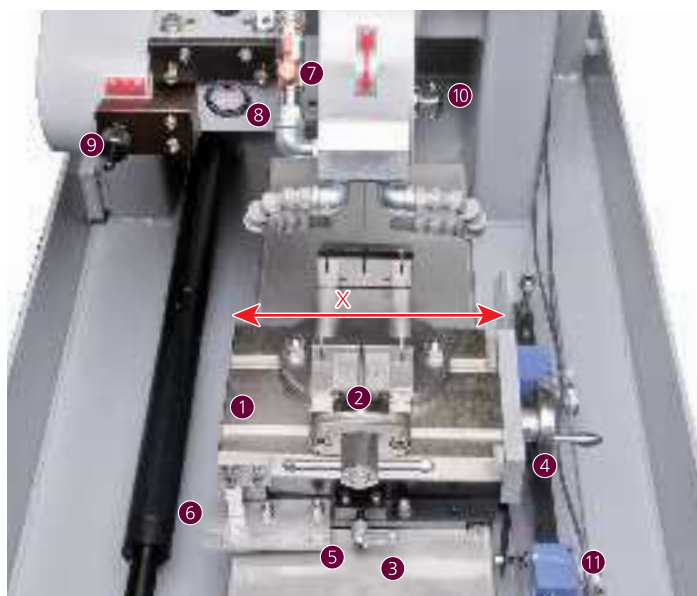
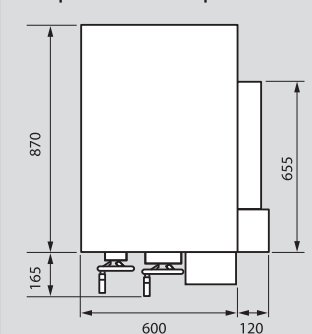
- 1 Improved operability with steering wheel on the left side of machine.
- 2 Antirust vise and work table.
- 3 Independent operating board and power BOX for greater operability.
- 4 More space efficient because of a machine body width of just 720mm.
- 5 Equipped with a water gun for cleaning.

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.

Required floor space



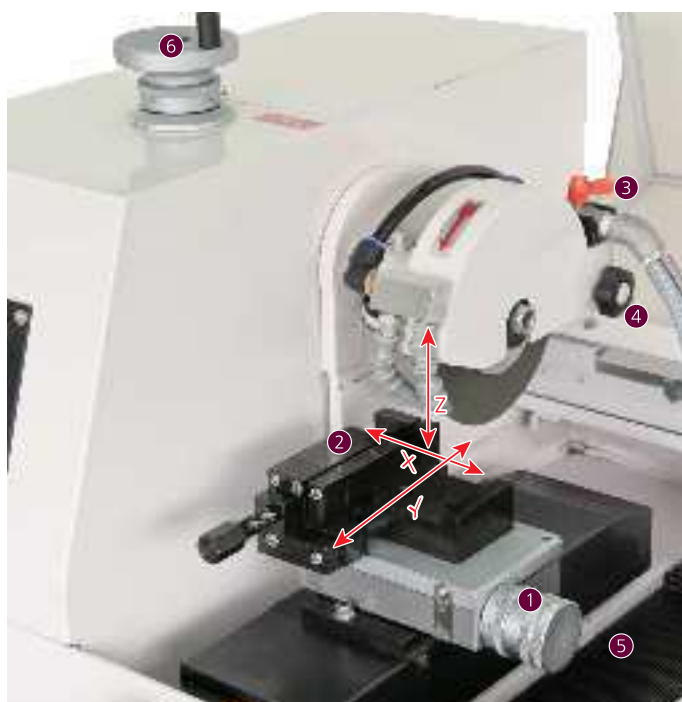
- ① Work table [electro-less nickel plating]
- ② Standard stainless steel vise [jaw opening size 0 - 80mm]
- ③ Stainless steel front-rear feed cover [contaminant-proof]
- ④ Work table cross-feed steering wheel
- ⑤ Work table stopper knob
- ⑥ Direct-read stainless steel scale
- ⑦ Coolant discharge adjustment cock
- ⑧ Oil pot window
- ⑨ Spindle stopper for changing cutting wheel

- ⑩ Cutting wheel cover open/close knob
- ⑪ Position sensor for cutting direction travel
- ⑫ Cutting wheel flange [aluminum]

X Work table travel: 60 cross feed (manual)

Y Cutting direction travel: 210mm front to rear movement (when operated with steering wheel on right side)

Z Spindle travel: 200mm vertical movement (when operated with steering wheel on left side)



This bench top precision cutting machine was developed for use in research field. It is suitable for use in cutting crystalline structures to study their physicality, removing sample flakes for electronic microscopes, and other samples of electronic materials/ceramics/various metals.

Travel along the X-Axis (right/left travel of work table), Y-Axis (front-rear travel of work table), and Z-Axis (vertical movement of spindle) are all supported in thereby corresponding to various cutting conditions.

Characteristics

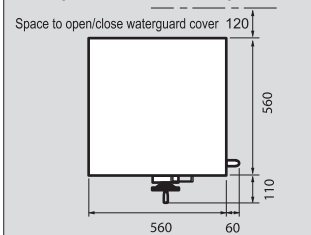
- 1 Easy measurement of up/down of cutting wheel (1/10mm scale) and right/left of work table (4/100mm scale) via vertical movement of spindle and precision slide table.
- 2 Equipped with a clear cover interlock (safety device).
- 3 Full-covered type that prevents spattering of water soluble cutting fluid.
- 4 Space-saving bench type.

Optional Specifications Line Up

- ① Surface rotary vise
- ② Machine stand with casters
- ③ Spindle rotation inverter ☐ OP-RCO
- ④ Antirust treated machine body ☐ OP-AC

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

Required Floor Space



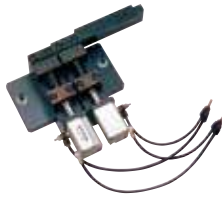




- ① Scale ring for work table side travel
 - ② Accessory vise [jaw opening size 0-25mm]
 - ③ Coolant discharge adjustment cock
 - ④ Cutting wheel fixing knob
 - ⑤ Embedded coolant tank
 - ⑥ Spindle vertical steering wheel
- X Work table travel: 60 cross feed (manual)
 Y Cutting direction travel: 150mm front to rear movement (auto)/(manual with front steering wheel)
 Z Spindle travel: 50mm vertical movement (manual with upper steering wheel)

Standard Specification (Specification for using in Japan)

	HS-45AC	HS-25 (manual)	HS-25 (auto/manual)
Standard cutting capacity	○ pipe 40mm, ● solid bar 30mm, ▬ plate 15mm x 75mm	○ pipe 25mm, ● solid bar 20mm, ▬ plate 5mm x 50mm	
Flake cutting	0.2mm at φ20mm (hard metals)	0.2mm at φ20mm (hard metals)	
Cutting tolerance	Squareness 0.05mm, parallelism 0.1mm for SK steel φ20mm	Squareness 0.05mm, parallelism 0.1mm for SK steel φ20mm	
Work table travel (X, Y)	210mm in cutting direction (manual)・60mm in cross feed (manual)	60mm in cross feed (manual)・150mm in cutting direction (manual)	
Spindle travel (Z)	190mm vertically (front steering wheel operation)	50mm vertically (manual)	
Automatic cutting, Return speeds	6-100mm per min. (stepless), 100mm per min. (fixed)	—	3-47mm/3-57mm (50/60Hz) per min. (stepless)
Diameter of cutting wheel	φ230mm・φ205mm/φ25.4mm	φ150mm/φ25.4mm	
Diameter of flange	φ110mm (φ90mm: optional accessory)	φ80mm	
Diameter of spindle, Revolutions per minute	φ25.4mm, 3000rpm	φ25.4mm, 3400rpm (50Hz)/4100rpm (60Hz)	
Spindle motor	AC200V・3 phase・2P・1.5kW	AC200V・3 phase・400W	
Coolant pump, Tank	AC200V・3 phase・40W, 30 liters	AC200V・single phase・10W, built-in type	
Automatic cutting motor	AC200V・single phase・10W	—	
Dimensions (W x L x H)	720mm x 1035mm x 1450mm	620mm x 670mm x 580mm	
Machine weight	290kg	85kg	
Accessories	Stainless steel standard vise, cleaning water gun, 1 set of cutting wheels for testing, FINECOOL, spindle oil, and 1 set of Paper Filters	Dedicated vise, 1 set of cutting wheels for testing, FINECOOL, spindle oil, and spindle stopper	

*If need to change power supply such as voltage, please contact

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

List of Optional Vises and Products for FINECUT Series

○ Applicable — Not applicable

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

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

List of Optional Specifications for FINECUT Series

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.



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

Wax Set

WS

- ① A wax (general purpose): softens at 68 degrees C/adhesive force 44kg/cm²
- ② B wax (small adhesive area): softens at 75 degrees C/adhesive force 162kg/cm²
- ③ Cleaning liquid I/II
- ④ Cleaning tray
- ⑤ Wax melting container
- ⑥ Abrasive stick WA/GC (for dresser)
- ⑦ Glass mount plate for cutting samples
- ⑧ Bake mount plate for fixing vice
(10 of the above 8 types of items are included in a set.)

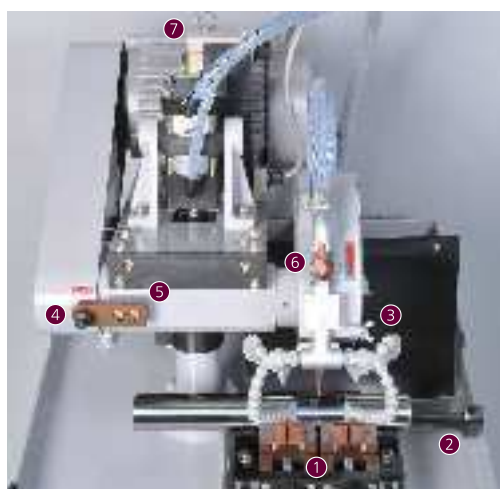




High level of rigidity and superior operability enable stable, precise cutting of large hardened products and sample profiles.

Characteristics

- 1 Lever operation for vertical forwarding of spindle to position the cutting.
- 2 Automatic spindle vertical cutting via oil pump.
- 3 Oil-less spindle with original mechanisms, thus dramatically increasing rigidity/durability and making it maintenance-free.
- 4 Improved rigidity of body and one-touch lift button enables chop-cuts and thus stronger more precise cutting.
- 5 Adjustable spindle drive belt.
- 6 Improved operability via new positioning of operating board.
- 7 Internal light (ceiling fluorescent), cleaning water gun, and earth leakage circuit breaker included as standard.



Standard vise for SP model



Double vise SP-V70

Optional vise for SP model



Special surface rotary vise for SP SP-V71

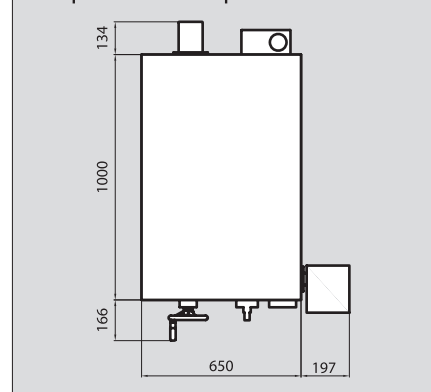
- 1 Double vise
- 2 Work stopper
- 3 Cutting wheel cover open/close knob
- 4 Spindle stopper for changing cutting wheel
- 5 Oil-less spindle
- 6 Coolant discharge adjustment cock
- 7 Limit switch

Standard Specifications (Specification for using in Japan)

	SP-7
Standard cutting capacity	□pipe 50mm, ●solid bar 50mm
Automatic cutting, Return speed	0-100mm/min., 3000mm/min. (constant)
Spindle vertical stroke	63mm (automatic range)/130mm (manual range)
Diameter of cutting wheel	Standard: φ255mm/φ31.75mm (max. φ305mm)
Diameter of flange	φ110mm
Diameter of spindle, Revolutions per minute	φ31.75mm, 2000rpm
Spindle motor	AC200V・3 phase・4P・2.2 kW
Oil pump	AC200V・3 phase・75W
Coolant pump, Tank	AC200V・3 phase・60W, 60 liters
Dimensions (W x L x H)	650mm x 1265mm x 1550mm
Machine weight	450kg
Optional specifications	Spindle motor powered-up to 3.7 kW with timing belt, dedicated rotary vise, air vise, material support side tables, and digital measuring unit
Accessories	1 set of cutting wheels for testing, FINECOOL, turbine oil, and 1 set of Paper Filters

*If need to change power supply such as voltage, please contact

Required floor space



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

ファインカット ACE-20 FINECUT



A fully-automatic machine that was specifically designed for cutting solid bars and pipes, and which is the most suitable for use in mass producing electronic parts that require an even higher level of accuracy. This machine was also designed to have as simple as possible mechanism in ensuring ease of operation and problem-free use.

Characteristics

- 1 Traces cutting wheel abrasions with a sensor.
- 2 Automatic cycle stop function with cutting wheel minimization or lack of material.
- 3 Air pressure specifications and partial oil pressure drive using a hydro-converter for the cutting.
- 4 Equipped with water gun for cleaning.
- 5 Usable with automatic material feeder (option).
- 6 Quick measurement of cutting length via digital measurement unit (option).

*Please contact us for data on the details of the clamping and bundling method that suits your specifications.

For 2m SP-AS2

For 3m SP-AS3

<Automatic material feeder for ACE>

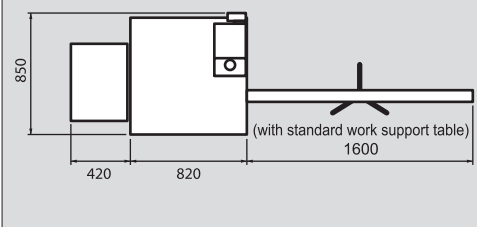
Once cutting of a piece of predetermined material has completed the feeder sends the next material automatically into the machine (option).

Standard Specifications (Specification for using in Japan)

	ACE-20
Standard cutting capacity	□pipe 20mm, ●solid bar 20mm, ⊙bundle 20mm
Length of cutting product	3mm-100mm
Remaining length for automatic feed	Min. 21mm Max 21mm + product length
Diameter of cutting wheel	φ230mm・φ205mm/φ25.4mm
Diameter of flange	φ90mm
Diameter of spindle, Revolutions per minute	25.4mm, 3000rpm・50Hz/60Hz
Spindle motor	AC200V・3 phase・2P・1.5kW
Coolant pump, Tank	AC200V・3 phase・40W, 60liters
Automatic cutting speed	10-180 seconds/Stepless-cycle speed control
Feed pitch control	0.01mm scaled
Dimensions (W x L x H)	1240mm x 850mm x 1400mm
Machine weight	360kg
Optional specifications	Automatic material feeder and digital measurement unit
Accessories	Work support table, 1 set of cutting wheels for testing, FINECOOL, spindle oil, turbine oil, and 1 set of Paper Filters

*If need to change power supply such as voltage, please contact

Required floor space



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

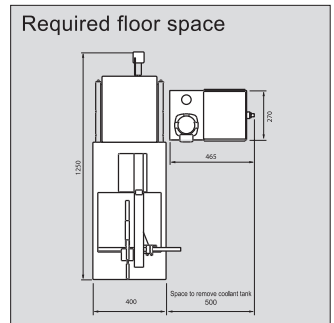
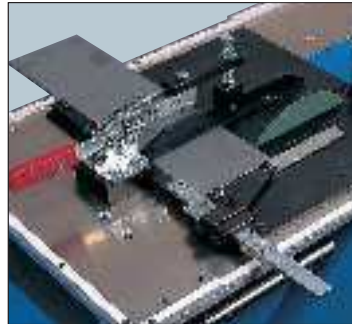
General-purpose Manual Cutting Machine

フインカット 32F-300/500

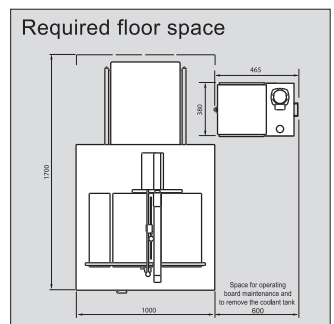
FINECUT

The 32F series are slide table machines for use in cutting plates. The machine clamps and supports the long stroke cutting of all kinds of plates from general through to new types of material such as glass, ceramics, carbon compounds, carbon fiber, and aramid fiber in both the vertical direction (32F-300/500) and horizontal direction (32F-200). Furthermore, depending on the operation, clamp jigs and other parts can be separately developed and installed.

32F-300



32F-500



General-purpose Manual Cutting Machine

ファインカット 32F-200 FINECUT

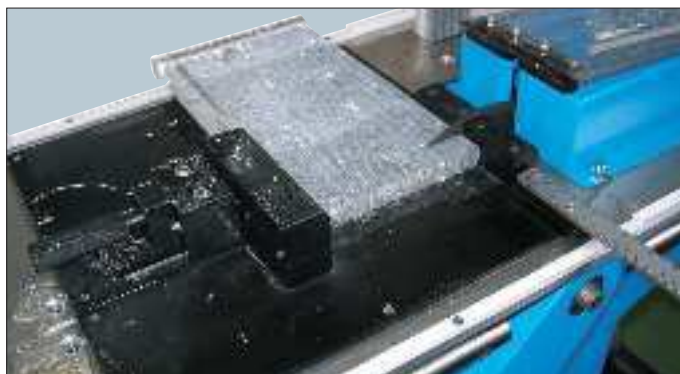


This manual cutting machine has a slide table and can be used to cut a wide range of materials from plates through to bars. It supports the stable cutting of stainless steel, carbon, glass, quartz, substrates, and samples.

Characteristics

Double clamp system

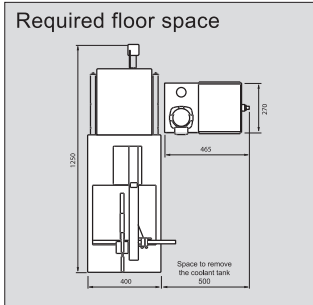
Clamping both sides of the material to be cut prevents cracks, breaks, or burrs during the cutting process.



* Photo taken without clear cover.

Two types of scale units, one for bars and the other for plates, are provided as standard equipment.

Measurement cutting is available for long materials or plates of a cut size of up to 150mm.



Standard Specifications (Specification for using in Japan)

	32F-300	32F-500	32F-200
Standard cutting capacity	■ plate 10mm x 300mm (T x W)	■ plate 10mm x 500mm (T x W)	○ pipe 30mm, ● solid bar 25mm, ■ plate 10mm x 200mm (T x W)
Slide table travel	400mm in cutting direction (manual)	645mm in cutting direction	400mm in cutting direction (manual)
Automatic cutting, Return speeds	—	6-100mm/min. (stepless), 220mm/min. (constant)	—
Clamping method	Toggle clamp	Vertical clamp	Double clamp
Jaw opening size	—	—	0-200mm
Diameter of cutting wheel	φ205mm/φ25.4mm	φ230mm/φ25.4mm	φ205mm/φ25.4mm
Diameter of flange	—	—	φ80mm
Diameter of spindle, (spindle) revolutions per minute	φ25.4mm, 2500/3000rpm (50/60Hz)	φ25.4mm, 3000rpm (50/60Hz)	φ25.4mm, 2500/3000rpm (50/60Hz)
Spindle motor	AV200V・3 phase・4P・0.75kW	AV200V・3 phase・2P・1.5kW	AV200V・3 phase・4P・0.75kW
Coolant pump, Tank	AV200V・3 phase・40W, 30liters	AV200V・3 phase・40W, 60liters	AV200V・3 phase・40W, 30liters
Dimensions (W x L x H)	510mm x 1250mm x 1010mm	1000mm x 1670mm x 1170mm	510mm x 1250mm x 980mm
Machine weight	137kg	350kg	143kg
Accessories	1 set of cutting wheels for testing, FINECOOL, and 1 set of Paper Filters		

* The actual cutting capability/tolerance may vary depending on the cutting conditions such as the type of material/cutting wheel.

* If need to change power supply such as voltage, please contact



A cutting machine with a rack-type lever that uses the table travel cutting method and which provides easy precision cutting of bars of a diameter of up to $\phi 30\text{mm}$. The dedicated air vise (option) provides superior productivity and operability in the mass-production of consistent size materials.

Characteristics

- 1 High power with 1.5kW spindle motor; cuts up to 30mm bars precisely and at high speed.
- 2 Equipped with a cut meter that displays the cutting load
The cut meter aids in adjusting the cutting amount.
- 3 Equipped with vernier scale. Allows the position of the material to be fine-adjusted easily.



General-purpose type vise

Double clamp system that reduces burrs and which is provided with a 3mm-depth cutting wheel passage. Effective cutting length: 3-150mm. Equipped with a 150mm vernier scale on the right-hand side.



Special-purpose type vise for pins

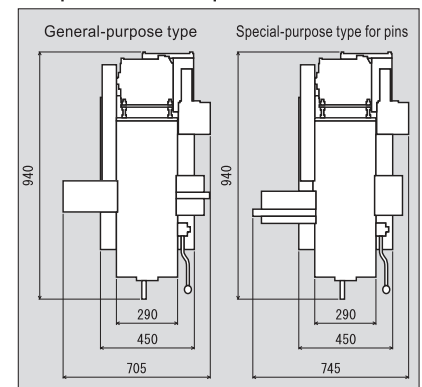
Designed exclusively for the extruding pins of die. Cut measurements available from 50mm to 300mm and equipped with a 300mm vernier scale on the left-hand side.

Standard Specifications (Specification for using in Japan)

	N-7
Standard cutting capacity	□ pipe 30mm, ● solid bar 30mm
Jaw opening size	0-30mm
Table travel	Manual rack and pinion
Spindle revolutions per minute	3000rpm・50Hz/60Hz
Diameter of cutting wheel	$\phi 205\text{mm}/\phi 25.4\text{mm}$
Spindle motor	AV200V・3 phase・2P・1.5kW
Coolant pump, Tank	AV200V・3 phase・40W, 30liters
Dimensions (W x L x H)	850mm x 780mm x 1170mm
Machine weight	98kg
Accessories	1 set of vernier scales, material support side tables, 1 set of cutting wheels for testing, FINECOOL, and 1 set of Paper Filters

*If need to change power supply such as voltage, please contact

Required floor space



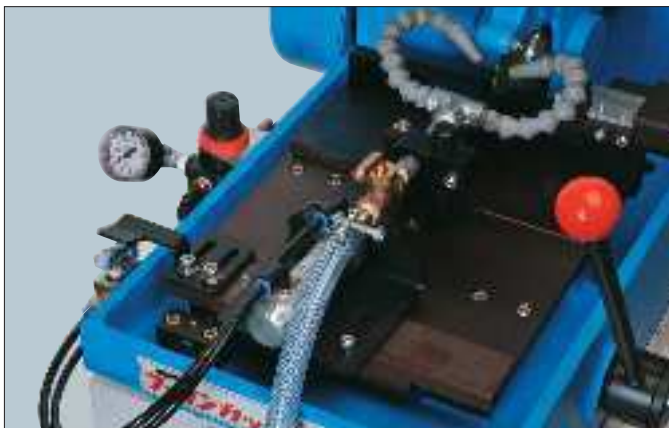


Vernier scale

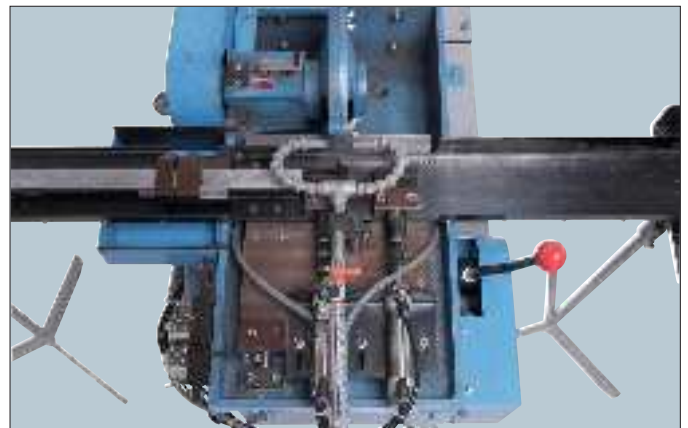
- * General-purpose type includes 150mm scale as standard equipment
(optional specifications: 300mm and 500mm)
- * Special-purpose type for pins includes 300mm scale as standard equipment
(optional specification: 500mm)



A low voltage protection switch with a thermal feature is adopted



Special Accessory Air Vice (Single Clamp)



Special Accessory Air Vice (Double Clamp)

Working with the cutting operation of a lever the vise automatically clamps and unclamps pieces of work using air pressure. Very effective in mass-production cutting as it eliminates the necessity of holding pieces of work with your hands.

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N-7 Sample Application



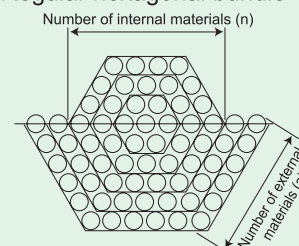
Sample Cutting

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 an industrial dryer or boiling water for the heating process.
- * Please contact us for more detailed product information on the tubes.

Regular hexagonal bundle



Total Number	Number of internal materials inside (n)	Number of external materials (a)
7	3	2
19	5	3
37	7	4
61	9	5
91	11	6

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

All-round Compact Cutting Machine

ファインカット
FINECUT

SS-33 ▪ General-purpose type
▪ Special-purpose type for pins

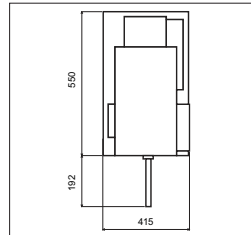


* Image of general-purpose type

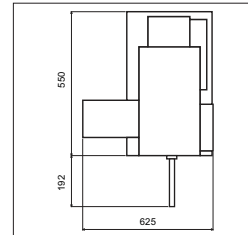
Characteristics

- 1 Strong 1HP spindle motor enables use of a $\phi 205\text{mm}$ cutting wheel.
- 2 New cooling method that more effectively cools down the cutting wheel at its minimum diameter.
- 3 Wide table that supports a variety of operations.
- 4 Equipped with machine stand with casters.
- 5 Vernier scales: 150mm, 300mm, and 500mm (optional specifications for general-purpose type).
- 6 Easy exchange of cutting wheel via designated space on the table.

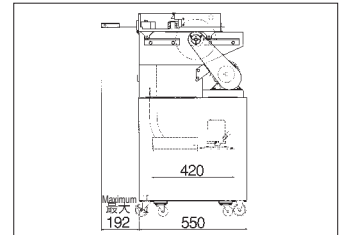
General-purpose type



Special-purpose type for pins



Common with general- and special-purpose types



ファインカット
FINECUT

SS-31 ▪ General-purpose type
▪ Special-purpose type for pins

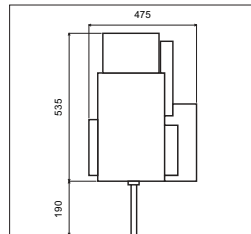


* Image of general-purpose type

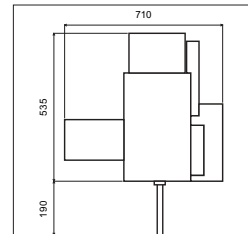
Characteristics

- 1 Work table travel via rail.
- 2 No restriction of installation location as it utilizes a 100V power source.
- 3 Wide table that supports a wide variety of operations.
- 4 Supports up to $\phi 160\text{mm}$ NASTON.
- 5 Vernier scales: 150mm, 300mm, and 500mm (optional specifications for general-purpose type).
- 6 Easy exchange of cutting wheel via designated space on the table.

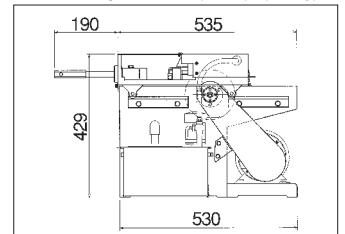
General-purpose type



Special-purpose type for pins

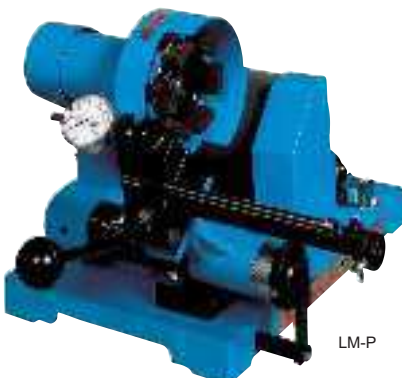


Common with general- and special-purpose types

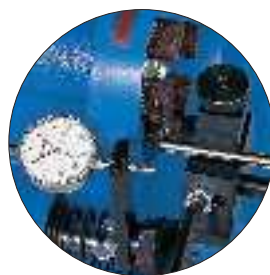


Face Grinder

FINE LIMITER LM-P LM-O



LM-P



Grinding section

Face grinder for adjusting the length of the extruding pins of die.

Characteristics

- 1 Cutting feeder scale enables cutting during measurements via a dial gauge.
- 2 Special-purpose segment grinding stones are free from clogging or burning, even in the case of the dry type.

SS-33/31 Common Specifications



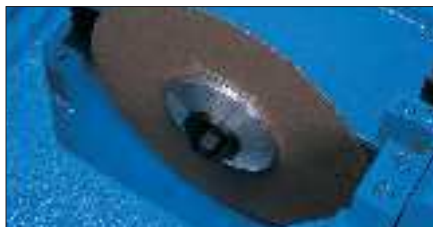
General-purpose Type Vise

Double clamp system that reduces burrs and is provided with a 3mm-depth cutting wheel passage. Suits the cutting of small pieces of work and is equipped with a scaled 100mm measurement stopper on the right-hand side.



Special-purpose Type Vise for Pins

Exclusively designed to cut the extruding pins of die. Equipped with a 300mm vernier scale on the left-hand side, measured cutting of a size of between 50mm and 300mm supported. Vernier scale 500mm (optional specification).



Space to Exchange Cutting Wheel

A space to exchange the cutting wheel is provided on the table, thus realizing safe and quick exchanges of the cutting wheel without having to lift the table.



Spindle Stopper for Exchanging Cutting Wheel

Spindle stopper provided in front of the belt cover on the right-hand side. The spindle can be locked without a special jig before exchanging the cutting wheel.



Vernier Scale

Makes finely adjusting the position of the measuring stopper easily.

* Optional specification for general-purpose type (optional specifications: 150mm, 300mm, and 500mm)

* 300mm comes with special-purpose type for pins (optional specification: 500mm)

Standard Specifications (Specification for using in Japan)

	SS-33	SS-31
Standard cutting capacity	○□pipe 30mm, ●■solid bar 25mm, ▬ plate 10mm x 75mm	○□20mm pipe, ●■solid bar 15mm, ▬ plate 5mm x 80mm
Work table travel	140mm (manual)	130mm (manual)
Jaw opening size	0-75mm slide type	0-80mm slide type
Spindle revolutions per minute	2500/3000rpm・50Hz/60Hz	3000/3600rpm・50Hz/60Hz
Diameter of cutting wheel	φ205mm/φ25.4mm	φ160mm・φ150mm/φ25.4mm
Spindle motor	AC200V・3 phase・4P・0.75kW	AC100V・single phase・4P・400W
Coolant pump, Tank	AC200V・3 phase・40W, 30liters	AC100V・single phase・10W, 4.5liters
Dimensions (W x L x H)	410mm x 740mm x 1040mm	450mm x 720mm x 430mm
Machine weight	80kg	54kg
Accessories	1 set of scales, 1 set of cutting wheels for testing, pin face wrench, FINECOOL, and 1 set of Paper Filters	1 set of scales, 1 set of cutting wheels for testing, pin face wrench, FINECOOL, and 1 set of Paper Filters

*If need to change power supply such as voltage, please contact

Standard Specifications (Specification for using in Japan)

	LM-P	LM-O
Maximum pin diameter	●■solid bar 2-20mm	●■solid bar 10-30mm
Maximum pin length	40-250mm	40-250mm
Spindle motor	AC100 V・single phase・2P・200W	AC100 V・single phase・4P・400W
Spindle revolutions per minute	2890/3460rpm・50Hz/60Hz	2580/3090rpm・50Hz/60Hz
Grinding graduations	1/100mm	1/100mm
No. of settings	1 pin	1 pin
Dimensions (W x L x H)	450mm x 610mm x 300mm	470mm x 610mm x 320mm
Machine weight	30kg	42kg
Accessories	1 set of dial gauges, 1 set of segment grinding stones (medium mesh), pin face wrench, and box wrench	

*If need to change power supply such as voltage, please contact

Segment Grinding Stone

Type	Finished Surface	Characteristics
Medium mesh	Medium	●Hard and soft ferrous alloys ●Suitable for the precision cutting of cast iron, stainless steel etc.
Fine mesh	Fine	●For use with difficult-to-cut materials such as tool steel, die steel, and hardened alloys

Segment Grinding Stone



LM-P
Segment Grinding Stone for LM-P
6-piece set

Medium mesh
Fine mesh

B-6-6
B-12-6

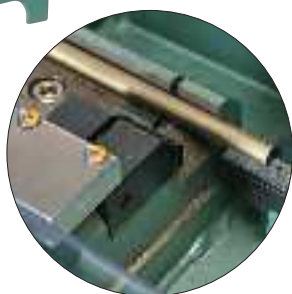
LM-O
Segment Grinding Stone for LM-O
8-piece set

Medium mesh
Fine mesh

B-6-8
B-12-8

Wet/Dry-type Manual Cutting Machine

ファインカット FINECUT Birdie II



Vise section

Characteristics

- 1 Both wet-type and dry-type supported, and a wide variety of cutting wheels can be used.
- 2 Suits the cutting of all types of materials such as Cemented carbide, ceramics, and glass.
- 3 Machine stand with casters (600mm height) (optional accessory).
- 4 Surface rotary vise for exclusive use with the Birdie II: angled cutting enabled by rotating the material clockwise using the rotary table in 1-degree graduations (optional accessory).

Standard Specifications (Specification for using in Japan)

	Birdie II
Maximum cutting capacity	□ pipe 15mm, ● solid bar 15mm, — plate 5mm x 20mm
Jaw opening size	0-22mm
Spindle revolutions per minute	3200/3800rpm•50Hz/60Hz
Size of cutting wheel	φ150 - 160 x 0.3 - 1.0 x 25.4mm (O.D. x T x I.D.)
Spindle motor	AC100V•single phase•2P•200W
Coolant pump, Tank	AC100V•single phase•10W, 4.5liters
Dimensions (W x L x H)	400mm x 470mm x 550mm
Machine weight	40kg
Accessories	1 set of scales, 1 set of cutting wheels for testing, pin face wrench, FINECOOL, 1 and set of Paper Filters

*If need to change power supply such as voltage, please contact

Dry-type Compact Cutting Machine

ファインカット FINECUT S-5 NEW

Small multipurpose NASTON GOLD "MM-1" but very effective!



Characteristics

- 1 Excellent usability with functional compact/light body.
- 2 Although dry-type use only practically free of burrs/burns and supports the precision cutting of a wide range of materials from noble metals through to stainless steel and tungsten materials etc.
- 3 Equipped with NASTON GOLD (M M-1).

Standard Specifications (Specification for using in Japan)

	S-5
Maximum cutting capacity	□ pipe 5mm, ● solid bar 3mm
Spindle motor	AC100V•single phase•150W
Spindle revolutions per minute	5300rpm (50Hz) /6400rpm (60Hz)
Size of cutting wheel	φ90 x 0.5 x 10.0mm (O.D. x T x I.D.)
Dimensions (W x L x H)	260mm x 240mm x 230mm
Machine weight	9.5kg
Accessories	Rod spanner, tray, spindle table stopper, standard cutting wheel (MM-1), and single head wrench

*If need to change power supply such as voltage, please contact

Diamond Abrasive Cutting Wheel for Hard Brittle Materials

ナストンゴールド
NASTON GOLD

MM-1 φ90 x 0.5 x 10.0mm (O.D. x T x I.D.)

<Cut Material> Ultra-hard alloys, tungsten, hardened/carbon fiber compounds, and rare metals



Cutting Counseling Service

FAX

TO: HEIWA TECHNICA,
FINE CUT SALES

81-(0)46-255-5840

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

Name

Company name

Department

Address

Country

T E L :

F A X :

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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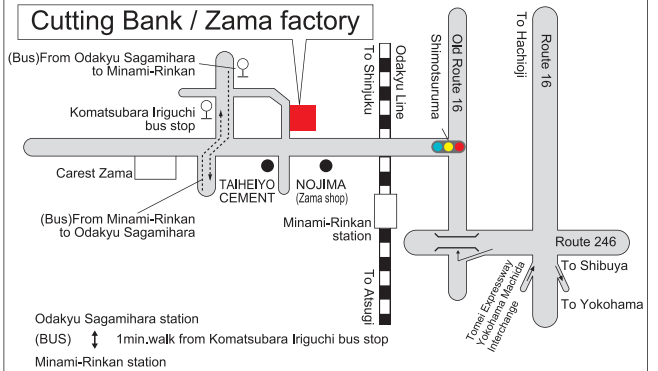
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Data input/Cutting seminar



Kanagawa Cutting Seminar Room



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■ FINE CUT sales Department

Postal code : 252-0001
6-39-49,Sagamigaoka, Zama-shi, Kanagawa-ken
TEL: 81-(0)46-251-3755 FAX: 81-(0)46-255-5840

■ Head Office
Nihonbashi,Chuo-ku,Japan

■ Factory
Zama-shi, Kanagawa-ken/Nasu-machi,Tochigi-ken

Export Office :
No.6,39-49,Sagamiga-oka,Zama-shi,Kanagawa-ken,251-0001 Japan
TEL: 81-(0)46-251-3755 FAX: 81-(0)46-255-5840
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