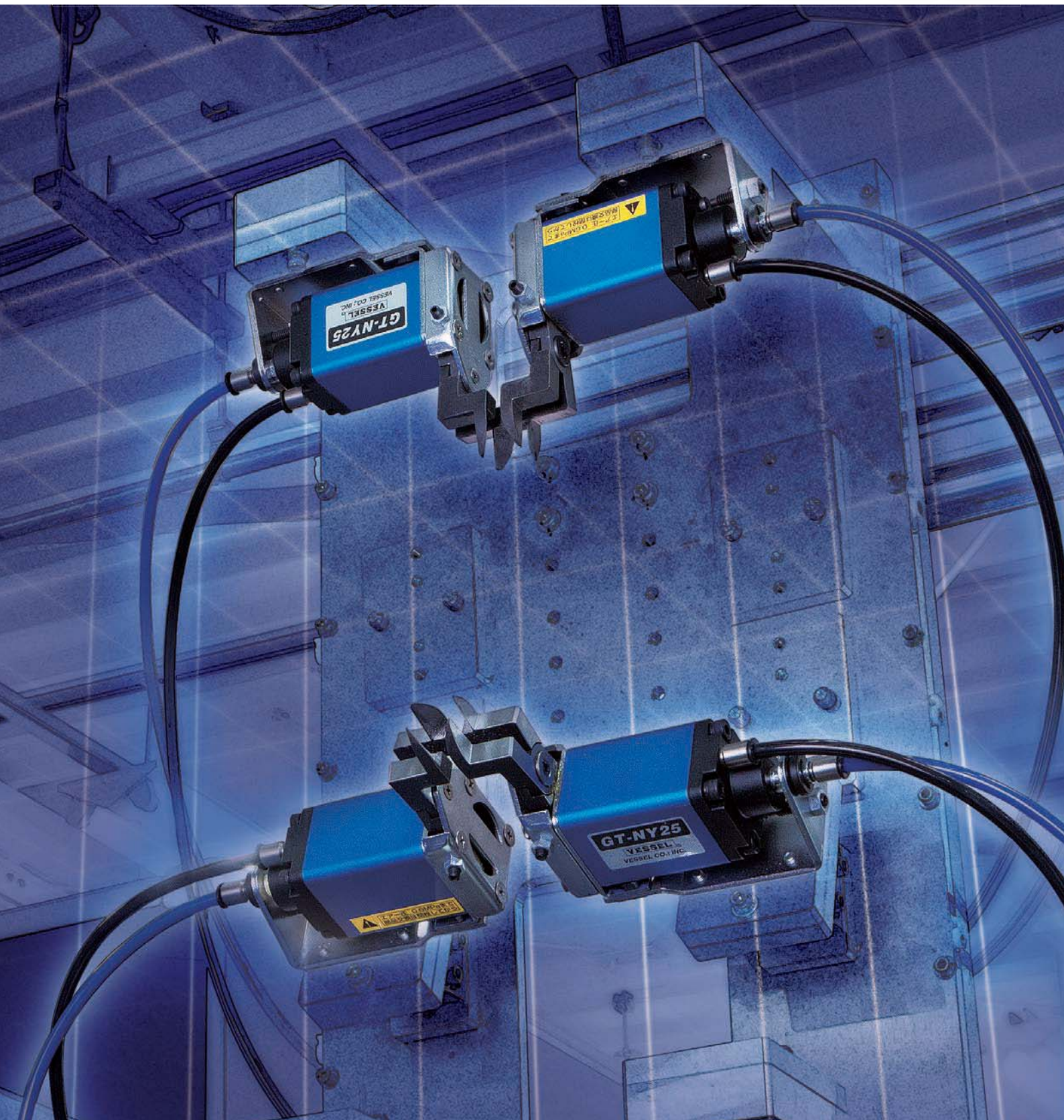


VESSEL

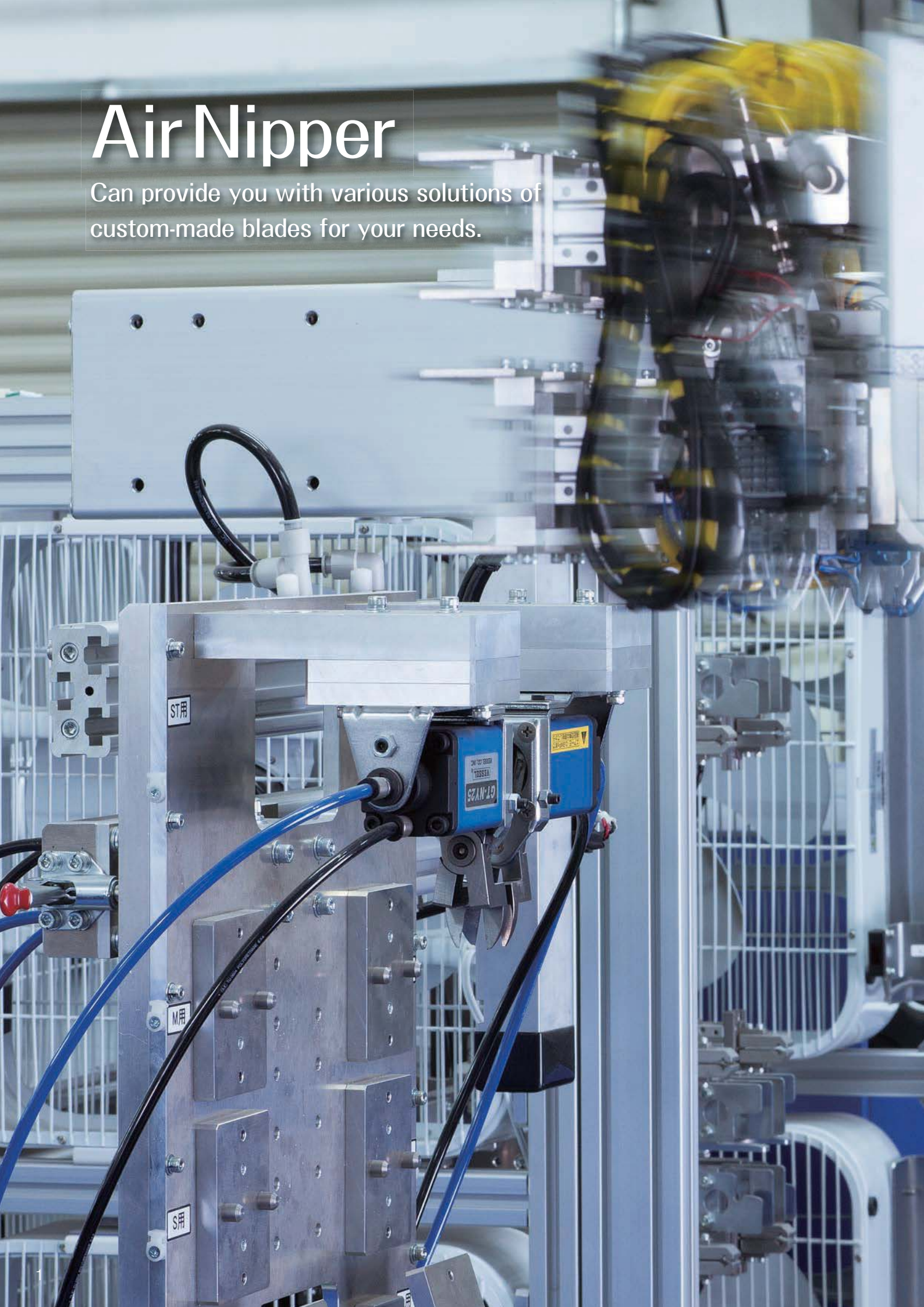
AIR NIPPER



<http://www.vessel.co.jp/english/airnipper/>

Air Nipper

Can provide you with various solutions of custom-made blades for your needs.



Air Nipper Application's / Advantages	3 - 6
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01

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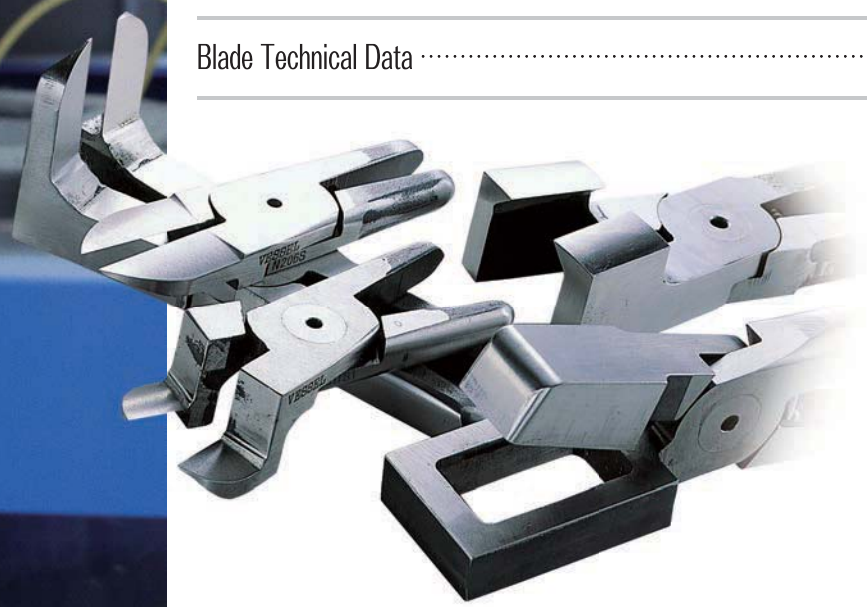


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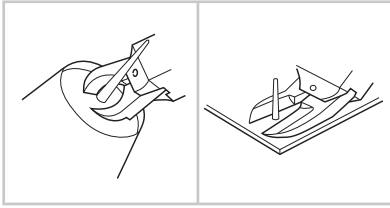
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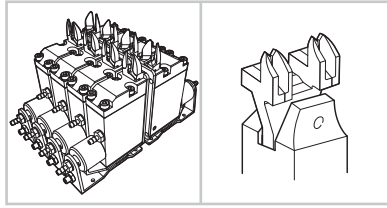
Applications

Cutting direct gate molded components



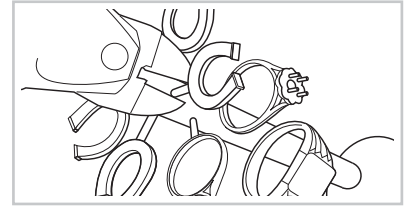
Cuts large diameter sprues such as garment cases, helmets, pipe joint parts, trash cans, planters. Superb durability in long term use.

Gate cut for multiple impression molded components



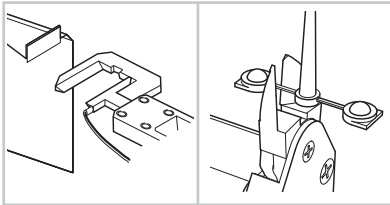
Compact, lightweight body and with a large selection of blade items, easy mounting on chuck board and standby jig. Achieves efficient cuts matching cycle time.

Taking products from a jewelry tree



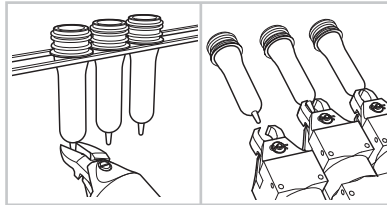
Cutting of precious metals for rings, necklaces etc. Superb durability and increased efficiency with powerful nipper blades.

Gate cutting for lenses, LGP, and transparent products



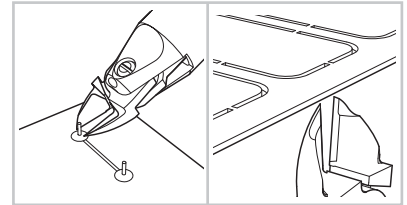
Various heated nippers prevent cracks and whitening, the decisive factor is the heating temperature of the blades and cutting speed. Supports demands for improved flexibility and high precision cutting.

Pre-form cutting for food and drug cases



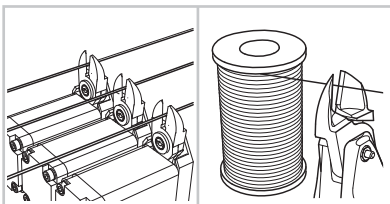
Improved efficiency in pre-forming, nippers attached to flat finish pre-form molding machine. Cut precision is linked to product quality.

Cutting electronic components and around boards



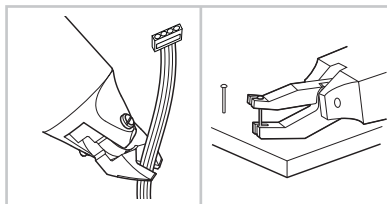
Optimal handy nippers for cutting lead lines after soldering to significantly reduce wrist strain. Substrate is attached to the desktop robot...

Wire cutting with coil winding machine



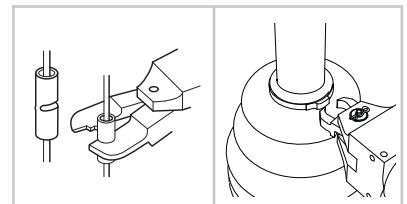
Attach to the nipper unit of automatic coil winding machine for power transformers, fan motors and ignition. Cutting thick diameter wires that cannot be torn off.

Hand tools for dismantling in recycling plants



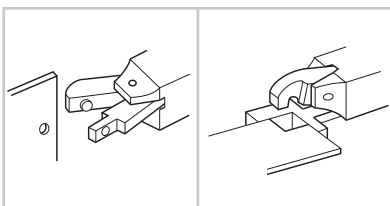
Cuts a variety of wires, copper tubing and steel bands in recycling plants such as PCs and OA equipment, pachinko machines, TVs, and refrigerators, washing machines, etc. Nippers for the purpose of pulling out the pachinko machine pins.

Crimping task for solderless terminals



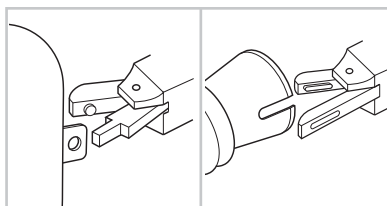
For crimping terminals with various wiring harnesses such as for switchboards, electrical products and lighting equipment. Less strain on fingers and wrists. Increased work efficiency for stop rings for auto parts.

Die cutter for aluminum products and plastic components



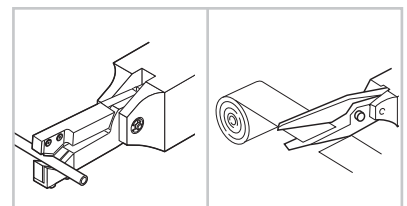
By support for separate blades, allows punching and form cutting of aluminum sash and thin plates.

Punching of blow molded products, punching slotted holes



Punching blow molded products, punching slotted holes, for containers that cannot be punched and automobile ducts, etc.

Other applications



Micro-edge air scissors that can cut various hard-to-cut fibers, carbon, aramid fibers, and soft plastic sheets. Nippers for cutting belt loops of jeans, peeling recycled golf balls, cutting edges with textile machinery, etc.

Selection method for air nipper

Check materials

What is the "cutting target (workpiece)"?

- Metal wire
 - Steel wire
 - Copper wire
 - Piano wire (not heat processed/HV320 or below), precious metals etc.
- Molded plastic
 - Soft plastic (polyvinyl chloride, polyethylene)
 - Hard plastic (acrylic, polycarbonate, ABS, etc.)
- Other applications
 - Check materials, applications and work. (Bending, caulking, punching, robotic hand, and scissors.)

Check dimensions

How big is the "size of the cut portion"?

- Metal
 - Angle (mm×mm) [select model by cross-section area]
 - Round (Φ mm)
- Plastic
 - Angle (mm×mm) [select model by cross-section area]
- Other applications
 - Check materials, applications and work.

Usage

What is the "state/environment of the work"?

- Used mounted on automated machinery and robots.
- Used for manual work.
- Used mounted on a jig. And so forth

Select model

Choose a model suitable for the purpose.

Choose based on "usage and cut dimensions" for the main unit, and "material and dimensions/shape" for the blades.
 Refer to "product specifications" for the main unit/blade characteristics/usage, respectively. Also when selecting the machine, refer to "capability selection chart".
 The shape/material of the workpiece may not be compatible with standard products.

Guidance for capability selection

Note : The table below shows capabilities achieved when standard blades are installed.

Types	Cutting material						Applicable models	Air pressure (MPa)
	Copper wire	Steel wire (Non-heat treated)	Piano Wire (HV320 or below)	Soft Plastic	Hard Plastic	Solderless terminals		
N · NS · NR	1.0mm	0.5mm	0.2mm	2.0mm			NS2,N3,NS3,NR3	0.4~0.5
	1.0	0.5	0.3	2.0			N5,NS5,NR5	0.4~0.5
	1.6	1.0	0.5	3.0	2.0mm		N7,NS7,NR7	0.4~0.5
	1.8	1.2	0.5	4.0	2.6		N10,NS10L,NR10L	0.4~0.5
	2.3	1.7	0.6	4.5	4.0		N12	0.4~0.5
	2.6	2.0	1.0	7.0	5.0		N20,NS20,NR20	0.5~0.6
	3.3	2.8	1.2	10.0	6.5	1.25/2.0	N30,NS30,NR30	0.5~0.6
	5.5	4.5	2.0	12.0	6.5		N50,NR50	0.5~0.6
With pressure booster	2.6	1.6		5.0	4.0	1.25/2.0	P-10L	
	3.0	2.2		8.0	6.0	2.0/5.5	P-20	
	4.8	4.0		13.0	7.0	~0.8	P-30	
	6.5	5.5					P-50	
NY				2.0	1.3		NY03	0.4~0.5
	1.6	1.0		3.0	2.0		NF05,NY05	0.4~0.5
				3.5	2.3		NF10,NY10	0.4~0.5
				4.0	2.6		NF15,NY15	0.4~0.5
				5.0	3.4		NY25	0.5~0.6
NT				1.5	1.0		NT03	0.4~0.5
				2.5	1.5		NT05	0.4~0.5
				3.5	2.3		NT10	0.4~0.5
				5.0	3.4		NT20	0.4~0.5
	AS, HS, BJ type		HS	AP, PF, AJ type		ACD type		

Air Nipper

Tough aluminum body



Standard blades

Blades open and close by a spring repulsion.



NM blades

Special blade without spring for 24-hour operation; blades open and close by a magnet repulsion.



Air nippers

Model

No. **NY10 A J**

Blade shape

- AJ** : Straight blades for plastic — **RAJ** : Straight blades for plastic reverse bevel
- AJL** : Straight long blades for plastic
- AJT** : Thin, straight blades for plastic
- AE** : Nipping blades for plastic
- AJY** : Thin, straight blades for plastic
- AD** : Lift blades for plastic
- AH** : Crank blades for plastic — **RAH** : Crank blades for plastic reverse bevel
- AJB** : Straight blades for plastic, a brazed carbide tip
- AJV** : V shaped straight blades for plastic
- AJH** : Straight blades for plastic, a brazed high-speed steel tip
- BJ** : Straight thin blades for metal — **RBJ** : Straight thin blades for metal reverse bevel



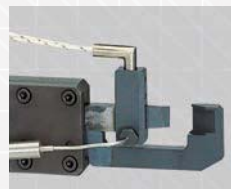
For more precise gate-cutting:



Heat air nippers

These nippers perform cutting by applying heat to the blade edges. They are good for cutting acrylic lens.

17P



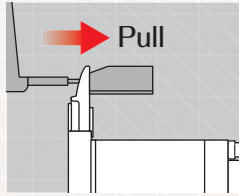
Heat air nippers Thrust-cut type

Cutting by the application of heat; thrust-cutting type ensuring a clean, unblemished cut surface constantly.

16P

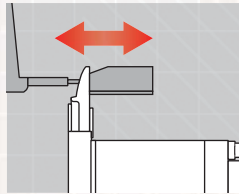
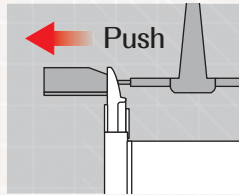
Slide-off air nippers

The main unit of the nipper slides and the blade comes into intimate contact with a gate, enabling to cut it without resin residue.



Pull/Push 8P

A wide selection of models can support various applications. Possible to fix the highly precise positioning against the gate as there is less rattling or deflection.



Double action type 9P

Slide mechanism not using a spring ensures smooth action. It is free from concerns about spring wear or metal fatigue, resulting in high durability.



Square type 20P

Provided with threaded holes on the 5 faces of the main unit. Suitable for incorporating into a machine or equipment.



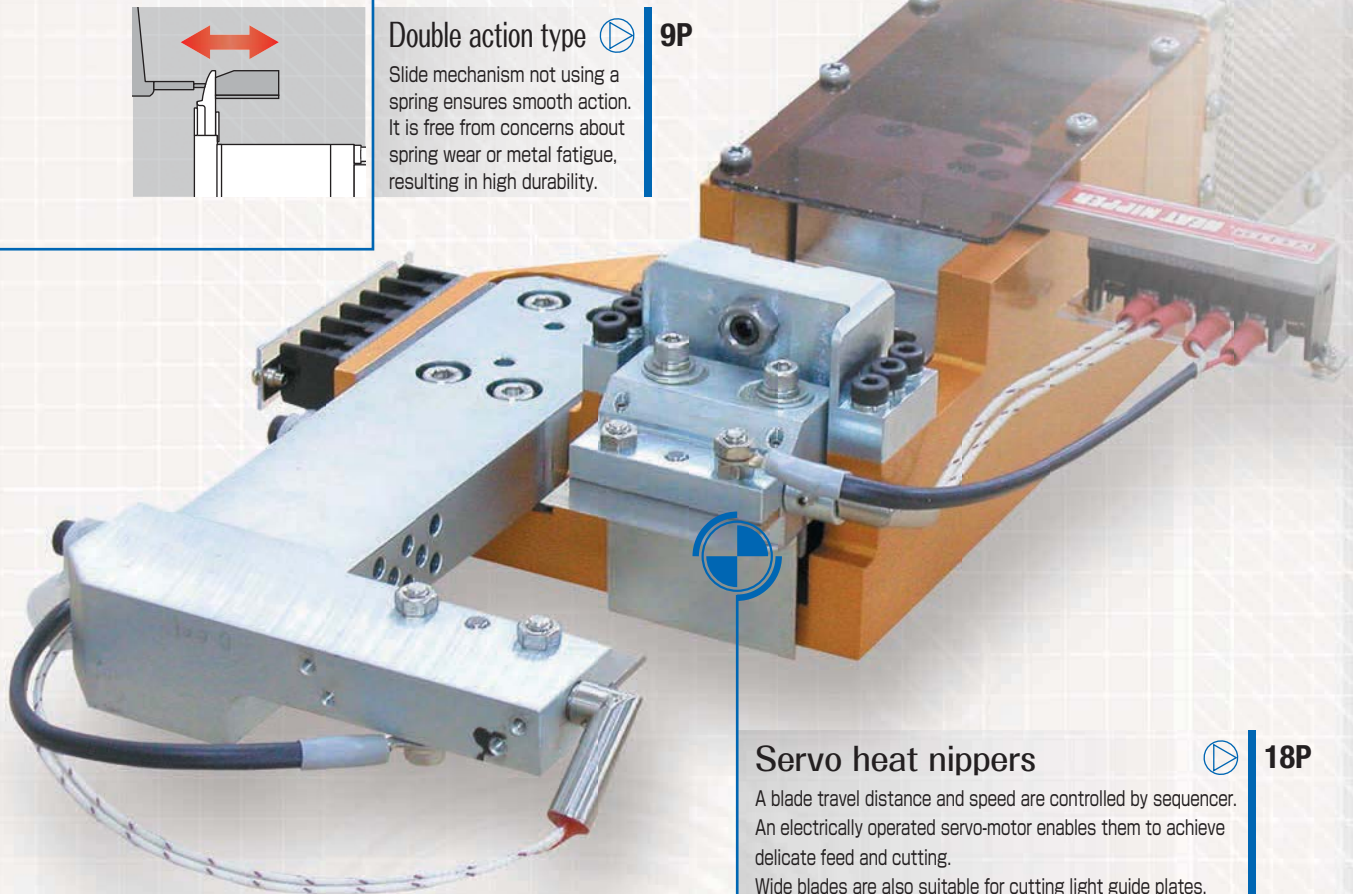
Round type 21P

Possible to adjust freely the mounting angle by a stand (option). Suitable for installation on a robotic arm or chuck plate.



Extra Pressure Booster 21P

Installing this unit on either square or round air nipper enables a pressure to be boosted. Ideal for applications where the radical pressure cannot be attained because of installation space or air pressure.



Servo heat nippers 18P

A blade travel distance and speed are controlled by sequencer. An electrically operated servo-motor enables them to achieve delicate feed and cutting. Wide blades are also suitable for cutting light guide plates.



Air-hydro nippers Thrust-cut type

An air-hydro cylinder of air + oil provides low speeds and high power. These nippers are suitable for precision cutting in which gate projecting allowance is strict.

16P

Differences in the cut surfaces when using heat nippers

Standard Blades (Not Heat Nipper)

PVC Nylon Glass-contained Polypropylene



Heat Nippers

01 Air Nippers For Resin Gate

GT-NY10G

These are high-class air nippers that can be mounted on gate cutting equipment and standby jigs for accurate, speedy cutting of resin products. VESSEL has a wide selection of items to meet a variety of needs not only for around-the-clock operations but also for the highly precise cutting accuracy.



V-Groove Slide System PAT.P.

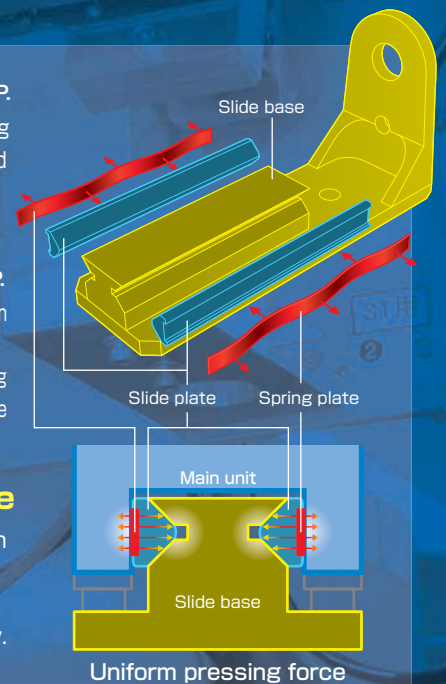
VESSEL's patented, V-groove sliding system reduces malfunction caused by eccentric load, and ensures appropriate positioning.

Spring Plate PAT.P.

A spring plate is inserted between the main unit and slide base. The spring plate has a uniform pressing force, enabling the main unit and slide plate to be always stabilized without rattling.

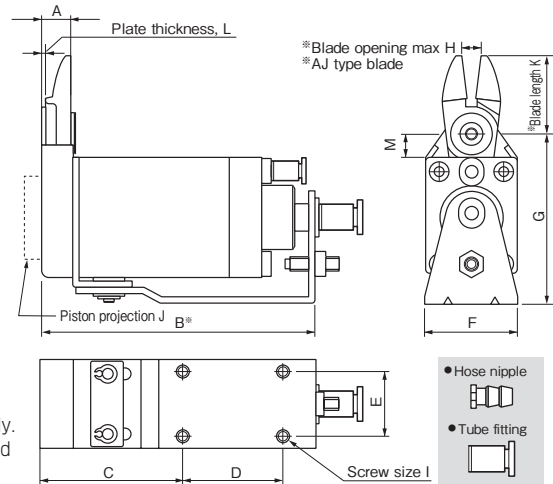
Machined Slide Base

Superior in rigidity in comparison with the one made by press working. High precision, no deformation, and good durability.



Sliding Air Nippers Horizontal-Type

VESSEL



GT-NY05/10/15/25 Sliding Air Nippers Horizontal-Type

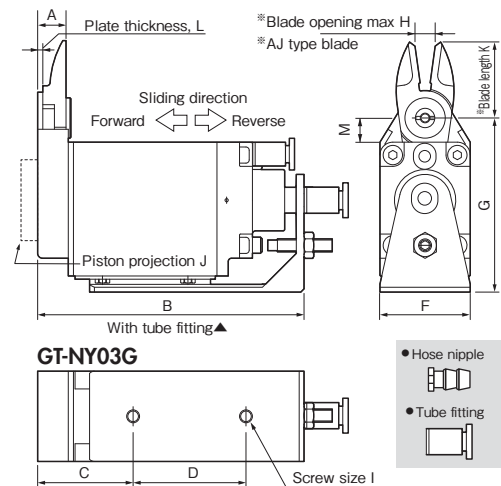
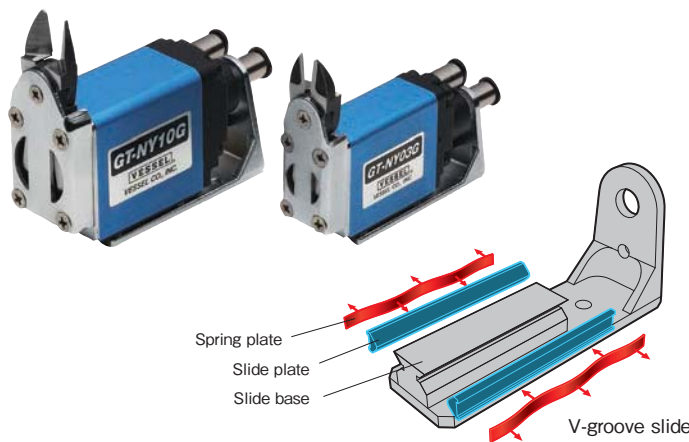
- The horizontal slide enables space to be used effectively. The low profile of the main unit allows work to be removed without obstructing the operations of the chuck plate.

Reference

Capacity ϕ (mm)		Model No.	Size (mm)													Air Consumption (cm ³ /str.)	Weight (g)	Slide Distance (mm)	Hose Port
Soft Plastic	Hard Plastic		A	B	C	D	E	F	G	H	I	J	K	L	M				
3.0	2.0	GT-NY05														48	155	Pull 0~3	W/hose nipple
3.0	2.0	GT-NY05R	8.6	75.9	40.9	25	15	23	47.6	4	M4	3	22	1.6	8.5	48	155	Push 0~3	Hose I.D. ϕ 2.5mm
3.0	2.0	GT-NY05-4														48	155	Pull 0~3	W/tube fitting
3.0	2.0	GT-NY05R-4														48	155	Push 0~3	Hose I.D. ϕ 2.5×0.D. ϕ 4mm
3.5	2.3	GT-NY10														68	210	Pull 0~3	W/hose nipple
3.5	2.3	GT-NY10R	8.8	82.1	42.1	30	20	28	51.6	6	M4	5	24	1.6	7.5	68	210	Push 0~3	Hose I.D. ϕ 2.5mm
3.5	2.3	GT-NY10-4														68	210	Pull 0~3	W/tube fitting
3.5	2.3	GT-NY10R-4														68	210	Push 0~3	Hose I.D. ϕ 2.5×0.D. ϕ 4mm
4.0	2.6	GT-NY15														136	319	Pull 0~3	W/hose nipple
4.0	2.6	GT-NY15R	10.2	93	48	35	25	33	58	8	M4	5	27	2	7.5	136	319	Push 0~3	Hose I.D. ϕ 2.5mm
4.0	2.6	GT-NY15-4														136	319	Pull 0~3	W/tube fitting
4.0	2.6	GT-NY15R-4														136	319	Push 0~3	Hose I.D. ϕ 2.5×0.D. ϕ 4mm
5.0	3.4	GT-NY25														184	580	Pull 0~5	W/hose nipple
5.0	3.4	GT-NY25R	12.5	108.5	54.5	40	30	42	69	9	M5	2	31	2.5	10.5	184	580	Push 0~5	Hose I.D. ϕ 4mm
5.0	3.4	GT-NY25-6														184	580	Pull 0~5	W/tube fitting
5.0	3.4	GT-NY25R-6														184	580	Push 0~5	Hose I.D. ϕ 4×0.D. ϕ 6mm

※Air Pressure: 0.4~0.5 MPa (NY25 type: 0.5~0.6)

※B refers to the distance from the cut position for PUSH style models, and the distance from the start position for PULL style models.



GT-NY03G/10G Sliding Air Nippers Horizontal-Type >> Refer to page 7

- VESSEL's patented, V-groove slide base ensures constant, stable positioning. The unit is not subject to inclined loads, and has achieved high precision gate cutting performance.

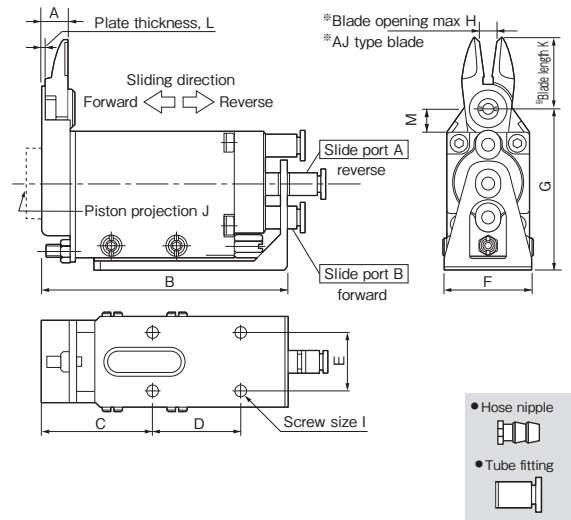
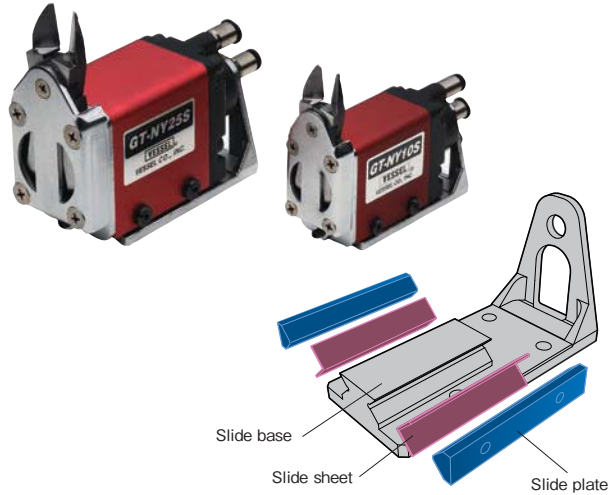
Reference

Capacity ϕ (mm)		Model No.	Size (mm)													Air Consumption (cm ³ /str.)	Weight (g)	Slide Distance (mm)	Hose Port
Soft Plastic	Hard Plastic		A	B	C	D	E	F	G	H	I	J	K	L	M				
2.0	1.3	GT-NY03G														37	160	Pull 0~3	W/hose nipple
2.0	1.3	GT-NY03GR	8.6	74.5	29.5	30	-	19	46.5	3	M4	0	21	1.6	7.5	37	160	Push 0~3	Hose I.D. ϕ 2.5mm
2.0	1.3	GT-NY03G-4														37	160	Pull 0~3	W/tube fitting
2.0	1.3	GT-NY03GR-4														37	160	Push 0~3	Hose I.D. ϕ 2.5×0.D. ϕ 4mm
3.5	2.3	GT-NY10G														68	275	Pull 0~3	W/hose nipple
3.5	2.3	GT-NY10GR	8.8	82.6	29.6	35	20	28	54	6	M4	5	24	1.6	7.5	68	275	Push 0~3	Hose I.D. ϕ 2.5mm
3.5	2.3	GT-NY10G-4														68	275	Pull 0~3	W/tube fitting
3.5	2.3	GT-NY10GR-4														68	275	Push 0~3	Hose I.D. ϕ 2.5×0.D. ϕ 4mm

※Air Pressure: 0.4~0.5 MPa

Blades are optional. Note that forward and backward-facing blades are available.

High precision gate cutting, not producing cutting residue



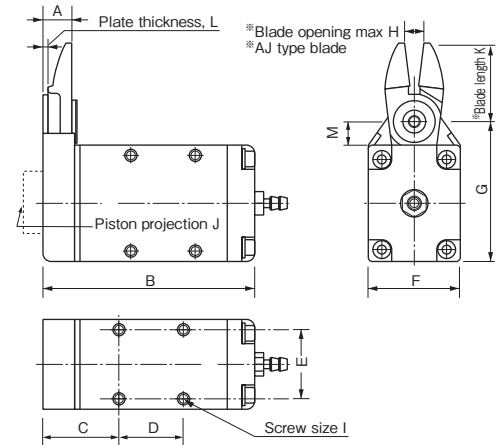
GT-NY10S/25S Double Action Sliding Air Nippers

- The springless slide construction of the main unit ensures smooth movement, and a V-groove slide base has been employed for high precision positioning.

Reference

Capacity ϕ (mm) Soft Plastic Hard Plastic	Model No.	Size (mm)													Air Consumption (cm ³ /str.)	Weight (g)	Slide Distance (mm)	Hose Port	
		A	B	C	D	E	F	G	H	I	J	K	L	M				W/tube fitting	Hose I.D. ϕ 2.5×O.D. ϕ 4mm
3.5 2.3	GT-NY10S	8.8	84.5	38	30	20	32	55	6	M4	5	24	1.6	7.5	68	300	0~3.5	W/tube fitting	Hose I.D. ϕ 2.5×O.D. ϕ 4mm
5.0 3.4	GT-NY25S	12.5	106.5	47	40	30	47	72	9	M5	2	31	2.5	10.5	184	695	0~5.0	W/tube fitting	Hose I.D. ϕ 4×O.D. ϕ 6mm

※ Air Pressure···NY10S : 0.4~0.5 MPa / NY25S : 0.5~0.6 MPa



GT-NF05/10/15 Type-F Air Nippers

- These compact, lightweight nippers have been designed for easy mounting inside equipment and to enable secure mounting under high-density mounting conditions.

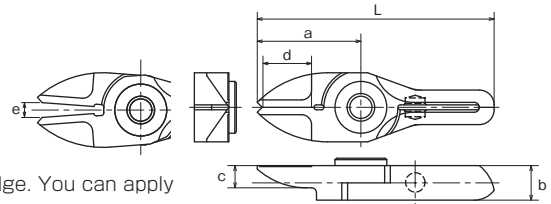
Reference

Capacity ϕ (mm) Soft Plastic Hard Plastic Copper Steel	Model No.	Size (mm)													Air Consumption (cm ³ /str.)	Weight (g)	Spec. & Size of the Hose Port
		A	B	C	D	E	F	G	H	I	J	K	L	M			
3.0 2.0 1.6 1.0	GT-NF05	8.6	59.9	21.9	17	18	23	39.5	4	M3	3	22	1.6	8.4	43	101	W/hose nipple
3.5 2.3 1.7 1.1	GT-NF10	8.8	65.1	23.1	20	22	28	43.5	6	M3.5	5	24	1.6	7.4	63	143	Hose I.D. ϕ 2.5mm× ϕ 4mm
4.0 2.6 1.8 1.2	GT-NF15	10.2	73	25	25	26	33	48.5	8	M4	5	27	2	7.4	128	219	

※ Mounting screw for NF10 (M3.5) is regarded as spare part. ※ Air Pressure···0.4~0.5 MPa

Slide-off air nipper Horizontal-Type Blades

VESSEL



AJ/RAJ/AJB

Straight blades for plastic

Plastic

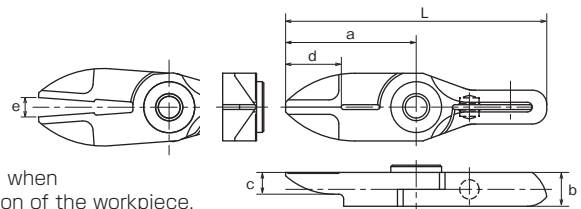
AJ/This is a vertical set of blades with an unbeveled cutting edge. You can apply it at a right angle to the gate.

RAJ/This is a reverse bevel of AJ type.

AJB/ This has a brazed carbide tip, suitable for cutting hard plastic or plastic containing glass fiber.

Model No.	Size(mm)						Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L			
NY03AJ	21	7	4.5	10.5	3	48	17	Special alloy steel	GT-NY03G (-4)
NY03RAJ	21	7	4.5	10.5	3	48	17	Special alloy steel	GT-NY03GR (-4)
NY05AJ	22	7	5	10.5	4	53	22	Special alloy steel	GT-NY05 (-4) / NF05
NY05RAJ	22	7	5	10.5	4	53	22	Special alloy steel	GT-NY05R (-4) / NF05
NY05AJB	22	7	5	10.5	4	53	22	Sintered Alloy	GT-NY05 (-4) / NF05
NY10AJ	24	7.2	5	12	6	57	28	Special alloy steel	GT-NY10 (-4) / NY10G (-4) / NF10 / NY10S
NY10RAJ	24	7.2	5	12	6	57	28	Special alloy steel	GT-NY10R (-4) / NY10GR (-4) / NF10 / NY10S
NY10AJB	24	7.2	5	12	6	57	28	Sintered Alloy	GT-NY10 (-4) / NY10G (-4) / NF10 / NY10S
NY15AJ	27	8.2	5.5	13	8	65	41	Special alloy steel	GT-NY15 (-4) / NF15
NY15RAJ	27	8.2	5.5	13	8	65	41	Special alloy steel	GT-NY15R (-4) / NF15
NY15AJB	27	8.2	5.5	13	8	65	41	Sintered Alloy	GT-NY15 (-4) / NF15
NY25AJ	31	10	6	16	9	77	65	Special alloy steel	GT-NY25 (-6) / NY25S
NY25RAJ	31	10	6	16	9	77	65	Special alloy steel	GT-NY25R (-6) / NY25S
NY25AJB	31	10	6	16	9	77	65	Sintered Alloy	GT-NY25 (-6) / NY25S

>> For guidance on cutting capability, see p. 29 of the technical material.



AJL

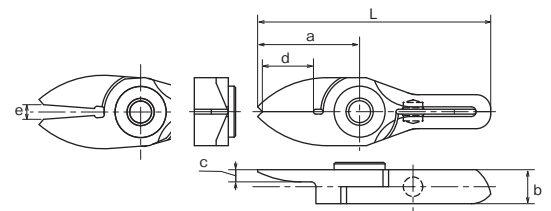
Straight long blades for plastic

Plastic

AJL/This is a long type set of straight blades. This is useful when there is distance between the nippers and the gate cut portion of the workpiece.

品番	Size(mm)						Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L			
NY03AJL	27	7	4.5	10.5	4	54	21	Special alloy steel	GT-NY03G (-4)
NY05AJL	31	7	5	10.5	5.5	62	29	Special alloy steel	GT-NY05 (-4) / NF05
NY10AJL	33	7.2	5	12	8	66	37	Special alloy steel	GT-NY10 (-4) / NY10G (-4) / NF10 / NY10S
NY15AJL	38	8.2	5.5	13	11	76	50	Special alloy steel	GT-NY15 (-4) / NF15
NY25AJL	46	10	6	16	13	92	88	Special alloy steel	GT-NY25 (-6) / NY25S

>> For guidance on cutting capability, see p. 29 of the technical material.



AJT

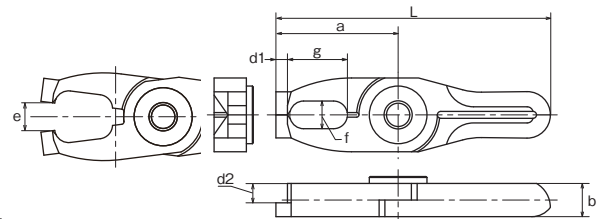
Thin, straight blades for plastic

Plastic

AJT/This is a set of straight blades with a thin cutting edge. It can cleanly trim cross sections without remnants.

Model No.	Size(mm)						Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L			
NY03AJT	21	7	2.5	10.5	3	48	17	Special alloy steel	GT-NY03G (-4)
NY05AJT	22	7	3	10.5	4	53	21	Special alloy steel	GT-NY05 (-4) / NF05
NY10AJT	24	7.2	3	12	6	57	26	Special alloy steel	GT-NY10 (-4) / NY10G (-4) / NF10 / NY10S
NY15AJT	27	8.2	3.5	13	8	65	38	Special alloy steel	GT-NY15 (-4) / NF15

>> For guidance on cutting capability, see p. 29 of the technical material.



AD

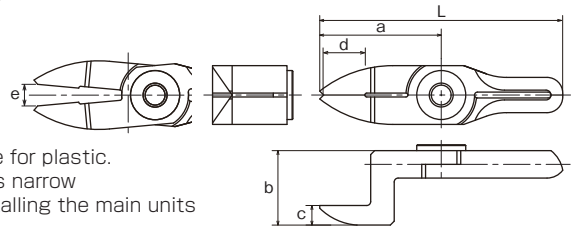
Lift blades for plastic

Plastic

AD/This is used for batch processing of the three-dimensional gate such as ride gate.

Model No.	Size(mm)			d1 (mm)	d2 (mm)	e:Blade opening (mm)	L (mm)	Weight (g)	Material	Applicable models
	a	b	f×g							
NY10AD	26.5	7.2	6×13	2.5	4.2	6	59.5	31	Special alloy steel	GT-NY10 (-4) / NY10G (-4) / NF10 / NY10S
NY15AD	30	8.2	7×14	3	4.7	8	68	45	Special alloy steel	GT-NY15 (-4) / NF15
NY25AD	35	10	8×17	4	6	9	81	75	Special alloy steel	GT-NY25 (-6) / NY25S

>> For guidance on cutting capability, see p. 29 of the technical material.



AH/RAH

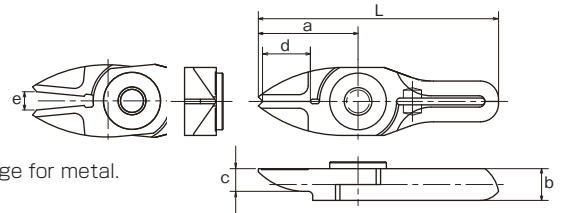
Crank blades for plastic



AH/This is a set of blades with a clamped cutting edge for plastic. It is effective when there are obstructions or the gate is narrow
RAH/This is a reverse bevel of AH type used when installing the main units face-to-face.

Model No.	Size (mm)						Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L			
NY05AH	31	19	5	10.5	5.5	62	37	Special alloy steel	GT-NY05 (-4) / NF05
NY05RAH	30	12	5	10.5	5	61	31	Special alloy steel	GT-NY05R (-4) / NF05
NY10AH	33	20	5	12	8	66	43	Special alloy steel	GT-NY10 (-4) / NY10G (-4) / NF10 / NY10S
NY10RAH	32	12.2	5	12	7	65	36	Special alloy steel	GT-NY10R (-4) / NY10GR (-4) / NF10 / NY10S
NY15AH	38	21.5	5.5	13	11	76	63	Special alloy steel	GT-NY15 (-4) / NF15
NY15RAH	35	13.2	5.5	13	9	73	52	Special alloy steel	GT-NY15R (-4) / NF15
NY25AH	46	24	6	17	13	92	110	Special alloy steel	GT-NY25 (-6) / NY25S
NY25RAH	42	16	6	16	12	88	89	Special alloy steel	GT-NY25R (-6) / NY25S

>> For guidance on cutting capability, see p. 29 of the technical material.



BJ/RBJ

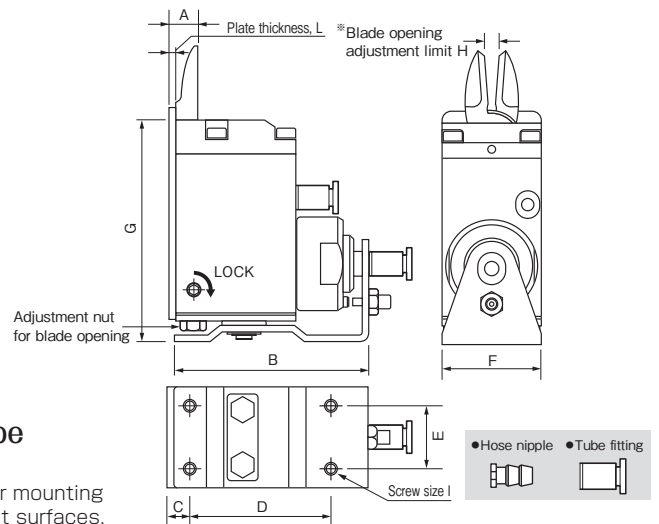
Straight blades for metals



BJ/This is a set of vertical blades with an unbeveled cutting edge for metal.
RBJ/ This is a reverse bevel of BJ type.

Model No.	Size (mm)						Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L			
NY05BJ	22	7	5	10.5	4	53	22	Special alloy steel	GT-NY05 (-4) / NF05
NY05RBJ	22	7	5	10.5	4	53	22	Special alloy steel	GT-NY05R (-4) / NF05

>> For guidance on cutting capability, see p. 29 of the technical material.



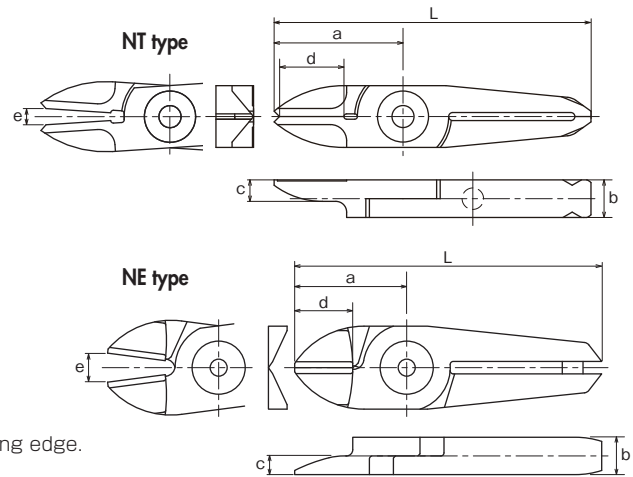
GT-NT03/05/10/20 Slide-Off Air Nippers Vertical-type

- Blade gape is adjustable, and fine adjustments are easy to make after mounting the nippers, ensuring clean, unblemished cut surfaces.

Reference

Capacity ϕ (mm) Soft Plastic Hard Plastic	Model No.	Size (mm)										Air Consumption (cm ³ /str.)	Weight (g)	Slide Direction/Distance (mm)	Spec. & Size of the Hose Port	
		A	B	C	D	E	F	G	H	I	J					
1.5 1.0	GT-NT03															
1.5 1.0	GT-NT03R	9	62	7	43	14	19	68.1	1.5~3	M3	2	27	178	Pull 0~3	W/hose nipple Hose I.D ϕ 2.5mm	
1.5 1.0	GT-NT03-4											27	178	Pull 0~3	W/tube fitting Hose I.D ϕ 2.5×0.D. ϕ 4mm	
1.5 1.0	GT-NT03R-4											27	178	Push 0~3	W/tube fitting Hose I.D ϕ 2.5×0.D. ϕ 4mm	
2.5 1.5	GT-NT05											47	325	Pull 0~3	W/hose nipple Hose I.D ϕ 2.5mm	
2.5 1.5	GT-NT05R	9	64	7	45	20	32	71.1	3~6	M4	2	47	325	Push 0~3	W/tube fitting Hose I.D ϕ 2.5×0.D. ϕ 4mm	
2.5 1.5	GT-NT05-4											47	325	Pull 0~3	W/hose nipple Hose I.D ϕ 2.5mm	
2.5 1.5	GT-NT05R-4											47	325	Push 0~3	W/tube fitting Hose I.D ϕ 2.5×0.D. ϕ 4mm	
3.5 2.3	GT-NT10											82	515	Pull 0~3	W/hose nipple Hose I.D ϕ 2.5mm	
3.5 2.3	GT-NT10R	11	73	8	53	24	38	88.1	4~7	M4	2	82	515	Push 0~3	W/tube fitting Hose I.D ϕ 4×0.D. ϕ 6mm	
3.5 2.3	GT-NT10-6											82	515	Pull 0~3	W/hose nipple Hose I.D ϕ 2.5mm	
3.5 2.3	GT-NT10R-6											82	515	Push 0~3	W/tube fitting Hose I.D ϕ 4×0.D. ϕ 6mm	
5.0 3.4	GT-NT20											203	930	Pull 0~8	W/hose nipple Hose I.D ϕ 4mm	
5.0 3.4	GT-NT20R	14	103	10	80	28	44	102.1	4.5~9	M5	2	203	930	Push 0~8	W/tube fitting Hose I.D ϕ 4×0.D. ϕ 6mm	
5.0 3.4	GT-NT20-6											203	930	Pull 0~8	W/hose nipple Hose I.D ϕ 4mm	
5.0 3.4	GT-NT20R-6											203	930	Push 0~8	W/tube fitting Hose I.D ϕ 4×0.D. ϕ 6mm	

*Blade opening adjustment limit (H) is the dimension adjusted for standard blade (AJ type). **Air Pressure...0.4~0.5 MPa



AJ/AJH/AJB

Straight blades for plastic



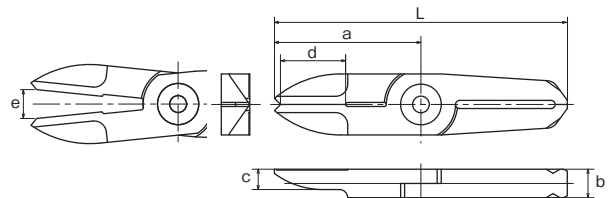
AJ/This is a set of vertical blades with an unbeveled cutting edge. You can apply it at a right angle to the gate.

AJH/This has a brazed high-speed steel tip suitable for cutting hard plastic.

AJB/This has a brazed carbide tip used for cutting hard plastic or plastic containing glass fiber. Improved durability.

Model No.	Size (mm)						Weight (g)	Material	Applicable models
	a	b	c	d Effective Length	e Blade opening	L			
NT03AJ	24	7	4	11	3	59	20	Special alloy steel	GT-NT03 type
NT05AJ	29	7	5	15	6	65	30	Special alloy steel	GT-NT05 type
NT05AJH	29	7	5	15	6	65	30	High Speed Steel	
NT05AJB	29	7	5	15	6	65	30	Sintered Alloy	
NE5AJ	24	7	3.5	12	6	60	35	Special alloy steel	GT-NT10 type
NT10AJ	35	9	6	17	7	82	62	Special alloy steel	
NT10AJH	35	9	6	17	7	82	76	High Speed Steel	
NT10AJB	35	9	6	17	7	82	76	Sintered Alloy	
NE10AJ	27	9	4.5	12	7	74	70	Special alloy steel	GT-NT20 type
NT20AJ	40	12	6	20	9	97	120	Special alloy steel	
NT20AJH	40	12	6	20	9	97	120	High Speed Steel	
NT20AJB	40	12	6	20	9	97	120	Sintered Alloy	

>> For guidance on cutting capability, see p. 29 of the technical material.



AJL

Straight long blades for plastic

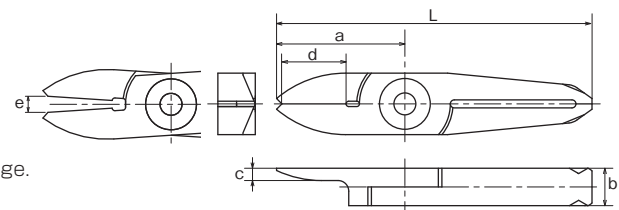


AJL/This is a long type set of straight blades.

This is useful when there is distance between the nippers and the gate cut portion of the workpiece.

Model No.	Size (mm)						Weight (g)	Material	Applicable models
	a	b	c	d Effective Length	e Blade opening	L			
NT05AJL	36	7	5	15	7	72	39	Special alloy steel	GT-NT05 type
NT10AJL	47	9	6	17	9	94	62	Special alloy steel	GT-NT10 type
NT20AJL	57	12	6	20	12	114	156	Special alloy steel	GT-NT20 type

>> For guidance on cutting capability, see p. 29 of the technical material.



AJT

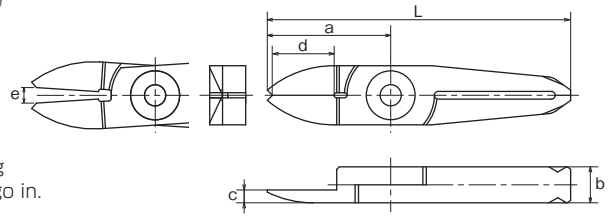
Thin, straight blades for plastic



AJT/This is a set of straight blades with a thin cutting edge. It can cleanly finish cross sections without remnants.

Model No.	Size (mm)						Weight (g)	Material	Applicable models
	a	b	c	d Effective Length	e Blade opening	L			
NT03AJT	24	7	2.3	11	3	59	19	Special alloy steel	GT-NT03 type
NT05AJT	29	7	3	15	6	65	29	Special alloy steel	GT-NT05 type
NT10AJT	35	9	4	17	7	82	65	Special alloy steel	GT-NT10 type

>> For guidance on cutting capability, see p. 29 of the technical material.



AJY

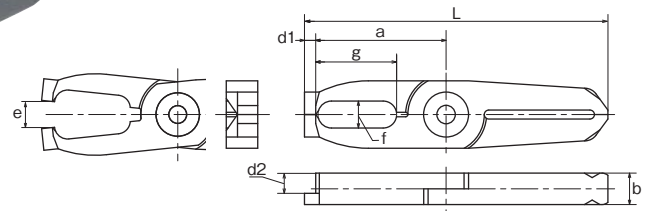
Recessed, straight blades for plastic



AJY/This is effective when the width between the opposing gates is too short and the thickness of the blades will not go in.

Model No.	Size (mm)						Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L			
NT03AJY	24	7	2.5	11	3	59	19	Special alloy steel	GT-NT03 type
NT05AJY	29	7	5	15	6	65	29	Special alloy steel	GT-NT05 type
NT10AJY	35	9	4	17	7	72	82	Special alloy steel	GT-NT10 type

>> For guidance on cutting capability, see p. 29 of the technical material.



AD

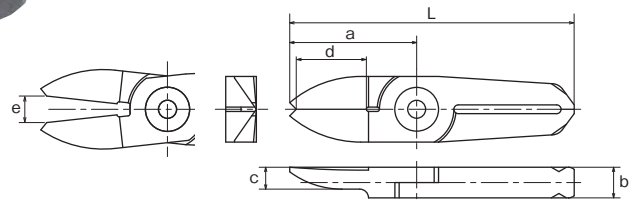
Lift blades for plastic



AD/This is used for batch processing of the three-dimensional gate such as ride gate.

Model No.	Size (mm)			Effective Length (mm)		e:Blade opening (mm)	L (mm)	Weight (g)	Material	Applicable models
	a	b	f×g	d1	d2					
NT05AD	31.5	7	6×18	2.5	4.5	6	67.5	37	Special alloy steel	GT-NT05 type
NT10AD	39	9	8×21.5	4	5	7	86	65	Special alloy steel	GT-NT10 type
NT20AD	46	12	9×24.5	6	7	9	103	141	Special alloy steel	GT-NT20 type

>> For guidance on cutting capability, see p. 29 of the technical material.



AJV

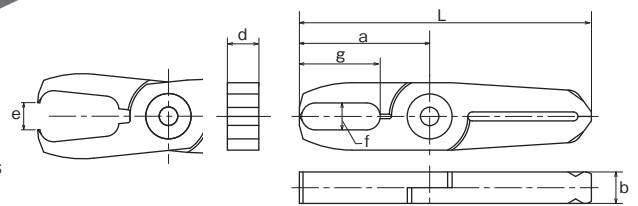
V shaped straight blades for plastic



AJV/This is suitable for gate processing when the cross section is curved or the cut end must not be left.

Model No.	Size (mm)						Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L			
NT05AJV	29	7	5	15	6	65	29	Special alloy steel	GT-NT05 type
NT10AJV	35	9	6	17	7	82	63	Special alloy steel	GT-NT10 type

>> For guidance on cutting capability, see p. 29 of the technical material.



AE

Nipping blades for plastic

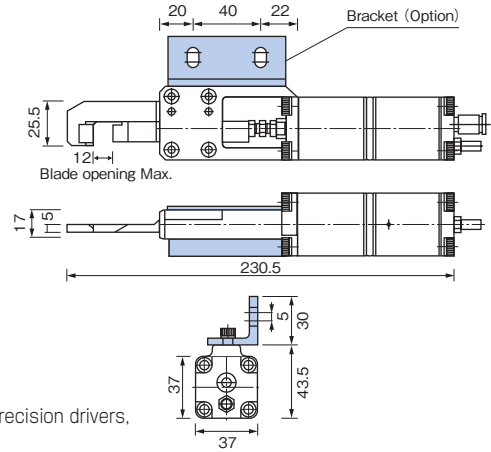
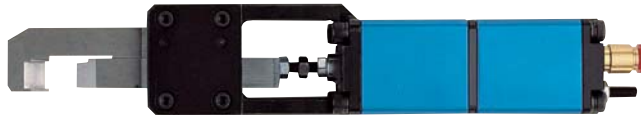


AE/Used for processing plastic gates such as ride gates and discard gates.

Model No.	Size (mm)						Weight (g)	Material	Applicable models
	a	b	f×g	d:Effective Length	e:Blade opening	L			
NT05AE	29	7	6×18	7	6	65	36	Special alloy steel	GT-NT05 type
NT10AE	35	9	8×21.5	9	7	82	75	Special alloy steel	GT-NT10 type

>> For guidance on cutting capability, see p. 29 of the technical material.

Thrust-Cut Air Nipper



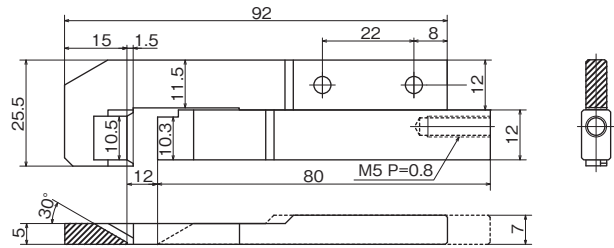
GT-NK10 Thrust-Cut Air Nipper

- These nippers are equipped with a foot switch and are linked to high precision drivers, enabling the cutting of film-shaped gates from the thin end, preventing wrinkles around the cut.

Reference

Capacity ϕ (mm) ABS Plastic	Model No.	Air Consumption (cm ³ /str.)	Air Pressure (MPa)	Weight (g)	Applied Pressure (N)	Spec. & Size of the Hose Port
5	GT-NK10	110	0.4~0.5	800	735	Hose I.D. ϕ 2.5×O.D. ϕ 4mm

•Hose Coupling: I.D. ϕ 4 × O.D. ϕ 6 mm •Piston stroke··Max.12 mm



NK10AJ Thrust-Cut Air Nipper blades



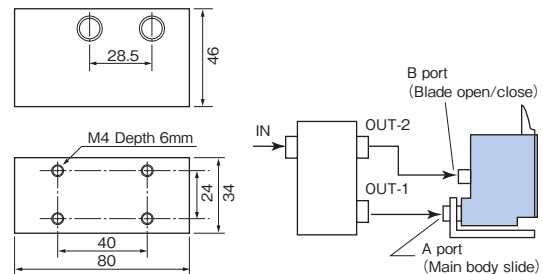
This is a dedicated set of blades for GT-NK10. Suitable for processing of film gates attached to robot hands.

Model No.	Size (mm)	Shape	O.A.L. (mm)	Weight (g)	Material	Applicable models
NK10AJ	See Drawing	For metal cutting (Knife type)	95	96	Special alloy steel	GT-NK10

>> For guidance on cutting capability, see p. 29 of the technical material.

Related product

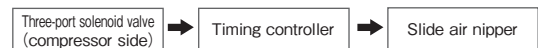
Adjusting Screw
(0.5~1.5 sec.)



- Working air pressure ... 0.6MPa
- Size ... Height 46 × Length 80 × thickness 34 (mm)
- Weight ... 275 g
- With tube joint: I.D. ϕ 4 × O.D. ϕ 6 mm

GT-TC-02 Timing Controller

- Connected between the compressor and the air nippers,
- the timing controller enables adjustments to the slide and cutting timing. (Approximately 0.5 seconds to 1.5 seconds)



Connectable nippers (Reference)

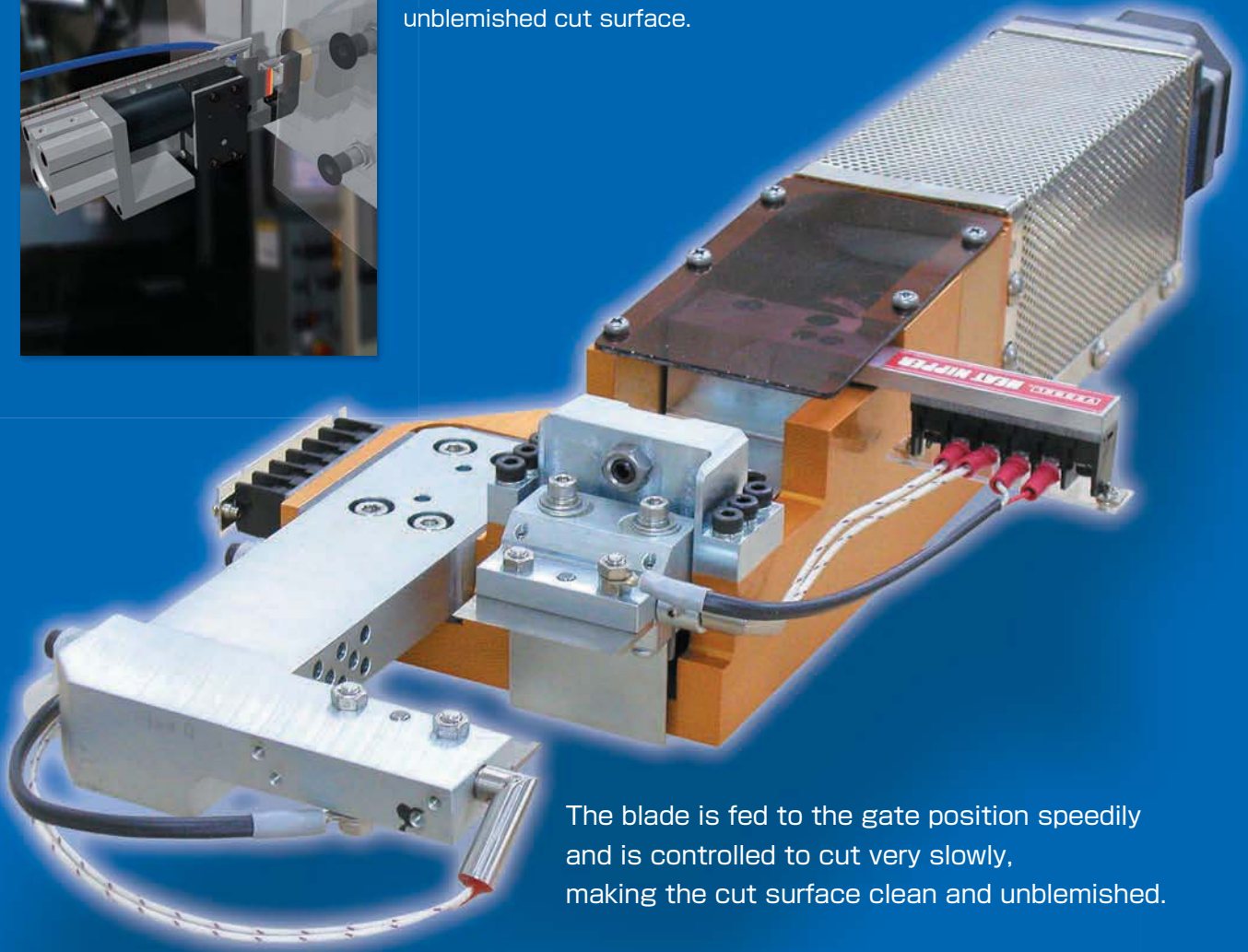
No.GT-	NY05	NY10	NY15	NY25	NT03	NT05	NT10	NT20	NB20	NB30	NB20LW	NB30LW
Connectable unit numbers	4	3	1	1	6	4	2	1	2	1	2	1

02 Heat Air Nippers

NKHD45R-50



These air nippers are connected to a heater to suppress cracks and whitening of clear materials such as acrylic. The gate is slowly melted as it's cut, resulting in a clean, unblemished cut surface.



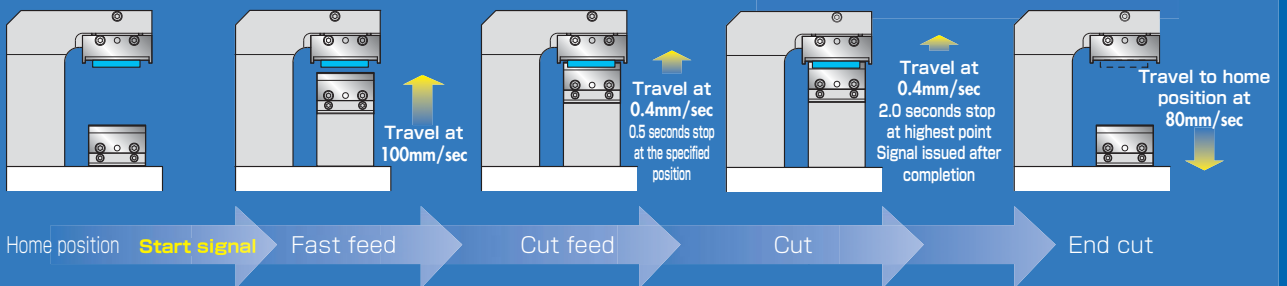
The blade is fed to the gate position speedily and is controlled to cut very slowly, making the cut surface clean and unblemished.



Various setting with this dedicated controller

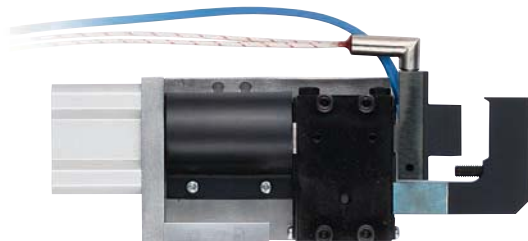
VCTC-33 (optionally available)

Practical example of gate-cut



Heat Air Nippers

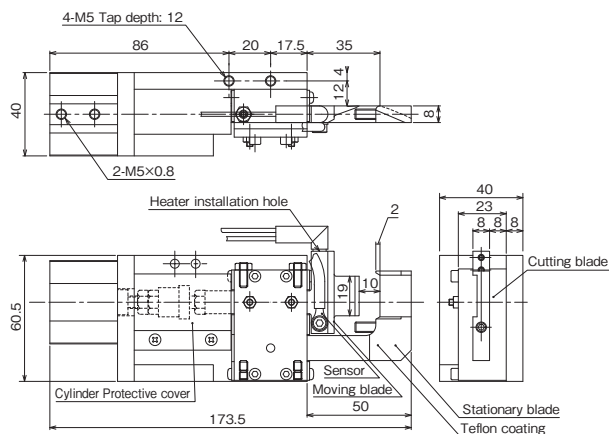
VESSEL



- Requires separately sold Hydro Controller.
- Custom-made blade lengths and cylinder capacities available.

• Included heater
 • Included temperature sensor
 • Air Pressure: 0.6MPa • Working air hose inner diameter: 4mm
 ※200V/240V heaters are also available to order.

NKH20A-25 (Forward-facing blades)



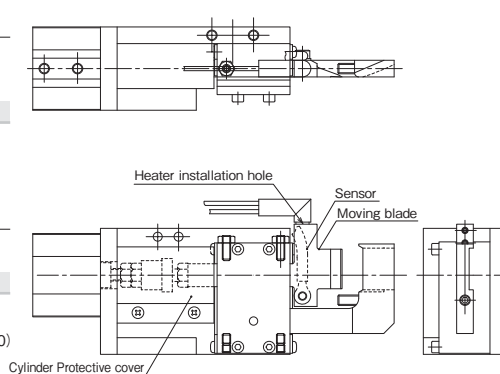
NKH20A/20AR Air-hydro nippers(thrust cut type)

- Air-hydro cylinders produce high power from air and oil.
- These units are ideal for high precision cuts required for products such as optical resin lenses.

Model No.	Cutting Capacity width × thickness (mm) Acril	Blade Edge Temp. (MAX °C)	Cutting Cycle (sec/cut)	Air Consumption (cm ³ /str.)	Piston Stroke (mm)	Weight (g)
NKH20A-25/20AR-25	10 × 1.5	180	4~5	60	10	720

• Included heater • Included temperature sensor • Air Pressure: 0.6MPa
 • Working air hose inner diameter: 4mm ※200V/240V heaters are also available to order.

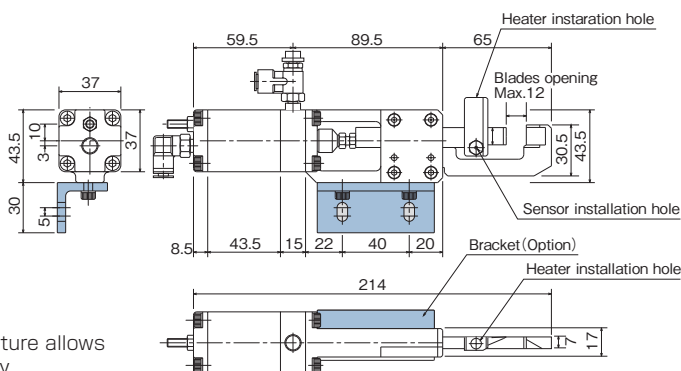
NKH20AR-25 (Backward-facing blades)



Blades Specifications

Material	Blade Shape	Blade Opening (mm)	Cutting blade effective (mm)	Weight (g)
Alloy Steel	Knife type (resin)	10	19	125

- Option Parts**
- Hydro-converter (Recommended: KOGANEI AHC 32×50)
 Working fluid: Petroleum hydraulic fluid or turbine oil with antifoaming agent additive (VG22~100)
 - Temperature controller (DTC-001)



GT-NKH10 Heat Air Nippers

- Speed control of cut speed and heater temperature allows for variable cutting surface solutions for extremely high precision cutting demands.

Model No.	Cutting Capacity width × thickness (mm) Acril	Blade Edge Temp. (MAX °C)	Cutting Cycle (sec/cut)	Air Consumption (cm ³ /str.)	Piston Stroke (mm)	Weight (g)
GT-NKH10	7 × 1.5	200	4~5	73	12	715

• Included heater
 • Included temperature sensor
 • Air Pressure: 0.4~0.5MPa

- Option Parts**
- Temperature controller (DTC-001)

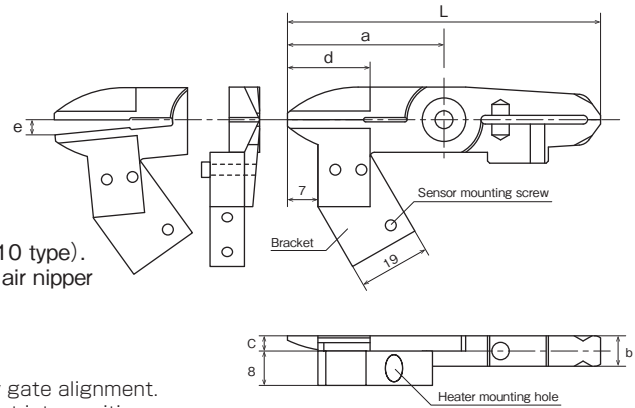
Blades Specifications

Model No.	Material	Blade Shape	Blade Opening (mm)	Cutting blade effective (mm)	Weight (g)
NKH10AJ/NKH10RAJ	Alloy Steel	Knife type (resin)	12	10	137



Example of blade mounting

- Use these blades in combination with the slide-off air nipper vertical type (GT-NT05/10 type).
- For the main unit dimensions, see the slide-off air nipper vertical type on p. 11.



NTH05AJ/10AJ Heat air nipper Blade



- One blade is fixed in position, facilitating easy gate alignment. In addition, a slide function presses the product into position.

Model No.	Dimensions (mm)						Weight (g)	Cutting Capacity φ (mm) Acrylic	Material	Applicable models
	a	b	c	d Cutting blade effective (mm)	e Blade Opening (mm)	L Overall length				
NTH05AJ	36	7	3.5	15	3.5	72	40	2.5	Special alloy steel	GT-NT05 (-4) / GT-NT05R (-4)
NTH10AJ	47	9	4.7	17	4.5	94	88	3.5	Special alloy steel	GT-NT10 (-6) / GT-NT10R (-6)

※The above blade weight does not include heater and sensor. ·Set temperature···200°C max.

The following parts are not provided; purchase them separately.

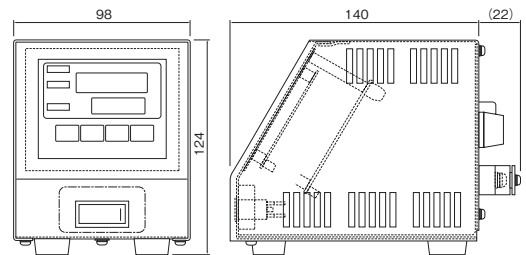
- Special heater (80 W/120 V, cord length: 300 mm), temperature sensor (type-K thermocouple, cord length: 1,000 mm), speed controller, and bracket (for heater mounting)

Option Parts

- Temperature controller (DTC-001)



Please inform us of the model No. of the heat nipper when placing an order.



DTC-001 Benchtop Temperature Controller

- The heating element can be connected directly to the main unit, a useful feature that saves labor during wiring installation.
- Compact construction enables the unit to be easily carried, allowing for changing the work site at any time.

Model No.	Temperature range Thermocouple K (°C)	Power supply (V)	Power consumption (with 100 VAC input)	Operating ambient temperature/humidity (°C) / (%)	Protection fuse	Weight (g)
DTC-001	0~200	AC100~240	Approx. 3W (Approx. 5VA) (With no load)	0~40 RH35~85% (No condensing)	One 15A fuse is incorporated.	900

※Please ensure the input voltage in prior to operation as it is directly connected to the heater.

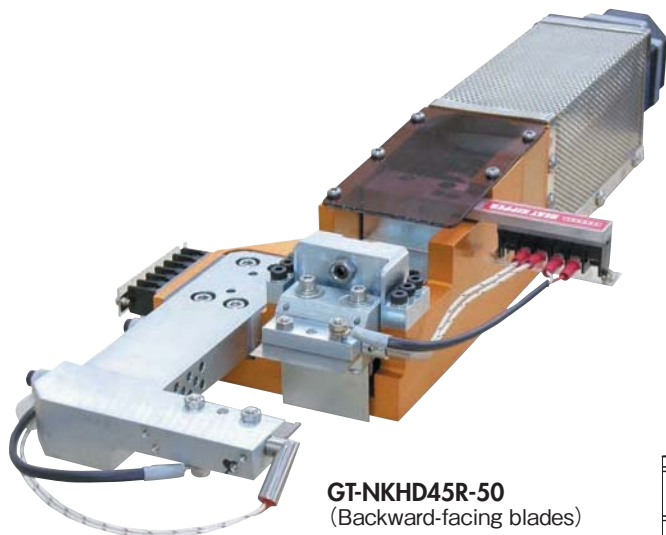
※Two types of heaters are available for 100V and 240V.

Option Parts

- Power supply cable : Model No. DTC-001-□-□

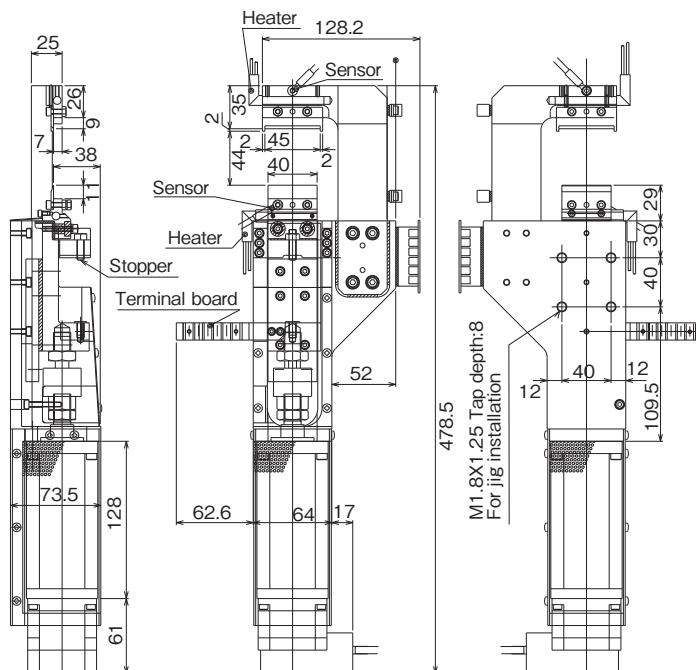
- : Cable for connection to the terminal block is necessary to be included.
- : (N/A) Cable not necessary.

- : 2m power cable w/Japanese type plug (A-type)
- : 2m power cable w/European type plug (C-type)
- : (N/A) Cable not necessary.



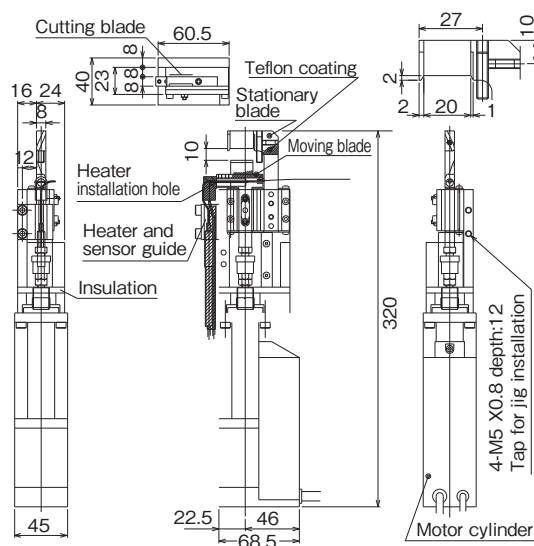
GT-NKHD45R-50
(Backward-facing blades)
>> See P15

GT-NKHD45R-50



Compact type
GT-NKHD20A-10
(Forward-facing blades)
GT-NKHD20AR-10
(Backward-facing blades)

GT-NKHD20A-10



GT-NKHD20A/45R Servo Heat Nippers (With Motor Cylinder)

- Blade travel distance and speed can be easily programmed.
- Servo motor control enables delicate blade feeds and quiet gate cutting work.

Model No.	Cutting Capacity φ (mm) Acril	Blade Edge Temp. (MAX °C)	Cutting Cycle (sec/cut)	Blade Opening (mm)	Position Accuracy	Max. Thrust (N)	Max. Speed (mm/s)	Positioning Points (pts)	Power Supply Voltage	Current Consumption Power Control circuit	Weight (kg)
GT-NKHD45R-50	width 24 × thickness 1.2	180	10	43	±0.1mm or less	500	100	16	DC24V±10%	3.0A 0.2A	5
GT-NKHD20A (R) -10	width 10 × thickness 1.5	180	10	10	±0.1mm or less	100	400	16	DC24V±10%	2.0A	1.6

Option Parts ·Temp. controller (DTC-001) ·Power supply ·Heater code ·Parallel cable ·ADP cable ·Controller (CTC-33) ·Power cord ·Sensor cord
For the options noted above, contact us because required items or the numbers of them may change depending on the installation method, use details, etc. of servo heat nippers.

03 Air Nippers For Cutting and Crimping

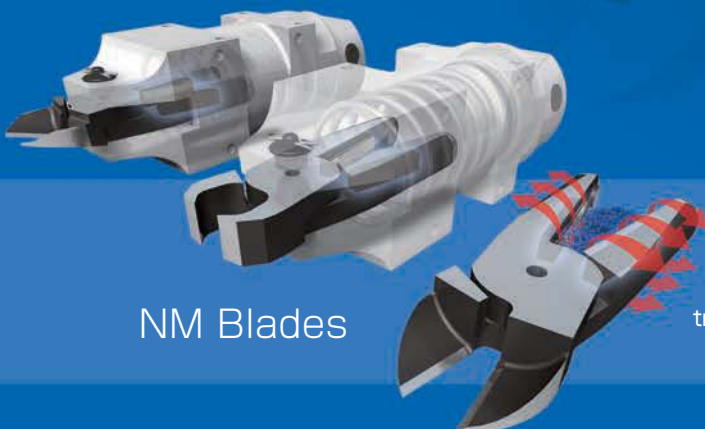
GT-NS/NR



A tough body for hard jobs.
The parts machined at high precision enable smooth cutting jobs to be accomplished.



Various models are available;
Square type for automation cutting equipment;
Round type, together with a dedicated stand,
for resin or direct gate-cutting,;
Lever type for manual operation...



NM Blades

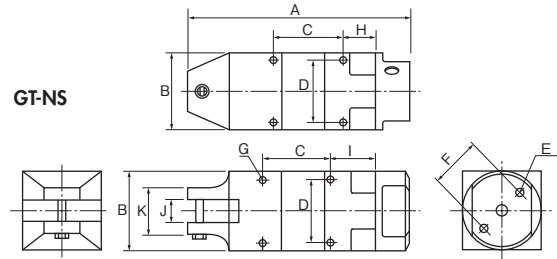
Springless NM blades, innovative for the around-the-clock operation which opens the blades by magnet repulsion, and which eliminates troubles of defective gate-cutting.

Air Nippers For Cutting and Crimping

VESSEL

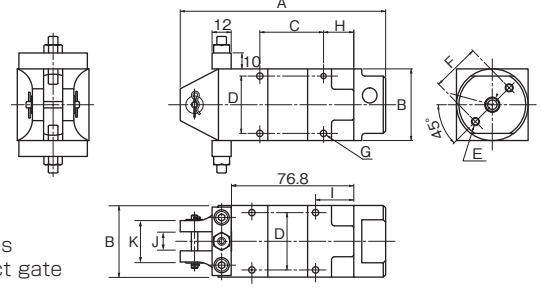


- The position of air intake port is 180-degree rotatable.
- Two air intake ports are provided, so they can be switched depending on the mounting place.



Made-to-order

GT-NS20H-1 (Blade opening adjustable)



GT-NS2/3/5/7/10L/20/30

Square Air Nippers

- VESSEL provides a generous selection of blades for all wire cutting needs, including resin product gate cuts and automatic welding equipment.

Reference

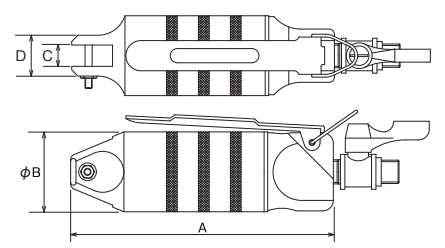
	Capacity ϕ (mm)			
	Soft Plastic	Hard Plastic	Copper	Steel
2.0		1.0	0.5	
2.0	2.0	1.0	0.5	
3.0		1.0	0.5	
3.0	2.0	1.6	1.0	
4.0	2.6	1.8	1.2	
7.0	5.0	2.6	2.0	
10.0	6.5	3.3	2.8	
7.0	5.0	2.6	2.0	

Model No.	Size (mm)											Air Consumption (cm ³ /str.)	Air Pressure (MPa)	Weight (g)	Hose coupling
	A	B	C	D	E	F	G	H	I	J	K				
GT-NS2	109	20	40	16	—	—	M3 Depth4	19	24	7	20	35	0.4~0.5	85	Rc1/8
GT-NS3	110	23	40	19	M3 Depth8	17	M3 Depth3.5	19	24	7	23	45	0.4~0.5	95	
GT-NS5	94	30	30	24	M4 Depth10	20	M3 Depth5	14	19	7	23	64	0.4~0.5	135	
GT-NS7	113	36	30	28	M4 Depth10	24	M4 Depth5.5	18	23	9	23	116	0.4~0.5	215	
GT-NS10L	113	36	30	28	M4 Depth10	24	M4 Depth5.5	18	23	12	26	116	0.4~0.6	215	
GT-NS20	129	45	40	36	M5 Depth12	30	M4 Depth7	19	24	12	26	230	0.5~0.6	370	
GT-NS30	170	56	60	46	M6 Depth12	40	M5 Depth10	20	30	17	36	584	0.5~0.6	685	
GT-NS20H-1	129	45	40	36	M5 Depth12	30	M4 Depth7	19	24	12	26	230	0.5~0.6	455	

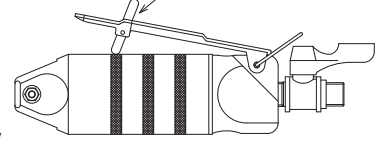
•Air hose inner dia. : 5mm •Overall length/Weight: Accessories not included.



•N20, N30 and N50 have the air cock.



Safety lever throttle is also available.



GT-N3/5/7/10/12/20/30/50

Hand Held Air Nippers

- VESSEL's special order blades provide solutions for a virtually unlimited range of needs, leading to safer, and more efficient work with less fatigue.

Reference

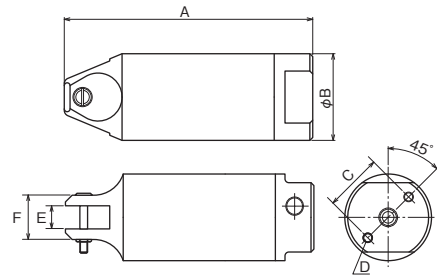
	Capacity ϕ (mm)			
	Soft Plastic	Hard Plastic	Copper	Steel
2.0		1.0	0.5	
2.0	2.0	1.0	0.5	
3.0	2.0	1.6	1.0	
4.0	2.6	1.8	1.2	
4.5	4.0	2.3	1.7	
7.0	5.0	2.6	2.0	
10.0	6.5	3.3	2.8	
		5.5	4.5	

Model No.	Size (mm)				Air Consumption (cm ³ /str.)	Air Pressure (MPa)	Weight (g)	Body	Hose coupling
	A	B	C	D					
GT-N3	112	23	7	14	45	0.4~0.5	95	Rc1/8	Rc1/4
GT-N5	103	30	7	17	64	0.4~0.5	135	Rc1/8	
GT-N7	123	34	9	17	116	0.4~0.5	180	Rc1/4	
GT-N10	132	34	9	17	116	0.4~0.5	185	Rc1/4	
GT-N12	142	36	12	20	116	0.5~0.6	210	Rc1/4	
GT-N20	148	45	12	23	230	0.5~0.6	375	Rc1/4	
GT-N30	185	56	17	30	584	0.5~0.6	625	Rc1/4	
GT-N50	237	75	25.2	43	1,170	0.5~0.6	1,220	Rc1/4	

•Hose coupling: R 1/4 •Air hose inner dia. : 5mm •Overall length: Accessories, Hunger not included. •Weight: Accessories not included.

※Blades are optional.

For cutting or crimping of resin or metals



GT-NR3/5/7/10L/20/30/50 Air Nipper Round-Type without Lever

- The position of air intake port is 180-degree rotatable.
- Two air intake ports are provided, so they can be switched depending on the mounting place.

Reference

能力φ (mm)				Model No.	Size (mm)						Air Consumption (cm ³ /str.)	Air Pressure (MPa)	Weight (g)	Hose coupling
Soft Plastic	Hard Plastic	Copper	Steel		A	B	C	D	E	F				
2.0		1.0	0.5	GT-NR3	110	23	17	M3 Depth8	7	14	45	0.4~0.5	70	Rc1/8
2.0		1.0	0.5	GT-NR5	94	30	20	M4 Depth10	7	17	64	0.4~0.5	110	
3.0	2.0	1.6	1.0	GT-NR7	113	34	22	M4 Depth10	9	17	116	0.4~0.5	150	
4.0	2.6	1.8	1.2	GT-NR10L	113	36	24	M4 Depth10	12	20	116	0.4~0.6	215	
7.0	5.0	2.6	2.0	GT-NR20	129	45	30	M5 Depth12	12	23	230	0.5~0.6	280	
10.0	6.5	3.3	2.8	GT-NR30	165	56	40	M6 Depth12	17	30	584	0.5~0.6	505	
12.0	6.5	5.5	4.5	GT-NR50	222	75	50	M8 Depth12	25.2	43	1,170	0.5~0.6	1,190	Rc1/4

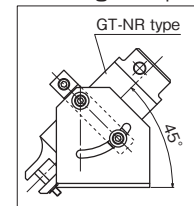
*Air hose inner dia. : 5mm *Overall length/Weight: Accessories not included.

*Before mounting on dedicated/automatic machines, check the following product dimensions. (Flame O.D., screw dia. (screw to screw) dimensions, etc.)

*Capacity (φ) is for reference purpose only. It varies depending on products.



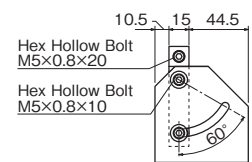
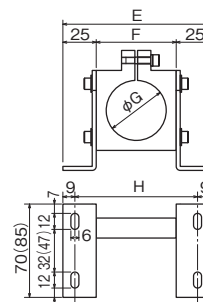
Mounting example



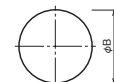
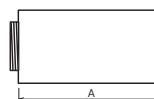
NR10LST/20ST/30ST/50ST Stand for GT-NR

- These are fixing hardware for sprue cutting of direct gates or mounting to an automatic machine.
- The main unit is variable; the angle can be easily adjusted (0 to 60°).

品番	E	F	Size (mm)		Weight (g)
			G	H	
NR10LST	102	52	36	84	335
NR20ST	110	60	45	92	385
NR30ST	130	80	56	112	535
NR50ST <small>Option</small>	150	100	75	132	835



Figures in () are for the NR50ST



P-10L/20/30/50 Extra Pressure Boosters

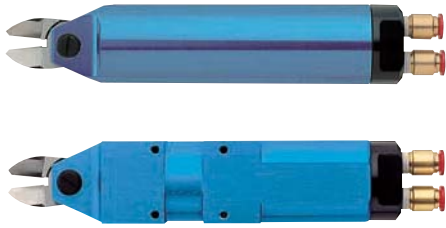
- This unit is to be used in case the originally required pressure is not obtainable by the limit of space and air pressure.

Reference

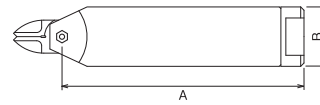
Capacity φ (mm)				Applicable models		Model No.	Size (mm)		Air Consumption (cm ³ /str.)	Air Pressure	Weight (g)
Soft Plastic	Hard Plastic	Copper	Steel	N	NR		A	B			
5.0	4.0	2.6	1.6	NS10L, NR10L, N12	P-10L	71	36	223	Up to 0.4MPa	115	
8.0	6.0	3.0	2.2	N20, NS20, NR20	P-20	87	45	508	Up to 0.5MPa	215	
13.0	7.0	4.8	4.0	N30, NS30, NR30	P-30	92	56	956	Up to 0.5MPa	330	
		6.5	5.5	N50, NR50	P-50	133	75	2,670	Up to 0.5MPa	840	

*Above figures of overall length and the weight are defined for the extra booster specs only. And these figures in the installation.

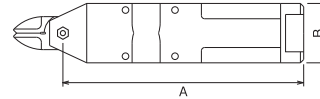
※Blade is optional.



GT-NWR



GT-NWS



GT-NWR10/20/30 GT-NWS1/10/20

Double Action Air Nippers

- Blade opening and closing is air piston driven.
- Having no spring mechanism in the main unit facilitates maintenance operations.

Model No.	Capacity ϕ (mm)			Air Consumption (cm ³ /str.)	Applied Pressure (N)	Air Pressure (MPa)	Size (mm)		Weight (g)
	Copper	Steel	ABS Plastic				A	B	
Double Action Air Scissors (Round Type without Lever)									
GT-NWR10	1.8	1.2	4.0	116	588	0.4~0.5	146	ϕ 36	280
GT-NWR20	2.6	2.0	6.5	230	1,372	0.5~0.6	165	ϕ 45	523
GT-NWR30	3.3	2.8	9.5	584	2,744	0.5~0.6	216	ϕ 56	980
Double Action Air Scissors (Square Type)									
GT-NWS1	1.0	0.5	2.0	45	294	0.4~0.5	95	23x20	116
GT-NWS10	1.8	1.2	4.0	116	588	0.4~0.5	146	36x36	356
GT-NWS20	2.6	2.0	6.5	230	1,372	0.5~0.6	165	45x45	610

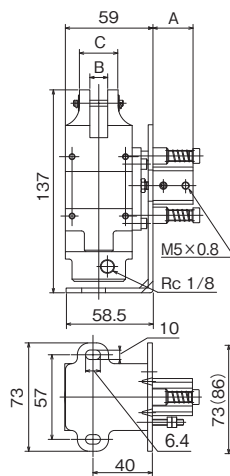


GT-NB20LW-10TM
Slide Mechanism
Accurate Model

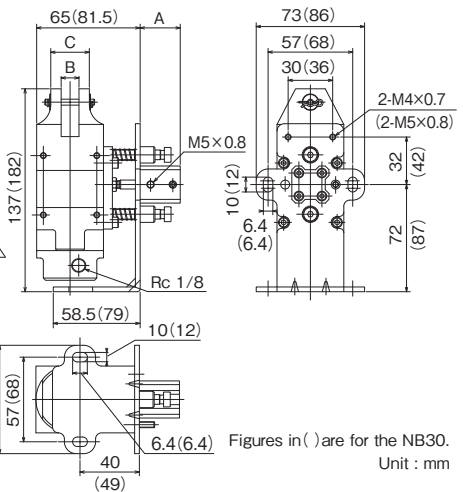


GT-NB20

OSHI type(PUSH)

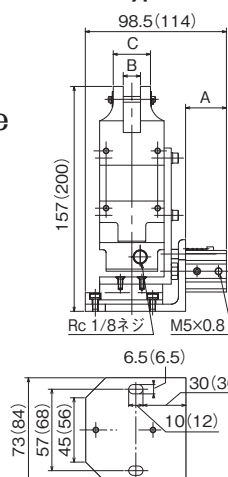


HIKU type(PULL)

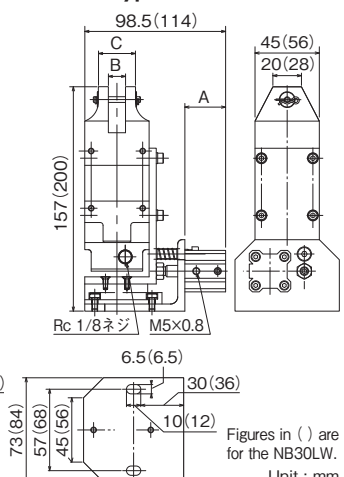


Figures in () are for the NB30.
Unit : mm

AM type



TM type



Figures in () are for the NB30LW.
Unit : mm

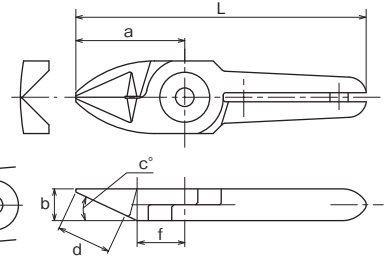
GT-NB20/30/20LW/30LW

Slide-Off Air Nipper Bracket-Type

- VESSEL has achieved smooth, continuous slide movement even for large diameter gate cuts, which produce a large shock at each cut.

Model No.	Dimensions (mm)			Slide Direction/ Distance (mm)	Weight (g)
	A	B	C		
GT-NB20 (5-OSHI)	22	12	26	Push 0~5	755
GT-NB20 (5-HIKU)	22	12	26	Pull 0~5	755
GT-NB20 (10-OSHI)	27	12	26	Push 0~10	755
GT-NB20 (10-HIKU)	27	12	26	Pull 0~10	755
GT-NB30 (10-HIKU)	28.5	17	36	Pull 0~10	1,435
GT-NB20LW-10TM	28.5	12	26	Pull 0~10	785
GT-NB30LW-10TM	29.5	17	36	Pull 0~10	1,315
GT-NB20LW-10SM	28.5	12	26	Push 0~10	785
GT-NB30LW-10SM	29.5	17	36	Push 0~10	1,315

Air nipper standard blades for metal



AS/HS

Standard

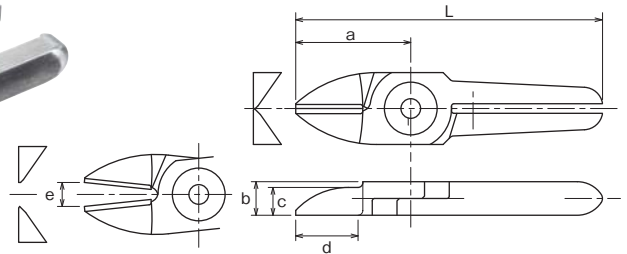


Metal

AS/Standard type. This is a general set of blades used for cutting copper wire and steel wire.
HS/Improved durability with brazed high-speed steel.

Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	c (°)	d:Effective Length	e:Blade opening	f	L			
N3AS	24	7	25	12	4	10.5	64	35	Special alloy steel	GT-NS3 / N3 / NR3
N3HS	24	7	25	12	4	10.5	64	35	High Speed Steel	GT-NS3 / N3 / NR3
N5AS	24	7	25	12	4	10.5	64	40	Special alloy steel	GT-NS5 / N5 / NR5
N5HS	24	7	25	12	4	10.5	64	40	High Speed Steel	GT-NS5 / N5 / NR5
N7AS	27	9	30	13.5	4	12.5	81	80	Special alloy steel	GT-NS7 / N7 / NR7
N7HS	27	9	30	13.5	4	12.5	81	80	High Speed Steel	GT-NS7 / N7 / NR7
N10AS	27	9	30	13.5	5	12.5	91	85	Special alloy steel	GT-N10
N10HS	27	9	30	13.5	5	12.5	91	85	High Speed Steel	GT-N10
N10LAS	35	12	30	20	5	15	89	120	Special alloy steel	GT-NS10L / NR10L
N12AS	35	12	30	20	5	15	105	135	Special alloy steel	GT-N12
N12HS	35	12	30	20	5	15	105	135	High Speed Steel	GT-N12
N20AS	35	12	30	20	9	15	95	140	Special alloy steel	GT-NS20 / N20 / NR20
N30AS	43	17	30	25	9	18	127	370	Special alloy steel	GT-NS30 / N30 / NR30

>> For guidance on cutting capability, see p. 29 of the technical material.



BJ

Straight blades for metals

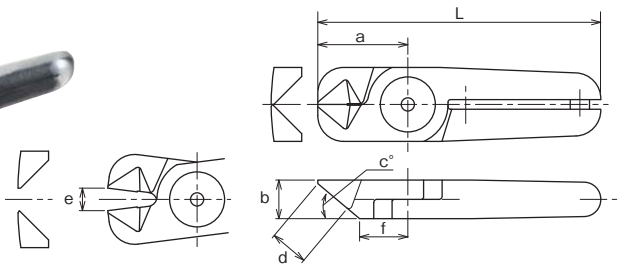


Metal

BJ/This is a set of vertical blades with an unbeveled cutting edge for metal.

Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L				
NW1BJ	20	5	3	10.5	3.5	5	50	16	Special alloy steel	GT-NWR1 / NWS1
N3BJ	24	7	5.8	13	5	6	64	35	Special alloy steel	GT-NS2 / NS3 / N3 / NR3
N5BJ	24	7	5.8	13	4	6	64	40	Special alloy steel	GT-NS5 / N5 / NR5
N7BJ	27	9	7.5	13	5	6	81	75	Special alloy steel	GT-NS7 / N7 / NR7
NW10BJ	30	9	6	14	5	6	85	76	Special alloy steel	GT-NWR10 / NWS10
NW20BJ	40	12	6	21.5	8	6	100	142	Special alloy steel	GT-NWR20 / NWS20
NW30BJ	55	17	8	29.5	11	6	140	367	Special alloy steel	GT-NWR30

>> For guidance on cutting capability, see p. 29 of the technical material.



AG

Powerful cutting blades



Metal

AG/This is a set of blades with increased strength with a shorter cutting edge than the standard type. Increases the pressure because it cuts at the base of the blades.

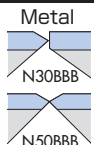
Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	c (°)	d:Effective Length	e:Blade opening	f	L			
N20AG	28	12	40	12	7	15	88	135	Special alloy steel	GT-NS20 / N20 / NR20
N20HS	26	12	40	10	7	13.5	86	135	High Speed Steel	GT-NS20 / N20 / NR20

>> For guidance on cutting capability, see p. 29 of the technical material.

... Sintered Alloy Hardest, most durable material. For cutting hard steel wire, glassfiber-reinforced resin, etc.

BBB

Powerful cutting blades with carbide tips

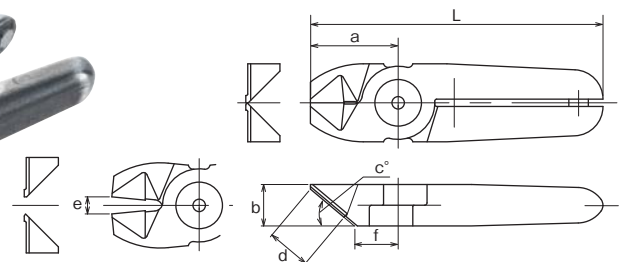


Metal

N30BBB

N50BBB

BBB/With carbide tips suitable for cutting hard wire such as high steel wire and piano wire.



Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	c (°)	d:Effective Length	e:Blade opening	f	L			
N30BBB	36	17	40	18	7	18	120	365	Sintered Alloy	GT-NS30 / N30 / NR30
N50BBB	46	25	35	19	9	24	166	955	Sintered Alloy	GT-N50 / NR50

>> For guidance on cutting capability, see p. 29 of the technical material.

BFB/AS

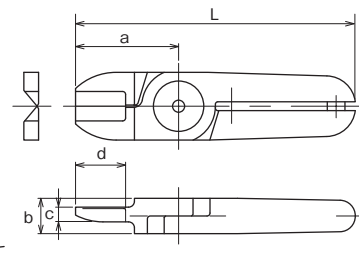
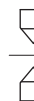
Metal



N50AS

Clipper blades with carbide tips

BFB/The shape is clipper type. With carbide tips, suitable for cutting metal wire and thin pipe.
AS/Standard clipper type blades.



Model No.	Size(mm)						Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L			
N20BFB	35	12	5	17	8	95	150	Sintered Alloy	GT-NS20 / N20 / NR20
N50AS	60	25	10	30	11	180	950	Special alloy steel	GT-N50 / NR50

>> For guidance on cutting capability, see p. 29 of the technical material.

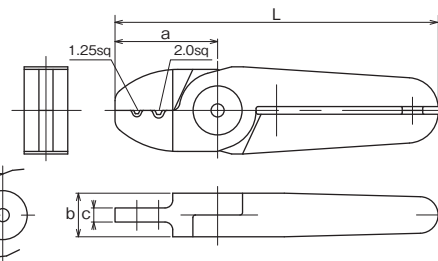
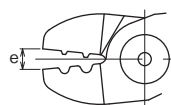
ACD



Metal

Crimp edge for solderless terminals

ACD/This is a set of blades for crimping solderless terminals. (Bare terminal 1.25 sq/2.0 sq)



Model No.	Size(mm)				Weight (g)	Material	Applicable models
	a	b	c	e:Blade opening			
N30ACD	40	17	5.5	8	335	Special alloy steel	GT-NS30 / N30 / NR30

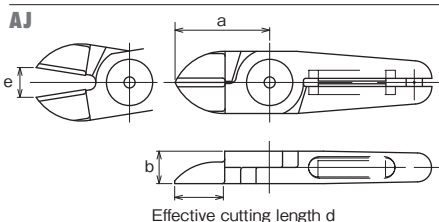
>> For guidance on cutting capability, see p. 29 of the technical material.

NM Blades

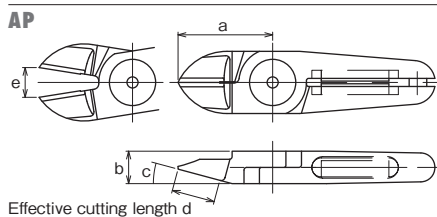
- Ideal for around-the-clock operations
- Semi-permanent magnetic force
- Compatible with our standard nipper bodies



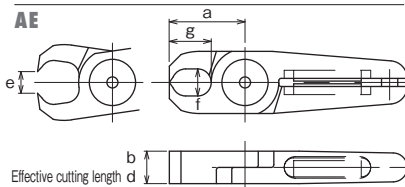
Straight and Thin / For plastic parts



Angled / For plastic parts



Cutting-off / For plastic parts



NM

NM Blades

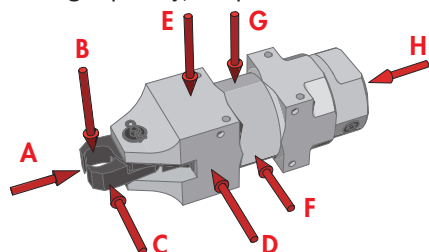
NM blades eliminate trouble caused by Spring breakage. Compliant with your VESSEL current air nippers. Spring replacement is no longer required as the neodymium magnet works semi-permanently.

>> See P19 PAT.P.

Model No.	Size(mm)						Weight (g)	Applicable models
	a	b	c(*)	d	e	f × g		
NM20AJ	35	12		18.0	11.0		116	GT-NS20 / N20 / NR20
NM20AP	35	12	15	16.0	11.0		124	GT-NS20 / N20 / NR20
NM20AE	28	12		12.0	8.0	10 × 15.5	129	GT-NS20 / N20 / NR20
NM30AJ	52	17		28.0	11.0		360	GT-NS30 / N30 / NR30
NM30AP	66	17	15	38.0	16.0		380	GT-NS30 / N30 / NR30
NM30AE	45	17		17.0	12.0	13 × 28	358	GT-NS30 / N30 / NR30

>> For guidance on cutting capability, see p. 29 of the technical material.

*Customization also available upon request.



Result of magnetic force measurement

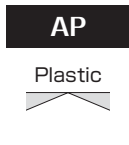
If a magnetic sensor for operation check is installed nearby, please confirm the magnetic force level in the following diagram.

品番	A	B	C	D	E	F	G	H
NM20AE	85	10	10	5	32	5	2	0
NM30AE	34	8	8	6	42	15	30	3

Measurement unit: Gauss

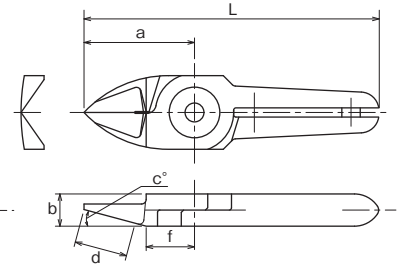
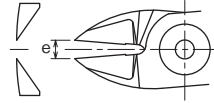
Measurement device: Gaussmeter GM-1200 manufactured by DENSHIJIKI INDUSTRY Co., Ltd.

Air nipper standard blades for plastic



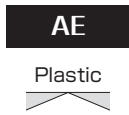
For plastic

AP/This is a standard set of blades used to cut plastic. A broad, gentle curve is provided in the cross section for gate processing where the cut end must not be left. (The cutting edge is curved.)



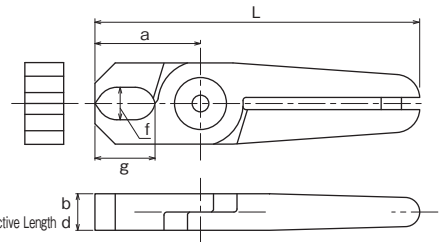
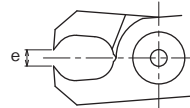
Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	c (°)	d:Effective Length	e:Blade opening	f	L			
N3AP	24	7	15	11.5	4	10.5	64	35	Special alloy steel	GT-NS3 / N3 / NR3
N5AP	24	7	15	11.5	4	10.5	64	40	Special alloy steel	GT-NS5 / N5 / NR5
N7AP	27	9	30	11.5	4	14.5	81	80	Special alloy steel	GT-NS7 / N7 / NR7
N10AP	27	9	30	11.5	5	14.5	91	85	Special alloy steel	GT-N10
N10LAP	35	12	15	16	5	15	89	120	Special alloy steel	GT-NS10L / NR10L
N12AP	35	12	15	16	5	15	105	135	Special alloy steel	GT-N12
N20AP	35	12	15	16	11	15	95	125	Special alloy steel	GT-NS20 / N20 / NR20
N30AP	66	17	15	38	16	24	150	380	Special alloy steel	GT-NS30 / N30 / NR30

>> For guidance on cutting capability, see p. 29 of the technical material.



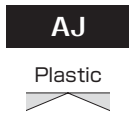
Nipping blades for plastic

AE/Used for processing plastic gates such as ride gates and discard gates.



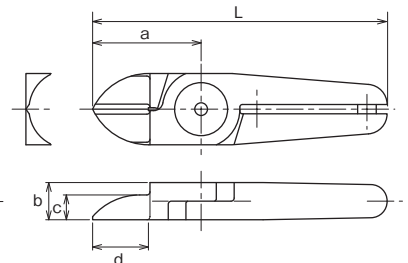
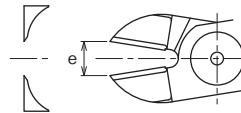
Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	fxg	d:Effective Length	e:Blade opening	L				
N3AE	20	7	6x11	7	3.5	60	35	Special alloy steel	GT-NS3 / N3 / NR3	
N5AE	20	7	6x6.6	7	3.5	60	40	Special alloy steel	GT-NS5 / N5 / NR5	
N7AE	26	9	8x14.8	9	4	80	85	Special alloy steel	GT-NS7 / N7 / NR7	
N20AE	28	12	10x15.5	12	8	88	135	Special alloy steel	GT-NS20 / N20 / NR20	
N30AE	45	17	13x28	17	12	129	395	Special alloy steel	GT-NS30 / N30 / NR30	

>> For guidance on cutting capability, see p. 29 of the technical material.



Thin, straight blades for plastic

AJ/This is a set of vertical blades with an unbeveled cutting edge for plastic. You can apply it at a right angle to the gate.



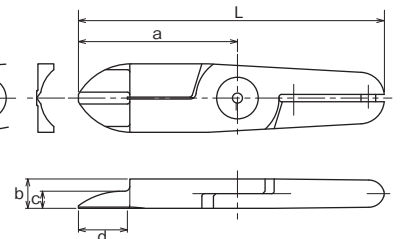
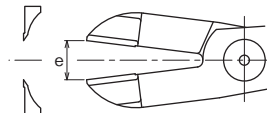
Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L				
NW10AJ	30			14	5		76	Special alloy steel	GT-NWR10 / NWS10	
N20AJ	35	12	8	18	11	95	125	Special alloy steel	GT-NS20 / N20 / NR20	
N20AJB	35	12	8	18	11	95	125	Sintered Alloy	GT-NS20 / N20 / NR20	
NW20AJ	40			21.5	8		142	Special alloy steel	GT-NWR20 / NWS20	
N30AJ	52	17	8	28	11	136	370	Special alloy steel	GT-NS30 / N30 / NR30	
NW30AJ	55			29.5	8		368	Special alloy steel	GT-NWR30	

>> For guidance on cutting capability, see p. 29 of the technical material.



Straight long blades for plastic

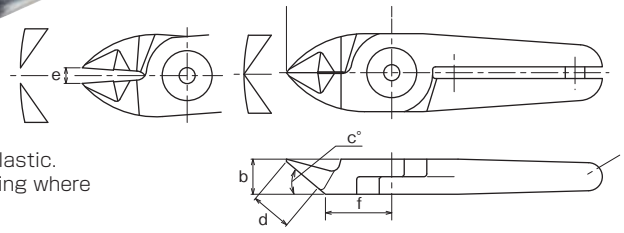
AJL/This is a long type set of straight blades. This is suitable when there is distance between the nippers and the gate cut portion of the workpiece. N30AJL163 is useful for wide gate processing.



Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	c	d:Effective Length	e:Blade opening	L				
※ N10LAJ141	61	12	7	34	10	115	165	Special alloy steel	GT-NS10L / NR10L	
※ N20AJL	65	12	7	20	16	125	230	Special alloy steel	GT-NS20 / N20 / NR20	
※ N20AB39	61	12	7	36	14	121	185	Special alloy steel	GT-NS20 / N20 / NR20	
※ N30AJ163	65	17	7	41	17.5	149	355	Special alloy steel	GT-NS30 / N30 / NR30	
N30AJL	75	17	8	25	19	159	470	Special alloy steel	GT-NS30 / N30 / NR30	

>> For guidance on cutting capability, see p. 29 of the technical material.

Blade with a mark ※ is a quasi-standard.



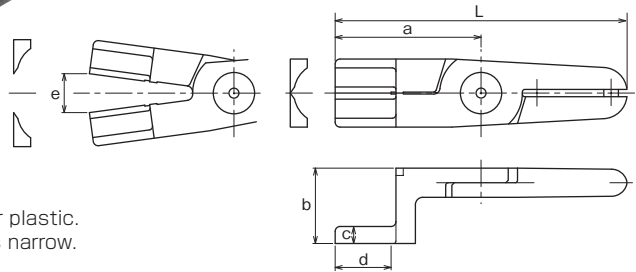
PF
Plastic

Flat blades for plastic

PF/This is a set of blades for cutting the cut end flat for plastic. A large R is provided in the cross section for gate processing where the cut end must not be left.

Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	c (°)	d Effective Length	e Blade opening	f	L			
N7PF	27	9	40	10.5	4	17	81	80	Special alloy steel	GT-NS7 / N7 / NR7
N10LPF	35	12	40	13.5	5	21	89	120	Special alloy steel	GT-NS10L / NR10L
N20PF	35	12	40	13.5	11	21	95	130	Special alloy steel	GT-NS20 / N20 / NR20
N30PF	58	17	30	25	15	33	142	390	Special alloy steel	GT-NS30 / N30 / NR30

>> For guidance on cutting capability, see p. 29 of the technical material.



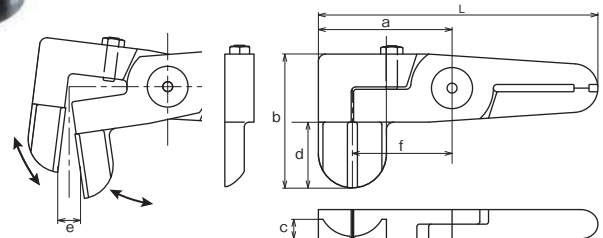
AH/
Quasi-standard products
Plastic

Crank blades for plastic

AH/This is a set of blades with a crank cutting edge for plastic. It is effective when there are obstructions or the gate is narrow.

Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	c	d Effective Length	e Blade opening	L: OAL				
N20AH	60	31	7	23	16	120	240	Special alloy steel	GT-NS20 / N20 / NR20	

>> For guidance on cutting capability, see p. 29 of the technical material.



AMR/AML
Quasi-standard products
Plastic

Laterally facing blades for plastics

AMR/AMLThis is a set of blades for plastic where the ML cutting edge is bent 90 degrees. It is useful when restricted to confined spaces hard for the nipper to get into.

Model No.	Size (mm)							Weight (g)	Material	Applicable models
	a	b	c	d Effective Length	e Blade opening	f	L: OAL			
N20AML1498	55	55	8	26	9.5	41	115	270	Special alloy steel	GT-NS20 / N20 / NR20
N20AMR1499	55	55	8	26	9.5	41	115	270	Special alloy steel	GT-NS20 / N20 / NR20

>> For guidance on cutting capability, see p. 29 of the technical material.

One point quasi-standard blades



R blades for plastic

A large R is provided in the cross section for gate processing where the cut end must not be left. An angled blades can be selected in accordance with the installation angle of the main unit.



Angled nipping blades for plastic

Used for processing plastic gates such as ride gates, discard gates. The cutting edge is angled so that the main unit can set up diagonally.



Comes with sprue chuck function①

Mainly in gate processing for direct gates, the sprue is caught with urethane rubber. A large R is provided in the cross section for gate processing where the cut end must not be left.



Comes with sprue chuck function②

Mainly in gate processing for direct gates, the sprue is caught with urethane rubber. A large R is provided in the cross section for gate processing where the cut end must not be left.



L blades for sprue cut

This is an angled long type straight set of blades with a 90-degree angle. Ideal for direct gate cut.

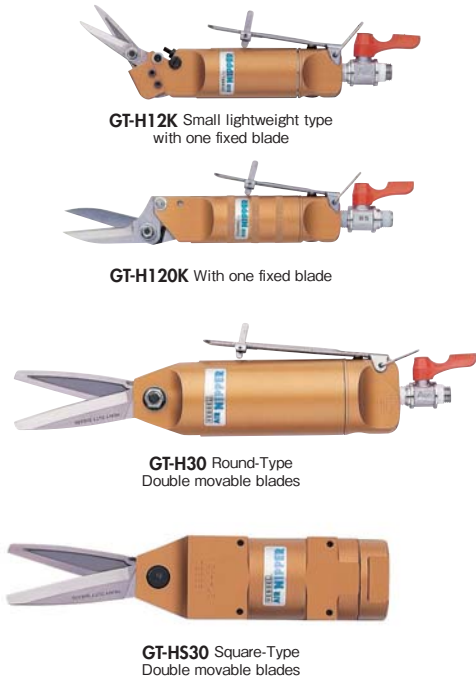


Nipping blades for sprue cut

This is the perfect spherical set of cutting blades for sprue cut. The blades can be inserted precisely in narrow areas that have ribs around them and the finish is very clean.

For quasi-standard products, contact a relevant branch office or sales distributor.

Air Scissors

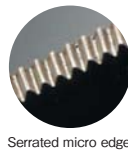


GT-H12K Small lightweight type with one fixed blade

GT-H120K With one fixed blade

GT-H30 Round-Type Double movable blades

GT-HS30 Square-Type Double movable blades



Serrated micro edge

GT-H12K/H30/H120K/HS30 Air Scissors

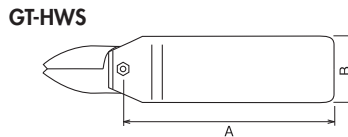
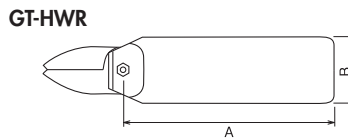
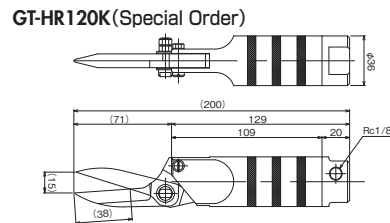
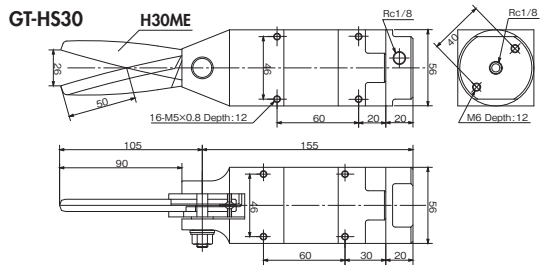
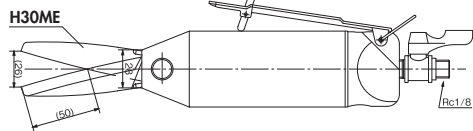
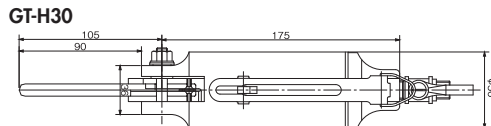
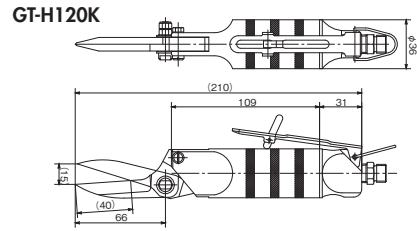
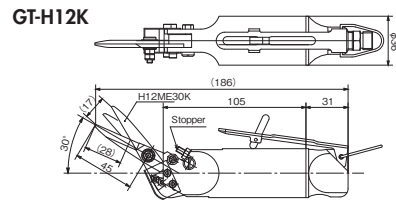
- Two types of blades, standard and micro-edge, are available for use in accordance with the demands of each specific job.

Model No.	Capacity (max) (mm)	Air Consumption (cm ³ /str.)	Applied Pressure (MPa)	Overall Length (with Blade) (mm)	Weight (with Blade) (g)
GT-H30	Kevlar t=1	584	0.3	280	1,030
GT-H12K	Kevlar t=0.3	116	0.2	186.2	290
GT-H120K	Band steel 15×0.5t	116	0.5~0.6	211	340
GT-HS30	Kevlar t=1	584	0.3	260	970

·Hose coupling: R 1/4 (Body Rc 1/8) ·Air hose inner dia.: 5mm
 ·Overall length/Weight: Accessories not included.
 ·Total length and weight of the GT-HS30 and HS30 are given with the H30ME blade mounted.

Blades specifications

Model No.	Applicable Nippers	Blade Shape	Blade Aperture (mm)	Effective Blade Cutting Length (mm)	Weight (g)
H30ME	H30,	Scissors type	26	50	280
H30MEL	HS30,	Serrated micro edge	34	67	285
H12ME30K	H12K		17	28	56
H120SK	H120K	Scissors type	15	38	115



GT-HWR1/10 GT-HWS1/10 Double Action Air Scissors

- Blade opening and closing is air piston driven.
- Having no spring mechanism in the main unit facilitates maintenance operations.

Model No.	Capacity φ (mm)	Air Consumption (cm ³ /str.)	Applied Pressure (N)	Air Pressure (MPa)	A (mm)	B (mm)	Weight (g)	
Double Action Air Scissors (Round Type without Lever)								
GT-HWR1	1.0	0.5	45	294	0.4~0.5	95	20	84
GT-HWR10	1.8	1.2	116	588	0.4~0.5	146	36	295
Double Action Air Scissors (Square Type)								
GT-HWS1	1.0	0.5	45	294	0.4~0.5	95	23×20	116
GT-HWS10	1.8	1.2	116	588	0.4~0.5	146	36	356

Applicable Blade Specifications

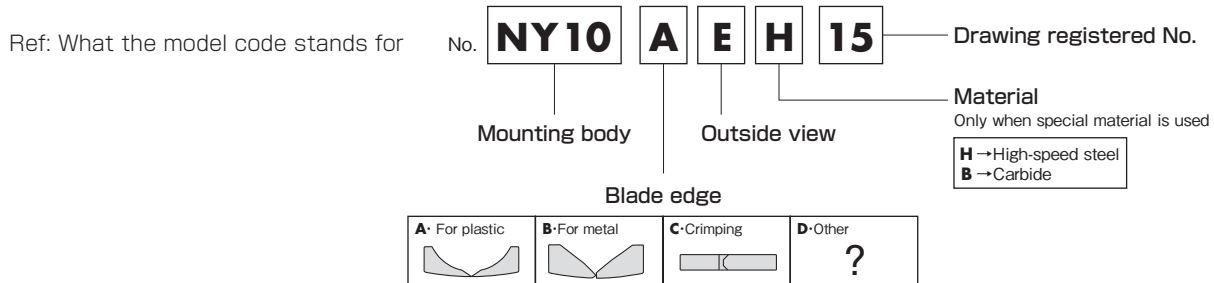
Model No.	Blade Opening (mm)	Cutting blade effective (mm)	A (mm)	Weight (g)
For GT-HWR1/HWS1				
HW1J	3.0	17	25	16
For GT-HWS10				
HW10J	5.0	28	40	76

Custom-made blades

Vessel customizes blades for a wide variety of uses.

Custom-made blades are available at low cost, speedy delivery and guaranteed flexible adaptation to a wide range of work.

See the examples below. We accept orders for small quantity as well.



Type for blades

A Angled 	B Angled 	C Crimping 	D Mounted gate
E Disposable gate treatment 	F Power cutting 	G Punching 	H Crankshaft
I Pilers type 	J (JL) Long blade for plastic Straight Long blade For product which are vertically long and to which a nipper does not reach with an ordinary blade. 	K L-shaped (disposable gate treatment) 	L L-shaped
M/XL/XR Side opening blades 	TN Tube cutting 	VO Nail pulling 	DI Bending
VHA Scissors 	Cutting of stranded wire Film gate 	Direct gate Sprue is equal to a gate. 	AHE Pin gate treatment ...Treatment of small gates which should be automatically cut at de-gating.
AHW Double blades 	NH Double heating blades 		

Technical data Guideline for Air Nipper Cutting Capability

For air nipper blades, the cutting capability changes depending on the shape and types of articles to be cut. Use the values in the following table as reference.



Slide-off air nipper blade

Model No.		CapacityΦ			
Body No.	Shape	Soft palastic	Hard Plastic	Copper	Steel
NY03	AJ	2.0	1.3		
NY03	AJL	1.6	1.1		
NY03	AJT	2.0	1.3		
NY03	RAJ	2.0	1.3		
NY05	BJ		2.0	1.6	1.0
NY05	AJ	3.0	2.0		
NY05	AJL	2.8	1.6		
NY05	AJB	3.0	2.0		
NY05	AJT	3.0	2.0		
NY05	AH	3.0	2.0		
NY05	RBJ		2.0	1.6	1.0
NY05	RAJ	3.0	2.0		
NY05	RAH	3.0	2.0		
NY10	AJ	3.5	2.3		
NY10	AJL	3.2	2.1		
NY10	AD	2.3	1.6		
NY10	AJB	3.5	2.3		
NY10	AJT	3.5	2.3		
NY10	AH	3.5	2.3		
NY10	RAJ	3.5	2.3		
NY10	RAH	3.5	2.3		
NY15	AJ	4.0	2.6		
NY15	AJL	3.7	2.3		
NY15	AD	2.6	2.2		
NY15	AJB	4.0	2.6		
NY15	AJT	4.0	2.6		
NY15	AH	4.0	2.6		
NY15	RAJ	4.0	2.6		
NY15	RAH	4.0	2.6		
NY25	AJ	5.0	3.4		
NY25	AJL	4.7	3.0		
NY25	AD	3.3	2.0		
NY25	AJB	5.0	3.4		
NY25	AH	5.0	3.4		
NY25	RAJ	5.0	3.4		
NY25	RAH	5.0	3.4		

For Horizontal-Type
(Normal ·Reversed)

Air nipper blade

Model No.		CapacityΦ				
Body No.	Shape	Soft palastic	Hard Plastic	Copper	Steel	Piano Wire
N3	AS			1.0	0.5	
N3	HS			1.0	0.5	0.2
N3	AP	2.0				
N3	AE	2.0				
N3	BJ			1.0	0.5	
N5	AS			1.0	0.5	
N5	HS			1.0	0.5	0.3
N5	AP	2.0				
N5	AE	2.0				
N5	BJ			1.0	0.5	
N7	AS			1.6	1.0	
N7	HS			1.6	1.0	0.5
N7	AP	3.0	2.0			
N7	PF	3.0	2.0			
N7	AE	3.0	2.0			
N7	BJ			1.6	1.0	
N10	AS			1.8	1.2	
N10	HS			1.8	1.2	0.5
N10	AP	4.0	2.6			
N10L	AS			1.8	1.2	
N10L	AP	4.0	2.6			
N10L	PF	4.0	2.6			
N12	AS			2.3	1.7	
N12	HS			2.3	1.7	0.6
N12	AP	4.5	4.0			
N20	AS			2.6	2.0	
N20	HS			2.6	2.0	1.0
N20	AG			2.6	2.0	
N20	AP	7.0	5.0			
N20	AJ	7.0	5.0			
N20	AJL	6.0	4.0			
N20	AJB			5.0		
N20	PF	7.0	5.0			
N20	AE	7.0	5.0			
N20	BFB			2.6	2.0	1.2
N20	AH	6.0				
N20	AML	10×1.5	8×1			
N20	AMR	10×1.5	8×1			
N30	AS			3.3	2.8	
N30	BBB			3.3	2.8	1.2
N30	AP	10.0	6.5			
N30	AJ	10.0	6.5			
N30	AJL	8.0	5.0			
N30	PF	10.0	6.5			
N30	AE	10.0	6.5			
N30	ACD	(Bare Terminal ^{1.25sq} / _{2.0sq})				
N50	AS			5.5	4.5	
N50	BBB			5.5	4.5	2.0

NM blade

NM20	AJ	7.0	5.0
NM20	AP	7.0	5.0
NM20	AE	7.0	5.0
NM30	AJ	10.0	6.5
NM30	AP	10.0	6.5
NM30	AE	10.0	6.5

For Double Action Air Nipper

NW1	BJ		1.0	0.5
NW10	AJ		4.0	
NW10	BJ		1.8	1.2
NW20	AJ		6.5	
NW20	BJ		2.6	2.0
NW30	AJ		9.5	
NW30	BJ		3.3	2.8

·Steel wire is non-heat treated.

·Piano wire=HV320or below

·Cutting capacity unit of N20AML and N20AMR will be (t).

Model No.		CapacityΦ			
Body No.	Shape	Soft palastic	Hard Plastic	Copper	Steel
NT03	AJ	1.5	1.0		
NT03	AJT	1.5	1.0		
NT03	AJY	1.5	1.0		
NE5	AJ	2.5	1.5		
NT05	AJ	2.5	1.5		
NT05	AJL	2.0	1.3		
NT05	AJB	2.5	1.5		
NT05	AJT	2.5	1.5		
NT05	AJY	2.5	1.5		
NT05	AD	2.5	1.2		
NT05	AJH	2.5	1.5		
NT05	AJV	2.5	1.5		
NT05	AE	2.5	1.3		
NE10	AJ	3.5	2.3		
NT10	AJ	3.5	2.3		
NT10	AJL	3.0	2.0		
NT10	AJB	3.5	2.3		
NT10	AJT	3.5	2.3		
NT10	AJY	3.5	2.3		
NT10	AD	3.5	2.1		
NT10	AJH	3.5	2.3		
NT10	AJV	3.5	2.3		
NT10	AE	3.5	2.1		
NT20	AJ	5.0	3.4		
NT20	AJL	4.5	3.2		
NT20	AD	5.0	2.0		
NT20	AJB	5.0	3.4		
NT20	AJH	5.0	3.4		

For Vertical-Type
(Normal and Reversed combined)

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● Product specifications, dimensions, and other information are subject to change without notice.

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