

628 | Notching Tool

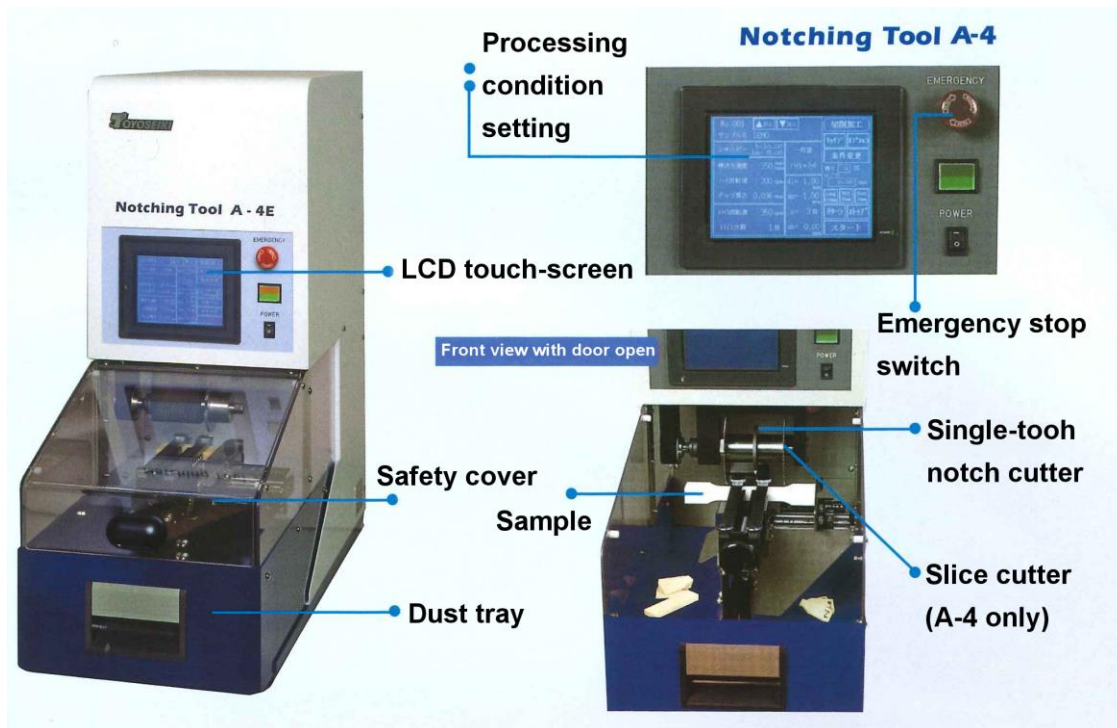
Model A-4 / A-4E

Advanced milling type notcher for Izod/Charpy specimens



- A-4 Notching
- A-4 Specimen's ends slicing

- A-4E Notching



APPLICATION

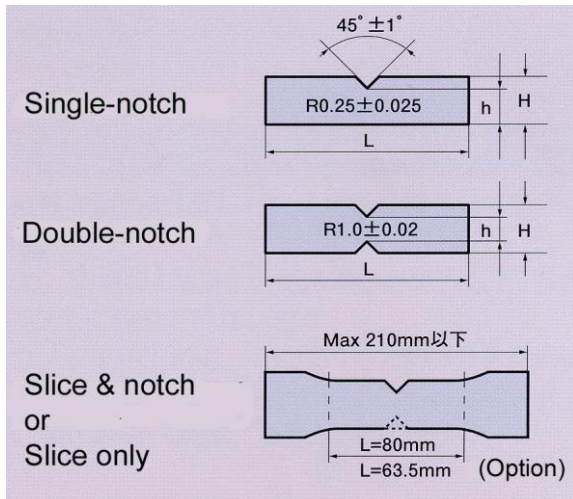
The **Notching Tool, A-4** series are computerized, numerically controlled milling machine for preparing a variety of notched specimen bars. All operations except mounting and dismounting of the sample are automatic. It automatically positions, cutter according to sample and notch dimensions.

The instrument employs a precision servo motor control system with a touch screen control display. Safety interfaces protect the operator from accidents. The cutter speed and table travel speed can be optimized for the sample material. (*Fixed cutter speed for A-4E*)

The instrument can store up to 99 (*16 for A-4E*) user-defined processing programs. Bars can also be automatically cut from the ISO multipurpose specimen (*A-4 only*).

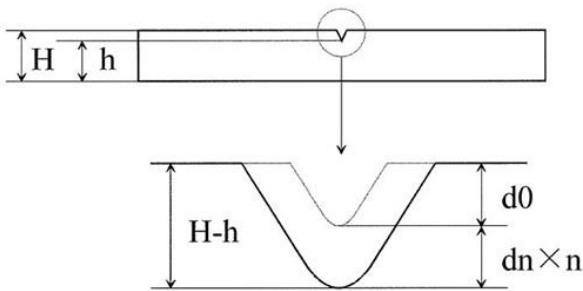
FEATURES

- All operation except mounting / dismounting of sample are automatic. Notching and slicing are automatically performed. (Notching only for A-4E)
- Allows simultaneous processing of ISO multipurpose sample slicing and cutting. (Notching only for A-4E)
- Employs stepper (pulse) motor which allows cutting at high precision of 0.01mm.
- LCD touch-screen setup, operation and display; memory recall of 99 user cutting programs. (16 for A-4E)
- Safety cover locks during cutting; automatic safety inter locks and emergency stop.
- Double notching processing also available using optional double notch-holder.



Cutting condition examples

(In case specimen height 10mm, notch height 8mm)



Name	Above example setting
d0 (Rough cutting depth) Note: Number of cutting strokes is 1 time only	1.00mm
dn (Cutting depth)	0.20mm
n (Number of cutting strokes except rough cutting)	5 times

$$d01.00 + (dn0.20 \times n5) = 2.00\text{mm}$$

Example for soft specimens (such as non-reinforced polyolefin etc.)

Name	Above example setting
d0 (Rough cutting depth) Note: Number of cutting strokes is 1 time only	1.00mm
dn (Cutting depth)	1.00mm
n (Number of cutting strokes except rough cutting)	1 times

$$d01.00 + (dn1.00 \times n1) = 2.00\text{mm}$$

Example for hard specimens (such as engineering plastics)

Name	Above example setting
d0 (Rough cutting depth) Note: Number of cutting strokes is 1 time only	0.20mm
dn (Cutting depth)	0.20mm
n (Number of cutting strokes except rough cutting)	9 times

$$d00.20 + (dn0.20 \times n9) = 2.00\text{mm}$$

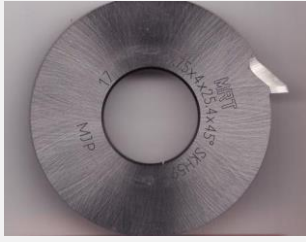



SPECIFICATIONS

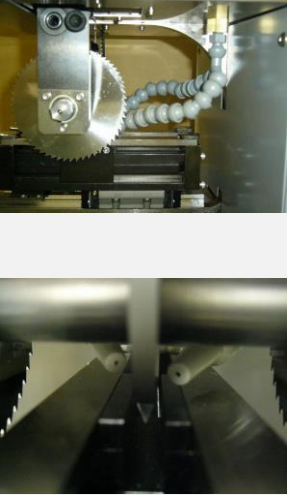


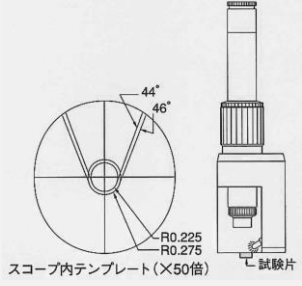
Model	A-4	A-4E
Notching system	Single-tooth, Milling type (conforms to ISO 2818) Automatic operation except sample mounting & dismounting	
Processing items	<ul style="list-style-type: none"> ● Notching ● Specimen's ends slicing 	<ul style="list-style-type: none"> ● Notching
Specimen clamp	<ul style="list-style-type: none"> ● Length: 63.5 to 200mm ● Height: 3 to 15mm ● Thickness: Max. clamp clearance 100mm (=4mm x 25 specimens) 	
Machining conditions	99 programs	16 programs
Notch height setting motor (Z axis)	Stepper motor with precision ball screw	
Notch height setting	3 to 14.99mm, 0.01mm steps	
Table feed motor (X axis)	Stepper motor with precision ball screw	
Table feed rate	50 to 1200mm/min.	
Cutter motor (Rotational speed)	AC servo motor (200 to 900rpm)	Synchronous motor (50Hz:300rpm, 60Hz:360rpm)
Standard V notch cutter	<ul style="list-style-type: none"> ● Diameter: Ø75mm ● Angle: 45° ● Tip-radius: 0.25mm ● Material: SKH (High speed tool steel) ● Single-tooth type (1 piece is provided as a standard)	
Standard slice cutter	<ul style="list-style-type: none"> ● Diameter: Ø100mm ● Thickness: 1mm ● Material: SKH (High speed tool steel) (1 set is provided as standard)	-----
Specimen's ends slicing length	Standard: 80mm (ISO179, 180, 8256) Option: 63.5mm (ASTM D256)	-----
Safeguards	<ul style="list-style-type: none"> ● Safety cover with interlock ● Emergency stop switch 	
Power requirement	Single-phase, AC100V, 50Hz or 60Hz, 0.8kVA	Single-phase, AC100V, 50Hz or 60Hz, 0.3kVA
Compressed air requirement	Required only for optional cooling device Max. 0.8MPa	
Dimensions	W300 x D700 x H700mm	
Weight	Approx. 65kg	

STANDARD FUNCTIONS / ACCESSORIES & OPTIONS

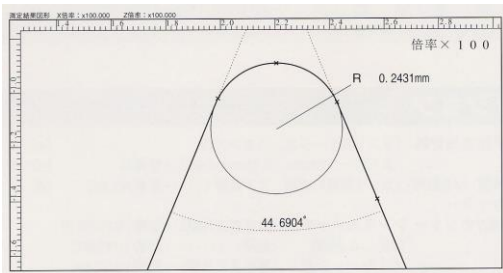
●Standard ○Option ×Not available

	Name	Model	Part No.	A-4	A-4E
1	Single-tooth V notch cutter 45°, R0.25mm, High speed tool steel (Notch type A)	1V75SK	7505269	●	●
2	Single-tooth V notch cutter 45°, R0.25mm, Carbide (Notch type A)	1V75WC	7505266	○	○
3	Multi-teeth V notch cutter 45°, R0.25mm, High speed tool steel (Notch type A)	-----	7505270	○	○
4	Single-tooth V notch cutter 45°, R1.0mm, High speed tool steel (Notch type B)	-----	7505267	○	○
5	Single-tooth V notch cutter 45°, R0.1mm, High speed tool steel (Notch type C)	-----	7505265	○	○
6	Slice cutter High speed tool steel (2 pcs./set)	S10SK	7505272	●	×
7	Slice cutter Carbide (2 pcs./set)	S10WC	-----	○	×
8	Slice cutter High speed tool steel, Staggered teeth (2pcs./set)	S10SKT	7505273	○	×
9	Slice collar for specimen's ends 80mm slicing (38mm x 2, 4mm x 1)	SC80	-----	●	×
10	Slice collar for specimen's ends 63.5mm slicing (29.75mm x 1, 8.3mm x 2, 4mm x 1)	SC63.5	-----	○	×
11	Slice collar for notching only/slicing only	C39+4	-----	○	×
12	Wrench for cutter replacement	TCSR	-----	○	○
13	Jig for cutter replacement	TCSM	-----	●	●
14	Sample float stopper (2pcs./set)	-----	-----	○	○
15	Centering holder for "double notching" For 10mm height Max. chuck clearance: Approx. 40mm (Correspond to 4mm x 10 specimens)	WN10	-----	○	○
16	Reference point detecting jig	SPRDA4	-----	○	○
17	Cooling device	A4-AC	-----	○	○
18	Notch height gauge, Analog type Stroke:20mm, Minimum read:0.01mm, Tip angle:40°, R0.2	N	-----	○	○
19	Notch height gauge, Digital type Stroke:20mm, Minimum read:0.01mm, Tip angle:40°, R0.2	D	-----	○	○
20	Check-eye gauge	CG-1	-----	○	○

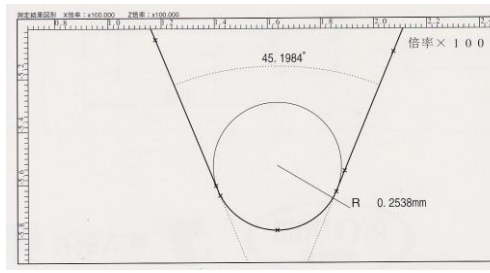
			
<p>1. Single-tooth V notch Cutter, 45°, R0.25mm, High speed tool steel (1V75SK)</p>	<p>6. Slice cutter, High speed tool steel (S10SK)</p>	<p>15. Centering holder for double notching (WN10)</p>	<p>16. Reference point detecting jig (SPRDA4)</p>

			
<p>17. Cooling device (A4-AC)</p>	<p>18. Notch height gauge, Analog type (N)</p>	<p>19. Notch height gauge, Digital type (D)</p>	<p>20. Check-eye gauge (CG-1)</p>

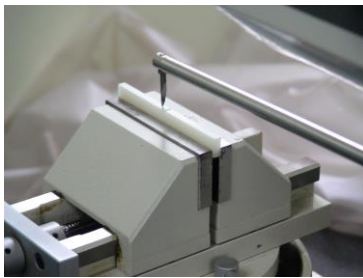
Notch cutter tip & notched sample dimensions are inspected by Digital Contour measuring instrument before shipment.



Dimension of single-tooth cutter tip shape



Dimension of notched ABS sample shape



Specifications are subject to change without notice.



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