WBM-V2

Riton Automatic Orthodontic Steel Wire Bending Machine

Precision Bending · Advanced Intelligence

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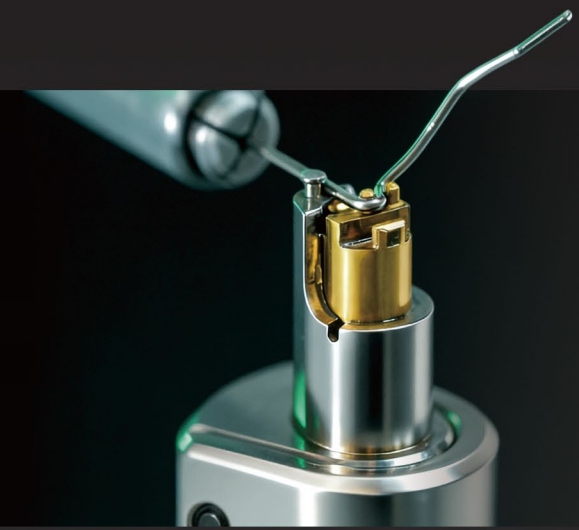
The WBM-V2 serves as the central bending unit in digital orthodontic manufacturing, capable of high-precision bending of various wire clasps. It ensures accurate, stable, and repeatable structural forms.

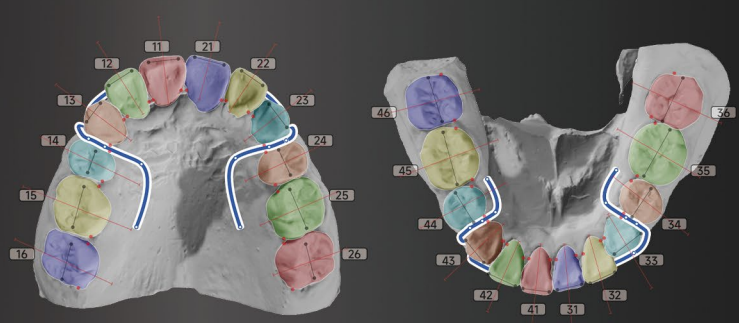


Extreme Bending Capability

Achieves an extreme convergence angle of 10°, with an arrowhead tip radius of only 0.9 mm and an inner minimum forming clearance of 1.3 mm. Produces naturally smooth arcs and stable small arrowhead clasps for premolars, redefining industry benchmarks for precision bending.

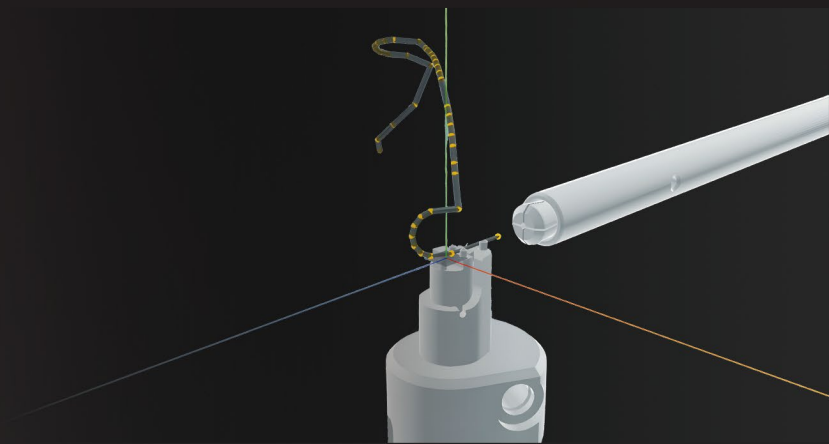
Intelligent Design

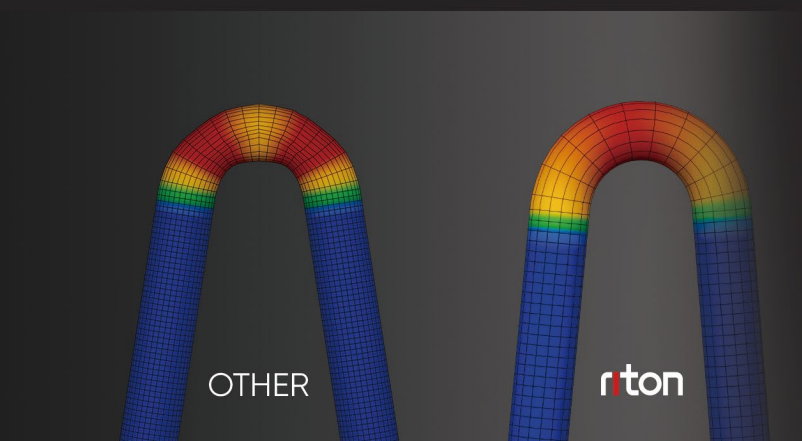
AI recognizes model feature points and quickly generates common appliance structures. The smooth-design function naturally rounds sharp bends, creating smoother, better fitting products with high shape fidelity.



Path Algorithm

3D dynamic calculation automatically optimizes path planning, ensuring continuous, interference-free forming of the structure.



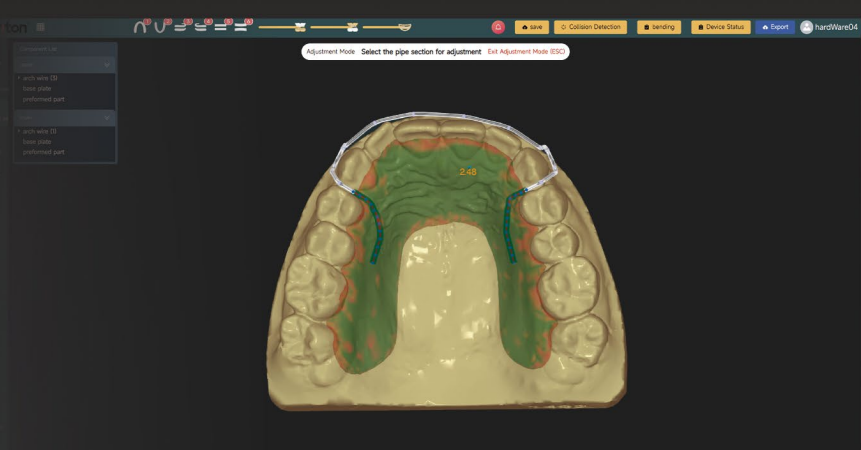


Control System

PLC + multi-axis servo control system delivers high positioning accuracy and repeatability. Six-axis coordinated motion ensures smooth operation, significantly reducing localized stretching and metal fatigue.

Digital Workflow

Enables coordinated design of wires and base plates, covering the full digital manufacturing chain from design → wire bending + base printing → assembly.



Versatile Applications

Works with Arrowhead Clasp, Double-Curve Labial Bow, TPA, Nance Appliance, Single Arm Clasp, etc. Capable of complex 3D bending and high-volume order production.

Double-Curve Labial Bow

Design Time	2 min
Bending Time	Approx. 40 s
Applicable Appliances	Hawley Retainer, Frankel Appliance, Myofunctional Appliance, Lip Bumper

Hawley Retainer ▸

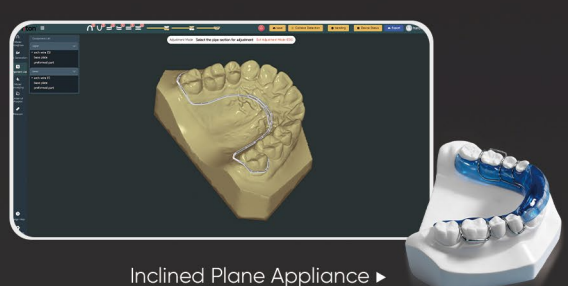
Circumferential Bow

Design Time	4 min
Bending Time	Approx. 90 s
Applicable Appliances	Begg Retainer

Begg Retainer ▸

Single Arm Clasp

Design Time	2 min
Bending Time	Approx. 30 s
Applicable Appliances	Inclined Plane Appliance, Flat Plane Appliance, Hawley Retainer



Inclined Plane Appliance ▸

Arrowhead Clasp

Design Time	2 min
Bending Time	Approx. 40 s
Applicable Appliances	Hawley Retainer, Face Mask Appliance, Tongue Spring Bite Plane Appliance, Tongue Crib

Tongue Crib ▸

TPA

Design Time	2 min
Bending Time	Approx. 30 s
Applicable Appliances	TPA Expander, Banded Wilson System, BWS

TPA Expander ▸

Nance Appliance

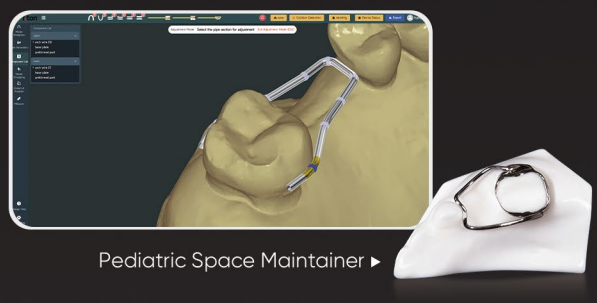
Design Time	3 min
Bending Time	Approx. 30 s
Applicable Appliances	Nance Appliance, Lingual Arch Retainer

Nance Appliance ▸

Versatile Applications

Space Maintainer

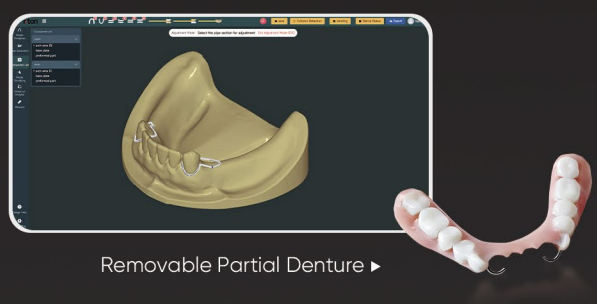
Design Time	3 min
Bending Time	Approx. 30 s
Applicable Appliances	Pediatric Space Maintainer



Pediatric Space Maintainer ▸

Removable Partial Denture Clasp

Design Time	3 min
Bending Time	Approx. 30 s
Applicable Appliances	Removable Partial Denture, Retainer



Removable Partial Denture ▸

Lingual Arch

Design Time	4 min
Bending Time	Approx. 40 s
Applicable Appliances	Lingual Arch Retainer, Tongue Crib, Tongue Spring Bite Plane Appliance

Lingual Arch Retainer ▸

Clinical & Operational Value

- **For Clinicians**
More intuitive and efficient case discussions between doctor, technician, and patient.

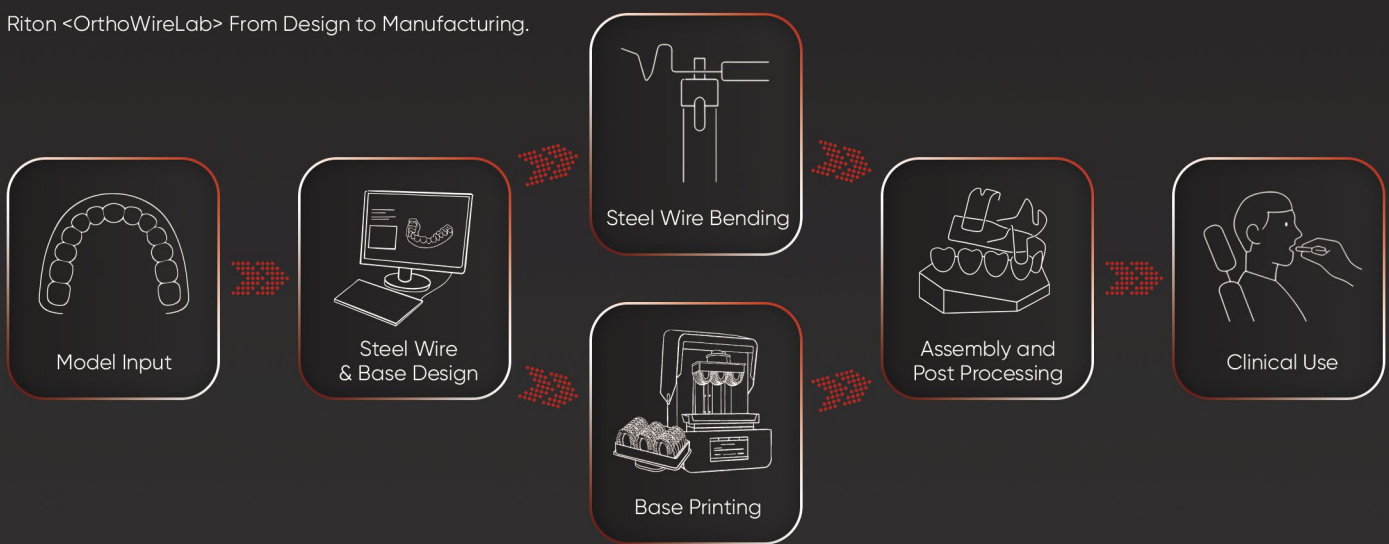
- **For Laboratories**
Greater productivity and consistent, reliable output.

- **For Patients**
Enhanced comfort with durable, secure appliance fit.

riton Digital Solution		Manual Bending
< 15 minutes per device, supports batch processing, efficiency increased by 50%+.	**Time Cost**	20–30 minutes per device, low efficiency.
User friendly, easy to master within 3 days, reduces labor input by 70%.	**Labor Cost**	Heavily reliant on skilled technicians, long training cycle, high labor costs.
Repetition error ≤ ±5%, ensuring highly consistent quality.	**Product Consistency**	Significant manual errors, inability to guarantee precision in repeated bending.
CAD/CAM integration with AI optimization and 3D simulation delivers true "What You See Is What You Get" results.	**Design Method**	Relies on experience, impossible to verify designs, high rework rate.
3D visual treatment plan, intuitive outcome presentation, enhances trust and communication efficiency.	**Doctor-Patient Communication**	Relies on verbal descriptions or 2D sketches, limited patient understanding.

Workflow

Riton <OrthoWireLab> From Design to Manufacturing.



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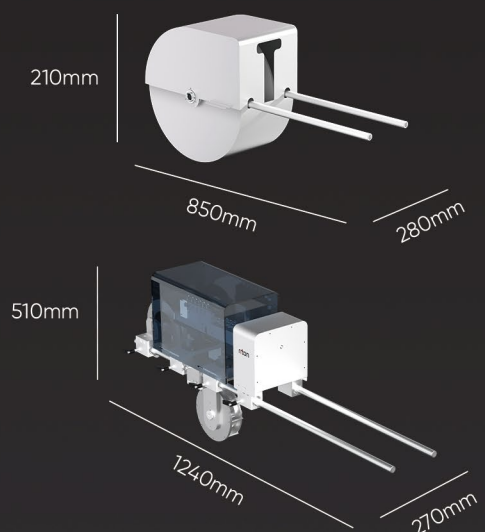
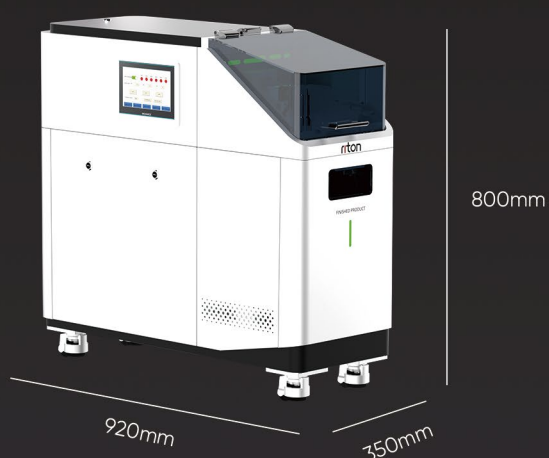
Technical Specifications

Power Supply	AC 220V, 50Hz	**Feeding Speed**	120mm/s
Power Consumption	≤1200W	**Feeding Accuracy**	±0.05mm
Air Source	0.6MPa Dry and Clean Air	**Bending Speed**	≤200°/s
Weight	Approx. 100kg	**Bending Repeatability**	±0.5°
Maximum Feed Length	220mm	**Compatible Wire Diameter**	0.5–1.0mm





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