

R1 Collaborative Robot

SmartFlex Series



Pairs perfectly with Obsidian, Ruby & Sapphire Series welders and continuous laser cleaning systems.





Handheld Mode

Ideal for irregular workpieces, complex corners, on-site rework, and custom parts processing.



Robotic Automation Mode

Engineered for standardized workpieces to enable continuous automated welding.



Easy Programming

Equipped with intuitive drag-and-drop teaching—no specialized programming skills required.



Superior Weld Quality

Minimal workpiece distortion with smooth, aesthetically pleasing weld beads. Most applications eliminate secondary grinding/polishing steps, with uniform penetration and high joint strength.



7×24 High-Efficiency Welding

Automated mode supports uninterrupted 24/7 operation, delivering 3 times the output of manual welding. Effectively replaces multiple skilled welders to ease labor shortages.

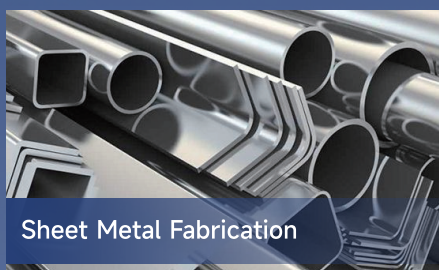


Deep Penetration & Ultimate Flexibility

Achieves 8.5mm penetration in stainless steel and 6.5mm in aluminum alloy—30% higher than conventional equipment. The adaptive coordinated control system supports seamless switching between single/dual/triple wire feeding modes, with instant wire stoppage upon laser when the laser shuts down.

One Machine, Dual Modes: Deep integration of collaborative robots (cobots) and handheld laser welding supports seamless switching between manual handheld and robotic automatic modes. Human-robot collaboration ensures safe, high-efficiency operation. Drag-and-drop teaching allows even novice operators to program quickly. It is compatible with both flexible processing and automated mass production. Freely switch between scenarios to fit production needs for multi-variety, small-batch runs and standardized mass manufacturing.

Applications



Sheet Metal Fabrication



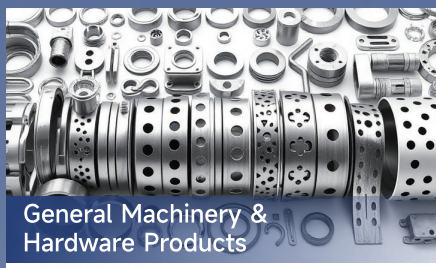
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Han's Handheld Welding Institute