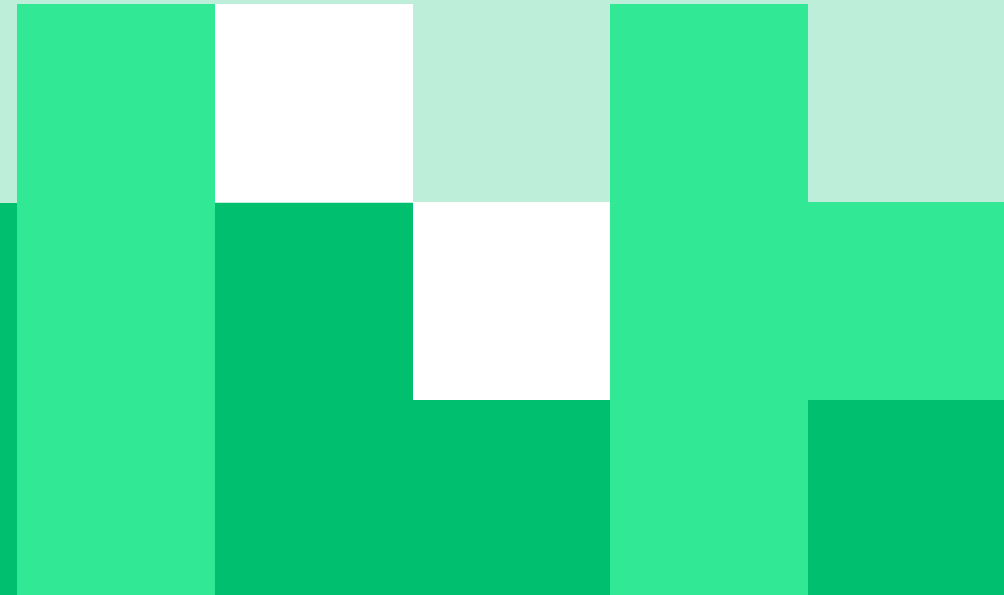




RAYTOOLS

3KW Dual Solution (A+B)

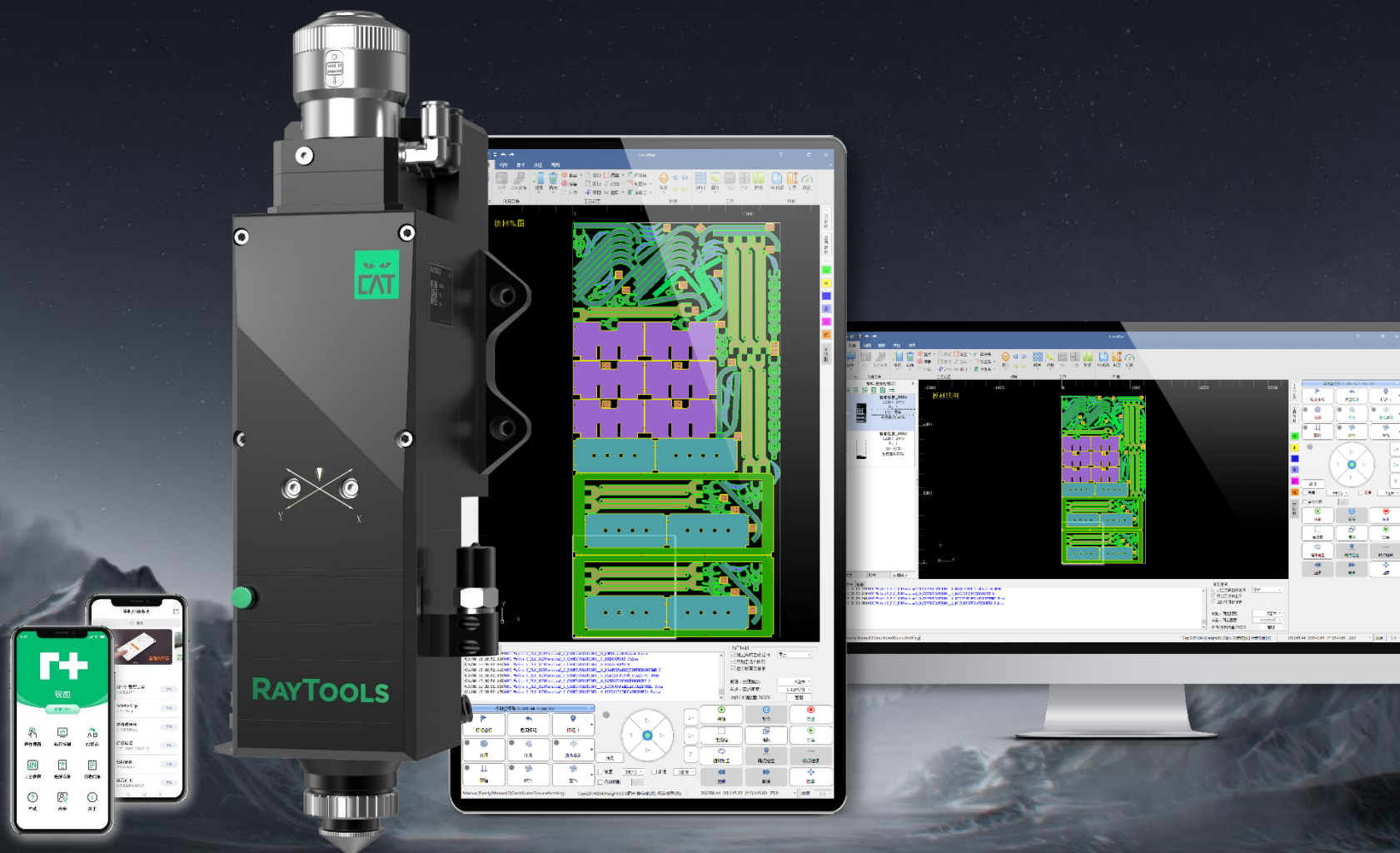
XC3000S+BS03K-CAT





Software + Laser Head (A+B) Product Subsystem

XC3000S Laser Flat Cutting System + BS03K-CAT Smart Cutting Head

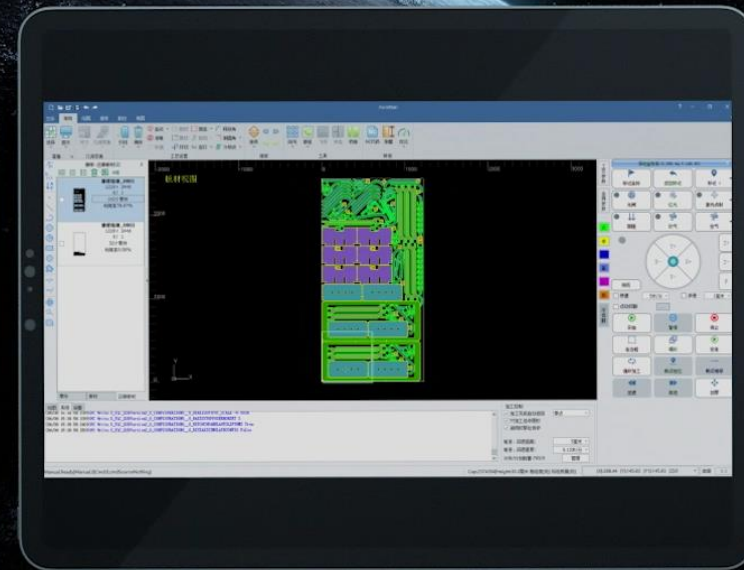


BS03K-CAT Smart Laser Cutting Head



XC3000S BS03K-CAT

3千瓦二合一解决方案(A+B)





BS03K-CAT

BS03K-CAT Technical Parameter

Auto Focusing	
- Range	-22mm~+22mm(F150mm)
- Speed	≤200mm/s
- Acceleration	≤10m/s ²
- Precision	0.01mm
Aperture	0.14
Nozzle Specification	Single Layer, Double Layer, Non-standard
Nozzle Diameter	1.0mm, 1.2mm, 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm, 4.0mm, 4.5mm, 5.0mm
Auxiliary Gas Pressure	≤30bar
Weight	~ 5kg

| Dual Optical Protection

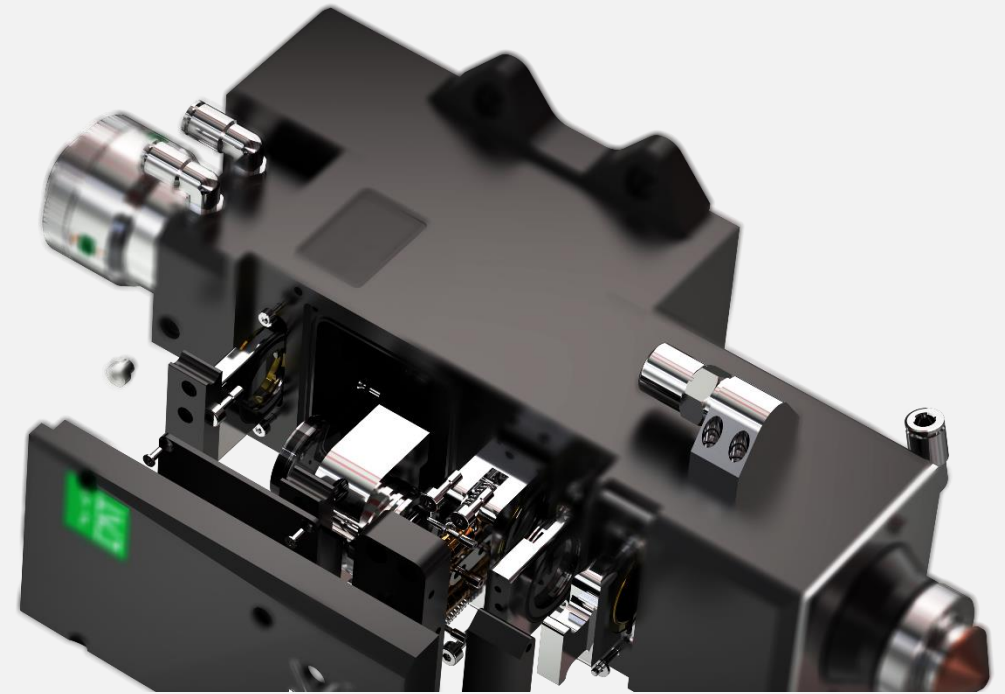
3 sets of protective lenses extend the lifespan of the core lens and enhance the sealing level within the core cavity through multiple protections.



| Optimized Mechanical/Water Circuit Design

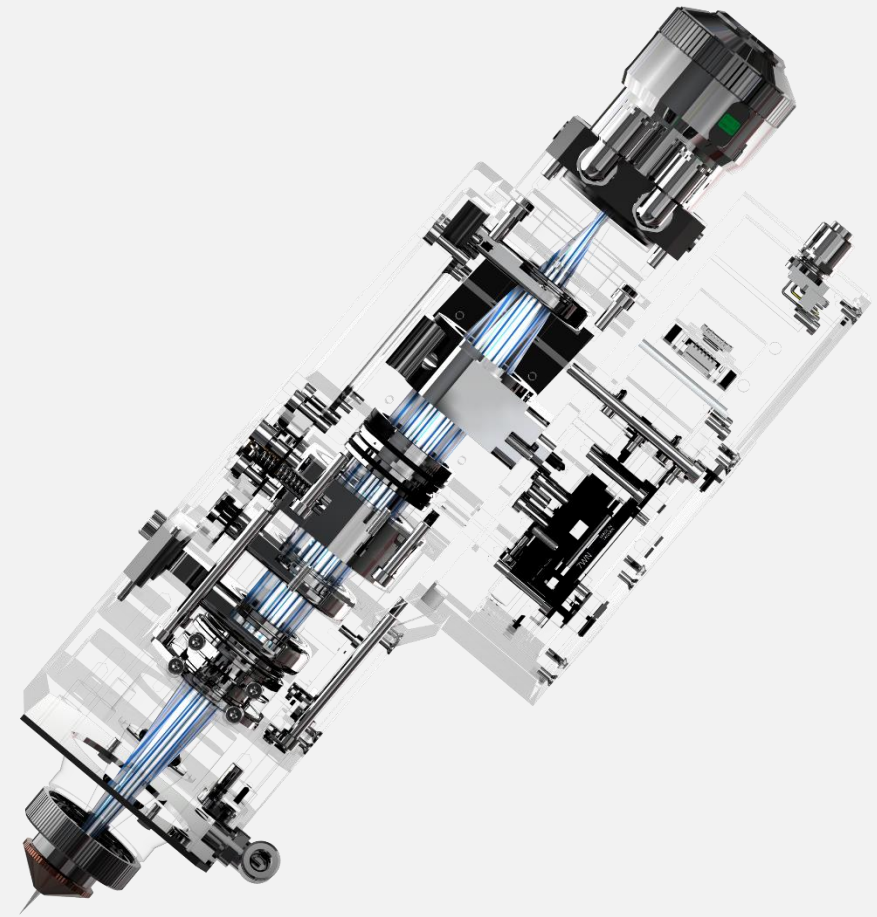
Simplified lens installation method reduces the difficulty and cost of maintenance;

BS series comes standard with anti-corrosion process to prevent water cooling corrosion and leakage over long-term use.



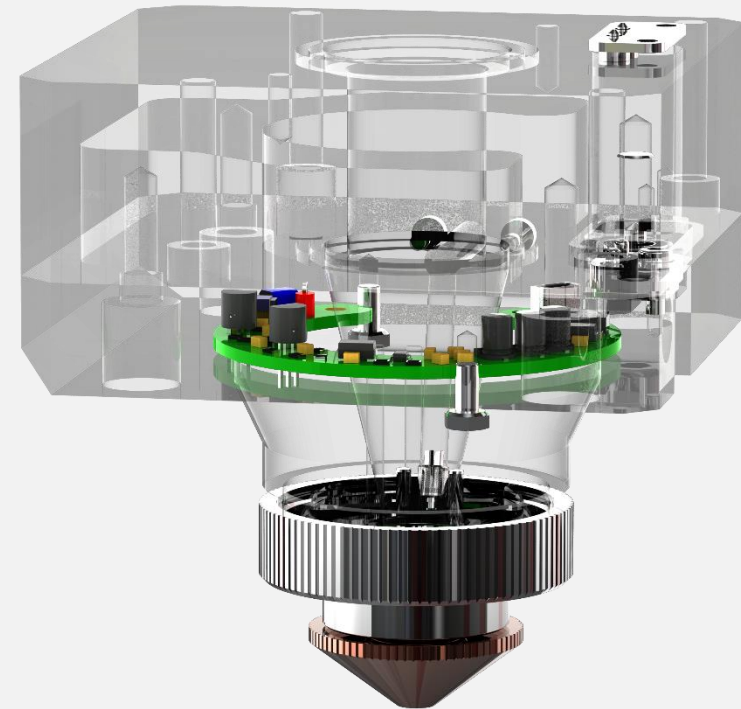
| Optimized Optical and Airflow Design

Significantly improves air cutting speeds and results, increasing performance by **10%-40%** compared to conventional cutting heads.



| Built-in Capacitance Amplifier

Optional built-in capacitance amplifier models allow for more precise and stable height adjustments.

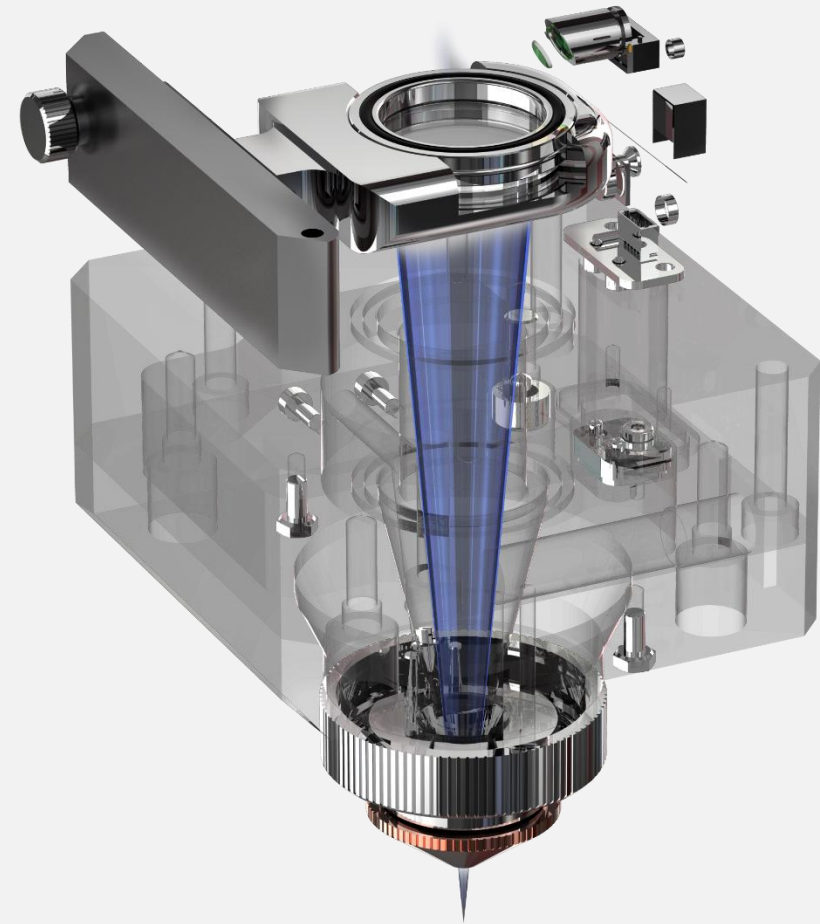


| Standard Equipped Air Pressure

Sensor/Protective Lens Temperature Monitoring

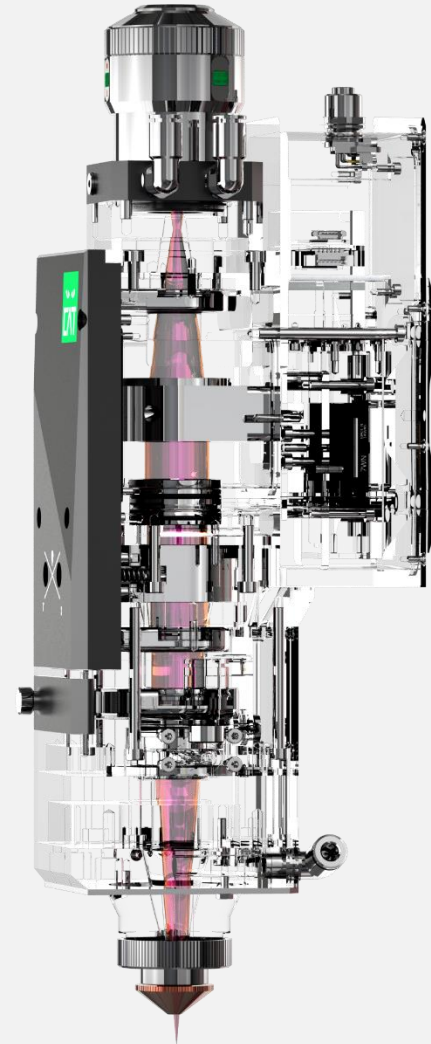
Sensor

- More precise gas control, more stable cross-section quality;
- Gas activation protection, foolproof design, reduces the probability of lens contamination;
- One-click intelligent calibration of air pressure, more convenient and worry-free nozzle/process replacement;
- Real-time monitoring of protective lens temperature during cutting, effectively reducing poor cuts due to lens contamination.



| Collimation and Focusing

Faster focusing speed, wider focusing range, more efficient piercing, supports small nozzle full power carbon steel cutting processes.

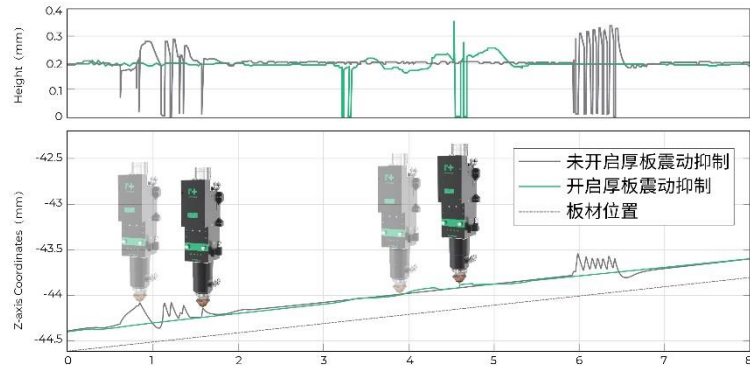


| Equipment Interconnectivity, Intelligent Management

Cloud MES solution provides efficient, collaborative, and visual smart production management services, achieving comprehensive information management throughout the product manufacturing lifecycle, reducing production costs, and enhancing enterprise competitiveness. It also allows for real-time display of equipment status, alarm notifications, capacity, and other information, making usage clear at a glance.

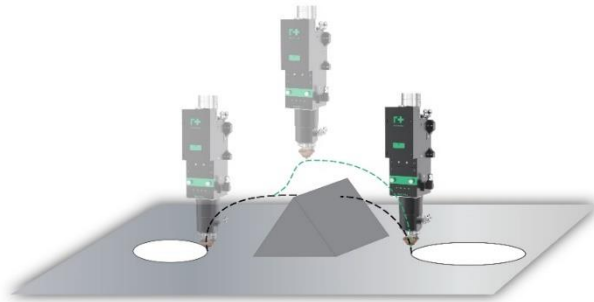


Vibration Suppression



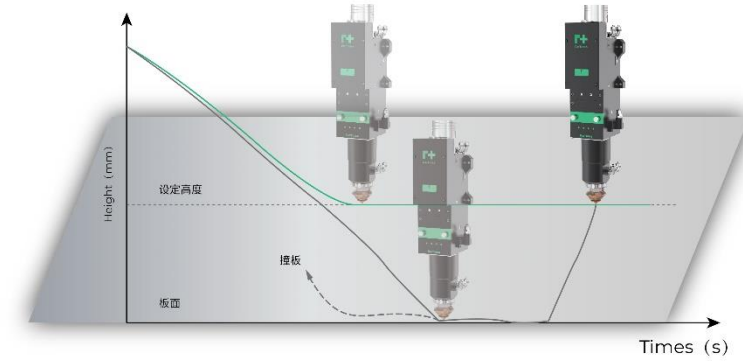
Smart Obstacle Avoidance

- Unobstructed Frog Leap Travel Path
- Frog Leap with Smart Obstacle Avoidance

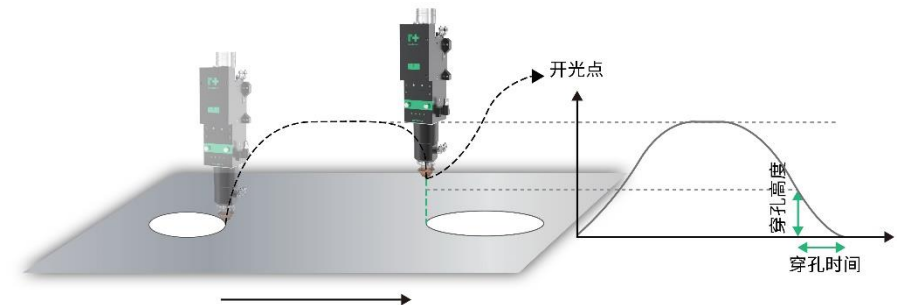


Edge Following

- Unobstructed Frog Leap Travel Path
- Frog Leap with Smart Obstacle Avoidance



Seamless Piercing



Comparison of Carbon Steel Cutting Results

BS03K-CAT



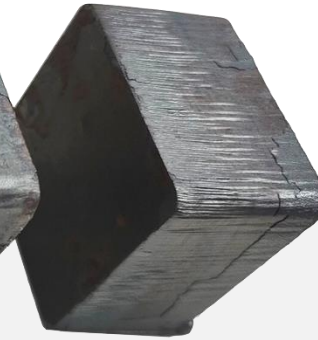
6mm CS



20mm CS
(Small
Nozzle)



20mm CS
(Reduced
Power)



25mm CS
(Small Nozzle)

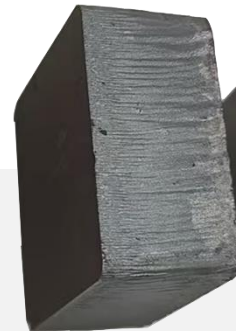
Competitor X



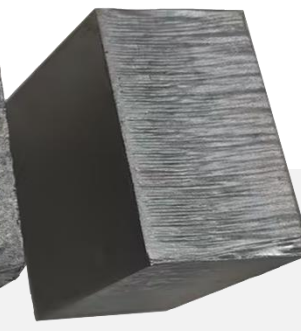
6mm CS



20mm CS
(Small Nozzle)



20mm CS
(Reduced Power)

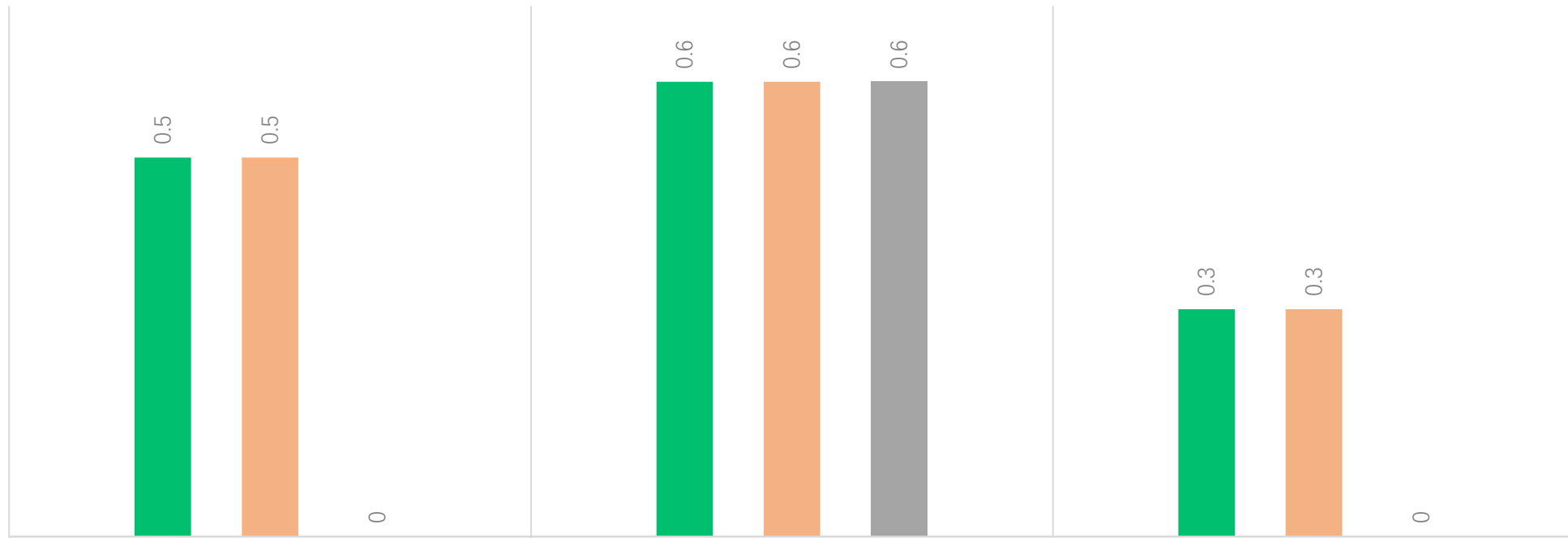


25mm CS
(Small Nozzle)

Comparison of Carbon Steel Cutting Speeds

Unit: m/min

■ BS03CAT ■ CompetitorX ■ BM110



■ BS03CAT	0.5	0.6	0.3
■ CompetitorX	0.5	0.6	0.3
■ BM110	0	0.6	0

Comparison of Stainless Steel Air Cutting Results

BS03CAT Air Cutting Performance



1mm



2mm



5mm

Competitor X Air Cutting Performance



1mm



2mm



5mm

BM110 Air Cutting Performance



1mm



2mm

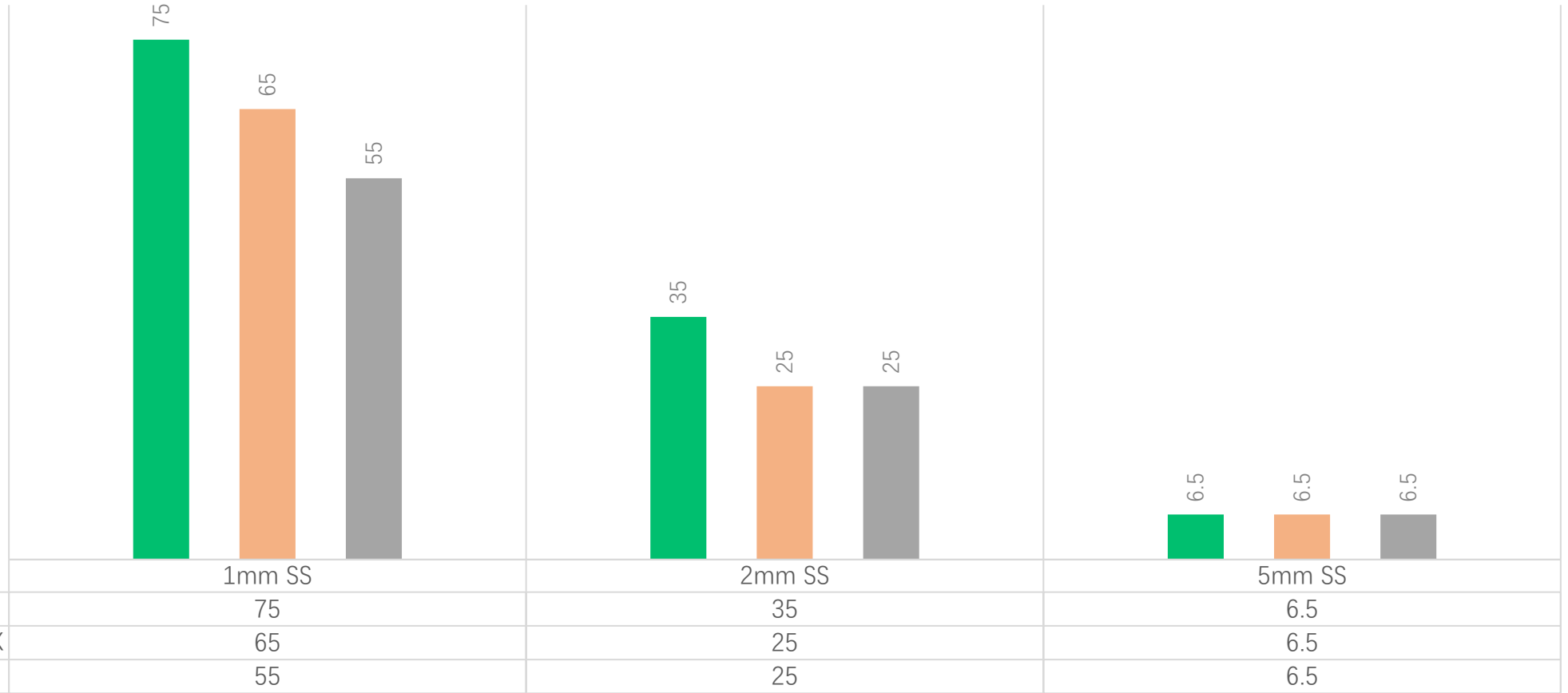


5mm

Comparison of Stainless Steel Air Cutting Speeds

单位: m/min

■ BS03CAT ■ Competitor X ■ BM110



XC3000S+BS03K-CAT Process Reference Parameters



Material	Thickness (mm)	Height (mm)	Speed (m/min)	Assist Gas	Gas Pressure (bar)	Focus	Nozzle
CS	6	0.6	2.7	O ₂	0.75	6	1.2 Double Layer
	20 (Small Nozzle)	0.3	0.5		1	13	1.3 Single Layer
	20 (Reduced Power)	0.8	0.6		0.7	5	4.5 Double Layer
	25	0.3	0.3		1.2	13	1.3 Single Layer
SS	1	0.5	60	N ₂	10	0	2.0 Single Layer
	2	0.4	32		15	0	2.0 Single Layer
	5	0.4	4.5		17	-2.5	3.5 Single Layer
SS	1	0.5	75	Air	17	-0.5	1.7 Single Layer
	2	0.5	35		17	-0.5	2.0 Single Layer
	5	0.5	6.5		17	-3	3.5 Single Layer

Power: 3000W (50 microns) Duty Cycle: 100% Frequency: 5000Hz