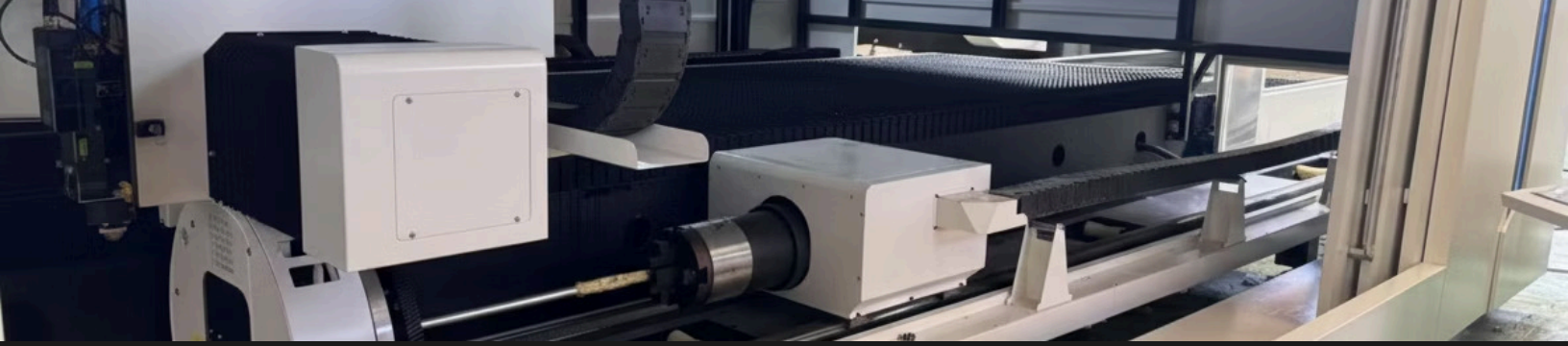


QUAKELOGIC

QL-EduCut X Fiber Laser Cutting System

QL-EduCut X represents a fully enclosed, industrial-grade CNC fiber laser cutting system meticulously engineered and configured. This sophisticated cutting system brings industrial precision and capability into the classroom environment while maintaining the rigorous safety standards required for secondary and post-secondary educational settings.





Cutting Capacity & Performance Specifications

Mild Steel

Cutting capacity up to **1/2 inch (12.7 mm)** thickness

Ideal for structural components, brackets, and general fabrication projects commonly used in welding curriculum

Stainless Steel

Cutting capacity up to **3/8 inch (9.525 mm)** thickness

Enables students to work with corrosion-resistant materials for advanced applications and specialty projects

Aluminum

Cutting capacity up to **3/8 inch (9.525 mm)** thickness

Provides experience with lightweight materials increasingly common in modern manufacturing and aerospace applications

QL-EduCut X is engineered to deliver exceptional cut quality, minimal dross formation, and consistent kerf width characteristics that directly align with the RFP's rigorous performance and evaluation criteria. Our fiber laser technology represents the current industry standard for educational and professional fabrication environments, offering superior edge quality and operational efficiency compared to traditional plasma or CO2 laser systems.

This cutting system provides students with hands-on experience using the same technology employed in modern manufacturing facilities worldwide. The advanced fiber laser source delivers concentrated energy precisely to the cutting point, resulting in clean edges that often require minimal post-processing. This efficiency not only accelerates the learning process but also reduces consumable costs and material waste, making the system highly cost-effective for educational budgets over its operational lifetime.



Performance Characteristics

- Industrial fiber laser cutting technology with proven reliability
- Automatic focus and height control systems ensure consistent cut quality across the entire work envelope
- Smooth edge finish with controlled kerf width for precision assemblies
- Reliable performance maintained across the full 5' × 10' cutting bed
- Optimized cutting parameters for educational material usage

Educational Applications

- Student certification project components
- Instructional demonstrations of advanced cutting techniques
- Applied fabrication training with real-world materials
- Rapid prototyping for design iteration exercises
- Production of jigs, fixtures, and tooling for welding stations

The system's automatic focus and height control technologies represent critical safety and quality features for educational environments. These systems continuously monitor and adjust cutting parameters in real-time, compensating for material variations and ensuring optimal performance without requiring constant manual intervention from students. This intelligent automation allows instructors to focus on teaching fabrication concepts rather than managing machine operations, while simultaneously protecting students from potential hazards associated with improper machine settings.

Achievable kerf width: typically ≤ 0.040 in (≤ 1.0 mm) and consistently maintained below the RFP maximum requirement of **0.060 inches**, depending on material and cutting parameters.

4th Axis Rotary Capability & Advanced Applications

To support advanced instructional outcomes and prepare students for sophisticated manufacturing environments, the **QL-EduCut X** includes an integrated **4th Axis Rotary attachment** that is fully compliant with RFP requirements for cylindrical and tubular material cutting operations. This advanced capability extends the system's versatility far beyond flat sheet cutting, enabling students to master multi-axis machining concepts that are increasingly valuable in modern fabrication careers.

The rotary axis transforms the cutting system into a comprehensive fabrication training platform capable of producing complex geometries that would be impossible or extremely time-consuming using conventional cutting methods. Students gain exposure to the same multi-axis CNC concepts used in advanced manufacturing facilities, developing skills that translate directly to employment opportunities in aerospace, automotive, structural steel, and custom fabrication industries.

01

Full Rotational Control

Precise angular positioning and continuous rotation for tubes and pipes of various diameters

02

Maintained Cut Quality

Consistent precision and edge finish throughout rotary operations with automatic parameter adjustment

03

Seamless CNC Integration

Fully integrated with control software for unified programming and operation

04

Advanced Geometries

Enables complex patterns, slots, and profiles on cylindrical workpieces

Supported tube diameter range: Ø25–200 mm

Maximum supported workpiece length: up to 3,000 mm

Fully synchronized rotary and linear axis motion

Cylindrical Cutting Applications

The 4th axis rotary capability allows students to work with a comprehensive range of tubular and cylindrical components that are fundamental to modern fabrication and welding projects:

- **Tubular steel profiles** – structural tubing, square and rectangular sections for framework construction
- **Cylindrical components** – pipes, rods, and circular sections for mechanical assemblies
- **Multi-axis cutting concepts** – compound angles, helical patterns, and wraparound geometries
- **Joint preparation** – precision bevels and copes for welded tube connections
- **Custom brackets and fittings** – complex profiles cut directly into tubular stock



This advanced capability directly satisfies the RFP's explicit requirement for "4th Axis Rotary Capability" while providing instructors with a powerful tool for teaching multi-axis CNC programming and operation. The rotary system's seamless integration with the primary cutting functions means students learn to manage complex multi-axis operations within a unified control interface, mirroring the integrated systems they will encounter in professional manufacturing environments.

- ❏ **Technical Advantage:** The integrated 4th axis rotary system eliminates the need for separate tube cutting equipment, reducing facility footprint requirements while expanding instructional capabilities. This consolidation provides better value and greater operational efficiency for educational programs.

Safety Systems, Software & Instructional Readiness

The QL-EduCut X is purpose-built for educational safety, operational usability, and effective instructional supervision. Every system component has been selected and configured to ensure that students can safely develop advanced fabrication skills while instructors maintain complete operational oversight and control.

Class 1 Laser Safety

Fully enclosed design with interlocked protective housing eliminates external laser exposure hazards during normal operation

Emergency Systems

Accessible emergency stop functionality provides immediate system shutdown capability from multiple locations

Supervised Operation

Controlled operating modes enable instructors to manage student access levels and system capabilities

Institutional Compliance

Electrical and mechanical systems meet or exceed institutional safety and code requirements

The fully enclosed Class 1 laser designation represents the highest level of operational safety for laser systems. Unlike open-frame or Class 3 or 4 laser systems that require special room modifications, protective eyewear, and extensive safety protocols, the QL-EduCut X can be operated in standard educational facilities without additional protective equipment for operators or observers. The complete enclosure contains all laser radiation, fumes, and debris within the protected work envelope, making the system appropriate for classroom environments where multiple students and instructors may be present simultaneously.

CNC Control System

- Industrial-grade CNC controller with full multi-axis capability
- Intuitive touchscreen interface designed for educational users
- Real-time cutting parameter monitoring and adjustment
- Job queue management for multiple student projects
- Comprehensive diagnostic and maintenance alerts
- Password-protected administrative controls

Complete Software Suite

- Professional CAM software for toolpath generation
- Integrated 2D CAD package for design work
- Nesting software for material optimization
- DXF, DWG, and standard file format compatibility
- Ethernet and USB connectivity for file transfer
- Network capability for lab computer integration

The included software suite provides a complete workflow from initial design concept through final cut part production. Students can learn the entire digital fabrication process using professional-grade tools that prepare them for employment in modern manufacturing environments. The CAD package enables basic design work directly at the machine, while the CAM software teaches students how to convert engineering drawings into machine instructions—a critical skill in contemporary fabrication careers.



Network Integration

System connects to school network infrastructure, enabling file sharing from design computers throughout the facility



Instructional Interface

User-friendly controls optimized for learning environments with clear visual feedback and guided operation modes



Access Control

Multi-level user permissions allow instructors to customize student access based on skill level and certification status

"The QL-EduCut X bridges the gap between educational safety requirements and professional capability, providing students with authentic industry experience in a controlled, supervised environment."

Turnkey Delivery, Professional Training & Comprehensive Warranty

The **QL-EduCut X** is delivered as a complete turnkey solution, fully aligned with the RFP scope of work and designed to ensure rapid deployment and effective integration into your welding program curriculum. Our comprehensive delivery package eliminates the burden of system setup, configuration, and initial training, allowing your instructional staff to focus immediately on teaching rather than technical implementation.



Delivery & Setup

FOB Destination delivery with professional rigging and placement in your designated facility location



Installation

Complete on-site installation, electrical connections, and system commissioning by certified technicians



Verification

System calibration and performance verification ensuring all specifications are met before handover



Training

Comprehensive on-site instructor and staff training for safe, effective system operation

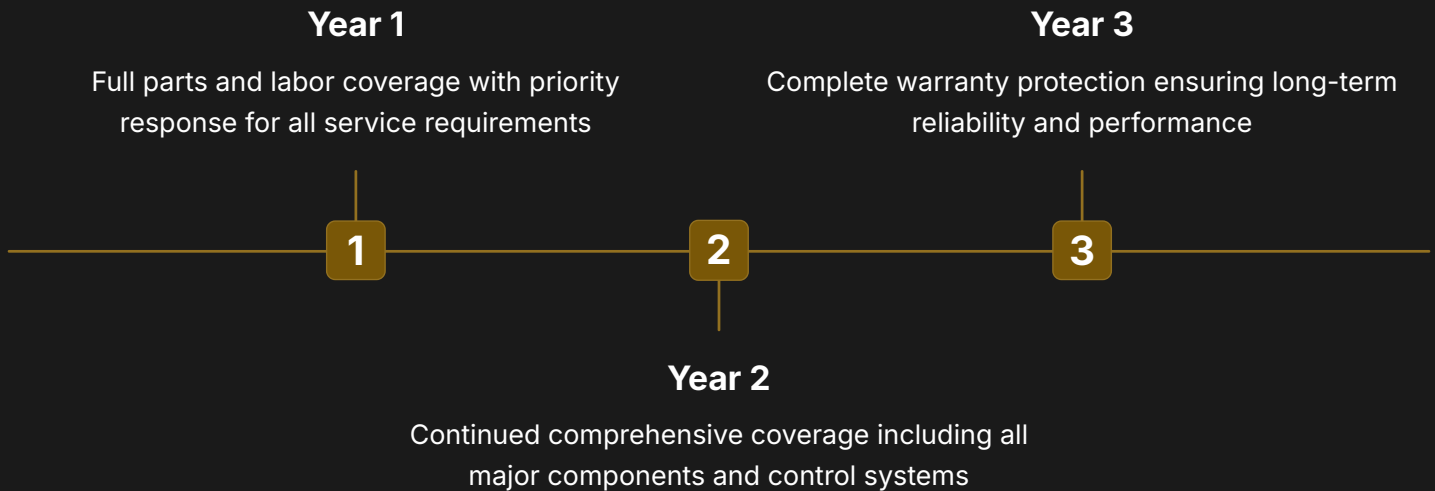
Included Services

- **Professional delivery** – FOB Destination with inside placement
- **Complete installation** – electrical, compressed air, exhaust system connections
- **System commissioning** – full operational testing and calibration
- **Performance verification** – documented testing of all cutting specifications
- **On-site instructor training** – hands-on instruction for teaching staff
- **Staff training** – operational overview for technical support personnel
- **Six-month consumables supply** – initial stock of all required consumable items
- **Complete documentation** – operation manuals, safety guides, maintenance schedules
- **Software licenses** – all required CAD/CAM software fully licensed and installed

Our comprehensive training program ensures that your instructional staff is fully prepared to safely operate the system and effectively integrate it into your curriculum. Training covers all aspects of system operation including safety procedures, material handling, job setup, software operation, routine maintenance, and troubleshooting. We work directly with your instructors to develop teaching strategies that maximize the educational value of the equipment while maintaining rigorous safety standards appropriate for secondary and post-secondary educational environments.

Warranty & Ongoing Support

The QL-EduCut X includes a **minimum three (3) year comprehensive parts and labor warranty** that begins upon successful installation and commissioning of the system. This warranty coverage significantly exceeds typical industry standards and demonstrates our confidence in the quality and reliability of the equipment.



Warranty Coverage Details

- All mechanical components and assemblies
- Electrical systems and control components
- Laser source and optical systems
- CNC controller and software systems
- 4th axis rotary assembly and drive systems
- Automatic height control and focus systems
- Labor for diagnosis, repair, and replacement
- Technical support via phone and remote assistance
- On-site service when remote resolution is not possible

Consumable items such as nozzles, lenses, and assist gas are excluded from warranty coverage, as is standard in the industry.

Ongoing Technical Support:
Throughout the warranty period and beyond, our technical support team remains available to assist with operational questions, troubleshooting, and optimization of cutting parameters for specific applications.

3+

Years Warranty

Comprehensive parts and labor coverage

6

Months Consumables

Initial supply included with system

100%

RFP Compliance

Fully meets all delivery and warranty requirements

The QuakeLogic QL-EduCut X represents a complete solution engineered specifically for educational excellence – delivering industrial capability, uncompromising safety, comprehensive training, and long-term reliability.

Advancing Machining Accuracy and Performance with QuakeLogic Excellence

Empowering educational and technical fabrication environments with precision laser cutting accuracy, classroom-ready safety, and long-term operational reliability, the QuakeLogic QL-EduCut X CNC Fiber Laser Cutting System establishes a new standard for instruction-focused, industrial-grade laser cutting performance.

Connect with QuakeLogic: Your Partner in Precision CNC Engineering

Corporate Headquarters

QUAKELOGIC INC.

4010 Foothills Blvd. Suite 103/194
Roseville, CA 95747

Factory/Warehouse:

2008 Opportunity Dr. Suite 130,
Roseville, CA 95678

Executive Support Line

+1 (916) 899-0391

Direct access for advanced technical consultations and priority instrument support.

Available Monday - Friday, 9 AM - 5 PM
PST

Strategic Inquiries

sales@quakelogic.net

For strategic collaborations, enterprise-level instrumentation solutions, and comprehensive technical inquiries.

Our Unwavering Commitment to Operational Excellence



Certified Quality Assurance

Complying with international standards for product reliability, performance, and safety.



Pioneering Industry Leadership

Delivering advanced spectroscopy and sensing technologies that ensure precision, repeatability, and ease of use.



Dedicated Client Success

Providing responsive technical support, calibration guidance, and complete after-sales assistance for every system delivered.

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Discover how QuakeLogic's advanced machining technologies can transform your training programs, modernize your fabrication workflow, and elevate precision turning performance to new heights.

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