

# CHALLENGER



Ocean Machinery, Inc.  
6720 NW 15th Way  
Fort Lauderdale, FL 33309, USA

Tel 800.286.3624 • 954.956.3131  
Fax 954.956.3199  
www.oceanmachinery.com

Dealer:

[www.oceanmachinery.com](http://www.oceanmachinery.com)



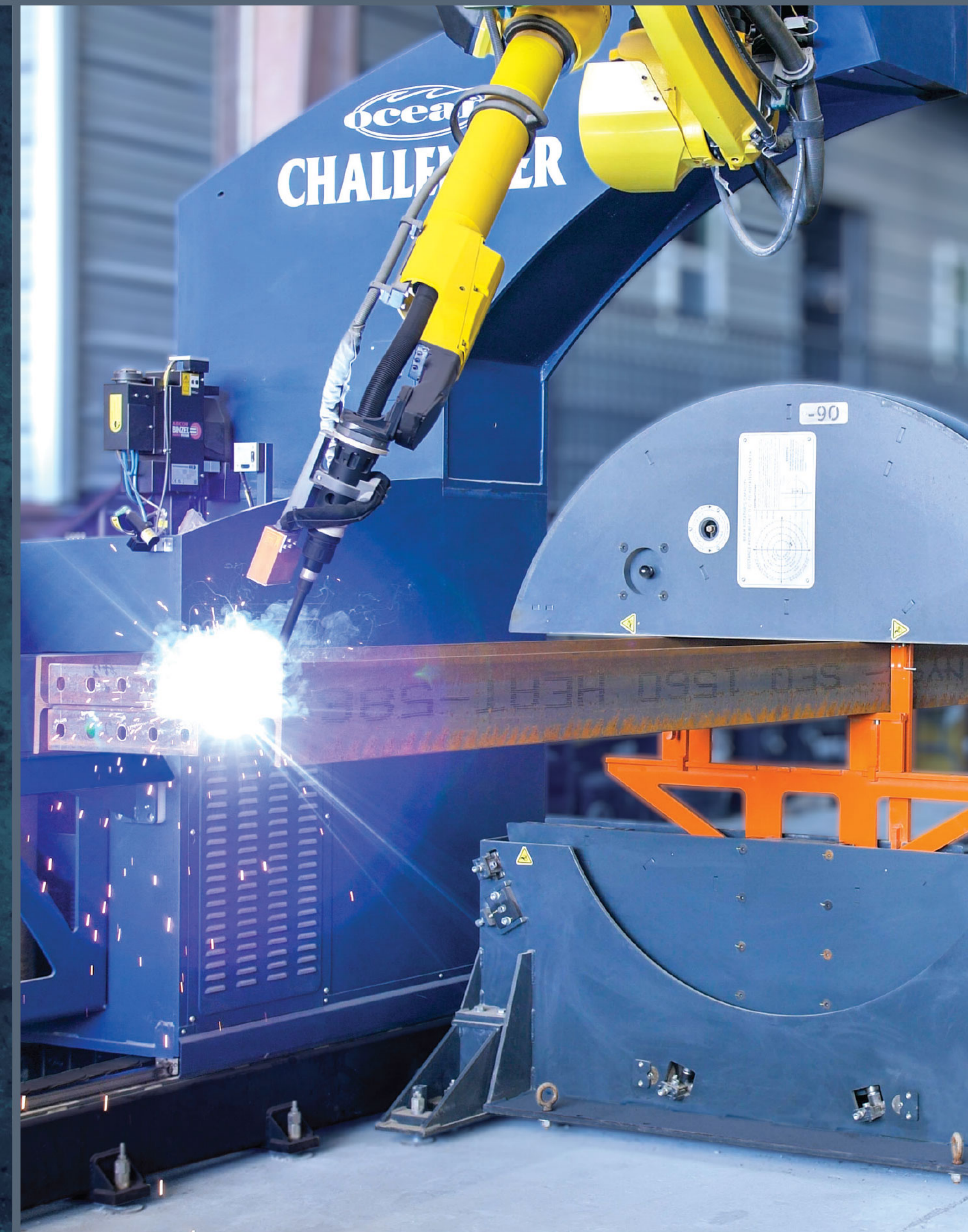
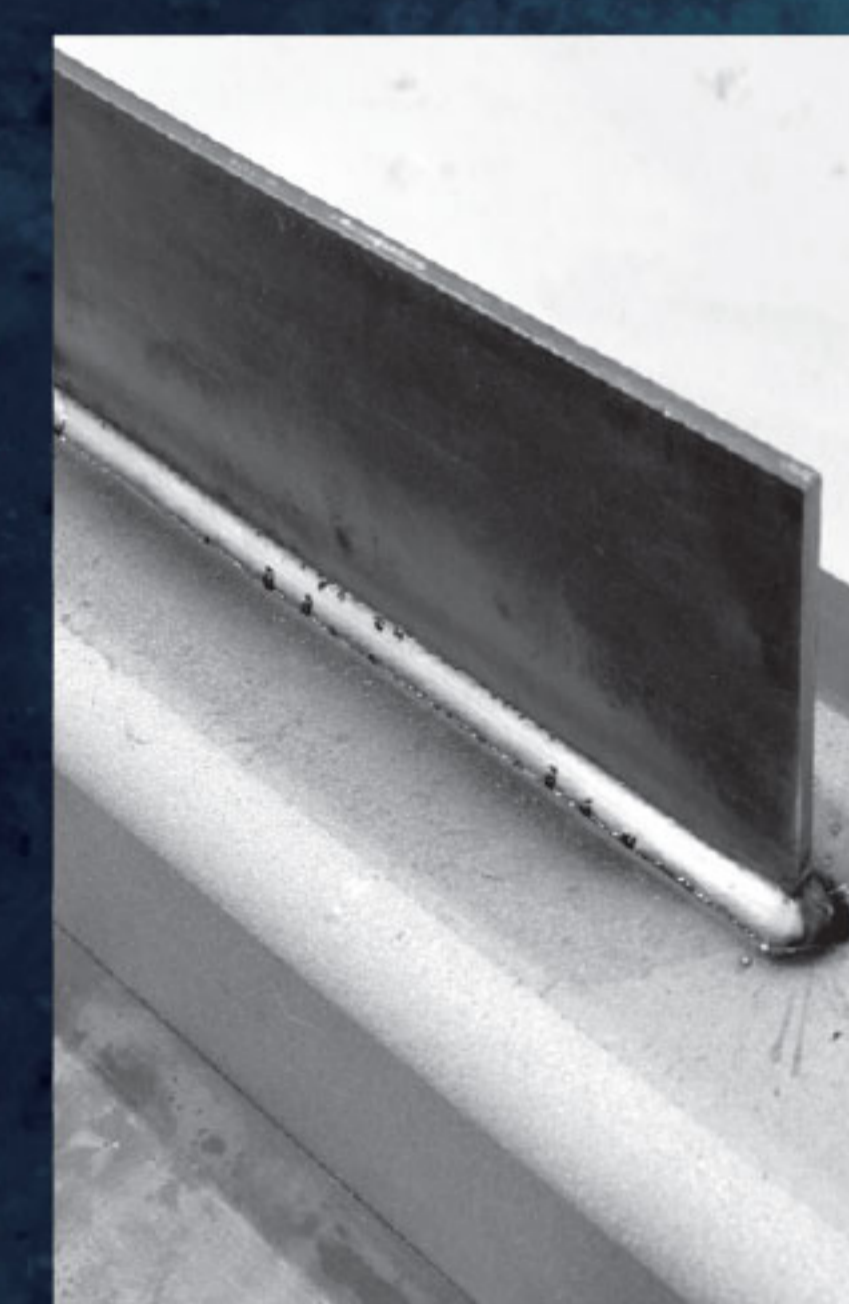
## SPECIFICATIONS



### Challenger Robotic Welder Specs

Robot	Fanuc Arc Mate 120i
Welding Equipment	Lincoln Electric R450 Power Source, Wire Feeder Welding Torch, Collision Detect, Torch Cleaning Station
Typical Welding Speed - Fillet (2F)	17 inches/min for 1/4" weld (7mm/s for 6.4mm) 22 inches/min for 3/16" weld (9mm/s for 4.8mm)
Beam Size	Section Minimum 6" Maximum 40" Length Minimum 4' Maximum 50'
Gap Tolerances	Maximum 1mm - No Gap Detection
Joint Detection	Laser Touch Sensing
Process and Position	MCAW - Spray and Pulse Transfer - Horizontal (2F)
Wire Classification	AWS A5.18, A5.18M: E70C-6M H4 / CSA W48-06: E491C-6MJ-H4
Shielding Gas	85% Argon - 15% CO <sub>2</sub> mix
Surface Finish	All parts and beam must be clean & dry with low scale level
Electrical	480V 3ph, 60Hz, 50 kVA and 120V 1ph, 60Hz, 15A
Pneumatic	100 psi @ 20 CFM Clean Air 0.005MM Dry 99.9%, Unlubricated, 1/2" NPT
Ethernet Speed	Upload/Download speed >10Mbs
Footprint w/Console & Safety Barrier	73' x 16' x 15'H
Weight	20,000 lbs.

*We reserve the right to modify features and specifications at any time.*



# CHALLENGER

## ROBOTIC WELDER

Automatic, consistent welding of attachments

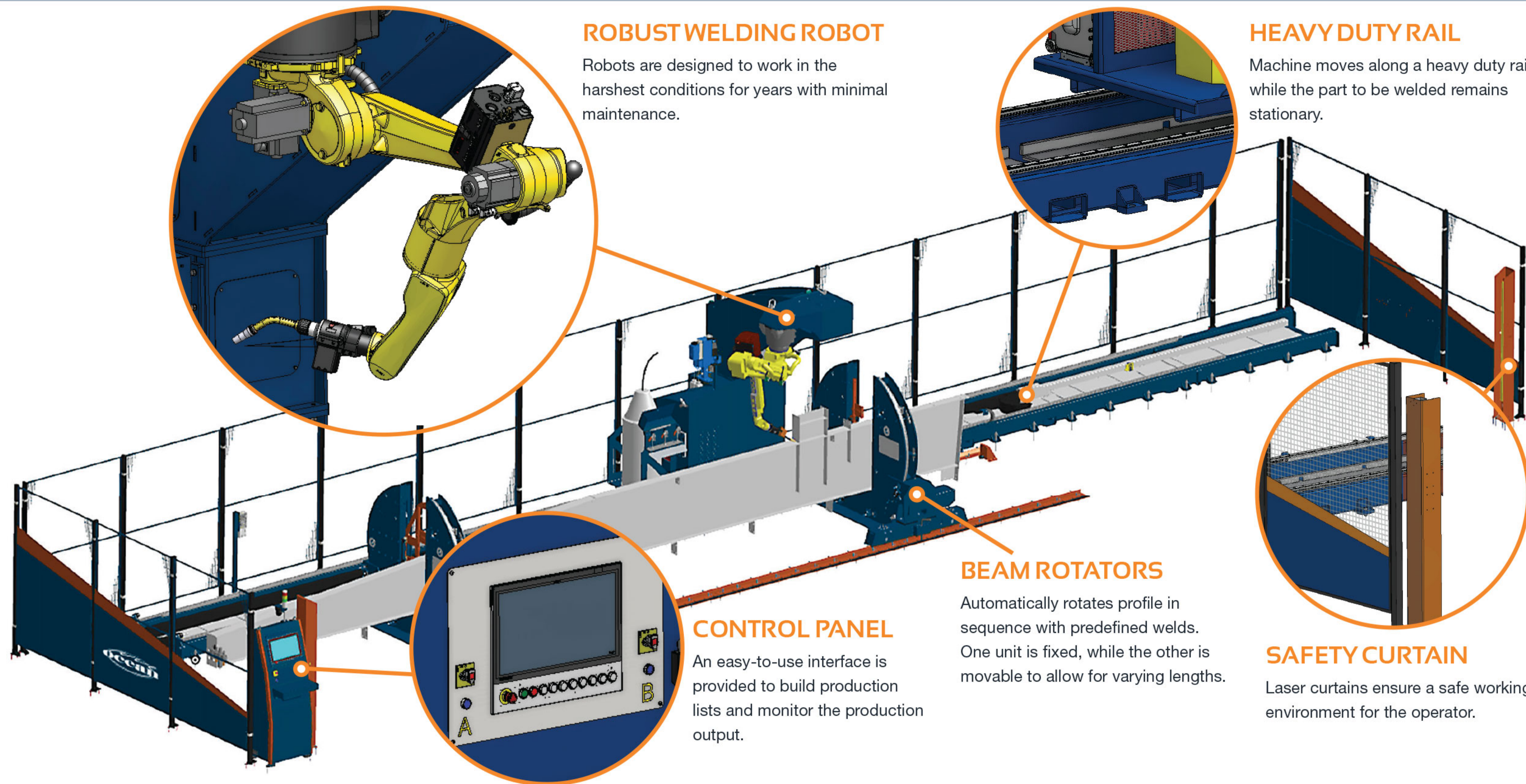
Built exclusively for Ocean Machinery by AGT Robotics

# AUTOMATED WELDING OF ATTACHMENTS

# CHALLENGER

## OCEAN DOES IT AGAIN!

- ✓ Compact
- ✓ Efficient
- ✓ Affordable



### ROBUST WELDING ROBOT

Robots are designed to work in the harshest conditions for years with minimal maintenance.

### HEAVY DUTY RAIL

Machine moves along a heavy duty rail while the part to be welded remains stationary.

### BEAM ROTATORS

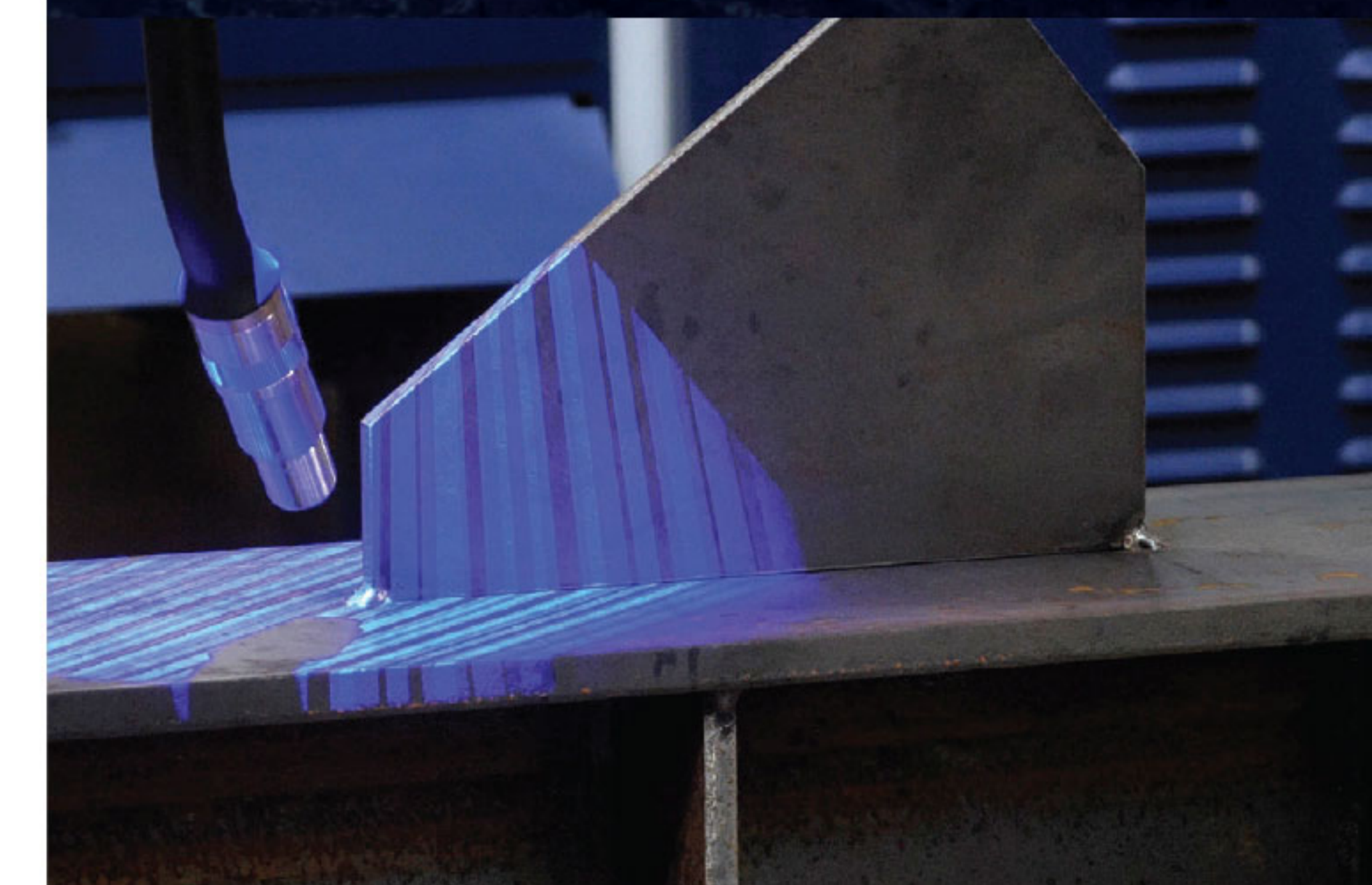
Automatically rotates profile in sequence with predefined welds. One unit is fixed, while the other is movable to allow for varying lengths.

### CONTROL PANEL

An easy-to-use interface is provided to build production lists and monitor the production output.

### SAFETY CURTAIN

Laser curtains ensure a safe working environment for the operator.



■ LASER SENSING OF PART TO BE WELDED



■ TORCH CLEANING STATION



■ EASY-TO-USE GRAPHIC INTERFACE

## UNBEATABLE TECH SUPPORT

■ The Ocean Challenger is supported by AGT's team of dedicated factory trained service technicians, who have the ability to support you with direct troubleshooting over the internet, or via telephone, and when necessary, by servicing the machine onsite.

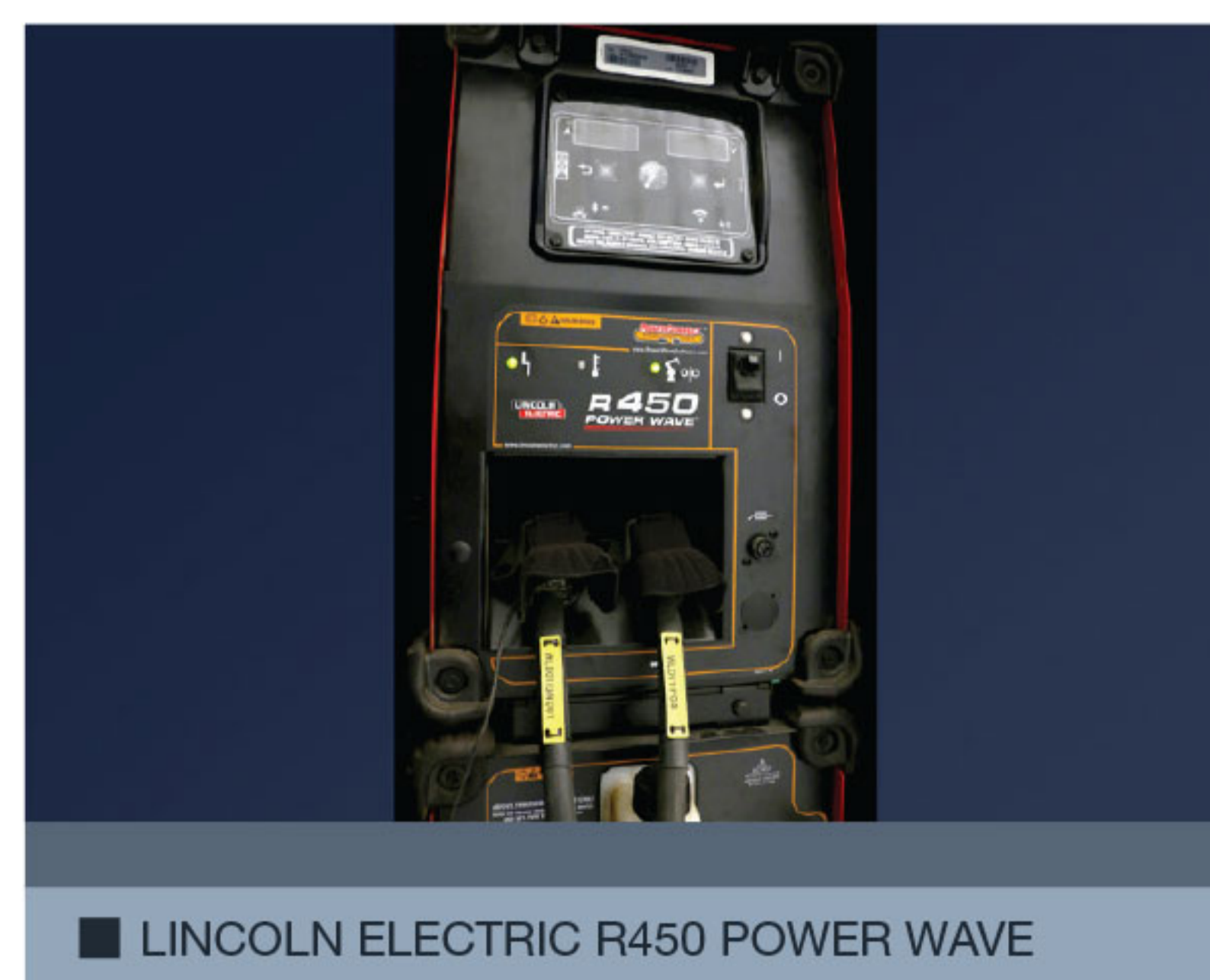
## FULLY AUTOMATED

The Ocean Challenger is a fully automated welding robot that welds attachments to beams and columns that have been tacked in place by the fitter.

- Compact
- Affordable
- Versatile
- Robust
- Accurate
- Repeatable
- Profiles up to 40" high
- Compatible with Tekla & SDS/2
- Less than the cost of 3 welders
- Made in North America



■ ROBUST WELDING ROBOT



■ LINCOLN ELECTRIC R450 POWER WAVE

## THE SOLUTION TO YOUR PROBLEM

With the number of skilled welders available in the workforce dwindling, and the cost of recruiting & retaining them rising, NOW is the time to consider automating the welding process.

Typically, a structural steel fabricator spends a substantial amount of time on labor intensive, repetitive operations such as fitting and welding. Imagine how much simpler things would be if any part of this process could be affordably automated.

## A NEW WAY TO INCREASE PROFITS

The Ocean Challenger welding robot is designed specifically for structural steel fabricators looking to increase production and reduce labor costs. The compact footprint, robotic automation and easy to use software makes the Ocean Challenger the ideal solution for any size shop striving to be more efficient and cost effective.



■ HEAVY-DUTY RAIL



■ BEAM ROTATORS

## OPERATION

The finished Tekla or SDS/2 3-D model is first exported to the Challenger's Cortex™ auto programming software, which then runs a simulation of each part, noting the location of all the welded attachments, and calculates the robotic arm path to detect and verify and then weld the part. The simulation software provides a full report on the time to weld, completion rates and more. Cortex imports weld information from the model, if given, or the software can auto-generate welds according to your pre-determined criteria.

The Challenger operator then loads the part with all the attachments already tacked in place into the rotators, and pushes the cycle-start button. The robot moves along the heavy-duty rail system to the first attachment to be welded and using a laser, scans and verifies that it is in the correct location, and if so, it then proceeds to weld. If the attachment is not tacked in the correct position, the robot prompts the operator to skip to the next weld.

Once the robot has completed the part it returns to the home position, and the rotators automatically turn the beam to the next face to be welded, or the operators removes the completed part and loads the next part to be welded into the rotators.