



# rotoweld 3.0

**Automated**  
welding work cell  
for pipe spool  
prefabrication

**tec**nar

our sensors, your productivity.

# Rotoweld 3.0 brings pipe spool prefabrication into the 21<sup>st</sup> century

The Rotoweld 3.0 is a fully automated work cell developed specifically for industrial pipe prefabrication, small pressure vessel manufacturing or other similar 1G welding.

It integrates machine vision, adaptive control and robotic technology in a dedicated package that produces high-quality, full-penetration 1G girth welds five times faster than manual SMAW.

## Rotoweld 3.0: the vision of the future

The core of the Rotoweld technology is its unique vision-based penetration control system. It enables any operator to perform high-quality girth welds after just a few hours of training.

Like the welder's eyes and hands, the system continuously analyzes the image of the root weld pool picked up by a video camera integrated into the welding arm. Unique algorithms use this information to adjust welding parameters, such as travel speed, wire feed rate, arc voltage or weaving width.

This constantly adapts the process to varying conditions, such as changes in gap, alignment, root face or temperature. The computer's fast reaction time means the machine can work at high deposition rates and travel speeds at which weld pool conditions are too critical to be sustained by hand.



# Technical specifications

## Average welding time

One dia-inch per minute

Example: 8 min for an 8 in. standard wall pipe

## Materials

Carbon steel (including low-temp applications)

Cr-mo steel alloys (may not require preheat)

Duplex stainless steel

## Welding processes

Root pass

GMAW (short circuit)

Fill pass

GMAW (spray transfer)  
FCAW (flux core)  
SAW (submerged arc)

## Rotator

Diameter capacity

75 mm to 1 065 mm/3 in. to 42 in.

Center line clearance to ground

1 605 mm/65 in.

Operation speed range

0.2 to 2 rpm

Load capacity

1 360 kg/3 000 lb.

Maximum torque

3 955 n-m/35 000 lb.-in.

## Rails

Shortest configuration length

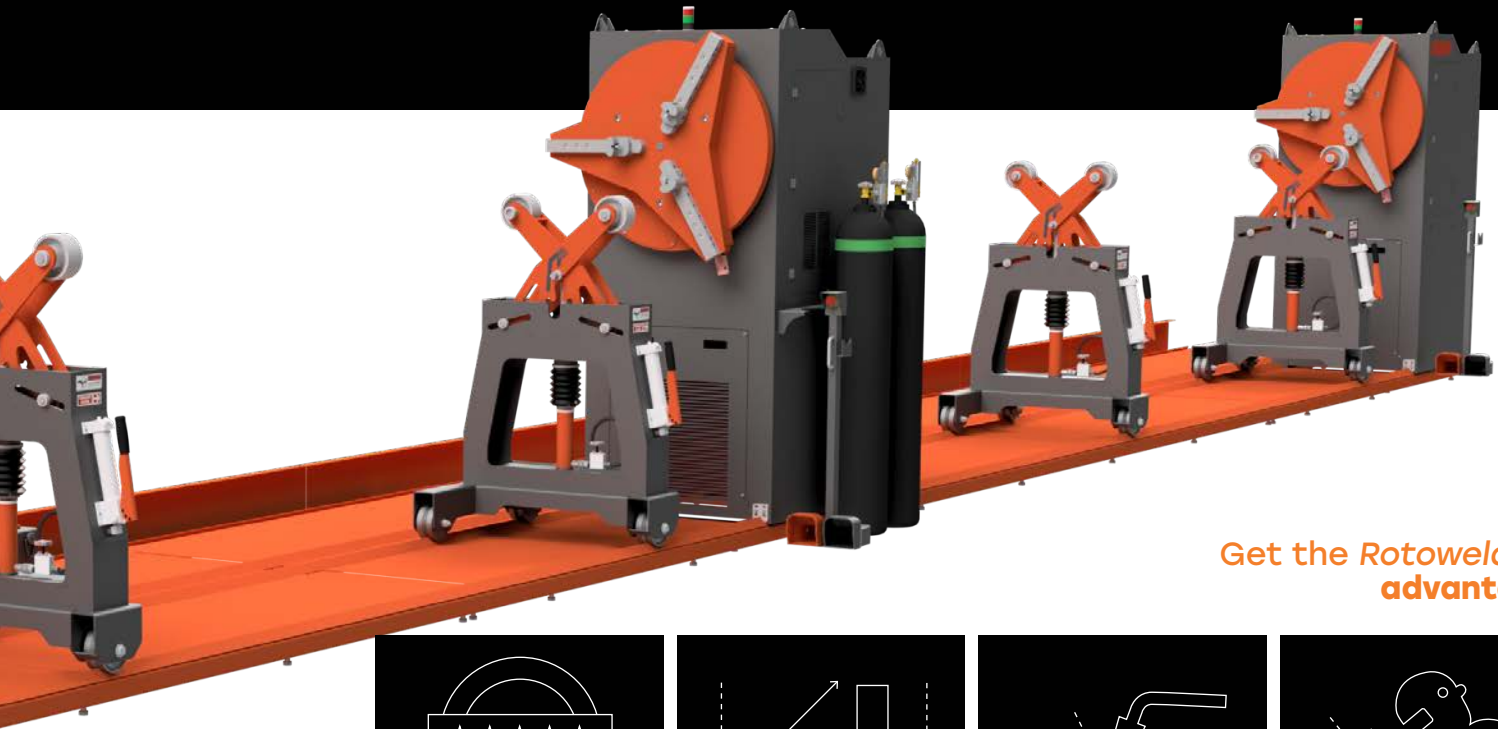
9.2 m/ 30ft.

Longest configuration length

23.8m/ 77 ft.

## Idler roll load capacity

4 535 kg/10 000 lb.



Get the Rotoweld 3.0 advantage:

High quality weld—  
every single time

400% productivity  
increase

90% Arc-On-Time

Minimal welding  
experience necessary

Unique patented  
technology

Easy set-up and  
operation

5x faster than manual  
SMAW or GTAW

Operator-friendly  
interface

# earlier insight changes everything

**tecnar**

1321 Hocquart  
Saint-Bruno-de-Montarville Qc  
Canada J3V 6B5  
T +1 450 461 1221  
F +1 450 461 0808  
sales@tecnar.com  
tecnar.com

## References

Atlantic Construction  
Brent Gedak Welding  
Calefaccion Y  
Ventilation S.A. De C.V.  
Dearing Compressor  
& Pump  
Epsilon Industries  
Glenfield Engineering  
Perma-Pipe  
Preferred Energy  
PWC Industries  
US Engineering  
Company



"We've had Rotowelds in our Lebanon plant for over 15 years... These machines quickly became a vital part of our production operations...Through the years, the Tecnar team delivered excellent response, service and parts delivery and replacement...We purchased Tecnar's latest Rotoweld model, the 3.0. It is a giant leap forward for technical advancement, functionality, performance and up-time. It's been running for over a year now—absolutely trouble-free. Everything was re-engineered, streamlined and, unlike some of the newer technologies, technically intuitive...The new robot manipulator, standard Siemens controls and "off-the-shelf" hardware place the Tecnar Rotoweld exponentially ahead of all their competitors. Tecnar is more than a quality vendor and supplier—they are a direct part of our Perma-Pipe team!"

**Gary Renfro**  
Facilities Director and Chief Engineer  
Perma-Pipe Inc.

