

COBOT WELDING



Struggling to Find Skilled Welders?

The shortage of experienced welders is a challenge across the industry, slowing production and increasing costs. If you're feeling the impact, you're not alone.

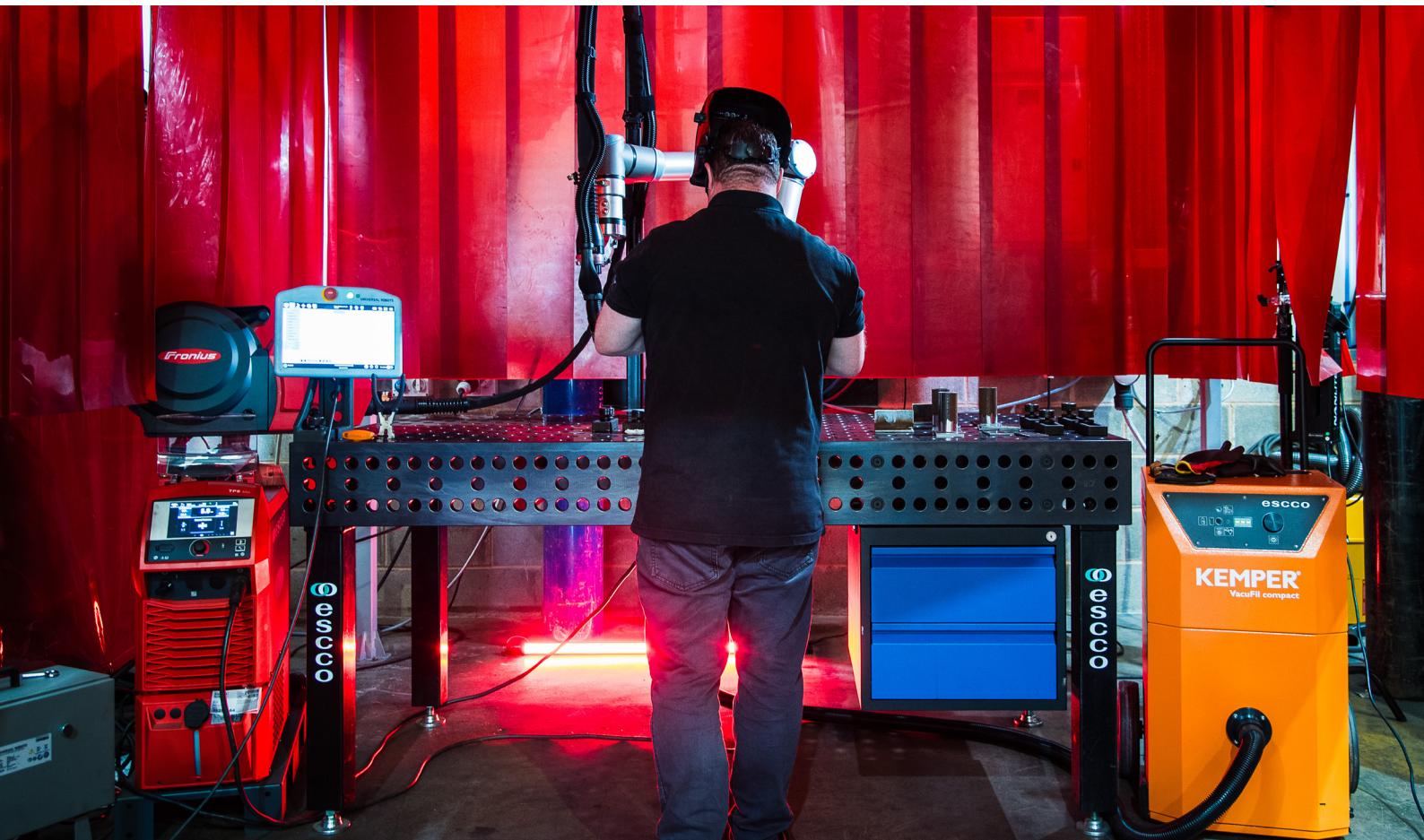
That's where collaborative welding robots (cobots) come in. With easy setup, consistent weld quality, and the flexibility to handle a wide range of jobs, cobot welding solutions help bridge the skills gap, allowing your team to boost productivity without needing additional highly skilled welders.

Are you ready to see how cobot welding can support your workforce and keep your projects moving forward?

Industry Leading Brands



In partnership with industry-leading brands, our Cobot Welding System includes a Universal Robots cobot arm, Smooth Robotics welding software, Fronius or Miller automated MiG welder, & a Siegmund Welding table to bring it all together.



Weld Job Calculation

Boost Production. Cut Costs. Improve Quality.

Estimate based on real examples of ROI with a COBOT.

Estimation Data	
Manual Welder Salary: £17 p/hr	Target Margin on Job: 25%
Time Spent Manually Welding: 8 hrs	Arc Time (Manual): 9 min/h
Cost of Material: £800.00	Arc Time (COBOT): 40 min/h

Key Indicators	Total Time	Total Cost	Sales Price (25% Margin) Based On Manual Welding	£ Profit	£ Profit /h
Job with Manual Welding	8 Hours	£936.00	£1248.00	£312.00	£39.00
Job with COBOT Welding	2 Hours	£834.00	£1248.00	£414.00	£139.00
% Change	-75%	-11%	0%	33%	256%

In this example, a COBOT increased job profit by **33%**, and **256% per hour**.



Cobot Arms

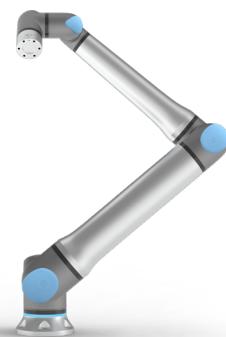


ESCCO partners with Universal Robots for all of our cobots. The cobots we provide have a working range of $\pm 360^\circ$ across all 6 axes and are accurate to at least ± 0.1 mm (per ISO 9283).

All UR cobots come with a minimum of 17 built-in safety features, including force-sensing and collision detection. These features allow people and cobots to work together without the need for additional safety barriers. Increasing productivity and providing a safe working environment. Typically, our cobot welding packages feature at least one of the following arms:

UR20

The fastest, heavy payload cobot. With a reach of 1,750 mm and a base payload of 20 kg. UR20 bridges the gap between traditional industrial robotics and collaborative automation. UR20 delivers up to 30% more speed and torque compared to earlier UR models.



UR12e

Medium-sized and versatile. The UR12e is a medium-duty collaborative robot that combines a 1300 mm reach and 12.5 kg payload. The UR12e is an upgrade to the most popular cobot model ever, the UR10e.

UR8 Long

Long reach. Lean footprint. No compromise. The UR8 Long offers a 1750 mm reach in a compact, lightweight design. Ideal for welding. Its compact wrist and 8 kg capacity provide the best balance of reach, speed, and accessibility.



Smooth Robotics



SmoothTool is the ultimate welding automation solution. Designed for anyone to use, you no longer need to be a programmer to achieve high-quality welds.

Developed exclusively for Universal Robots, it simplifies complex welding processes, allowing you to focus on what matters. Finished parts. SmoothTool is plug-and-play for a variety of power sources, including our preferred partners, Fronius & Miller. Whilst we recommend these two manufacturers, any power source can be used with SmoothTool via the RetroFit Kit.

The benefit of using pre-integrated options is that they provide a higher level of input and output options. For example, changing the power source parameters at any point in the program.

Key Features



3D Visualisation

Visualize and touch up your program in 3D



Weaving

Add weaving patterns to linear and circular paths



Multipass

Easily create a weld with multiple passes



Angle System

Insert the desired work and travel angles



Stitching

Control stitching with custom parameters



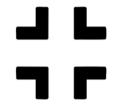
Touch Sense

Locate your piece and adjust the path



Offset

Copy and offset in all directions and rotation



Tacking

Make precise consistent tacks for superior quality



Seam Tracking

Auto-adjust the path with through the arc seam tracking



External Axis

Add linear or rotary axis with external axis support



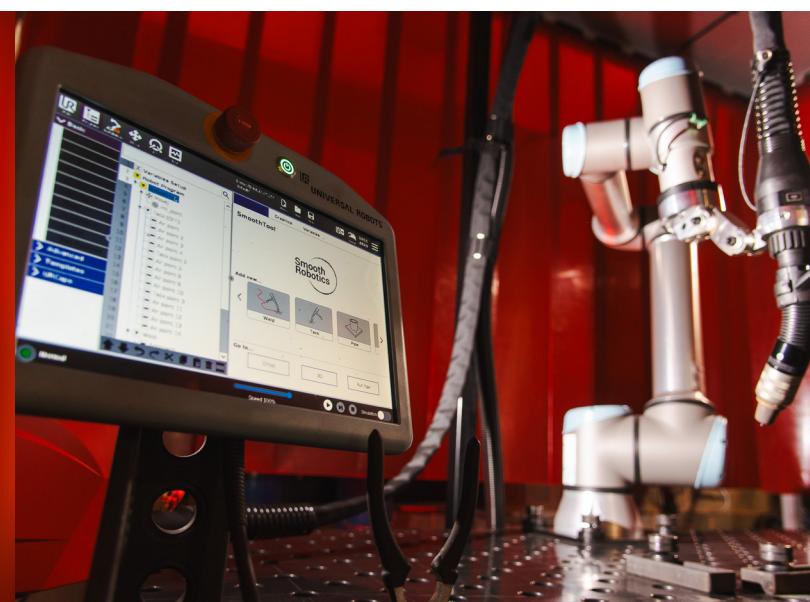
Profile System

Create, save and reuse welding parameters



Surfacing

Apply hardfacing and cladding for durability



Siegmund Welding Tables

siegmund

The World's Strongest Welding Tables.

Siegmund manufactures the toughest, most versatile, and precise welding tables on the market. Their high accuracy and tight tolerances are perfect for automation. The cobot can only be as accurate as the welding table and jig it's using.

Siegmund Welding Tables come in three distinct variations, which are determined by the size of the system boreholes (16, 22 & 28mm).

The most popular tables are either the System 16, which are used for more intricate light-duty fabrication & the System 28, the strongest table with the tightest tolerances for heavy-duty welding.

System 16

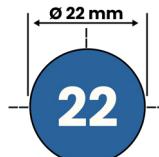
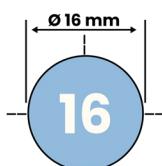
- 16 mm Borehole
- 12 mm Thick
- Plasma-Nitrided Steel
- For lighter-duty fabrication

System 22

- 22 mm Borehole
- 18 mm Thick
- Plasma-Nitrided Steel
- For medium-duty fabrication

System 28

- 28 mm Borehole
- 25 mm Thick
- Plasma-Nitrided Steel
- For heavy-duty fabrication



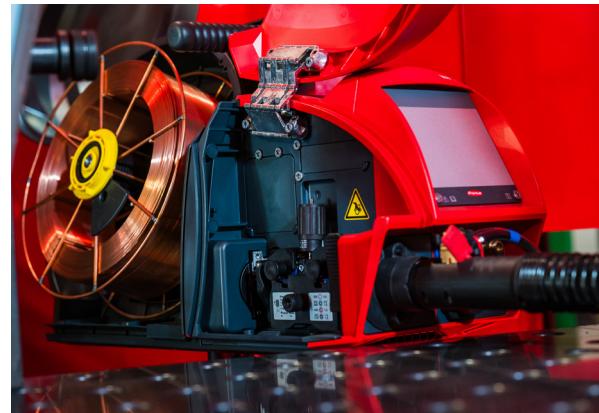
Siegmund Welding Cell

Welding Power Sources



Fronius integrates seamlessly with the Smooth Robotics Welding Software. Their "Welding Packages" allow for maximum flexibility and the ability to upgrade and adapt as your requirements change.

The standard or pulse processes are available as basic packages. The advanced Welding Packages: LSC (Low Spatter Control), PMC (Pulse Multi Control), or CMT (Cold Metal Transfer) are available for particularly demanding welding tasks.



Fronius TPS400i

Miller are one of the world's largest manufacturers of welding and cutting equipment.

Serving world-class welding equipment & consumables to those in fabrication, construction, aviation, motorsports, education, agriculture, marine & more.



Miller MigMatic / Miller Auto-Continuum

Fume Extraction

KEMPER®

Extraction of welding fumes is different for every application. Our longstanding relationship with KEMPER means we are best placed to offer an ideal solution. From mobile LEV to on-torch extraction or even dedicated welding cells.



KEMPER VarioHood



On-torch Extraction



KEMPER SmartFil



Installation, Commissioning & Training

ESCCO offers our automated Cobot Welding Package as a complete turnkey solution.

This includes onsite installation, commissioning, and training operators on how to get the most out of their Cobot.

All Cobot Welding Packages are highly configurable and can incorporate a range of welders, fixture tables, and extraction options.

Call us today for pricing information.

01432 346190
www.escco.co.uk