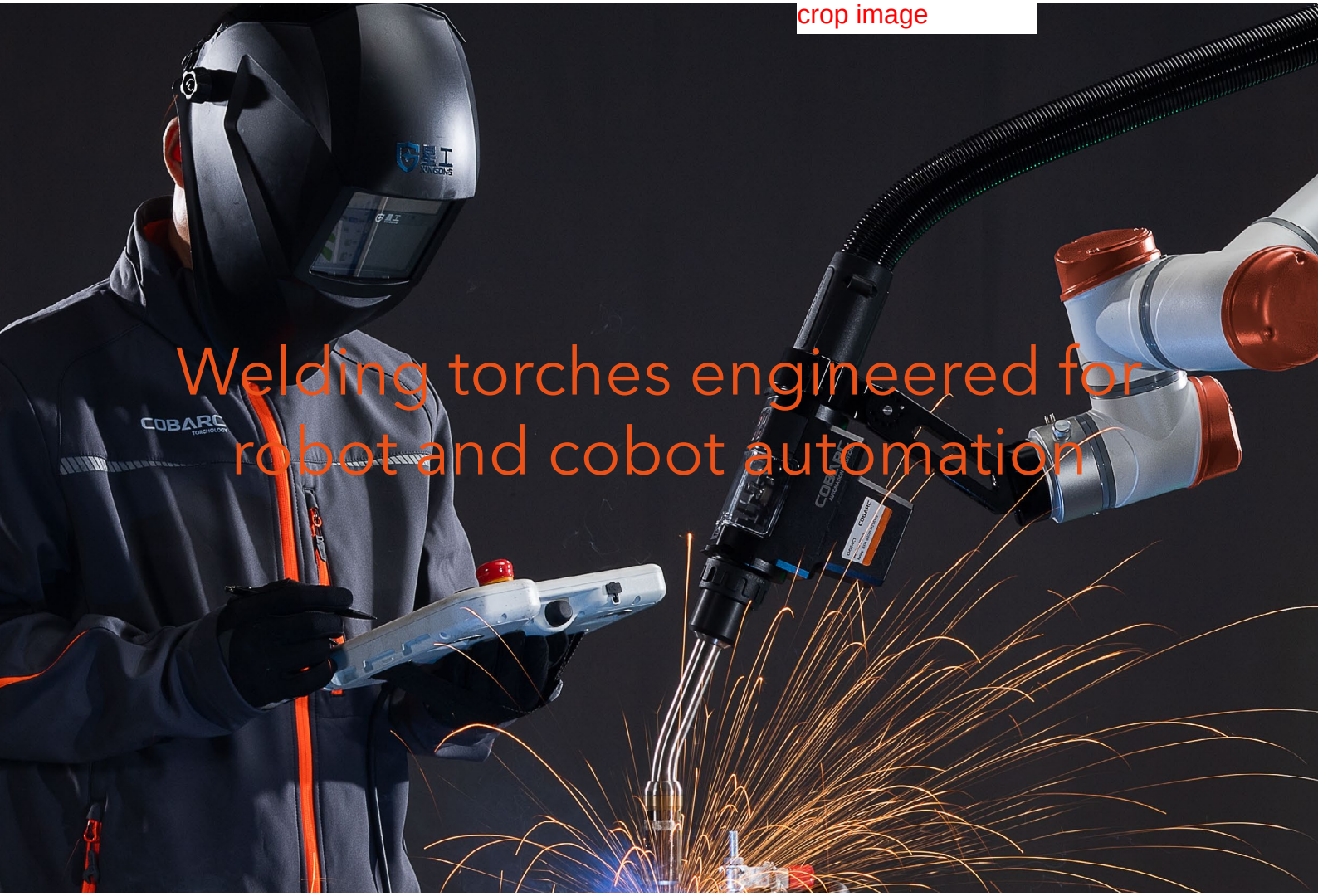
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crop image



Welding torches engineered for robot and cobot automation

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Cobarc was founded with a single purpose – to develop welding torches manufactured specifically for robotic and collaborative welding.

With over 46

With 46 years in the industry, we know welding.

The Uniarc Group has spent decades at the forefront of the welding industry with advanced, innovative welding technology. We've never been about just keeping pace, we lead the way.

Our focus is the torch – its performance, durability and how it integrates into the wider welding process, keeping downtime to a minimum.

Every stage of development, from design and prototyping to production and testing, takes place in Uniarc's fully integrated facility in Jinan, China, ensuring precision, consistency, and lasting quality.

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Contents

To improve when
torch pages added

Key Features

Cobot MIG welding torches
Robot MIG welding torches

Range Overview

Torches

C5WC
C5WCT
C5WRT
C5WRD

Consumables

Nozzle
Contact Tips
Diffuser
Tip Adaptors
Tip Adaptor Insulators
Liners

How to Order

COBOT



Cobot Solutions

Designed for collaborative welding applications, lightweight torches are available in multiple setups to fit different production requirements.

ROBOT



Robot Solutions

Designed for robotic welding applications, modular torch configurations support high-cycle, repetitive production, delivering precise, repeatable welds.

COBOT

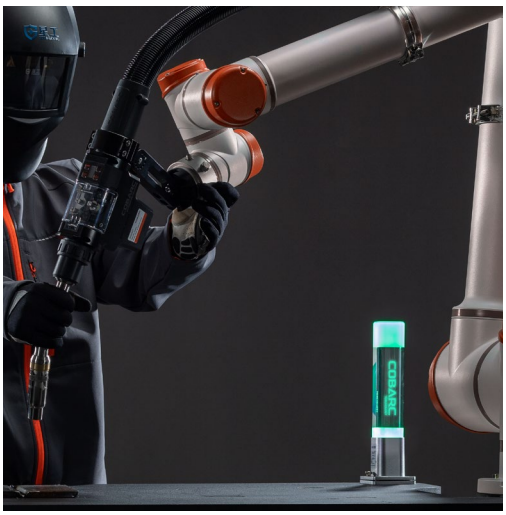
Cobots and industrial robots do not operate in the same way

Combining lightweight construction, durable cable systems and reliable welding performance, Cobarc torches are designed around the way cobots operate.

Desianed for flexibilitv

Frequent repositioning, tighter spaces and lighter payloads mean that welding with a cobot places different demands on the torch.

We develop MIG welding torches specifically for collaborative robotic automation.



Single-Piece Torch



Features a fixed neck design and a lightweight cable assembly. This set-up minimises weight on the cobot arm, allowing for faster acceleration, smoother repositioning and stable cobot motion in tight spaces.

2-Piece Torch

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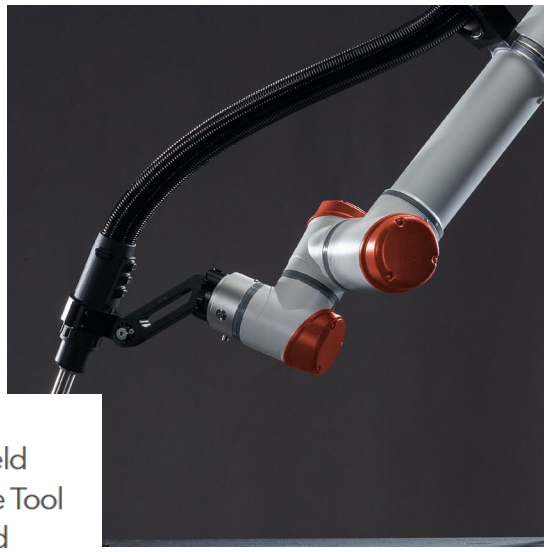


Features a detached torch neck and a separate cable hose package. Easily replace a worn front-end or swap neck angle without removing the whole torch system from the cobot, reducing downtime.

COBOT

High-endurance cable

Built for varied cobot movement, our premium cables offer rigidity and heavy-duty wear resistance.



Secure positioning

The torch is held firm
with an adjustable m
maintaining the TCP
ensuring strict path r

Paired with a stable, adjustable mounting bracket, the torch is held firmly in position, maintaining the Tool Centre Point (TCP) accurately and ensuring strict path repeatability.

High-performance consumables

Heavy-duty CuCrZr contact tips and high-conductivity tip adaptors optimise current transfer. The setup features a single-piece nozzle with an integrated sensor for path alignment, an optional diffuser for soft or aluminium wires, and a secure, snap-fit insulator.

Leak free

An integrated liquid-stop mechanism completely seals when the torch neck is uncoupled. This allows for clean, leak-free neck changes without losing coolant.



Integrated controls

The 3-button handle control allows for direct wire inching and gas testing directly at the torch.

ROBOT

Robotic welding operates on a completely different scale

Combining robust construction and consistent welding performance, Cobarc torches are designed around the way industrial robots operate.

Built for robotic welding cells

Robotic welding applications demand higher duty c ned
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Coba cured
to op g
high-

Constant high-speed motion and intense thermal loads put high demands on the welding torch.

Which is why we develop welding torches specifically for robotic automation.



2-Piece Torch



Features a detachable torch neck. Quickly replace a worn front-end or swap to a different neck angle without removing the whole torch system from the robot.

3-Piece Torch



Features a detachable neck and a separate cable hose package. This allows easy service or replacement of the neck and cable independently.

ROBOT

Crash protection

Engineered with a crash-sensor to protect the robot and torch in the event of an impact. The setup allows for rapid resetting while ensuring the torch safely returns to its precise welding alignment.



Optional air blast and wire brake

High-pressure air clears spatter from the nozzle during an automated cleaning cycle, while the pneumatic wire brake locks the wire in position for trimming and accurate touch-sensing.

Secure positioning

The torch is held firmly in position with an adjustable mounting bracket, maintaining the TCP accurately and ensuring strict path repeatability.

High-performance consumables

Heavy-duty CuCrZr contact tips and high-conductivity tip adaptors optimise current transfer. The setup features a single-piece nozzle with an integrated sensor for path alignment, an optional diffuser for soft or aluminium wires, and a secure, snap-fit insulator.

Leak free

An integrated liquid-stop mechanism completely seals when the torch neck is uncoupled. This allows for clean, leak-free neck changes without losing coolant.



High-endurance cable

Built for sustained, high-amperage robotic cycles, our premium cables offer the necessary rigidity for high torsion resistance.

CMS

Cold Metal Transfer System

Controlled metal transfer for low heat cobot and robotic welding.

Precise control

The Cobarc Cold Metal Transfer System (CMS) provides greater control over heat and metal transfer.

During the process, wire is rapidly mechanically retracted to detach metal droplets into the weld pool. By using physical wire movement rather than high electrical current to detach the droplet, CMS significantly reduces heat input into the workpiece.



How does the CMS work?

Standard MIG welding uses high electrical current to detach the molten wire into the weld pool. The Cobarc CMS uses controlled mechanical wire movement instead.

When the wire makes contact with the weld pool, the current is reduced and the wire rapidly retracts, detaching the droplet. The wire then feeds forward to restart the cycle, repeating this process up to 60 times per second.

CMS



Benefits

Minimal h

Minimal heat input

Reducing the electrical current during metal transfer lowers overall heat input into the base material. This helps minimise burn through, warping and thermal distortion when welding thin sheet metal and heat sensitive alloys.

Less spatter

Metal droplets detach at a low current, which produces significantly less spatter. This reduces post weld clean up and helps minimise spatter build up inside the torch nozzle.

Reduced rework

Cleaner and more consistent welds reduce finishing and rework requirements, helping improve cycle times.

- Ultra-Thin sheet metal > 0.3mm
- Thin to mild thickness (3~5mm)
- Dissimilar metal joining
- Galvanised and coated steels
- Complex components
- Spatter sensitive parts
- Repair and cladding
- 3D printing / additive manufacturing



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