

# Goodbye to shortage of skilled workers

iBOTone® – the most intuitive and smartest welding cobot of its time



# Ideal for the start into automation – teaching as fast and easy as never before!

## Automated welding made easy

Guaranteed quality and production increases have never been so easy: with the iBOTone®, every manufacturing company gets a welding cobot that is unsurpassed in terms of operation and user-friendliness. Practically anyone can weld with it.

Smart, fast, powerful – this is the best way to sum up the advantages of the iBOTone®. With its self-explanatory, intuitive operation, its incomparable repeat accuracy of  $\pm 0.02$  mm in every application as well as its extremely high flexibility, the iBOTone® will soon be indispensable in every welding production. Every welding specialist who has got to know the iBOTone® would like to have it as a "colleague".

## Optimal solution for small series

From now on, thanks to the simple operation, not only large but also small series or individual parts can be produced in an automated process, depending on the welding task. This is where the iBOTone® shows its full capabilities and quickly becomes a valuable "tool" that relieves the welders of physically stressful and monotonous work. They, in turn, can then concentrate on other welding tasks that require their expertise. The simple programme structure reduces the programming effort to a minimum so that the iBOTone® earns money while welding.



## What makes the iBOTone® special:

### ■ Easy teaching

Easy teach handle enables you to move the robot smoothly and teach a program after pre-setting without using the teach pendant.

### ■ Easy to use for anyone

Everybody can weld after a couple of minutes training.

### ■ High stability and flexibility

Its excellent repeatability and path accuracy enable consistently perfect weld quality.

### ■ Use in harsh industrial environment

High-quality die-cast aluminum components and corresponding seals (protection class IP66) enable long-lasting industrial use in extremely harsh environments.

### ■ Recorded path

Moving through different geometries without colliding has never been so easy. Use the recorded path to move the robot from weld to weld and it is exactly copying your motion.

### ■ CE-certified compact cell ABICELL "all inclusive"

ABICELL is a plug & play solution, that comes with fully equipped welding products and carries a CE certification.

### ■ All-inclusive carefree package from ABICOR BINZEL

From the installation of the system to process optimisation and follow-up questions or challenges: the ABICOR BINZEL service takes care of installation, instruction and process optimisation for you – individually adapted to your processes.

# User-friendly to the core

## First class additional equipment

For top welding results with the iBOTone®, we have, of course, also the suitable additional equipment:

### Robot welding torches

- 1 ABIROB® W 500
- 2 ABIROB® A 500
- 3 xFUME® ROBO OA
- 4 xFUME® ABIROB® AF500



### Robot cable assembly with wire feeding and gas purging

Avoid unnecessary ways walking to the power source and back. The special feature of the iBOTone®: "wire feeding", "wire retraction" and "gas purging" at the cable assembly.

### Easy teach handle

The easiest way of moving your robot, creating points or editing programs. The intuitive design guides you to work with it. The buttons are named with their functions. If you work under difficult conditions, the integrated light makes the environment brighter.



### Technology and knowledge always up to date ... through remotely performed updates

- Future feature upgrades and add-ons for the iBOTone® can be installed remote.

### Smart software

#### ■ Self-explanatory wizards guide through setup and programming

Weld the first component in just a few minutes. No robot knowledge necessary.

#### ■ Innovative and intuitive to use

Teaching waypoints is super quick and easy. Using recorded path is even faster and great to move around objects. For weaving function simply enter amplitude and frequency.

#### ■ Perfectly aligned soft- and hardware

Using the easy teach handle in unique industrial design allows to operate the software without using the teach pendant during program creation – so fast, it works for smallest batches.



Easy teach handle for simple manual positioning of the torch and storing of points during teaching



### Power sources

With the new iROB® power source series from ABICOR BINZEL, you can ensure that welding operations run smoothly for each of your applications and that the quality of your products and productivity remain at the top level. Benefit from outstanding process reliability for the full power range up to 500 amps. Simply weld more economically. Gas cooled as well as liquid cooled.



### Going from manual to automated welding has never been that easy

- Don't waste time for long sophisticated training
- After only a short introduction everybody can program parts and strike the arc
- Unbeatable easy operation, teaching parts in minutes so batch size doesn't matter
- All operators can continuously produce great, high quality welds

### iBOTone® – High-end technology in precision

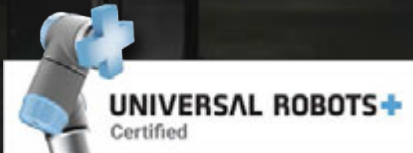


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# Get started with ROBOTICS!

**ROBiPAK – the right  
equipment for cobots.**



# Benefit from the possibilities of the new robot technology!

Start now!



## The advantages at a glance!

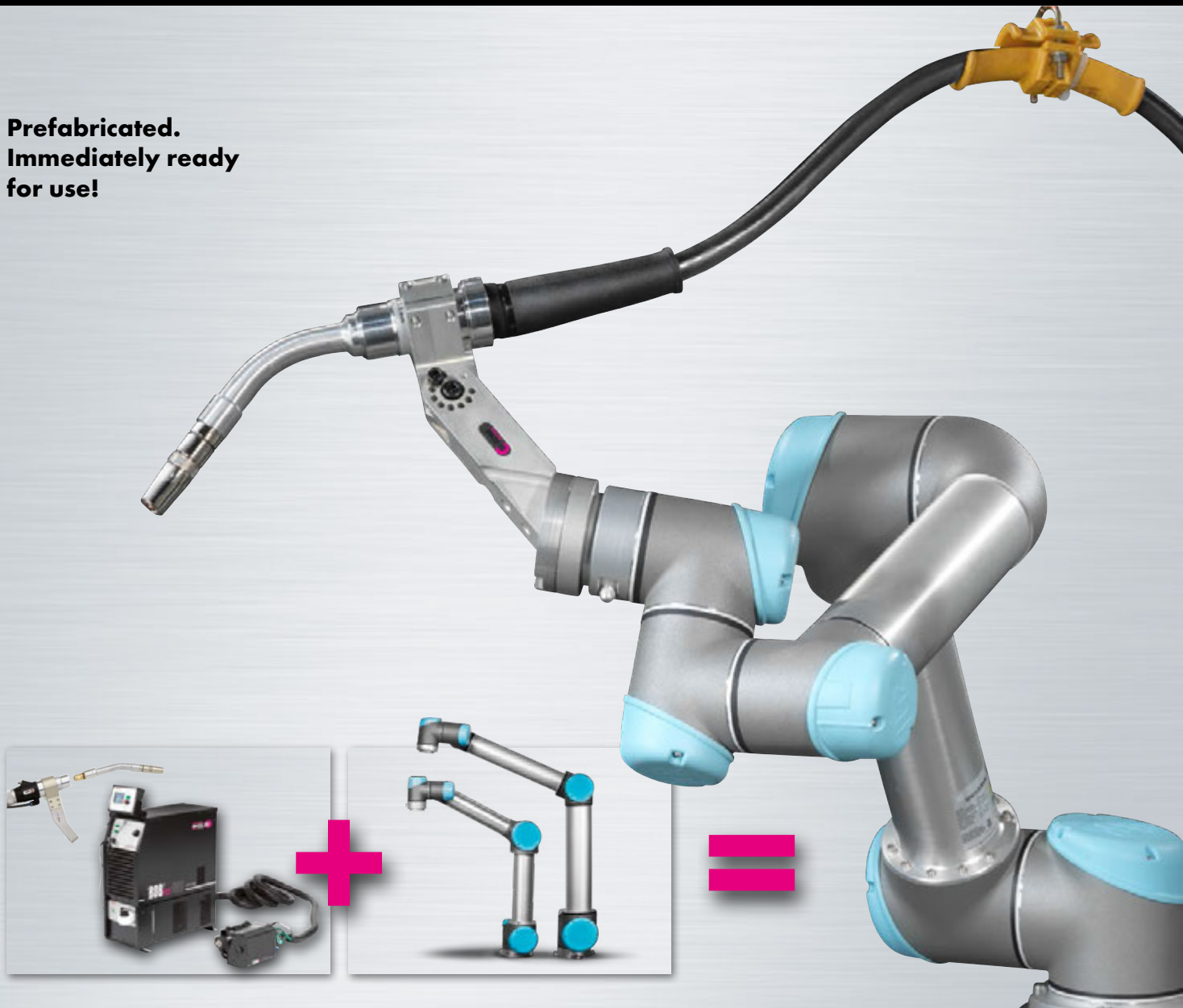


- Relieves you and your welders in production
- Simple programming of various components – no special training required
- Higher efficiency in your production through high productivity and quality
- Welding without physical strain, especially with constantly repeating components
- Collaborating robots (cobots) require less additional safety technology and thus reduce your investment



# ROBiPAK – the system solution for cobots. Fits perfectly!

**Prefabricated.  
Immediately ready  
for use!**



## **The perfectly coordinated team!**

The ABICOR BINZEL system solution ROBiPAK for air or liquid cooled welding applications consists of the complete welding equipment including welding torch, torch holder and cable assembly as well as the power source iROB.

- Lower service life costs due to particularly durable components
- Flexible cable assemblies adapted to the movement range of the cobot
- Due to the high TCP stability, you only need to program the cobot once

- Perfect welding seams: the power source iROB also provides pulse and special characteristics curves
- Easy programming: Simply set your welding parameters via the operating panel of the robot

Benefit from the welding know how of the Innovation and Technology Centre (ITC) of ABICOR BINZEL and send in your work piece for test welding.

# Optimally tuned! From the power source to the power nozzle.

Power source iROB Pulse 400



- **Performance strength**
  - iROB Pulse 400 / 400 MV:  
maximum welding current 400 A
- **Easy to use**
  - iROB Control: easy, icon-based control prevents operating errors
- **Liquid or air cooling**
  - Air cooled models are ideally suited for thin plate welding
  - Liquid cooled models are specifically designed for high performance welding with high heat emission
- **Intermediate cable assembly**
  - Safe power transmission through large wire cross section in liquid cooled or air cooled design
- **Integrated quality management**
  - Continuous monitoring of wire feed speed, welding voltage and gas quantity etc.
- **Flexible interface**
  - Three interface applications are available: classic analog digital versions or digital field bus systems (optional)

**Premium quality in complete packages...**

## **"Ready to weld" packages.**

Our "ready to weld" packages provide a perfect basis for an easy development of a robot welding work area and consist of a high-performance power source, a reliable wire feed system and robust welding torches.

## **iROB Power source: The versatile welding unit for robots.**

The strong robot power source iROB is the perfect basis for automated MIG/MAG welding processes. It reliably supplies welding torches with power and ensures the smooth interaction between robot technology, welding torches and peripheral devices. iROB works with the extremely robust pulse technology to guarantee an exceptionally long duty cycle with consistently good welding results.

## **Wire feeder system iROB: reliable wire feeding in continuous operation.**

The wire feed system consists of the powerful wire feed of iROB and a coordinated wire feed hose.

## **Welding torch system ABIROB®: robust and high-performance welding technology.**

MIG/MAG welding torches of the ABIROB® series with an innovative interface design ensure a continuously precise welding process. Its modular design allows a quick exchange of the torch neck and cable assembly components with the same TCP (tool center point) – without additional programming.



### Wire feed iROB feed



### ABIROB® A 360



### ABIROB® W 500



### SPS Siemens S7-1200



#### ■ Consistent wire feed

iROB feed ensures the precise and reliable wire feeding in automated continuous operation by four driven wheels

#### ■ Individual mounting platform

The iROB bracket modules are specially configured for the respective installation situation of the robots

#### ■ Two torch neck variants

- ABIROB® A: with air cooling, power range up to 290 A
- ABIROB® W: with liquid cooling, power range up to 500 A

#### ■ Original wear parts

Each package is equipped with a welding ready set of original ABICOR BINZEL wear parts (wire diameter 1.2 mm)

#### ■ Robust cable assemblies

The durable cable assemblies (air and liquid cooled) have been specially developed for continuous use in automation

#### ■ Secure connection via ProfiNet

The SPS provides the data exchange between robot and power source

#### ■ Ready to weld!

Supplied with power supply, switch and pre-installed software

### URCap for ROBiPAK: Simple and intuitive programming.

The included URCap plug-in extends the programming interface after installation with additional functions, which enables you to easily weld with the UR robot. The easy-to-use commands "Welding start" or "Welding stop" and "Set welding parameters" help you to program quickly. Updates are available free of charge as downloads.



# ROBiPAK air cooled PAK.0023.1



<b>Torch neck and wear parts</b>	Torch neck	ABIROB® A 360, 22°, air cooled	980.1024.1
	Contact tip	CuCrZr M8 / 1.2 mm / 30 mm	140.0445
	Gas nozzle	conical, ND 14 / 0	145.0595
	Contact tip holder	M 8 / M12x1	142.0163.5
<b>Cable assembly and holder</b>	Cable assembly	ABIROB® A ECO for cobots, 3.0 m	890.0468.1
	Holder	RTM-Interlock ABIROB® W	780.0449.1
	Flange	intermediate flange CAT, d = 50.0 mm, ISO 9409-A50 / d = 31.5 / L = 70	780.1613.1
<b>Power source</b>	Power source	iROB Pulse 400	890.0002.1
	Mains plug	32 A / IP 44 - Europe	184.0396.1
	Power supply	iROB KIT Power Supply	890.0005.1
	Interface	iROB RI 3000	890.0104.1
		installation kit RI 3000 - ProfiNet CU	890.0167.1
		interface cable 5.00 m (2 x RJ45)	890.0296.1
	iROB control	operator terminal iROB	890.0009.1
	Holder	holder for iControl	890.0010.1
	Earth cables	95 mm <sup>2</sup> , L = 4.00 m	890.2105.1
	<b>Wire feeder</b>	Set consisting of:	
Coil carrier		coil carrier attachment for iROB	
Wire feed case		iROB feed 22 B EURO-ZA right	
Intermediate cable assembly		iROB A / 1.2 m / 95 mm <sup>2</sup>	
<b>Superior SPS</b>	Wire feeding rollers	V-groove 1.2	890.0238.4
	S7 1200	incl. switch and power supply unit - Plug-and-play	890.0505.1

## Technical data torch necks

### ABIROB® A 360

Cooling method:	air cooled
Rating:	290 A mixed gas M21 according to DIN EN ISO 14175
Duty cycle:	100%
Wire-Ø:	0.8–1.4 mm

### ABIROB® W 500

Cooling method:	liquid cooled
Rating:	500 A mixed gas M21 according to DIN EN ISO 14175
Duty cycle:	100%
Wire-Ø:	0.8–1.6 mm

# ROBiPAK liquid cooled PAK.0024.1



<b>Torch neck and wear parts</b>	Torch neck	ABIROB® W 500, 22°, standard, liquid cooled	782.0076.1
	Contact tip	contact tip CuCrZr M8 / 1.2 mm / 30 mm	140.0445
	Gas nozzle	conical ND 15.5	145.0553.10
	Contact tip holder	M 8 / M10x1	142.0117.10
	Gas distributor	standard	943.0284
<b>Cable assembly and holder</b>	Cable assembly	RSP ABIROB® W5F for cobots, 3.0 m	782.1154.1
	Holder	RTM-Interlock ABIROB® W	780.0449.1
	Flange	intermediate flange CAT, d = 50.0 mm, ISO 9409-A50 / d = 31.5 / L = 70	780.1613.1
<b>Power source</b>	Power source	iROB Pulse 400	890.0002.1
	Cooling unit	iCool	890.0001.1
	Mains plug	32 A / IP 44 - Europe	184.0396.1
	Power supply	iROB KIT Power Supply	890.0005.1
	Interface	iROB RI 3000	890.0104.1
		installation kit RI 3000 - ProfiNet CU	890.0167.1
		interface cable 5.00 m (2 x RJ45)	890.0296.1
	iROB control	operator terminal iROB	890.0009.1
	Holder	holder for iControl	890.0010.1
	Earth cables	95 mm <sup>2</sup> , L = 4.00 m	890.2105.1
<b>Wire feeder</b>	Set consisting of:		890.0489.1
	Coil carrier	coil carrier attachment for iROB	
	Wire feed case	iROB feed 22 B EURO-ZA right	
	Intermediate cable assembly	iROB W / 1.2 m / 95 mm <sup>2</sup>	
<b>Superior SPS</b>	Wire feeding rollers	V-groove 1.2	890.0238.4
	S7 1200	incl. switch and power supply unit - Plug-and-play	890.0505.1

## Technical data power sources

	<b>iROB Pulse 400</b>	<b>iROB Pulse 400 MV</b>
Power supply voltage:	3 x 400 V AC	3 x 400 V AC / 3 x 230 V AC
Main voltage tolerance:	± 15%	± 15%
Main voltage frequency:	50 / 60 Hz	50 / 60 Hz
Main fuse:	25 A (400 V)	25 A (400 V) / 45 A (230 V)
Max. power input (kVA):	16.1 kVA (400 V)	16.1 kVA (400 V) / 16.5 kVA (230 V)
Max. power input (kW):	15.3 kW (400 V)	15.3 kW (400 V) / 15.7 kW (230 V)
Power factor (PF):	0.95	0.95
Efficiency:	88% (400 V)	88% (400 V) / 87% (230 V)
Max. welding current (40°C):	x = 60% 400 A	x = 60% 400 A
	x = 100% 360 A	x = 100% 360 A
Max. welding current (25°C):	x = 60% 400 A	x = 60% 400 A
	x = 100% 400 A	x = 100% 400 A
Welding current range:	3-400 A	3-400 A
Dimensions (LxWxH):	624 x 282 x 474 mm	624 x 282 x 474 mm
Weight:	29.9 kg	31.0 kg

# Easily expanded! Additional options for ROBiPAK.

Perfectly  
coordinated!



**Electronic gas management system**  
Significantly reduced shielding gas consumption, increased weld seam quality



**Wire feeding system MasterLiner**  
Uniform wire feeding even over longer distances



**Torch cleaning station**  
Automatic cleaning for better welding results and increased system availability



**Adjusting device**  
Easy inspection and adjustment of the TCP of the welding torches outside the welding cell



**Kevlar cover**  
For optimum protection of the robot during welding from spatter and sparks – customized, heat-resistant, non-combustible and cut-resistant



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# Weld faster. Weld better.

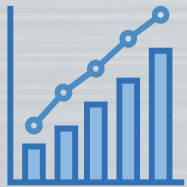
Transform your fab shop with  
the spool welding robot SWR



# SWR Spool Welding Robot

## Win more business in an increasingly competitive market

Leverage SWR to win more projects while lowering your bid rates and costs



### Improve your bottom line:

- Up to **12x** increase in **stainless steel** pipewelding productivity
- **3 – 5x** improvement in **carbon steel** pipe welding productivity
- Typical ROI of **6 – 18** months
- **Maximise arc-on time** with our non-stop root-to-cap process

### Increase shop productivity:



- Get **200 – 350 diameter inches** per shift on carbon steel pipes, and **569 – 998 diameter inches** per shift on stainless steel pipes
- Get **350 – 500 diameter inches** per shift on carbon steel pipes with SWR+HyperFill®
- **Reduce dependency** on scarce, highly-skilled pipe welders
- **Scale up** quickly by easily training junior welders
- Operational in as low as **7** days including a **3-day** installation

### Scalable and repeatable quality welds:

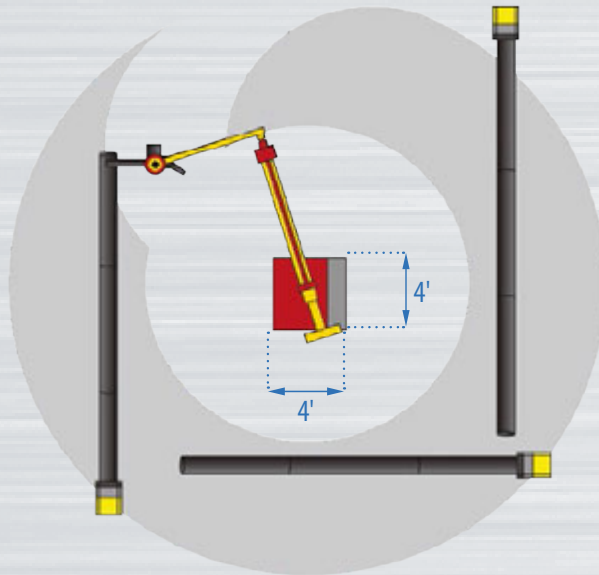


- Achieve **defect rates lower than 1%**, compared to North America's industry average (3 – 5%)
- Meet the requirements of **ASME B31.1** and **B31.3**
- Meet key quality test requirements such as **radiography test, charpy impact test, hardness test, bend test, tensile test**, and more
- Accountability and traceability for QA/ QC team through **NovSync™** and **NovData™**

# SWR Spool Welding Robot

## Get the spool welding robot (SWR) advantage

Sample layouts:

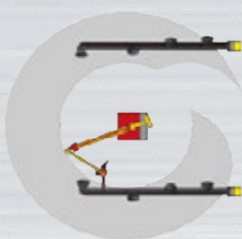


**A patented welding technology that tackles your biggest challenges**

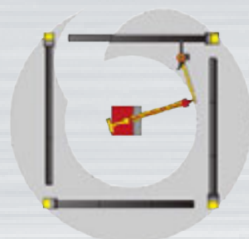
### Flexible platform:

- Integrates with 2 - 5\* positioners for maximum arc-on time
- Flexible layout to accommodate a wide range of spool sizes and configurations
- Position anywhere in your shop (against the wall, in the corner, or in the middle of the shop)
- Machine base and equipment require only a 4' by 4' (1.2 m by 1.2 m) area in the shop

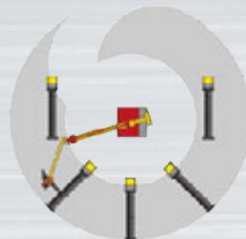
The spool welding robot working with three positioners



The spool welding robot working with **two** positioners



The spool welding robot working with **four** positioners



The spool welding robot working with **five** positioners

### Collaborative welding robot:

- Collaborates with a **junior operator**
- Equipped with a **built-in safety system** eliminating the need for fencing
- **No need for special programming language** to operate
- **Fast and easy** set-up
- **2 - 3 minutes** between joints

### Advanced welding features:

- **Non-stop root to cap welding** without the need to shut off the arc
- Tack Fusion, Root Save and Repeat Pass to **accommodate, tacks and fit-ups**
- Capable of **welding stringers and multipass joints**

### Semi-autonomous:

- **Semi-automated seam tracking** with 0.1 mm accuracy (for standard pipes from 2" - 60" in diameter)\*\*
- **Automatic stick-out distance control** (contact to work distance) with 0.1 mm accuracy
- **Automatic Positioner Switch Assembly (APSA)** switching the welding ground cable and voltage sensing lead between positioners automatically based on operator's selection of positioner

\* Max. 4 for SWR-F model

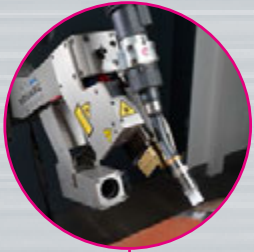
\*\* Certain limitations apply - please check with your contact person at ABICOR BINZEL

# SWR Spool Welding Robot

## Maximise pipe welding productivity

### Slender design & compact head

- Only 2.5" (64 mm) offset distance from the nozzle is required

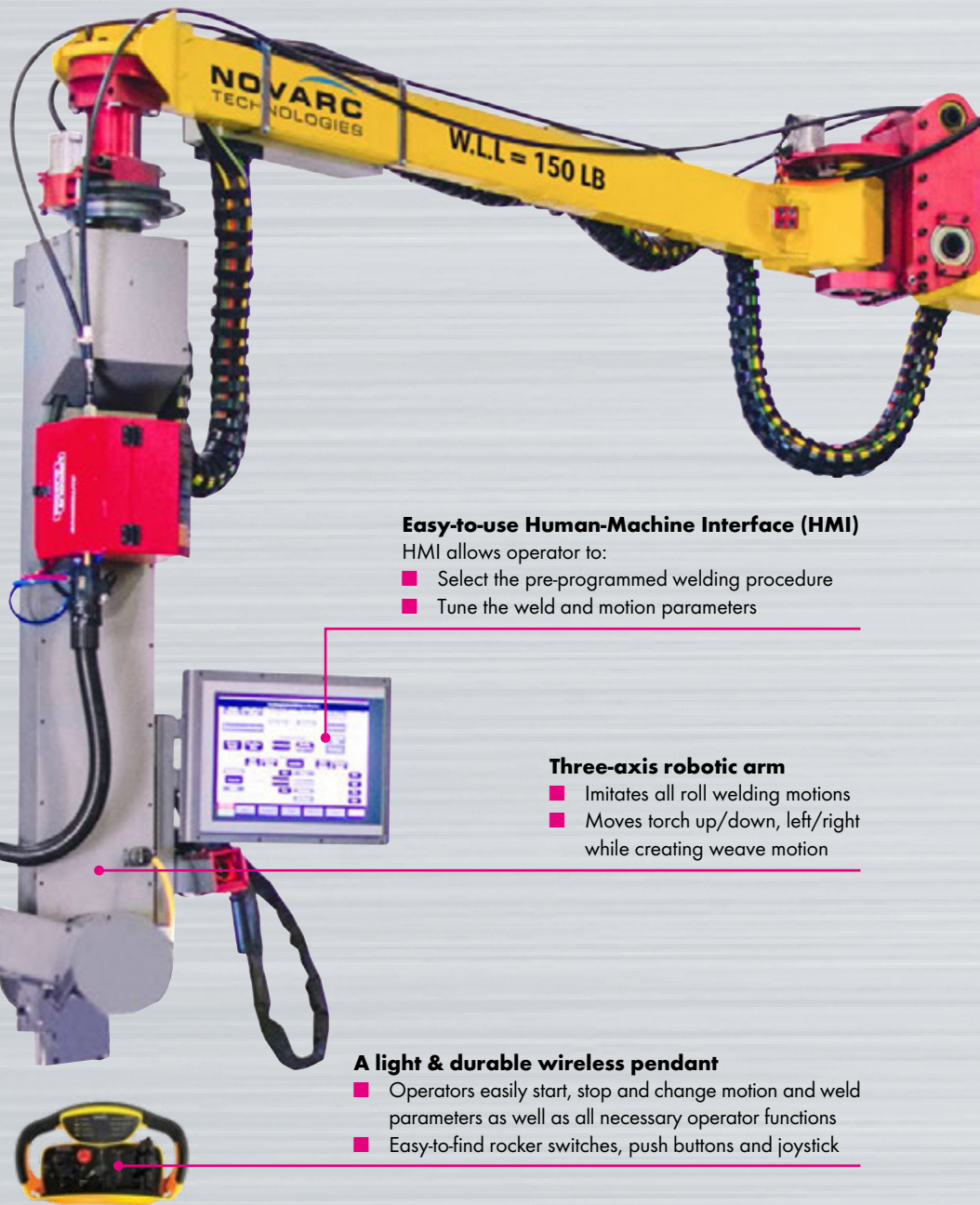


### Point laser

- Maintains the contact to work distance

### Machine vision

- Captures video for real-time seam tracking and cloud backup



### Easy-to-use Human-Machine Interface (HMI)

HMI allows operator to:

- Select the pre-programmed welding procedure
- Tune the weld and motion parameters

### Three-axis robotic arm

- Imitates all roll welding motions
- Moves torch up/down, left/right while creating weave motion

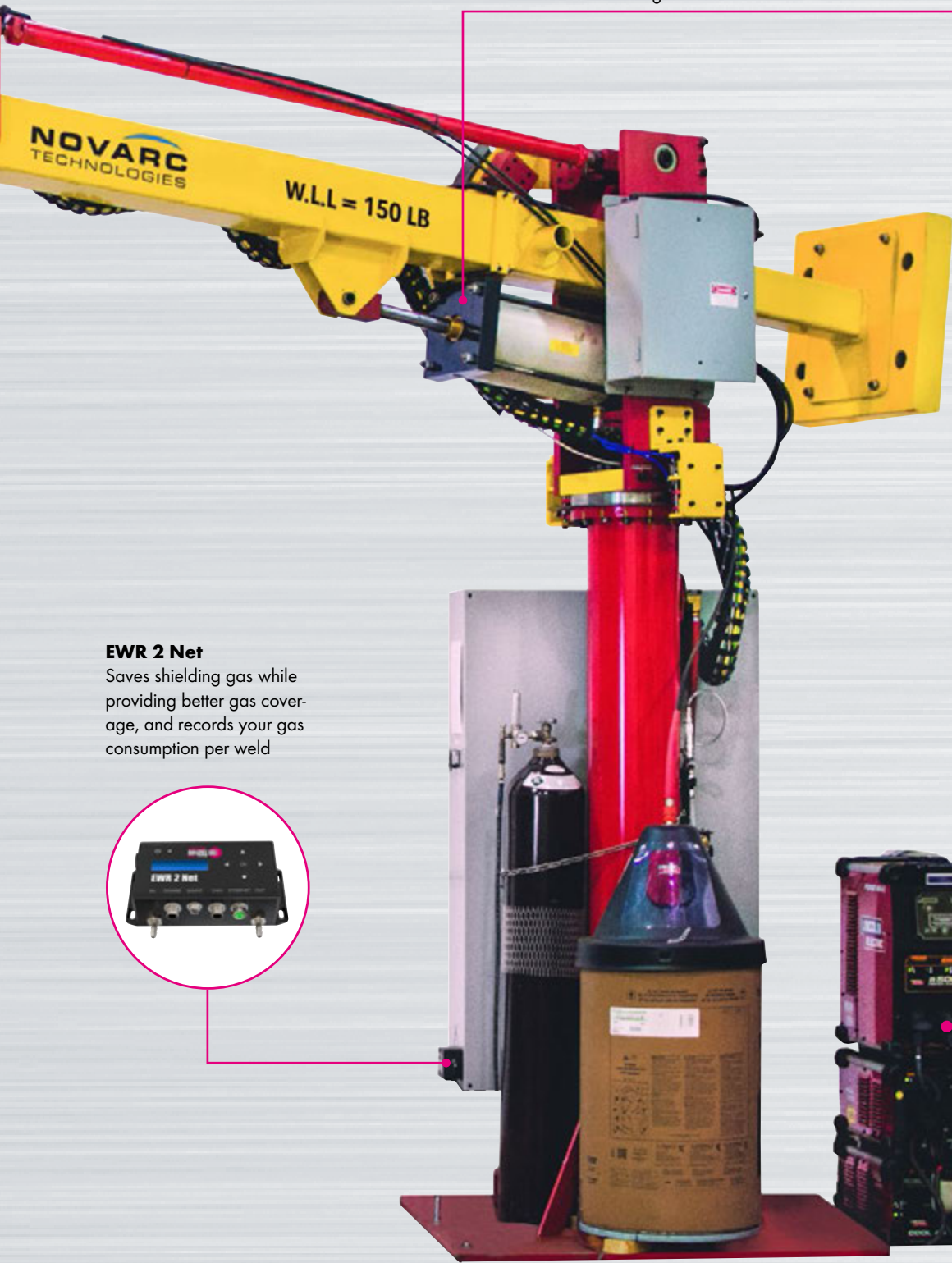
### A light & durable wireless pendant

- Operators easily start, stop and change motion and weld parameters as well as all necessary operator functions
- Easy-to-find rocker switches, push buttons and joystick



**Pneumatic manipulator with adjustable height**

- Easily move the arm between joints within 15 ft (4.5 m) of base
- Approach a full range of pipes from 2" to 60" (5 cm to 152 cm) at different heights



**EWR 2 Net**

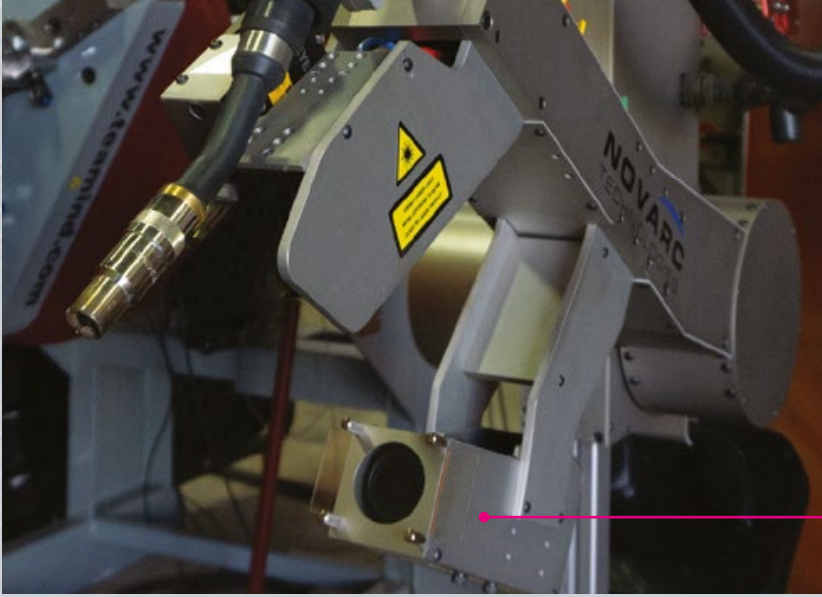
Saves shielding gas while providing better gas coverage, and records your gas consumption per weld



**Power source**

# NOVEYE™ monitoring in arc welding

## Enhanced view of the welding process



### See more with the NovEye™ vision system

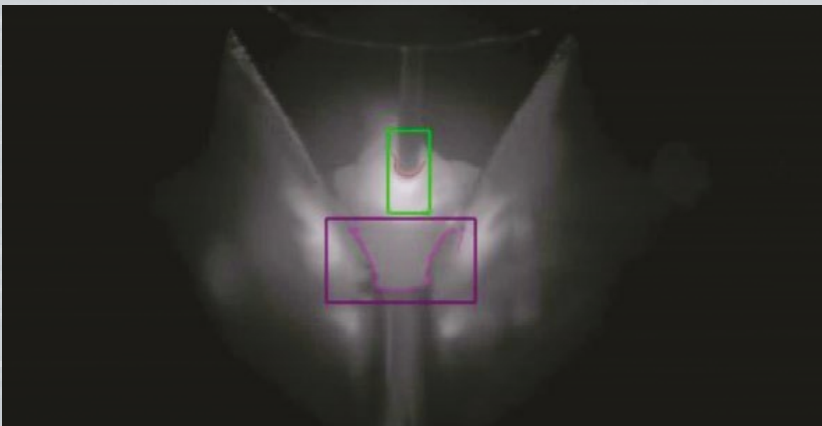
Novarc's NovEye™ vision system records every weld in real time to provide accountability and traceability for your QA/QC managers. Here are some highlights:

- Enhanced view of the groove and puddle
- Every weld is recorded in real time with key parameters embedded on the screen
- Improve weld quality by analysing recorded videos in parallel with the weld parameters saved by NovData™

### Weld vision system



### Key weld parameters



# NOVEYE™ autonomous adaptive welding

## The beginning of a new era

**Hands-free welding from root-to-cap. No operator intervention.\* Just set up the Spool Welding Robot (SWR), hit start, and move to set up another weld.**

NovEye™ is Novarc's autonomous adaptive welding solution based on computer vision AI. It integrates bleeding edge AI algorithms with advanced robotic controls to fully automate the pipe welding process while increasing productivity and delivering X-ray quality welds. Using machine learning and years of proprietary data, this game changing software ties into the control system of the cobot and controls the weld pool the same way human welders would, allowing the boring, repetitive welds to be delegated to the robot. As a result, it helps you achieve higher ROI for welding automation by improving the weld quality, lowering the investment on fixtures, and reducing the costs through wider fit-up constraints.

### NOVEYE™ at a glance:

#### Fully automated welding

Uninterrupted welding thanks to NovEye™'s multi-pass & multi-layer autonomous welding system.

#### X-ray quality welds

Engineered features and advanced AI to achieve consistent and high-quality welds, every single time.

#### Real-time vision processing

Truly adaptive due to its complex sensory system, advanced real-time control based on AI, and powerful hardware.



	Assist	Autonomy
<b>Plan features</b>	<ul style="list-style-type: none"> <li>■ Weld monitoring</li> <li>■ Assisted seam tracking:                             <ul style="list-style-type: none"> <li>- Fully automated root seam tracking</li> <li>- Seam tracking using Root Pass Memorisation (RPM)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Weld monitoring</li> <li>■ Fully automated root seam tracking</li> <li>■ Fully automated fill and cap seam tracking</li> <li>■ Adaptive root save</li> <li>■ Automated tack detection and tack fusion</li> </ul>

\*Autonomy package only. Certain limitations apply.



# NOVSYNC™ | Stay on top of your production With the help of advanced analytics

The NovSync™ analytical dashboard helps you to track production and machine trends over time by giving you centralised and secure access to weld videos, daily reports and NovData™ logs. You can now get remote, easy access to actionable insights needed to improve your welding operations and become more competitive in your market.



## Why NOVSYNC™?

### Unlimited cloud backup

Store and secure your data in the cloud, with easy access to logs and videos from anywhere, anytime.

### SWR analytics

Visibility over usage and production statistics to help increase the production efficiency.

### Machine health

Reduce the chance of production-disruption due to surprise events with early notifications.

### Custom reporting

Get scheduled and customisable reports that suit your business and operational requirements.

### Clear visualisations

Stay in the know with customisable and clear visuals of up-to-date production metrics.

### Predictive maintenance and advanced support

Improve historical data traceability and get access to advanced support by allowing Novarc's support team to monitor the health of your machine notifications.

## Choose the plan that is right for you:

	Light	Essential
<b>Plan features</b>	<ul style="list-style-type: none"> <li>■ Single SWR</li> <li>■ 2 user accounts</li> <li>■ 1 GB/month download privilege</li> <li>■ Downloadable reports</li> </ul>	Everything in light, plus: <ul style="list-style-type: none"> <li>■ 10 GB/month download privilege</li> <li>■ Basic API</li> </ul>
<b>Cloud storage</b>	<ul style="list-style-type: none"> <li>■ Unlimited storage</li> <li>■ Hourly backup</li> <li>■ 1 GB/month download privilege</li> <li>■ 99.9999% reliability</li> </ul>	<ul style="list-style-type: none"> <li>■ Unlimited storage</li> <li>■ Hourly backup</li> <li>■ 10 GB/month download privilege</li> <li>■ 99.9999% reliability</li> </ul>
<b>SWR usage</b>	Usage report and visualisation, grouped by operator or project	Usage report and visualisation, grouped by operator or project
<b>SWR production tracking</b>	Total dia-inches welded per day, week, month	Total dia-inches per user-defined period
<b>Report retrieval</b>	<ul style="list-style-type: none"> <li>■ NovEye™ weld videos (replay on-demand in-app)</li> <li>■ NovData™ daily production summary reports</li> <li>■ NovData™ detailed weld log reports</li> </ul>	<ul style="list-style-type: none"> <li>■ NovEye™ weld videos (replay on-demand in-app)</li> <li>■ NovData™ daily production summary reports</li> <li>■ NovData™ detailed weld log reports</li> </ul>
<b>System analytics</b>	<ul style="list-style-type: none"> <li>■ Alarms</li> <li>■ Events</li> </ul>	<ul style="list-style-type: none"> <li>■ Alarms</li> <li>■ Events</li> <li>■ Immediate notifications</li> </ul>
<b>Weld quality portal</b>	-	Centralised weld quality database
<b>Integration</b>	-	Basic API

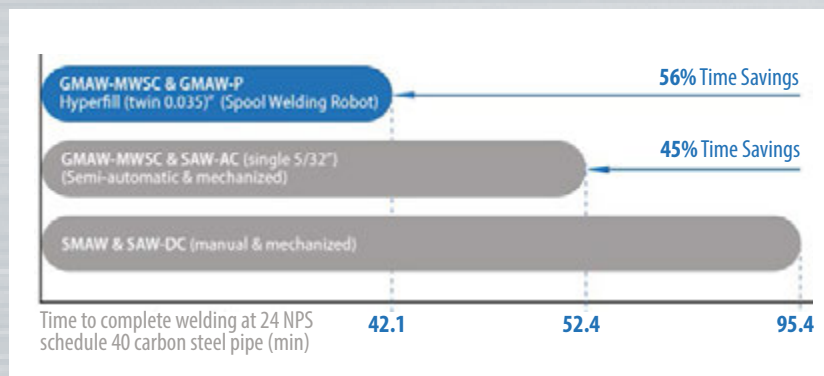
# SWR + HYPERFILL®

## The highly efficient, fully integrated dual torch system

**SWR + HyperFill® is a highly efficient, fully integrated dual torch system that utilises Lincoln Electric's patent-pending twin-wire GMAW solution, HyperFill®, to maximise productivity and profitability for our customers.**

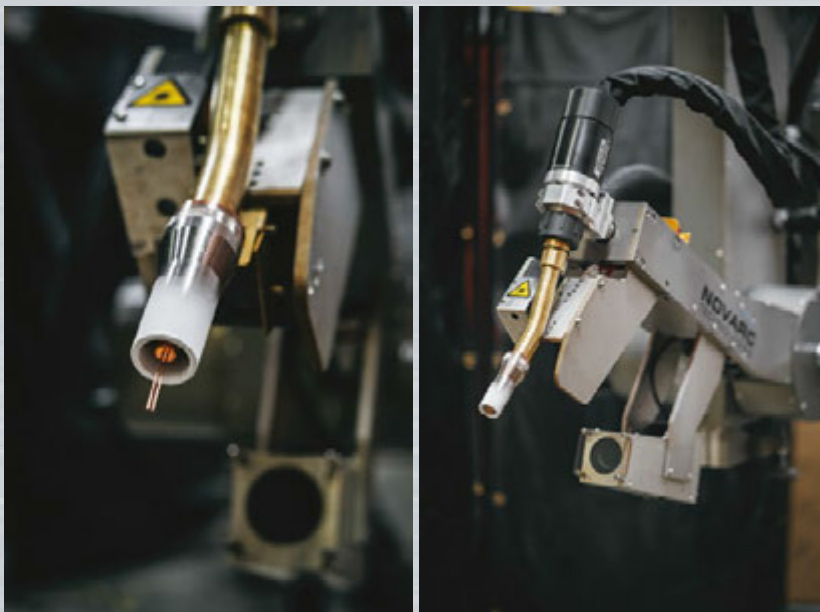
With the HyperFill® option, fabrication shops can expand the capabilities of their SWR. The system increases heavy fabrication productivity by increasing weld deposition rates while delivering excellent weld quality.

It uses the Lincoln STT® GMAW process on the root and twin wire (HyperFill®) on fill and cap passes, and it can be used on carbon steel pressure process pipes or vessels with 0.5" - 2.5" thickness and as low as 6" in diameter. The system also has the flexibility of using root to cap GMAW or seamlessly switching to FCAW or MCAW for the fill and cap passes.



### What SWR + HyperFill® will deliver to your shop

- Achieve higher deposition rates and deposition efficiencies
- Increase Factored Diameter Inches (FDI) to 350 - 500 per shift on carbon steel pipes
- Meet ASME Section IX and B31.3 WPS qualification requirements
- Achieve high toughness test results down to -50°F (-45°C)

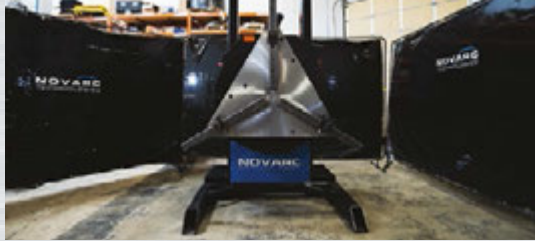


### Why SWR + HyperFill® matters to your business

- Aggressively bid on new projects and increase margin on jobs you've already won
- Lower your cost by reducing weld and material handling costs compared to using the sub-arc process
- Streamline and simplify your production to increase efficiency and reduce costs

# SWR Spool Welding Robot Options

## NOVARC POSITIONER



- Designed to work seamlessly with the SWR
- 3,000 lbs and 6,000 lbs capacity options
- Height adjustable
- Grippers sold separately and available to accommodate up to 60" pipe
- Dual 600 A grounds
- Made in the USA

## DUAL TORCH



- Flexibility to meet specific customer requirements (Flux-cored and metal-cored for fill and cap passes)
- Flexibility to switch between carbon steel and stainless steel welding

## BIM SOFTWARE INTEGRATION



- The integration with PipeServer allows you to plan your complex construction projects from 3D models, define the properties of pipes and welds in spool assemblies, and track the completion of all fabrication procedures

## SWR-F



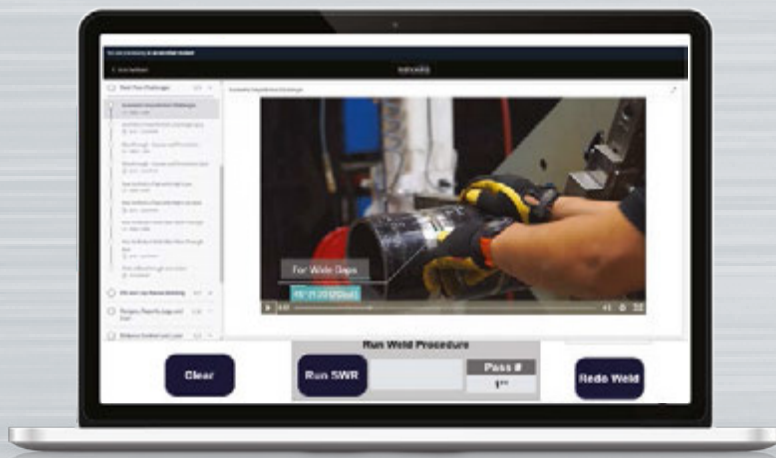
- Easier and faster slip-on flange welding
- Accountability & traceability for your QA/QC managers

## INTEGRATION WITH MULTIPLE POSITIONERS/TURNING ROLLS



- The SWR can easily be integrated to work with multiple positioners/turning rolls including Team Industries, Profax, Preston Eastin, Triofab, Pandjiris, and Chapel Welding
- Novarc can integrate with one or more positioners/turning rolls based on your needs (up to five)
- Possibility to integrate with your existing positioners/turning rolls

# NOVARC Academy World-class support



## NOVARC ACADEMY

At Novarc, we are committed to providing our customers with the best support and service, and that is why we created the Novarc Academy, a library of videos and courses providing an easy to follow, step-by-step explanation of how to operate, troubleshoot and maintain the Spool Welding Robot.



## NOVCARE PACKAGES

We know that every organisation has its unique set of technical support needs. We are committed to providing our customers with the best service possible to protect their valuable investment, and that is why we have combined our most requested services into three predefined NovCare packages: **Bronze, Silver and Gold.**

Our comprehensive support packages are designed to address your training, maintenance, and troubleshooting requirements at any stage of the Spool Welding Robot life cycle.



# SWR Spool Welding Robot

## Technical specifications

<b>Pipe diameters</b>	2" to 60" (5 cm - 152 cm)
<b>Materials welded</b>	15 ft (4.5 m)
<b>Working radius</b>	4' x 4' (1.2 m x 1.2 m)
<b>Manipulator height</b>	15 ft (4.5 m)
<b>Manipulator working height</b>	1 - 9 ft (0.3 m - 2.7 m)
<b>HMI screen</b>	15" touch (analog resistive) (38 cm)
<b>Horizontal seam tracking accuracy</b>	+/- 0.1 mm
<b>Verical distance control accuracy</b>	+/- 0.1 mm
<b>Weave stroke</b>	0.59" (15 mm)
<b>Weave frequency</b>	0 - 5 Hz
<b>Weave dwell</b>	00 - 0.4 sec
<b>Wire diameter</b>	0.0350 - 0.062 in (0.90 - 1.6 mm) Solid, metal-cored & flux core
<b>Wire speed</b>	300 - 1,200 in/min (0.80 - 30.5 m/min)

### About NOVARC Technologies

Novarc Technologies is a Vancouver-based full-stack robotics company specialising in the design and commercialisation of cobots and AI systems for robotic welding applications. Novarc's Spool Welding Robot (SWR) is the world's As a proven pioneer in the field, Novarc has dedicated a team of engineers and scientists to solve challenging welding automation problems that improve customers' bottom line.

### About the Spool Welding Robot

Unlike other welding solutions, Novarc's flexible technology is capable of welding a variety of joints, with fewer space restrictions, where operators interactively make adjustments during the weld without the need to pre-program.

Novarc's team started developing the SWR by working closely with fabrication shops struggling to automate the pipe spool welding process. Pipe shops were frustrated by the lack of industry innovation and believed that conventional six-axis robots were not feasible for pipe welding, and that robots on rails were too limiting and too expensive.

Then we got to work. Since then, we mastered the design and creation of a robot whose precision and dexterity matches the exact needs of pipe shops to get the job (and welds!) done.

### CERTIFICATION



Complies with applicable European Community Directives including European Directives for Safety of machinery (EN60204-1), electro-magnetic compatibility (EN61000-6) and safety of collaborative robots (ISO 15066-2016).

# SWR Spool Welding Robot

## Customer testimonials

"We're now going after projects that we were shying away from because of the size. Since we have implemented the SWR, we have been spooling a lot more and we are also taking on bigger projects, knowing that we have the capabilities of the welding in place. So it's actually helped us go after some projects that we were not going after before."

**Cyrus Patel, Piping Superintendent at Western Allied Mechanical**

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"One of the reasons why we went with Novarc is that Novarc showed up here with what we call a "fresh air". A new product that is really dedicated to improving pipe welding."

**Martin Cartier, Director of Ganotec-Muga Fab**

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"Our old way of welding stainless would be to TIG weld with using an ID purge. A 16" schedule 10 weld would take about 2 1/2 hours or so to get a purge set up and then weld out. We now can do a 16" schedule 10 weld in 12 minutes that will pass RT."

**David Ray, Fabrication Shop Superintendent at W.W. GAY Mechanical Inc.**

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"I'm completely comfortable using the SWR, there are no problems at all. Once you get the hang of it, it is easy to use. Novarc provided excellent training."

**Jason Craven, Welder at W.W. GAY Mechanical Inc.**

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"We were shocked to see that there was a three times increase in productivity using the SWR. But we're also very pleased at the high level of safety it provides to our workers."

**Peter Tuck, Regional Vice President at Black & McDonald**

*"The quality side of it is definitely the data aspect; the ability to tie in the weld data and video logs with our BIM information was a very big bonus. Being able to go in and have that level of inspection is really not achievable with the conventional methods."*

**Wade Eno, CEO of RoboFab**

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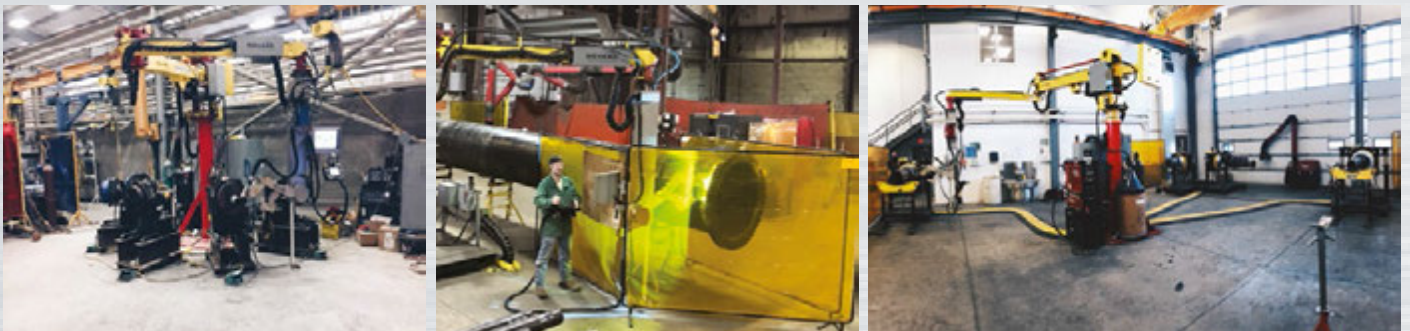
*"We wouldn't have been able to make the lead time on the current project we are doing without the SWR – we would have probably had to outsource some of the pipe fabrication."*

**Paul Hebson, VP & General Manager at Vancouver Drydock**

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*"Novarc's machine brings a new level of quality and consistency with every weld as well as an embedded video of the weld into the BIM model."*

**Pitt Meadows Plumbing & Mechanical Systems Ltd.**



## Our product range

### MANUAL

- MIG/MAG welding torches
- TIG welding torches
- Plasma cutting torches
- Plasma welding torches

### EXTRACTION TECHNOLOGY

- Fume extraction systems
- Fume extraction torches
- Fume extraction & power source combination system

### ROBOTIC SYSTEMS

- Robot torches MIG/TIG/Plasma
- Robot switch-off protections
- Torch cleaning stations
- Wire cutting devices
- Robot power source
- System solutions for cobots
- Pipe welding robot
- Wire feeder systems
- Seam tracking sensors
- Gas management systems

### LASER SYSTEMS

- Remote laser scanner
- Tactile laser optics
- Wire feeder systems
- Process monitoring tools
- Weld seam inspection

### ORBITAL WELDING

- Orbital welding systems
- Positioning bands
- Coated contact tips

### HARD AUTOMATION

- Welding tractors
- Welding tractor & power source combination system
- MIG/MAG automatic torches
- Plasma automatic welding and cutting torches

### WELDING ACCESSORIES

- Wear parts MIG/TIG/Plasma
- Intermediate cable
- Sockets and plugs
- Electrode holders
- Gouging torches
- Gouging electrodes
- Utilities and tools
- Cooling units
- Wire feeding units
- Equipment for weld seam treatment
- Anti-spatter agents, sprays and pastes



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