



Copilot™

Collaborative Welding Systems

QUICK SPECS

Industrial Applications

Contract and OEM manufacturing of components for automotive, recreational vehicles, farm and construction machinery, marine, furniture, and more. Confab, jobsite, and field fabrication.

Processes

MIG (GMAW), Accu-Pulse®, Versa-Pulse™, RMD® and Profile Pulse™

Product Type

Collaborative welding robot or cobot provides a combined station for:

- A) Welding envelope
- B) Loading and unloading
- C) Programming
- D) Tool installation and change

Input Power

Copilot: 110 V (see page 4 for Auto Deltaweld™ requirements)

Air-Cooled and Water-Cooled MIG Torch Options

Tregaskiss® CA3 MIG torch OR XR-Aluma-Pro™ CB push-pull MIG torch for aluminum welding

Table-based cobot that is our smallest, most versatile welding system. Delivers the productivity and repeatability of robotic welding, utilizing straightforward software programming and collaborative robotics.

Copilot collaborative welding systems allow operators to load and unload from a single station that can be shared with the robot envelope. They feature a 48 x 48 inch tooling surface with caster wheels and leveling feet for portability and quick setup. Great for new-to-automation welding challenges and for experienced robotic welders who need the ability to address high-mix, low-volume operating scenarios in a small footprint.



Air-cooled Copilot shown with Auto Deltaweld 350, touch sensing and through-arc seam tracking.

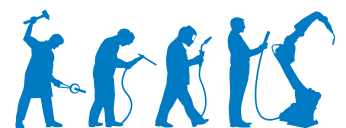
Miller recommends



Visit HobartBrothers.com for your filler metal solutions.



Major components except torches, consumables, and power supplies. Refer to specific component warranty for more information.



Evolve Your Welding™



Miller Electric Mfg. LLC
An ITW Welding Company
281 E. Lies Rd.
Carol Stream, IL 60188 USA

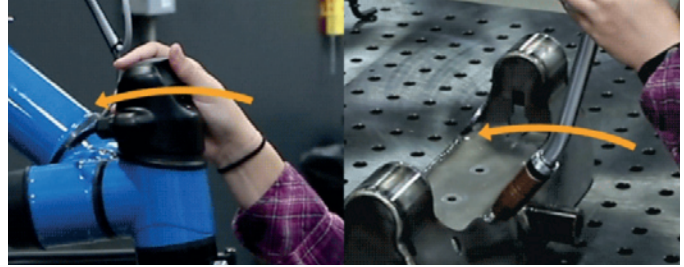
Equipment Sales
Phone: 630-653-6819
Email: MWA.Sales@millerwelds.com

MillerWelds.com



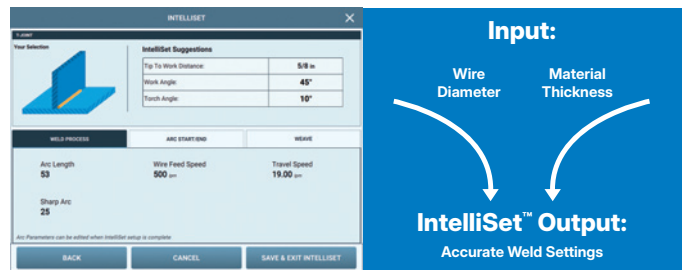
AccuGuide™ (Standard on all systems.)

AccuGuide positioning control allows the welder to fine-tune the position of the torch during programming versus only using the free-jogging feature of the cobot.



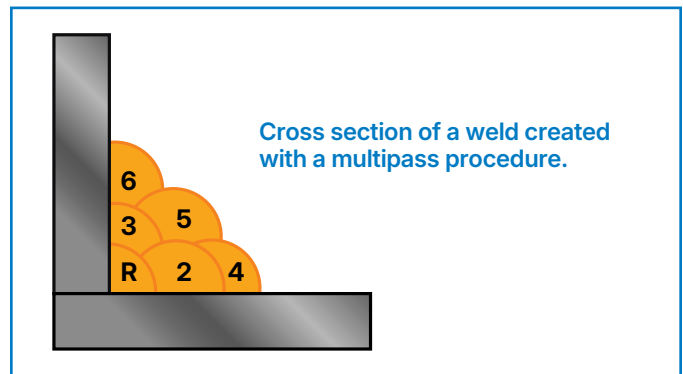
IntelliSet™ (Standard on all systems.)

IntelliSet setting management system reduces the steps required while programming by simplifying the process of choosing or revising settings.



Multipass (Standard on all systems.)

Multipass welding is a technique used in welding processes where a weld joint requires more than one pass to achieve the desired weld size, strength and quality. This method is often employed in applications where the joint thickness is greater than what can be effectively welded in a single pass.



Touch Sensing (Available on select systems.)

Touch sensing provides a means of detecting welding workpiece location by utilizing voltage sensing along with programmed torch “sweeps” to positively locate the workpiece position prior to welding.



Through-Arc Seam Tracking (Available on select systems.)

Through-arc seam tracking corrects the robot arc path to accommodate subtle variations in the workpiece geometry. Using feedback from the arc, combined with a weave pattern, the robot can compensate for subtle irregularities from the intended weld path to successfully weld the joint with proper bead appearance and penetration.



Water-Cooling (Available on 500-amp systems.)

Tregaskiss® CA3 robotic MIG torch with I.C.E.™ technology and AccuLock™ R consumables (shown) OR XR-W Aluma-Pro™ CB push-pull MIG torch for aluminum welding.

Coolmate™ 1.3 provides added cooling for increased consumable life. Water-cooled Copilot™ systems ship with four gallons of coolant. Includes pull-out shelf.



Copilot™ System

Programming puck reduces the need to interact with the pendant.

Tregaskiss® CA3 robotic MIG torch with AccuLock™ R consumables (shown) OR XR-Aluma-Pro™ CB push-pull MIG torch for aluminum welding. Both torches are engineered for accurate, reliable and repeatable performance that maximizes production uptime and throughput.

Weld-ready tool surface is 48 x 48 inches and outfitted with 5/8-inch tooling holes that are spaced 2 x 2 inches on center in a 42 x 30 inch area. Compatible with Strong Hand Tools®, among others.

Note: Strong Hand Tools® is a registered trademark of Strong Hand Tools®.

Debris catch trays

Through-arc seam tracking (see page 2 for description).

46-piece Strong Hand Tools® kit (not shown) including clamps and stops for flexible fixturing needs (see page 4).

Shelves for storage or to hold extra components.

Easy to relocate with caster wheels and leveling feet. Relocate your cobot workstation in four easy steps: unplug equipment and raise leveling feet, push by hand, re-level feet, and plug in equipment.

Air-cooled Copilot shown with Auto Deltaweld 350, touch sensing and through-arc seam tracking.

AccuGuide™ (see page 2 for description).

Teach pendant carriage allows for convenient hands-free viewing.

Andon light stack communicates messages to operator, including if system is in auto or teach mode, robot is moving, and error.

Touch sensing wire clip station (see page 2 for description).

Portable operator pendant used for starting and stopping programs in production.

Wire drive mounted behind cobot works with spool holder (included) or bulk wire.

Full complement of capabilities with Auto Deltaweld™. GMAW power source with Accu-Pulse®, Versa-Pulse™, RMD®, high-deposition MIG and Profile Pulse™ advanced processes.

Lift truck fork pockets

Copilot™ System Specifications (Subject to change without notice.)

POWER SUPPLY	INPUT POWER	RATED OUTPUT	WIRE FEED SPEED	PAYLOAD CAPACITY	APPROXIMATE DIMENSIONS		APPROXIMATE SHIPPING WEIGHT
Auto Deltaweld 350	208/230/460 V, 3-phase or 230 V, 1-phase or 575 V*, 3-phase, 60 Hz	300 A at 29 V 100% duty cycle	50–780 ipm (1.3–19.8 m/min.)	1,500 lb. (680 kg) with feet	H: 84 in. (2,134 mm)	Max. tool height: Contact Miller Load height: 37 in. (940 mm)	1,700 lb. (771 kg)
Auto Deltaweld 500	208/230/460 V or 575 V*, 3-phase, 60 Hz	500 A at 39 V 100% duty cycle		750 lb. (340 kg) with casters	W: 48 in. (1,219 mm) D: 52 in. (1,321 mm)		

*575 V model is available in Canada only.

Note: Some filler metal wires with lower column strength may need additional considerations for feeding. Discuss with our team what challenges the Copilot is ready to tackle.

Torch Options



Tregaskiss® CA3 robotic MIG torch
Standard automation torch to support steel, stainless steel, and other ferrous weld wire. Available in air- and water-cooled models. For more information, see Tregaskiss® literature SP-CA3.



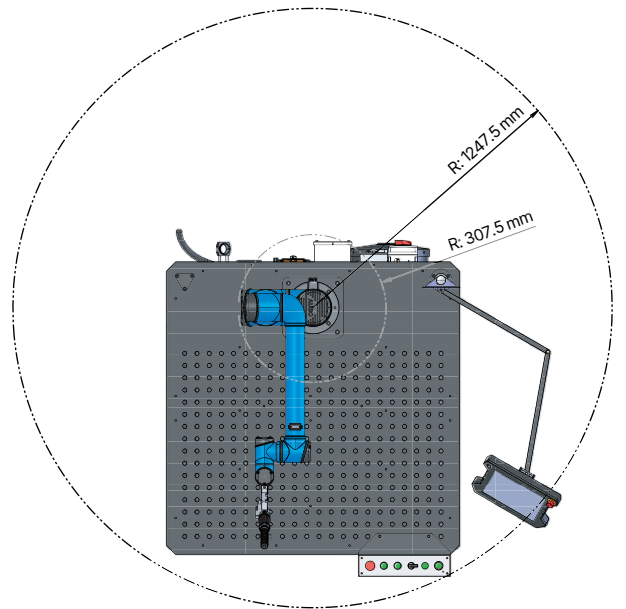
XR-Aluma-Pro™ CB push-pull MIG torch
A push-pull aluminum torch designed for collaborative welding systems. Available in air- and water-cooled models. For more information, see Miller® literature AU/62.0.

Strong Hand Tools® Kit



Copilot systems ship with a 46-piece Strong Hand Tools® kit that includes locating pins, clamps and blocks.

Copilot™ Work Envelope



Note: Approximate dimensions, contact us if you are building tooling.

Genuine Miller® Accessories and Consumables



Copilot Tool Kit 301751

Included with Copilot systems, this 46-piece kit (5/8 in. holes) consists of the following: two PTT934K* Inserta pliers, two PTT956K* Inserta pliers, twelve ball lock bolts (adjustable two-position), four ball lock bolts (flush), two T post clamps, four small right-angle brackets, four large right-angle brackets, four locating pins, two side clamps, four straight edge stops, four locating pins, and two eccentric pads.

*PTT934K and PTT956K are Strong Hand Tools® part numbers.

Tregaskiss® CA3 Torch Consumables

AccuLock™ R Contact Tips (10 per package)

T-A045CH .045 in. (1.2 mm)
T-A062CH .062 in. (1.6 mm)

AccuLock™ R Copper Nozzles

401-81-62 Slip-On, 5/8 in. ID, 1/8 in. stickout
401-14-62 Thread-On, 5/8 in. ID, 1/8 in. recessed

AccuLock™ R Diffusers

D-ATSH Slip-On
D-ATTH Thread-On

Conventional Liner (15 ft.)

415-35-15 .035–.045 in. (0.9–1.2 mm)
415-116-15 .045–1/16 in. (1.2–1.6 mm)

QUICK LOAD® Liner (15 ft.)

415-35-15Q .035–.045 in. (0.9–1.2 mm)

Wire Brake Jump Liner

495-18-116 .052–1/16 in. (1.4–1.6 mm)

Wire Brake Kit

WB-599-045 .045 in. (1.2 mm)

See Tregaskiss® CA3 literature SP-CA3 for additional consumables and accessories.

XR-Aluma-Pro™ CB Torch Consumables

T Series Contact Tips (10 per package)

T-035AL .035 in. (0.9 mm)
T-047AL .047 in. (1.2 mm)
T-062AL 1/16 in. (1.6 mm)

AccuLock™ R Copper Nozzle

401-6-62 Thread-On, 5/8 in. ID, 1/8 in. recessed

AccuLock™ R Diffuser

D-ATSH Slip-On

Liner (15 ft.)

229887 .035–.045 in. (0.9–1.2 mm)

See XR-Aluma-Pro™ CB literature AU/62.0 for additional consumables and accessories.

Notes

Copilot™ System Ordering Information

SYSTEM	STOCK NO.	DESCRIPTION	QTY.	PRICE	
Air-Cooled	Copilot with Auto Deltaweld™ 350	951000110 With Tregaskiss® CA3 MIG torch, plus touch sensing			
		951000115 Same as 951000110, plus through-arc seam tracking			
		951000222 With XR-Aluma-Pro™ CB push-pull MIG torch			
	Copilot with Auto Deltaweld™ 350 (575 V) (Available in Canada only)	951000223 With XR-Aluma-Pro™ CB push-pull MIG torch			
		Copilot with Auto Deltaweld™ 500 (575 V) (Available in Canada only)			951000111 With Tregaskiss® CA3 MIG torch, plus touch sensing
					951000131 Same as 951000111, plus through-arc seam tracking
Water-Cooled	Copilot with Auto Deltaweld™ 500	951000134 With Tregaskiss® CA3 MIG torch with I.C.E.™ technology, plus touch sensing			
		951000135 Same as 951000134, plus through-arc seam tracking			
		951000224 With XR-W Aluma-Pro™ CB push-pull MIG torch			
	Copilot with Auto Deltaweld™ 500 (575 V) (Available in Canada only)	951000132 With Tregaskiss® CA3 MIG torch with I.C.E.™ technology, plus touch sensing			
		951000133 Same as 951000132, plus through-arc seam tracking			
		951000225 With XR-W Aluma-Pro™ CB push-pull MIG torch			

Air-cooled systems include Auto Deltaweld fixed wire drive, welding robot, MIG torch, integrated welding table, Strong Hand Tools® kit, and all required interconnecting cables

Water-cooled systems add Coolmate™ 1.3 (301617) with four gallons of coolant, pullout shelf for Coolmate, water lines, and cable sleeve

DATE: TOTAL QUOTED PRICE:

Note: See Copilot™ Builder™ literature AU/60.6 for our configurable cobot systems.

To order, call us toll-free at 1-630-653-6819 or email MWA.Sales@Millerwelds.com.

Distributed by:

