

MAGNUM PRO® COBOT TORCH SELECTION GUIDE





ABOUT COBOT TORCHES

Industrial vs. Collaborative Robots: What's the Difference?

Unlike traditional robotic cells, cobots are designed to work alongside human beings without the need for traditional, protective fencing. Small, lightweight and easy to assemble, cobots are safer than traditional robots and mobile. They can be used throughout a shop for various parts lines, as opposed to larger, static, traditional automated cell that are programmed for one specific function.



Robotic welding Torch Styles

The two types of robotic torches are **thru-arm** and **external dress**. Industrial robots primarily use **thru-arm** torches. These torches' cables are integrated into the robotic arm and must be configured precisely to the arm length. Alternatively, Cobots' smaller profile makes them more suitable for **external dress** torches, which mount to an extension on the end of the arm.



WHY MAGNUM PRO?

Magnum PRO welding torches and expendables are built to withstand the toughest of welding environments. Their long-lasting expendables help reduce downtime, increase throughput, and save time and money, while ensuring your welding torch stays cool to the touch. Designed with welding efficiency in mind, there is a Magnum PRO solution for any job!



**SAVE
MONEY**



**INCREASE
PART LIFE**



**EASY
TO USE**



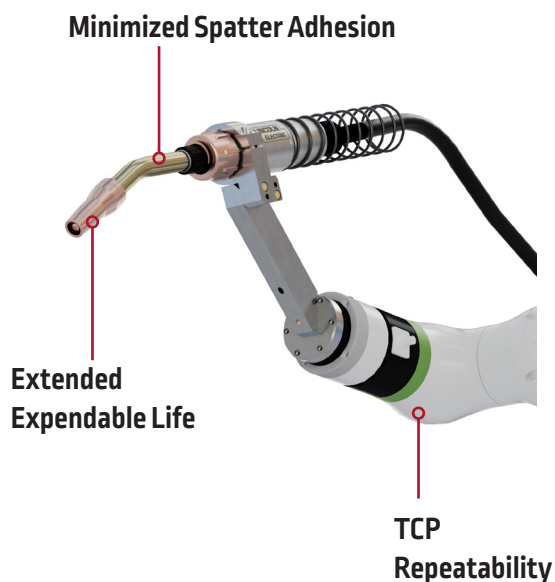
**INCREASE
PRODUCTIVITY**

KEY FEATURES

Air-Cooled Magnum PRO



Water-Cooled Magnum PRO





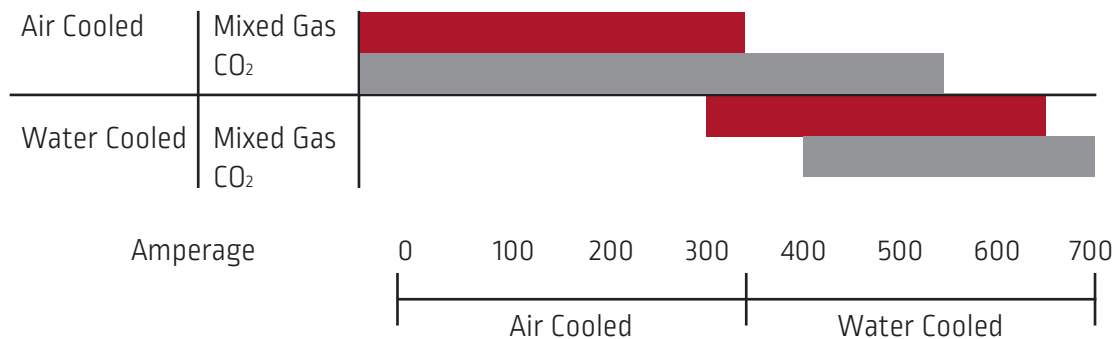
AIR-COOLED VS. WATER-COOLED

The welding torch used on a Cobot determines not only the system's performance, but also the parts used with the torch, including the gun tube, mounting brackets, and torch expendables.

Water cooled torches can stay cool at higher amperages than air-cooled torches, making them more suitable for higher-amperage applications. Unlike water-cooled torches, air-cooled torches do not require a cooler, and are therefore simpler, and more suitable for lighter-duty applications.

Magnum PRO Robotic Air-Cooled Torches – 200-550 A

Magnum PRO Robotic Water-Cooled Torches – 300+ A



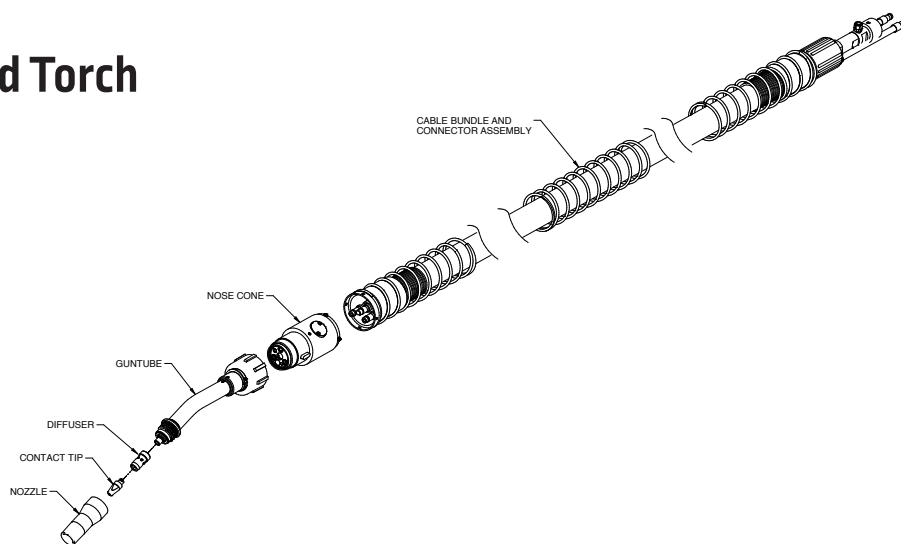
Torch Part Numbers

Product Name	Part Number	Cooling Type	Cable Length	Amperage rating (Mixed Gas)	Amperage Rating (CO ₂)	Wire Brake Capable?
Magnum® PRO Air-Cooled External Dress Robotic Torch One-Pak®	K2647-11	Air	11 ft	385 @ 100%	550 @ 100%	No
Magnum® PRO Smart Air-Cooled Cobot Torch	K5481-11	Air	11 ft	385 @ 100%	550 @ 100%	Yes
	K5481-13		13 ft			
Magnum® PRO Water-Cooled External Dress Robotic Torch One-Pak®	K5415-11	Water	11 ft	650 @ 100%	N/A	No
	K5415-13		13 ft			
Magnum® PRO Water-Cooled External Dress Robotic Torch One-Pak® - Wire Brake	K5415-11W	Water	11 ft	650 @ 100%	N/A	Yes
	K5415-13W		13 ft			

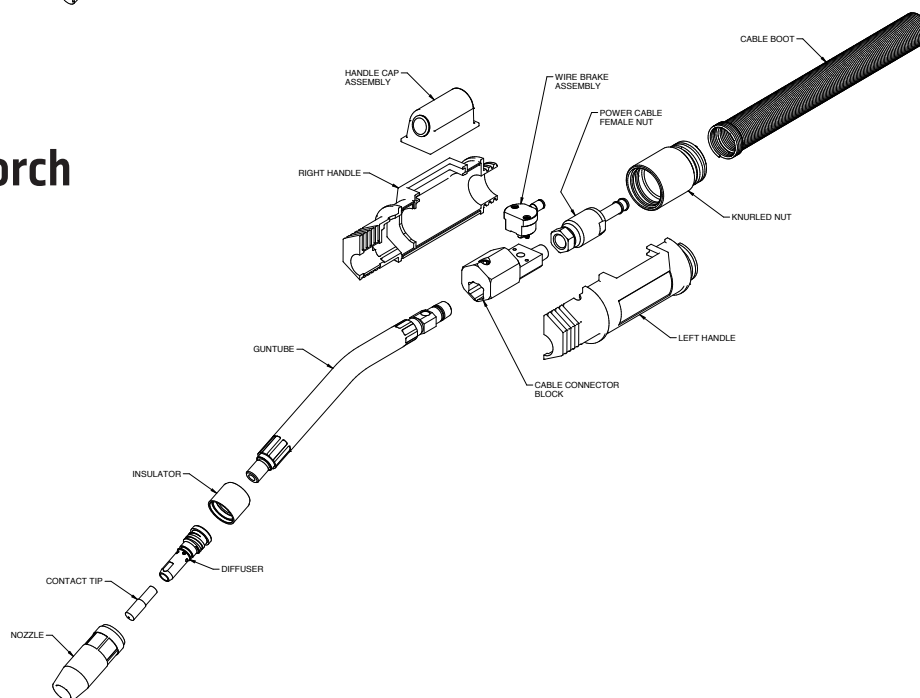


WHAT'S INCLUDED

Water-Cooled Torch



Air-Cooled Torch



Additional Parts Included in CRX Packages

Part Number	Description	Package Included With
A3118126	Cobot Control Button Harness	Air Cooled, Water Cooled
A3133429	Torch Mount Isolation Disk	Air Cooled, Water Cooled
A3091495	Cobot Mounting Arm Base	Air Cooled, Water Cooled
A3086883	Integrated Control Torch Mount	Air Cooled, Water Cooled
A2044280	Water-Cooled Cobot Torch Handle Clamp	Water Cooled
A3091116	Air-Cooled Cobot Torch Handle Clamp	Air Cooled



OPTIONAL SETUP CUSTOMIZATIONS

Gun Tube Options

Cobot systems come standard with 22 degree gun tubes, but are compatible with 45 and 180 degree gun tubes as well.

	Air Cooled	Water Cooled
22 Degrees	KP3056-22	KP4403-22
45 Degrees	KP3056-45	KP4403-45
180 Degrees	KP3056-180	KP4403-180



Standard External Dress Mounting Brackets

Mounting brackets attach the torch to the end of the Cobot's arm. The necessary mounting bracket depends on the gun tube degree and cooling type. Lincoln Electric Cobot packages include a smart mounting bracket, while standard external dress setups include classic mounting brackets:

	Air Cooled	Water Cooled
22 Degrees	KP2769-22	KP5388-22
45 Degrees	KP2769-45	KP5388-45
180 Degrees	KP2769-180	KP5388-180



Wire Brake

To convert a water-cooled torch to wire brake, a new nose cone, jump liner, and wire guide are required.

Water-Cooled Wire Brake Parts

Wire Size	Housing	Jump Liner	Wire Guide
.035-.045	K5386-2	KP3364-1	KP5390-1
.052-1/16		KP3364-2	KP5390-2
5/64		KP3364-3	KP5390-3
3/32		KP3364-11	KP5390-4

To convert an air-cooled Cobot system, a new wire brake torch is required. Wire brake torches are capable of wire touch sensing. For different wire sizes, use these accessories:

Air Cooled Wire Brake Parts

Wire Size	Jump Liner	Wire Guide
.035-.045	KP3364-1	KP3979-1
.052-1/16	KP3364-2	KP3979-2
5/64	KP3364-3	KP3979-3



MAGNUM PRO AIR COOLED EXPENDABLES

Lincoln Electric Magnum PRO expendables are built to withstand the toughest of welding environments. Their long-lasting materials help reduce downtime, increase throughput, and save money while maintaining premium performance at high amperages.

Contact Tips

Wire Diameter in. (mm)	Standard Pkg. Qty. – 10	Tapered Pkg. Qty. – 10	Extended Life Pkg. Qty. – 10	HyperFill – FCAW Pkg. Qty. – 10
0.035 (0.9)	KP2745-035	KP2745-035T	KP2745-035R	-
0.040 (1.0)	KP2745-040	KP2745-040T	-	-
0.045 (1.2)	KP2745-045	KP2745-045T	KP2745-045R	KP5344-047-HD
0.052 (1.3)	KP2745-052	KP2745-052T	KP2745-052R	KP5344-052-HD
1/16 (1.6)	KP2745-116	KP2745-116T	KP2745-116R	-



Tapered 550A
Magnum PRO
Contact Tips

Gas Diffusers

Material	Pkg. Qty.	Type				
		Thread-on 1/8 in. Recess	Thread-on 1/4 in. Recess	Thread-on, Extended Reach	Slip-on	HyperFill
Brass	1	KP2747-1	KP3155-1	KP4781-1	KP2747-2	KP5367-2-HD
	25	KP2747-1-B25	KP3155-1-B25	KP4781-1-B25	KP2747-2-B25	-
Copper	1	KP4766-1	-	-	KP4766-2	-
	25	KP4766-1-B25	-	-	KP4766-2-B25	-



Magnum PRO
550A Diffuser

Cable Liners

Cable Length ft. (m)	Wire Diameter – in. (mm)	
	0.035-0.045 (0.9-1.2)	0.052-1/16 (1.3-1.6)
15 (4.5)	KP45-3545-15	KP45-116-15

Gun Tube Insulators

Pkg. Qty.	Part Number
1	KP2773-1
25	KP2773-1-B25



Magnum PRO
550A Insulator

Nozzles

Nozzle in. (mm)	Pkg. Qty.	Gas Nozzle Diameter – in. (mm)				
		Standard 0.375 (9.5)	Standard 0.5 (12.7)	Standard 0.625 (15.9)	Bottleneck 0.625 (15.9)	Standard 0.75 (19)
1/8 (3.2) Recess	1	KP2743-1-38R	KP2743-1-50R	KP2743-1-62R	KP3161-1-62R	KP2743-1-75R
	25	KP2743-1-38R-B25	KP2745-1-50R-B25	KP2743-1-62R-B25	KP3161-1-62R-B25	KP2743-1-75R-B25
Flush	1	KP2743-1-38F	KP2745-1-50F	KP2743-1-62F	KP3161-1-62F	KP2743-1-75F
	25	KP2743-1-38F-B25	KP2743-1-50F-B25	KP2743-1-62F-B25	KP3161-1-62F-B25	KP2743-1-75F-B25
1/8 (3.2) Stickout	1	KP2743-1-38S	KP2743-1-50S	KP2743-1-62S	KP3161-1-62S	KP2743-1-75S
	25	KP2743-1-38S-B25	KP2743-1-50S-B25	KP2743-1-62S-B25	KP3161-1-62S-B25	KP2743-1-75S-B25
1/8 (3.2) Recess Slip-On	1	-	-	KP2743-2-62R	-	KP2743-2-75R
	25	-	-	KP2743-2-62R-B25	-	KP2743-2-75R-B25
Flush Slip-On	1	-	-	KP2743-2-62F	-	KP2743-2-75F
	25	-	-	KP2743-2-62F-B25	-	KP2743-2-75F-B25
1/8 (3.2) Stickout Slip-On	1	-	-	KP2743-2-62S	-	KP2743-2-75S
	25	-	-	KP2743-2-62S-B25	-	KP2743-2-75S-B25



Magnum PRO
550A Nozzles

* For more info on HyperFill please see lit number E12.4203



MAGNUM PRO WATER COOLED EXPENDABLES

Magnum PRO water cooled expendables' premium durability and performance pair with the Magnum PRO robotic water-cooled gun tube's innovative cooling technology to maximize expendable life.



Tapered 550A Magnum PRO Contact Tips

Contact Tips

Wire Diameter in. (mm)	Standard Pkg. Qty. – 10	Standard Pkg. Qty. – 10	Tapered Pkg. Qty. – 10	Hyperfill GMAW Pkg. Qty. – 10	HyperFill – FCAW Pkg. Qty. – 10
0.035 (0.9)	KP2745-035	KP2745-035T	KP2745-035R	KP4482-035-HD	-
0.040 (1.0)	KP2745-040	KP2745-040T	-	KP4482-040-HD	-
0.045 (1.2)	KP2745-045	KP2745-045T	KP2745-045R	KP4482-045-HD	KP5344-047-HD
0.052 (1.3)	KP2745-052	KP2745-052T	KP2745-052R	-	KP5344-052-HD
1/16 (1.6)	KP2745-116	KP2745-116T	KP2745-116R	-	-
0.072 (1.8)	KP2745-072	-	KP2745-072R	-	-
5/64 (2.0)	KP2745-564	-	KP2745-564R	-	-

Gas Diffusers

Pkg. Qty.	Process	
	Single Wire	HyperFill
1	KP4380-1	KP4481-2-HD
25	KP4380-1-B25	KP4481-2-HD-B25



Magnum PRO Water Cooled Gas Diffuser

Cable Liners

ft. (m)	0.035-0.045 (0.9-1.2)	0.052-1/16 (1.3-1.6)	5/64 (2.1)	3/32 (2.4)
15 (4.5)	KP44-3545-15	KP44-116-15	KP44-564-15	KP44-332-15

Nozzles

Nozzle Type	Pkg. Qty.	Gas Nozzle Diameter – in. (mm)				
		Standard 0.5 (12.7)	Bottleneck 0.5 (12.7)	Standard 0.625 (15.9)	Bottleneck 0.625 (15.9)	Standard 0.75 (19)
1/8 (3.2) Recess	1	KP4120-1-50R	KP4121-1-50R	KP4120-1-62R	KP4121-1-62R	KP4120-1-75R
	25	KP4120-1-50R-B25	KP4121-1-50R-B25	KP4120-1-62R-B25	KP4121-1-62R-B25	KP4120-1-75R-B25
Flush	1	KP4120-1-50F	KP4121-1-50F	KP4120-1-62F	KP4121-1-62F	KP4120-1-75F
	25	KP4120-1-50F-B25	KP4121-1-50F-B25	KP4120-1-62F-B25	KP4121-1-62F-B25	KP4120-1-75F-B25
1/8 (3.2) Stickout	1	KP4120-1-50S	KP4121-1-50S	KP4120-1-62S	KP4121-1-62S	KP4120-1-75S
	25	KP4120-1-50S-B25	KP4121-1-50S-B25	KP4120-62S-B25	KP4121-1-62S	KP4120-1-75S-B25



Magnum PRO Water Cooled Nozzle

* For more info on HyperFill please see lit number E12.4203



Test Results Disclaimer

Test results for deposition rates, arc time, and mechanical properties were obtained from a weld produced and tested according to prescribed standards. Actual results will vary depending on many factors, including, but not limited to: the base material or substrate being welded, the welding procedure and welding process, and the unique conditions present in the workplace or welding environment. Users and employers have the sole responsibility for and control over workplace conditions, including the manner in which work is performed and the safety measures taken. Always read and follow applicable OSHA regulations as well as all information on product labeling and safety data sheets when using Lincoln Electric products. Safety data sheets for Lincoln Electric products can be found at <http://www.lincolnelectric.com/en-us/support/msds/Pages/sds-search.asp>. Users and employers should have an industrial hygienist check worker exposure levels to be certain that they are within applicable OSHA PEL and ACGIH TLV limits for the particular application or weldment.

CUSTOMER ASSISTANCE POLICY

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