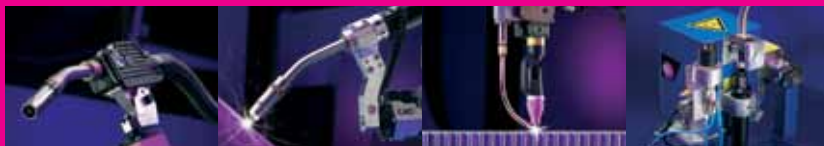


TECHNOLOGY FOR THE WELDER'S WORLD.

ROBO



Robotic Welding Torches & Accessories



www.binzel-abicor.com



ROBOTIC WELDING - with **ABICOR** BINZEL

Finally, torches and peripherals that complete the efficiency of a robot work cell.

In the late seventies **ABICOR** BINZEL started with the development of systems for robotic welding parallel to the introduction of the first robots in the automotive industry.

Today **ABICOR** BINZEL provides an effective product range of robot torches and corresponding peripheral items which are in use around the world, 24 hours a day.

Accompanying the product, a team of experts, both in our headquarters and in our subsidiaries, is always ready to assist with standard and custom solutions. Along with installation, application and special training, our after-sales service includes the support and optimization of the production process. Quick spare parts supply and repairs are included.

To recognize and to co-create new, innovative technology trends are among our major strengths.

Founded in 1945, Alexander Binzel Schweisstechnik GmbH & Co. KG specializes in the development and production of welding and cutting torches for GMAW (Gas Metal Arc Welding), GTAW (Gas Tungsten Arc Welding) and Plasma processes.

Numerous patented developments helped shape the world of welding and cutting and set international standards.

The **ABICOR** BINZEL group is represented in more than 50 countries with over 800 employees, 30 production and sales companies, as well as over 20 exclusive partners.

Main production is located in the parent company in Buseck near Giessen, in Dresden, as well as in the USA, Brazil, India, and China.

The brand name **ABICOR**, established in 1997, represents a company strategy focused on innovation and globalization, and pursues and protects a clear brand policy.

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ROBO WH 242D / 500T / 652T Water-Cooled Quick-change Torches

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MIG/MAG WELDING TORCHES ABIROB® AIR-COOLED

360 and 500 Amperes

The modular design of the rugged, yet flexible, ABIROB® torches allow the user to quickly replace the swanneck or cable assembly while maintaining tool center point (TCP), assuring accurate repeatability and continuous precision welding. The keyed torch mounting-arm duplicates TCP with complete torch change. Available in 360 and 500 amperes, ABIROB® torches are second to none with aluminum armored swannecks for crash protection, internal air blast, internal control wire, emergency stop connector, and heavy duty cable support springs at front and rear to prolong cable life. Direct mounts allow ABIROB® torches to connect to most major wire feed models.

RUGGED YET FLEXIBLE.

Internal air blast, E-stop and optional wire jog

Superior reliability and constant repeatability

Aluminum armored swanneck for superior protection from occasional crash

Modular design allows customer to change swanneck or cable assembly while maintaining tool center point (TCP).

Heavy duty cable support springs at front and rear prolong cable life

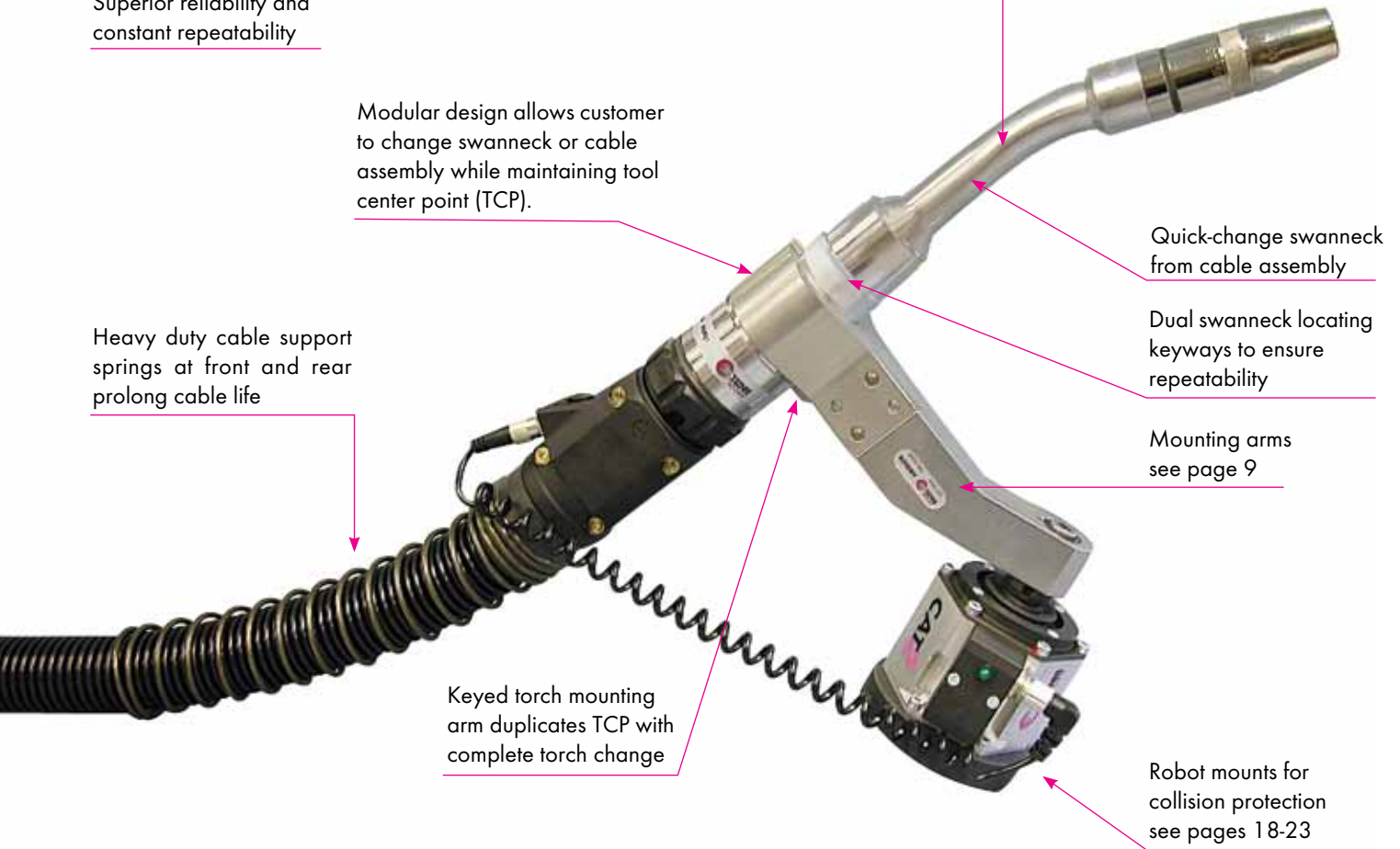
Quick-change swanneck from cable assembly

Dual swanneck locating keyways to ensure repeatability

Mounting arms see page 9

Keyed torch mounting arm duplicates TCP with complete torch change

Robot mounts for collision protection see pages 18-23



ABIROB® A360 and A500 Air-Cooled

Type / Rating	*Shielding Gas		Duty Cycle (%)	Wire Size	
	CO ₂	Mixed		Inches	mm
A360	360	290	100%	.030 - .062	0.8 - 1.6 mm
A500	500	400	100%	.030 - .062	0.8 - 1.6 mm

Available torch neck geometries: 22, 35, 45, and 180 degrees.

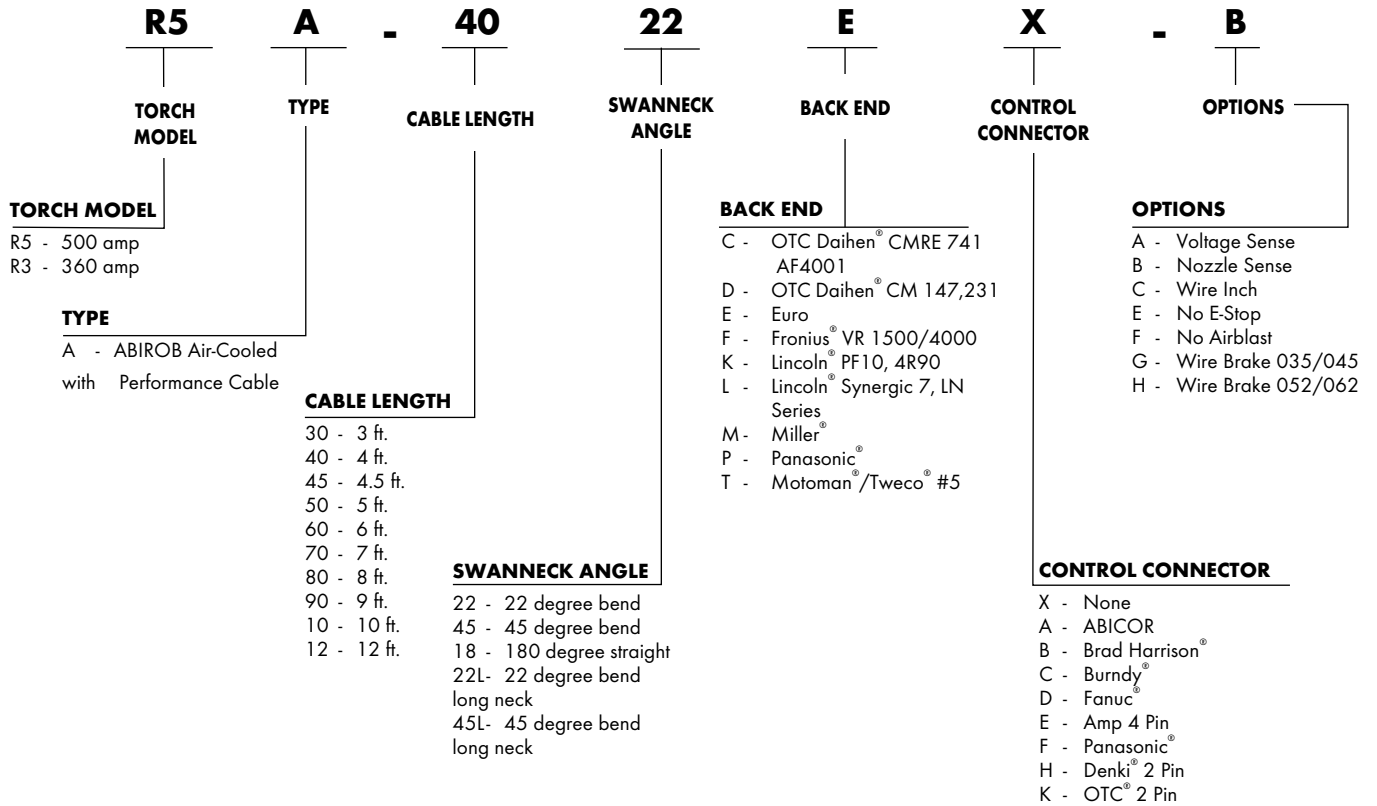
*In case of mixed and/or pulsed arc welding, the rating data may be reduced to 35%

ABIROB® A360 / A500

With Performance Cable

ORDERING INSTRUCTIONS FOR COMPLETE ABIROB® GUNS

Example: R5A-4022EX-B



ORD.0008

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Collision Mounts
See Pages 18 - 23



Mounting Arms
See Page 9

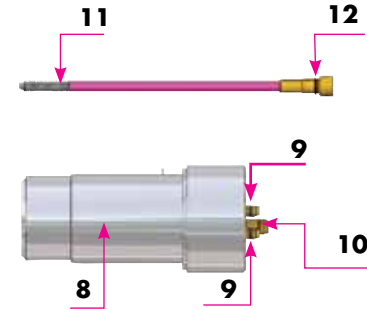
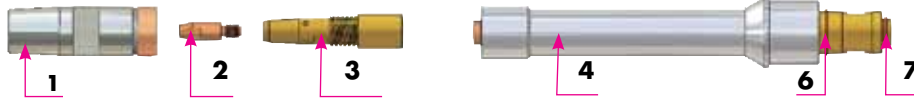


Alignment Jigs
See Page 17

ABIROB® A360 / A500

Front End Quick-change swanneck or cable assembly while maintaining tool center point (TCP)

A360



A500



INTERCHANGEABLE PARTS
SOLD SEPARATELY

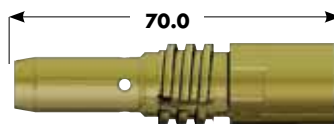
ABIROB® A360 and A500 Front End

Item No.	Description	Specifications	Part No.
1	Nozzles	See page 7	See page 7
2	Contact Tips	See page 7	See page 7
3	Diffusers/Tip Holders	See below	See below
4	Swanneck, A360	180 Degree	R3A - 180
4	Swanneck, A360	22 Degree	R3A - 22
4	Swanneck, A360 long, 13.85x1.96" (372x50mm)	22 Degree	R3A - 22L
4	Swanneck, A360	35 Degree	R3A - 35
4	Swanneck, A360	45 Degree	R3A - 45
4	Swanneck, A360 long, 13.85x1.96" (372x50mm)	45 Degree	R3A - 45L
5	Swanneck, A500	180 Degree	R5A - 180
5	Swanneck, A500	22 Degree	R5A - 22
5	Swanneck, A500 long, 14.09x4.21" (358x107mm)	22 Degree	R5A - 22L
5	Swanneck, A500	35 Degree	R5A - 35
5	Swanneck, A500	45 Degree	R5A - 45
5	Swanneck, A500 long, 14.09x4.21" (358x107mm)	45 Degree	R5A - 45L
6	O-Ring 18 x 1 mm		165.0067
7	O-Ring 10 x 1 mm		165.0081
8	Intermediate Module, A360 & A500		R5A - IM
9	O-Ring 3 x 1.5 mm A360 & A500		165.0007
10	O-Ring 5 x 1 mm A360 & A500		165.0072
11	Neckliner A360 & A500	See page 8	See page 8
12	O-Ring for Neckliners		165.0072
N/S	Alignment Jig	180 Degree, 22 Degree, 45 Degree	837.0500
N/S	Alignment Jig	22 Degree long, 45 Degree long	837.0510

Long neckliners required for long swannecks.

N/S = Not Shown

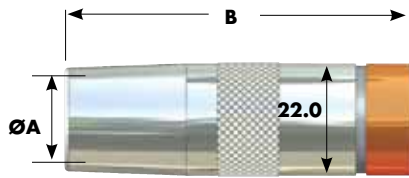
Alignment Jigs see Page 17



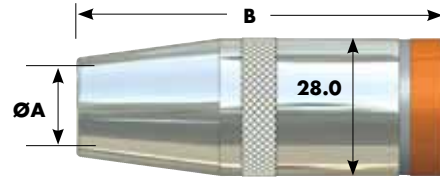
Diffusers/Tip Holders (packaged 10 per bag)

Model	Description	Part No.
A360	Diffuser/Tip Holder for M6 Contact Tips - ABIROB® A360 Standard	R3A-D-M6
A500	Diffuser/Tip Holder for M8 Contact Tips - ABIROB® A500 Standard	R5A-D-M8
A500	Diffuser/Tip Holder for M6 Contact Tips - ABIROB® A500 Optional	R5A-D-M6

Consumables: Nozzles, Contact Tips



Conical
Bottleform not shown



Conical
Bottleform not shown

A360 Nozzles (packaged 5 per bag)

Description	Part No.	Dimension A		Dimension B		Reamer	Clamp Set	V-Block
		Inch	mm	Inch	mm			
Conical - Flush	R3A-N-62F	5/8"	16mm	2.68"	68mm	831.0487	831.0166	831.0371
Conical - Recess 2mm	R3A-N-62R	5/8"	16mm	2.75"	70mm	831.0487	831.0166	831.0371
Conical - Stickout 3mm	R3A-N-62S	5/8"	16mm	2.56"	65mm	831.0589	831.0166	831.0371
Conical - Flush	R3A-N-56F	9/16"	14mm	2.68"	68mm	831.0592	831.0166	831.0371
Conical - Recess 2mm	R3A-N-56R	9/16"	14mm	2.75"	70mm	831.0592	831.0166	831.0371
Conical - Stickout 3mm	R3A-N-56S	9/16"	14mm	2.56"	65mm	831.0593	831.0166	831.0371
Bottleform - Flush	R3A-NB-50F	1/2"	13mm	2.68"	68mm	831.0604	831.0166	831.0371
Bottleform - Stickout 3mm	R3A-NB-50S	1/2"	13mm	2.56"	65mm	831.0604	831.0166	831.0371

A500 Nozzles (packaged 5 per bag)

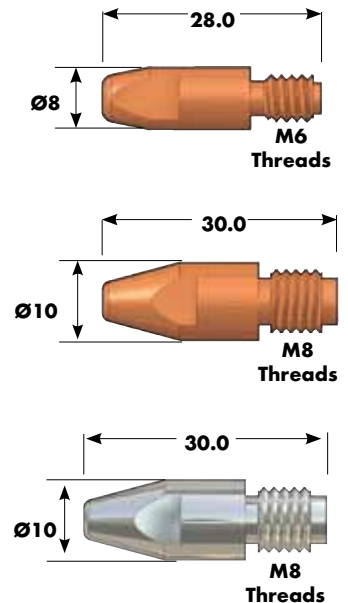
Conical - Flush	R5A-N-62F	5/8"	16mm	2.95"	75mm	831.0488	831.0148	831.0318
Conical - Recess 2mm	R5A-N-62R	5/8"	16mm	3.03"	77mm	831.0487	831.0148	831.0318
Conical - Stickout 3mm	R5A-N-62S	5/8"	16mm	2.83"	72mm	831.0591	831.0148	831.0318
Conical - Flush	*R5A-N-50F	1/2"	13mm	2.95"	75mm	**831.0180	831.0148	831.0318
Conical - Recess 2mm	*R5A-N-50R	1/2"	13mm	3.03"	77mm	**831.0180	831.0148	831.0318
Conical - Stickout 3mm	R5A-N-50S	1/2"	13mm	2.83"	72mm	**831.0169	831.0148	831.0318
Bottleform - Flush	R5A-NB-56F	9/16"	14mm	2.95"	75mm	831.0592	831.0148	831.0318
Bottleform - Recess 2mm	R5A-NB-56R	9/16"	14mm	3.03"	77mm	831.0592	831.0148	831.0318
Bottleform - Stickout 3mm	R5A-NB-56S	9/16"	14mm	2.83"	72mm	831.0593	831.0148	831.0318
Bottleform - Flush	R5A-NB-62F	5/8"	16mm	2.95"	75mm	831.0488	831.0148	831.0318
Bottleform - Recess 2mm	R5A-NB-62R	5/8"	16mm	3.03"	77mm	831.0488	831.0148	831.0318
Bottleform - Stickout 3mm	R5A-NB-62S	5/8"	16mm	2.83"	72mm	831.0591	831.0148	831.0318

* M6 Tips recommended for use with this nozzle

** For use with M6 Tips. Optional reamer for standard M8 Tips - Part No. 831.0413

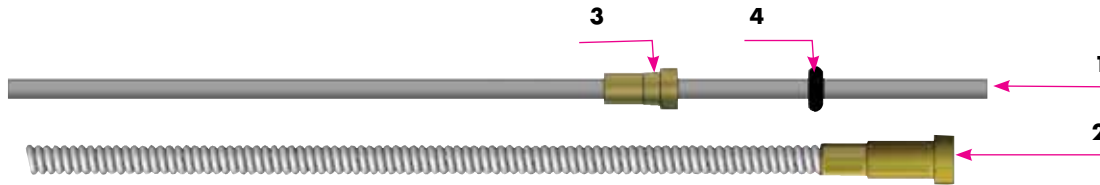
Contact Tips

Style	Wire Size		A360	A500
	Inch	mm	M6 Part No.	M8 Part No.
E - CU for Aluminum	.030	0.8	141.0001	141.0003
E - CU for Aluminum	.035	0.9	141.0004	141.0043
E - CU for Aluminum	.045	1.2	141.0010	141.0075
E - CU for Aluminum	.062	1.6	141.0020	141.0022
CuCrZr	.030	0.8	140.0054	140.0117
CuCrZr	.035	0.9	140.0172	140.0217
CuCrZr	.045	1.2	140.0382	140.0445
CuCrZr (Tight tolerance)	.045	1.2	140.1287	140.1224
CuCrZr	.052	1.4	-	140.0536
CuCrZr	.062	1.6	-	140.0590
CZ Silver Plated	.030	0.8	147.0054	147.0117
CZ Silver Plated	.035	0.9	147.0172	147.0217
CZ Silver Plated	.045	1.2	147.0382	147.0445
CZ Silver Plated (Tight tolerance)	.045	1.2	147.1287	147.1224
CZ Silver Plated	.052	1.4	-	147.0536
CZ Silver Plated	.062	1.6	-	147.0590



ABIROB® A360 / A500

Liners, Neckliners, Replacement Cable Assemblies



Liners

Item No.	Model	Description	Wire Size		Length		Part No.
			Inch	mm	Feet	Meter	
1	A360/A500	Liner for Aluminum wire	.035"-.045"	0.9-1.2mm	12 ft	3.66M	128.9002
1	A360/A500	Liner for Aluminum wire	.052"-.062"	1.4-1.6mm	12 ft	3.66M	128.9005
2	A360/A500	Liner for Steel wire	.035"-.045"	0.9-1.2mm	17 ft	5.18M	122.9057
2	A360/A500	Liner for Steel wire	.052"-.062"	1.4-1.6mm	17 ft.	5.18M	122.9058
2	A360/A500	Liner for Steel wire	.035"-.045"	0.9-1.2mm	7 ft. 3 in.	2.23M	122.9057-7
2	A360/A500	Liner for Steel wire	.052"-.062"	1.4-1.6mm	7 ft. 3 in.	2.23M	122.9058-7
3	A360/A500	Collet	.035"-.045"	0.9-1.2mm	-	-	131.0001
3	A360/A500	Collet	.052"-.062"	1.4-1.6mm	-	-	131.0002
4	A360/A500	O-Ring 3.5 x 1.5 mm	-	-	-	-	165.0008



Neckliners

Model	Description	Wire Type	Wire Size		Part No.
			Inch	mm	
A360/A500	Neckliner ABIROB® A360/A500	Steel	.035"-.045"	0.9-1.2mm	R5A-LS-3545
A360/A500	Neckliner ABIROB® A360/A500	Steel	.052"-.062"	1.4-1.6mm	R5A-LS-5262
A360/A500	Neckliner ABIROB® A360/A500	Aluminum	.035"-.045"	0.9-1.2mm	R5A-LA-3545
A360/A500	Neckliner ABIROB® A360/A500	Aluminum	.052"-.062"	1.4-1.6mm	R5A-LA-5262



ABIROB® A360 Cable Assemblies

Connection	Cable Length		Part No.
	Feet	Meter	
EURO	4 ft.	1.22M	R3A - C - 40EX
LINCOLN	4 ft.	1.22M	R3A - C - 40LX
MILLER	4 ft.	1.22M	R3A - C - 40MX
EURO	4.5 ft.	1.37M	R3A - C - 45EX
LINCOLN	4.5 ft.	1.37M	R3A - C - 45LX
MILLER	4.5 ft.	1.37M	R3A - C - 45MX
EURO	5 ft.	1.52M	R3A - C - 50EX
LINCOLN	5 ft.	1.52M	R3A - C - 50LX
MILLER	5 ft.	1.52M	R3A - C - 50MX
EURO	6 ft.	1.83M	R3A - C - 60EX
LINCOLN	6 ft.	1.83M	R3A - C - 60LX
MILLER	6 ft.	1.83M	R3A - C - 60MX
EURO	8 ft.	2.44M	R3A - C - 80EX
LINCOLN	8 ft.	2.44M	R3A - C - 80LX
MILLER	8 ft.	2.44M	R3A - C - 80MX
EURO	10 ft.	3.05M	R3A - C - 10EX
LINCOLN	10 ft.	3.05M	R3A - C - 10LX
MILLER	10 ft.	3.05M	R3A - C - 10MX

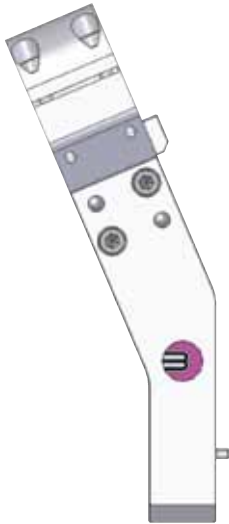
ABIROB® A500 Cable Assemblies

Connection	Cable Length		Part No.
	Feet	Meter	
EURO	4 ft.	1.22M	R5A - C - 40EX
LINCOLN	4 ft.	1.22M	R5A - C - 40LX
MILLER	4 ft.	1.22M	R5A - C - 40MX
EURO	4.5 ft.	1.37M	R5A - C - 45EX
LINCOLN	4.5 ft.	1.37M	R5A - C - 45LX
MILLER	4.5 ft.	1.37M	R5A - C - 45MX
EURO	5 ft.	1.52M	R5A - C - 50EX
LINCOLN	5 ft.	1.52M	R5A - C - 50LX
MILLER	5 ft.	1.52M	R5A - C - 50MX
EURO	6 ft.	1.83M	R5A - C - 60EX
LINCOLN	6 ft.	1.83M	R5A - C - 60LX
MILLER	6 ft.	1.83M	R5A - C - 60MX
EURO	8 ft.	2.44M	R5A - C - 80EX
LINCOLN	8 ft.	2.44M	R5A - C - 80LX
MILLER	8 ft.	2.44M	R5A - C - 80MX
EURO	10 ft.	3.05M	R5A - C - 10EX
LINCOLN	10 ft.	3.05M	R5A - C - 10LX
MILLER	10 ft.	3.05M	R5A - C - 10MX

Mounting Brackets and Tool Center Point

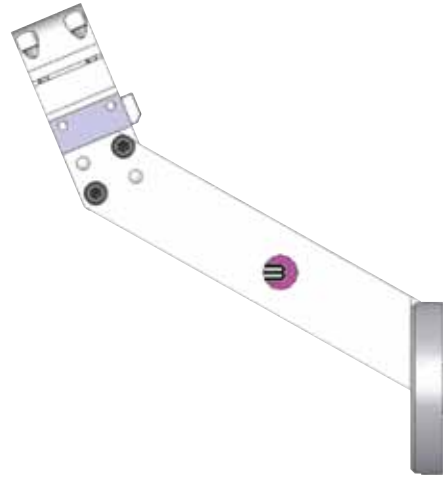
1. Mount Arm for CAT2

To be used on robots with Binzel CAT2 collision mount

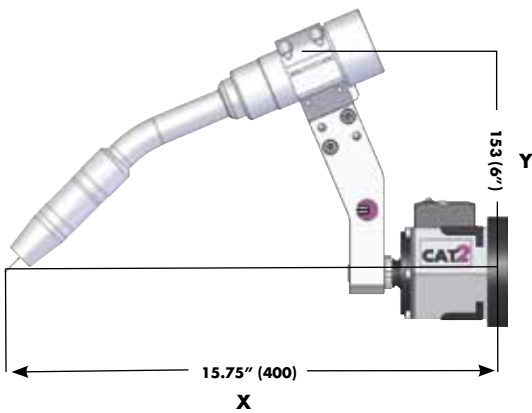


2. CAT-R Solid Torch Mount

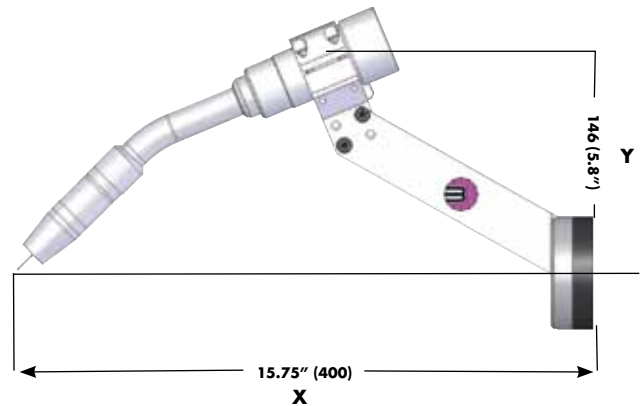
To be used on robots with integrated collision software



1. CAT2 Torch Mount



2. CAT-R Solid Torch Mount



Mounting Arms and Solid Torch Mounts for ABIROB® A360 and A500

Item No.	Description	Swanneck	TCP/X	Y	Part No.
1	Mounting Arm for CAT2	22 Degree	15.75" (400)	6" (153)	780.0174
1	Mounting Arm for CAT2	22 Degree	13.8" (350)	6" (153)	780.0268
1	Mounting Arm for CAT2	35 Degree	13.8" (350)	5" (126)	780.0272
1	Mounting Arm for CAT2	45 Degree	13.8" (350)	5" (126)	780.0270
1	Mounting Arm for CAT2	180 Degree	11.42" (290)	7.4" (187)	780.0264
2	CAT-R Solid Mount	22 Degree	15.75" (400)	5.8" (146)	780.9313
2	CAT-R Solid Mount	22 Degree	12.5" (318)	5.6" (143)	780.9325
2	CAT-R Solid Mount	22 Degree	13.8" (350)	5.8" (146)	780.9312

ROBO WH 242D/500T/652T

Quick-Change Water-cooled Torches

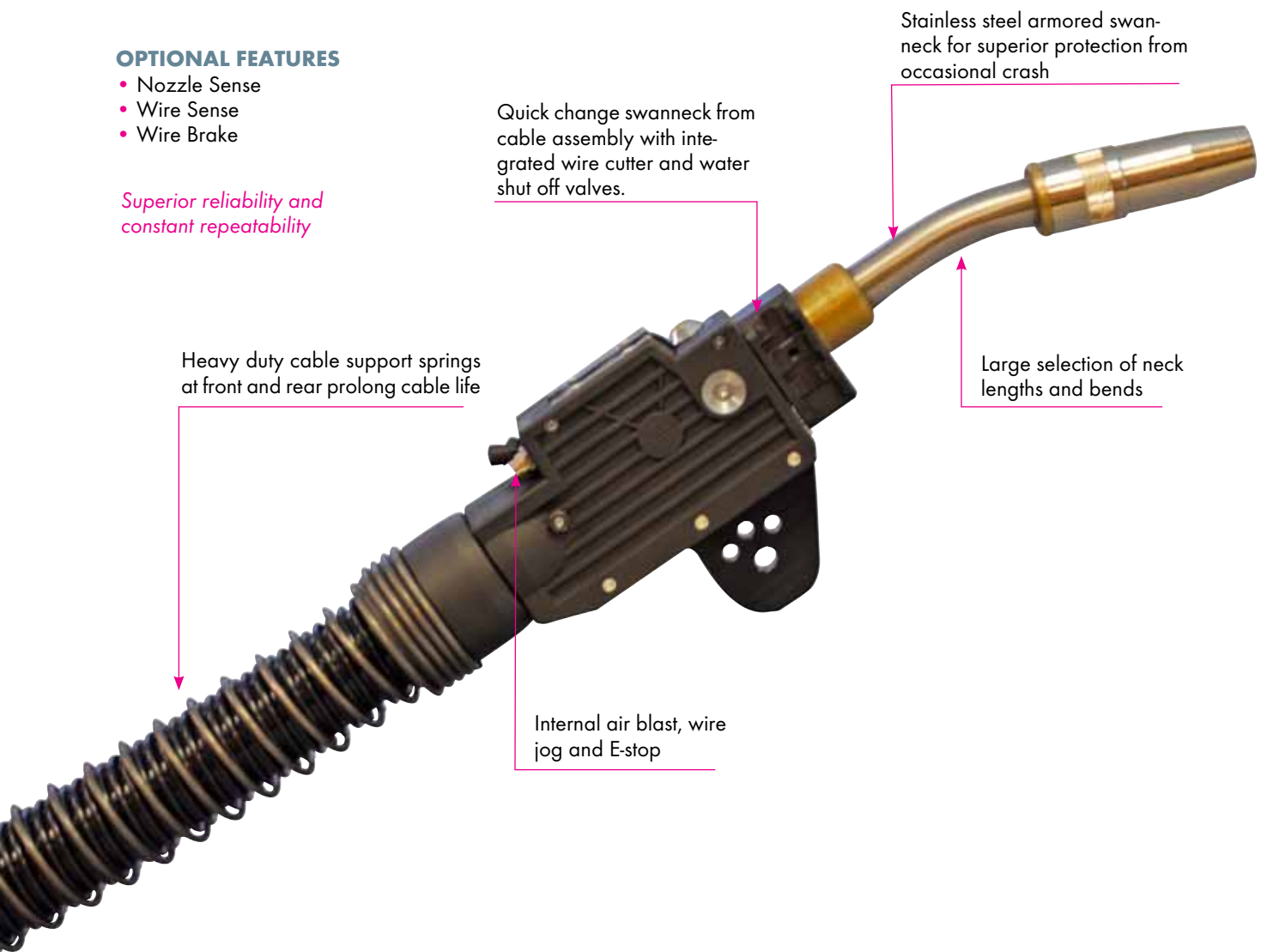
This WH Series of torches with their interchangeable neck system are the most versatile robotic water-cooled torches on the market. Quick-change neck, quick-change consumables, quick-change welding job - less down time and more costs savings. WH torches range from 350 to 650 amperes - simply by changing the neck - no need to purchase another torch.

- Neck style must be specified
- Neck must be ordered separately
- Highly recommend spare neck for use as back-up during tip and nozzle replacement
- Alignment and Test Jig recommended for checking neck geometry and correcting alignment as necessary prior to use

OPTIONAL FEATURES

- Nozzle Sense
- Wire Sense
- Wire Brake

Superior reliability and constant repeatability

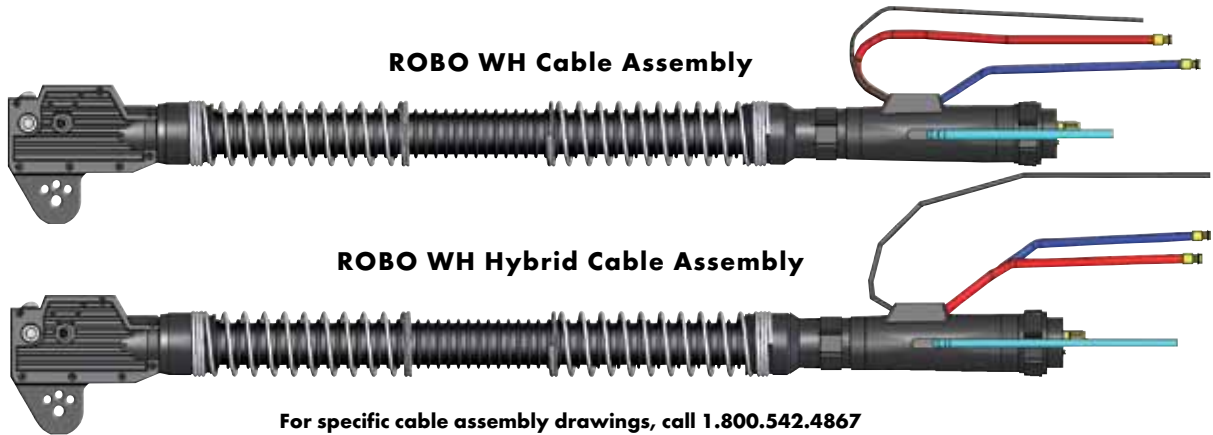


ROBO WH 242D/500T/652T

Type / Rating	* Shielding Gas		Duty Cycle (%)	Wire Size	
	CO ₂	Mixed		Inch	mm
Robo WH 242D	320	280	100%	.030"-.045"	0.8-1.2mm
Robo WH 500T	550	500	100%	.030"-.062"	0.8-1.6mm
Robo WH 652T	600	550	100%	.035"-.062"	0.9-1.6mm

Available standard torch neck geometries: 22, 45, and 180 degrees. Special bends and lengths available.
 *Certain mixed gases and/or pulsed arc welding may reduce the ratings by as much as 35%.

Cable Assembly & Ordering



ORDERING INSTRUCTIONS COMPLETE BODY & CABLE ASSEMBLIES

Example: 960W-40EX-C

960	W	-	40	E	X	-	G
TORCH MODEL	TYPE		CABLE LENGTH	BACK END	CONTROL CONNECTOR		OPTIONS
960 - WH	W - Water Cool H - Hybrid		30 - 3 ft 40 - 4 ft 45 - 4.5 ft 50 - 5 ft 60 - 6 ft 70 - 7 ft 80 - 8 ft 90 - 9 ft 10 - 10 ft	C - OTC Daihen® CMRE 741 AF4001 D - OTC Daihen® CM 147,231 E - Euro F - Fronius® VR 1500/4000 K - Lincoln® PF10, 4R90 L - Lincoln® Synergic 7, LN Series M - Miller® P - Panasonic® T - Motoman®/Tweco® #5	X - None B - Brad Harrison® 5 Pin C - Burndy® 12 Pin ABB® from 1996 D - Amp 4 Pin Motoman® E - DDK 5 Pin Fanuc® F - Amp 5 Pin ABB® before 1996 G - Amp 7 Pin Motoman® Optional H - Denki® 2 Pin J - Panasonic® K - OTC Daihen® 2-Pin		A - Nozzle Sense B - Voltage Sense E - ABB Water fittings F - No Airblast *G - Wire Brake 035/045 *H - Wire Brake 052/062

*Wire brake options available on 960W water-cooled models only

ORD.0005

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Collision Mounts
See pages 18 - 23



Mounting Arms
See Page 22

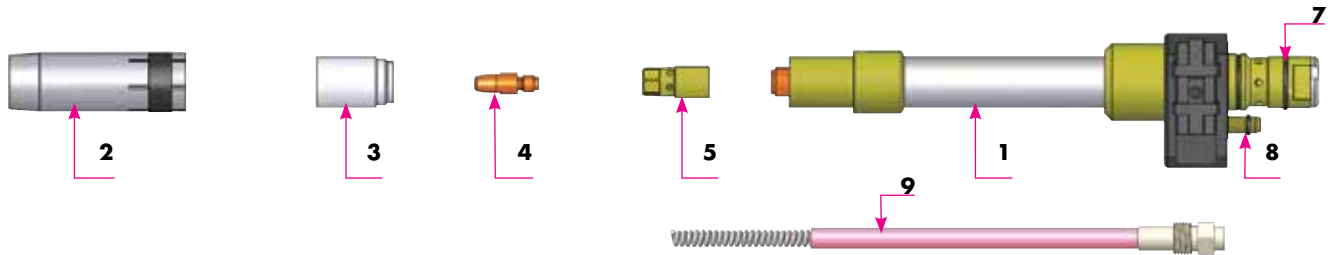


Alignment Jigs
See Page 17

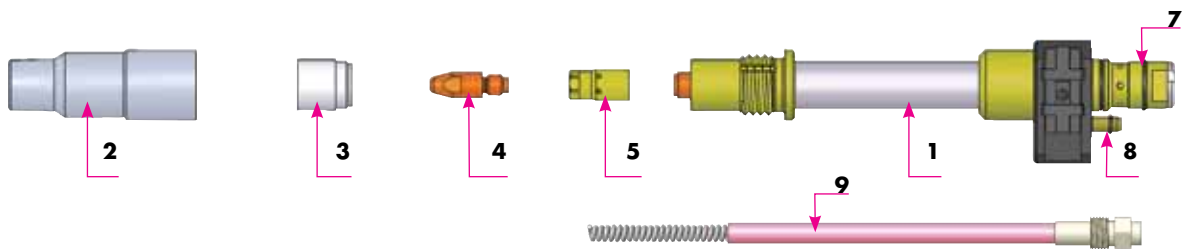
ROBO WH 242D/500T/652T

Swanneck Assemblies

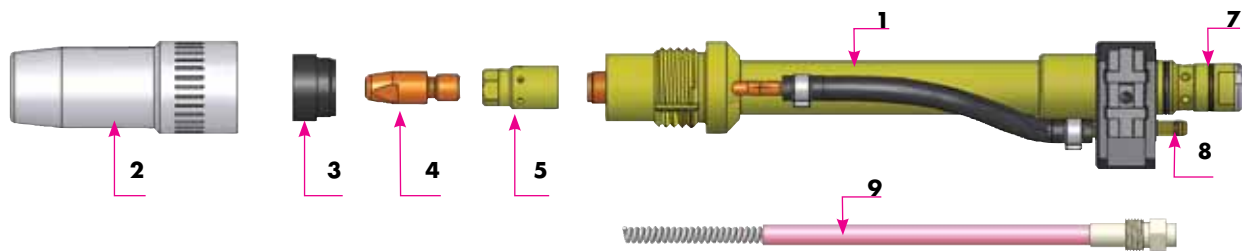
ROBO WH 242D Front End



ROBO WH 500T Front End



ROBO WH 652T Front End

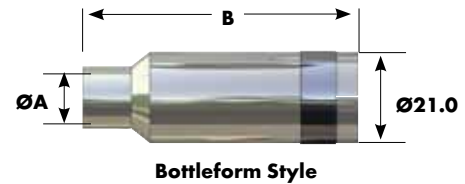
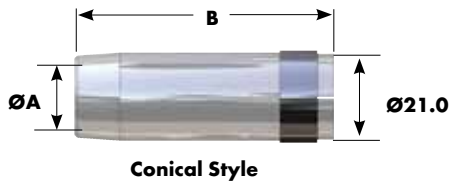


ROBO WH 242D/500T/652T

Item No.	Description	22 Degree Part No.	45 Degree Part No.	180 Degree Part No.
1	WH242D	962.1315	962.1316	962.1314
1	WH242D w/Nozzle Sense	Call	Call	Call
1	WH500T	962.1549	962.1532	962.1550
1	WH500T w/Nozzle Sense	962.9945.US	962.9948.US	962.9955.US
1	WH652T	962.1365	962.1366	962.1353
1	WH652T w/Nozzle Sense	962.1375	962.1376	962.1374
2	Nozzles	Page 13	Page 13	Page 13
3	Nozzle Insulators/Diffusers	Page 15	Page 15	Page 15
4	Contact Tips	Page 14	Page 14	Page 14
5	Tip Holder/Diffusers	Page 14	Page 14	Page 14
7	O-Ring 15 x 1.5	165.0015	165.0015	165.0015
8	O-Ring 3.5 x 1.2	165.0062	165.0062	165.0062
9	Neckliners	Page 15	Page 15	Page 15
Not Shown	Alignment Jig WH242D	837.0020	837.0020	837.0020
Not Shown	Alignment Jig WH500T	837.9006	837.9006	837.9006
Not Shown	Alignment Jig WH652T	837.0099	837.0099	837.0099

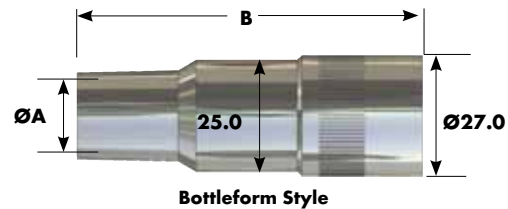
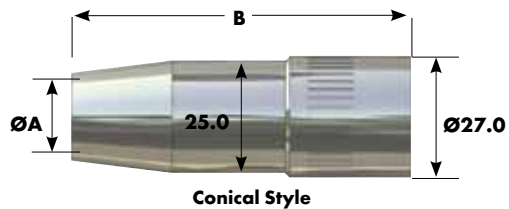
Alignment Jigs see Page 17

Consumables: Nozzles



WH 242D Slip-on Nozzles

Description	Nozzle Part No.	Dimension A		Dimension B		Reamer M6 Tips	Clamp Set	V-Block
		Inch	mm	Inch	mm			
Conical (1.5mm recess)	145.0090	5/8"	15.5mm	2.44"	62.0mm	831.0022	831.0146	831.0314
Conical (1.5mm recess)	145.0135	1/2"	13.0mm	2.44"	62.0mm	831.0361	831.0146	831.0314
Conical (3.5mm stickout)	145.0472	5/8"	15.5mm	2.24"	57.0mm	831.0237	831.0146	831.0314
Conical (3.5mm stickout)	145.0473	1/2"	13.0mm	2.24"	57.0mm	831.0356	831.0146	831.0314
Conical (1.5mm stickout)	145.0547	1/2"	13.0mm	2.32"	59.0mm	831.0356	831.0146	831.0314
Bottleform (1.5mm recess)	145.0159	7/16"	11.0mm	2.44"	62.0mm	CALL	831.0146	831.0314



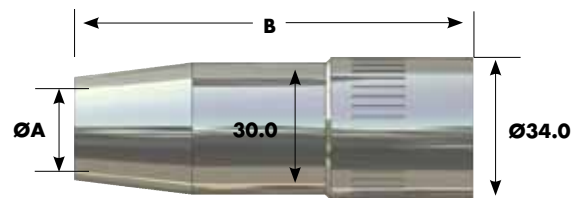
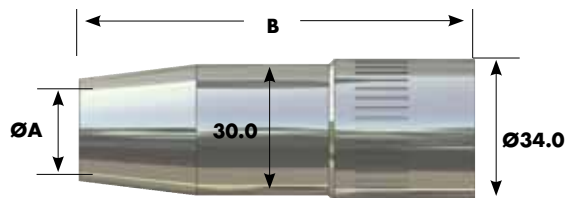
WH 500T Coarse Threaded Nozzles

Description	Nozzle Part No.	Dimension A		Dimension B		Reamer [†] M8 Tips	Clamp Set	V-Block
		Inch	mm	Inch	mm			
Bottleform (3mm recess)	145.0480	5/8"	15.5mm	3.03"	77.0mm	831.0023	831.0147	831.0316
Bottleform (1.5mm recess)	145.0544	5/8"	15.5mm	2.97"	75.5mm	831.0023	831.0147	831.0316
Bottleform (2mm stickout)	145.0466	5/8"	15.5mm	2.83"	72.0mm	831.0216	831.0147	831.0316
Bottleform (1.5mm recess)	*145.0479	1/2"	13.0mm	2.97"	75.5mm	831.0413	831.0147	831.0316
Conical Small (1.5mm recess)	*145.0553	5/8"	15.5mm	2.97"	75.5mm	831.0023	831.0147	831.0316
Bottleform (1.5mm recess)	145.0554	5/8"	15.5mm	3.36"	85.5mm	831.0023	831.0147	831.0316
Cylindrical (4mm stickout)	145.0561	3/4"	20.0mm	2.75"	70.0mm	831.0369	831.0147	831.0316
Bottleform (7mm stickout)	145.0520	5/8"	15.5mm	2.63"	67.0mm	†831.0577	831.0147	831.0316
Conical (1.0mm recess inside straight)	**145.0668	5/8"	15.5mm	2.97"	75.5mm	831.0023	831.0147	831.0316

* Inside taper for aluminum, and galvanized welding.

** Similar to standard Slip-On 145.0089

† Reamer for M6 Tips 831.0578

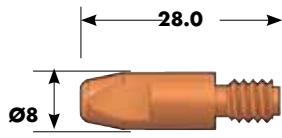


WH 652T Coarse Threaded Nozzles

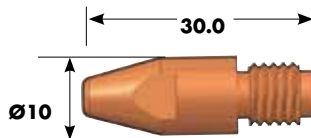
Description	Nozzle Part No.	Dimension A		Dimension B		Reamer M10 Tips	Clamp Set	V-Block
		Inch	mm	Inch	mm			
Conical (1.5mm recess)	145.0574	3/4"	18.0mm	3.30"	84.0mm	831.0587	831.0781	831.0319
Conical (1.5mm recess)	145.0575	7/8"	21.5mm	3.30"	84.0mm	831.0547	831.0781	831.0319
Conical (flush)	145.0606	3/4"	18.0mm	3.22"	82.0mm	831.0587	831.0781	831.0319

ROBO WH 242D/500T/652T

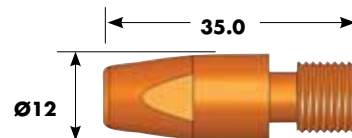
Consumables: Contact Tips, Tip Holders/Diffusers



M6



M8

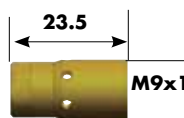


M10

Contact Tips

Style	Wire Size		242D/500T *	500T/652T *	652T *
	Inch	mm	M6 Contact Tip	M8 Contact Tip	M10 Contact Tip
CuCrZr	.030	0.8	140.0054	140.0117	-
CuCrZr	.035	0.9	140.0172	140.0217	140.1248
CuCrZr	.040	1.0	140.0245	140.0316	140.0348
CuCrZr	.045	1.2	140.0382	140.0445	140.0481
CuCrZr (Tight tolerance)	.045	1.2	140.1287	140.1224	140.1261
CuCrZr	.052	1.4	-	140.0536	140.0547
CuCrZr	.062	1.6	-	140.0590	140.0616
CuCrZr (Tight tolerance)	.052	1.4	-	140.1260	-
CZ Silver Plated	.030	0.8	147.0054	147.0117	-
CZ Silver Plated	.035	0.9	147.0172	147.0217	-
CZ Silver Plated	.045	1.2	147.0382	147.0445	147.0481
CZ Silver Plated (Tight tolerance)	.045	1.2	147.1287	147.1224	-
CZ Silver Plated	.052	1.4	-	147.0536	147.0547
CZ Silver Plated (Tight tolerance)	.052	1.4	-	147.1260	-
CZ Silver Plated	.062	1.6	-	147.0590	147.0616
E - CU	.030	0.8	140.0051	140.0114	-
E - CU	.035	0.9	140.0169	140.0214	-
E - CU	.045	1.2	140.0379	140.0442	-
E - CU (Tight tolerance)	.045	1.2	140.0379	140.1227	-
E - CU	.052	1.4	140.0516	140.0533	-
E - CU	.062	1.6	140.0555	140.0587	-
E - CU for Aluminum	.030	0.8	141.0001	141.0003	-
E - CU for Aluminum	.035	0.9	141.0004	141.0043	-
E - CU for Aluminum	.045	1.2	141.0010	141.0075	-
E - CU for Aluminum	.062	1.6	141.0020	141.0022	-

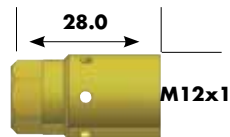
* Must be used with matching Tip Holder - see below



WH242D



WH500T



WH652T

Tip Holders/Diffusers(packaged 10 per bag)

Description	WH 242D Part No.	WH 500T Part No.	WH 652T Part No.
M6 Contact Tips	142.0149	142.0133	-
M8 Contact Tips	-	142.0117	142.0148
M10 Contact Tips	-	-	142.0145

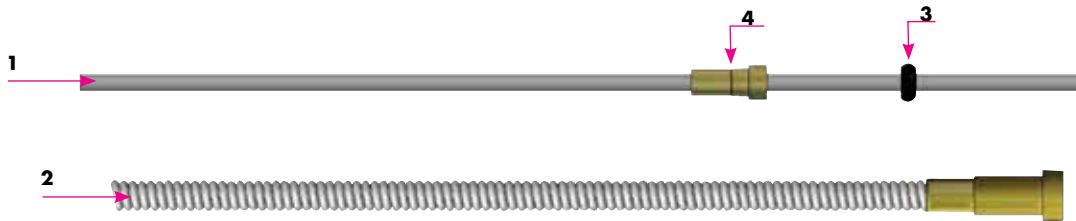
Consumables: Diffusers/Nozzle Insulators, Liners, Neckliners



Diffusers and Nozzle Insulators (packaged 10 per bag)

Description	WH 242D Part No.	WH 500T Part No.	WH 652T Part No.
Cylindrical Insulator	146.0066	146.0054	-
Hi-Temperature Insulator	-	146.0059	146.0056
Insulator Short - N/S	-	146.0064	146.9060
Ceramic Insulator - N/S	-	146.0070	146.0069
Diffuser/Insulator	284.0138	943.0170	-
Diffuser/Insulator Short - N/S	-	943.0284	-

N/S = Not Shown



Liners and Liner Parts

Item No.	Description	Wire Size		Length		Part No.
		Inch	mm	Feet	Meter	
1	Liner for Aluminum wire	.035"-.045"	0.9-1.2mm	17 ft.	5.18M	128.9004
1	Liner for Aluminum wire	.052"-.062"	1.4-1.6mm	17 ft.	5.18M	128.9010
2	Liner for Steel wire	.035"-.045"	0.9-1.2mm	17 ft.	5.18M	122.9057
2	Liner for Steel wire	.052"-.062"	1.4-1.6mm	17 ft.	5.18M	122.9058
2	Liner for Steel wire	.035"-.045"	0.9-1.2mm	7 ft. 3 inch	2.23M	122.9057-7
2	Liner for Steel wire	.052"-.062"	1.4-1.6mm	7 ft. 3 inch	2.23M	122.9058-7
3	O-Ring 3.5 x 1.5 mm	-	-	-	-	165.0008
4	Collet	.035"-.045"	0.9-1.2mm	-	-	131.0001
4	Collet	.052"-.062"	1.4-1.6mm	-	-	131.0002



Neckliners

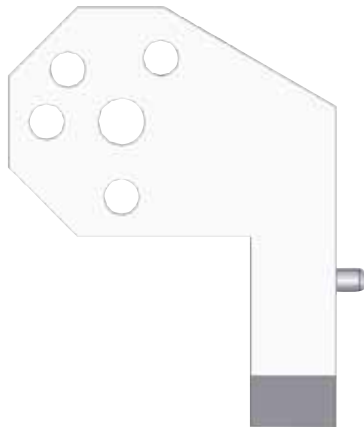
Description	WH 242D		WH 500T		WH 652T	
	.035"-.045" 0.9-1.2mm	.052"-.062" 1.4-1.6mm	.035"-.045" 0.9-1.2mm	.052"-.062" 1.4mm-1.6mm	.035"-.045" 0.9-1.2mm	.052"-.062" 1.4mm-1.6mm
Neckliner for Steel Wire, 180/22 degree	149.0068	-	962.9054	962.9069	149.0107	149.0108
Neckliner for Steel Wire, 45 degree	149.0003	-	962.9055	962.9070	149.0107	149.0108
Neckliner for Alum Wire, 180/22 degree	149.0007	-	962.9073	962.9075	149.0088	149.0093
Neckliner for Alum Wire, 45 degree	149.0044	149.0017	962.9074	962.9076	149.0088	149.0093

ROBO WH 242D/500T/652T

Mounting Brackets and Tool Center Point

1. Mount Arm for CAT2

To be used on robots with Binzel
CAT2 collision mount

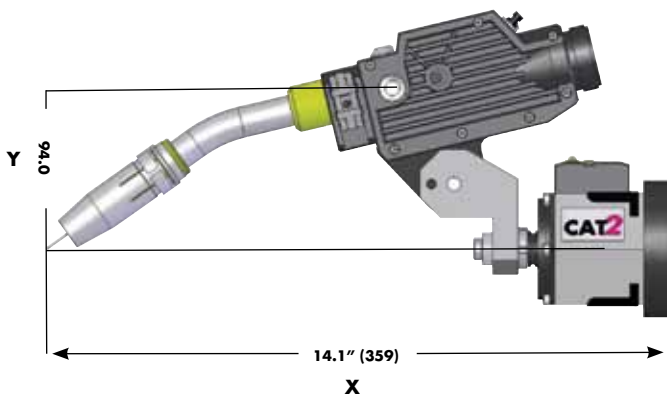


2. CAT-R Solid Torch Mount

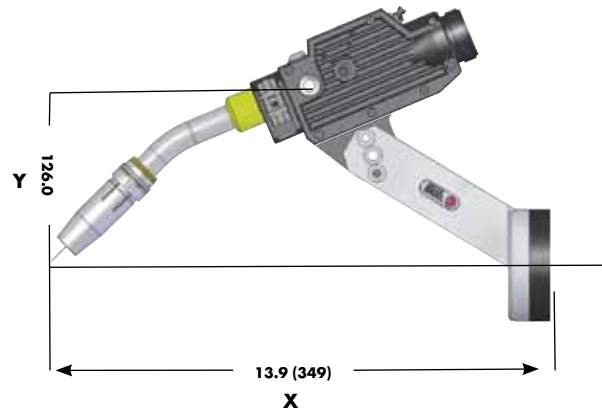
To be used on robots with
integrated collision software



1. CAT2 Torch Mount



2. CAT-R Solid Torch Mount



Other Brackets/TCP available

Link Arms and Solid Torch Mounts for Robo WH 242D, 500T, 652T

Item No.	Description	Swanneck	TCP/X	Y	Part No.
1	CAT2 Link Arm for WH242D	22 Degree	14.1" (359)	94.0	780.0123
1	CAT2 Link Arm for WH242D	45 Degree	13.9" (354)	100.0	780.0123
1	CAT2 Link Arm for WH500T	22 Degree	14.1" (359)	94.0	780.0123
1	CAT2 Link Arm for WH500T	45 Degree	13.9" (354)	100.0	780.0123
1	CAT2 Link Arm for WH652T	22 Degree	16.3" (415)	95.0	780.0123
1	CAT2 Link Arm for WH652T	45 Degree	14.0" (358)	111.0	780.0123
2	CAT-R Solid Mount for WH242D	22 Degree	13.7" (349)	126.0	780.9306
2	CAT-R Solid Mount for WH242D	45 Degree	13.6" (345)	134.0	780.9306
2	CAT-R Solid Mount for WH500T	22 Degree	13.7" (349)	126.0	780.9306
2	CAT-R Solid Mount for WH500T	45 Degree	13.8" (345)	134.0	780.9306
2	CAT-R Solid Mount for WH652T	22 Degree	15.9" (405)	153.0	780.9328
2	CAT-R Solid Mount for WH652T	45 Degree	14.9" (379)	136.0	780.9306

NECK ALIGNMENT / TEST JIGS

Exact torch neck geometry

The alignment jig makes it possible to check and re-adjust the geometry of ABICOR BINZEL replacement neck torches outside the welding cell. The alignment jig is fitted with a guiding body which can be mounted in position according to the torch geometry.

* Using a special fitting set (P/N 837.0031), the WH necks can be tested for water flow, water leakage and gas flow. In addition the gas channels can be blown through with compressed air for cleaning purposes.



ABIROB® Alignment Jig

Description	Part No.
Alignment Jig 360A/500A - Standard	837.0500
Alignment Jig 360A OTC TCP	837.0530
Alignment Jig 360A/500A Long	837.0640

*WH Alignment Jig

Description	Part No.
Alignment Jig 241/242/455/505/505T/500T - Standard	837.9006



*WH Alignment Jig

Description	Part No.
Alignment Jig WH 650/652D/652T Standard	837.0099

ROBOT MOUNTS

CAT2 – Stop collisions quickly.

Faster robots, increasing dynamics, and thinner metals with complex outlines can lead to a collision of the torch to the work piece. The **CAT2** robot mount protects against collisions with optimized resetting accuracy. Safety switch sensitivity can be user adjusted.

The wide range of accessories gives the **CAT2** a multitude of mounts and extensions for realizing the desired TCP.

- Variable deflection in every position
- Instantaneous stop in case of collision
- Precise repeatability minimizes downtime
- Precise switch points by innovative switching-time response
- Perfect for light gauge sheet metal operations
- Visual LED "ready" light
- Covered screws for quick service
- Adaptable to all robot types and handling systems - by adapter flange



Technical data:

Robot mount CAT2

Dimension: Corner width, 2.95" (75mm)
Across flats, 2.55" (65mm)
Height, 3.43" (87mm)

Weight: Approximately 1.38lbs.

Release Force: See page 19

Max. Excursion: Through Z-axis, 360°, In X- and Y-plane, 10° - 14°,
In Z-plane, 0.16" - 0.31" (4-8mm)

E-Stop Release: Through Z-axis, 0.5°-1° Deviation through X-and Y-
direction minimum 1.5°, Deviation in Z-direction 0.02"-
0.04" (0.5-1mm)

Repeatability: $\pm 0.004\text{''}$ (0.1mm) at 11.81" (300mm)
Stand-off from robot flange

Safety Switch: 24VDC
100A



ORDERING INSTRUCTIONS FOR COMPLETE TORCH MOUNT KITS

Example: CAT2-MSC-11

CAT2	-	M	S	-	C	-	1	1
MOUNT TYPE		SPRING SIZE	CONNECTOR STYLE		CABLE		LINK ARM	CLAMP
Collision Mount with LED								
			CONNECTOR STYLE				LINK ARM	OPTIONS
		SPRING SIZE	S - Standard Connector 780.2110				1 - Link Arm Standard Short Robo/WH 780.0123	1 - Standard Robo Torch Clamp 31mm 780.9006
		S - Small M - Medium L - Large X - Extra Large			CABLE		2 - Link Arm Long WH 780.0160 A - 780.0220	2 - Standard Mt. Fuji Torch Clamp 780.0145
					C - Cored Safety Cable -780.0116		3 - Link Arm Long VTS 780.9094 B - 780.9069	3 - Standard ABIROB/VTS 500 Torch Clamp 780.0259
					S - Straight Safety Cable - 780.0112		C - 836.9510 Qty. 2	4 - Standard ABITIG WH Torch Clamp 45mm 963.0007
					B - Bare 17' Safety Cable - 780.0142		D - 780.9061	
					X - No Safety Cable		E - 780.0114	
							F - Link Arm SPL 780.0194	
							G - Link Arm WH652T Z-Axis	
							Z - Axis	

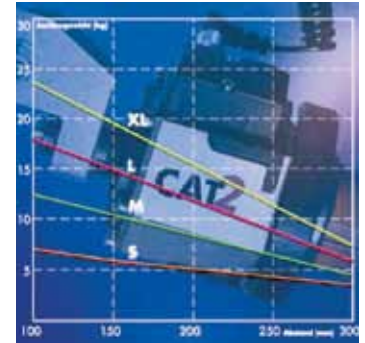
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CAT2 – Safer welding

Deflection of the CAT2:

- Collision in direction of the X- or Y-axis
- Rotation around the Z-axis
- Collision in direction of the Z-axis

The release torque is defined by the spring types, depending on application and weight of the torch. There are four spring types available - see table.



Release Force (N)		
Spring Type	Release Force X-, Y-axis (N)	Release Force Z-axis (N)
S	46	475
M	80	535
L	85	925
XL	150	1540



Flange	
Robot Model	Flange No.
ABB® 2400/10, 2400/16	780.0608
ABB® 1400	780.0604
ABB® 2400 L	780.0604
ABB® 4400 M94A	780.0649
ABB® IRB 1000-3200	780.0604
FANUC® 1001/120i/120il	780.0604
FANUC® 50il	780.0632
FANUC® ARMCIMATE JR/SR	780.0606
KAWASAKI® JS6/JS10	780.0604
KAWASAKI® FA06	780.0612
KUKA® KR-6/KR15	780.0603
MILLER® MRV5	780.0623
MILLER® MRV6	780.0604
MILLER® MRH5	780.0623
MOTOMAN® K6/K10	780.0604
MOTOMAN® SK6/SK10	780.0604
OTC® DR3000	780.0629
OTC® DR4000	780.0604
PANASONIC® AW10A/6A	780.0616
PANASONIC® VR6/8	780.0616
PANASONIC® VR32	700.0654
REIS® RV6	780.0603
REIS® RV12/122/15	780.0614

Note: other models available

Adapter flanges are available for all common welding robots. Please indicate the type of robot and model of robot.

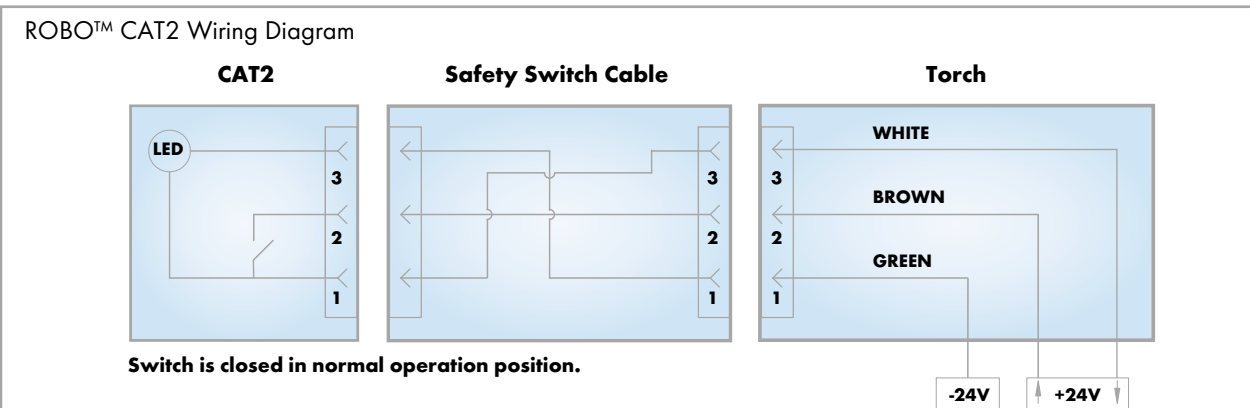


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ROBOT MOUNTS

iCAT – Safety and flexibility in perfect interaction

iCAT - the robot mount for the latest generation of welding robots with central service cables guided through the 6th axis - offering a high level of safety and flexibility. Precisely designed to meet robot manufacturers' exact specifications.

- Extremely torsion resistant cable assembly rotatable +/- 355° in all axis and +/- 200° in the 6th axis.
- Safety and optimal system performance due to high repeatability
- Rugged, simple design ensures high productivity and long life
- High flexibility and optimal work piece accessibility
- Reduction of maintenance costs due to easy assembly and handling
- Highest reliability offered through comprehensive protection against dust and spatters
- Additional features include optional airblast and anti-spatter injection through the cable assembly



ABIROB® A360 Air-Cooled

*Rating: 360 A CO2
290 A Mixed Gases
Duty Cycle: 100%
Wire Size: .030"-.045" (0.8-1.2mm)
Weight with neck: 2.65 lbs (1200g) approximate

ABIROB® A500 Air-Cooled

*Rating: 420 A CO2
370 A Mixed Gases
Duty Cycle: 100%
Wire Size: .030"-.062" (0.8-1.6mm)
Weight with neck: 2.65 lbs (1200g) approximate

ABIROB® W500 Water-Cooled

*Rating: 450 A CO2
400 A Mixed Gases
Duty Cycle: 100%
Wire Size: .030"-.062" (0.8-1.6mm)
Weight with neck: 3.31 lbs (1500g) approximate

WH 242 - 652 Water-Cooled

*Rating: ** up to 600 A CO2
(Depending on Model)
** up to 550 A Mixed Gases -
(Depending on Model)
Duty Cycle: 100%
Wire Size: .030"-.062" (0.8-1.6mm)
Weight with neck: 3.31 lbs (1500g) approximate

Technical data:

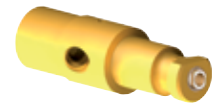
Weight : varies by model
Excursion: approx. 11°
Repeat accuracy: ≤ +/-0.05mm

Technical data standard torches ABIROB®
(air-cooled) according to EN 60 974-7

Machine End Connectors



ABICOR Binzel
Euro central connector



Panasonic® wire feeder



Lincoln® wire feeder



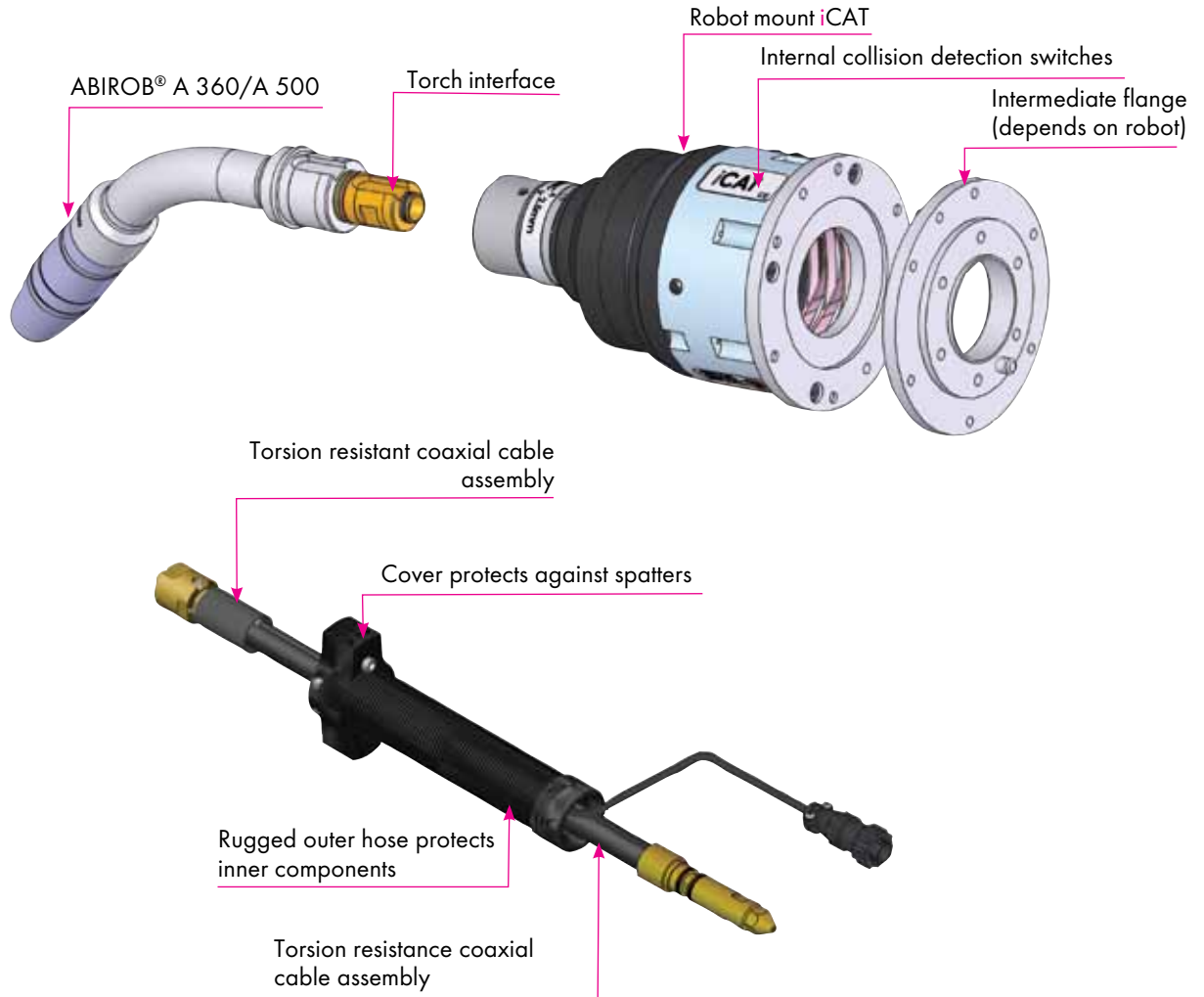
Fronius® wire feeder

Panasonic® is a registered trademark of Panasonic Corporation.
Lincoln® is a registered trademark of Lincoln Electric Company
Fronius® is a registered trademark of Fronius International GmbH

* Certain mixed gases and/or pulsed arc welding may reduce the ratings by as much as 35%.

** Applications exceeding 400 amperes mixed gas require a specialty water-cooled cable assembly. Please call ABICOR BINZEL Product Department.

iCAT ASSEMBLY OVERVIEW (Air-Cooled Shown)



ORDERING INSTRUCTIONS FOR COMPLETE TORCH MOUNT KITS

Example: iCAT-M1X

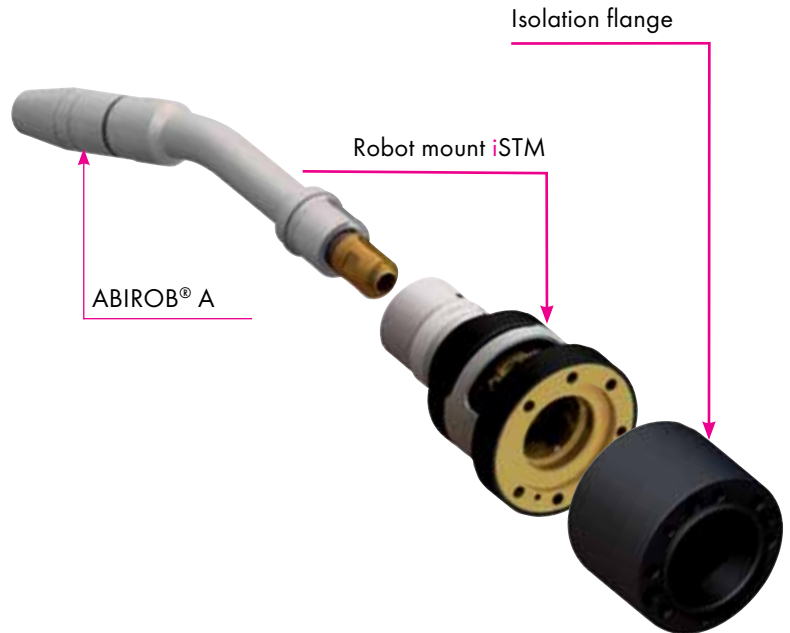
iCAT	-	M	1	X
MOUNT TYPE		SPRING SIZE	TORCH MODEL	ROBOT FLANGE
Collision Mount		SPRING SIZE M - Medium	TORCH MODEL X - Base Torch mount 1 - ABIROB® Air-Cooled 2 - ABIROB® Water-Cooled 3 - Robo WH Water-Cooled Short TCP/Long TCP 4 - Robo WH Water-Cooled Short TCP with Quick Change Cable	ROBOT FLANGE X - None

ROBOT MOUNTS

iSTM – For the latest generation of welding robots.

iSTM - the robot mount for the latest generation of welding robots with integrated collision software. Safety and flexibility can be assured due to the centrally-guided cable assembly through the 6th axis for air- and water-cooled torches.

- Extremely torsion resistant cable assembly rotatable +/- 355° in all axis and +/- 200° in the 6th axis.
- Safety and optimal system performance due to high repeatability
- Rugged, simple design ensures high productivity and long life
- High flexibility and optimal work-piece accessibility
- Reduction of maintenance costs due to easy assembly and handling
- Highest reliability offered through comprehensive protection against dust and spatters
- Additional features include optional airblast and anti-spatter injection through the cable assembly



ABIROB® A360 Air-Cooled

*Rating: 360 A CO2
290 A Mixed Gases
Duty Cycle: 100%
Wire Size: .030"-.045" (0.8-1.2mm)
Weight: Varies by model

ABIROB® A500 Air-Cooled

*Rating: 420 A CO2
370 A Mixed Gases
Duty Cycle: 100%
Wire Size: .030"-.062" (0.8-1.6mm)
Weight: Varies by model

ABIROB® W500 Water-Cooled

*Rating: 450 A CO2
400 A Mixed Gases
Duty Cycle: 100%
Wire Size: .030"-.062" (0.8-1.6mm)
Weight: Varies by model

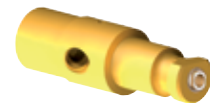
WH 242 - 652 Water-Cooled

*Rating: ** up to 600 A CO2
(Depending on Model)
** up to 550 A Mixed Gases -
(Depending on Model)
Duty Cycle: 100%
Wire Size: .030"-.062" (0.8-1.6mm)
Weight: Varies by model

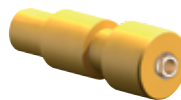
Machine End Connectors



ABICOR Binzel
Euro central connector



Panasonic® wire feeder



Lincoln® wire feeder



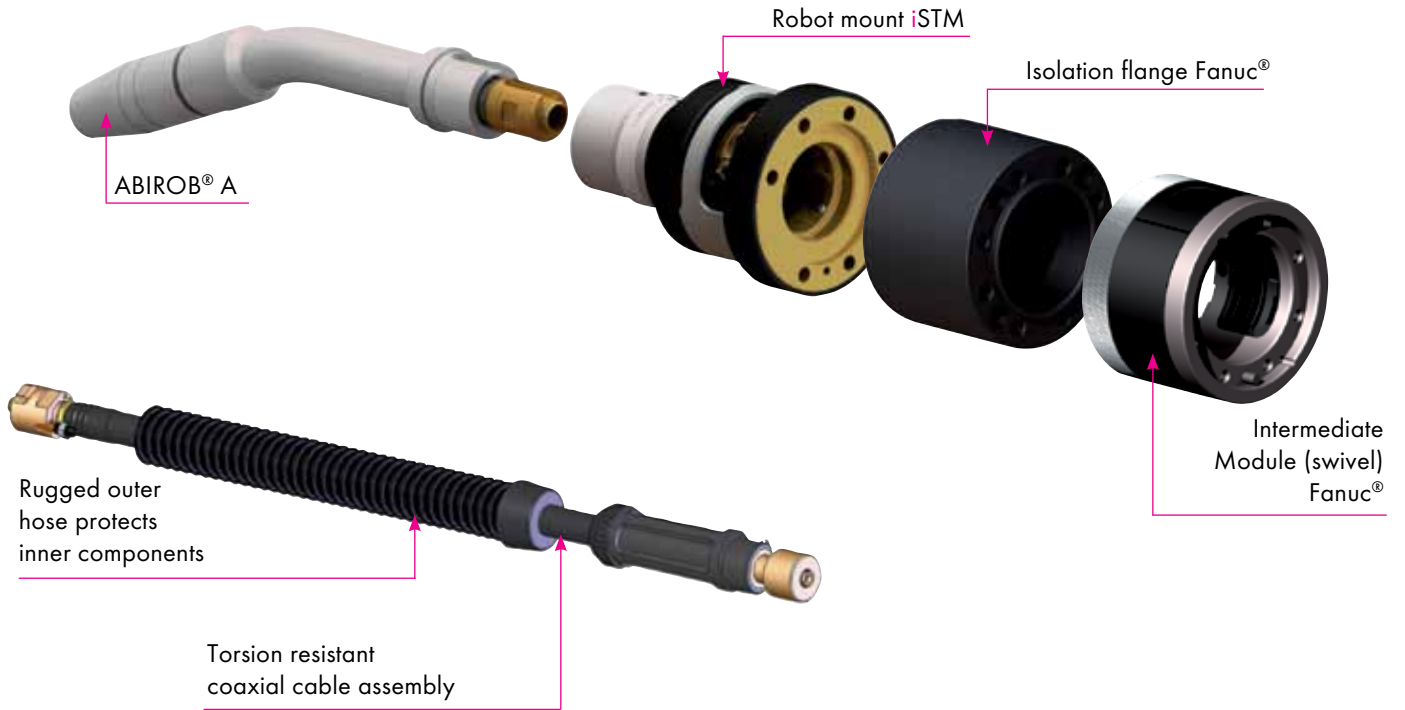
Fronius® wire feeder

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Lincoln® is a registered trademark of Lincoln Electric Company
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* Certain mixed gases and/or pulsed arc welding may reduce the ratings by as much as 35%.

** Applications exceeding 400 amperes mixed gas require a specialty water-cooled cable assembly. Please call ABICOR BINZEL Product Department.

iSTM ASSEMBLY OVERVIEW (Air-cooled Fanuc® shown)



Precisely designed to meet robot manufacturers' exact specifications.

TORCH CLEANING STATIONS

TCS-PP – Plug and Play.

The **TCS-PP** "Plug and Play" torch cleaning station offers the complete solution for reliable, automatic servicing of the torch neck. Combined in a single station, the 3 point clamping system guarantees optimally timed processes and an increase in available floor space. A number of other features such as a mounting stand and drip pan reduce installation costs.



1. Torch Cleaning Station

- Precise and effective cleaning for almost all robot welding torches.
- Proven and trusted cutter principle, suitable even for heavy spatter adhesion.
- 3-point clamping of the gas nozzle fixes the torch in place during the cleaning process.

2. Spraying unit TMS-VI

- Direct, economical spraying of all anti-spatter fluid reduces welding spatter adhesion and extends service intervals.
- Clean environment thanks to encapsulated spraying nozzle and collecting pan for dirty residual oil.
- Simple disposal of residual oil and replenishment of the anti-spatter agent by simply exchanging bottles.

3. Wire Cutting Fixture WCS

- The combined clamping and shearing action guarantees precise cutting quality and ensures optimum arc-start properties as well as exact TCP measurement.
- Long service life thanks to a sturdy design.

Torch Cleaning Station "TCS-PP"

Description

Part No.

TCS-PP Reamer/Cutting/Injector Assy

831.0490



Technical data:

Pneumatic connection - manifold block

- Compressed air supply inlet: Push-lock fitting f/10mm OD air hose or G1/4
- Air supply hose internal diameter: min \varnothing 6mm
- Nominal pressure: 90 psi
- Operating pressure: 80 - 120 psi

Electrical terminal block

- 7 positions screw/quick clamp terminal strip
- 2 positions - 24V DC power supply
- 4 positions - inputs for triggering control valves
- 1 position - output for "station ready" signal
- Cable inlet: PG9
- Power consumption: 4.5 W

Control requirements

- 4 robot outputs 24V DC for triggering station control valves
- 1 robot input 24V DC for receiving "station ready" signal

Cleaning station:

- Pneumatic motor (nominal speed), lubricated air: approx. 650 rpm
- Pneumatic motor (nominal speed), non-lubricated air: approx. 550 rpm
- Air consumption: approx. 600 L/Min

Spraying unit

- Capacity of the bottle 1 liter

Wire Cutter

- Cutting capacity at 90 psi - solid wire up to .62"
- Core wire - up to .125"
- Cutting time 0.5 sec.

Weight

- approx. 35 lbs

Other

- Ambient temperature: +41 °F to +122 °F
- Protection according to DIN 40 050: IP 21

TCS-6PP – Plug and Play.

The latest “Plus and Play” torch cleaning station, the **TCS-6PP**, offers the same reliable solutions for automatically servicing the torch neck plus much more. The **TCS-6PP** has a 4 point clamping system for precision cleaning, along with a reset switch, a ready light, and a TCP pointer. The ultimate feature of the **TCS-6PP** is the integrated PC board which relies on just one signal from the controller to instruct the station through its cleaning cycle.



1. Torch Cleaning Station

- Integrated PC board.
- Reset switch, “Ready” light, TCP pointer.
- Proven and trusted cutter principle, suitable even for heavy spatter adhesion.
- 4-point clamping of the gas nozzle fixes the torch in place during the cleaning process.

2. Spraying unit TMS-VI

- Direct, economical spraying of all anti-spatter fluid reduces welding spatter adhesion and extends service intervals
- Clean environment thanks to encapsulated spraying nozzle and collecting pan for dirty residual oil.
- Simple disposal of residual oil and replenishment of the anti-spatter agent by simply exchanging bottles.

3. Wire Cutting Fixture WCS

- The combined clamping and shearing action guarantees precise cutting quality and ensures optimum arc-start properties as well as exact TCP measurement.
- Long service life thanks to a sturdy design.

Torch Cleaning Station “TCS-6PP”

Description	Part No.
TCS-6PP Reamer/Cutting/Injector Assy	831.0625



Technical data:

Pneumatic connection - manifold block

- Compressed air supply inlet: Push-lock fitting f/10mm OD air hose or G1/4
- Air supply hose internal diameter: min \varnothing 6mm
- Nominal pressure: 90 psi
- Operating pressure: 80 - 120 psi

Electrical terminal block

Torch Cleaning Station

- 6 positions screw/quick clamp quick disconnect terminal strip
- 2 positions - 24V DC power supply
- 2 positions - inputs for “start” 24V DC or 0V DC
- 2 positions - outputs for “station ready” 24V DC or 0V DC
- Cable inlet: PG9

Spraying unit TMS-VI

- 3 conductor cables - flying leads

Wire cutting fixture WCS

- 3 conductor cables - flying leads
- Power consumption: 15 W

Control requirements

- 3 robot outputs 24V DC or 0V DC for torch cleaning station “start” signal and for triggering spraying unit and wire cutter control valves
- 1 robot input 24V DC or 0V DC for “station ready” signal

Cleaning station:

- Pneumatic motor (nominal speed), lubricated air: approx. 650 rpm
- Pneumatic motor (nominal speed), non-lubricated air: approx. 550 rpm
- Air consumption: approx. 600 L/Min

Spraying unit

- Capacity of the bottle 1 liter

Wire Cutter

- Cutting capacity at 90 psi - solid wire up to .62”
- Core wire - up to .125”
- Cutting time 0.5 sec.

Weight

- approx. 35 lbs

Other

- Ambient temperature: +41 °F to +122 °F
- Protection according to DIN 40 050: IP 21

TORCH CLEANING STATIONS

TCS-6 – Keep Clean

The **TCS-6** cleans the interior of the gas nozzle at the torch neck precisely and effectively. Thanks to its functional principle, a maximum amount of weld spatter is removed. Its compact construction and fastening possibility independent of its position make it easy to integrate the device near the robot. The precision and efficiency of the system reduces manual intervention, lengthens service life of the wear parts, and shortens the down-time of the robot.



1. TORCH CLEANING STATION - TCS-6

- Reset switch, ready light, and TCP pointer
- Quick change PCB terminals
- Integrated PCB
- Robust and compact construction
- Possible to mount in the robot cell independent of its position
- Exact fixing of the gas nozzle in the clamping head with 4-point support, which means there is no transfer of reaction forces to the axes of the robot
- Reduces down-time

Torch Cleaning Station TCS-6

Description	Part No.
TCS-6 Torch Cleaning Station	831.0425



Technical data:

Pneumatic connection

- Air connection G1/4"
- Air supply hose internal diameter: min \varnothing 6mm
- Nominal pressure: 90 psi
- Operating pressure: 80-120 psi

Electrical terminal

- 6 positions screw/quick clamp quick disconnect terminal strip
- 2 positions - 24V DC power supply
- 2 positions - inputs for "start" 24V DC or 0V DC
- 2 positions - output for "station ready" 24V DC or 0V DC
- Cable inlet: PG9
- Power consumption: 15 W

Control requirements

- 1 robot output 24V DC or 0V DC for "start signal"
- 1 robot input 24V DC or 0V DC for "station ready" signal

Weight

- approx. 22 lbs

Other

- Ambient temperature: +41 °F to +122 °F
- System of protection according to DIN 40 050: IP 2
- Category of protection according to DIN 51 106:1

TCS-LC – High Quality, Low Cost!

The **TCS-LC** cleans the interior of the gas nozzle at the torch neck precisely and effectively. Thanks to its functional principle, a maximum amount of weld spatter is removed. The precision and rapidity of the system reduces manual intervention, lengthens service life of the wearing parts, and shortens the down-times of the robot.



1. TORCH CLEANING STATION - TCS-LC

Arguments speak for themselves:

- Robust and compact construction
- Possible to mount in the robot cell independent of its position
- Exact fixing of the gas nozzle in the clamping head with 3-point support, thus no transfer of reactional forces to the axes of the robot
- Reduces down-time

Torch Cleaning Station TCS-LC

Description	Part No.
TCS-LC Torch Cleaning Station	831.0520
TCS-LC Torch Cleaning Station w/Injector	*831.0370



Technical data:

Pneumatic connection

- Air connection G1/4"
- Air supply hose internal diameter: min \varnothing 6mm
- Nominal pressure: 90 psi
- Operating pressure: 85 - 120 psi

Electrical terminal

- 5 positions screw/quick clamp terminal strip
- 2 positions - 24V DC power supply
- 2 positions - inputs for triggering control valves
- 1 position - output for "station ready" signal
- Cable inlet: PG9
- Power consumption: 4.5 W

Control requirements

- 2 robot outputs 24V DC for triggering control valves
- 1 robot input 24V DC "station ready" signal

Weight

- approx. 22 lbs

Other

- Ambient temperature: +41 °F to +122 °F
- System of protection according to DIN 40 050: IP 2

* Additional requirements for anti-spatter injector

Pneumatic connection

- Air connection G1/8"
- Air supply hose internal diameter: min \varnothing 4mm
- Nominal pressure: 85-140 psi

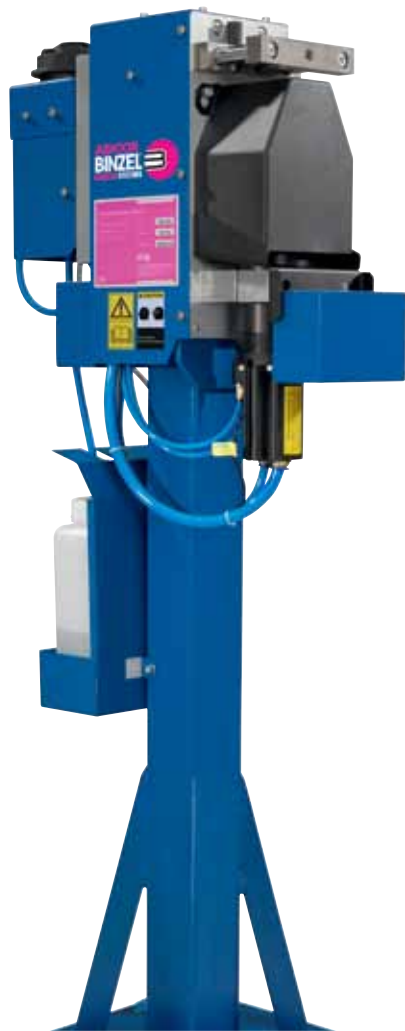
Control requirements

- 1 robot outputs 24V DC (1 nom. - 220mA)

TORCH CLEANING STATIONS

TCS COMPACT - Easy as 1, 2, 3

The state-of-the-art torch cleaning station TCS Compact from ABICOR BINZEL stands for **quick and easy installation** to practically all robot brands and types, **top reliability and long life-time** due to high quality components, as well as **environmental friendliness and work shop safety** by fully covered maintenance functions. Ensure **process stability** in automated welding by using preventive torch cleaning, wire cutting and anti-spatter spraying with the TCS Compact! Optimal and time saving cleaning of the gas nozzle for a reliable welding process and an increase in plant availability – torch maintenance at it's best.



■ Anti Spatter Fluid Injection

- Activated just by robot movement
- Highly efficient, full coverage spray function
- Low consumption
- Clean and easy collection of remaining anti spatter fluid
- Fully protected for clean environment

■ Spatter Cleaning

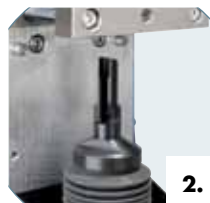
- Reamers, specially designed to suit the welding torch
- V-Block for each nozzle diameter – no adjustments
- Strong, high quality air motor for powerful cleaning
- Complete dirt & dust protection

■ Wire Cutting

- Strong, reliable cutting device
- Sharp cut for excellent arc-start
- Hardened cutting knife for long lifetime



1.



2.



3.

Type	Description	Part-No.
TCS Compact Standard-PNP ¹	All functions, long stand-PNP ¹ , 5 m cable	830.2210
TCS Compact Standard-NPN ²	All functions, long stand-NPN ² , 5 m cable	830.2218
TCS Compact Short-PNP ¹	All functions, short stand-PNP ¹ , 5 m cable	830.2211
TCS Compact Short-NPN ²	All functions, short stand-NPN ² , 5 m cable	830.2219
TCS Compact Standard-PNP ¹	All functions, long stand-PNP ¹ , 10 m cable	830.2213
TCS Compact Standard-NPN ²	All functions, long stand-NPN ² , 10 m cable	830.2220
TCS Compact Short-PNP ¹	All functions, short stand-PNP ¹ , 10 m cable	830.2214
TCS Compact Short-NPN ²	All functions, short stand-NPN ² , 10 m cable	830.2221

¹ PNP interface: In a PNP interface, when the sensor turns on (sensing something), a circuit is made between the output pin of the sensor and the positive supply voltage. When the sensor is off, its output is effectively an open circuit.

² NPN interface: In an NPN interface, when the sensor turns on (sensing something), a circuit is closed between the output pin of the sensor and circuit common (ground, 0V). When the sensor is off, its output is effectively an open circuit.

Technical data:

General data:

Total weight:	approx. 30 kg/66 lbs (long stand version), approx. 22.3 kg/49 lbs (short stand version)
Ambient temperature:	+ 5 °C to + 50 °C
Air consumption:	approx. 400 l/min. (14 CFM)
Pneumatic motor / nominal speed with oiled air:	approx. 650 rpm at 6 bar

Pneumatic connection

Connection OD:	min. Ø 6 mm
Nominal pressure:	6 bar / 90 psi
Operating pressure:	6-8 bar / 90-120 psi

Electrical clamping block:

Input:	3 inputs for triggering the 5/2 directional control valves
Control voltage:	24 V DC
Power consumption:	2.8 W
Output:	2 outputs from inductive proximity switch (normal open switch) (pnp / npn)
Operating voltage:	10 - 30 V DC
Continuous current:	max. 100 mA
Current consumption:	approx. 4 mA (24 V)

TORCH CLEANING STATION PERIPHERY

External TMS-VI, Internal TMS-PI

TMS-VI EXTERNAL INJECTOR

With the external injector **TMS-VI** the cleaned torch is sprayed with anti-spatter fluid which minimizes build-up of welding spatter.

The specially developed spray nozzle enables a highly efficient application of the anti-spatter fluid.

- Effective and economical anti-spatter spray supply to nozzle interior and nozzle edge
- Covered injector nozzle and extra bottle for used oil improves working safety and ensures environmental friendly use
- Trouble free refilling of the anti-spatter fluid simply by swapping the bottle
- Trouble free disposal of used oil by swapping the bottle
- Complete installation kit ready for system integration

Technical data:

Pneumatics:

- Working pressure: ..6 - 10 bar/85-140 psi
- Air supply hose:OD 6mm, ID 4mm

5/2 Solenoid valve

- Air connection:.....G 1/8"
- Nominal flow:approx. 650 l/min.
- Input signal:.....24V DC
I nom. = 220mA

TMS-PI INTERNAL INJECTOR

The pneumatic cleaning and spray unit of ABICOR Binzel's **TMS-PI** is a recommended accessory for use in conjunction with ROBO welding torches and cable assemblies and is used in the automated cleaning process, providing an adjustable, measured amount of air and anti-spatter to the inside of the gas nozzle.

Technical data:

Pneumatics:

- Working pressure:.....6 - 8 bar/85-120 psi
- Reservoir capacity.....32 ounces
- Inlet connection1/4" hose barb

Requirements:

- 1 output.....24V DC or 110V AC
- 24V DC275 mA peak
164 mA continuous



TMS-PI Internal injector	
Description	Part No.
TMS-PI Internal Injector Anti-Spatter unit 24VDC/110VDC	832.9100-HF

TMS-VI External Injector	
Description	Part No.
Front Injector TMS-VI complete For Anti-Spatter Fluid - See Page 39	830.1110

Wire Cutting Station – WCS

The ABICOR BINZEL **WCS** Wire Cutting Station is designed to remove the ball end of the welding wire and give consistent wire stick-out. This provides superior arc starting and prevents oxidation in the weld starts. The wire cutting station will operate with all models and makes of welding robots and torches. The wire cutting station will shear up to 1/8" wire without bending. The unit clamps and holds the wire securely before shearing. The shearing blade has been tested with .045" stainless steel wire to 20,000 cuts with no discernible wear.

Technical data:

Pneumatics:

- Working pressure:.....6 - 10 bar / 90 - 140 psi
- Cutting range @ 6 bar:..062" solid wire, .125" cored wire

Requirements:

- Inlet connection:G 1/8"
- 1 robot output:.....24V DC, 0.5 Amps. peak,
100 mA continuous @ 90 PSI

WCS Wire Cutting Station	
Description	Part No.
Robo WCS Wire Cutting Station	839.0020
WCS Installation Kit (Includes solenoid valve, hoses and fittings)	839.9002



WATER COOLERS

CR 1000, CR 1250 (115 V)



Splash-proof fuse and power switch

Integrated flow control switch as standard

International water quick connectors

Transparent tank for visible coolant level and easy fill and drain



Water-cooler Accessories

Description	Part No.
MIG Water hose install /extension kit (10 ft)	BWC-029
MIG Water hose install /extension kit (30 ft)	BWC-028
TIG Water install kit (10 ft)	284.0609
ABI-Cool LC coolant (1 gal)	192.9019
ABI-Cool ECO coolant (1 gal)	192.9022

Technical data: (EN 60 974-7)

CR 1000 (P/N 850.1002)

IP Rating	23
Tank contents	1.59 Gal (6 L)
Max cooling	up to 1000 W *Binzel torches up to 300A
Capacity Radiator	7.4 qt/min (7 L/min) 2 - Row
Dimensions	Length: 19.3" (490 mm) Width: 9.8" (250 mm) High: 16" (410 mm)
Weight	32.85 lbs (14.9 kg)

CR 1250 (P/N 850.1052)

IP Rating	23
Tank contents	1.59 Gal (6 L)
Max cooling capacity	up to 1250 W *Binzel torches up to 600A
Radiator	7.4 qt/min (7 L/min) 3 - Row
Dimensions	Length: 27.2" (690 mm) Width: 9.8" (250 mm) High: 13.4" (340 mm)
Weight	36.82 lbs (16.7 kg)

*Actual rating varies based on many factors.

ABI-Cool LC coolant

- Year-round protection for water-coolers
- Lubricates pump and prolongs seals and shaft life
- Protects from freezing to - 32° F
- Should be changed annually to maintain maximum protection and lubrication

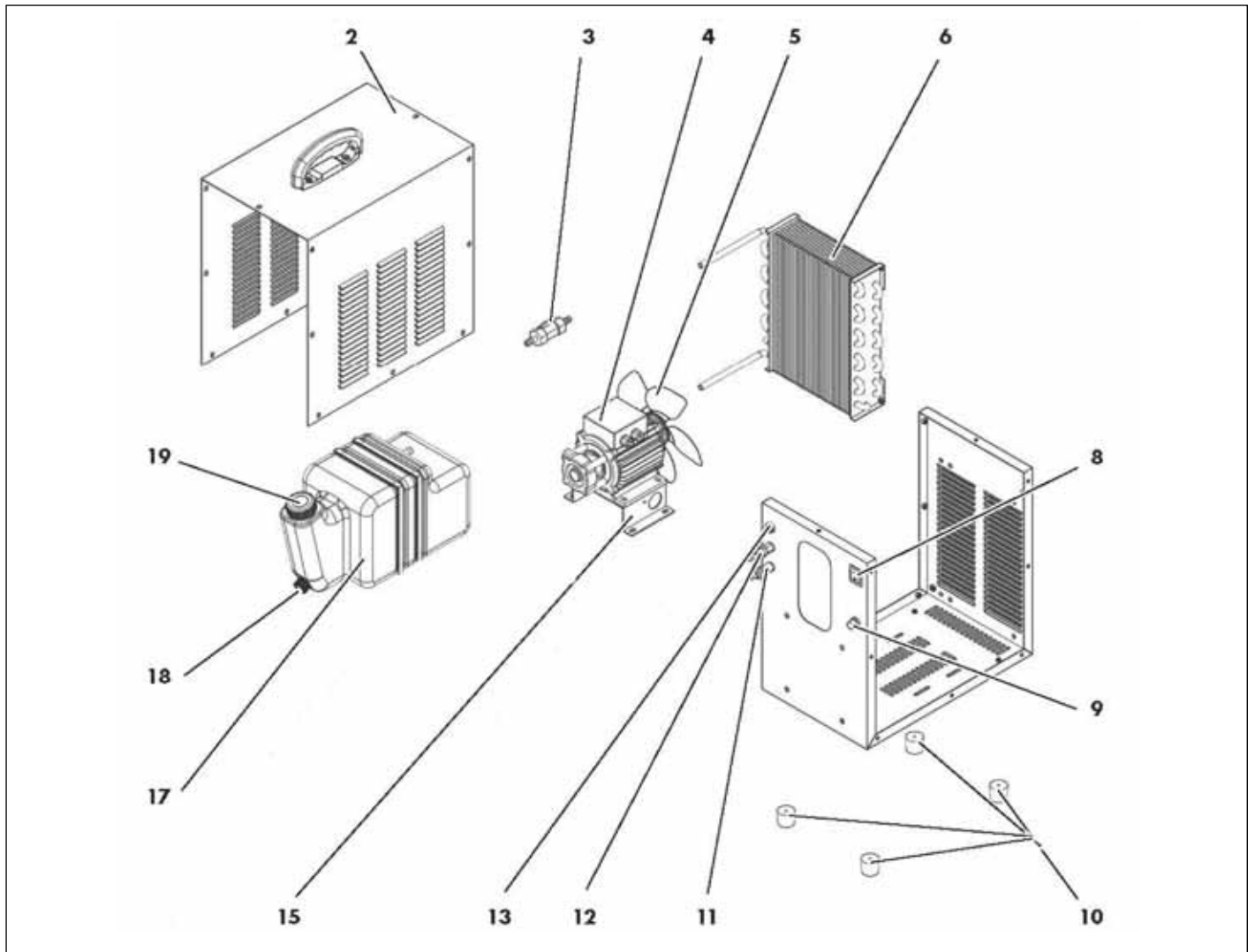


ABI-Cool ECO coolant

- Year-round protection for water-coolers
- Non-regulated, non-hazardous propylene glycol base
- Protects from freezing to 10° F
- Should be changed annually to maintain maximum protection and lubrication



CR 1000 – Spare Parts

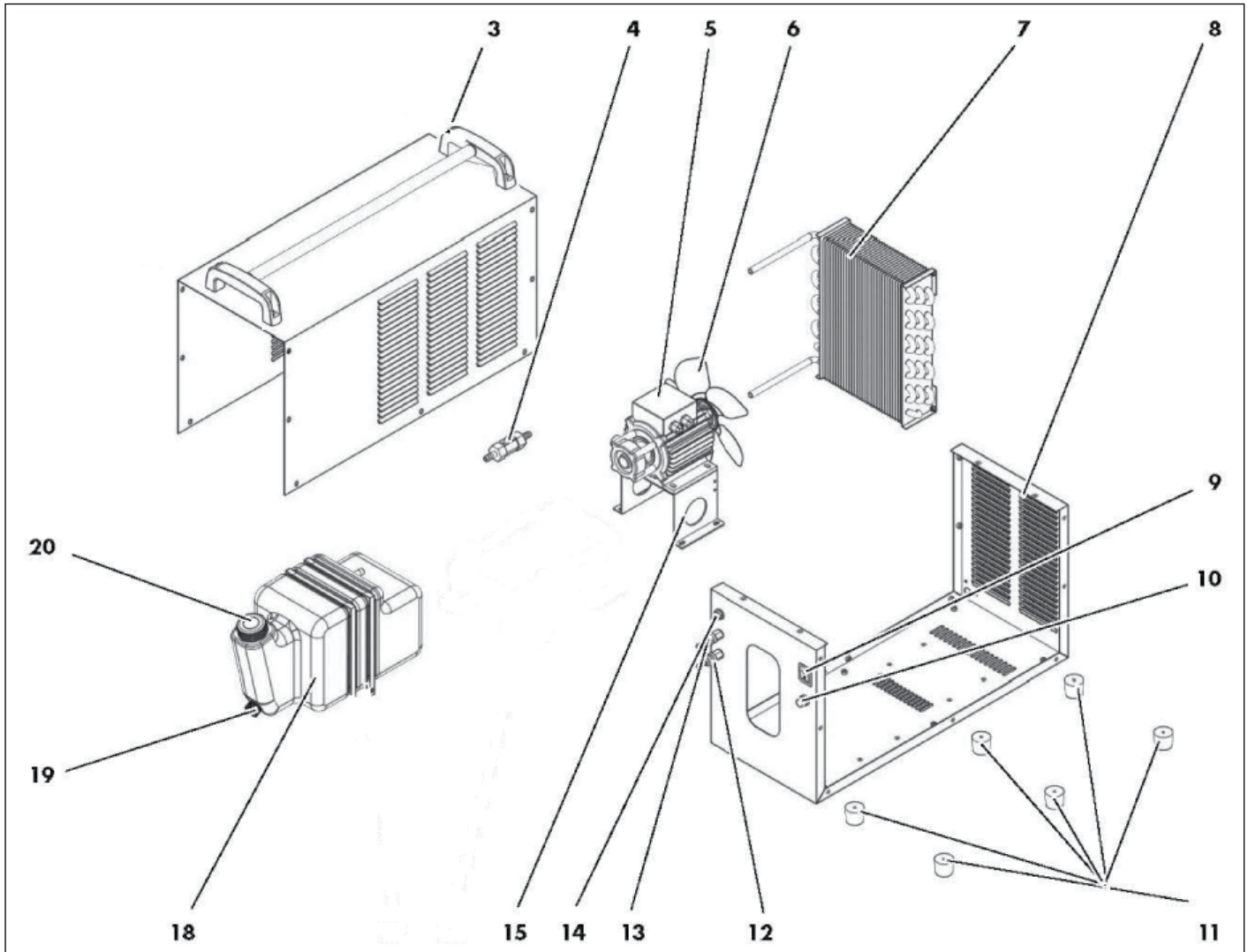


Pos No.	Description	Part No.
2	Chassis hood	850.1003
3	Flow switch	850.1059
4	Motor/pump complete w/fan	850.1017
5	Fan complete	850.1020
6	Radiator 2-row	850.1004
8	Power switch	850.1007
9	Fuse assembly w/holder	850.1018
10	Rubber feet 4 pk	850.1019
11	Quick coupler female red	850.1011
12	Quick coupler female blue	850.1012

Pos No.	Description	Part No.
13	Control socket female 2-pole	850.1060
15	Motor mount	850.1015
17	Water tank	850.1008
18	Drain cap and seal	850.1014
19	Tank fill cap	850.1013
N/S	Water hose kit 2m w/10 clamps	850.1022
N/S	Fuse 5A	850.1025
N/S	Flow switch control lead w/plug	850.1026

WATER COOLERS

CR 1250 – Spare Parts



Pos No.	Description	Part No.
3	Chassis hood	850.1053
4	Flow switch	850.1059
5	Motor/pump complete w/fan	850.1017
6	Fan complete	850.1020
7	Radiator 3-row	850.1054
8	Chassis bottom	850.1055
9	Power switch	850.1056
10	Fuse assembly w/holder	850.1018
11	Rubber feet 4 pk	850.1019
12	Quick coupler female red	850.1011
13	Quick coupler female blue	850.1012

Pos No.	Description	Part No.
14	Control socket female 2-pole	850.1060
15	Motor mount	850.1058
18	Water tank	850.1008
19	Tank drain cap and seal	850.1014
20	Tank fill cap	850.1013
N/S	Water hose kit 2m w/10 clamps	850.1022
N/S	Fuse 5A	850.1025
N/S	Flow switch control lead w/plug	850.1026

WELDING PERFORMANCE PRODUCTS

Anti-spatter, Coolant and Accessories

ABICOR BINZEL's line of welding chemicals aids in all of your welding applications. A variety of anti-spatters and coolants including non-toxic formulas are now available. ABICOR has also added nozzle tip dip and wire lube pads to the line!



Now offering:

- ABI-Spray – Non-flammable, paintable, aerosol anti-spatter.
- ABI-Shield – Water based anti-spatter. No dilution required, not affected by freezing.
- ABI-Mist – Water soluble, non-toxic anti-spatter specifically designed for robotic applications.
- ABI-Cool LC – Ready to use water and ethylene glycol based coolant.
- ABI-CoolECO – Non-toxic, propylene glycol based cooling fluid. Not regulated by OSHA or WHMIS.
- ABI-Gel – Nozzle tip dip anti-spatter product protects nozzles, tips, positioners and fixtures.
- Wire lube pads – Pretreated to reduce friction in wire feeding. Increases tip and liner life.

Coolant

Performance and protection. Quick-fix formulas!

	Description	Volume	Pkg. Quantity	Item Number
ABI-Cool LC	Clear ethylene glycol based coolant -32°F / -35°C	1 gal	case of 4	192.9019
		5 gal	1 piece	192.9020
		55 gal	1 piece	192.9021
ABI-CoolECO	Non-toxic propylene glycol based coolant, not regulated +10°F / -12°C	1 gal	case of 4	192.9022
		5 gal	1 piece	192.9023
		55 gal	1 piece	192.9024

Anti Spatter

	Description	Volume	Pkg. Quantity	Item Number
ABI-Spray	Aerosol anti-spatter	16 oz	case of 12	192.8016
ABI-Mist	Water-based robotic anti-spatter	1 gal	case of 4	192.8009
		5 gal	1 piece	192.8010
		55 gal	1 piece	192.8011
ABI-Shield	Water-based anti-spatter	16 oz	case of 6	192.8012
		1 gal	case of 4	192.8013
		5 gal	1 piece	192.8014
		55 gal	1 piece	192.8015
Organic anti-spatter	Oil-based, non-toxic, not regulated	1 gal	1 piece	192.9017
		5 gal	1 piece	192.9012
		55 gal	1 piece	192.9007

Additional products

	Description	Volume	Pkg. Quantity	Item Number
ABI-Gel	Blue gel anti-spatter	16 oz	case of 12	192.8017
Welding wire lube pads	Lubricated wire pads	6/pack	case of 12	192.9025

ABIDOT – TCP programming aid

ABIDOT – the clever tool for touchless programming

Robot programming to the point!

The programming aid ABIDOT is simply screwed onto the robot torch instead of the gas nozzle for the programming process. Instead of using the wire, four laser beams simulate the stick-out – completely touchless. Known problems like the bending of the wire while touching the work-piece are a thing of the past. This facilitates the programming process in multiple ways.

The process-related wire stick-out can be adjusted with a scale on the ABIDOT. This facilitates in obtaining the correct distance during programming, the optimum wire position and penetration during welding.

The optimum TCP (Tool Center Point) is reached when all four laser LED's combine to only a single focal point on the work-piece – really clever!

Features that speak for themselves:

ABIDOT shortens programming times considerably

ABIDOT increases the quality of the welds through optimum positioning and consistent spacing of the torch to the work-piece

ABIDOT reduces the costs for programming times and offers savings through reduced rework and quality control

Figure 1:
Alignment TCP

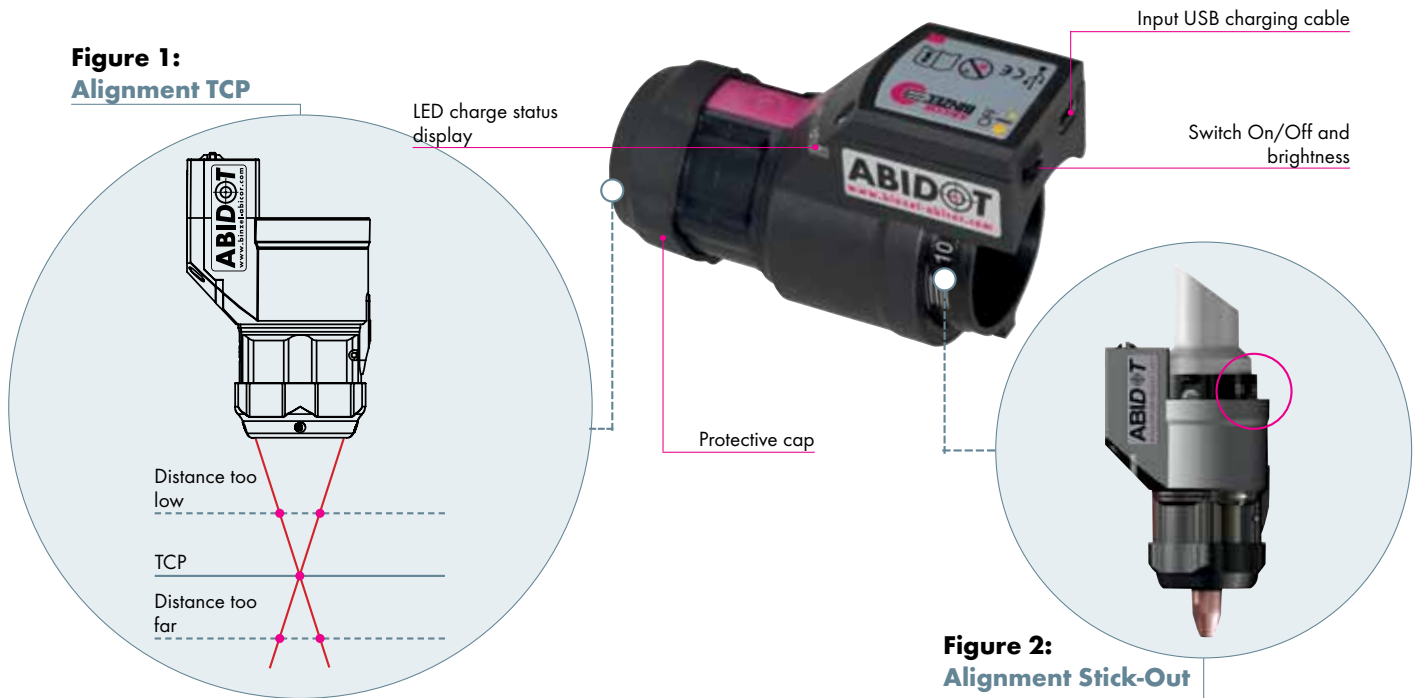


Figure 1:
Alignment TCP

The optimum torch position is reached when all four laser LED beams combine to only a single focal point on the work-piece. If two or more points are visible the torch is either too close to the work-piece or too far away.

Figure 2:
Alignment Stick-Out

Figure 2:
Alignment Stick-Out

The process-related wire stick-out – the “free end of the wire” – can be adjusted with a scale on the ABIDOT. This facilitates in obtaining the correct distance during programming, the optimum wire position and penetration during welding.

Order Overview

- 1 ABIDOT**
Complete unit
 incl. adapter-sleeve,
 power supply, charging
 station, protection cap
 (1 pc.)



- 2 ABIDOT**
 without adapter-sleeve,
 power supply, charging
 station
 (1 pc.)



- 3 Adapter-sleeve**
 (1 pc.)



- 4 Charging
 station**
 (1 pc.)



- 5 Power supply**
 (1 pc.)



- 6 Protective cap**
 (1 pc.)



Type	Part-No.
ABIDOT complete for Abirob A500	837.0890
ABIDOT complete for Abirob W500, WH500	837.0891
ABIDOT complete for WH 652T	837.0892
ABIDOT complete for WH 600	837.0893
ABIDOT complete for Abirob A360	837.0895

Type	Part-No.
ABIDOT without equipment	837.0894

Type	Part-No.
Adapter-sleeve for Abirob A500	837.0799
Adapter-sleeve for Abirob W500, WH500	837.0800
Adapter-sleeve for WH 652T	837.0801
Adapter-sleeve for WH 600	837.0802
Adapter-sleeve for Abirob A360	837.0885

Type	Part-No.
Charging station	400.1415

Type	Part-No.
Power supply	184.0393

Type	Part-No.
Protective cap	400.1419



Technical data:

Laser protection class: EN 60825-1: 2007 / 2M
 / 670 nm / 2.5 mW
 Input: 100-240 V AC / 150 mA
 / 50-60 Hz
 Output: 5 V DC / 500 mA
 Protection class: IP3X
 Ambient temperature: -10°C up to +40°C
 Charging time: approx. 30 minutes
 Operating time: approx. 7 hours
 Relative air humidity: up to 90 % at 20°C
 Transport and storage: -10°C up to +55°C

Our product range:

MIG/MAG

- Welding Torches
- Machine and Special Torches
- Push-Pull Welding Torches
- Fume Extraction Torches
- Central Adaptor System

TIG

- Welding Torches
- Machine and Special Torches

PLASMA

- Cutting Torches
- Welding Torches
- Machine and Special Torches

Robotic Peripheral Equipment

- Robot Torches
MIG/TIG/Plasma
- Robot Mount CAT2/iCAT/iSTM
- Wire Cutting Station WCS
- Torch Cleaning Stations

Welding Accessories

- Coolers
- Welding Cable Plug and Socket
- Anti-Spatter Spray and Paste



Binzel S.A. DE C. V.
Municipio Pabellon de Arteaga 102
Valle De Aguascalientes, 20358
San Francisco de los Romo, Ags. Mexico
Phone: +52(499) 973.0133
Fax: +52(499) 973.1388
Email: info@binzel.com.mx

Alexander Binzel Corporation
650 Medimmune Ct., Suite 110
Frederick, MD 21703-8619 USA
Phone: 1.800.542.4867
Fax: 1.301.846.4497
Email: customerservice@abicorusa.com

www.binzel-abicor.com

