

MIG/MAG Welding Torch System

“ABIROB® A ECO” air cooled



Simple & effective ...

The ABIROB® A ECO product line – groundbreaking in its design, trend-setting in standardisation – guarantees consistent precision and an economic welding process thanks to its robust construction and simple handling.

Thanks to the innovative interlock mechanism, the torch system allows a simple and fast change of cable assemblies while the TCP remains the same.

Advantages that speak for themselves:

- Simple and compact modular design – easy to service
- Slim design – optimum accessibility
- High stability and reproducibility – maximum TCP safety even in the event of a “crash”
- Innovative interlock system – straightforward and quick change of the cable assembly with constant TCP

Degree of automation:

Low	Medium	High
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Application areas:



- Automotive construction
- Automotive suppliers (Tier 1, Tier 2)
- Bicycle industry
- Container construction
- Aviation- and aerospace industry

Material:

- Construction steels (coated / non-coated)
- Chrome-nickel steels
- Duplex steels
- Nickel basic materials
- Mixed compounds
- Aluminium materials
- Magnesium materials
- Copper materials
- Special materials

Robot interface:

- Conventional robot
(Cable assembly external):
 - Robot mount CAT3
 - Fixed bracket RTM
- Hollow wrist robot
(Cable assembly internal):
 - Robot mount iCAT
 - Bracket iSTM (for robots with integrated collision software)
- Hollow wrist robot
(Cable assembly external):
 - Robot mount CAT3
 - Fixed bracket RTM

* Definition of the degree of automation:

- Low = Torch neck change not possible
- Medium = Torch neck change possible (manually)
- High = Torch neck change possible (manually & automatically)

up to
500 A



"ABIROB® A ECO" air cooled

System Overview & Technical Data

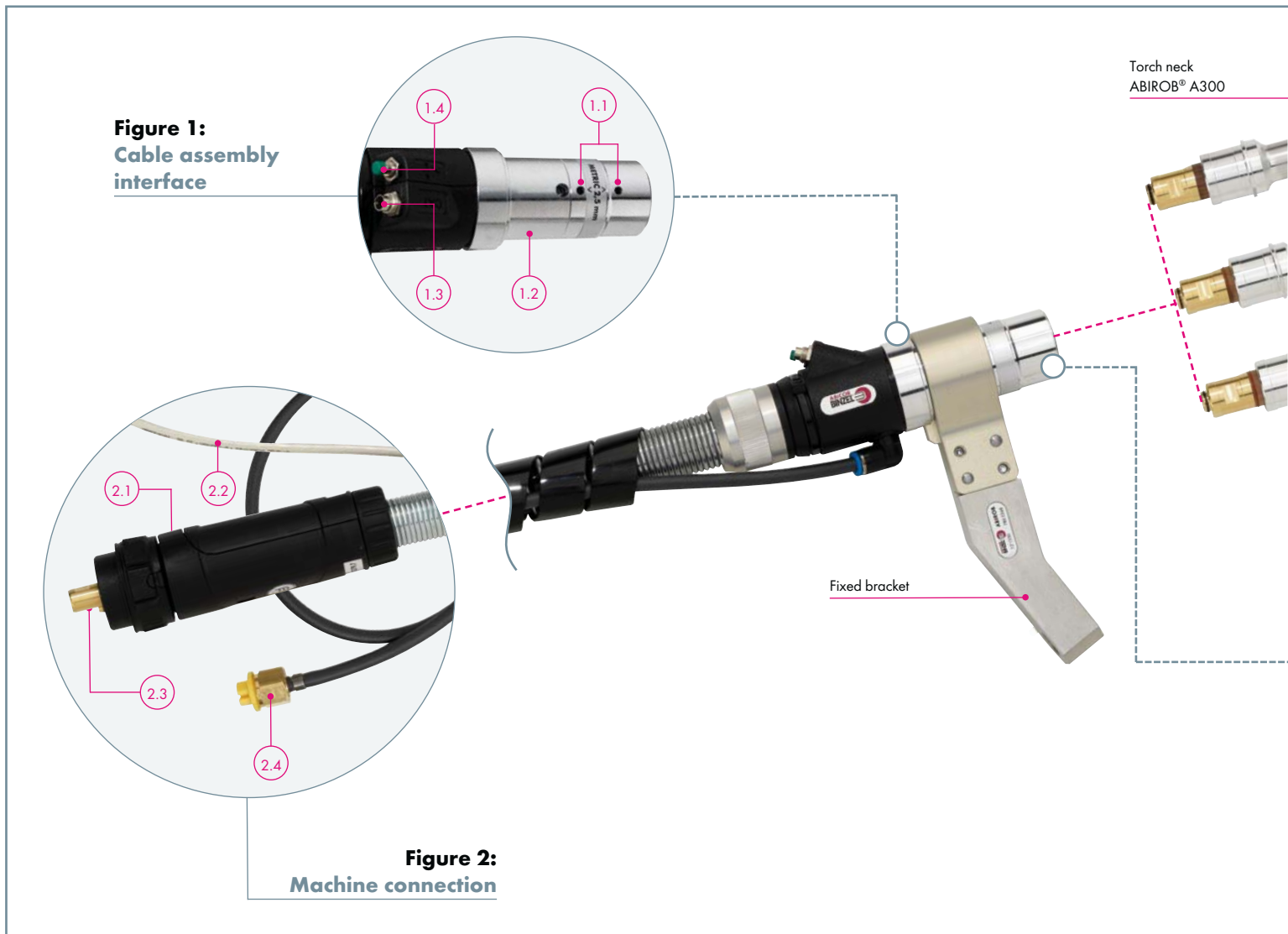


Figure 1:
Cable assembly interface

- 1.1 Clamping screws for safe clamping of the torch neck, covered by spatter protection ring
- 1.2 Solid housing for torch neck attachment using the tried-and-trusted INTERLOCK system for reproducible processes
- 1.3 CAT3 connection
- 1.4 Wire feed button

Figure 2:
Machine connection

- 2.1 Sturdy bend-resistant casing with strain relief spring
- 2.2 High-quality control cable with strain relief (control cable connector on request)
- 2.3 Machine connection available for all standard wire feeders
- 2.4 External connection for airblast function with blanking plug

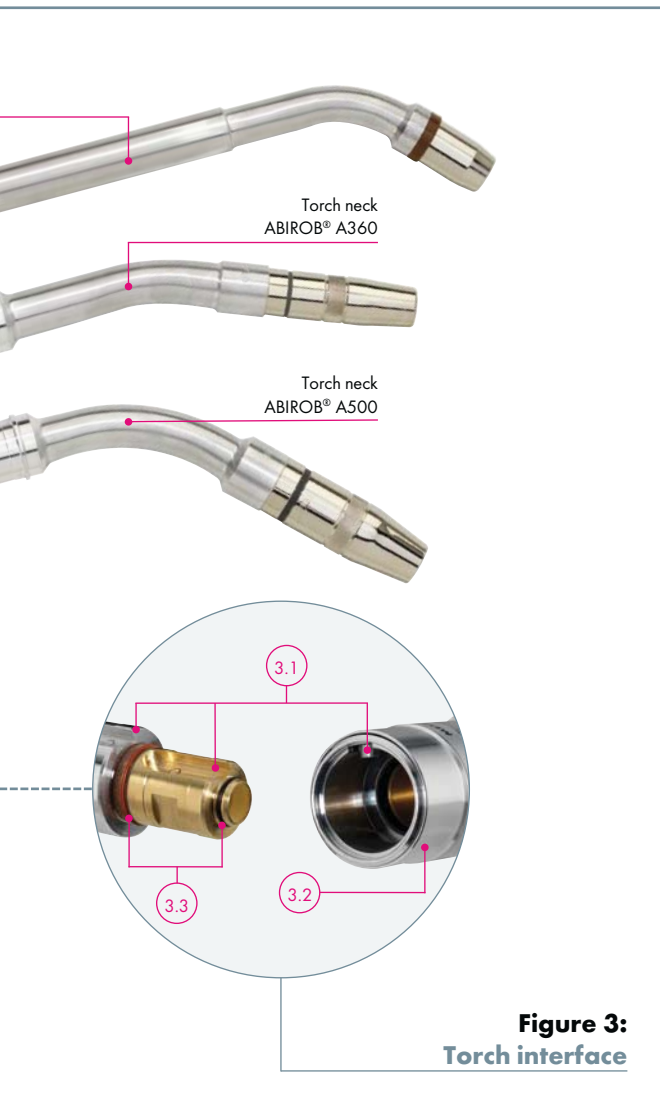
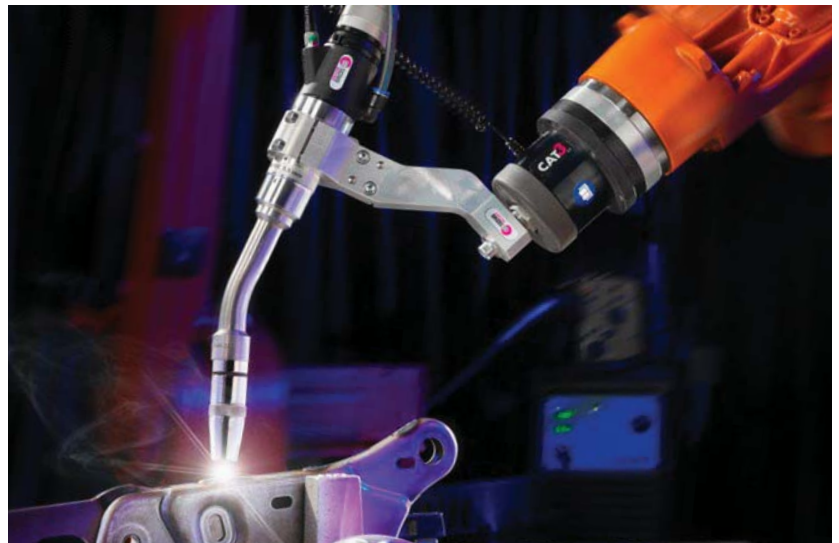


Figure 3:
Torch interface

Figure 3:
Torch interface

- 3.1 Fast torch neck change thanks to double groove guidance
- 3.2 Rotatable ring for optimum protection of the screw openings
- 3.3 O-rings ensure a gas-tight connection



Technical data (EN 60 974-7):

ABIROB® A300

Type of cooling: air cooled
 Rating: 300 A CO₂
 250 A Mixed gases M21 (EN ISO 14175)
 Duty cycle: 100 %
 Wire-Ø: 0.8 - 1.4 mm
 Torch geometries: 45°

ABIROB® A360

Type of cooling: air cooled
 Rating: 360 A CO₂
 290 A Mixed gases M21 (EN ISO 14175)
 Duty cycle: 100 %
 Wire-Ø: 0.8 - 1.4 mm
 Torch geometries: 0°/22°/35°/45°

ABIROB® A500

Type of cooling: air cooled
 Rating: 500 A CO₂
 400 A Mixed gases M21 (EN ISO 14175)
 Duty cycle: 100 %
 Wire-Ø: 0.8 - 1.6 mm
 Torch geometries: 0°/22°/35°/45°

Note on the technical data:

Rating data were determined under normal conditions at low to medium reflected heat, free air circulation and at 28°C ambient temperature. When used under more difficult conditions, the rating data must be reduced by 10 - 20 %. The rating data are reduced by up to 35 % for pulse arc welding.

"ABIROB® A ECO" air cooled Torch Necks & Wear Parts

ABIROB® A300

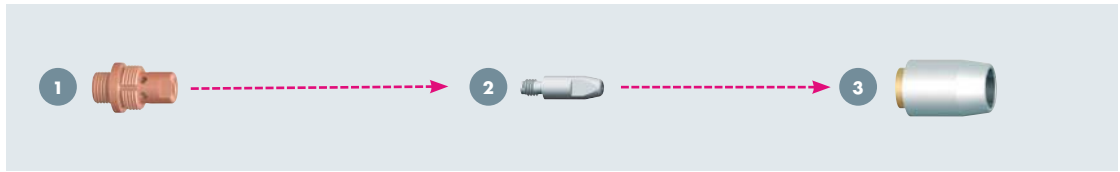


Torch necks

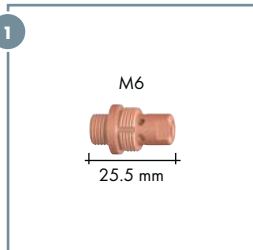
Features	Part-No.
Standard	980.1146.1

Wear parts and fittings are not included in the scope of delivery! Please order these separately and according to the application!

Wear parts for ABIROB® A300



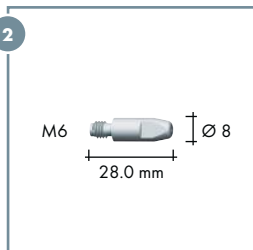
1 Contact tip holder (10 pcs.)



Type	Part-No.
M6 Copper ¹	142.0171.10

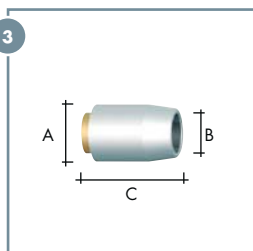
¹ Recommended for high amperages.

2 Contact tip M6 (10 pcs.)



Type	Wire-Ø	Part-No.
CuCrZr silver-plated	Ø 0.8	147.0054
	Ø 0.9	147.0172
	Ø 1.0	147.0245
	Ø 1.2	147.0382
	Ø 1.4	147.0519

3 Gas nozzle (10 pcs.)



Type bottle form	Ø A	Ø B	Length C	Part-No.
Flush ²	Ø 22.0	Ø 14.4	32.0 mm	145.0671.5
Stick-out (+3.0 mm) ³	Ø 22.0	Ø 14.4	29.0 mm	145.0677.5

² Flush: Contact tip flush

³ Stick-out: Contact tip protruding

"ABIROB® A ECO" air cooled Torch Necks & Wear Parts

ABIROB® A360

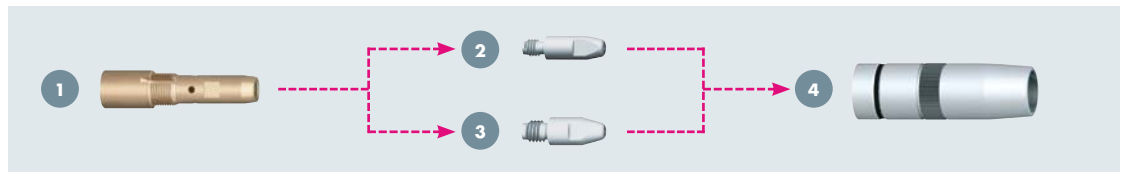


Torch necks

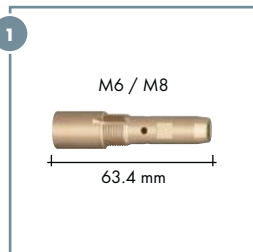
Features	Part-No.			
	0°	22°	35°	45°
Standard	980.1023.1	980.1024.1	980.1025.1	980.1026.1

Wear parts and fittings are not included in the scope of delivery! Please order these separately and according to the application!

Wear parts for ABIROB® A360



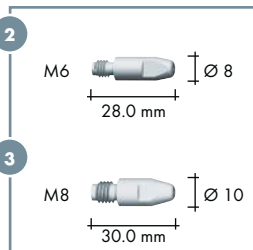
1 Contact tip holder (5 pcs.)



Type	Part-No.
M6 Brass	142.0160.5
M8 Brass	142.0163.5
M6 Copper ¹	142.0196.5
M8 Copper ¹	142.0170.5

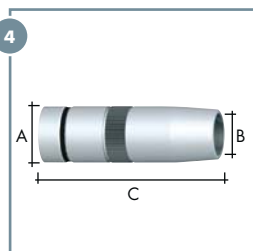
¹ Recommended for high amperages.

2 Contact tip M6 3 Contact tip M8 (10 pcs.)



Type	Wire-Ø	Part-No.	
		M6	M8
CuCrZr silver-plated	Ø 0.8	147.0054	147.0117
	Ø 0.9	147.0172	147.0217
	Ø 1.0	147.0245	147.0316
	Ø 1.2	147.0382	147.0445
	Ø 1.4	147.0519	147.0536

4 Gas nozzle (10 pcs.)



Type bottle form	Ø A	Ø B	Length C	Part-No.
Flush ²	Ø 22.0	Ø 12.0	68.0 mm	145.0599
Recess (-2.0 mm) ³	Ø 22.0	Ø 12.0	70.0 mm	145.0600
Stick-out (+3.0 mm) ⁴	Ø 22.0	Ø 12.0	65.0 mm	145.0601
Flush ²	Ø 22.0	Ø 14.0	68.0 mm	145.0618
Stick-out (+3.0 mm) ⁴	Ø 22.0	Ø 14.0	65.0 mm	145.0619

Type conical	Ø A	Ø B	Length C	Part-No.
Flush ²	Ø 22.0	Ø 14.0	68.0 mm	145.0595
Recess (-2.0 mm) ³	Ø 22.0	Ø 14.0	70.0 mm	145.0596
Stick-out (+3.0 mm) ⁴	Ø 22.0	Ø 14.0	65.0 mm	145.0597
Flush ²	Ø 22.0	Ø 16.0	68.0 mm	145.0592
Recess (-2.0 mm) ³	Ø 22.0	Ø 16.0	70.0 mm	145.0593
Stick-out (+3.0 mm) ⁴	Ø 22.0	Ø 16.0	65.0 mm	145.0594

² Flush: Contact tip flush

³ Recess: Contact tip recessed

⁴ Stick-out: Contact tip protruding

"ABIROB® A ECO" air cooled Torch Necks & Wear Parts

ABIROB® A500

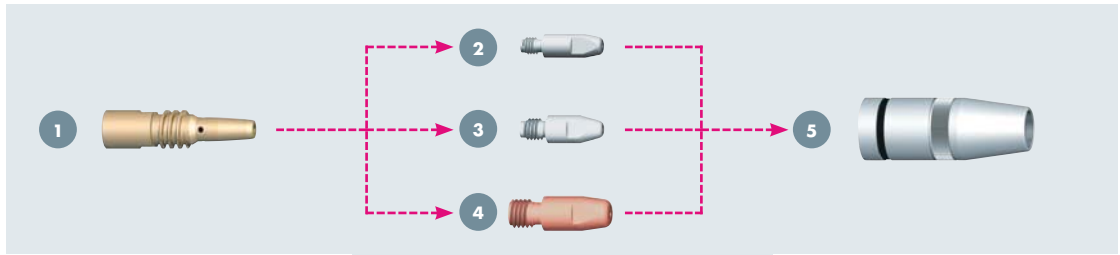


Torch necks

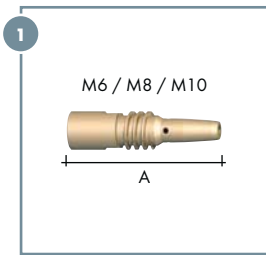
Features	Part-No.			
	0°	22°	35°	45°
Standard	980.1012.1	980.1013.1	980.1014.1	980.1015.1

Wear parts and fittings are not included in the scope of delivery! Please order these separately and according to the application!

Wear parts for ABIROB® A500



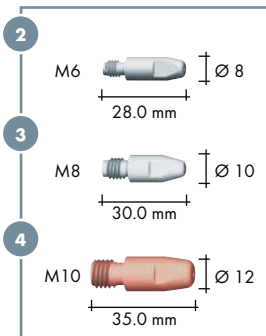
1 Contact tip holder (5 pcs.)



Type	Length A	Part-No.
M6 Brass	70.0 mm	142.0159.5
M8 Brass	70.0 mm	142.0158.5
M8 Copper ¹	70.0 mm	142.0169.5
M10 Copper ¹	67.0 mm	142.0228.5

¹ Recommended for high amperages.

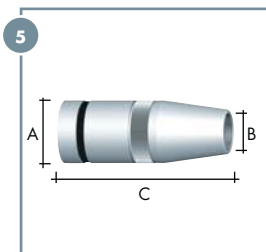
2 Contact tip M6 3 Contact tip M8 4 Contact tip M10 (10 pcs.)



Type	Wire-Ø	Part-No.		
		M6 ²	M8 ²	M10
CuCrZr	Ø 0.8	147.0054	147.0117	-
	Ø 0.9	147.0172	147.0217	-
	Ø 1.0	147.0245	147.0316	140.0348
	Ø 1.2	147.0382	147.0445	140.0481
	Ø 1.4	147.0519	147.0536	140.0547
	Ø 1.6	-	147.0590	140.0616

² silver-plated

5 Gas nozzle (5 pcs.)



Type bottle form	Ø A	Ø B	Length C	Part-No.
Flush ³	Ø 28.0	Ø 14.0	75.0 mm	145.0586
Recess (-2.0 mm) ⁴	Ø 28.0	Ø 14.0	77.0 mm	145.0587
Stick-out (+3.0 mm) ⁵	Ø 28.0	Ø 14.0	72.0 mm	145.0588
Flush ³	Ø 28.0	Ø 16.0	75.0 mm	145.0583
Recess (-2.0 mm) ⁴	Ø 28.0	Ø 16.0	77.0 mm	145.0584
Stick-out (+3.0 mm) ⁵	Ø 28.0	Ø 16.0	72.0 mm	145.0585

Type bottle form	Ø A	Ø B	Length C	Part-No.
Flush ³	Ø 28.0	Ø 13.0	75.0 mm	145.0589
Recess (-2.0 mm) ⁴	Ø 28.0	Ø 13.0	77.0 mm	145.0590
Stick-out (+3.0 mm) ⁵	Ø 28.0	Ø 13.0	72.0 mm	145.0591
Flush ³	Ø 28.0	Ø 16.0	75.0 mm	145.0580
Recess (-2.0 mm) ⁴	Ø 28.0	Ø 16.0	77.0 mm	145.0581
Stick-out (+3.0 mm) ⁵	Ø 28.0	Ø 16.0	72.0 mm	145.0582

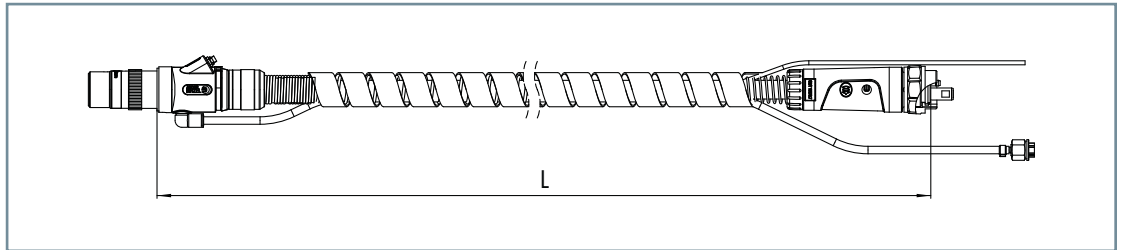
³ Flush: Contact tip flush

⁴ Recess: Contact tip recessed

⁵ Stick-out: Contact tip protruding

"ABIROB® A ECO" air cooled Cable Assemblies & Accessories

Cable assemblies and connection types



Cable assemblies cpl. ABIROB® A ECO

with connection type	Length	Part-No.
ABICOR BINZEL®	1.15 m	980.1066
Euro central connection	1.20 m	980.1067
	1.30 m	980.1068
	1.45 m	980.1069

Cable assemblies cpl. ABIROB® A ECO

with connection type	Length	Part-No.
ABICOR BINZEL®	1.60 m	980.1070
Euro central connection	2.15 m	980.1097
	3.15 m	980.1098

The control cable is not pre-wired at the machine end. Power source specific types on request.

The steel liner \varnothing 0.8-1.2 mm is included in the scope of delivery. Please order other versions separately.

Liners for Euro central connection¹

Type	Wire- \varnothing	up to L=1.6 m ³	up to L=3.15 m ³	10.0 m ⁴	Collet
Liner steel ²	\varnothing 0.8-1.2	124.0145.1	124.0146.1	124.0159.1	131.0012
Liner steel ²	\varnothing 1.4-1.6	124.0147	124.0148	124.0160	131.0011

¹ Liners for other connection types are available on request.

² Steel liners (insulated) for the use of non-alloyed and low-alloyed steels. The totally insulated wire feed prevents damage caused by "micro-arcing" on the wire. This allows optimal current transfer inside the contact tube, improving the welding process. The insulated steel liner must always be used for power sources with optimal welding wire sensors. Liners for aluminium and special wires on request.

³ Including 1x collet

⁴ For individual production including one collet

Accessories



Description	Part-No.
Alignment tool (to align inner tube with outer tube)	191.0090.1
Gas nozzle sensor clip ABIROB® A360 (without figure)	980.1099
Gas nozzle sensor clip ABIROB® A500 (without figure)	980.1100



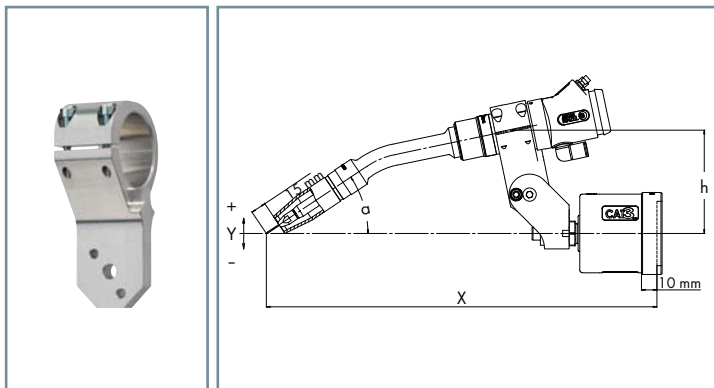
Alignment jig for torch type	Torch geometry	Part-No.
ABIROB® A300	45°	837.0600
ABIROB® A360 / A500	0° / 22° / 35° / 45°	837.0500

"ABIROB® A ECO" air cooled Holder & TCP Geometries

Clamp holder for ABIROB® A ECO

in connection with CAT3 cpl.

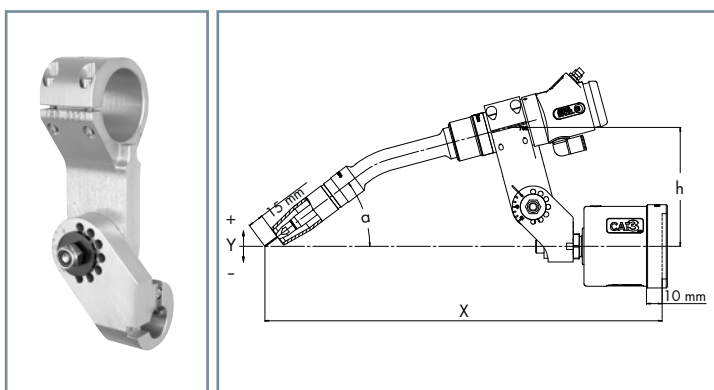
Torch type	Torch geometry	X	Y	h	α	Part-No.
ABIROB®	0°	393	0	97	21°	780.0259
A360	22°	376	0	101	34°	780.0259
	35°	361	0	102	40°	780.0259
	45°	348	0	103	44°	780.0259
ABIROB®	0°	393	0	97	21°	780.0259
A500	22°	376	0	101	34°	780.0259
	35°	361	0	102	40°	780.0259
	45°	348	0	103	44°	780.0259



Segment holder for ABIROB® A ECO¹

in connection with CAT3

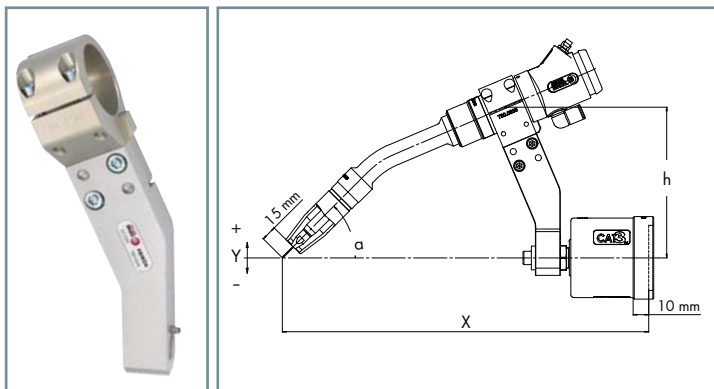
Torch type	Torch geometry	X	Y	h	α	Part-No.
ABIROB®	0°	399	46	114	15°	780.0321.1
A360	22°	377	0	114	37°	780.0321.1
	35°	355	-27	114	50°	780.0321.1
	45°	332	-47	114	60°	780.0321.1
ABIROB®	0°	399	46	114	15°	780.0321.1
A500	22°	377	0	114	37°	780.0321.1
	35°	355	-27	114	50°	780.0321.1
	45°	332	-47	114	60°	780.0321.1



Fixed bracket for ABIROB® A ECO

in connection with CAT3

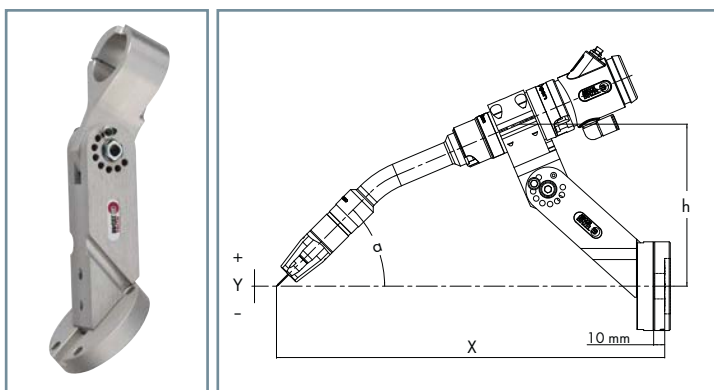
Torch type	Torch geometry	X	Y	h	α	Part-No.
ABIROB®	22°	350	0	146	45°	780.0833.1
A360	35°	350	0	123	45°	780.0835.1
	45°	350	0	107	45°	780.0380.1
ABIROB®	22°	350	0	146	45°	780.0833.1
A500	35°	350	0	123	45°	780.0835.1
	45°	350	0	107	45°	780.0380.1



RTM holder for ABIROB® A ECO²

for robots with collision software

Torch type	Torch geometry	X	Y	h	α	Part-No.
ABIROB®	0°	378	42	146	23°	780.0195
A360	22°	324	0	146	45°	780.0195
	35°	324	-24	146	58°	780.0195
	45°	399	-40	146	68°	780.0195
ABIROB®	0°	378	42	146	23°	780.0195
A500	22°	324	0	146	45°	780.0195
	35°	324	-24	146	58°	780.0195
	45°	399	-40	146	68°	780.0195



Further holders are available on request.

¹ Holder adjustable in 15° steps.

² Holder adjustable in 7.5° steps.