

ROBO CATALOG 4.3



**Robotic Joining Technology for all
Metalworking Industries.**





Content

MIG/MAG Welding Torch Systems	Page	5
■ MIG/MAG Welding Torch System "WH and WH-PP" air cooled ROBO WH A360 / ROBO WH A500	Page	7
■ MIG/MAG Welding Torch System "WH and WH-PP" liquid cooled ROBO WH W300 / ROBO WH W500 / ROBO WH W600	Page	15
■ MIG/MAG Welding Torch System "ABIROB® W" liquid cooled ABIROB® W300 / ABIROB® W500 / ABIROB® W600	Page	23
■ MIG/MAG Welding Torch System "ABIROB® A ECO" air cooled ABIROB® A300 / ABIROB® A360 / ABIROB® A500	Page	33
■ MIG/MAG Welding Torch System "ABIROB® 350 GC" air cooled ABIROB® 350 GC	Page	41
■ MIG/MAG Welding Torch System "ROBO Standard" liquid cooled ROBO 455 D	Page	47
■ MIG/MAG Welding Torch System "ROBO Standard" liquid cooled ROBO Compact W600	Seite	53
TIG Welding Torch Systems	Page	59
■ TIG Welding Torch System "ABITIG® WH" liquid cooled ABITIG® WH 220 W / ABITIG® WH 400 W	Page	61
■ TIG Welding Torch System "ABITIG® MT" liquid cooled ABITIG® MT 300 W / ABITIG® MT 500 W	Page	69
Robot Peripherals	Page	77
■ Robot Mount for externally guided welding torch cable assemblies CAT3	Page	79
■ Robot Mounts for internally guided welding torch cable assemblies iCAT / iCAT mini / iSTM	Page	85
■ Wire Feeder System MasterLiner	Page	107
■ Torch Cleaning Station BRS / TSi / DAV	Page	119



MIG/MAG Welding Torch Systems

Air & liquid cooled



ROBO WH / ROBO WH-PP air and liquid cooled

Quick adaptation to changing welding tasks ...

Capacity: up to 550 A

Application areas: Automotive construction, automotive suppliers (Tier 1, Tier 2), commercial vehicle construction, earth-moving equipment, rail vehicle construction, machine and steel construction

Degree of automation: Low Medium High

Page 7



ABIROB® W liquid cooled

Robust & flexible ...

Capacity: up to 600 A

Application areas: Commercial vehicle construction, earth-moving equipment, rail vehicle construction, shipbuilding, machine and steel construction

Degree of automation: Low Medium High

Page 23



ABIROB® A ECO air cooled

Simple & effective ...

Capacity: up to 500 A

Application areas: Automotive construction, automotive suppliers (Tier 1, Tier 2), bicycle industry, container construction, aviation- and aerospace industry

Degree of automation: Low Medium High

Page 33



ABIROB® 350 GC air cooled

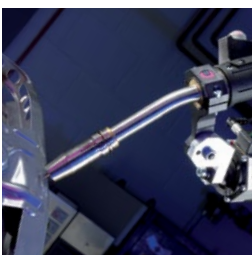
Sturdy, durable & economical ...

Capacity: up to 350 A

Application areas: Automotive construction, automotive suppliers (Tier 1, Tier 2), bicycle industry, container construction

Degree of automation: Low Medium High

Page 41



ROBO Standard liquid cooled

Powerful, reliable & economical ...

Capacity: up to 450 A

Application areas: Commercial vehicle construction, earth-moving equipment, rail vehicle construction, shipbuilding, container construction, machine and steel construction

Degree of automation: Low Medium High

Page 47



ROBO Compact liquid cooled

Powerful, reliable & economical ...

Leistungsgröße: bis 600 A

Einsatzgebiete: Nutzfahrzeugbau, Erdbewegungsmaschinen, Schienenfahrzeugbau, Schiffsbau, Behälterbau, Maschinen- und Stahlbau

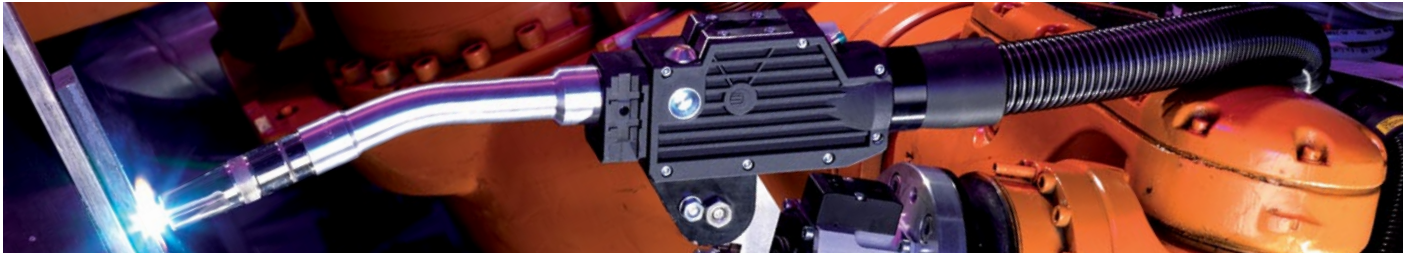
Automatisierungsgrad: Low Medium High

Seite 53



MIG/MAG Welding Torch System

"ROBO WH & WH-PP" air cooled



Quick adaptation to changing welding tasks ...

The air cooled MIG/MAG neck change welding torch system WH / WH-PP enables the complete torch neck to be replaced either manually or automatically – thanks to the innovative interface technology on the change body. This means torches of the same design can be replaced in seconds for maintenance purposes, or torches with special geometries for different welding positions can be changed as required.

Equally, the replacement of contact tip and gas nozzle and the monitoring of the TCP also take place outside the welding cell, thus increasing the availability of the system and reducing downtimes.

Advantages that speak for themselves:

- Fast torch neck change and replacement of wear parts increase system availability
- Flexible adaptation to changing welding tasks
- Also available as a push-pull system for precise wire feeding
- Air cooled up to 360 A

up to
360 A



Degree of automation:

Low	Medium	High
-----	--------	------

Application areas:



- Automotive construction
- Automotive suppliers (Tier 1, Tier 2)
- Commercial vehicle construction
- Earth-moving equipment
- Rail vehicle construction
- Machine and steel construction

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)

“ROBO WH & WH-PP” air cooled System Overview & Technical Data

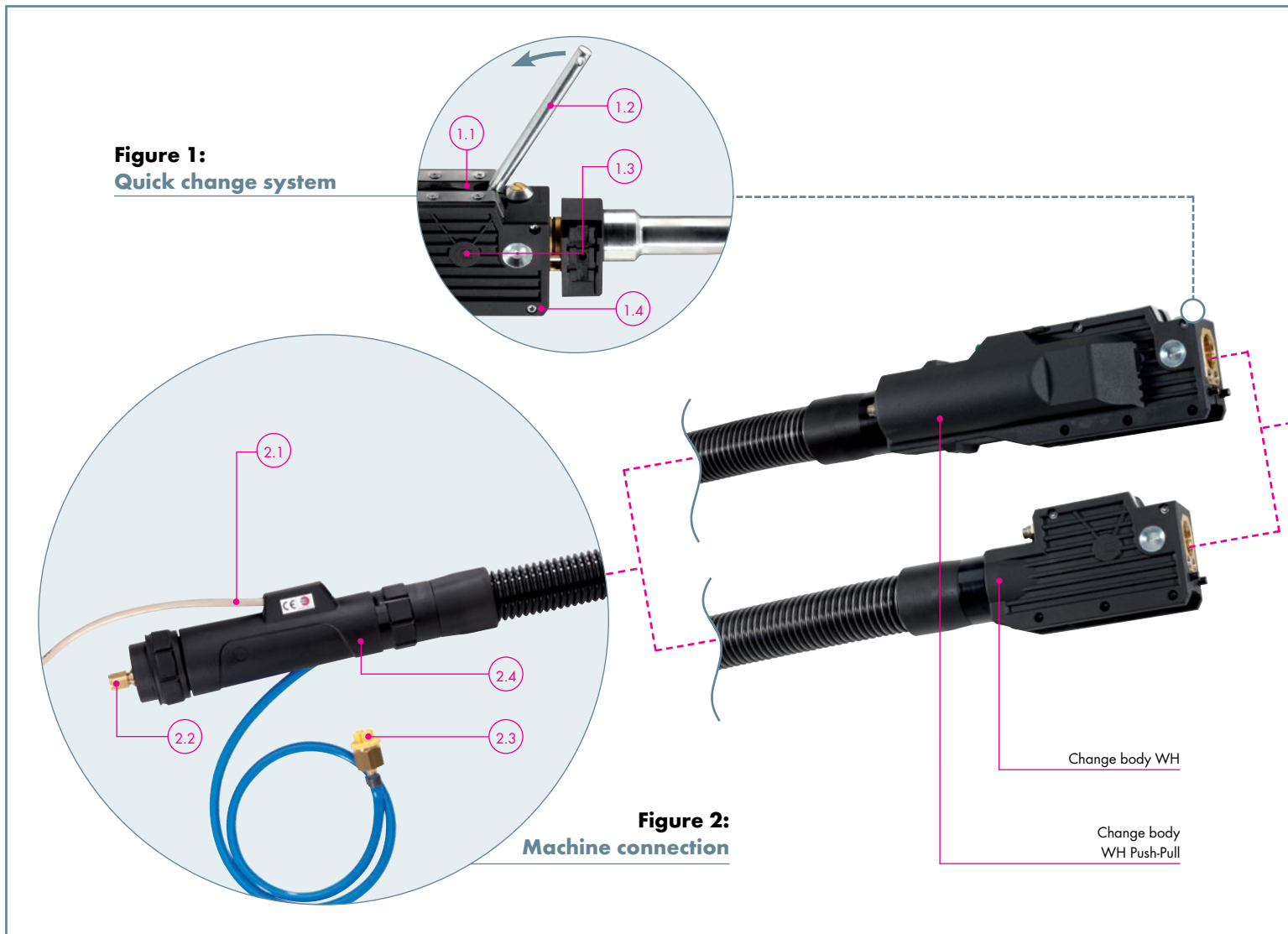


Figure 1:
Quick change system

- 1.1 Rubber seals prevent dust/spatter penetration
- 1.2 Tool for manual torch neck replacement (hand lever)
- 1.3 Integrated wire-cutting and location function for torch neck replacement
- 1.4 Sturdy housing for change body (optionally with wire brake¹)

Figure 2:
Machine connection

- 2.1 High-quality control cable with strain relief (control cable connector on request)
- 2.2 Machine connection available for all standard wire feeds
- 2.3 Airblast hose with blanking plug
- 2.4 Sturdy casing with bend-protection spring

¹ Wire brake and gas nozzle sensor connection are required for tactile seam location via gas nozzle. Ask your robot manufacturer for more details.

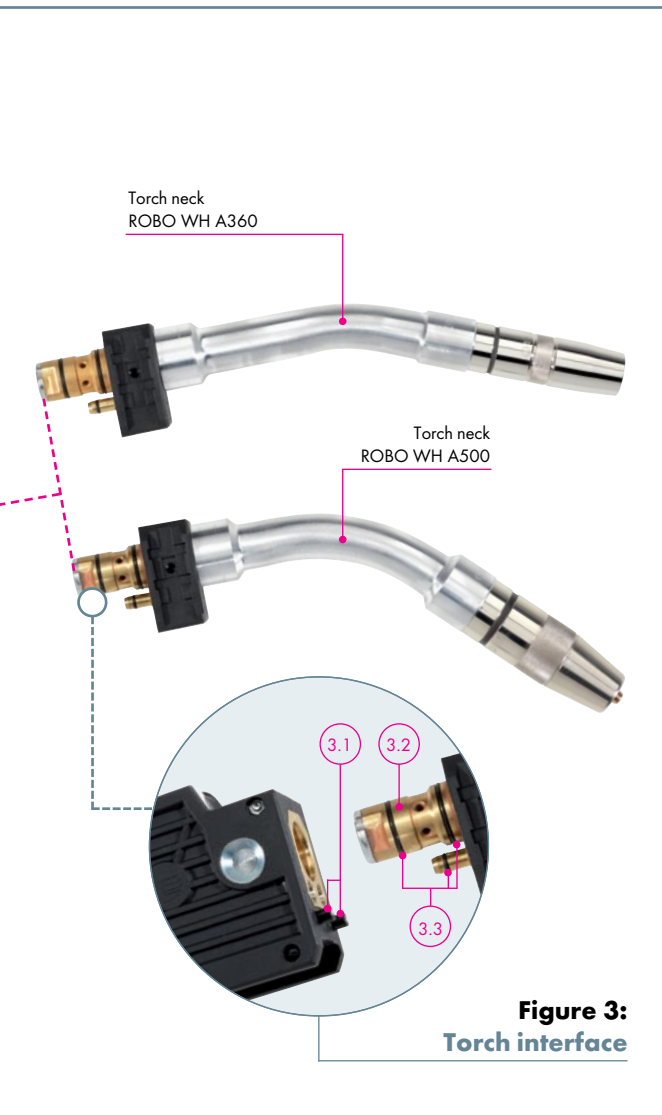


Figure 3:
Torch interface

Figure 3:
Torch interface

- 3.1 Contacts for optional gas nozzle sensor¹
- 3.2 Compact and space-saving interface
- 3.3 O-rings ensure a gas-tight connection



Technical data (EN 60 974-7):

ROBO WH A360

Type of cooling:	air cooled*
Rating:	300 A CO ₂ 250 A Mixed gases M21 (EN ISO 14175)
Duty cycle:	100 %
Wire-Ø:	0.8 - 1.2 mm
Torch geometries:	22°/45°

ROBO WH A500

Type of cooling:	air cooled*
Rating:	360 A CO ₂ 290 A Mixed gases M21 (EN ISO 14175)
Duty cycle:	100 %
Wire-Ø:	0.8 - 1.2 mm
Torch geometries:	0°/22°/45°

* Capacity can be reduced when cable assemblies are longer than 3 m.

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.

"ROBO WH & WH-PP" air cooled Torch Necks & Wear Parts

ROBO WH A360



Torch necks

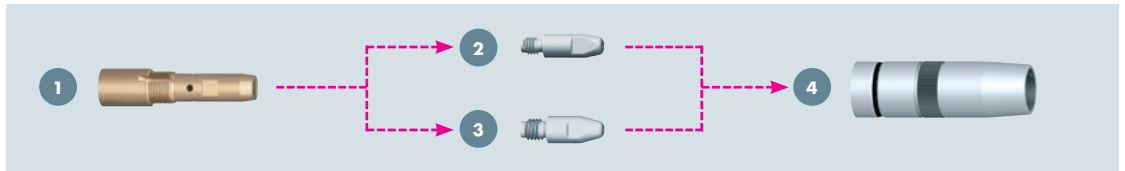
Features	22°	Part-No.	45°
Standard	962.1410.1		962.1411.1

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

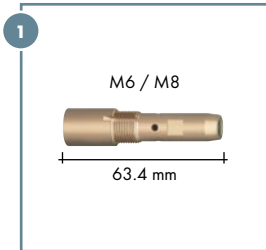
Neck liner

for	Torch geometry	Wire-Ø	Part-No.
Steel	22° / 45°	Ø 0.8-0.9	149.0276.5
		Ø 1.0-1.2	149.0277.5
Aluminium	22° / 45°	Ø 0.8-1.0	149.0278.5
		Ø 1.2-1.6	149.0279.5

Wear parts for ROBO WH A360



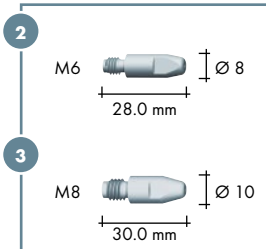
1 Contact tip holder (5 pcs.)



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

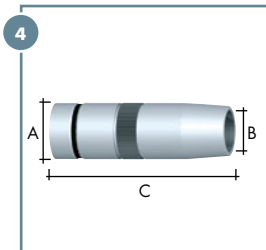
¹ Recommended for high amperages.

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

4 Gas nozzle (5 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

"ROBO WH & WH-PP" air cooled Torch Necks & Wear Parts

ROBO WH A500



Torch necks

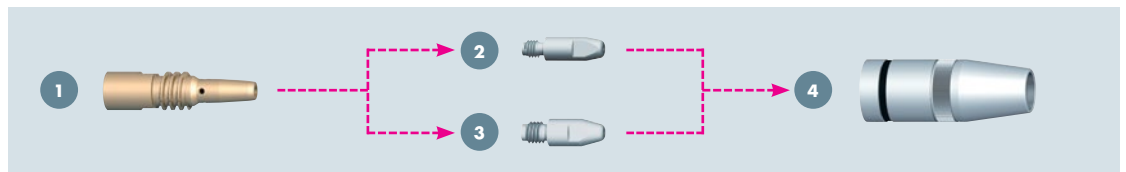
Features	Part-No.		
	0°	22°	45°
Standard	962.1504.1	962.1505.1	962.1506.1

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

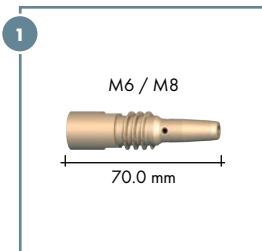
Neck liner

for	Torch geometry	Wire-Ø	Part-No.
Steel	0° / 22° / 45°	Ø 0.8-0.9	149.0276.5
		Ø 1.0-1.2	149.0277.5
Aluminium	0° / 22° / 45°	Ø 0.8-1.0	149.0278.5
		Ø 1.2-1.6	149.0279.5

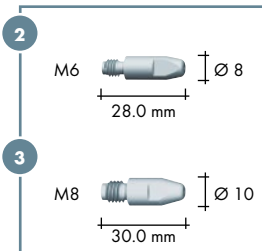
Wear parts for ROBO WH A500



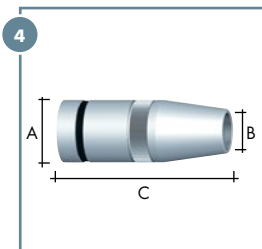
1 Contact tip holder (5 pcs.)



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



4 Gas nozzle (5 pcs.)



Type	Part-No.
M6 Brass	142.0159.5
M8 Brass	142.0158.5
M8 Copper ¹	142.0169.5

¹ Recommended for high amperages.

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

Type bottle form	Ø A	Ø B	Length C	Part-No.
Flush ²	Ø 28.0	Ø 14.0	75.0 mm	145.0586
Recess (-2.0 mm) ³	Ø 28.0	Ø 14.0	77.0 mm	145.0587
Stick-out (+3.0 mm) ⁴	Ø 28.0	Ø 14.0	72.0 mm	145.0588
Flush ²	Ø 28.0	Ø 16.0	75.0 mm	145.0583
Recess (-2.0 mm) ³	Ø 28.0	Ø 16.0	77.0 mm	145.0584
Stick-out (+3.0 mm) ⁴	Ø 28.0	Ø 16.0	72.0 mm	145.0585

Type conical	Ø A	Ø B	Length C	Part-No.
Flush ²	Ø 28.0	Ø 13.0	75.0 mm	145.0589
Recess (-2.0 mm) ³	Ø 28.0	Ø 13.0	77.0 mm	145.0590
Stick-out (+3.0 mm) ⁴	Ø 28.0	Ø 13.0	72.0 mm	145.0591
Flush ²	Ø 28.0	Ø 16.0	75.0 mm	145.0580
Recess (-2.0 mm) ³	Ø 28.0	Ø 16.0	77.0 mm	145.0581
Stick-out (+3.0 mm) ⁴	Ø 28.0	Ø 16.0	72.0 mm	145.0582

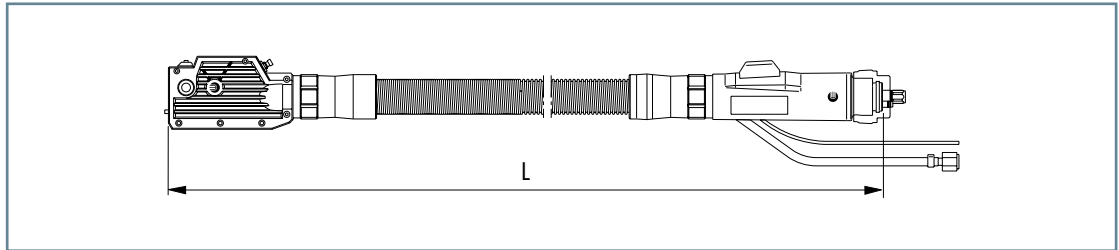
² Flush: Contact tip flush

³ Recess: Contact tip recessed

⁴ Stick-out: Contact tip protruding

“ROBO WH & WH-PP” air cooled Cable Assemblies & Accessories

Cable assembly and connection types



On account of the large number of connection variants and cable assembly lengths we cannot list every part number here. Please contact your application consultant to find the optimum solution for your requirements. When you inquire, please have all the relevant information on hand ready, such as connection variant, make and type of power source, description of wire feeder, pin assignment for the control cable and individual connections for the airblast function.

Liners for Euro central connection¹

Type	Wire-Ø	up to L=1.5 m ⁴	up to L=3.15 m ⁴	10.0 m ⁵	Collet
Liner steel red ²	Ø 0.8-1.2	124.0145.1	124.0146.1	124.0159.1	131.0012
Liner steel white ²	Ø 1.4-1.6	124.0147	124.0148	124.0160	131.0011
Combined wire feed ³	Ø 0.8-1.2	128.M008	128.M009	-	131.0019
	Ø 1.4-1.6	128.M012.1	128.M013.1	-	131.0020

¹ Liners for other connection types are available on request.

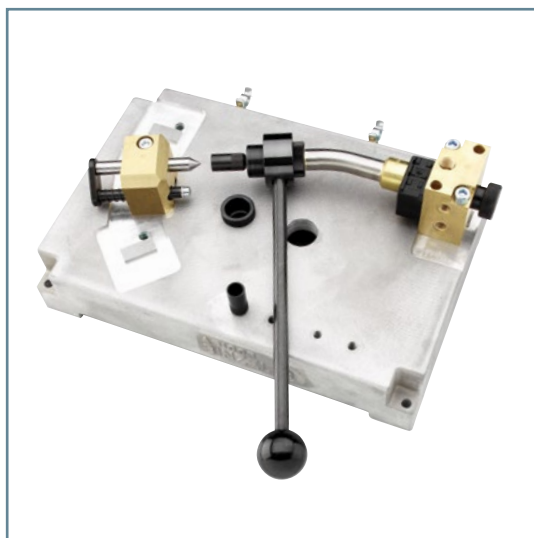
² Red and white steel liners (insulated) for the use of non-alloyed and low-alloyed steels. The totally insulated wire feed prevents damage caused by “micro-arcing” on the wire. This allows optimal current transfer inside the contact tip, improving the welding process. The insulated steel liner must always be used for power sources with optimal welding wire sensors.

³ Combined wire feed – for aluminium or bronze wires – is a combination of PA-liner and a bronze liner pressed on in the front section to avoid thermal overload of the PA.

⁴ Including 1x collet

⁵ For individual production including 2x collets

Accessories



Alignment jig

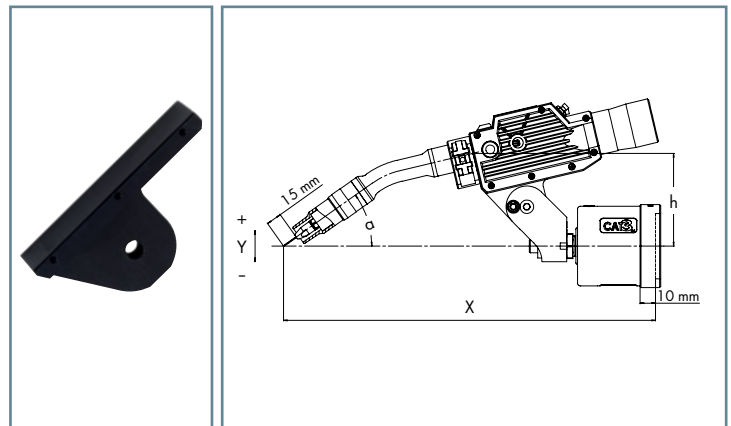
for torch type	Torch geometry	Part-No.
ROBO WH A	0°/22°/45°	837.0591.1

“ROBO WH & WH-PP” air cooled Holder & TCP Geometries

Torch holder for ROBO WH and WH-PP

in connection with CAT3 cpl.

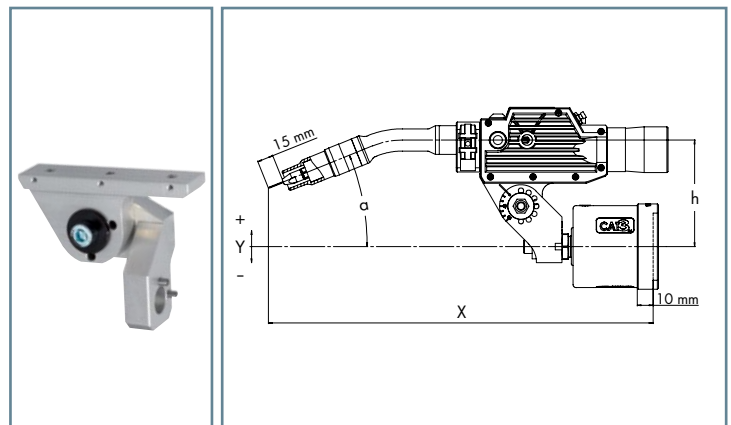
Torch type	Torch geometry	X	Y	h	α	Part-No.
ROBO	0°	407	0	83	20°	960.0026.1
WH A 360	22°	391	0	92	33°	960.0026.1
	35°	376	0	97	39°	960.0026.1
	45°	363	0	101	43°	960.0026.1
ROBO	0°	407	0	83	20°	960.0026.1
WH A 500	22°	391	0	92	33°	960.0026.1
	45°	363	0	101	43°	960.0026.1



Segment holder for ROBO WH and WH-PP¹

in connection with CAT3

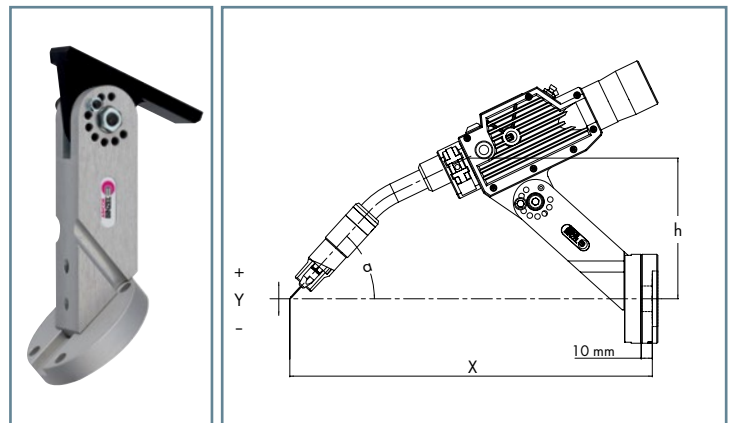
Torch type	Torch geometry	X	Y	h	α	Part-No.
ROBO	0°	402	100	100	0°	780.0307.1
WH A 360	22°	393	50	100	22°	780.0307.1
	35°	379	20	100	35°	780.0307.1
	45°	362	-6	100	45°	780.0307.1
ROBO	0°	402	100	100	0°	780.0307.1
WH A 500	22°	393	50	100	22°	780.0307.1
	45°	362	-6	100	45°	780.0307.1



RTM holder for ROBO WH and WH-PP¹

for robots with collision software

Torch type	Torch geometry	X	Y	h	α	Part-No.
ROBO	0°	388	21	127	0°	780.0360
WH A 360	22°	358	-20	127	48°	780.0360
	35°	331	-41	127	61°	780.0360
	45°	305	-58	127	71°	780.0360
ROBO	0°	388	21	127	0°	780.0360
WH A 500	22°	358	-20	127	48°	780.0360
	45°	305	-58	127	71°	780.0360



Further holders are available on request.

¹ Holder adjustable in 15° steps.



MIG/MAG welding torch system "ROBO WH & WH-PP" liquid cooled



Quick adaptation to changing welding tasks ...

The liquid cooled MIG/MAG neck change welding torch system WH / WH-PP enables the complete torch neck to be replaced either manually or automatically – thanks to the innovative interface technology on the change body. This means torches of the same design can be replaced in seconds for maintenance purposes, or torches with special geometries for different welding positions can be changed as required.

Equally, the replacement of contact tip and gas nozzle and the monitoring of the TCP also takes place outside of the welding cell, thus increasing the availability of the system and reducing downtimes.

Advantages that speak for themselves:

- Fast torch neck change and replacement of wear parts increase system availability
- Flexible adaptation to changing welding tasks
- Also available as a push-pull system for precise wire feeding
- Liquid cooled up to 600 A

up to
550 A



Degree of automation:

Low	Medium	High
-----	--------	------

Typical areas of application:



- Automotive construction
- Automotive suppliers (Tier 1, Tier 2)
- Commercial vehicle construction
- Earth-moving equipment
- Rail vehicle construction
- Machine and steel construction

Material:

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

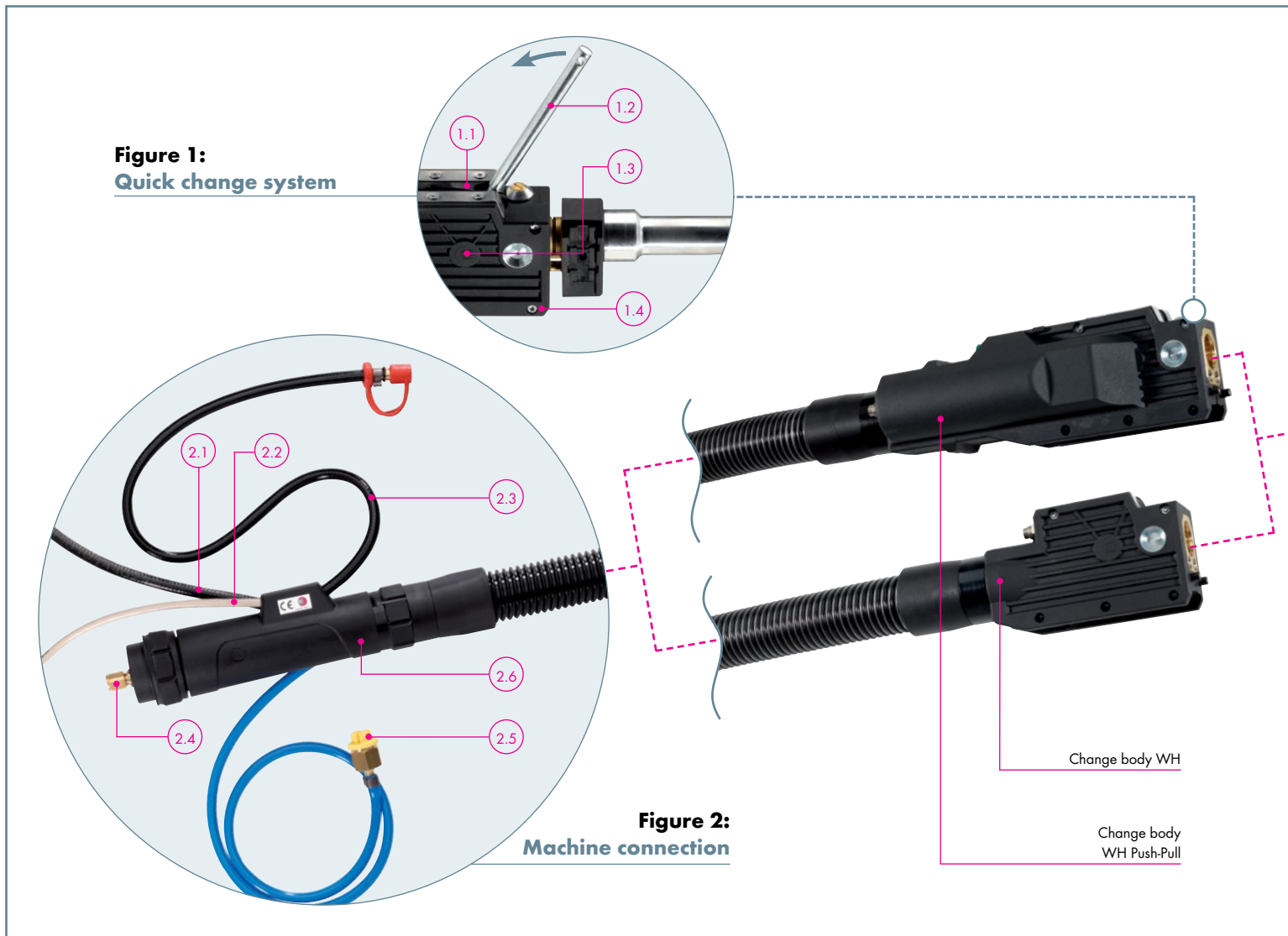
Robot interface:

- 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)

“ROBO WH & WH-PP” liquid cooled System Overview & Technical Data



**Figure 1:
Quick change system**

- 1.1 Rubber seals prevent dust/spatter penetration
- 1.2 Tool for manual torch neck replacement (hand lever)
- 1.3 Integrated wire-cutting and location function for torch neck replacement
- 1.4 Sturdy housing for change body (optionally with wire brake¹)

**Figure 2:
Machine connection**

- 2.1 Coolant feed hose with closure
- 2.2 High-grade control cable with strain relief
- 2.3 Coolant return hose with closure
- 2.4 Machine connection available for all standard wire feeds
- 2.5 Airblast hose with blanking plug
- 2.6 Sturdy casing with bend-protection spring

¹ Wire brake and gas nozzle sensor connection are required for tactile component location. Ask your robot manufacturer for more details.

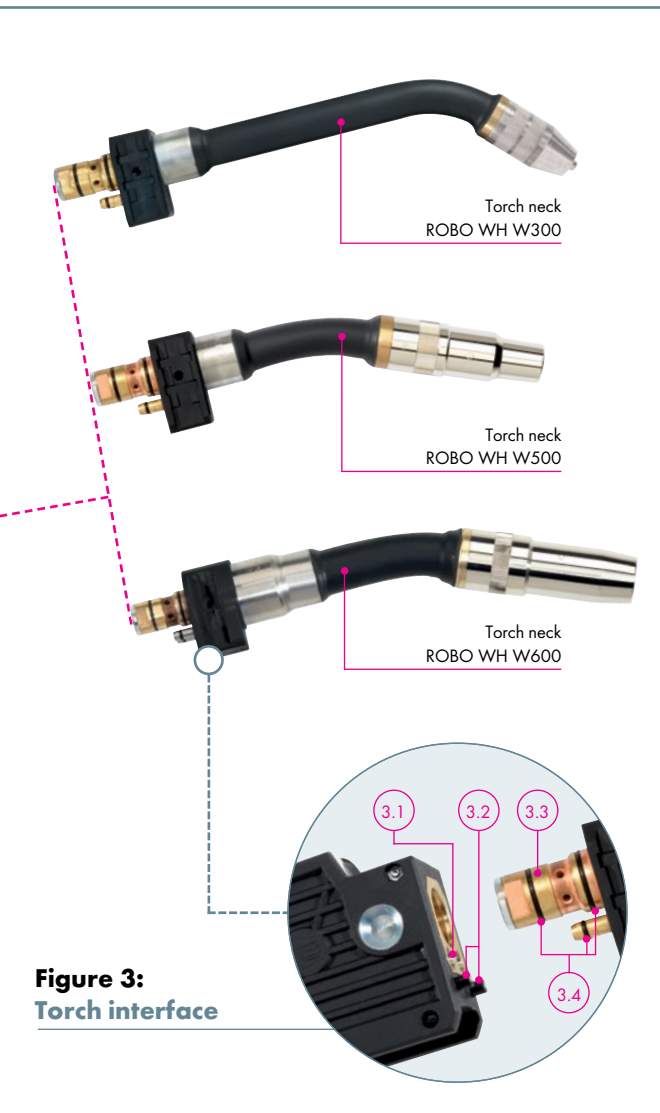
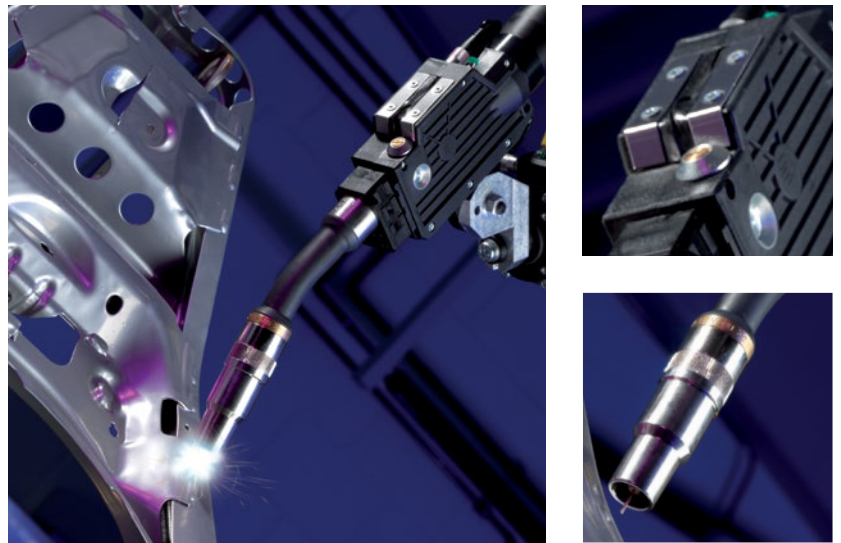


Figure 3:
Torch interface

Figure 3:
Torch interface

- 3.1 Non-return valves for leak-free torch neck replacement
- 3.2 Contacts for optional gas nozzle sensor¹
- 3.3 Compact and space-saving interface
- 3.4 O-rings ensure a coolant and gas-tight connection



Technical data (EN 60 974-7):

ROBO WH W300

Type of cooling: liquid cooled
 Rating: 330 A CO₂
 300 A Mixed gases M21 (EN ISO 14175)
 Duty cycle: 100 %
 Wire-Ø: 0.8 – 1.2 mm
 Torch geometries: 45°

ROBO WH W500

Type of cooling: liquid cooled
 Rating: 550 A CO₂
 500 A Mixed gases M21 (EN ISO 14175)
 Duty cycle: 100 %
 Wire-Ø: 0.8 – 1.6 mm
 Torch geometries: 0°/22°/35°/45°

ROBO WH W600

Type of cooling: liquid cooled
 Rating: 600 A CO₂
 550 A Mixed gases M21 (EN ISO 14175)
 Duty cycle: 100 %
 Wire-Ø: max. 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.

"ROBO WH & WH-PP" liquid cooled Torch Necks & Wear Parts

ROBO WH W300



Torch neck

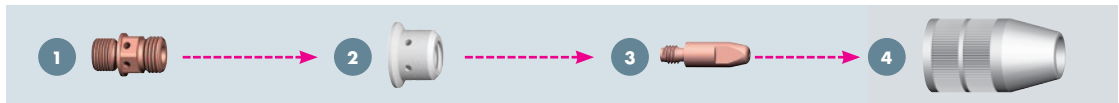
Features	Part-No.
Standard	962.1889.1

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

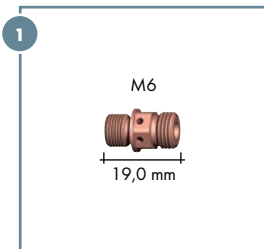
Neck liner

for	Wire-Ø	Part-No.
Steel	Ø 0.8-1.2	149.0040.5
Aluminium	Ø 0.8-1.2	149.0014.5

Wear parts for ROBO WH W300



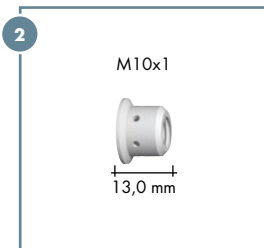
1 Contact tip holder (10 pcs.)



Type	Part-No.
M6 Copper ¹	785.5052

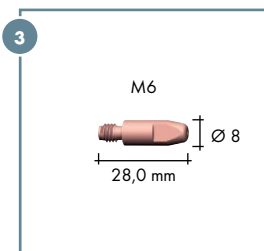
¹ Recommended for high amperages.

2 Gas diffuser (10 pcs.)



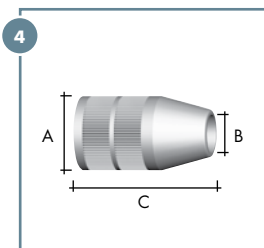
Type	Part-No.
Standard	962.0657
High temperature resistant (ceramic)	962.1341

3 Contact tip (10 pcs.)



Type	Wire-Ø	Part-No.
CuCrZr	Ø 0.8	140.0054
	Ø 0.9	140.0172
	Ø 1.0	140.0245
	Ø 1.2	140.0382

4 Gas nozzle (10 pcs.)



Type conical	Ø A	Ø B	Length C	Part-No.
Recess (-1.0 mm) ²	Ø 25.0	Ø 13.0	48.5 mm	145.0564
Stick-out (+3.0 mm) ³	Ø 25.0	Ø 13.0	44.5 mm	145.0495.10
Stick-out (+3.0 mm) ³	Ø 25.0	Ø 15.5	44.5 mm	145.0494.10

² Recess: Contact tip recessed

³ Stick-out: Contact tip protruding

"ROBO WH & WH-PP" liquid cooled Torch Necks & Wear Parts

ROBO WH W500



Torch neck

Features	Part-No.			
	0°	22°	35°	45°
Standard	962.1550.1	962.1549.1	962.1551.1	962.1532.1
with gas nozzle sensor*	962.1595.1	962.1596.1	962.1597.1	962.1598.1

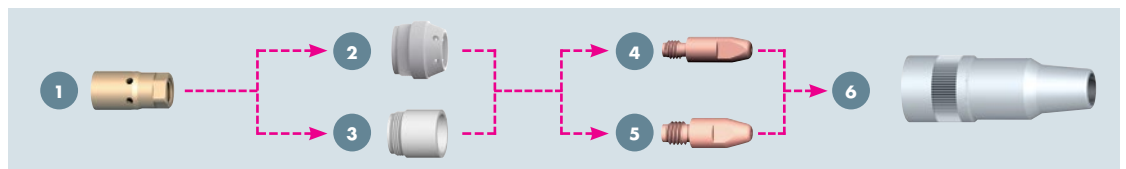
Wear parts and fittings are not included in the scope of delivery! Please order these separately and according to the application!

* Gas nozzle sensor connection for tactile seam location via gas nozzle

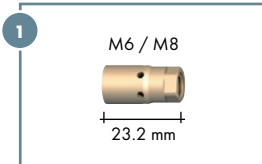
Neck liner

Torch geometry	Wire-Ø	Part-No.	
		for steel	for aluminium
0° / 22°	Ø 0.8-1.0	-	149.0230.5
	Ø 1.0-1.2	149.0226.5	149.0232.5
	Ø 1.4-1.6	149.0228.5	-
35° / 45°	Ø 0.8-1.0	-	149.0231.5
	Ø 1.0-1.2	149.0227.5	149.0233.5
	Ø 1.4-1.6	149.0229.5	-

Wear parts for ROBO WH W500



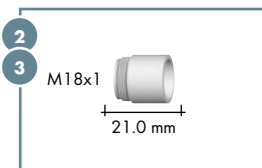
1 Contact tip holder (10 pcs.)



Type	Part-No.
M6 Copper ¹	142.0133.10
M6 Brass	142.0216.10
M8 Copper ¹	142.0151.10
M8 Brass	142.0117.10

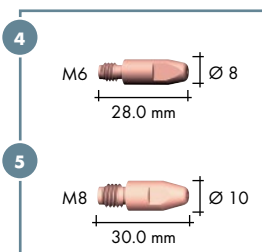
¹ Recommended for high amperages.

2 Gas diffuser 3 Nozzle insulator (10 pcs.)



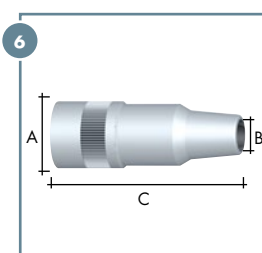
Type	Part-No.
Gas diffuser, standard (not ill.)	943.0284
Nozzle insulator, standard	146.0054.10
Nozzle insulator, standard/short	146.0064
Nozzle insulator, resistant to high temperatures	146.0059.10

4 Contact tip M6 5 Contact tip M8 (10 pcs.)



Type	Wire-Ø	Part-No.	
		M6	M8
CuCrZr	Ø 0.8	140.0054	140.0117
	Ø 0.9	140.0172	140.0217
	Ø 1.0	140.0245	140.0316
	Ø 1.2	140.0382	140.0445
	Ø 1.4	-	140.0536
	Ø 1.6	-	140.0590

6 Gas nozzle (10 pcs.)



Type bottle form	Ø A	Ø B	Length C	Part-No.
Recess (-2.6 mm) ²	Ø 27.0	Ø 13.0	77.0 mm	145.0556.10
Recess (-1.1 mm) ²	Ø 27.0	Ø 13.0	75.5 mm	145.0479.10
Recess (-2.6 mm) ²	Ø 27.0	Ø 15.5	77.0 mm	145.0480.10
Recess (-1.1 mm) ²	Ø 27.0	Ø 15.5	75.5 mm	145.0544.10
Stick-out (+2.4 mm) ³	Ø 27.0	Ø 15.5	72.0 mm	145.0466.10

Type conical	Ø A	Ø B	Length C	Part-No.
Recess (-1.1 mm) ²	Ø 27.0	Ø 15.5	75.5 mm	145.0553.10
Stick-out (+2.4 mm) ³	Ø 27.0	Ø 15.5	72.5 mm	145.0568.10

² Recess: Contact tip recessed

³ Stick-out: Contact tip protruding

"ROBO WH & WH-PP" liquid cooled Torch Necks & Wear Parts

ROBO WH W600



Torch neck

Features	Part-No.			
	0°	22°	35°	45°
Standard	962.1745.1	962.1746.1	962.1747.1	962.1748.1
with gas nozzle sensor*	962.1769.1	962.1770.1	962.1771.1	962.1772.1

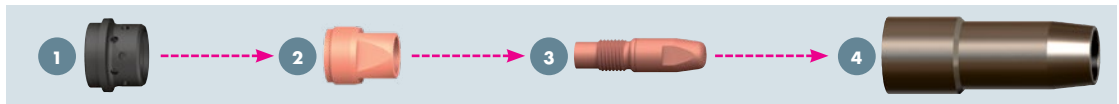
Wear parts and fittings are not included in the scope of delivery! Please order these separately and according to the application!

* Gas nozzle sensor connection for tactile seam location via gas nozzle

Neck-liner

for	Wire-Ø	Part-No.
Steel	Ø 1.0-1.2	149.0270.5
	Ø 1.4-1.6	149.0271.5
Aluminium	Ø 1.2-1.6	149.0272.5

Wear parts for ROBO WH W600

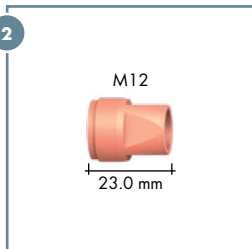


1 Gas diffuser (10 pcs.)



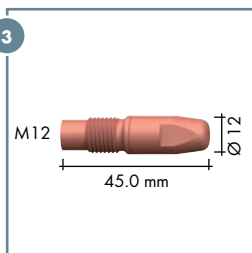
Type	Part-No.
Standard	146.0079.10

2 Contact tip holder (10 pcs.)



Type	Part-No.
M12	142.0214.10

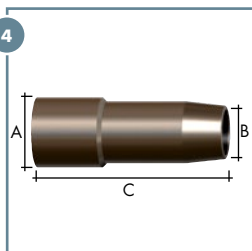
3 Contact tip (10 pcs.)



Type	Wire-Ø	Part-No.
CuCrZr	Ø 1.2	140.1563.10
	Ø 1.4	140.1564.10
	Ø 1.6	140.1565.10
HDS**	Ø 1.2	147.6563.10
	Ø 1.4	147.6564.10
	Ø 1.6	147.6565.10

**HDS = Heavy Duty Silver Contact Tips

4 Gas nozzle (5 pcs.)



Type conical	Ø A	Ø B	Length C	Part-No.
Flush ¹	34.0	21.5	92.0 mm	145.0686.5
Stick-Out (+ 6.0 mm) ²	34.0	21.5	86.0 mm	145.0687.5
Recess (- 3.0 mm) ³	34.0	21.5	95.0 mm	145.0688.5
Flush ¹	34.0	18.0	92.0 mm	145.0689.5

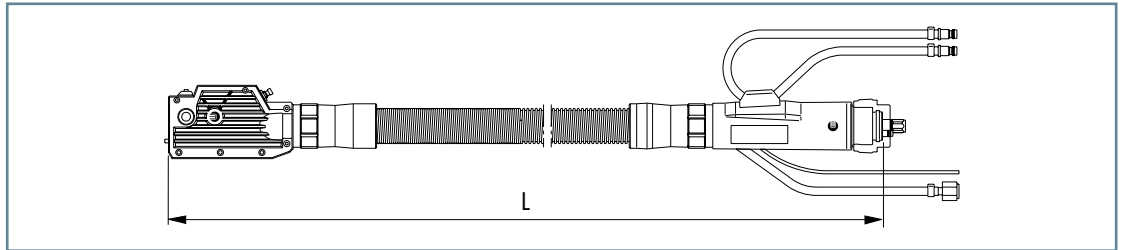
¹ Flush: Contact tip flush

² Stick-out: Contact tip protruding

³ Recess: Contact tip recessed

"ROBO WH & WH-PP" liquid cooled Cable Assemblies & Accessories

Cable assemblies and connection types



Cable assemblies "WH" cpl.

with connection type	Length	Part-No.
ABICOR BINZEL®	1.05 m	965.2001
Euro central connection	1.15 m	965.2002
	1.25 m	965.2003
	1.45 m	965.2004
	1.65 m	965.2005
	2.15 m	965.2006
	2.65 m	965.2007
	3.15 m	965.2008

Cable assemblies "WH-PP" cpl.

(Gear ratio $i=17.1:1$ / Motor 42 V DC*)

with connection type	Length	Part-No.
ABICOR BINZEL®	1.10 m	965.4014
Euro central connection	1.50 m	965.4015
	1.70 m	965.4016
	2.20 m	965.4001
	2.70 m	965.4002
	3.20 m	965.4003

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

*The control cable is not configured at the machine end. Power source specific versions of the motor-gear combination (24 V / 42 V / 32 V) as well as lengths greater than 3.2 m on request.

Liners for Euro central connection¹

Type	Wire-Ø	up to L=1.65 m	up to L=3.20 m	up to L=5.00 m
Liner steel red ²	Ø 0.8 - 1.2	124.0176	124.0111.1	124.0113.1
Liner steel BSLblue ²	Ø 1.4 - 1.6	124.0136	124.0108	124.0110
PA-liner ³	Ø 0.8 - 1.2	128.0039	128.0012	128.0016
	Ø 1.4 - 1.6	128.0040	128.0020	128.0030

¹ Liners for other connection types are available on request

² Red and BSLblue 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 PA-liners for the use of aluminium and special wires. Good gliding properties and abrasion resistance. Application temperature limit 150°C.

Drive rolls for WH-PP

Wire-Ø	Aluminium (U-groove)	Universal (V-groove)
Ø 0.8	961.0017	961.0269
Ø 0.9	961.0056	961.0270
Ø 1.0	961.0018	961.0227
Ø 1.2	961.0019	961.0228
Ø 1.4	-	961.0279
Ø 1.6	961.0020	961.0267

Accessories



Alignment jig

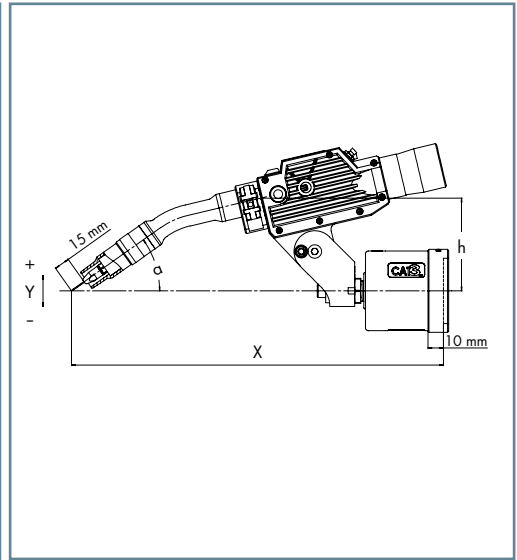
for torch type	Torch geometry	Part-No.
ROBO WH W300	45°	837.0163.1
ROBO WH W500	0° / 22° / 35° / 45°	837.0020.1
ROBO WH W600	0° / 22° / 35° / 45°	837.0846.1

“ROBO WH & WH-PP” liquid cooled Holder & TCP Geometries

Torch holder for ROBO WH and WH-PP

in connection with CAT3 cpl.

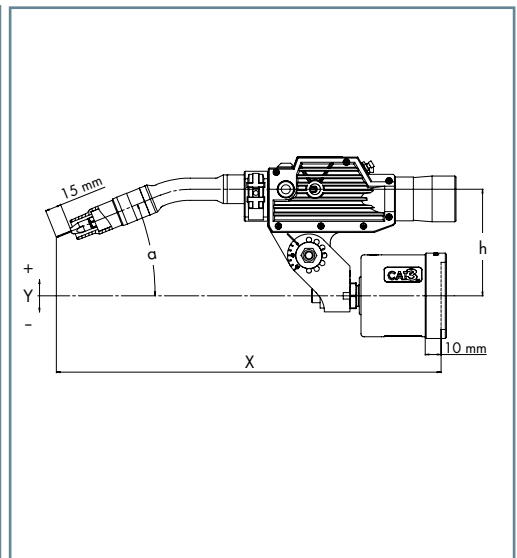
Torch type	Torch geometry	X	Y	h	α	Part-No.
		(mm)				
ROBO WH W300	45°	396	0	95	52°	960.0026.1
ROBO WH W500	0°	370	0	80	23°	960.0026.1
	22°	354	0	89	35°	960.0026.1
	35°	362	0	96	41°	960.0026.1
	45°	349	0	99	46°	960.0026.1
ROBO WH W600	0°	426	0	84	19°	960.0026.1
	22°	410	0	93	32°	960.0026.1
	35°	395	0	98	38°	960.0026.1
	45°	382	0	102	43°	960.0026.1



Segment holder for ROBO WH and WH-PP¹

in connection with CAT3

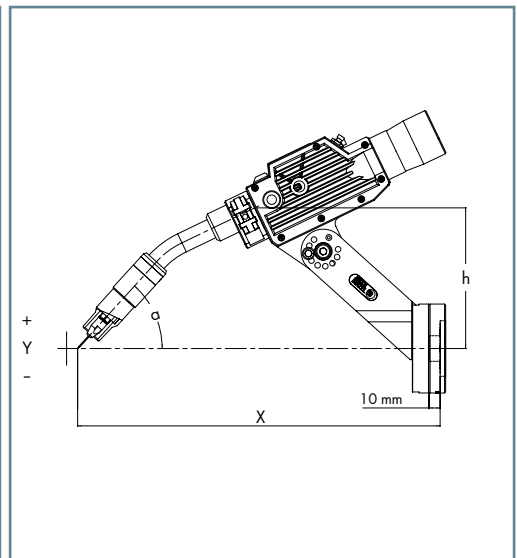
Torch type	Torch geometry	X	Y	h	α	Part-No.
		(mm)				
ROBO WH W300	45°	399	35	100	45°	780.0307.1
ROBO WH W500	0°	365	100	100	0°	780.0307.1
	22°	356	55	100	22°	780.0307.1
	35°	364	26	100	35°	780.0307.1
	45°	350	3	100	45°	780.0307.1
ROBO WH W600	0°	422	100	100	0°	780.0307.1
	22°	412	49	100	22°	780.0307.1
	35°	397	15	100	35°	780.0307.1
	45°	380	-11	100	45°	780.0307.1



RTM holder for ROBO WH and WH-PP¹

for robots with collision software

Torch type	Torch geometry	X	Y	h	α	Part-No.
		(mm)				
ROBO WH W300	45°	356	-36	127	71°	780.0360
ROBO WH W500	0°	354	37	127	26°	780.0360
	22°	327	0	127	48°	780.0360
	35°	321	-30	127	61°	780.0360
	45°	288	-44	127	71°	780.0360
ROBO WH W600	0°	405	12	127	26°	780.0360
	22°	374	-30	127	48°	780.0360
	35°	346	-54	127	61°	780.0360
	45°	319	-70	127	71°	780.0360

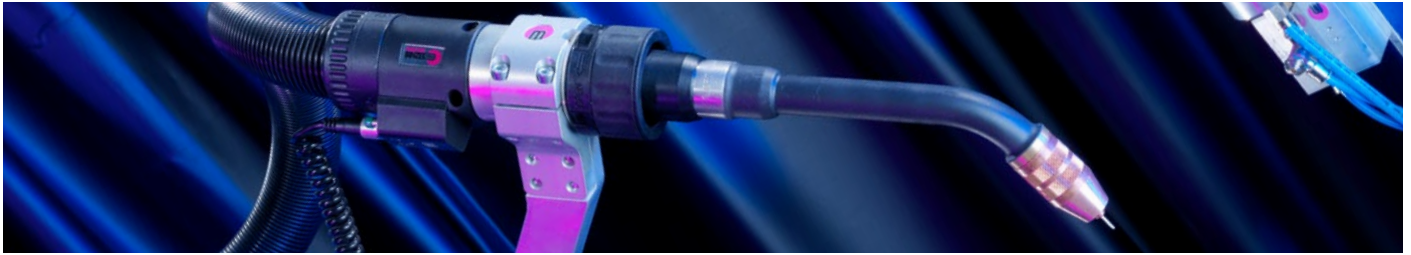


Further holders are available on request.

¹ Holder adjustable in 15° steps.

MIG/MAG Welding Torch System

"ABIROB® W" liquid cooled



Robust & flexible ...

Pure ROBO power! Liquid-cooled ABIROB® W welding torches have power ratings up to 600 A and are equipped with state-of-the-art cable assembly and interface technology. The modular design of these rugged yet flexible torches allows a fast change of torch neck and cable assembly components without the TCP (Tool Centre Point) changing – thus avoiding additional programming effort.

High repetitive accuracy and a continuously precise welding process are ensured through the innovative but "simple" torch construction.

Advantages that speak for themselves:

- Robust torch necks with screw-on gas nozzle and replaceable contact tip holder guarantee high durability and a long service life cycle
- The innovative interface design ensures the fast change of torch neck and reproducible positioning of cable assembly and torch neck
- Hybrid cable assembly technology for optimized wire feeding, prevention of electrolytic corrosion and improved coolant flow
- Special torch neck geometries are available for joining components even with limited accessibility

Degree of automation:

Low	Medium	High
-----	--------	------

Application areas:



- Commercial vehicle construction
- Earth-moving equipment
- Rail vehicle construction
- Shipbuilding
- Machine and steel construction

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
600 A



"ABIROB® W" liquid cooled System Overview & Technical Data

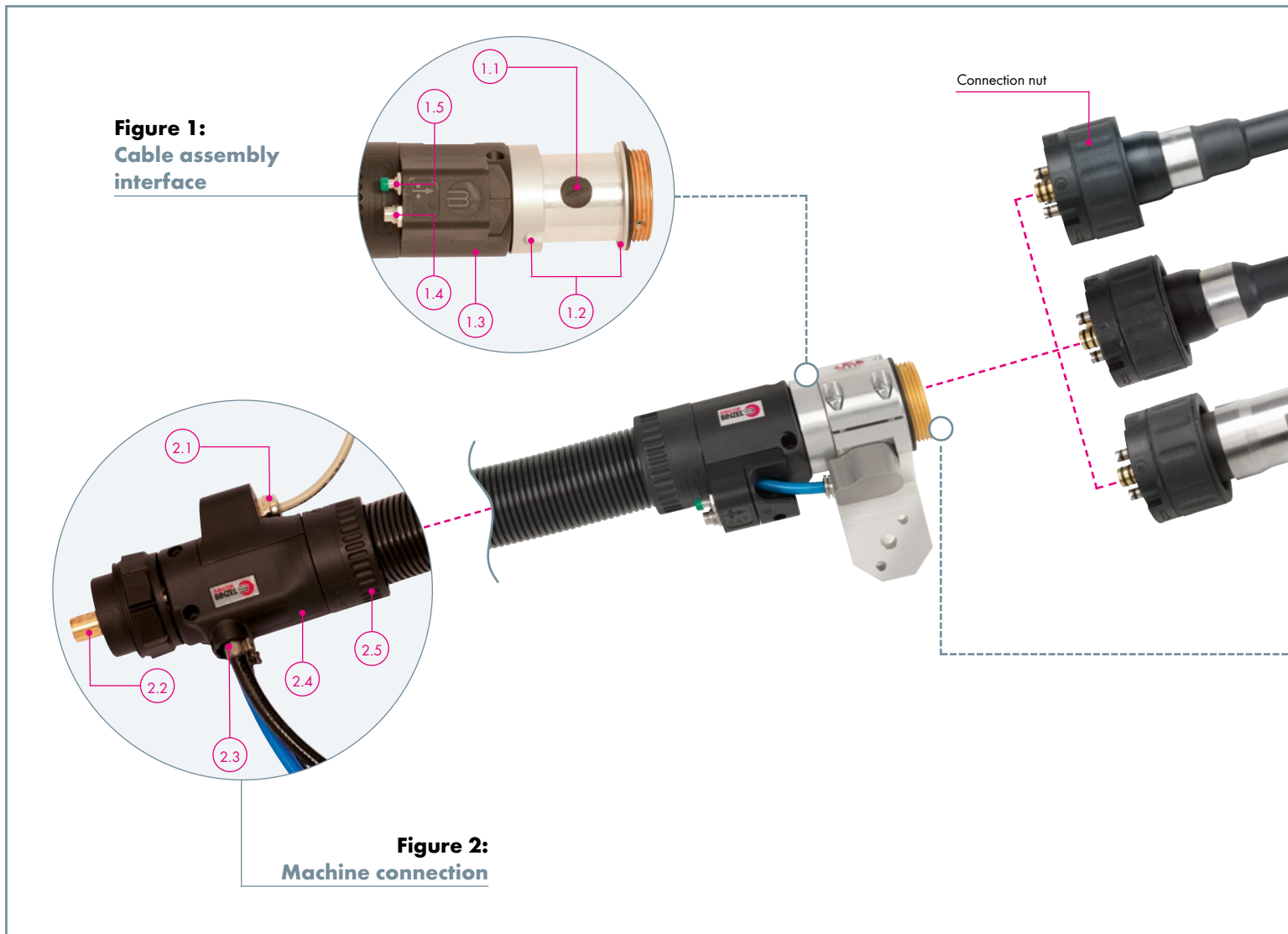


Figure 1:
Cable assembly interface

- 1.1 Connection for the optional wire clamp function (wire brake)¹
- 1.2 INTERLOCK connection - reproducible positioning of the cable assembly in three dimensions
- 1.3 Short housing for best accessibility
- 1.4 Connection CAT3
- 1.5 Wire feed button

Figure 2:
Machine connection

- 2.1 High-quality control cable with strain relief (control cable connector on request)
- 2.2 Machine connection available for all standard wire feeds
- 2.3 Straight discharge for coolant and airblast hose - no bending or twisting of the hoses
- 2.4 Short connection housing - high flexibility of the cable assembly
- 2.5 Rotatable outer hose connection - minimized torsion stress

¹ Wire brake and gas nozzle sensor connection are required for tactile seam location. Ask your robot manufacturer for more details.

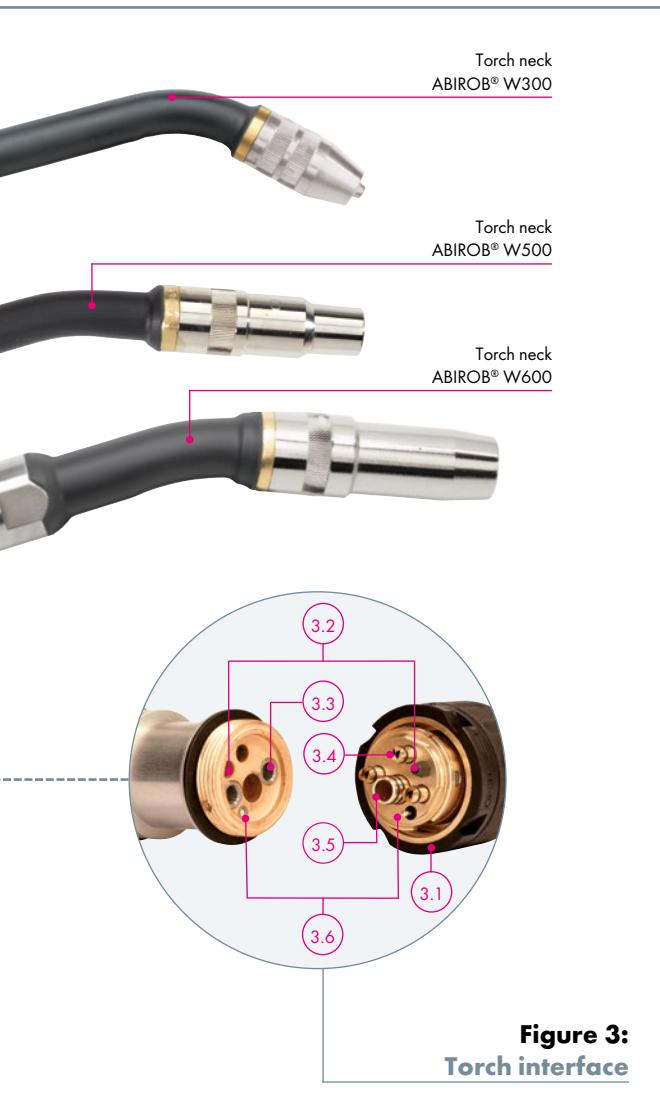


Figure 3:
Torch interface

- 3.1 High-grip connection nut – for a fast and tight connection
- 3.2 Diamond head pin connection – for reproducible torch neck change
- 3.3 Flow check valves – no leaking of the coolant during the torch neck change
- 3.4 Gas and airblast – best gas shielding
- 3.5 For one piece liner or neck liner
- 3.6 Gas nozzle sensor¹



Technical data (EN 60 974-7):

ABIROB® W300

Type of cooling: liquid cooled
 Rating: 330 A CO₂
 300 A Mixed gases M21 (EN ISO 14175)
 Duty cycle: 100 %
 Wire-Ø: 0.8 - 1.2 mm
 Torch geometries: 22°/45°

ABIROB® W500

Type of cooling: liquid cooled
 Rating: 550 A CO₂
 500 A Mixed gases M21 (EN ISO 14175)
 Duty cycle: 100 %
 Wire-Ø: 0.8 - 1.6 mm
 Torch geometries: 0°/22°/35°/45°

ABIROB® W600

Type of cooling: liquid cooled
 Rating: 600 A CO₂
 550 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 was 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® W" liquid cooled Torch Necks & Wear Parts

ABIROB® W300



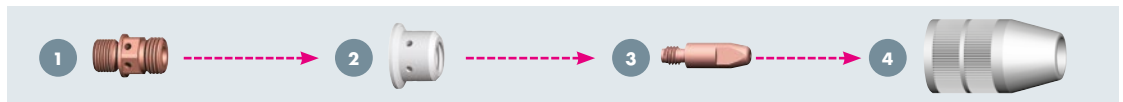
Torch neck

	Part-No.	
Features	22°	45°
Standard	782.0110.1	782.0111.1
with gas nozzle sensor*	782.0014.1	782.0015.1

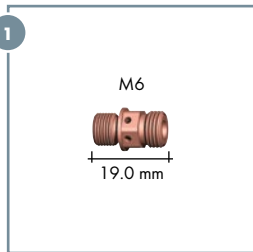
Wear parts and fittings are not included in the scope of delivery! Please order these separately and according to the application!

*Gas nozzle sensor connection for tactile seam location via gas nozzle

Wear parts for ABIROB® W300

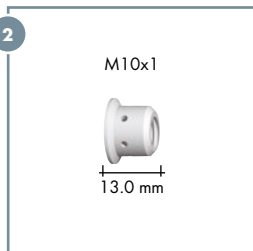


1 Contact tip holder (10 pcs.)



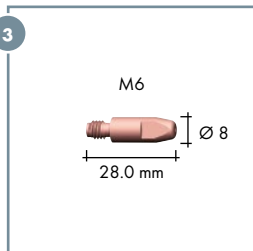
Type	Part-No.
M6 Copper	785.5052

2 Gas diffuser (10 pcs.)



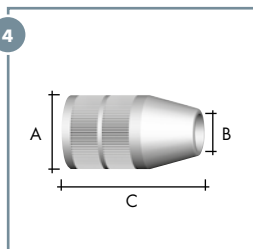
Type	Part-No.
Standard	962.0657
High temperature resistant (ceramic)	962.1341

3 Contact tip (10 pcs.)



Type	Wire-Ø	Part-No.
CuCrZr	Ø 0.8	140.0054
	Ø 0.9	140.0172
	Ø 1.0	140.0245
	Ø 1.2	140.0382

4 Gas nozzle (10 pcs.)



Type conical	Ø A	Ø B	Length C	Part-No.
Recess (-1.0 mm) ²	Ø 25.0	Ø 13.0	48.5 mm	145.0564
Stick-out (+3.0 mm) ³	Ø 25.0	Ø 13.0	44.5 mm	145.0495.10
Stick-out (+3.0 mm) ³	Ø 25.0	Ø 15.5	44.5 mm	145.0494.10

² Recess: Contact tip recessed

³ Stick-out: Contact tip protruding

"ABIROB® W" liquid cooled Torch Necks & Wear Parts

ABIROB® W500



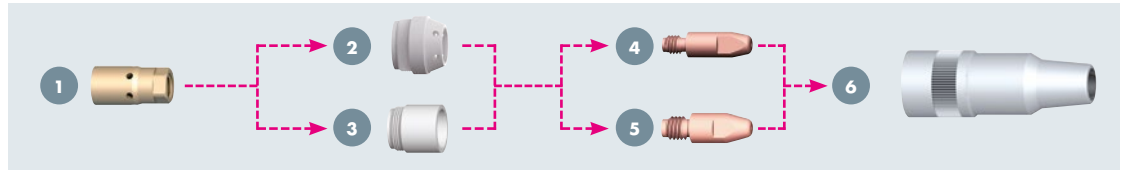
Torch neck

Features	Part-No.			
	0°	22°	35°	45°
Standard	782.0080.1	782.0076.1	782.0077.1	782.0078.1
Standard (+100)	782.0106.1	782.0107.1	782.0108.1	782.0109.1
with gas nozzle sensor*	782.0079.1	782.0003.1	782.0004.1	782.0005.1
with gas nozzle sensor* (+100)	782.0088.1	782.0089.1	782.0090.1	782.0091.1

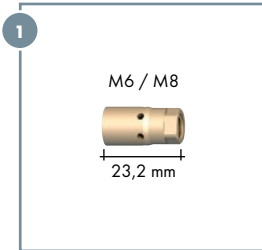
Wear parts and fittings are not included in the scope of delivery! Please order these separately and according to the application!

* Gas nozzle sensor connection for tactile seam location via gas nozzle

Wear parts for ABIROB® W500



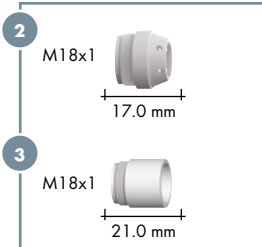
1 Contact tip holder (10 pcs.)



Type	Part-No.
M6 Copper ¹	142.0133.10
M6 Brass	142.0216.10
M8 Copper ¹	142.0151.10
M8 Brass	142.0117.10

¹ Recommended for high amperages.

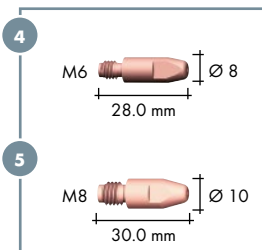
2 Gas diffuser 3 Nozzle insulator (10 pcs.)



Type	Part-No.
Gas diffuser standard	943.0284
Nozzle insulator standard	146.0054.10
Nozzle insulator standard short (L=11.4mm) ²	146.0064
Nozzle insulator, resistant to high temperatures	146.0059.10

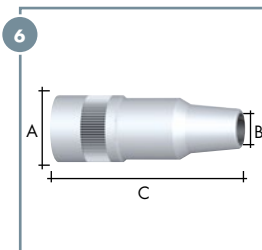
² Recommended for applications with galvanized materials in conjunction with gas nozzles 145.0553 and 145.0568.

4 Contact tip M6 5 Contact tip M8 (10 pcs.)



Type	Wire-Ø	Part-No.	
		M6	M8
CuCrZr	Ø 0.8	140.0054	140.0117
	Ø 0.9	140.0172	140.0217
	Ø 1.0	140.0245	140.0316
	Ø 1.2	140.0382	140.0445
	Ø 1.4	-	140.0536
	Ø 1.6	-	140.0590

6 Gas nozzle (10 pcs.)



Type bottle form	Ø A	Ø B	Length C	Part-No.
Recess (-2.6 mm) ³	Ø 27.0	Ø 13.0	77.0 mm	145.0556.10
Recess (-1.1 mm) ³	Ø 27.0	Ø 13.0	75.5 mm	145.0479.10
Recess (-2.6 mm) ³	Ø 27.0	Ø 15.5	77.0 mm	145.0480.10
Recess (-1.1 mm) ³	Ø 27.0	Ø 15.5	75.5 mm	145.0544.10
Stick-out (+2.4 mm) ⁴	Ø 27.0	Ø 15.5	72.0 mm	145.0466.10

Type conical	Ø A	Ø B	Length C	Part-No.
Recess (-1.1 mm) ³	Ø 27.0	Ø 15.5	75.5 mm	145.0553.10
Stick-out (+2.4 mm) ⁴	Ø 27.0	Ø 15.5	72.5 mm	145.0568.10

³ Recess: Contact tip recessed

⁴ Stick-out: Contact tip protruding

"ABIROB® W" liquid cooled Torch Necks & Wear Parts

ABIROB® W600



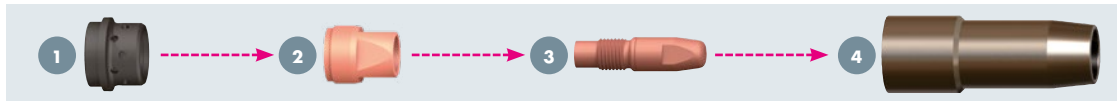
Torch neck

Features	Part-No.			
	0°	22°	35°	45°
Standard	782.0190.1	782.0191.1	782.0192.1	782.0193.1
Standard (+100)	782.0219.1	782.0220.1	782.0221.1	782.0222.1
with gas nozzle sensor*	782.0213.1	782.0214.1	782.0215.1	782.0216.1
with gas nozzle sensor* (+100)	782.0233.1	782.0234.1	782.0235.1	782.0236.1

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

*Gas nozzle sensor connection for tactile seam location via gas nozzle

Wear parts for ABIROB® W600

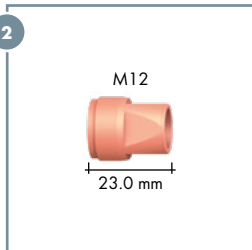


1 Gas diffuser (10 pcs.)



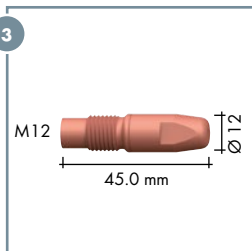
Type	Part-No.
Standard	146.0079.10

2 Contact tip holder (10 pcs.)



Type	Part-No.
M12	142.0214.10

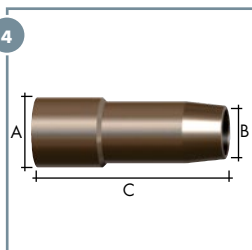
3 Contact tip (10 pcs.)



Type	Wire-Ø	Part-No.
CuCrZr	Ø 1.2	140.1563.10
	Ø 1.4	140.1564.10
	Ø 1.6	140.1565.10
HDS silver plated**	Ø 1.2	147.6563.10
	Ø 1.4	147.6564.10
	Ø 1.6	147.6565.10

**HDS = Heavy Duty Silver Contact Tips

4 Gas nozzle (5 pcs.)



Type conical	Ø A	Ø B	Length C	Part-No.
Flush ¹	34.0	21.5	92.0 mm	145.0686.5
Stick-Out (+ 6.0 mm) ²	34.0	21.5	86.0 mm	145.0687.5
Recess (- 3.0 mm) ³	34.0	21.5	95.0 mm	145.0688.5
Flush ¹	34.0	18.0	92.0 mm	145.0689.5

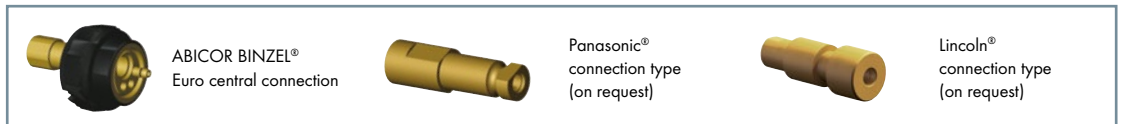
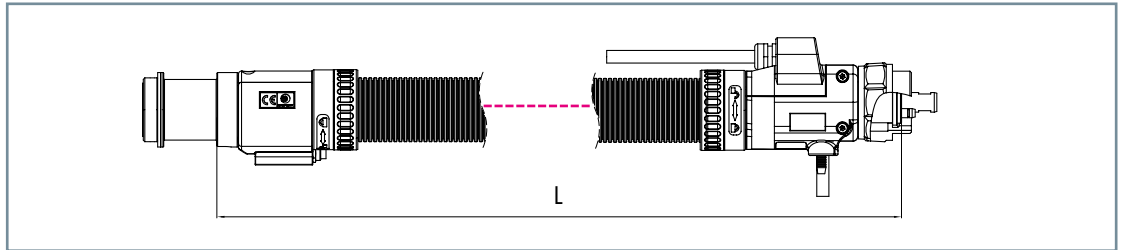
¹ Flush: Contact tip flush

² Stick-out: Contact tip protruding

³ Recess: Contact tip recessed

"ABIROB® W" liquid cooled Cable Assemblies & Accessoires

Cable assemblies and connection types



Cable assemblies ABIROB® W5H

(Recommended for amperages up to 400 A and cable assembly lengths up to 2.50 m.)

with connection type	Length	Part-No.
ABICOR BINZEL®	1.10 m	782.1014.1
Euro central connection	1.35 m	782.1018.1
	1.50 m	782.1020.1

Cable assemblies ABIROB® W7F

(Recommended for amperages over 400 A.)

with connection type	Length	Part-No.
ABICOR BINZEL®	1.10 m	782.1103.1
Euro central connection	1.35 m	782.1049.1
	1.50 m	782.1099.1

Other lengths are available on request.

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

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

Liners for Euro central connection¹

Type	Wire-Ø	up to L=1.5 m ⁴	up to L=3.15 m ⁴	10.0 m ⁵	Collet
Liner steel ²	Ø 0.8-1.2	124.0145.1	124.0146.1	124.0159.1	131.0012
Liner steel ²	Ø 1.4-1.6	124.0147	124.0148	124.0160	131.0011
Combined wire feed ³	Ø 0.8-1.2	128.M008	128.M009	-	131.0019
	Ø 1.4-1.6	128.M012	128.M013	-	131.0020

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 completely 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.

³ Combined wire feed - for aluminium or bronze wires - is a combination of PA-liner and a bronze liner pressed on in the front section to avoid thermal overload of the PA.

⁴ Including 1x collet

⁵ For individual production including 2x collets

Accessories



Description	Part-No.
1 Thread cutter M10x1 (for inner tube)	191.0085
2 Alignment tool (to align inner tube with outer tube)	191.0090.1
3 Pin wrench (to unscrew the connection)	191.0115

Alignment jig

for torch neck	torch geometry	Part-No.
ABIROB® W300	22°/45°	837.0484.1
ABIROB® W500 / W500 (+100 mm)	0°/22°/35°/45°	837.0950.1
ABIROB® W600 / W600 (+100 mm)	0°/22°/35°/45°	837.0860.1

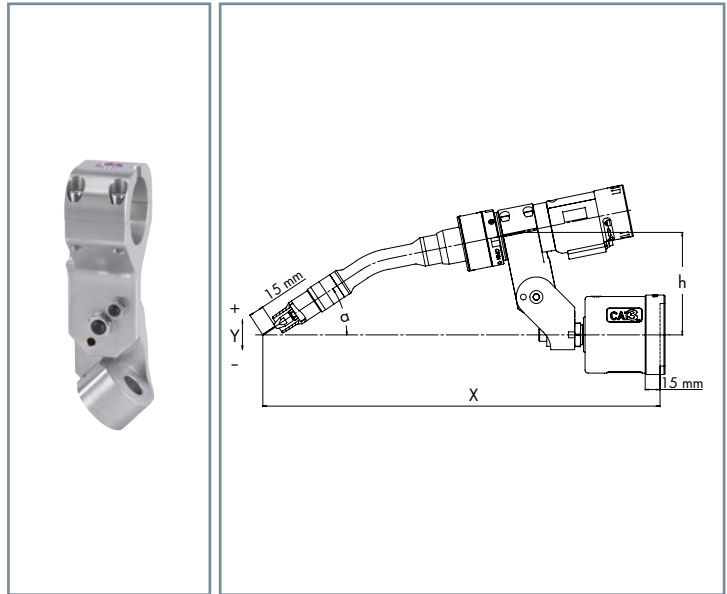


"ABIROB® W" liquid cooled Holder & TCP Geometries

CAT3 holder for ABIROB® W

in connection with CAT3 cpl.

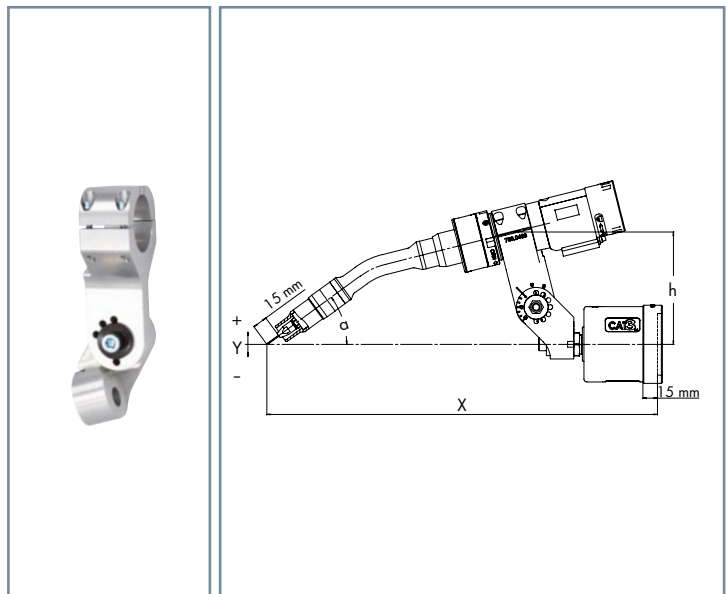
Torch type	Torch geometry	X	Y	h	a	Part-No.
		(mm)				
ABIROB® W300	22°	437	0	102	36°	780.0430.1
ABIROB® W500	45°	416	0	104	53°	780.0430.1
ABIROB® W500	22°	399	0	103	33°	780.0430.1
ABIROB® W500	35°	383	0	104	40°	780.0430.1
ABIROB® W500	45°	370	0	105	45°	780.0430.1
ABIROB® W500 (+100 mm)	22°	499	0	104	30°	780.0430.1
ABIROB® W500 (+100 mm)	35°	484	0	105	39°	780.0430.1
ABIROB® W500 (+100 mm)	45°	470	0	105	45°	780.0430.1
ABIROB® W600	22°	440	0	104	32°	780.0430.1
ABIROB® W600	35°	424	0	105	39°	780.0430.1
ABIROB® W600	45°	410	0	105	44°	780.0430.1
ABIROB® W600 (+100 mm)	22°	540	0	104	29°	780.0430.1
ABIROB® W600 (+100 mm)	35°	525	0	105	38°	780.0430.1
ABIROB® W600 (+100 mm)	45°	510	0	105	44°	780.0430.1



Segment holder für ABIROB® W¹

in connection with CAT3

Torch type	Torch geometry	X	Y	h	a	Part-No.
		(mm)				
ABIROB® W300	22°	440	+10	115	36°	780.0433.1
ABIROB® W500	45°	413	-19	115	59°	780.0433.1
ABIROB® W500	22°	400	0	115	36°	780.0433.1
ABIROB® W500	35°	383	0	117	43°	780.0433.1
ABIROB® W500	45°	368	0	118	48°	780.0433.1
ABIROB® W500 (+100 mm)	22°	497	-24	115	36°	780.0433.1
ABIROB® W500 (+100 mm)	35°	475	-51	115	49°	780.0433.1
ABIROB® W500 (+100 mm)	45°	453	-70	115	59°	780.0433.1
ABIROB® W600	22°	439	-11	115	36°	780.0433.1
ABIROB® W600	35°	416	-40	115	49°	780.0433.1
ABIROB® W600	45°	393	-61	115	59°	780.0433.1
ABIROB® W600 (+100 mm)	22°	536	-36	115	36°	780.0433.1
ABIROB® W600 (+100 mm)	35°	513	-64	115	49°	780.0433.1
ABIROB® W600 (+100 mm)	45°	490	-86	115	49°	780.0433.1



Further holders are available on request.

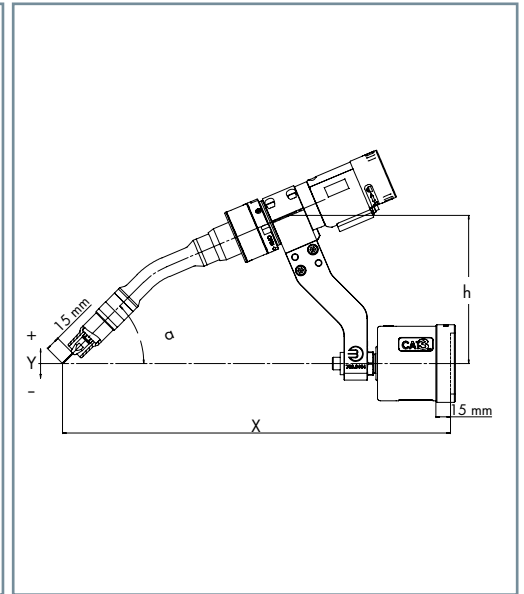
¹ Holder adjustable in 15° steps

"ABIROB® W" liquid cooled Holder & TCP Geometries

Fixed bracket for ABIROB® W

in connection with CAT3

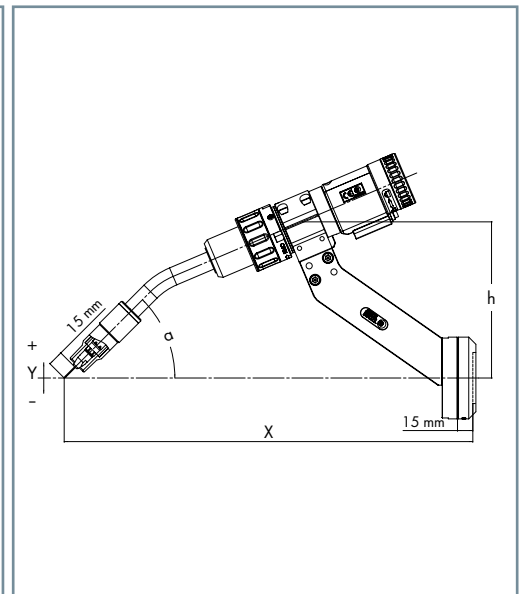
Torch type	Torch geometry	X	Y	h	α	Part-No.
		(mm)				
ABIROB® W300	22°	400	0	149	45°	780.0444.1
	45°	400	0	90	50°	780.0446.1
ABIROB® W500	22°	400	0	153	45°	780.0414.1
	35°	400	0	125	45°	780.0420.1
	45°	400	0	126	50°	780.0422.1
ABIROB® W500 (+100 mm)	22°	500	0	192	45°	780.0438.1
	35°	500	0	142	45°	780.0440.1
	45°	500	0	134	50°	780.0442.1
ABIROB® W600	22°	400	0	170	45°	780.0781.1
	35°	400	0	136	45°	780.0782.1
	45°	400	0	135	50°	780.0784.1
ABIROB® W600 (+100 mm)	22°	500	0	209	45°	780.0785.1
	35°	500	0	153	45°	780.0786.1
	45°	500	0	144	50°	780.0788.1



RTM holder for ABIROB® W

for robots with collision software

Torch type	Torch geometry	X	Y	h	α	Part-No.
		(mm)				
ABIROB® W300	22°	400	0	149	45°	780.0459.1
	45°	400	0	90	50°	780.0461.1
ABIROB® W500	22°	400	0	153	45°	780.0449.1
	35°	400	0	125	45°	780.0451.1
	45°	400	0	105	50°	780.0453.1
ABIROB® W500 (+100 mm)	22°	500	0	192	45°	780.0455.1
	35°	500	0	142	45°	780.0457.1
	45°	500	0	105	45°	780.0453.1
ABIROB® W600	22°	400	0	170	45°	780.0789.1
	35°	400	0	136	45°	780.0790.1
	45°	400	0	135	50°	780.0792.1
ABIROB® W600 (+100 mm)	22°	500	0	198	45°	780.0793.1
	35°	500	0	153	45°	780.0794.1
	45°	500	0	144	50°	780.0796.1



Further holders are available on request.

"ABIROB® W" liquid cooled Wire Brake Function



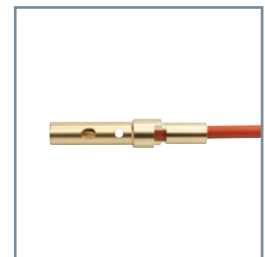
For tactile component search using the established ABIROB® W cable assembly, cable assemblies can now come with an optional wire clamp function to fix the wire. This function enables locking the wire in the cable assembly via a pneumatically operated piston that pushes the wire against an abutment. This ensures that the wire remains in position during sensing.

Arguments that speak for themselves:

- No displacement of wire through torch movement or contact with materials
- Guaranteed "Stick-Out" during tactile sensing
- Nearly every variation of the ABIROB® W cable assembly can be factory fitted with a wire brake function

Neck-Liners for wire brake

for torch neck	for	Wire-Ø	Length	Part-No.
ABIROB® W300	steel	1.0-1.2	255 mm	149.0344.5
ABIROB® W500	steel	1.0-1.2	222 mm	149.0287.5
		1.4-1.6	222 mm	149.0289.5
ABIROB® W600	steel	1.0-1.2	248 mm	149.0350.5
		1.0-1.2	348 mm	on request
		1.4-1.6	248 mm	149.0333.5
		1.4-1.6	348 mm	149.0334.5



Cable assemblies with wire brake function

Cable assemblies ABIROB® W5H

(Recommended for amperages up to 400 A and cable assembly lengths up to 2.50 m.)

with connection type	Length	Part-No.
ABICOR BINZEL®	1.10 m	782.1096.1
Euro central connection	1.35 m	782.1097.1
	1.50 m	782.1098.1

Cable assemblies ABIROB® W7F

(Recommended for amperages over 400 A.)

with connection type	Length	Part-No.
ABICOR BINZEL®	1.10 m	782.1100.1
Euro central connection	1.35 m	782.1101.1
	1.50 m	782.1102.1

Other lengths are available on request.

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

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

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
-----	--------	------

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

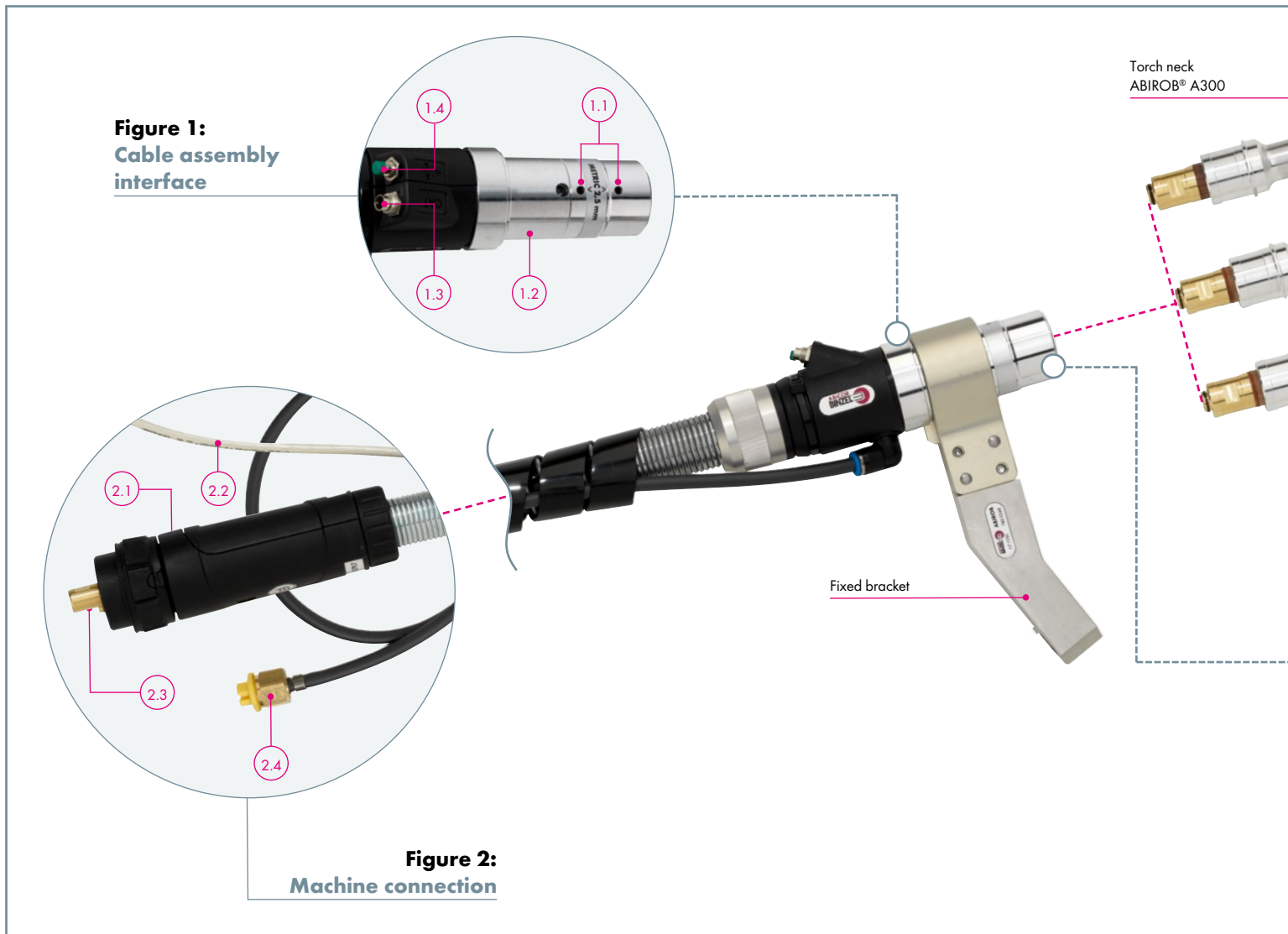


Figure 1:
Cable assembly interface

- 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

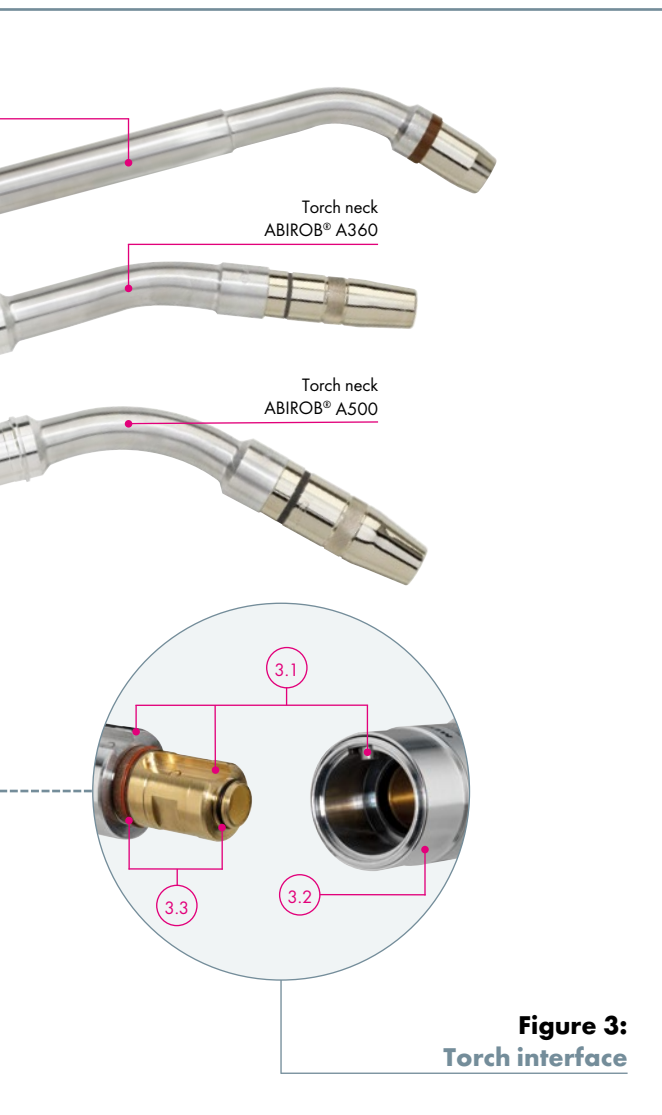


Figure 3:
Torch interface

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

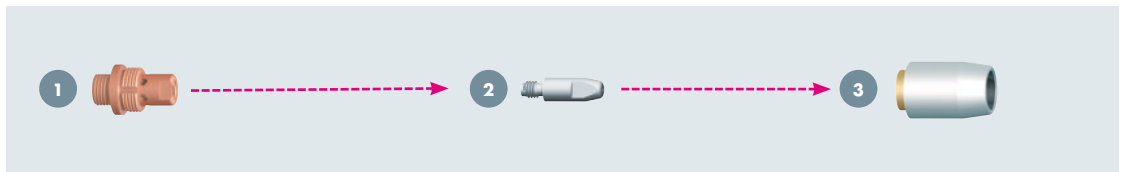


Torch necks

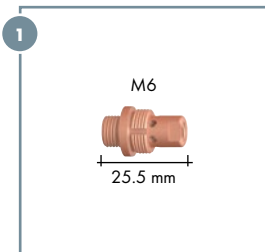
Features	Part-No.
Standard	980.1146.1

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



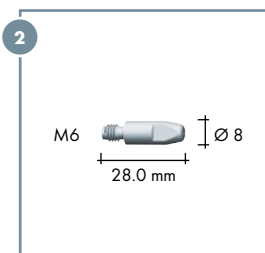
1 Contact tip holder (10 pcs.)



Type	Part-No.
M6 Copper ¹	142.0171.10

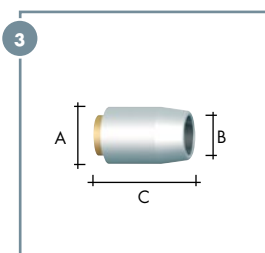
¹ Recommended for high amperages.

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.)



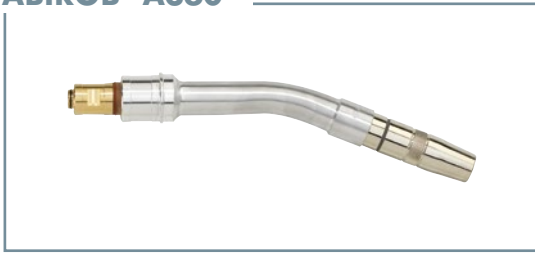
Type bottle form	Ø A	Ø B	Length C	Part-No.
Flush ²	Ø 22.0	Ø 14.4	32.0 mm	145.0671.5
Stick-out (+3.0 mm) ³	Ø 22.0	Ø 14.4	29.0 mm	145.0677.5

² Flush: Contact tip flush

³ Stick-out: Contact tip protruding

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

ABIROB® A360

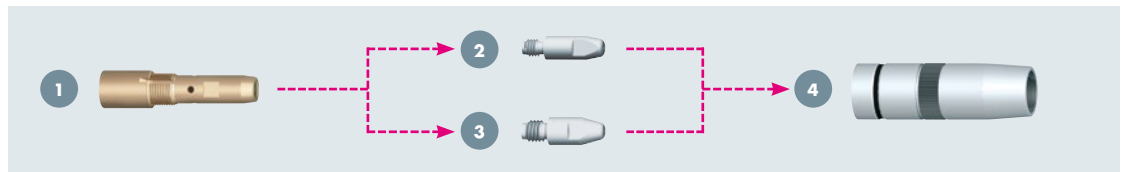


Torch necks

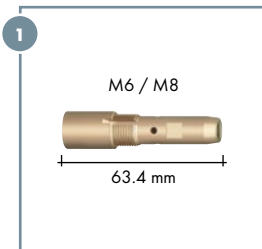
Features	Part-No.			
	0°	22°	35°	45°
Standard	980.1023.1	980.1024.1	980.1025.1	980.1026.1

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



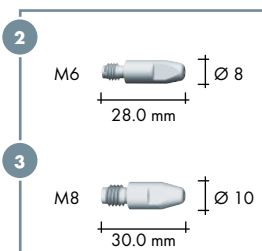
1 Contact tip holder (5 pcs.)



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

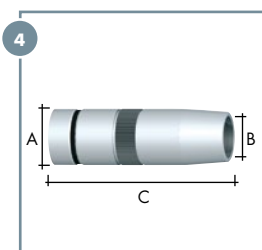
¹ Recommended for high amperages.

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

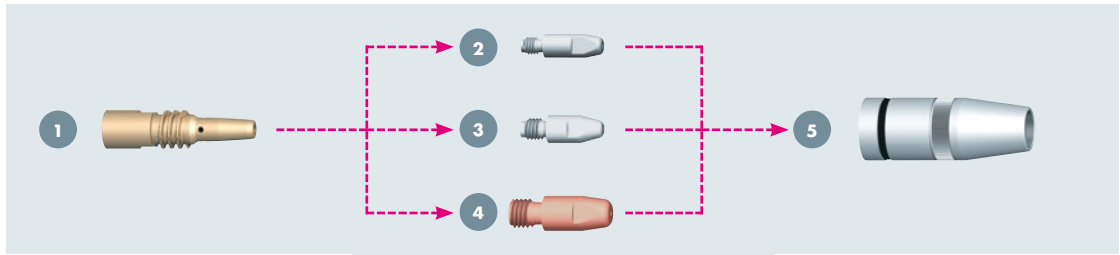


Torch necks

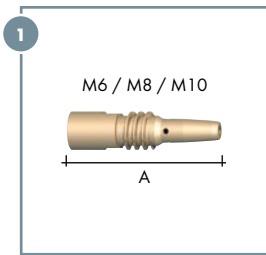
Features	Part-No.			
	0°	22°	35°	45°
Standard	980.1012.1	980.1013.1	980.1014.1	980.1015.1

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



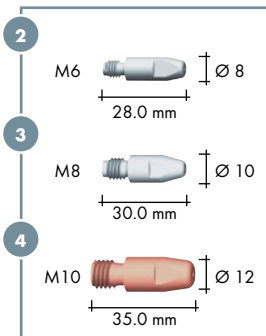
1 Contact tip holder (5 pcs.)



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.

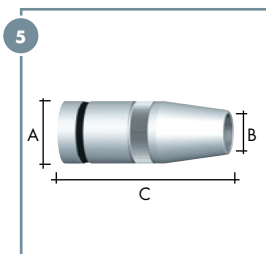
2 Contact tip M6 3 Contact tip M8 4 Contact tip M10 (10 pcs.)



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

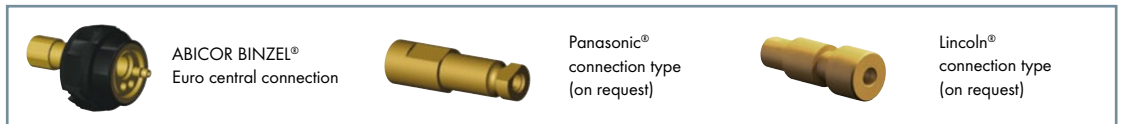
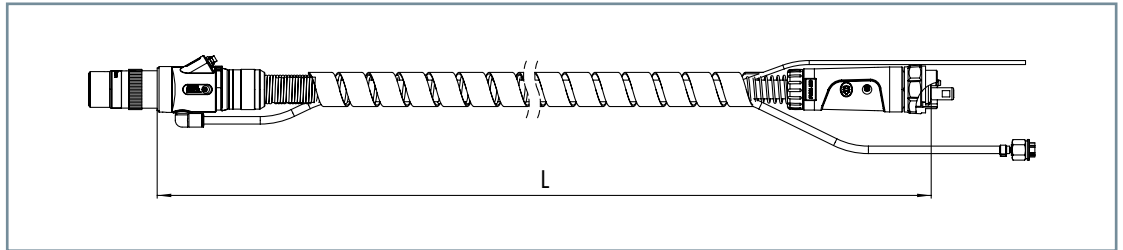
³ Flush: Contact tip flush

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



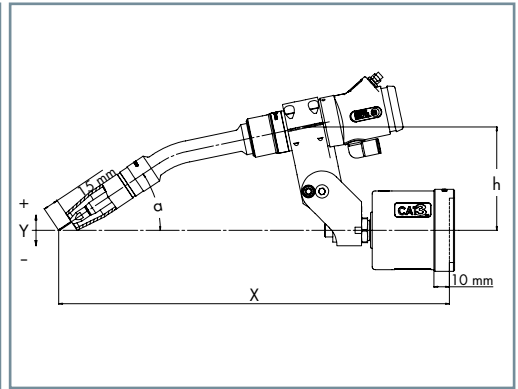
Alignment jig for torch type	Torch geometry	Part-No.
ABIROB® A300	45°	837.0600
ABIROB® A360 / A500	0° / 22° / 35° / 45°	837.0500

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

Clamp holder for ABIROB® A ECO

in connection with CAT3 cpl.

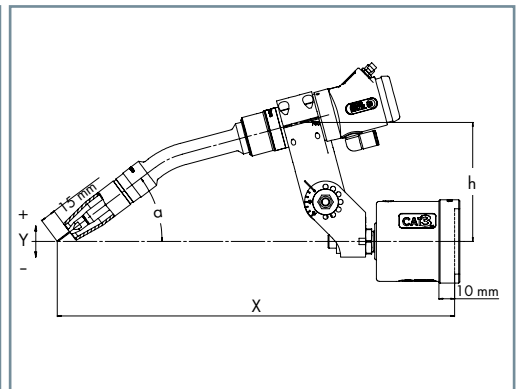
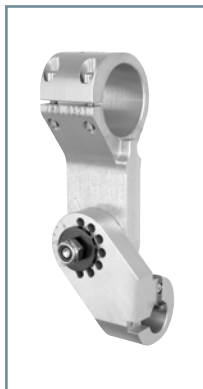
Torch type	Torch geometry	X	Y	h	α	Part-No.
ABIROB®	0°	393	0	97	21°	780.0259
A360	22°	376	0	101	34°	780.0259
	35°	361	0	102	40°	780.0259
	45°	348	0	103	44°	780.0259
ABIROB®	0°	393	0	97	21°	780.0259
A500	22°	376	0	101	34°	780.0259
	35°	361	0	102	40°	780.0259
	45°	348	0	103	44°	780.0259



Segment holder for ABIROB® A ECO¹

in connection with CAT3

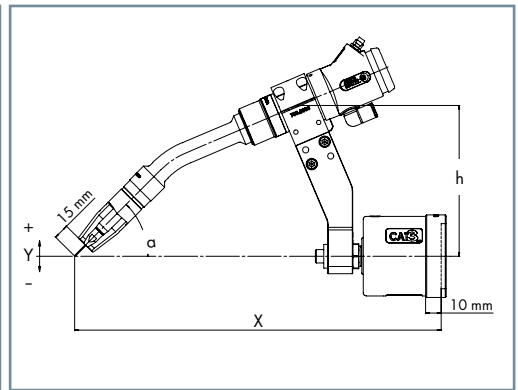
Torch type	Torch geometry	X	Y	h	α	Part-No.
ABIROB®	0°	399	46	114	15°	780.0321.1
A360	22°	377	0	114	37°	780.0321.1
	35°	355	-27	114	50°	780.0321.1
	45°	332	-47	114	60°	780.0321.1
ABIROB®	0°	399	46	114	15°	780.0321.1
A500	22°	377	0	114	37°	780.0321.1
	35°	355	-27	114	50°	780.0321.1
	45°	332	-47	114	60°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



Fixed bracket for ABIROB® A ECO

in connection with CAT3

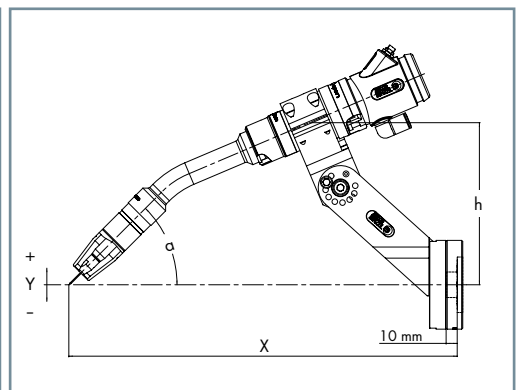
Torch type	Torch geometry	X	Y	h	α	Part-No.
ABIROB®	22°	350	0	146	45°	780.0833.1
A360	35°	350	0	123	45°	780.0835.1
	45°	350	0	107	45°	780.0380.1
ABIROB®	22°	350	0	146	45°	780.0833.1
A500	35°	350	0	123	45°	780.0835.1
	45°	350	0	107	45°	780.0380.1



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.

MIG/MAG Welding Torch System

“ABIROB® 350GC” air cooled



Sturdy, durable & economic ...

ABIROB® 350GC – in the typical design of an air cooled CO₂ welding torch – is mainly used for automated welding in the Asian market.

The changeable torch with a high capacity which enables long duty cycles. Its intelligent interface guarantees fast and reproducible maintenance and thus avoids downtimes.

The welding torch system is available for all standard wire feeder connections (ABICOR BINZEL®, MOTOMAN®, PANASONIC®, OTC®).

Advantages that speak for themselves:

- Compatible with Asian CO₂ torches
- Changeable torch neck with intelligent pin fixing reduces line downtimes and costs
- Optimum temperature behaviour guarantees long service life for wear parts
- High-grade cable assemblies guarantee a long service life
- Sturdy torch design provides high crash stability

Degree of automation:

Low	Medium	High
-----	--------	------

Application areas:



- Automobile construction
- Suppliers (Tier 1, Tier 2)
- Bicycle industry
- Container construction

Material:

- Construction steels (coated / non-coated)
- Chrome-nickel steels
- Duplex steels
- Nickel basic materials

Robot interface:

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

up to
350 A



* 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)

"ABIROB® 350GC" air cooled System Overview & Technical Data

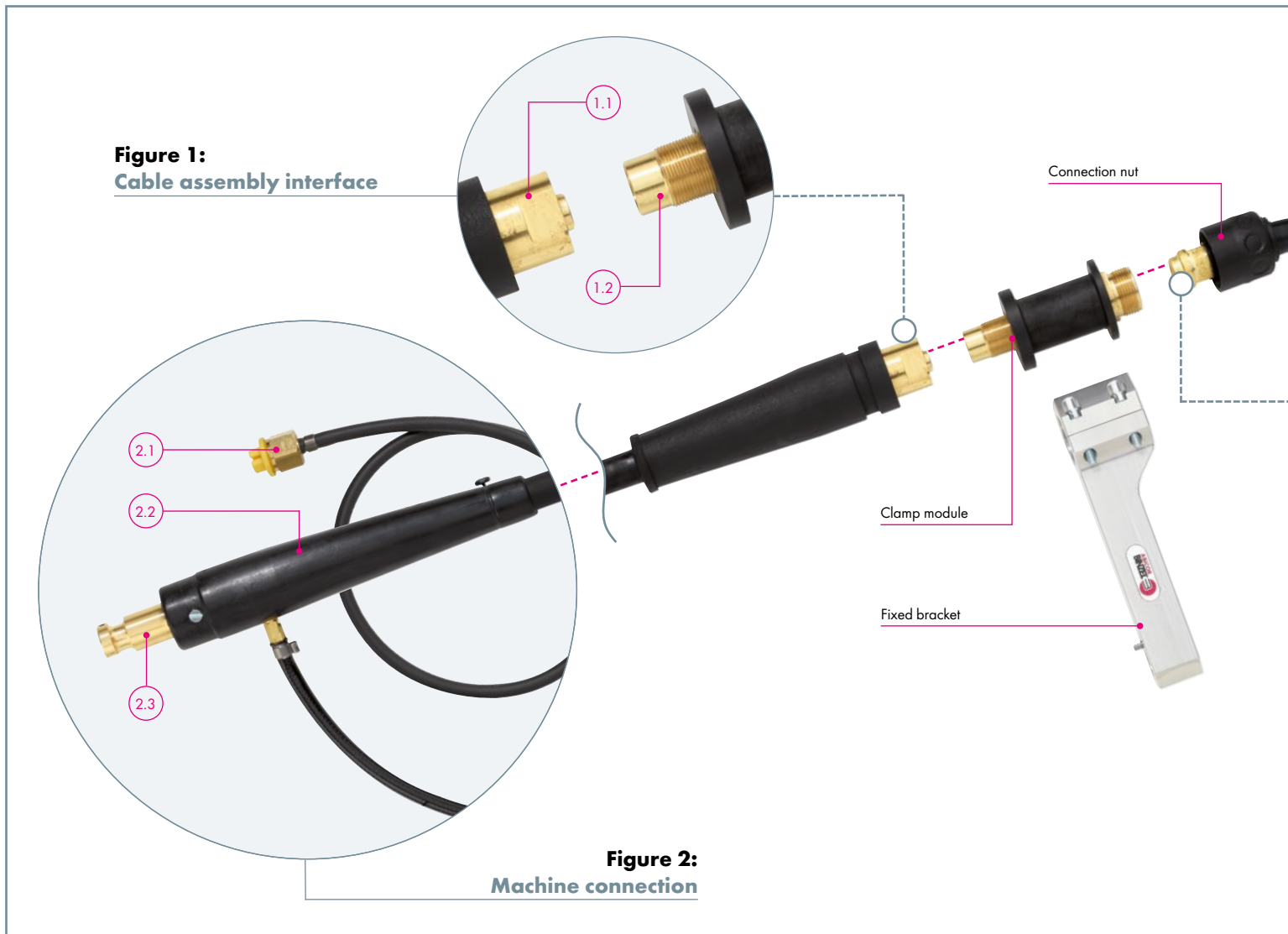


Figure 1:
Cable assembly interface

- 1.1 Straightforward attachment of the cable assembly through connection nut
- 1.2 Clamp module – the holder does not need to be opened for consistent changing of cable assembly and torch neck

Figure 2:
Machine connection

- 2.1 Airblast hose with blanking plug (optional)
- 2.2 Flexible casing for protection in every position
- 2.3 Power connection available for all standard wire feeders

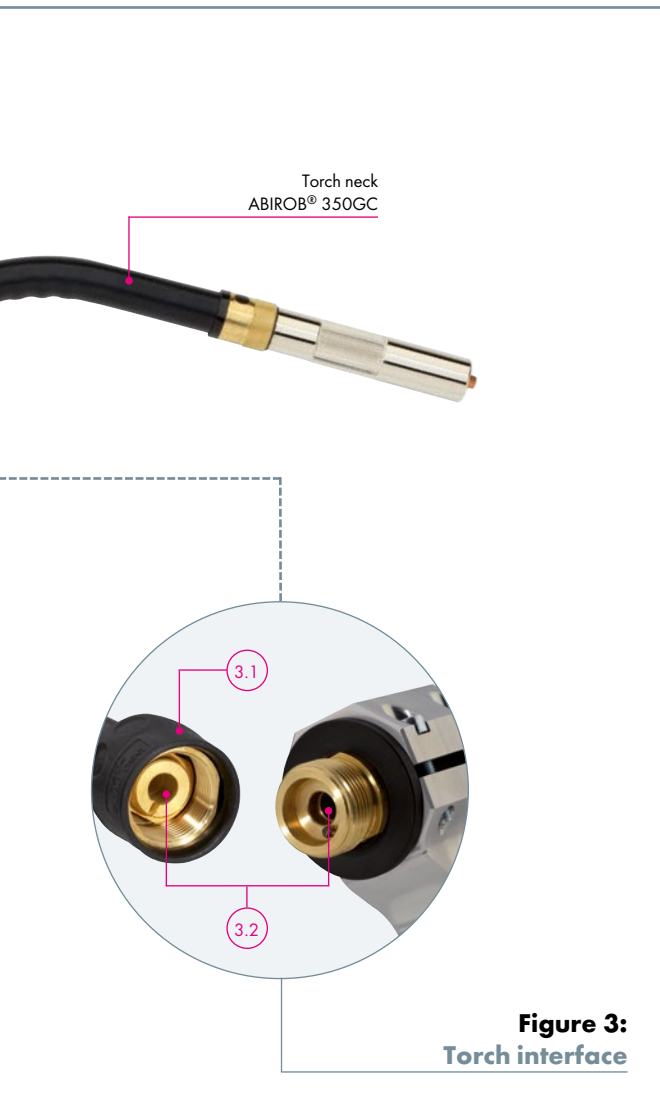


Figure 3:
Torch interface

Figure 3:
Torch interface

- 3.1 High-grip connection nut – for a fast and tight connection
- 3.2 Lock pin and groove – for reproducible torch neck changing



Technical data (EN 60 974-7):

ABIROB® 350GC

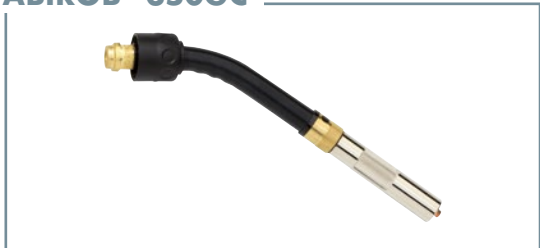
Type of cooling:	air cooled
Rating:	350 A CO ₂ 300 A Mixed gases M21 (EN ISO 14175)
Duty cycle:	100 %
Wire-Ø:	0.8- 1.2 mm
Torch geometries:	30°/35°

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® 350GC" air cooled Torch Necks & Wear Parts

ABIROB® 350GC



Torch neck

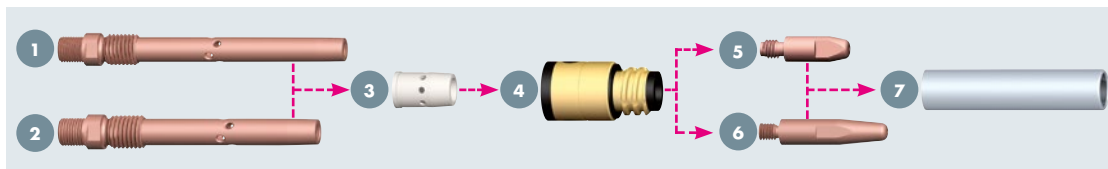
	Part-No.	
Features	30°	35°
Standard	-	980.0004.1
Short	980.0027.1	-
Long	980.0028.1	-

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

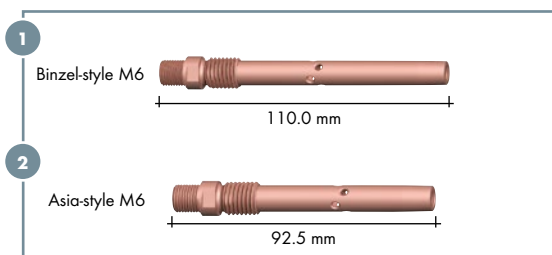
Neck liner

for	for torch geometry	Wire-Ø	Part-No.
Steel	35° Standard	Ø 0.8-1.2	980.0033.5
Steel	30° short	Ø 0.8-1.2	980.0035.5
Steel	30° long	Ø 0.8-1.2	980.0036.5

Wear parts for ABIROB® 350GC

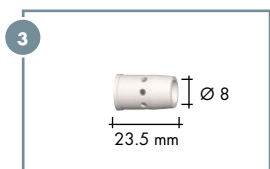


- 1 Binzel-style contact tip holder
- 2 Asia-style contact tip holder (5 pcs.)



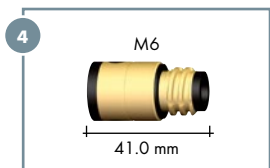
Type	Part-No.
Binzel-style M6 copper	142.0152
Asia-style M6 copper	142.0143.5

- 3 Gas diffuser (10 pcs.)



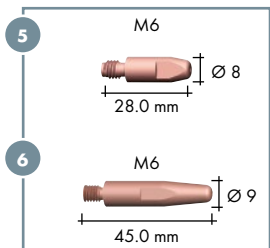
Type	Part-No.
Standard	980.0019.10

- 4 Gas nozzle holder (10 pcs.)



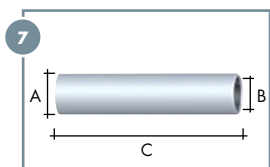
Type	Part-No.
Standard	980.0142.10

- 5 Binzel-style M6 contact tip
- 6 Asia-style M6 contact tip (10 pcs.)



Type	Wire-Ø	Part-No.	
		M6 Binzel-style	M6 Asia-style
CuCrZr	Ø 0.8	140.0054	-
	Ø 0.9	-	140.1355
	Ø 1.0	140.0245	140.1356
	Ø 1.2	140.0382	140.1357

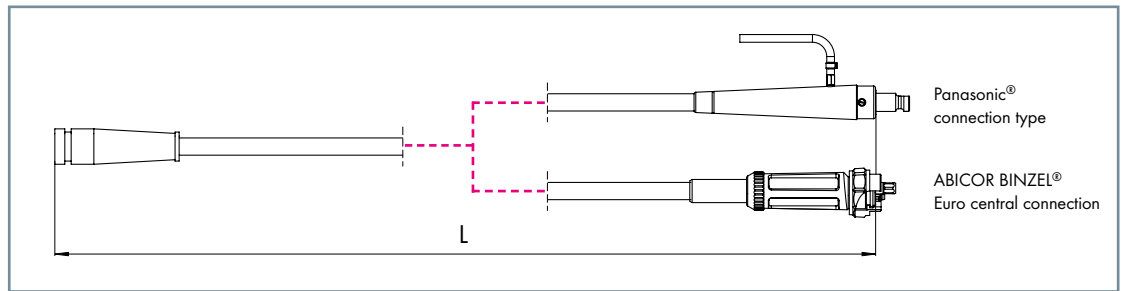
- 7 Gas nozzle (10 pcs.)



Type	Ø A	Ø B	Length C	Part-No.
Conical	Ø 20.0	Ø 12.0	89.5 mm	145.0558.10
Conical	Ø 20.0	Ø 13.0	89.5 mm	145.0573.10
Bottle form	Ø 20.0	Ø 14.0	89.5 mm	145.0559.10
Cylindrical	Ø 20.0	Ø 15.0	89.5 mm	145.0557.10

"ABIROB® 350GC" air cooled Cable Assemblies & Accessories

Cable assemblies and connection types



Cable assemblies cpl.

with connection type	Length	Part-No.
ABICOR BINZEL® Euro central connection	1.10 m	980.0030
PANASONIC®	1.10 m	980.0029.1

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.

Clamp module and connection nut

Type	Part-No.
Clamp module 350GC	980.0006.1
Connection nut	980.0081

Options

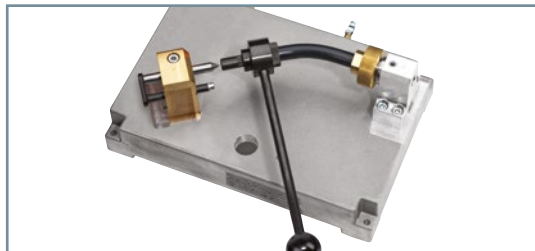
Type	Part-No.
Wire brake module	980.0143.1
CAT3 connection kit	780.0716.1

Liners

For connection type	Type	Wire- \varnothing	to L=1.3 m
ABICOR BINZEL® Euro central connection	Liner steel black ¹	\varnothing 0.8-1.2	124.0145.1
PANASONIC®	Liner steel black ¹	\varnothing 0.8-1.2	124.0147

¹ 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.

Accessories



Alignment jig

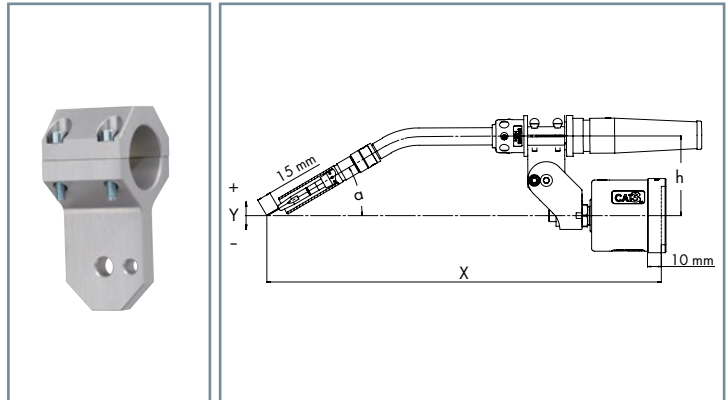
for torch type	Torch geometry	Part-No.
ABIROB® 350GC	35°	837.0551.1
Standard		

“ABIROB® 350GC” air cooled Holder & TCP Geometries

Torch holder for ABIROB® 350GC

in connection with CAT3 cpl.

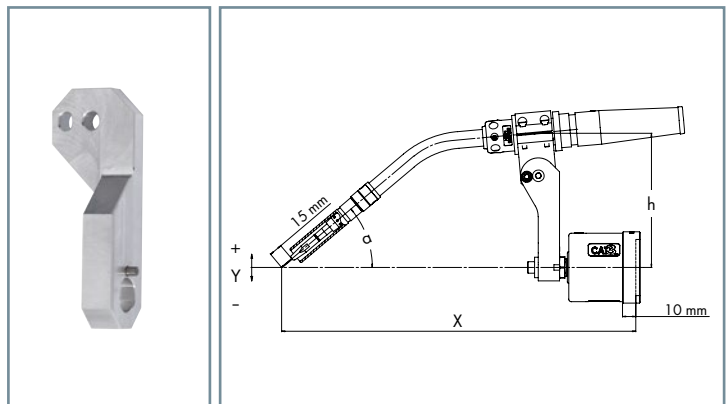
Torch type	Torch geometry	X	Y	h	α	Part-No.
ABIROB®	30°	453	86	86	0°	780.0145
350GC	35°	415	-39	86	35°	780.0145



CAT3 holder for ABIROB® 350GC

in connection with CAT3 and holder 780.0145

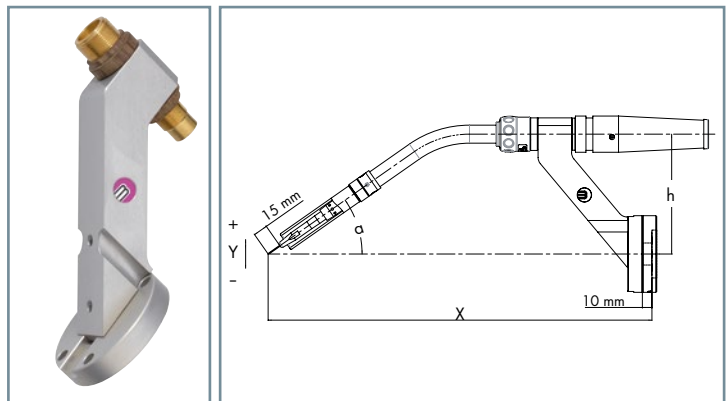
Torch type	Torch geometry	X	Y	h	α	Part-No.
ABIROB®	30°	437	151	151	30°	780.0872.1
350GC	35°	400	26	151	35°	780.0872.1



I-bracket for ABIROB® 350GC

for robots with collision software

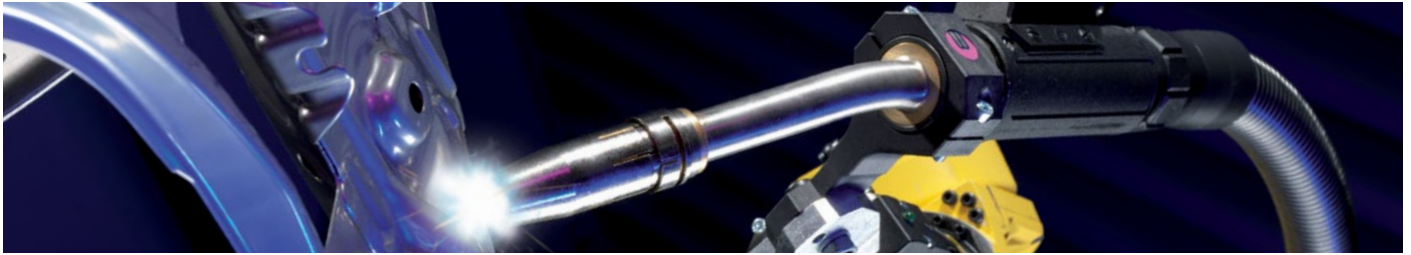
Torch type	Torch geometry	X	Y	h	α	Part-No.
ABIROB®	35°	400	0	125	35°	780.0183
350GC						



Further holders are available on request.

MIG/MAG Welding Torch System

“ROBO Standard” liquid cooled



Powerful, reliable & economical ...

The “ROBO Standard” torch series provides maximum reliability and is the optimum choice for robot welding cells with a low degree of automation. Their mechanical design makes these sturdy torches particularly crash-resilient, thus reducing downtime and maintenance costs to a minimum.

In addition, the excellent cooling performance of the torches guarantees high service lives for the wear parts with reduced spatter adhesion.

As standard, the welding torch system has an integrated airblast function, trigger for automatic wire feed and connection modules for the robot mount CAT3.

“ROBO Standard” torches have been in permanent use in tough industrial applications for many years – proving their worth thousands of times over.

Advantages that speak for themselves:

- Technically mature and 100% reliable
- Water-cooled up to 450 A (CO₂)
- Integrated airblast function
- Simple installation and handling

Degree of automation:

Low	Medium	High
-----	--------	------

Application areas:



- Commercial vehicle construction
- Earth-moving equipment
- Rail vehicle construction
- Shipbuilding
- Container construction
- Machine and steel construction

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
(External cable assembly):
 - Robot mount CAT3
 - Fixed bracket RTM

up to
450 A



* 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)

“ROBO Standard” liquid cooled System Overview & Technical Data

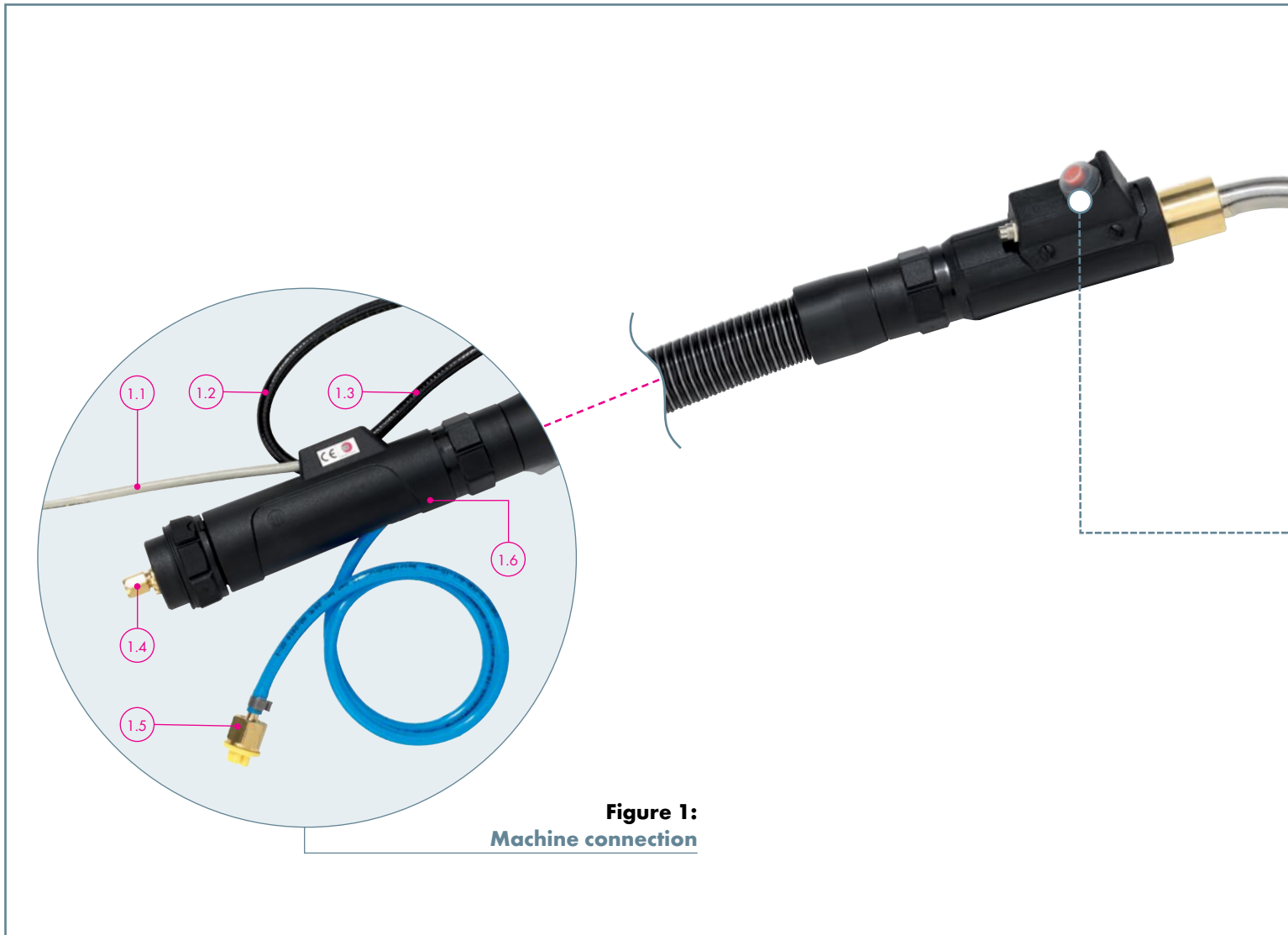


Figure 1:
Machine connection

Figure 1:
Machine connection

- 1.1 High-quality control cable with strain relief (control cable connector on request)
- 1.2 Coolant feed hose with closure
- 1.3 Coolant return hose with closure
- 1.4 Machine connection available for all standard wire feeds
- 1.5 Airblast hose with blanking plug
- 1.6 Sturdy bend-protection casing with strain relief spring

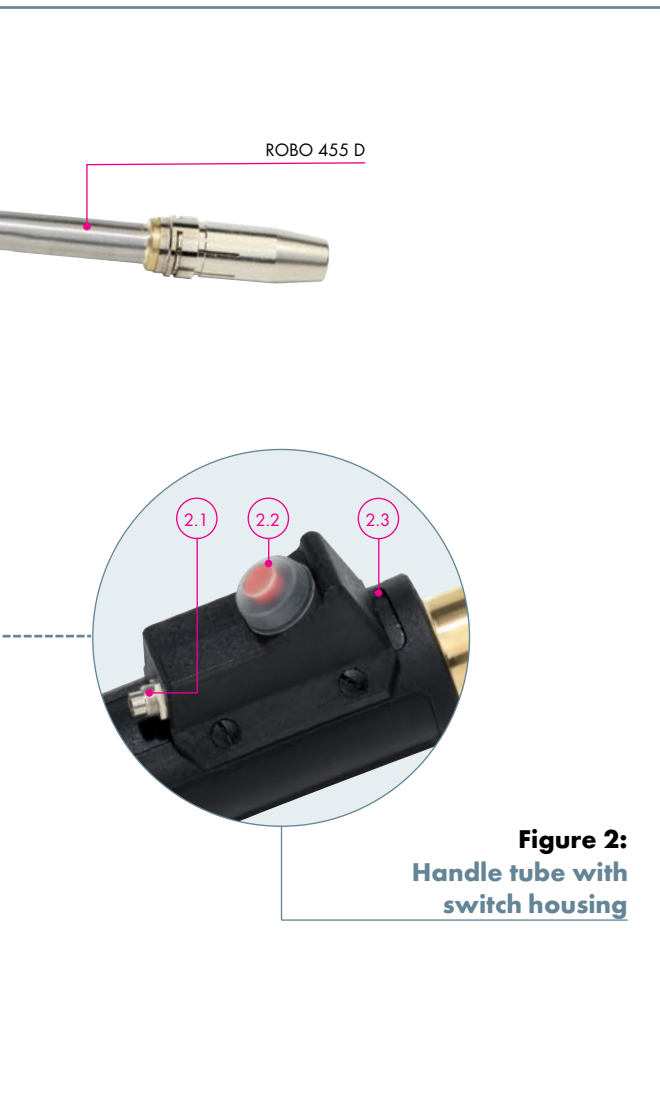


Figure 2:
Handle tube with
switch housing

Figure 2:
Handle tube with switch housing

- 2.1 CAT3 connection
- 2.2 Wire feed button
- 2.3 Sturdy housing for optimum torch protection



Technical data (EN 60 974-7):

ROBO 455 D

Type of cooling:	liquid cooled
Rating:	450 A CO ₂ 400 A Mixed gases M21 (EN ISO 14175)
Duty cycle:	100 %
Wire-Ø:	0.8 - 1.6 mm
Torch geometries:	0°/22°/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.

"ROBO Standard" liquid cooled Torch Necks & Wear Parts

ROBO 455 D

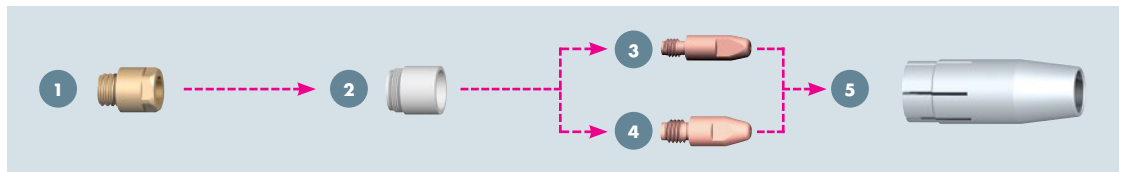


Torch neck

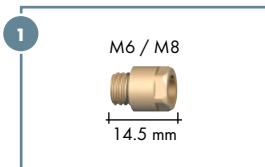
Features	Part-No.		
	0°	22°	45°
Torch complete with cable assembly (L=3.00 m)	943.0247	943.0248	943.0249
Individual torch neck (spare torch)	943.0161.1	943.0162.1	943.0163.1

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

Wear parts for ROBO 455 D

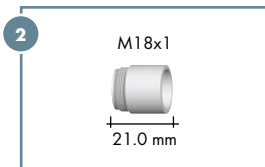


1 Contact tip holder (10 pcs.)



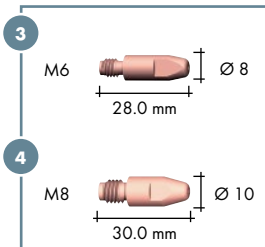
Type	Part-No.
M6 Brass	142.0123
M8 Brass	142.0122

2 Nozzle insulator (10 pcs.)



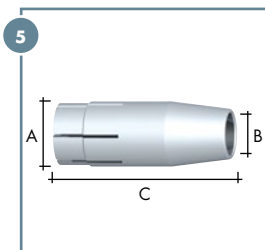
Type	Part-No.
Standard	146.0054.10
High temperature resistant	146.0059.10

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



Type	Wire-Ø	Part-No.	
		M6	M8
CuCrZr	Ø 0.8	140.0054	140.0117
	Ø 0.9	140.0172	140.0217
	Ø 1.0	140.0245	140.0316
	Ø 1.2	140.0382	140.0445
	Ø 1.4	-	140.0536
	Ø 1.6	-	140.0590

5 Gas nozzle (10 pcs.)



Type bottle form	Ø A	Ø B	Length C	Part-No.
Recess (-1.5 mm) ¹	Ø 25.0	Ø 15.5	67.5 mm	145.0164

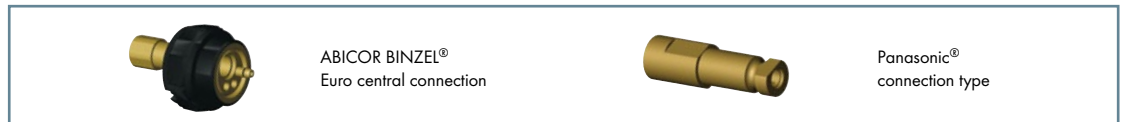
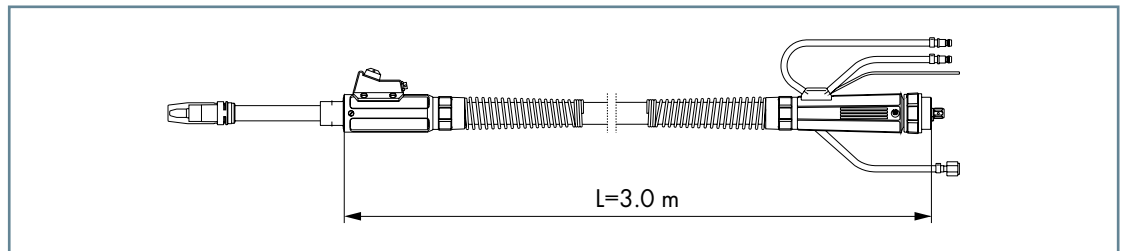
Type conical	Ø A	Ø B	Length C	Part-No.
Recess (-1.5 mm) ¹	Ø 25.0	Ø 13.0	67.5 mm	145.0134
Recess (-1.5 mm) ¹	Ø 25.0	Ø 15.5	67.5 mm	145.0089.10
Stick-out (+1.5 mm) ²	Ø 25.0	Ø 15.5	64.5 mm	145.0106

¹ Recess: Contact tip recessed

² Stick-out: Contact tip protruding

“ROBO Standard” liquid cooled Cable Assemblies

Cable assemblies and connection types



Note: The cable assemblies for the ROBO Standard series are only available as complete packages including the torch neck. The part numbers can be found in the “torch neck” category on pages 52 and 53.

The standard length of the cable assemblies is 3.00 m. Other cable assembly lengths are available on request.
The control cable is not pre-wired at the machine end. Power source specific types on request.
The red steel liner 0.8 - 1.2 mm is included in the scope of delivery. Please order other versions separately.

Liners for Euro central connection¹

Type	for torch type	Wire-Ø	up to L=3.40 m
Liner steel ¹	ROBO 455 D	Ø 0.8 - 1.2	122.0031
Liner steel ¹	ROBO 455 D	Ø 1.4 - 1.6	122.0056

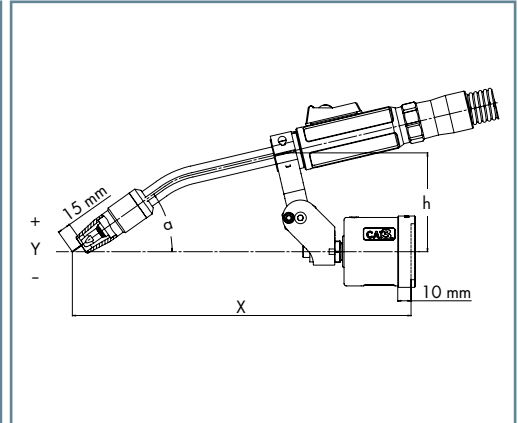
¹ Steel liner (insulated) for the use of non-alloyed and low-alloyed steels. The totally insulated wire feed prevents damage caused by “micro-arcing” on the wire. This allows optimal current transfer inside the contact tube, improving the welding process. The insulated steel liner must always be used for power sources with optimal welding wire sensors. Liners for aluminium and special wires on request.

“ROBO Standard” liquid cooled Holder & TCP Geometries

Torch holder for ROBO Standard

in connection with CAT3 cpl.

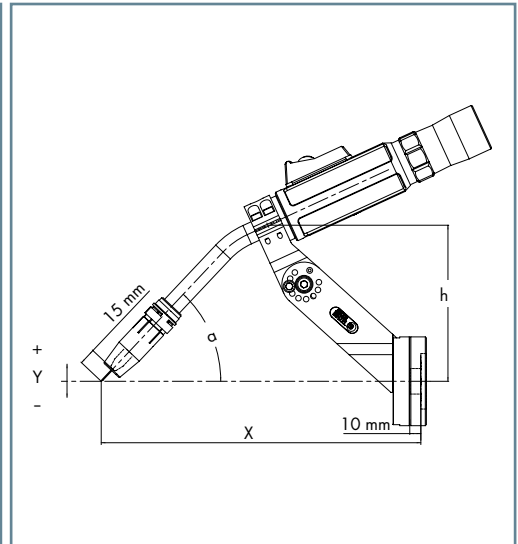
Torch type	Torch geometry	X	Y	h	α	Part-No.
ROBO	0°	337	0	103	30°	780.0203
455 D ¹	22°	312	0	111	36°	780.0203
	45°	366	0	113	46°	780.0203



RTM holder for ROBO Standard²

for robots with collision software

Torch type	Torch geometry	X	Y	h	α	Part-No.
ROBO	0°	327	54	141	25°	780.0326
455 D ¹	22°	288	0	141	47°	780.0326
	45°	242	-29	141	70°	780.0326



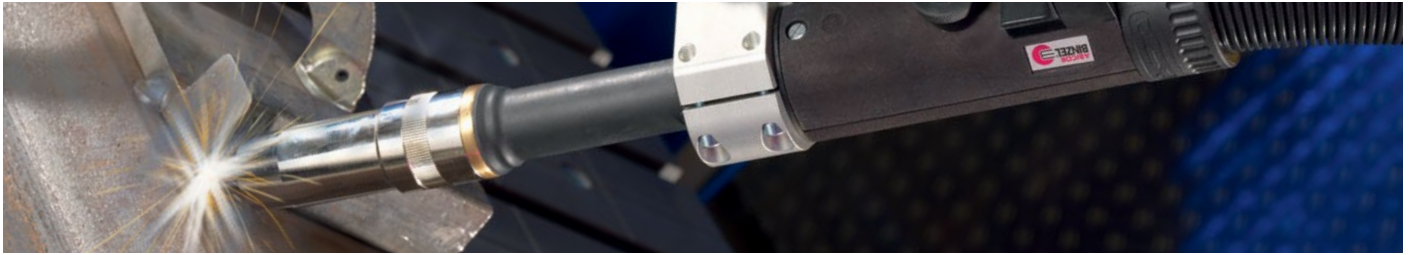
Further holders are available on request.

¹ Please order torch holder for ROBO 455D always in combination with insulation bush 835.0013.

² Holder adjustable in 7.5° steps.

MIG/MAG Welding Torch System

“ROBO Compact W600” liquid cooled



Tough, reliable & economical ...

ABICOR BINZEL ROBOTIC SYSTEMS are extending the product range for liquid cooled high performance welding torches for low levels of automation*. The innovative ROBO Compact W600 welding torch complements our W600 series of liquid cooled torches as an “entry-level torch” for the high-performance sector of robot welding.

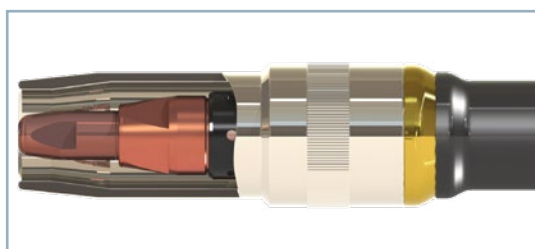
For welding applications that require welding tools of fantastic value and performance, a powerful, robust and highly reliable welding torch is needed. The ROBO Compact W600 torch system shows outstanding technical strengths in industries like heavy machinery, container and shipbuilding as well as for deposition welding. W600 is ideally suited for applications requiring high welding performance and a long duty-cycle.

The ROBO Compact W600 borrows from the proven design and performance of the WH W600 and ABIROB® W600 torch series. Specifically developed for applications with a low degree of automation*, the W600 is distinguished by the simple and robust design of the wearing parts and the direct connection of the cable assembly to the welding torch. Maintenance of the welding torch or replacement of the complete torch system is very easy and quick. Simply put, W600 is the perfect tool for welding applications with low degrees of automation!

Arguments that speak for themselves:

- Strong price-performance ratio
- Compact construction – high performance – highest crash stability
- Sophisticated cooling technology and optimum gas coverage through a separate gas channel
- Robust, long-life wearing parts
- Reproducible complete torch change – simple and fast
- Tremendous value with low operating costs

up to
600 A



Degree of automation*:

Low	Medium	High
-----	--------	------

Application areas:



- Commercial vehicle construction
- Earth-moving equipment
- Rail vehicle construction
- Shipbuilding
- Container construction
- Machine and steel construction

Material:

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

Robot interface:

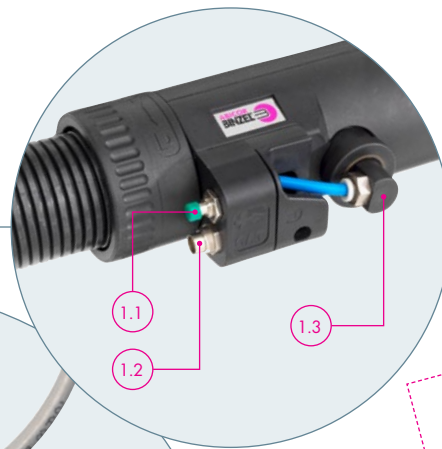
- Conventional robot
(Cable assembly external):
 - Robot mount CAT3
 - RTM (rigid holder, without crash protection)

* 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)

“ROBO Compact W600” liquid cooled System Overview & Technical Data

Figure 1:
Detail view of anti-kink housing
with wire brake module



Replaceable insulation sleeves



Figure 3:
Sectional view
of gas nozzle

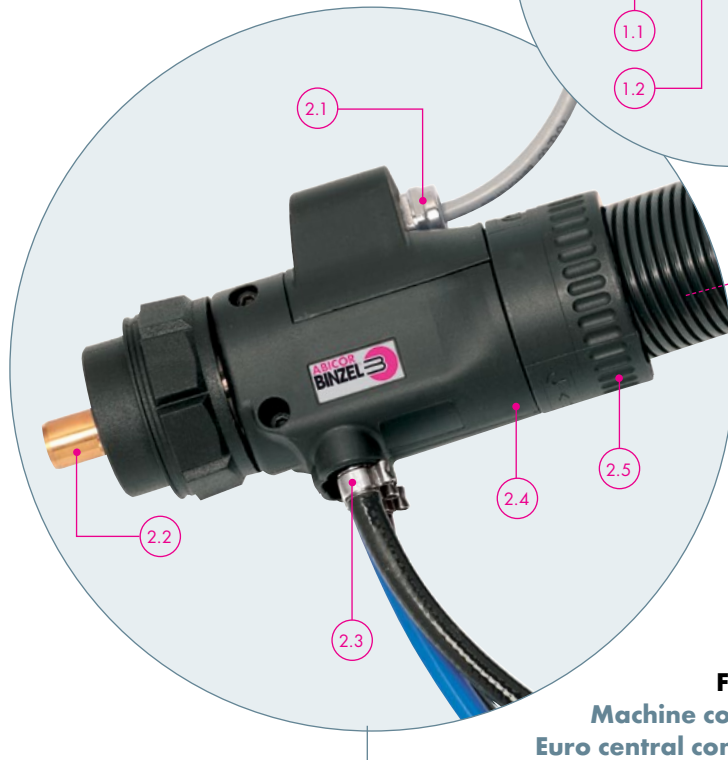


Figure 2:
Machine connector
Euro central connection

Figure 1:
Detail view of anti-kink housing
with wire brake module

- 1.1 Wire feed button
- 1.2 CAT3 connection
- 1.3 Wire brake module (optional)

Figure 2:
Machine connector
Euro central connection

- 2.1 High-quality control cable with strain relief (control cable connector on request)
- 2.2 Machine connection available as RPC (robot power connector) and Euro central connection (other connections on request)
- 2.3 Straight outputs for coolant and discharge hose – no kinking and twisting of hoses
- 2.4 Short connection housing – high flexibility of the hose pack
- 2.5 Rotatable hose connection – minimized torsional

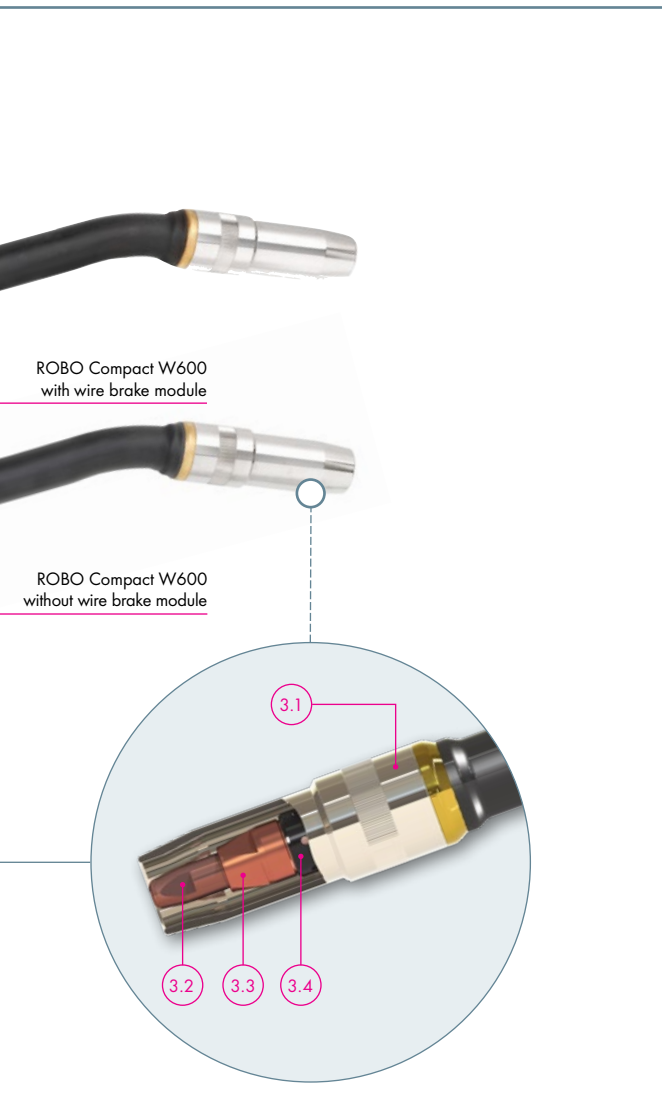
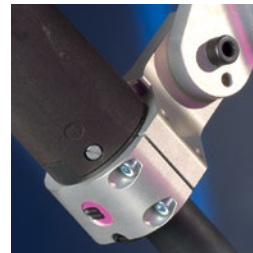


Figure 3:
Sectional view of gas nozzle

- 3.1 Gas nozzle
- 3.2 Contact tip
- 3.3 Contact tip holder
- 3.4 Gas distributor



Technical data (EN 60 974-7):

ROBO Compact W600

Type of cooling:	liquid cooled
Rating:	600 A CO ₂ 550 A Mixed gases M21 (EN ISO 14175)
Duty cycle:	100%
Wire-Ø:	0.8- 1.6 mm (2.0 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.

* Recommended max. case assembly length 1.2 m when using wire diameter 2.0 mm.

"ROBO Compact W600" liquid cooled Torch Necks & Cable Assemblies

ROBO Compact W600

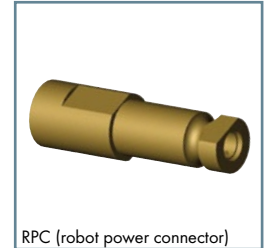
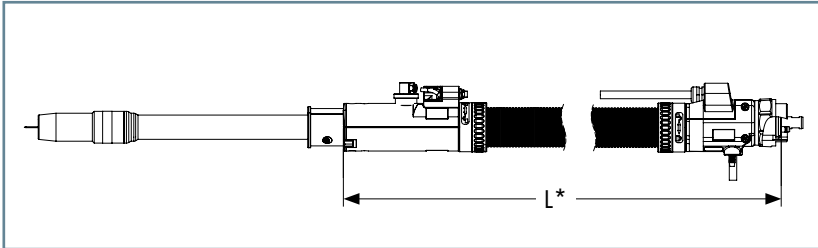


Torch neck

	Part-No.			
Features	0°	22°	35°	45°
Torch neck individually (Spare torch neck)	944.0324.1	944.0325.1	944.0326.1	944.0327.1

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

Cable assemblies and connection types



Torch complete with Euro central connection

Length L [m]	Part-No. without wire brake				Part-No. with wire brake ¹			
	0°	22°	35°	45°	0°	22°	35°	45°
1.00	944.0195.1	944.0204.1	944.0212.1	944.0220.1	944.0228.1	944.0236.1	944.0244.1	944.0252.1
1.20	944.0196.1	944.0205.1	944.0213.1	944.0221.1	944.0229.1	944.0237.1	944.0245.1	944.0253.1
1.40	944.0197.1	944.0206.1	944.0214.1	944.0222.1	944.0230.1	944.0238.1	944.0246.1	944.0254.1
1.60	944.0198.1	944.0207.1	944.0215.1	944.0223.1	944.0231.1	944.0239.1	944.0247.1	944.0255.1
1.80	944.0199.1	944.0208.1	944.0216.1	944.0224.1	944.0232.1	944.0240.1	944.0248.1	944.0256.1
2.00	944.0201.1	944.0209.1	944.0217.1	944.0225.1	944.0233.1	944.0241.1	944.0249.1	944.0257.1
2.50	944.0202.1	944.0210.1	944.0218.1	944.0226.1	944.0234.1	944.0242.1	944.0250.1	944.0258.1
3.00	944.0203.1	944.0211.1	944.0219.1	944.0227.1	944.0235.1	944.0243.1	944.0251.1	944.0259.1

Torch complete with RPC (robot power connector)

Length L [m]	Part-No. without wire brake				Part-No. with wire brake ¹			
	0°	22°	35°	45°	0°	22°	35°	45°
1.00	944.0260.1	944.0268.1	944.0276.1	944.0284.1	944.0292.1	944.0300.1	944.0308.1	944.0316.1
1.20	944.0261.1	944.0269.1	944.0277.1	944.0285.1	944.0293.1	944.0301.1	944.0309.1	944.0317.1
1.40	944.0262.1	944.0270.1	944.0278.1	944.0286.1	944.0294.1	944.0302.1	944.0310.1	944.0318.1
1.60	944.0263.1	944.0271.1	944.0279.1	944.0287.1	944.0295.1	944.0303.1	944.0311.1	944.0319.1
1.80	944.0264.1	944.0272.1	944.0280.1	944.0288.1	944.0296.1	944.0304.1	944.0312.1	944.0320.1
2.00	944.0265.1	944.0273.1	944.0281.1	944.0289.1	944.0297.1	944.0305.1	944.0313.1	944.0321.1
2.50	944.0266.1	944.0274.1	944.0282.1	944.0290.1	944.0298.1	944.0306.1	944.0314.1	944.0322.1
3.00	944.0267.1	944.0275.1	944.0283.1	944.0291.1	944.0299.1	944.0307.1	944.0315.1	944.0323.1



Insulating sleeve

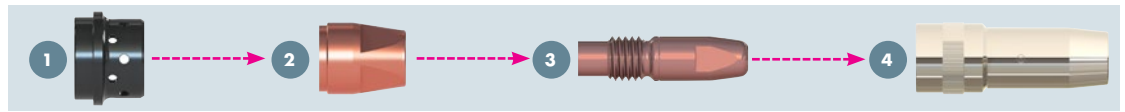
Type	Part-No.
Insulating sleeve D40	944.0175.1

*Recommended maximum length: 3.00 m. Other cable assembly lengths and/or designs for specific power sources are available on request. The control cable is not configured on the machine side. The torch is supplied ready for welding with a fitting for 1.6 mm steel. Please order other versions separately.

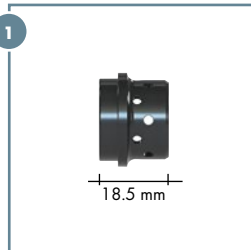
¹ **Note:** With wire brake: Neck-Liner required! See page 7.

"ROBO Compact W600" liquid cooled Wear Parts & Liners

Wear parts for ROBO Compact W600

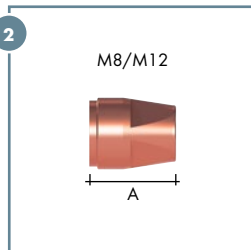


1 Gas diffuser (10 pcs.)



Type	Part-No.
Standard	146.0079.10

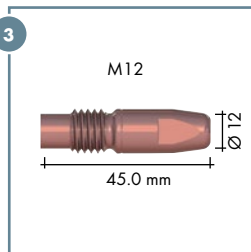
2 Contact tip holder (10 pcs.)



Type	Length A [mm]	Part-No.
M8 ¹	27.0	142.0232.10
M12	23.0	142.0214.10

¹ Using M8 contact tips reduces the performance data by approx. 20%.

3 Contact tip (10 pcs.)

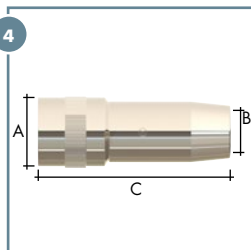


Type	Material	Wire-Ø [mm]	Part-No.
M12	CuCrZr	Ø 1.2	140.1563.10
	CuCrZr	Ø 1.4	140.1564.10
	CuCrZr	Ø 1.6	140.1565.10
	CuCrZr	Ø 2.0	140.1627.10
HDS silver plated ²	HDS silver plated ²	Ø 1.2	147.6563.10
	HDS silver plated ²	Ø 1.4	147.6564.10
	HDS silver plated ²	Ø 1.6	147.6565.10
	HDS silver plated ²	Ø 2.0	147.6627.10

M8 contact tips – see the ROBO catalogue.

² HDS = High performance dispersion strengthened copper material, silver-plated – recommended for long welds and with high contact tip temperatures.

4 Gas nozzle (5 pcs.)



Type conical	Ø A [mm]	Ø B [mm]	Length C [mm]	Part-No.
Flush ³	34.0	21.5	92.0	145.0686.5
Stick-Out (+6.0 mm) ⁴	34.0	21.5	86.0	145.0687.5
Recess (-3.0 mm) ⁵	34.0	21.5	95.0	145.0688.5
Flush ³	34.0	18.0	92.0	145.0689.5

² Flush: Contact tip flush

⁴ Stick-Out: Contact tip protruding

³ Recess: Contact tip recessed

Liners

Type	Wire-Ø [mm]	RPC	Euro central connection
		up to L = 3,00 m	up to L = 3,00 m
Liner Steel ⁶	Ø 0.8-1.2	124.0197.1	124.0181
	Ø 1.4-1.6	124.0191.1	124.0210.1
	Ø 1.8-2.0	124.0252.1	124.0253.1
Combined wire guide ⁷	Ø 0.8-1.2	128.M007	128.M009
	Ø 1.4-1.6	128.M011	128.M013.1

⁶ Spiral steel (insulated) for application with nonalloyed and low-alloy steels. The fully insulated wire guide prevents damage caused by "micro-arcing" on the wire. Current transfer in the contact tip is thus optimal and improves the welding process. The insulated steel liner is must be used with power sources with optional welding wire sensors.

⁷ Combi-liner for aluminium or bronze wires – a combination of PA liner and a brass liner pressed on in the front end to avoid thermal overload of the PA liner.

Neck-Liners for wire brake (5 pcs.)

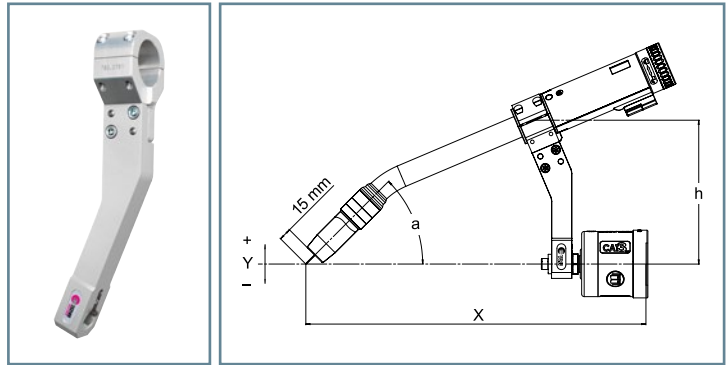
for Torch neck	for	Wire-Ø [mm]	Length [mm]	Part-No.
ROBO Compact W600	Steel	0.8-1.2	348.0	149.0451.5
	Steel	1.4-1.6	348.0	149.0452.5
	Steel	1.8-2.0	348.0	149.0471.5

"ROBO Compact W600" liquid cooled Holder & TCP-Geometries

Holder, rigid

In combination with CAT3

Torch type	Torch geometry	X [mm]	Y [mm]	h [mm]	α	Part-No.
ROBO	22°	400	0	170	45°	780.0781.1
Compact	35°	400	0	136	45°	780.0782.1
W600	45°	400	0	135	50°	780.0784.1

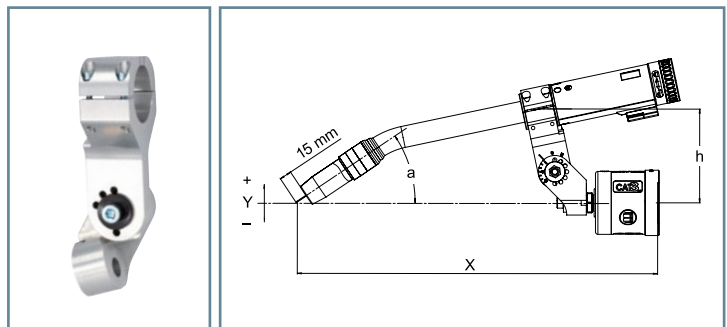


Segment holder

In combination with CAT3

Torch type	Torch geometry	X [mm]	Y [mm]	h [mm]	α	Part-No.
ROBO	22°	439	-11	115	36°	780.0433.1
Compact	35°	416	-40	115	49°	780.0433.1
W600	45°	393	-61	115	59°	780.0433.1

The holder can be adjusted in 15° steps

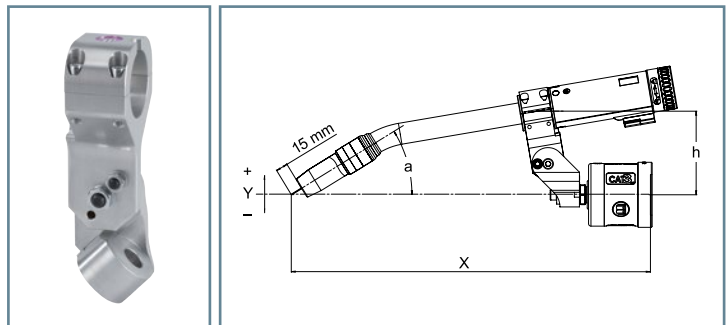


Holder, adjustable

In combination with CAT3

Torch type	Torch geometry	X [mm]	Y [mm]	h [mm]	α	Part-No.
ROBO	22°	440	0	104	32°	780.0430.1
Compact	35°	424	0	105	39°	780.0430.1
W600	45°	410	0	105	44°	780.0430.1

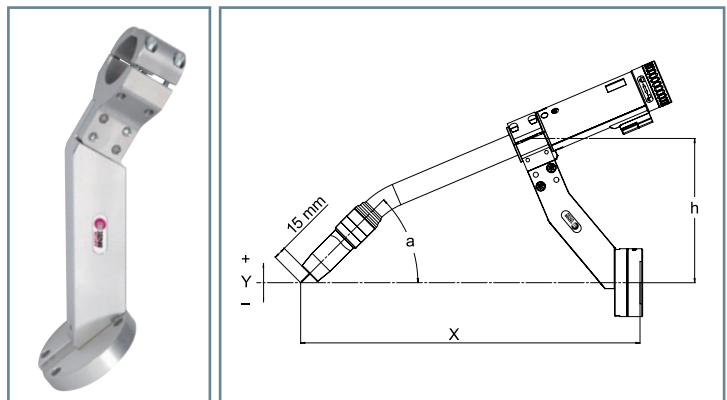
Holder must be fastened with screws and pins.



RTM holder

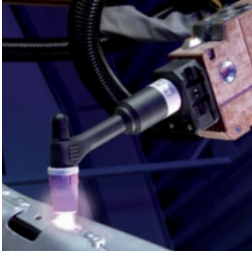
For robots with collision software

Torch type	Torch geometry	X [mm]	Y [mm]	h [mm]	α	Part-No.
ROBO	22°	400	0	170	45°	780.0789.1
Compact	35°	400	0	136	45°	780.0790.1
W600	45°	400	0	135	50°	780.0792.1



TIG Welding Torch Systems

Liquid cooled



ABITIG® WH liquid cooled

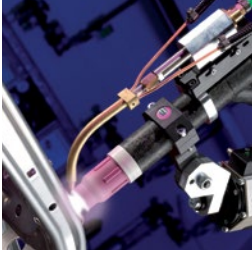
Fast, safe and reliable ...

Capacity: up to 400 A

Application areas: Automotive construction, bicycle industry, container and pipe construction, machine and steel construction, aviation and aerospace industry

Degree of automation: Low Medium High

Seite 61



ABITIG® MT liquid cooled

Efficient allrounder ...

Capacity: up to 500 A

Application areas: Automotive construction, bicycle industry, container and pipe construction, machine and steel construction, aviation and aerospace industry

Degree of automation: Low Medium High

Seite 69



TIG Welding Torch System

"ABITIG® WH" liquid cooled



Fast, safe & reliable ...

The ABITIG® WH welding torch system from ABICOR BINZEL for TIG brazing and TIG welding offers a high degree of process reliability for the joining of a wide range of different materials.

Pre-set tungsten electrodes, reproducible torch replacement and servicing work done outside the robot cell guarantee consistently high quality and system availability.

With only two design sizes in different geometries, even for the most complex of components, the TIG welding torch system ABITIG® WH covers almost all automatic TIG applications. Also available with cold wire feeding according to the push or push-pull principle.

Advantages that speak for themselves:

- Flexible and fast adaptation to changing welding tasks
- Pre-set tungsten electrode
- Reproducible torch position
- With cold wire feeding and push-pull function
- Liquid cooled up to 400 A
- Technically matured and 100% reliable
- Automatic neck change available for maximum system up-time

Degree of automation:

Low	Medium	High
-----	--------	------

Typical areas of application:



- Automotive construction
- Bicycle industry
- Container and pipe construction
- Machine and steel construction
- Aviation and aerospace industry

Material:

- 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

up to
400 A



* 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)

“ABITIG® WH” liquid cooled System Overview & Technical Data

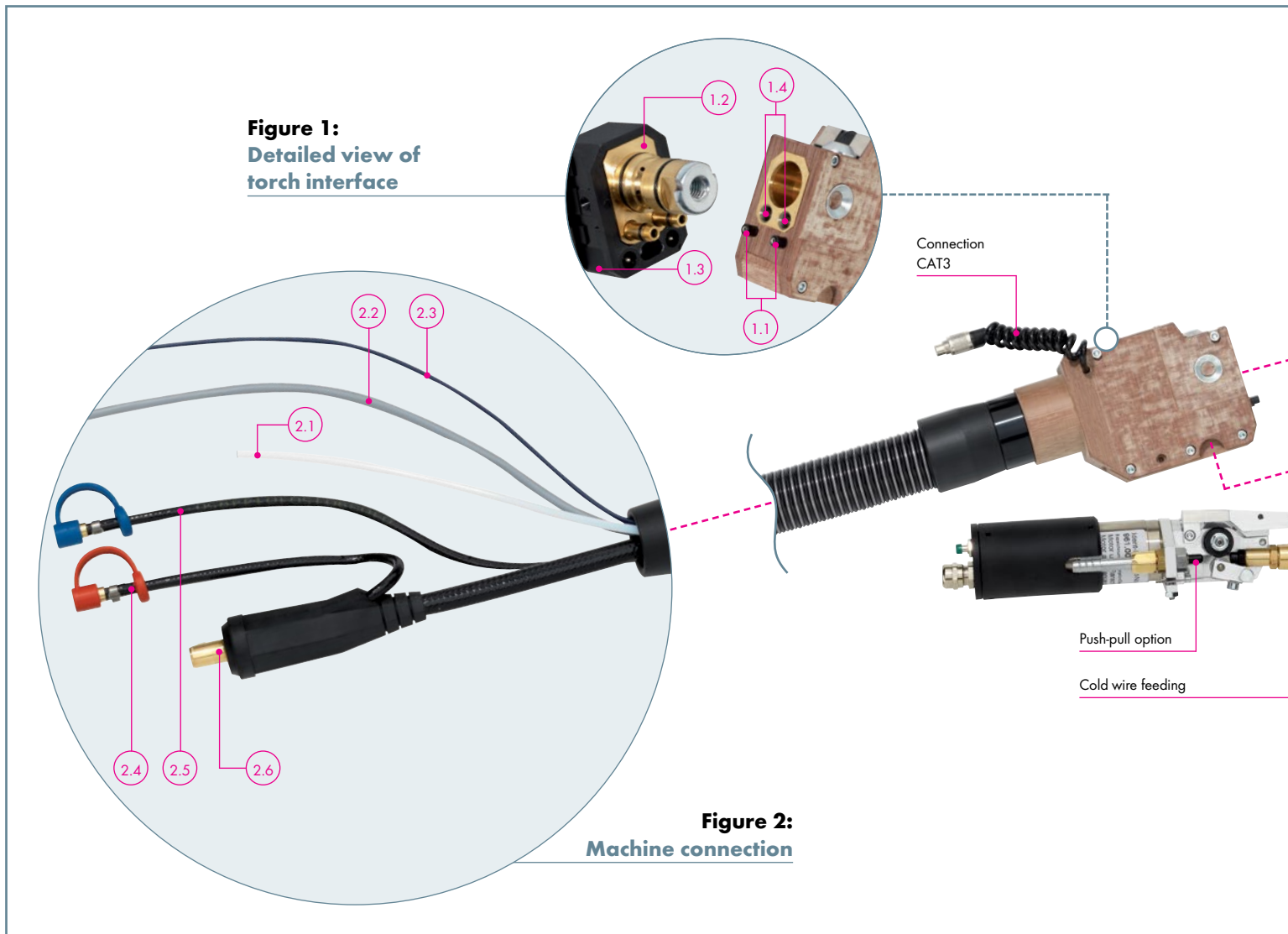


Figure 1:
Detailed view of cable assembly

- 1.1 Contacts for help with ignition
- 1.2 O-rings ensure a gas-tight connection
- 1.3 Compact and space-saving interface
- 1.4 Non-return valves for leak-free torch neck replacement

Figure 2:
Machine connection

- 2.1 Hose for inert gas feed
- 2.2 High-quality control cable
- 2.3 Flexible control cable for ignition aid (optional) or sensor
- 2.4 Coolant return hose with closure
- 2.5 Coolant feed hose with closure
- 2.6 Sturdy brass connector with high-grip rubber bend protection (machine connection available for all standard power sources)

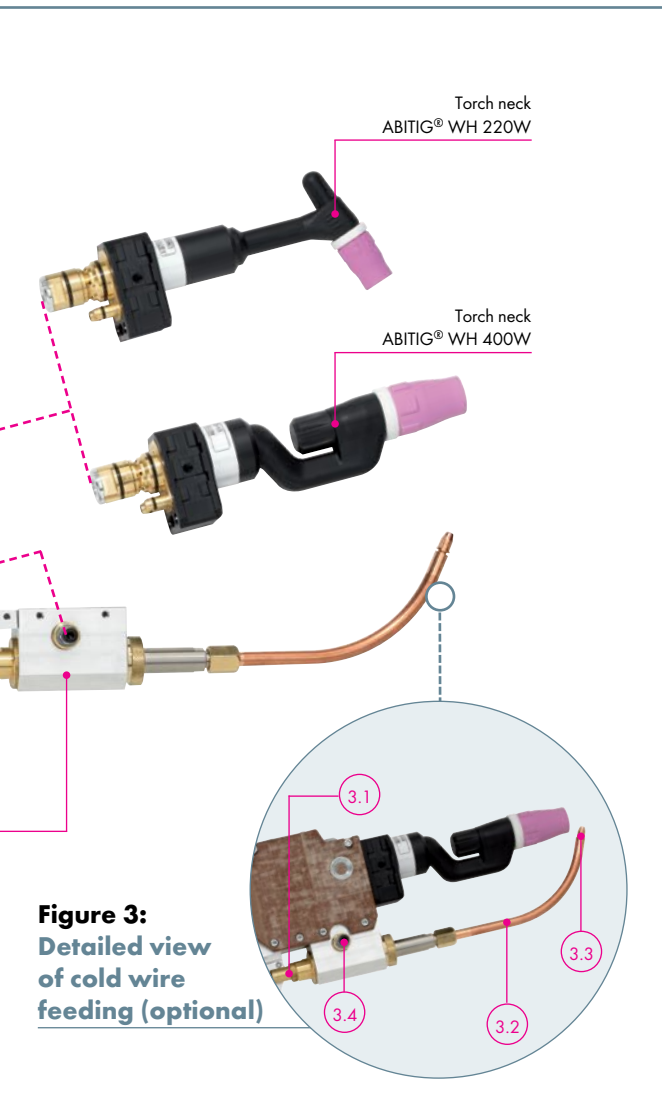
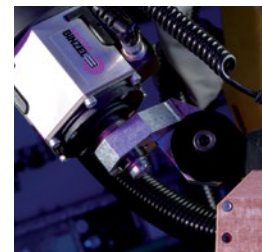
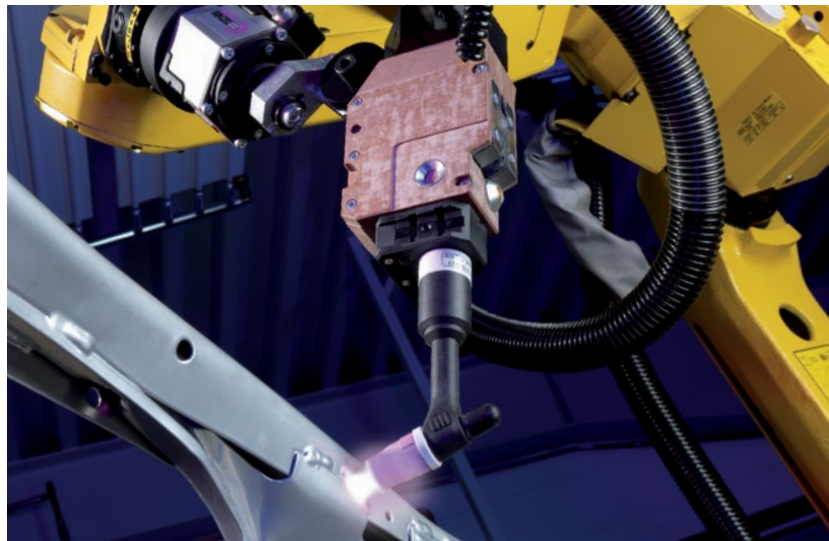


Figure 3:
Detailed view
of cold wire
feeding (optional)

Figure 3:
Detailed view of cold wire feeding

- 3.1 Cold wire feeding with and without push-pull option
- 3.2 Feeding tube
- 3.3 Feeding tip
- 3.4 Swivel function for fully automatic torch neck replacement in connection with ATS rotor



Technical data (EN 60 974-7):

ABITIG® WH 220W

Type of cooling:	liquid cooled
Rating:	220 A DC 160 A AC
Duty cycle:	100 %
Electrode-Ø:	1.0-3.2 mm
Torch geometries:	70°

ABITIG® WH 400W

Type of cooling:	liquid cooled
Rating:	400 A DC 280 A AC
Duty cycle:	100 %
Electrode-Ø:	1.6-4.8 mm
Torch geometries:	0°/45°/70°/90°

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.

"ABITIG® WH" liquid cooled Torch Necks & Wear Parts

ABITIG® WH 220W

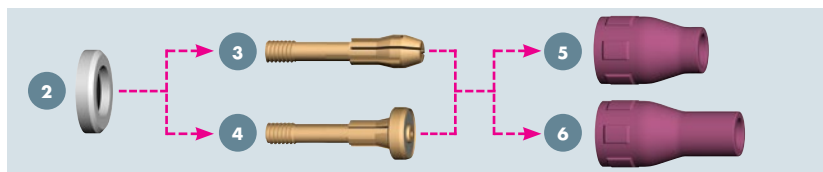


Torch neck

Features	Part-No.
Standard	781.1001
WS version	781.2010.1

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

Wear parts for ABITIG® WH 220 W



1 Torch cap (1 pc.)



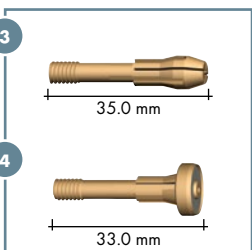
Type	Part-No.
Standard	776.0053
WS clamping element (not illustrated)	781.2012.1

2 Insulator (10 pcs.)



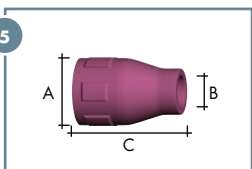
Type	Part-No.
Standard	776.1043
WS version	781.2018.1

3 Electrode holder 4 Gas diffuser (5 pcs.)



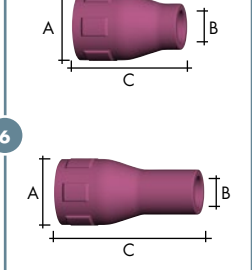
Type	Wire-Ø	Part-No.	
		Electrode holder	Gas diffuser
Standard	Ø 1.0	776.0061	776.0171
	Ø 1.6	776.0062	776.0172
	Ø 2.0	776.0067	776.0177
	Ø 2.4	776.0063	776.0173
	Ø 3.2	776.0064	776.0174

5 Gas nozzle, short



Short type	Ø A	Ø B	Length C	Part-No.
Standard	Ø 16.8	Ø 6.5	26.0 mm	777.0081
	Ø 16.8	Ø 8.0	26.0 mm	777.0082
	Ø 16.8	Ø 9.5	26.0 mm	777.0083
	Ø 16.8	Ø 11.0	26.0 mm	777.0084

6 Gas nozzle, long (10 pcs.)



Long type	Ø A	Ø B	Length C	Part-No.
Standard	Ø 16.8	Ø 6.5	36.0 mm	777.2171
	Ø 16.8	Ø 8.0	36.0 mm	777.2172
	Ø 16.8	Ø 9.5	36.0 mm	777.2173
	Ø 16.8	Ø 11.0	36.0 mm	777.2174

"ABITIG® WH" liquid cooled Torch Necks & Wear Parts

ABITIG® WH 400W



Torch neck

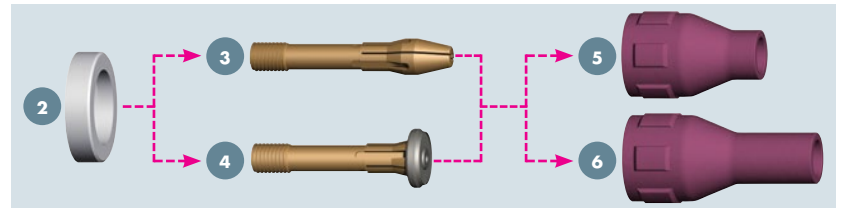
Features	Part-No.			
	0°	45°	70°	90°
Standard	781.0504	781.0507	781.0501	781.0510
WS version	781.2008.1	-	-	-

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

Wear parts for ABITIG® WH 400 W



1 Torch cap
(1 pc.)

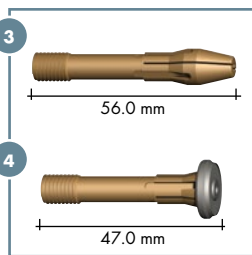


2 Insulator
(1 pc.)



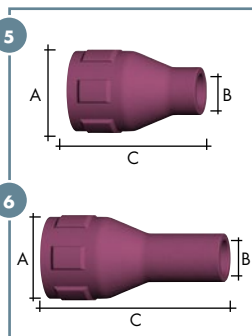
Type	Part-No.
Standard	967.1351
WS clamping element (not illustrated)	781.2006.1

3 Electrode holder
4 Gas diffuser
(5 pcs.)



Type	Part-No.
Standard	775.1043
WS version	779.4043.1

5 Gas nozzle, short
6 Gas nozzle, long
(10 pcs.)



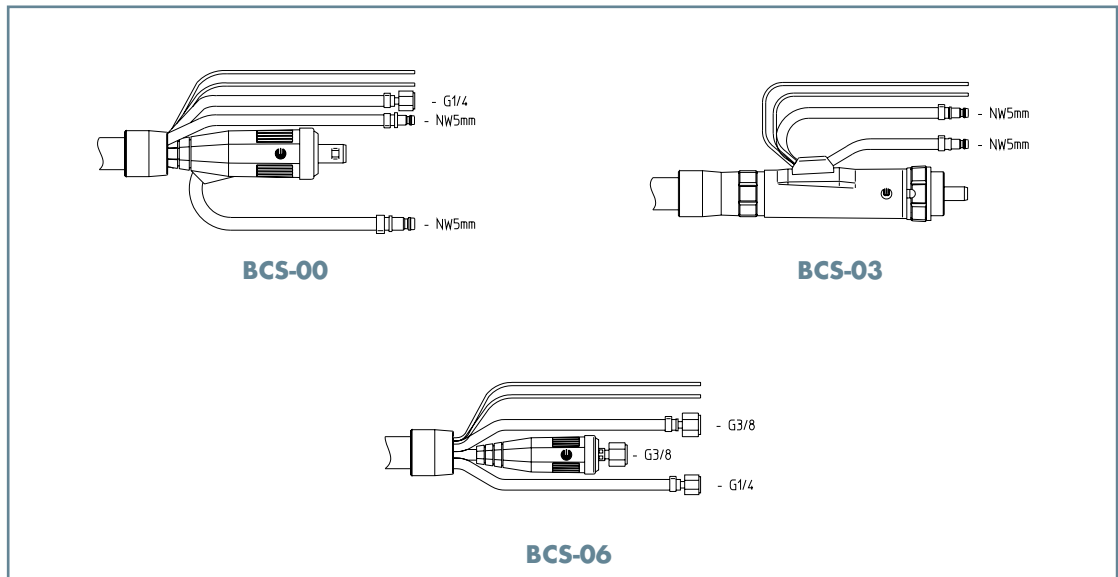
Type	Wire-Ø	Part-No.	
		Electrode holder	Gas diffuser
Standard	Ø 1.6	775.0062	773.0172
	Ø 2.0	775.0067	773.0177
	Ø 2.4	775.0063	773.0173
	Ø 3.2	775.0064	773.0174
	Ø 4.0	775.0065	773.0175
	Ø 4.8	775.0066	773.0176

Short type	Ø A	Ø B	Length C	Part-No.
Standard	Ø 23.5	Ø 7.5	37.0 mm	775.0081
	Ø 23.5	Ø 10.0	37.0 mm	775.0082
	Ø 23.5	Ø 13.0	37.0 mm	775.0083
	Ø 23.5	Ø 15.0	37.0 mm	775.0084

Long type	Ø A	Ø B	Length C	Part-No.
Standard	Ø 23.5	Ø 7.5	52.0 mm	775.2171
	Ø 23.5	Ø 10.0	52.0 mm	775.2172
	Ø 23.5	Ø 13.0	52.0 mm	775.2173
	Ø 23.5	Ø 15.0	52.0 mm	775.2174

"ABITIG® WH" liquid cooled Cable Assemblies & Options

Cable assemblies



Cable assemblies cpl.

Design	Part-No.		
	L=4.00 m*	L=6.00 m*	L=8.00 m*
BCS-00 Standard	781.0526	781.0527	781.0528
BCS-03	781.0517		781.0519
BCS-06	781.0523	781.0524	781.0525

* Further versions on request

Options

Cold wire feeding

Description	Version / specifications	Part-No.
Cold wire feeding cpl.	incl. feeding tube and tip	967.0320
Feeding tube	ABITIG® WH 220 W 70	967.0327
Feeding tube	ABITIG® WH 400 W 0	967.0326
Feeding tube	ABITIG® WH 400 W 45	967.0328
Feeding tube	ABITIG® WH 400 W 70	967.0325
Feeding tube	ABITIG® WH 400 W 90	967.0325
Feeding tube	ABITIG® WH 220/400 WS	967.0338.1
Feeding tip	for wire-Ø 0.8	967.0329
Feeding tip	for wire-Ø 1.0	967.0330
Feeding tip	for wire-Ø 1.2	967.0331
Feeding tip	for wire-Ø 1.6	967.0332
Wire conduit cpl.	4.00 m long	781.0514
Wire conduit cpl.	6.00 m long	781.0515
Wire conduit cpl.	8.00 m long	781.0516

Push-pull option

Push-pull option cpl. with tacho-motor	i=13.7:1 for ΔV = 1.1-8.0 m / min. incl. drive rolls 1.0 mm	963.0120
Push-pull option cpl. with encoder motor	i=34.3:1 for ΔV = 0.2-5.0 m / min. incl. drive rolls 1.0 mm	963.0253.1
Drive roll	for wire-Ø 0.6	961.0268
Drive roll	for wire-Ø 0.8	961.0269
Drive roll	for wire-Ø 1.0	961.0227
Drive roll	for wire-Ø 1.2	961.0228
Drive roll	for wire-Ø 1.6	961.0267

"ABITIG® WH" liquid cooled

Accessories & Holders

Accessories



Alignment jig

for torch type	Torch geometry	Part-No.
ABITIG® WH 220 WS	70°	837.0440.1
ABITIG® WH 400 W	0°/45°/70°/90°	837.0440.1
ABITIG® WH 220 W	45° / 90°	837.0442.1

Ignition aid (not ill.)

for torch type	Part-No.
ABITIG® WH 220 W	967.0102
ABITIG® WH 400 W	967.0101

Bracket



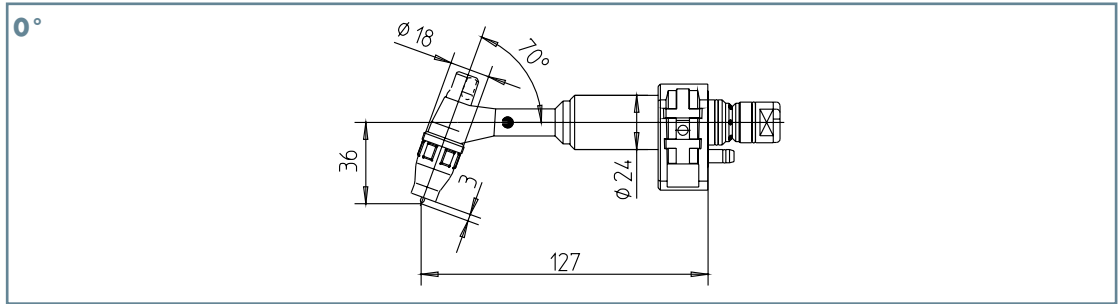
Clamp holder for ABITIG® WH

in connection with CAT3 cpl.

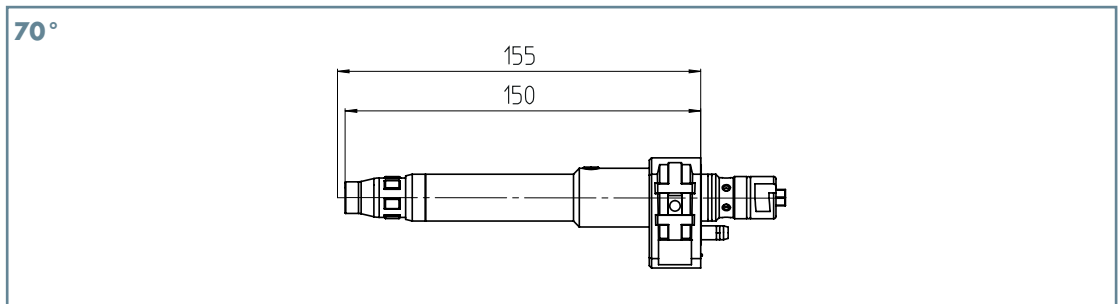
Torch type	Part-No.
ABITIG® WH	963.0007.1

“ABITIG® WH” liquid cooled Geometries

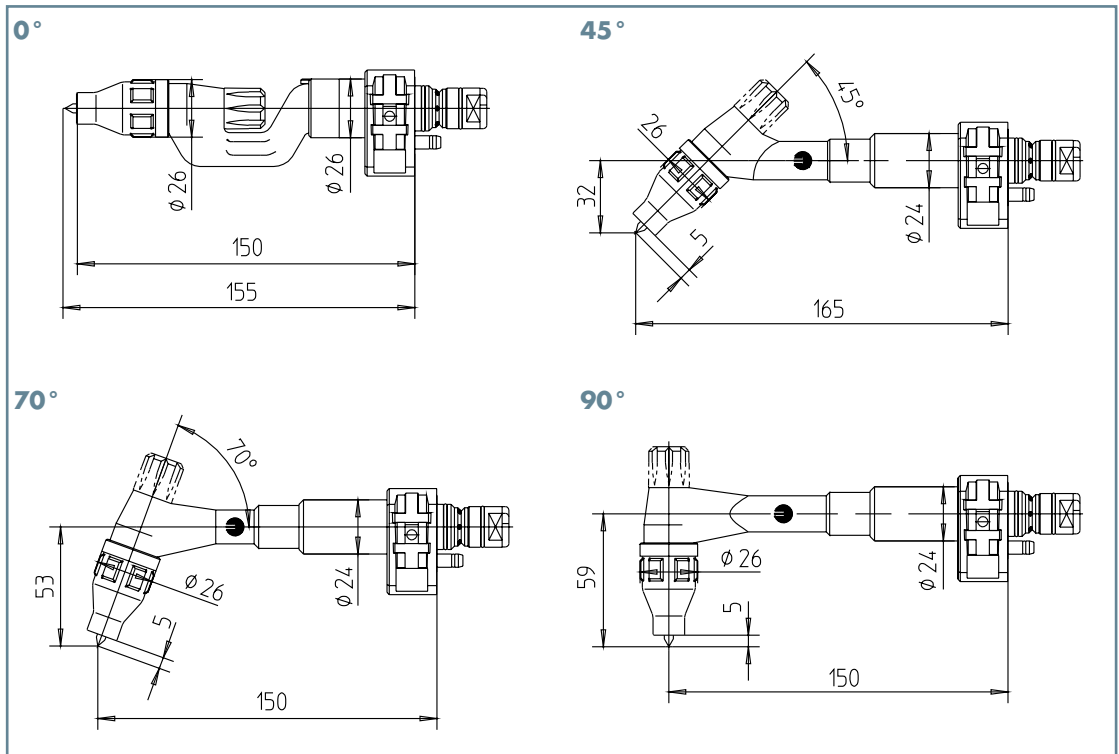
Dimensional sketch
ABITIG® WH 220 W



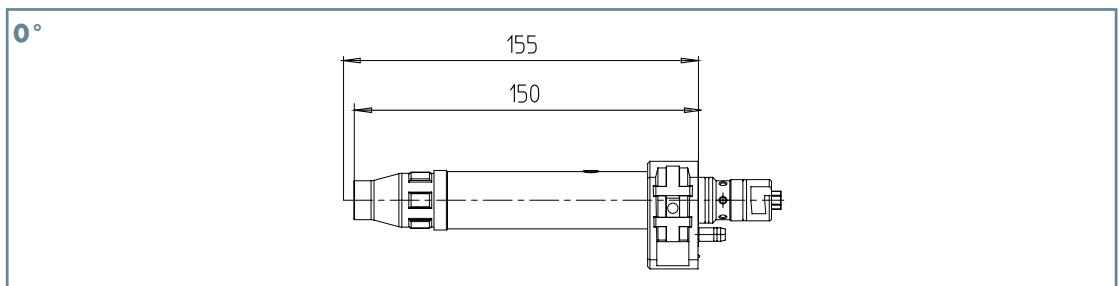
Dimensional sketch
ABITIG® WH
220 WS



Dimensional sketch
ABITIG® WH 400 W

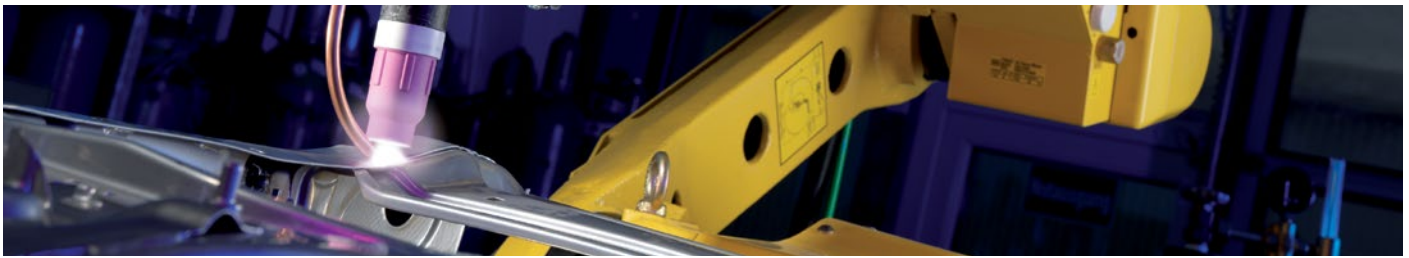


Dimensional sketch
ABITIG® WH
400 WS



TIG Welding Torch System

"ABITIG® MT" liquid cooled



Efficient all-rounder ...

With its compact design and pre-settable electrode, the ABITIG® welding torch system is an efficient solution for welding work on components with simple geometries.

Torches of different capacities with cable assembly outlets at the side, are available for a wide range of different welding tasks.

Advantages that speak for themselves:

- Long service life cycles thanks to excellent heat dissipation combined with the smallest of design sizes
- Cable assembly outlet at the side reducing cable wear
- Tungsten electrode can be pre-set from the rear
- Tried-and-trusted design principle in common with ABITIG® handheld torches

Degree of automation:

Low	Medium	High
-----	--------	------

Typical areas of application:



- Automotice construction
- Bicycle industry
- Container and pipe construction
- Machine and steel construction
- Aviation and aerospace industry

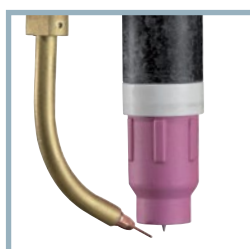
Material:

- 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

up to
500 A



* 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)

“ABITIG® MT” liquid cooled System Overview & Technical Data

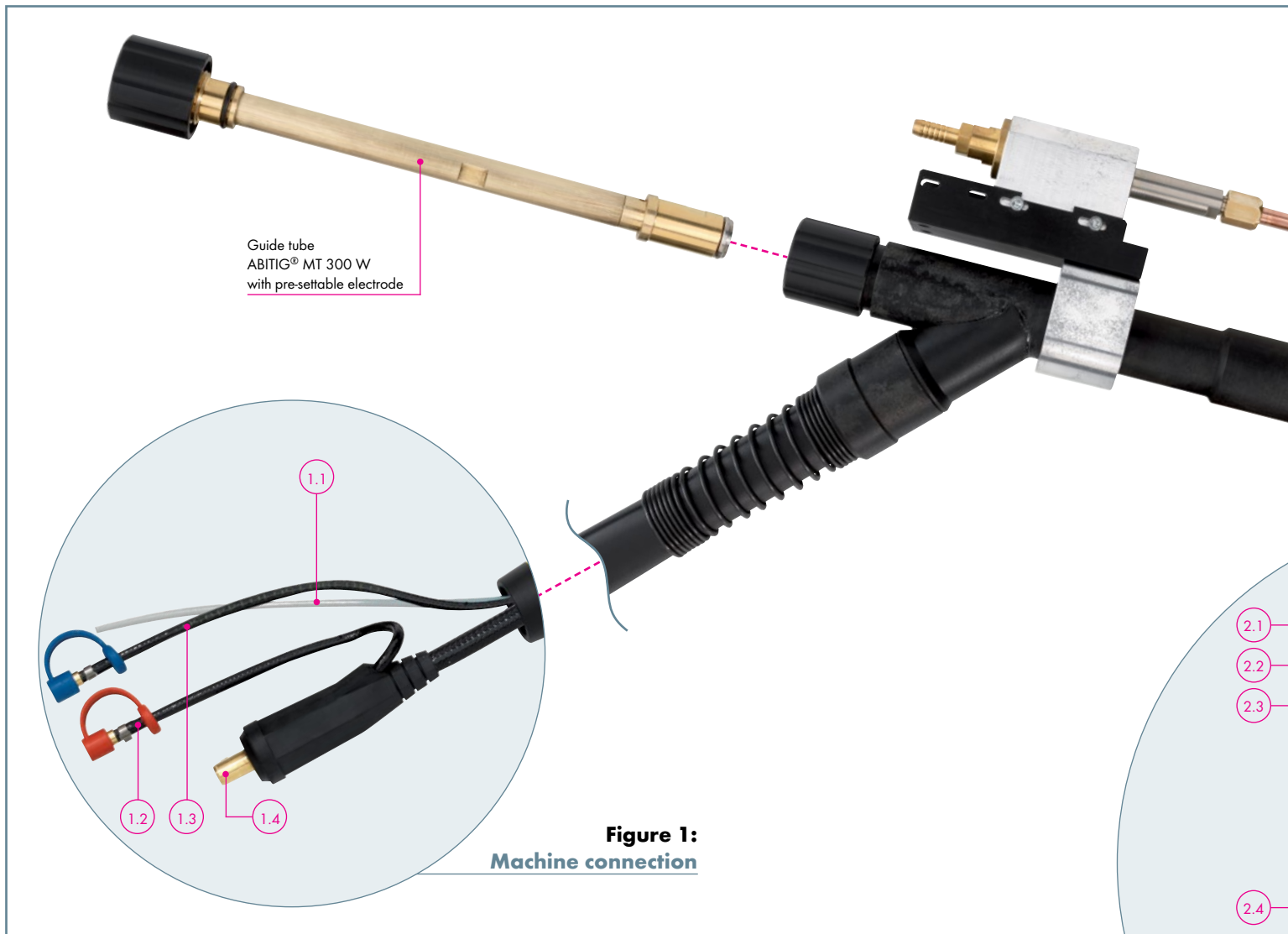
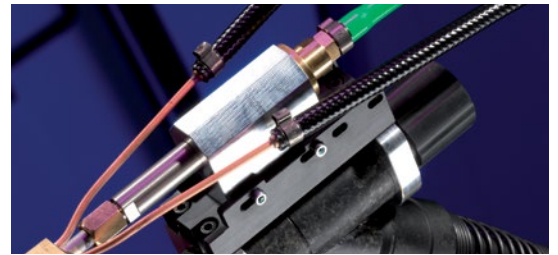
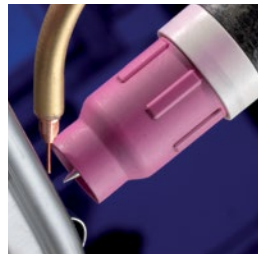
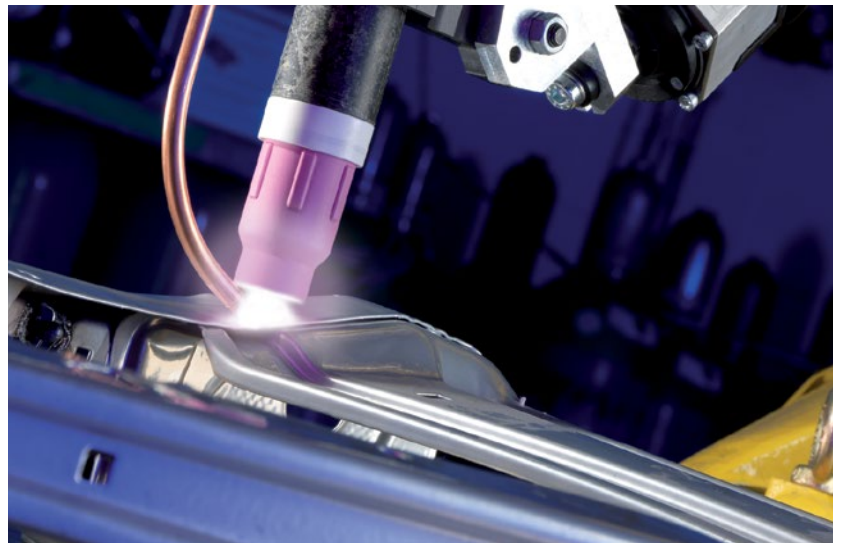
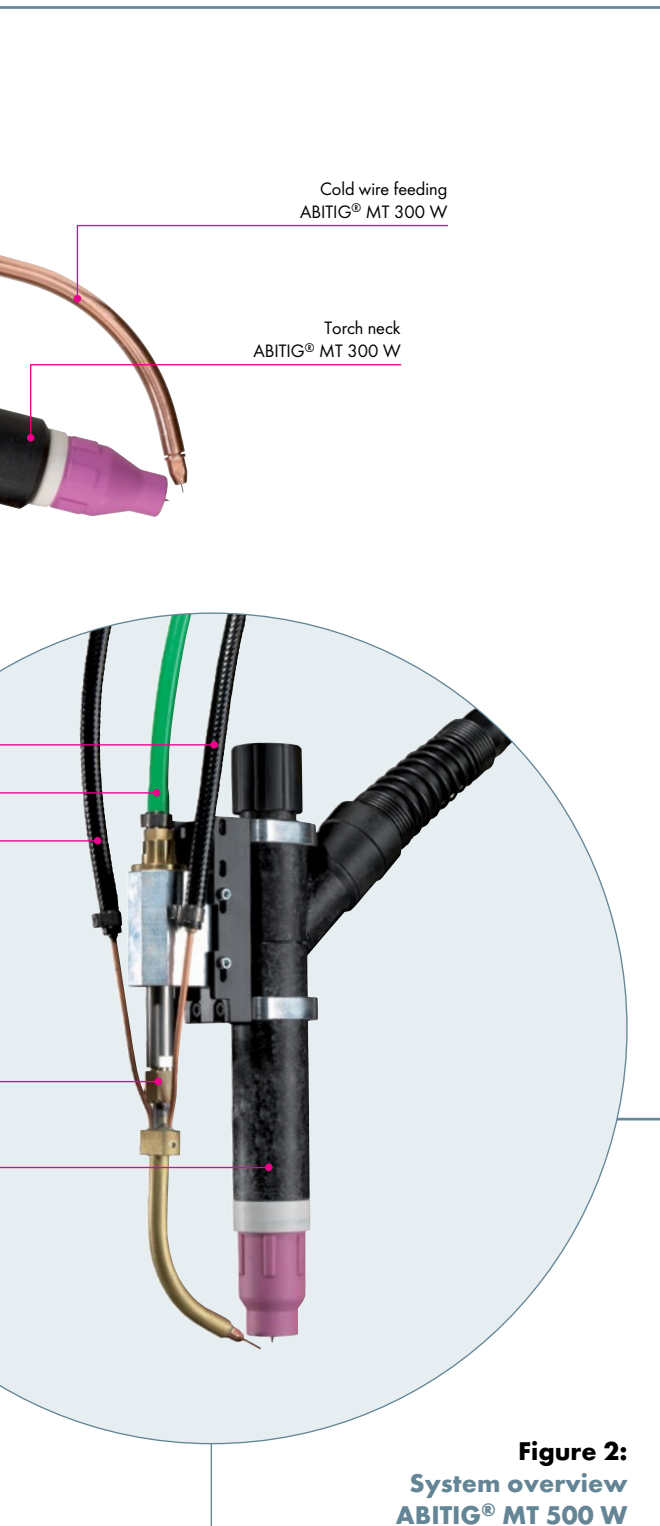


Figure 1:
Machine connection

- 1.1 Hose for inert gas feed
- 1.2 Coolant return hose with closure
- 1.3 Coolant feed hose with closure
- 1.4 Sturdy brass connector with high-grip rubber bend protection (machine connection available for all standard power sources)

Figure 2:
System overview ABITIG® MT 500 W

- 2.1 Coolant feed hose
- 2.2 Wire conduit
- 2.3 Coolant return hose
- 2.4 Feeding tube liquid cooled (optional)
- 2.5 Torch body ABITIG® MT 500 W



Technical data (EN 60 974-7):

ABITIG® MT 300 W

Type of cooling:	liquid cooled
Rating:	300 A DC 210 A AC
Duty cycle:	100 %
Electrode-Ø:	1.6-4.8 mm
Torch geometries:	0°

ABITIG® MT 500 W

Type of cooling:	liquid cooled
Rating:	500 A DC 350 A AC
Duty cycle:	100 %
Electrode-Ø:	1.6-6.4 mm
Torch geometries:	0°

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.

"ABITIG® MT" liquid cooled Torch Necks & Wear Parts

ABITIG® MT 300 W

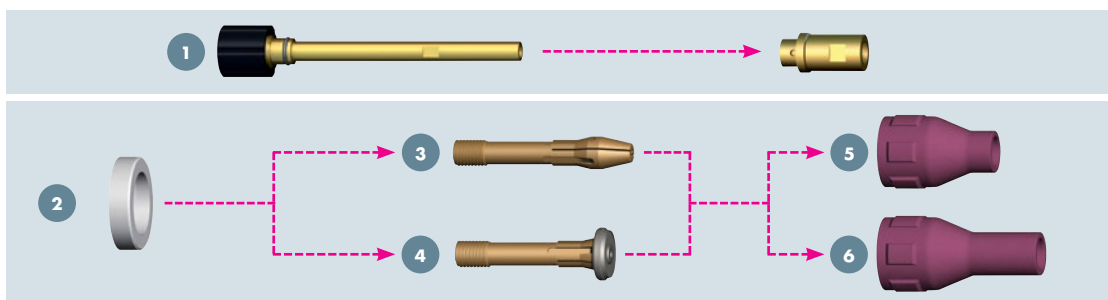


Torch neck

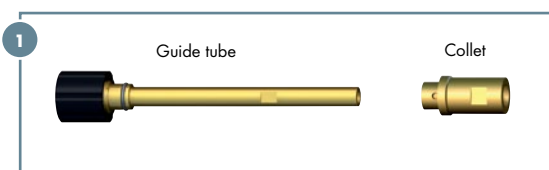
Features	Part-No.
ABITIG® MT 300 W Standard	779.2020

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

Wear parts for ABITIG® MT 300 W



1 Guide tube with collet (1 pc.)



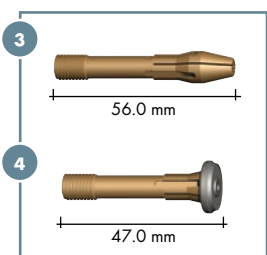
Type	Part-No.
Guide tube cpl.	778.1030
Collet	778.1140
O-ring (20 pcs.)	165.0079

2 Insulator (1 pc.)



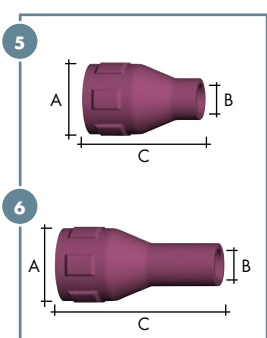
Type	Part-No.
Standard	775.1043

3 Electrode holder 4 Gas diffuser (5 pcs.)



Type	Wire-Ø	Part-No.	
		Electrode holder	Gas diffuser
Standard	Ø 1.6	775.0062	773.0172
	Ø 2.0	775.0067	773.0177
	Ø 2.4	775.0063	773.0173
	Ø 3.2	775.0064	773.0174
	Ø 4.0	775.0065	773.0175
	Ø 4.8	775.0066	773.0176

5 Gas nozzle, short 6 Gas nozzle, long (10 pcs.)



Short type	Ø A	Ø B	Length C	Part-No.
Ceramic	Ø 23.5	Ø 7.5	37.0 mm	775.0081
	Ø 23.5	Ø 10.0	37.0 mm	775.0082
	Ø 23.5	Ø 13.0	37.0 mm	775.0083
	Ø 23.5	Ø 15.0	37.0 mm	775.0084

Long type	Ø A	Ø B	Length C	Part-No.
Ceramic	Ø 23.5	Ø 7.5	52.0 mm	775.2171
	Ø 23.5	Ø 10.0	52.0 mm	775.2172
	Ø 23.5	Ø 13.0	52.0 mm	775.2173
	Ø 23.5	Ø 15.0	52.0 mm	775.2174

"ABITIG® MT" liquid cooled Torch Necks & Wear Parts

ABITIG® MT 500 W



Torch neck

Features

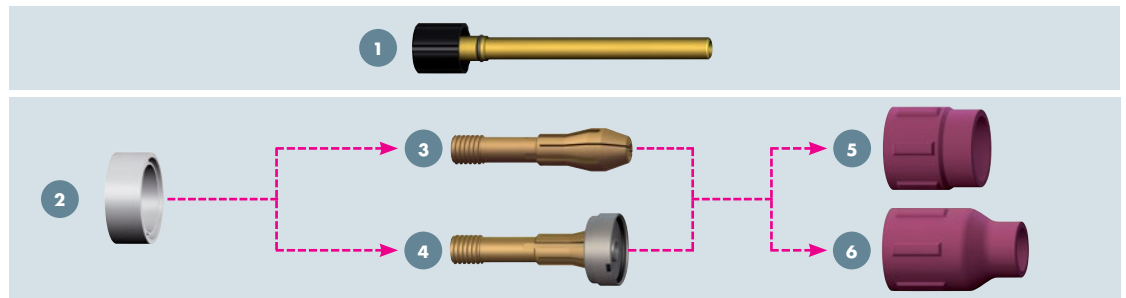
ABITIG® MT 500 W Standard

Part-No.

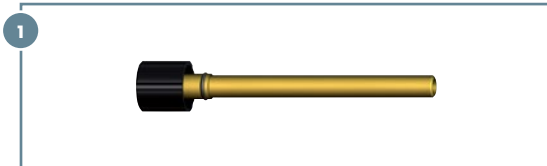
779.6020

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

Wear parts for ABITIG® MT 500 W



1 Guide tube (1 pc.)



Type

Guide tube cpl.
O-ring (20 pcs.)

Part-No.

779.6026
165.0079

2 Insulator (1 pc.)



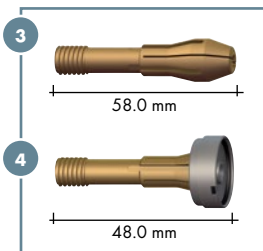
Type

Standard

Part-No.

779.6033

3 Electrode holder 4 Gas diffuser (5 pcs.)



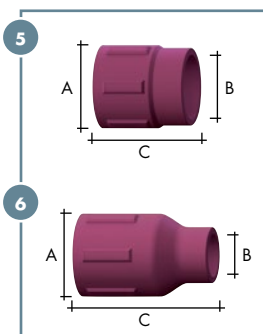
Type

Wire-Ø

Part-No.

		Electrode holder	Gas diffuser
Standard	Ø 1.6	779.6044	779.6058
	Ø 2.0	779.6049	779.6063
	Ø 2.4	779.6045	779.6059
	Ø 3.2	779.6046	779.6060
	Ø 4.0	779.6047	779.6061
	Ø 4.8	779.6048	779.6062
	Ø 6.4	779.6050	779.6064

5 Gas nozzle, short 6 Gas nozzle, long (10 pcs.)



Short type

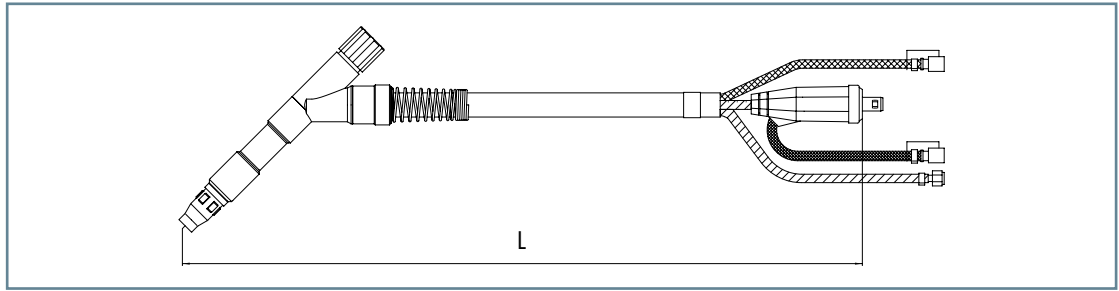
	Ø A	Ø B	Length C	Part-No.
Ceramic	Ø 31.0	Ø 24.0	34.0 mm	778.1189

Long type

	Ø A	Ø B	Length C	Part-No.
Ceramic	Ø 31.0	Ø 12.5	48.0 mm	778.1183
	Ø 31.0	Ø 16.0	48.0 mm	778.1184
	Ø 31.0	Ø 19.5	48.0 mm	778.1188

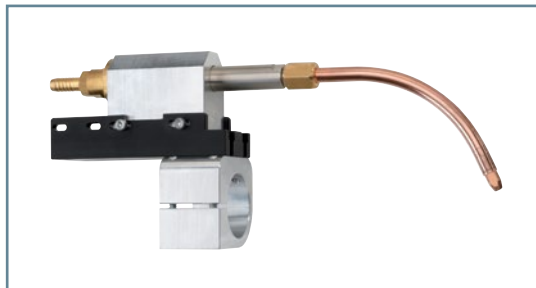
"ABITIG® MT" liquid cooled Cable Assemblies, Cold Wire Feeding & Accessories

Cable assemblies



On account of the large number of connection variants and cable assembly lengths we cannot list every part number here. Please contact your application consultant to find the optimum solution for your requirements. When you inquire, please have all the relevant information on hand, such as connection variant, make and type of power source, description of wire feed case, pin assignment for the control cable and individual connections for the airblast function.

Cold wire feeding



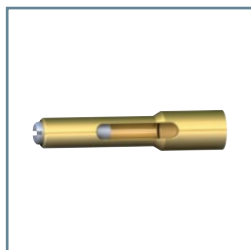
Cold wire feeding for ABITIG® MT

Type	Part-No.
Cold wire feeding cpl. ABITIG® MT 300W	779.6514.1
Cold wire feeding cpl. ABITIG® MT 500W	779.6500
Feeding tube ABITIG® MT liquid cooled (optional)	779.6505

Feed nozzle

Type	Diameter	Part-No.
Standard	0.8 mm	967.0329
	1.0 mm	967.0330
	1.2 mm	967.0331
	1.6 mm	967.0332

Accessories



Setting gauge ABITIG® MT

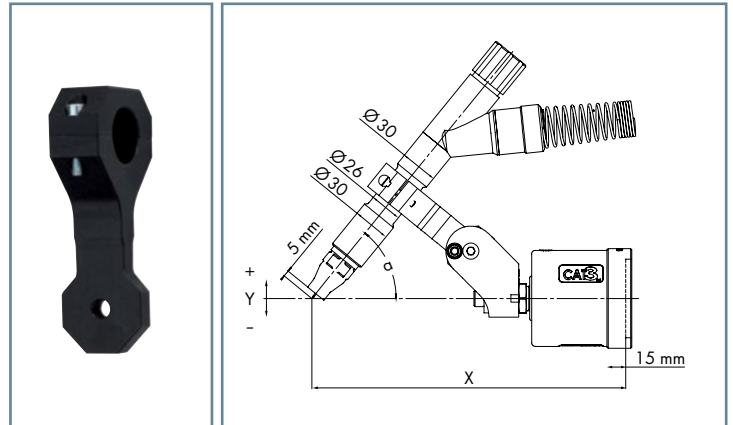
for torch type	Part-No.
ABITIG® MT 300W	778.1157

“ABITIG® MT” liquid cooled Holder & TCP Geometries

Clamp holder MT 26 for ABITIG® MT 300 W

in connection with CAT3 cpl.

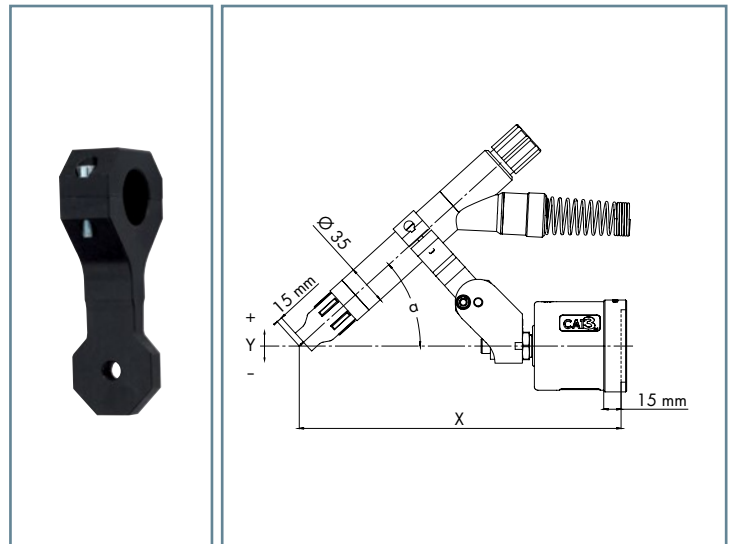
Torch type	X	Y	α	Part-No.
	(mm)			
ABITIG® MT 300W	245	0	40°	780.0258



Clamp holder MT 35 for ABITIG® MT 500 W

in connection with CAT3 cpl.

Torch type	X	Y	α	Part-No.
	(mm)			
ABITIG® MT 500W	275	0	40°	780.0292





Robot Peripherals

System Solutions



Robot Mount "CAT3"

To stop collisions quickly ...

Application areas: Standard welding robot with external cable assembly

Page 79



Robot Mount "iCAT" and "iSTM"

Safety & movement in perfect harmony ...

Application areas: Hollow wrist robots with and without integrated collision software and internal cable assembly

Page 85



Wire Feeder System "MasterLiner"

State of the art wire feeding ...

Application areas: Robot controlled welding processes

Page 107



Torch Cleaning Station "BRS" and Accessories

Connect & clean ...

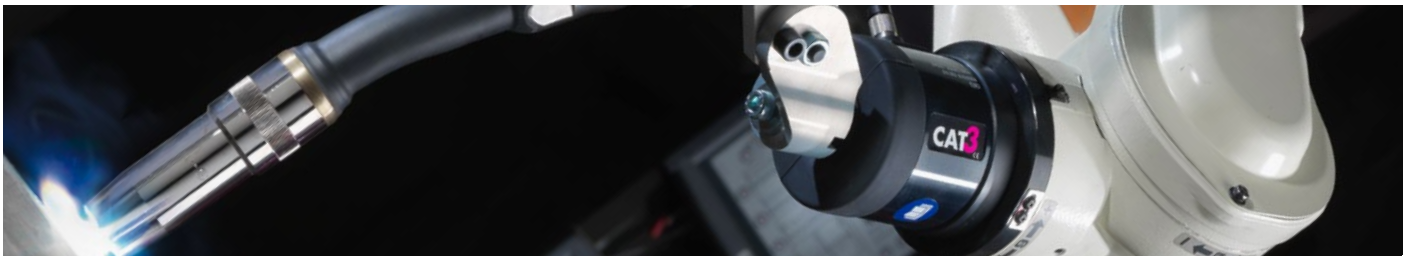
Application areas: MIG/MAG welding torches from all common torch brands

Page 119



Robot Peripherals

Robot Mount "CAT3"



It's the switch that makes the difference ...

The robot mount CAT3 is used with externally guided welding torch cable assemblies. Due to the deflection of the welding torch in a collision, the welding robot is reliably stopped by the CAT3 integrated switch-off function, which prevents damage to the welding robot and welding torch equipment.

In addition, the precise resetting accuracy allows for a fast resumption of the production process. This means that production downtimes are reduced to a minimum. The CAT3 is a process-oriented development of the established robot mounts CAT2 and CAT2-HL.

The robot mounts CAT2 and CAT2-HL can be easily exchanged with CAT3 without reprogramming the robot.

The wide range of holder and flange accessories always offer the right product solution for your application.

Arguments that speak for themselves:

- Technically sophisticated, robust design
- Simple installation on welding robots
- Compact size for perfect accessibility
- Reliable switching function
- High resetting accuracy minimises line downtimes
- Different spring types available for adjustment to the tool weight
- Excellent protection against contamination

Area of application:

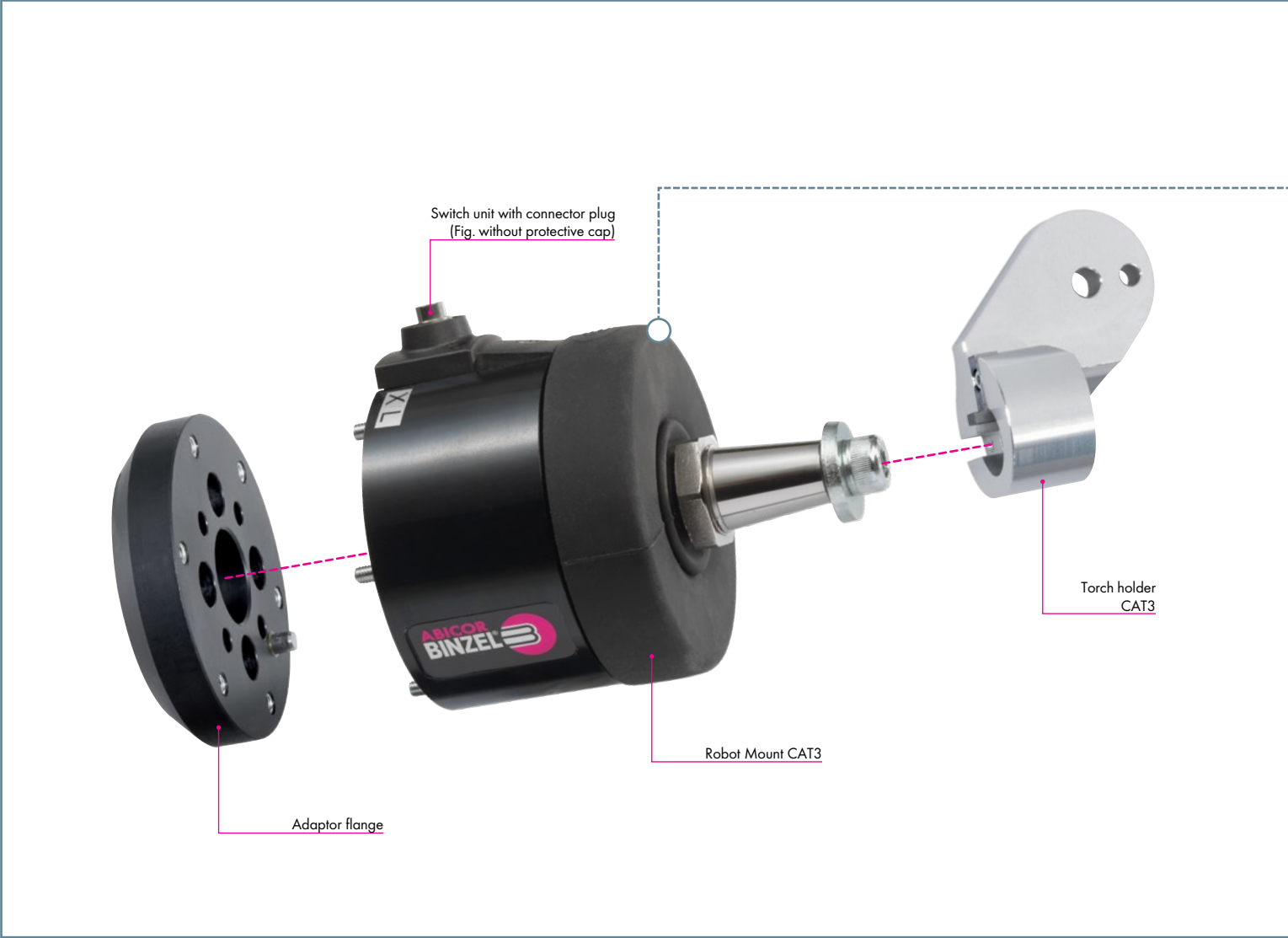


Standard welding robot with cable assembly on the outside



Robot Mount "CAT3"

System Overview & Technical Data



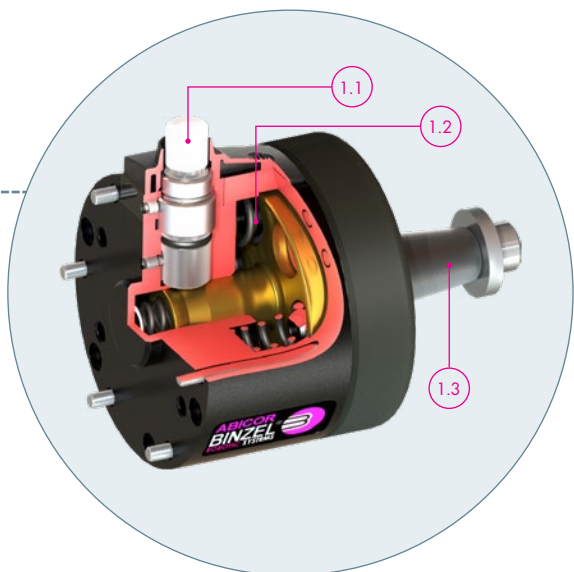


Figure 1:
Cross-section CAT3

Figure 1:
Cross-section CAT3

- 1.1 The switch is integrated directly into the housing
- 1.2 Compression springs available in various spring sizes (M, L, XL)
- 1.3 HL-mount for reliable fastening, even at higher weights



Technical Data:
Robot Mount CAT3

Dimensions:	Ø 77 mm, height 106 mm
Weight:	960 g (without holder and flange)
Release force:	(see page 82) Deflection CAT3
Switch point:	- Deflection in X- and Y-direction: 1.2° - 1.5° - Deflection in Z-direction: 1.3-1.6 mm
Max. deflection:	- Deflection in X- and Y-axis: ca. 7° - Deflection in Z-axis: 5 mm
Resetting accuracy:	(see page 82) X-, Y- and Z-direction: ± 0.04 mm (at 400 mm distance to the robot flange)
IP Protection class:	IP 21
Load capacity safety cut-out:	max. 30 V DC / 100 mA
Ambient temperature:	- in operation: -10 °C up to +55 °C - during storage and transportation: -10 °C up to +55 °C
Relative humidity:	- in operation: up to 70% at 20 °C - during storage and transportation: up to 70% at 20 °C

Robot Mount "CAT3"

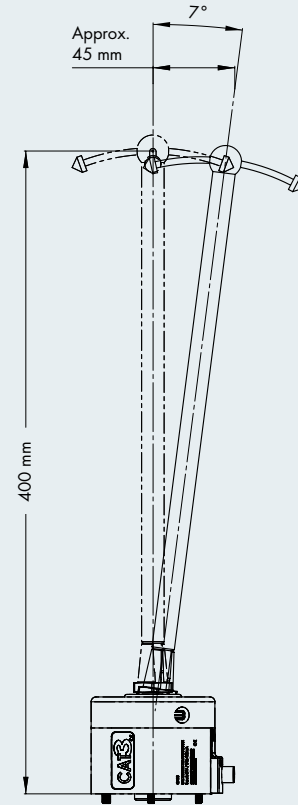
Deflection & Release torque

Deflection of the robot mount CAT3

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

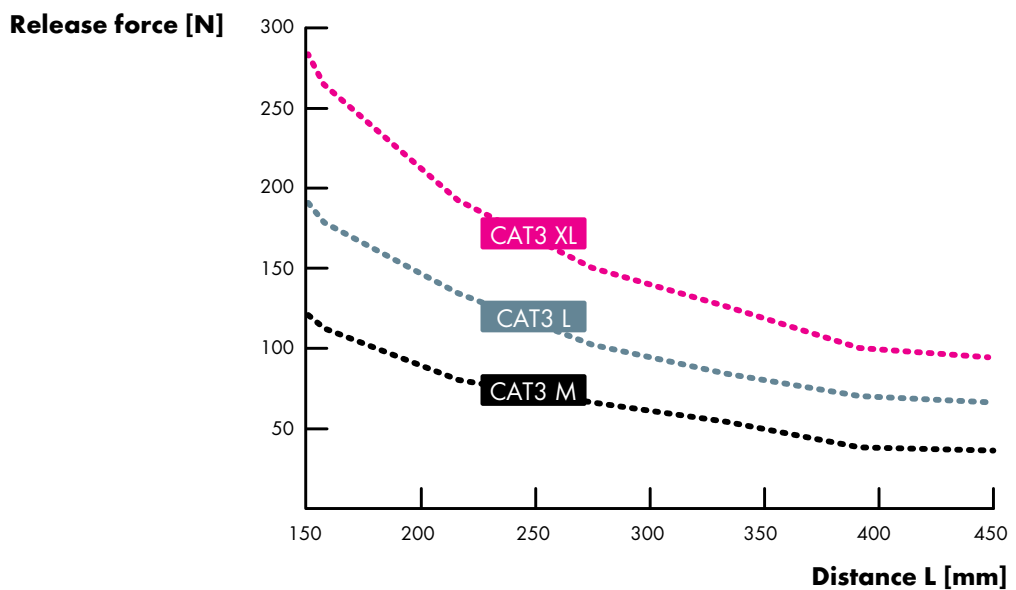


Maximum deflection in X- and Y-axis



Release torque of the robot mount CAT3

The following figure shows the static release force of the different spring types as a function of the distance:



Robot Mount "CAT3"

Robot Mount & Accessories

Robot Mount CAT3



Description	Part-No.
Robot Mount CAT3 XL	780.2050.1
Robot Mount CAT3 L	780.2051.1
Robot Mount CAT3 M	780.2052.1

A connection cable is included in the scope of the order.
Please order the flanges and holders separately according to the robot type and welding task.

Flanges

Description	Part-No.	
	Aluminium flange	Plastic flange
Intermediate flange ¹ ISO 9409-1-A63	780.0514.1	780.0614.1
Intermediate flange ¹ ISO 9409-1-A50-d31,5	780.0508.1	780.0608.1
Intermediate flange ¹ ISO 9409-1-A125	780.0530.1	780.0630.1
Intermediate flange ¹ ISO 9409-1-A50/D=63	780.0594.1	780.0694.1
Intermediate flange ¹ ISO 9409-1-A31,5	780.0532.1	780.0632.1
Intermediate flange ¹ ISO 9409-1-A100	780.0549.1	780.0649.1
Intermediate flange ¹ ISO 9409-1-A160	780.0547.1	780.0647.1
Intermediate flange ¹ ISO 9409-1-A40-D50	780.0591.1	780.0691.1
Intermediate flange ² ISO 9409-1-A50	780.0503.1	780.0603.1
Intermediate flange ² ISO 9409-1-A40	780.0504.1	780.0604.1

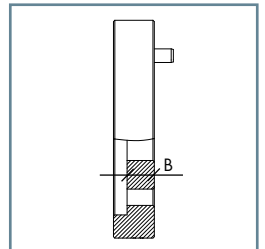
¹ Flange width B=15 mm (Standard version)

² Flange width B=10 mm (Special version)

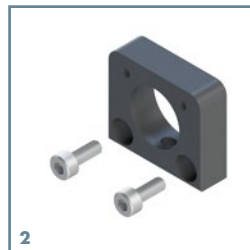
Intermediate flanges are available for all standard welding robots. Please always specify the robot type.

Attention!

The MIG/MAG welding torches of the ABIROB® A series must be used with plastic intermediate flange.



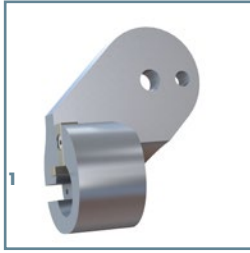
Spares



Pos.	Description	Part-No.
1	Bellow CAT3	780.2059.1
2	Switch cover CAT3 cpl.	780.2061.1
3	Switch cpl. CAT3	780.2062.1
4	Screw set CAT3 M4x55	780.2076.1
5	Mounting kit CAT3	780.2044.1
6	Connector cable CAT	780.0201.1

Robot Mount "CAT3" Holders

Halter CAT3



Pos.	Description	Part-No.
1	Holder CAT-HL ¹	780.0323.1
not ill.	Segment holder CAT-HL ²	780.0305.1

All holders are TCP-compatible to CAT2 and CAT2-HL.

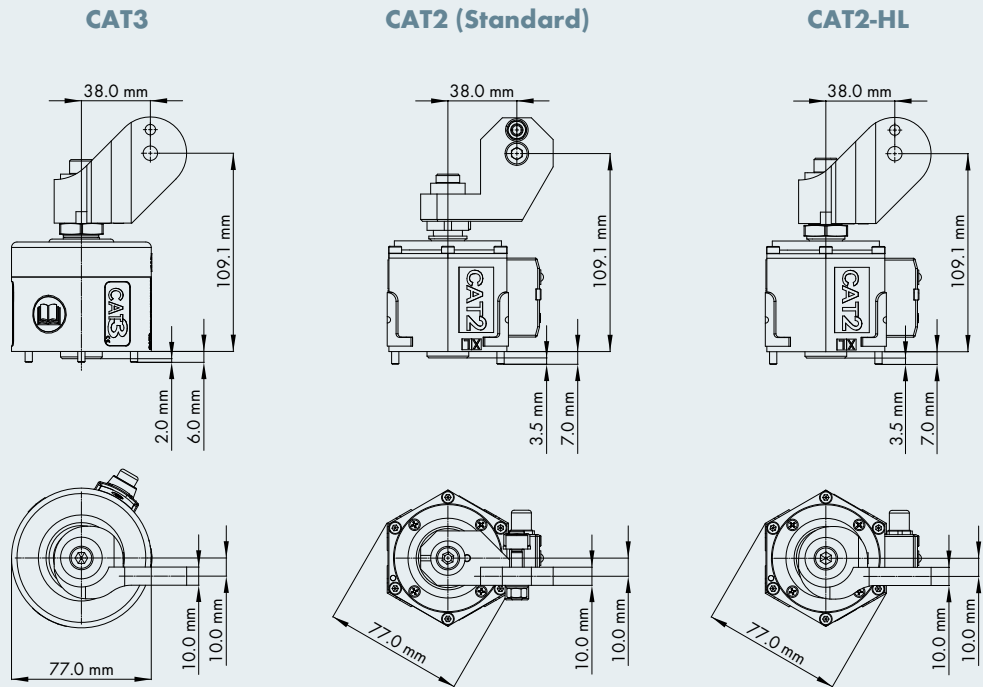
Holders are suitable for CAT3 and CAT2-HL.

For additional torch holders please refer to the ordering documents for the respective torch series.

¹ TCP-compatible to standard holders for CAT2 780.0202

² TCP-compatible to standard holders for CAT2 780.0147

Comparison of the geometries between the CAT3 robotic holders and the previous versions CAT2 (standard) and CAT2-HL:



Robot Peripherals

Robot Mount "iCAT"



Safety & movement in perfect harmony ...

iCAT – the robot mount for the latest generation of welding robots with integrated cable assembly feeding offers a high level of safety & movement for both air and liquid cooled welding torches.

Mechanical crash deflection by up to 10° in the event of a collision between the torch and the workpiece. The iCAT takes over the "buffer function" to avoid damage to the welding torch, peripheral equipment and robot. The integrated safety protection provides additional safety for the iCAT, stopping the robot immediately in the event of a "crash".

Advantages that speak for themselves:

- Extremely torsion-resistant cable assembly – rotatable through 400° (+/- 200°)
- Reliability & optimum line availability thanks to high resetting accuracy
- Reproducibility & long service life thanks to sturdy and straightforward design
- Great flexibility and optimum component access
- Reduction of maintenance costs since assembly and handling are easy
- The comprehensive protection against dust and welding spatter offers maximum reliability
- **Additional feature:**
Optional airblast function through the cable assembly

Area of application:



For all applications where a mechanical cut-out is required



Robot Mount "iCAT"

System Overview & Technical Data

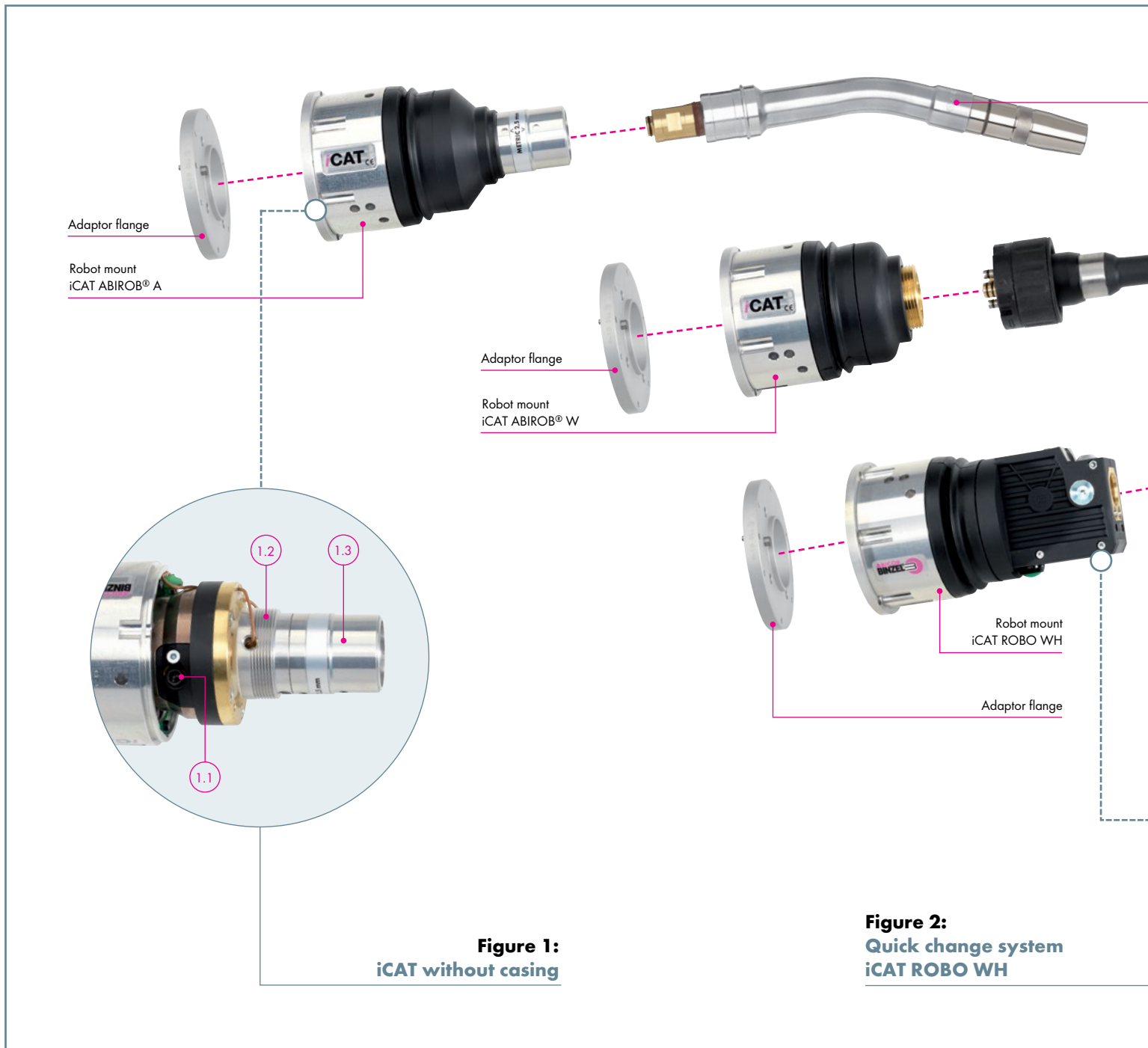


Figure 1:
iCAT without casing

Figure 2:
Quick change system
iCAT ROBO WH

Figure 1:
iCAT ABIROB® A without casing

- 1.1 Clamping screw for safe clamping of the cable assembly
- 1.2 Thread for easy removal of the protective cap without tools being necessary
- 1.3 Torch seat for the corresponding torch necks of the torch systems ABIROB® A, ABIROB® W, ABIROB® GC and ROBO WH

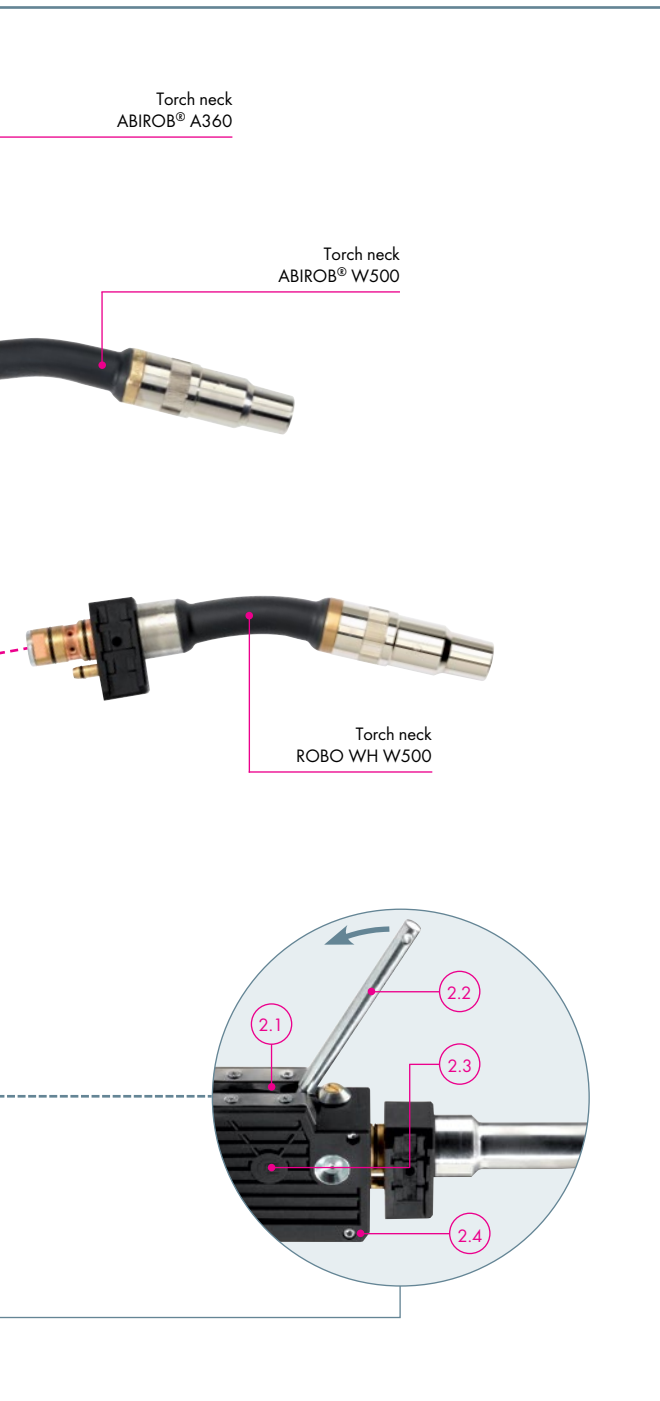


Figure 2:
Quick change system iCAT ROBO WH

- 2.1 Rubber seals prevent dust/spatter penetration
- 2.2 Tool for manual torch neck replacement (hand lever)
- 2.3 Integrated wire-cutting function for torch neck replacement
- 2.4 Sturdy housing for change body



Technical data:
Robot mount iCAT

Dimensions:	Length 162 mm \varnothing 90 mm
Weight:	approx. 1600 g approx. 2100 g (inc. adaptor flange and torch)
Release force:	36 N* +/- 3 N (at 360 mm distance to the robot flange)
Maximum deflection:	- Deflection in the X- and Y-axis: approx. 10° - Deflection in the Z-axis: approx. 4 - 8 mm
Triggering the emergency-off switch:	- Deflection in the X- and Y-plane: approx. 0.7 - 1° - Deflection in the Z-plane: approx. 0.5 - 1°
Resetting accuracy:	< +/- 0.1 mm (at 300 mm distance to the robot flange)
Load capacity of safety cut-out:	24 v DC, max. 100 mA

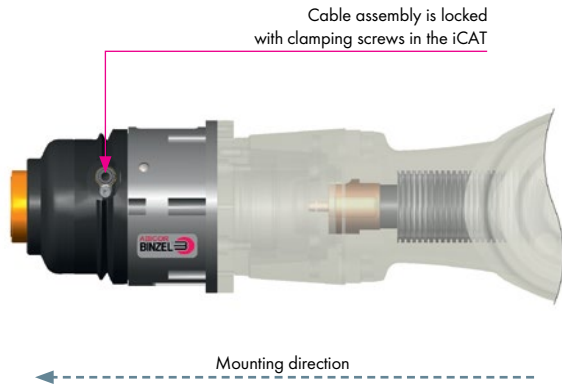
The capacity data for the robot mount in connection with the corresponding torch necks can be found in the respective chapters.

* Further spring forces available on request.

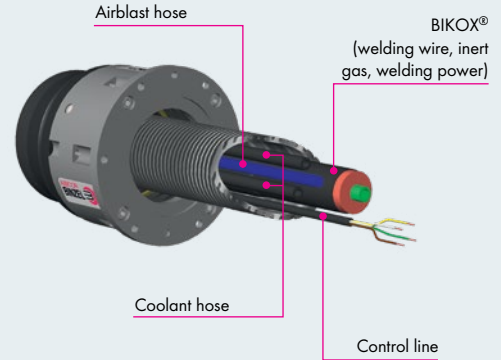
Robot Mount "iCAT"

Cable Assemblies for Hollow Wrist Robots

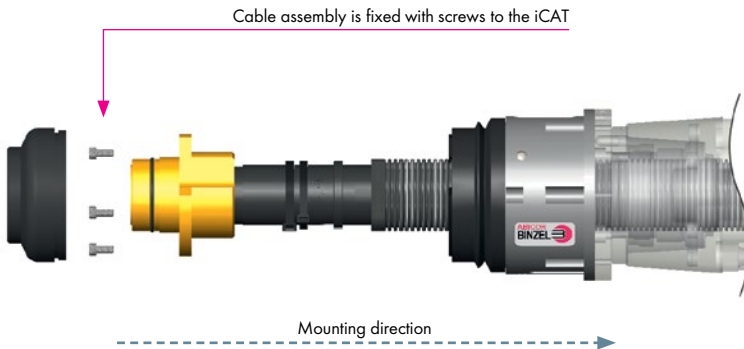
1. Cable assemblies with connection over interface



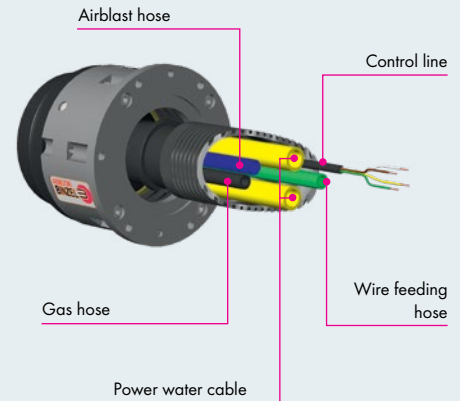
Sectional view



2. Cable assemblies with direct connection to iCAT



Sectional view



1. Cable assemblies with connection over interface

Configuration	Cooling	Rating (at 100% DC)	suitable for torch type									optionally wire brake available
			ABIROB® A			ABIROB® W			ROBO WH			
			300	360	500	300	500	600	300	500	600	
BIKOX®	air	360 A CO ₂ 340 A Mixed gases ¹	✓	✓	✓	-	-	-	-	-	-	no
BIKOX®-Hybrid assembly with central gas flow ²	liquid	360 A CO ₂ 340 A Mixed gases ¹	-	-	-	✓	✓	-	✓	✓	-	no

2. Cable assemblies with direct connection to iCAT³

Power water cable (single)	liquid	500 A Mixed gases ¹	-	-	-	-	✓	✓	-	✓	✓	yes
Power water cable (double)	liquid	600 A Mixed gases ¹	-	-	-	-	-	✓	-	-	✓	yes

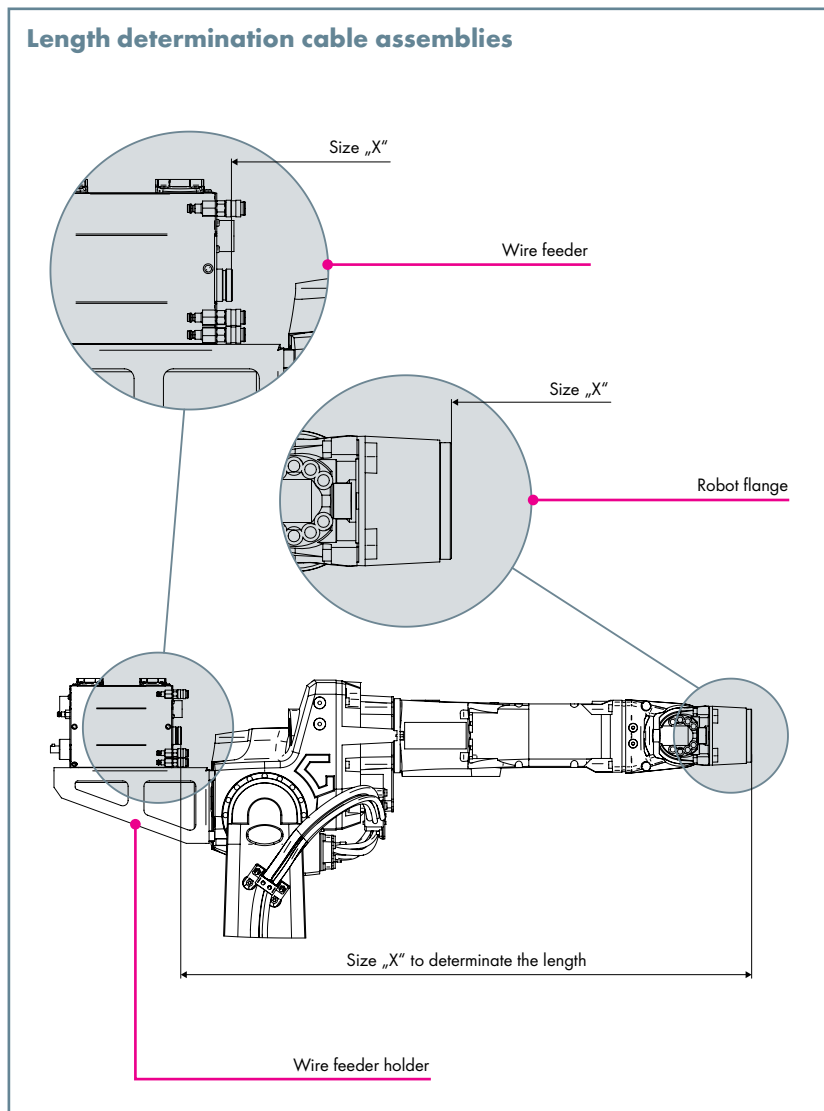
¹ M21 (EN ISO 14175)

² **Hint:** Due to the central gas flow in the cable assembly not suitable for torch neck ABIROB® W600

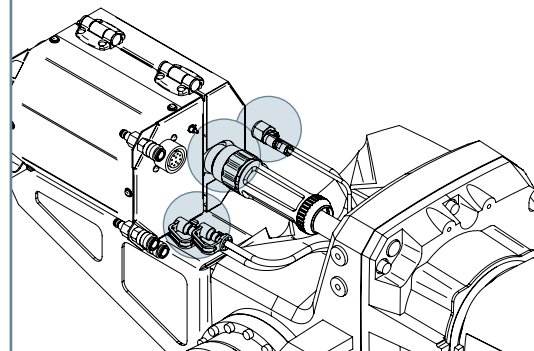
³ **Hint:** The passage of the sixth axis at the hollow wrist robot must be at least 45 mm

Robot Mount "iCAT"

How to order a Hollow Wrist Cable Assembly



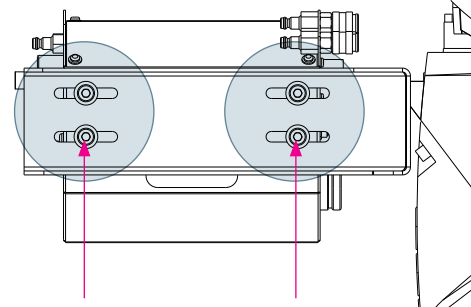
View of machine side connection



Hint:

Important for the configuration of the cable assembly is the correct indication of connections such as control line connectors, connections for coolant hoses, blowing out and so on.

View of wire feeder holder (view from below)



Hint:

For the length determination of the wire feeder it should be positioned in the middle of the elongate holes so that the length of the cable assembly has sufficient flexibility.

Important information for ordering hollow wrist cable assemblies (please fill in):

1. General Information:

Type and manufacturer of the robot:

Type and manufacturer of the wire feeder:

Welding torch system (e.g. ABIROB® A):

Control lines connector (e.g. Amphenol, open, etc. ...):

Size „X“ cable assembly (see above)

2. Desired additional functions:

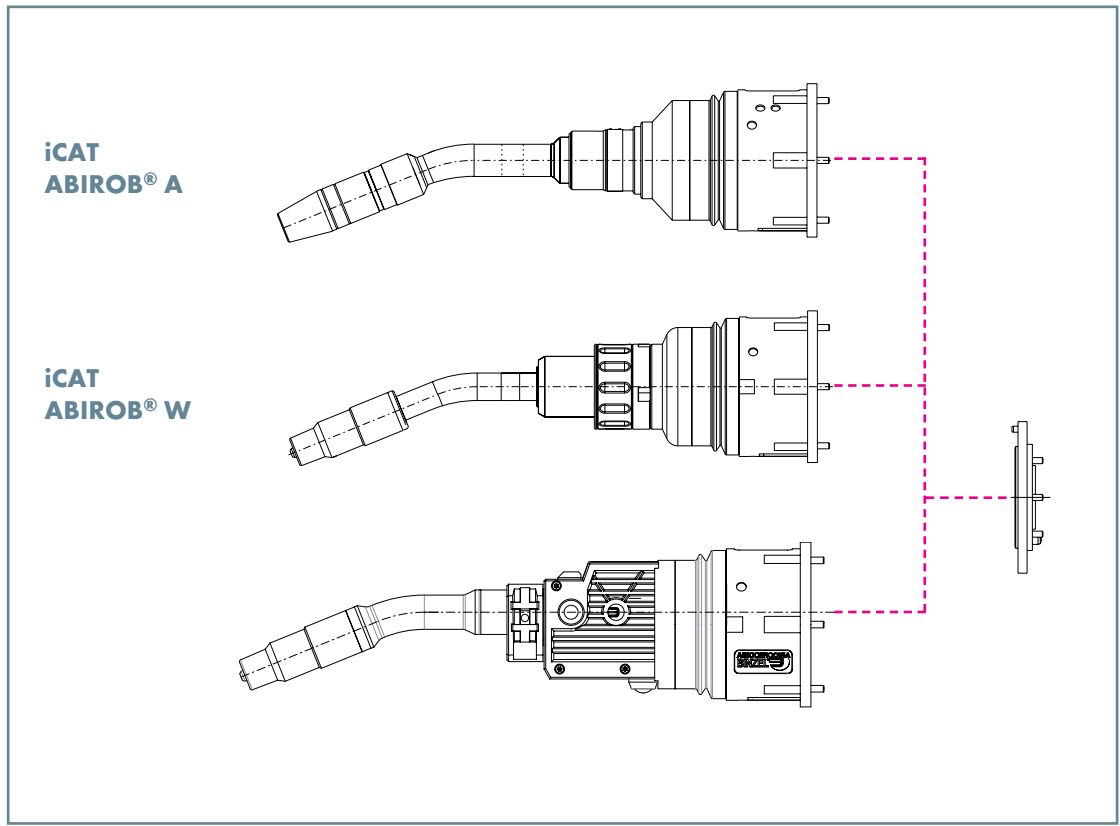
- Blowing out function Gas nozzle sensor Wire brake

3. Other information:

Robot Mount "iCAT"

Robot Mount & Adaptor Flanges

Robot mount iCAT



Description

Description	Part-No.
Robot mount iCAT ABIROB® A cpl.	780.3101.1
Robot mount iCAT ABIROB® W cpl.	780.3130.1
Robot mount iCAT ABIROB® GC cpl.	780.3110.1
Robot mount iCAT ROBO WH	780.3150.1

Please note: The corresponding torch necks can be found in the respective chapters from page 7.

Adaptor flanges



Type	Description	Part-No.
Adaptor flange for YASKAWA®	EA1400N / SSA 2000 or EA1900N	780.0575.1
Adaptor flange for ABB®	IRB 1600 ID	780.0589.1
Adaptor flange for KUKA®	KR5 Arc HW	780.0590.1
Adaptor flange for FANUC®	Arc Mate iC Series	780.0583.1
Adaptor flange for OTC®	All B4 or AIIX B4L	780.0696.1

Adaptor flanges for other welding robots on request. Please indicate the robot type.

Robot Mount “iCAT”

Liners & Accessories

Liners

Type	for connection type ¹	Wire-Ø	up to L=2.2 m	up to L=3.6 m
Liner steel	ABICOR BINZEL® Euro central connection	Ø 1.0-1.2	-	124.0146.1
Liner steel	Fronius®	Ø 1.0-1.2	124.0174.1	-
Liner steel	OTC®	Ø 1.0-1.2	124.0166.1	-
Liner steel	Panasonic®	Ø 1.0-1.2	124.0164	-

¹ Liners for further connection types are available on request.

Accessories

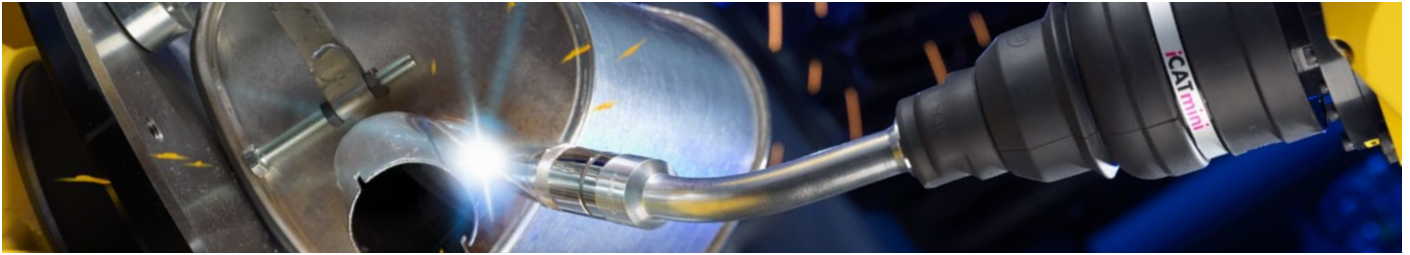


	Description	Part-No.
1	Insertion aid (for straightforward cable assembly attachment)	980.2153
not ill.	Corrugated hose clamp cpl. (for KUKA® KR5 arc HW)	400.1407.1
	Corrugated hose clamp cpl. (for KUKA® KR16 arc HW)	400.1428.1
	Corrugated hose clamp cpl. (for YASKAWA® EA 1400 / EA 1900)	400.1153.1
	Corrugated hose clamp cpl. (for OTC® Almega Ax V4)	400.1363.1
	Corrugated hose clamp cpl. (for REIS® RV 20/30)	400.1360.1
not ill.	Protective tube	109.0074
not ill.	Corrugated hose end piece NW36	500.0453
not ill.	Protective hood (for iCAT)	191.0117



Robot Peripherals

Robot mount „iCAT mini“



Compact, precise, simple and value-for-money ...

The compact robot mount iCAT mini – with integrated cable assembly guide for air cooled welding applications – was designed for use on hollow wrist robots up to 400 A at automotive suppliers and in general industries. The overall system comprises a welding torch, safety cutoff and cable assembly with a heavy-duty and torsion-resistant coaxial cable for a long service life.

The torch neck versions ABIROB® G350, G360 and G500, which are equipped with the new G-interface, are available to complement the compact iCAT mini system. Their outstanding features include stability and repeat accuracy – for excellent and reproducible welding results.

The torch neck types of the G-series are available in various TCP versions and can fall back on the tried-and-trusted wearing part concept of the ABIROB® A and GC series.

Arguments that speak for themselves:

- Low purchasing price, fast and simple installation and long service life
- Low weight of approx. 1200 g (incl. welding torch)
- Reduced design size for access in tight and complex jigs or components
- Extremely good reset precision – combined with large deflection for the optimum protection of robot and welding torch
- Extensive range of welding torches with different performance classes
- Can be used with all standard hollow wrist welding robots

Area of application:



For all applications where a mechanical cut-out is required

Robot mount „iCAT mini“

System Overview & Technical Data

Figure 1:
Interface at the welding torch

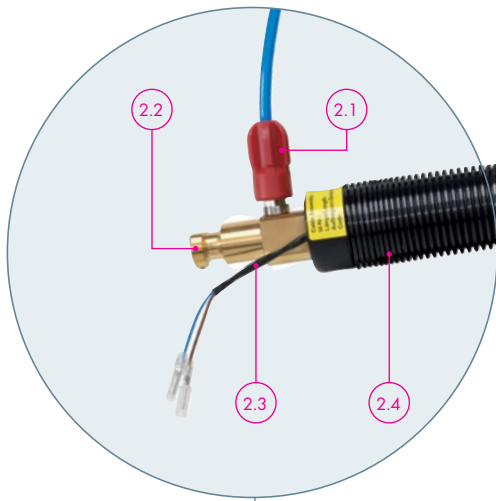
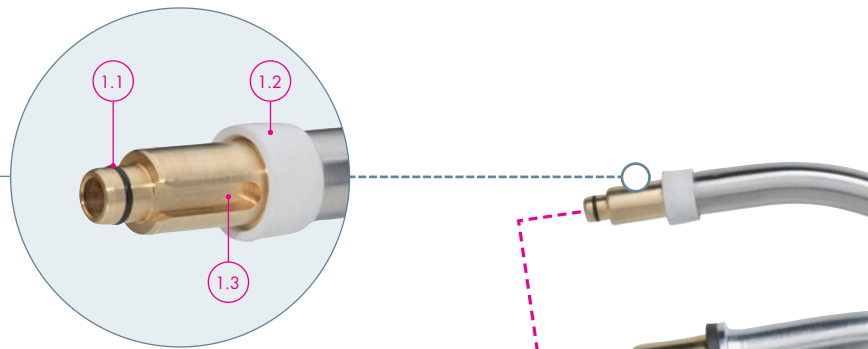


Figure 2:
Interface on the machine side

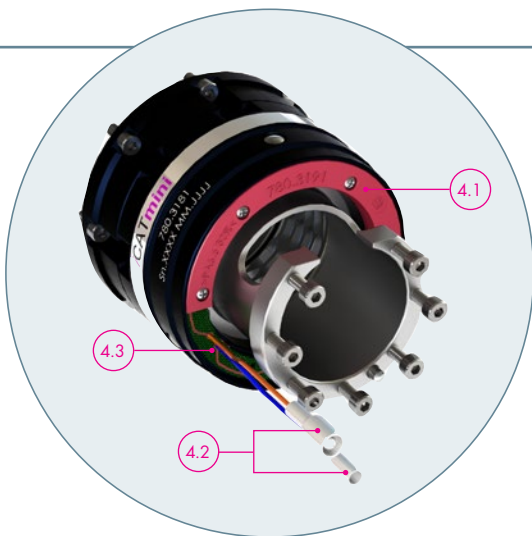
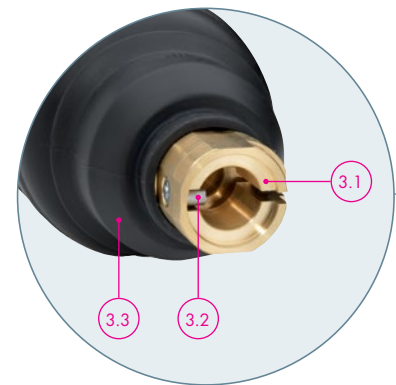


Figure 4:
iCAT mini in detail

Figure 1:
Interface at the welding torch

- 1.1 O-ring seal guarantees the safe and gas-tight connection to the welding torch interface at the cable assembly
- 1.2 Insulating ring for additional insulation protection
- 1.3 Groove for positioning the welding torch for fast and simple changing of the torch neck

Figure 2:
Interface on the machine side

- 2.1 Connection for inert gas
- 2.2 Welding current connectors available for all standard wire feeds
- 2.3 Signal cable for transmitting the emergency-stop signal
- 2.4 Cable assembly – with heavy-duty, torsion-resistant coaxial cable for high reliability and long service life



Figure 3:
Cable assembly
interface on the
torch side

Figure 3:
Cable assembly interface on the torch side

- 3.1 Welding torch interface
- 3.2 Feather key positioning for precise positioning of the welding torch
- 3.3 Boot as protection against welding splatter and soiling

Figure 4:
iCAT mini in detail

- 4.1 Protective ring cover to protect the signal board from soiling
- 4.2 Signal cables with ports for connection to the cable assembly
- 4.3 Integrated signal board



Technical data:

Robot mount iCAT mini

Dimensions:	Length 92 mm (without adapter flange) Ø 88 mm
Weight:	approx. 850 g (without adapter flange and cable assembly)
Release force:	24 N ± 3 N (at a distance of 400 mm to the robot flange)
Maximum deflection:	Deflection in X- and Y-axis: approx. 11° Deflection in Z-axis: approx. 8 mm
Triggering of the emergency-off switch:	- Deflection in the X- and Y-plane: approx. 0.5-1° - Deflection in the Z-plane: approx. 0.5-1 mm
Resetting accuracy:	< ± 0.1 mm (at 400 mm distance to the robot flange)
Load capacity of safety cut-out:	24 V DC, max. 100 mA

Robot Mount "iCAT mini" Torch necks ABIROB® G



Technical data (EN 60 974-7):

ABIROB® G350

Type of cooling:	air cooled
Rating:	350 A CO ₂ 300 A Mixed gases M21 ¹
Duty cycle:	100 %
Wire-Ø:	0.8-1.4 mm
Torch geometries:	30°/35°/45°

ABIROB® G360

Type of cooling:	air cooled
Rating:	360 A CO ₂ 290 A Mixed gases M21 ¹
Duty cycle:	100 %
Wire-Ø:	0.8-1.6 mm
Torch geometries:	22°/35°/45°

ABIROB® G500²

Type of cooling:	air cooled
Rating:	500 A CO ₂ 400 A Mixed gases M21 ¹
Duty cycle:	100 %
Wire-Ø:	0.8-1.6 mm
Torch geometries:	22°/35°/45°

¹ Mixed gases M21 as per DIN EN ISO 14175

² **Note:** The maximum performance data of the cable assembly are 360 A CO₂ and 350 A Mixed gases M21 (DIN EN ISO 14175).



Robot Mount „iCAT mini“

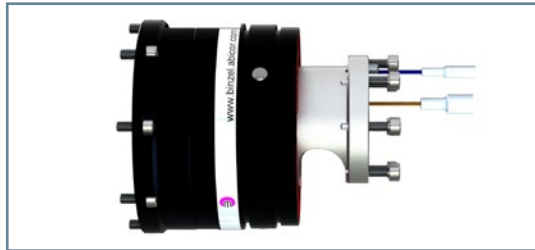
Order numbers & technical details

Torch necks

Torch type	Part-No.			
	22°	30°	35°	45°
ABIROB® G350	-	980.0190.1	980.0185.1	980.0203.1
ABIROB® G360	980.0215.1	-	980.0222.1	980.0216.1
ABIROB® G500	980.0208.1	-	980.0223.1	980.0209.1

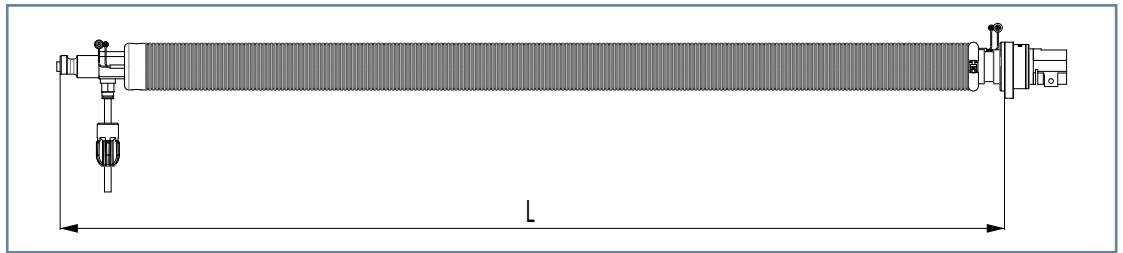
Please note: The respective wearing parts can be found in the current ROBO catalogue. Further torch necks on request.

Robot mount iCAT mini



Description	Part-No.
Robot mount iCAT mini for all torch types incl. fixing materials and protective covers (without robot flange)	780.3181.1

Cable assemblies



Cable assembly cpl. (with RPC or PANASONIC® connection)¹

Description	Feed type	Length ²	Part-No.
MOTOMAN® MA1440 T50	MOTOWELD®	L=0.84 m	980.2412.1
MOTOMAN® MA2010 T50	MOTOWELD®	L=1.26 m	980.2413.1

Configuration	Cooling	Rating (at 100% DC)	suitable for torch type			optionally wire brake available
			ABIROB®			
			G350	G360	G500	
BIKOX® T50	air cooled	360 A CO ₂ 340 A Mixed gases M21 ³	✓	✓	✓	yes

Adapter flanges, liners and spare parts



Adapter flanges (shown on the left)⁴

Type	Description	Part-No.
Adapter flange for YASKAWA®	MA1440 / 2010	780.3509.1
Adapter flange for YASKAWA®	MA1400 / 1900	780.3516.1
Adapter flange for ABB®	IRB 1520iD	780.3515.1
Adapter flange for FANUC®	100 / 120 iC	780.3509.1

Liners and spare parts (not shown)

Type	Part-No.
Liner	124.0165
Protective cap	780.3185.1
Boot	780.3183.1
Cover ring	780.3184.1
Sealing ring	780.3182.1
Signal board set cpl. (comprising signal board, control cable, cover ring and attachment screws)	780.3190.1

¹ **Note:** The passage of the sixth axis on the hollow-shaft robot must be at least 45 mm.

² Further lengths on request.

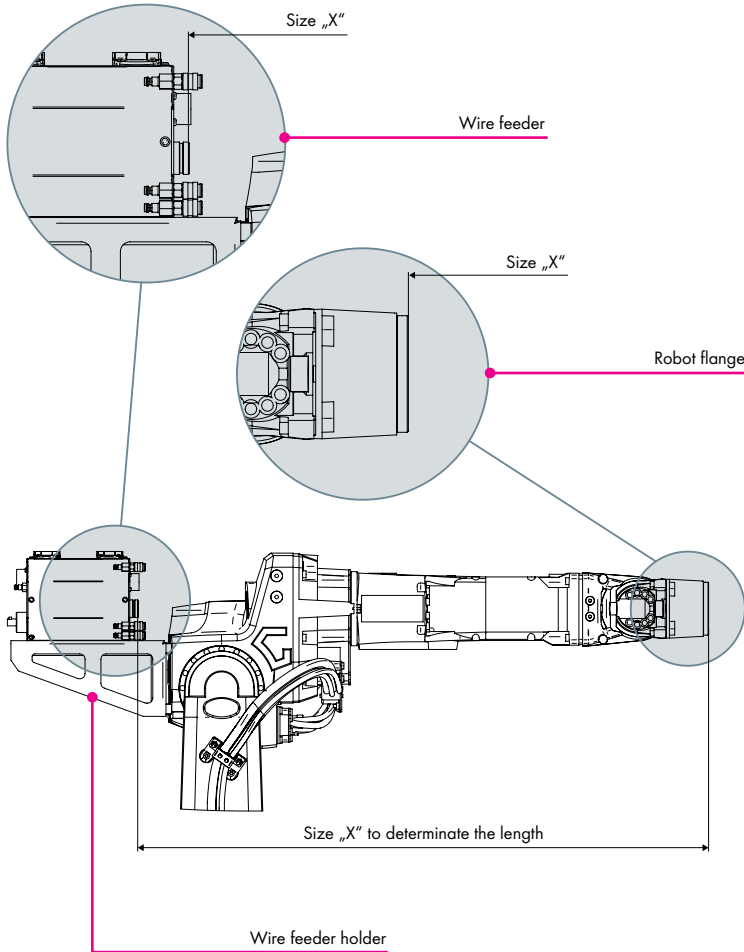
³ Mixed gases M21 as per DIN EN ISO 14175

⁴ Adapter flanges for other welding robots on request. Please indicate the robot type.

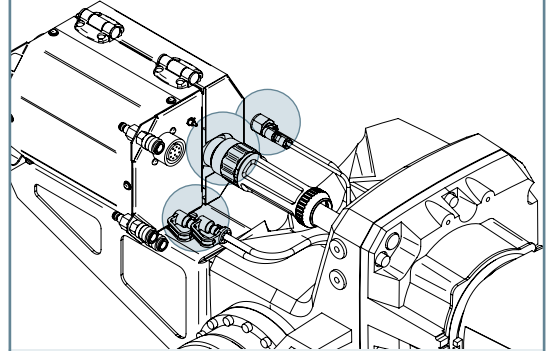
Robot Mount "iCAT mini"

How to order a Hollow Wrist Cable Assembly

Length determination cable assemblies



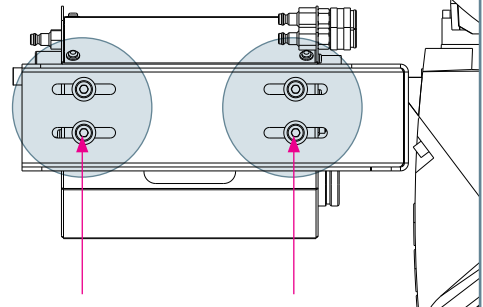
View of machine side connection



Hint:

Important for the configuration of the cable assembly is the correct indication of connections such as control line connectors, connections for coolant hoses, blowing out and so on.

View of wire feeder holder (view from below)



Hint:

For the length determination of the wire feeder it should be positioned in the middle of the elongate holes so that the length of the cable assembly has sufficient flexibility.

Important information for ordering hollow wrist cable assemblies (please fill in):

1. General Information:

Type and manufacturer of the robot:

Type and manufacturer of the wire feeder:

Welding torch system (e.g. ABIROB® A):

Control lines connector (e.g. Amphenol, open, etc. ...):

Size „X” cable assembly (see above)

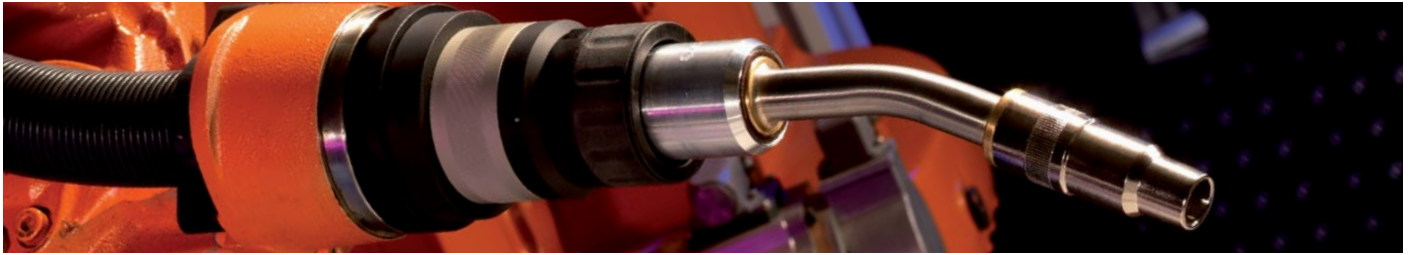
2. Desired additional functions:

- Blowing out function
 Gas nozzle sensor
 Wire brake
 Wire feeding button

3. Other information:

Robot Peripherals

Robot Mount "iSTM"



Sturdy and stable in a slim design ...

iSTM – the robot mount for welding robots with central media feeding through the center axis offers a high level of safety & flexibility for both air and liquid cooled welding torches.

The iSTM system can be used in connection with the tried-and-trusted ABICOR BINZEL torch necks of the torch series ABIROB® A, ABIROB® W and ABIROB® GC. The slim yet sturdy and stable design reduces servicing costs since handling and assembly are extremely easy.

The robot mount was especially developed for hollow axis robots with integrated collision software.

Advantages that speak for themselves:

- Extremely torsion-resistant cable assembly – rotatable through 400° (+/- 200°)
- Great flexibility and optimum component access
- Maximum reliability thanks to comprehensive protection against dust and welding spatter
- **Additional feature:**
Optional airblast function through the cable assembly

Area of application:



Hollow wrist robots with integrated collision software



Robot Mount "iSTM"

System Overview & Technical Data

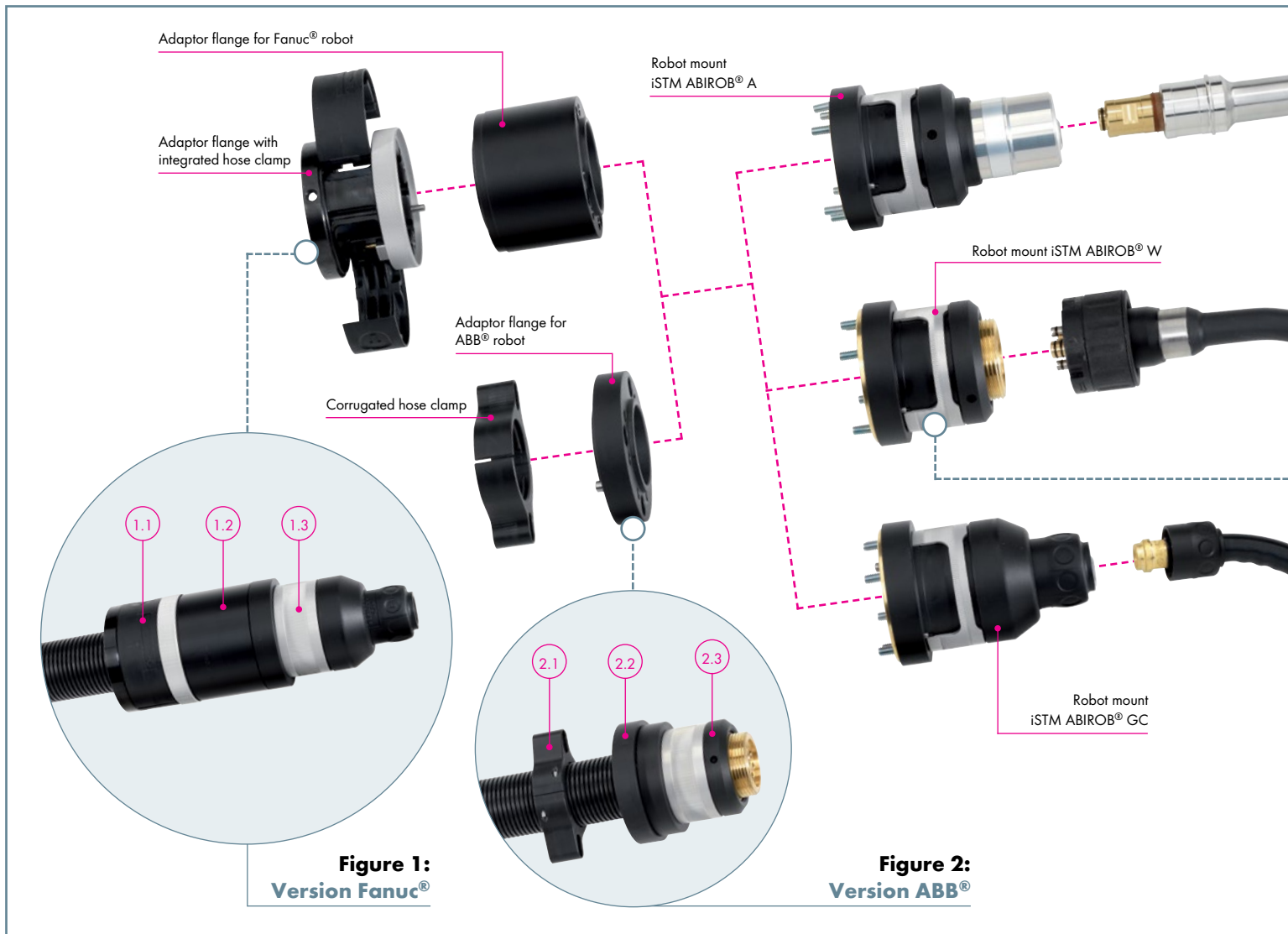


Figure 1:
Version Fanuc® with iSTM ABIROB® GC

- 1.1 Adaptor flange with integrated hose clamp
- 1.2 Adaptor flange for Fanuc® robot
- 1.3 Robot mount iSTM ABIROB® GC

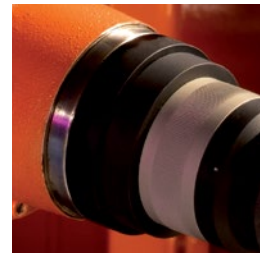
Figure 2:
Version ABB® with iSTM ABIROB® W

- 2.1 Corrugated hose clamp for ABB® robot
- 2.2 Adaptor flange for ABB® robot
- 2.3 Robot mount iSTM ABIROB® W



Figure 3:
iSTM open

- 3.1 Clamping screw to hold the cable assembly in place safely
- 3.2 Control opening for checking the correct position of the cable assembly



Technical data (EN 60 974-7):

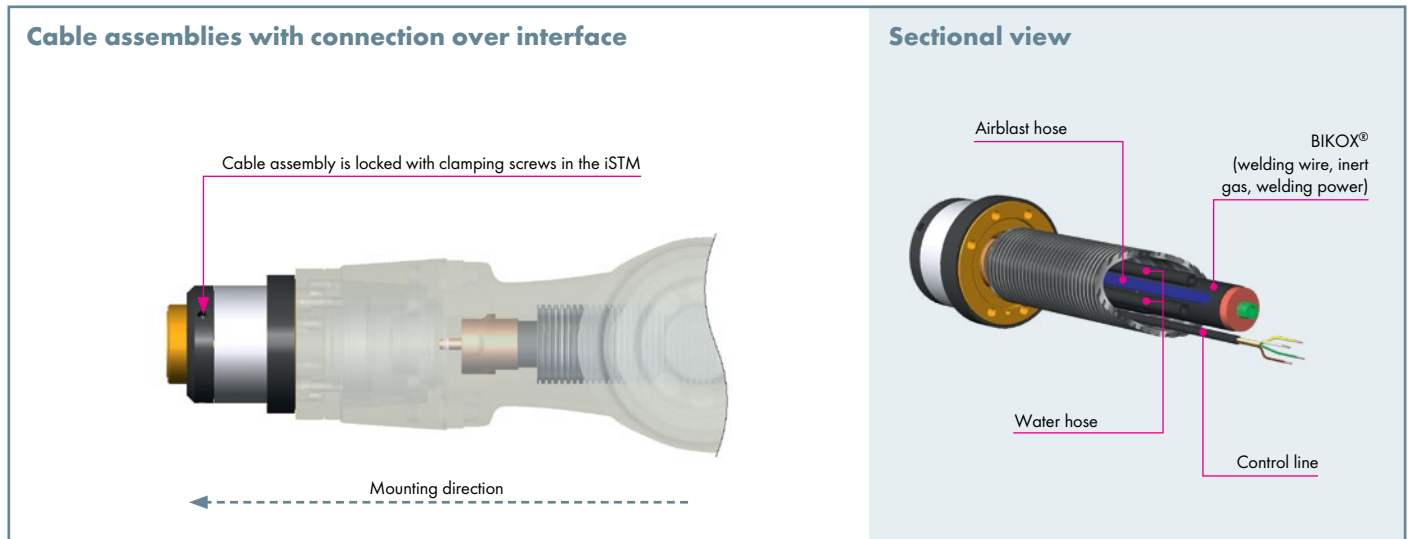
Dimensions: Length 109 mm
 Ø 73 mm

Weight:

- without torch neck approx. 900 g
- with ABIROB® A300 approx. 1200 g
- with ABIROB® A360 approx. 1200 g
- with ABIROB® A500 approx. 1200 g
- with ABIROB® W500 approx. 1500 g
- with ABIROB® 350GC approx. 1200 g

Robot Mount "iSTM"

Cable Assemblies for Hollow Wrist Robots



Cable assemblies with connection over interface

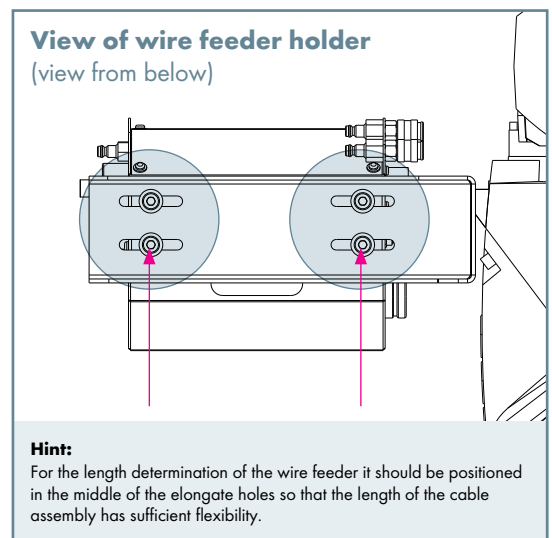
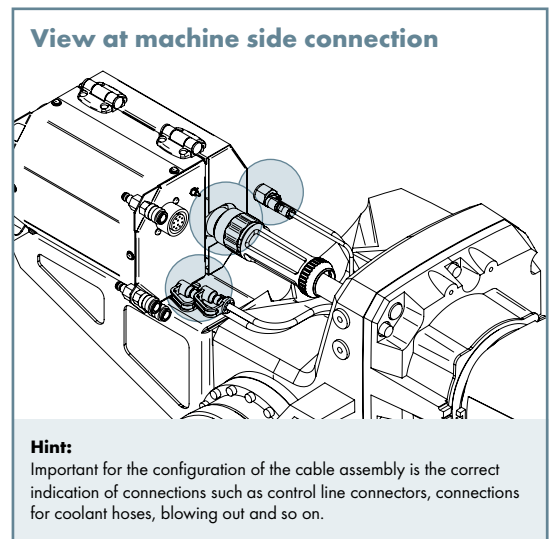
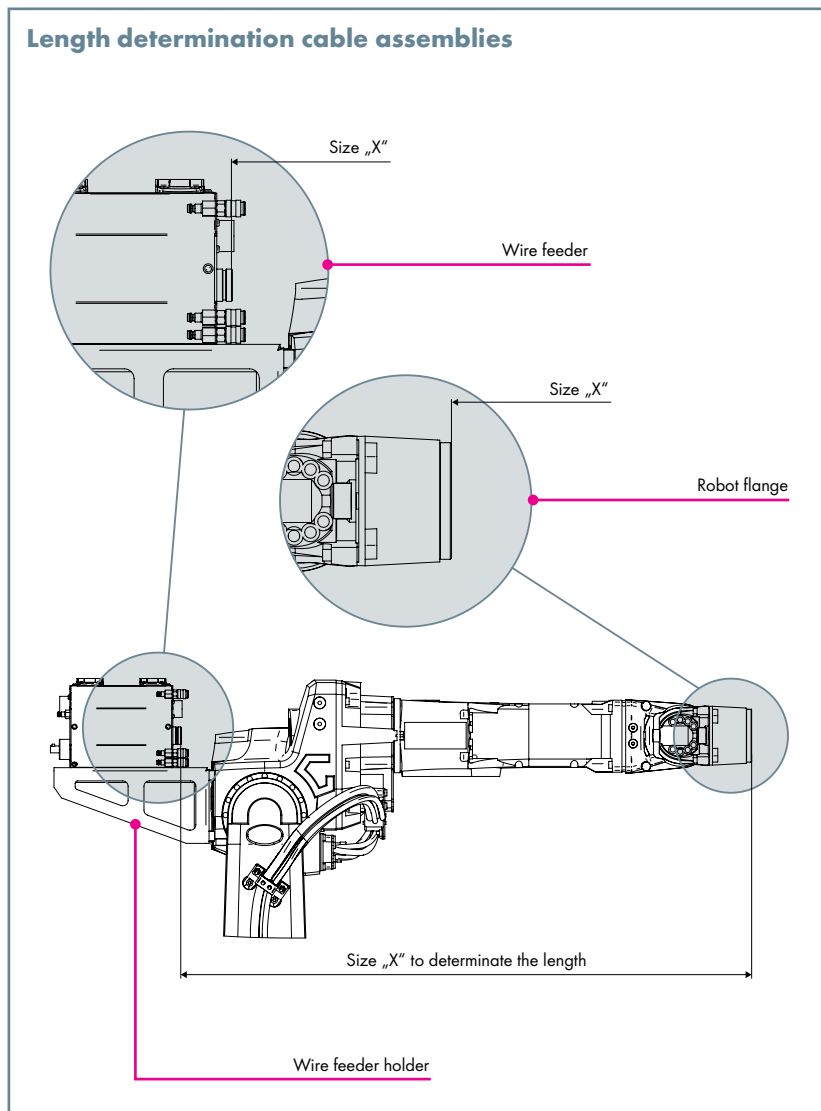
Configuration	Cooling	Rating (at 100% DC)	suitable for torch type									optionally wire brake available	
			ABIROB® A			ABIROB® W			ROBO	ROBO WH			
			300	360	500	300	500	600 ²	350 GC	300	500		600 ²
BIKOX®	air	360 A CO ₂ 340 A Mixed gases ¹	✓	✓	✓	-	-	-	✓	-	-	-	no
BIKOX®-Hybrid assembly with central gas flow	liquid	360 A CO ₂ 340 A Mixed gases ¹	-	-	-	✓	✓	-	-	✓	✓	-	no

¹ M21 (EN ISO 14175). **Higher performance classes achievable with the version with power water cable.**

² The robot mount iSTM in combination with ABIROB® W600 can only be used with the version with power water cable due to the decentralized gas flow.

Robot Mount "iSTM"

How to order a Hollow Wrist Cable Assembly



Important information for ordering hollow wrist cable assemblies (please fill in):

1. General Information:

Type and manufacturer of the robot:

Type and manufacturer of the wire feeder:

Welding torch system (e.g. ABIROB® A):

Control lines connector (e.g. Amphenol, open, etc. ...):

Size „X“ cable assembly (see above)

2. Desired additional functions:

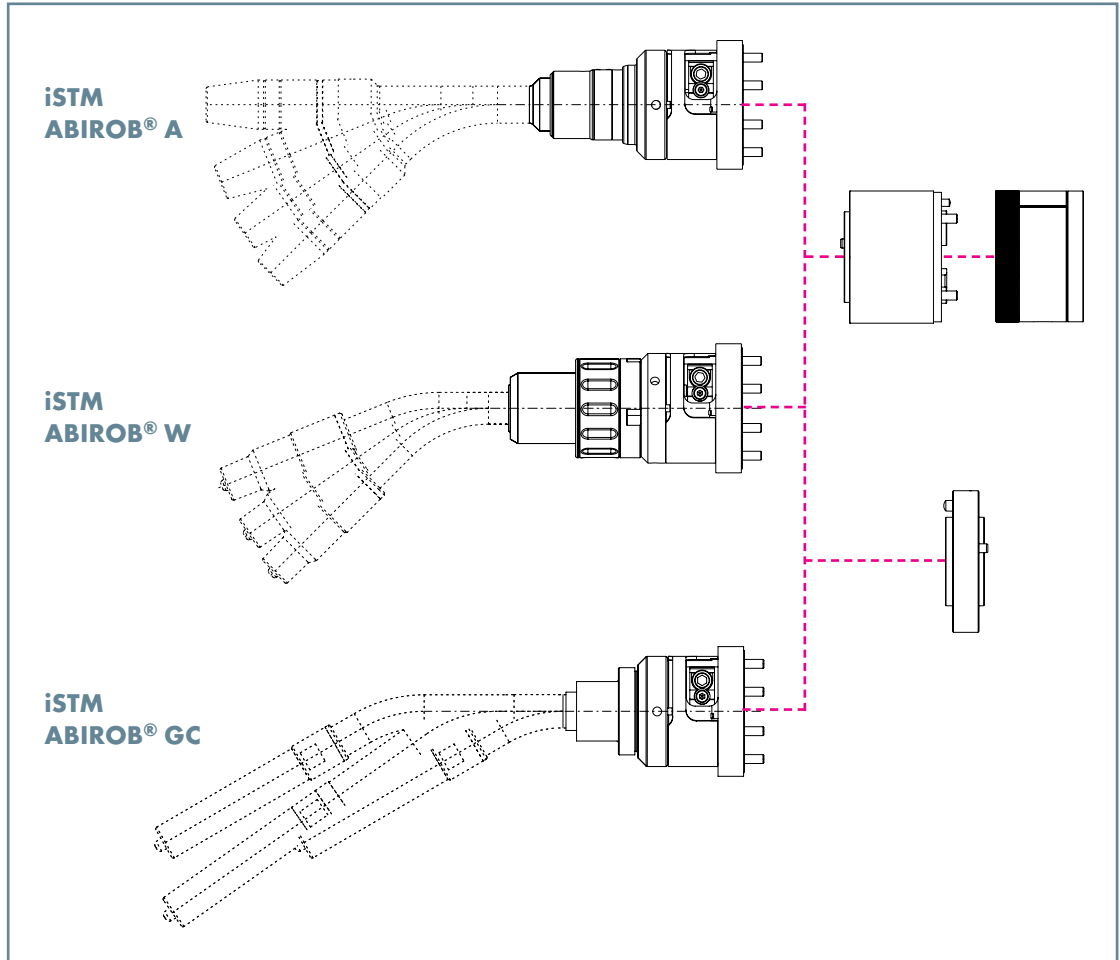
- Blowing out function
 Gas nozzle sensor
 Wire brake
 Wire feeding button

3. Other information:

Robot Mount "iSTM"

Robot Mount & Adaptor Flanges

Robot mount iSTM



Description	Part-No.
Robot mount iSTM ABIROB® A cpl.	780.3200.1
Robot mount iSTM ABIROB® W cpl.	780.3210.1
Robot mount iSTM ABIROB® GC cpl.	780.3230.1

Please note: The corresponding torch necks can be found in the respective chapters from page 7.

Adaptor flanges



Type	Description	Part-No.
1 Adaptor flange for ABB®	ABB® IRB 1600 ID	780.0678.1
2 Corrugated hose clamp	ABB® IRB 1600 ID	400.1194.1
3 Adaptor flange for Fanuc®	Fanuc® Arc Mate iC Series	780.0680.1
4 Adaptor flange with integrated hose clamp	Fanuc® Arc Mate iC Series	780.3220.1

Adaptor flanges for other welding robots on request. Please indicate the robot type.

Robot Mount “iSTM” Liners & Accessories

Liners

Type	for connection type ¹	Wire-Ø ²	up to L=2.0 m
Liner steel	ABICOR BINZEL® Euro central connection	Ø 1.0-1.2	124.0145.1
Liner steel	Fronius®	Ø 1.0-1.2	124.0174
Liner steel	OTC®	Ø 1.0-1.2	124.0165
Liner steel	Panasonic®	Ø 1.0-1.2	124.0163.1

¹ Liners for further connection types are available on request.

² Steel wire

Accessories

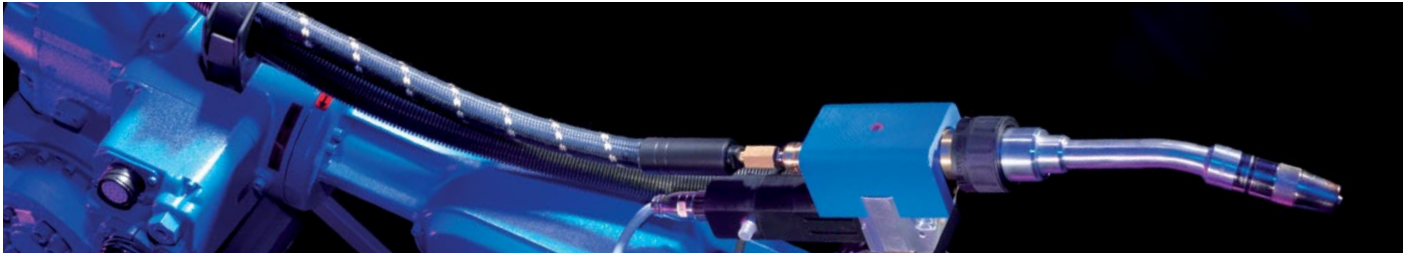


Description	Part-No.
1 Insertion aid (for straightforward cable assembly attachment)	980.2030
not ill. Protective tube (length specification required)	109.0074
not ill. Corrugated hose end piece NW36	500.0453



Robot Peripherals

Wire Feeder System “MasterLiner”



Top-level wire feeding ...

The products of the MasterLiner series are setting new wire feeding standards. They are made up of individual segments, each turnable by 360°. Four small rollers in every single segment guarantee smooth wire feeding, with almost no resistance. This means – for example with laser applications – that no further wire feeders are required in addition to the master feeder, even over longer distances.

The MasterLiner system is available as MasterLiner and MasterLiner MAXI both in FLEX and HD versions. FLEX stands for flexible. This version is made up of a corrugated hose and connection system and enables a configuration of the exact required length. It can also be repaired in the field. This main advantage is saving time and money. The heavy-duty HD version is fitted with a resistant aramid-reinforced protection for extreme applications.

Arguments that speak for themselves:

- Low friction forces
- Long life time
- Ultrasonic cleaning
- Maintenance free and the overall system is prone to little interference
- Wire feeding over long distances and by only one wire feeder
- Suitable for all welding processes with wire feeding, including laser welding and brazing
- Suitable for all types of wire
- Easy and quick assembly and exchange possible by using quick connectors

Application area:



Robot controlled MIG/MAG, TIG, PLASMA and laser welding processes



Wire Feeder System „MasterLiner HD & FLEX“

System Overview & Technical Data

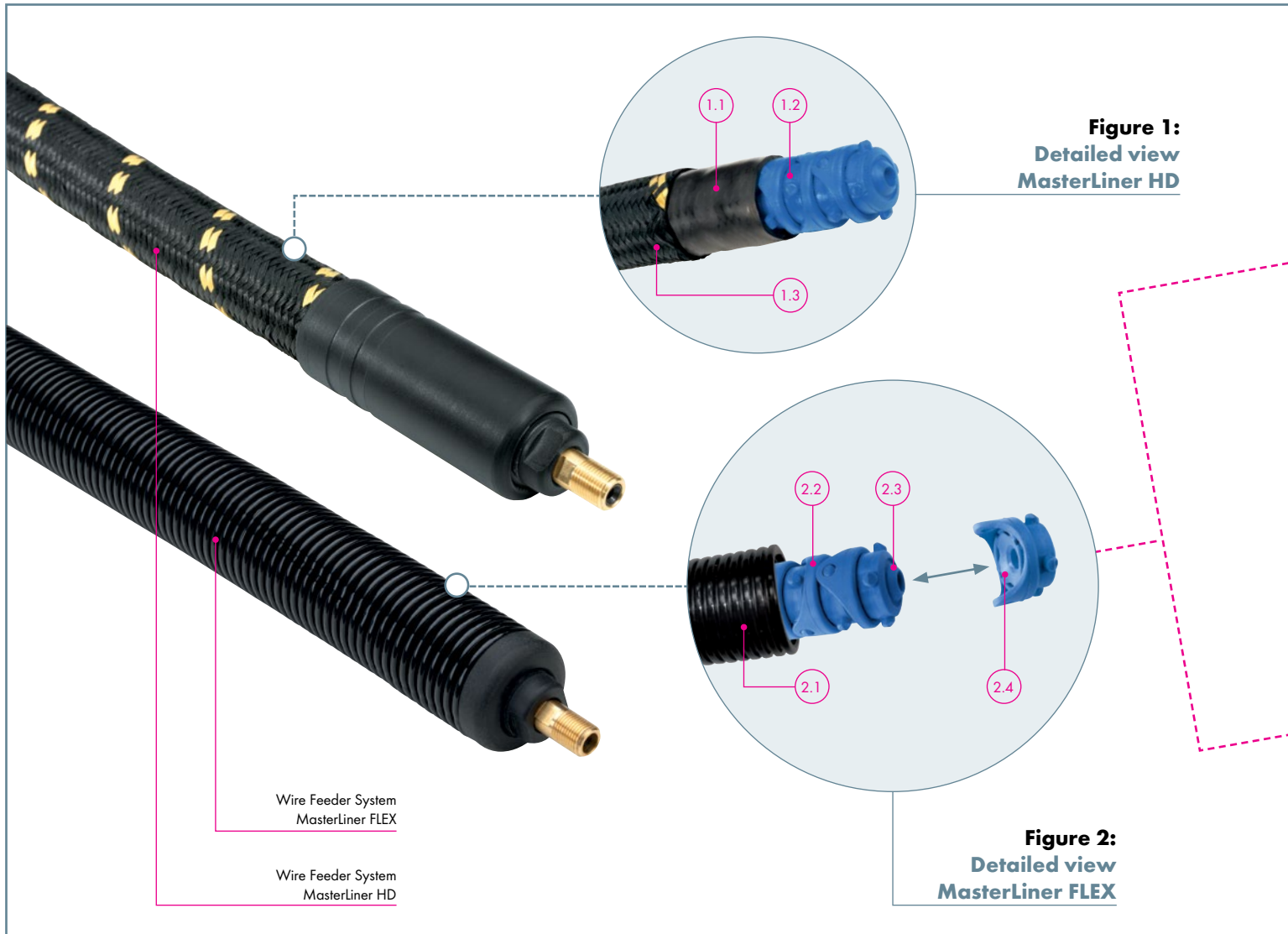


Figure 1:
Detailed view MasterLiner HD

- 1.1 Inner protective sheathing made of rubber – additional protection with high flexibility
- 1.2 MasterLiner with four rollers per segment for minimal friction and extremely short distance between the individual segments
- 1.3 Aramid fibre sheath – for optimum protection against external influences – with heat- and fireresistant fibres, that are characterized by great strength, high impact strength, excellent breaking strain, good vibration damping and resistance to acids and alkalis

Figure 2:
Detailed view MasterLiner FLEX

- 2.1 End fitting for a clean connection to the outer hose
- 2.2 MasterLiner with four rollers per segment for minimal friction and extremely short distance between the individual segments
- 2.3 Side convex (no fixed rolling direction)
- 2.4 Side concave (no fixed rolling direction)



Figure 3:
Connection G 1/4"
convex (components)

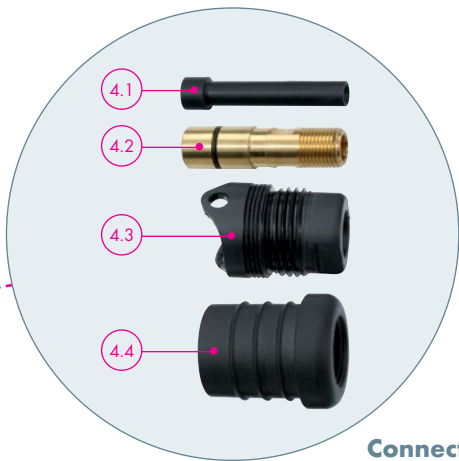


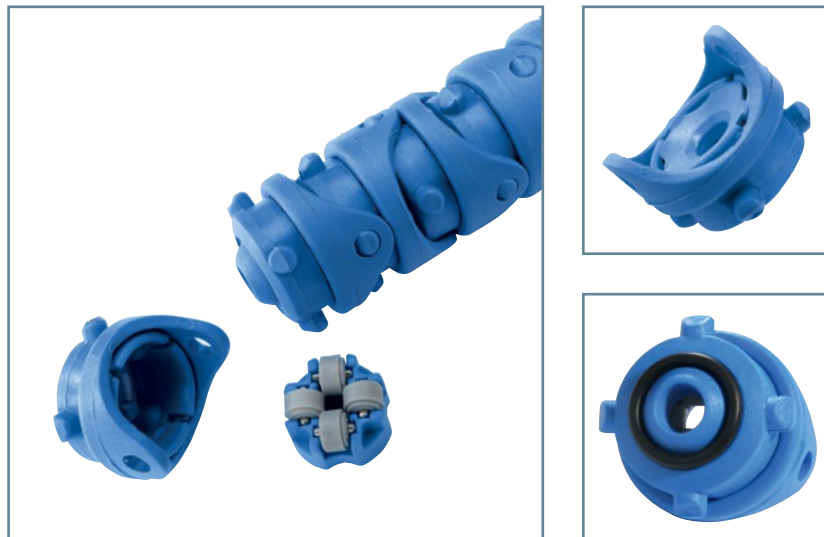
Figure 4:
Connection G 1/4"
concave (components)

Figure 3:
Connector G 1/8" convex (components)

- 3.1 Long wire guide tube – easy to replace
- 3.2 Sturdy brass connection G 1/4"
- 3.3 Connection MasterLiner convex
- 3.4 End fitting for a clean connection to the outer hose

Figure 4:
Connector G 1/8" concave (components)

- 4.1 Long wire guide tube – easy to replace
- 4.2 Sturdy brass connection G 1/4"
- 4.3 Connection MasterLiner concave
- 4.4 End fitting for a clean connection to the outer hose



Technical Data:

MasterLiner HD:

Outer Ø:	30.0 mm
Wire Ø:	max. 1.2 mm
Weight:	approx. 400 g/m (without connections, with aramid coating)
Recommended length (max.):	25.0 m
Bend radius (min.):	150 mm
Flexibility/tensile strength:	1.500 N
Connection:	G 1/4" and G 1/8" ¹

MasterLiner FLEX:

Outer Ø:	22.0 mm (without outer hose) 34.0 mm (with outer hose)
Wire Ø:	max. 1.2 mm
Weight:	approx. 250 g/m (without outer hose) approx. 400 g/m (with outer hose)
Recommended length (max.):	25.0 m
Bend radius (min.):	150 mm
Flexibility/tensile strength:	600 N
Connection:	G 1/4" and G 1/8" ¹

¹ Two adapters for G 1/8" are included as standard.

Wire Feeder System „MasterLiner MAXI HD & FLEX“ System Overview & Technical Data

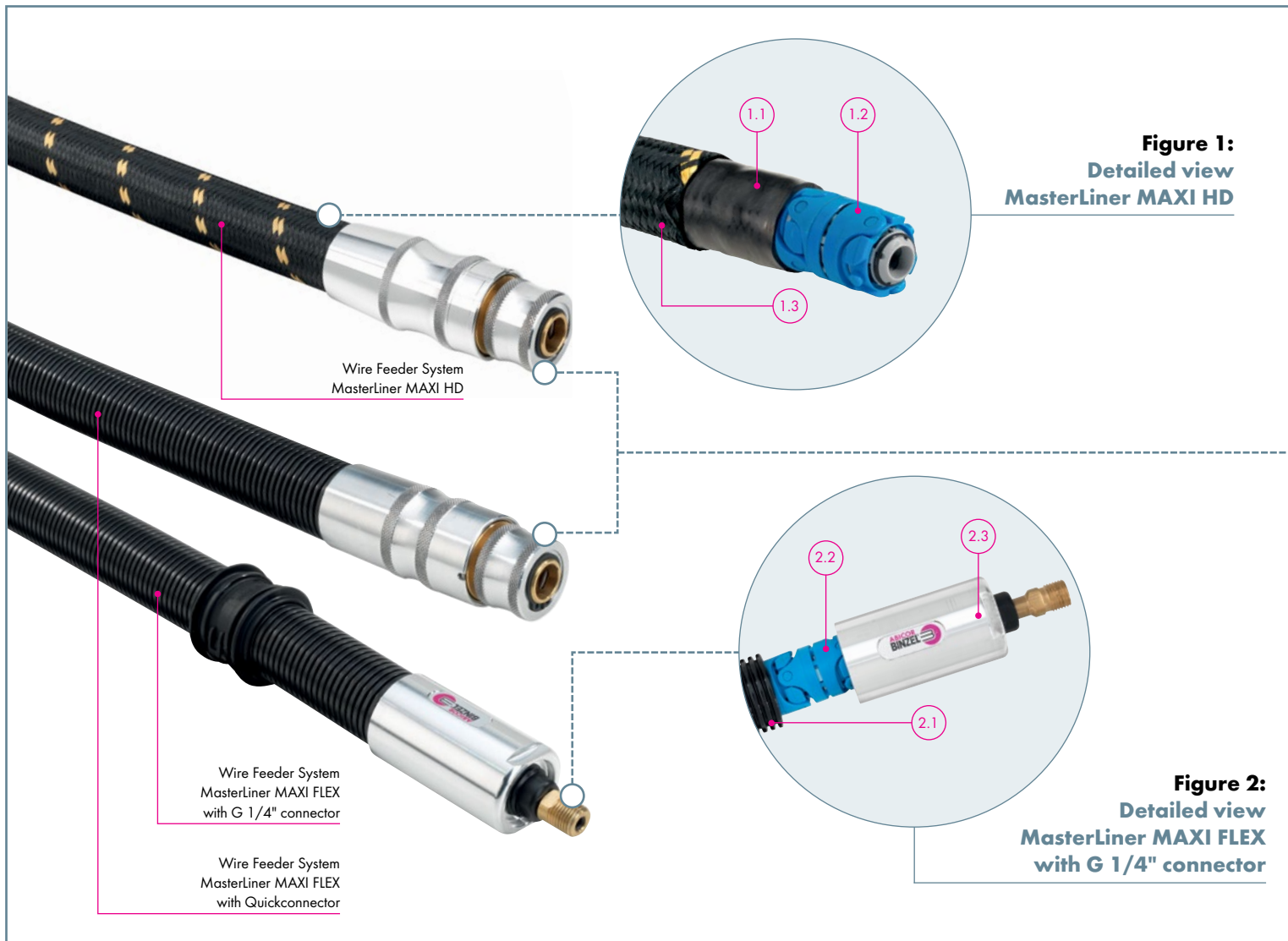


Figure 1:
Detailed view MasterLiner MAXI HD

- 1.1 Inner protective sheathing made of rubber – additional protection with high flexibility
- 1.2 MasterLiner with four rollers per segment for minimal friction and extremely short distance between the individual segments
- 1.3 Aramid fibre sheath for optimum protection against external influences

Figure 2:
Detailed view MasterLiner MAXI FLEX with G 1/4" connector

- 2.1 Outer hose for optimum protection coupled with high flexibility; can be cut to size as required
- 2.2 MasterLiner with four rollers per segment for minimal friction and extremely short distance between the individual segments
- 2.3 Connector G 1/4"

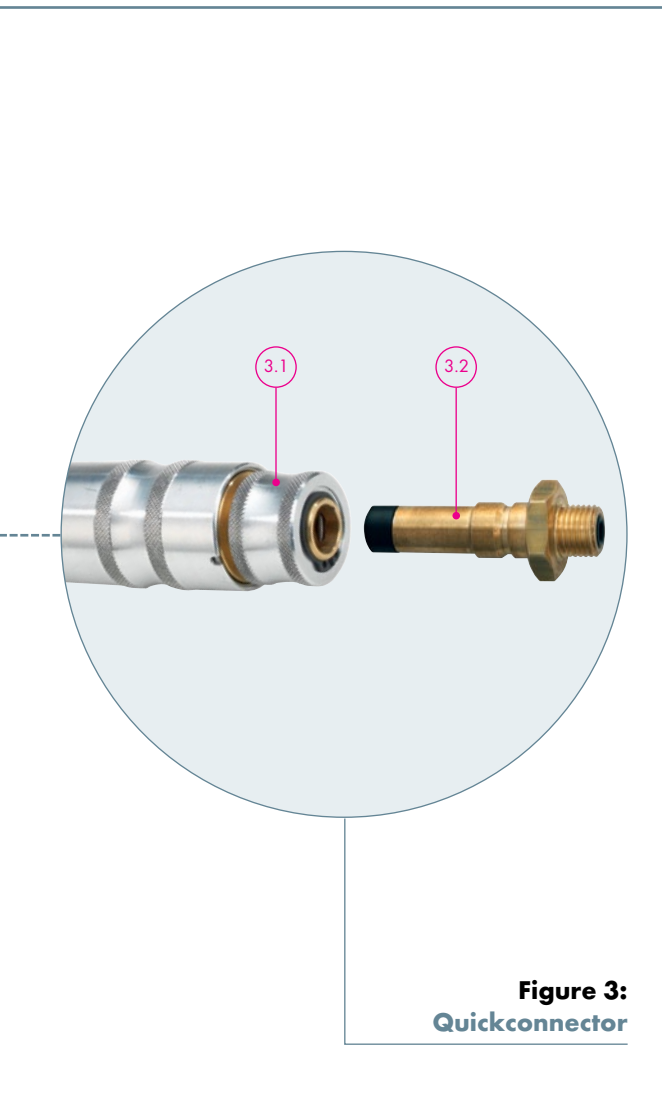
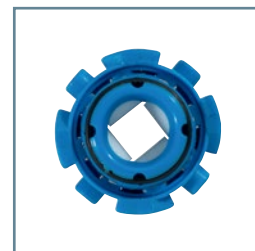


Figure 3:
Quickconnector

Figure 3:
Detailed view Quickconnector

- 3.1 Quickconnector for MasterLiner MAXI FLEX & HD for fast tool-free assembly and disassembly via spring-loaded locking mechanism that can be saved by turning the outer sleeve against accidental pulling
- 3.2 Connector G 1/4" for Quickconnector



Technical Data:

MasterLiner MAXI HD:

Outer Ø:	32.0 mm
Wire Ø:	1.2 mm bis 4.0 mm
Weight:	approx. 540 g/m (without connections, with aramid coating)
Recommended length (max.):	30.0 m
Bend radius (min.):	150 mm
Flexibility/tensile strength:	1.500 N
Connection:	Quickconnector

MasterLiner MAXI FLEX:

Outer Ø:	27.0 mm (without outer hose) 34.0 mm (with outer hose)
Wire Ø:	1.2 mm bis 4.0 mm
Weight:	approx. 460 g/m (without outer hose) approx. 610 g/m (with outer hose)
Recommended length (max.):	30.0 m
Bend radius (min.):	150 mm
Flexibility/tensile strength:	600 N
Connection:	G 1/4" or Quickconnector

Wire Feeder System "MasterLiner" Complete Set



1. Complete Set MasterLiner HD

Connection:
G 1/4"

Properties

Feeding of wire sizes up to 1.2 mm and aramid-reinforced protection for extreme applications



2. Complete set MasterLiner FLEX

Connection:
G 1/4"

Properties

Feeding of wire sizes up to 1.2 mm and easy assembling of the required length and also repairing directly in the field



3. Complete set MasterLiner MAXI HD

Connection:
Quickconnector

Properties

Feeding of wire sizes from 1.2 mm and comfortable Quickconnector



4. Complete set MasterLiner MAXI FLEX

Connection:
G 1/4" or Quickconnector

Properties

Individual and easy to configure with two different connections for selection and feeding of wire sizes from 1.2 mm to 4.0 mm

1. Complete set MasterLiner HD

Type	Length ¹	Part-No.
MasterLiner HD cpl. with connector G 1/4" / G 1/8" ²	5.0 m	155.0251.1
	6.0 m	155.0252.1
	8.0 m	155.0254.1
	10.0 m	155.0255.1

2. Complete set MasterLiner FLEX

MasterLiner FLEX cpl. with connector G 1/4" / G 1/8" ²	5.0 m	155.0244.1
	6.0 m	155.0245.1
	8.0 m	155.0247.1
	10.0 m	155.0248.1

3. Complete set MasterLiner MAXI HD

MasterLiner MAXI HD cpl. with Quickconnector	5.0 m	155.0184.1
	6.0 m	155.0185.1
	8.0 m	155.0187.1
	10.0 m	155.0189.1

4. Complete set MasterLiner MAXI FLEX

MasterLiner MAXI FLEX cpl. with connector G 1/4"	5.0 m	155.0154.1
	6.0 m	155.0155.1
	8.0 m	155.0156.1
	10.0 m	155.0157.1
MasterLiner MAXI FLEX cpl. with Quickconnector	5.0 m	155.0197.1
	6.0 m	155.0198.1
	8.0 m	155.0199.1
	10.0 m	155.0200.1

¹ Further lengths on request.

² Two adapters for G 1/8" are included as standard.

Wire Feeder System "MasterLiner"

Components for individual configuration

Components for an individual configuration of the MasterLiner system



Components MasterLiner HD¹

No.	Type	Part-No.
1	End fitting for MasterLiner HD	155.0092.1
n/s	Adaptor G 1/4" IG-G 1/8" AG	155.0286.2

Components MasterLiner FLEX

2	MasterLiner basic (50 m container) ²	155.0096.50
3	Connector convex	155.0091.1
4	Connector concave	155.0095.1
5	Wire guide tube convex	155.0087.1
6	Wire guide tube concave	155.0088.1
7	End cap for outer hose	155.0090.1
8	Outer hose (50 m container)	109.0076
n/s	Adaptor G 1/4" IG-G 1/8" AG	155.0286.2
n/s	Hook-and-loop tape, blue, 1 m	191.0128.1

Components MasterLiner MAXI FLEX

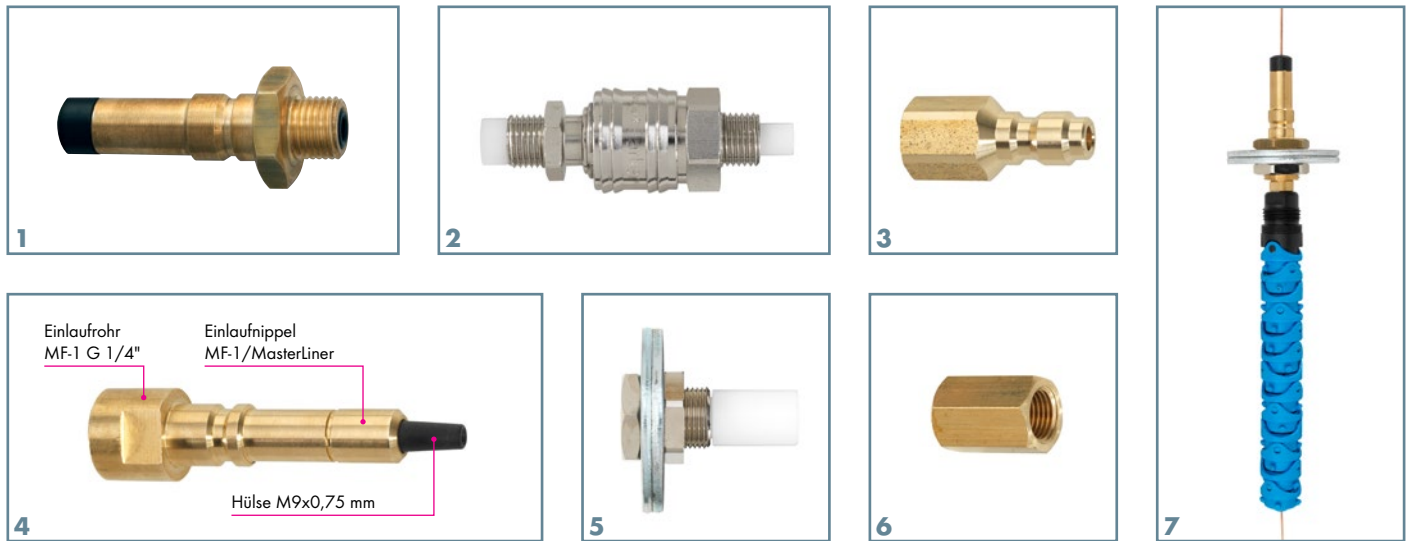
8	Outer hose (50 m container)	109.0076
9	MasterLiner MAXI basic (50 m container) ²	155.0141.50
10	Connector G 1/4" cpl.	155.0147.1
11	Quickconnector cpl.	155.0195.1

¹ The variants of MasterLiner HD are only available in prefabricated lengths.

² Further lengths on request.

Wire Feeder System "MasterLiner"

Connections



Connection MasterLiner ↔ wire feeder

No.	Description	Part-No.
1	Connection G 1/4" for Quickconnector	155.0167.1
n/s	Connection 11.5 mm (suitable e. g. for EWM®)	783.5208.1
	Connection 12.2 mm (suitable e. g. for Lincoln®)	155.0084.1
	Connection 13.0 mm (suitable e. g. for Fronius®)	783.5209.1
2	Quick coupling G 1/4" cpl.	783.5207.1
3	Adaptor G 1/4" auf Quickconnector (suitable e. g. for Fronius® or Parker®)	155.0159.1
n/s	Wire inlet MasterLiner to MF-1	783.5222.1

Connection MasterLiner ↔ Masterfeeder MF-1

4	Inlet tube MF-1 G 1/4"	155.0160.1
n/s	Inlet nipple MF-1/MasterLiner	131.0035.1
	Sleeve M9x0.75 mm (for inlet tube MF-1)	881.1096.1

Connection MasterLiner FLEX/MAXI FLEX ↔ Dome connector

n/s	Dome connector PG29 ¹	155.0103.1
	Nut PG29	155.0106.1

Connection MasterLiner ↔ Dome connector with quick coupling

5	Dome connector G 1/4"	783.5205.1
2	Quick coupling G 1/4" cpl.	783.5207.1
6	Adaptor MasterLiner G 1/8" to G 1/4"	783.5233.1
	Adaptor MasterLiner MAXI G 1/4" to G 1/4"	155.0162.1

Connection MasterLiner MAXI with Quickconnector ↔ Dome connector

7	MasterLiner MAXI HD/FLEX dome connector cpl.	155.0171.1
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¹ Only for MasterLiner HD – clamp with rubber directly on the outer aramid fabric.

Wire Feeder System "MasterLiner" Accessories

Wire end sensor

The wire-end sensor – positioned between the wire drum and the wire feeder hose (e.g. MasterLiner) – signals an upcoming end of the wire in the wire drum. Due to a simple and non-contact detection of the wire-end and clear LED-display the replacement of the wire drum can be carried out timely. The intensity of the sensibility can be continuously adjusted by potentiometer and guarantees easy handling.

Technical Data:

Ring diameter:	Ø 5 mm
Supply voltage:	10–30 volt
Current carrying capacity:	max. 200 mA
Current consumption:	< 15 mA 24 V DC
Temperature range:	-20 to +60°C
Protection class:	IP 65
Connector:	H (M12)



Type

Wire end sensor with LED signal
Control cable

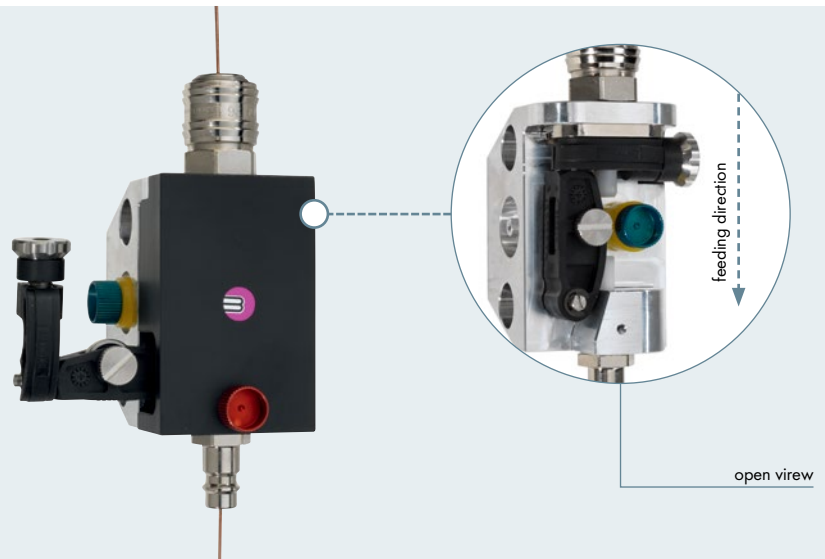
Part-No.

881.3225.1
101.0168.1

Wire inching tool

The wire inching tool allows that the wire can be threaded quickly and easy from the wire drum into the wire feeder hose directly. Manual and time-consuming threading is no longer necessary. Recommended especially for longer distances.

With the connectors a quick and easy integration into the respective wire-feeding-system is possible. The threading device must remain in the wire feeding system after threading with open counter pressure roller.



Type

Wire inching tool

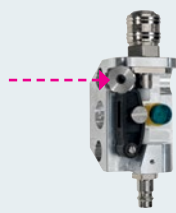
Part-No.

881.3238.1

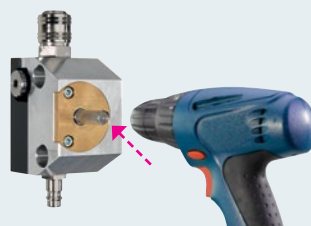
Manual



Step 1:
Thread wire



Step 2:
Set contact pressure



Step 3:
Feeding the wire by
electric screwdriver



Step 4:
Remove drive roll
and fix outside

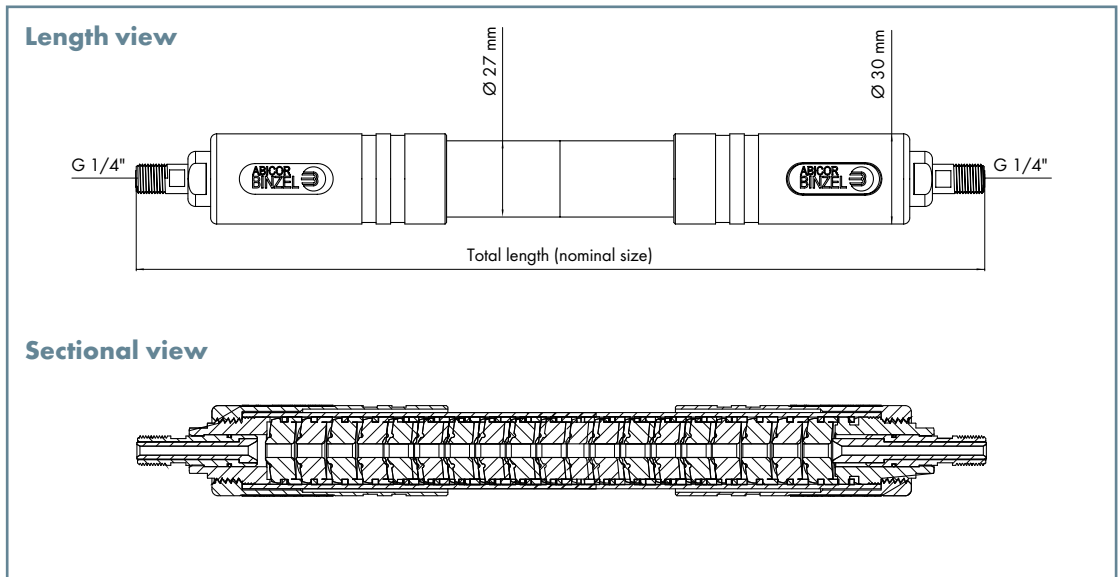


Step 5:
Fix rocker with
housing cover

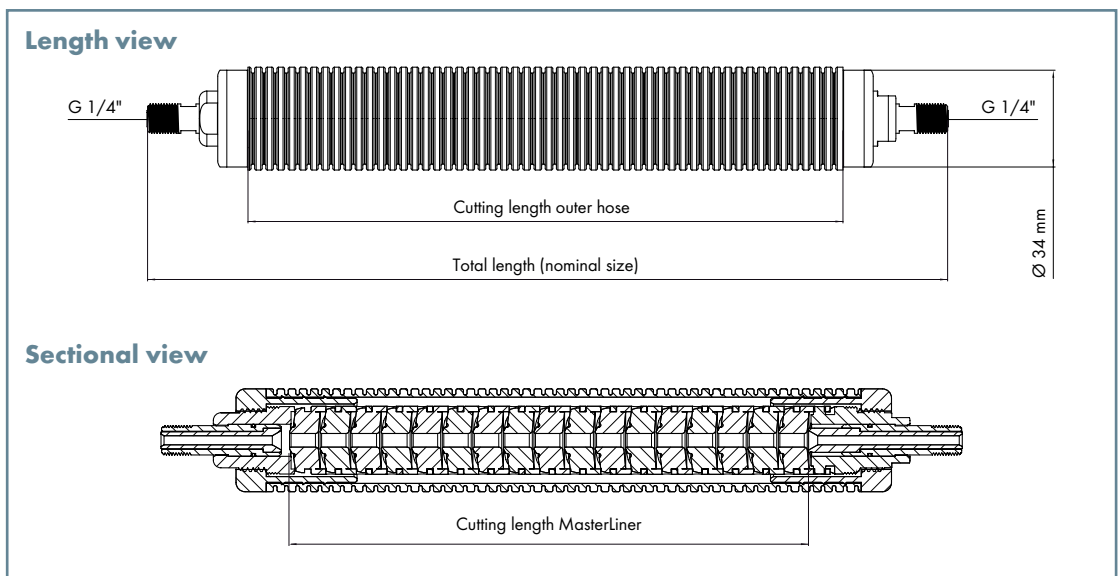
Wire Feeder System "MasterLiner"

Length and sectional views

Wire Feeder System
MasterLiner HD
with Connector
G 1/4"



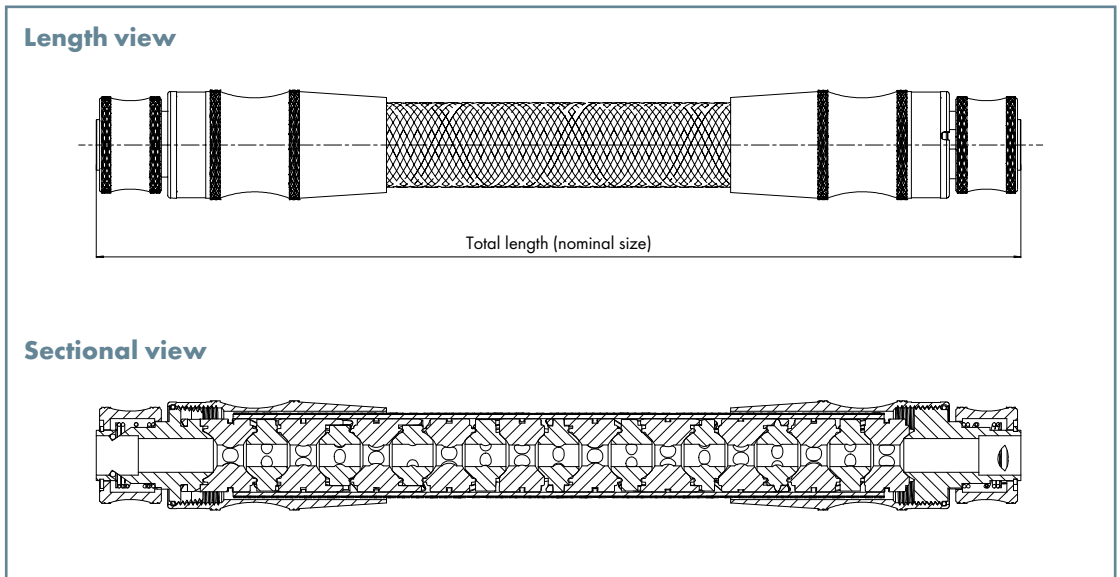
Wire Feeder System
MasterLiner FLEX
with Connector
G 1/4"



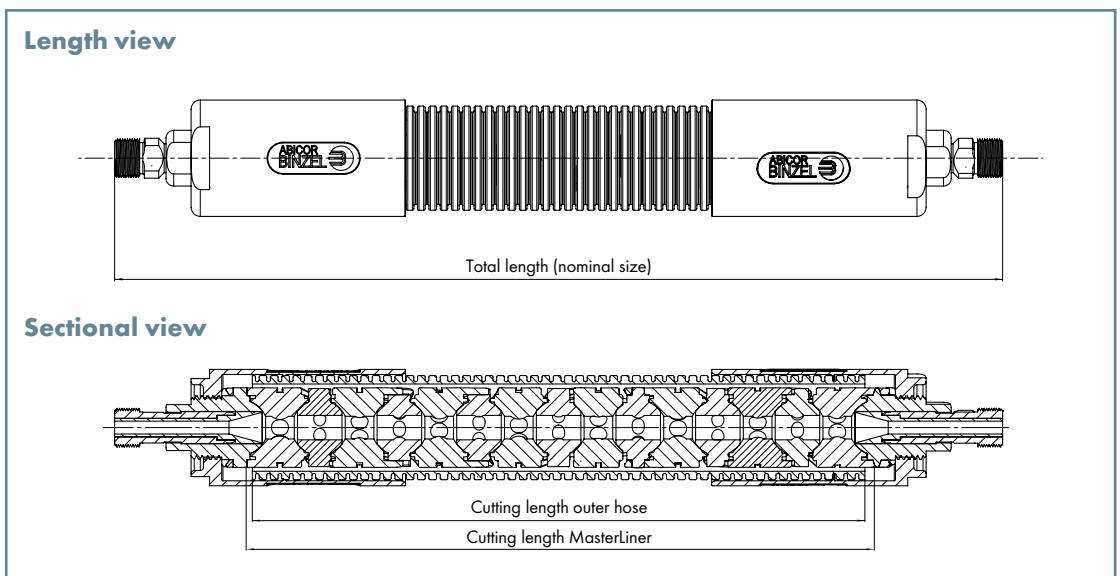
Wire Feeder System „MasterLiner MAXI“

Length and sectional views

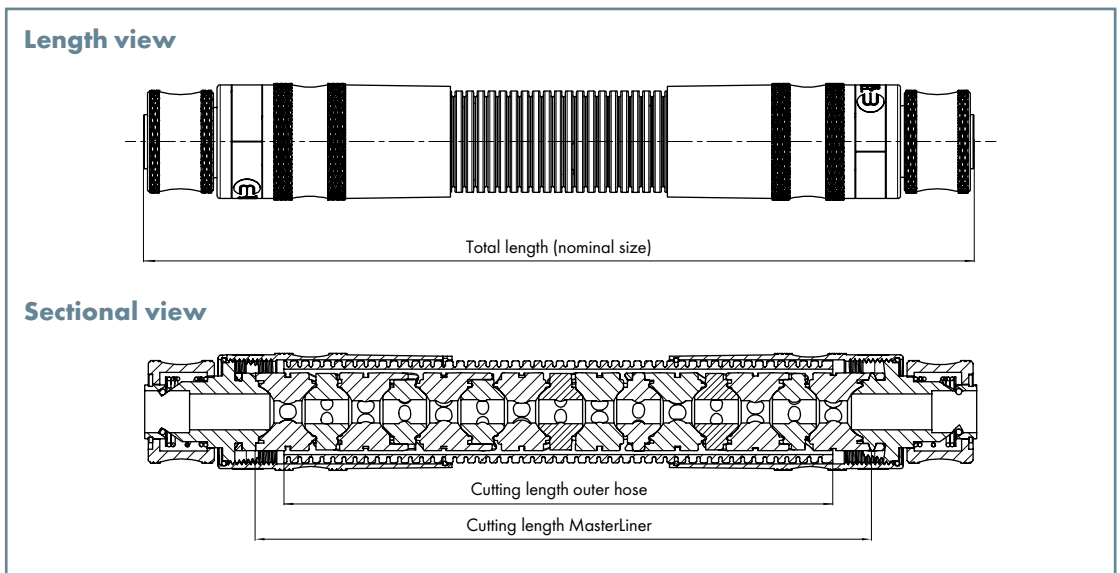
Wire Feeder System
MasterLiner MAXI
HD with Quickcon-
nector



Wire Feeder System
MasterLiner MAXI
FLEX with Connec-
tor G 1/4"



Wire Feeder System
MasterLiner MAXI
FLEX with Quick-
connector





Robot Peripherals

Torch Cleaning Station "BRS"



Connect & Clean ...

ABICOR BINZEL torch cleaning stations – the complete solution for reliable automatic servicing of torch heads. Quick and easy to install, just "Connect & Clean ...", the compact torch cleaning stations BRS stand for top reliability. Combined in a single station, no less than three systems guarantee optimally timed processes and an increase in plant availability. Many further features such as mounting stand and drip pan reduce installation costs.

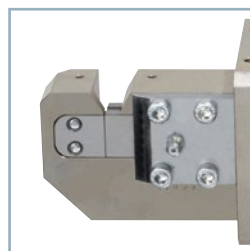
Arguments that speak for themselves:

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

Application area:



MIG/MAG welding torches for all common torch brands



Torch Cleaning Station "BRS"

System Overview & Technical Data

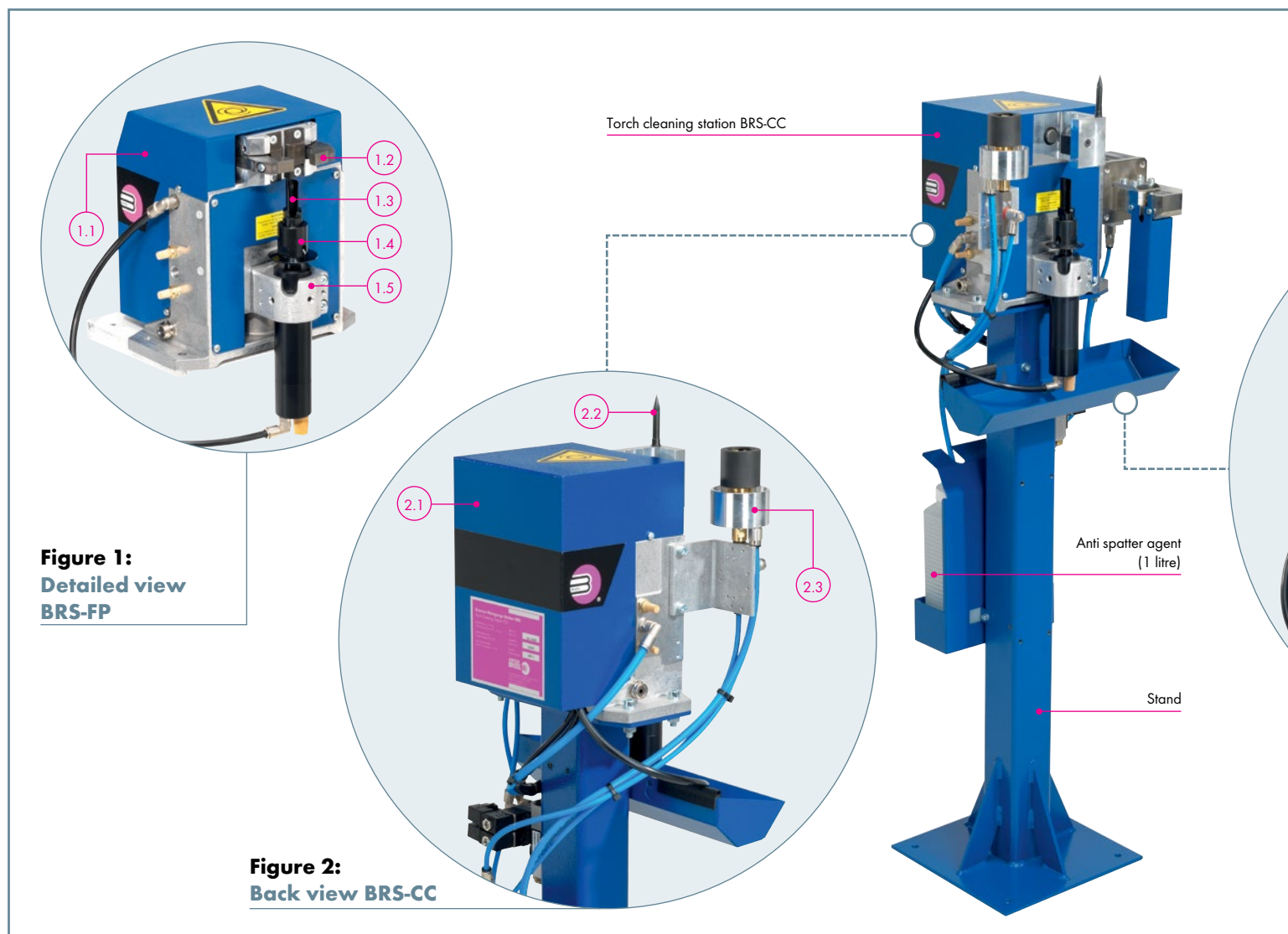


Figure 1:
Detailed view
BRS-FP

Figure 2:
Back view BRS-CC

Figure 1:
Detailed view BRS-FP

- 1.1 PCB (inside)
for programmed work processes
- 1.2 Clamping brackets
- 1.3 Reamers for different torch makes
- 1.4 Reamer fitting, interchangeable
- 1.5 Guide block, stroke 50 mm

Figure 2:
Back view BRS-CC

- 2.1 Cover
- 2.2 Test/TCP tip
- 2.3 Injector for the direct economical spraying of
anti-spatter agent reduces spatter adhesion
and extends servicing intervals

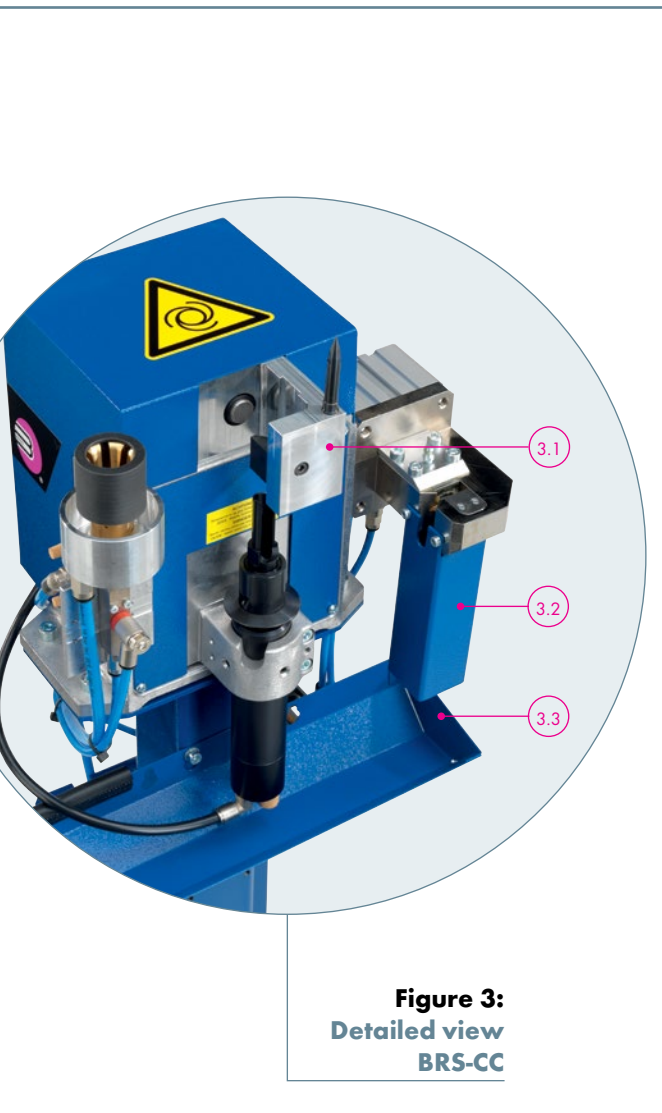


Figure 3:
Detailed view
BRS-CC

Figure 3:
Detailed view BRS-CC

- 3.1 Prism for different torch/gas nozzle types
- 3.2 Wire cutting fixture "DAV" for a constant free wire end and better arc-start/touch sensing performance properties
- 3.3 Drip and wire cutting collection pan



Technical data:

General data

Total weight:	approx. 16 kg (incl. TMS-VI and DAV)
Ambient temperature:	+ 5°C to + 50°C
Air consumption:	approx. 380 l/min.
Pneumatic motor (Nominal speed):	– with lubricated air: approx. 650 rpm – with non-lubricated air: approx. 550 rpm

Pneumatic connection – manifold block

Compressed air supply:	G 1/4
Clear width:	min. Ø 6 mm
Nominal pressure:	6 bar
Operating pressure:	6–8 bar

Electrics – terminal block

Control:	4 inputs for triggering the 5/2 directional control valves
Control voltage:	24 V DC
Power consumption:	4.5 W
Output:	1 output from inductive proximity switch (pnp)
Operating voltage:	10 – 30 V DC
Tolerated residual ripple:	V _{ss} < 10%
Continuous current:	max. 200 mA
Current consumption:	approx. 4 mA (24 V)
Drop in voltage:	approx. 1.2 V (200 mA)

Front injector "TMS-Vi"

Capacity of the bottle:	1 litre
-------------------------	---------

Wire cutting fixture "DAV"

Cutting rate at 6 bar:	– Solid wire: up to 1.6 mm – Flux cored wire: up to 3.2 mm
Cutting time:	0.5 sec.

Torch Cleaning Station "BRS"

Order Summary

Torch cleaning station "BRS"



No.	Type	Description	Part-No.
1	BRS-CC cpl.	with DAV / with stand	831.0490.1
	BRS-CC	without DAV / with stand	831.0550
	BRS-CC	with DAV / without stand	831.0580.1
	BRS-CC	standard (without accessories)	831.0570
2	BRS-LC	standard (without accessories)	831.0300
3	BRS-FP	standard (without accessories)	831.0260.1

Torch Cleaning Station "BRS"

Cutters & Clamping Prisms

Torch series ABIROB® 350 GC

Torch type	with gas nozzle	Outer-Ø (mm)	NW (mm)	Length (mm)	with contact tip		Clamping prism Part-No.	Cutter Part-No.
	Type				Type	Size		
ABIROB® 350GC	145.0557	20.0	15.5	89.5	M6	Ø 8	831.0313	831.0491.1
	145.0558	20.0	12.0	89.5	M6	Ø 8	831.0313	831.0555.1
	145.0573	20.0	13.0	89.5	M6	Ø 8	831.0313	831.0420.1

Torch series ABIROB® A

ABIROB® A300	145.0671.5	22.0	14.4	36.0	M6	Ø 8	831.0371	831.0709.1	
ABIROB® A360	145.0599	22.0	12.0	68.0	M6	Ø 8	831.0371	831.0604.1	
	145.0600	22.0	12.0	70.0	M6	Ø 8	831.0371	831.0604.1	
	145.0601	22.0	12.0	65.0	M6	Ø 8	831.0371	831.0604.1	
	145.0595	22.0	14.0	68.0	M6	Ø 8	831.0371	831.0592.1	
	145.0596	22.0	14.0	70.0	M6	Ø 8	831.0371	831.0618.1	
	145.0597	22.0	14.0	65.0	M6	Ø 8	831.0371	831.0593.1	
	145.0618	22.0	14.0	68.0	M6	Ø 8	831.0371	831.0592.1	
	145.0619	22.0	14.0	65.0	M6	Ø 8	831.0371	831.0593.1	
	145.0592	22.0	16.0	68.0	M6	Ø 8	831.0371	831.0487.1	
	145.0593	22.0	16.0	70.0	M6	Ø 8	831.0371	831.0487.1	
	145.0594	22.0	16.0	65.0	M6	Ø 8	831.0371	831.0589.1	
	ABIROB® A500	145.0589	28.0	13.0	75.0	M6	Ø 8	831.0318	831.0180.1
		145.0590	28.0	13.0	77.0	M6	Ø 8	831.0318	831.0180.1
		145.0591	28.0	13.0	72.0	M6	Ø 8	831.0318	831.0169.1
145.0586		28.0	14.0	75.0	M6	Ø 8	831.0318	831.0592.1	
145.0587		28.0	14.0	77.0	M6	Ø 8	831.0318	831.0618.1	
145.0588		28.0	14.0	72.0	M6	Ø 8	831.0318	831.0593.1	
145.0580		28.0	16.0	75.0	M8	Ø 10	831.0318	831.0488.1	
145.0581		28.0	16.0	77.0	M8	Ø 10	831.0318	831.0488.1	
145.0582		28.0	16.0	72.0	M8	Ø 10	831.0318	831.0591.1	
145.0583		28.0	16.0	75.0	M8	Ø 10	831.0318	831.0488.1	
145.0584	28.0	16.0	77.0	M8	Ø 10	831.0318	831.0488.1		
145.0585	28.0	16.0	72.0	M6	Ø 8	831.0318	831.0591.1		

Torch series ABIROB® W

ABIROB® W300	145.0495	25.0	13.0	44.5	M6	Ø 8	831.0316	831.0169.1
	145.0564	25.0	13.0	48.5	M6	Ø 8	831.0316	831.0180.1
	145.0494	25.0	15.5	44.5	M6	Ø 8	831.0316	831.0576.1
ABIROB® W500	145.0479	25.0	13.0	75.5	M8	Ø 10	831.0316	831.0368.1
	145.0556	25.0	13.0	77.5	M8	Ø 10	831.0316	831.0368.1
	145.0466	25.0	15.5	72.0	M8	Ø 10	831.0316	831.0216.1
	145.0568	25.0	15.5	72.5	M8	Ø 10	831.0316	831.0216.1
	145.0553	25.0	15.5	75.5	M8	Ø 10	831.0316	831.0023.1
	145.0544	25.0	15.5	75.5	M8	Ø 10	831.0316	831.0023.1
	145.0480	25.0	15.5	77.0	M8	Ø 10	831.0316	831.0023.1
ABIROB® W600	145.0689.5	30,0	18.0	92.0	M12	Ø 12	831.0319	831.0162.1
	145.0686.5	30,0	21.5	92.0	M12	Ø 12	831.0319	831.0746.1
	145.0687.5	30,0	21.5	86.0	M12	Ø 12	831.0319	831.0763.1
	145.0688.5	30,0	21.5	95.0	M12	Ø 12	831.0319	831.0764.1

Torch Cleaning Station "BRS"

Cutters & Clamping Prisms

Torch series ROBO Standard

Torch type	with gas nozzle	Outer-Ø (mm)	NW (mm)	Length (mm)	with contact tip		Clamping prism Part-No.	Cutter Part-No.
	Type				Type	Size		
ROBO 455D	145.0134	25.0	13.0	67.5	M8	Ø 10	831.0316	831.0413.1
	145.0106	25.0	15.5	64.5	M8	Ø 10	831.0316	831.0216.1
	145.0089	25.0	15.5	67.5	M8	Ø 10	831.0316	831.0023.1
	145.0164	25.0	15.5	67.5	M8	Ø 10	831.0316	831.0023.1
ROBO 650TS	145.0574	30.0	18.0	84.0	M10	Ø 12	831.0319	831.0587.1
	145.0575	30.0	21.5	84.0	M10	Ø 12	831.0319	831.0547.1
	145.0578	30.0	18.0	78.0	M10	Ø 12	831.0319	on request

Torch series ROBO WH

ROBO WH 242D	145.0135	21.0	13.0	62.0	M6	Ø 8	831.0314	831.0564.1
	145.0090	21.0	15.5	62.0	M6	Ø 8	831.0314	831.0563.1
ROBO WH W500	145.0479	25.0	13.0	75.5	M8	Ø 10	831.0316	831.0368.1
	145.0556	25.0	13.0	77.5	M8	Ø 10	831.0316	831.0368.1
	145.0466	25.0	15.5	72.0	M8	Ø 10	831.0316	831.0216.1
	145.0568	25.0	15.5	72.5	M8	Ø 10	831.0316	831.0216.1
	145.0553	25.0	15.5	75.5	M8	Ø 10	831.0316	831.0023.1
	145.0544	25.0	15.5	75.5	M8	Ø 10	831.0316	831.0023.1
ROBO WH W600	145.0480	25.0	15.5	77.0	M8	Ø 10	831.0316	831.0023.1
	145.0689.5	30,0	18.0	92.0	M12	Ø 12	831.0319	831.0162.1
	145.0686.5	30,0	21.5	92.0	M12	Ø 12	831.0319	831.0746.1
	145.0687.5	30,0	21.5	86.0	M12	Ø 12	831.0319	831.0763.1
	145.0688.5	30,0	21.5	95.0	M12	Ø 12	831.0319	831.0764.1

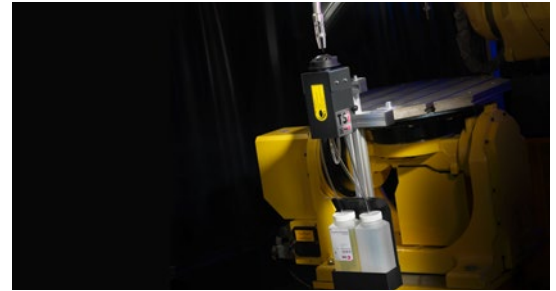
The standard clamping prisms and cutters listed here cannot be used in conjunction with the torch cleaning station BRS-FP. Please submit a separate request for these.

Robot Peripherals

Injection unit „TSi“

Plug & Spray ...

The TSi from ABICOR BINZEL – the stand-alone welding torch injection unit for simple integration in existing or new processes. The spray pulse is triggered by the integrated activating mechanism as soon as the welding torch is moved into the TSi vertically up to the spraying position. This makes a complicated electric actuator or integration in the robot controller unnecessary.



Order informations:



No.	Type	Description	Bestell-Nr.
1	Injection unit TSi	Injection unit TSi incl. 1 litre anti-spatter fluid and three sealing inserts (Ø 20, 24, 30 mm)	830.2285.1
2	Device cover	Device cover with bayonet fitting	830.2237.1
3	Sealing insert: Ø 20 mm Ø 24 mm Ø 30 mm	Seal to the gas nozzle	830.2232.1 830.2233.1 830.2234.1
4	Pressure flange	Contact surface of the gas nozzle for spray pulse activation	830.2265.1
5	Injection nozzle	Injection nozzle for the even vaporisation of the anti-spatter fluid	830.2133.1
6	Collecting tank	Collecting tank and filter for excess anti-spatter fluid	830.2240.1
7	Anti-spatter fluid	1 litre bottle 5 litre canister	192.0056 192.0052
not ill.	Fixing bracket TSi/BRS	Fixing bracket for attaching the TSi to torch cleaning stations CC/LC/FP	831.0824.1

Technical Data:

General information:

Weight: 1.5 kg (without anti-spatter fluid)
 Ambient temperature in operation: 0 °C to +40 °C
 Relative humidity in operation: up to 90% at 20 °C

Pneumatic connection:

Connection port: Ø 8 mm
 Operating pressure: min. 0.5 MPa up to max. 0.6 MPa

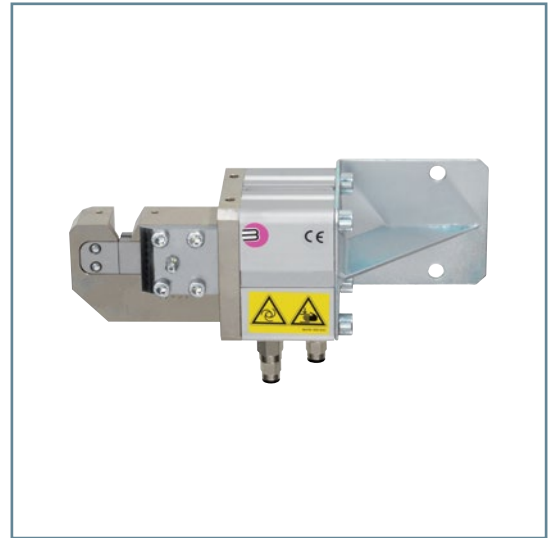
Roboter-Peripherie

Wire Cutting Station „DAV“

The perfect cut ...

The wire cutting station DAV in MIG/MAG robotic welding is an essential requirement to guarantee a consistent wire stick-out, and clean end of the wire as well as better capacity of arc-start due to the cutting of the welding ball and oxides formed at the end of the wire.

- Defined wire length as requirement for the automatic TCP measurement
- Precise and reliable cutting quality even with hard or thick wires
- High durability and longevity of the blades
- Wire clamping function for the wire removal in connection with the ATS-Rotor



Technical Data:

Wire cutting fixture "DAV"

Operating pressure: 6–8 bar
 Compressed air supply: Clear width Ø 4 mm
 Cutting rate at 6 bar: Solid wire 1.6 mm
 Flux cored wire 3.2 mm
 Weight: 2700 g

Extension set

Comprising: 5/2 directional control valve, device socket, threaded connectors, plastic pipe (1 m) and silencer
 Operating pressure: 6–8 bar
 Compressed air supply: G 1/8"
 Nominal flow: approx. 650 l/min.
 Control: 24 V DC
 - I max. ≤ 1.1 A
 - I nom. = 220 mA
 Weight: 265 g

Order options:

Description	Part-No.
Wire cutting fixture "DAV" cpl.	839.0020
Replacement blade	839.0024
Replacement static blade	839.0026
Extension set	839.0035.1

Our Product Range:

■ MIG/MAG

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

■ TIG

- Welding Torches
- Automatic and Special Torches

■ PLASMA

- Cutting Torches
- Welding Torches
- Automatic and Special Torches

■ Robotic Peripheral Equipment

- Robot Torches MIG/TIG/PLASMA
- Robot Mount CAT2/iCAT/iSTM
- TCP Programming Aid ABIDOT
- Electronic Welding Regulator EWR
- Wire Feeder System MASTER Liner
- Torch Cleaning Station BRS
- Front Injector TMS-VI
- Wire Cutting Fixture DAV
- Wire Feeding System MFS
- Torch Change System ATS-Rotor
- Tool Change System WWS

■ Welding Accessories

- Cooling Devices
- Welding Cable Plug and Socket
- Anti Spatter Spray and Paste
- and so on ...



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