

ROBO CATALOGUE 4.5



**Robotic joining technology for all
metalworking industries**



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MIG/MAG welding torch systems

Air cooled & liquid cooled



ROBO WH / ROBO WH-PP – liquid cooled

Quick adaptation to changing welding tasks

Capacity: up to 600 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 15



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

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ABIROB® 350 GC – air cooled

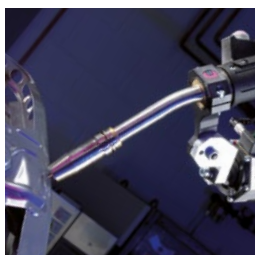
Sturdy, durable & economical

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 33



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

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ROBO Compact – liquid cooled

Powerful, reliable & economical

Capacity: up to 600 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

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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
- Automated torch exchange possible
- Flexible adaptation to changing welding tasks
- Also available as a push-pull system for precise wire feeding
- Liquid cooled up to 600 A

Degree of automation¹:

| 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
- Aluminum materials
- Magnesium materials
- Copper materials
- Special materials

Robot interface:

- Conventional robot
(Cable assembly external):
 - Robot mount CAT3 PRO
 - 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 PRO
 - Fixed bracket RTM

¹ 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



ROBO WH & WH-PP – liquid cooled

System overview & technical data

Figure 1:
Quick change system

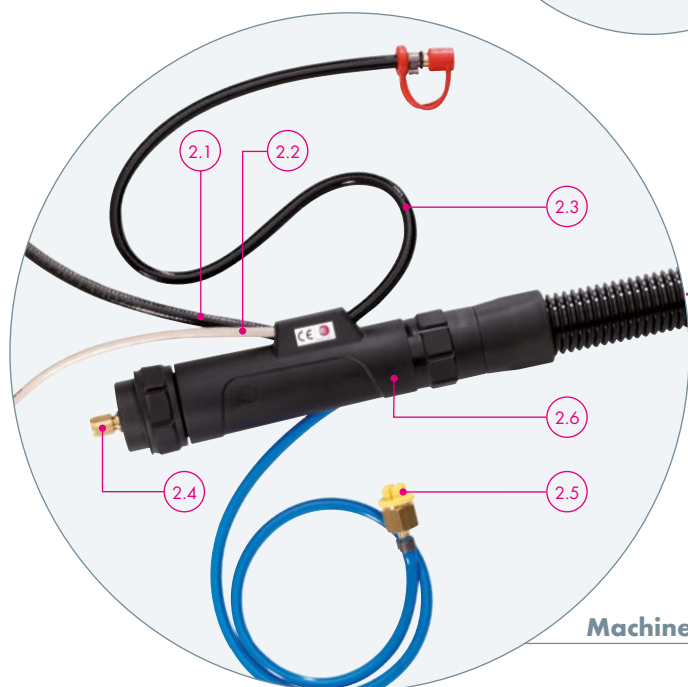
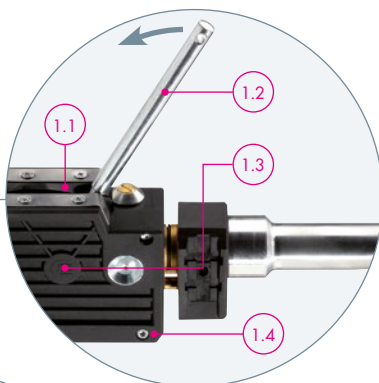


Figure 2:
Machine connection

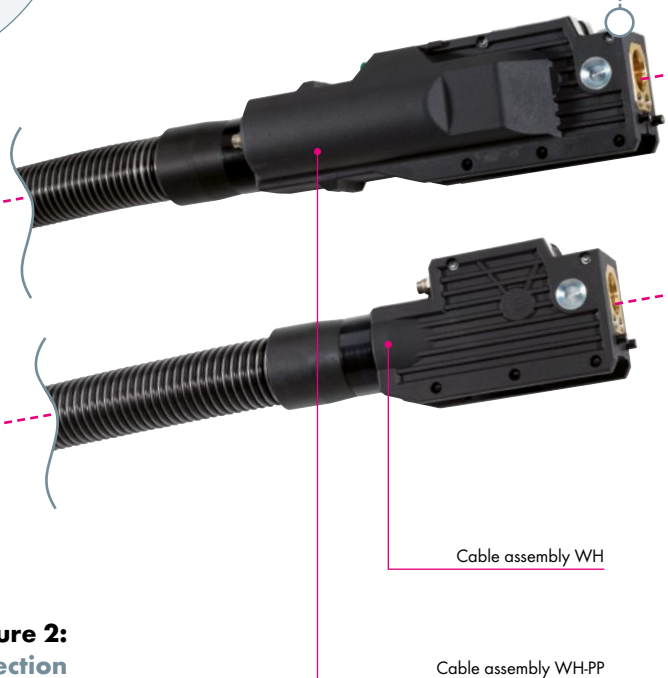


Figure 1:
Quick change system

- 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.

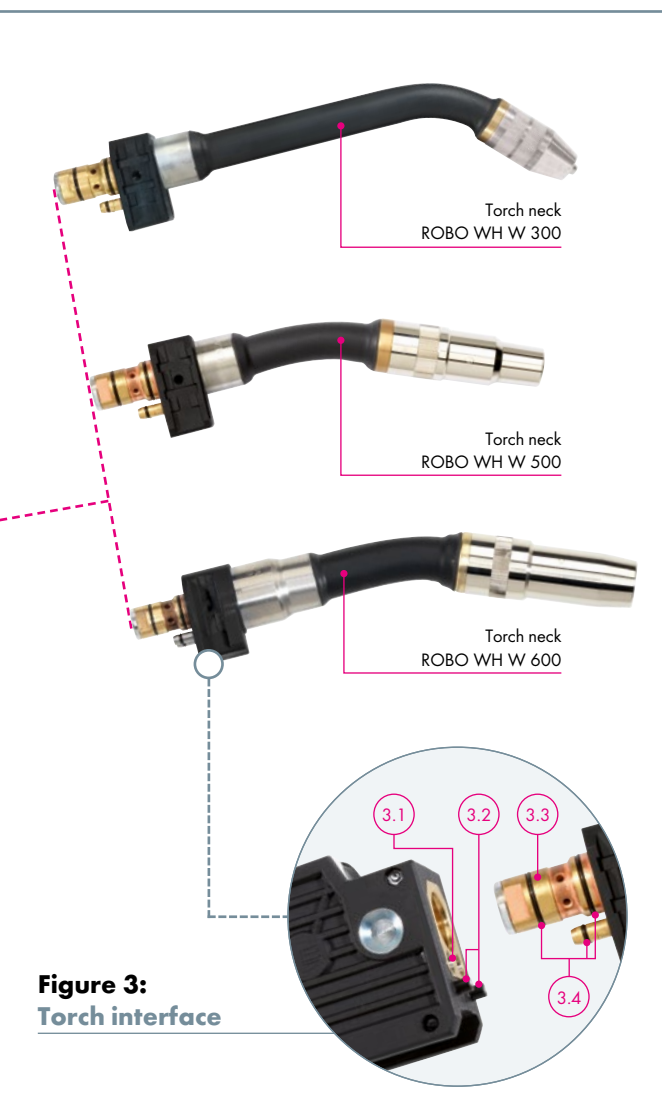
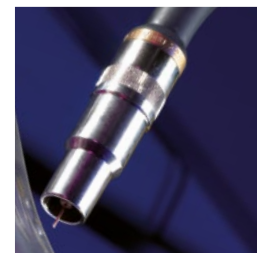
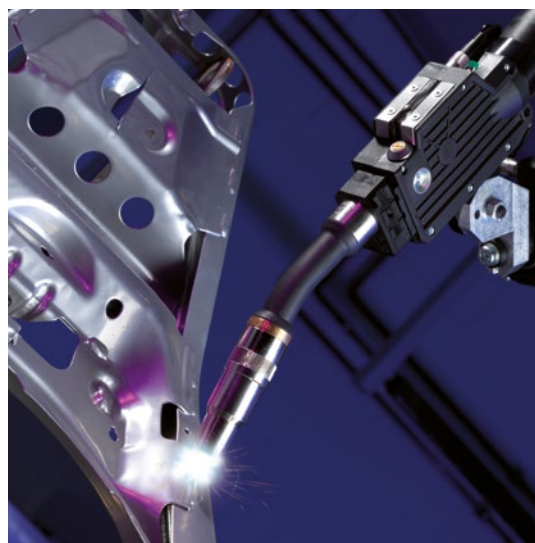


Figure 3:
Torch interface

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

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



Technical data (EN 60 974-7):

ROBO WH W 300

| | |
|-------------------|---|
| Type of cooling: | liquid cooled |
| Rating: | 330 A CO ₂ 300 A mixed gases M21 (EN ISO 14175) |
| Duty cycle: | 100 % |
| Wire-Ø: | 0.8–1.2 mm |
| Torch geometries: | 45° |

ROBO WH W 500

| | |
|-------------------|---|
| Type of cooling: | liquid cooled |
| Rating: | 550 A CO ₂ 500 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 W 600

| | |
|-------------------|---|
| Type of cooling: | liquid cooled |
| Rating: | 600 A CO ₂ 550 A mixed gases M21 (EN ISO 14175) |
| Duty cycle: | 100 % |
| Wire-Ø: | max. 1.6 mm |
| Torch geometries: | 0°/22°/35°/45° |

Note:

Rating data were determined with standard equipment 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 W 300



Torch neck

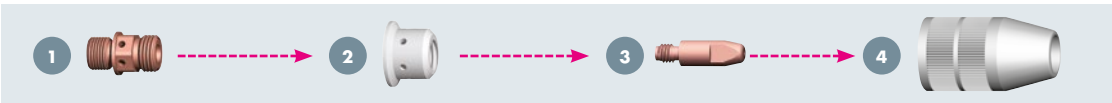
| Features | Part-No. |
|----------|-------------------|
| Standard | 45° 962.1889.1 |

Wear parts and fittings are not included in the scope of delivery! Please order separately and application-specific! Standard equipment M6

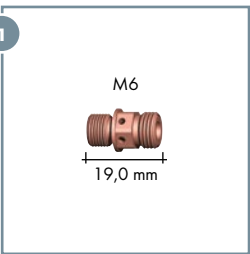
Neck liner

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

Wear parts for ROBO WH W 300

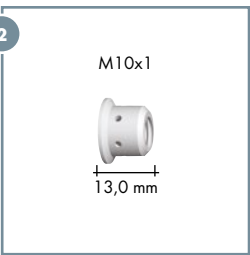


1 Contact tip holder (10 pcs.)



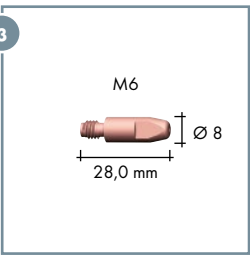
| Type | Part-No. |
|------------------------|----------|
| M6 copper ¹ | 785.5052 |

2 Gas diffuser (10 pcs.)



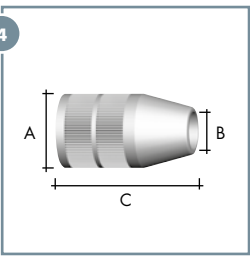
| Type | Part-No. |
|--------------------------------------|----------|
| Standard | 962.0657 |
| High temperature resistant (ceramic) | 962.1341 |

3 Contact tip (10 pcs.)



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

4 Gas nozzle (10 pcs.)



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

All dimensions are valid for standard equipment.

¹ Recommended for high amperages.
² Recess: Contact tip recessed
³ Stick-out: Contact tip protruding

ROBO WH & WH-PP – liquid cooled

Torch necks & wear parts

ROBO WH W 500



Torch neck

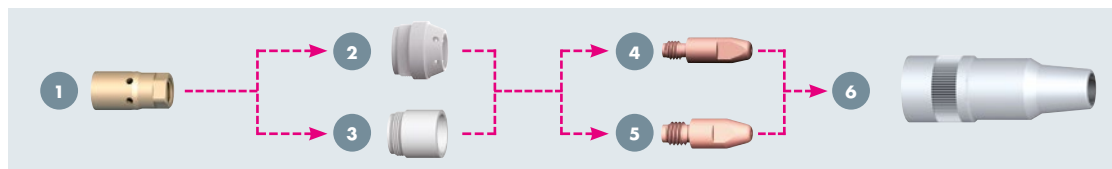
| Features | Part-No. | | | |
|-------------------------------------|------------|------------|------------|------------|
| | 0° | 22° | 35° | 45° |
| Standard | 962.1550.1 | 962.1549.1 | 962.1551.1 | 962.1532.1 |
| with gas nozzle sensor ¹ | 962.1595.1 | 962.1596.1 | 962.1597.1 | 962.1598.1 |

Wear parts and fittings are not included in the scope of delivery! Please order separately and application-specific! Standard equipment M8

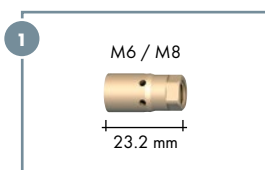
Neck liner

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

Wear parts for ROBO WH W 500

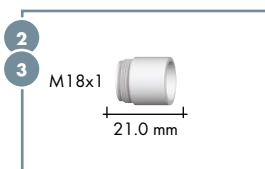


1 Contact tip holder (10 pcs.)



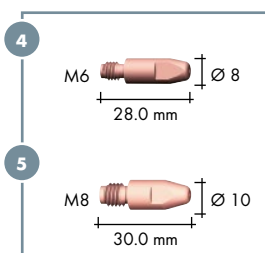
| Type | Part-No. |
|------------------------|-------------|
| M6 copper ² | 142.0133.10 |
| M6 brass | 142.0216.10 |
| M8 copper ² | 142.0151.10 |
| M8 brass | 142.0117.10 |

2 Gas diffuser 3 Nozzle insulator (10 pcs.)



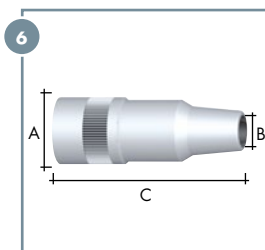
| Type | Part-No. |
|--|-------------|
| Gas diffuser, standard (not ill.) | 943.0284.10 |
| Nozzle insulator, standard | 146.0054.10 |
| Nozzle insulator, standard/short | 146.0064 |
| Nozzle insulator, resistant to high temperatures | 146.0059.10 |

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



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

6 Gas nozzle (10 pcs.)



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

All dimensions are valid for standard equipment.

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

¹ Gas nozzle sensor connection for tactile seam location via gas nozzle.

² Recommended for high amperages.

³ Recess: Contact tip recessed

⁴ Stick-out: Contact tip protruding

ROBO WH & WH-PP – liquid cooled

Torch necks & wear parts

ROBO WH W 600



Torch neck

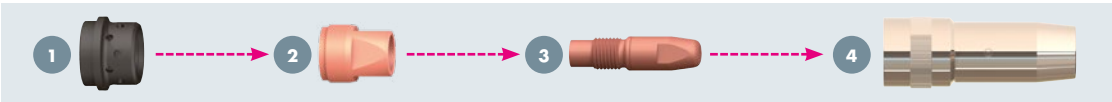
| Features | Part-No. | | | |
|-------------------------------------|------------|------------|------------|------------|
| | 0° | 22° | 35° | 45° |
| Standard | 962.1745.1 | 962.1746.1 | 962.1747.1 | 962.1748.1 |
| with gas nozzle sensor ¹ | 962.1769.1 | 962.1770.1 | 962.1771.1 | 962.1772.1 |

Wear parts and fittings are not included in the scope of delivery! Please order separately and application-specific!
Standard equipment M12

Neck liner

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

Wear parts for ROBO WH W 600

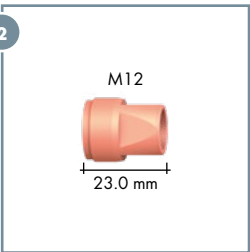


1 Gas diffuser (10 pcs.)



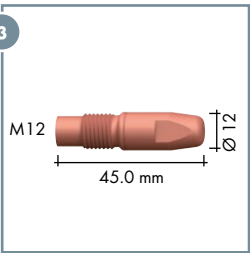
| Type | Part-No. |
|----------|-------------|
| Standard | 146.0079.10 |

2 Contact tip holder (10 pcs.)



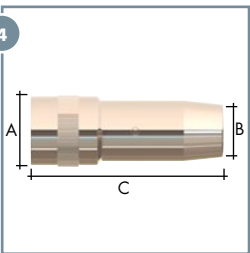
| Type | Part-No. |
|------|-------------|
| M12 | 142.0214.10 |

3 Contact tip (10 pcs.)



| Type | Wire-Ø | Part-No. |
|--------------------------------|--------|-------------|
| CuCrZr | 1.2 mm | 140.1563.10 |
| | 1.4 mm | 140.1564.10 |
| | 1.6 mm | 140.1565.10 |
| HDS silver-plated ² | 1.2 mm | 147.6563.10 |
| | 1.4 mm | 147.6564.10 |
| | 1.6 mm | 147.6565.10 |

4 Gas nozzle (5 pcs.)



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

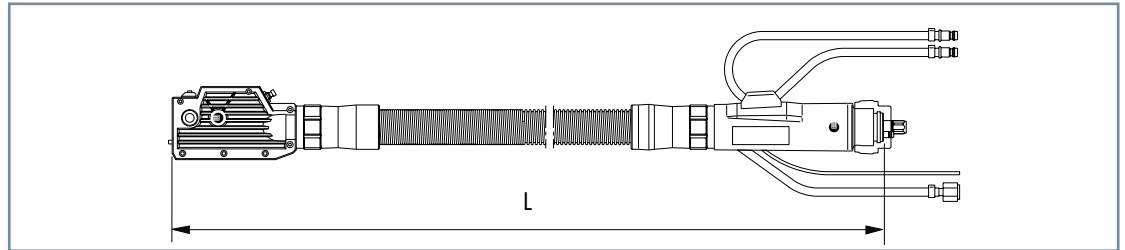
All dimensions are valid for standard equipment.

¹ Gas nozzle sensor connection for tactile seam location via gas nozzle.
² HDS = Heavy Duty Silver contact tips
³ Flush: Contact tip flushed
⁴ Stick-out: Contact tip protruding
⁵ 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 DC¹)

| 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.

Liners for Euro central connection²

| Type | Wire-Ø | up to L= 1.65 m | up to L= 3.20 m | up to L= 5.00 m |
|----------------------------------|------------|-----------------|-----------------|-----------------|
| Liner steel red ³ | 0.8–1.2 mm | 124.0176 | 124.0111.1 | 124.0113.1 |
| Liner steel BSLblue ³ | 1.4–1.6 mm | 124.0136 | 124.0108 | 124.0110 |
| PA liner ⁴ | 0.8–1.2 mm | 128.0039 | 128.0012 | 128.0016 |
| | 1.4–1.6 mm | 128.0040 | 128.0020 | 128.0030 |

Drive rolls for WH-PP

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

Accessories



Alignment jig

| for torch type | Torch geometry | Part-No. |
|----------------|----------------|------------|
| ROBO WH W 300 | 45° | 837.0163.1 |
| ROBO WH W 500 | 0°/22°/35°/45° | 837.0020.1 |
| ROBO WH W 600 | 0°/22°/35°/45° | 837.0846.1 |

¹ 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.

² Liners for other connection types are available on request.

³ 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-arc 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 aluminum and special wires on request.

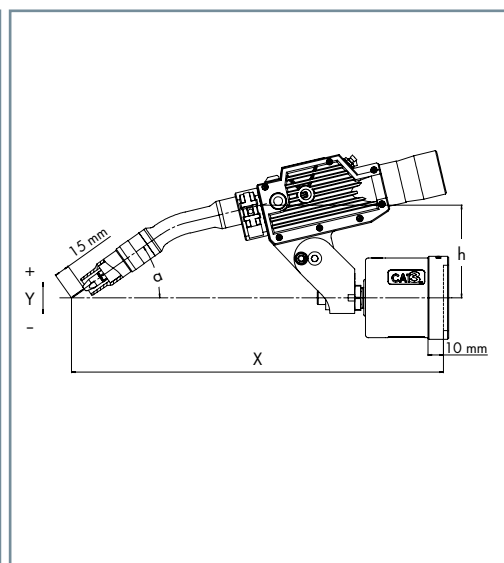
⁴ PA liners for the use of aluminum and special wires. Good gliding properties and abrasion resistance. Application temperature limit 150 °C.

ROBO WH & WH-PP – liquid cooled Holder & TCP geometries

Torch holder for ROBO WH and WH-PP

in connection with CAT3 PRO cpl.

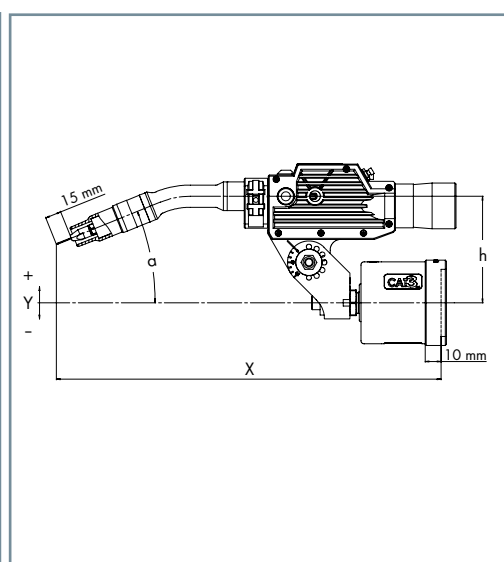
| Torch type | Torch geometry | X | Y | h | α | Part-No. |
|---------------|----------------|------|---|-----|----------|------------|
| | | [mm] | | | | |
| ROBO WH W 300 | 45° | 396 | 0 | 95 | 52° | 960.0026.1 |
| ROBO WH W 500 | 0° | 370 | 0 | 80 | 23° | 960.0026.1 |
| | 22° | 354 | 0 | 89 | 35° | 960.0026.1 |
| | 35° | 362 | 0 | 96 | 41° | 960.0026.1 |
| | 45° | 349 | 0 | 99 | 46° | 960.0026.1 |
| ROBO WH W 600 | 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 PRO

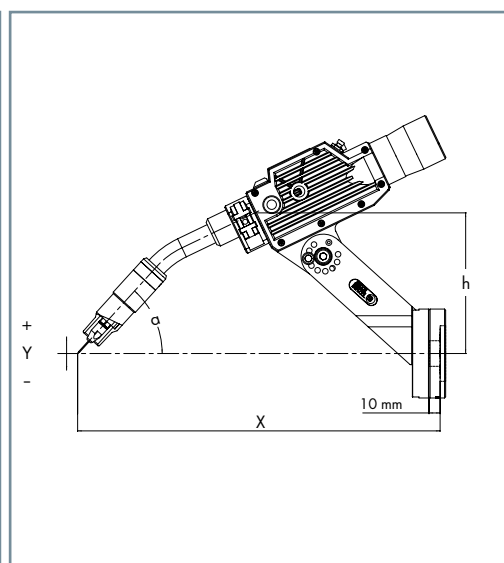
| Torch type | Torch geometry | X | Y | h | α | Part-No. |
|---------------|----------------|------|-----|-----|----------|------------|
| | | [mm] | | | | |
| ROBO WH W 300 | 45° | 399 | 35 | 100 | 45° | 780.0307.1 |
| ROBO WH W 500 | 0° | 365 | 100 | 100 | 0° | 780.0307.1 |
| | 22° | 356 | 55 | 100 | 22° | 780.0307.1 |
| | 35° | 364 | 26 | 100 | 35° | 780.0307.1 |
| | 45° | 350 | 3 | 100 | 45° | 780.0307.1 |
| ROBO WH W 600 | 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 W 300 | 45° | 356 | -36 | 127 | 71° | 780.0360 |
| ROBO WH W 500 | 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 W 600 | 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 optimised wire feeding, prevention of electrolytic corrosion and improved coolant flow
- Special torch neck geometries are available for joining components even with limited accessibility
- Optionally available with wire brake for fixing the wire in the cable assembly – for tactile seam tracking with constant stick-out

Degree of automation¹:

| 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
- Aluminum materials
- Magnesium materials
- Copper materials
- Special materials

Robot interface:

- Conventional robot
(Cable assembly external):
 - Robot mount CAT3 PRO
 - 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 PRO
 - Fixed bracket RTM

up to
600 A



¹ 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® W – liquid cooled

System overview & technical data

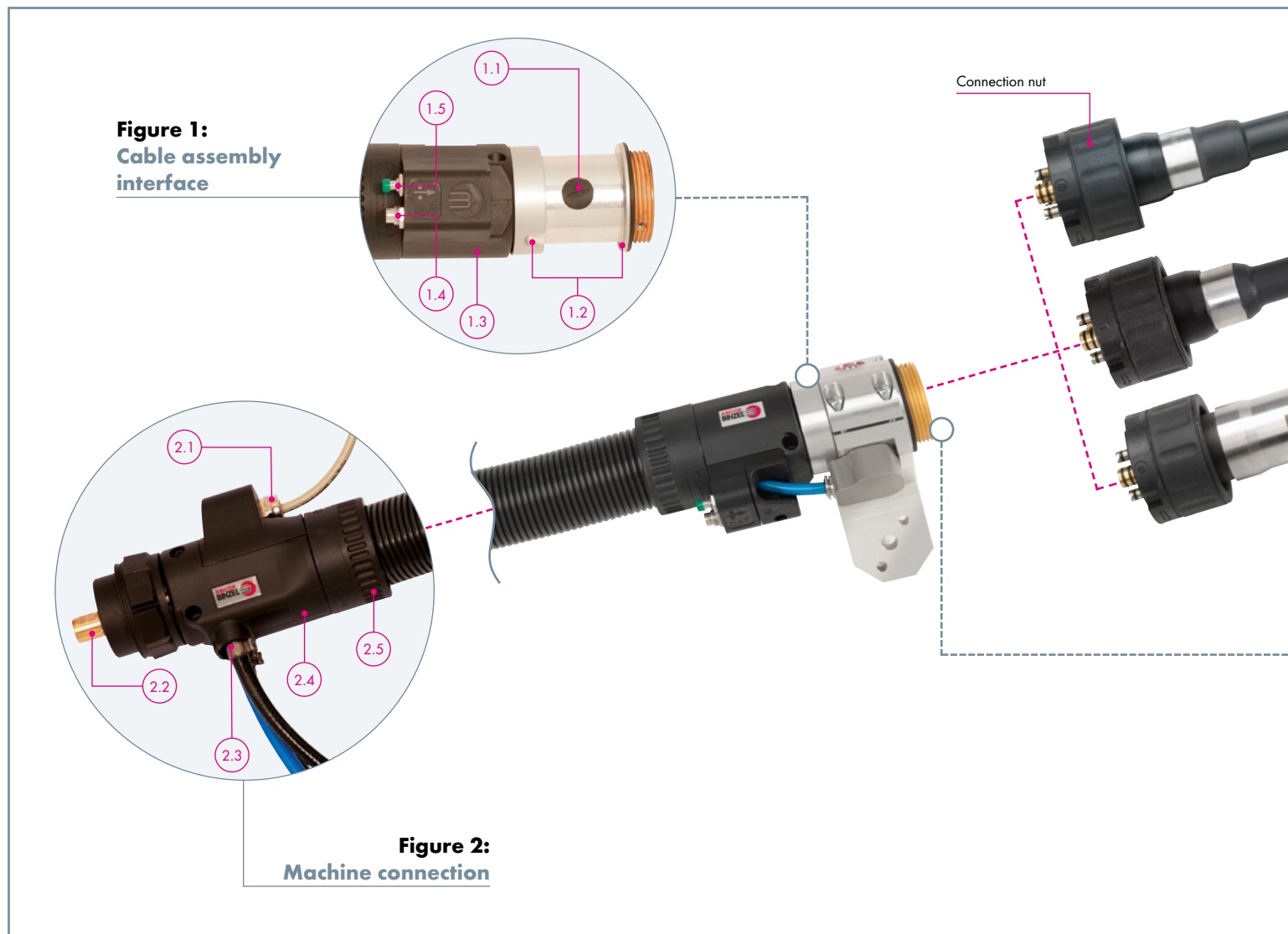


Figure 1:
Cable assembly interface

- 1.1 Connection for the optional wire brake¹
- 1.2 Interlock connection – reproducible positioning of the cable assembly in three dimensions
- 1.3 Short housing for best accessibility
- 1.4 Connection CAT3 PRO
- 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 – minimised torsion stress

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

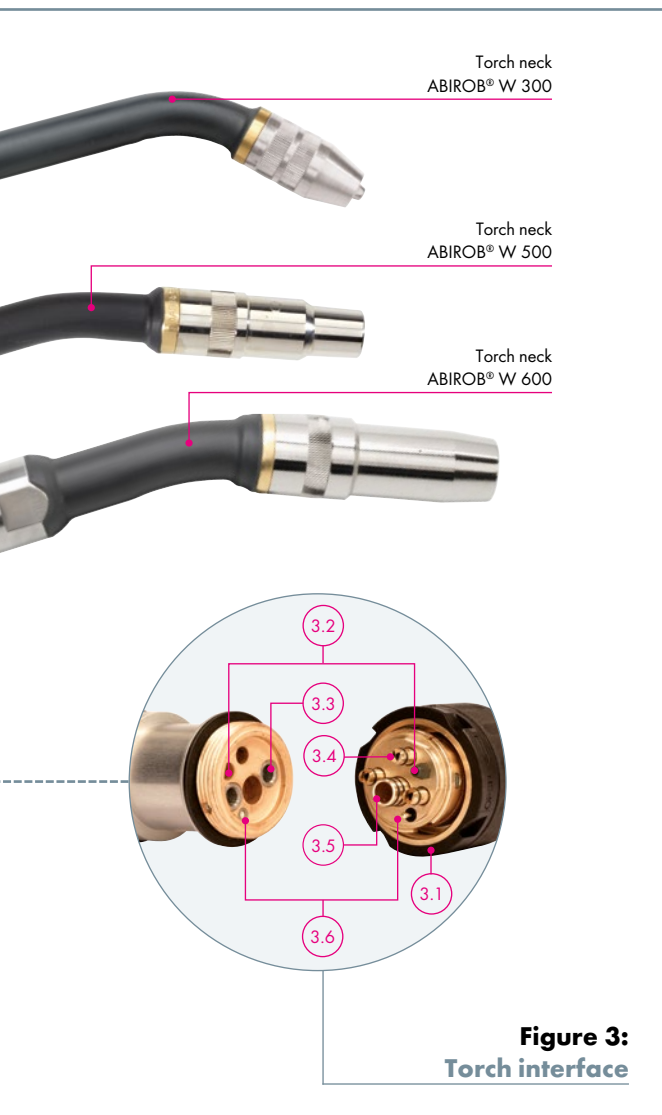
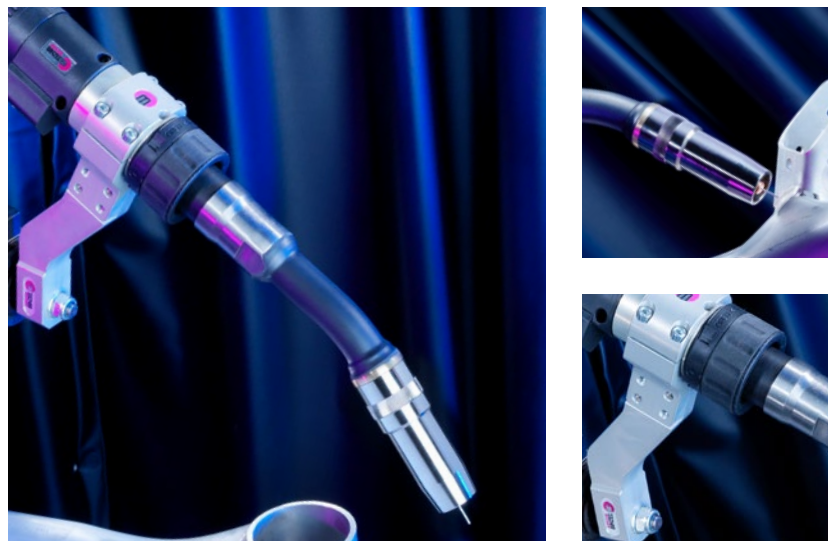


Figure 3:
Torch interface

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

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



Technical data (EN 60 974-7):

ABIROB® W 300

| | |
|-------------------|---|
| Type of cooling: | liquid cooled |
| Rating: | 330 A CO ₂ 300 A mixed gases M21 (EN ISO 14175) |
| Duty cycle: | 100 % |
| Wire-Ø: | 0.8–1.2 mm |
| Torch geometries: | 22°/45° |

ABIROB® W 500

| | |
|-------------------|---|
| Type of cooling: | liquid cooled |
| Rating: | 550 A CO ₂ 500 A mixed gases M21 (EN ISO 14175) |
| Duty cycle: | 100 % |
| Wire-Ø: | 0.8–1.6 mm |
| Torch geometries: | 0°/22°/35°/45° |

ABIROB® W 600

| | |
|-------------------|---|
| 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 |
| Torch geometries: | 0°/22°/35°/45° |

Note:

Rating data was determined with standard equipment 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® W 300

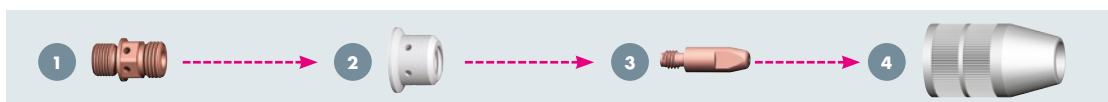


Torch neck

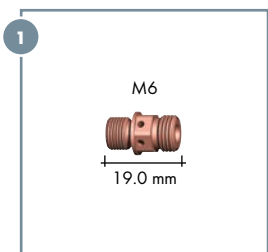
| Features | Part-No. | |
|-------------------------------------|------------|------------|
| | 22° | 45° |
| Standard | 782.0110.1 | 782.0111.1 |
| with gas nozzle sensor ¹ | 782.0014.1 | 782.0015.1 |

Wear parts and fittings are not included in the scope of delivery! Please order separately and according to application!
Standard equipment M6

Wear parts for ABIROB® W 300



1 Contact tip holder (10 pcs.)



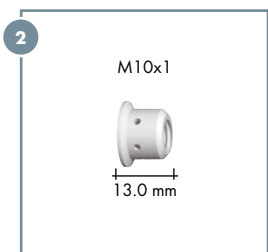
Type

M6 copper

Part-No.

785.5052

2 Gas diffuser (10 pcs.)



Type

Standard

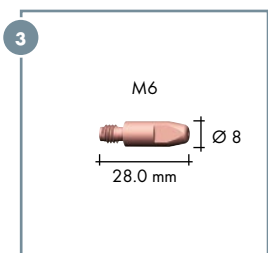
High temperature resistant (ceramic)

Part-No.

962.0657

962.1341

3 Contact tip (10 pcs.)



Type

CuCrZr

Wire-Ø

0.8 mm

0.9 mm

1.0 mm

1.2 mm

Part-No.

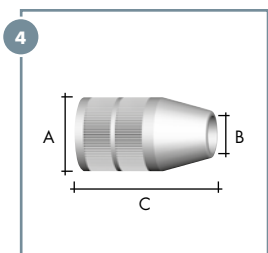
140.0054

140.0172

140.0245

140.0382

4 Gas nozzle (10 pcs.)



Type conical

Recess (-1.0 mm)²

Stick-out (+3.0 mm)³

Stick-out (+3.0 mm)³

Ø A

25.0 mm

25.0 mm

25.0 mm

Ø B

13.0 mm

13.0 mm

15.5 mm

Length C

48.5 mm

44.5 mm

44.5 mm

Part-No.

145.0564

145.0495.10

145.0494.10

All dimensions are valid for standard equipment.

¹ Gas nozzle sensor connection for tactile seam tracking via gas nozzle.

² Recess: Contact tip recessed

³ Stick-out: Contact tip protruding

ABIROB® W – liquid cooled

Torch necks & wear parts

ABIROB® W 500

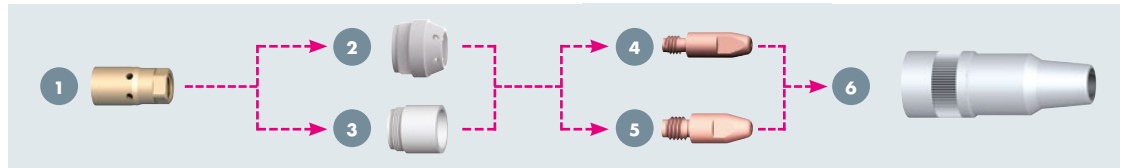


Torch neck

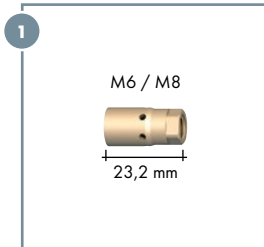
| Features | Part-No. | | | |
|--|------------|------------|------------|------------|
| | 0° | 22° | 35° | 45° |
| Standard | 782.0080.1 | 782.0076.1 | 782.0077.1 | 782.0078.1 |
| Standard (+100) | 782.0106.1 | 782.0107.1 | 782.0108.1 | 782.0109.1 |
| with gas nozzle sensor ¹ | 782.0079.1 | 782.0003.1 | 782.0004.1 | 782.0005.1 |
| with gas nozzle sensor ¹ (+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 separately and according to application! Standard equipment M8

Wear parts for ABIROB® W 500

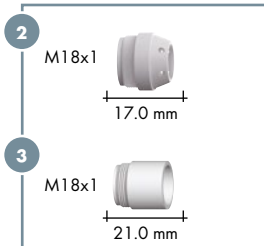


1 Contact tip holder (10 pcs.)



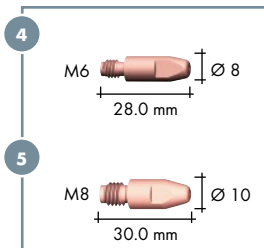
| Type | Part-No. |
|------------------------|-------------|
| M6 copper ² | 142.0133.10 |
| M6 brass | 142.0216.10 |
| M8 copper ² | 142.0151.10 |
| M8 brass | 142.0117.10 |

2 Gas diffuser 3 Nozzle insulator (10 pcs.)



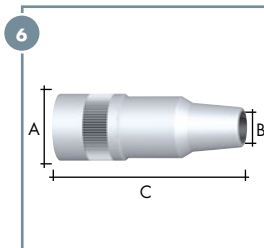
| Type | Part-No. |
|---|-------------|
| Gas diffuser standard | 943.0284 |
| Nozzle insulator standard | 146.0054.10 |
| Nozzle insulator standard short (L= 11.4 mm) ³ | 146.0064 |
| Nozzle insulator, resistant to high temperatures | 146.0059.10 |

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



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

6 Gas nozzle (10 pcs.)



| Type bottle form | Ø A | Ø B | Length C | Part-No. |
|----------------------------------|---------|---------|----------|-------------|
| Recess (-2.6 mm) ⁴ | 27.0 mm | 13.0 mm | 77.0 mm | 145.0556.10 |
| Recess (-1.1 mm) ⁴ | 27.0 mm | 13.0 mm | 75.5 mm | 145.0479.10 |
| Recess (-2.6 mm) ⁴ | 27.0 mm | 15.5 mm | 77.0 mm | 145.0480.10 |
| Recess (-1.1 mm) ⁴ | 27.0 mm | 15.5 mm | 75.5 mm | 145.0544.10 |
| Stick-out (+2.4 mm) ⁵ | 27.0 mm | 15.5 mm | 72.0 mm | 145.0466.10 |

All dimensions are valid for standard equipment.

| Type conical | Ø A | Ø B | Length C | Part-No. |
|----------------------------------|---------|---------|----------|-------------|
| Recess (-1.1 mm) ⁴ | 27.0 mm | 15.5 mm | 75.5 mm | 145.0553.10 |
| Stick-out (+2.4 mm) ⁵ | 27.0 mm | 15.5 mm | 72.5 mm | 145.0568.10 |

All dimensions are valid for standard equipment.

¹ Gas nozzle sensor connection for tactile seam tracking via gas nozzle.

² Recommended for high amperages.

³ Recommended for applications with galvanised materials in conjunction with gas nozzles 145.0553 and 145.0568.

⁴ Recess: Contact tip recessed

⁵ Stick-out: Contact tip protruding

ABIROB® W – liquid cooled

Torch necks & wear parts

ABIROB® W 600

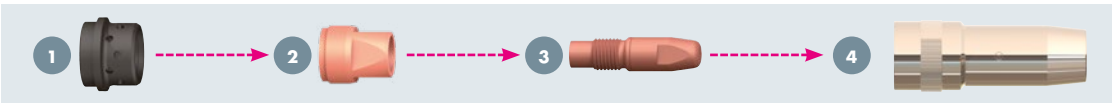


Torch neck

| 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 ¹ | 782.0213.1 | 782.0214.1 | 782.0215.1 | 782.0216.1 |
| with gas nozzle sensor ¹ (+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 separately and according to application! Standard equipment M12

Wear parts for ABIROB® W 600

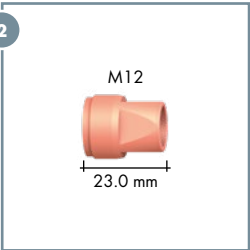


1 Gas diffuser (10 pcs.)



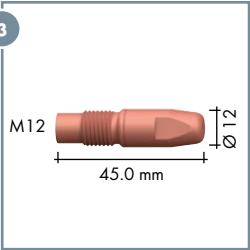
| Type | Part-No. |
|----------|-------------|
| Standard | 146.0079.10 |

2 Contact tip holder (10 pcs.)



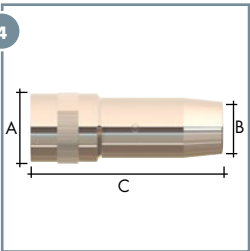
| Type | Part-No. |
|------|-------------|
| M12 | 142.0214.10 |

3 Contact tip (10 pcs.)



| Type | Wire-Ø | Part-No. |
|--------------------------------|--------|-------------|
| CuCrZr | 1.2 mm | 140.1563.10 |
| | 1.4 mm | 140.1564.10 |
| | 1.6 mm | 140.1565.10 |
| HDS silver-plated ² | 1.2 mm | 147.6563.10 |
| | 1.4 mm | 147.6564.10 |
| | 1.6 mm | 147.6565.10 |

4 Gas nozzle (5 pcs.)



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

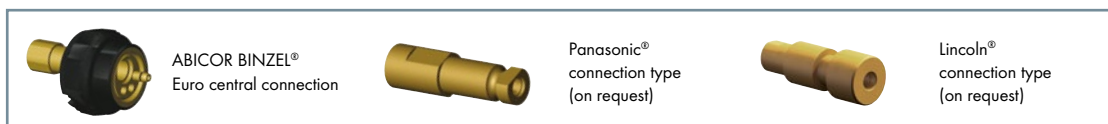
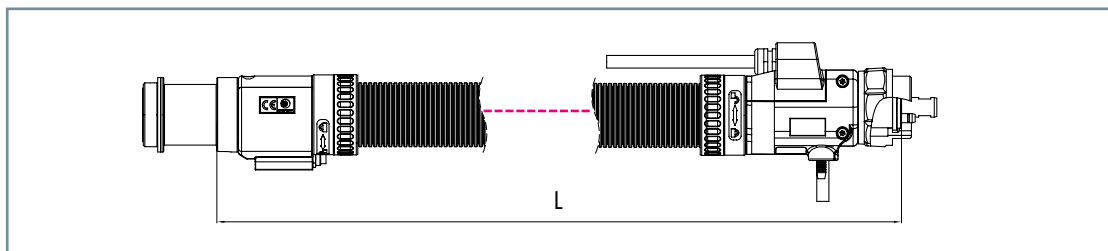
All dimensions are valid for standard equipment.

¹ Gas nozzle sensor connection for tactile seam tracking via gas nozzle.
² HDS= Heavy Duty Silver contact tips
³ Flush: Contact tip flushed
⁴ Stick-out: Contact tip protruding
⁵ Recess: Contact tip recessed

ABIROB® W – liquid cooled

Cable assemblies & accessoires

Cable assemblies and connection types



Cable assemblies ABIROB® W 5H

(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 |

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.

Cable assemblies ABIROB® W 7F

(Recommended for amperages over 400 A)

| with connection type | Length | Part-No. |
|-------------------------|--------|------------|
| Euro central connection | 1.35 m | 782.1049.1 |
| | 1.50 m | 782.1099.1 |

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 | Collet |
|---------------------------------|------------|------------------------------|-------------------------------|------------|----------|
| Liner steel ² | 0.8–1.2 mm | 124.0145.1 | 124.0146.1 | 124.0159.1 | 131.0012 |
| Liner steel ² | 1.4–1.6 mm | 124.0147 | 124.0148 | 124.0160 | 131.0011 |
| Combined wire feed ³ | 0.8–1.2 mm | 128.M008 | 128.M009 | – | 131.0019 |
| | 1.4–1.6 mm | 128.M012 | 128.M013 | – | 131.0020 |

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® W 300 | 22°/45° | 837.0484.1 |
| ABIROB® W 500/W 500 (+100 mm) | 0°/22°/35°/45° | 837.0950.1 |
| ABIROB® W 600/W 600 (+100 mm) | 0°/22°/35°/45° | 837.0860.1 |



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 aluminum 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.

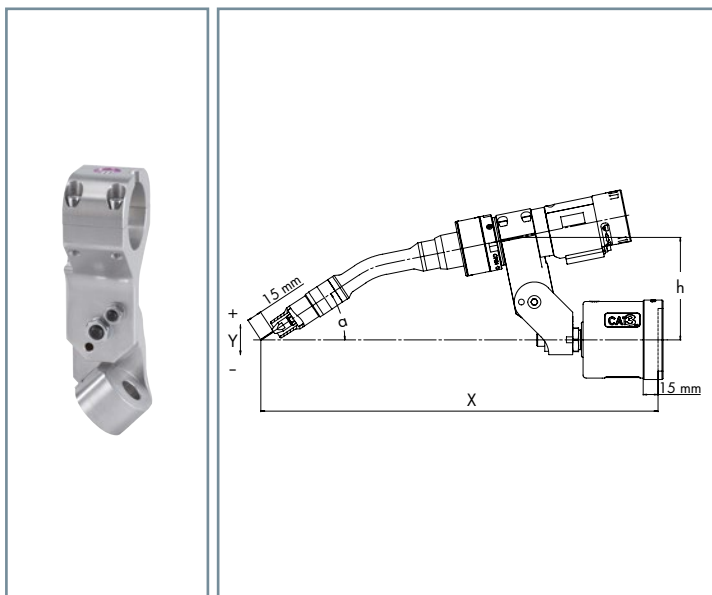
⁴ Including 1x collet

ABIROB® W – liquid cooled Holder & TCP geometries

CAT3 PRO holder for ABIROB® W

in connection with CAT3 PRO cpl.

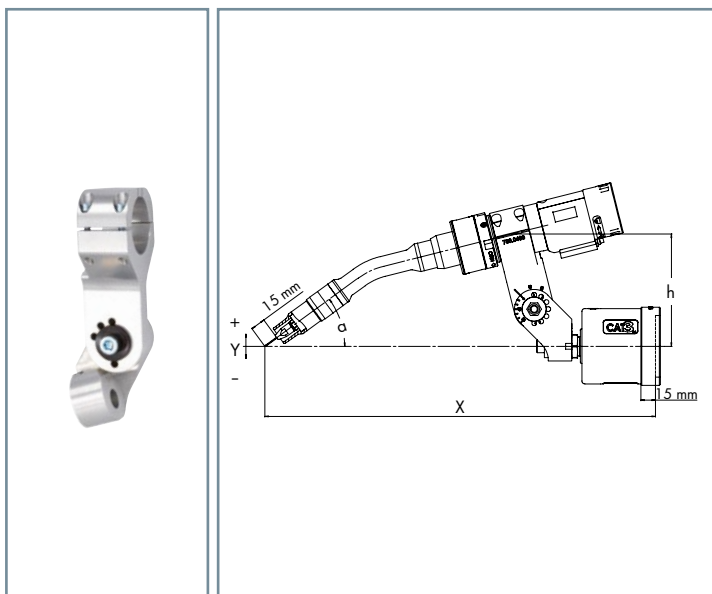
| Torch type | Torch geometry | X | Y | h | a | Part-No. |
|------------|----------------|------|---|-----|-----|------------|
| | | [mm] | | | | |
| ABIROB® | 22° | 437 | 0 | 102 | 36° | 780.0430.1 |
| W 300 | 45° | 416 | 0 | 104 | 53° | 780.0430.1 |
| ABIROB® | 22° | 399 | 0 | 103 | 33° | 780.0430.1 |
| W 500 | 35° | 383 | 0 | 104 | 40° | 780.0430.1 |
| | 45° | 370 | 0 | 105 | 45° | 780.0430.1 |
| ABIROB® | 22° | 499 | 0 | 104 | 30° | 780.0430.1 |
| W 500 | 35° | 484 | 0 | 105 | 39° | 780.0430.1 |
| (+100 mm) | 45° | 470 | 0 | 105 | 45° | 780.0430.1 |
| ABIROB® | 22° | 440 | 0 | 104 | 32° | 780.0430.1 |
| W 600 | 35° | 424 | 0 | 105 | 39° | 780.0430.1 |
| | 45° | 410 | 0 | 105 | 44° | 780.0430.1 |
| ABIROB® | 22° | 540 | 0 | 104 | 29° | 780.0430.1 |
| W 600 | 35° | 525 | 0 | 105 | 38° | 780.0430.1 |
| (+100 mm) | 45° | 510 | 0 | 105 | 44° | 780.0430.1 |



Segment holder for ABIROB® W¹

in connection with CAT3 PRO

| Torch type | Torch geometry | X | Y | h | a | Part-No. |
|------------|----------------|------|-----|-----|-----|------------|
| | | [mm] | | | | |
| ABIROB® | 22° | 440 | +10 | 115 | 36° | 780.0433.1 |
| W 300 | 45° | 413 | -19 | 115 | 59° | 780.0433.1 |
| ABIROB® | 22° | 400 | 0 | 115 | 36° | 780.0433.1 |
| W 500 | 35° | 383 | 0 | 117 | 43° | 780.0433.1 |
| | 45° | 368 | 0 | 118 | 48° | 780.0433.1 |
| ABIROB® | 22° | 497 | -24 | 115 | 36° | 780.0433.1 |
| W 500 | 35° | 475 | -51 | 115 | 49° | 780.0433.1 |
| (+100 mm) | 45° | 453 | -70 | 115 | 59° | 780.0433.1 |
| ABIROB® | 22° | 439 | -11 | 115 | 36° | 780.0433.1 |
| W 600 | 35° | 416 | -40 | 115 | 49° | 780.0433.1 |
| | 45° | 393 | -61 | 115 | 59° | 780.0433.1 |
| ABIROB® | 22° | 536 | -36 | 115 | 36° | 780.0433.1 |
| W 600 | 35° | 513 | -64 | 115 | 49° | 780.0433.1 |
| (+100 mm) | 45° | 490 | -86 | 115 | 49° | 780.0433.1 |



Further holders are available on request.

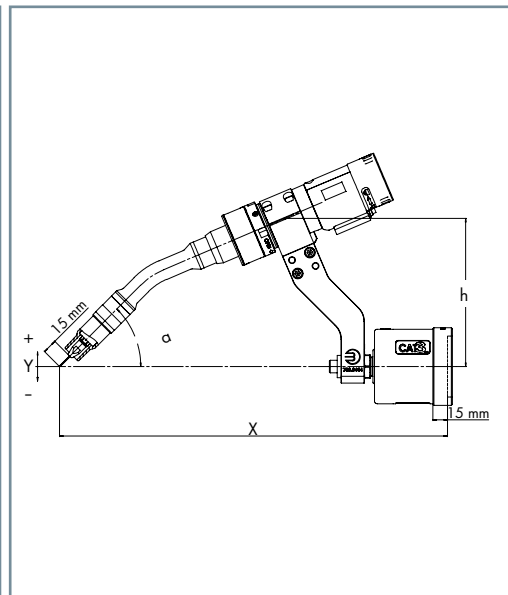
¹ Holder adjustable in 15° steps

ABIROB® W – liquid cooled Holder & TCP geometries

Fixed bracket for ABIROB® W

in connection with CAT3 PRO

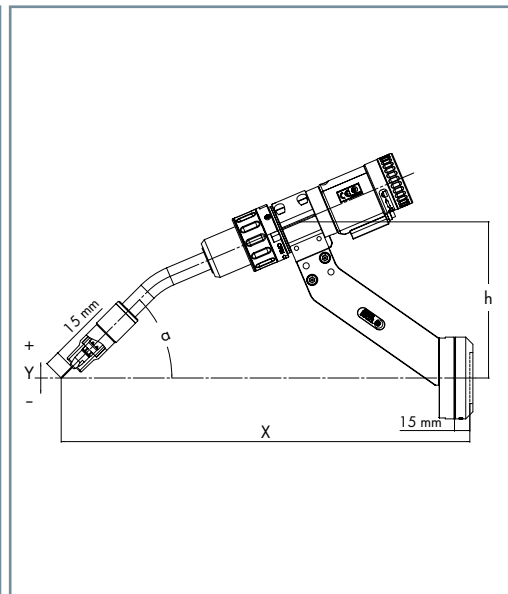
| Torch type | Torch geometry | X | Y | h | α | Part-No. |
|------------|----------------|-----|---|-----|----------|------------|
| ABIROB® | 22° | 400 | 0 | 149 | 45° | 780.0444.1 |
| W 300 | 45° | 400 | 0 | 90 | 50° | 780.0446.1 |
| ABIROB® | 22° | 400 | 0 | 153 | 45° | 780.0414.1 |
| W 500 | 35° | 400 | 0 | 125 | 45° | 780.0420.1 |
| | 45° | 400 | 0 | 126 | 50° | 780.0422.1 |
| ABIROB® | 22° | 500 | 0 | 192 | 45° | 780.0438.1 |
| W 500 | 35° | 500 | 0 | 142 | 45° | 780.0440.1 |
| (+100 mm) | 45° | 500 | 0 | 134 | 50° | 780.0442.1 |
| ABIROB® | 22° | 400 | 0 | 170 | 45° | 780.0781.1 |
| W 600 | 35° | 400 | 0 | 136 | 45° | 780.0782.1 |
| | 45° | 400 | 0 | 135 | 50° | 780.0784.1 |
| ABIROB® | 22° | 500 | 0 | 209 | 45° | 780.0785.1 |
| W 600 | 35° | 500 | 0 | 153 | 45° | 780.0786.1 |
| (+100 mm) | 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. |
|------------|----------------|-----|---|-----|----------|------------|
| ABIROB® | 22° | 400 | 0 | 149 | 45° | 780.0459.1 |
| W 300 | 45° | 400 | 0 | 90 | 50° | 780.0461.1 |
| ABIROB® | 22° | 400 | 0 | 153 | 45° | 780.0449.1 |
| W 500 | 35° | 400 | 0 | 125 | 45° | 780.0451.1 |
| | 45° | 400 | 0 | 105 | 50° | 780.0453.1 |
| ABIROB® | 22° | 500 | 0 | 192 | 45° | 780.0455.1 |
| W 500 | 35° | 500 | 0 | 142 | 45° | 780.0457.1 |
| (+100 mm) | 45° | 500 | 0 | 105 | 45° | 780.0453.1 |
| ABIROB® | 22° | 400 | 0 | 170 | 45° | 780.0789.1 |
| W 600 | 35° | 400 | 0 | 136 | 45° | 780.0790.1 |
| | 45° | 400 | 0 | 135 | 50° | 780.0792.1 |
| ABIROB® | 22° | 500 | 0 | 198 | 45° | 780.0793.1 |
| W 600 | 35° | 500 | 0 | 153 | 45° | 780.0794.1 |
| (+100 mm) | 45° | 500 | 0 | 144 | 50° | 780.0796.1 |



ABIROB® W – liquid cooled

Wire brake function



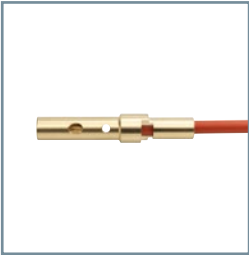
For tactile component search using the established ABIROB® W cable assembly, cable assemblies can now come with an optional wire clamp function to fix the wire. This function enables fixing of the wire in the cable assembly by clamping the wire with pneumatic cylinders. This prevents the wire from shifting during the movement of the robot.

Arguments that speak for themselves:

- No displacement of wire through torch movement
- Ensures a constant stick-out during the tactile component location search
- 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® W 300 | steel | 1.0–1.2 mm | 255 mm | 149.0344.5 |
| ABIROB® W 500 | steel | 1.0–1.2 mm | 222 mm | 149.0287.5 |
| | | 1.4–1.6 mm | 222 mm | 149.0289.5 |
| ABIROB® W 600 | steel | 1.0–1.2 mm | 248 mm | 149.0350.5 |
| | | 1.0–1.2 mm | 348 mm | on request |
| | | 1.4–1.6 mm | 248 mm | 149.0333.5 |
| | | 1.4–1.6 mm | 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 | |

Othler 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.

| 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 | |

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 collision
- Innovative Interlock system – straightforward and quick change of the cable assembly with constant TCP

Degree of automation¹:

| 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
- Aluminum materials
- Magnesium materials
- Copper materials
- Special materials

Robot interface:

- Conventional robot
(Cable assembly external):
 - Robot mount CAT3 PRO
 - 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 PRO
 - Fixed bracket RTM

up to
500 A



¹ 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® A ECO – air cooled

System overview & technical data

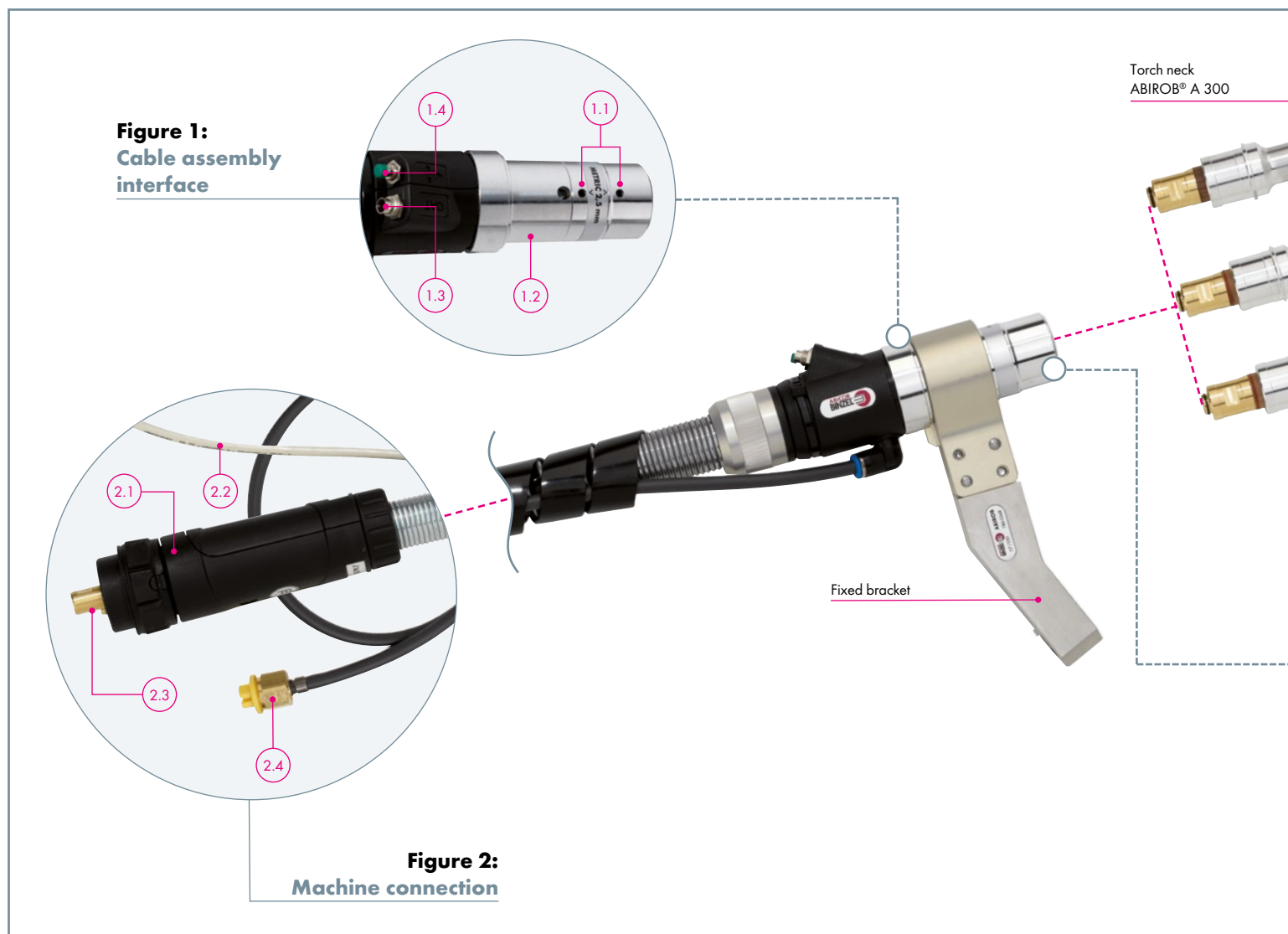


Figure 1:
Cable assembly interface

- 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 PRO 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

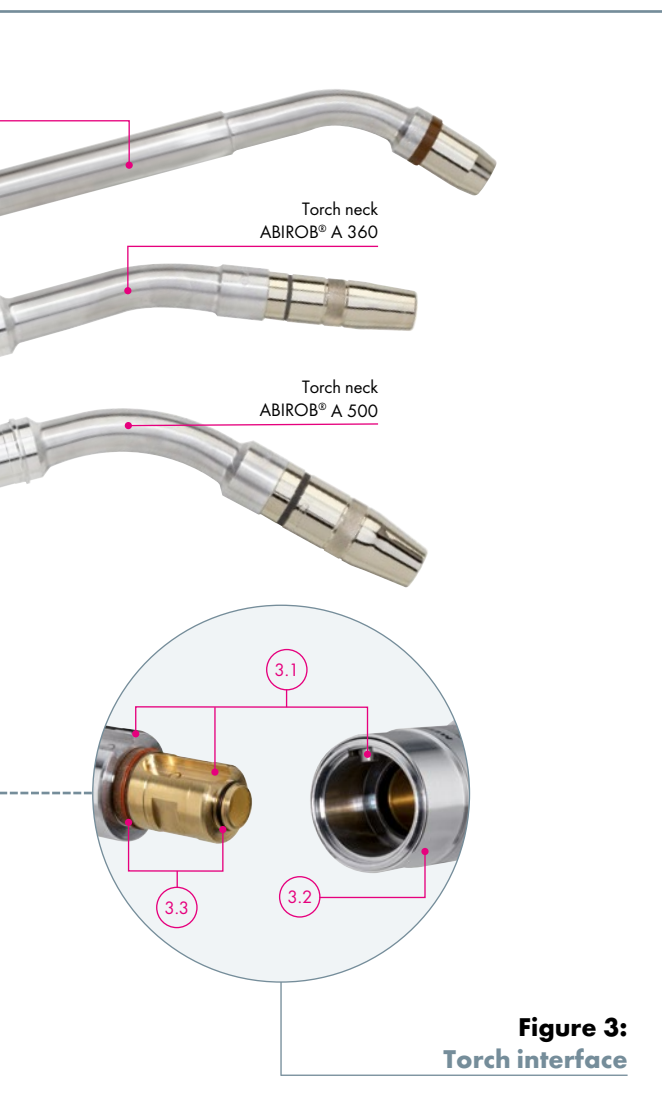


Figure 3:
Torch interface

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® A 300

| | |
|-------------------|---|
| Type of cooling: | air cooled |
| Rating: | 300 A CO ₂ 250 A mixed gases M21 (EN ISO 14175) |
| Duty cycle: | 100 % |
| Wire-Ø: | 0.8–1.4 mm |
| Torch geometries: | 45° |

ABIROB® A 360

| | |
|-------------------|---|
| Type of cooling: | air cooled |
| Rating: | 360 A CO ₂ 290 A mixed gases M21 (EN ISO 14175) |
| Duty cycle: | 100 % |
| Wire-Ø: | 0.8–1.4 mm |
| Torch geometries: | 0°/22°/35°/45° |

ABIROB® A 500

| | |
|-------------------|---|
| Type of cooling: | air cooled |
| Rating: | 500 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°/35°/45° |

Note:

Rating data were determined with standard equipment 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® A 300

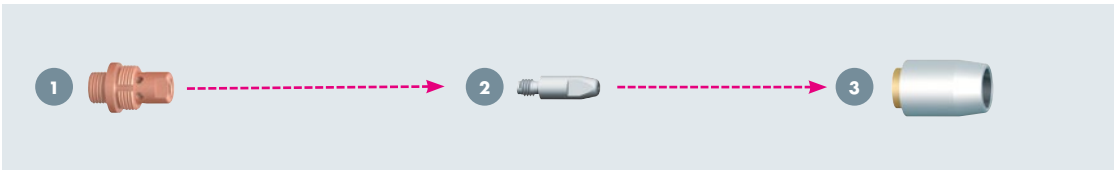


Torch necks

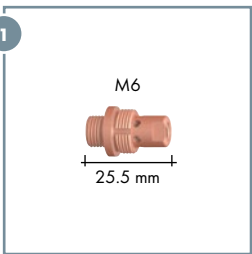
| Features | Part-No. |
|----------|-------------------|
| Standard | 45° 980.1146.1 |

Wear parts and fittings are not included in the scope of delivery! Please order separately and according to application!
Standard equipment M6

Wear parts for ABIROB® A 300

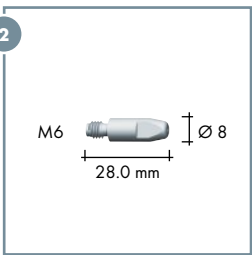


1 Contact tip holder (10 pcs.)



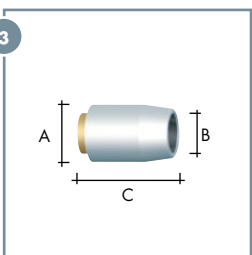
| Type | Part-No. |
|------------------------|-------------|
| M6 copper ¹ | 142.0171.10 |

2 Contact tip M6 (10 pcs.)



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

3 Gas nozzle (10 pcs.)



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

All dimensions are valid for standard equipment.

¹ Recommended for high amperages.
² Flush: Contact tip flushed
³ Stick-out: Contact tip protruding

ABIROB® A ECO – air cooled

Torch necks & wear parts

ABIROB® A 360

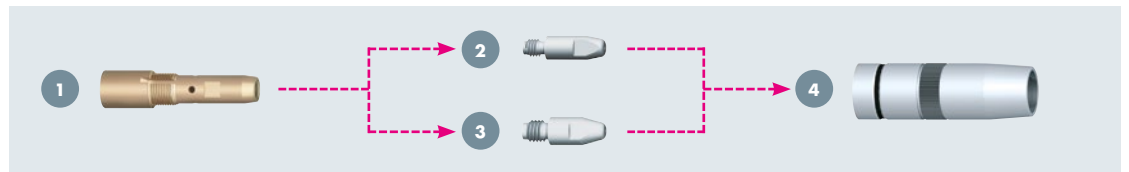


Torch necks

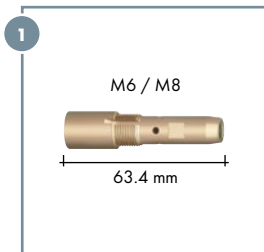
| Features | Part-No. | | | |
|----------|------------|------------|------------|------------|
| | 0° | 22° | 35° | 45° |
| Standard | 980.1023.1 | 980.1024.1 | 980.1025.1 | 980.1026.1 |

Wear parts and fittings are not included in the scope of delivery! Please order separately and according to application!
Standard equipment M6

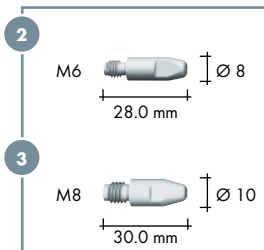
Wear parts for ABIROB® A 360



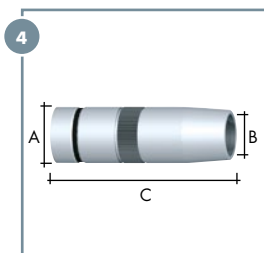
1 Contact tip holder (5 pcs.)



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



4 Gas nozzle (10 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 |

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

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

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

All dimensions are valid for standard equipment.

¹ Recommended for high amperages.

² Flush: Contact tip flushed

³ Recess: Contact tip recessed

⁴ Stick-out: Contact tip protruding

ABIROB® A ECO – air cooled

Torch necks & wear parts

ABIROB® A 500

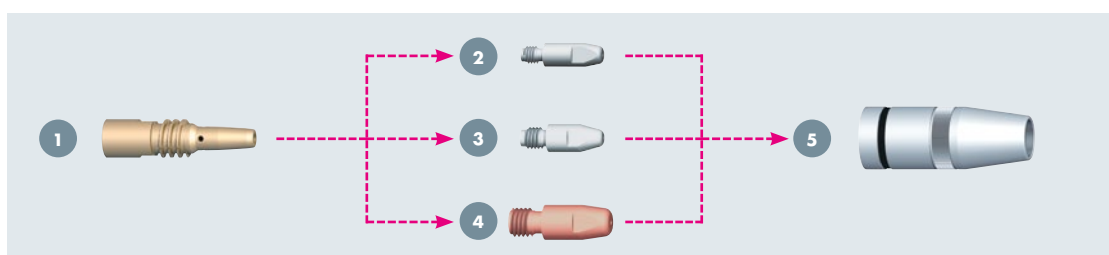


Torch necks

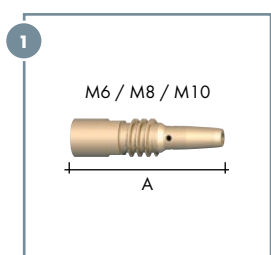
| Features | Part-No. | | | |
|----------|------------|------------|------------|------------|
| | 0° | 22° | 35° | 45° |
| Standard | 980.1012.1 | 980.1013.1 | 980.1014.1 | 980.1015.1 |

Wear parts and fittings are not included in the scope of delivery! Please order separately and according to application!
Standard equipment M8

Wear parts for ABIROB® A 500

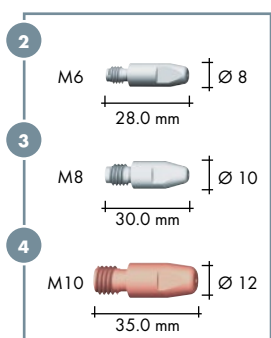


1 Contact tip holder (5 pcs.)



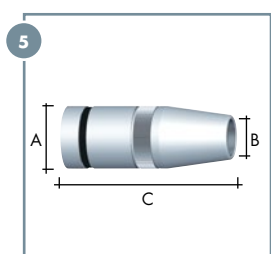
| Type | Length A | Part-No. |
|-------------------------|----------|------------|
| M6 brass | 70.0 mm | 142.0159.5 |
| M8 brass | 70.0 mm | 142.0158.5 |
| M8 copper ¹ | 70.0 mm | 142.0169.5 |
| M10 copper ¹ | 67.0 mm | 142.0228.5 |

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



| Type | Wire-Ø | M6 ² | M8 ² | M10 |
|--------|--------|-----------------|-----------------|----------|
| CuCrZr | 0.8 mm | 147.0054 | 147.0117 | - |
| | 0.9 mm | 147.0172 | 147.0217 | - |
| | 1.0 mm | 147.0245 | 147.0316 | 140.0348 |
| | 1.2 mm | 147.0382 | 147.0445 | 140.0481 |
| | 1.4 mm | 147.0519 | 147.0536 | 140.0547 |
| | 1.6 mm | - | 147.0590 | 140.0616 |

5 Gas nozzle (5 pcs.)



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

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

¹ Recommended for high amperages.

² Contact tip silver-plated

³ Flush: Contact tip flushed

⁴ Recess: Contact tip recessed

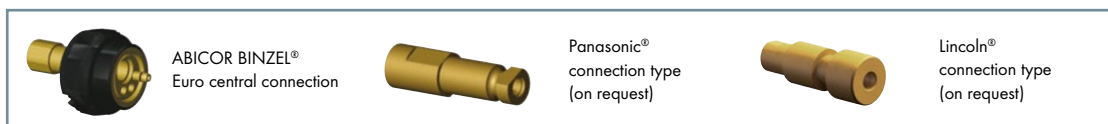
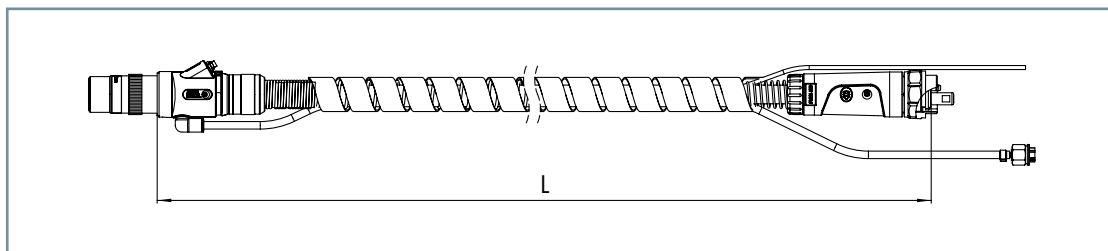
⁵ Stick-out: Contact tip protruding

All dimensions are valid for standard equipment.

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 Ø 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 = 1.6 m ³ | up to L = 3.15 m ³ | 10.0 m ⁴ | Collet |
|--------------------------|------------|------------------------------|-------------------------------|---------------------|----------|
| Liner steel ² | 0.8–1.2 mm | 124.0145.1 | 124.0146.1 | 124.0159.1 | 131.0012 |
| Liner steel ² | 1.4–1.6 mm | 124.0147 | 124.0148 | 124.0160 | 131.0011 |

Accessories



| Description | Part-No. |
|---|------------|
| Alignment tool (to align inner tube with outer tube) | 191.0090.1 |
| Gas nozzle sensor clip ABIROB® A 360 (without figure) | 980.1099 |
| Gas nozzle sensor clip ABIROB® A 500 (without figure) | 980.1100 |



Alignment jig

| for torch type | Torch geometry | Part-No. |
|---------------------|----------------|----------|
| ABIROB® A 300 | 45° | 837.0600 |
| ABIROB® A 360/A 500 | 0°/22°/35°/45° | 837.0500 |

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 aluminum and special wires on request.

³ Including 1 x collet

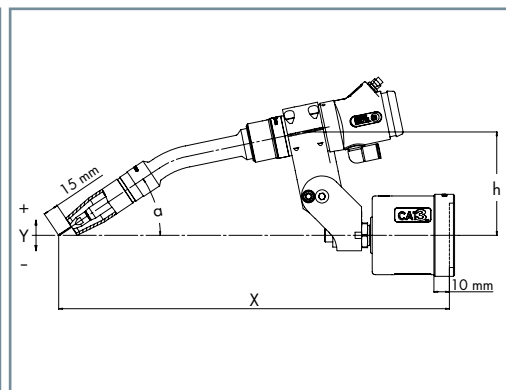
⁴ For individual production including one collet.

ABIROB® A ECO – air cooled Holder & TCP geometries

Clamp holder for ABIROB® A ECO

in connection with CAT3 PRO cpl.

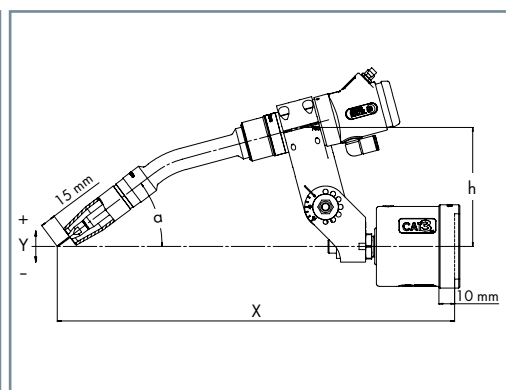
| Torch type | Torch geometry | X | Y | h | α | Part-No. |
|------------|----------------|------|---|-----|----------|----------|
| | | [mm] | | | | |
| ABIROB® | 0° | 393 | 0 | 97 | 21° | 780.0259 |
| A 360 | 22° | 376 | 0 | 101 | 34° | 780.0259 |
| | 35° | 361 | 0 | 102 | 40° | 780.0259 |
| | 45° | 348 | 0 | 103 | 44° | 780.0259 |
| ABIROB® | 0° | 393 | 0 | 97 | 21° | 780.0259 |
| A 500 | 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 PRO

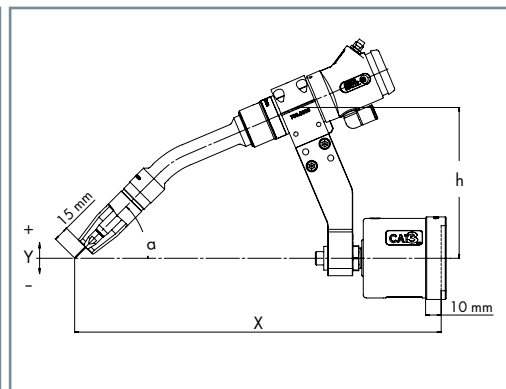
| Torch type | Torch geometry | X | Y | h | α | Part-No. |
|------------|----------------|------|-----|-----|----------|------------|
| | | [mm] | | | | |
| ABIROB® | 0° | 399 | 46 | 114 | 15° | 780.0321.1 |
| A 360 | 22° | 377 | 0 | 114 | 37° | 780.0321.1 |
| | 35° | 355 | -27 | 114 | 50° | 780.0321.1 |
| | 45° | 332 | -47 | 114 | 60° | 780.0321.1 |
| ABIROB® | 0° | 399 | 46 | 114 | 15° | 780.0321.1 |
| A 500 | 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 PRO

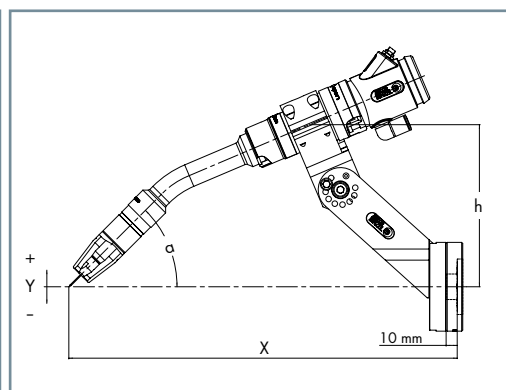
| Torch type | Torch geometry | X | Y | h | α | Part-No. |
|------------|----------------|------|---|-----|----------|------------|
| | | [mm] | | | | |
| ABIROB® | 22° | 350 | 0 | 146 | 45° | 780.0833.1 |
| A 360 | 35° | 350 | 0 | 123 | 45° | 780.0835.1 |
| | 45° | 350 | 0 | 107 | 45° | 780.0380.1 |
| ABIROB® | 22° | 350 | 0 | 146 | 45° | 780.0833.1 |
| A 500 | 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. |
|------------|----------------|------|-----|-----|----------|----------|
| | | [mm] | | | | |
| ABIROB® | 0° | 378 | 42 | 146 | 23° | 780.0195 |
| A 360 | 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 |
| A 500 | 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® 350 GC – air cooled



Sturdy, durable & economic

ABIROB® 350 GC – 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 TCP stability

Degree of automation¹:

| 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 PRO
 - 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 PRO
 - Fixed bracket RTM

up to
350 A



¹ 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® 350 GC – air cooled

System overview & technical data

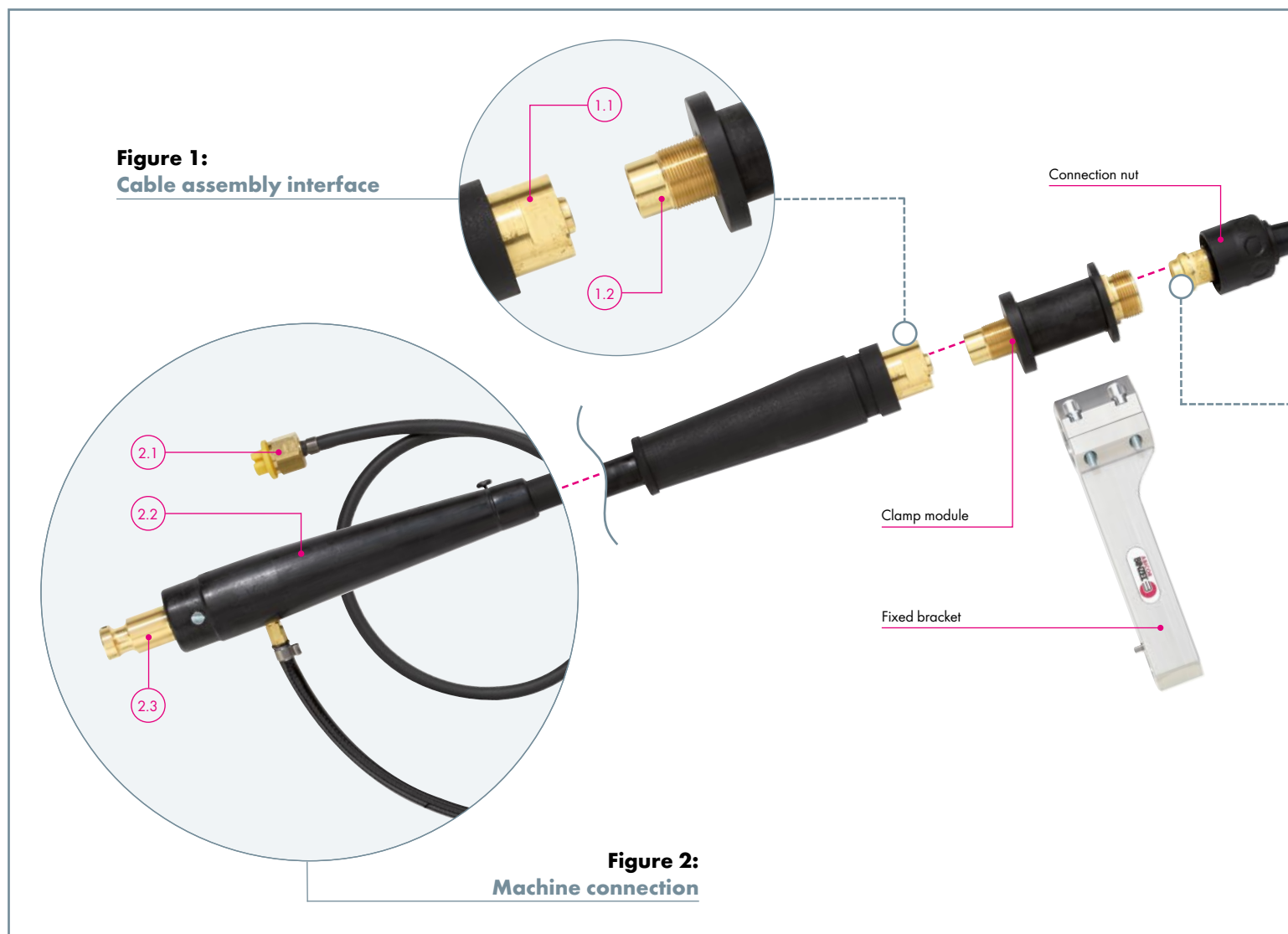


Figure 1:
Cable assembly interface

- 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

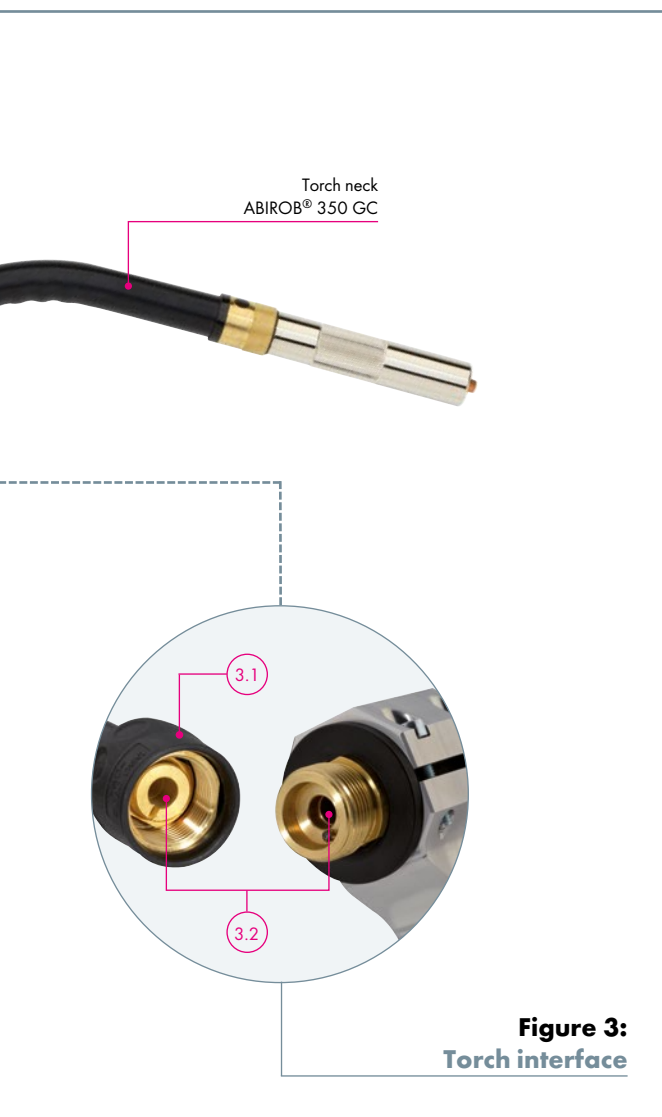
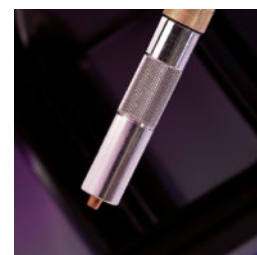


Figure 3:
Torch interface

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® 350 GC

| | |
|-------------------|---|
| 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° |

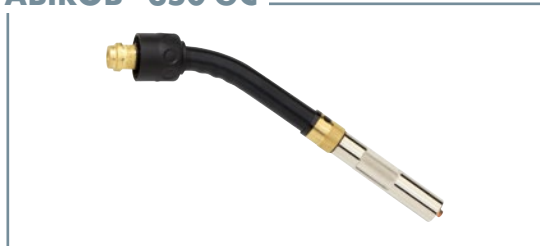
Note:

Rating data were determined with standard equipment 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® 350 GC – air cooled

Torch necks & wear parts

ABIROB® 350 GC



Torch neck

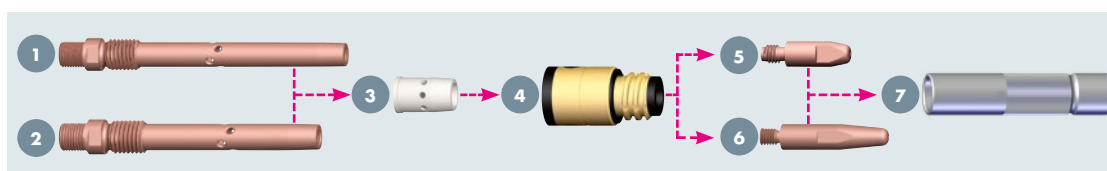
| Features | 30° | Part-No. | 35° |
|----------|------------|----------|------------|
| Standard | - | | 980.0004.1 |
| Short | 980.0027.1 | | - |
| Long | 980.0028.1 | | - |

Wear parts and fittings are not included in the scope of delivery! Please order separately and application-specific!
Standard equipment M6

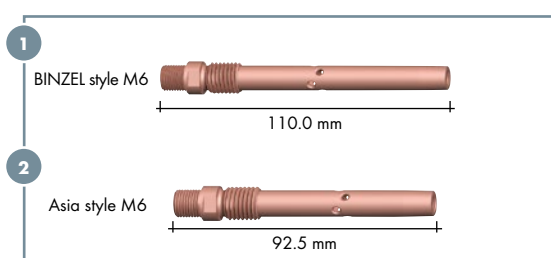
Neck liner

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

Wear parts for ABIROB® 350 GC

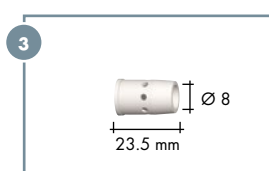


- 1 **BINZEL style contact tip holder**
- 2 **Asia style contact tip holder**
(5 pcs.)



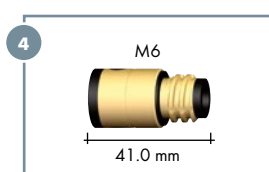
| Type | Part-No. |
|------------------------|------------|
| BINZEL style M6 copper | 142.0152 |
| Asia style M6 copper | 142.0143.5 |

- 3 **Gas diffuser**
(10 pcs.)



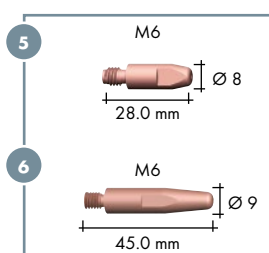
| Type | Part-No. |
|----------|-------------|
| Standard | 980.0019.10 |

- 4 **Gas nozzle holder**
(10 pcs.)



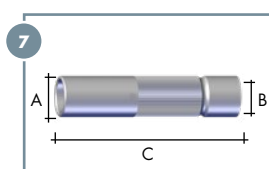
| Type | Part-No. |
|----------|-------------|
| Standard | 980.0142.10 |

- 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 | 0.8 mm | 140.0054 | - |
| | 0.9 mm | - | 140.1355 |
| | 1.0 mm | 140.0245 | 140.1356 |
| | 1.2 mm | 140.0382 | 140.1357 |

- 7 **Gas nozzle**
(10 pcs.)

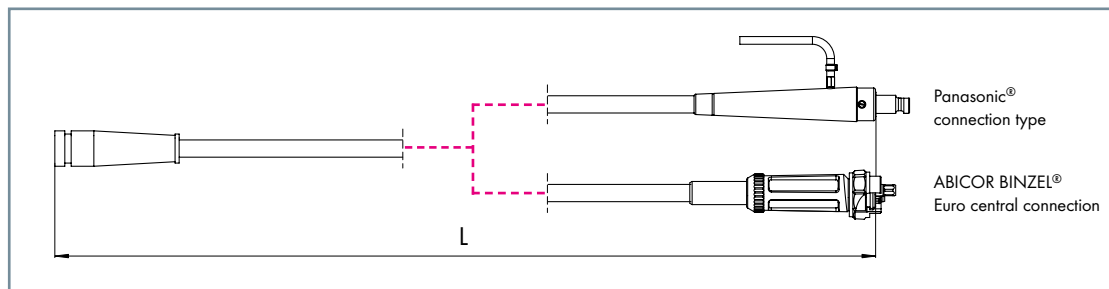


| Type | Ø A | Ø B | Length C | Part-No. |
|-------------|---------|---------|----------|-------------|
| Conical | 20.0 mm | 12.0 mm | 89.5 mm | 145.0558.10 |
| Conical | 20.0 mm | 13.0 mm | 89.5 mm | 145.0573.10 |
| Bottle form | 20.0 mm | 14.0 mm | 89.5 mm | 145.0559.10 |
| Cylindrical | 20.0 mm |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

ABIROB® 350 GC – 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 Ø 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 350 GC | 980.0006.1 |
| Connection nut | 980.0081 |

Options

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

Liners

| For connection type | Type | Wire-Ø | up to L = 1.3 m |
|--|--------------------------------|------------|-----------------|
| ABICOR BINZEL® Euro central connection | Liner steel black ¹ | 0.8–1.2 mm | 124.0145.1 |
| PANASONIC® | Liner steel black ¹ | 0.8–1.2 mm | 124.0147 |

Accessories



Alignment jig

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

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 aluminum and special wires on request.

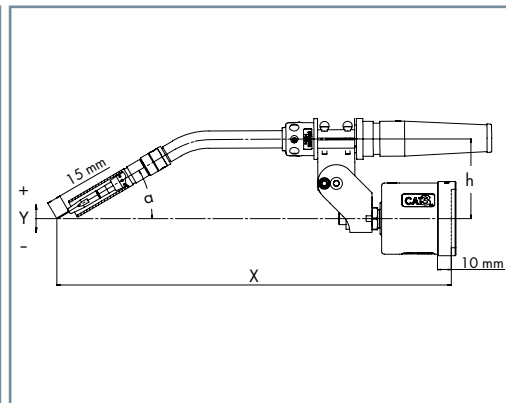
ABIROB® 350 GC – air cooled

Holder & TCP geometries

Torch holder for ABIROB® 350 GC

in connection with CAT3 PRO cpl.

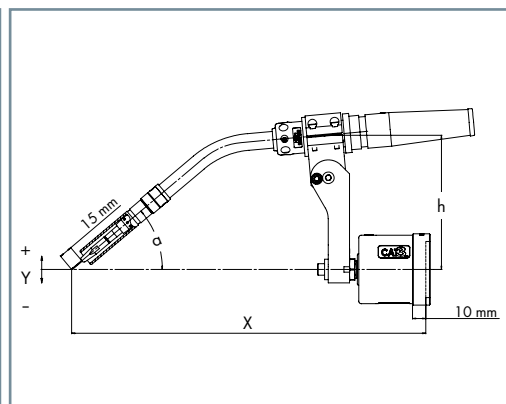
| Torch type | Torch geometry | X | Y | h | α | Part-No. |
|------------|----------------|-----|-----|----|----------|----------|
| ABIROB® | 30° | 453 | 86 | 86 | 0° | 780.0145 |
| 350 GC | 35° | 415 | -39 | 86 | 35° | 780.0145 |



CAT3 PRO holder for ABIROB® 350 GC

in connection with CAT3 PRO and holder 780.0145

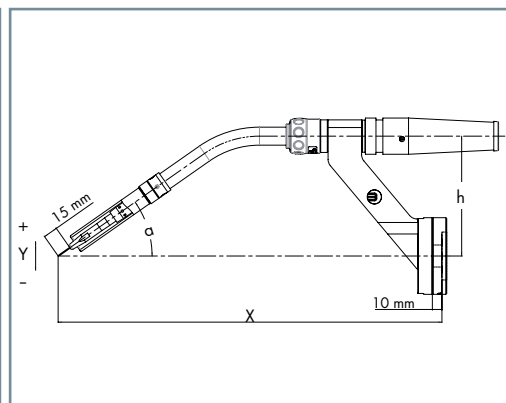
| Torch type | Torch geometry | X | Y | h | α | Part-No. |
|------------|----------------|-----|-----|-----|----------|------------|
| ABIROB® | 30° | 437 | 151 | 151 | 30° | 780.0872.1 |
| 350 GC | 35° | 400 | 26 | 151 | 35° | 780.0872.1 |



I-bracket for ABIROB® 350 GC

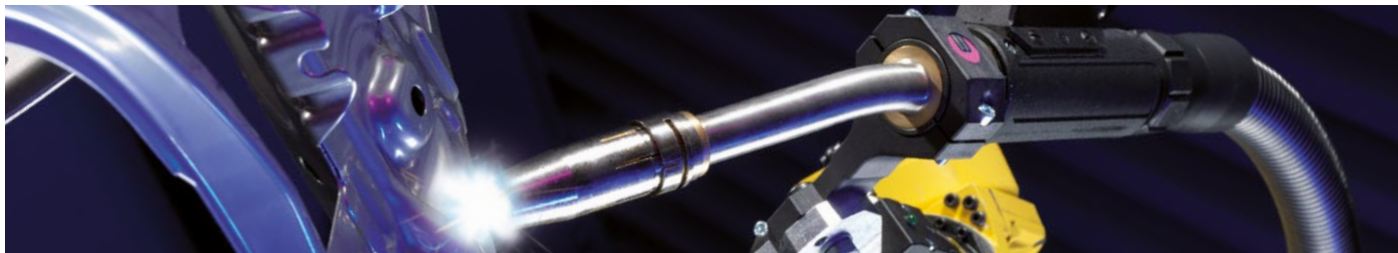
for robots with collision software

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



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 PRO.

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
- Liquid cooled up to 450 A (CO₂)
- Integrated airblast function
- Simple installation and handling

Degree of automation¹:

| 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
- Aluminum materials
- Magnesium materials
- Copper materials
- Special materials

Robot interface:

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

up to
450 A



¹ 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

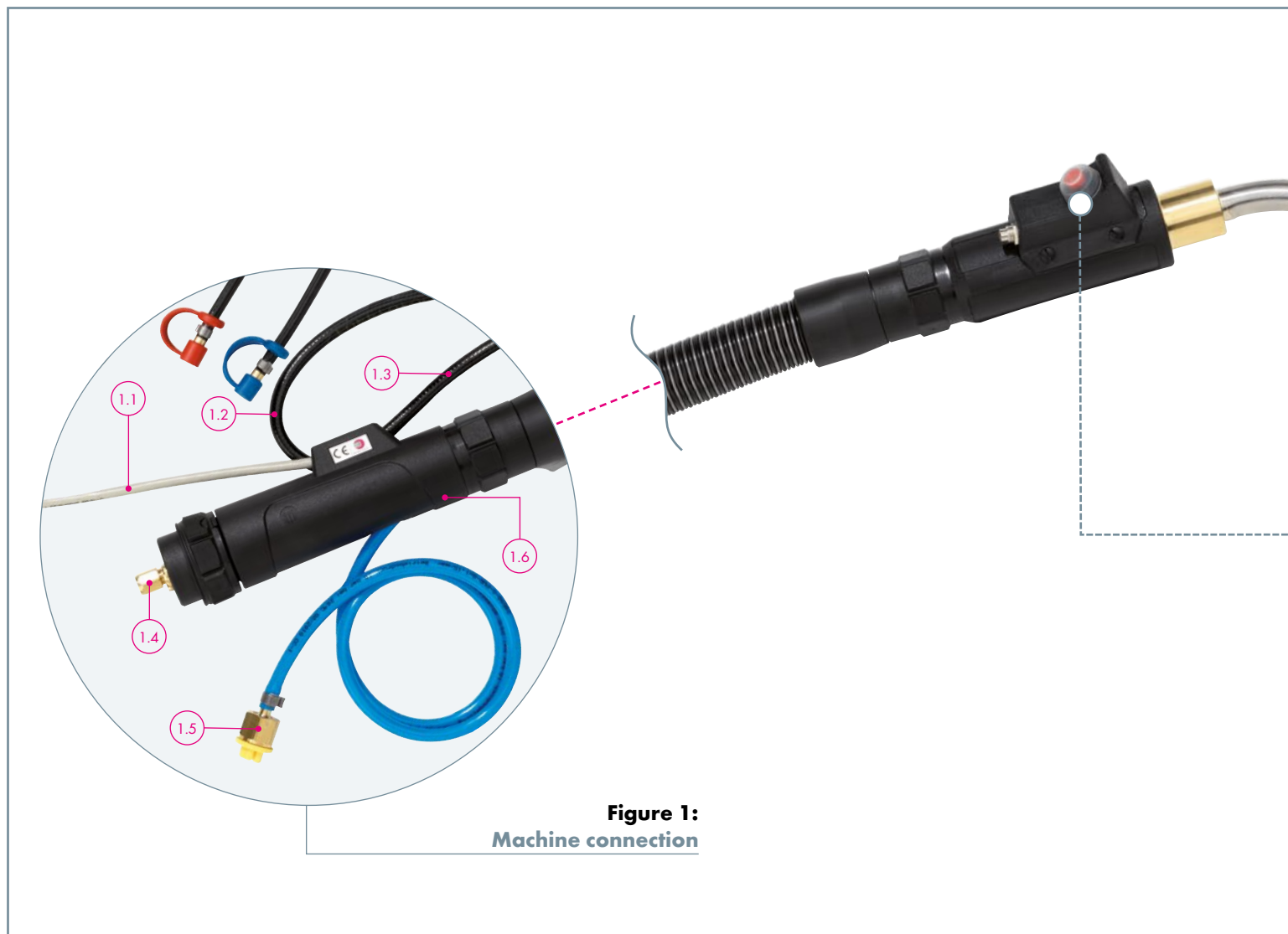


Figure 1:
Machine connection

Figure 1:
Machine connection

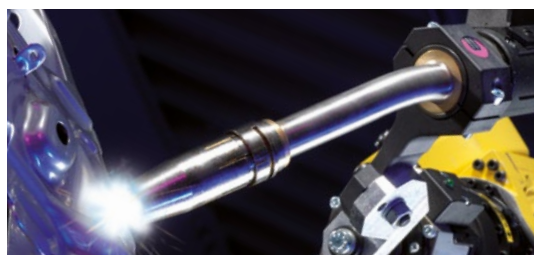
- 1.1 High-quality control cable with strain relief (control cable connector on request)
- 1.2 Coolant feed hose with closure
- 1.3 Coolant return hose with closure
- 1.4 Machine connection available for all standard wire feeds
- 1.5 Airblast hose with blanking plug
- 1.6 Sturdy bend protection casing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



Figure 2:
Handle tube with
switch housing

Figure 2:
Handle tube with switch housing

- 2.1 CAT3 PRO 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:

Rating data were determined with standard equipment 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

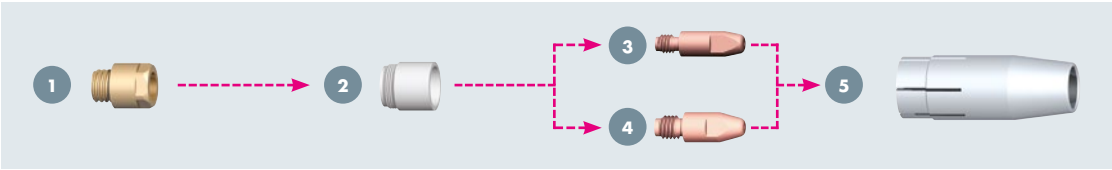


Torch neck

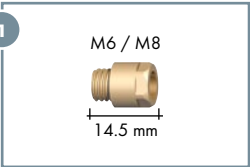
| Features | Part-No. | | |
|---|------------|------------|------------|
| | 0° | 22° | 45° |
| Torch complete with cable assembly (L = 3.00 m) | 943.0247 | 943.0248 | 943.0249 |
| Individual torch neck (spare torch) | 943.0161.1 | 943.0162.1 | 943.0163.1 |

Wear parts and fittings are not included in the scope of delivery! Please order separately and according to application! Standard equipment M8

Wear parts for ROBO 455 D

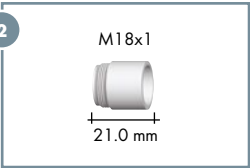


1 Contact tip holder (10 pcs.)



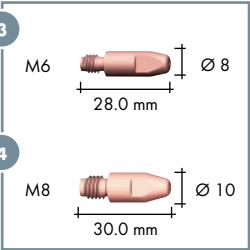
| Type | Part-No. |
|----------|----------|
| M6 brass | 142.0123 |
| M8 brass | 142.0122 |

2 Nozzle insulator (10 pcs.)



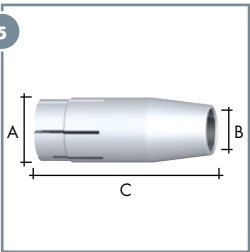
| Type | Part-No. |
|----------------------------|-------------|
| Standard | 146.0054.10 |
| High temperature resistant | 146.0059.10 |

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



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

5 Gas nozzle (10 pcs.)



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

All dimensions are valid for standard equipment.

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

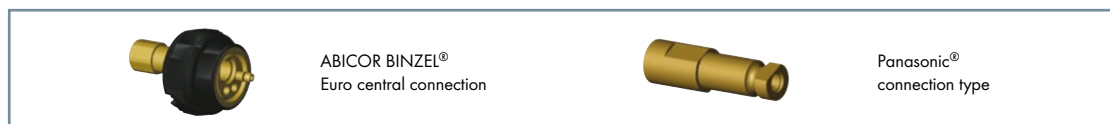
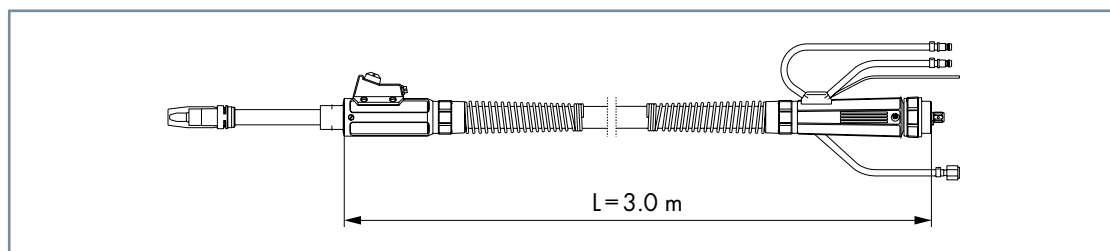
All dimensions are valid for standard equipment.

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 page 50.

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 | 0.8–1.2 mm | 122.0031 |
| Liner steel ¹ | ROBO 455 D | 1.4–1.6 mm | 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 aluminum and special wires on request.

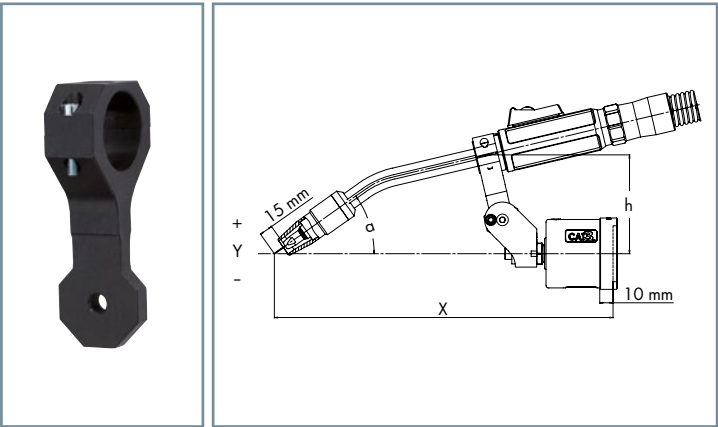
ROBO Standard – liquid cooled

Holder & TCP geometries

Torch holder for ROBO Standard

in connection with CAT3 PRO cpl.

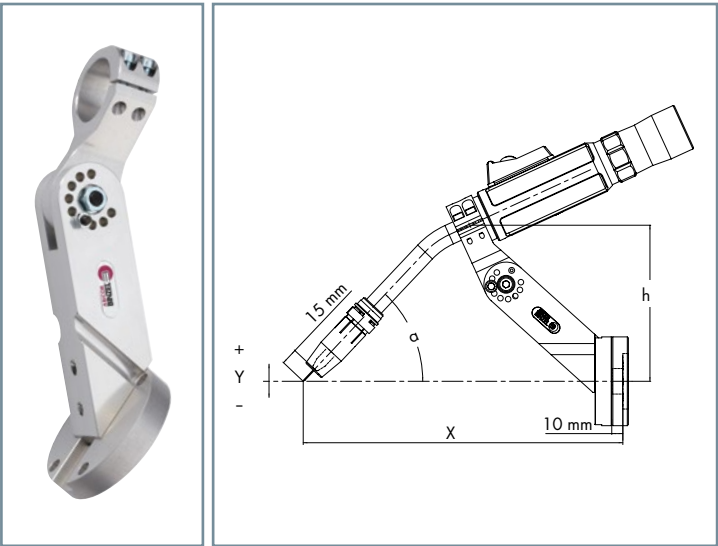
| Torch type | Torch geometry | X | Y | h | α | Part-No. |
|--------------------|----------------|-----|---|-----|----------|----------|
| ROBO | 0° | 337 | 0 | 103 | 30° | 780.0203 |
| 455 D ¹ | 22° | 312 | 0 | 111 | 36° | 780.0203 |
| | 45° | 366 | 0 | 113 | 46° | 780.0203 |



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 W 600 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. The system 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 W 600 and ABIROB® W 600 torch series. Specifically developed for applications with a low degree of automation, the ROBO Compact 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. 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 TCP stability
- Sophisticated cooling technology and optimum gas coverage through a separate gas channel
- Robust, long-life wear parts
- Reproducible complete torch change – simple and fast
- Tremendous value with low operating costs

Degree of automation¹:

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

Application areas:

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

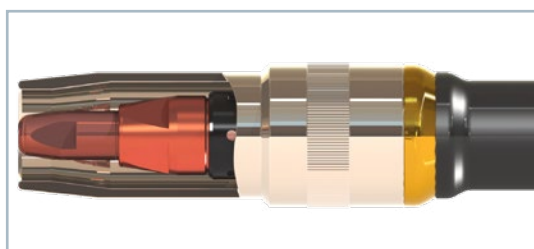
Material:

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

Robot interface:

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

up to
600 A



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



Replaceable insulation sleeves



Figure 3:
Sectional view
of gas nozzle

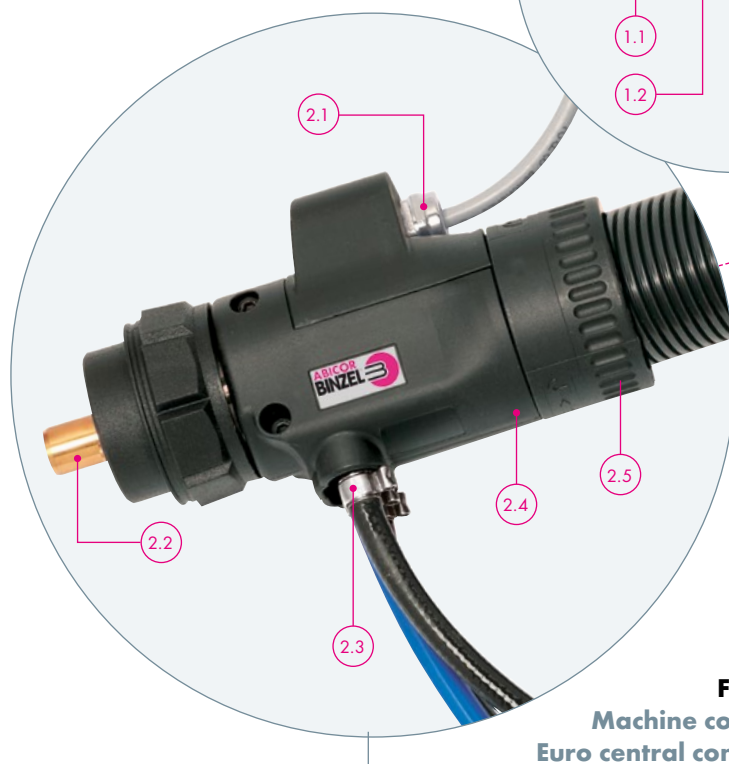


Figure 2:
Machine connector
Euro central connection

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

- 1.1 Wire feed button
- 1.2 CAT3 PRO 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 Euro central connection¹
- 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 – minimised torsional

¹ Other connections on request.

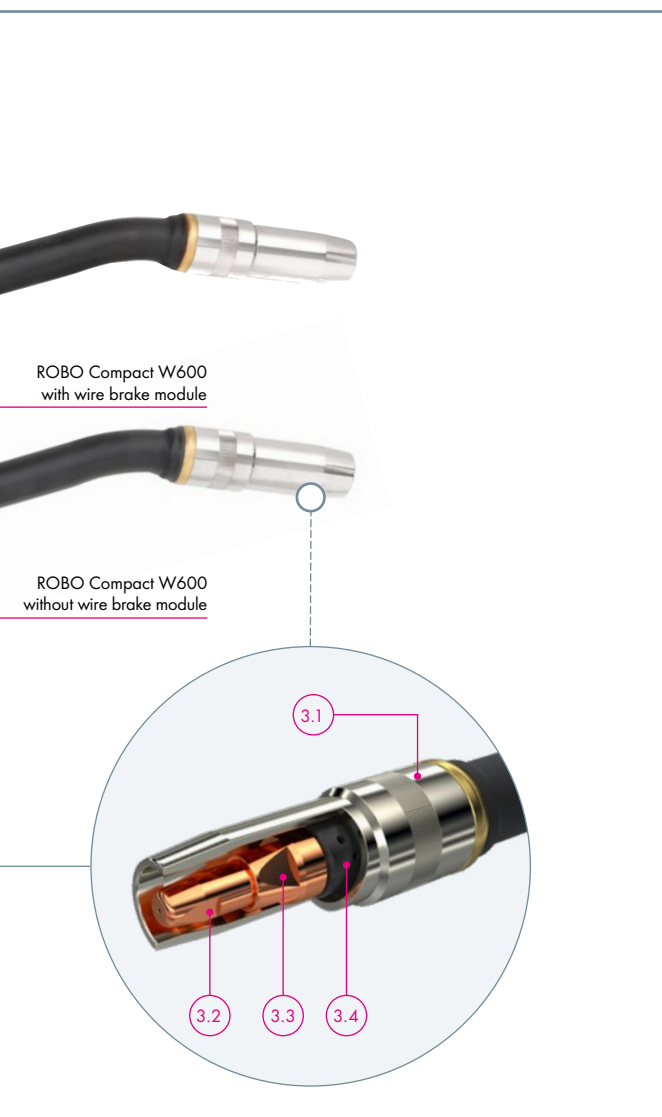


Figure 3:
Sectional view of gas nozzle

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

¹ Recommended max. case assembly length 1.2 m when using wire diameter 2.0 mm.



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) ¹ |
| Torch geometries: | 0°/22°/35°/45° |

Note:

Rating data were determined with standard equipment 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 Compact W600 – liquid cooled

Torch necks & cable assemblies

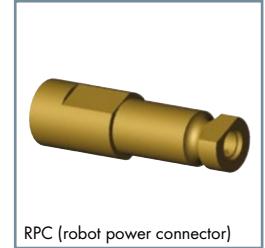
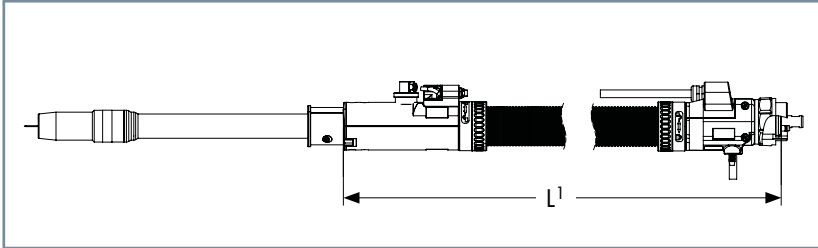
ROBO Compact W600



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 separately and application-specific! Standard equipment M12



Torch complete with Euro central connection

| Length L [m] | Part-No. without wire brake | | | | Part-No. with wire brake ² | | | |
|--------------|-----------------------------|------------|------------|------------|---------------------------------------|------------|------------|------------|
| | 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 ² | | | |
|--------------|-----------------------------|------------|------------|------------|---------------------------------------|------------|------------|------------|
| | 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 |

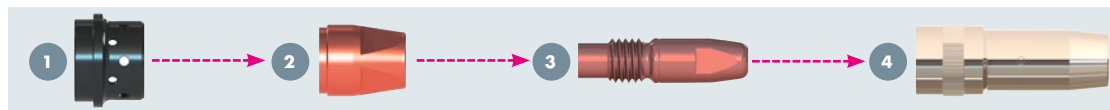
¹ Recommended maximum length: 3.00 m. Other cable assembly lengths and/or designs for specific power sources are available on request. The control cable is not configured on the machine side. The torch is supplied ready for welding with a fitting for 1.6 mm steel. Please order other versions separately.

² **Note:** With wire brake: Neck liner required! See page 49.

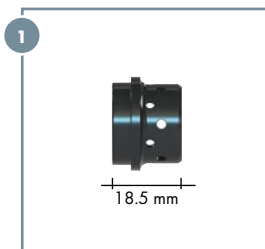
ROBO Compact W600 – liquid cooled

Wear parts & liners

Wear parts for ROBO Compact W600

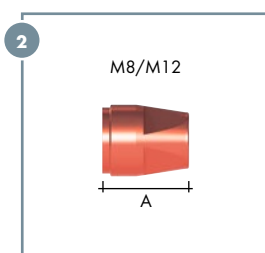


1 Gas diffuser (10 pcs.)



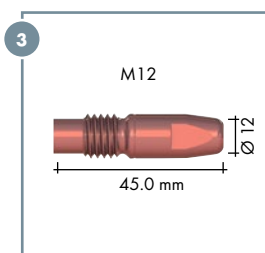
| Type | Part-No. |
|----------|-------------|
| Standard | 146.0079.10 |

2 Contact tip holder (10 pcs.)



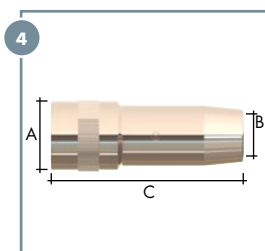
| Type | Length A | Part-No. |
|-----------------|----------|-------------|
| M8 ¹ | 27.0 mm | 142.0232.10 |
| M12 | 23.0 mm | 142.0214.10 |

3 Contact tip (10 pcs.)



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

4 Gas nozzle (5 pcs.)



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

All dimensions are valid for standard equipment.

Liners

| Type | Wire-Ø | RPC up to L = 3.00 m | Euro central connection up to L = 3.00 m |
|----------------------------------|------------|-------------------------|---|
| Liner steel ⁶ | 0.8–1.2 mm | 124.0197.1 | 124.0181 |
| | 1.4–1.6 mm | 124.0191.1 | 124.0210.1 |
| | 1.8–2.0 mm | 124.0252.1 | 124.0253.1 |
| Combined wire guide ⁷ | 0.8–1.2 mm | 128.M007 | 128.M009 |
| | 1.4–1.6 mm | 128.M011 | 128.M013.1 |

Neck liners for wire brake (5 pcs.)

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

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

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

³ Flush: Contact tip flushed

⁴ Stick-out: Contact tip protruding

⁵ Recess: Contact tip recessed

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

⁷ Combi-liner for aluminum 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.

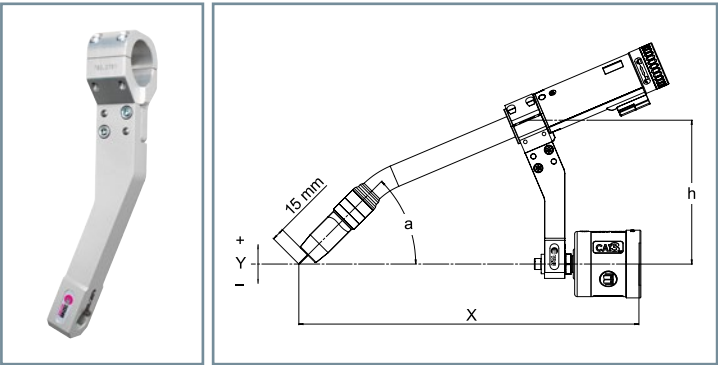
ROBO Compact W600 – liquid cooled

Holder & TCP geometries

Fixed bracket

in combination with CAT3 PRO

| Torch type | Torch geometry | X [mm] | Y [mm] | h [mm] | a | 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 |

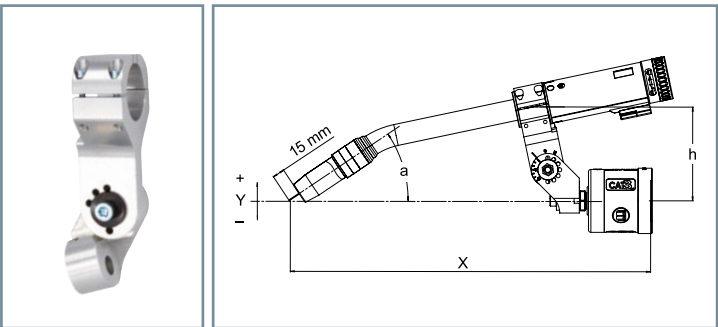


Segment holder

in combination with CAT3 PRO

| Torch type | Torch geometry | X [mm] | Y [mm] | h [mm] | a | 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.

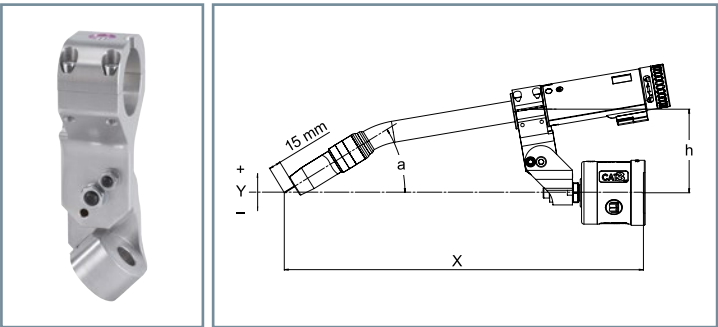


Holder, adjustable

in combination with CAT3 PRO

| Torch type | Torch geometry | X [mm] | Y [mm] | h [mm] | a | 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 |

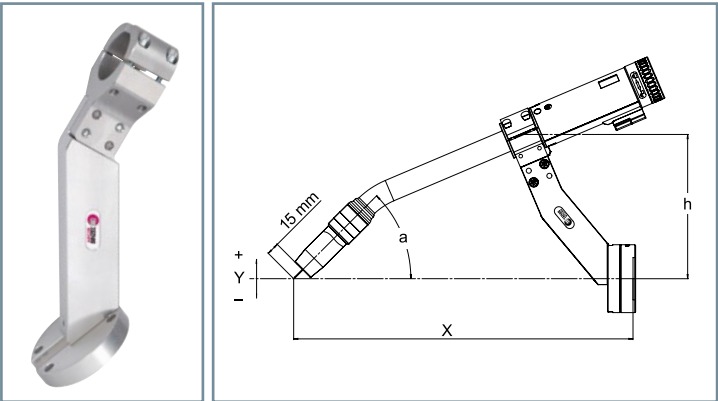
Holder must be fastened with screws and pins.



RTM holder

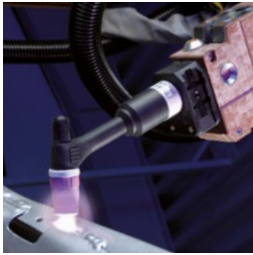
for robots with collision software

| Torch type | Torch geometry | X [mm] | Y [mm] | h [mm] | a | Part-No. |
|------------|----------------|--------|--------|--------|-----|------------|
| ROBO | 22° | 400 | 0 | 170 | 45° | 780.0789.1 |
| Compact | 35° | 400 | 0 | 136 | 45° | 780.0790.1 |
| W 600 | 45° | 400 | 0 | 135 | 50° | 780.0792.1 |



TIG welding torch systems

Liquid cooled



ABITIG® WH – liquid cooled

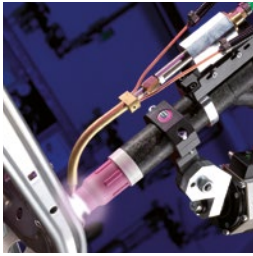
Fast, safe and reliable

Capacity: up to 400 A

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

Degree of automation: ☐ Low ☒ Medium ☐ High

Page 53



ABITIG® MT – liquid cooled

Efficient allrounder

Capacity: up to 500 A

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

Degree of automation: ☐ Low ☒ Medium ☐ High

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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 automation¹:

| 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
- Aluminum materials
- Magnesium materials
- Copper materials
- Special materials

Robot interface:

- Conventional robot
(Cable assembly external):
 - Robot mount CAT3 PRO
 - Fixed bracket RTM

up to
400 A

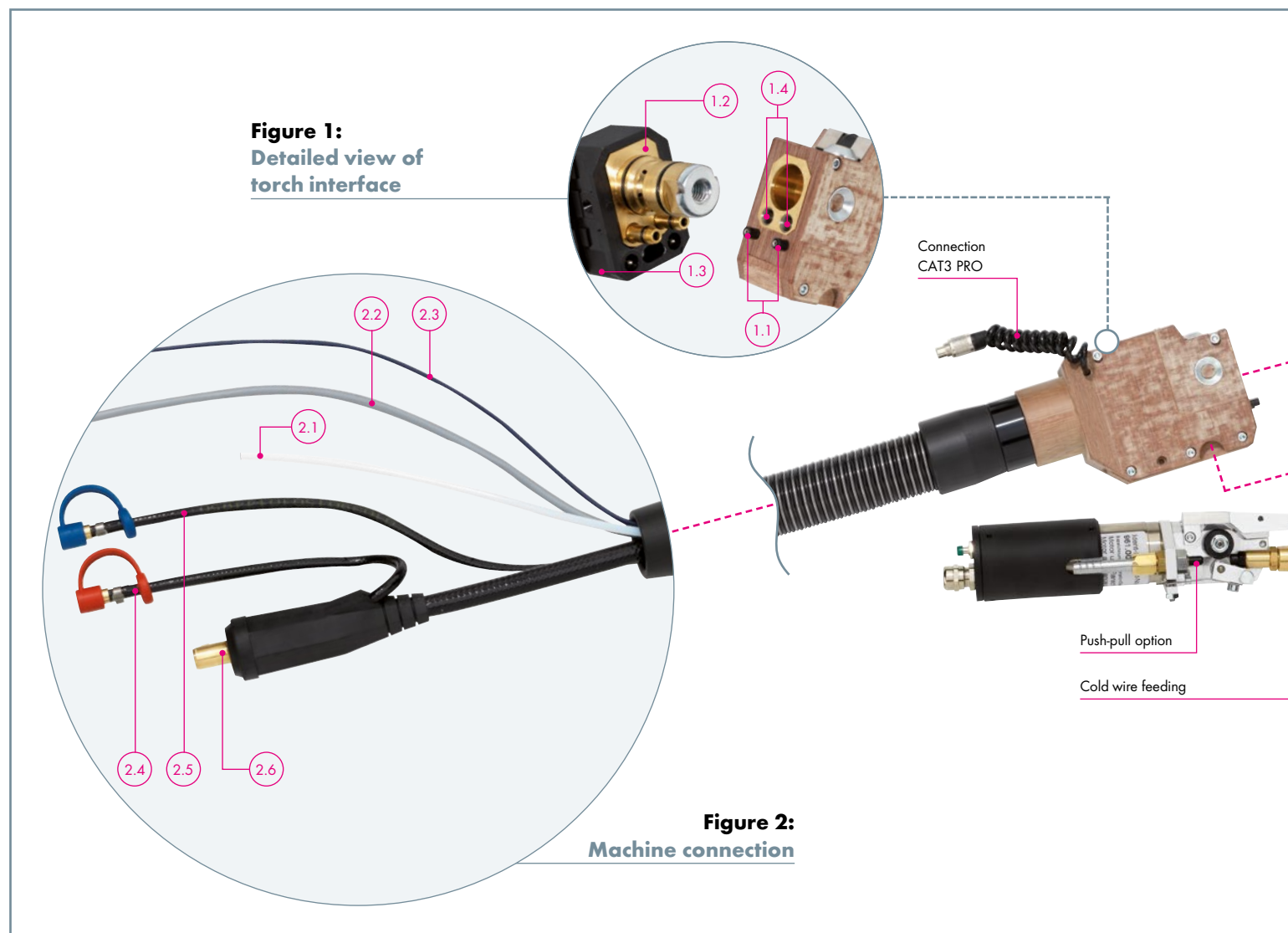


¹ Definition of the degree of automation:

- 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)

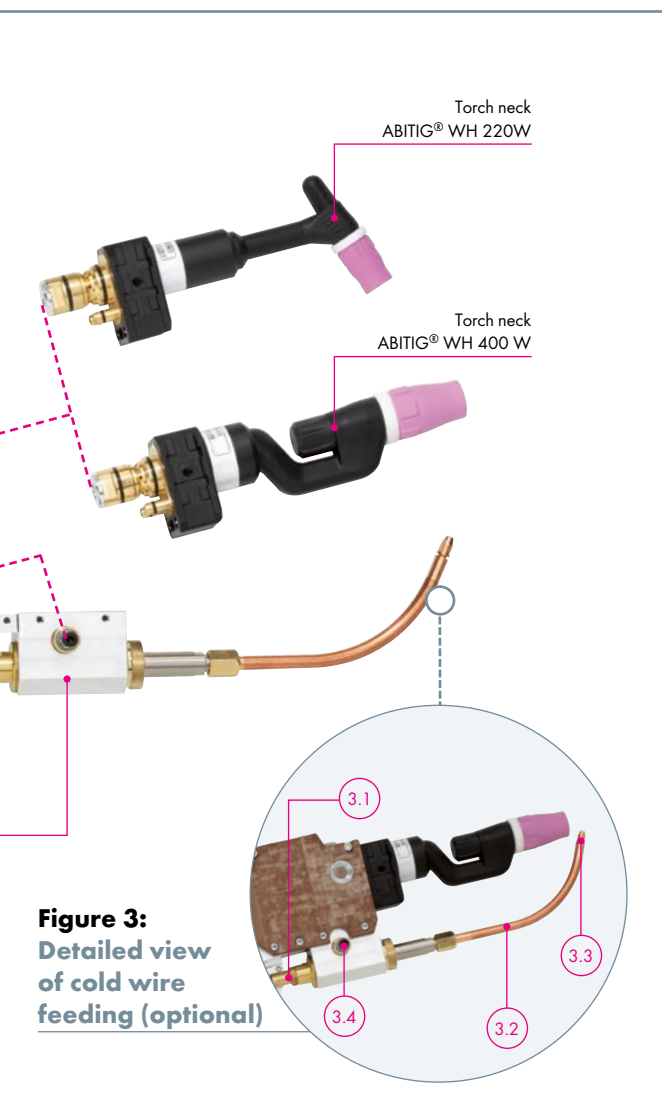
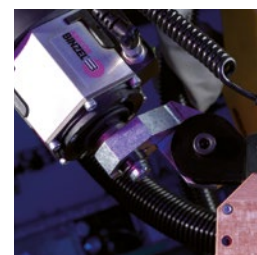
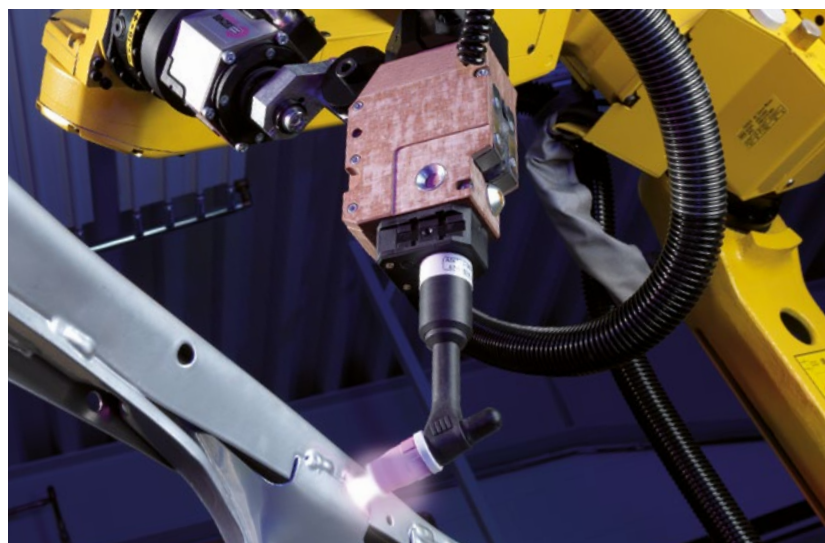


Figure 3:
Detailed view of cold wire feeding

- 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 220 W

| | |
|-------------------|---------------|
| 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 400 W

| | |
|-------------------|----------------|
| 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:

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 220 W

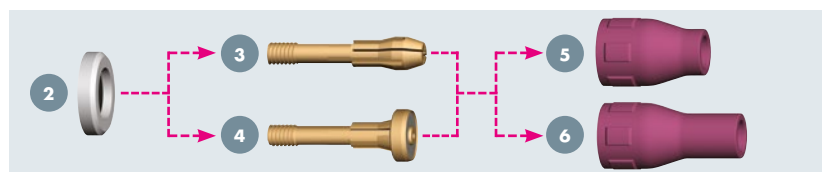
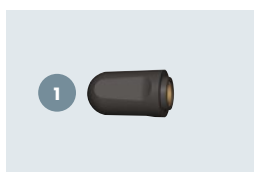


Torch neck

| 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 separately and according to application!

Wear parts for ABITIG® WH 220 W



1 Torch cap (1 pc.)



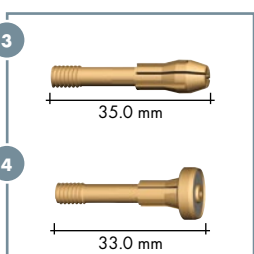
| Type | Part-No. |
|---------------------------------------|------------|
| Standard | 776.0053 |
| WS clamping element (not illustrated) | 781.2012.1 |

2 Insulator (10 pcs.)



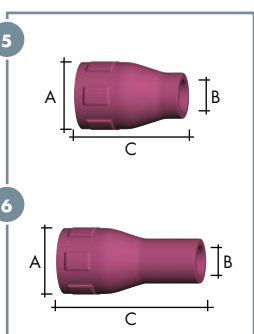
| Type | Part-No. |
|------------|------------|
| Standard | 776.1043 |
| WS version | 781.2018.1 |

3 Electrode holder 4 Gas diffuser (5 pcs.)



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

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



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

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

ABITIG® WH – liquid cooled

Torch necks & wear parts

ABITIG® WH 400 W



Torch neck

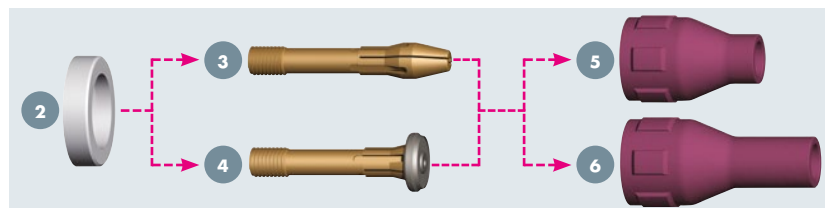
| Features | Part-No. | | | |
|------------|------------|----------|----------|----------|
| | 0° | 45° | 70° | 90° |
| Standard | 781.0504 | 781.0507 | 781.0501 | 781.0510 |
| WS version | 781.2008.1 | - | - | - |

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

Wear parts for ABITIG® WH 400 W



1 Torch cap
(1 pc.)

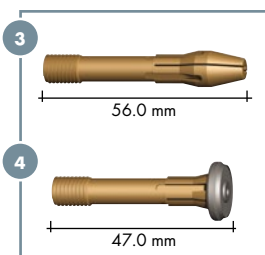


2 Insulator
(1 pc.)



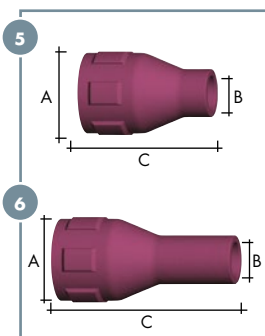
| Type | Part-No. |
|---------------------------------------|------------|
| Standard | 967.1351 |
| WS clamping element (not illustrated) | 781.2006.1 |

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 | 1.6 mm | 775.0062 | 773.0172 |
| | 2.0 mm | 775.0067 | 773.0177 |
| | 2.4 mm | 775.0063 | 773.0173 |
| | 3.2 mm | 775.0064 | 773.0174 |
| | 4.0 mm | 775.0065 | 773.0175 |
| | 4.8 mm | 775.0066 | 773.0176 |

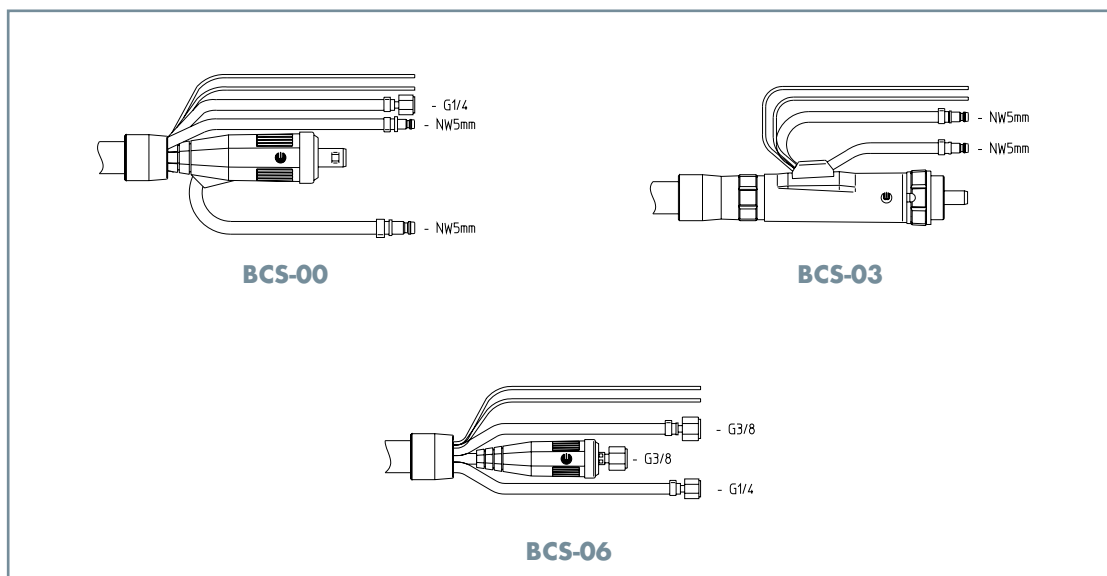
| Short type | Ø A | Ø B | Length C | Part-No. |
|------------|---------|---------|----------|----------|
| Standard | 23.5 mm | 7.5 mm | 37.0 mm | 775.0081 |
| | 23.5 mm | 10.0 mm | 37.0 mm | 775.0082 |
| | 23.5 mm | 13.0 mm | 37.0 mm | 775.0083 |
| | 23.5 mm | 15.0 mm | 37.0 mm | 775.0084 |

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

ABITIG® WH – liquid cooled

Cable assemblies & options

Cable assemblies



Cable assemblies cpl.

| Design | L = 4.00 m ¹ | Part-No. L = 6.00 m ¹ | L = 8.00 m ¹ |
|-----------------|-------------------------|-------------------------------------|-------------------------|
| BCS-00 standard | 781.0526 | 781.0527 | 781.0528 |
| BCS-03 | 781.0517 | | 781.0519 |
| BCS-06 | 781.0523 | 781.0524 | 781.0525 |

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 mm | 967.0329 |
| Feeding tip | for wire-Ø 1.0 mm | 967.0330 |
| Feeding tip | for wire-Ø 1.2 mm | 967.0331 |
| Feeding tip | for wire-Ø 1.6 mm | 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

| Description | Version/specifications | Part-No. |
|---|--|------------|
| 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 mm | 961.0268 |
| Drive roll | for wire-Ø 0.8 mm | 961.0269 |
| Drive roll | for wire-Ø 1.0 mm | 961.0227 |
| Drive roll | for wire-Ø 1.2 mm | 961.0228 |
| Drive roll | for wire-Ø 1.6 mm | 961.0267 |

¹ Further versions on request.

ABITIG® WH – liquid cooled

Accessories & holders

Accessories



Alignment jig

| for torch type | Torch geometry | Part-No. |
|------------------|----------------------|------------|
| ABITIG® WH 220 W | 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 PRO cpl.

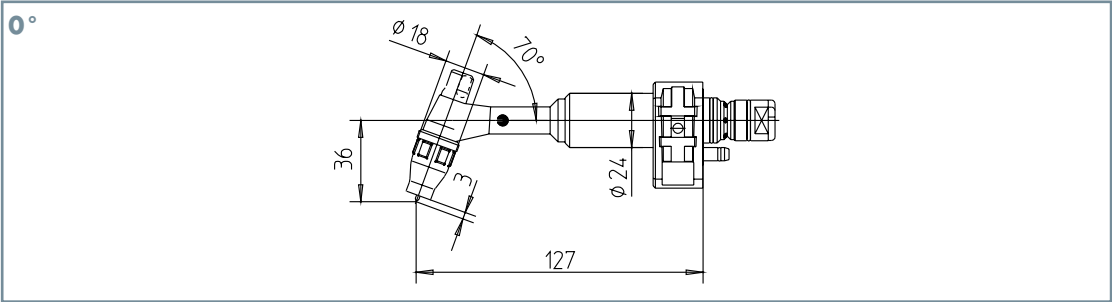
| Torch type | Part-No. |
|------------|------------|
| ABITIG® WH | 963.0007.1 |

Further holders are available on request.

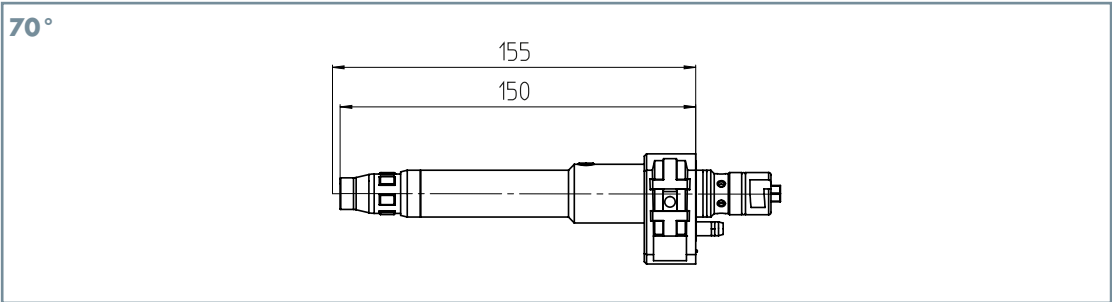
ABITIG® WH – liquid cooled

Geometries

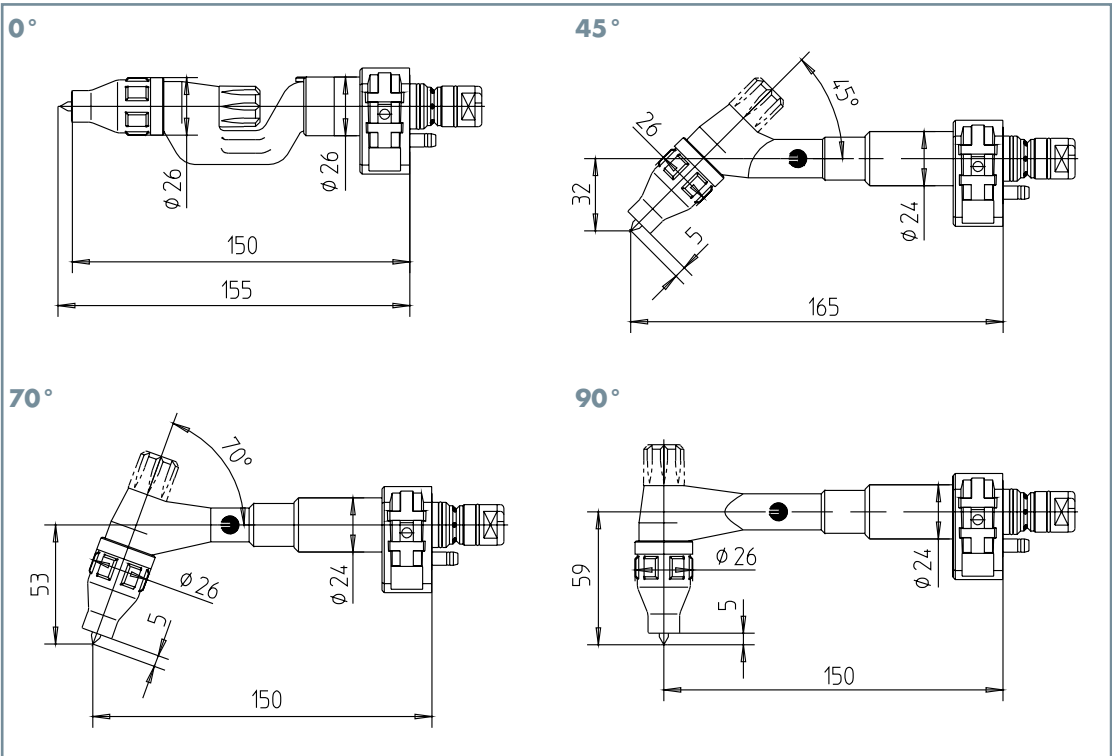
Dimensional sketch
ABITIG® WH 220 W



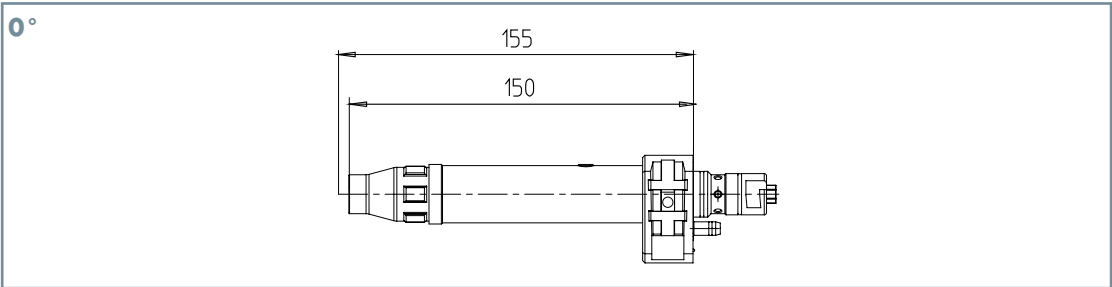
Dimensional sketch
ABITIG® WH 220 WS



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 automation¹:

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

Typical areas of application:

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

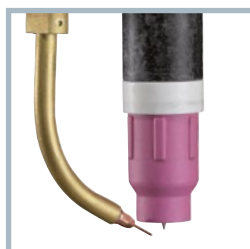
Material:

- Chrome-nickel steels
- Duplex steels
- Nickel basic materials
- Mixed compounds
- Aluminum materials
- Magnesium materials
- Copper materials
- Special materials

Robot interface:

- Conventional robot
(Cable assembly external):
 - Robot mount CAT3 PRO
 - Fixed bracket RTM

up to
500 A



¹ 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

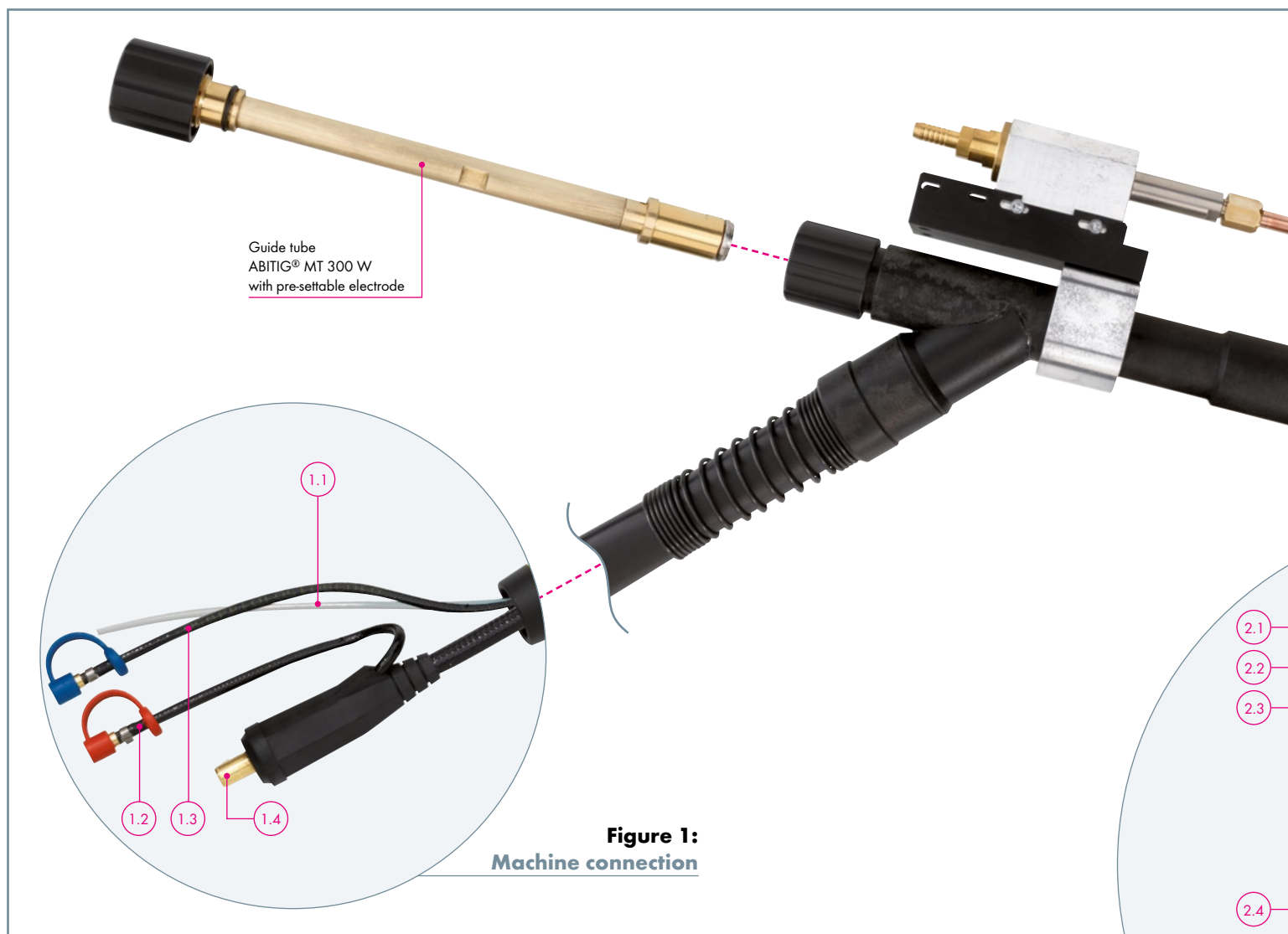
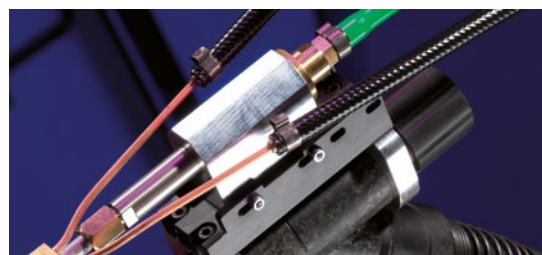
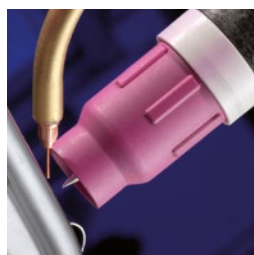
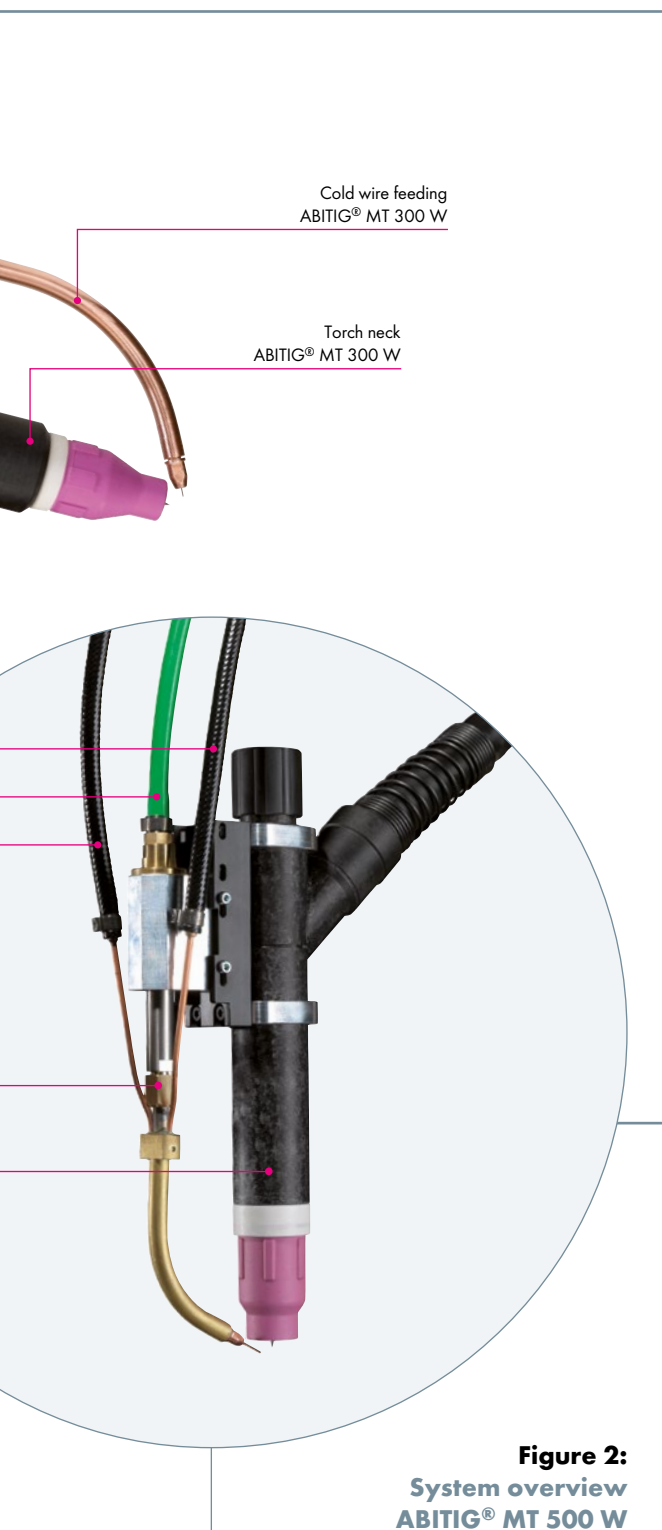


Figure 1:
Machine connection

- 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

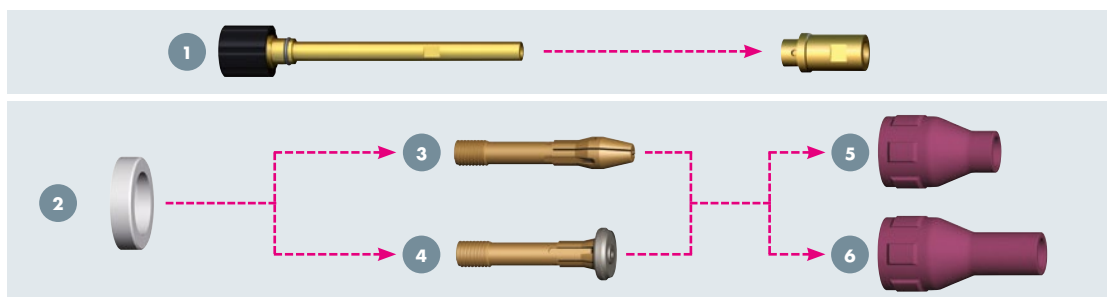


Torch neck

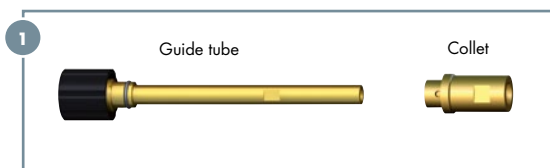
| Features | Part-No. |
|---------------------------|----------|
| ABITIG® MT 300 W standard | 779.2020 |

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

Wear parts for ABITIG® MT 300 W



1 Guide tube with collet (1 pc.)



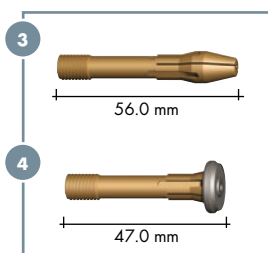
| Type | Part-No. |
|------------------|----------|
| Guide tube cpl. | 778.1030 |
| Collet | 778.1140 |
| O-ring (20 pcs.) | 165.0079 |

2 Insulator (1 pc.)



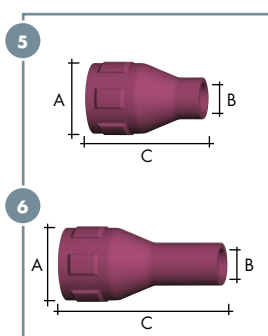
| Type | Part-No. |
|----------|----------|
| Standard | 775.1043 |

3 Electrode holder 4 Gas diffuser (5 pcs.)



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

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



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

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

ABITIG® MT – liquid cooled

Torch necks & wear parts

ABITIG® MT 500 W



Torch neck

Features

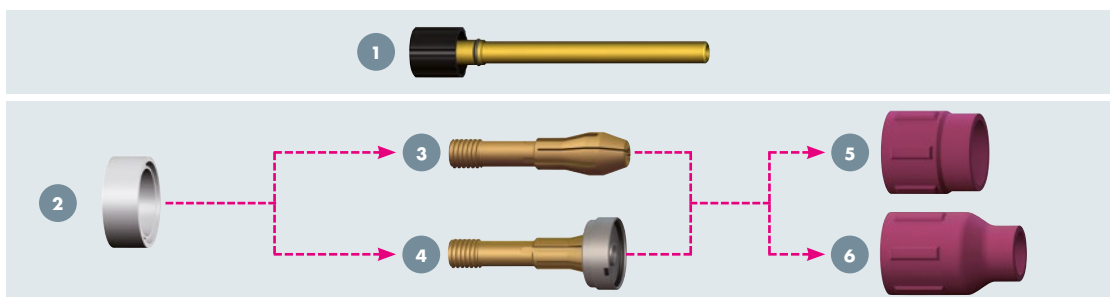
ABITIG® MT 500 W standard

Part-No.

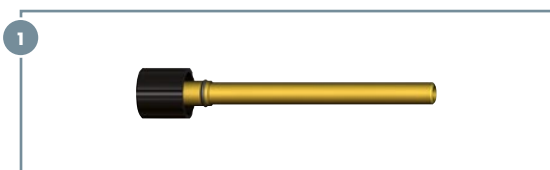
779.6020

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

Wear parts for ABITIG® MT 500 W



1 Guide tube (1 pc.)



Type

Guide tube cpl.

Part-No.

779.6026

O-ring (20 pcs.)

165.0079

2 Insulator (1 pc.)



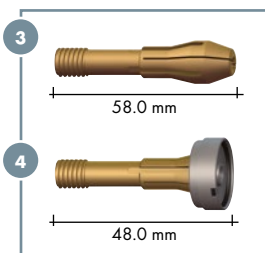
Type

Standard

Part-No.

779.6033

3 Electrode holder 4 Gas diffuser (5 pcs.)



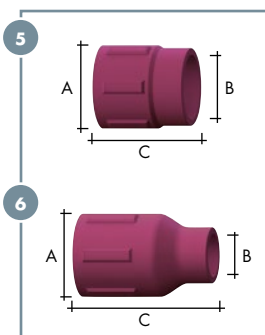
Type

Wire-Ø

Part-No.

| | | Electrode holder | Gas diffuser |
|----------|--------|------------------|--------------|
| Standard | 1.6 mm | 779.6044 | 779.6058 |
| | 2.0 mm | 779.6049 | 779.6063 |
| | 2.4 mm | 779.6045 | 779.6059 |
| | 3.2 mm | 779.6046 | 779.6060 |
| | 4.0 mm | 779.6047 | 779.6061 |
| | 4.8 mm | 779.6048 | 779.6062 |
| | 6.4 mm | 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 | 31.0 mm | 24.0 mm | 34.0 mm | 778.1189 |
|---------|---------|---------|---------|----------|

Long type

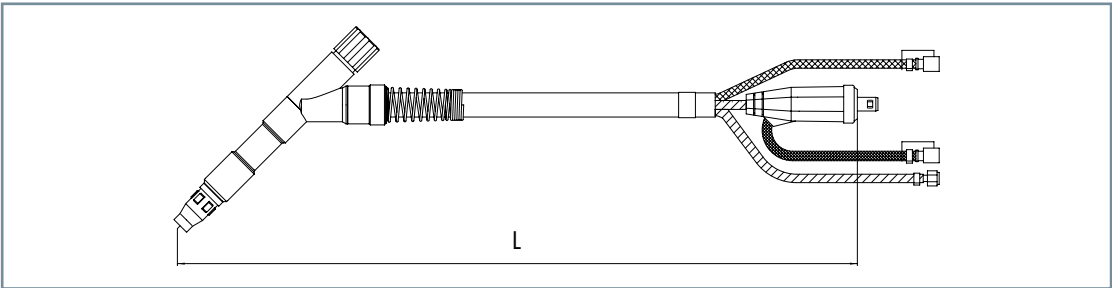
| | Ø A | Ø B | Length C | Part-No. |
|--|-----|-----|----------|----------|
|--|-----|-----|----------|----------|

| | | | | |
|---------|---------|---------|---------|----------|
| Ceramic | 31.0 mm | 12.5 mm | 50.0 mm | 778.1183 |
| | 31.0 mm | 16.0 mm | 50.0 mm | 778.1184 |
| | 31.0 mm | 19.5 mm | 50.0 mm | 778.1188 |

ABITIG® MT – liquid cooled

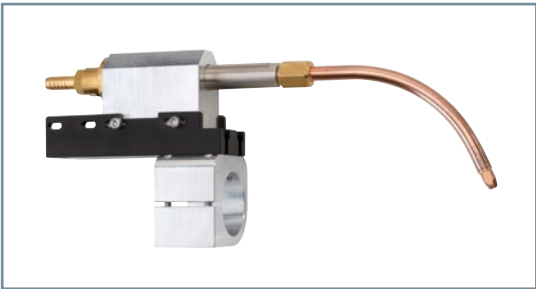
Cable assemblies, cold wire feeding & accessories

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



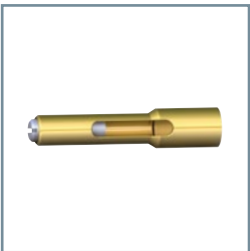
Cold wire feeding for ABITIG® MT

| Type | Part-No. |
|---|------------|
| Cold wire feeding cpl. ABITIG® MT 300 W | 779.6514.1 |
| Cold wire feeding cpl. ABITIG® MT 500 W | 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

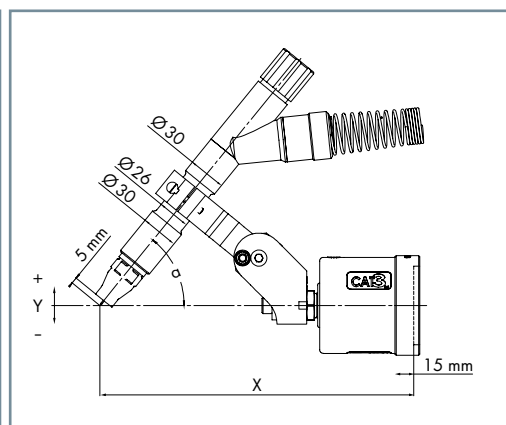
| for torch type | Part-No. |
|------------------|----------|
| ABITIG® MT 300 W | 778.1157 |

ABITIG® MT – liquid cooled Holder & TCP geometries

Clamp holder MT 26 for ABITIG® MT 300 W

in connection with CAT3 PRO cpl.

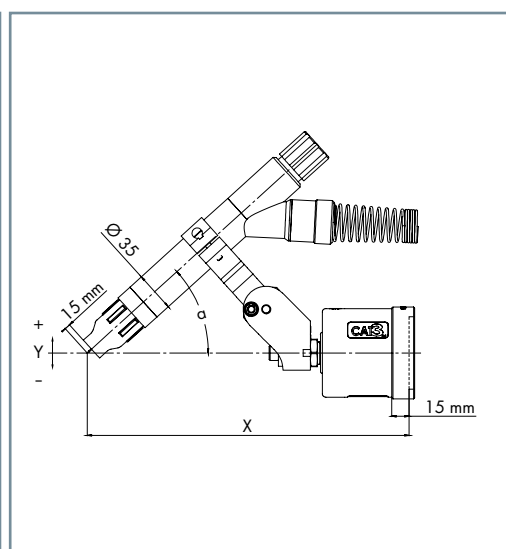
| Torch type | X | Y | α | Part-No. |
|------------------|------|---|----------|----------|
| | [mm] | | | |
| ABITIG® MT 300 W | 245 | 0 | 40° | 780.0258 |



Clamp holder MT 35 for ABITIG® MT 500 W

in connection with CAT3 PRO cpl.

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





Robot peripherals

System solutions



Robot mount CAT3 PRO

Reliable protection, that just fits

Application areas: Standard welding robot with external cable assembly

Page 71



Robot mount iCAT, iSTM and iCAT mini/iSTM mini

Safety & movement in perfect harmony

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

Page 77



Gas management system EWR 2 and EWR 2 NET

Up to 60 % gas savings

Application areas: Robot controlled MIG/MAG, TIG, plasma and laser welding processes as well as manual welding applications

Page 101



Wire feeder system MasterLiner

State of the art wire feeding

Application areas: Robot controlled welding processes

Page 109



MIG/MAG robot power source iROB®

High performance power source and preconfigured ready-to-weld-packages

Application areas: Robot controlled MIG/MAG power source iROB®

Seite 121



Torch cleaning station BRS and accessories

Connect & clean

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

Page 131



Torch cleaning station TCS Compact

Torch maintenance at its best

Application areas: Automated cleaning of all common shielding gas welding torches including injection unit TSi and integrated wire cutting device

Page 137



Injection unit TSi

Plug & spray

Application areas: Welding torch injection unit for simple integration

Page 143



Wire cutting device DAV

The perfect cut

Application areas: Automated robot MIG/MAG gas-shielded welding and laser brazing applications

Page 144



Torch exchange station TES

Increase productivity & flexibility

Application areas: Quick and reliable torch neck exchange

Page 145

Robot peripherals

Robot mount CAT3 PRO



Reliable protection, that just fits

The new generation of CAT2 and CAT3 torch mounts – the CAT3 PRO. With its two flange types CR (cylindrical release flange) and TR (tapered release flange), this new development is 100% compatible with CAT3 as well as CAT2. It scores with more stability and robustness compared to its predecessor types.

In the event of a collision, the CAT3 PRO ensures a reliable shutdown of the welding robot and thus prevents costly damage to the robot and equipment. Since a production process has to be restarted as quickly as possible, special requirements are set on the torch holder. The CAT3 PRO fulfills these demands better than any of its predecessors, because it is not only particularly robust, but also enables precise reset accuracy to the tool center point (TCP). Expensive production downtimes are thus reduced to an absolute minimum.

It is very easy to replace the CAT2, CAT2-HL and CAT3 robot mounts with the CAT3 PRO CR or CAT3 PRO TR. Reprogramming of the welding robot is not necessary.

The range of ABICOR BINZEL accessories for holders and flanges always offers the right production solution for your application.

Arguments that speak for themselves:

- Practical, robust design results in better performance
- Easy installation on the welding robot
- Reliable switching function
- 100% compatible with CAT2, CAT2-HL and CAT3
- Easy replacement and repair
- Precise reset accuracy (TCP) minimises system downtime
- Spring forces XL, L, M and (S) for optimum adaptation to the tool weight
- Excellent protection against contamination

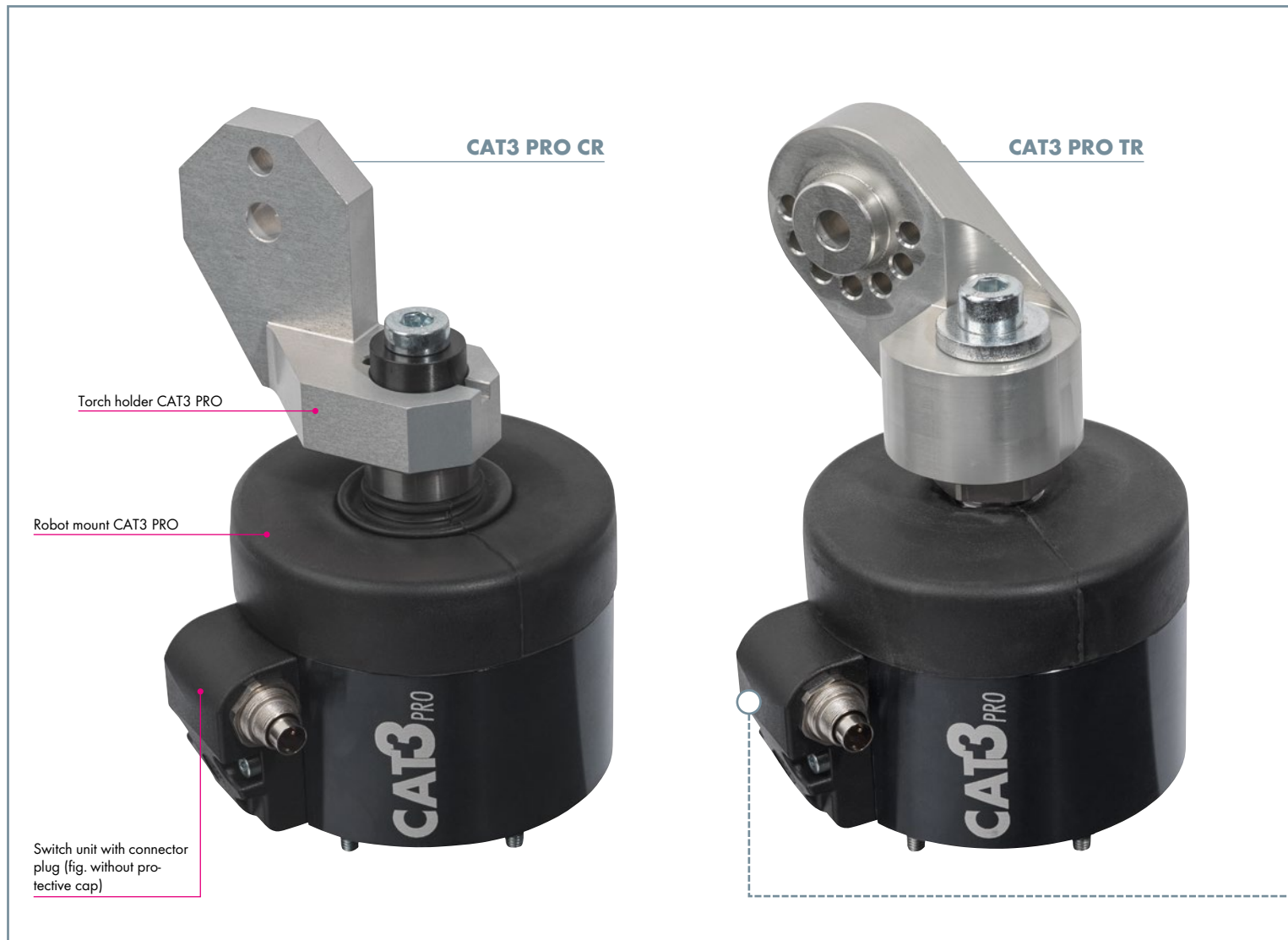
Area of application:

Standard welding robot with cable assembly on the outside



Robot mount CAT3 PRO

System overview & technical data



The CAT3 PRO CR with cylindrical release flange has the same holder mounting as the CAT2 and replaces it without any problems.

The CAT3 PRO TR has the same bracket mounting as CAT3 and CAT2-HL and also replaces these two types without problems.

Differences to CAT2 and CAT3 at a glance:

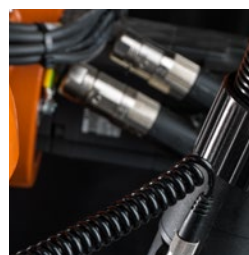
- More stable and robust
- Allows precise TCP
- No reprogramming of the welding robot necessary



Figure 1:
Cross-section
CAT3 PRO
Switch housing with
connection for signal cable

Figure 1:
Cross-section CAT3 PRO

- 1.1 The switch is integrated directly into the housing.
- 1.2 Same bracket mounting for CAT3 PRO TR as for CAT3 and CAT2-HL for reliable and robust mounting even with higher mounting weights. For CAT3 PRO CR the same bracket mounting is used as for CAT2.



Technical data: Robot mount CAT3 PRO

| | |
|----------------------------------|---|
| Dimensions: | Ø 77 mm, height 106 mm |
| Weight: | 960 g (without holder and flange) |
| Release force: | (see figure 3) Deflection CAT3 PRO CR/CAT3 PRO TR |
| Switch point: | <ul style="list-style-type: none"> ■ Deflection in X and Y direction: 1.2° up to 1.5° ■ Deflection in Z direction: 1.3 up to 1.6 mm |
| Max. deflection: | <ul style="list-style-type: none"> ■ Deflection in X and Y axis: approx. 7° ■ Deflection in Z axis: 5 mm |
| Resetting accuracy: | (see figure 4) 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: | <ul style="list-style-type: none"> ■ in operation: -10 °C up to +55 °C ■ during storage and transportation: -10 °C up to +55 °C |
| Relative humidity: | <ul style="list-style-type: none"> ■ in operation: up to 70 % at 20 °C ■ during storage and transportation: up to 70 % at 20 °C |

Robot mount CAT3 PRO

Deflection & release torque

Deflection of the robot mount CAT3 PRO

Figure 2:
Collision in direction of the X or Y axis
Collision in direction of the Z axis

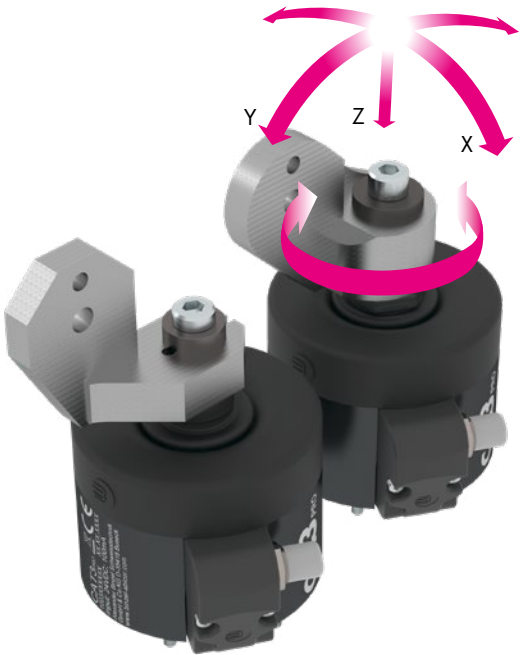
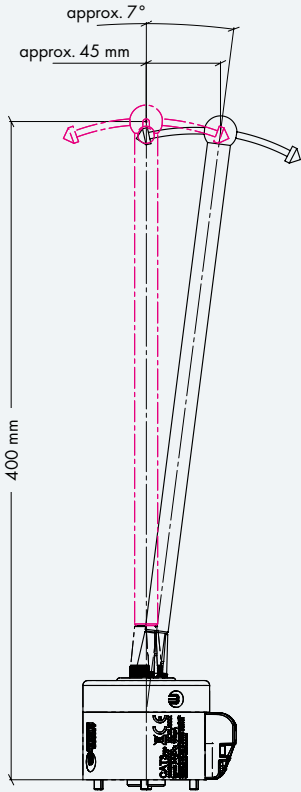


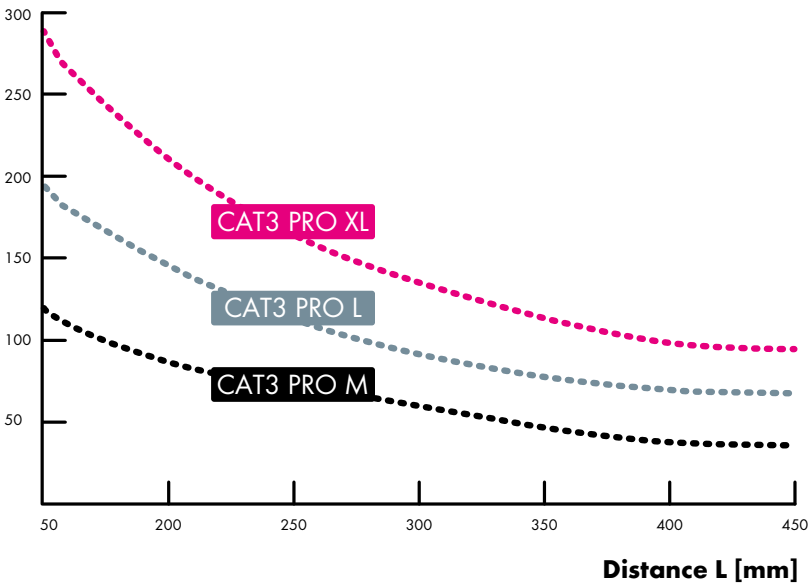
Figure 4:
Maximum deflection in X and Y axis



Release force of the robot mount CAT3 PRO

Figure 3:
The following figure shows the static release force of the different spring types as a function of the distance to the flange surface (figure 4):

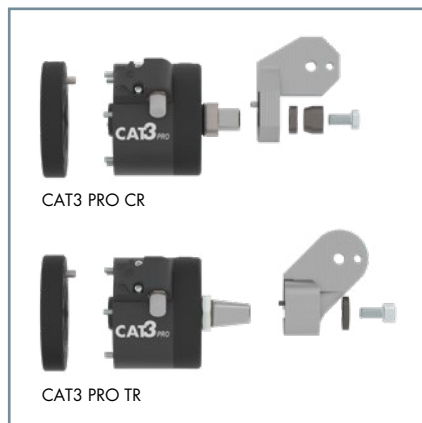
Release force [N]



Robot mount CAT3 PRO

Robot mount & accessories

Robot mounts



CAT3 PRO CR

| Description | | Part-No. |
|----------------------------|----------------|------------|
| Robot mount CAT3 PRO CR M | without holder | 780.2178.1 |
| Robot mount CAT3 PRO CR L | without holder | 780.2177.1 |
| Robot mount CAT3 PRO CR L | with holder | 780.2180.1 |
| Robot mount CAT3 PRO CR XL | without holder | 780.2176.1 |
| Robot mount CAT3 PRO CR XL | with holder | 780.2179.1 |

CAT3 PRO TR

| Description | | Part-No. |
|----------------------------|----------------|------------|
| Robot mount CAT3 PRO TR M | without holder | 780.2175.1 |
| Robot mount CAT3 PRO TR L | without holder | 780.2174.1 |
| Robot mount CAT3 PRO TR XL | without holder | 780.2173.1 |

A connection cable is included in the scope of the order.

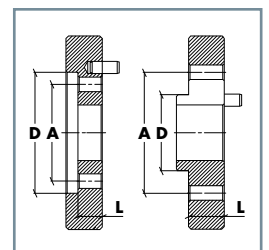
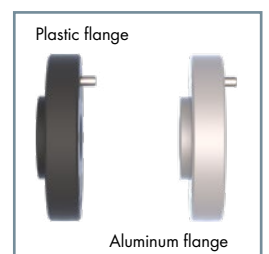
Please order the flanges and holders separately according to the robot type and welding task.

Flanges

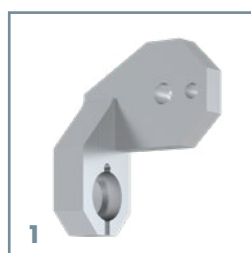
| Description | | Part-No. | |
|---------------------|--------------------------|------------|------------|
| | | Aluminum | Plastic |
| Intermediate flange | ISO 9409-1-A31.5/D40/L15 | 780.0532.1 | 780.0632.1 |
| Intermediate flange | ISO 9409-1-A40/D50/L10 | 780.0504.1 | 780.0604.1 |
| Intermediate flange | ISO 9409-1-A40/D50/L15 | 780.0591.1 | 780.0691.1 |
| Intermediate flange | ISO 9409-1-A50/D31.5/L15 | 780.0508.1 | 780.0608.1 |
| Intermediate flange | ISO 9409-1-A50/D63/L10 | 780.0503.1 | 780.0603.1 |
| Intermediate flange | ISO 9409-1-A50/D63/L15 | 780.0594.1 | 780.0694.1 |
| Intermediate flange | ISO 9409-1-A63/D40/L15 | 780.0514.1 | 780.0614.1 |
| Intermediate flange | ISO 9409-1-A100/D63/L15 | 780.0549.1 | 780.0649.1 |
| Intermediate flange | ISO 9409-1-A125/D80/L15 | 780.0530.1 | 780.0630.1 |
| Intermediate flange | ISO 9409-1-A160/D100/L15 | 780.0547.1 | 780.0647.1 |

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

Attention! For technical reasons, the MIG/MAG welding torches of the ABIROB® A series must be used with plastic intermediate flange.



Holders



| Pos. | Description | Part-No. |
|----------|---|------------|
| 1 | Holder CAT3 PRO CR ¹ | 780.0202.1 |
| not ill. | Segment holder CAT3 PRO CR ² | 780.0147.1 |

All holders are TCP-compatible to CAT2.

Holders are suitable for CAT3 PRO CR.

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



| Pos. | Description | Part-No. |
|----------|---|------------|
| 2 | Holder CAT3 PRO TR ³ | 780.0323.1 |
| not ill. | Segment holder CAT3 PRO TR ⁴ | 780.0305.1 |

All holders are TCP-compatible to CAT2-HL and CAT3.

Holders are suitable for CAT3 PRO TR.

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

¹ TCP-compatible to standard holders for CAT2 780.0202.1

² TCP-compatible to standard holders for CAT2 780.0147.1

³ TCP-compatible to standard holders for CAT2 780.0323.1

⁴ TCP-compatible to standard holders for CAT2 780.0305.1

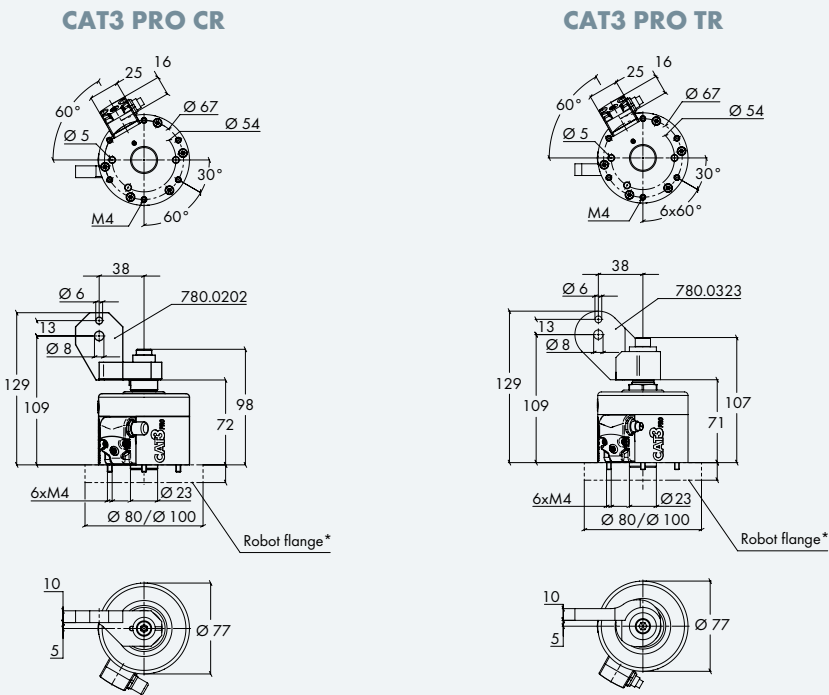
Robot mount CAT3 PRO

Spare parts & product dimensions

Spares

|  |  |  |  |  |
|---|---|--|---|---|
| 1 | 2 | 3 | 4 | 5 |
|  |  | | | |
| 6 | 7 | | | |
| Pos. | Description | Part-No. | | |
| 1 | Bellow CAT3 PRO | 780.2059.1 | | |
| 2 | Switch set cpl. CAT3 PRO | 780.2190.1 | | |
| 3 | Switch cpl. CAT3 PRO | 780.2182.1 | | |
| 4 | Screw set CAT3 M4 x 55 | 780.2076.1 | | |
| 5 | Mounting set CAT3 PRO CR | 780.0036.1 | | |
| 6 | Mounting set CAT3 PRO TR | 780.2044.1 | | |
| 7 | Connector cable CAT (all versions) | 780.0201.1 | | |

Comparison of the geometries between the robot mounts CAT3 PRO CR and CAT3 PRO TR:



* Flange thickness 10 mm or 15 mm depending on robot.

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 and movement for both air cooled 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. Additional safety is provided by the integrated switch-off protection of the iCAT, which stops the robot immediately in the event of a collision.

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 air-blast function through the cable assembly

Area of application:

For all applications where a mechanical switch-off is required



Robot mount iCAT

System overview & technical data

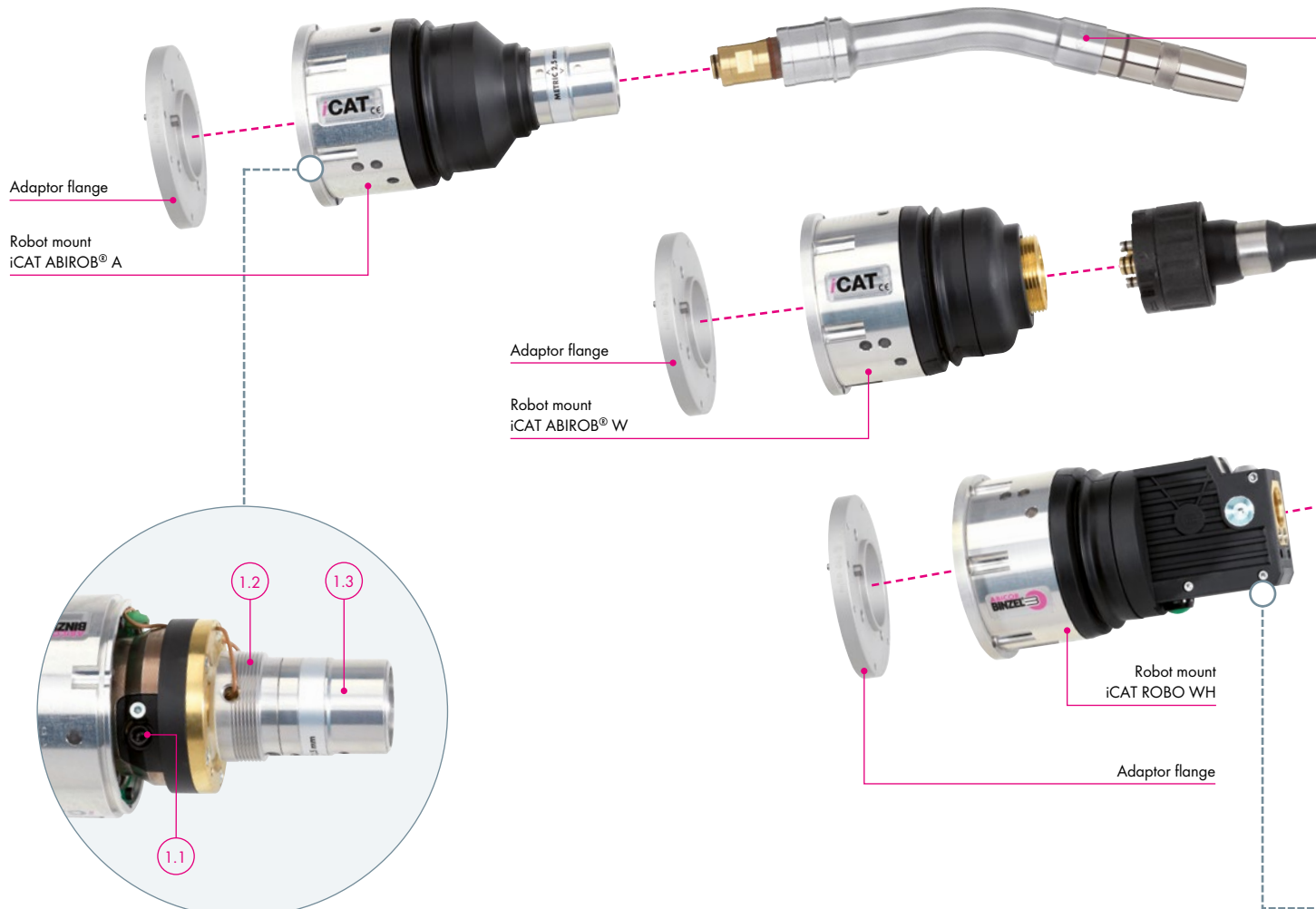


Figure 1:
iCAT without protective cover

Figure 2:
Quick change system
iCAT ROBO WH

Figure 1:
iCAT ABIROB® A without protective cover

- 1.1 Clamping screw for safe clamping of the cable assembly
- 1.2 Thread for easy removal of the protective cover without tools
- 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

¹ Further spring forces available on request.



Technical data:
Robot mount iCAT

| | |
|--------------------------------------|--|
| Dimensions: | Length 162 mm Ø 90 mm |
| Weight: | approx. 1600 g approx. 2100 g (inc. adaptor flange and torch) |
| Release force: | 36 N ¹ +/- 3 N (at 400 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.

Robot mount iCAT

Cable assemblies for hollow wrist robots

1. Cable assemblies with interface for the connection to the welding torch interface

Sectional view (cable assembly)

| 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 cooled | 360 A CO ₂ 340 A mixed gases ¹ | ✓ | ✓ | ✓ | – | – | – | – | – | – | no |
| BIKOX® hybrid package with central shielding gas supply ² | liquid cooled | 360 A CO ₂ 340 A mixed gases ¹ | – | – | – | ✓ | ✓ | – | ✓ | ✓ | – | no |

2. iCAT³ cable assembly with firmly connected welding torch interface

Sectional view (cable assembly)

| 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 | |
| Power water cable | liquid cooled | 500 A mixed gases ¹ | – | – | – | – | ✓ | ✓ | – | ✓ | ✓ | yes |
| 2 x Power water cable | liquid cooled | 600 A mixed gases ¹ | – | – | – | – | – | ✓ | – | – | ✓ | yes |

¹ M21 (EN ISO 14175)

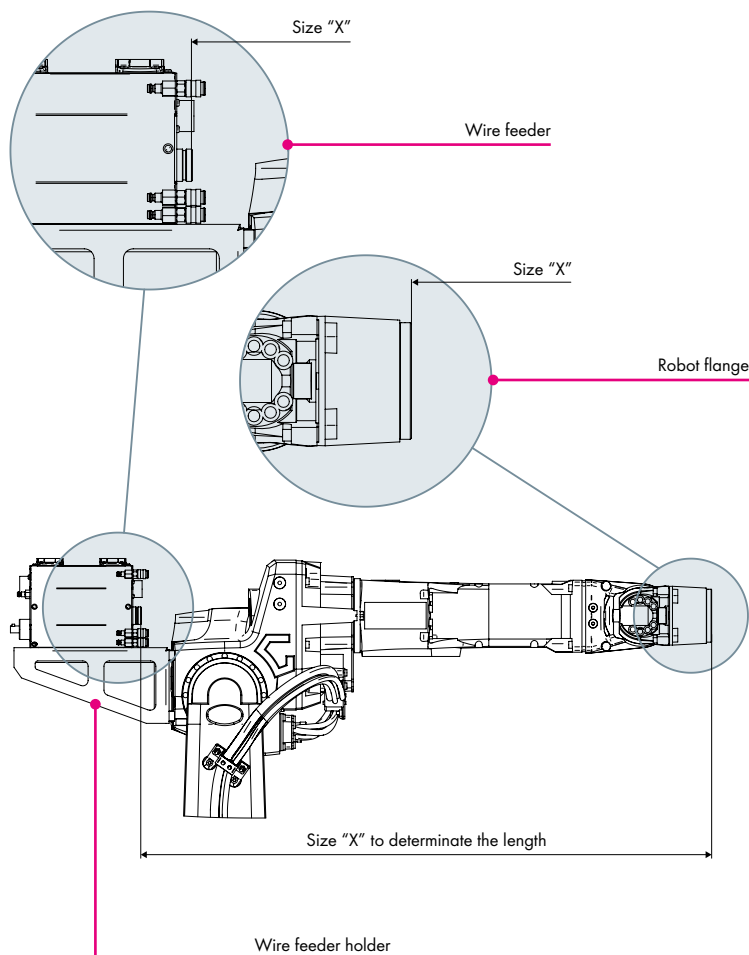
² Note: Due to the central gas flow in the cable assembly not suitable for torch neck ABIROB® W 600.

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

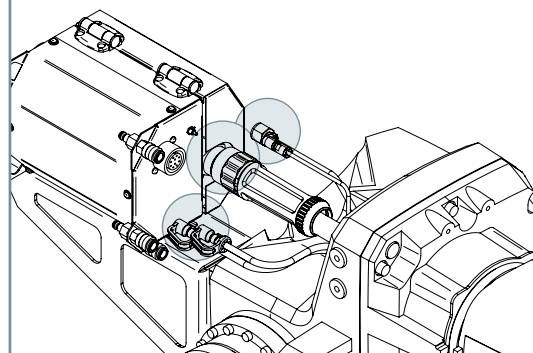
Robot mount iCAT

How to order a hollow wrist cable assembly

Length determination cable assemblies



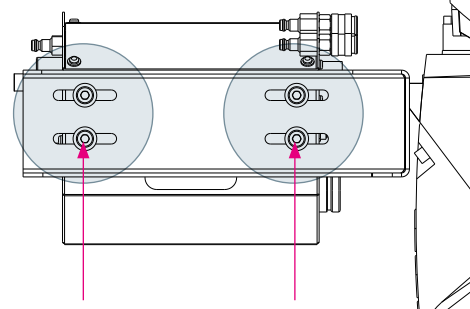
View of machine side connection



Note:

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

View of wire feeder holder (view from below)



Note:

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 cable connector (e.g. Amphenol, open, etc.):

Size "X" cable assembly (see above):

2. Desired additional functions

☐ Blowing out function

☐ Gas nozzle sensor

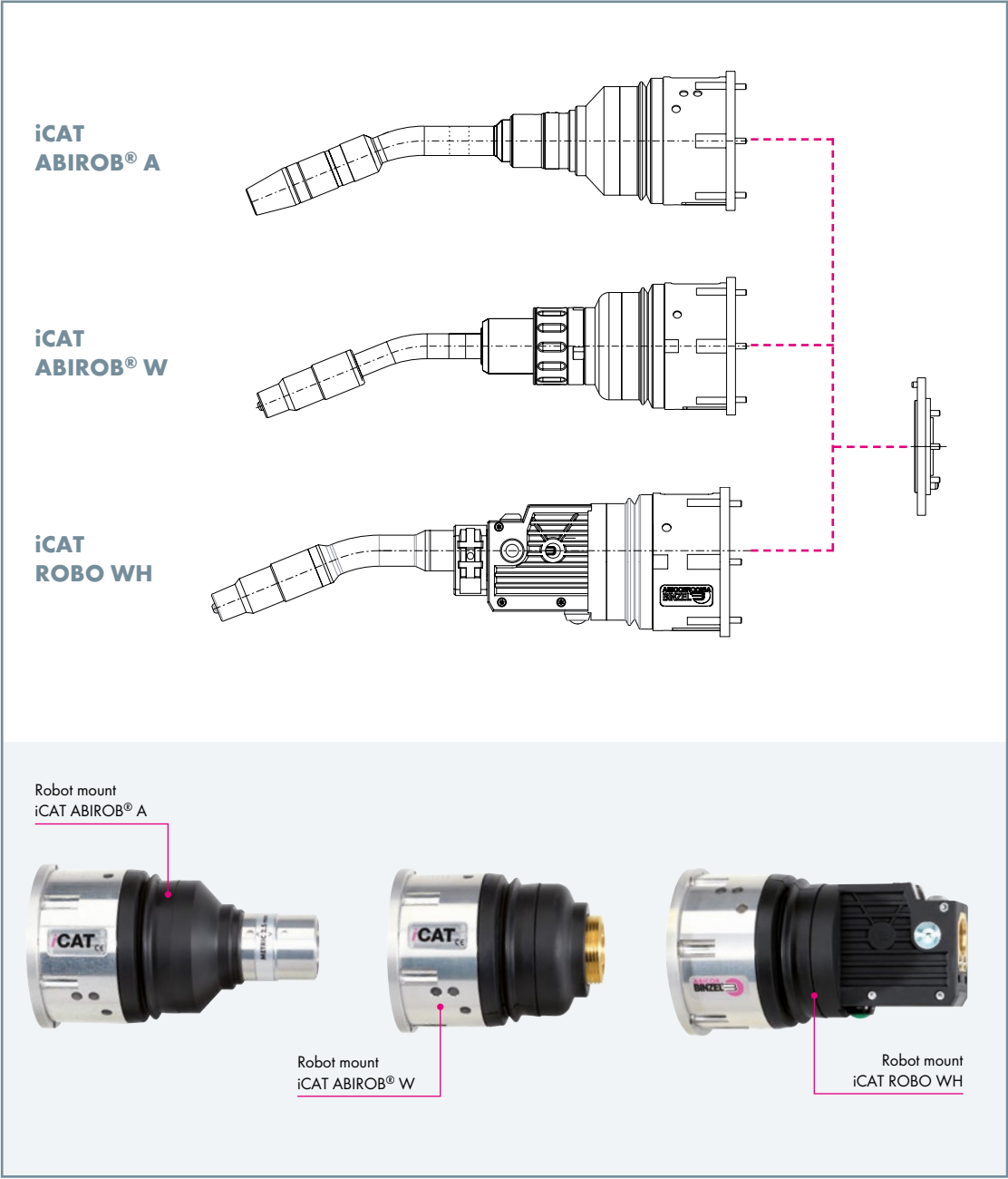
☐ Wire brake

3. Other information

Robot mount iCAT

Robot mount & adaptor flanges

Robot mount iCAT



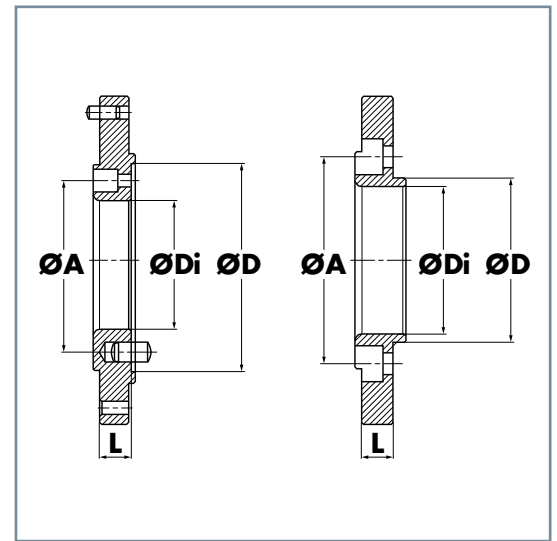
| Description | Part-No. |
|----------------------------|------------|
| Robot mount iCAT ABIROB® A | 780.3101.1 |
| Robot mount iCAT ABIROB® W | 780.3130.1 |
| Robot mount iCAT ROBO WH | 780.3150.1 |

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

Robot mount iCAT

Robot mount & adaptor flanges

Adaptor flanges



| Description Adaptor flanges | Robot type | Part-No. | |
|--------------------------------|---------------------------------|------------|------------|
| | | Aluminum | Plastic |
| iCAT A63 / D50 / L9,5 | ABB® IRB 1520/1600ID | 780.0589.1 | |
| iCAT A80 / D55 / L27 | ABB® IRB 1660/2600ID | | 780.3605.1 |
| iCAT A63 / D42 / L9,5 | COMAU® NSx | 780.3501.1 | |
| iCAT A100 / D63 / L20 | FANUC® M710iC/50/70 | | 780.3621.1 |
| iCAT A56 / D62 / L57 | FANUC® AM 100/120iC | | 780.3630.1 |
| iCAT A64 / D71 / L57 | FANUC® AM 100iD | | 780.3634.1 |
| iCAT A60 / D67 / L15 | Adapter FANUC® 780.3220 | | 780.0693.1 |
| iCAT A58 / D65 / L9,5 | KUKA® KR5/16 L8/8 R1420 HW | 780.0590.1 | |
| iCAT A66 / D75 / L9,5 | KUKA® KR16 arc HW | 780.3504.1 | |
| iCAT A56 / D66 / L9,5 | KAWASAKI® BA006N/BA006L | | 780.3610.1 |
| iCAT A56 / D62 / L10 | MA1440/2010 - iCAT-WH/US | | 780.3614.1 |
| iCAT A60 / D68 / L10 | OTC® Almega AX V4(L) AP | 780.0587.1 | 780.0687.1 |
| iCAT A67 / D75 / L10 | OTC® FD-B4 | | 780.0696.1 |
| iCAT A77 / D69 / L10 | OTC® FD-B6 | | 780.3632.1 |
| iCAT A50 / D57 / L9,5 | PANASONIC® TB1400/1800 | 780.0592.1 | 780.0692.1 |
| iCAT A60 / D68,5 / L10 | PANASONIC® TM1100/1400/1800 | 780.3513.1 | 780.3613.1 |
| iCAT A58 / D68 / L15 | REIS® RV20/30 | 780.0595.1 | 780.0695.1 |
| iCAT A56 / D42 / L9,5 | Yaskawa® Motoman EA1400N/1900N | 780.0575.1 | |
| iCAT A56 / D68 / L9,5 | Yaskawa® Motoman EA1400N/1900N | | 780.0675.1 |
| iCAT A56 / D68 / L15 | Yaskawa® Motoman MA1650/EA1800N | | 780.3603.1 |
| iCAT A56 / D62 / L35 | Yaskawa® Motoman MA1440/2010 | | 780.3620.1 |

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

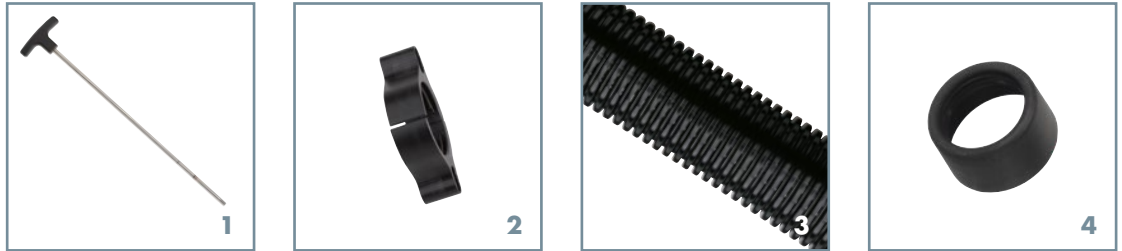
Robot mount iCAT

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 | 1.0–1.2 mm | - | 124.0146.1 |
| Liner steel | Fronius® | 1.0–1.2 mm | 124.0174.1 | - |
| Liner steel | OTC® | 1.0–1.2 mm | 124.0166.1 | - |
| Liner steel | Panasonic® | 1.0–1.2 mm | 124.0164 | - |

Accessories

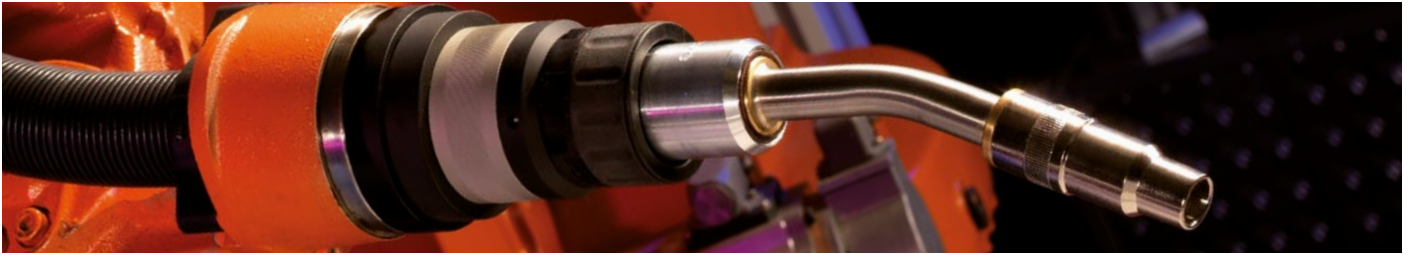


| | Description | Part-No. |
|----------|---|------------|
| 1 | Insertion aid (for straightforward cable assembly attachment) | 980.2153 |
| 2 | Corrugated hose clamp cpl. (for KUKA® KR5 arc HW) | 400.1407.1 |
| | Corrugated hose clamp cpl. (for KUKA® KR16 arc HW) | 400.1428.1 |
| | Corrugated hose 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 |
| 3 | Protective tube | 109.0074 |
| 4 | Corrugated hose end piece NW36 | 500.0453 |
| not ill. | Protective hood (for iCAT) | 191.0117 |

¹ Liners for further connection types are available on request.

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 and flexibility for both air cooled 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 air-blast function through the cable assembly

Area of application:

Hollow wrist robots with integrated collision software



Robot mount iSTM

System overview & technical data

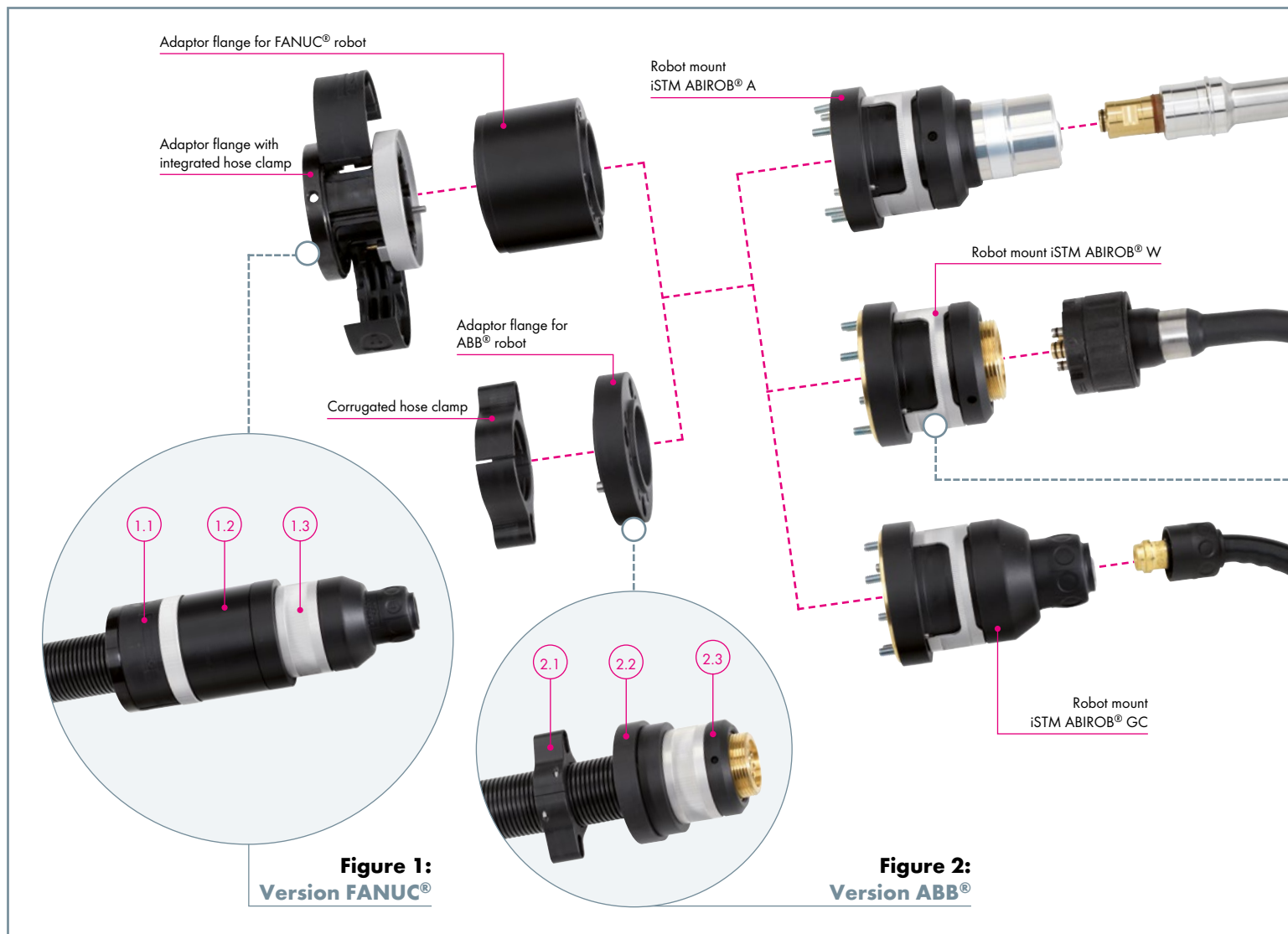


Figure 1:
Version FANUC® with iSTM ABIROB® GC

- 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

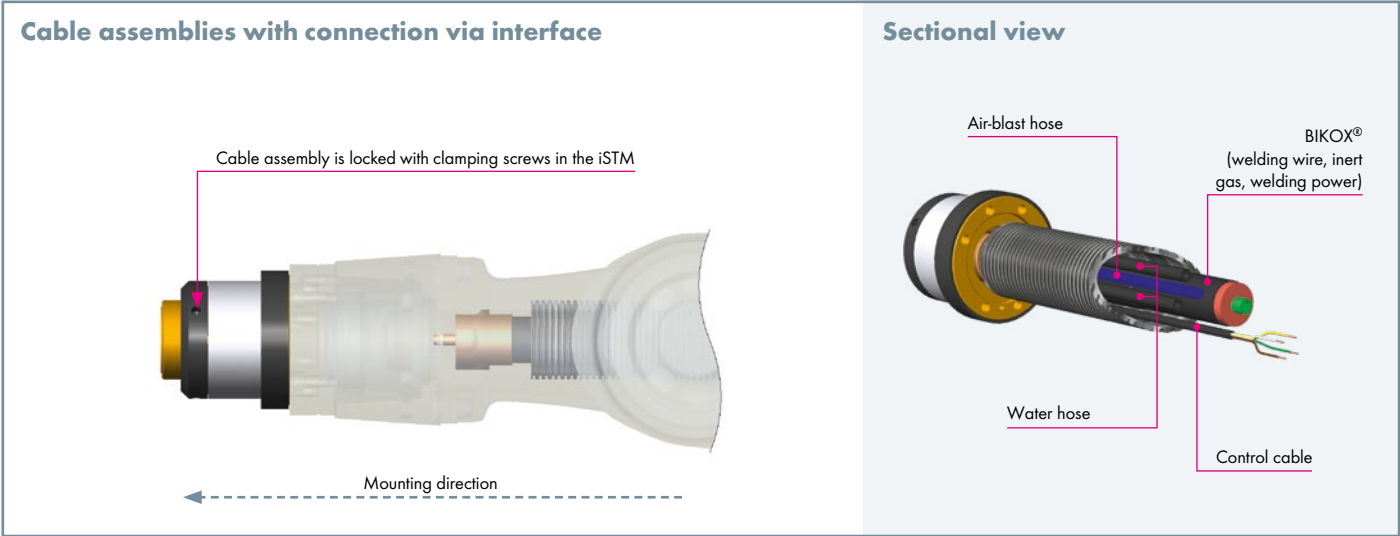
Ø 73 mm

Weight:

| | |
|-----------------------|----------------|
| ■ without torch neck | approx. 900 g |
| ■ with ABIROB® A 300 | approx. 1200 g |
| ■ with ABIROB® A 360 | approx. 1200 g |
| ■ with ABIROB® A 500 | approx. 1200 g |
| ■ with ABIROB® W 500 | approx. 1500 g |
| ■ with ABIROB® 350 GC | approx. 1200 g |

Robot mount iSTM

Cable assemblies for hollow wrist robots



Cable assemblies with connection via 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 cooled | 360 A CO ₂ 340 A mixed gases ¹ | ✓ | ✓ | ✓ | – | – | – | ✓ | – | – | – | no |
| BIKOX® hybrid assembly with central gas flow | liquid cooled | 360 A CO ₂ 340 A mixed gases ¹ | – | – | – | ✓ | ✓ | – | – | ✓ | ✓ | – | no |

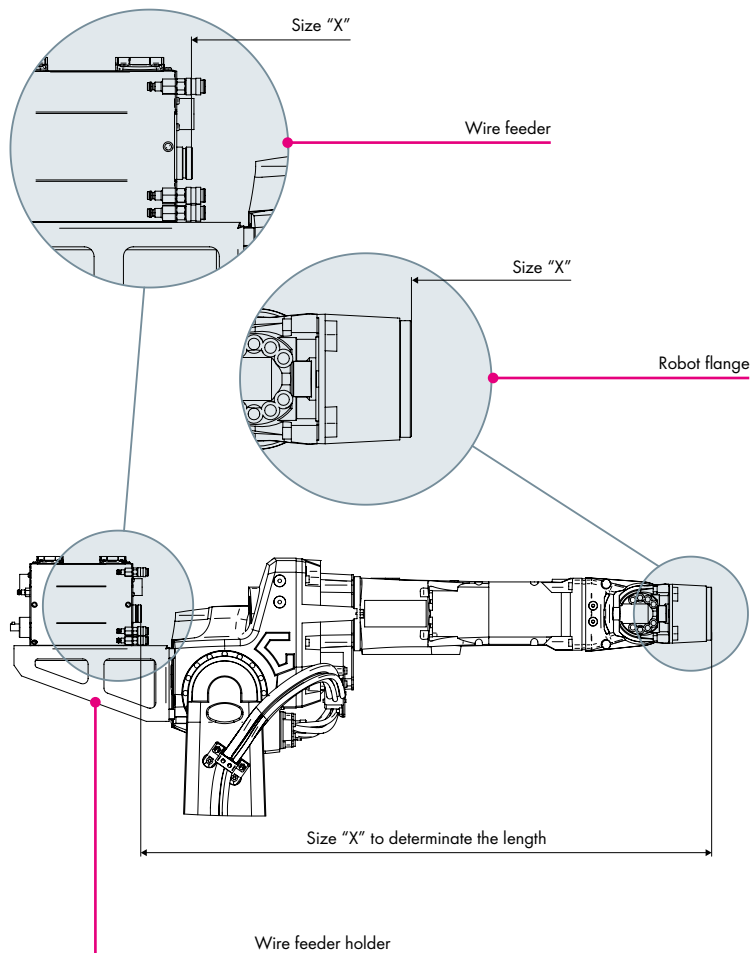
¹ M21 (EN ISO 14175). Higher performance classes achievable with the version with power water cable.

² The robot mount iSTM in combination with ABIROB® W 600 can only be used with the version with power water cable due to the decentralised gas flow.

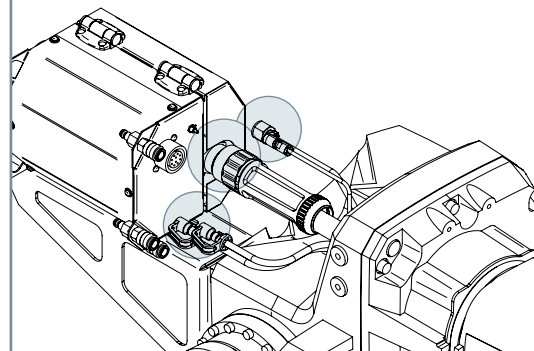
Robot mount iSTM

How to order a hollow wrist cable assembly

Length determination cable assemblies



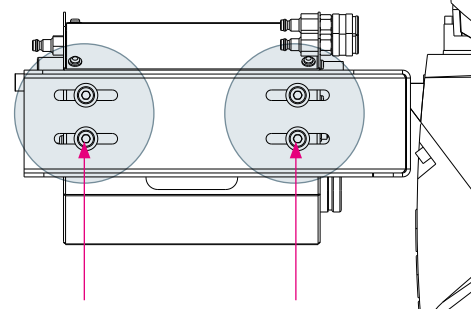
View at machine side connection



Note:

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

View of wire feeder holder (view from below)



Note:

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 cable connector (e.g. Amphenol, open, etc.):

Size "X" cable assembly (see above):

2. Desired additional functions

☐ Blowing out function

☐ Gas nozzle sensor

☐ Wire brake

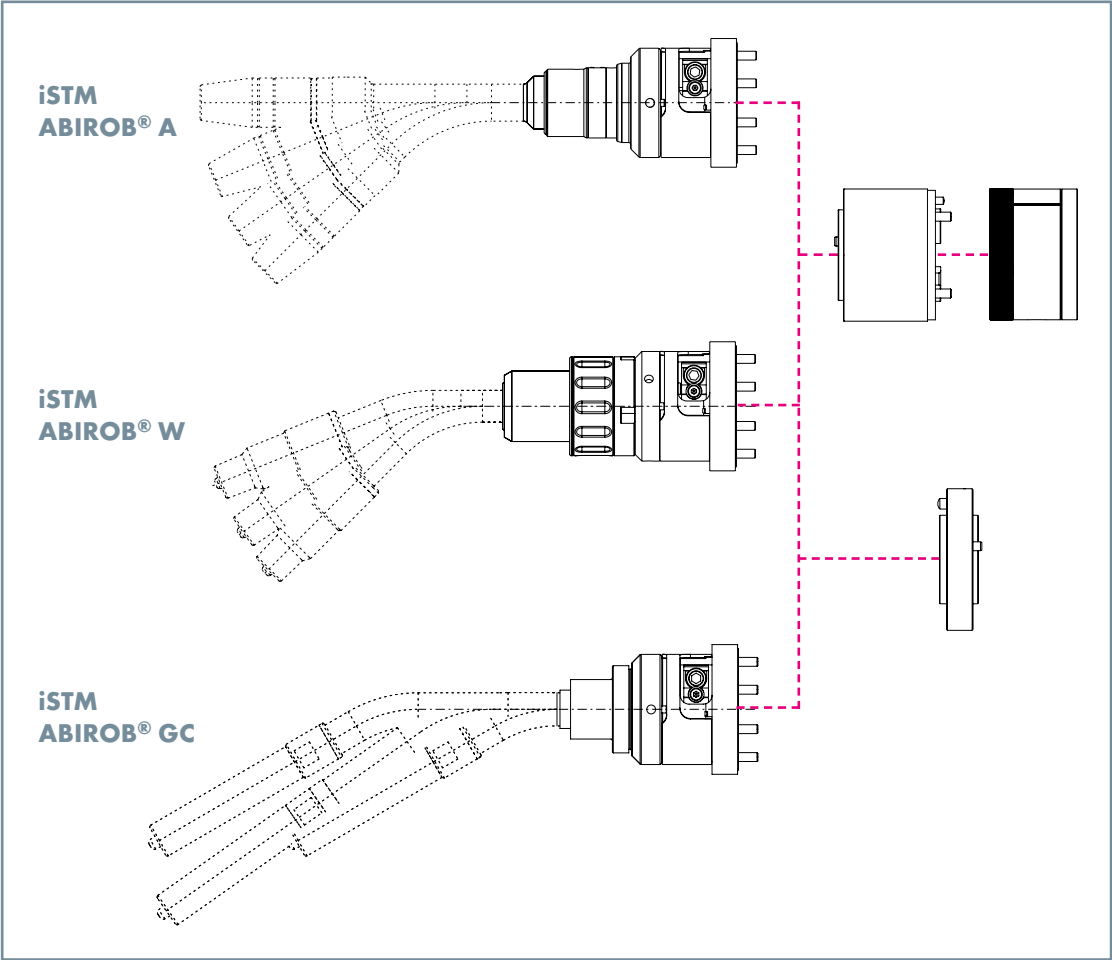
☐ Wire feeding button

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 |

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 1600ID | 780.0678.1 |
| 2 Corrugated hose clamp | ABB® IRB 1600ID | 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 | 1.0–1.2 mm | 124.0145.1 |
| Liner steel | Fronius® | 1.0–1.2 mm | 124.0174 |
| Liner steel | OTC® | 1.0–1.2 mm | 124.0165 |
| Liner steel | Panasonic® | 1.0–1.2 mm | 124.0163.1 |

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 |

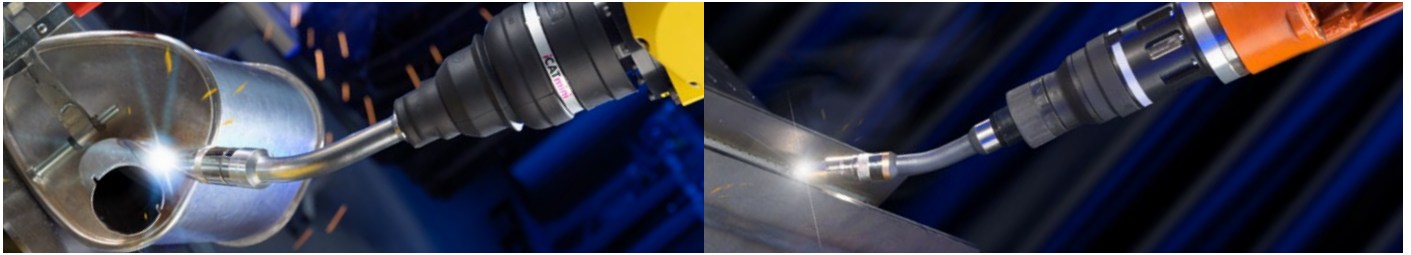
¹ Liners for further connection types are available on request.

² Steel wire



Robot peripherals

Robot mount iCAT mini/iSTM mini



Reduced to the max: Compact, precise, simple and value-for-money

Reliable, cost-effective and safe at the same time – these are the torch mounts for iCAT mini and iSTM mini robotic welding torches. Their small, compact design provides easy access to even difficult to reach welding areas.

The compact iCAT mini robot mount – with integrated cable assembly guidance for air cooled and liquid cooled welding applications – was designed for use on hollow shaft robots of automotive suppliers and general industries up to 400 A. The complete system consists of welding torch, switch-off protection and cable assembly with a heavy-duty and torsion-resistant coaxial cable for a long service life.

The robot mount iSTM for welding robots with central media feeding through the center axis offers a high level of safety and flexibility for both air cooled and liquid cooled welding torches. The mount was especially developed for hollow shaft robots with integrated collision software and has a total rotation angle of up to 400°.

In addition to both systems, the torch neck versions ABIROB® G 300, G 350, G 360 and G 500, which are equipped with the new G-interface, as well as ABIROB® W 300, W 500 and W 600 are available. They are characterised by high 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 use the proven wear part concept of the ABIROB® A and GC series.

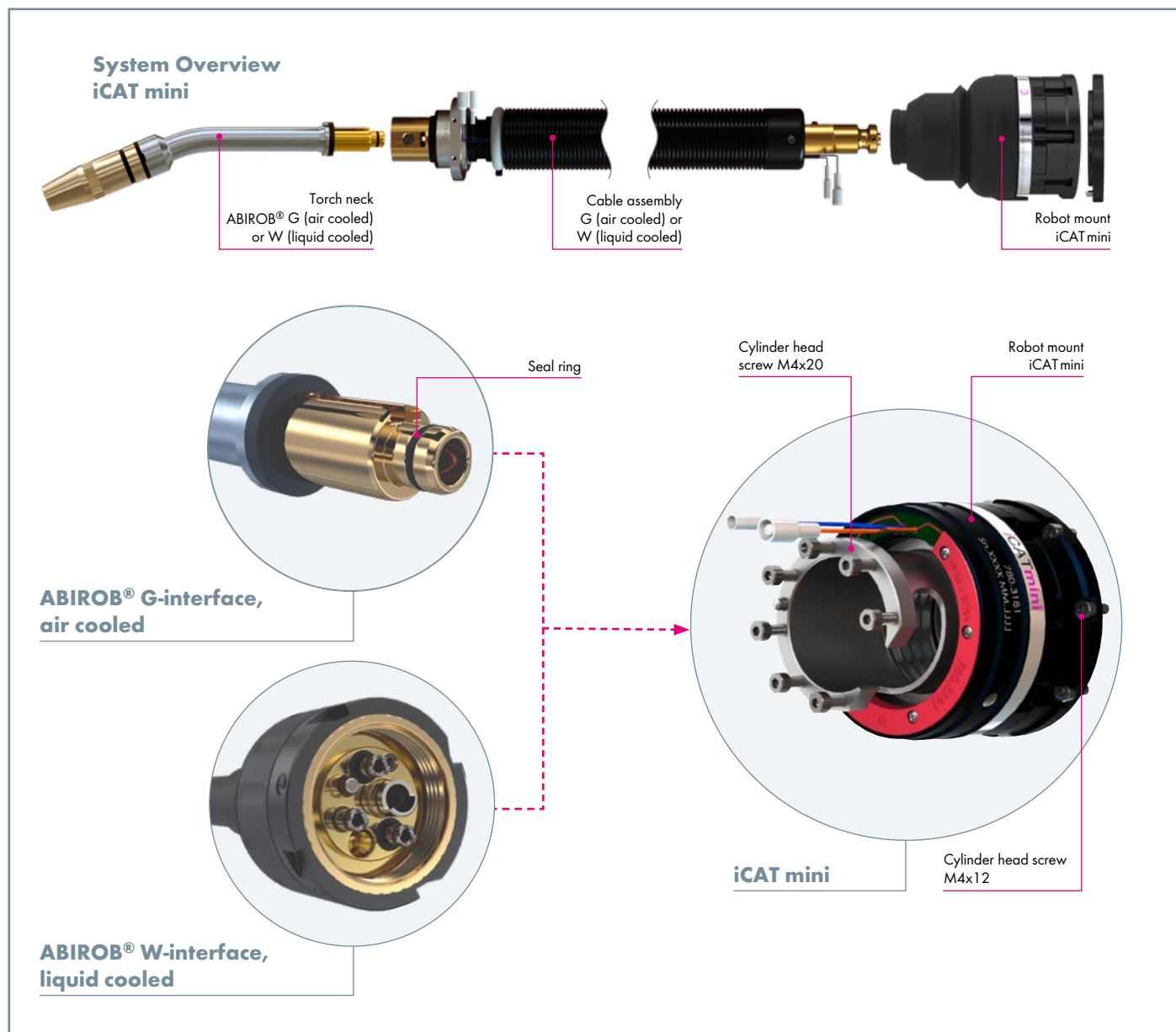
Area of application iCAT mini/iSTM mini:

For all applications where a mechanical switch-off is required



Robot torch mount iCAT mini

System overview



Reduced to the max: Compact, precise, simple and value- for-money

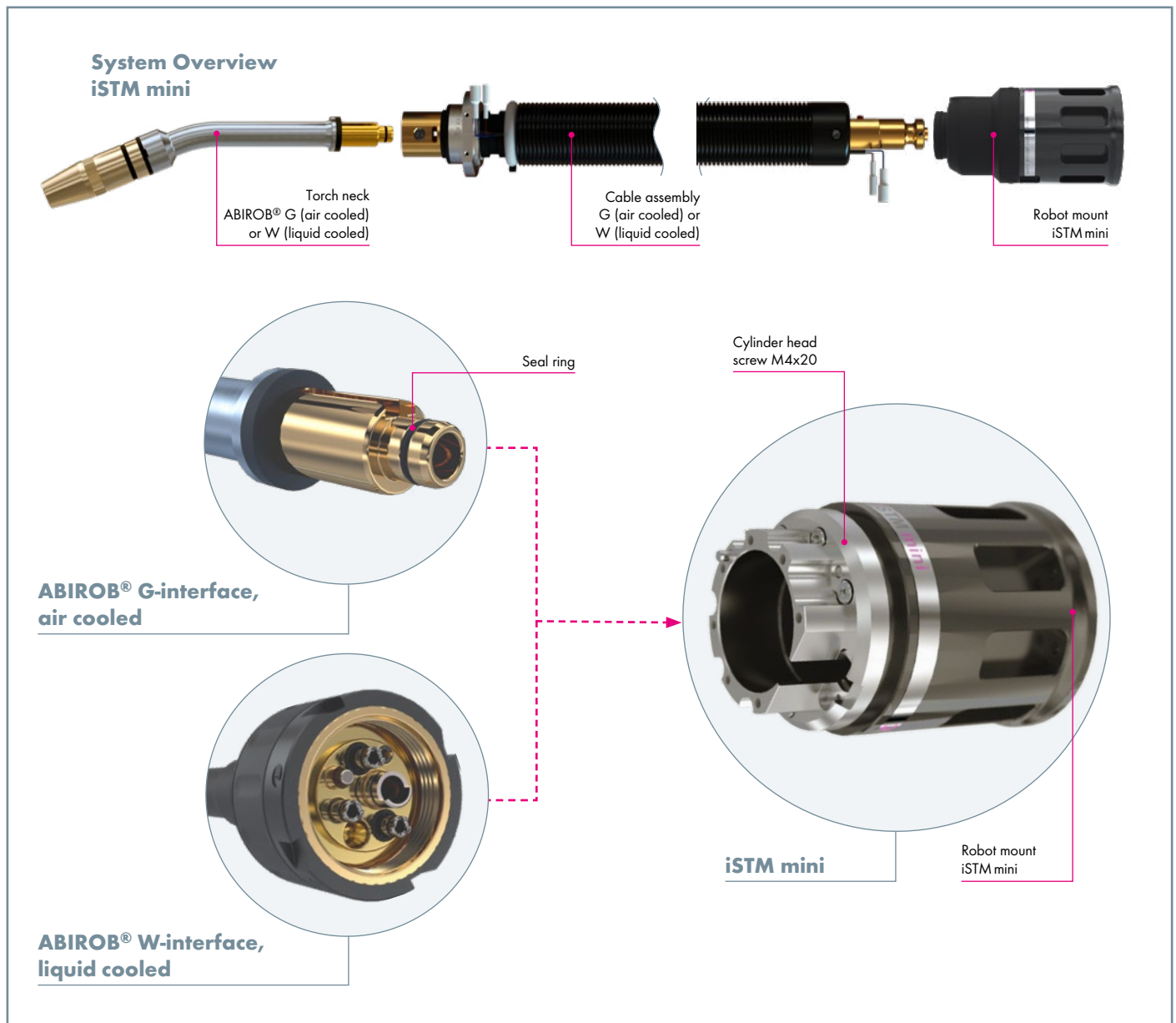
The compact robot mount iCAT mini – with integrated cable assembly guide for air cooled and liquid cooled welding applications – was designed for use on hollow wrist robots up to 400 A at automotive suppliers and in general industries. The overall system comprises a welding torch, safety cut-off and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

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

Robot torch mount iSTM mini

System overview



iSTM mini: Flexible and reliable

The compact robot mount iSTM mini for welding robots with central media guidance through the sixth axis offers a high degree of safety and flexibility for air and liquid cooled welding torches. The mount was specially developed for hollow shaft robots with integrated collision software and has a total rotation angle of up to 400°.

Arguments that speak for themselves:

- Extremely torsion-resistant cable assembly: total rotation angle of up to 400° (+/- 200°)
- High flexibility and optimum component accessibility
- Highest reliability due to comprehensive protection against dust and welding spatter

- Additional feature: Optional blow-out function through the cable assembly
- Optional wire brake for air cooled and liquid cooled cable assemblies

In addition to both systems are the torch neck versions ABIROB® G 300, G 350, G 360 and G 500, which are equipped with the new G-interface, as well as ABIROB® W 300, W 500 and W 600. These versions are characterised by high stability and repeatability – for excellent and reproducible welding results. The torch neck types of the G series are available in various TCP versions and are based on the proven wear part concept of the ABIROB® A and GC series.

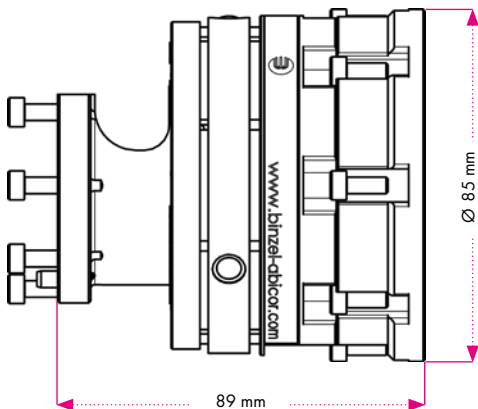
Robot mount iCAT mini/iSTM mini

Technical data

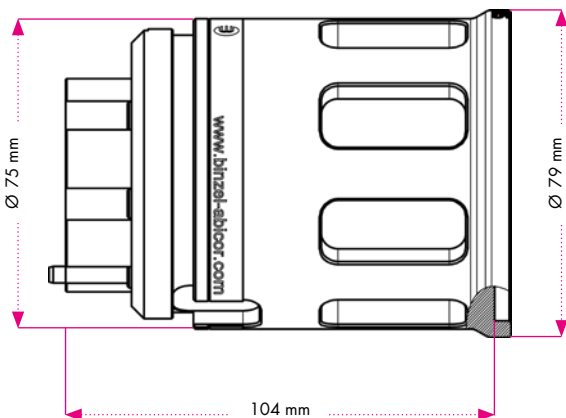
Overview iCAT mini/iSTM mini

| | iCAT mini G | iCAT mini W | iSTM mini G | iSTM mini W |
|------------------------------|-------------|----------------|-------------|----------------|
| ABIROB® G torch necks | • | | • | |
| ABIROB® W torch necks | | • | | • |
| Power water cable | | • | | • |
| BIKOB® T50S | • | | • | |
| Wire brake option | • | • | • | • |
| Nozzle sensing option | | • | | • |
| Compressed air option | • | • ¹ | • | • ¹ |
| Connector | | | | |
| LINCOLN® | • | • | • | • |
| PANASONIC®/RPC | • | • | • | • |
| OTC® | • | • | • | • |
| FRONIUS® PAP | • | • | • | • |
| Other connectors on request. | | | | |

Torch mount iCAT mini



Torch mount iSTM mini



Technical data: Torch mount iCAT mini

| | |
|--|--|
| Dimensions: | Length 89 mm (without adapter flange) Ø 88 mm (with adapter flange) |
| Weight: | ca. 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 |

Technical data: Torch mount iSTM mini

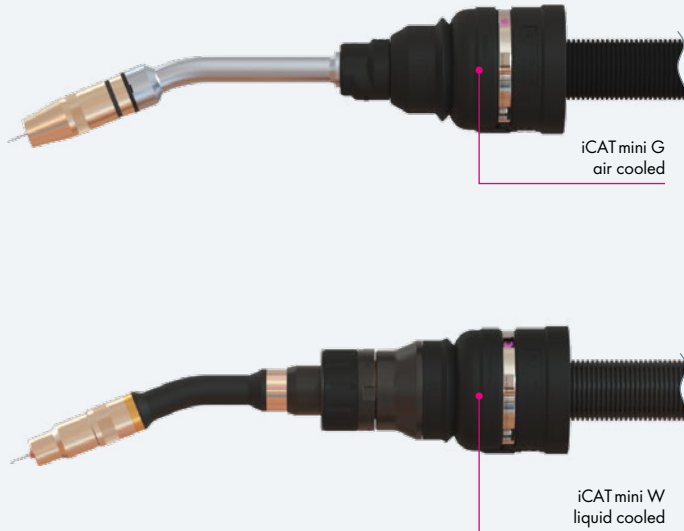
| | |
|-------------|-----------------------------------|
| Dimensions: | Length 104 mm Ø 79 mm |
| Weight: | 350 g (without cable assembly) |

¹ Separate compressed-air hose

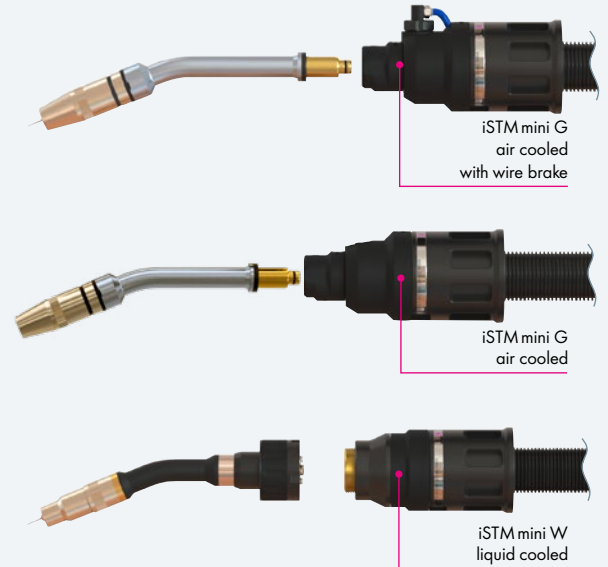
Robot mount iCAT mini/iSTM mini

Cable assemblies

Torch mount iCAT mini



Torch mount iSTM mini



Cable assembly
iCAT mini G and W

| Description | Wire brake | Robot type | Electrical connection | Type of cooling | Part-No. |
|-------------|------------|-------------------|-----------------------|-----------------|------------|
| iCAT mini G | | YASKAWA® MA 1440 | PANASONIC® | air cooled | 980.2343.1 |
| iCAT mini G | | YASKAWA® MA 2010 | PANASONIC® | air cooled | 980.2406.1 |
| iCAT mini G | | YASKAWA® MA 1440 | LINCOLN | air cooled | 980.2424.1 |
| iCAT mini G | | YASKAWA® EA 1400 | PANASONIC® | air cooled | 980.2428.1 |
| iCAT mini G | | OTC® AX-V4 | OTC® | air cooled | 980.2429.1 |
| iCAT mini G | | FANUC® AM 100iC | LINCOLN® | air cooled | 980.2431.1 |
| iCAT mini G | | YASKAWA® EA 1400 | OTC® | air cooled | 980.2443.1 |
| iCAT mini G | • | YASKAWA® MA 1440 | PANASONIC® | air cooled | 980.2457.1 |
| iCAT mini G | • | YASKAWA® MA 2010 | PANASONIC® | air cooled | 980.2465.1 |
| iCAT mini G | • | KUKA® KR5-2HW | FRONIUS® PAP | air cooled | 980.2488.1 |
| iCAT mini G | | YASKAWA® MA 1440 | MILLER® | air cooled | 980.2500.1 |
| iCAT mini G | • | KUKA® KR5-2HW | EURO | air cooled | 980.2503.1 |
| iCAT mini G | | KAWASAKI® BA 006N | PANASONIC® | air cooled | 980.2522.1 |
| iCAT mini W | | YASKAWA® MA 1400 | PANASONIC® | liquid cooled | 980.2565.1 |

Cable assembly
iSTM mini G and W

| Description | Wire brake | Robot type | Electrical connection | Type of cooling | Part-No. |
|-------------|------------|---------------------|-----------------------|-----------------|------------|
| iSTM mini G | • | FANUC® AM 100iD | LINCOLN® | air cooled | 980.2533.1 |
| iSTM mini G | | FANUC® AM 100iD | OTC® | air cooled | 980.2542.1 |
| iSTM mini G | | FANUC® AM 100iD | PANASONIC® | air cooled | 980.2547.1 |
| iSTM mini G | | FANUC® AM 100iD | LINCOLN® | air cooled | 980.2549.1 |
| iSTM mini G | | FANUC® AM 100iD 10L | LINCOLN® | air cooled | 980.2551.1 |
| iSTM mini G | | FANUC® AM 100iD 10L | OTC® | air cooled | 980.2553.1 |
| iSTM mini W | | FANUC® AM 100iD 10L | PANASONIC® | liquid cooled | 980.2557.1 |
| iSTM mini W | | FANUC® AM 100iD | LINCOLN® | liquid cooled | 980.2598.1 |
| iSTM mini W | | FANUC® AM 100iD 10L | LINCOLN® | liquid cooled | 980.2599.1 |
| iSTM mini W | | FANUC® AM 100iD | OTC® | liquid cooled | 980.2596.1 |
| iSTM mini W | | FANUC® AM 100iD 10L | OTC® | liquid cooled | 980.2597.1 |

Robot mount iCAT mini/iSTM mini

Torch necks



Technical data

| Torch performance data (welding performance) | | | | | | |
|--|-----------------|-----------------------|------------------------------|------------|------------|----------------|
| Torch type | Type of cooling | CO ₂ | Mixed gases M21 ¹ | Duty cycle | Wire-Ø | Torch geometry |
| ABIROB® G 300 | air cooled | 300 A CO ₂ | 250 A | 100 % | 0.8–1.4 mm | 45° |
| ABIROB® G 350 | air cooled | 350 A CO ₂ | 290 A | 100 % | 0.8–1.4 mm | 30°/35°/45° |
| ABIROB® G 360 | air cooled | 360 A CO ₂ | 290 A | 100 % | 0.8–1.6 mm | 22°/35°/45° |
| ABIROB® G 500 | air cooled | 500 A CO ₂ | 400 A | 100 % | 0.8–1.6 mm | 22°/35°/45° |
| ABIROB® W 300 | liquid cooled | 330 A CO ₂ | 300 A | 100 % | 0.8–1.2 mm | 22°/35°/45° |
| ABIROB® W 500 | liquid cooled | 550 A CO ₂ | 500 A | 100 % | 0.8–1.6 mm | 22°/35°/45° |
| ABIROB® W 600 | liquid cooled | 600 A CO ₂ | 550 A | 100 % | 0.8–1.6 mm | 22°/35°/45° |

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

Torch necks

| Torch type | Part-No. | | | | |
|----------------------|------------|------------|------------|------------|------------|
| | 0° | 22° | 30° | 35° | 45° |
| ABIROB® G 300 | | | | | 980.0243.1 |
| ABIROB® G 350 | | | 980.0190.1 | 980.0185.1 | 980.0203.1 |
| ABIROB® G 360 | | 980.0294.1 | | 980.0222.1 | 980.0295.1 |
| ABIROB® G 500 | | 980.0287.1 | | 980.0223.1 | 980.0288.1 |
| ABIROB® W 300 | | 782.0110.1 | | | 782.0111.1 |
| ABIROB® W 500 | 782.0080.1 | 782.0076.1 | | 782.0077.1 | 782.0078.1 |
| ABIROB® W 500 (+100) | 782.0106.1 | 782.0107.1 | | 782.0108.1 | 782.0109.1 |
| ABIROB® W 600 | 782.0190.1 | 782.0191.1 | | 782.0192.1 | 782.0193.1 |
| ABIROB® W 600 (+100) | 782.0219.1 | 782.0220.1 | | 782.0221.1 | 782.0222.1 |

Liners

| For connectors | Type | Wire-Ø | up to L = 2 m |
|---|-------|------------|---------------|
| OTC®, FANUC®, LINCOLN®, FRONIUS®, MILLER® | steel | 1.0–1.2 mm | 124.0165 |
| EURO | steel | 1.0–1.2 mm | 124.0181 |

¹ Mixed gases M21 as per DIN EN ISO 14175

Robot mount iCAT mini/iSTM mini

Torch mount, electrical connection and neck liner

Torch mount iSTM mini cpl.



| Description | Robot type | Part-No. |
|--------------------|----------------------|------------|
| iSTM mini d= 64 mm | FANUC® AM 100iD | 780.3315.1 |
| iSTM mini d= 55 mm | ABB® IRB 1660/2600ID | 780.3355.1 |
| iSTM mini d= 56 mm | YASKAWA® MA1440/2010 | 780.3356.1 |
| iSTM mini d= 56 mm | FANUC® AM 100iC | 780.3356.1 |

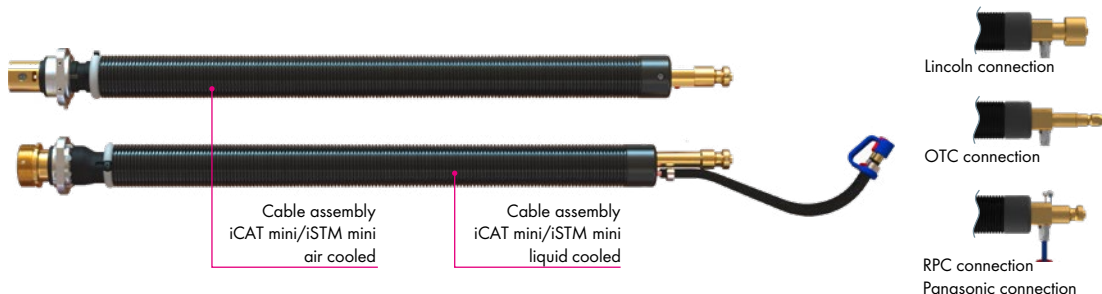
Torch mount iCAT mini



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

Available electrical connections*

*Further power connections
on request

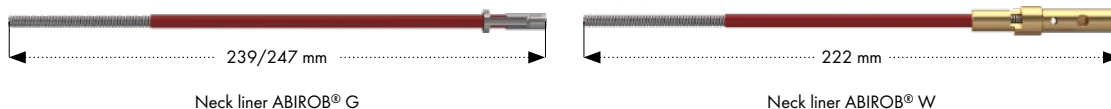


Intermediate flanges for iCAT mini



| Description | Robot type | Part-No. |
|---|----------------------------|------------|
| Intermediate flanges iCAT mini d= 56 mm | YASKAWA® MA 1440/2010 | 780.3509.1 |
| Intermediate flanges iCAT mini d= 56 mm | FANUC® 100/120iC | 780.3509.1 |
| Intermediate flanges iCAT mini d= 63 mm | ABB IRB® 1520/1600ID | 780.3515.1 |
| Intermediate flanges iCAT mini d= 56 mm | YASKAWA® MA1400/1900 | 780.3516.1 |
| Intermediate flanges iCAT mini d= 60 mm | PANASONIC® TM1400/1800 | 780.3519.1 |
| Intermediate flanges iCAT mini d= 60 mm | OTC® Almega AX V4(L)AP | 780.3522.1 |
| Intermediate flanges iCAT mini d= 80 mm | ABB® IRB 1660/2600ID L= 24 | 780.3523.1 |
| Intermediate flanges iCAT mini d= 56 mm | KAWASAKI® BA006N/BA006L | 780.3524.1 |
| Intermediate flanges iCAT mini d= 58 mm | KUKA® KR5arc HW | 780.3526.1 |
| Intermediate flanges iCAT mini d= 63 mm | ESTUN ER6 | 780.3527.1 |
| Intermediate flanges iCAT mini d= 64 mm | FANUC® AM 100iD | 780.3531.1 |
| Intermediate flanges iCAT mini d= 68 mm | QJR H4-1 | 780.3533.1 |
| Intermediate flanges iCAT mini d= 57 mm | OTC® FD-B4/L= 25 | 780.3625.1 |

Neck liner for applications with wire brake



Cable assemblies with wire brake option require the following neck liners*

*Packages without wire brake option
do not require neck liner.

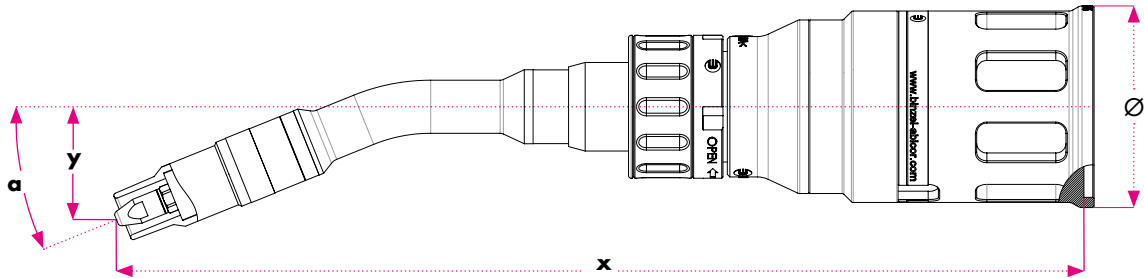
| Typ | Torch type | Torch neck | Wire type | Wire-Ø | Length | Part-No. |
|--------------|------------|------------|-----------|------------|--------|------------|
| Neck liner G | ABIROB® G | 980.0287.1 | steel | 0.8-1.2 mm | 239 mm | 149.0487.5 |
| | | 980.0223.1 | | | | |
| | | 980.0288.1 | | | | |
| Neck liner G | ABIROB® G | 980.0190.1 | steel | 0.8-1.2 mm | 247 mm | 149.0434.5 |
| | | 980.0185.1 | | | | |
| | | 980.0203.1 | | | | |
| | | 782.0076.1 | | | | |
| Neck liner W | ABIROB® W | 782.0077.1 | steel | 0.8-1.2 mm | 222 mm | 149.0287.5 |
| | | 782.0078.1 | | | | |
| | | 782.0080.1 | | | | |
| | | 782.0076.1 | | | | |
| Neck liner W | ABIROB® W | 782.0077.1 | steel | 1.4-1.6 mm | 222 mm | 149.0289.5 |
| | | 782.0078.1 | | | | |
| | | 782.0080.1 | | | | |
| | | 782.0080.1 | | | | |

Other neck liners on request.

Robot mount iCAT mini/iSTM mini

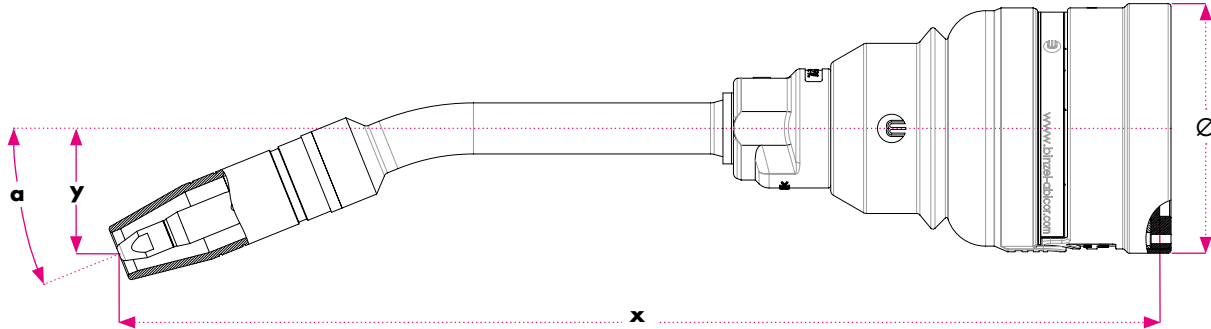
TCP overview

Torch mount
iSTM mini



| Robot type | Torch neck | x | y | a | Ø |
|----------------------|-----------------|----------|---------|-----|--------|
| ABB® 1600/2600ID | G 500 | 379 mm | 44.2 mm | 22° | 100 mm |
| FANUC® AM100iD | G 500 | 379 mm | 44.2 mm | 22° | 79 mm |
| YASKAWA® MA1440/2010 | G 500 | 363.6 mm | 44.2 mm | 22° | 79 mm |
| FANUC® AM100iD | G 500 | 363.6 mm | 44.2 mm | 22° | 79 mm |
| ABB® 1600/2600ID | W 500 | 379 mm | 44.2 mm | 22° | 100 mm |
| ABB® 1600/2600ID | W 500 (+100 mm) | 479 mm | 44.2 mm | 22° | 100 mm |
| FANUC® AM100iD | W 500 | 379 mm | 44.2 mm | 22° | 79 mm |
| FANUC® AM100iD | W 500 (+100 mm) | 479 mm | 44.2 mm | 22° | 79 mm |
| YASKAWA® MA1440/2010 | W 500 | 363.6 mm | 44.2 mm | 22° | 79 mm |
| FANUC® AM100iD | W 500 | 363.6 mm | 44.2 mm | 22° | 79 mm |
| YASKAWA® MA1440/2010 | W 500 (+100 mm) | 479 mm | 44.2 mm | 22° | 79 mm |
| FANUC® AM100iD | W 500 (+100 mm) | 479 mm | 44.2 mm | 22° | 79 mm |

Torch mount
iCAT mini



| Robot type | Torch neck | x | y | a | Ø |
|----------------------|------------|--------|---------|-----|-------|
| YASKAWA® MA1440/2010 | G 500 | 367 mm | 44.2 mm | 22° | 88 mm |
| YASKAWA® MA1440/2010 | W 500 | 367 mm | 44.2 mm | 22° | 88 mm |

Robot peripherals

Gas management system EWR 2 and EWR 2 Net



Up to 60% gas savings!

More economical, more precise and perfectly suitable for the requirements of Industry 4.0! The innovative EWR 2 gas management systems set new standards not only with MIG/MAG and TIG welding but also with plasma welding.

External factors such as changes in ambient temperatures, changing gas inlet, or counter-pressures from the connected cable assembly can be safely compensated. In this way, the EWR 2 guarantees the savings potential and controls the gas flow more precisely than traditional gas control systems.

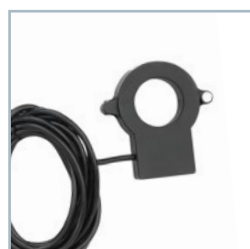
The EWR 2 devices are easy in handling and monitoring. They can be integrated into almost any welding process customary in the market. Additionally, they ensure a data recording. Recalibration at the job site is also possible.

Advantages that speak for themselves:

- Economical & efficient: The use of EWR 2 devices yields on average 40 to 60% savings in protective gas and leads to a reduction in operating costs.
- Simple & flexible networking: Digital data exchange and network connection with CANopen and Ethernet interfaces for real time data exchange and software access via local networks.
- Intelligent & precise: The EWR 2 systems regulate the gas volume flow in real time and synchronously to the welding current via an extremely fast solenoid valve using a patented operating principle. This permanent measurement of the gas volume flow generates an active, closed gas control circuit, which is realised without pulse function, as the benefits clearly outweigh.
- Environmentally friendly & sustainable: CO₂ emissions are minimised for shielding gases with CO₂ components, which helps to achieve climate protection targets.
- Additional: ABICOR BINZEL service software for standard Windows computers incl. ROI calculator for the amortisation period.

Application area:

Robot controlled MIG/MAG, TIG, plasma and laser welding processes as well as manual welding applications



Gas management system EWR 2 and EWR 2 Net

System overview & technical data



Figure 1:
Interfaces EWR 2

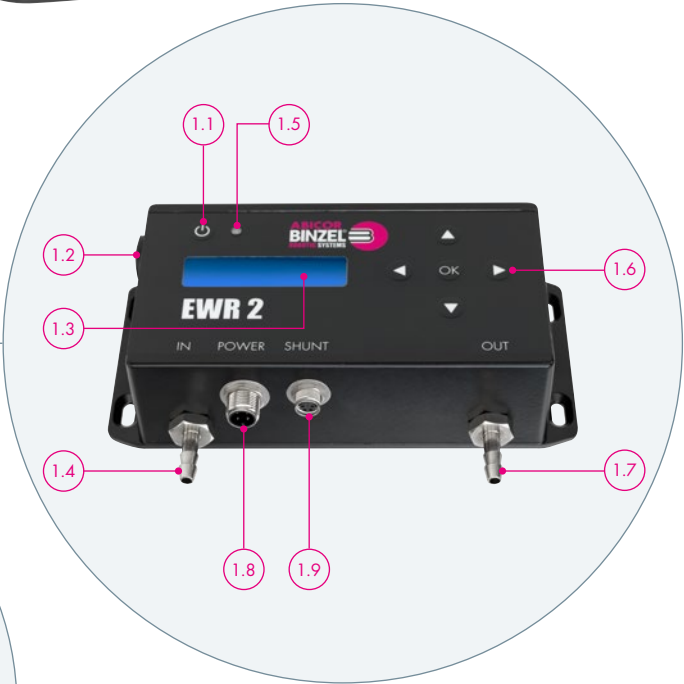


Figure 2:
Additional interfaces at EWR 2 Net



2.1
2.2

Figure 1:
Interfaces EWR 2

- 1.1 Button ON/OFF
- 1.2 Jack connector
- 1.3 Display
- 1.4 Gas input
- 1.5 Status LED
- 1.6 Cross button for device settings
- 1.7 Gas output
- 1.8 Power supply
- 1.9 Shunt connection

The differences of the versions in detail:

EWR 2 – The basis for efficient gas management!

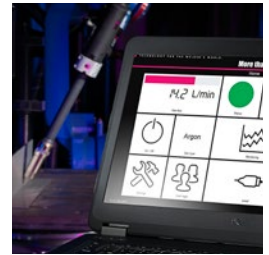
All EWR 2 devices have a closed gas control loop at disposal, reducing the deviations between set and actual of gas volume current to a minimum. They are all equipped with an integrated LED display that allow easy overview of the current status and the system parameters. Settings can be done directly with the cross button. Furthermore, the system is equipped with a stereo jack that can be used to connect to a computer with installed ABICOR BINZEL service software.

EWR 2 Net – Easy networking for industry 4.0!

EWR 2 Net has two additional interfaces and can be flexibly interconnected.

CANopen interface: The system can be connected by an additional gateway with any field-bus system and exchange data in real time.

Ethernet interface: Enables the EWR Net to be integrated into local networks in order to be able to access the appliance through these networks with the ABICOR BINZEL service software.



Technical data:

EWR 2 and EWR 2 Net

General

| | |
|----------------------|--------------------|
| Operating voltage: | 24 V DC $\pm 20\%$ |
| Media temperature: | 10–40 °C |
| Ambient temperature: | –10 up to +50 °C |
| Relative humidity: | 20–90 % |
| Flow rate range: | 2–30 l/min |
| Gas inlet pressure: | 1–6 bar |
| Tolerance flow rate: | ± 1 l/min |
| Shunt types: | 150 A/300 A/500 A |

Additional interfaces at EWR 2 Net

- Ethernet interface
- CANopen interface

Figure 2:
Additional interfaces at EWR 2 Net

- 2.1 CANopen interface
- 2.2 Ethernet interface

Gas management system EWR 2 and EWR 2 Net

The functional principle

Functions and application areas of the EWR 2 devices:

How it works:

The welding current is not constant, and can vary a lot during different welding tasks. Without a gas management system, the highest gas flow isn't always adjusted in order to get a sufficient gas covering. The EWR 2 systems interfere here with the patented method.

Applications:

- Can be used in both automated and manual welding processes
- Easy installation on new and already existing equipment
- Suitable for all types of gases
- Gas inlet pressure 1–6 bar
- Flow range of 2–30 l/min

Gas peaks and valve closing time:

Reducing gas peaks:

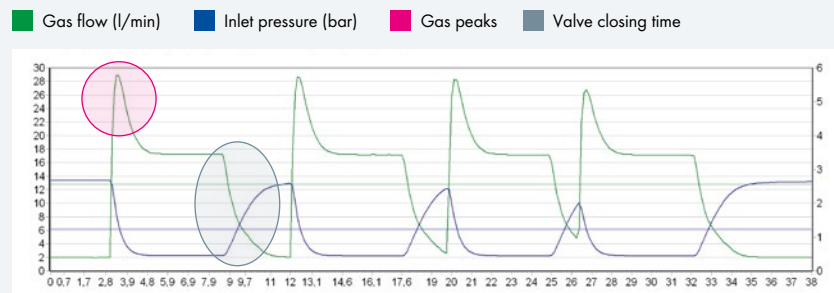
Constant regulation eliminates or at least reduces gas flow peaks at any point of the process.

Quick regulating magnet valve:

The fast regulating gas valve achieves gas savings at the start and at the end of the process as well as during welding breaks.

It also provides the required gas flow during the gas pre-flow and gas post-flow times.

Without EWR 2:



With EWR 2:



Gas flow:

Gas flow regulation synchronised to the welding current:

The EWR 2 adjusts the shielding gas amount to the current during the welding process and allows the saving of superfluous shielding gas.

With EWR 2:



Gas management system EWR 2 and EWR 2 Net

ABICOR BINZEL service software



The perfect addition!

The ABICOR BINZEL service software is an optional tool that facilitates and optimally complements the work with the EWR 2 devices. It can be operated with any standard Windows computer; an external welding-monitor is no longer required.

The devices can be accessed directly via a jack plug or network connection.

Main functions at a glance:

- **Setup and adjustment:** The user-friendly service software allows an easy configuration of the EWR 2 devices from the computer.
- **Determination of the gas saving:** All EWR 2 systems enable the recording and storage of data which can be read out and evaluated via the software in the menu item "Monitoring".
- **Monitoring errors:** The software displays the current operating status – including error message and error log.
- **Determination of the gas type:** In the menu item "Gas type", it is possible to select the shielding gas used and configure the usage.
- **Network integration with the EWR 2 Net:** The Ethernet connection on the EWR 2 Net allows access via the local network.

Amortisation at a glance!

EWR 2 systems are extremely economical. The equipment pays off within the first year.

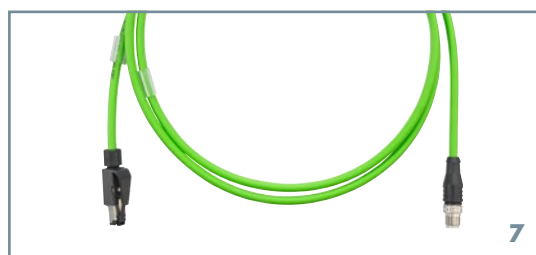
The individual amortisation period can be calculated easily with the ROI calculator (ROI = Return on Investment) integrated in the new service software: simply enter the gas price, EWR 2 purchase price, gas requirement, hours worked identified with the software savings via the EWR 2 and read off the date from which the breakeven point is passed. An example calculation is shown in the figure on the right.

| More than welding ... | | | | |
|---|---|-----------------|----------------|---|
| Amortisationsrechner | | | | |
| 4 | 220 | 18 | 0,02 € | Information: Benutzerlevel: 1 - Einrichter nicht verbunden Shunttyp: 300 A |
| Benutzer/Schicht | Arbeitspreis | Gaspreis | Preis/Std | |
| 1-Schicht: 0 2-Schicht: 0 3-Schicht: 1 | 1.500,00 € | 2.851.200 Liter | 5.702,40 € | |
| Relative Schicht | Investment | Gas/Gahr | Gas/Gas/Gahr | |
| Einsparung: Einsparung/Jahr: Amortisation (Jahre): Gaseinsparung/Jahr: | 50 % 2.851,20 € 0,53 1.425.600 l | 18 % | 256.608 Liter | |
| | | Arbeits CO2 | CO2 Einsparung | |
| | | | | |

ROI calculator to calculate the individual amortisation period.

Gas management system EWR 2 and EWR 2 Net

Spare parts & accessories



Spare parts

| Pos. | Description | Details | suitable for | Part-No. |
|----------|-------------------------|--|--------------------------|------------|
| 1 | EWR 2 shunt | 150 A, 5 m cable length | EWR 2 and EWR 2 Net | 514.0283.1 |
| | EWR 2 shunt | 300 A, 5 m cable length | EWR 2 and EWR 2 Net | 514.0284.1 |
| | EWR 2 shunt | 500 A, 5 m cable length | EWR 2 and EWR 2 Net | 514.0285.1 |
| 2 | EWR 2 plug | Sealing plug for jack connection | EWR 2 and EWR 2 Net | 514.0280.1 |
| 3 | EWR 2 power adapter | 1.5 m cable length with various socket adapters | EWR 2 and EWR 2 Net | 514.0286.1 |
| 4 | EWR 2 power supply | Open cable end, 10 m cable length | EWR 2 and EWR 2 Net | 514.0287.1 |
| not ill. | Protective cap CAN | | EWR 2 Net | 514.0296.1 |
| not ill. | Protective cap Ethernet | | EWR 2 Net | 514.0297.1 |
| not ill. | Filter element | | Filter unit (see pos. 6) | 514.0236.1 |

Accessories

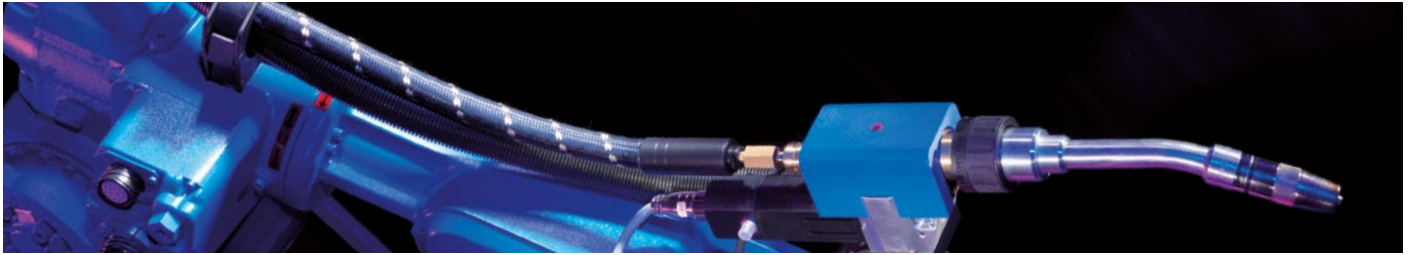
| Pos. | Description | Details | suitable for | Part-No. |
|----------|-----------------------------|---|---------------------|------------|
| 5 | EWR 2 relay box | | EWR 2 and EWR 2 Net | 514.0307.1 |
| 6 | Filter unit | incl. bracket and 3 filter elements | EWR 2 and EWR 2 Net | 514.0222.1 |
| 7 | EWR 2 net cable | Ethernet cable, 5 m cable length | EWR 2 Net | 514.0281.1 |
| 8 | EWR 2 USB cable | USB jack, 1.8 m cable length | EWR 2 and EWR 2 Net | 514.0282.1 |
| 9 | EWR 2 holder | | EWR 2 and EWR 2 Net | 514.0289.1 |
| not ill. | EWR 2 service KIT | incl. service software, pos. 7 and pos. 8 | EWR 2 and EWR 2 Net | 514.0292.1 |
| not ill. | EWR 2 shunt extension cable | 5 m cable length ¹ | EWR 2 | 514.0346.1 |

¹ The use of max. 2 extension cables (514.0346.1) is permitted per EWR 2.



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 on site. 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
- Maintenance free and the overall system is prone to little interference
- Wire feeding over long distances
- Suitable for all welding processes with wire feeding, including laser welding and brazing
- Suitable for all types of wire
- Easy, quick and flexible assembly and exchange due to extensive connection accessories

Application area:

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



Wire feeder system MasterLiner BASIC HD and BASIC FLEX

System overview & technical data

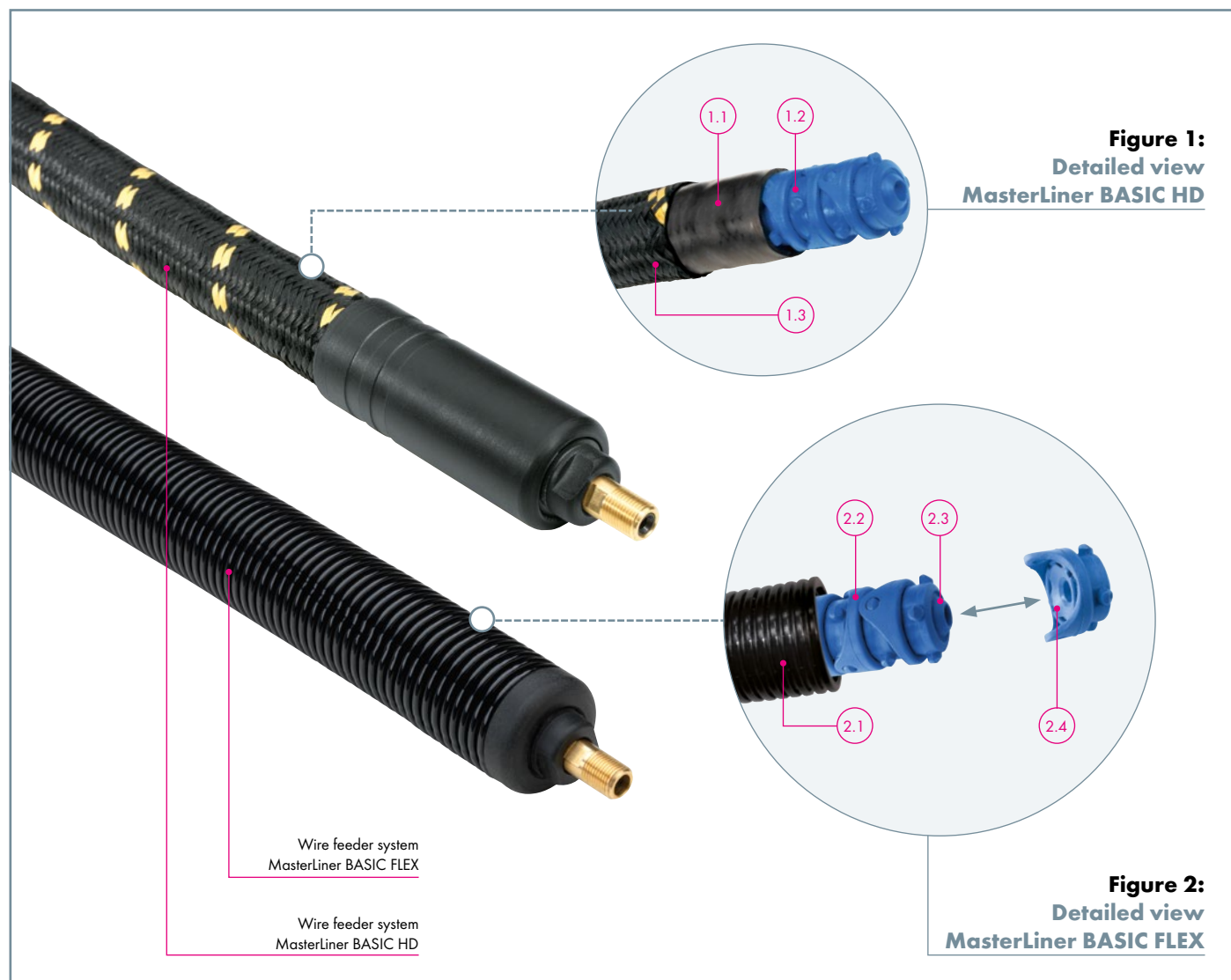


Figure 1:
Detailed view MasterLiner BASIC HD

- 1.1 Inner protective sheathing made of rubber – additional protection with high flexibility
- 1.2 MasterLiner BASIC HD 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 BASIC FLEX

- 2.1 End fitting for a clean connection to the outer hose
- 2.2 MasterLiner BASIC FLEX 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)

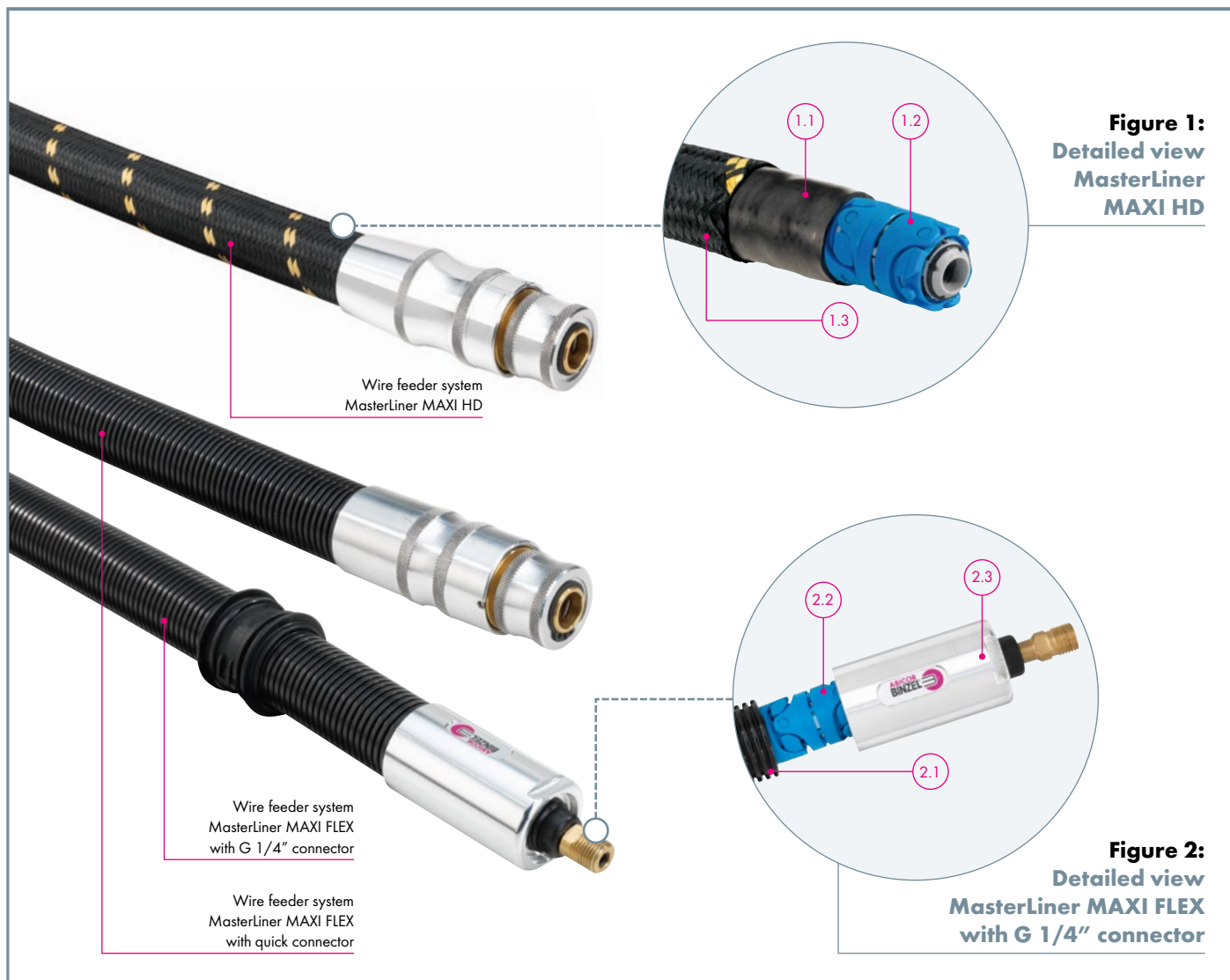


Figure 1:
Detailed view MasterLiner MAXI HD

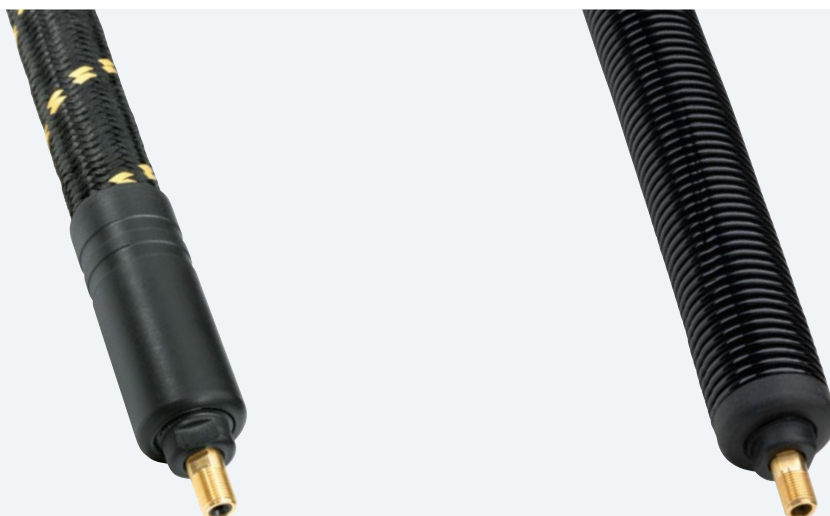
- 1.1 Inner protective sheathing made of rubber – additional protection with high flexibility
- 1.2 MasterLiner MAXI HD with four rollers per segment for minimal friction and extremely short distance between the individual segments
- 1.3 Aramid fibre sheath for optimum protection against external influences

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 MAXI FLEX with four rollers per segment for minimal friction and extremely short distance between the individual segments
- 2.3 Connector G 1/4"

Wire feeder system MasterLiner BASIC HD and BASIC FLEX

Types & technical data



MasterLiner BASIC HD

Connection:

G 1/4"

Properties:

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

MasterLiner BASIC 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 on site.

Technical data

| | MasterLiner BASIC HD | MasterLiner BASIC FLEX |
|------------------------------|--|---|
| Outer-Ø | 30.0 mm | 22.0 mm (without outer hose) 34.0 mm (with outer hose) |
| Wire-Ø | max. 1.2 mm | max. 1.2 mm |
| Weight | approx. 400 g/m (without connections, with aramid coating) | approx. 250 g/m (without outer hose) approx. 400 g/m (with outer hose) |
| Recommended length (max.) | 25.0 m | 25.0 m |
| Bend radius (min.) | 150 mm | 150 mm |
| Flexibility/tensile strength | 1.500 N | 600 N |
| Connection | G 1/4" and G 1/8" ¹ | G 1/4" und G 1/8" ¹ |

MasterLiner BASIC HD

| Type | Length ² | Part-No. |
|---|---------------------|------------|
| MasterLiner BASIC HD cpl. with connector G 1/4" IG-G 1/8" AG ³ | 5.0 m | 155.0251.1 |
| | 6.0 m | 155.0252.1 |
| | 8.0 m | 155.0254.1 |
| | 10.0 m | 155.0255.1 |

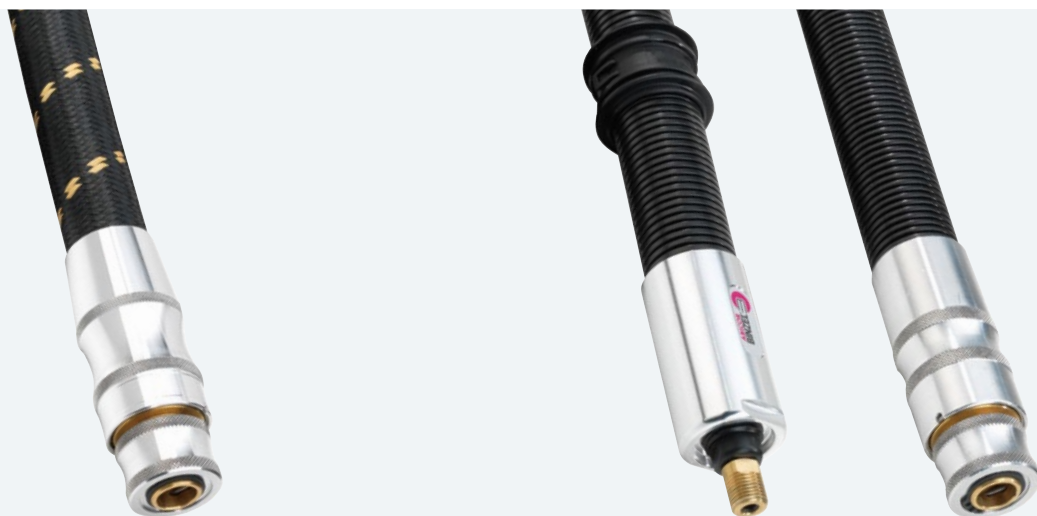
MasterLiner BASIC FLEX

| Type | Length ² | Part-No. |
|---|---------------------|------------|
| MasterLiner BASIC FLEX cpl. with connector G 1/4" IG-G 1/8" AG ³ | 5.0 m | 155.0244.1 |
| | 6.0 m | 155.0245.1 |
| | 8.0 m | 155.0247.1 |
| | 10.0 m | 155.0248.1 |

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

² Further lengths on request.

³ Two adapters for G 1/8" are included as standard (155.0286.2).



MasterLiner MAXI HD

Connection:

Quick connector

Properties:

Feeding of wire sizes from 1.2 mm and comfortable quick connector.

MasterLiner MAXI FLEX

Connection:

G 1/4" or quick connector

Properties:

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

Technical data

| | MasterLiner MAXI HD | MasterLiner MAXI FLEX |
|------------------------------|--|---|
| Outer-Ø | 32.0 mm | 27.0 mm (without outer hose) 34.0 mm (with outer hose) |
| Wire-Ø | 1.2 mm up to 4.0 mm | 1.2 mm up to 4.0 mm |
| Weight | approx. 540 g/m (without connections, with aramid coating) | approx. 460 g/m (without outer hose) approx. 610 g/m (with outer hose) |
| Recommended length (max.) | 30.0 m | 30.0 m |
| Bend radius (min.) | 150 mm | 150 mm |
| Flexibility/tensile strength | 1.500 N | 600 N |
| Connection | Quick connector | G 1/4" or quick connector |

MasterLiner MAXI HD

| Type | Length ¹ | Part-No. |
|---|---------------------|------------|
| MasterLiner MAXI HD cpl. with quick connector | 5.0 m | 155.0184.1 |
| | 6.0 m | 155.0185.1 |
| | 8.0 m | 155.0187.1 |
| | 10.0 m | 155.0189.1 |

MasterLiner MAXI FLEX

| Type | Length ¹ | Part-No. |
|--|---------------------|------------|
| 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 quick connector | 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.

Wire feeder system MasterLiner

Components for individual configuration

Components for an individual configuration of the MasterLiner system



Components
MasterLiner
BASIC HD¹

| No. | Description | Part-No. |
|-----|--------------------------------------|------------|
| 1 | End fitting for MasterLiner BASIC HD | 155.0092.1 |

Components
MasterLiner
BASIC FLEX

| No. | Description | Part-No. |
|----------|--|-------------|
| 2 | MasterLiner BASIC FLEX (50 m container) ² | 155.0096.50 |
| 3 | Connector MasterLiner BASIC G 1/4" AG cpl. convex | 155.0203 |
| 4 | Connector MasterLiner BASIC G 1/4" AG cpl. concave | 155.0204 |
| 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 MasterLiner BASIC FLEX LW 29 (50 m container) | 109.0076 |
| 11 | Quick connector cpl. MasterLiner BASIC FLEX concave | 155.0209.1 |
| | Quick connector cpl. MasterLiner BASIC FLEX convex | 155.0210.1 |
| not ill. | Adaptor G 1/4" IG-G 1/8" AG | 155.0286.2 |
| not ill. | Hook-and-loop tape, blue, 1 m | 191.0128.1 |

Components
MasterLiner
MAXI FLEX

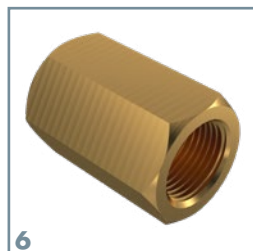
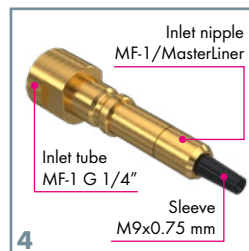
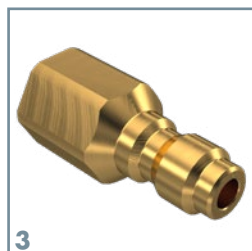
| No. | Description | Part-No. |
|-----|---|-------------|
| 8 | Outer hose MasterLiner MAXI FLEX LW 29 (50 m container) | 109.0076 |
| 9 | MasterLiner MAXI FLEX (50 m container) ² | 155.0141.50 |
| 10 | Connector G 1/4" cpl. | 155.0147.1 |
| 11 | Quick connector cpl. MasterLiner MAXI FLEX | 155.0195.1 |

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

² Further lengths on request.

Wire feeder system MasterLiner

Connections & adaptors for wire feeders



Connection MasterLiner ↔ wire feeder

| No. | Description | Part-No. |
|----------|---|------------|
| 1 | Connection G 1/4" for quick connector | 155.0167.1 |
| | Connection G 1/4", 12.2 mm (suitable e.g. for Lincoln®) | 155.0084.1 |
| | Connection G 1/4", 13.0 mm (suitable e.g. for Fronius®) | 783.5209.1 |
| not ill. | Connection G 1/4", 11.5 mm (suitable e.g. for EWM®) | 783.5208.1 |
| 2 | Quick coupling G 1/4" cpl. | 783.5207.1 |
| 3 | Adaptor G 1/4" to quick connector (suitable e.g. for Fronius® or Parker®) | 155.0159.1 |
| not ill. | Connection MasterLiner G 1/4" IG SKS | 155.0263.1 |
| not ill. | Adaptor Miller quick connector | 155.0427.1 |
| not ill. | Adaptor cpl. Lincoln quick connector | 155.0428.1 |
| not ill. | Adaptor cpl. Fronius WF R quick connector M 20x2,5 AG | 155.0332.1 |
| not ill. | Adaptor cpl. Kemppi quick connector G 3/8" AG | 155.0287.1 |
| not ill. | Adaptor cpl. ESAB quick connector G 1/4" IG | 155.0227.1 |
| not ill. | Quick connector G 3/8" AG | 177.0012.1 |

Connection MasterLiner ↔ Masterfeeder & iROB®

| No. | Description | Part-No. |
|----------|---|------------|
| 4 | Connection Set MF-1 G 1/4" | 155.0237.1 |
| | Inlet tube MF-1 G 1/4" | 155.0160.1 |
| | Inlet nipple MF-1/MasterLiner | 131.0035.1 |
| | Sleeve M9x0.75 mm (for inlet tube MF-1) | 881.1096.1 |
| 9 | Connector MF-1 G/3" AG | 155.0177.1 |
| 10 | Connector iROB® feed | 155.0158.1 |
| not ill. | Inlet tube MF-1 G 1/8" | 881.1253.1 |
| not ill. | Wire inlet MasterLiner to MF-1 | 783.5222.1 |

Connection MasterLiner ↔ Wire drum connector with quick coupling

| No. | Description | Part-No. |
|-----|--|------------|
| 5 | Wire drum connector G 1/4" | 783.5205.1 |
| 2 | Quick coupling G 1/4" cpl. | 783.5207.1 |
| 6 | Adaptor MasterLiner G 1/8" IG to connector G 1/4" IG | 783.5233.1 |
| | Adaptor MasterLiner G 1/4" IG to connector G 1/4" IG | 155.0162.1 |

Connection MasterLiner MAXI with quick connector ↔ Wire drum connector

| No. | Description | Part-No. |
|-----|--|------------|
| 7 | Connection MasterLiner wire drum connector cpl., IG, L=ca. 25 cm | 155.0171.1 |
| 8 | MasterLiner wire feeding wire drum connector cpl., G 1/4" AG, L= 25 cm | 155.0235.1 |

Wire feeder system MasterLiner

Accessories

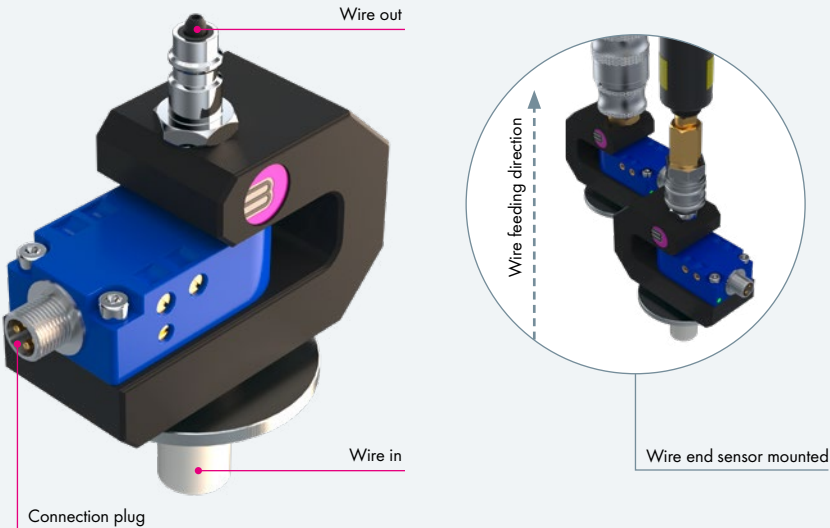
Wire end sensor

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) |



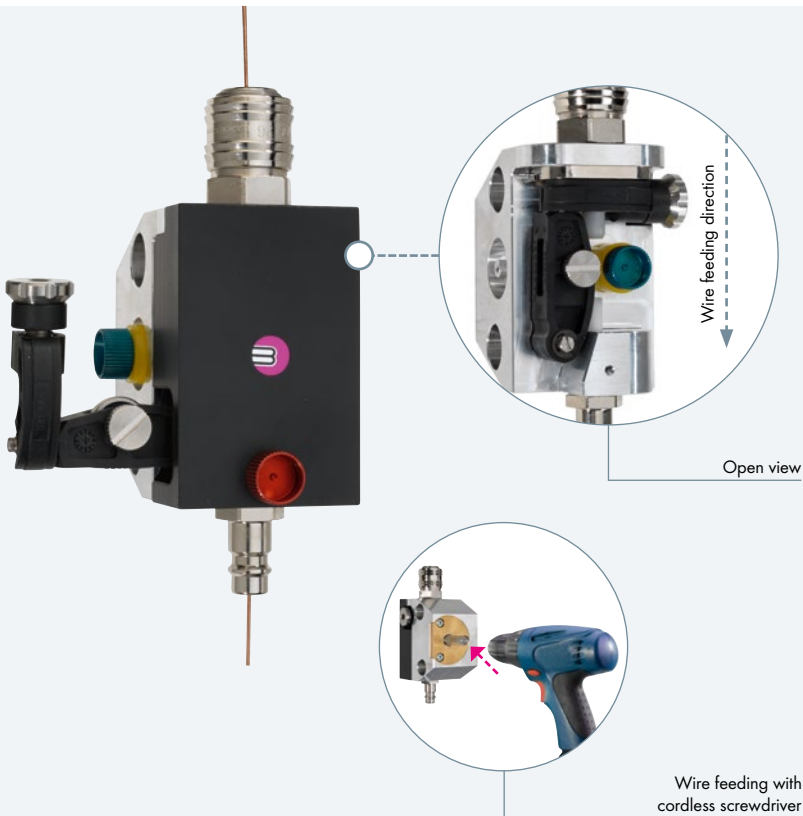
| Type | Part-No. |
|---------------------------------|------------|
| Wire end sensor with LED signal | 881.3225.1 |
| Control cable 10 m | 101.0168.1 |
| Control cable 15 m | 101.0169.1 |
| Control cable 20 m | 101.0170.1 |

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.

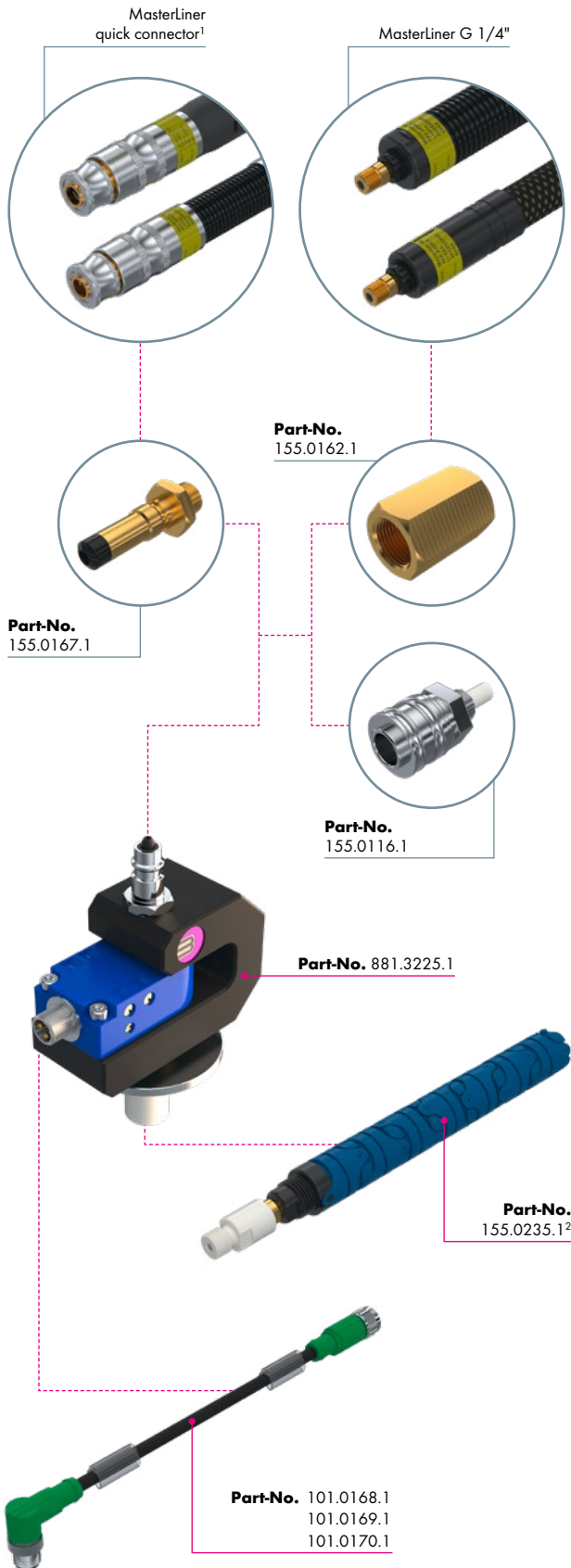
| Type | Part-No. |
|-------------------|------------|
| Wire inching tool | 881.3238.1 |



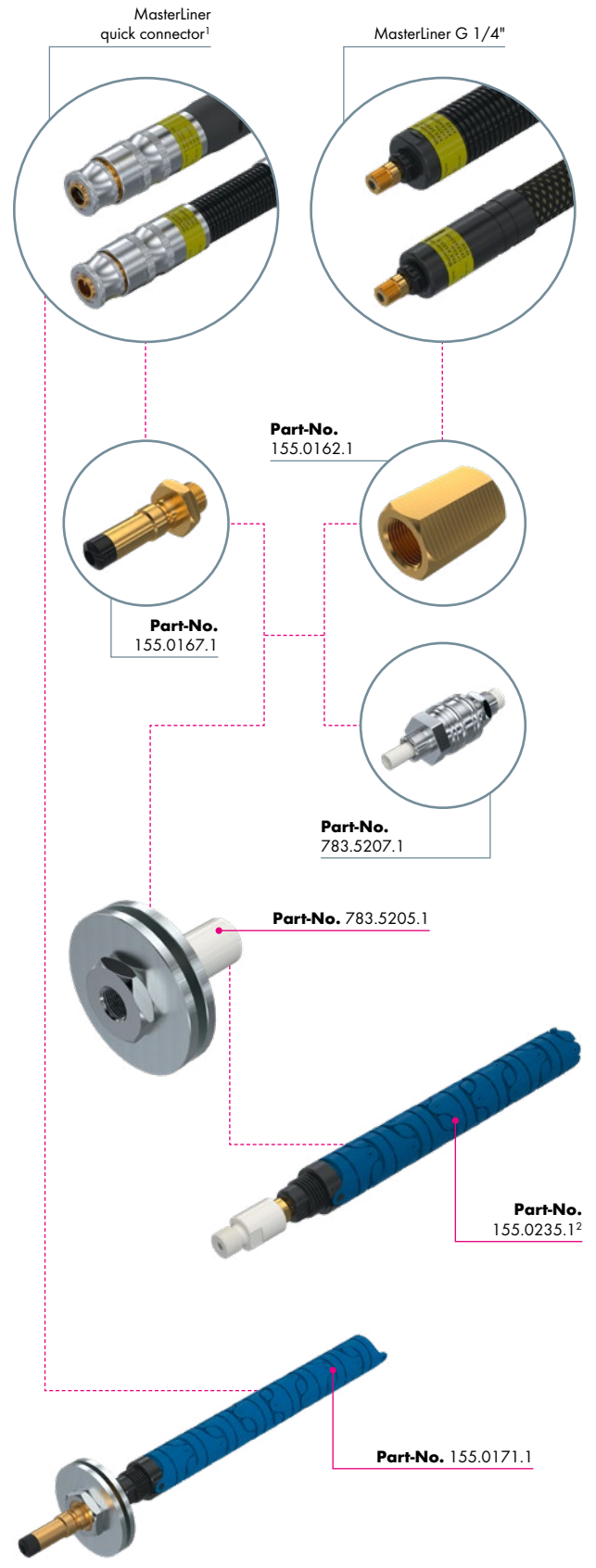
Wire feeder system MasterLiner

Options

Wire end sensor connections MasterLiner



Wire drum connector MasterLiner



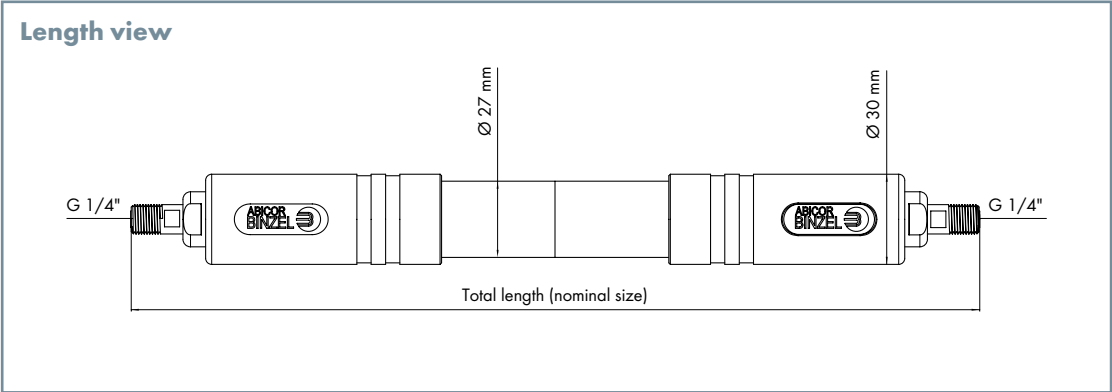
¹ When using the MasterLiner quick connector, the nipple on the wire end sensor must be replaced.

² When using the MasterLiner wire feeding drum connector cpl. (155.0235.1), the wire inlet must be dismantled.

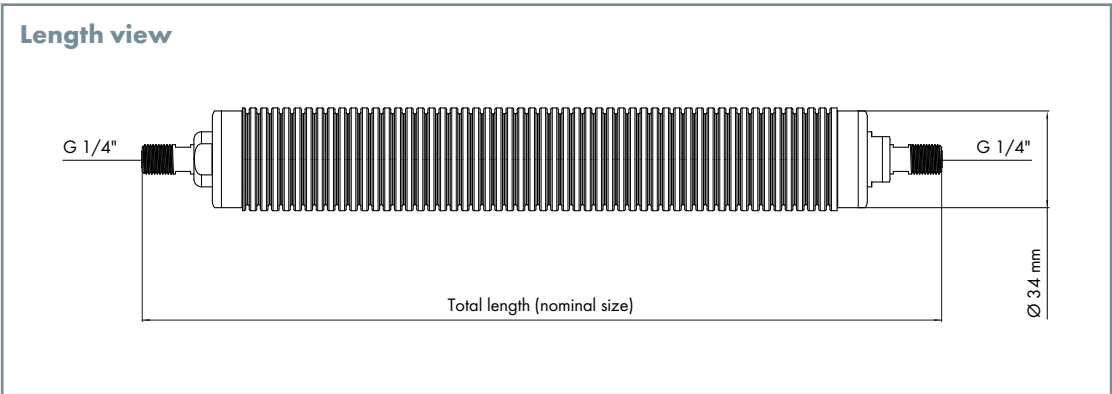
Wire feeder system MasterLiner BASIC

Product dimensions

Wire feeder system
MasterLiner
BASIC HD with
connector G 1/4"



Wire feeder system
MasterLiner
BASIC FLEX with
connector G 1/4"

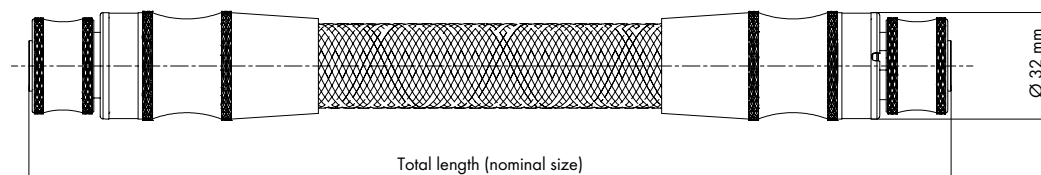


Wire feeder system MasterLiner MAXI

Product dimensions

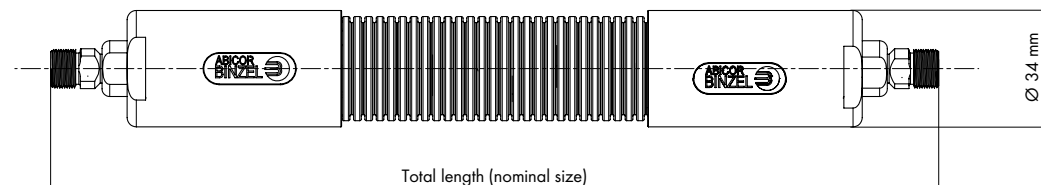
Wire feeder system
MasterLiner
MAXI HD with
quick connector

Length view



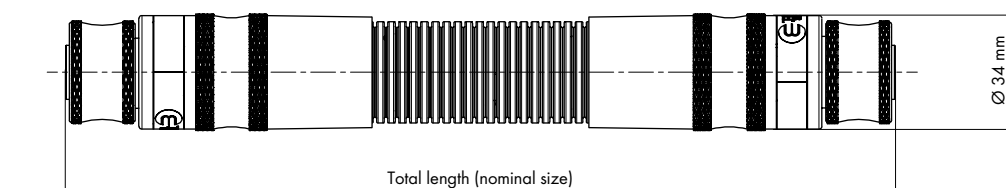
Wire feeder system
MasterLiner
MAXI FLEX with
connector G 1/4"

Length view



Wire feeder system
MasterLiner
MAXI FLEX with
quick connector

Length view





Robotic power source

MIG/MAG robotic power source iROB®



All-in-one solutions for welding robots

The powerful and versatile robot power source iROB® is the optimal basis for semi and fully automatic MIG/MAG welding applications. The simple pictogram-based operation and the integrated device monitoring offers a high level of operational reliability to the user. All parameters such as wire feeding, arc voltage and dynamics can be set non-verbal by using clear symbols. Thanks to its modular design and flexible expansion options, the iROB® is particularly attractive for integrators.

Our ready to weld packages are prepared for the most common welding robots from ABB, FANUC, Kuka and Yaskawa. They provide the perfect basis for a simple construction of a robot welding work area and consist of a high-performance power source, a reliable wire feed system and robust welding torches for air and liquid cooled applications.

They offer preconfigured premium welding technology at an attractive package price. From the power source to the welding torch, they are perfectly matched to the respective robots and enable integrators and system providers to install and operate the robot welding system easily, safely and economically. Each standard package can be individually adapted and easily expanded with a wide range of additional components.

If required, ABICOR BINZEL supports their customers with additional services. These range from the initial installation and the welding technical assistance for the system configuration to the support of welding processes through the ABICOR BINZEL Innovation and Technology Centre (ITC).

Arguments that speak for themselves:

- Simple planning
- Less interfaces
- Including 100 % tests
- Flexible expansions
- Quick availability
- Premium quality

Degree of automation:

Robot controlled MIG/MAG power source iROB®



MIG/MAG robotic power source iROB®

System overview & technical data



Figure 1:
Complete view iROB®

- 1.0 Power source iROB® Pulse
- 1.1 Remote control iROB® Control
- 1.2 Cooling unit iROB® Cool
- 1.3 iROB® Podium
- 1.4 iROB® Rolls
- 1.5 Feeder iROB® Feed
- 1.6 Intermediate cable assembly

Figure 2:
Add-on components

- 2.1 Intermediate cable assembly clamp (robot specific)
- 2.2 Mount for basket spool (robot specific)
- 2.3 Feeder mounting platform (robot specific)

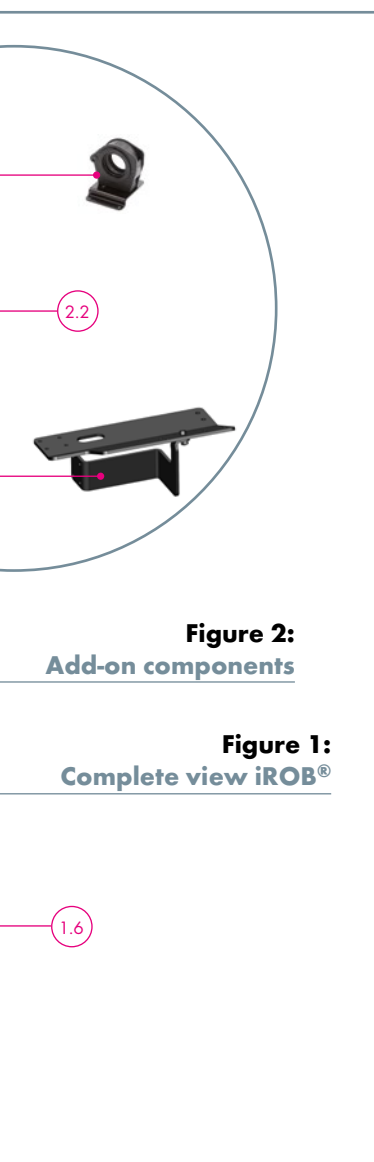


Figure 2:
Add-on components

Figure 1:
Complete view iROB®



Technical data (acc. to EN 60 974-1, EN 60 974-10):

| | iROB® Pulse 400 | iROB® Pulse 400 MV | iROB® Pulse 500 |
|---|------------------|--------------------------------------|------------------|
| Power supply voltage: | 3 x 400 VAC | 3 x 400 VAC 3 x 230 VAC | 3 x 400 VAC |
| Main voltage tolerance: | ±15 % | ±15 % | ±15 % |
| Main voltage frequency: | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Main fuse: | 25 A (400 V) | 25 A (400 V) | 30 A (400 V) |
| Slow-blow fuse: | | 45 A (230 V) | |
| Communication bus: | digital | digital | digital |
| Max. power input (kVA): | 16.1 kVA (400 V) | 16.1 kVA (400 V) 16.5 kVA (230 V) | 22.9 kVA (400 V) |
| Max. power input (kW): | 15.3 kW (400 V) | 15.3 kW (400 V) 15.7 kW (230 V) | 21.95 kW (400 V) |
| Power factor (PF): | 0.95 | 0.95 | 0.95 |
| Efficiency: | 88 % (400 V) | 88 % (400 V) 87 % (230 V) | 88 % (400 V) |
| Cos (Ø): | 0.99 | 0.99 | 0.99 |
| Primary continuous current (100 % duty cycle): | 23.1 A (400 V) | 23.1 A (400 V) 42.0 A (230 V) | 32.9 A (400 V) |
| Effective current consumption I_{eff} : | 17.8 A (400 V) | 17.8 A (400 V) 32.5 A (230 V) | 23.2 A (400 V) |
| Max. welding current at 40 °C: | | | |
| ■ X = 60 % | 400 A | 400 A | 500 A |
| ■ X = 100 % | 360 A | 360 A | 420 A |
| Max. welding current at 25 °C: | | | |
| ■ X = 60 % | 400 A | 400 A | 500 A |
| ■ X = 100 % | 400 A | 400 A | 470 A |
| Welding current range: | 3–400 A | 3–400 A | 3–500 A |
| Open-Circuit voltage: | 73 VDC | 73 VDC | 73 VDC |
| Protection: | IP23 | IP23 | IP23 |
| Insulation class: | H | H | H |
| Cooling: | AF/Fan | AF/Fan | AF/Fan |
| Dimensions (LxWxH): | 624x282x474 mm | 624x282x474 mm | 624x282x474 mm |
| Weight: | 29.9 kg | 31 kg | 30.9 kg |

Robotic power source iROB®

Components

Robotic power source



| Type | Part-No. |
|----------------------------------|------------|
| iROB® Pulse 400 (400 V) | 890.0002.1 |
| iROB® Pulse 400 MV (230 V/400 V) | 890.0003.1 |
| iROB® Pulse 500 (400 V) | 890.0004.1 |

| Accessories | Part-No. |
|----------------------|------------|
| iControl LC display | 890.0009.1 |
| Bracket for iControl | 890.0010.1 |
| Power plug | 184.0396.1 |

Wire feed case



| Type | Alignment | Equipment ¹ | Part-No. |
|--|-----------|------------------------|------------|
| iROB® Feed 22 Basic Euro CC ² | right | | 890.0200.1 |
| iROB® Feed 22 Comfort Euro CC ² | left | with PP | 890.0201.1 |
| iROB® Feed 22 Comfort Euro CC ² | left | with PP | 890.0318.1 |
| iROB® Feed 22 Basic RPC | right | | 890.0202.1 |
| iROB® Feed 22 Basic RPC | left | | 890.0319.1 |
| iROB® Feed 22 Comfort RPC | right | with PP | 890.0320.1 |
| iROB® Feed 22 Comfort RPC | left | with PP | 890.0321.1 |
| iROB® Feed 22 MP | | MP operation only | 890.0203.1 |

Intermediate cable assembly



| Type | Dimension | Part-No. |
|---------------|-------------------------|------------|
| Liquid cooled | 4 m/95 mm ² | 890.0402.1 |
| Liquid cooled | 6 m/95 mm ² | 890.0400.1 |
| Liquid cooled | 8 m/95 mm ² | 890.0404.1 |
| Liquid cooled | 10 m/95 mm ² | 890.0406.1 |
| Air cooled | 4 m/95 mm ² | 890.0403.1 |
| Air cooled | 6 m/95 mm ² | 890.0401.1 |
| Air cooled | 8 m/95 mm ² | 890.0405.1 |
| Air cooled | 10 m/95 mm ² | 890.0407.1 |

Earth cables (not ill.)

| Type | Dimension | Part-No. |
|----------------------|------------------------------|------------|
| With cable lug | 4 m/95 mm ² | 890.2100.1 |
| With cable lug | 5 m/95 mm ² | 890.2101.1 |
| With cable lug | 10 m/95 mm ² | 890.2102.1 |
| With cable lug | 15 m/95 mm ² | 890.2103.1 |
| With cable lug | 20 m/95 mm ² | 890.2104.1 |
| With workpiece clamp | 4 m/95 mm ² 600 A | 890.2105.1 |

Cooling unit



| Type | Part-No. |
|------------|------------|
| iROB® Cool | 890.0001.1 |

Carriage



| Type | Part-No. |
|---|------------|
| Stand console | 890.0007.1 |
| Roller set (2 fixed castors/2 swivel castors) | 890.0008.1 |
| Mounting profiles | 890.0011.2 |

¹ Standard equipment: with 1.0/1.2 mm rollers for steel applications.

² Euro central connection

Robotic power source iROB®

Interface with accessories

RI1000



| Type | Part-No. |
|-------------------------|--|
| RI1000 digital/analogue | Installation set with internal or external power supply 890.0117.1 |

Interface cable

| Length | Part-No. |
|--------|-------------------------------------|
| 6 m | 25-pole, robot side open 890.0121.1 |
| 12 m | 25-pole, robot side open 890.0122.1 |

RI2000



| Type | Part-No. |
|-------------------------|--|
| RI2000 digital/analogue | Installation set with internal or external power supply 890.0118.1 |

Interface cable

| Length | Part-No. |
|--------|-------------------------------------|
| 6 m | 50-pole, robot side open 890.0115.1 |
| 12 m | 50-pole, robot side open 890.0116.1 |

RI3000



Interface-Feldbus

| Type | Part-No. |
|--------|---|
| RI3000 | Bus interface motherboard ¹ 890.0104.1 |

Accessories

| Bus-System | Part-No. |
|--|---|
| DeviceNet | HMS Anybus-S module kit 890.0161.1 |
| Interface cable 7 m, iROB® DeviceNet | 7/8"-7/8" 890.0111.1 |
| Interface cable 5 m, iROB® DeviceNet ABB | 7/8"-MSTB 2.5/5-ST-5.08 890.0299.1 |
| Profibus | HMS Anybus-S module kit 890.0163.1 |
| Profibus Interconnectron | HMS Anybus-S module kit 890.0165.1 |
| Profinet CU | HMS Anybus-S module kit 890.0167.1 |
| Profinet LW | HMS Anybus-S module kit 890.0169.1 |
| Profinet/Multibus II | HMS Anybus-S module kit 890.0170.1 |
| Interbus CU | HMS Anybus-S module kit 890.0171.1 |
| Interbus CU Interconnectron | HMS Anybus-S module kit 890.0173.1 |
| Ethernet/IP (RJ45 sockets) | HMS Anybus-S module kit 2-port RJ45 standard 890.0191.1 |
| Ethernet/IP (M12 sockets) | HMS Anybus-S module kit 2-port 890.0179.1 |
| Interface cable 5 m, iROB® Ethernet/EtherCAT | 2 x RJ-45, heat and UV resistant 890.0296.1 |
| EtherCAT | HMS Anybus-S module kit 890.0272.1 |
| CANopen | HMS Anybus-S module kit 890.0183.1 |

Power supply



RI interface power supply

| Type | Part-No. |
|-----------------------|---|
| Internal power supply | also for WH-PPi and BRS (installation set) 890.0005.1 |
| External power supply | US1/US2 for RI (not for WH-PPi and BRS) 890.0177.1 |

Note: For the connection of the iROB® to a robot or controller, a version interface with accessories is available.

¹ Power supply required.

Robotic power source iROB®

Accessories

iROB® Spool



Basket spool mount K300 for attachment to the robot

| Spool | suitable for robot type | Part-No. |
|-----------------|-------------------------|------------|
| iROB® spool kit | FANUC 100iC | 890.0600.1 |
| iROB® spool kit | FANUC 120iC | 890.0601.1 |
| iROB® spool kit | YASKAWA | 890.0602.1 |

Further robot models on request.

Wire feed hose

| Length | Part-No. |
|--------|------------|
| 3 m | 155.0271.1 |

iROB® Feed



Wire feeding rollers

| Length | Type | Part-No. |
|------------------------|---------------------|------------|
| Pressure roller smooth | 2x/4x | 890.0230.4 |
| V-Nut 0.8/0.8 mm | FE/SS | 890.0235.4 |
| V-Nut 0.9/0.9 mm | FE/SS | 890.0236.4 |
| V-Nut 1.0/1.0 mm | FE/SS | 890.0237.4 |
| V-Nut 1.2/1.2 mm | FE/SS | 890.0238.4 |
| V-Nut 1.4/1.4 mm | FE/SS | 890.0239.4 |
| V-Nut 1.6/1.6 mm | FE/SS | 890.0240.4 |
| U-Nut 0.8/0.8 mm | Al | 890.0231.4 |
| U-Nut 1.0/1.0 mm | Al | 890.0232.4 |
| U-Nut 1.2/1.2 mm | Al | 890.0233.4 |
| U-Nut 1.6/1.6 mm | Al | 890.0234.4 |
| Ribbed 1.2/1.2 mm | flux cored wire/FCW | 890.0241.1 |
| Ribbed 1.4/1.4 mm | flux cored wire/FCW | 890.0242.4 |
| Ribbed 1.6/1.6 mm | flux cored wire/FCW | 890.0243.4 |
| Ribbed 2.0/2.0 mm | flux cored wire/FCW | 890.0244.4 |
| Ribbed 2.4/2.4 mm | flux cored wire/FCW | 890.0245.4 |

Wire feed holder



Mounting platform for wire feed case

| | suitable for robot type | Part-No. |
|----------------|---|------------|
| iROB® Feed DVH | FANUC 100iC/120iC with Euro CC ¹ | 890.0300.1 |
| iROB® Feed DVH | FANUC 100iC/120iC with RPC | 890.0483.1 |
| iROB® Feed DVH | FANUC 100iD | 890.0480.1 |
| iROB® Feed DVH | FANUC 710iC | 890.0470.1 |
| iROB® Feed DVH | ABB IRB 1600ID | 890.0142.1 |
| iROB® Feed DVH | ABB IRB 2600ID | 890.0143.1 |
| iROB® Feed DVH | ABB IRB 4600 | 890.0506.1 |
| iROB® Feed DVH | YASKAWA MA1440/2010 | 890.0499.1 |
| iROB® Feed DVH | KUKA R1420-1820 arc HW | 890.0494.1 |
| iROB® Feed DVH | KUKA KR8 2100 arc HW | 890.0497.1 |
| iROB® Feed DVH | KUKA KR5 ArcHW | 890.0145.1 |
| iROB® Feed DVH | KUKA KR6L8Arc | 890.0146.1 |
| iROB® Feed DVH | KUKA KR6/8/10 Cybertech | 890.0444.1 |

Further robot models on request.

Platform mount (not ill.)

Mounting plate for self-construction

| | Part-No. |
|----------------|------------|
| Mounting plate | 890.0301.1 |

¹ Euro central connection

Robotic power source iROB®

Accessories

Strain relief



Strain relief for the cable assembly

| Type | Part-No. |
|------------|------------|
| Chip clamp | 500.0467 |
| Centre jaw | 500.0505.1 |

Clamp for intermediate cable assembly

| | robot type | Part-No. |
|-----------------|-------------|------------|
| iROB® clamp kit | FANUC 100iC | 890.0500.1 |
| iROB® clamp kit | FANUC 120iC | 890.0501.1 |
| iROB® clamp kit | YASKAWA MH6 | 890.0502.1 |

Further robot models on request.

Note: Function depending on the model. Internal power supply 890.0005.1 is required.

BRS/Nozzle sensing



BRS/Nozzle sensing

| Type | | Part-No. |
|-----------------------|--|------------|
| Nozzle sensing/BRS | Complete set incl. connection socket (contains 890.0006.1 and 890.0181.1) | 890.0180.1 |
| Connecting cables BRS | L=6 m open | 890.0297.1 |
| Nozzle sensing/BRS | PCB only (without connection socket for BRS) | 890.0006.1 |
| Connection socket BRS | for upgrading from 890.0006.1 to 890.0180.1 | 890.0181.1 |

iROB® weld@NET®

Welding data monitoring software

Interface for installation in a control cabinet



Hardware

for control cabinet

| | | Part-No. |
|-------------|-------------------------------|-----------------|
| iROB® RI XP | Interface for control cabinet | 890.0106.1 |
| Cable | for iROB® RI XP | 890.0109.1 |

Interface for wall mounting

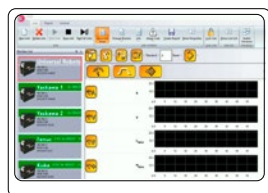


Hardware

for wall mounting

| | | Part-No. |
|---------------|-----------------------------|-----------------|
| iROB® RI WA | Interface for wall mounting | 890.0108.1 |
| CAN-Bus cable | for 890.0108.1 | 890.0107.1 |

Software



weld@Net® monitor

for welding data documentation

| | | Part-No. |
|--------------------|----------------------|-----------------|
| Basic software | incl. 2 licences | 890.0187.1 |
| Additional license | 890.0187.1 essential | 890.0188.1 |

weld@Net® production control monitor

for welding data documentation and parameter setting

| | | Part-No. |
|--------------------|----------------------|-----------------|
| Basic software | incl. 2 licences | 890.0189.1 |
| Additional license | 890.0189.1 essential | 890.0190.1 |

Ready to weld!

Configured complete solutions for welding robots

Complete view robot welding station

Our ready to weld packages are prepared for the most common welding robots and provide the perfect basis for a simple construction of a robot welding work area. They consist of a high-performance iROB® power source, an ABIROB® welding torch system and a reliable iROB® Feed wire feed system.



"Ready to weld" standard packages

| Type | | Part-No. |
|--------------------------|----------------------|------------|
| FANUC ARC Mate 100i/12 | 400 A, air cooled | PAK.0001.1 |
| FANUC ARC Mate 100i/12 | 500 A, liquid cooled | PAK.0002.1 |
| FANUC ARC Mate 120iC/12L | 400 A, air cooled | PAK.0003.1 |
| FANUC ARC Mate 120iC/12L | 500 A, liquid cooled | PAK.0004.1 |
| Yaskawa MA1440 | 400 A, air cooled | PAK.0009.1 |
| Yaskawa MA1440 | 500 A, liquid cooled | PAK.0010.1 |
| Yaskawa MA2010 | 400 A, air cooled | PAK.0011.1 |
| Yaskawa MA2010 | 500 A, liquid cooled | PAK.0012.1 |
| KUKA KR8R1420 | 400 A, air cooled | PAK.0019.1 |
| KUKA KR8R1420 | 500 A, liquid cooled | PAK.0020.1 |
| KUKA KR8R2100 | 400 A, air cooled | PAK.0021.1 |
| KUKA KR8R2100 | 500 A, liquid cooled | PAK.0022.1 |
| ABB IRB 1600ID | 400 A, air cooled | PAK.0005.1 |
| ABB IRB 1600ID | 500 A, liquid cooled | PAK.0006.1 |
| ABB IRB 1660ID | 400 A, air cooled | PAK.0017.1 |
| ABB IRB 1660ID | 500 A, liquid cooled | PAK.0018.1 |
| ABB IRB 2600ID-8/2.00 | 400 A, air cooled | PAK.0007.1 |
| ABB IRB 2600ID-8/2.00 | 500 A, liquid cooled | PAK.0008.1 |

"Ready to weld" packages for other robot types on request.

From the Power Source to the Power Nozzle: Example of a preconfigured “ready to weld” package

Wire feeding

- Wire feed iROB® Feed 22B
- Wire feeder iROB® Feed
- Wire feed hose complete

Torch neck

- Torch neck ABIROB® series
- Nozzle holder
- Contact tip
- Gas nozzle
- iSTM ABIROB®
- Intermediate flange iSTM
- Flange complete
- RSP iROB® iSTM
- Pull-in aid complete



Power source

- iROB® Pulse
- Power plug 400 V 32 A
- Terminal iROB® Control
- iROB® Control mount
- Interface iROB® RI3000
- Installation kit RI3000 (Ethernet/IP 2-port RJ45)
- iROB® Kit power supply MF1/WH-PP
- Interface cable 5 m
- Earth cables 95 mm² L = 10 m
- Clamp
- Centre jaw NW42
- Intermediate cable assembly

Schematic view

Robot peripherals

Torch cleaning station BRS



Connect & clean

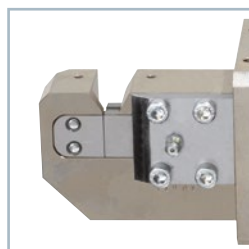
ABICOR BINZEL torch cleaning stations – the complete solution for reliable automatic servicing of torch heads. Quick and easy to install, just “connect & clean”, the compact torch cleaning stations BRS stand for top reliability. Combined in a single station, no less than three systems guarantee optimally 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

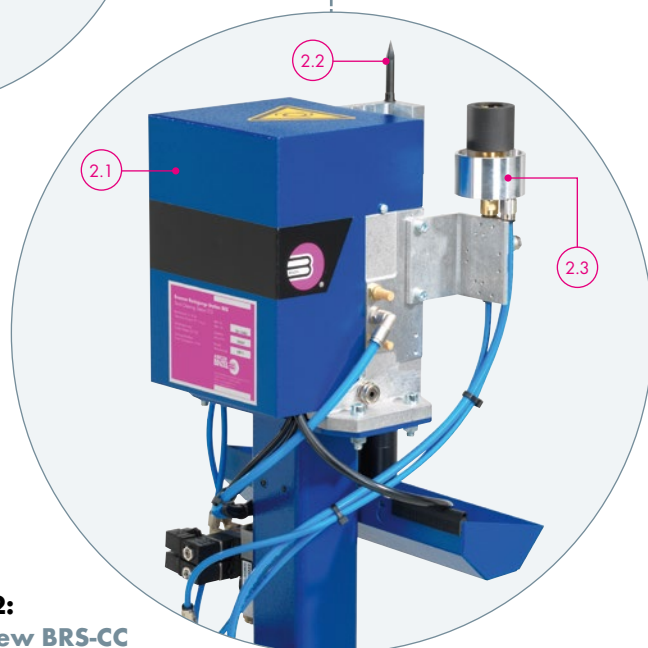


Figure 2:
Back view BRS-CC

Torch cleaning station BRS-CC

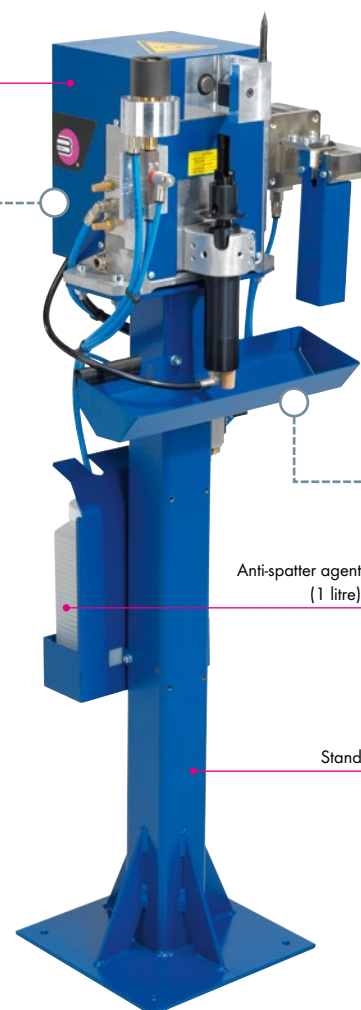


Figure 1:
Detailed view BRS-FP

- 1.1 PCB (inside)
for programmed work processes
- 1.2 Clamping brackets
- 1.3 Reamers for different torch brands
- 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

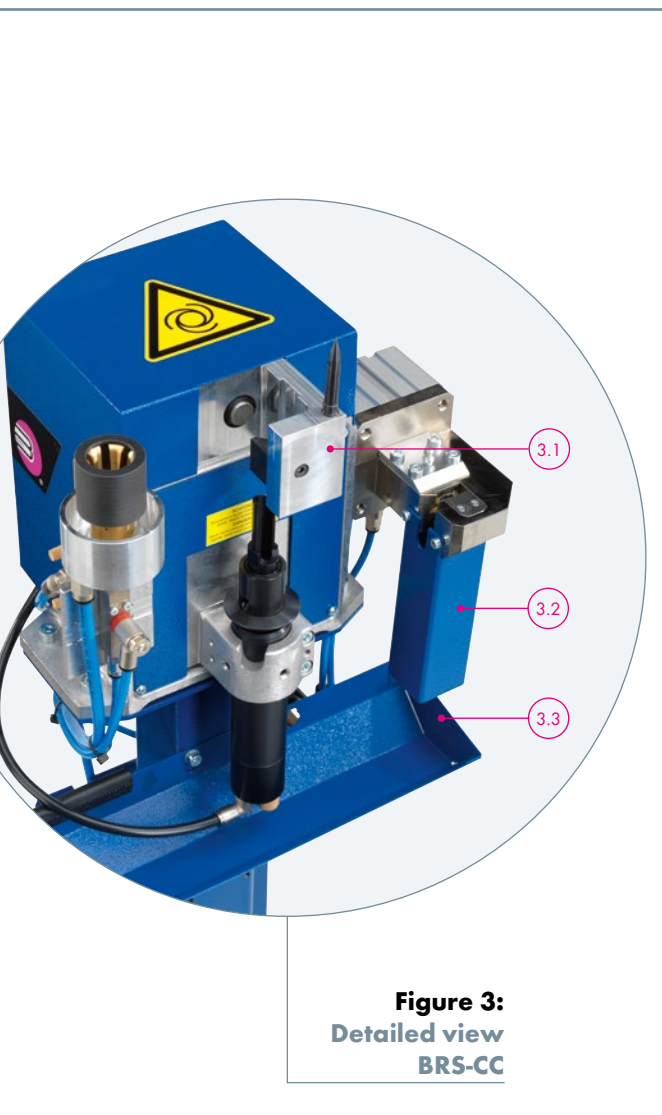
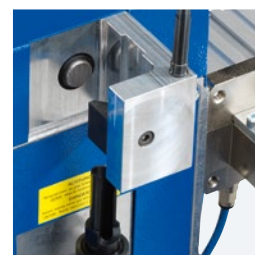


Figure 3:
Detailed view
BRS-CC

Figure 3:
Detailed view BRS-CC

- 3.1 Prism for different torch/gas nozzle types
- 3.2 Wire cutting device DAV for a constantly free wire end and better ignition properties by cutting off the welding bead or the oxide layer
- 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): | <ul style="list-style-type: none"> ■ 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 (normal open 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 device DAV

| | |
|------------------------|---|
| Cutting rate at 6 bar: | <ul style="list-style-type: none"> ■ 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 ¹ /with stand | 831.0490.1 |
| | BRS-CC | without DAV ¹ /with stand | 831.0550 |
| | BRS-CC | with DAV ¹ /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 |

¹ Wire cutting device DAV

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® 350 GC | 145.0557 | 20.0 | 15.5 | 89.5 | M6 | Ø 8 mm | 831.0313 | 831.0491.1 |
| | 145.0558 | 20.0 | 12.0 | 89.5 | M6 | Ø 8 mm | 831.0313 | 831.0555.1 |
| | 145.0573 | 20.0 | 13.0 | 89.5 | M6 | Ø 8 mm | 831.0313 | 831.0420.1 |

Torch series ABIROB® A

| 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® A 300 | 145.0671.5 | 22.0 | 14.4 | 36.0 | M6 | Ø 8 mm | 831.0371 | 831.0709.1 |
| ABIROB® A 360 | 145.0599 | 22.0 | 12.0 | 68.0 | M6 | Ø 8 mm | 831.0371 | 831.0604.1 |
| | 145.0600 | 22.0 | 12.0 | 70.0 | M6 | Ø 8 mm | 831.0371 | 831.0604.1 |
| | 145.0601 | 22.0 | 12.0 | 65.0 | M6 | Ø 8 mm | 831.0371 | 831.0604.1 |
| | 145.0595 | 22.0 | 14.0 | 68.0 | M6 | Ø 8 mm | 831.0371 | 831.0592.1 |
| | 145.0596 | 22.0 | 14.0 | 70.0 | M6 | Ø 8 mm | 831.0371 | 831.0618.1 |
| | 145.0597 | 22.0 | 14.0 | 65.0 | M6 | Ø 8 mm | 831.0371 | 831.0593.1 |
| | 145.0618 | 22.0 | 14.0 | 68.0 | M6 | Ø 8 mm | 831.0371 | 831.0592.1 |
| | 145.0619 | 22.0 | 14.0 | 65.0 | M6 | Ø 8 mm | 831.0371 | 831.0593.1 |
| | 145.0592 | 22.0 | 16.0 | 68.0 | M6 | Ø 8 mm | 831.0371 | 831.0487.1 |
| | 145.0593 | 22.0 | 16.0 | 70.0 | M6 | Ø 8 mm | 831.0371 | 831.0487.1 |
| | 145.0594 | 22.0 | 16.0 | 65.0 | M6 | Ø 8 mm | 831.0371 | 831.0589.1 |
| | 145.0589 | 28.0 | 13.0 | 75.0 | M6 | Ø 8 mm | 831.0318 | 831.0180.1 |
| | 145.0590 | 28.0 | 13.0 | 77.0 | M6 | Ø 8 mm | 831.0318 | 831.0180.1 |
| | 145.0591 | 28.0 | 13.0 | 72.0 | M6 | Ø 8 mm | 831.0318 | 831.0169.1 |
| | 145.0586 | 28.0 | 14.0 | 75.0 | M6 | Ø 8 mm | 831.0318 | 831.0592.1 |
| ABIROB® A 500 | 145.0587 | 28.0 | 14.0 | 77.0 | M6 | Ø 8 mm | 831.0318 | 831.0618.1 |
| | 145.0588 | 28.0 | 14.0 | 72.0 | M6 | Ø 8 mm | 831.0318 | 831.0593.1 |
| | 145.0580 | 28.0 | 16.0 | 75.0 | M8 | Ø 10 mm | 831.0318 | 831.0488.1 |
| | 145.0581 | 28.0 | 16.0 | 77.0 | M8 | Ø 10 mm | 831.0318 | 831.0488.1 |
| | 145.0582 | 28.0 | 16.0 | 72.0 | M8 | Ø 10 mm | 831.0318 | 831.0591.1 |
| | 145.0583 | 28.0 | 16.0 | 75.0 | M8 | Ø 10 mm | 831.0318 | 831.0488.1 |
| | 145.0584 | 28.0 | 16.0 | 77.0 | M8 | Ø 10 mm | 831.0318 | 831.0488.1 |
| | 145.0585 | 28.0 | 16.0 | 72.0 | M6 | Ø 8 mm | 831.0318 | 831.0591.1 |

Torch series ABIROB® W

| 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® W 300 | 145.0495.10 | 25.0 | 13.0 | 44.5 | M6 | Ø 8 mm | 831.0316 | 831.0169.1 |
| | 145.0564 | 25.0 | 13.0 | 48.5 | M6 | Ø 8 mm | 831.0316 | 831.0180.1 |
| | 145.0494.10 | 25.0 | 15.5 | 44.5 | M6 | Ø 8 mm | 831.0316 | 831.0576.1 |
| ABIROB® W 500 | 145.0479 | 25.0 | 13.0 | 75.5 | M8 | Ø 10 mm | 831.0316 | 831.0368.1 |
| | 145.0556 | 25.0 | 13.0 | 77.5 | M8 | Ø 10 mm | 831.0316 | 831.0368.1 |
| | 145.0466.10 | 25.0 | 15.5 | 72.0 | M8 | Ø 10 mm | 831.0316 | 831.0216.1 |
| | 145.0568 | 25.0 | 15.5 | 72.5 | M8 | Ø 10 mm | 831.0316 | 831.0216.1 |
| | 145.0553 | 25.0 | 15.5 | 75.5 | M8 | Ø 10 mm | 831.0316 | 831.0023.1 |
| | 145.0544 | 25.0 | 15.5 | 75.5 | M8 | Ø 10 mm | 831.0316 | 831.0023.1 |
| | 145.0480 | 25.0 | 15.5 | 77.0 | M8 | Ø 10 mm | 831.0316 | 831.0023.1 |
| | 145.0689.5 | 30.0 | 18.0 | 92.0 | M12 | Ø 12 mm | 831.0319 | 831.0162.1 |
| ABIROB® W 600 | 145.0686.5 | 30.0 | 21.5 | 92.0 | M12 | Ø 12 mm | 831.0319 | 831.0746.1 |
| | 145.0687.5 | 30.0 | 21.5 | 86.0 | M12 | Ø 12 mm | 831.0319 | 831.0763.1 |
| | 145.0688.5 | 30.0 | 21.5 | 95.0 | M12 | Ø 12 mm | 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.

Torch cleaning station BRS

Cutters & clamping prisms

Torch series ROBO Standard

| Torch type | with gas nozzle Type | Outer-Ø [mm] | NW [mm] | Length [mm] | with contact tip Type | Size | Clamping prism Part-No. | Cutter Part-No. |
|-------------|-------------------------|-----------------|------------|----------------|--------------------------|---------|----------------------------|--------------------|
| ROBO 455 D | 145.0134 | 25.0 | 13.0 | 67.5 | M8 | Ø 10 mm | 831.0316 | 831.0413.1 |
| | 145.0106 | 25.0 | 15.5 | 64.5 | M8 | Ø 10 mm | 831.0316 | 831.0216.1 |
| | 145.0089.10 | 25.0 | 15.5 | 67.5 | M8 | Ø 10 mm | 831.0316 | 831.0023.1 |
| | 145.0164 | 25.0 | 15.5 | 67.5 | M8 | Ø 10 mm | 831.0316 | 831.0023.1 |
| ROBO 650 TS | 145.0574 | 30.0 | 18.0 | 84.0 | M10 | Ø 12 mm | 831.0319 | 831.0587.1 |
| | 145.0575 | 30.0 | 21.5 | 84.0 | M10 | Ø 12 mm | 831.0319 | 831.0547.1 |
| | 145.0578 | 30.0 | 18.0 | 78.0 | M10 | Ø 12 mm | 831.0319 | on request |

Torch series ROBO WH

| Torch type | with gas nozzle Type | Outer-Ø [mm] | NW [mm] | Length [mm] | with contact tip Type | Size | Clamping prism Part-No. | Cutter Part-No. |
|---------------|-------------------------|-----------------|------------|----------------|--------------------------|---------|----------------------------|--------------------|
| ROBO WH 242 D | 145.0135 | 21.0 | 13.0 | 62.0 | M6 | Ø 8 mm | 831.0314 | 831.0564.1 |
| | 145.0090 | 21.0 | 15.5 | 62.0 | M6 | Ø 8 mm | 831.0314 | 831.0563.1 |
| ROBO WH W 500 | 145.0479 | 25.0 | 13.0 | 75.5 | M8 | Ø 10 mm | 831.0316 | 831.0368.1 |
| | 145.0556 | 25.0 | 13.0 | 77.5 | M8 | Ø 10 mm | 831.0316 | 831.0368.1 |
| | 145.0466.10 | 25.0 | 15.5 | 72.0 | M8 | Ø 10 mm | 831.0316 | 831.0216.1 |
| | 145.0568 | 25.0 | 15.5 | 72.5 | M8 | Ø 10 mm | 831.0316 | 831.0216.1 |
| | 145.0553 | 25.0 | 15.5 | 75.5 | M8 | Ø 10 mm | 831.0316 | 831.0023.1 |
| | 145.0544 | 25.0 | 15.5 | 75.5 | M8 | Ø 10 mm | 831.0316 | 831.0023.1 |
| | 145.0480 | 25.0 | 15.5 | 77.0 | M8 | Ø 10 mm | 831.0316 | 831.0023.1 |
| ROBO WH W 600 | 145.0689.5 | 30.0 | 18.0 | 92.0 | M12 | Ø 12 mm | 831.0319 | 831.0162.1 |
| | 145.0686.5 | 30.0 | 21.5 | 92.0 | M12 | Ø 12 mm | 831.0319 | 831.0746.1 |
| | 145.0687.5 | 30.0 | 21.5 | 86.0 | M12 | Ø 12 mm | 831.0319 | 831.0763.1 |
| | 145.0688.5 | 30.0 | 21.5 | 95.0 | M12 | Ø 12 mm | 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

Torch cleaning station TCS Compact



Torch maintenance at its best

The state-of-the-art torch cleaning station TCS Compact from ABICOR BINZEL stands for quick and easy installation as well as connection to practically all robot types. Highest reliability, safety at work and long service life due to high-quality components are further attributes of the device.

Through preventive torch cleaning – or more precisely, removal of weld spatter from the interior of the gas nozzle – precise wire cutting and application of anti-spatter agent, the TCS Compact guarantees the highest process reliability in robotic welding with MIG/MAG torches.

Perfect and time-saving cleaning of the gas nozzle enables a reliable welding process and increases system availability – torch cleaning at its best.

Arguments that speak for themselves:

- Torch cleaning, wire cutting and anti-spatter agent pre-treatment in one device
- Fully covered and protected unit
- Guaranteed process reliability
- High system availability
- Longer service life of wear parts
- Quick and easy installation

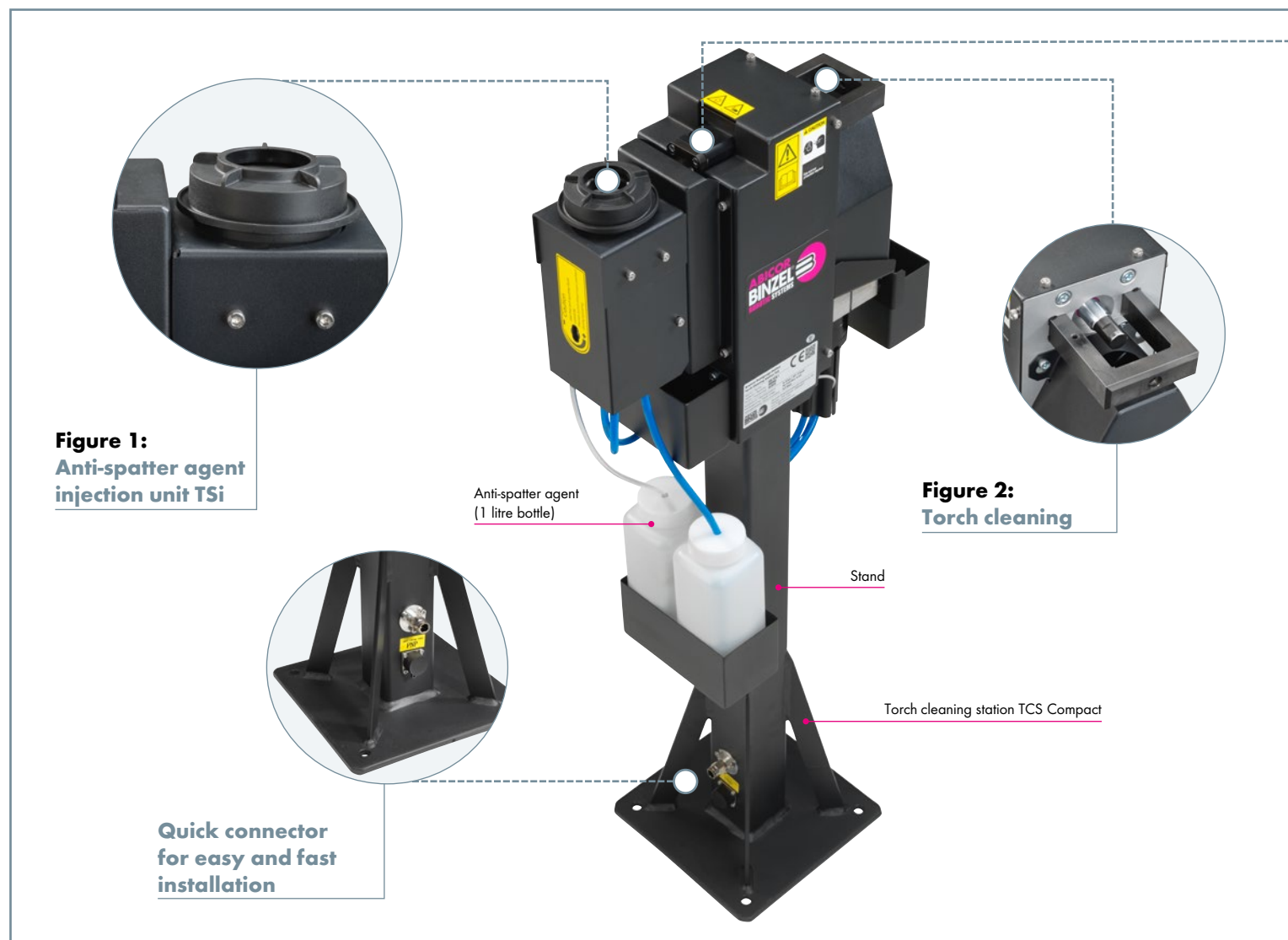
Application area:

For the automated cleaning of all common shielding gas welding torches including injection unit TSi and integrated wire cutting device



Torch cleaning station TCS Compact

System overview & technical data



TCS Compact

The clever solution against spatter adhesion

Figure 1: Anti-spatter agent injection unit TSi

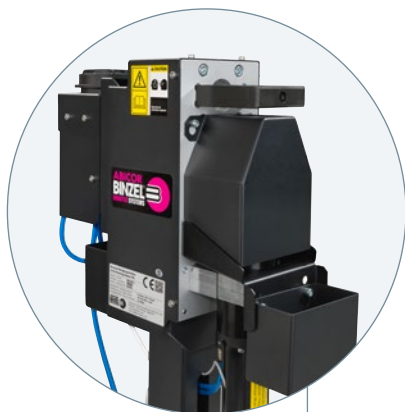
- Activated just by robot movement
- High efficient spray function
- Low consumption
- Collection of remaining anti-spatter agent
- Fully protected for clean environment

Figure 2: Torch cleaning

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



Figure 3:
Wire cutting unit



TCS Compact
– fully covered and protected for
a clean and safe environment

Figure 3:
Wire cutting unit

- Strong, reliable cutting device
- Sharp cut for save arc-start
- Hardened cutting knife for long service life



Technical data:

General data

| | |
|----------------------|---|
| Total weight: | approx. 30 kg (long stand version) approx. 22 kg (short stand version) |
| Ambient temperature: | +5 °C to +50 °C |

Pneumatic motor

| | |
|--|--------------------------|
| Air consumption: | approx. 400 l/min. |
| Pneumatic motor/ nominal speed with oiled air: | approx. 650 rpm at 6 bar |

Pneumatic connection

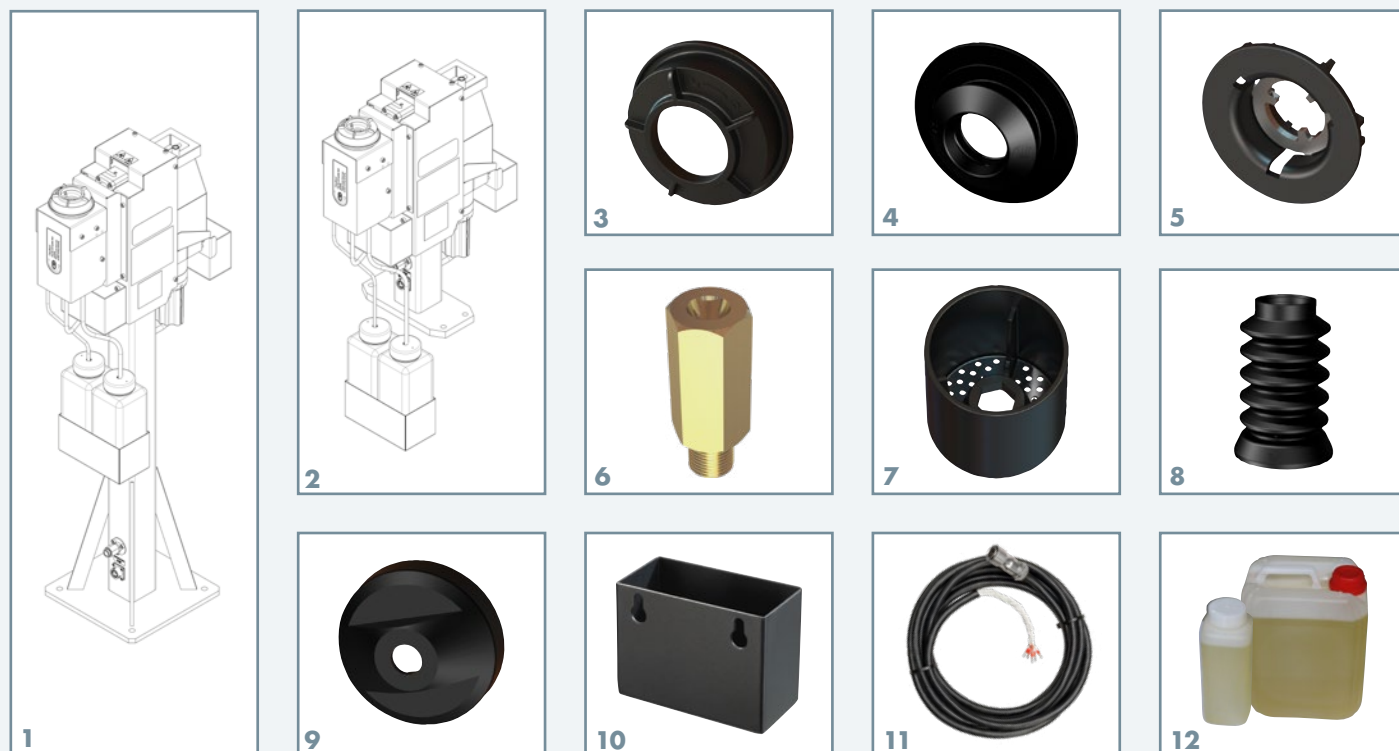
| | |
|--|------------------|
| Connection OD: | min. Ø 6 mm |
| Nominal pressure: | 6 bar |
| Operating pressure: | 6–8 bar |
| Compressed air quality (ISO 8573-1:2010): | at least class 4 |

Electrical clamping block

| | |
|---------------------------------|---|
| Input: | 3 inputs for triggering the 5/2 directional control valves |
| Control voltage: | 24 V DC |
| Power consumption: | 2.8 W |
| Output: | 2 outputs from inductive proximity switch (normal open switch - PNP) |
| Operating voltage: | 10–30 V DC |
| Continuous current: | max. 100 mA |
| Current consumption: | approx. 14 mA (24 V) |
| Max. wire diameter at 6 bar: | 1.6 mm, solid wire |

Torch cleaning station TCS Compact

Order summary



Cleaning station TCS Compact

| No. | Type | Part-No. |
|-----|--|------------|
| 1 | TCS COMPACT LP ¹ /5M ² /PNP ³ | 830.2376.1 |
| 2 | TCS COMPACT SP ¹ /5M ² /PNP ³ | 830.2366.1 |

Including: 1 set of sealing inserts (rubber), 5 meter signal cable and 1 litre anti-spatter agent.
Please order the reamer and V-block separately.

Spare parts for cleaning station TCS Compact

| No. | Type | Description | Part-No. |
|-----|-------------------------|--|------------|
| 3 | Device cover | Device cover with bayonet fitting | 830.2237.1 |
| 4 | Sealing insert: Ø 20 mm | Seal for the gas nozzle | 830.2232.1 |
| | Ø 24 mm | | 830.2233.1 |
| | Ø 30 mm | | 830.2234.1 |
| 5 | Pressure flange | Contact surface of the gas nozzle for spray pulse activation | 830.2265.1 |
| 6 | Spray nozzle | Spare spray nozzle | 830.2133.1 |
| 7 | Collecting tank | Collecting tank and filter for excess anti-spatter agent | 830.2240.1 |
| 8 | Rubber bellows | Rubber bellows for air motor | 830.2104.1 |
| 9 | Protection cap | Protection cap for air motor | 830.2103.1 |
| 10 | Collect box | Wire collect box | 830.2120.1 |
| 11 | Signal cable | TCS control lead cpl.: 5 m | 101.0250.1 |
| | | 10 m | 101.0251.1 |
| | | 15 m | 101.0252.1 |
| | | 20 m | 101.0253.1 |
| 12 | Anti-spatter agent | 1 litre bottle | 192.0056 |
| | | 5 litre canister | 192.0052 |

¹ Stand type: LP=long stand/SP=short stand

² Connection cable length (5 meter)

³ Proximity switch type (PNP)

Torch cleaning station TCS Compact

Reamer and V-block

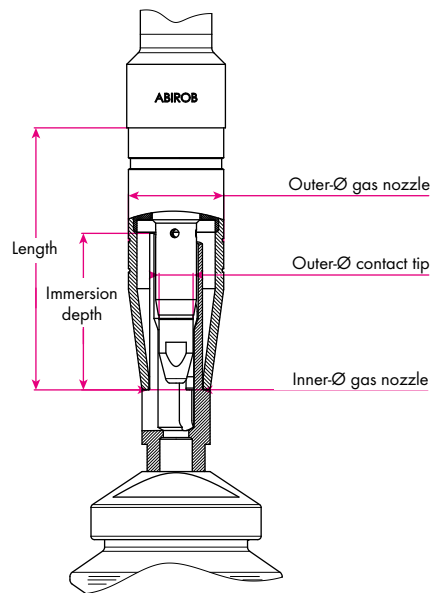
Reamer



V-block



Dimensional sketch of gas nozzle and reamer



Torch series ABIROB® 350 GC and ABIROB® G 350

| Torch type | with gas nozzle Type | Outer- Ø [mm] | Inner- Ø [mm] | Length [mm] | Immersion depth [mm] | with contact tip Thread | Outer-Ø | V-block Part-No. | Reamer Part-No. |
|----------------|----------------------------|---------------------|---------------------|----------------|----------------------------|-------------------------------|---------|---------------------|--------------------|
| ABIROB® 350 GC | 145.0557 | 20.0 | 15.5 | 89.5 | 49.0 | M6 | 8.0 mm | 830.2356.1 | 830.2170.1 |
| | 145.0558 | 20.0 | 12.0 | 89.5 | 32.5 | M6 | 8.0 mm | 830.2356.1 | 830.2169.1 |
| | 145.0573 | 20.0 | 13.0 | 89.5 | 32.0 | M6 | 8.0 mm | 830.2356.1 | 830.2193.1 |

Torch series ABIROB® A

| Torch type | with gas nozzle Type | Outer- Ø [mm] | Inner- Ø [mm] | Length [mm] | Immersion depth [mm] | with contact tip Thread | Outer-Ø | V-block Part-No. | Reamer Part-No. |
|---------------|----------------------------|---------------------|---------------------|----------------|----------------------------|-------------------------------|---------|---------------------|--------------------|
| ABIROB® A 360 | 145.0599 | 22.0 | 12.0 | 68.0 | 16.5 | M6 | 8.0 mm | 830.2358.1 | 830.2199.1 |
| | 145.0600 | 22.0 | 12.0 | 70.0 | 16.5 | M6 | 8.0 mm | 830.2358.1 | 830.2199.1 |
| | 145.0601 | 22.0 | 12.0 | 65.0 | 16.5 | M6 | 8.0 mm | 830.2358.1 | 830.2199.1 |
| | 145.0597 | 22.0 | 14.0 | 65.0 | 43.0 | M6 | 8.0 mm | 830.2358.1 | 830.2207.1 |
| | 145.0619 | 22.0 | 14.0 | 65.0 | 43.0 | M6 | 8.0 mm | 830.2358.1 | 830.2207.1 |
| | 145.0592 | 22.0 | 16.0 | 68.0 | 47.0 | M6 | 8.0 mm | 830.2358.1 | 830.2165.1 |
| | 145.0593 | 22.0 | 16.0 | 70.0 | 47.0 | M6 | 8.0 mm | 830.2358.1 | 830.2165.1 |
| | 145.0594 | 22.0 | 16.0 | 65.0 | 38.0 | M6 | 8.0 mm | 830.2358.1 | 830.2166.1 |

V-block and reamer for other gas nozzles on request.

Torch cleaning station TCS Compact

Reamer and V-block

Torch series ABIROB® A

| Torch type | with gas nozzle Type | Outer- Ø [mm] | Inner- Ø [mm] | Length [mm] | Immersion depth [mm] | with contact tip Thread Outer-Ø | | V-block Part-No. | Reamer Part-No. |
|---------------|----------------------------|---------------------|---------------------|----------------|----------------------------|---------------------------------------|---------|---------------------|--------------------|
| ABIROB® A 500 | 145.0589 | 28.0 | 13.0 | 75.0 | 18.0 | M6 | 8.0 mm | 830.2361.1 | 830.2187.1 |
| | 145.0590 | 28.0 | 13.0 | 77.0 | 18.0 | M6 | 8.0 mm | 830.2361.1 | 830.2187.1 |
| | 145.0588 | 28.0 | 14.0 | 72.0 | 45.0 | M6 | 8.0 mm | 830.2361.1 | 830.2207.1 |
| | 145.0580 | 28.0 | 16.0 | 75.0 | 46.0 | M8 | 10.0 mm | 830.2361.1 | 830.2164.1 |
| | 145.0581 | 28.0 | 16.0 | 77.0 | 46.0 | M8 | 10.0 mm | 830.2361.1 | 830.2164.1 |
| | 145.0583 | 28.0 | 16.0 | 75.0 | 46.0 | M8 | 10.0 mm | 830.2361.1 | 830.2164.1 |
| | 145.0584 | 28.0 | 16.0 | 77.0 | 46.0 | M8 | 10.0 mm | 830.2361.1 | 830.2164.1 |

Torch series ABIROB® W

| Torch type | with gas nozzle Type | Outer- Ø [mm] | Inner- Ø [mm] | Length [mm] | Immersion depth [mm] | with contact tip Thread Outer-Ø | | V-block Part-No. | Reamer Part-No. |
|---------------|----------------------------|---------------------|---------------------|----------------|----------------------------|---------------------------------------|---------|---------------------|--------------------|
| ABIROB® W 300 | 145.0564 | 25.0 | 13.0 | 48.5 | 18.0 | M6 | 8.0 mm | 830.2359.1 | 830.2187.1 |
| ABIROB® W 500 | 145.0479 | 25.0 | 13.0 | 75.5 | 19.7 | M8 | 10.0 mm | 830.2359.1 | 830.2190.1 |
| | 145.0556 | 25.0 | 13.0 | 77.5 | 19.7 | M8 | 10.0 mm | 830.2359.1 | 830.2190.1 |
| | 145.0466 | 25.0 | 15.5 | 72.0 | 35.0 | M8 | 10.0 mm | 830.2359.1 | 830.2188.1 |
| | 145.0568 | 25.0 | 15.5 | 72.5 | 35.0 | M8 | 10.0 mm | 830.2359.1 | 830.2188.1 |
| | 145.0553 | 25.0 | 15.5 | 75.5 | 39.0 | M8 | 10.0 mm | 830.2359.1 | 830.2168.1 |
| | 145.0544 | 25.0 | 15.5 | 75.5 | 39.0 | M8 | 10.0 mm | 830.2359.1 | 830.2168.1 |
| | 145.0480 | 25.0 | 15.5 | 77.0 | 39.0 | M8 | 10.0 mm | 830.2359.1 | 830.2168.1 |
| ABIROB® W 600 | 145.0616 | 25.0 | 20.0 | 75.5 | 36.5 | M8 | 10.0 mm | 830.2359.1 | 830.2189.1 |
| | 145.0689.5 | 30.0 | 18.0 | 92.0 | 23.0 | M12 | 12.0 mm | 830.2363.1 | 830.2186.1 |



Torch types of other manufacturers

| Torch type | Gas nozzle-Ø | V-block Part-No. |
|--|--------------|---------------------|
| Available clamping prisms for torches of other manufacturers | 22.0 mm | 830.2358.1 |
| | 26.0 mm | 830.2365.1 |
| | 27.0 mm | 830.2360.1 |
| | 29.0 mm | 830.2362.1 |
| | 34.0 mm | 830.2364.1 |

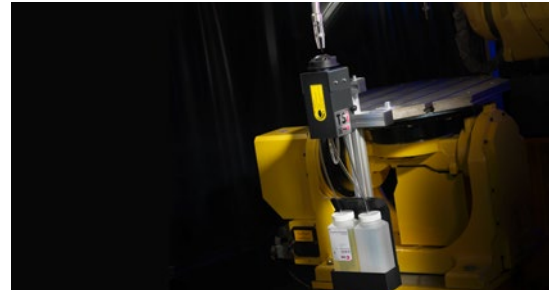
Reamers on request.

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 summary



| No. | Type | Description | Bestell-Nr. |
|----------|---|---|--|
| 1 | Injection unit TSi | Injection unit TSi incl. 1 litre anti-spatter agent 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 agent | 830.2133.1 |
| 6 | Collecting tank | Collecting tank and filter for excess anti-spatter agent | 830.2240.1 |
| 7 | Anti-spatter agent | 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 agent)
 Ambient temperature in operation: 0 °C up to +40 °C
 Relative humidity in operation: up to 90 % at 20 °C

Pneumatic connection:

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

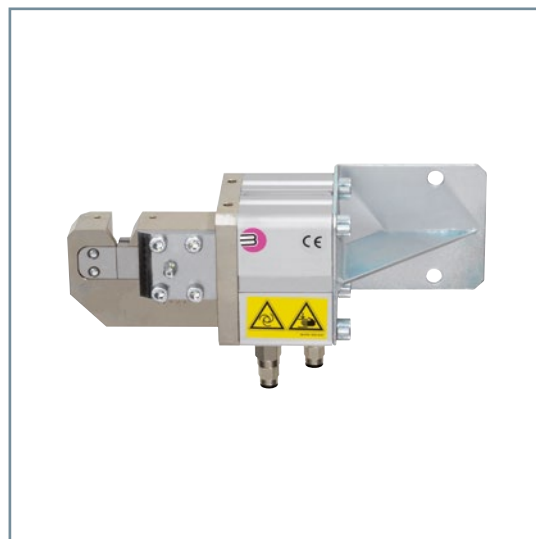
Robot peripherals

Wire cutting device DAV

The perfect cut

The wire cutting device 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 bead 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 device 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: | 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 |
| Weight: | 265 g |

Order options

| Description | Part-No. |
|------------------------------|------------|
| Wire cutting device DAV cpl. | 839.0020.1 |
| Replacement blade | 839.0024 |
| Replacement static blade | 839.0026 |
| Extension set | 839.0035.1 |

Robot peripherals

Torch exchange station TES



Increase productivity & flexibility

The torch exchange station TES can be used anywhere where welding torches need to be exchanged quickly and reliably. The strengths of the system include a change of torch geometry or even preventive torch changes for servicing wear parts of a TIG welding torch ABITIG® WH or MIG/MAG WH welding torch.

Thanks to the modular system design, up to four TES units can be mated together. The exchange stations are controlled by a PLC or by integrating the TES module into a fieldbus system. This guarantees full control of the units status at any time.

Integrated sensors help record the position of the changing movements and recognise the position of the welding torch for the exchanging process.

The torch exchanging movement is carried out by the welding robot. This allows maximum design flexibility for the welding cell and offers excellent possibilities in positioning the exchange stations in the welding cell – regardless of whether it is on a large gantry welding system in the heavy engineering plant or in compact welding cells in mass production facilities.

In combination with the proven MIG/MAG WH welding torch necks, an absolutely safe torch exchange is possible due to the automatic cutting of the wire electrode, even if the wire electrode has melted to the contact tip of the welding torch due to poor arc ignition, wire feed faults or similar.

Arguments that speak for themselves:

- Simple and inexpensive solution for automatic torch exchanges
- Up to four exchange stations can be mated
- Can be used for TIG¹ and MIG/MAG applications
- Simple and durable design
- Low operating and maintenance costs
- Increased uptime
- Use of different torch geometries for better part accessibility

¹ Currently only without cold wire feed.

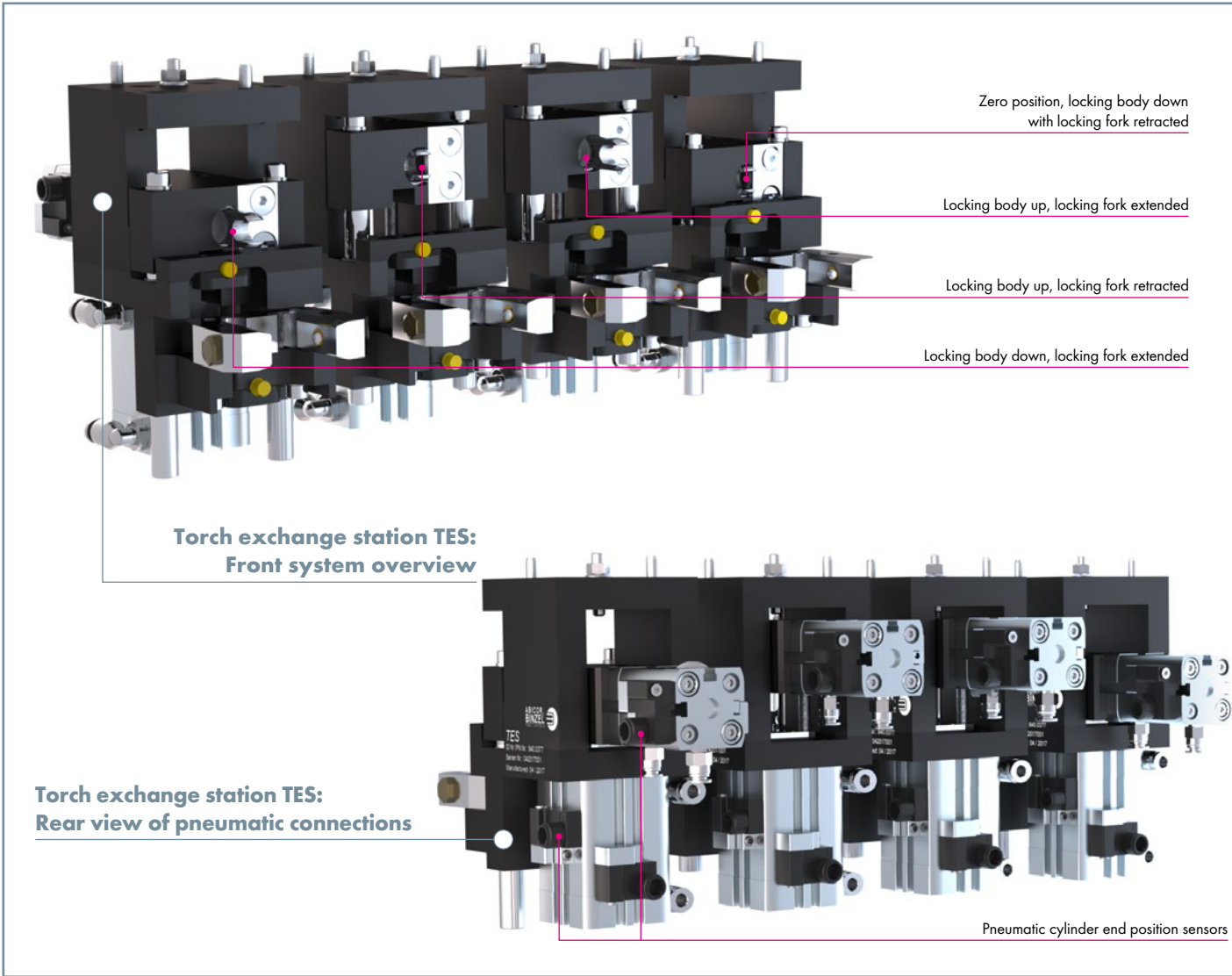
Application area:

For all automated robotic welding applications for MIG/MAG and TIG welding processes

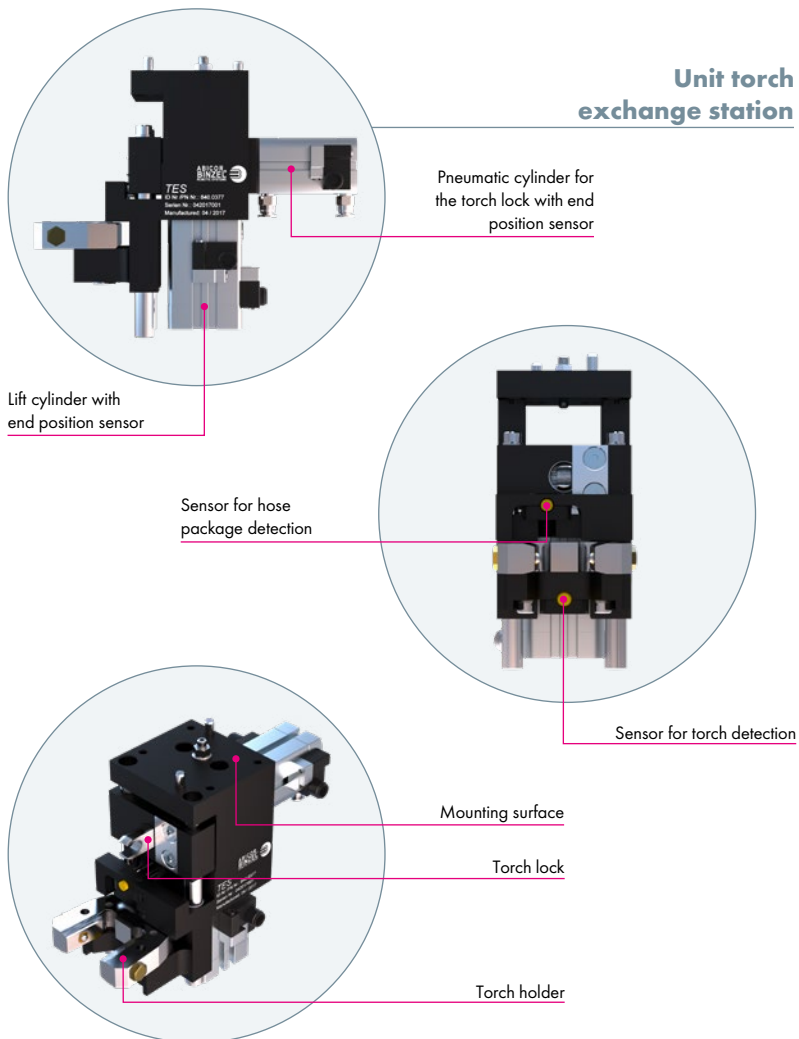


Torch exchange station TES

System overview & technical data



Unit torch exchange station



Technical data:

Torch exchange station TES

Operating pressure: max. 116 psi/min. 87 psi

Pneumatic connection: Connection Ø 6 mm

Electrical connection: Cable connections M12

4 outputs

- Proximity switch 24 V DC/max. 200 mA
- Switch output PNP No

2 outputs

- Proximity switch 24 V DC/max. 200 mA
- Switch output PNP No

2 inputs¹

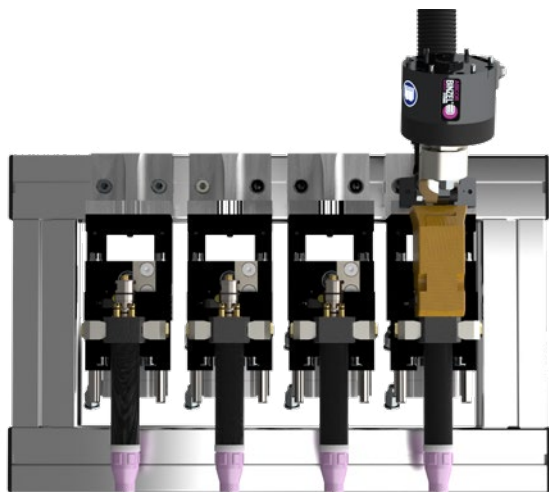
- 5/2 solenoid valves 24 V DC
- Power consumption 2.8 W

¹ Depending on the part number.

Torch exchange station TES

System overview & technical data

Torch exchange station TES:
With TIG welding torches ABITIG® WH

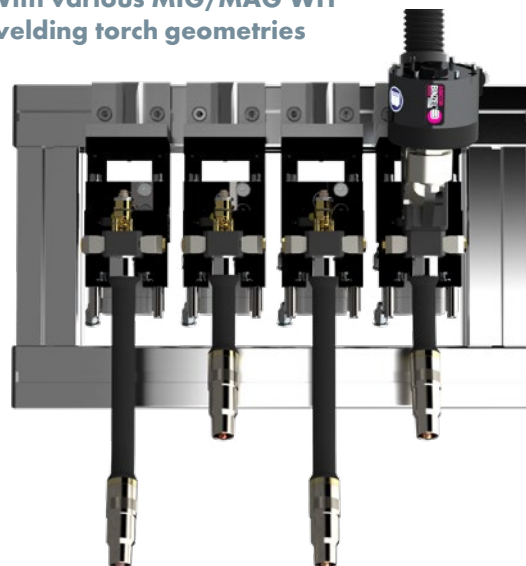


The condition of the tungsten electrode has an impact on the quality of the TIG weld. Due to the process-related wear of the electrodes, these need to be changed regularly to ensure consistent quality of the welds. Thanks to the new torch exchange station TES by ABICOR BINZEL, the TIG welding torch ABITIG® WH can be exchanged reliably and quickly at precisely the right time, the output quantity can be improved and the downtimes reduced.

Torch exchange station TES:
With TIG welding torches ABITIG® WH

- Different torch geometries can be used
- System availability improved by automated torch exchange/ electrode change
- Ensures quality welds

Torch exchange station TES:
With various MIG/MAG WH welding torch geometries



In the case of complex parts, various accessibility situations are normal for the robot welding torch. It often becomes necessary to use a welding torch neck of a different length, angle and output class to allow the welding process to continue.

The torch exchange station TES by ABICOR BINZEL is just the right solution in this case. The TES can accommodate up to four different MIG/MAG WH welding torches. The TES is the ideal system component for process-reliable, effective and automated MIG/MAG welding and ensures much lower downtimes for changing the welding torch geometry and/or output class, and also allows preventive changes or offline maintenance of the wear parts.

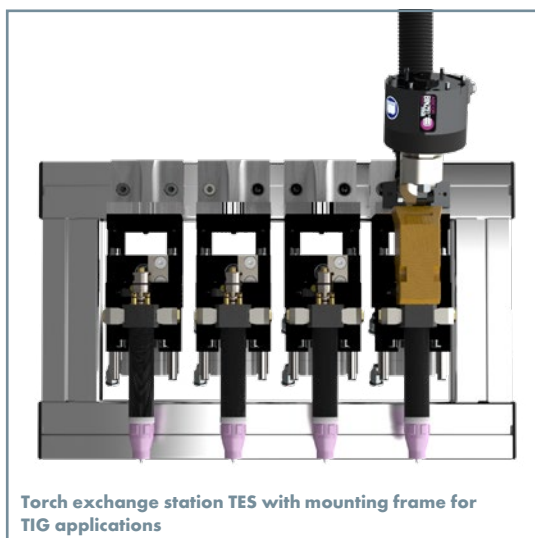
Torch exchange station TES:
With various MIG/MAG WH welding torch geometries

- Different torch geometries can be used
- System availability improved by automated torch exchange/ electrode change
- Safe torch exchange by means of integrated wire cutter in the WH cable assembly

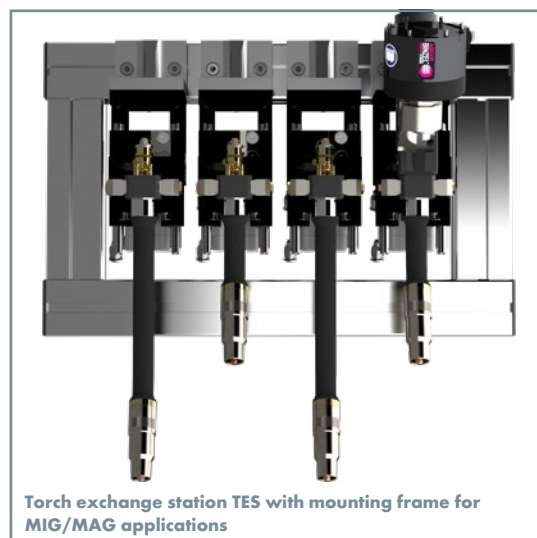
System integration TES

4-position changing station

Mounts for attaching the changing stations on request



Torch exchange station TES with mounting frame for TIG applications

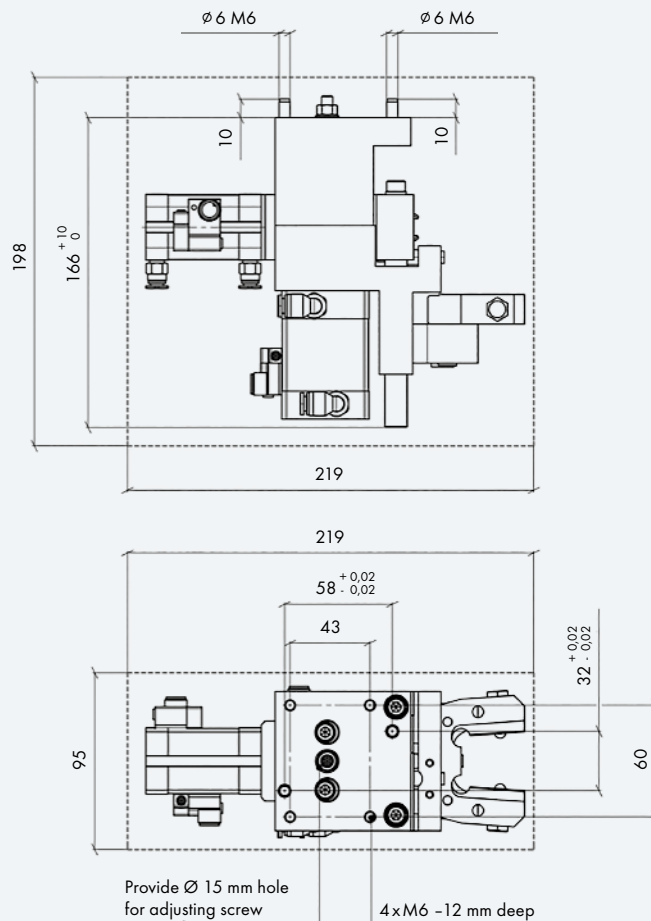


Torch exchange station TES with mounting frame for MIG/MAG applications

Order options

| Description | Part-No. |
|---|-------------------------|
| Torch exchange station TES without pneumatic connection set | 840.0377.1 ¹ |
| Torch exchange station TES with pneumatic connection set | 840.0393.1 |

Dimensions: Torch exchange station TES



¹ Part-No. 840.0377.1 does not include solenoid valve and connection cables.

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 for hollow shaft robots
- Robot mount for conventional robots
- Gas management system
- Seam tracking sensor
- Wire feeder system
- Torch cleaning station
- Torch exchange station
- Injection unit
- Wire cutting station
- Robot power source
- System solutions for cobots

■ Welding accessories

- Welding cable plug and socket
- Fume extraction systems
- Welding chemicals
- and so on ...



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