TECHNOLOGY FOR THE WELDER'S WORLD.

ROBO CATALOGUE 4.5

Robotic joining technology for all metalworking industries

ABICOR BINZEL® ROBOTIC SYSTEMS

www.binzel-abicor.com

Content

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**

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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

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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

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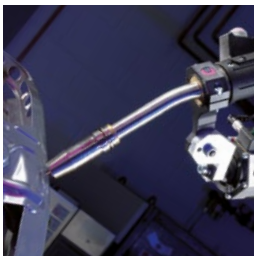

ROBO Standard – liquid cooled
Powerful, reliable & economical
Capacity: up to 450 A
Application areas: Commercial vehicle construction, earth-moving equipment, rail vehicle construction, shipbuilding, container construction, machine and steel construction
Degree of automation: **Low** | Medium | High

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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 automation[1]:

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:

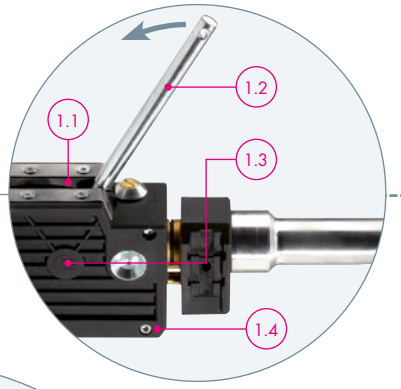
- Conventional robot
  (Cable assembly external):
  – Robot mount CAT3 PRO
  – Fixed bracket RTM
- Hollow wrist robot
  (Cable assembly internal):
  – Robot mount iCAT
  – Bracket iSTM (for robots with integrated collision software)
- Hollow wrist robot
  (Cable assembly external):
  – Robot mount CAT3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

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 WH & WH-PP – liquid cooled
System overview & technical data

Figure 1:
Quick change system



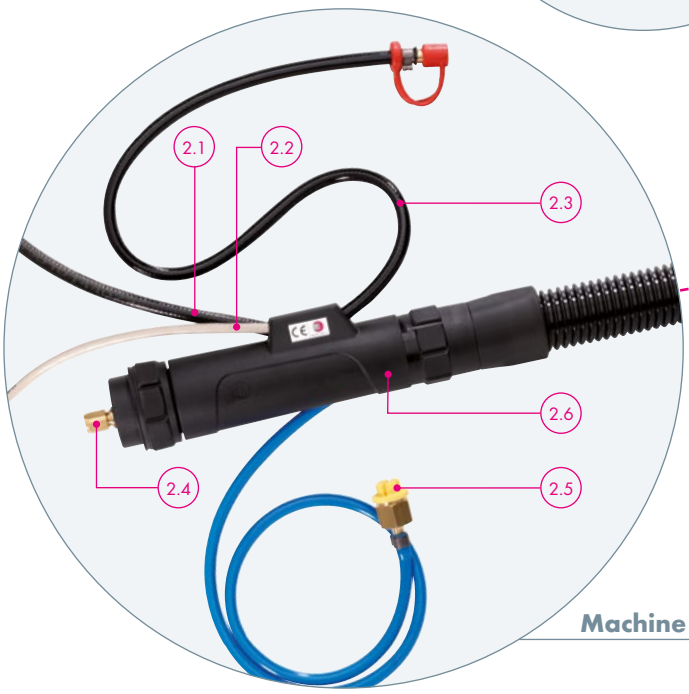


Figure 2:
Machine connection

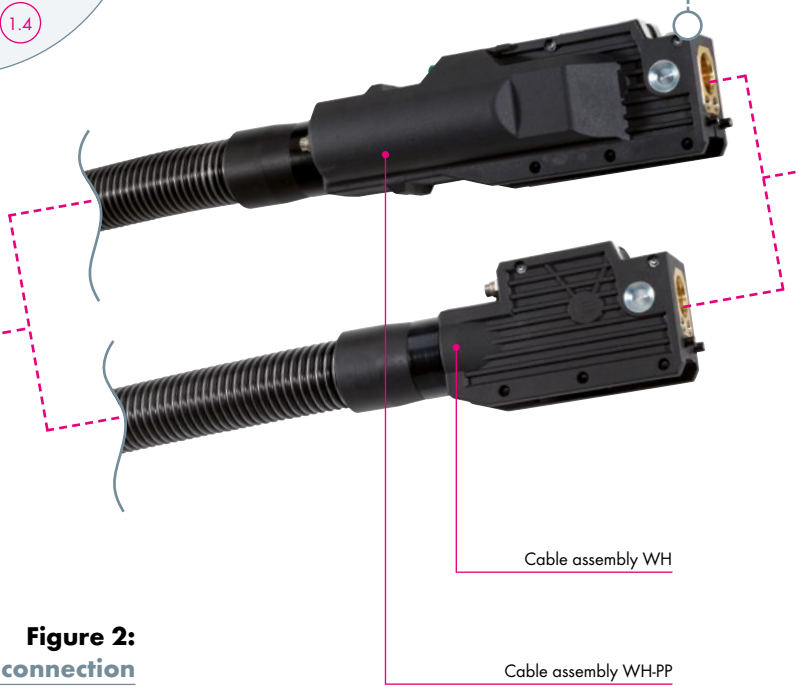


Figure 1:
Quick change system

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 brake[1])

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.

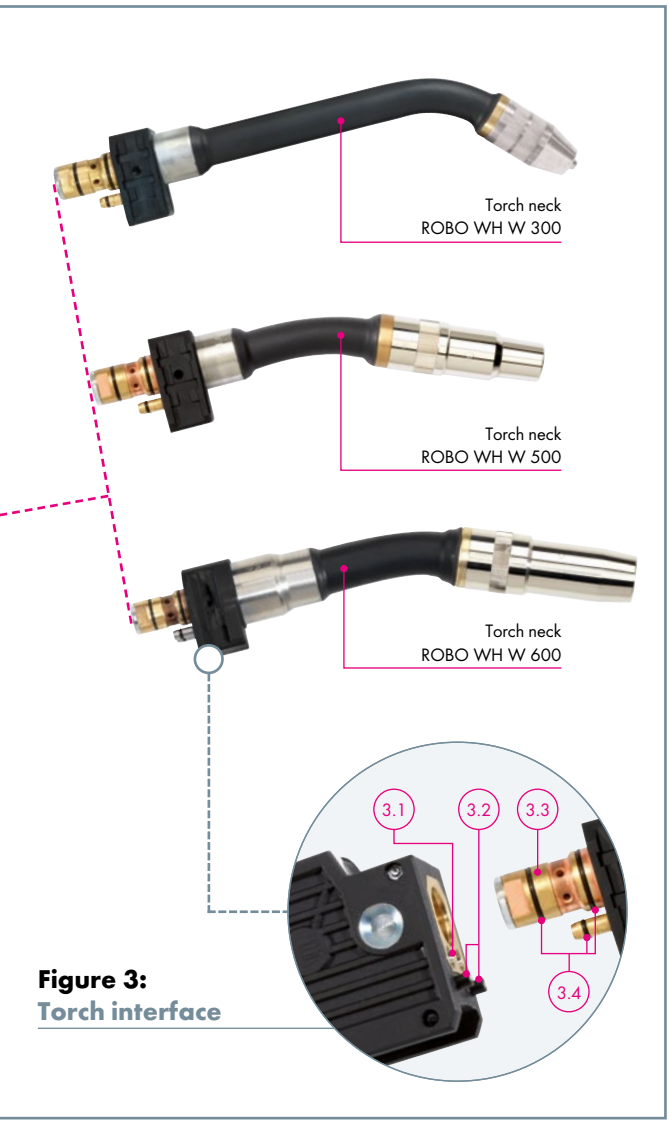
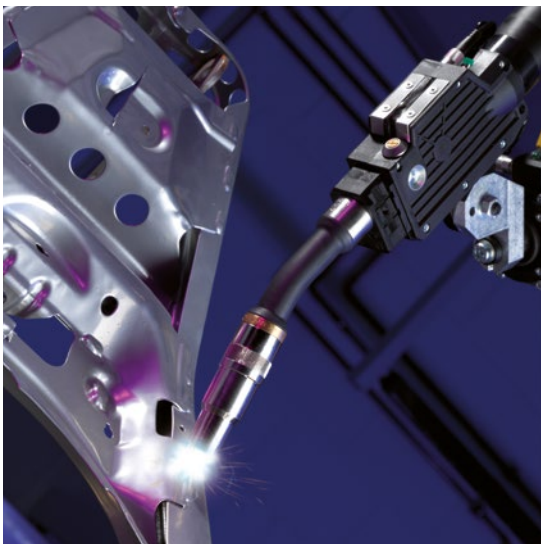


Figure 3:
Torch interface



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°

Figure 3:
Torch interface

3.1 Non-return valves for leak-free torch neck replacement
3.2 Contacts for optional gas nozzle sensor[1]
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.

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. 45°
Standard	962.1889.1

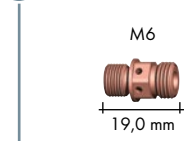
Wear parts and fittings are not included in the scope of delivery! Please order separately and application-specific!
Standard equipment M6

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

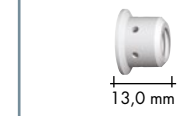
Wear parts for ROBO WH W 300

1 Contact tip holder
(10 pcs.)



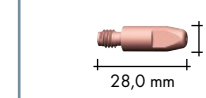
Type	Part-No.
M6 copper[1]	785.5052

2 Gas diffusor
(10 pcs.)



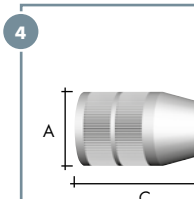
Type	Part-No.
Standard	962.0657
High temperature resistant (ceramic)	962.1341

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

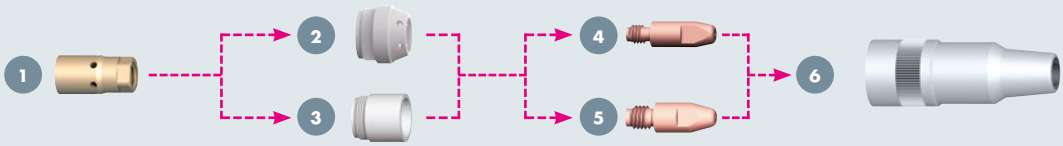
Features	Part-No. 0°	22°	35°	45°
Standard	962.1550.1	962.1549.1	962.1551.1	962.1532.1
with gas nozzle sensor[1]	962.1595.1	962.1596.1	962.1597.1	962.1598.1

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

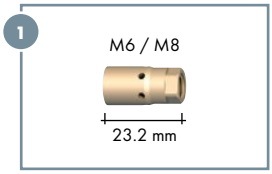
Neck liner

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

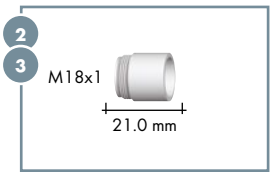


1 Contact tip holder
(10 pcs.)



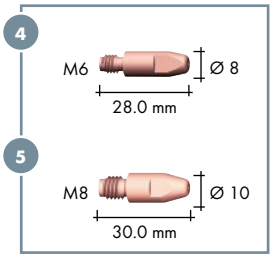
Type	Part-No.
M6 copper[2]	142.0133.10
M6 brass	142.0216.10
M8 copper[2]	142.0151.10
M8 brass	142.0117.10

2 Gas diffusor
3 Nozzle insulator
(10 pcs.)



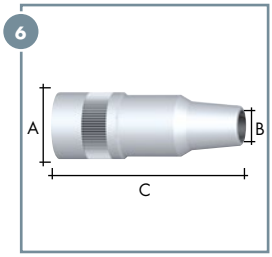
Type	Part-No.
Gas diffusor, standard (not ill.)	943.0284.10
Nozzle insulator, standard	146.0054.10
Nozzle insulator, standard/short	146.0064
Nozzle insulator, resistant to high temperatures	146.0059.10

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.

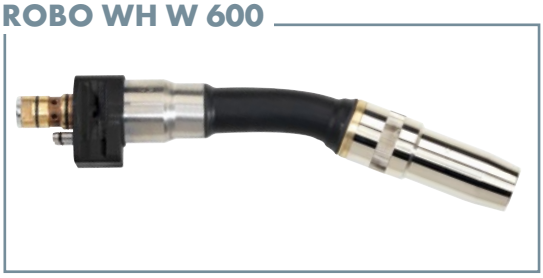
Type conical	Ø A	Ø B	Length C	Part-No.
Recess (–1.1 mm)[3]	27.0 mm	15.5 mm	75.5 mm	145.0553.10
Stick-out (+2.4 mm)[4]	27.0 mm	15.5 mm	72.5 mm	145.0568.10

[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

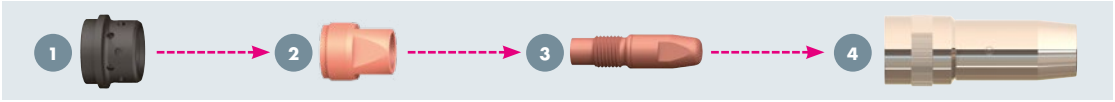
Features	Part-No. 0°	22°	35°	45°
Standard	962.1745.1	962.1746.1	962.1747.1	962.1748.1
with gas nozzle sensor[1]	962.1769.1	962.1770.1	962.1771.1	962.1772.1

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

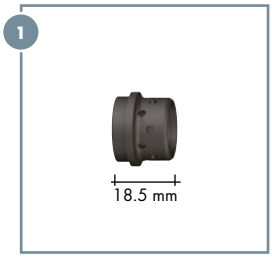
Neck liner

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

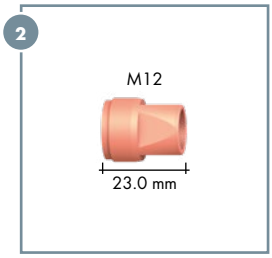


1 Gas diffusor
(10 pcs.)



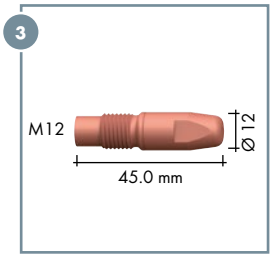
Type	Part-No.
Standard	146.0079.10

2 Contact tip holder
(10 pcs.)



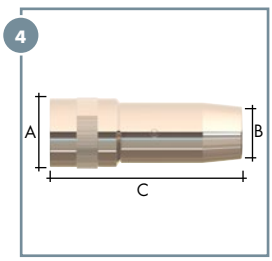
Type	Part-No.
M12	142.0214.10

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.)



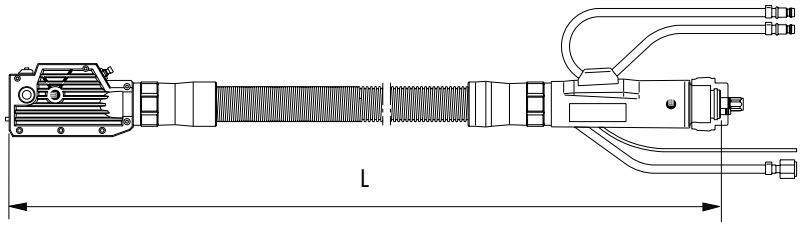
Type conical	Ø A	Ø B	Length C	Part-No.
Flush[3]	34.0 mm	21.5 mm	92.0 mm	145.0686.5
Stick-out (+6.0 mm)[4]	34.0 mm	21.5 mm	86.0 mm	145.0687.5
Recess (–3.0 mm)[5]	34.0 mm	21.5 mm	95.0 mm	145.0688.5
Flush[3]	34.0 mm	18.0 mm	92.0 mm	145.0689.5

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



ABICOR BINZEL®
Euro central connection

Panasonic®
Connection type

Lincoln®
Connection type

Cable assemblies WH cpl.

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

Cable assemblies WH-PP cpl.

(Gear ratio i=17.1:1/Motor 42 V DC[1])

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 connection[2]

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.

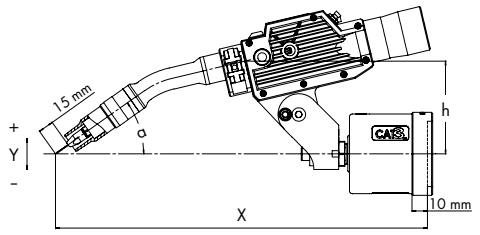
[3] Red and BSLblue steel liners (insulated) for the use of non-alloyed and low-alloyed steels. The totally insulated wire feed prevents damage caused by micro-arcing on the wire. This allows optimal current transfer inside the contact tube, improving the welding process. The insulated steel liner must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

[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

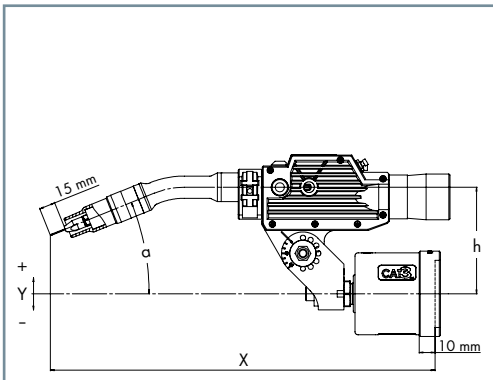
Torch holder for ROBO WH and WH-PP
in connection with CAT3 PRO cpl.

Torch type	Torch geometry	X	Y [mm]	h	a	Part-No.
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



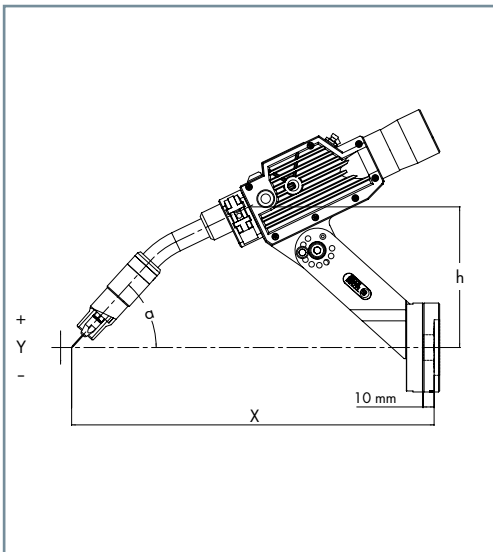
Segment holder for ROBO WH and WH-PP[1]
in connection with CAT3 PRO

Torch type	Torch geometry	X	Y [mm]	h	a	Part-No.
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-PP[1]
for robots with collision software

Torch type	Torch geometry	X	Y [mm]	h	a	Part-No.
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 automation[1]:

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

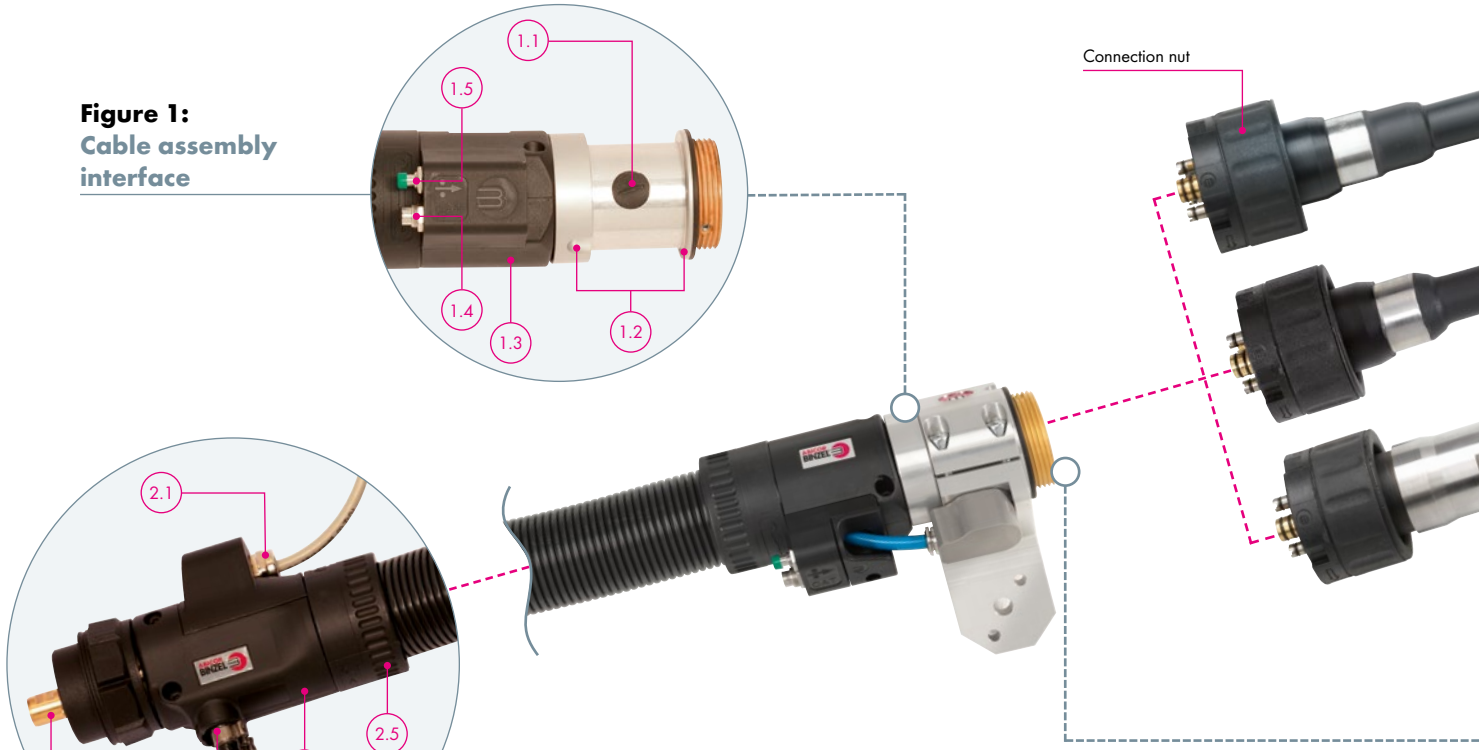


Figure 2:
Machine connection

Figure 1:
Cable assembly interface

1.1 Connection for the optional wire brake[1]
1.2 Interlock connection – reproducible positioning of the cable assembly in three dimensions
1.3 Short housing for best accessibility
1.4 Connection CAT3 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.

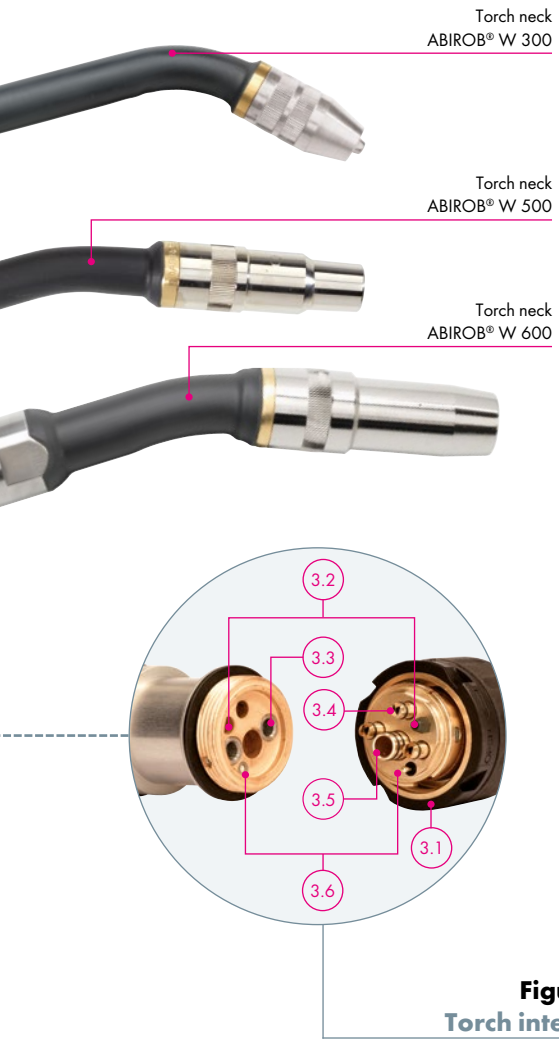
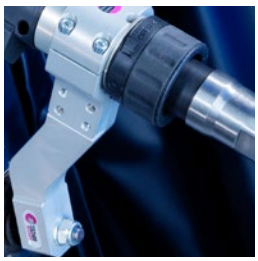


Figure 3:
Torch interface

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 sensor[1]

[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°

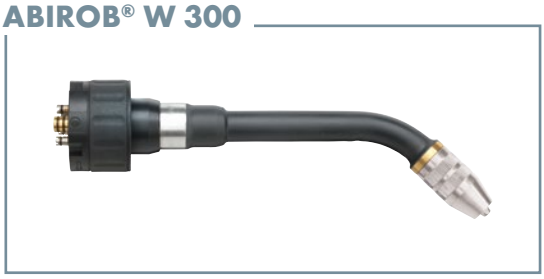
ABIROB® W 600

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



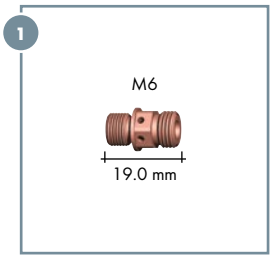
Torch neck

Features	Part-No. 22°	Part-No. 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

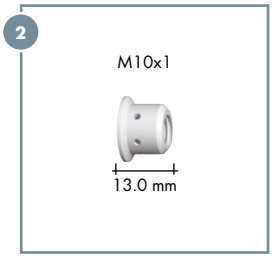
Wear parts for ABIROB® W 300

1 Contact tip holder
(10 pcs.)



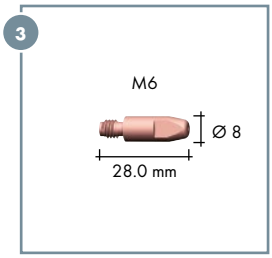
Type	Part-No.
M6 copper	785.5052

2 Gas diffusor
(10 pcs.)



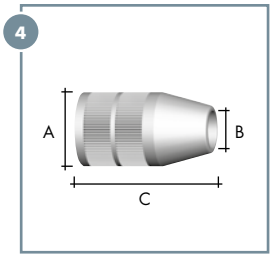
Type	Part-No.
Standard	962.0657
High temperature resistant (ceramic)	962.1341

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.)



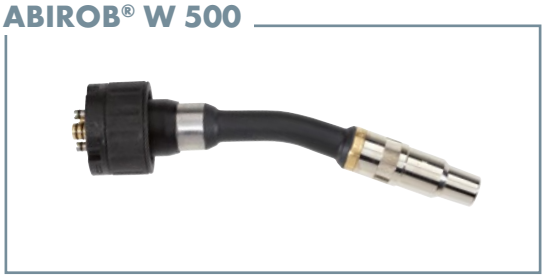
Type conical	Ø A	Ø B	Length C	Part-No.
Recess (–1.0 mm)[2]	25.0 mm	13.0 mm	48.5 mm	145.0564
Stick-out (+3.0 mm)[3]	25.0 mm	13.0 mm	44.5 mm	145.0495.10
Stick-out (+3.0 mm)[3]	25.0 mm	15.5 mm	44.5 mm	145.0494.10

All dimensions are valid for standard equipment.

[1] 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

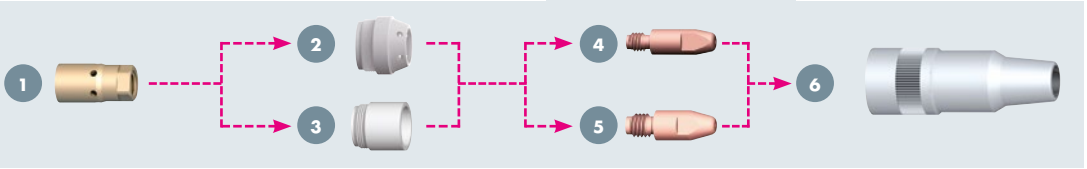


Torch neck

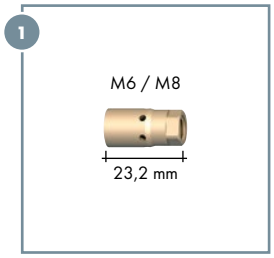
Features	Part-No. 0°	22°	35°	45°
Standard	782.0080.1	782.0076.1	782.0077.1	782.0078.1
Standard (+100)	782.0106.1	782.0107.1	782.0108.1	782.0109.1
with gas nozzle sensor[1]	782.0079.1	782.0003.1	782.0004.1	782.0005.1
with gas nozzle sensor[1] (+100)	782.0088.1	782.0089.1	782.0090.1	782.0091.1

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

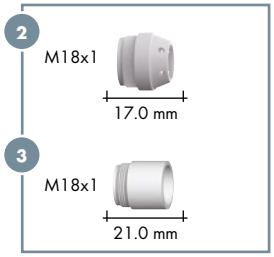


1 Contact tip holder
(10 pcs.)



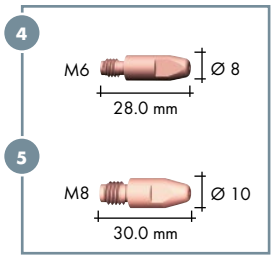
Type	Part-No.
M6 copper[2]	142.0133.10
M6 brass	142.0216.10
M8 copper[2]	142.0151.10
M8 brass	142.0117.10

2 Gas diffusor
3 Nozzle insulator
(10 pcs.)



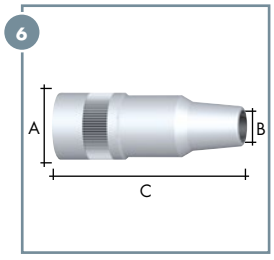
Type	Part-No.
Gas diffusor standard	943.0284
Nozzle insulator standard	146.0054.10
Nozzle insulator standard short (L = 11.4 mm)[3]	146.0064
Nozzle insulator, resistant to high temperatures	146.0059.10

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.

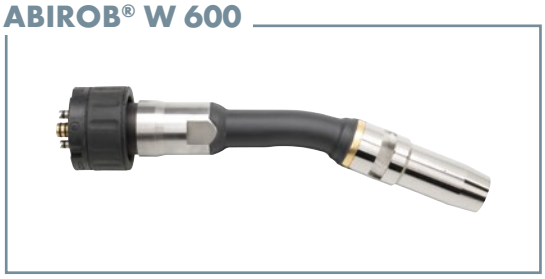
Type conical	Ø A	Ø B	Length C	Part-No.
Recess (–1.1 mm)[4]	27.0 mm	15.5 mm	75.5 mm	145.0553.10
Stick-out (+2.4 mm)[5]	27.0 mm	15.5 mm	72.5 mm	145.0568.10

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

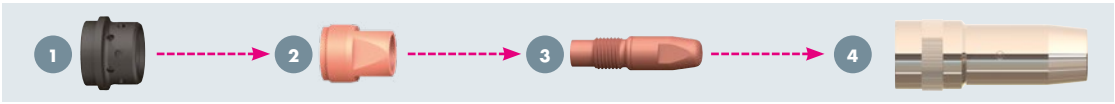


Torch neck

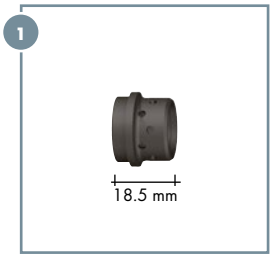
Features	Part-No. 0°	22°	35°	45°
Standard	782.0190.1	782.0191.1	782.0192.1	782.0193.1
Standard (+100)	782.0219.1	782.0220.1	782.0221.1	782.0222.1
with gas nozzle sensor[1]	782.0213.1	782.0214.1	782.0215.1	782.0216.1
with gas nozzle sensor[1] (+100)	782.0233.1	782.0234.1	782.0235.1	782.0236.1

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

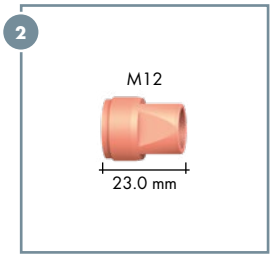


1 Gas diffusor
(10 pcs.)



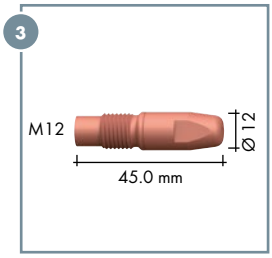
Type	Part-No.
Standard	146.0079.10

2 Contact tip holder
(10 pcs.)



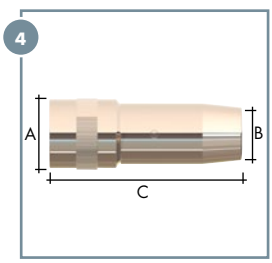
Type	Part-No.
M12	142.0214.10

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.)



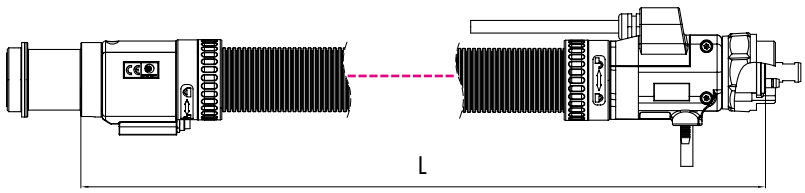
Type conical	Ø A	Ø B	Length C	Part-No.
Flush[3]	34.0 mm	21.5 mm	92.0 mm	145.0686.5
Stick-out (+6.0 mm)[4]	34.0 mm	21.5 mm	86.0 mm	145.0687.5
Recess (–3.0 mm)[5]	34.0 mm	21.5 mm	95.0 mm	145.0688.5
Flush[3]	34.0 mm	18.0 mm	92.0 mm	145.0689.5

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



ABICOR BINZEL®
Euro central connection

Panasonic®
connection type
(on request)

Lincoln®
connection type
(on request)

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

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

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.

Liners for Euro central connection[1]

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


1


2


3

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

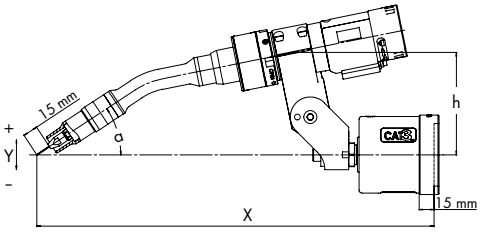
for torch neck	torch geometry	Part-No.
ABIROB® W 300	22°/45°	837.0484.1
ABIROB® W 500/W 500 (+100 mm)	0°/22°/35°/45°	837.0950.1
ABIROB® W 600/W 600 (+100 mm)	0°/22°/35°/45°	837.0860.1

[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

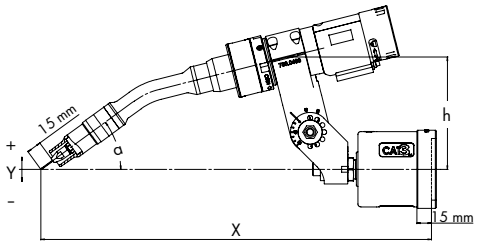
CAT3 PRO holder for ABIROB® W
in connection with CAT3 PRO cpl.

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



Segment holder for ABIROB® W[1]
in connection with CAT3 PRO

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

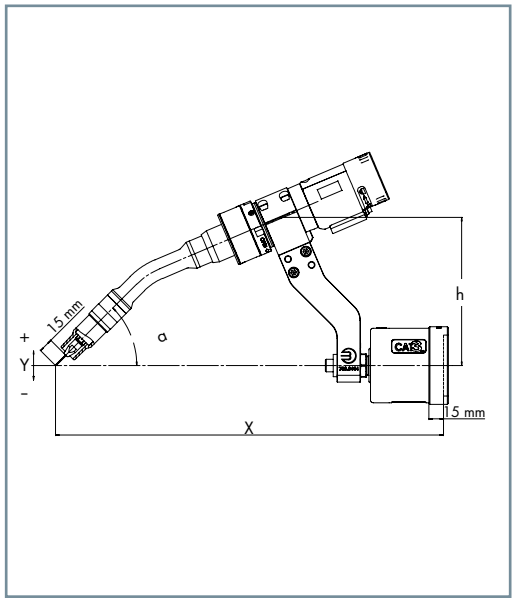


Further holders are available on request.
[1] Holder adjustable in 15° steps

ABIROB® W – liquid cooled
Holder & TCP geometries

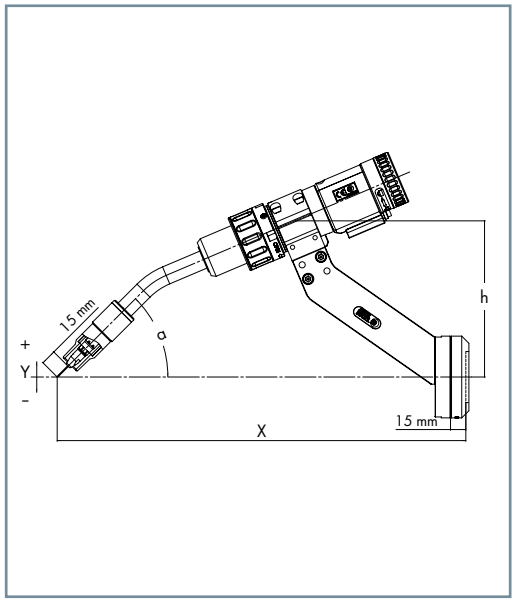
Fixed bracket for ABIROB® W
in connection with CAT3 PRO

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



Further holders are available on request.

ABIROB® W – liquid cooled
Wire brake function

For tactile component search using the established ABIROB® W cable assembly, cable assemblies can now come with an optional wire clamp function to fix the wire. This function enables 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

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

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.

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 automation[1]:

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

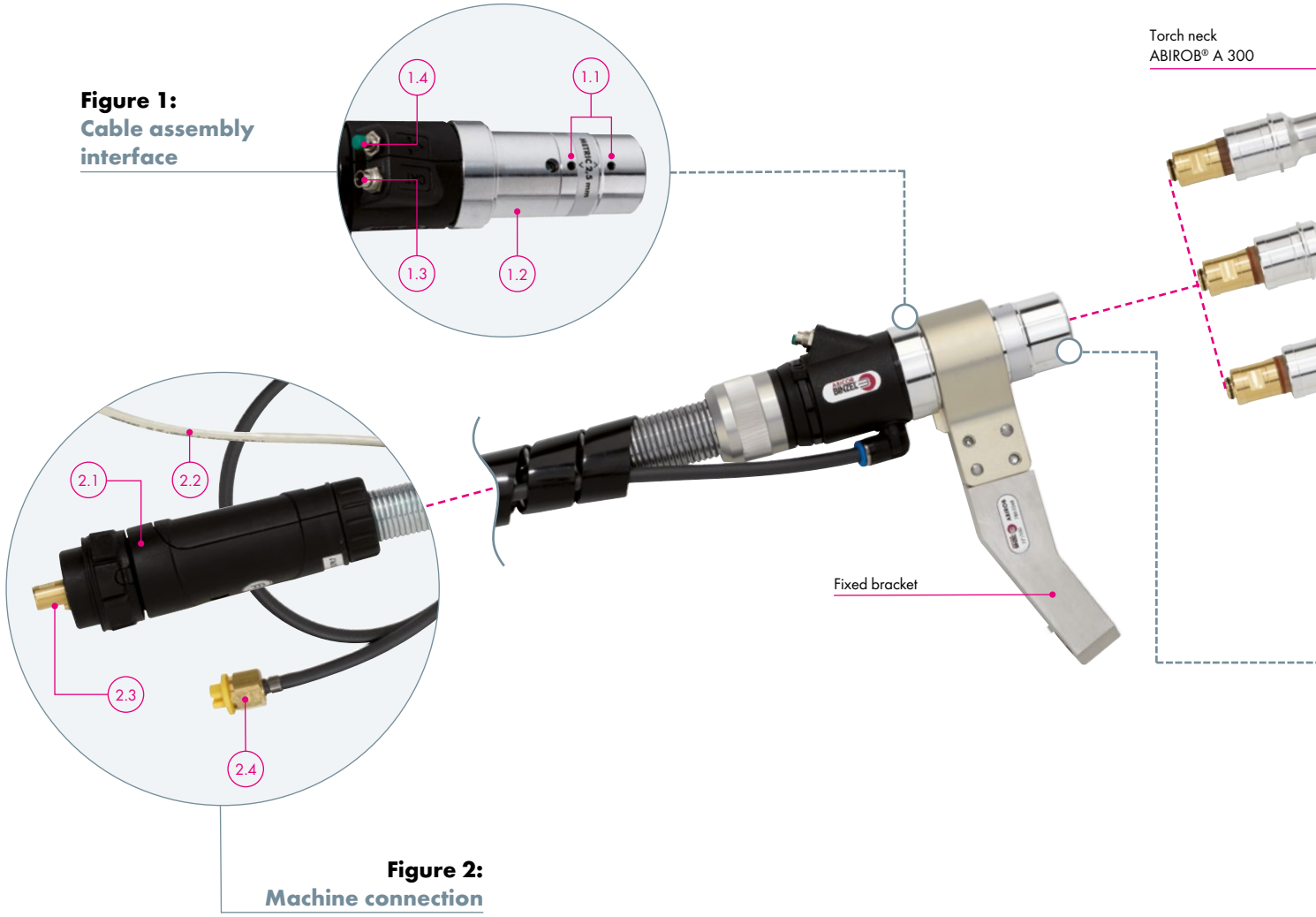


Figure 1:
Cable assembly interface

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

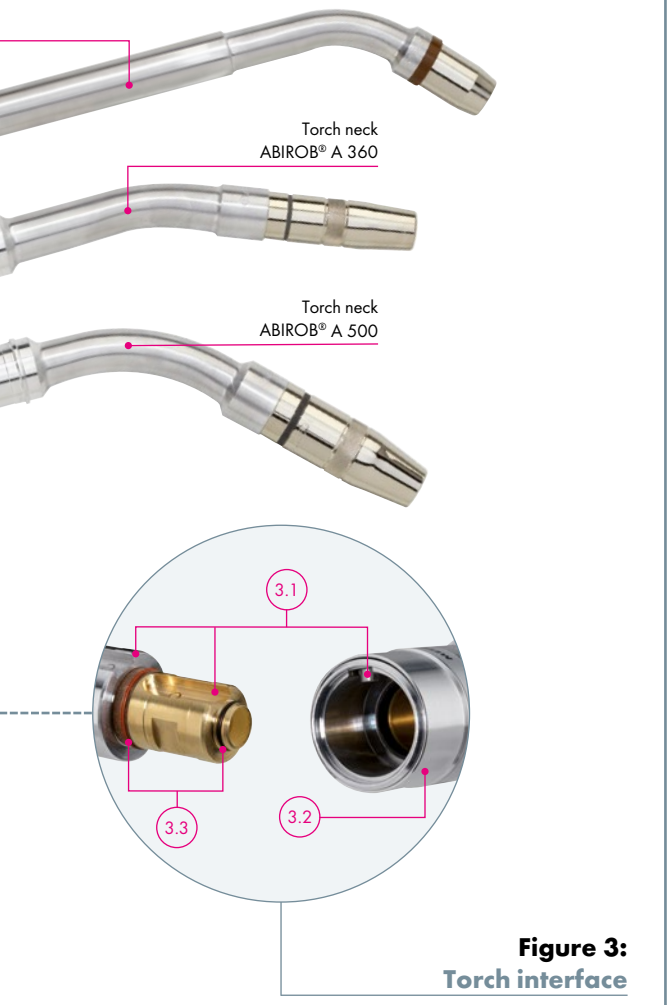
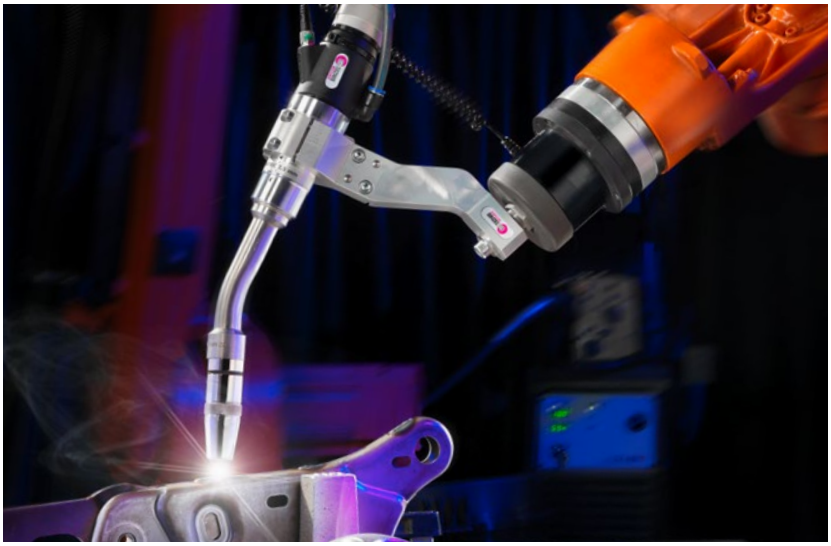


Figure 3:
Torch interface

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°

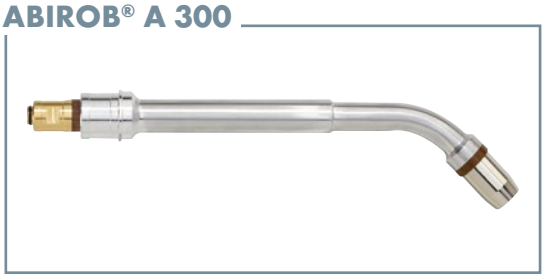
ABIROB® A 500

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

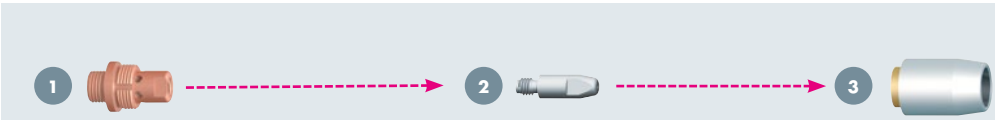


Torch necks

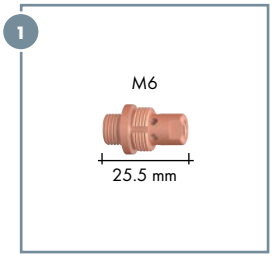
Features	Part-No. 45°
Standard	980.1146.1

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

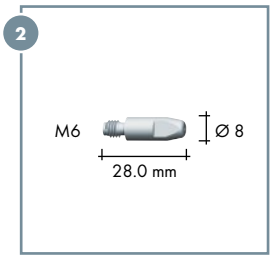


1 Contact tip holder
(10 pcs.)



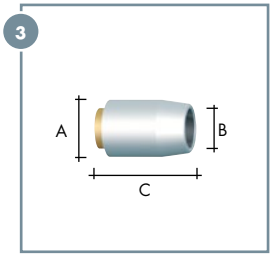
Type	Part-No.
M6 copper[1]	142.0171.10

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.)



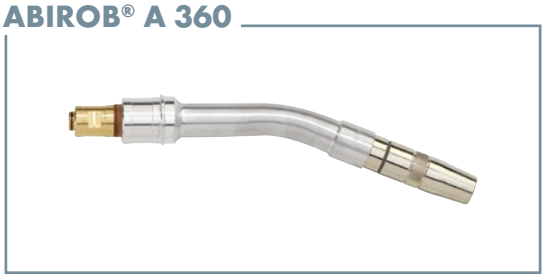
Type bottle form	Ø A	Ø B	Length C	Part-No.
Flush[2]	22.0 mm	14.4 mm	32.0 mm	145.0671.5
Stick-out (+3.0 mm)[3]	22.0 mm	14.4 mm	29.0 mm	145.0677.5

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

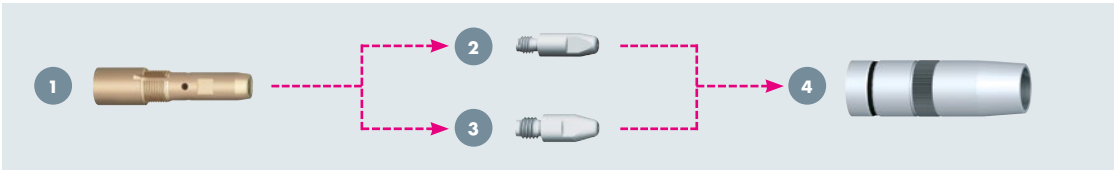


Torch necks

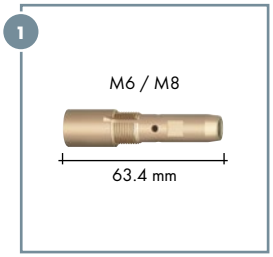
Features	Part-No. 0°	22°	35°	45°
Standard	980.1023.1	980.1024.1	980.1025.1	980.1026.1

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

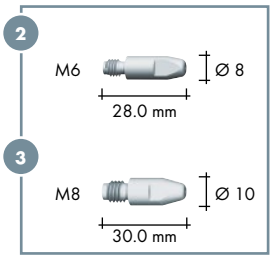


1 Contact tip holder
(5 pcs.)



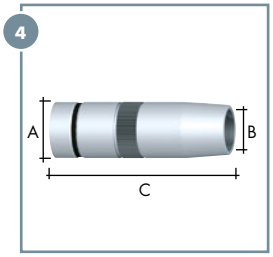
Type	Part-No.
M6 brass	142.0160.5
M8 brass	142.0163.5
M6 copper[1]	142.0196.5
M8 copper[1]	142.0170.5

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



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

4 Gas nozzle
(10 pcs.)



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

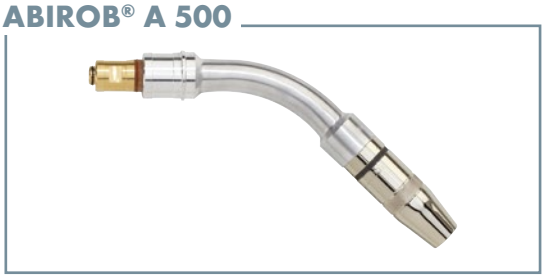
Type conical	Ø A	Ø B	Length C	Part-No.
Flush[2]	22.0 mm	14.0 mm	68.0 mm	145.0595
Recess (–2.0 mm)[3]	22.0 mm	14.0 mm	70.0 mm	145.0596
Stick-out (+3.0 mm)[4]	22.0 mm	14.0 mm	65.0 mm	145.0597
Flush[2]	22.0 mm	16.0 mm	68.0 mm	145.0592
Recess (–2.0 mm)[3]	22.0 mm	16.0 mm	70.0 mm	145.0593
Stick-out (+3.0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

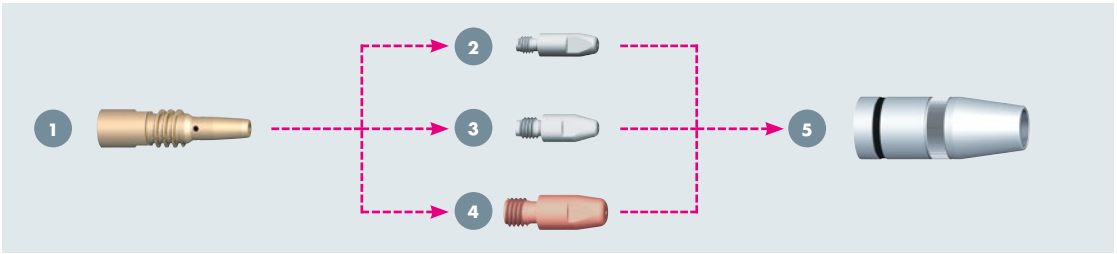


Torch necks

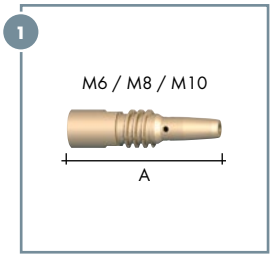
Features	Part-No. 0°	22°	35°	45°
Standard	980.1012.1	980.1013.1	980.1014.1	980.1015.1

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

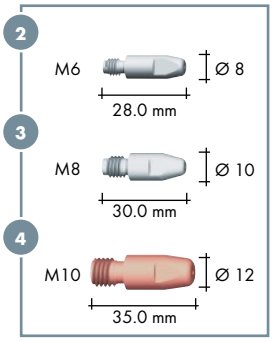


1 Contact tip holder
(5 pcs.)



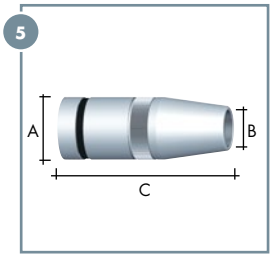
Type	Length A	Part-No.
M6 brass	70.0 mm	142.0159.5
M8 brass	70.0 mm	142.0158.5
M8 copper[1]	70.0 mm	142.0169.5
M10 copper[1]	67.0 mm	142.0228.5

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



Type	Wire-Ø	Part-No. 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

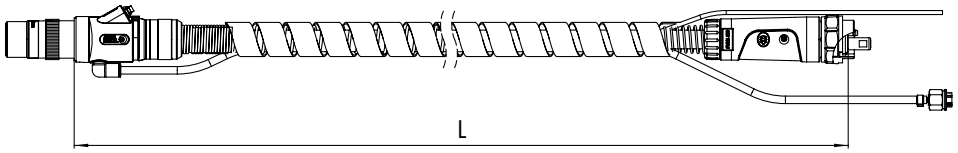
Type conical	Ø A	Ø B	Length C	Part-No.
Flush[3]	28.0 mm	13.0 mm	75.0 mm	145.0589
Recess (-2.0 mm)[4]	28.0 mm	13.0 mm	77.0 mm	145.0590
Stick-out (+3.0 mm)[5]	28.0 mm	13.0 mm	72.0 mm	145.0591
Flush[3]	28.0 mm	16.0 mm	75.0 mm	145.0580
Recess (-2.0 mm)[4]	28.0 mm	16.0 mm	77.0 mm	145.0581
Stick-out (+3.0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

All dimensions are valid for standard equipment.

[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

ABIROB® A ECO – air cooled
Cable assemblies & accessories

Cable assemblies and connection types



ABICOR BINZEL®
Euro central connection

Panasonic®
connection type
(on request)

Lincoln®
connection type
(on request)

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 connection[1]

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

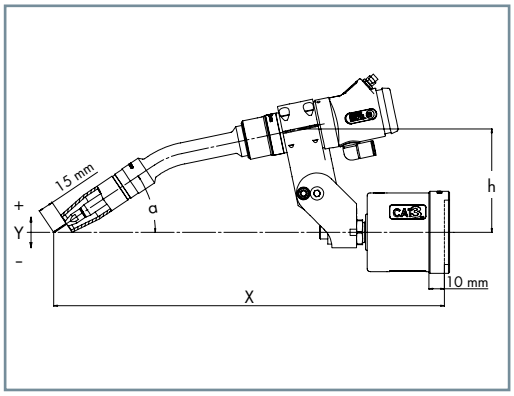
for torch type	Torch geometry	Part-No.
ABIROB® A 300	45°	837.0600
ABIROB® A 360/A 500	0°/22°/35°/45°	837.0500

[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

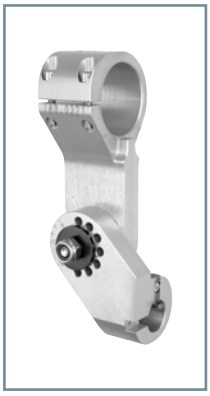
Clamp holder for ABIROB® A ECO
in connection with CAT3 PRO cpl.

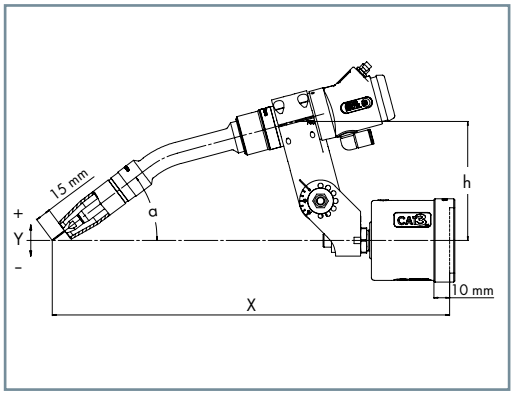
Torch type	Torch geometry	X	Y	h	a	Part-No.
			[mm]			
ABIROB® A 360	0°	393	0	97	21°	780.0259
	22°	376	0	101	34°	780.0259
	35°	361	0	102	40°	780.0259
	45°	348	0	103	44°	780.0259
ABIROB® A 500	0°	393	0	97	21°	780.0259
	22°	376	0	101	34°	780.0259
	35°	361	0	102	40°	780.0259
	45°	348	0	103	44°	780.0259



Segment holder for ABIROB® A ECO[1]
in connection with CAT3 PRO

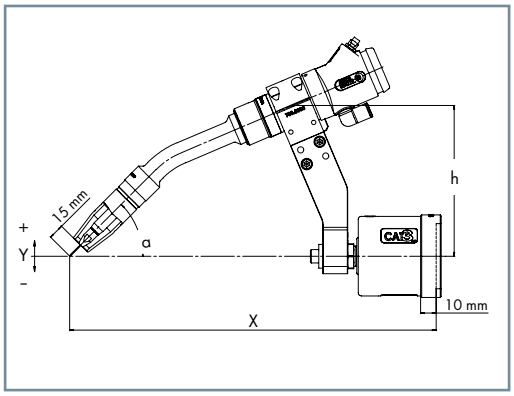
Torch type	Torch geometry	X	Y	h	a	Part-No.
			[mm]			
ABIROB® A 360	0°	399	46	114	15°	780.0321.1
	22°	377	0	114	37°	780.0321.1
	35°	355	-27	114	50°	780.0321.1
	45°	332	-47	114	60°	780.0321.1
ABIROB® A 500	0°	399	46	114	15°	780.0321.1
	22°	377	0	114	37°	780.0321.1
	35°	355	-27	114	50°	780.0321.1
	45°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





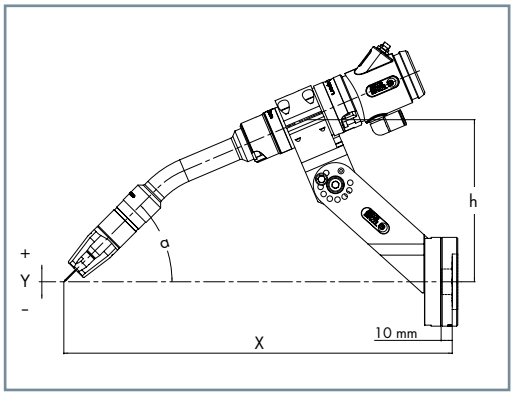
Fixed bracket for ABIROB® A ECO
in connection with CAT3 PRO

Torch type	Torch geometry	X	Y	h	a	Part-No.
			[mm]			
ABIROB® A 360	22°	350	0	146	45°	780.0833.1
	35°	350	0	123	45°	780.0835.1
	45°	350	0	107	45°	780.0380.1
ABIROB® A 500	22°	350	0	146	45°	780.0833.1
	35°	350	0	123	45°	780.0835.1
	45°	350	0	107	45°	780.0380.1



RTM holder for ABIROB® A ECO[2]
for robots with collision software

Torch type	Torch geometry	X	Y	h	a	Part-No.
			[mm]			
ABIROB® A 360	0°	378	42	146	23°	780.0195
	22°	324	0	146	45°	780.0195
	35°	324	-24	146	58°	780.0195
	45°	399	-40	146	68°	780.0195
ABIROB® A 500	0°	378	42	146	23°	780.0195
	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 CO_2 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 CO_2 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 automation[1]:

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

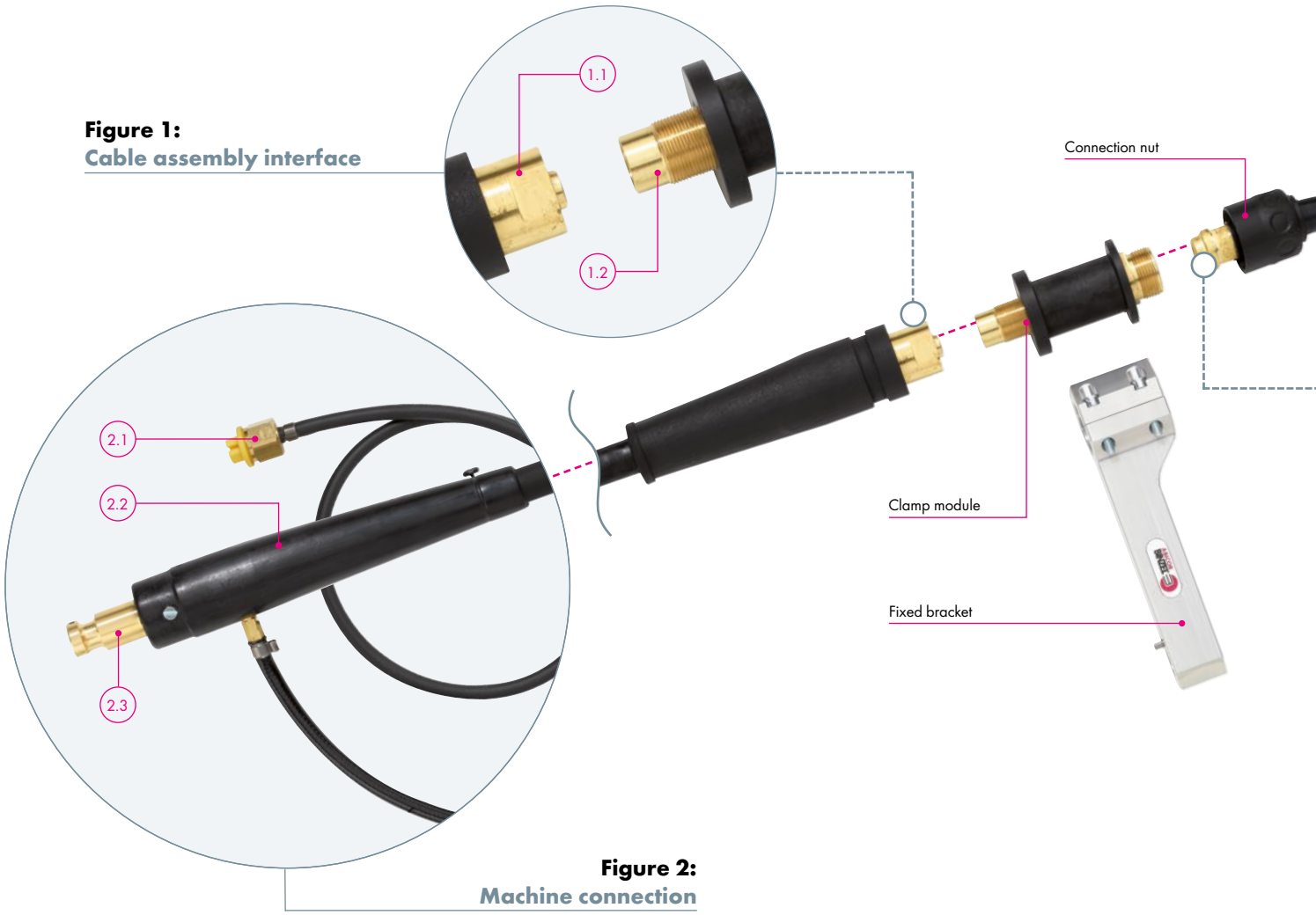


Figure 2:
Machine connection

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

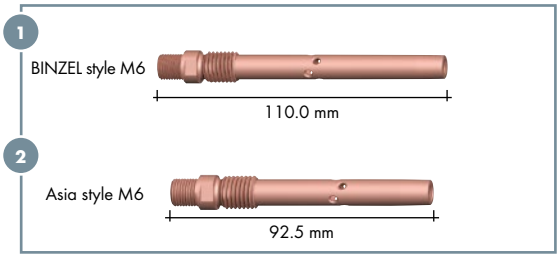
Wear parts and fittings are not included in the scope of delivery! Please order separately and application-specific!
Standard equipment M6

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

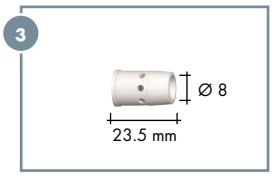
Wear parts for ABIROB® 350 GC

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



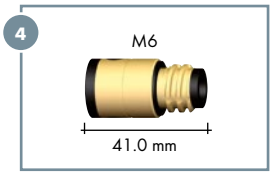
Type	Part-No.
BINZEL style M6 copper	142.0152
Asia style M6 copper	142.0143.5

3 Gas diffusor
(10 pcs.)



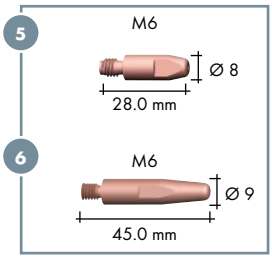
Type	Part-No.
Standard	980.0019.10

4 Gas nozzle holder
(10 pcs.)



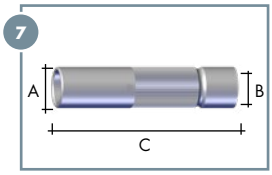
Type	Part-No.
Standard	980.0142.10

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



Type	Wire-Ø	Part-No. M6 BINZEL style	Part-No. 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

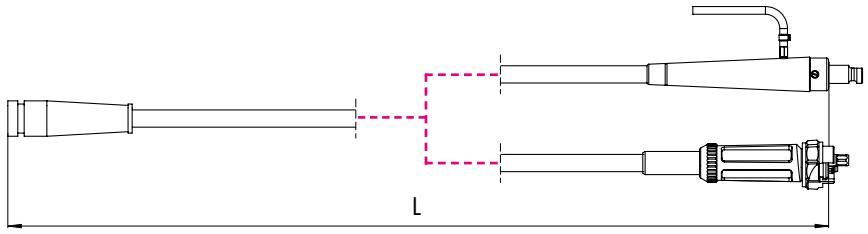
7 Gas nozzle
(10 pcs.)



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




ABICOR BINZEL®
Euro central connection


Panasonic®
connection type

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

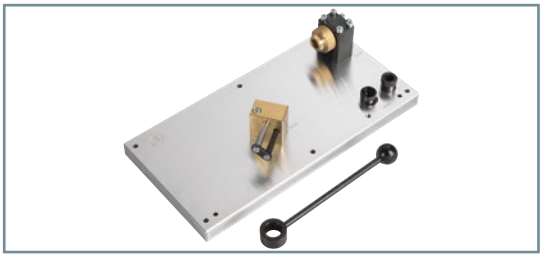
Options

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

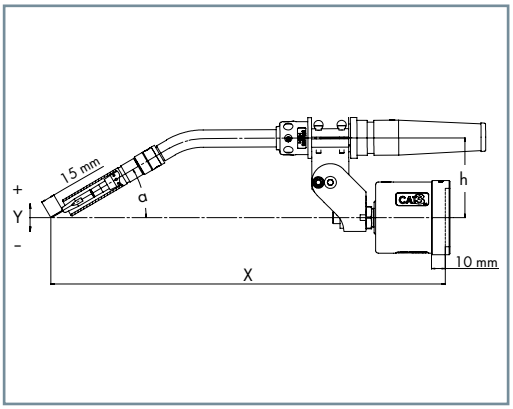
for torch type	Torch geometry	Part-No.
ABIROB® 350 GC Standard	35°	837.0551.1

[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

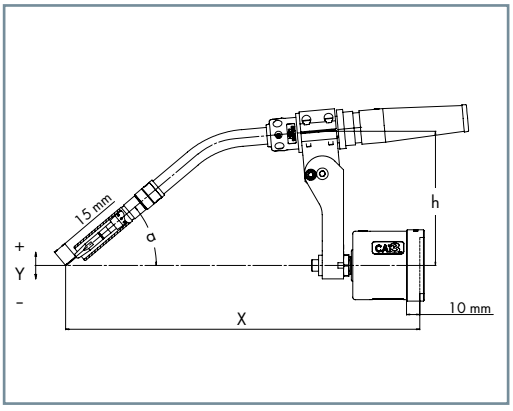
Torch holder for ABIROB® 350 GC
in connection with CAT3 PRO cpl.

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



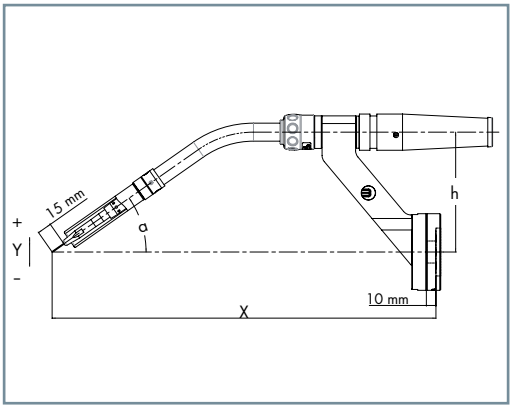
CAT3 PRO holder for ABIROB® 350 GC
in connection with CAT3 PRO and holder 780.0145

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



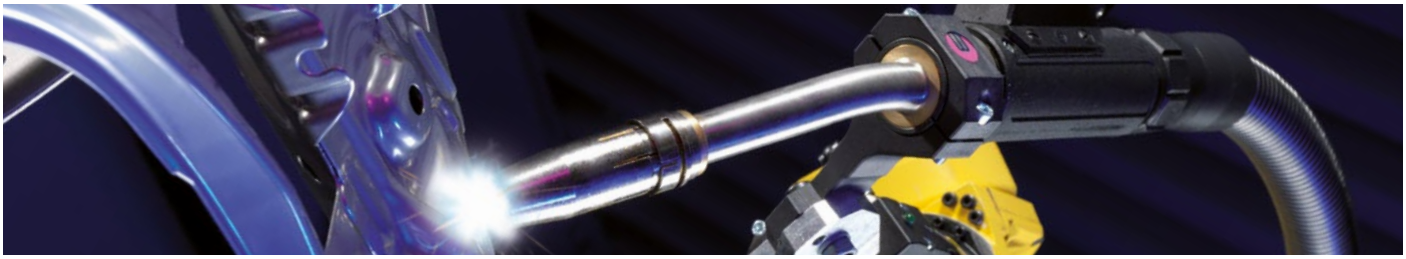
I-bracket for ABIROB® 350 GC
for robots with collision software

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



Further holders are available on request.

MIG/MAG welding torch system
ROBO Standard – liquid cooled



Powerful, reliable & economical

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

In addition, the excellent cooling performance of the torches guarantees high service lifes 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 (CO_2)
- Integrated airblast function
- Simple installation and handling

Degree of automation[1]:

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

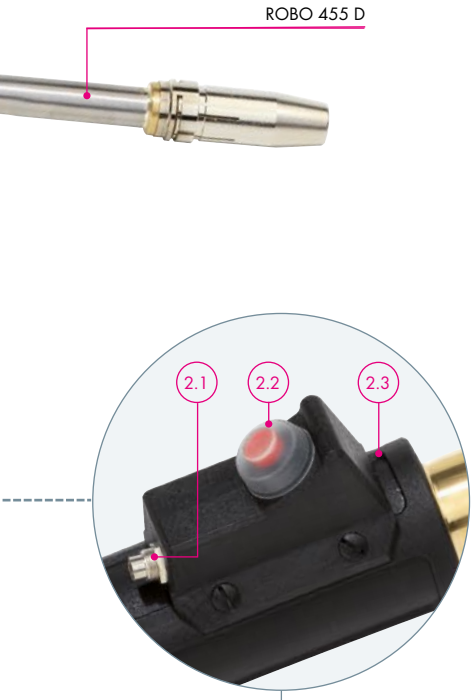
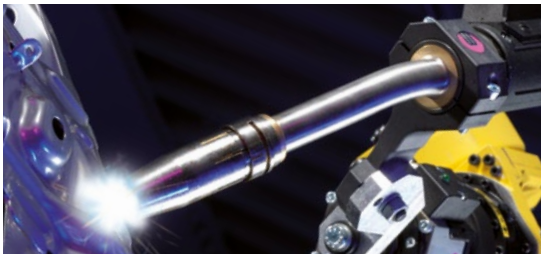


Figure 2:
Handle tube with switch housing

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



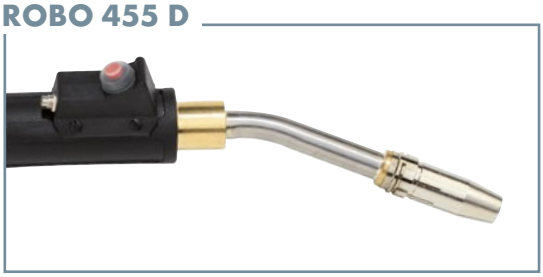
Technical data (EN 60 974-7):
ROBO 455 D

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

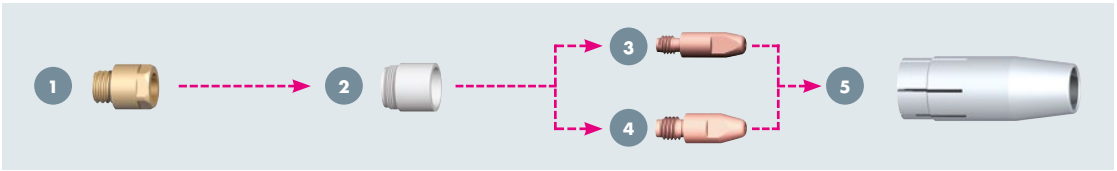


Torch neck

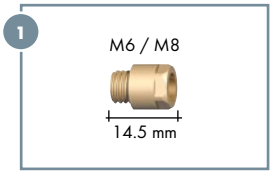
Features	Part-No. 0°	22°	45°
Torch complete with cable assembly (L = 3.00 m)	943.0247	943.0248	943.0249
Individual torch neck (spare torch)	943.0161.1	943.0162.1	943.0163.1

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

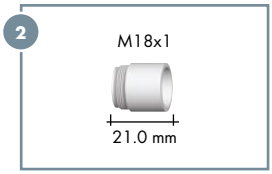


1 Contact tip holder
(10 pcs.)



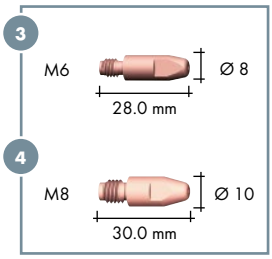
Type	Part-No.
M6 brass	142.0123
M8 brass	142.0122

2 Nozzle insulator
(10 pcs.)



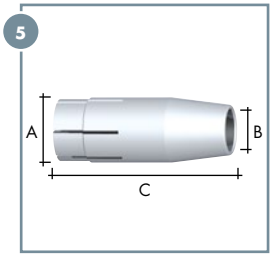
Type	Part-No.
Standard	146.0054.10
High temperature resistant	146.0059.10

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.

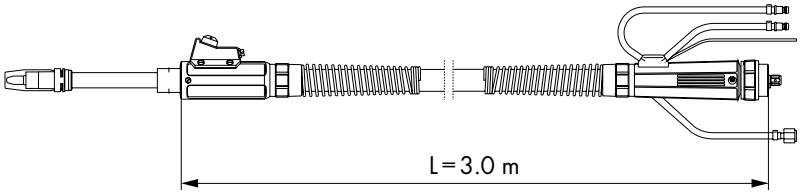
Type conical	Ø A	Ø B	Length C	Part-No.
Recess (–1.5 mm)[1]	25.0 mm	13.0 mm	67.5 mm	145.0134
Recess (–1.5 mm)[1]	25.0 mm	15.5 mm	67.5 mm	145.0089.10
Stick-out (+1.5 mm)[2]	25.0 mm	15.5 mm	64.5 mm	145.0106

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



ABICOR BINZEL®
Euro central connection

Panasonic®
connection type

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 connection[1]

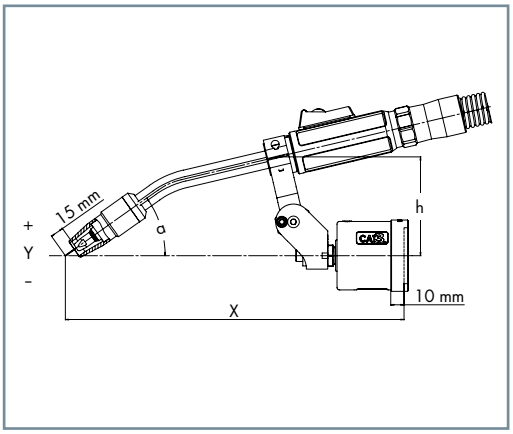
Type	for torch type	Wire-Ø	up to L = 3.40 m
Liner steel[1]	ROBO 455 D	0.8–1.2 mm	122.0031
Liner steel[1]	ROBO 455 D	1.4–1.6 mm	122.0056

[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

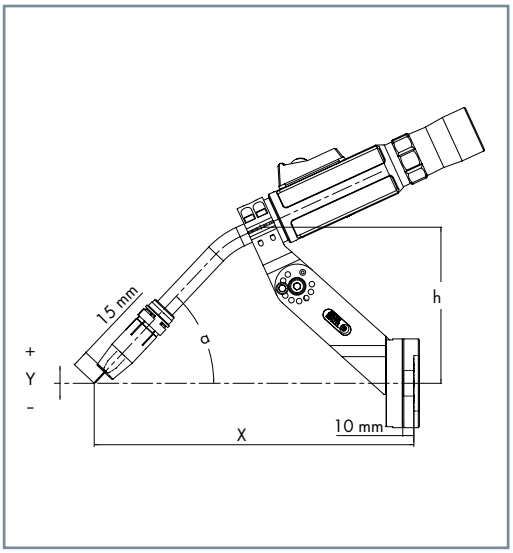
Torch holder for ROBO Standard
in connection with CAT3 PRO cpl.

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



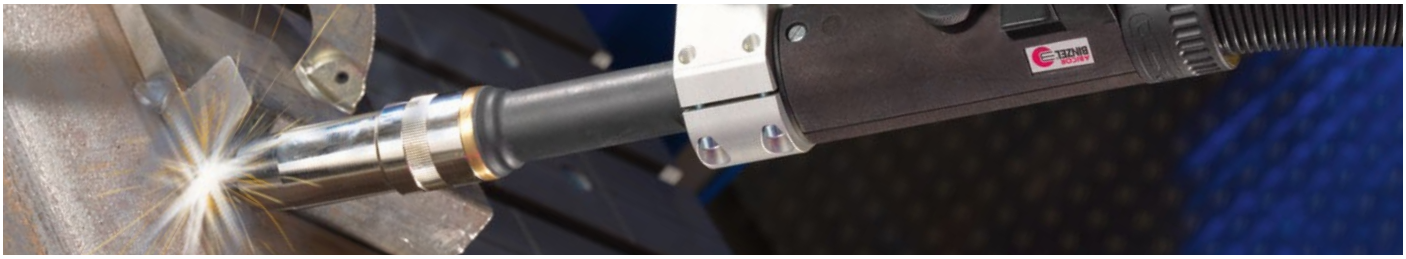
RTM holder for ROBO Standard[2]
for robots with collision software

Torch type	Torch geometry	X	Y	h	a	Part-No.
		[mm]				
ROBO 455 D[1]	0°	327	54	141	25°	780.0326
	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 automation[1]:

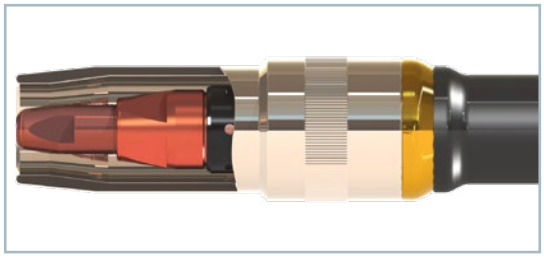
Low	Medium	High

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

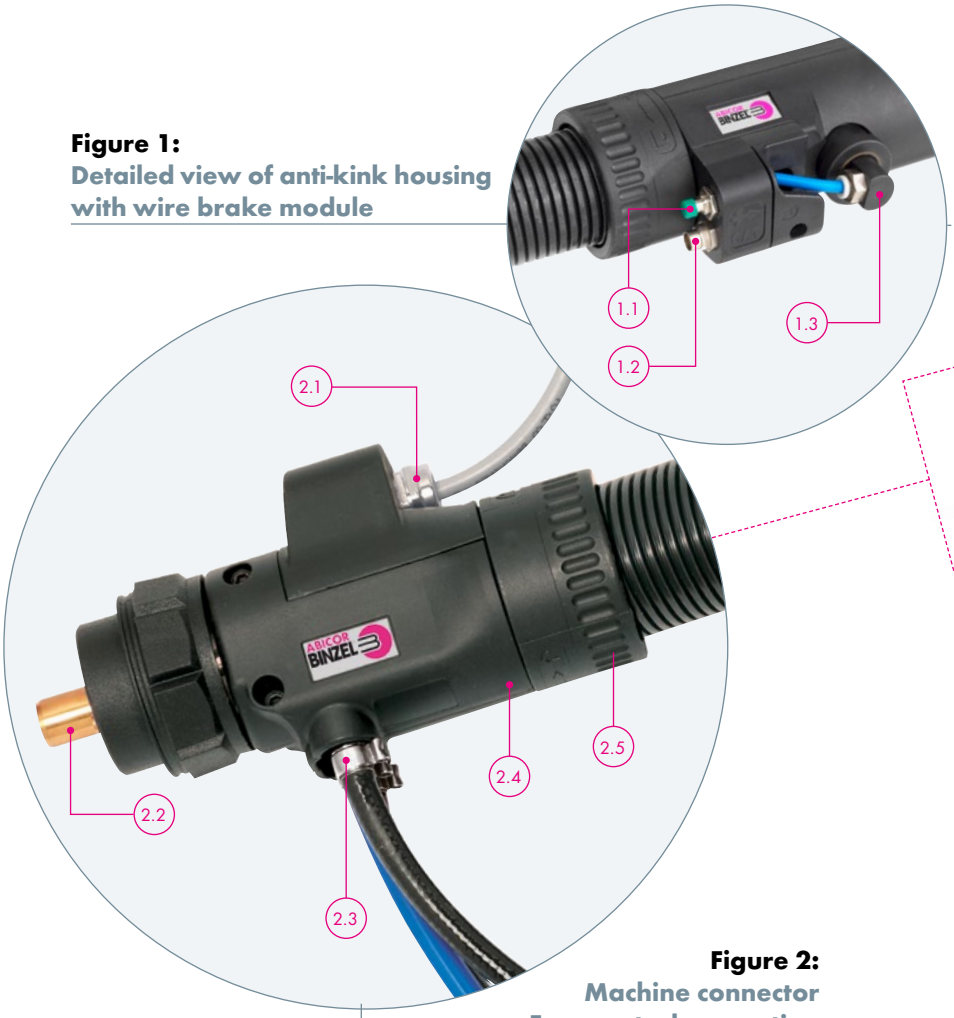


Figure 1:
Detailed view of anti-kink housing with wire brake module

Figure 2:
Machine connector Euro central connection

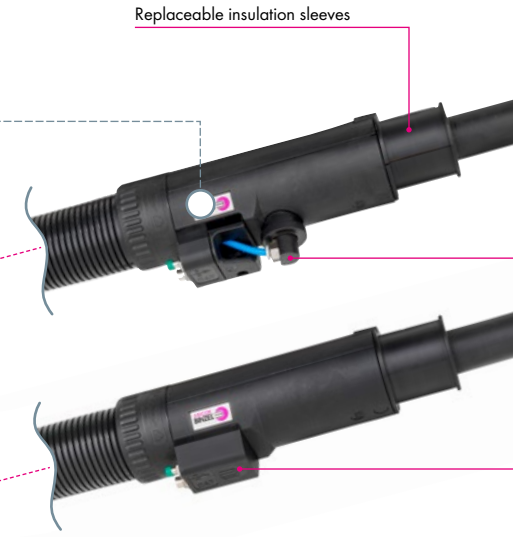


Figure 3:
Sectional view of gas nozzle

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 connection[1]
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.

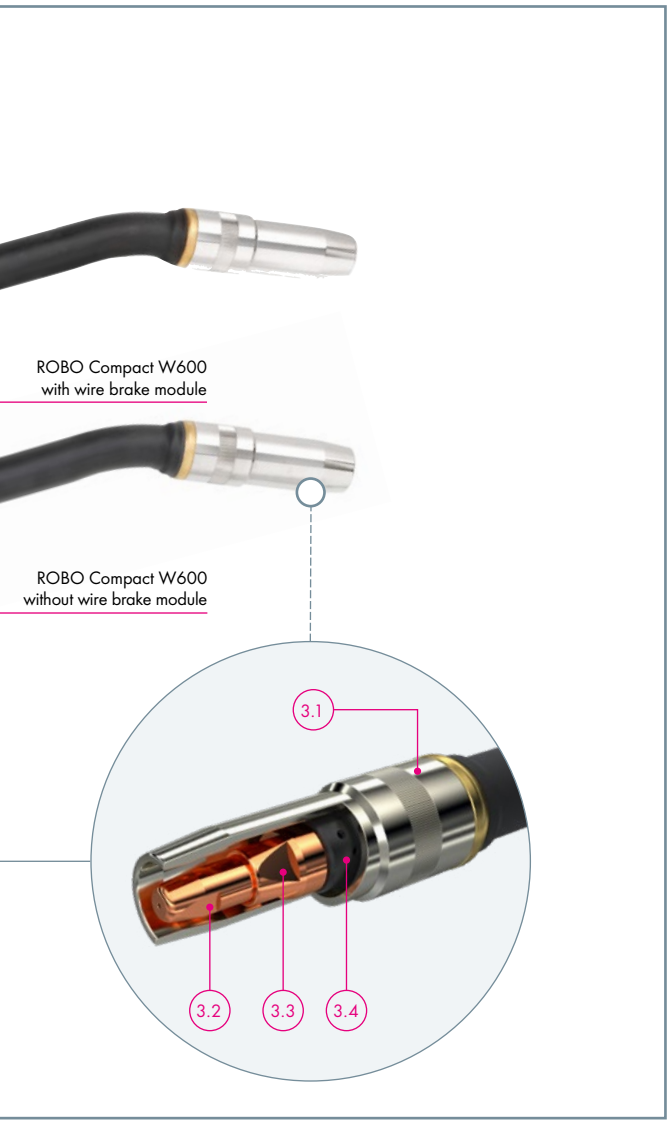


Figure 3:
Sectional view of gas nozzle

3.1 Gas nozzle
3.2 Contact tip
3.3 Contact tip holder
3.4 Gas diffusor

[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.

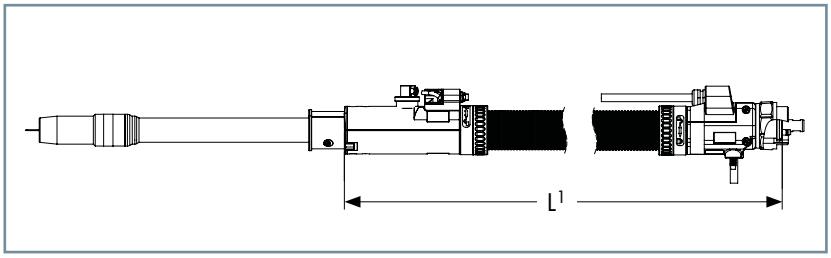
ROBO Compact W600 – liquid cooled
Torch necks & cable assemlies

ROBO Compact W600

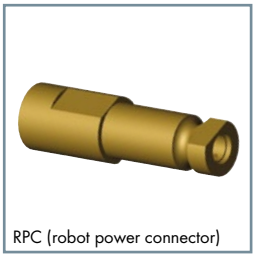
Torch neck

Features	Part-No. 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



ABICOR BINZEL®
Euro central connection



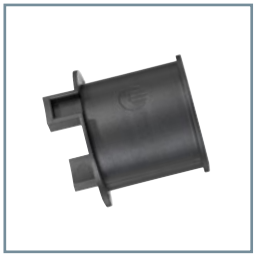
RPC (robot power connector)

Torch complete with Euro central connection

Length L [m]	Part-No. without wire brake 0°	22°	35°	45°	Part-No. with wire brake[2] 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 0°	22°	35°	45°	Part-No. with wire brake[2] 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

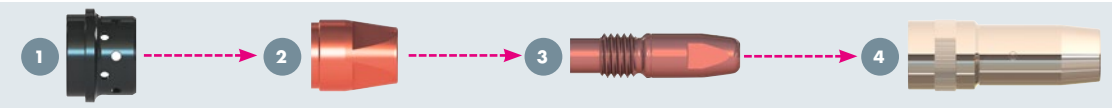
Type	Part-No.
Insulating sleeve D40	944.0175.1

[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.

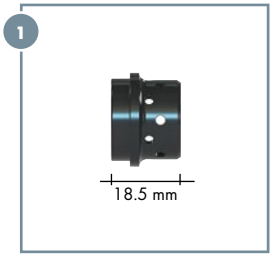
[2] **Note:** With wire brake: Neck liner required! See page 49.

ROBO Compact W600 – liquid cooled
Wear parts & liners

Wear parts for ROBO Compact W600

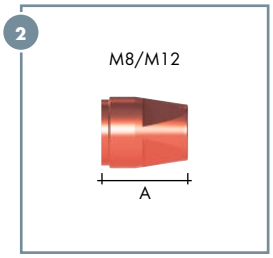


1 Gas diffusor
(10 pcs.)



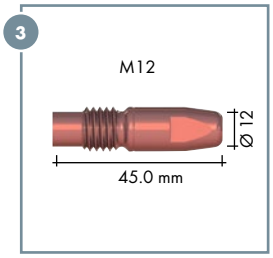
Type	Part-No.
Standard	146.0079.10

2 Contact tip holder
(10 pcs.)



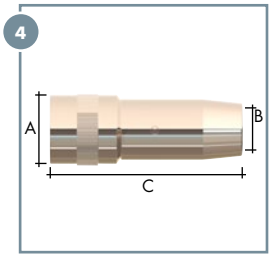
Type	Length A	Part-No.
M8[1]	27.0 mm	142.0232.10
M12	23.0 mm	142.0214.10

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.)

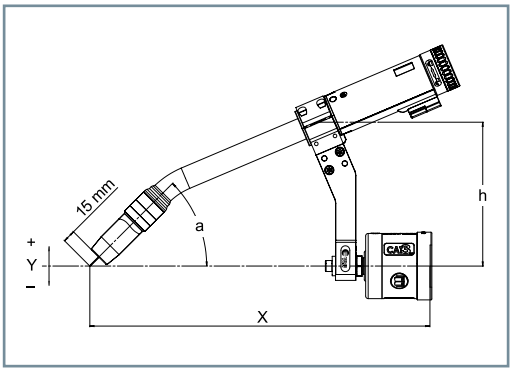
for Torch neck	for	Wire-Ø	Length	Part-No.
ROBO Compact W600	steel	0.8–1.2 mm	348.0 mm	149.0451.5
	steel	1.4–1.6 mm	348.0 mm	149.0452.5
	steel	1.8–2.0 mm	348.0 mm	149.0471.5

[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-arcing 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

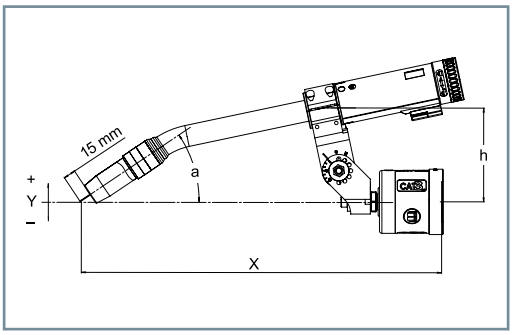
Torch type	Torch geometry	X [mm]	Y [mm]	h [mm]	a	Part-No.
ROBO	22°	400	0	170	45°	780.0781.1
Compact	35°	400	0	136	45°	780.0782.1
W600	45°	400	0	135	50°	780.0784.1



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

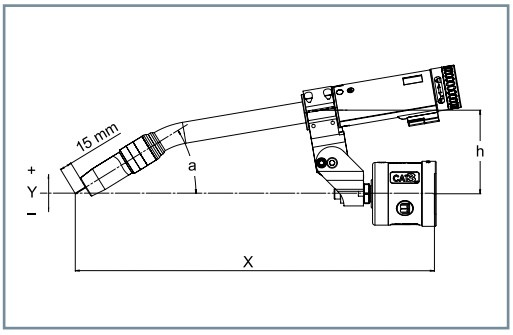
The holder can be adjusted in 15° steps.



Holder, adjustable
in combination with CAT3 PRO

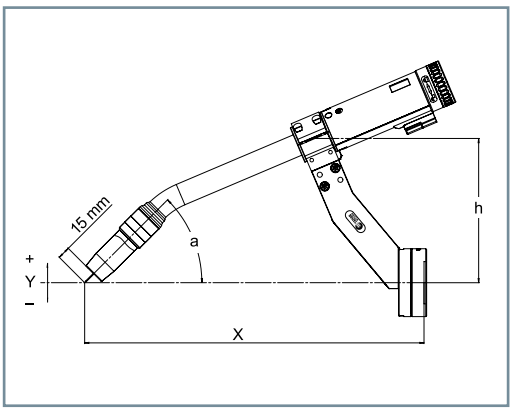
Torch type	Torch geometry	X [mm]	Y [mm]	h [mm]	a	Part-No.
ROBO	22°	440	0	104	32°	780.0430.1
Compact	35°	424	0	105	39°	780.0430.1
W600	45°	410	0	105	44°	780.0430.1

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**

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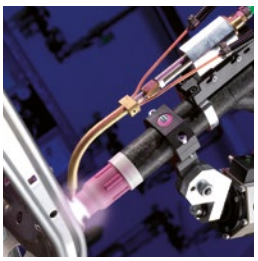

ABITIG® MT – liquid cooled
Efficient allrounder

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 automation[1]:

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

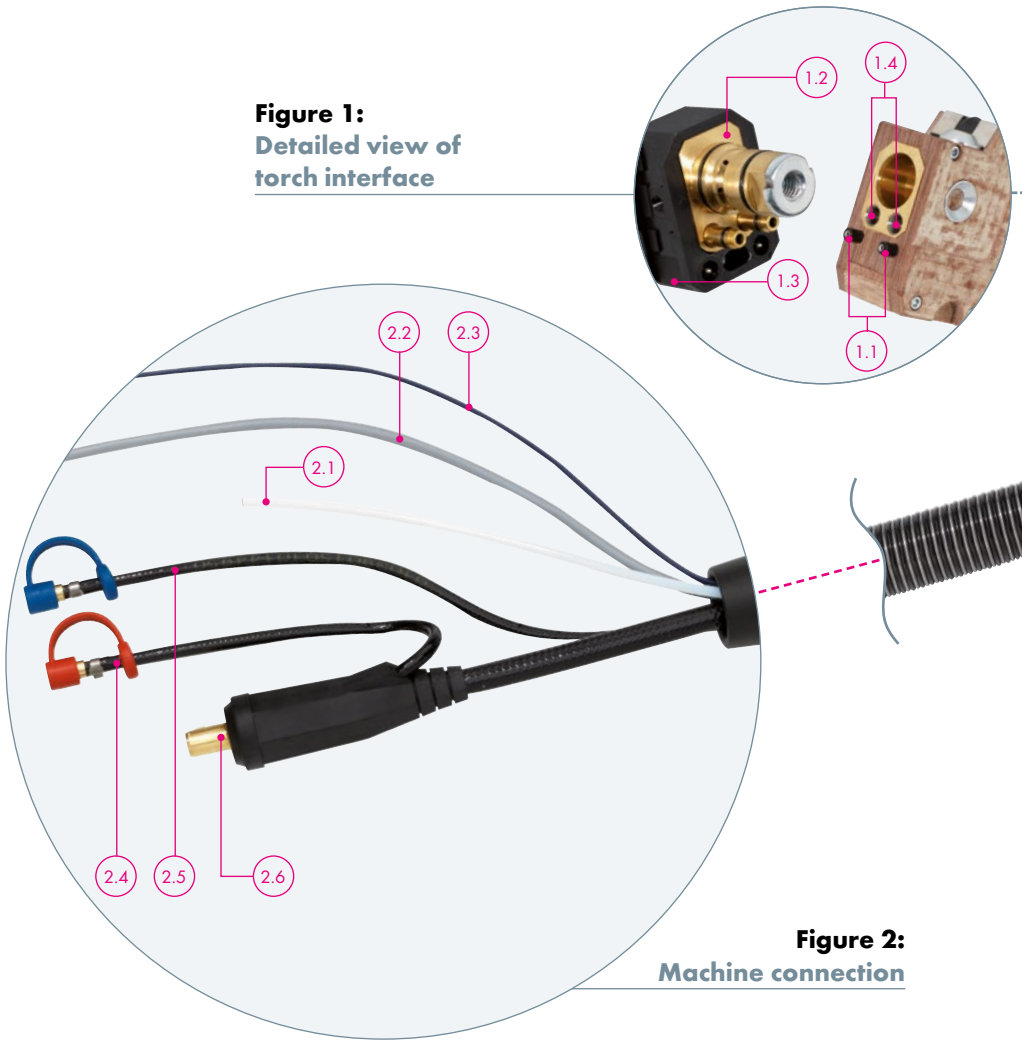
Robot interface:
- Conventional robot
  (Cable assembly external):
  – Robot mount CAT3 PRO
  – Fixed bracket RTM

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 torch interface



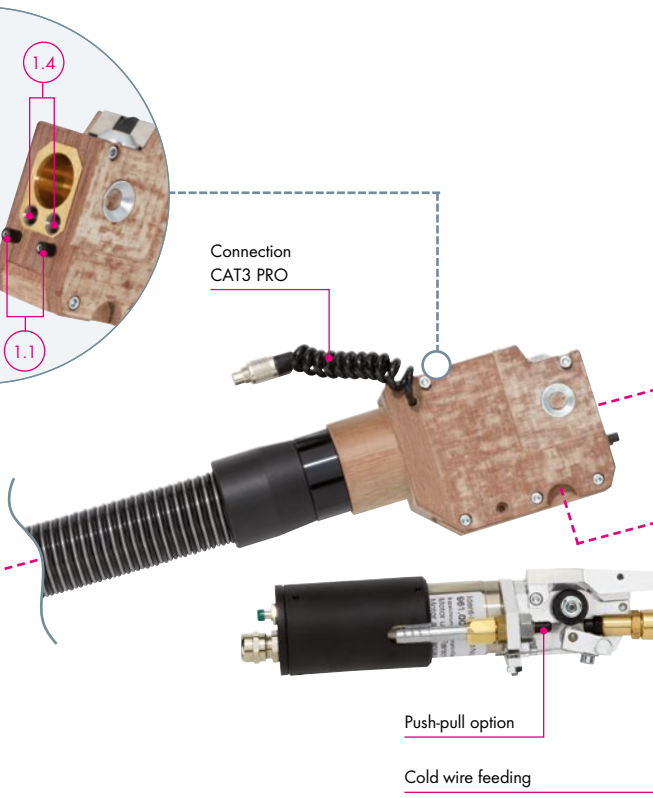


Figure 2:
Machine connection

Figure 1:
Detailed view of cable assembly

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

Figure 2:
Machine connection

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

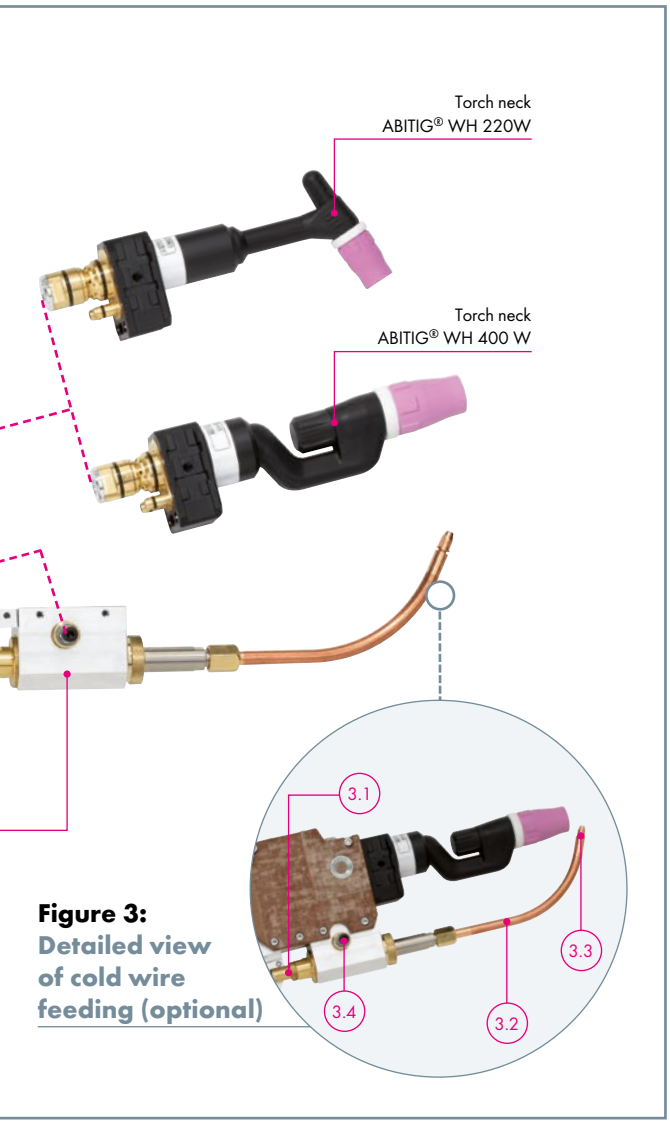
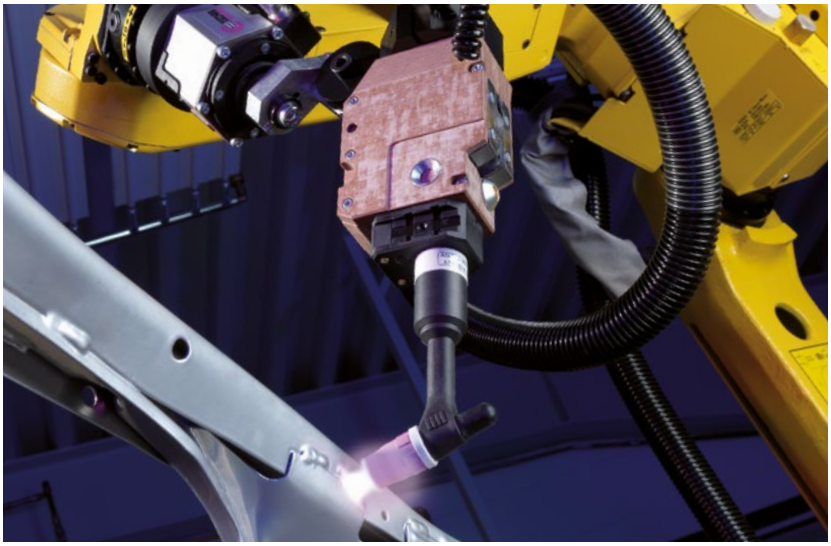
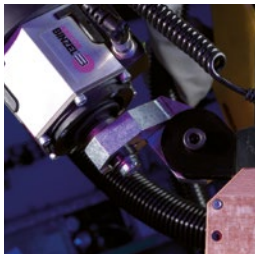


Figure 3:
Detailed view of cold wire feeding (optional)

Figure 3:
Detailed view of cold wire feeding

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





Technical data (EN 60 974-7):

ABITIG® WH 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°

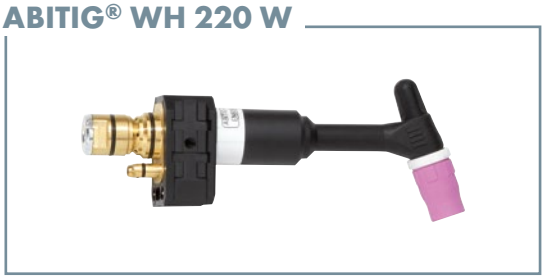
ABITIG® WH 400 W

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

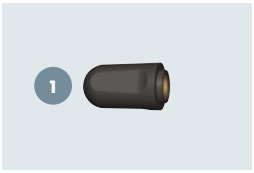


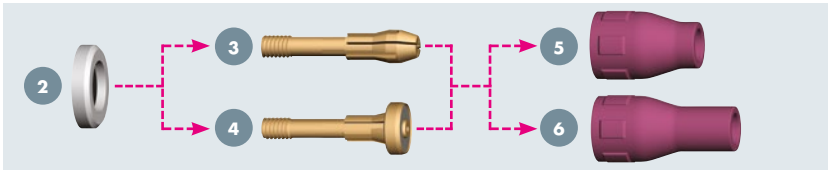
Torch neck

Features	Part-No. 70°
Standard	781.1001
WS version	781.2010.1

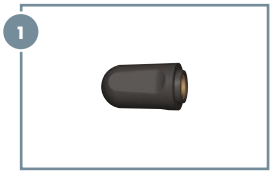
Wear parts and fittings are not included in the scope of delivery! Please order separately and according to application!

Wear parts for ABITIG® WH 220 W



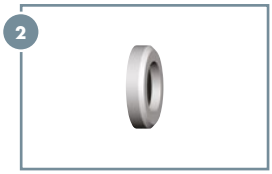


1 Torch cap
(1 pc.)



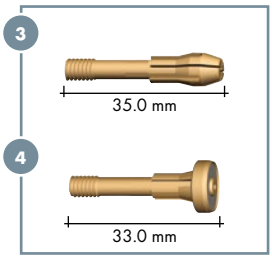
Type	Part-No.
Standard	776.0053
WS clamping element (not illustrated)	781.2012.1

2 Insulator
(10 pcs.)



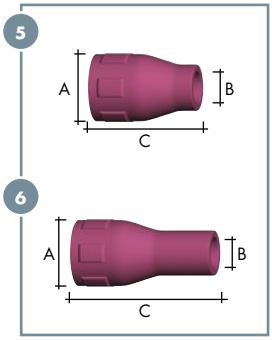
Type	Part-No.
Standard	776.1043
WS version	781.2018.1

3 Electrode holder
4 Gas diffusor
(5 pcs.)



Type	Wire-Ø	Part-No. Electrode holder	Gas diffusor
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

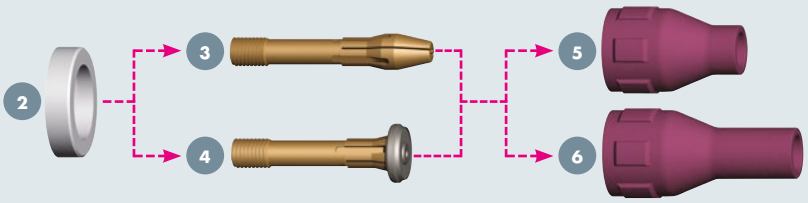
ABITIG® WH 400 W

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!

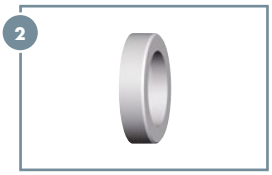
Wear parts for ABITIG® WH 400 W



1 Torch cap
(1 pc.)

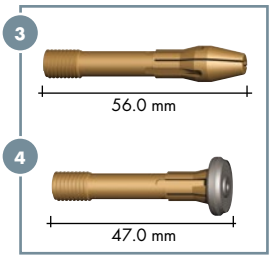
Type	Part-No.
Standard	967.1351
WS clamping element (not illustrated)	781.2006.1

2 Insulator
(1 pc.)



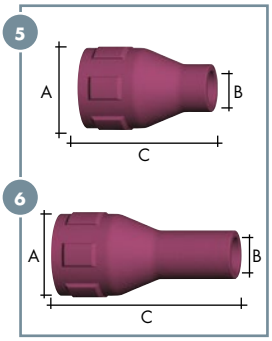
Type	Part-No.
Standard	775.1043
WS version	779.4043.1

3 Electrode holder
4 Gas diffusor
(5 pcs.)



Type	Wire-Ø	Part-No. Electrode holder	Gas diffusor
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

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

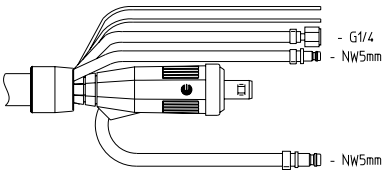


Short type	Ø A	Ø B	Length C	Part-No.
Standard	23.5 mm	7.5 mm	37.0 mm	775.0081
	23.5 mm	10.0 mm	37.0 mm	775.0082
	23.5 mm	13.0 mm	37.0 mm	775.0083
	23.5 mm	15.0 mm	37.0 mm	775.0084

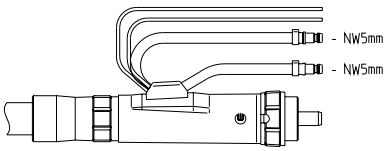
Long type	Ø A	Ø B	Length C	Part-No.
Standard	23.5 mm	7.5 mm	52.0 mm	775.2171
	23.5 mm	10.0 mm	52.0 mm	775.2172
	23.5 mm	13.0 mm	52.0 mm	775.2173
	23.5 mm	15.0 mm	52.0 mm	775.2174

ABITIG® WH – liquid cooled
Cable assemblies & options

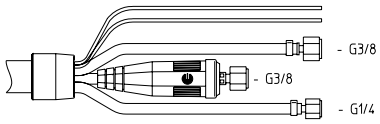
Cable assemblies



BCS-00



BCS-03



BCS-06

Cable assemblies cpl.

Design	Part-No. L = 4.00 m[1]	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.

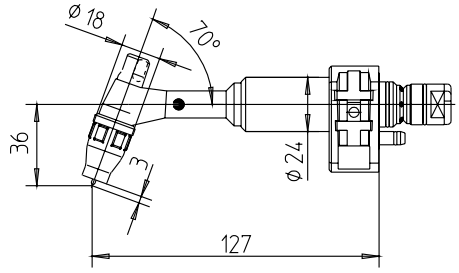
Torch type	Part-No.
ABITIG® WH	963.0007.1

Further holders are available on request.

ABITIG® WH – liquid cooled
Geometries

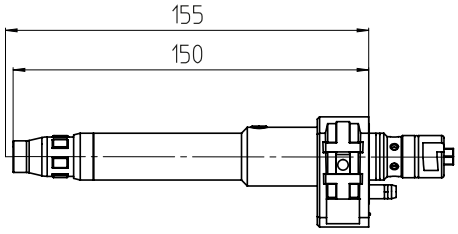
Dimensional sketch ABITIG® WH 220 W

0°



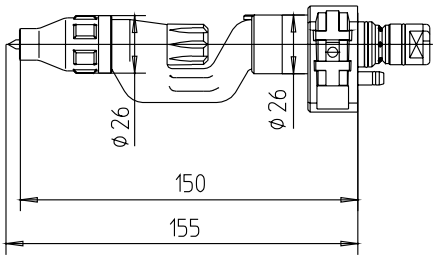
Dimensional sketch ABITIG® WH 220 WS

70°

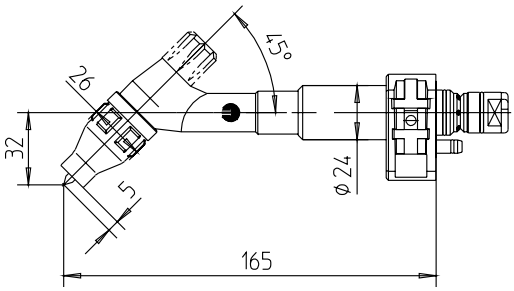


Dimensional sketch ABITIG® WH 400 W

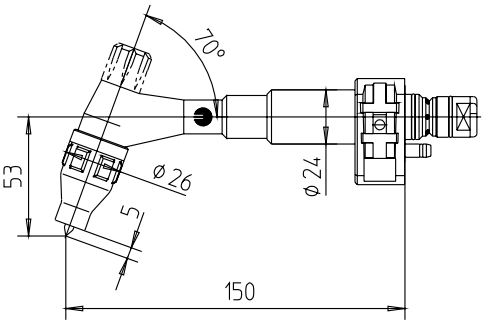
0°



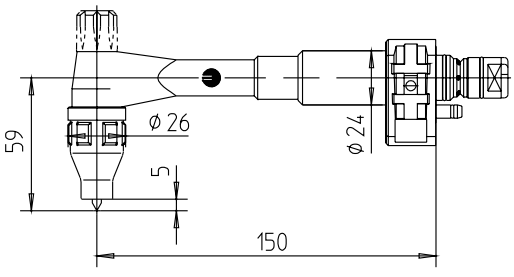
45°



70°

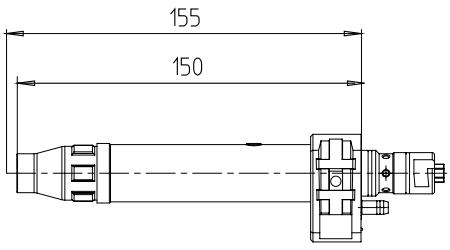


90°



Dimensional sketch ABITIG® WH 400 WS

0°



TIG welding torch system
ABITIG® MT – liquid cooled

Efficient all-rounder

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

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

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

Degree of automation[1]:

Low	Medium	High

Typical areas of application:
- Automotice construction
- Bicycle industry
- Container and pipe construction
- Machine and steel construction
- Aviation and aerospace industry

Material:
- Chrome-nickel steels
- Duplex steels
- Nickel basic materials
- Mixed compounds
- 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

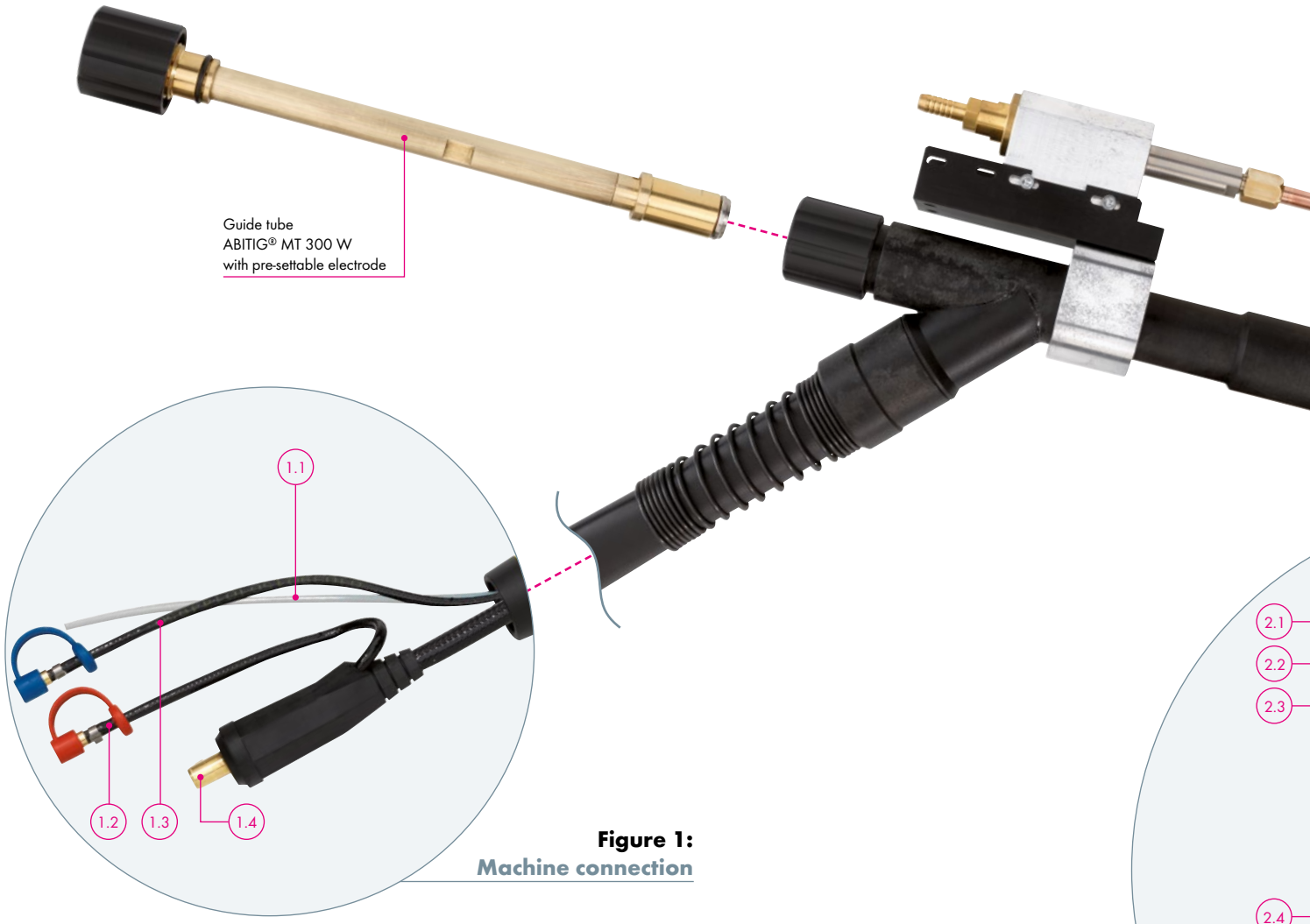


Figure 1:
Machine connection

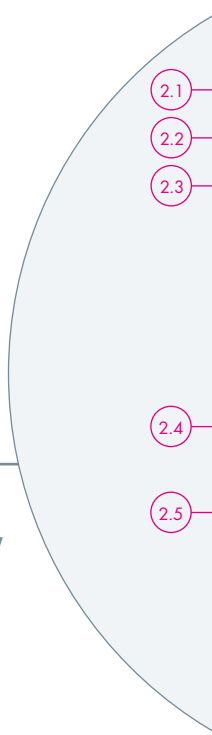


Figure 2:
System overview ABITIG® MT 500 W

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

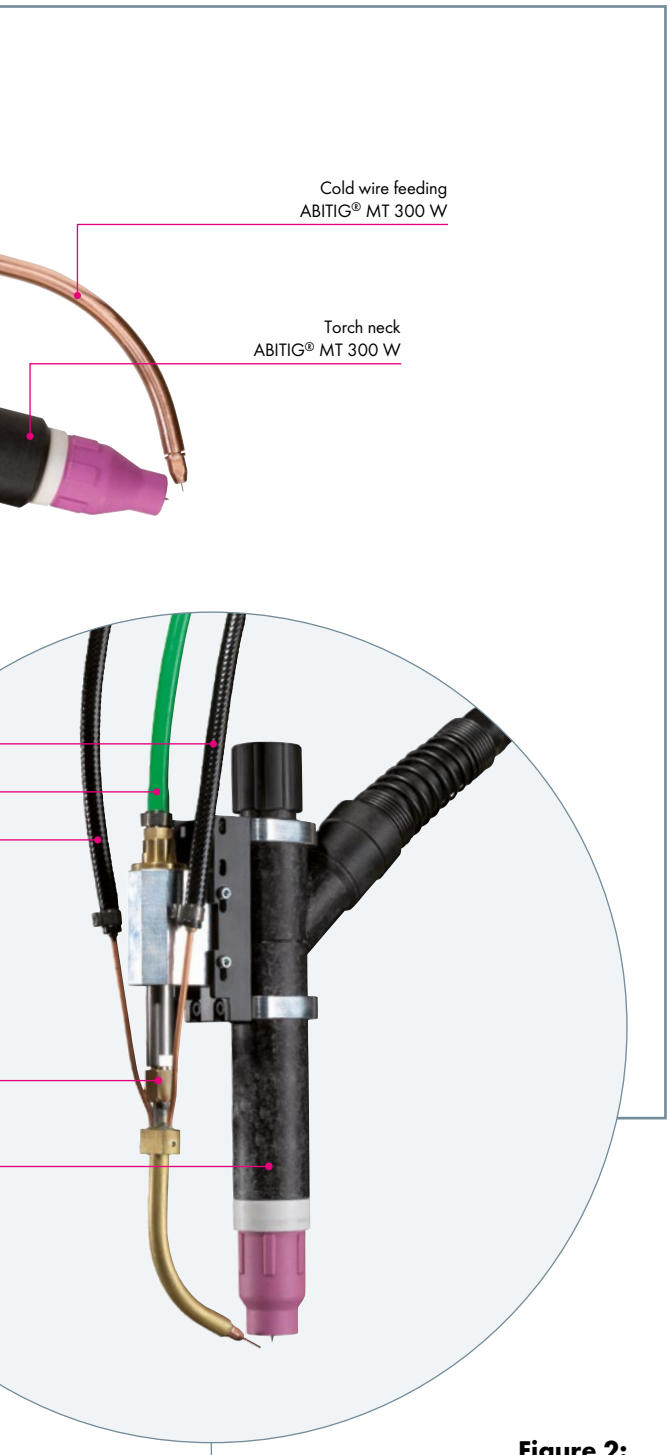
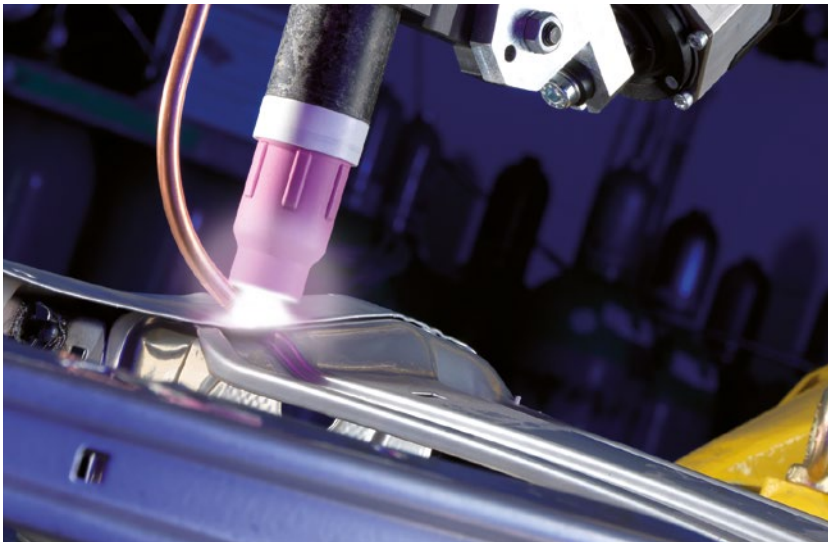
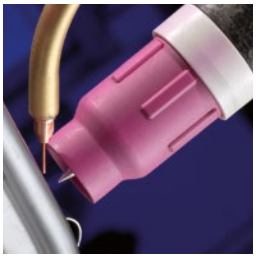
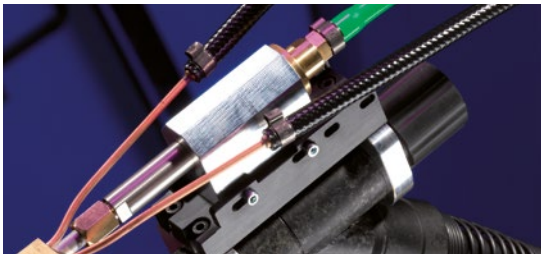


Figure 2:
System overview
ABITIG® MT 500 W







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

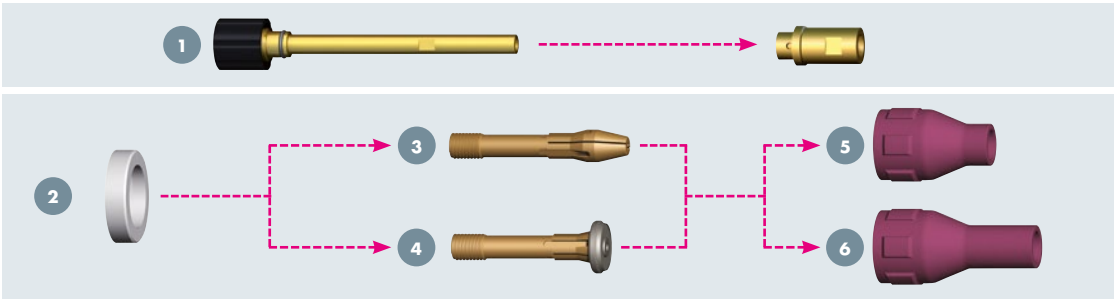
ABITIG® MT 300 W

Torch neck

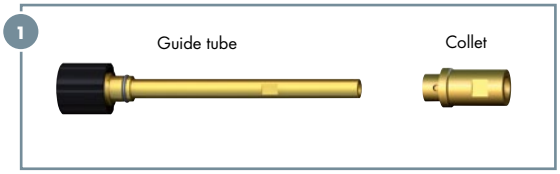
Features	Part-No.
ABITIG® MT 300 W standard	779.2020

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

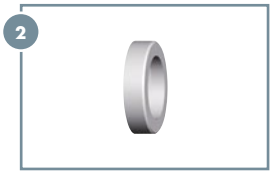


1 Guide tube with collet
(1 pc.)



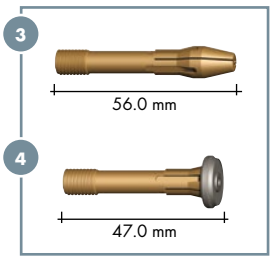
Type	Part-No.
Guide tube cpl.	778.1030
Collet	778.1140
O-ring (20 pcs.)	165.0079

2 Insulator
(1 pc.)



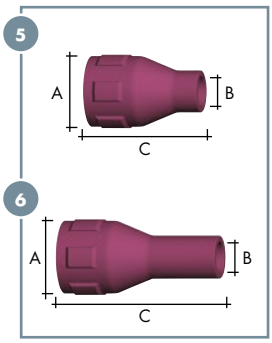
Type	Part-No.
Standard	775.1043

3 Electrode holder
4 Gas diffusor
(5 pcs.)



Type	Wire-Ø	Part-No.	
		Electrode holder	Gas diffusor
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

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

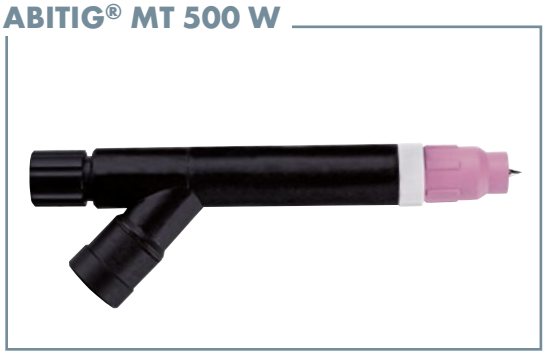


Short type	Ø A	Ø B	Length C	Part-No.
Ceramic	23.5 mm	7.5 mm	37.0 mm	775.0081
	23.5 mm	10.0 mm	37.0 mm	775.0082
	23.5 mm	13.0 mm	37.0 mm	775.0083
	23.5 mm	15.0 mm	37.0 mm	775.0084

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

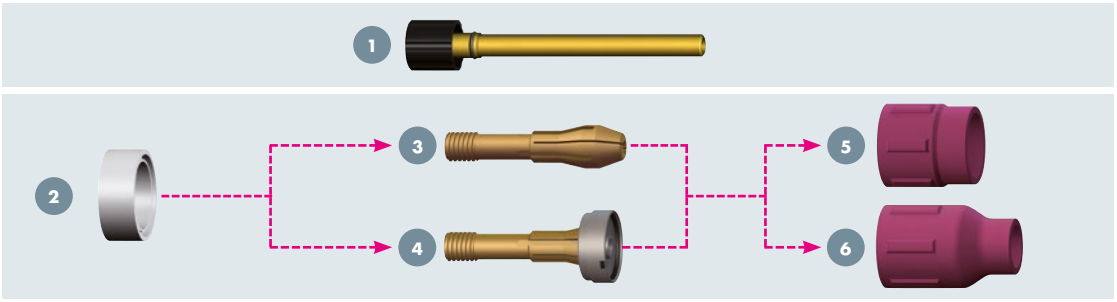


Torch neck

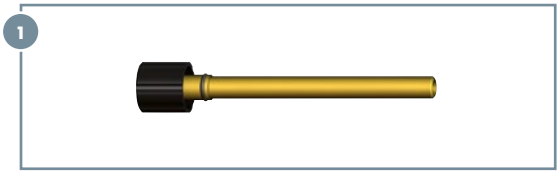
Features	Part-No.
ABITIG® MT 500 W standard	779.6020

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

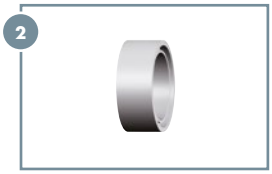


1 Guide tube
(1 pc.)



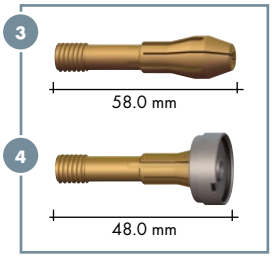
Type	Part-No.
Guide tube cpl.	779.6026
O-ring (20 pcs.)	165.0079

2 Insulator
(1 pc.)



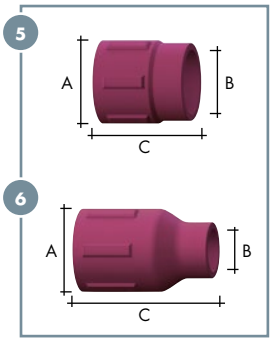
Type	Part-No.
Standard	779.6033

3 Electrode holder
4 Gas diffusor
(5 pcs.)



Type	Wire-Ø	Part-No.	
		Electrode holder	Gas diffusor
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.)

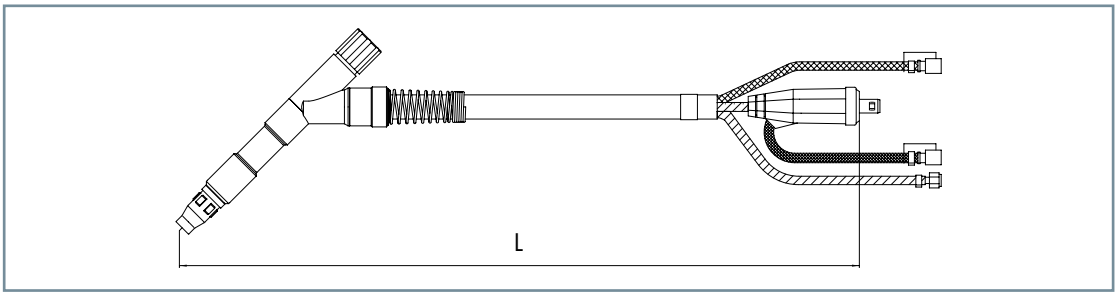


Short type	Ø A	Ø B	Length C	Part-No.
Ceramic	31.0 mm	24.0 mm	34.0 mm	778.1189

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

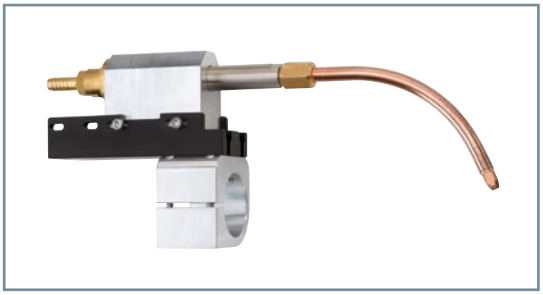
ABITIG® MT – liquid cooled
Cable assemblies, cold wire feeding & accessories

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



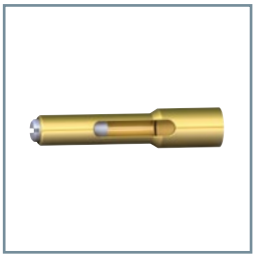
Cold wire feeding for ABITIG® MT

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



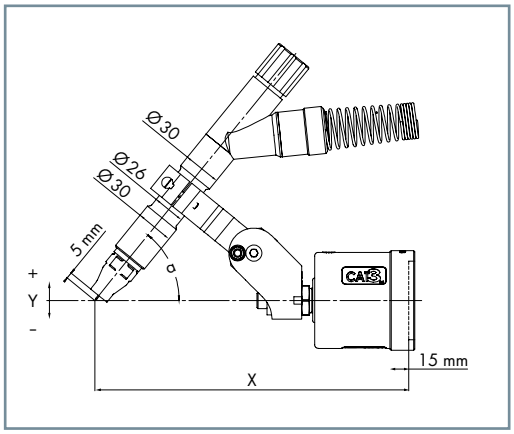
Setting gauge ABITIG® MT

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

ABITIG® MT – liquid cooled
Holder & TCP geometries

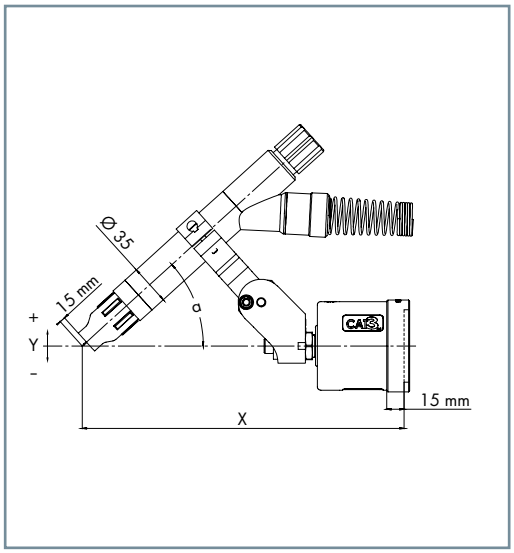
Clamp holder MT 26 for ABITIG® MT 300 W
in connection with CAT3 PRO cpl.

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



Further holders are available on request.

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

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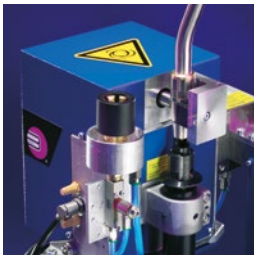
MIG/MAG robot power source iROB®
High performance power source and preconfigured ready-to-weld-packages
Application areas: Robot controlled MIG/MAG power source iROB®

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

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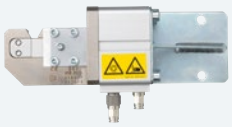

Wire cutting device DAV
The perfect cut
Application areas: Automated robot MIG/MAG gas-shielded welding and laser brazing applications

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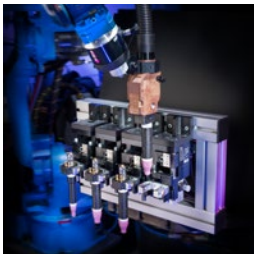

Torch exchange station TES
Increase productivity & flexibility
Application areas: Quick and reliable torch neck exchange

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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.

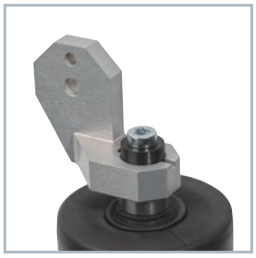
It is very easy to replace the CAT2, CAT2-HL and CAT3 robot mounts with the CAT3 PRO CR or CAT3 PRO TR. Reprogramming of the welding robot is not necessary.

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:	■ 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:	■ 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:	■ in operation: -10 °C up to +55 °C ■ during storage and transportation: -10 °C up to +55 °C
Relative humidity:	■ in operation: up to 70 % at 20 °C ■ during storage and transportation: up to 70 % at 20 °C

Robot mount CAT3 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

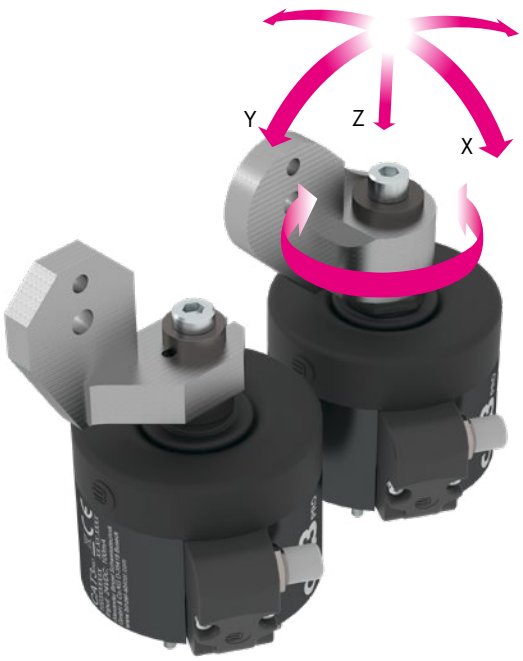
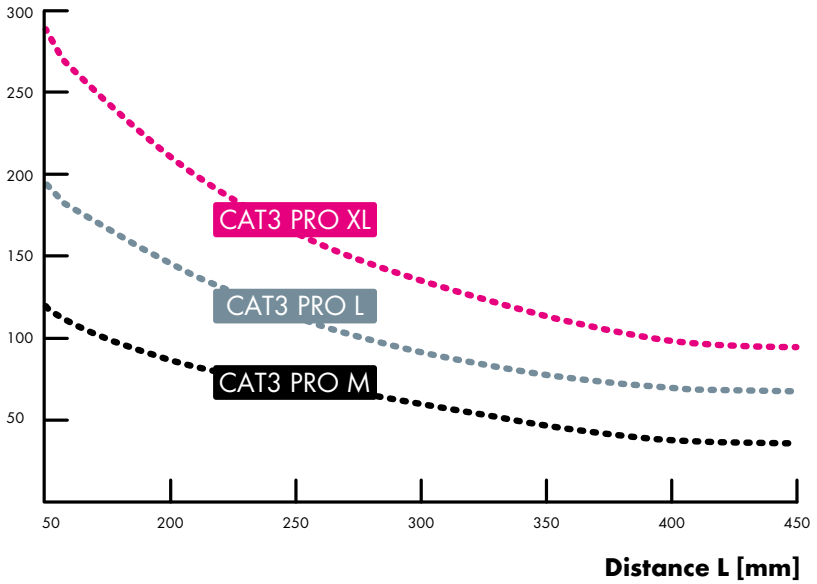


Figure 4:
Maximum deflection in X and Y axis

Release force of the robot mount CAT3 PRO

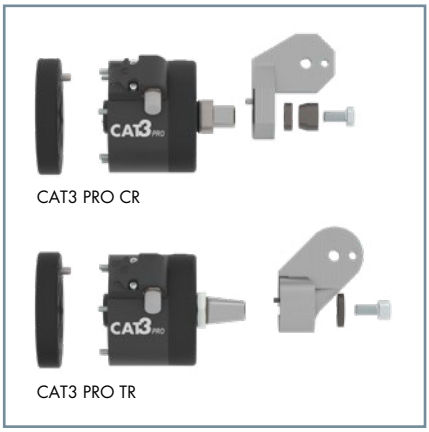
Figure 3:
The following figure shows the static release force of the different spring types as a function of the distance to the flange surface (figure 4):

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

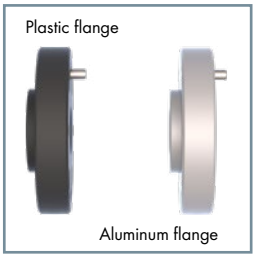
A connection cable is included in the scope of the order.
Please order the flanges and holders separately according to the robot type and welding task.

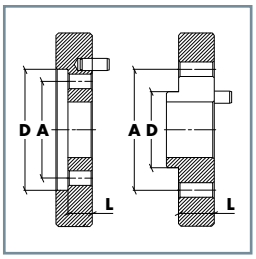
Flanges

Description		Part-No. Aluminum	Part-No. 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.

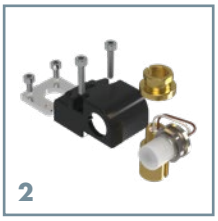
Pos.	Description	Part-No.
2	Holder CAT3 PRO TR[3]	780.0323.1
not ill.	Segment holder CAT3 PRO TR[4]	780.0305.1

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

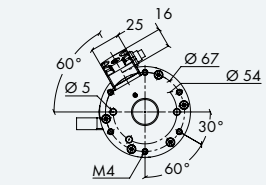
Spares

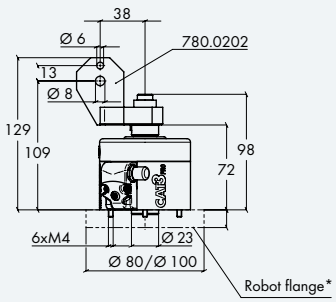


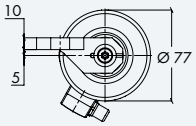
Pos.	Description	Part-No.
1	Bellow CAT3 PRO	780.2059.1
2	Switch set cpl. CAT3 PRO	780.2190.1
3	Switch cpl. CAT3 PRO	780.2182.1
4	Screw set CAT3 M4x55	780.2076.1
5	Mounting set CAT3 PRO CR	780.0036.1
6	Mounting set CAT3 PRO TR	780.2044.1
7	Connector cable CAT (all versions)	780.0201.1

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

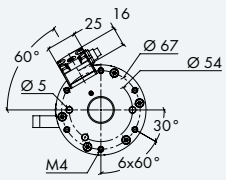
CAT3 PRO CR

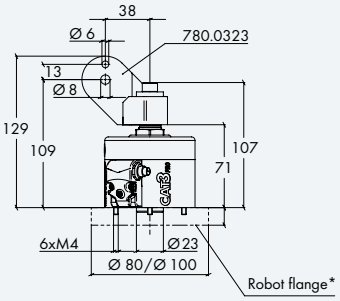


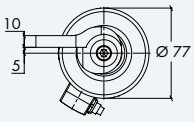




CAT3 PRO TR







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

Robot peripherals
Robot mount iCAT

Safety & movement in perfect harmony

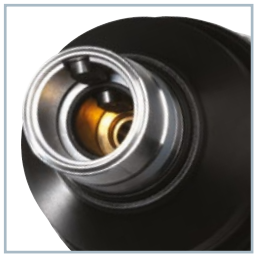
iCAT – the robot mount for the latest generation of welding robots with integrated cable assembly feeding offers a high level of safety and movement for both air cooled and liquid cooled welding torches.

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

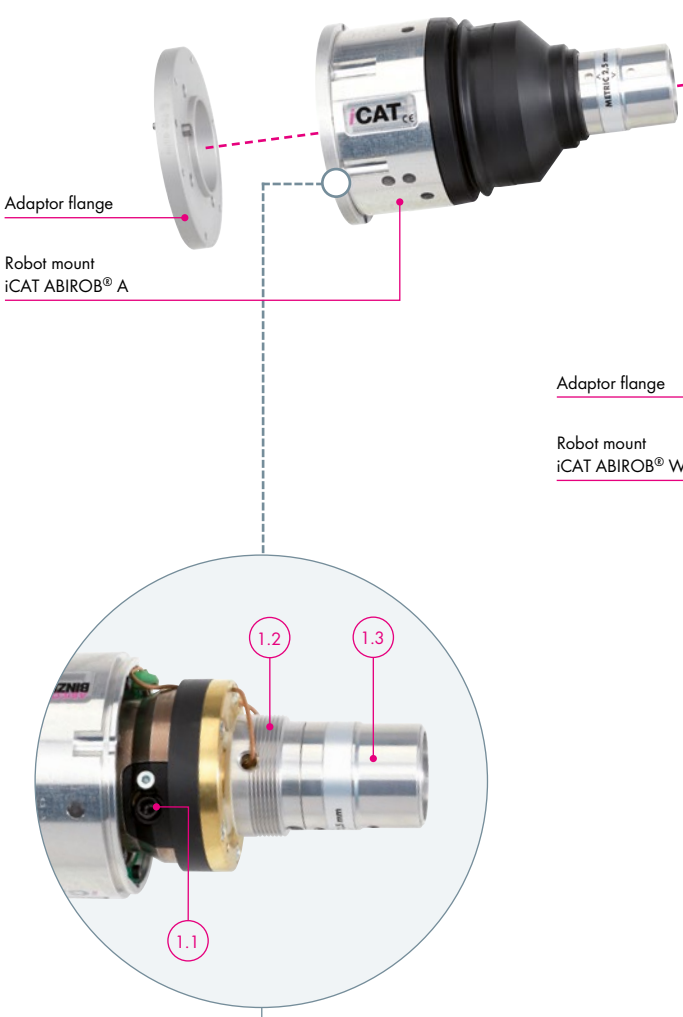


Figure 1:
iCAT without protective cover

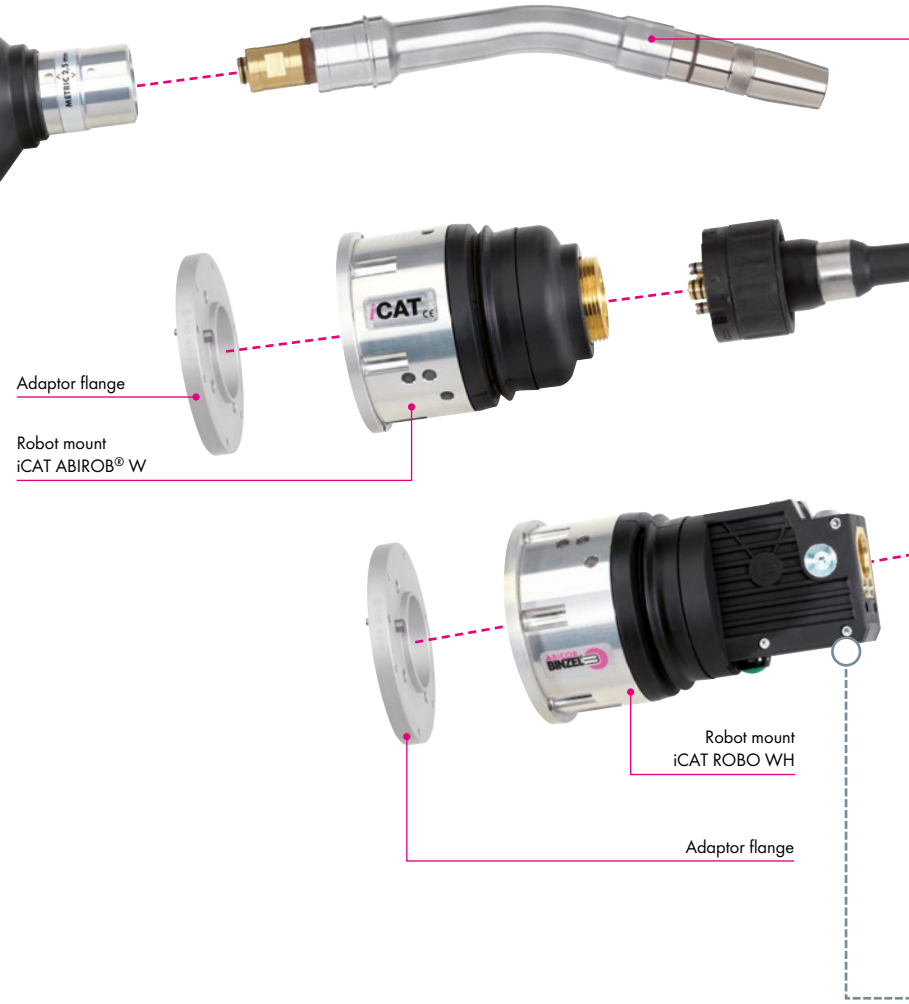


Figure 2:
Quick change system
iCAT ROBO WH

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

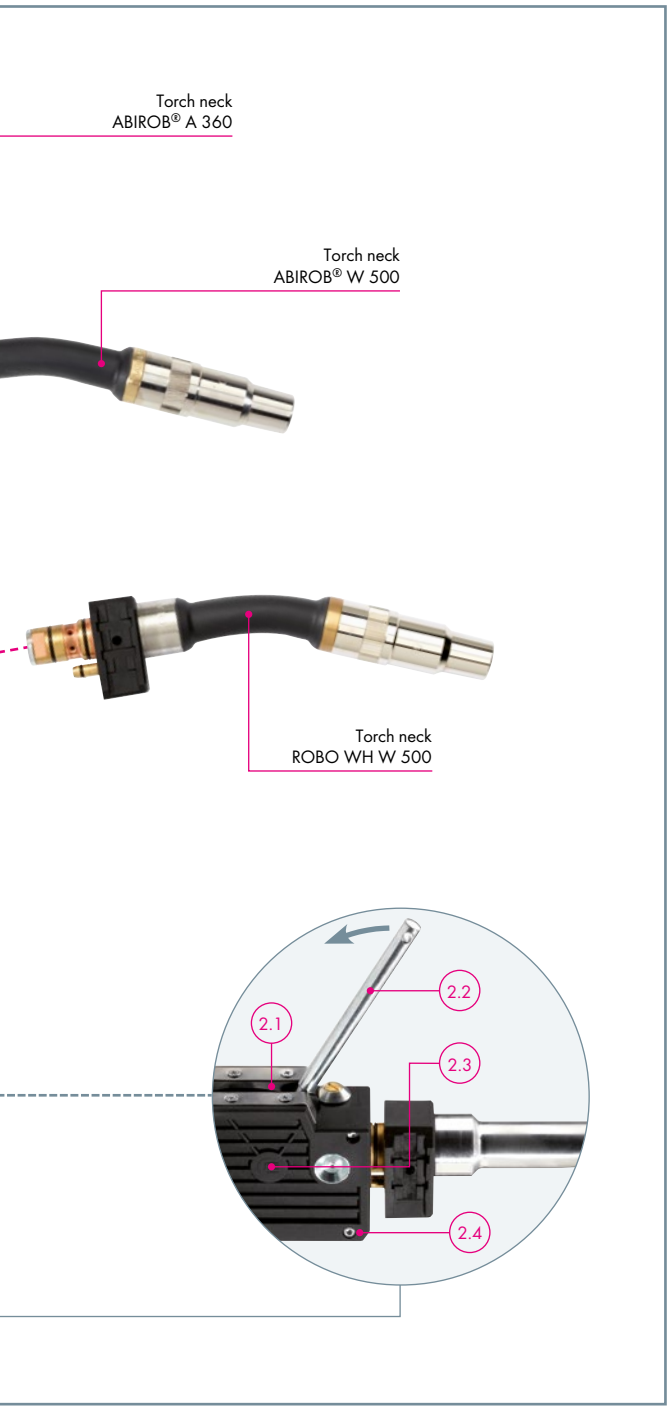


Figure 2:
Quick change system iCAT ROBO WH

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.

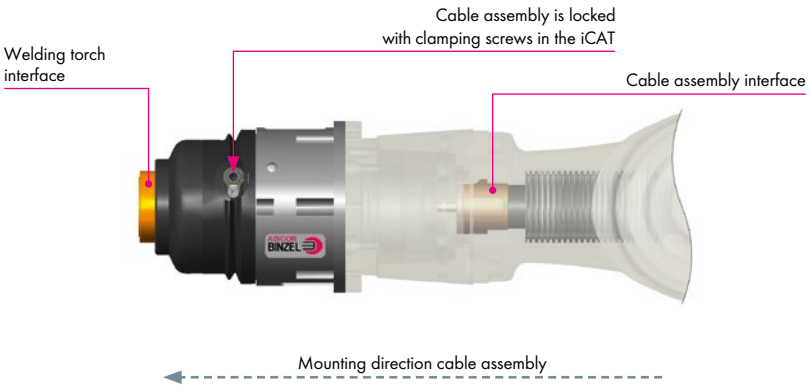
Technical data:
Robot mount iCAT

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

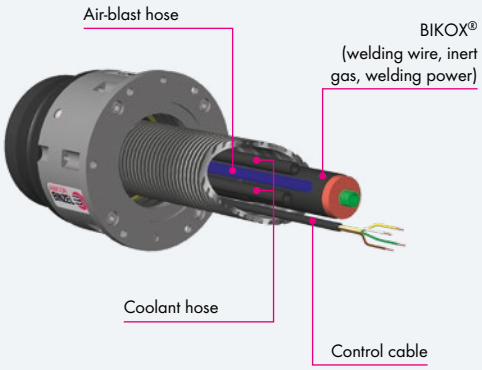
The capacity data for the robot mount in connection with the corresponding torch necks can be found in the respective chapters.

Robot mount iCAT
Cable assemblies for hollow wrist robots

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

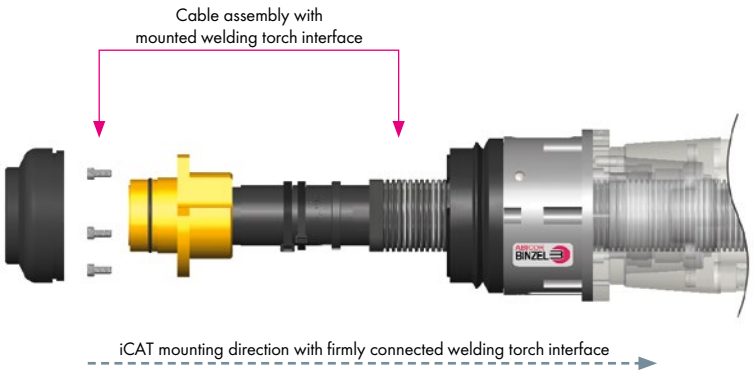


Sectional view (cable assembly)

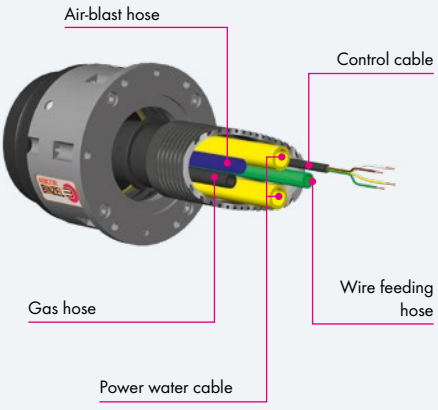


Configuration	Cooling	Rating (at 100 % DC)	suitable for torch type									optionally wire brake available
			ABIROB® A			ABIROB® W			ROBO WH			
			300	360	500	300	500	600	300	500	600	
BIKOX®	air cooled	360 A CO_2 340 A mixed gases[1]	✓	✓	✓	–	–	–	–	–	–	no
BIKOX® hybrid package with central shielding gas supply[2]	liquid cooled	360 A CO_2 340 A mixed gases[1]	–	–	–	✓	✓	–	✓	✓	–	no

2. iCAT[3] cable assembly with firmly connected welding torch interface



Sectional view (cable assembly)



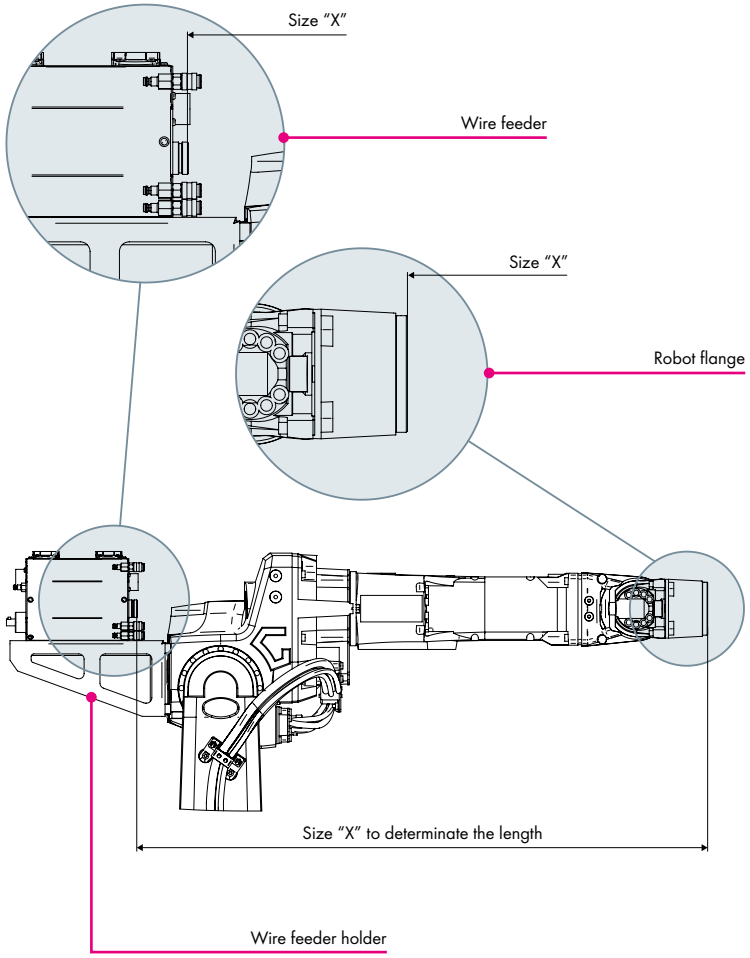
Configuration	Cooling	Rating (at 100 % DC)	suitable for torch type									optionally wire brake available
			ABIROB® A			ABIROB® W			ROBO WH			
			300	360	500	300	500	600	300	500	600	
Power water cable	liquid cooled	500 A mixed gases[1]	–	–	–	–	✓	✓	–	✓	✓	yes
2 x Power water cable	liquid cooled	600 A 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.

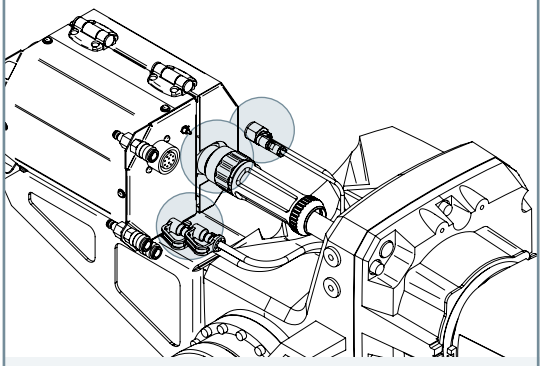
Robot mount iCAT

How to order a hollow wrist cable assembly

Length determination cable assemblies



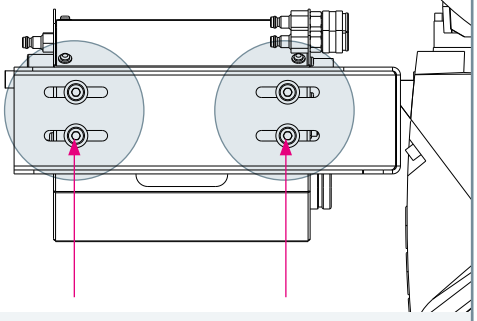
View of machine side connection



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):

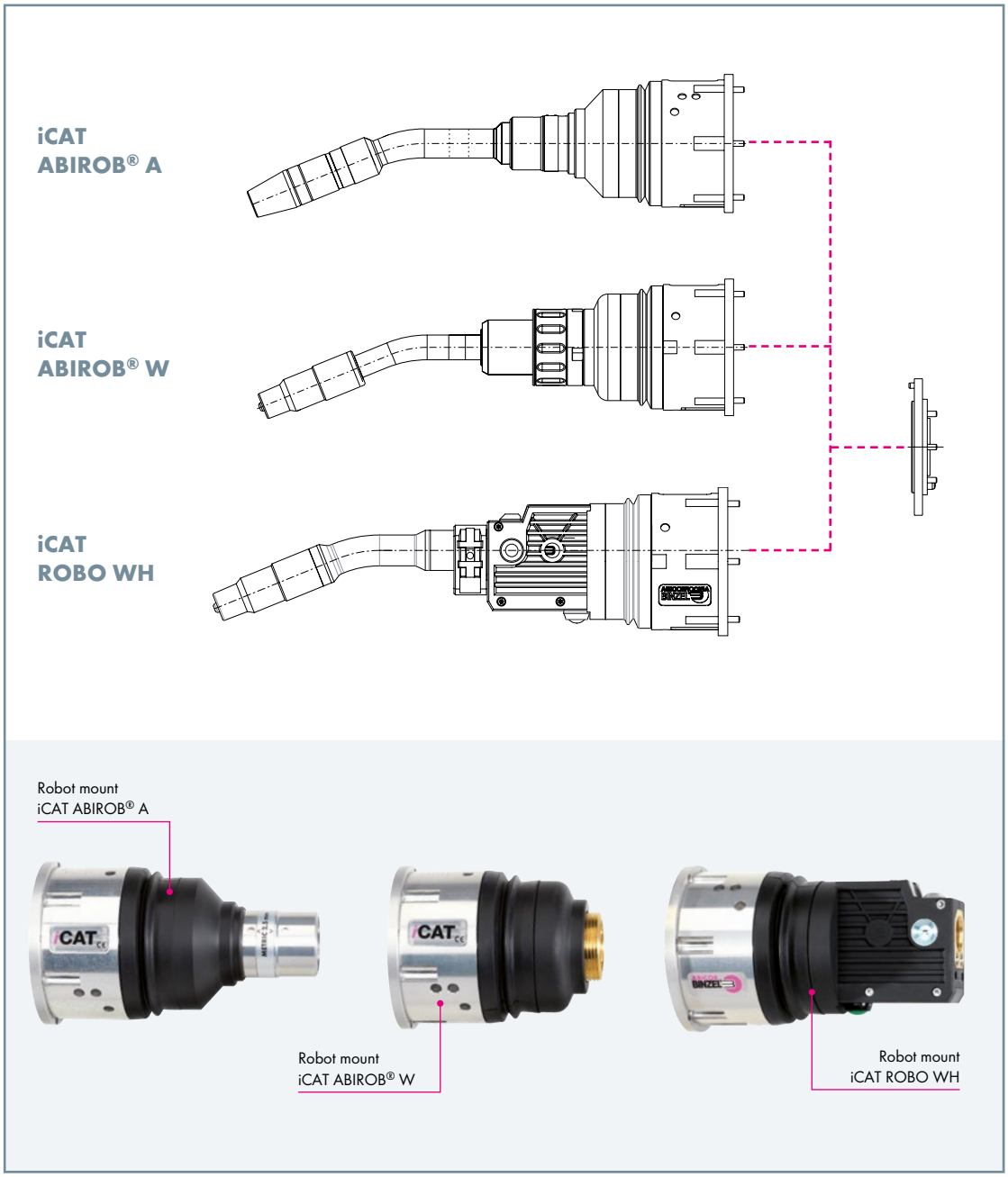
2. Desired additional functions

☐ Blowing out function ☐ Gas nozzle sensor ☐ Wire brake

3. Other information

Robot mount iCAT
Robot mount & adaptor flanges

Robot mount iCAT

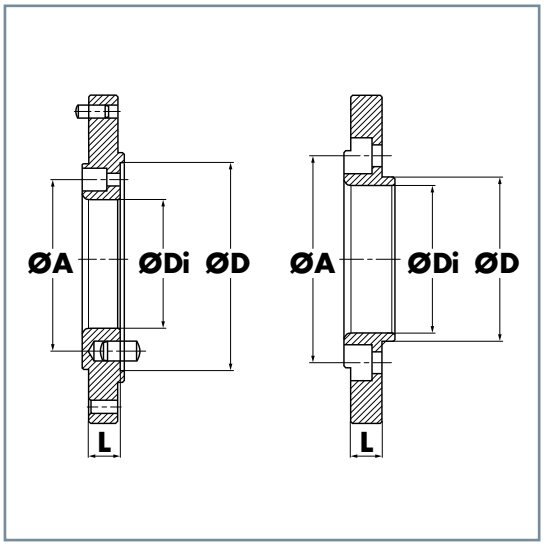


Description	Part-No.
Robot mount iCAT ABIROB® A	780.3101.1
Robot mount iCAT ABIROB® W	780.3130.1
Robot mount iCAT ROBO WH	780.3150.1

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	Robot type	Part-No.	
Adaptor flanges		**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

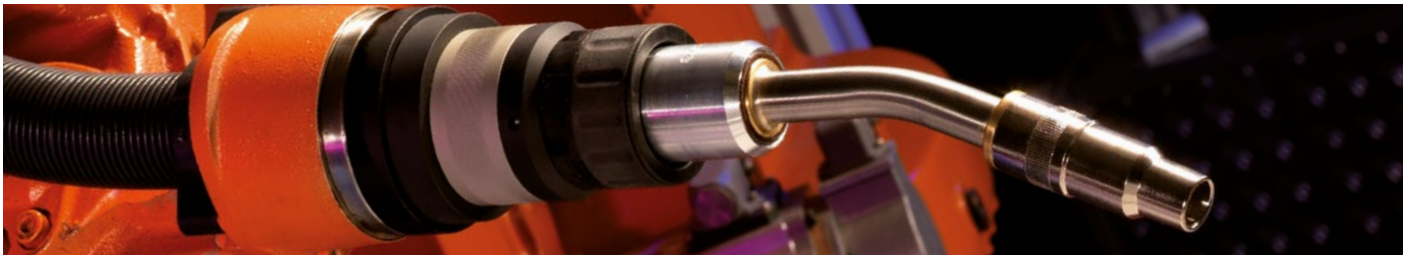
Type	for connection type[1]	Wire-Ø	up to L = 2.2 m	up to L = 3.6 m
Liner steel	ABICOR BINZEL® Euro central connection	1.0–1.2 mm	–	124.0146.1
Liner steel	Fronius®	1.0–1.2 mm	124.0174.1	–
Liner steel	OTC®	1.0–1.2 mm	124.0166.1	–
Liner steel	Panasonic®	1.0–1.2 mm	124.0164	–

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

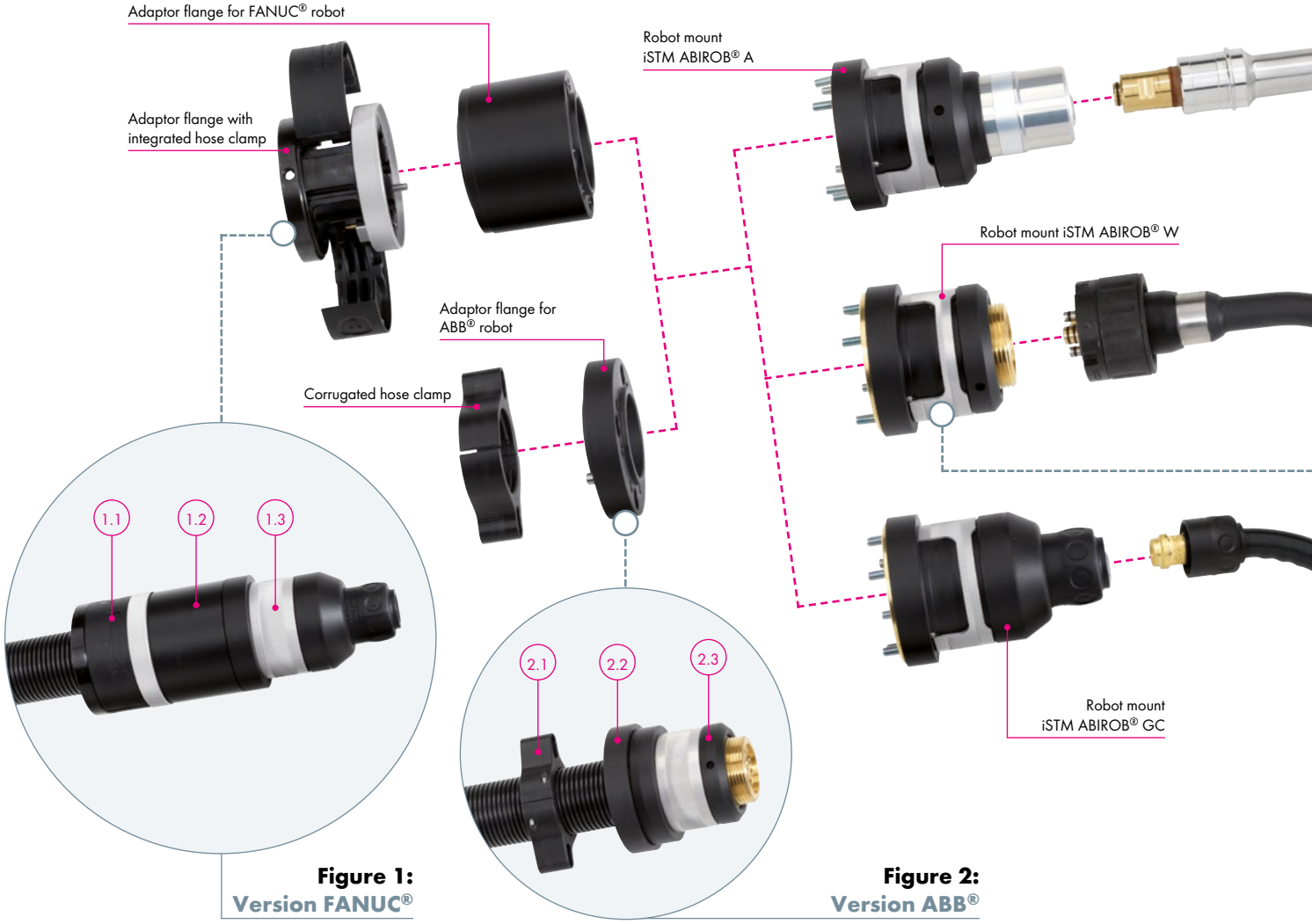


Figure 1:
Version FANUC®

Figure 2:
Version ABB®

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

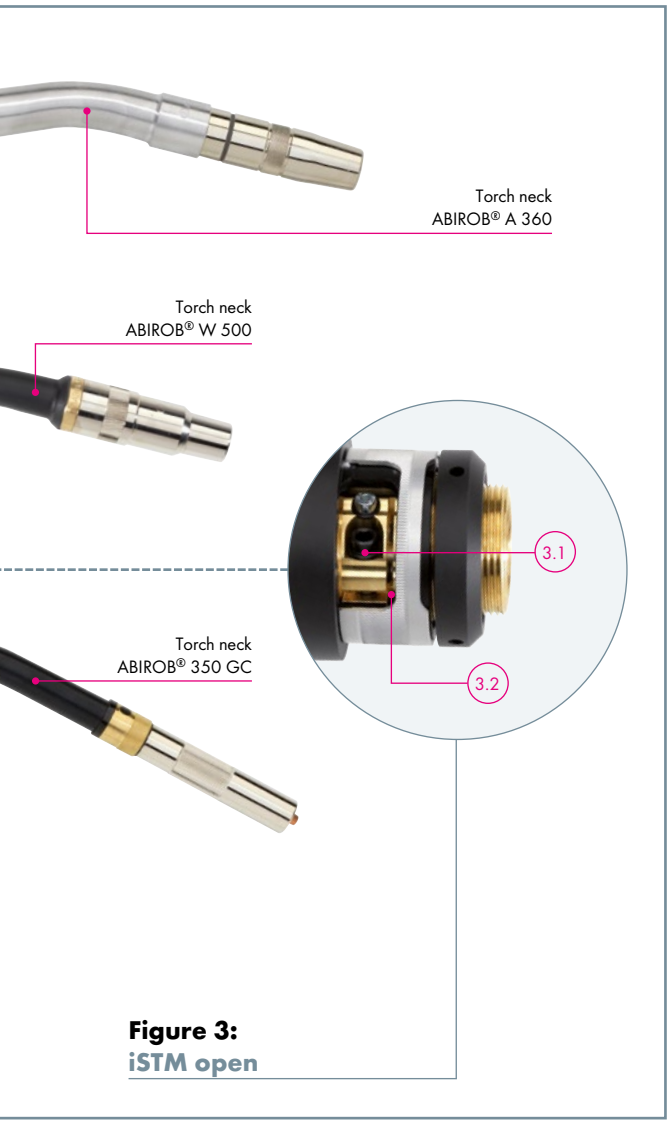


Figure 3:
iSTM open

Figure 3:
iSTM open

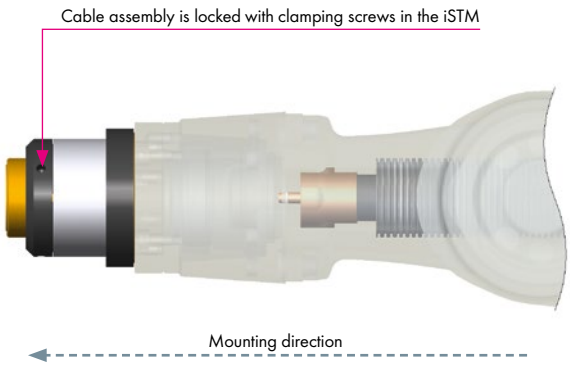
3.1 Clamping screw to hold the cable assembly in place safely
3.2 Control opening for checking the correct position of the cable assembly

Technical data (EN 60 974-7):

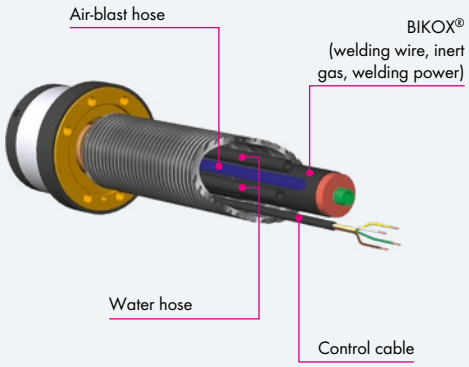
Dimensions:	Length 109 mm	
	Ø 73 mm	
Weight:	■ without torch neck	approx. 900 g
	■ with ABIROB® A 300	approx. 1200 g
	■ with ABIROB® A 360	approx. 1200 g
	■ with ABIROB® A 500	approx. 1200 g
	■ with ABIROB® W 500	approx. 1500 g
	■ with ABIROB® 350 GC	approx. 1200 g

Robot mount iSTM
Cable assemblies for hollow wrist robots

Cable assemblies with connection via interface



Sectional view



Cable assemblies with connection via interface

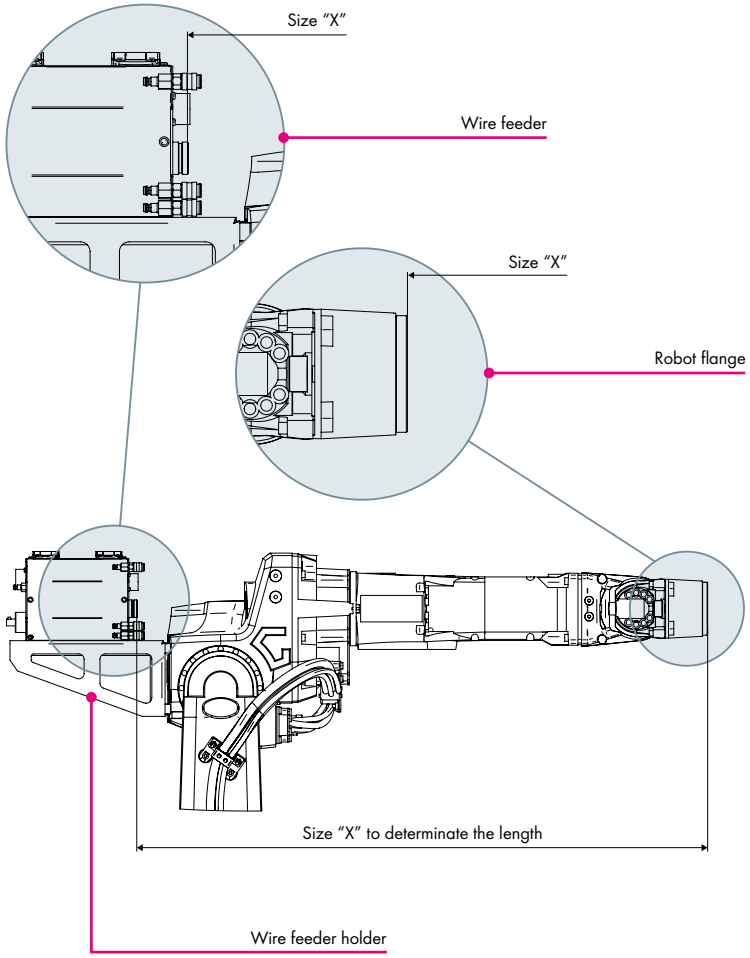
Configuration	Cooling	Rating (at 100 % DC)	suitable for torch type										optionally wire brake available
			ABIROB® A			ABIROB® W			ROBO	ROBO WH			
			300	360	500	300	500	600[2]	350 GC	300	500	600[2]	
BIKOX®	air cooled	360 A CO_2 340 A mixed gases[1]	✓	✓	✓	–	–	–	✓	–	–	–	no
BIKOX® hybrid assembly with 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.

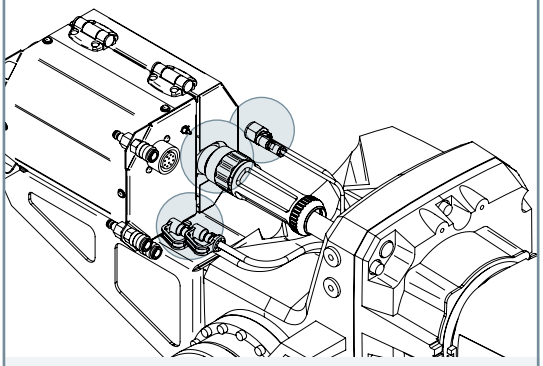
Robot mount iSTM

How to order a hollow wrist cable assembly

Length determination cable assemblies



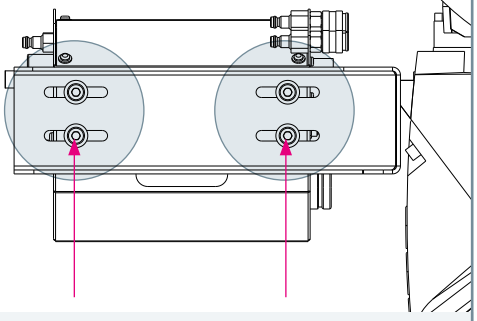
View at machine side connection



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):

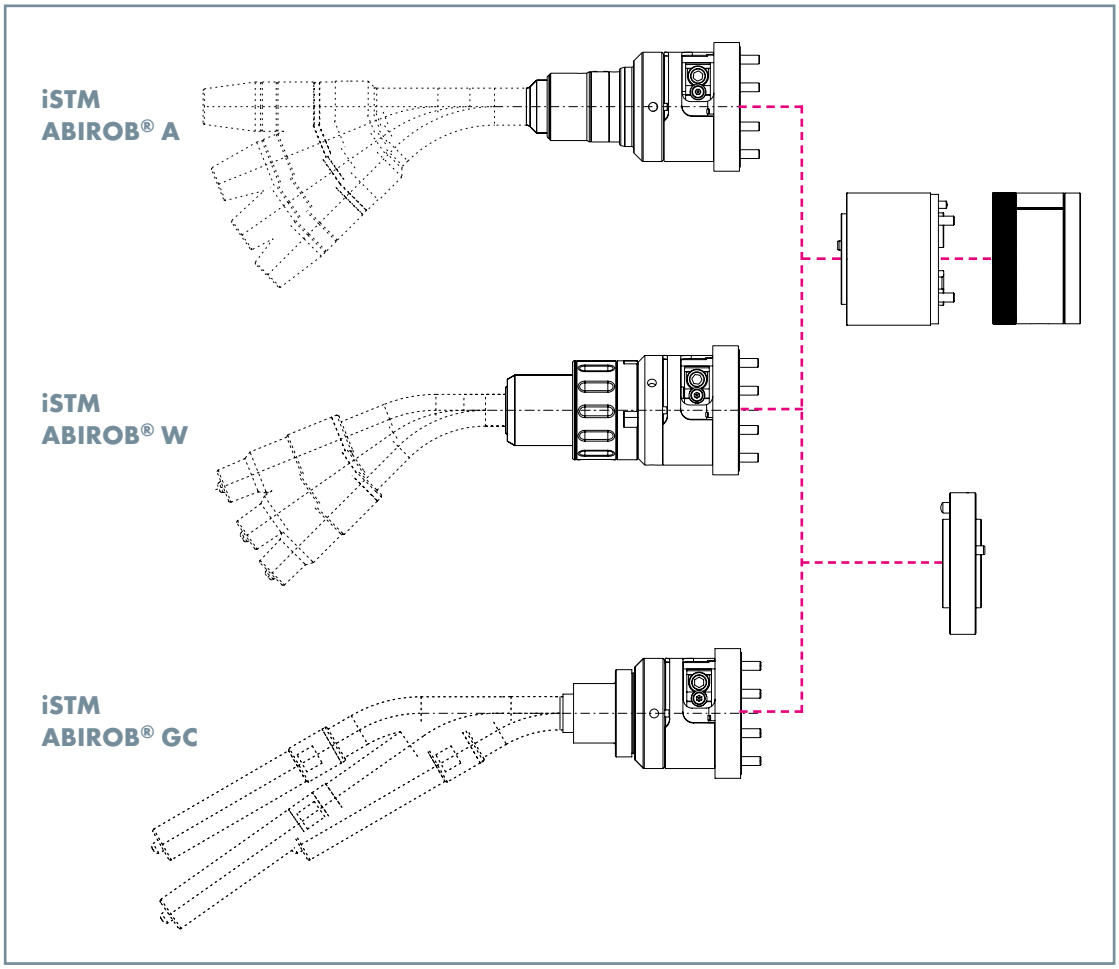
2. Desired additional functions

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

3. Other information

Robot mount iSTM
Robot mount & adaptor flanges

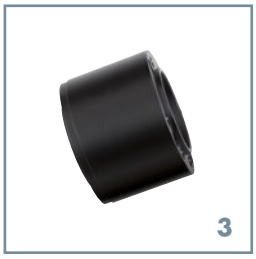
Robot mount iSTM



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

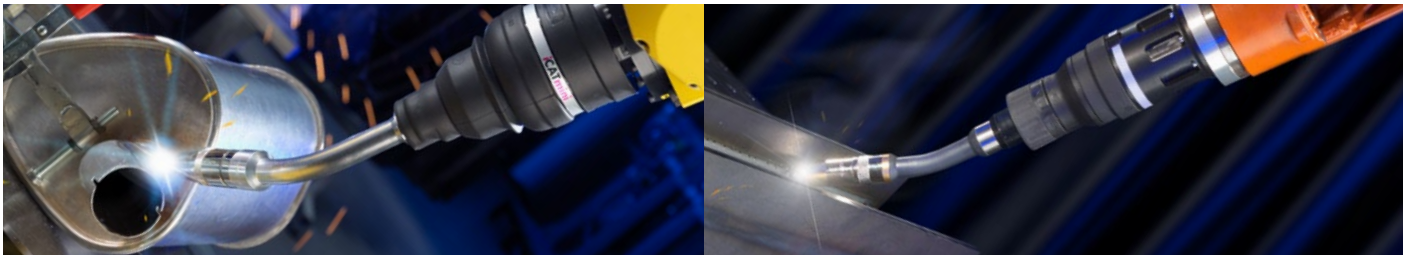
Type	for connection type[1]	Wire-Ø[2]	up to L = 2.0 m
Liner steel	ABICOR BINZEL® Euro central connection	1.0–1.2 mm	124.0145.1
Liner steel	Fronius®	1.0–1.2 mm	124.0174
Liner steel	OTC®	1.0–1.2 mm	124.0165
Liner steel	Panasonic®	1.0–1.2 mm	124.0163.1

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.

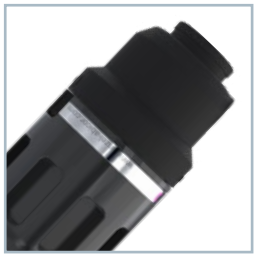
The compact iCAT mini robot mount – with integrated cable assembly guidance for air cooled and liquid cooled welding applications – was designed for use on hollow shaft robots of automotive suppliers and general industries up to 400 A. The complete system consists of welding torch, switch-off protection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

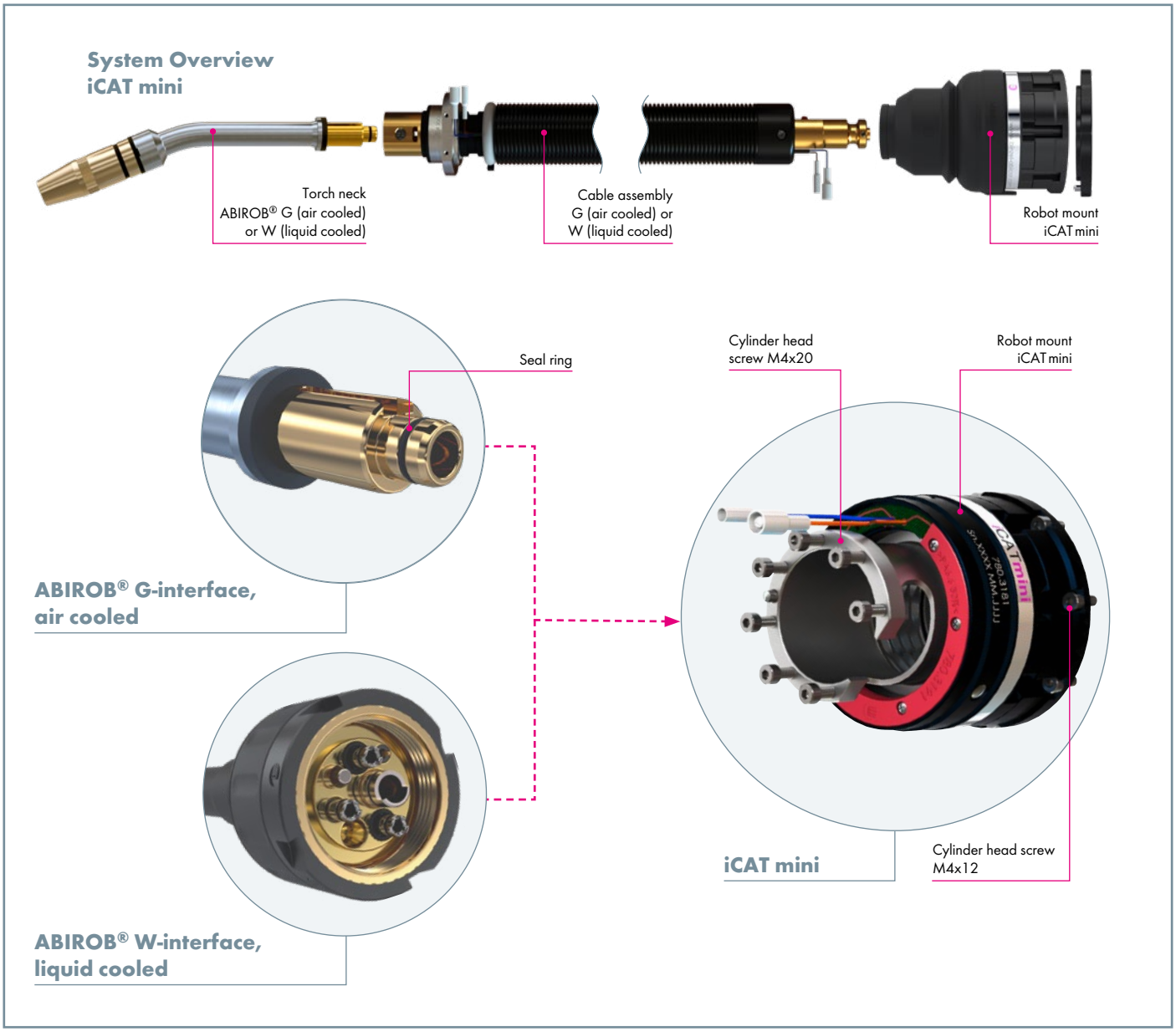
In addition to both systems, the torch neck versions ABIROB® G 300, G 350, G 360 and G 500, which are equipped with the new G-interface, as well as ABIROB® W 300, W 500 and W 600 are available. They are characterised by high stability and repeat accuracy – for excellent and reproducible welding results.

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



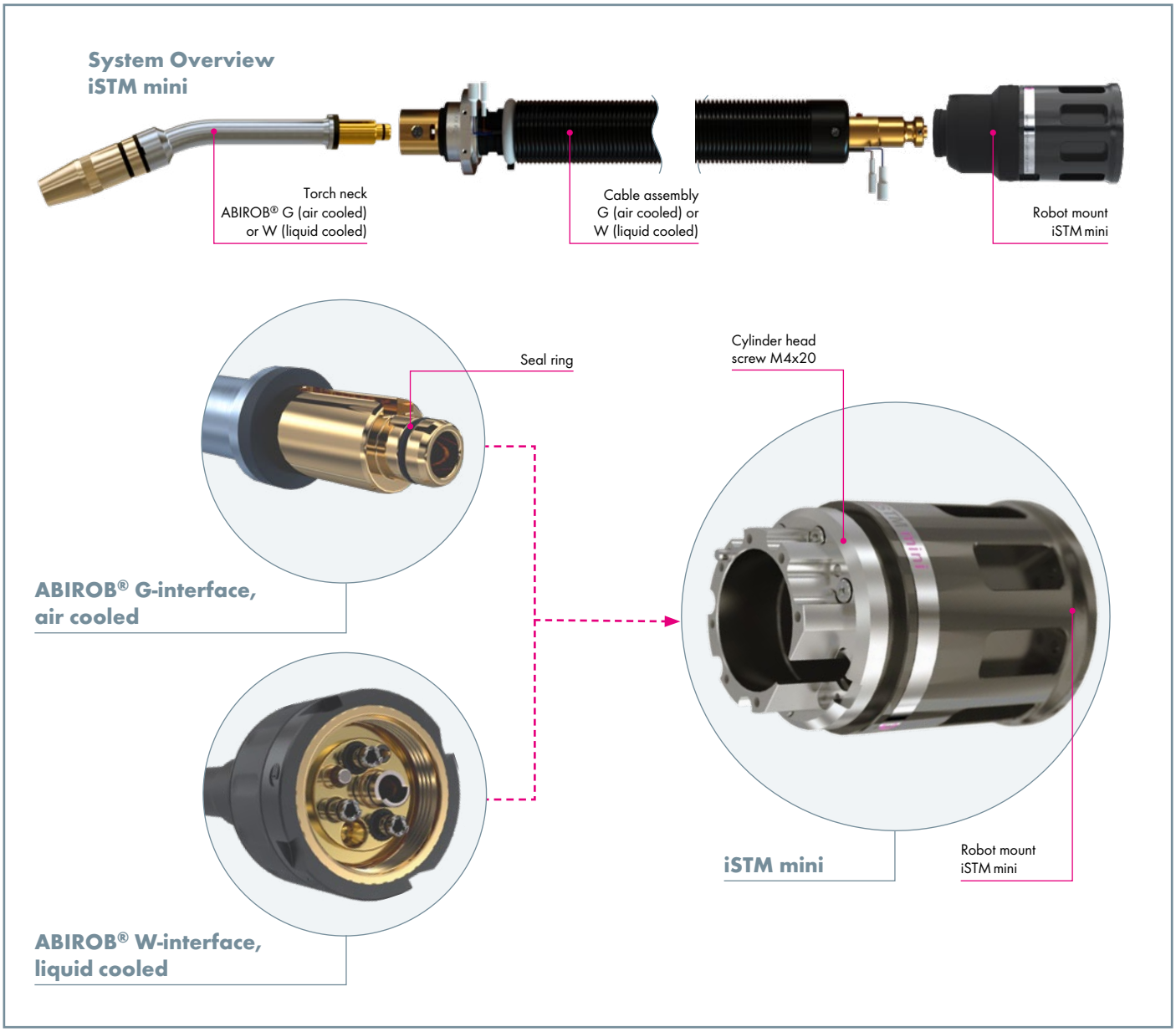
Reduced to the max:
Compact, precise, simple and value-for-money

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.

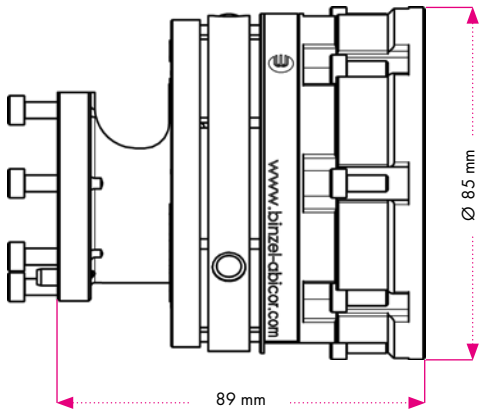
Robot mount iCAT mini/iSTM mini
Technical data

Overview iCAT mini/iSTM mini

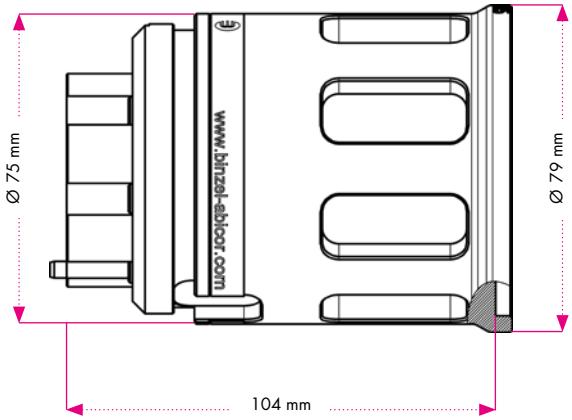
	iCAT mini G	iCAT mini W	iSTM mini G	iSTM mini W
ABIROB® G torch necks	•		•	
ABIROB® W torch necks		•		•
Power water cable		•		•
BIKOX® T50S	•		•	
Wire brake option	•	•	•	•
Nozzle sensing option		•		•
Compressed air option	•	•[1]	•	•[1]
Connector				
LINCOLN®	•	•	•	•
PANASONIC®/RPC	•	•	•	•
OTC®	•	•	•	•
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

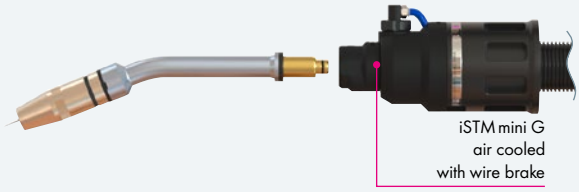
Dimensions:	Length 104 mm Ø 79 mm
Weight:	350 g (without cable assembly)

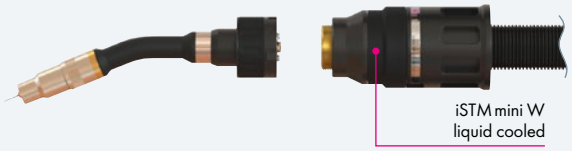
[1] Separate compressed-air hose

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 CO_2 and 350 A mixed gases M21 (according to DIN EN ISO 14175).

Torch necks

	Part-No.				
Torch type	**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		980.0208.1		980.0223.1	980.0209.1
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.

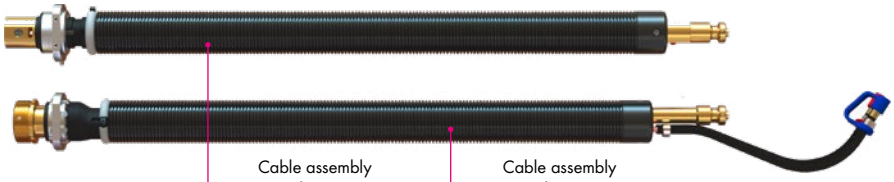
Description	Robot type	Part-No.
iSTM mini d=64 mm	FANUC® AM 100iD	780.3315.1
iSTM mini d=55 mm	ABB® IRB 1660/2600ID	780.3355.1
iSTM mini d=56 mm	YASKAWA® MA1440/2010	780.3356.1
iSTM mini d=56 mm	FANUC® AM 100iC	780.3356.1

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

Neck liner ABIROB® G

Neck liner ABIROB® W

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

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

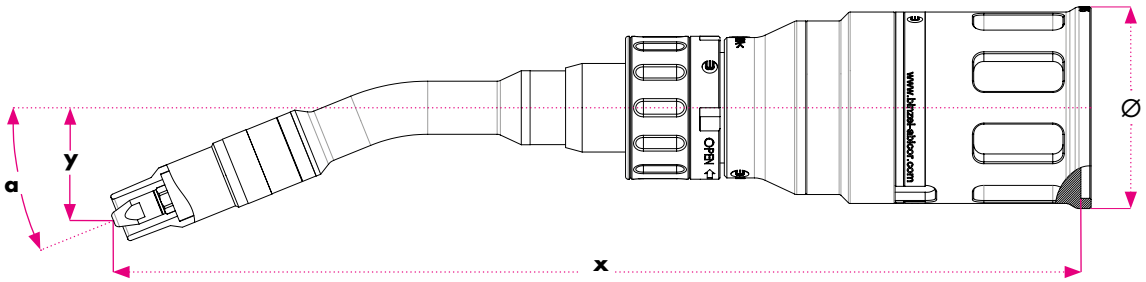
Typ	Torch type	Torch neck	Wire type	Wire-Ø	Length	Part-No.
Neck liner G	ABIROB® G	980.0287.1 980.0223.1 980.0288.1	steel	0.8–1.2 mm	239 mm	149.0487.5
Neck liner G	ABIROB® G	980.0190.1 980.0185.1 980.0203.1	steel	0.8–1.2 mm	247 mm	149.0434.5
Neck liner W	ABIROB® W	782.0076.1 782.0077.1 782.0078.1 782.0080.1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

Other neck liners on request.

Robot mount iCAT mini/iSTM mini

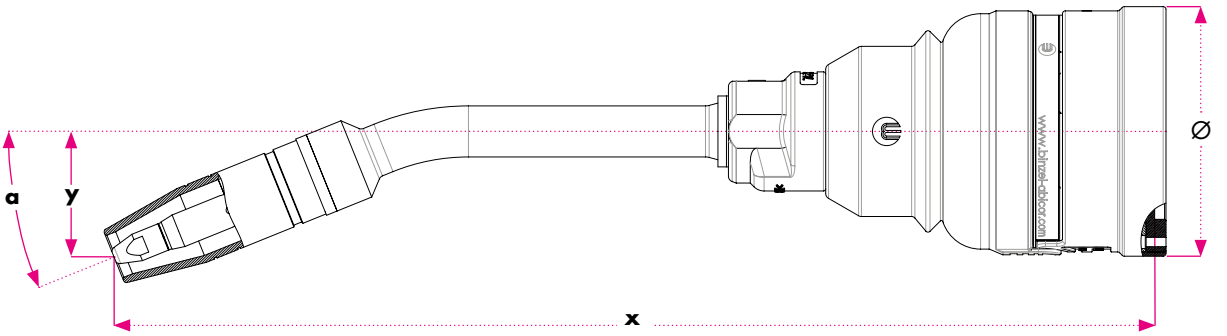
TCP overview

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.

Advatages 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: CO_2 emissions are minimised for shielding gases with CO_2 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

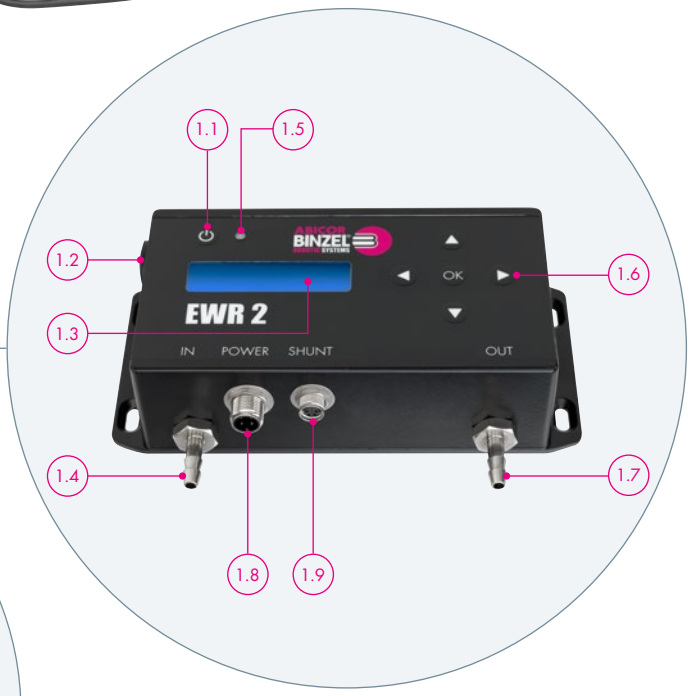


Figure 1:
Interfaces EWR 2

Figure 2:
Additional interfaces at EWR 2 Net

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 fieldbus 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.

Figure 2:
Additional interfaces at EWR 2 Net

2.1 CANopen interface
2.2 Ethernet interface

Technical data:
EWR 2 and EWR 2 Net

General

Operating voltage:	24 V DC ±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

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

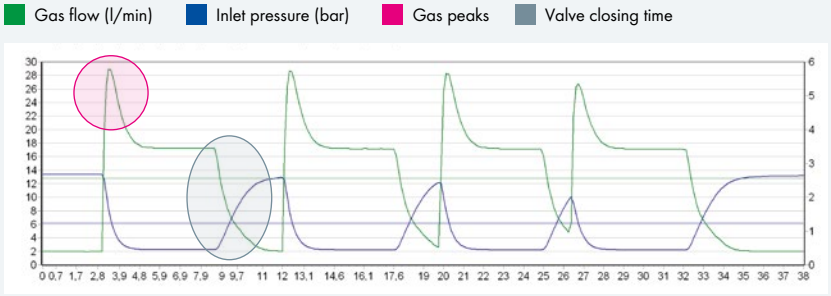
Gas peaks and valve closing time:

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.

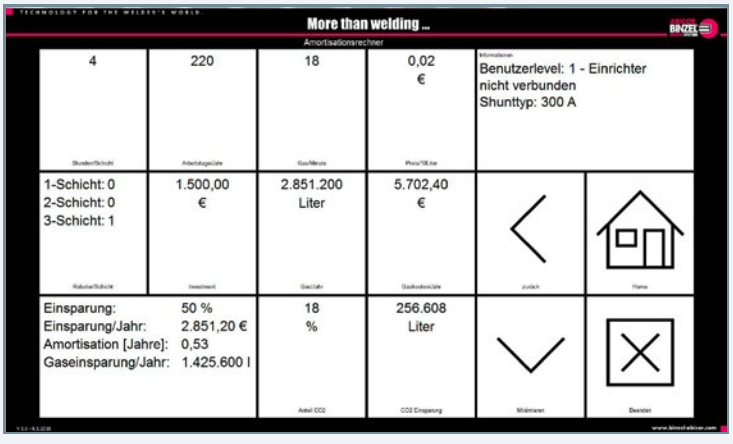
Main functions at a glance:

- 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.



ROI calculator to to calculate the individual amortisation period.

Gas management system EWR 2 and EWR 2 Net

System packages

EWR 2 devices

EWR 2

EWR 2 Net

Shunt types

150 A, 5 m cable length

300 A, 5 m cable length

500 A, 5 m cable length

Power supply

Power cable with open cable end, 10 m cable length

Power adapter, 1.5 m cable length

System packages with EWR 2 devices

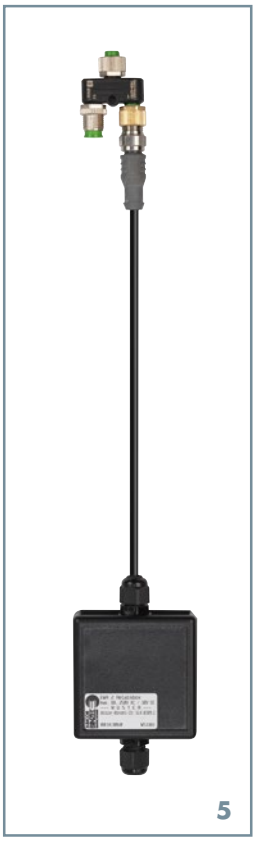
Device	Shunt types	Power supply	Part-No.
EWR 2	150 A, 5 m cable length	Power cable with open cable end, 10 m cable length	514.0256.1
	150 A, 5 m cable length	Power adapter, 1.5 m cable length with various socket adapters	514.0259.1
	300 A, 5 m cable length	Power cable with open cable end, 10 m cable length	514.0257.1
	300 A, 5 m cable length	Power adapter, 1.5 m cable length with various socket adapters	514.0260.1
	500 A, 5 m cable length	Power cable with open cable end, 10 m cable length	514.0258.1
	500 A, 5 m cable length	Power adapter, 1.5 m cable length with various socket adapters	514.0261.1

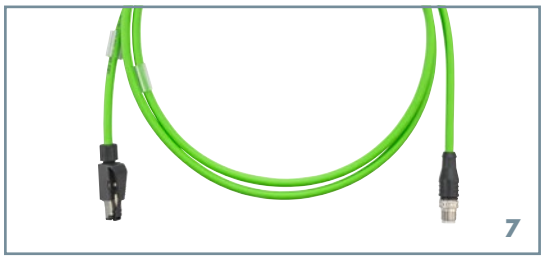
System packages with EWR 2 Net devices

Device	Shunt types	Power supply	Part-No.
EWR 2 Net	150 A, 5 m cable length	Power cable with open cable end, 10 m cable length	514.0269.1
	150 A, 5 m cable length	Power adapter, 1.5 m cable length with various socket adapters	514.0272.1
	300 A, 5 m cable length	Power cable with open cable end, 10 m cable length	514.0270.1
	300 A, 5 m cable length	Power adapter, 1.5 m cable length with various socket adapters	514.0273.1
	500 A, 5 m cable length	Power cable with open cable end, 10 m cable length	514.0271.1
	500 A, 5 m cable length	Power adapter, 1.5 m cable length with various socket adapters	514.0274.1

Gas management system EWR 2 and EWR 2 Net

Spare parts & accessories





Spare parts

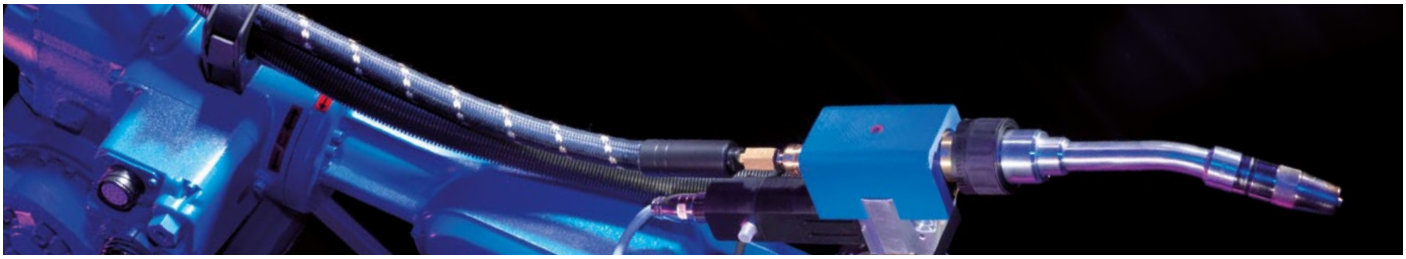
Pos.	Description	Details	suitable for	Part-No.
1	EWR 2 shunt	150 A, 5 m cable length	EWR 2 and EWR 2 Net	514.0283.1
	EWR 2 shunt	300 A, 5 m cable length	EWR 2 and EWR 2 Net	514.0284.1
	EWR 2 shunt	500 A, 5 m cable length	EWR 2 and EWR 2 Net	514.0285.1
2	EWR 2 plug	Sealing plug for jack connection	EWR 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

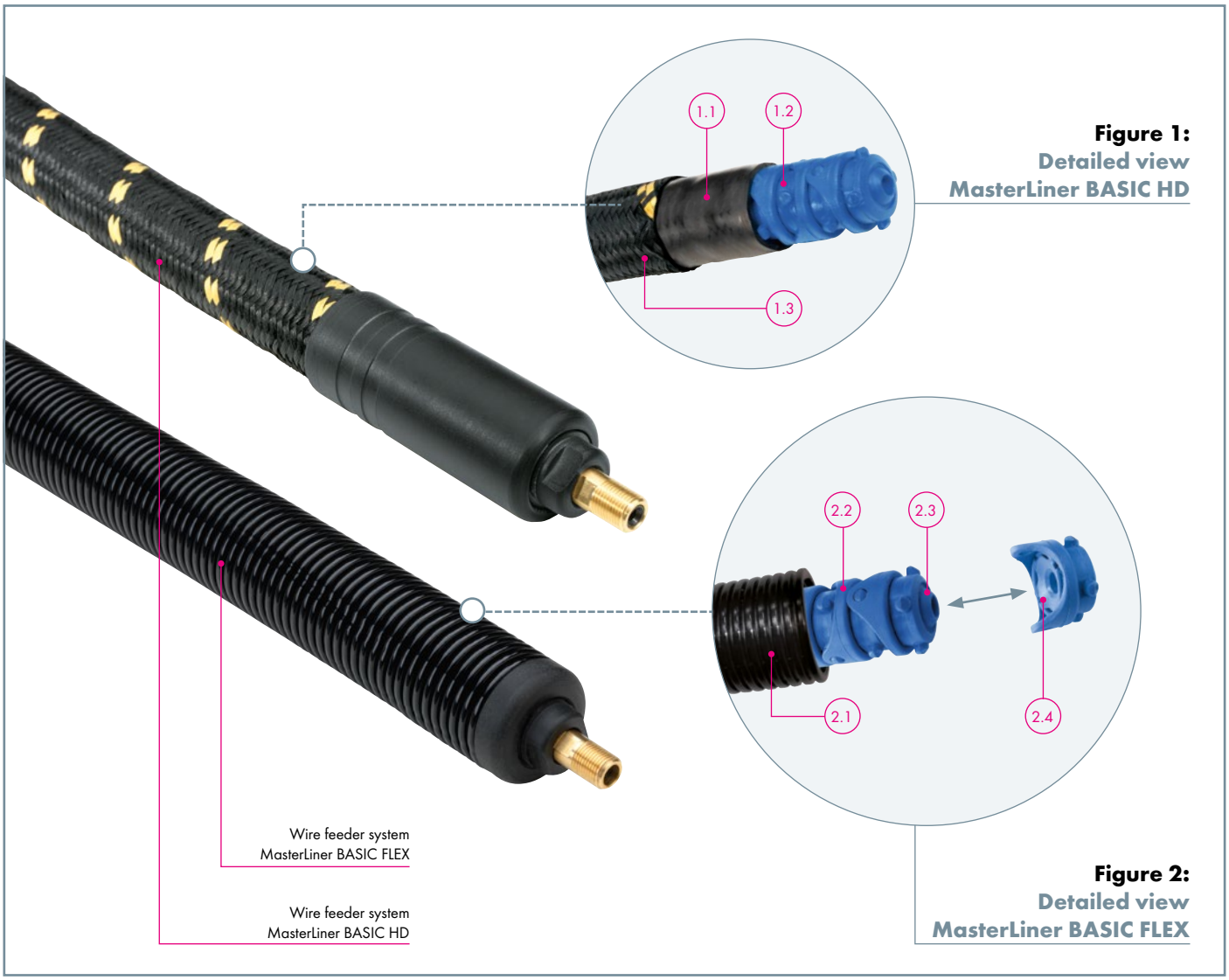


Figure 1:
Detailed view MasterLiner BASIC HD

Figure 2:
Detailed view MasterLiner BASIC FLEX

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)

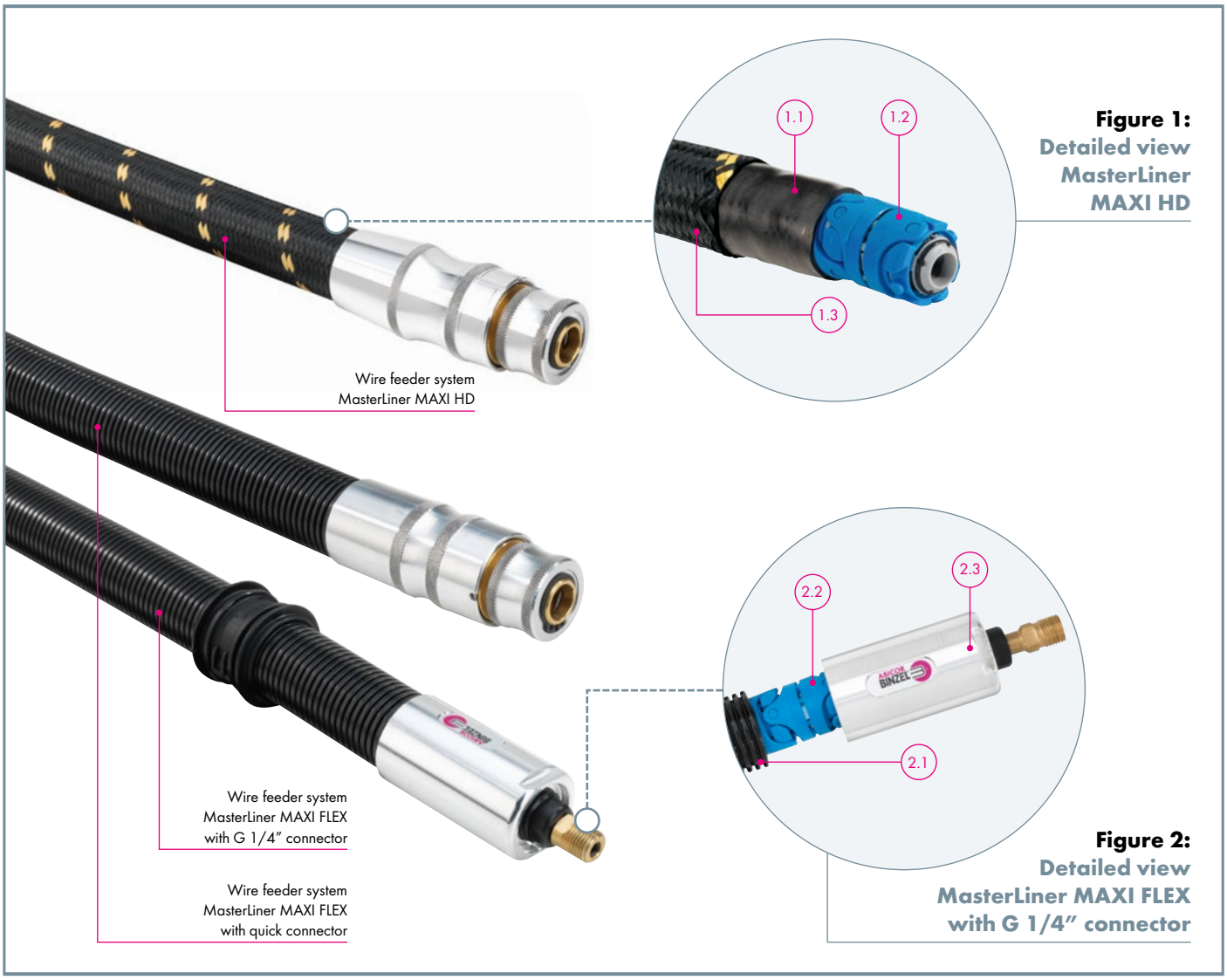


Figure 1:
Detailed view MasterLiner MAXI HD

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

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


1


2


3


4


5


6


7


8


9


10


11

Components MasterLiner BASIC HD[1]

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

Components MasterLiner BASIC FLEX

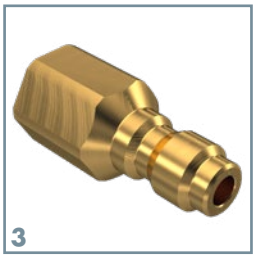
No.	Description	Part-No.
2	MasterLiner BASIC FLEX (50 m container)[2]	155.0096.50
3	Connector MasterLiner BASIC G 1/4" AG cpl. convex	155.0203
4	Connector MasterLiner BASIC G 1/4" AG cpl. concave	155.0204
5	Wire guide tube convex	155.0087.1
6	Wire guide tube concave	155.0088.1
7	End cap for outer hose	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

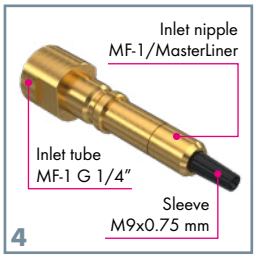
Components MasterLiner MAXI FLEX

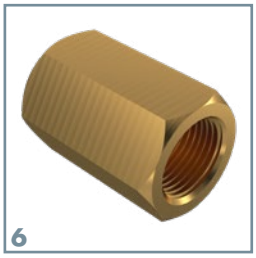
No.	Description	Part-No.
8	Outer hose MasterLiner MAXI FLEX LW 29 (50 m container)	109.0076
9	MasterLiner MAXI FLEX (50 m container)[2]	155.0141.50
10	Connector G 1/4" cpl.	155.0147.1
11	Quick connector cpl. MasterLiner MAXI FLEX	155.0195.1

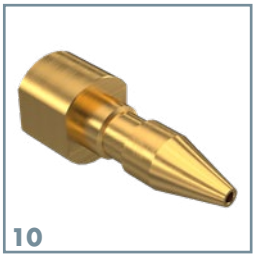
[1] The variants of MasterLiner HD are only available in prefabricated lengths.
[2] Further lengths on request.

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

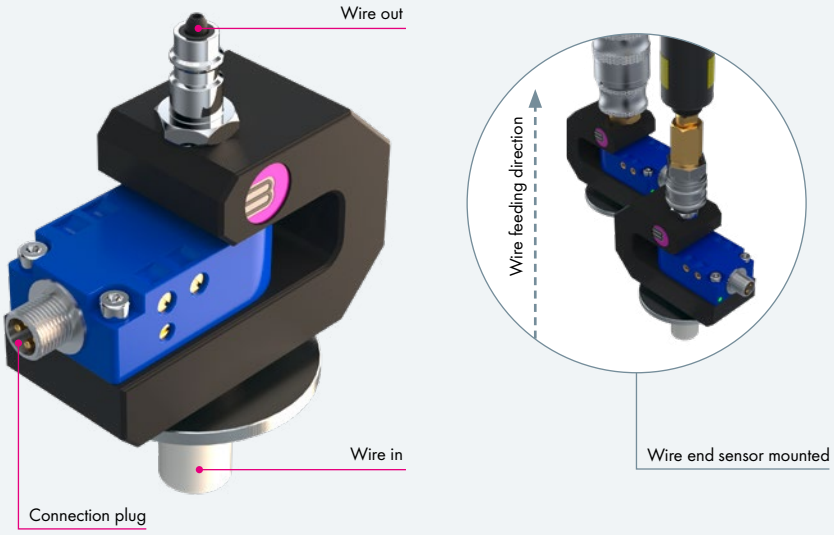
Connection MasterLiner MAXI with quick connector ↔ Wire drum connector

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) – signalises 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.



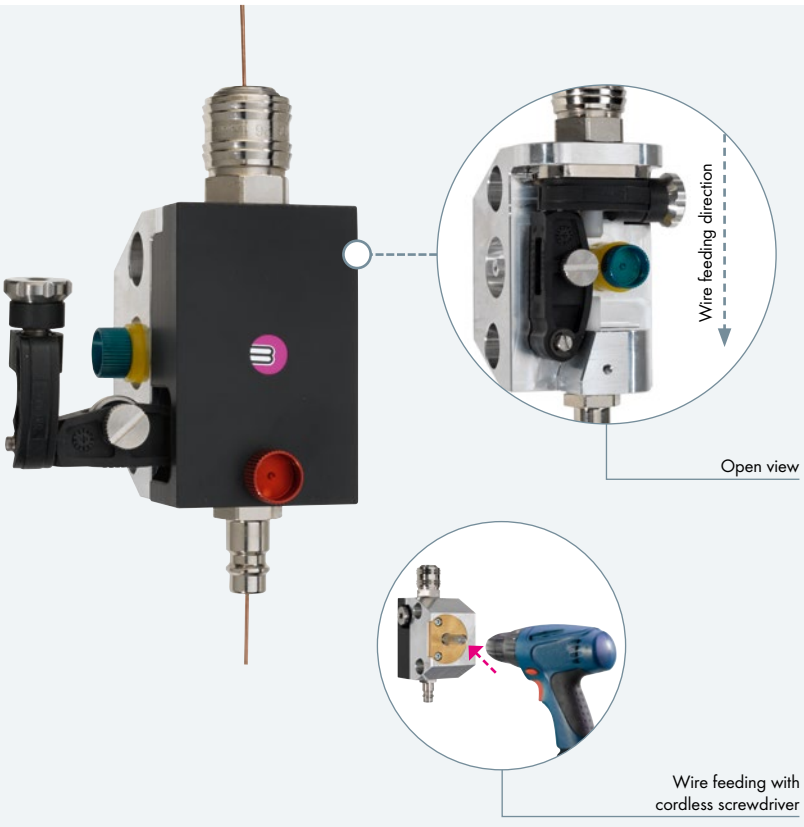
Technical Data:

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.

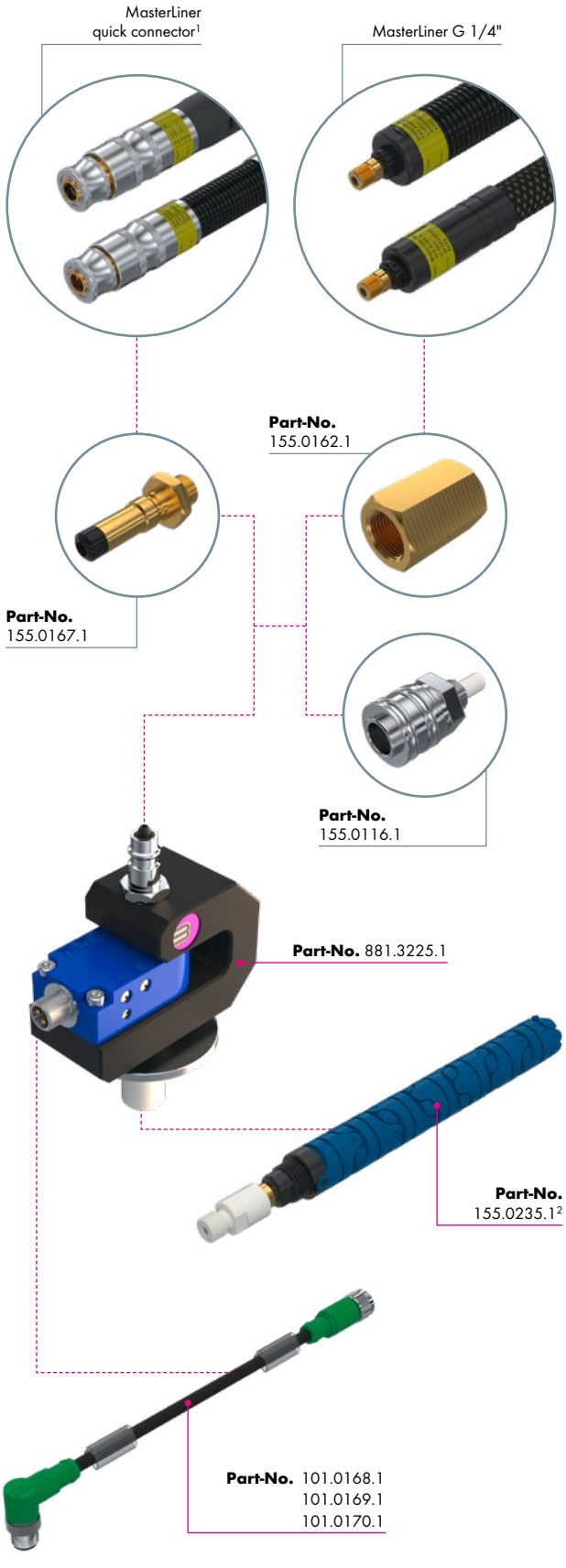
With the connectors a quick and easy integration into the respective wire feeding system is possible. The threading device must remain in the wire feeding system after threading with open counter pressure roller.



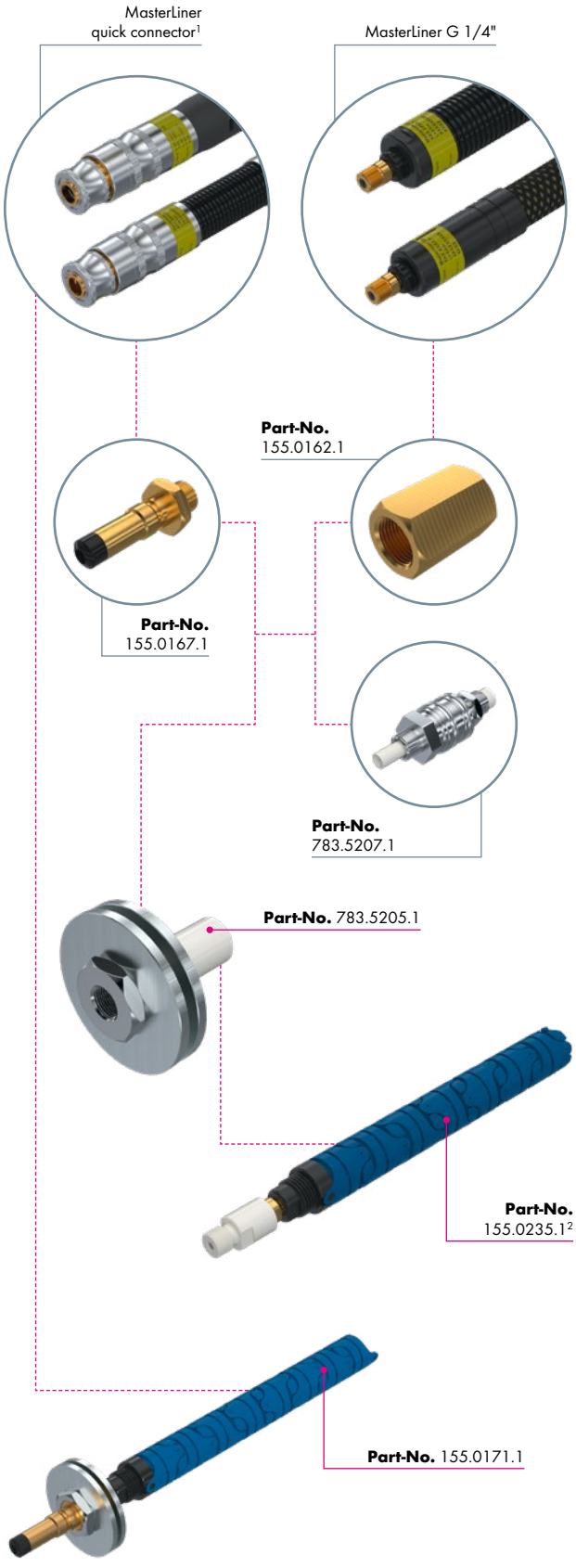
Type	Part-No.
Wire inching tool	881.3238.1

Wire feeder system MasterLiner
Options

Wire end sensor connections MasterLiner



Wire drum connector MasterLiner

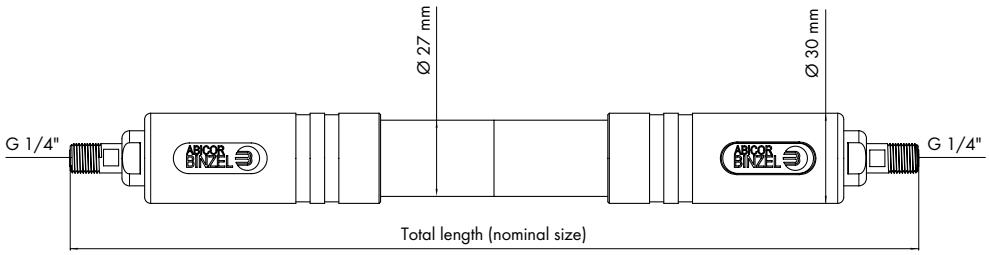


[1] When using the MasterLiner quick connector, the nipple on the wire end sensor must be replaced.
[2] When using the MasterLiner wire feeding drum connector cpl. (155.0235.1), the wire inlet must be dismantled.

Wire feeder system MasterLiner BASIC
Product dimensions

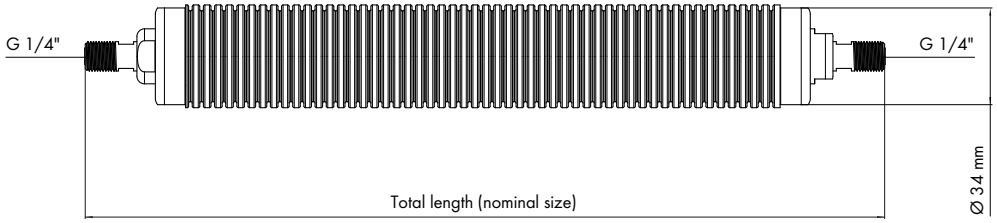
Wire feeder system MasterLiner BASIC HD with connector G 1/4″

Length view



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

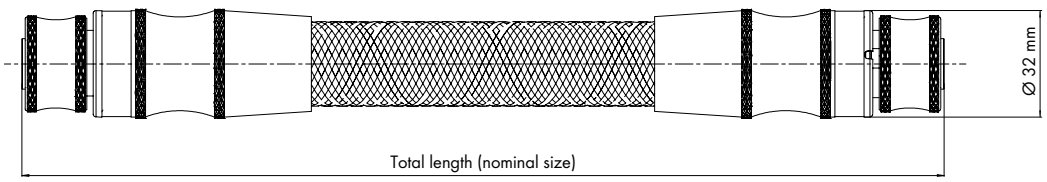
Length view



Wire feeder system MasterLiner MAXI
Product dimensions

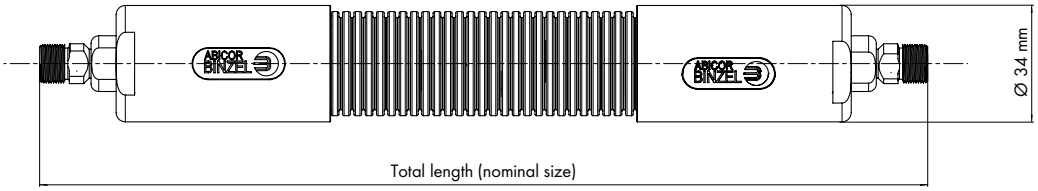
Wire feeder system MasterLiner MAXI HD with quick connector

Length view



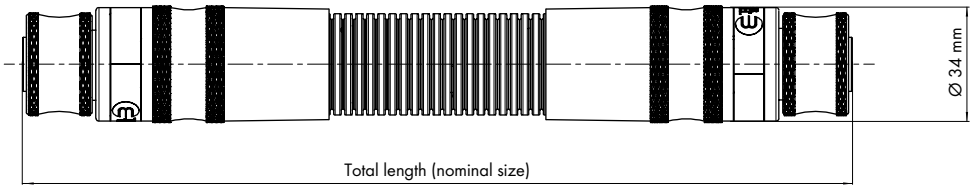
Wire feeder system MasterLiner MAXI FLEX with connector G 1/4"

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 V AC	3 x 400 V AC 3 x 230 V AC	3 x 400 V AC
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) 45 A (230 V)	30 A (400 V)
Slow-blow fuse:			
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-Cicuit 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 iContol	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 mm²	890.0402.1
Liquid cooled	6 m/95 mm²	890.0400.1
Liquid cooled	8 m/95 mm²	890.0404.1
Liquid cooled	10 m/95 mm²	890.0406.1
Air cooled	4 m/95 mm²	890.0403.1
Air cooled	6 m/95 mm²	890.0401.1
Air cooled	8 m/95 mm²	890.0405.1
Air cooled	10 m/95 mm²	890.0407.1

Earth cables
(not ill.)

Type	Dimension		Part-No.
With cable lug	4 m/95 mm²		890.2100.1
With cable lug	5 m/95 mm²		890.2101.1
With cable lug	10 m/95 mm²		890.2102.1
With cable lug	15 m/95 mm²		890.2103.1
With cable lug	20 m/95 mm²		890.2104.1
With workpiece clamp	4 m/95 mm²	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

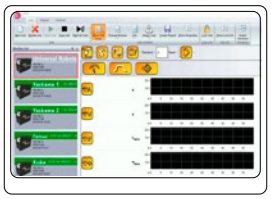
for control cabinet		Part-No.
iROB® RI XP	Interface for control cabinet	890.0106.1
Cable	for iROB® RI XP	890.0109.1

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

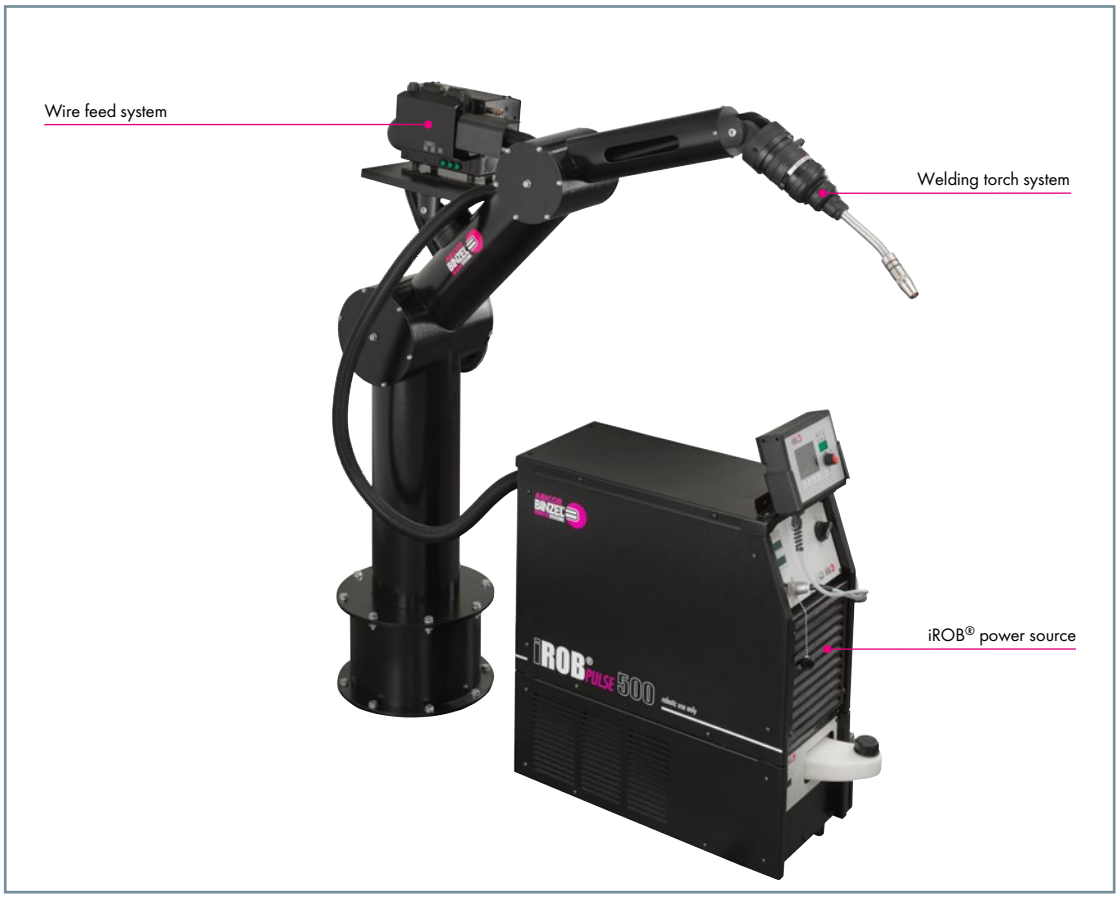
weld@Net® production control monitor

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

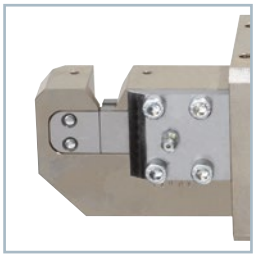
Connect & clean

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

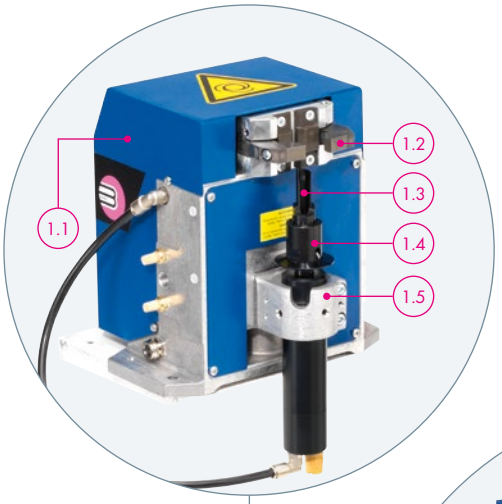


Figure 1:
Detailed view BRS-FP

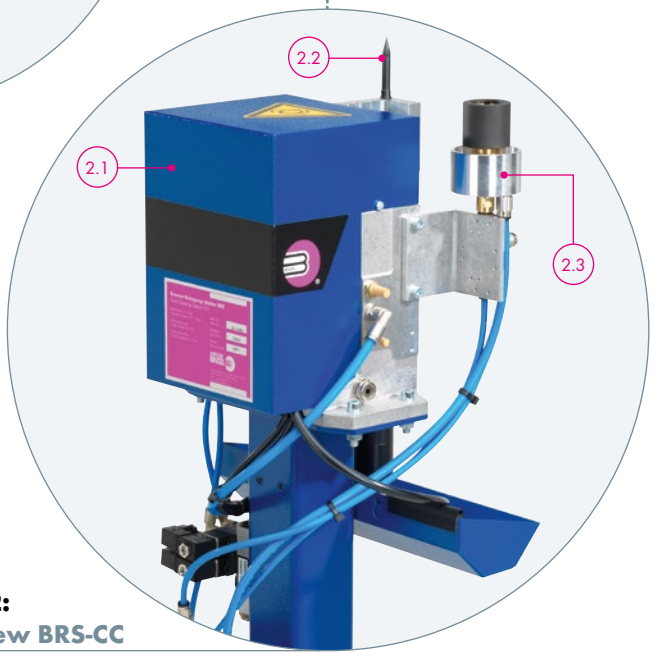


Figure 2:
Back view BRS-CC

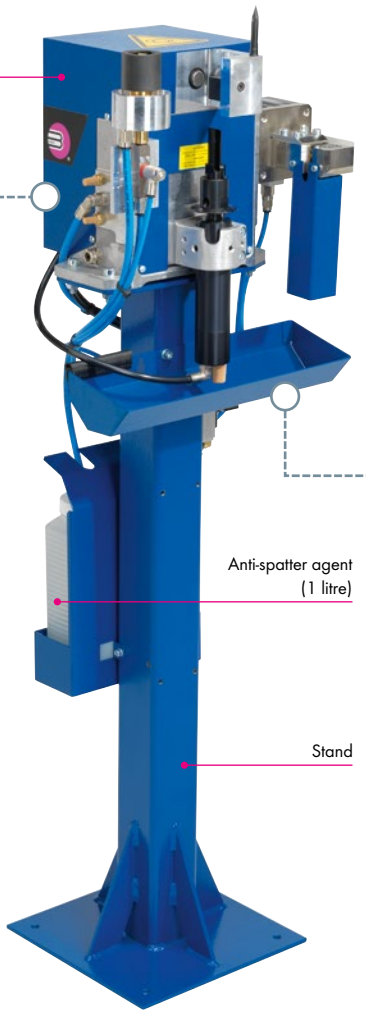


Figure 1:
Detailed view BRS-FP

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

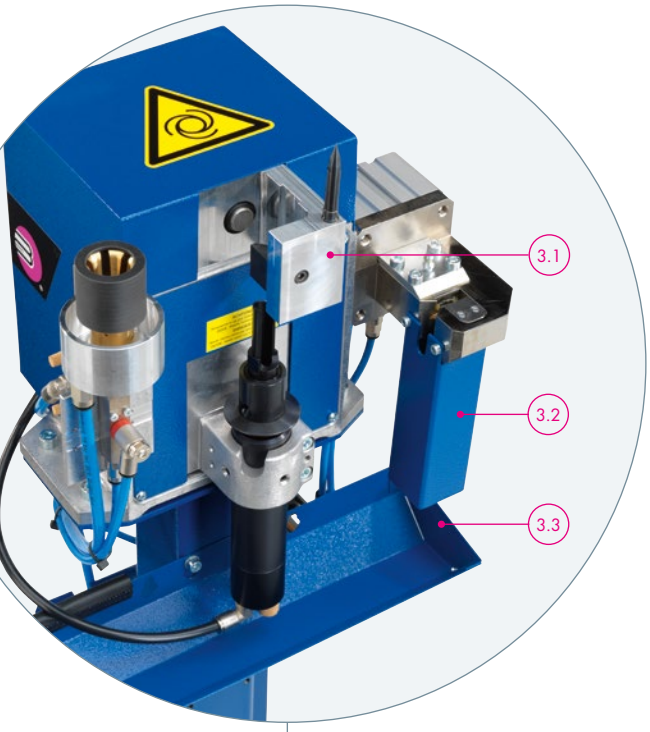


Figure 3:
Detailed view BRS-CC

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):	■ 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:	Vss <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:	■ 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


1


2


3

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 Type	Outer-Ø [mm]	NW [mm]	Length [mm]	with contact tip Type	with contact tip Size	Clamping prism Part-No.	Cutter Part-No.
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 Type	Outer-Ø [mm]	NW [mm]	Length [mm]	with contact tip Type	with contact tip Size	Clamping prism Part-No.	Cutter Part-No.
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
ABIROB® A 500	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
	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 Type	Outer-Ø [mm]	NW [mm]	Length [mm]	with contact tip Type	with contact tip Size	Clamping prism Part-No.	Cutter Part-No.
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
ABIROB® 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.

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	with contact tip 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	with contact tip 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

Figure 1:
Anti-spatter agent injection unit TSi

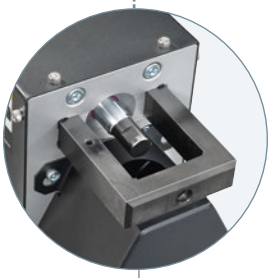
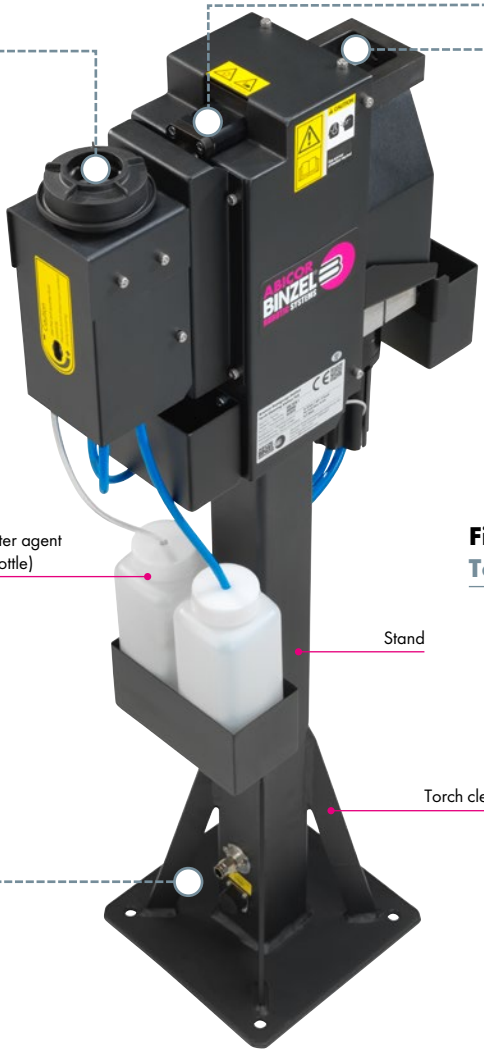


Figure 2:
Torch cleaning

Quick connector for easy and fast installation



TCS Compact
The clever solution against spatter adhesion

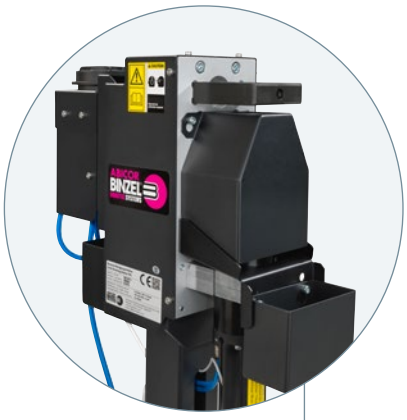
Figure 1:
Anti-spatter agent injection unit TSi

- 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

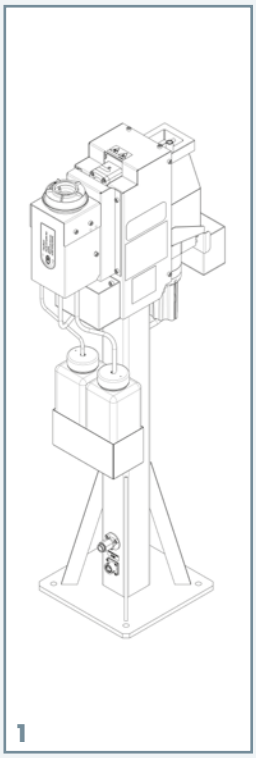
Pneumatic connection

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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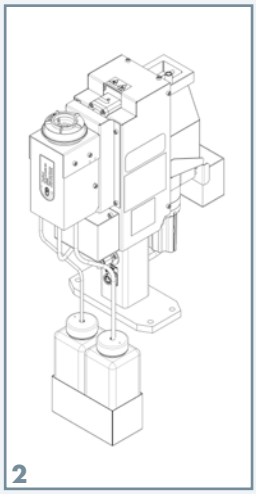
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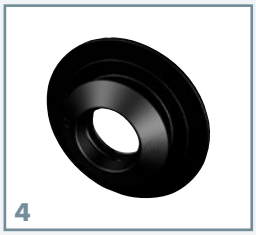
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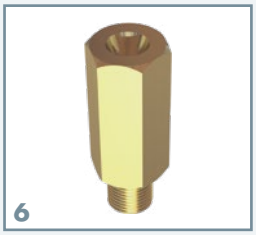
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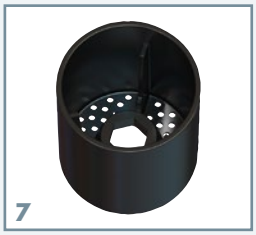
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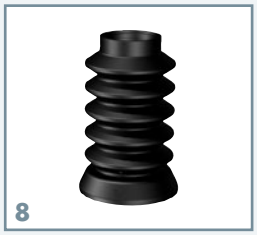
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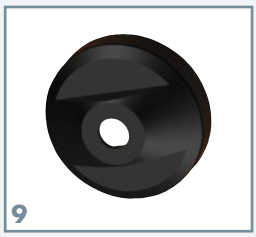
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Cleaning station TCS Compact

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

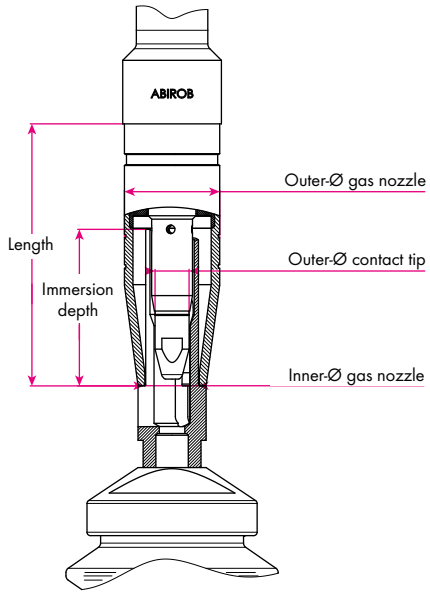
[1] Stand type: LP=long stand/SP=short stand
[2] Connection cable lenght (5 meter)
[3] Proximity switch type (PNP)

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	with contact tip 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	with contact tip 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	with contact tip 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	with contact tip 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
	145.0616	25.0	20.0	75.5	36.5	M8	10.0 mm	830.2359.1	830.2189.1
ABIROB® W 600	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

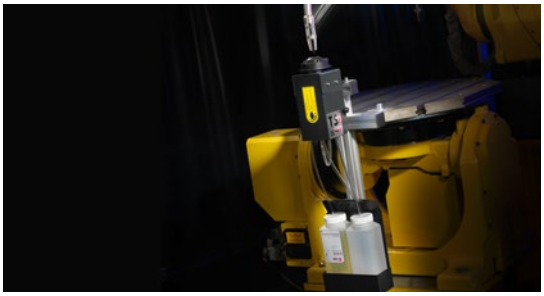
Torch type	Gase nozzle-Ø	V-block Part-No.
Available clamping prisms for torches of other manufacturers	22.0 mm	830.2358.1
	26.0 mm	830.2365.1
	27.0 mm	830.2360.1
	29.0 mm	830.2362.1
	34.0 mm	830.2364.1

Reamers on request.

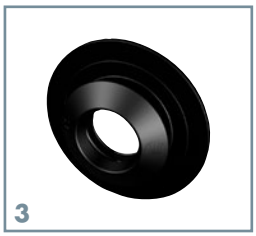
Robot peripherals
Injection unit TSi

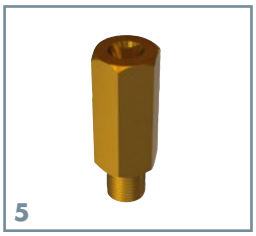
Plug & spray ...

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:

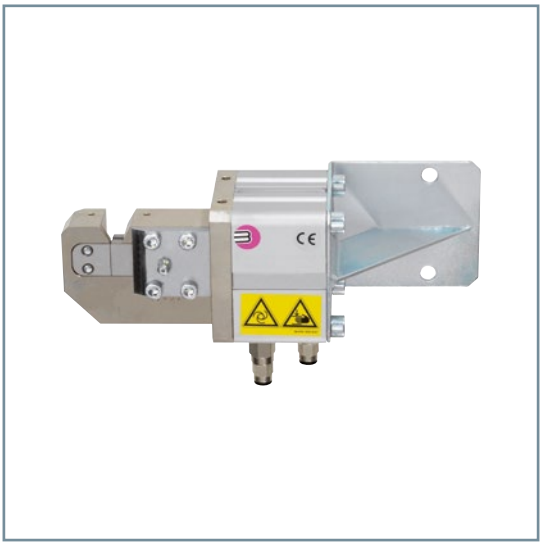
Connection ports:	Ø 8 mm
Operating pressure:	min. 0.5 MPa up to max. 0.6 MPa

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.

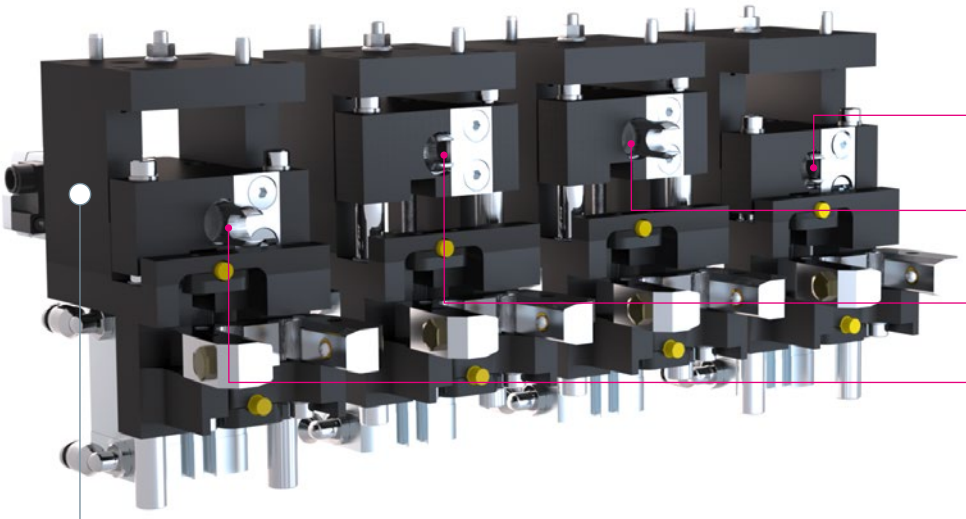
Arguments that speak for themselves:

- Simple and inexpensive solution for automatic torch exchanges
- Up to four exchange stations can be mated
- Can be used for TIG[1] 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.

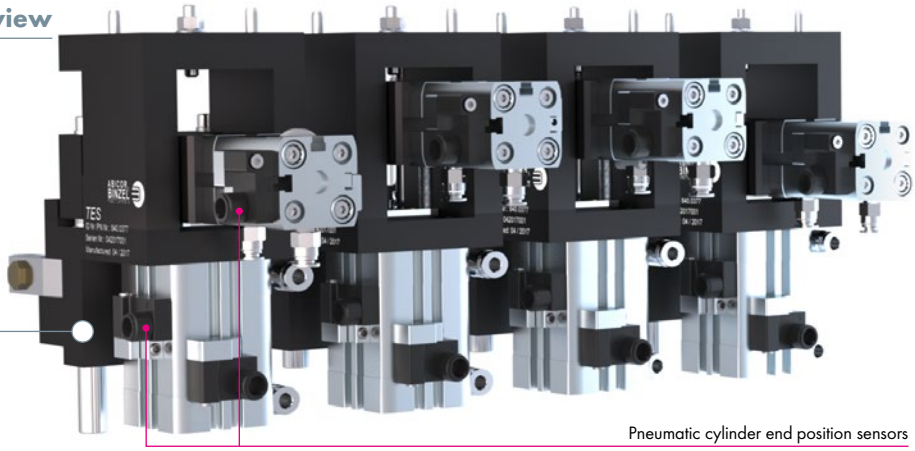
Application area:
For all automated robotic welding applications for MIG/MAG and TIG welding processes

Torch exchange station TES
System overview & technical data

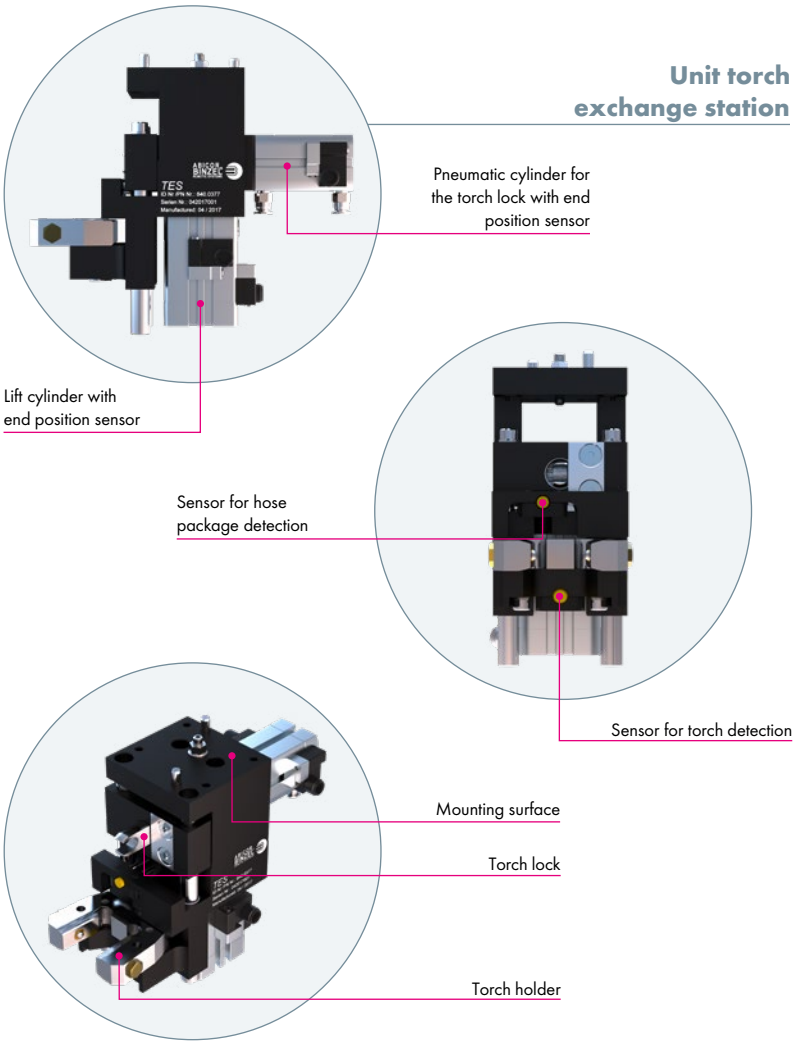


Torch exchange station TES: Front system overview

Torch exchange station TES: Rear view of pneumatic connections



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

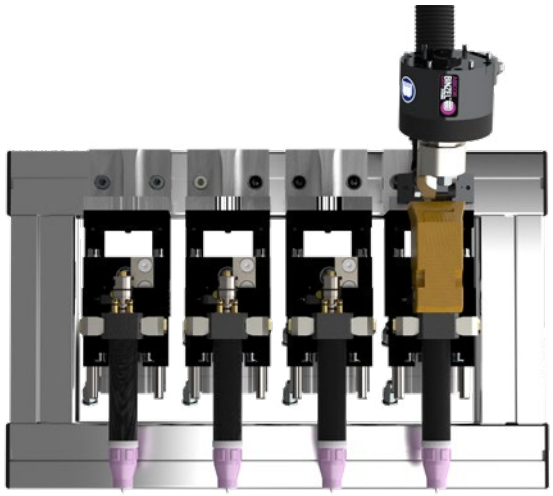
2 outputs
- Proximity switch 24 V DC/max. 200 mA
- Switch output PNP No

2 inputs[1]
- 5/2 solenoid valves 24 V DC
- Power consumption 2.8 W

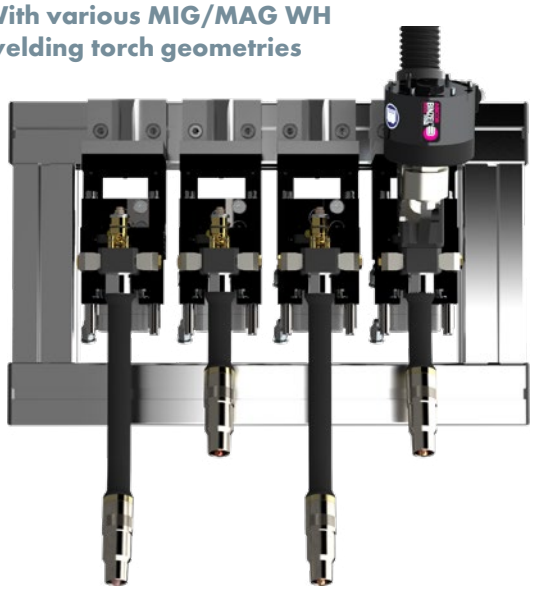
[1] Depending on the part number.

Torch exchange station TES
System overview & technical data

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



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



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

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.

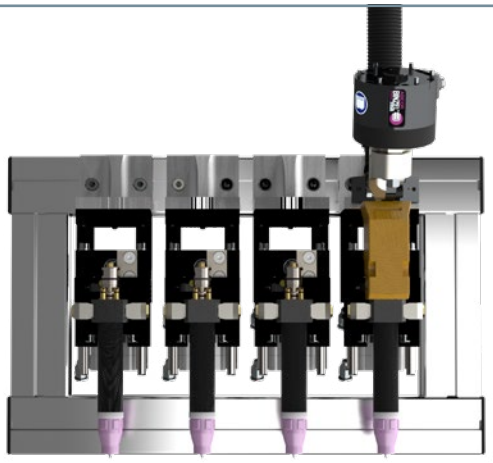
The torch exchange station TES by ABICOR BINZEL is just the right solution in this case. The TES can accommodate up to four different MIG/MAG WH welding torches. The TES is the ideal system component for process-reliable, effective and automated MIG/MAG welding and ensures much lower downtimes for changing 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

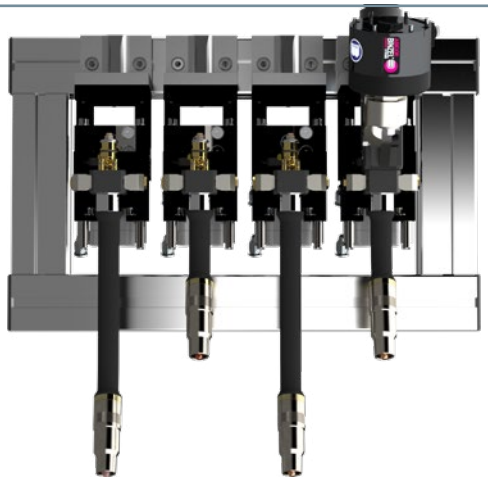
- Different torch geometries can be used
- System availability improved by automated torch exchange/ electrode change
- Safe torch exchange by means of integrated wire cutter in the WH cable assembly

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

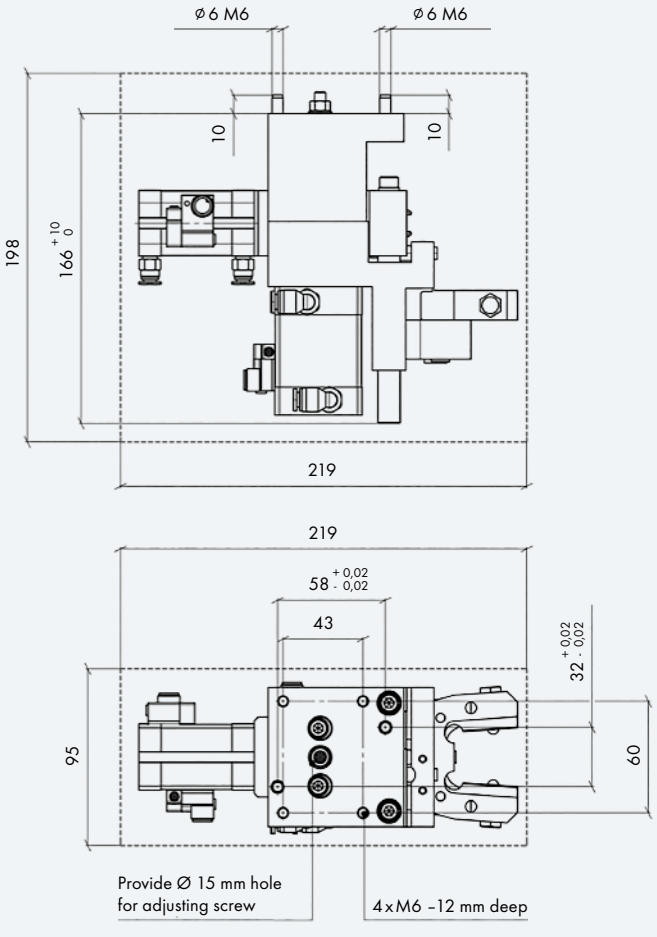


Torch exchange station TES with mounting frame for MIG/MAG applications

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.

Notes

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 ...

ABICOR BINZEL® ROBOTIC SYSTEMS

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