

ROBO Compact W600

Rugged, powerful & reliable.



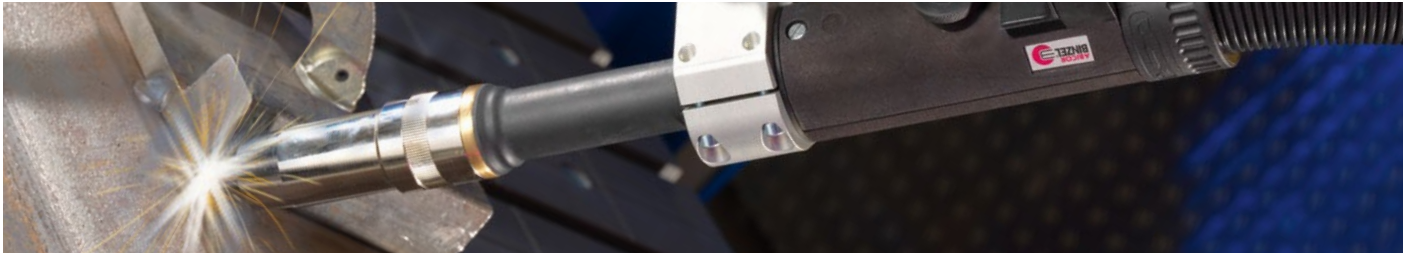
W600 – Three strong performers!

Together with the two torch neck types ABIROB® W600 and ROBO WH W600, the ROBO Compact W600 welding torch forms an extremely robust welding torch line for high amp welding in the automated sector.

W600 series welding torches combine a unique structure and a uniform, long-life wearing parts concept. Very good crash properties provided by a sturdy and resilient design ensure long tool lives even in the toughest conditions.

MIG/MAG Welding Torch System

“ROBO Compact W600” liquid cooled



Tough, reliable & economical ...

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

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

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

Arguments that speak for themselves:

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

Degree of automation*:

Low	Medium	High
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Application areas:

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

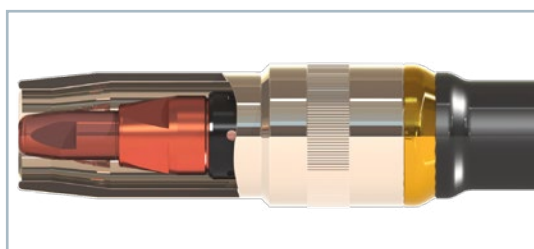
Material:

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

Robot interface:

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

up to
600 A



* Definition of the degree of automation:

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

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

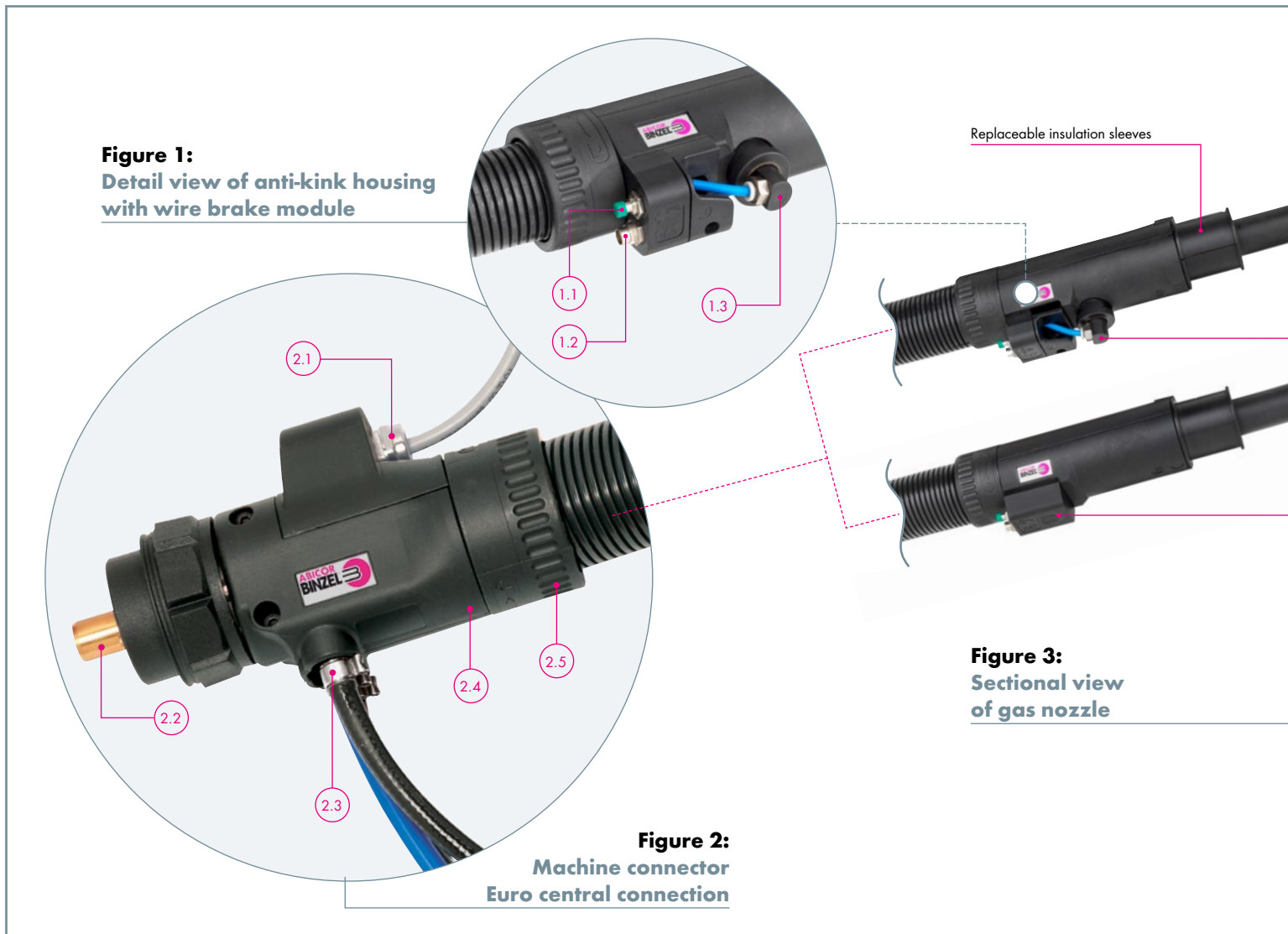


Figure 1:
Detail view of anti-kink housing with
wire brake module

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

Figure 2:
Machine connector
Euro central connection

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

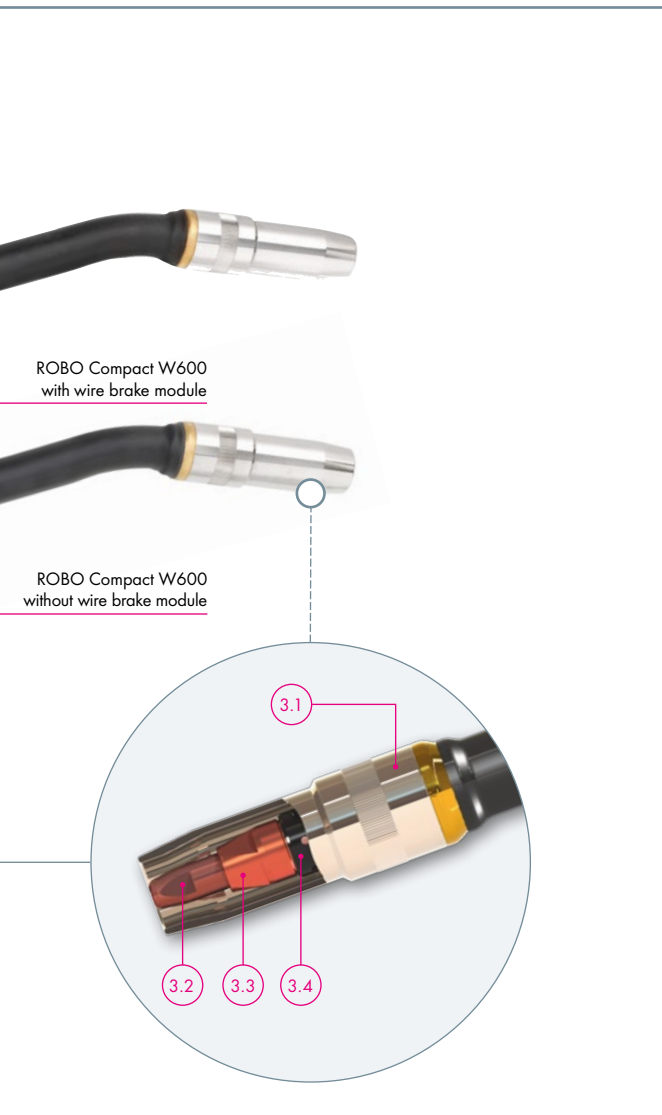


Figure 3:
Sectional view of gas nozzle

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



Technical data (EN 60 974-7):

ROBO Compact W600

Type of cooling:	liquid cooled
Rating:	600 A CO ₂ 550 A Mixed gases M21 (EN ISO 14175)
Duty cycle:	100%
Wire-Ø:	0.8- 1.6 mm (2.0 mm)*
Torch geometries:	0°/22°/35°/45°

Note on the technical data:

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

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

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

ROBO Compact W600

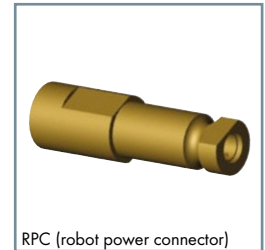
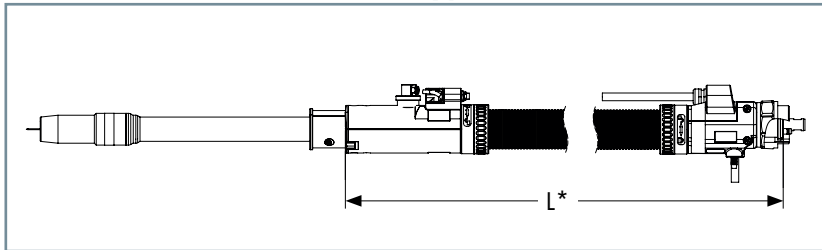


Torch neck

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

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

Cable assemblies and connection types



Torch complete with Euro central connection

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

Torch complete with RPC (robot power connector)

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



Insulating sleeve

Type	Part-No.
Insulating sleeve D40	944.0175.1

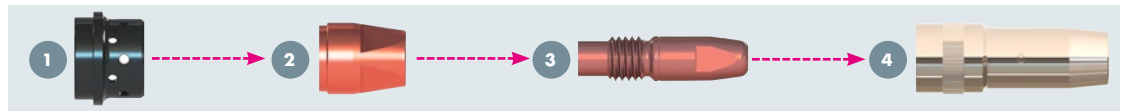
*Recommended maximum length: 3.00 m. Other cable assembly lengths and/or designs for specific power sources are available on request. The control cable is not configured on the machine side. The torch is supplied ready for welding with a fitting for 1.6 mm steel. Please order other versions separately.

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

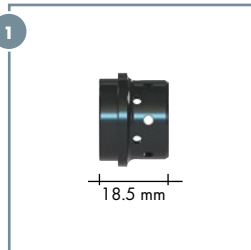
"ROBO Compact W600" liquid cooled

Wear Parts & Liners

Wear parts for ROBO Compact W600

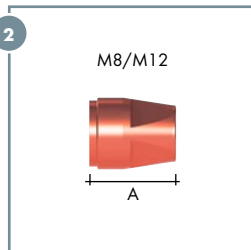


1 Gas diffuser (10 pcs.)



Type	Part-No.
Standard	146.0079.10

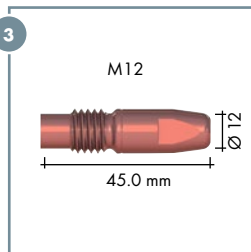
2 Contact tip holder (10 pcs.)



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

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

3 Contact tip (10 pcs.)

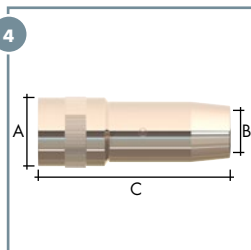


Type	Material	Wire-Ø [mm]	Part-No.
M12	CuCrZr	Ø 1.2	140.1563.10
	CuCrZr	Ø 1.4	140.1564.10
	CuCrZr	Ø 1.6	140.1565.10
	CuCrZr	Ø 2.0	140.1627.10
	HDS silver plated ²	Ø 1.2	147.6563.10
	HDS silver plated ²	Ø 1.4	147.6564.10
	HDS silver plated ²	Ø 1.6	147.6565.10
	HDS silver plated ²	Ø 2.0	147.6627.10

M8 contact tips – see the ROBO catalogue.

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

4 Gas nozzle (5 pcs.)



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

² Flush: Contact tip flush

⁴ Stick-Out: Contact tip protruding

³ Recess: Contact tip recessed

Liners

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

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

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

Neck-Liners for wire brake (5 pcs.)

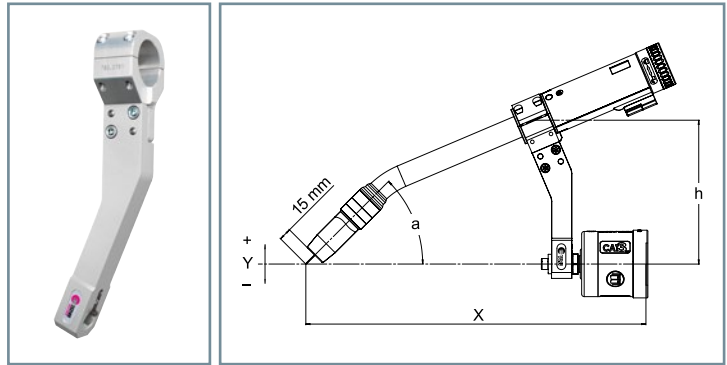
for Torch neck	for	Wire-Ø [mm]	Length [mm]	Part-No.
ROBO Compact W600	Steel	0.8-1.2	348.0	149.0451.5
	Steel	1.4-1.6	348.0	149.0452.5
	Steel	1.8-2.0	348.0	149.0471.5

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

Holder, rigid

In combination with CAT3

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

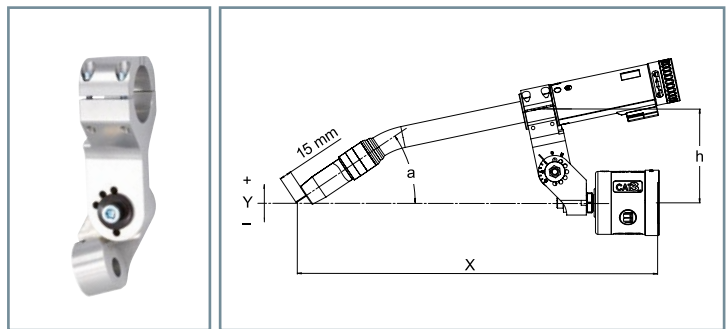


Segment holder

In combination with CAT3

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

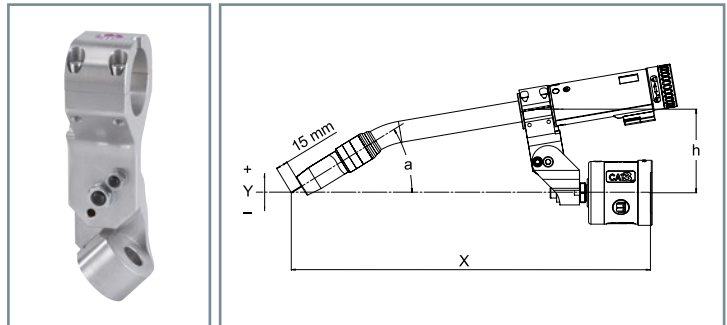


Holder, adjustable

In combination with CAT3

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

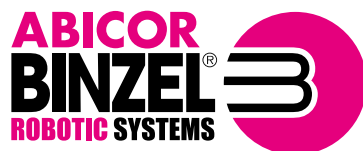
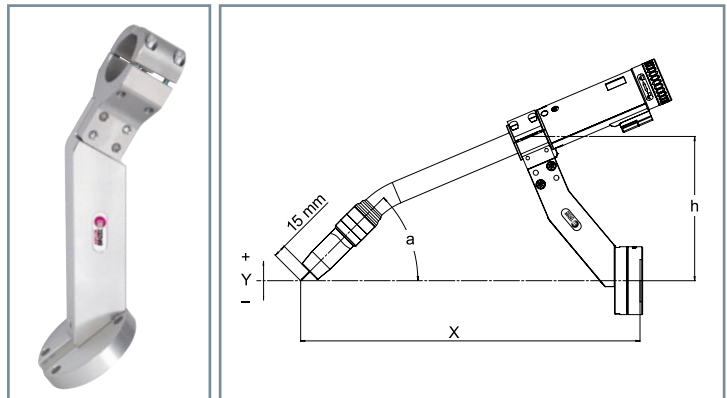
Holder must be fastened with screws and pins.



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
W600	45°	400	0	135	50°	780.0792.1



Alexander Binzel Schweisstechnik GmbH & Co. KG
Kiesacker · 35418 Buseck · GERMANY
Phone: +49 (0) 64 08 / 59-0
Fax: +49 (0) 64 08 / 59-191
E-mail: info@binzel-abicor.com

www.binzel-abicor.com