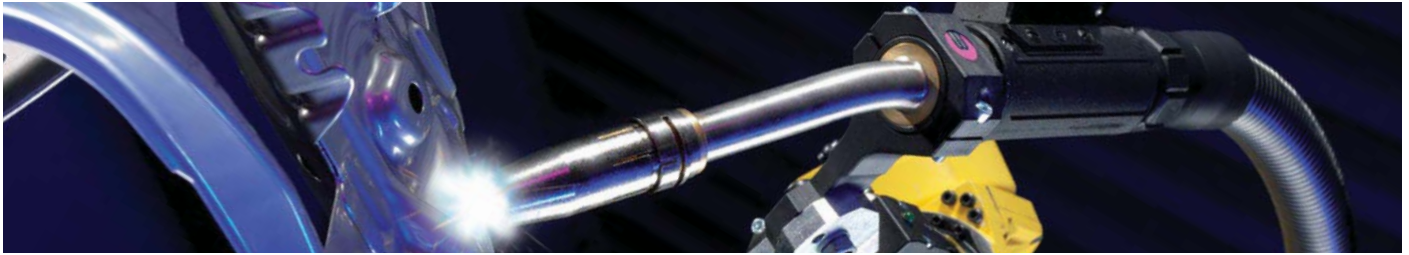


# MIG/MAG Welding Torch System

## “ROBO Standard” liquid cooled



### Powerful, reliable & economical ...

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

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

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

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

### Advantages that speak for themselves:

- Technically mature and 100% reliable
- Water-cooled up to 450 A (CO<sub>2</sub>)
- Integrated airblast function
- Simple installation and handling

### Degree of automation:

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

### Application areas:



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

### Material:

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

### Robot interface:

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

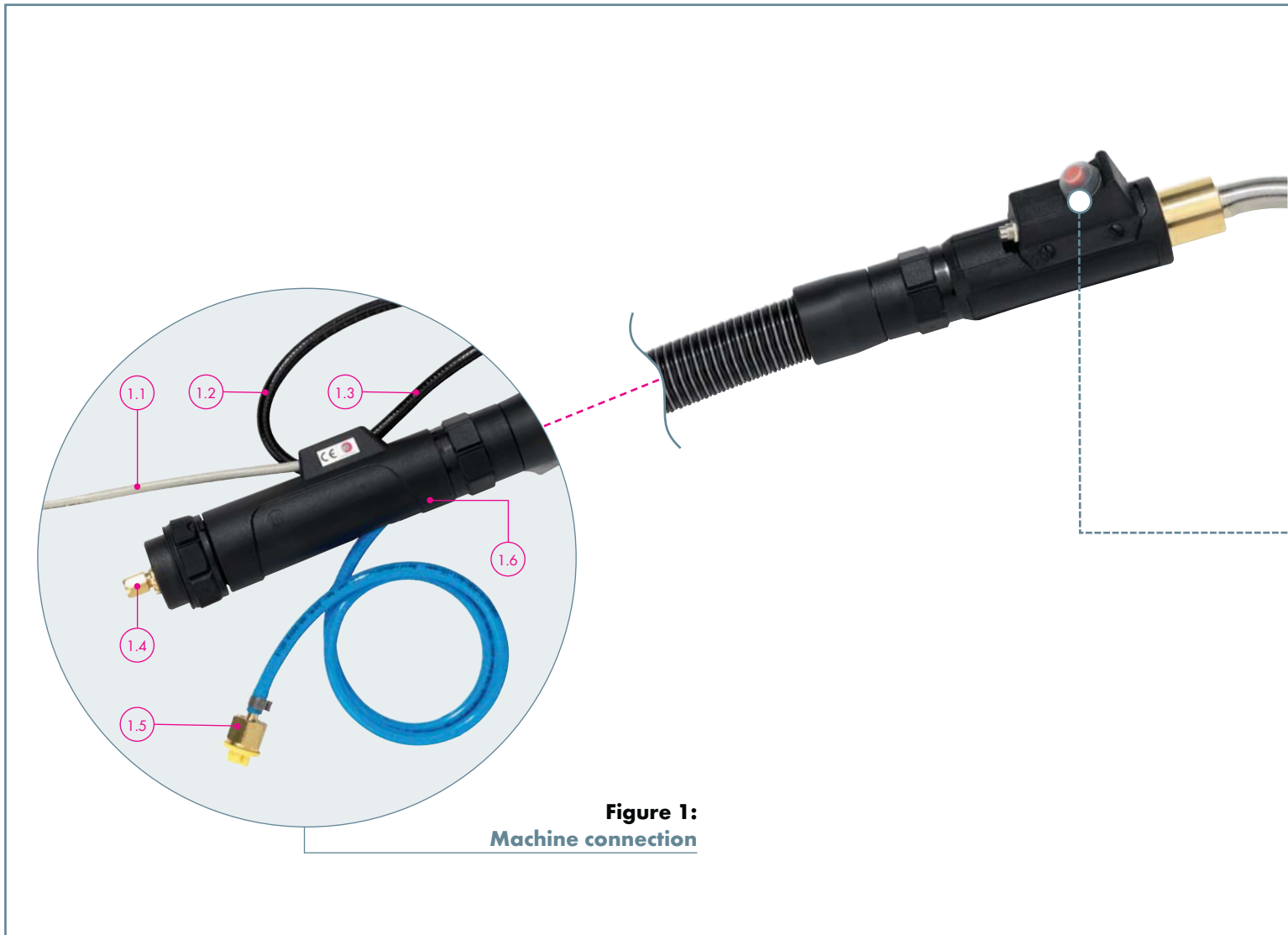
up to  
450 A



### \* Definition of the degree of automation:

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

# “ROBO Standard” liquid cooled System Overview & Technical Data



**Figure 1:**  
**Machine connection**

**Figure 1:**  
**Machine connection**

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



**Figure 2:**  
Handle tube with  
switch housing

**Figure 2:**  
Handle tube with switch housing

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



**Technical data (EN 60 974-7):**

**ROBO 455 D**

Type of cooling:	liquid cooled
Rating:	450 A CO <sub>2</sub> 400 A Mixed gases M21 (EN ISO 14175)
Duty cycle:	100 %
Wire-Ø:	0.8 - 1.6 mm
Torch geometries:	0°/22°/45°

**Note on the technical data:**

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

# "ROBO Standard" liquid cooled Torch Necks & Wear Parts

## ROBO 455 D

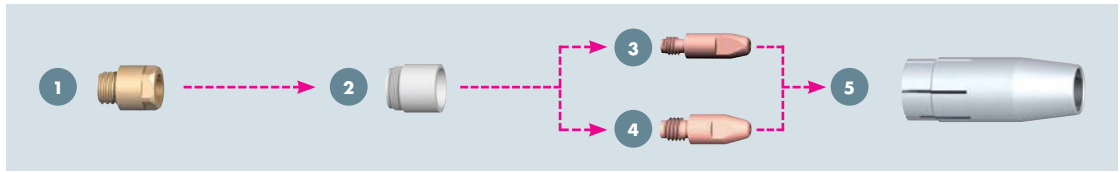


### Torch neck

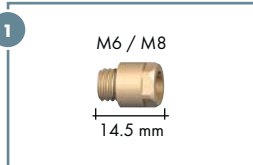
Features	Part-No.		
	0°	22°	45°
Torch complete with cable assembly (L=3.00 m)	943.0247	943.0248	943.0249
Individual torch neck (spare torch)	943.0161.1	943.0162.1	943.0163.1

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

## Wear parts for ROBO 455 D

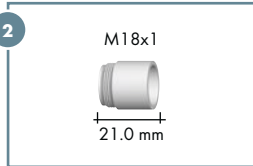


### 1 Contact tip holder (10 pcs.)



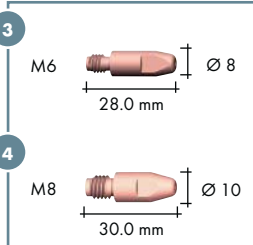
Type	Part-No.
M6 Brass	142.0123
M8 Brass	142.0122

### 2 Nozzle insulator (10 pcs.)



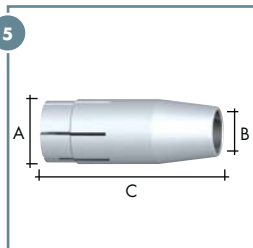
Type	Part-No.
Standard	146.0054.10
High temperature resistant	146.0059.10

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



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

### 5 Gas nozzle (10 pcs.)



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

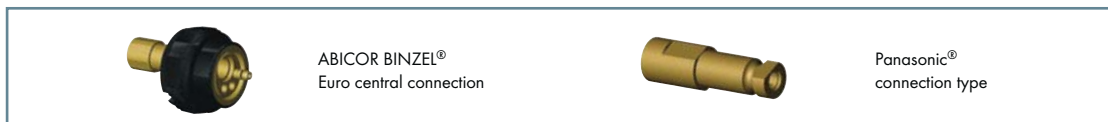
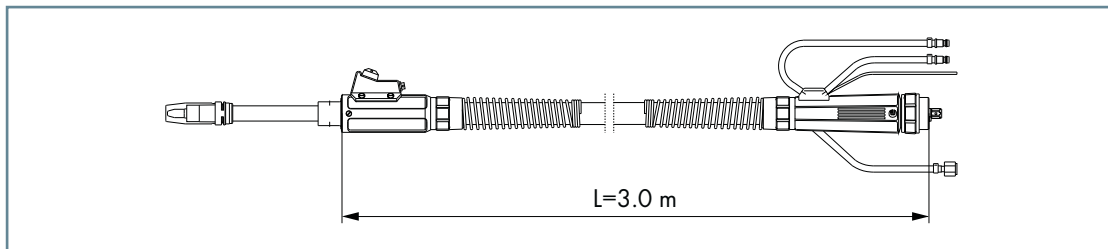
Type conical	Ø A	Ø B	Length C	Part-No.
Recess (-1.5 mm) <sup>1</sup>	Ø 25.0	Ø 13.0	67.5 mm	145.0134
Recess (-1.5 mm) <sup>1</sup>	Ø 25.0	Ø 15.5	67.5 mm	145.0089.10
Stick-out (+1.5 mm) <sup>2</sup>	Ø 25.0	Ø 15.5	64.5 mm	145.0106

<sup>1</sup> Recess: Contact tip recessed

<sup>2</sup> Stick-out: Contact tip protruding

# “ROBO Standard” liquid cooled Cable Assemblies

## Cable assemblies and connection types



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

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

## Liners for Euro central connection<sup>1</sup>

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

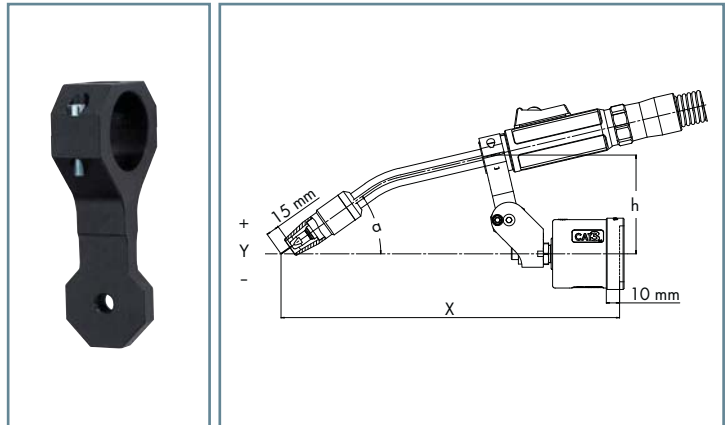
<sup>1</sup> Steel liner (insulated) for the use of non-alloyed and low-alloyed steels. The totally insulated wire feed prevents damage caused by “micro-arcing” on the wire. This allows optimal current transfer inside the contact tube, improving the welding process. The insulated steel liner must always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

# “ROBO Standard” liquid cooled Holder & TCP Geometries

## Torch holder for ROBO Standard

in connection with CAT3 cpl.

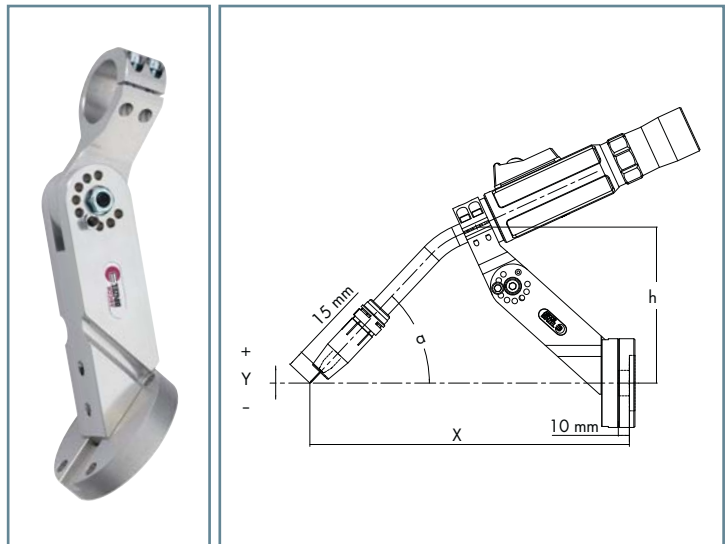
Torch type	Torch geometry	X	Y	h	$\alpha$	Part-No.
ROBO	0°	337	0	103	30°	780.0203
455 D <sup>1</sup>	22°	312	0	111	36°	780.0203
	45°	366	0	113	46°	780.0203



## RTM holder for ROBO Standard<sup>2</sup>

for robots with collision software

Torch type	Torch geometry	X	Y	h	$\alpha$	Part-No.
ROBO	0°	327	54	141	25°	780.0326
455 D <sup>1</sup>	22°	288	0	141	47°	780.0326
	45°	242	-29	141	70°	780.0326



Further holders are available on request.

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

<sup>2</sup> Holder adjustable in 7.5° steps.