



Equipment for CMT Braze +

CMT Braze+

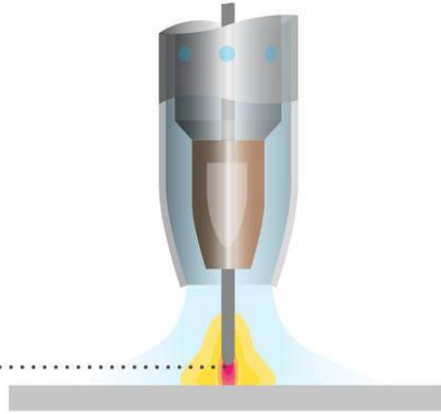
- **Modified CMT brazing process**

- Narrow seam with best looking seam surface
- Very high brazing speed up to 3m/min. robot speed
- Extremely slim, conical gas nozzle form necessary, which constricts the arc.
- Simple retrofitting of an existing CMT system to CMT Braze+ possible

Comparison Standard vs Braze+ torch body

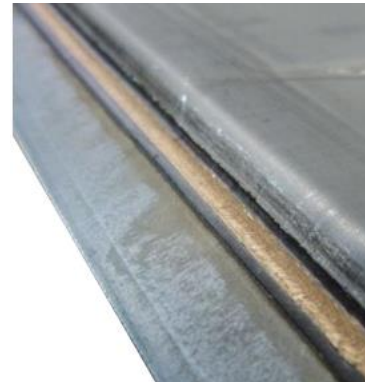
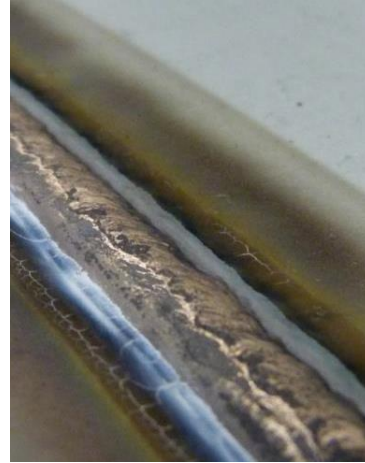
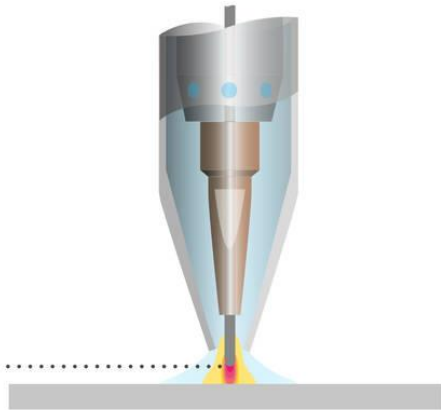
**Standard
MIG/MAG torch**

Standard MSG arc



**New, optimized
MIG/MAG torch**

Contracted MSG arc



Comparison

	Laser brazing	Plasma brazing	CMT Braze+
Costs wear parts	High	High	Low
Demands on clamping device	High	High	High
Edge of work piece - reproducibility	Very exact	Very exact	Very exact
Seam guiding	Necessary	Necessary	Optional
Investment costs	Very high	High	Low

Advantages of the CMT Braze+ process

- Low investment and wear part costs (no expensive cathodes necessary like for plasma brazing)
- Very high process speed $\approx 3\text{m/min}$ („normal“ arc process = 1 - 1,4 m/min)
- Very high seam quality
- Very low gas consumption (Gas saving about 60% compared to „normal“ arc processes)
- Low warehouse costs
- Process is similar to standard CMT process – no additional trainings for maintenance personnel necessary

Disadvantages of the CMT Braze+ process

- Minimal weld ripples at seam surface (not avoidable)
- Little bit higher smoke deposit at the edge areas of the seam (compared to laser or plasma brazing)

Torch bodies



MTB 330i W R Braze +

- **Area of application / characteristics:**

- Standard torch body for Braze +
- Improved accessibility due to small gas nozzle
- Simple, price reduced gas nozzle without water cooling
- No water leaking at changing the gas nozzle

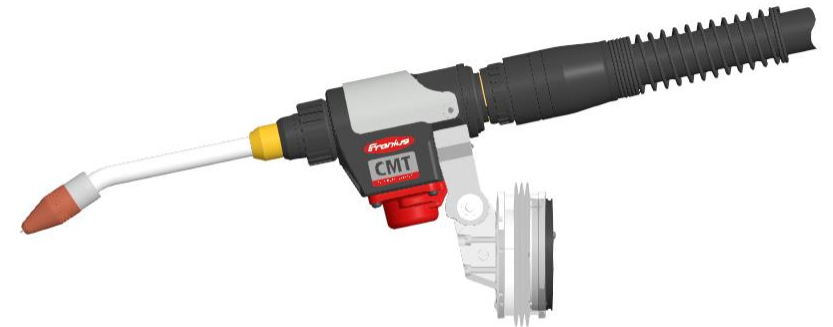
- **Cleaning:**

- with Robacta Reamer Braze +
- Limited cleaning using Robacta Reamer and milling tool for Braze +
- Info: Cleaning with USC 150 or Braze + brush head is not possible because the gas nozzle is not cooled and the spatters stick too firmly.

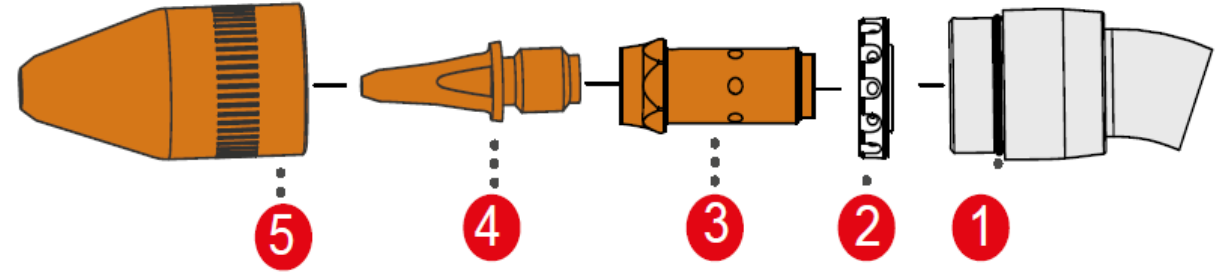
- **Part numbers:**

- 44,0350,4476 MTB 330i W R 22° / L252 / H29 CMT Braze+
- 44,0350,4477 MTB 330i W R 36° / L252 / H29 CMT Braze+
- 44,0350,4478 MTB 330i W R 45° / L252 / H29 CMT Braze+

**Recommended torch
body variant**



Consumables



- 1) 42,0402,0317 Sealing ring Iø20x1.3 FKM
- 2) 42,0100,1508,5 Centring ring ø10,1 / ø20,7x5,7
- 3) 42,0001,6556,5 Nozzle stock M8x1,5/SW11x30
- 4) 42,0001,6570,10 Contact tip 0,8 / M8x1,5 / ø10x32/9°
- 5) 42,0001,6571,10 Contact tip 1,0 / M8x1,5 / ø10x32/9°
- 6) 42,0001,7022,10 Contact tip 1,2/M8x1,5/10x32/9
- 7) 42,0001,5000,5 Gas nozzle ø5/ø26x47 CT

MTB 270i Braze+

- **Area of application / characteristics:**

- Torch body with watercooled gas nozzle
- Same wear parts as RA 2700

- **Cleaning:**

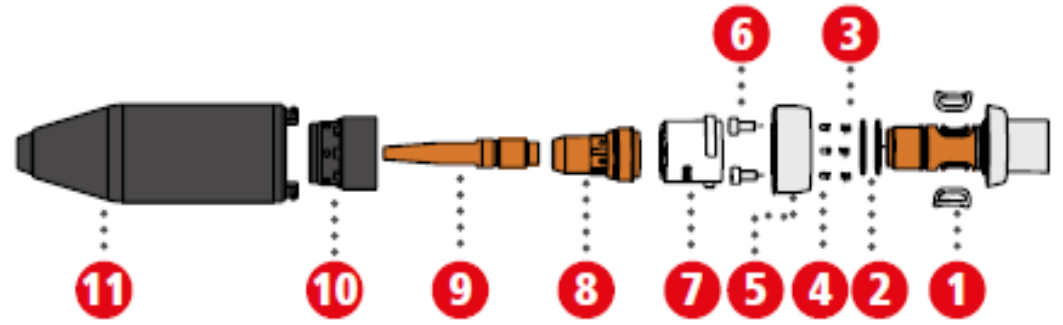
- with USC 150 or Braze+ brush head

- **Part numbers:**

- 44,0350,4461 MTB 270i R 22°/L241/H50 Braze+
- 44,0350,4462 MTB 270i R 36°/L224/H86 Braze+
- 44,0350,4463 MTB 270i R 45°/L209/H107 Braze+



Consumables



- 8) 42,0001,4456 Nozzle stock M8 / SW13x34
- 9) 42,0001,3270 Contact tip 0,8/M8/ø8x45 CB
42,0001,3274 Contact tip 1,0/M8/ø8x45 ZB
42,0001,3269 Contact tip 1,2/M8/ø8x45 CB
- 10) 42,0100,1415 Spatter guard M18x1 / ø20,3x19,5
- 11) 44,0350,3773 Gas nozzle CMT Braze+ W ø5/ø28x84

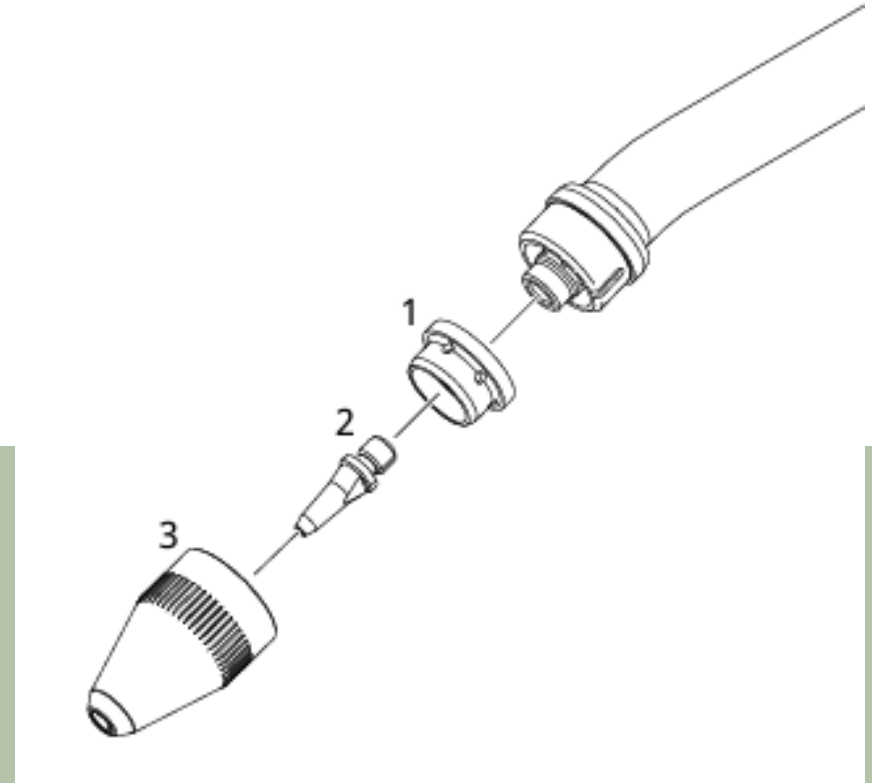
MTB 240i R Braze +

- **Area of application / characteristics:**
 - Component accessibility requires a smaller gas nozzle
 - Lower performance
 - Limited service life of wearing parts
- **Cleaning:**
 - Robacta Reamer Braze +
 - Limited cleaning using Robacta Reamer and milling tool for Braze +
- **Part numbers:**
 - 44,0350,4561 MTB 240i R/22°/L230/H21 Braze+
 - 44,0350,4562 MTB 240i R/36°/L223/H35 Braze+
 - 44,0350,4563 MTB 240i R/45°/L217/H45 Braze+



Consumables

- 1) 42,0100,0174 Spatter guard Ø2,6/Ø18,7x9
- 2) 42,0001,1552,10 Contact tip 0,8/M6/ø8x24/9°
42,0001,1553,10 Contact tip 1,2/M6/ø8x24/9°
- 3) 42,0001,1502 Gas nozzle ø5/ø23x36 CT



MTB 180i R Braze +

- **Area of application / characteristics:**

- Component accessibility requires an extremely small gas nozzle and a short head
- Should only be used where the small geometry is really needed
- Limited service life of wearing parts
- Additional cooling using compressed air

- **Cleaning:**

- with Braze+ brush head
- Info: Due to the small design, mechanical cleaning is not possible

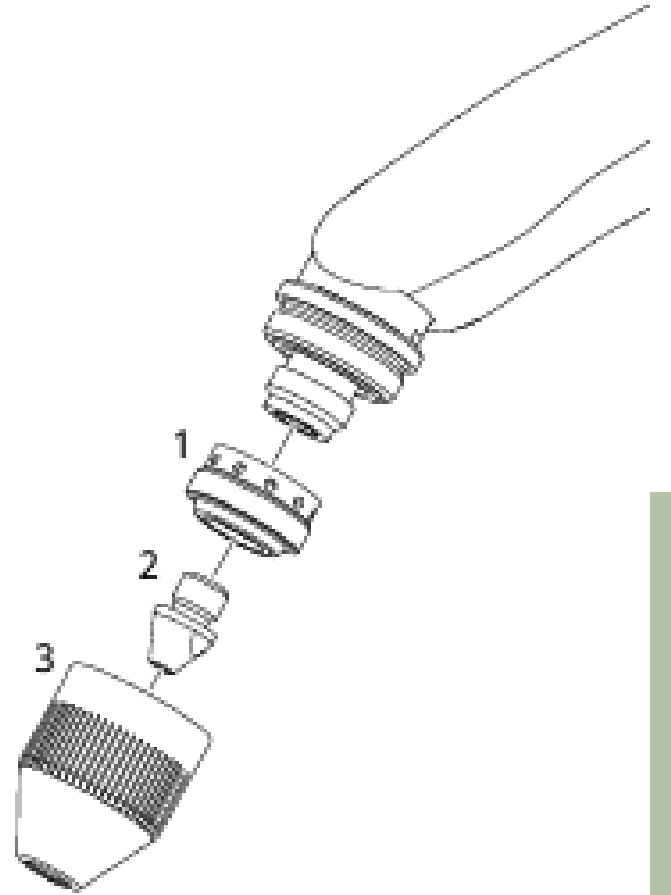
- **Part numbers:**

- 44,0350,2037 MTB180i 48°/L222/H26 Braze+ 3D



Consumables

- 1) 42,1400,0301 Spatter guard $\varnothing 6,9/\varnothing 13 \times 7,1$
- 2) 42,0001,1348 Contact tip $0,8/\text{M5}/\varnothing 6,7 \times 10$
- 3) 42,0001,1433 Gas nozzle $\varnothing 5/\varnothing 16 \times 20$



Cleaning



Robacta Reamer Braze+

suitable for

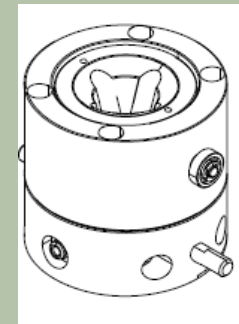
- MTB 330i Braze+
- MTB 240i Braze+

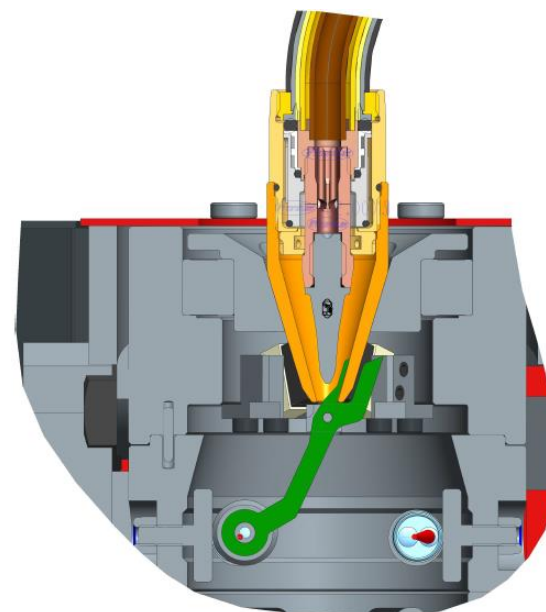
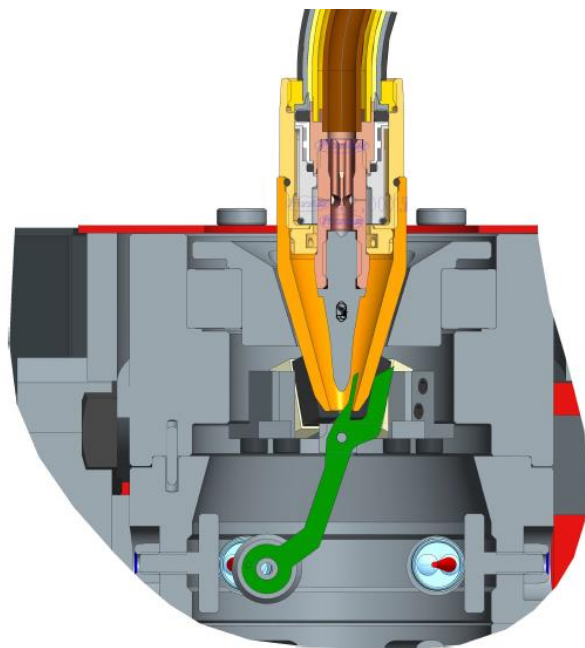
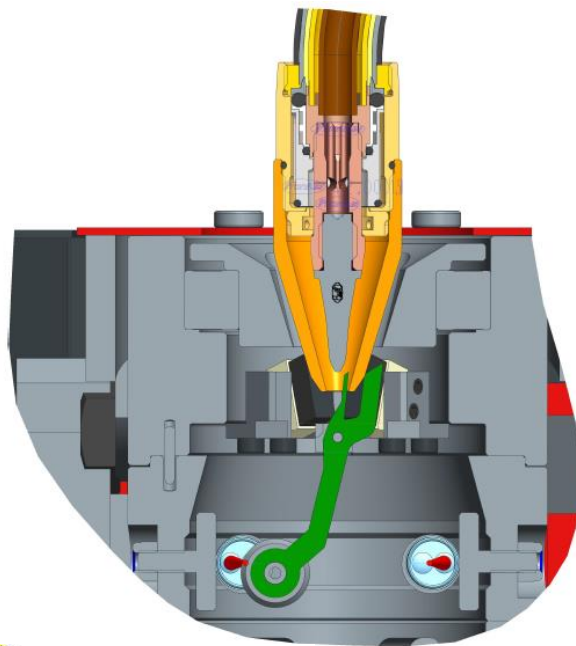
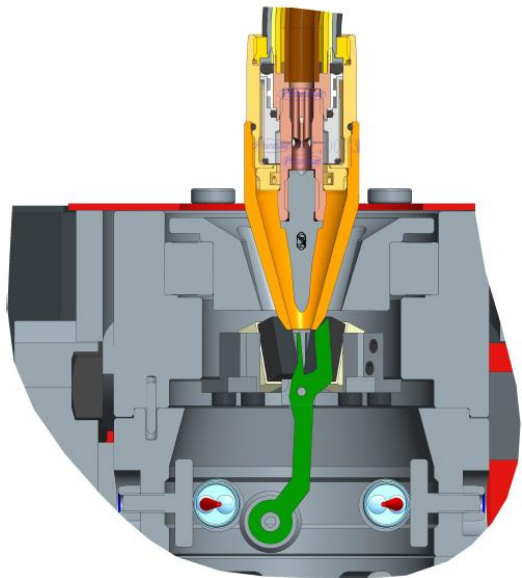
**Recommended cleaning
variant**



Robacta Reamer Braze +

- Mechanical cleaning for Braze + torch bodies
- Cleaning with two knives, which are turned and pressed by the centrifugal force to the inner contour of the gas nozzle.
- Cleaning times: 4,5 – 6,5s
- Complete cycle times: 5,0 – 9,0s
- Control via 6-pole Harting plug



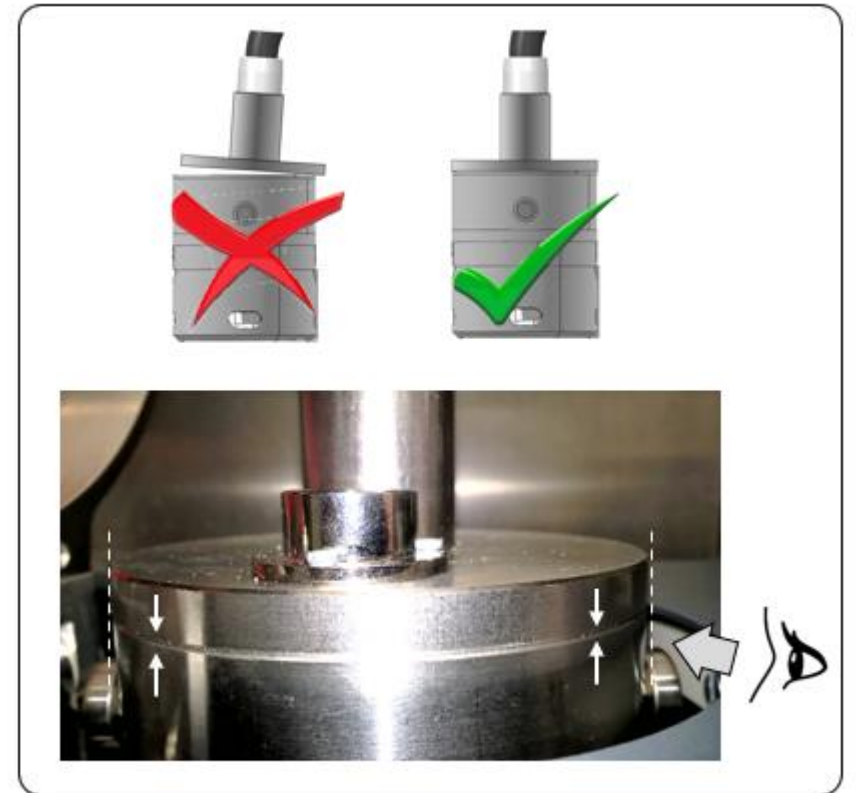


Option teach tool 42,0435,0237

- Teaching tool
- Is screwed onto the torch body instead of the gas nozzle and placed on the blade head with the lid open.
- Attention! Precise robot programming is absolutely necessary



Option teach tool 42,0435,0237



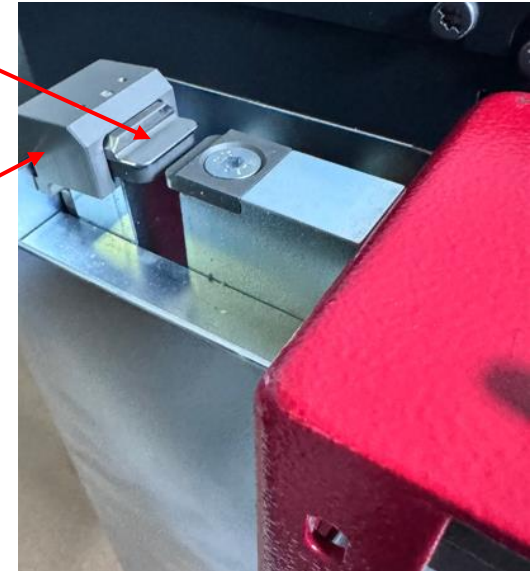
Option V-brush 44,0350,4725

- To clean the coarse spatters at the beginning of the cleaning process



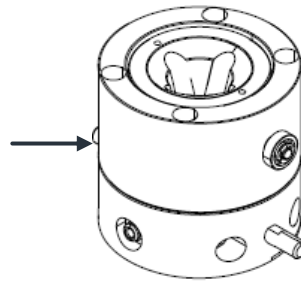
Wire cutter 42,0411,1447

- **Recessed pair of knives (42,0411,0238)**
 - The pair of knives on the wire cutter must be converted
 - The recessed pair of knives are used in Braze + due to the very short stickout.
- **Spring-loaded pressure piece (Article number follows)**
 - Furthermore, a spring-loaded pressure piece must be installed to hold the wire in position when opening
 - No bending of the wire, which is essential for the Braze+ process



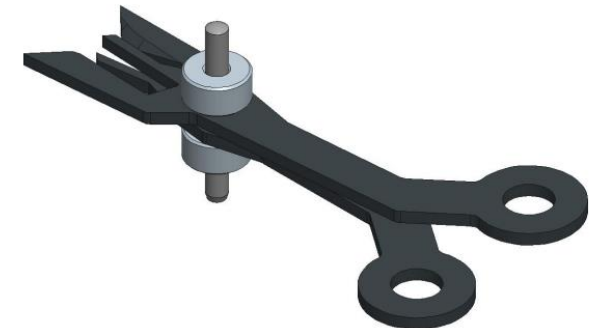
Configuration

- 4,044,047 Robacta Reamer Braze+
- 44,0001,3448 Blade head Robacta Reamer Braze+
- 42,0435,0237 Teach tool Robacta Reamer Braze+
- 42,0411,1447 Wire cutter
 - 42,0411,0238 Blade pair for Braze+
 - Xx,xxxx,xxxx Spring-loaded pressure piece
- 44,0350,4725 V-brush
- 4,045,907 or 4,045,916 mounting socket
 - 4,001,110 Socket plate Reamer Braze+



Cleaning blade spare part

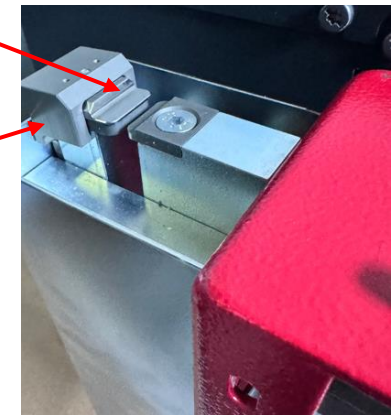
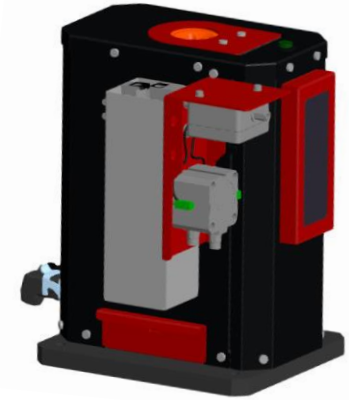
- 44,0350,0232 Set of blades Braze+ (including blade holder)
- 42,0201,5469 Cleaning blade



Wire cutter 42,0411,0349

Only for VW
Group

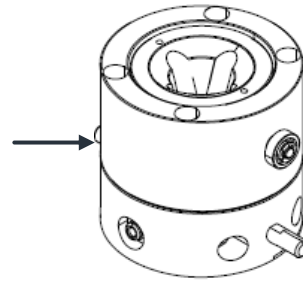
- Wire cutter for the VW Group
- No pneumatic valve installed, control is via a valve terminal.
- **Recessed pair of knives (42,0411,0238)**
 - The pair of knives on the wire cutter must be converted
 - The recessed pair of knives are used in Braze + due to the very short stickout.
- **Spring-loaded pressure piece (Article number follows)**
 - Furthermore, a spring-loaded pressure piece must be installed to hold the wire in position when opening
 - No bending of the wire, which is essential for the Braze+ process



Configuration VW Group

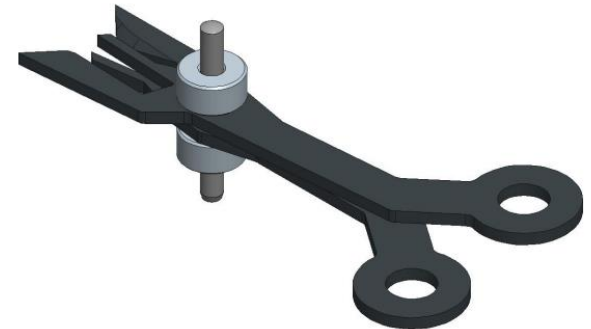
– Configuration

- 4,044,047 Robacta Reamer Braze+
- 44,0001,3448 Blade head Robacta Reamer Braze+
- 42,0435,0237 Teach tool Robacta Reamer Braze+
- 42,0411,0349 Wire cutter Braze +
- 44,0350,4725 V-brush



Cleaning blade spare part

- 44,0350,0232 Set of blades Braze+ (including blade holder)
- 42,0201,5469 Cleaning blade



Robacta Reamer with milling tool
suitable for

- MTB 330i Braze+
- MTB 240i Braze+

Price-optimized cleaning option



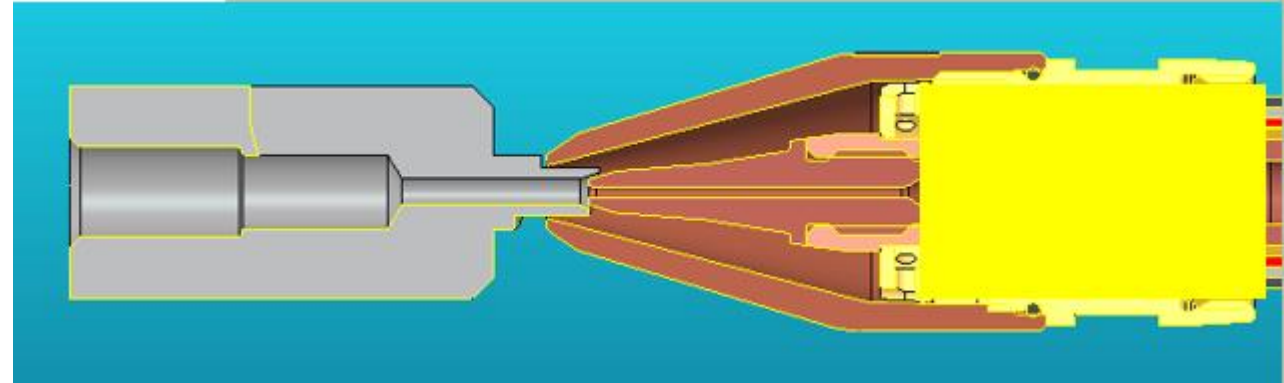
Robacta Reamer V Easy / Comfort with milling tool for Braze +

- Cleaning of contact tip and end face of gas nozzle possible
- The inner wall of the gas nozzle is not cleaned
- That's why we recommend using the Robacta Reamer Braze +

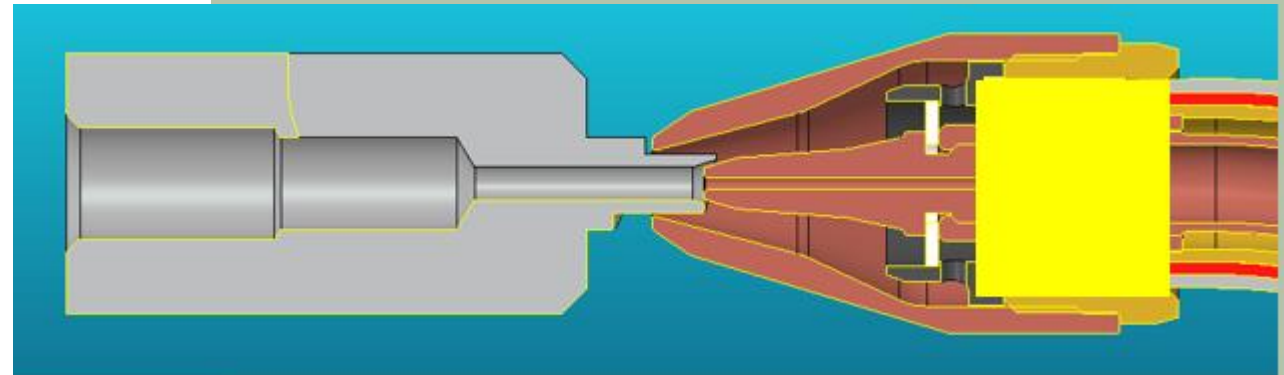
- Article number: 44,0450,0153 Gas nozzle milling tool

Further details about the cleaning station can be found at this [link](#)

MTB 330i Braze +



MTB 240i Braze +



Configuration

- **Configuration Robacta Reamer V Easy**
- 44,0450,1444 Robacta Reamer V Easy
- 44,0450,1152 Mounting socket
- 42,0411,1447 Wire cutter
 - 42,0411,0238 Blade pair for Braze+
 - Xx,xxxx,xxxx Spring-loaded pressure piece
- 44,0450,0153 Gas nozzle milling tool
- **Configuration Robacta Reamer V Comfort**
- 42,0411,0333 Robacta Reamer V Comfort
- 44,0450,1152 Mounting socket
- 42,0411,1447 Wire cutter
 - 42,0411,0238 Blade pair for Braze+
 - Xx,xxxx,xxxx Spring-loaded pressure piece
- 44,0450,0153 Gas nozzle milling tool

Robacta Reamer Alu Braze+ brush head

suitable for

- MTB 270i Braze+
- MTB 180i Braze+



Robacta Reamer Alu Braze + brush head

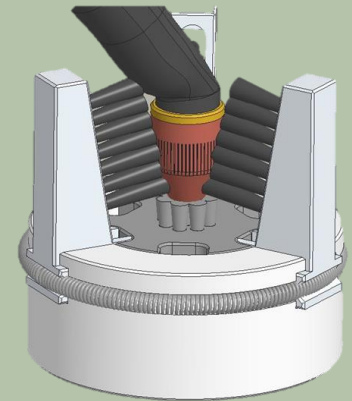
MTB 270i Braze +

- The water-cooled gas nozzle reduces spatter adhesion and can be cleaned off with a brush.

MTB 180i Braze +

- Due to the low power and the additional cooling using compressed air, spatter adhesion is also low here.
- Due to the size, cleaning with a milling tool is not possible

Further details about the cleaning station can be found at [this link](#)



Configuration

- 44,0450,1449 Robacta Reamer brush head Alu
- 44,0350,3442 Brush head Braze+
- 44,0450,1152 Mounting socket Robacta Reamer/Alu/V
- 42,0411,1447 Wire cutter
 - 42,0411,0238 Blade pair for Braze+
 - Xx,xxxx,xxxx Spring-loaded pressure piece

Configuration VW Group

- 44,0450,1449 Robacta Reamer brush head Alu
- 44,0350,3442 Brush head Braze+
- 44,0450,1152 Mounting socket Robacta Reamer/Alu/V
- 42,0411,0349 Wire cutter Braze +

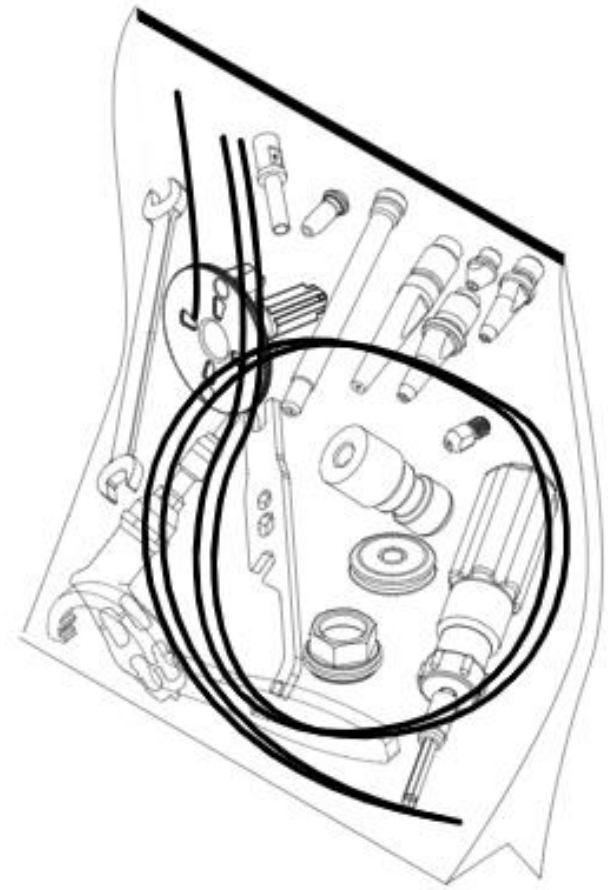
Accessories



Basic kits CMT Braze +

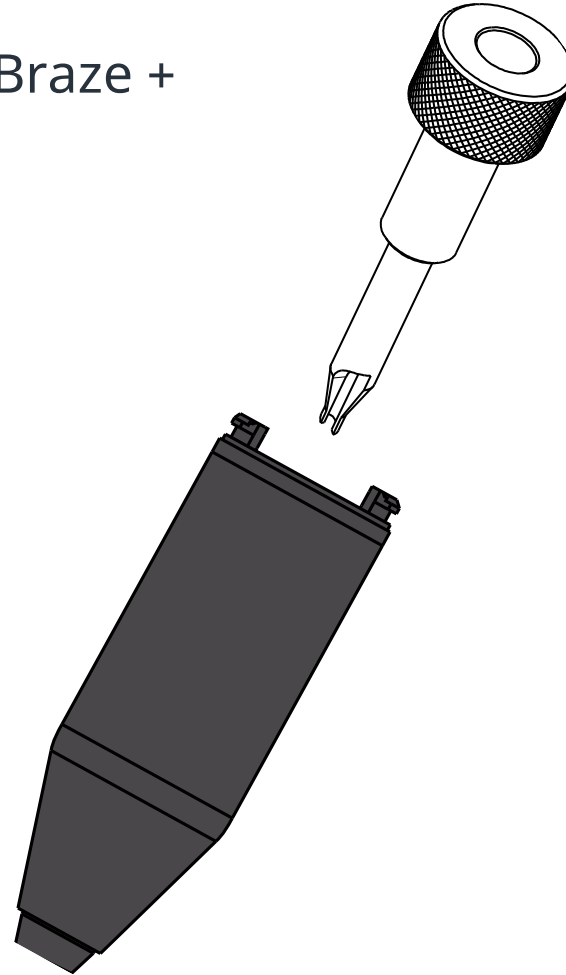
- 44,0350,0067 BK CMT R Braze + $\varnothing 0,8/W$
- 44,0350,0613 BK CMT R Braze + D1,0/W
- 44,0350,0635 BK CMT R Weld + D1,2W

- Basic kits contain contact tip variants for all 4 torch body types



Manual cleaning

– 42,0001,4562 Gas nozzle milling tool Aø5 CMT Braze +



Pulley for aluminum wires

- **The Braze + process requires a precise welding position**
- **The use of the deflection pulley is therefore recommended**
- Wire comes with a sinusoidal deformation from the barrel
- This leads to an inaccurate welding position
- This is problematic especially with large wire diameters and small seam cross-sections (eg fillet a4 with 1.6 mm wire diameter).
- Deflection pulley directs the wire electrode in a defined direction
- With the pulley, setting the exact welding position is possible
- Knot formation from the wire is prevented
- The wire feeding hose is connected via QuickConnect
- Optionally a wire end sensor can be mounted

Article number:

- 44,0450,1037 Pulley





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