



PullMig TPS/i

Fronius International, Name Surname, xx.xx.20xx Information Class: Confidential



PullMig – small, lightweight and powerful

- **Hosepacks (MHP = MIG HosePack):**

- MHP 280i PullMig G – 280A 40% Duty cycle CO₂ and mixed gas
 - 220A 60% / 170A 100% Duty cycle CO₂ and mixed gas
- MHP 320i PullMig W – 320A 100% Duty cycle CO₂ and mixed gas
- One of the smallest and lightest push-pull welding torches in the world
 - Motor size and weight about ¼ of the current PullMig



Weight: 1600g
(only 400g heavier
than MTW 500i)

Versions: Standard LED / UpDown / Jobmaster Lengths: 5,85m / 7,85m / 9,85m



SpeedNet

Highlights

Multilock with integrated water stop

360° rotatable, with anti twist guard

Slip-free handle
with soft components

Stainless steel outer tube
for max. stability

Optimally cooled
Screwed gas nozzle,
Tapered contact tips
for perfect heat transfer

Flexible, rotating rubber
anti kink feature for
better handling

LED-illumination
For illumination of
the welding area
Control via two-stage
gun trigger



Multilock torch bodies MTB = MIG Torch Body



MTB 250i G



MTB 250i W



MTB 330i W



MTB 320i G



MTB 400i W



MTB 400i G



MTB 500i W



MTB 700i W

Multilock Torch Bodies MTB flex = **MIG Torch Body**



MTB 200i G ML flex



MTB 330i W ML flex



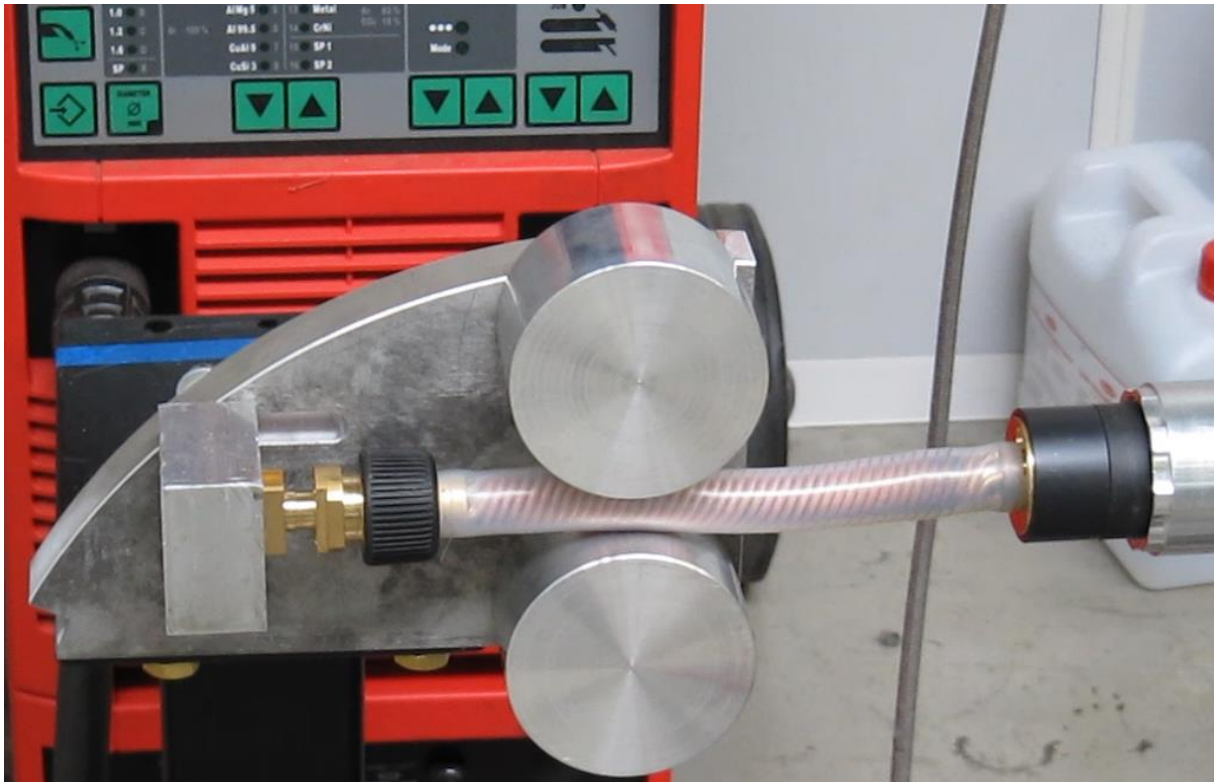
MTB 360i G ML flex



MTB 400i W ML flex

Flex Neck – bending test

- Gascooled torch bodies can be bent 1.000 times
- Watercooled torch bodies can be bent 600 times



Multilock torch body versions

Union nut is fixed and protects the Multilock connector (important for watercooled torch bodies)



Highlight
Fixed 0° position by an anti twist guard



Wear parts and
Basic kits

New inner liners for perfect process stability

Bare steel inner liners gas- and water cooled:

- \varnothing 0,8: external diameter 4,3mm
- \varnothing 1,0 – 1,6: external diameter **4,8mm**

CrNi-bare inner liners for CrNi gas- and water cooled:

- \varnothing 0,8: external diameter 4,3mm
- \varnothing 1,0 – 1,6: external diameter **4,8mm**

Steel inner liner coated, for all materials:

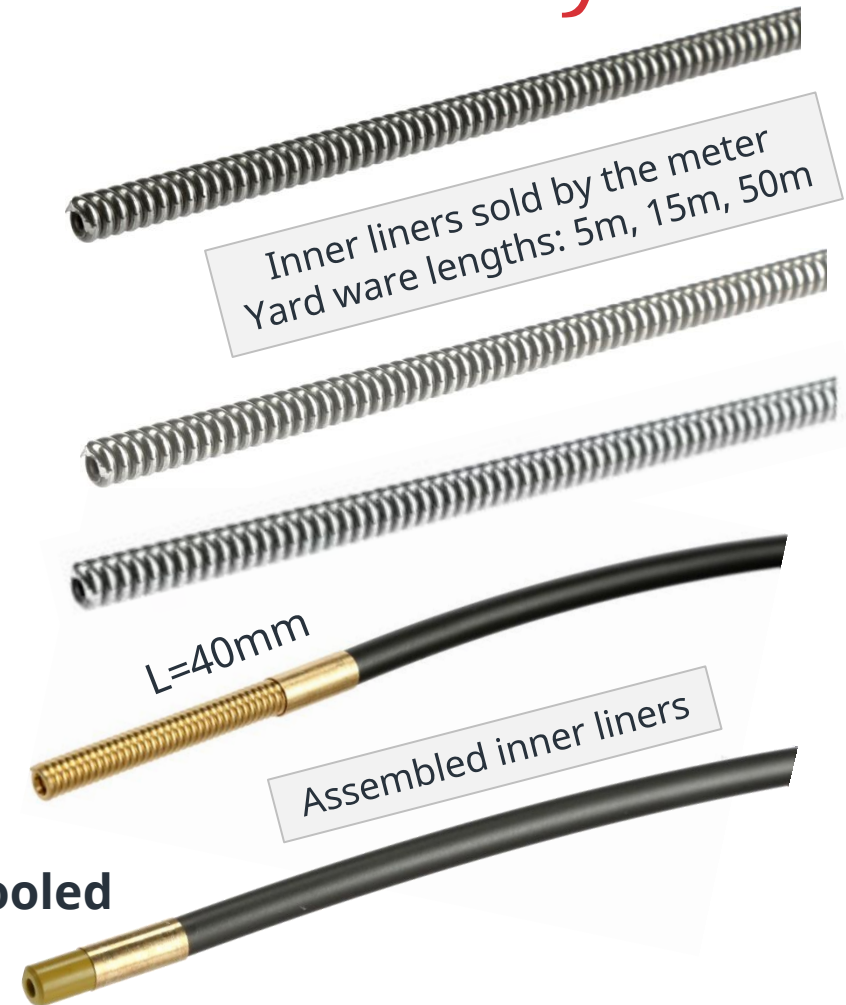
- \varnothing 0,8: Außendurchmesser 4,4mm
- \varnothing 1,0 – 1,6: Außendurchmesser 4,8mm

Combi inner liners for Al gas cooled and CuSi for gas and water cooled

- \varnothing 0,8 – 1,6: external diameter **4,8mm**

Combi inner liners for Al water cooled

- \varnothing 0,8 – 1,6: external diameter **4,8mm**



Clamping piece – now color coded



Gray with groove ø0,8 for
combi inner liners AD ø4,8



Gray ø0,8 for steel inner
liners with AD ø4,3



Blue
ø0,9/ø1,0



Red
ø1,2



Black
ø1,6



Green
ø2,0

Tool-free change of the inner liner, almost no loss of gas

Gas sealed with specific diameter clamping piece - almost no loss of gas

Patented



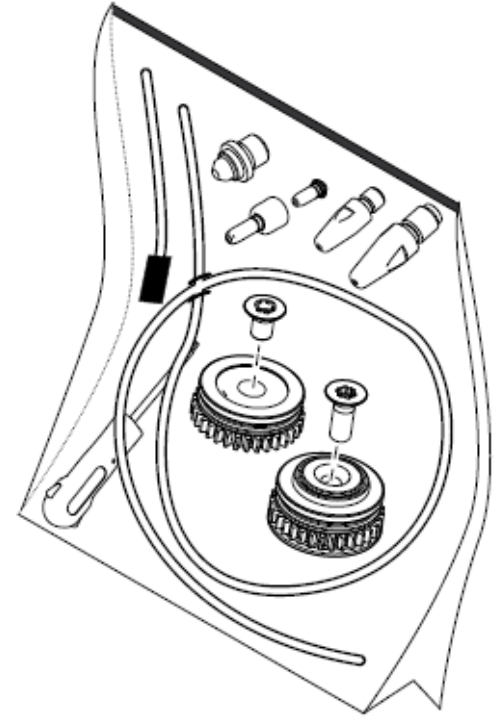
Fronius System Connector (FSC)

- MTG and MTW torches are equipped with the FSC connection
- Tool-free, simple and quick welding torch change without missoperation
- Process security because of defined current transfer
- No external control connectors - all control signals are integrated in the central connection
- One central connector for all applications (Manual-, Machines- and Robot systems – PAP and conventional)



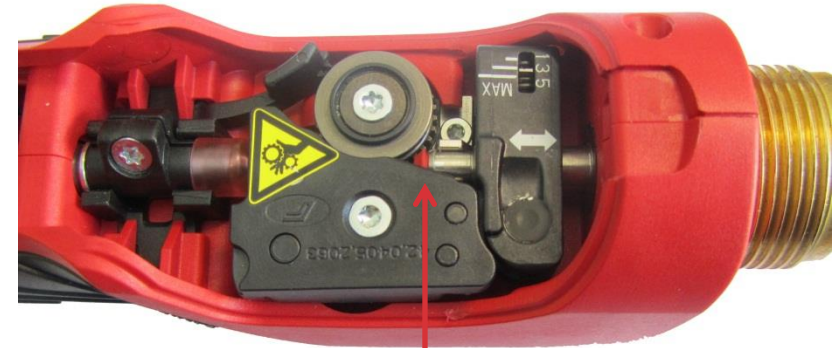
Basic kits for PullMig

- **Fe** $\varnothing 0,8$ / $\varnothing 0,9$ / $\varnothing 1,0$ / $\varnothing 1,2$ / $\varnothing 1,4$ / $\varnothing 1,6$
 - **CrNi** $\varnothing 0,8$ / $\varnothing 0,9$ / $\varnothing 1,0$ / $\varnothing 1,2$ / $\varnothing 1,4$ / $\varnothing 1,6$
 - **Universal:** $\varnothing 0,8$ / $\varnothing 0,9$ / $\varnothing 1,0$ / $\varnothing 1,2$ / $\varnothing 1,4$ / $\varnothing 1,6$
 - Content: Inner liner 15m, 2 pc. contact tips, clamping piece, Wire guide nozzle rear, Gas saving nozzle front, feed roller kit, torque key
-
- **Aluminum (G) & CuSi** $\varnothing 0,8$ / $\varnothing 1,0$ / $\varnothing 1,2$ / $\varnothing 1,6$
 - **Aluminum (W)** $\varnothing 0,8$ / $\varnothing 1,0$ / $\varnothing 1,2$ / $\varnothing 1,6$
 - Content: Graphit inner liner 10m, 2 pc. contact tips, clamping piece, Wire guide nozzle rear, Gas saving nozzle front, feed roller kit, Torch body liner, torque key



Gas saving nozzle

- / Minimized loss of gas out of the torch body towards feed rollers of the PullMig
- / = reduction of gas costs



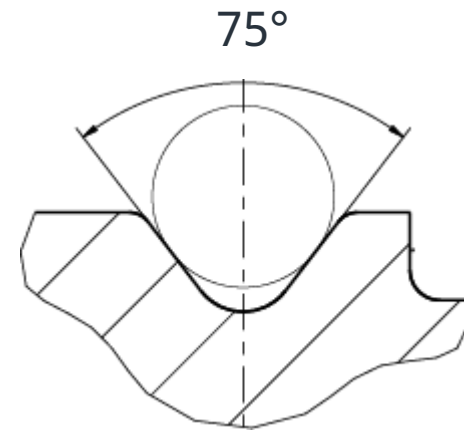
Gas saving nozzle

Very small tolerances:
For wire $\varnothing 1,2\text{mm}$ \rightarrow drilling $1,23\text{mm}$



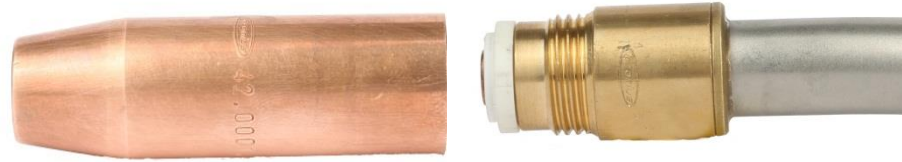
Feed rollers PullMig

- Feed rollers for diameter 0,8K / 0,9K / 1,0K / 1,2K / 1,4K/ 1,6K
 - In future with color code
- Combination groove with 75°
- Optimized for a perfect wire feeding
- Material: heat treatable steel



Wear parts

- Screwed gas nozzle
 - Easy operation
 - Optimum heat transfer
 - no loss of gas through the slots
 - Coated gas nozzles available for aluminum welding
- All wearing parts are replaceable
 - also gas nozzle holder can be changed from repair department



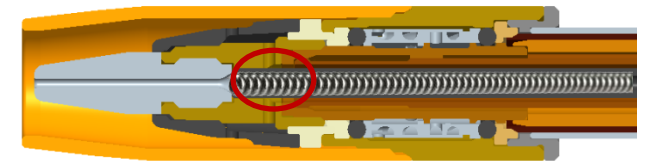
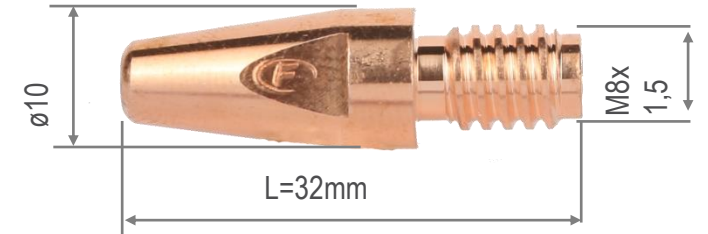
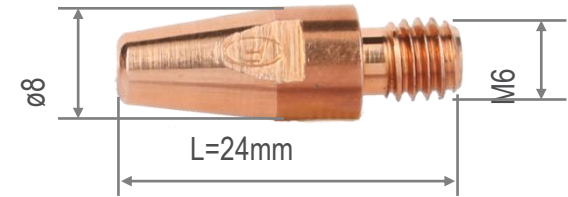
Contact tips

– Types:

- M6 – external diameter 8mm (MTG 250i, MTW 250i)
- M8x1,5 – external diameter 10mm (MTG 320i, MTG 400i, MTW 320i, MTW 500i, MTW 700i)

– Properties:

- Material: CuCrZr
- No central bore in the contact tip
 - Guiding of the innerliner via nozzle stock



Highlight

Perfectly cooled
welding torches

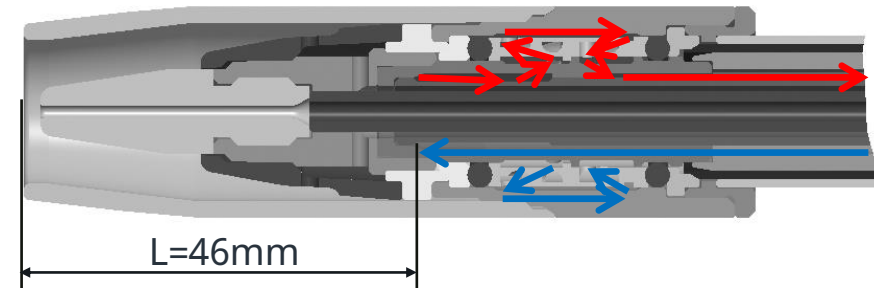
Cooling of water cooled welding torches

MTW500i

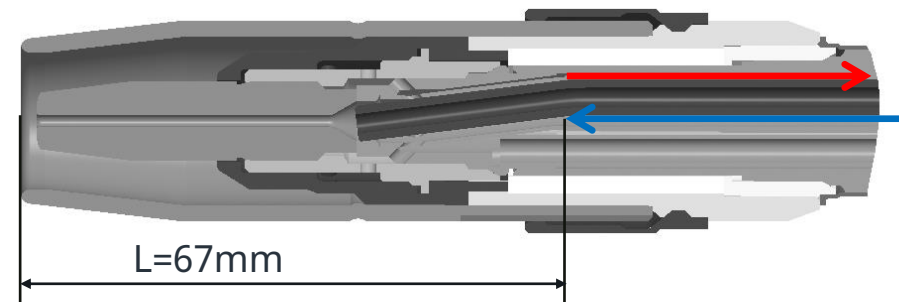
- Cooling was pulled forward as far as possible and also on the outside
- At 500A the gas nozzle can be replaced after about 1 min 30 sec by hand without gloves.

example: **MTW500i**

Highlight



For comparison: cooling of **AW5000**

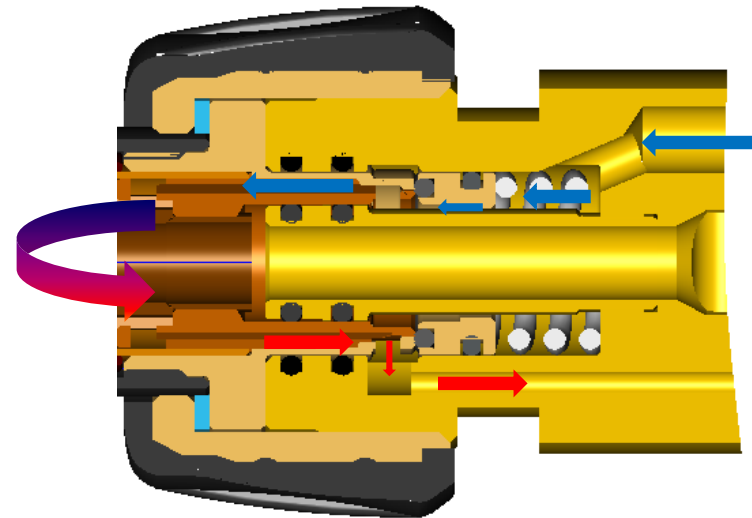
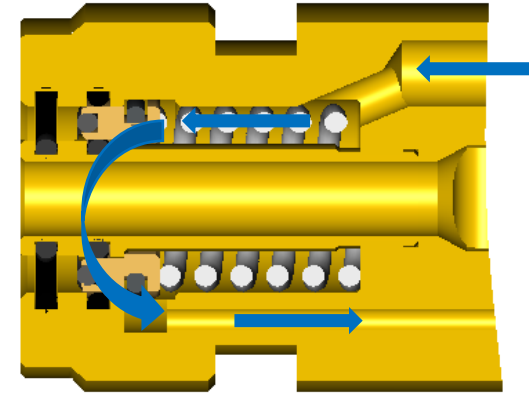


Cooling of Multilock welding torches

Patented

Highlight

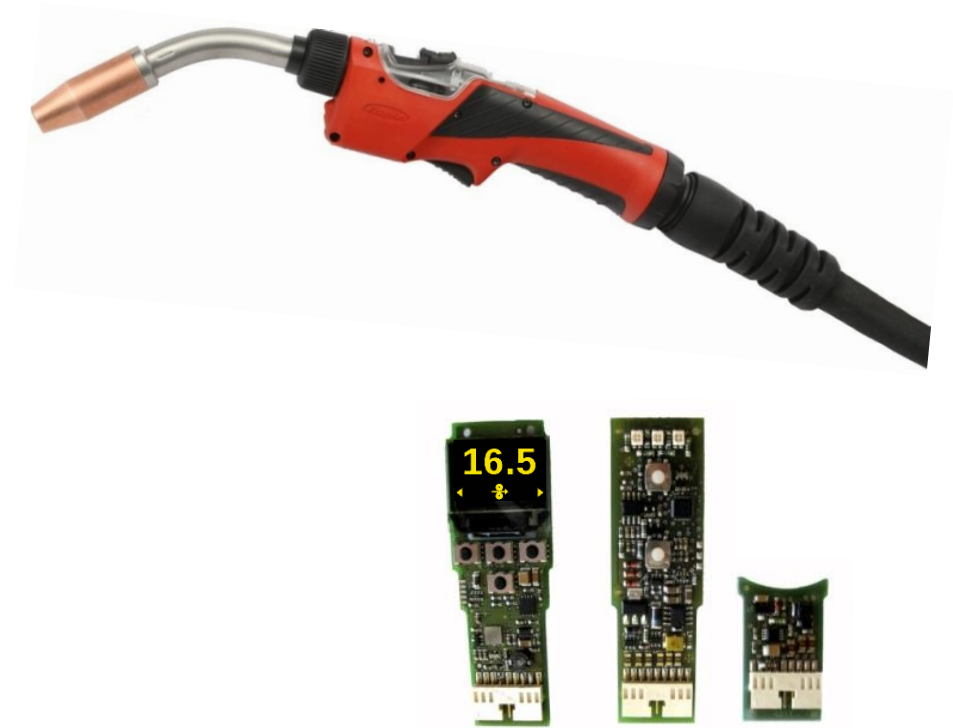
- With integrated water stop
- Also without mounted torch body water can circulate
 - Cooler keeps running for 2 minutes after welding
 - Hosepack and coolant liquid are cooled even torch body is removed
- When the torch body is connected, the water circulates to 100% above the torch body and the wearing parts



Further
characteristics

Characteristics

- Same handle for Standard, Up/Down and Jobmaster
- Conversion from Standard LED to Up/Down and Jobmaster possible
- Full graphic OLED display (organic LED) on Jobmaster pc board

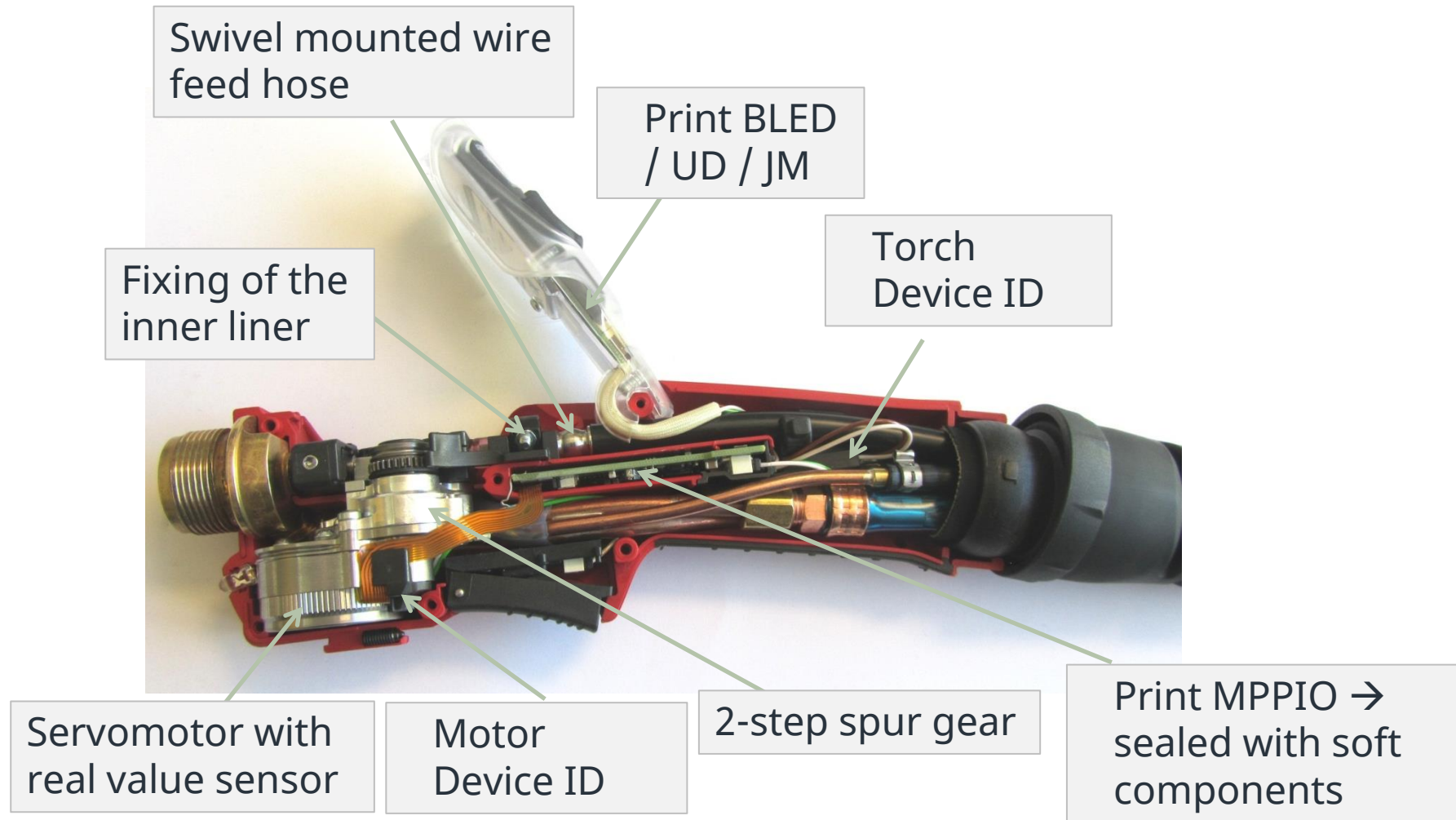


Characteristics

- No PPU-alignment due to torch device ID and real value sensor
- Wire inching without opening the feed rollers possible
- Real 2-wheel drive
- Stepless adjusting of the contact pressure
- Maximum force on the wire: 30 N
- Viewing window for rollers

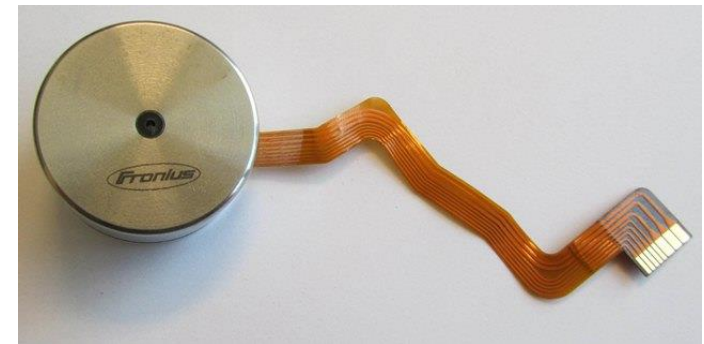


Detailed buildup

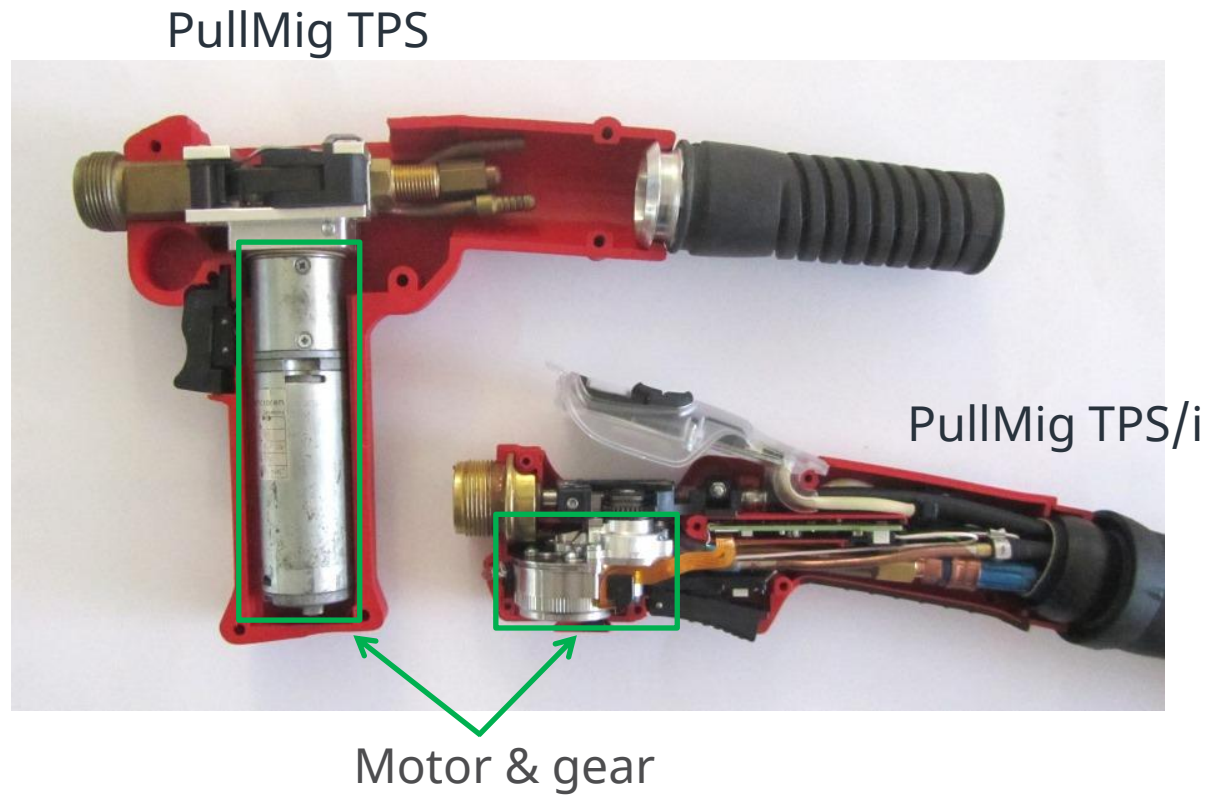


Motor

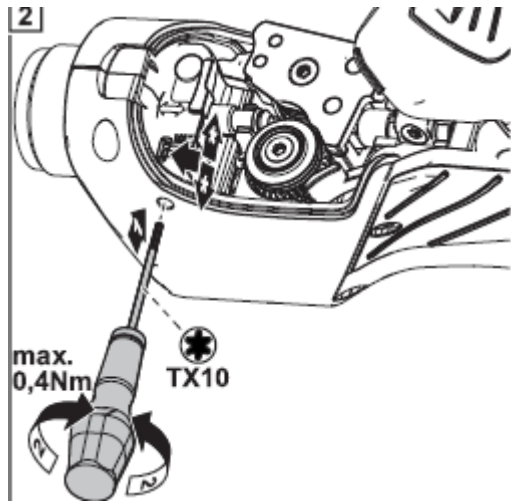
- 3-phase external rotor motor – max. torsional moment on smallest possible space
- Brushless
- Rotor is a magnetic ring, almost no breaking possible (magnets didn't break at drop test from 3m height)
- 3 integrated real value sensors for evaluation of the rotational speed
- 10 W output only at 6400 U/min
- 20m/min max. wire feed speed
- Dimensions:
 - Diameter: 32mm
 - Height: 16mm
 - Weight: 46g



Size comparison



Simple adjusting of the contact pressure incl. display



Display



Recommended contact
pressure is indicated on
cover



Current cable sizes

	Current cable
MHP 280i G PullMig	50mm ²
MHP 320i W PullMig	25mm ²

Options and
accessories

T-handle for PullMig

- All PullMig torches can be retrofitted with pistol handle very simple.
- Due to simple redirection of the trigger there is no electrical connection necessary.
- Article number: 44,0350,5243 OPT/i MHP PM T-Handle



FumeEx fume extraction set



- External fume extraction can be retrofitted
- Suitable for **Standard, Multilock, PullMig** and **PullMig CMT** torches with 45°
- Weight of the FumeEx set is **only approx. 395g** in 1m height
- **Optional leather protection hose** available, length = 1,1m (38,0001,0115)
- successor of the K4 fume extraction torch

Why fume extraction welding torches?

- **Because your health is important for us!**
- Extraction of welding fume **directly at the source** (welding seam)
- Welder is protected from **toxic fumes** and **ultrafine dust particles**, which settle down in the alveolus.
- Smaller extraction volume necessary compared to hall extraction = **less energy costs**
- **Protection of the environment**



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