



Artis 170 Artis 210



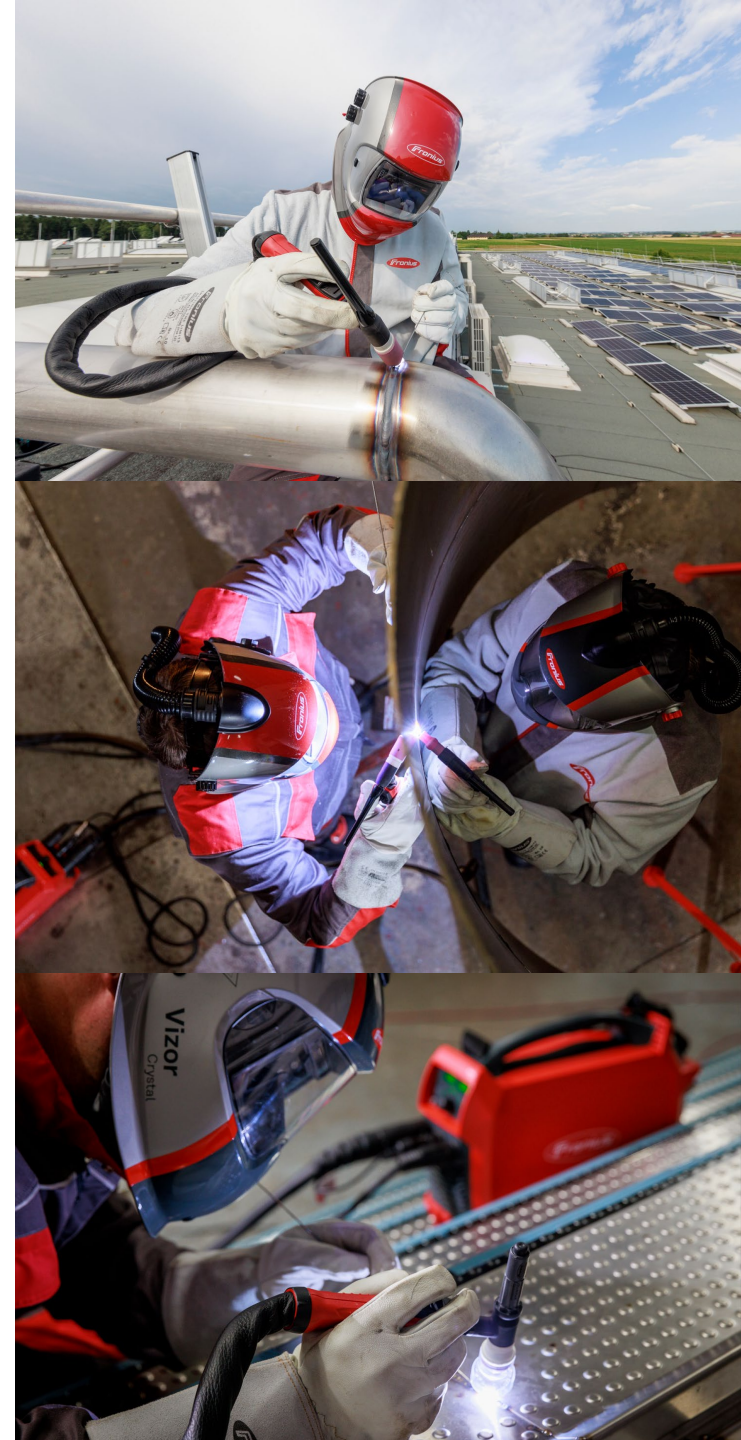
Target Groups

Small and medium-sized companies with manual applications in

- Industrial plant construction
- Pipe construction
- Repair, maintenance, assembly and overhaul
- Steel, machine, engine and tank construction

Applications

- Maintenance of pipes
- Assembly of handrails
- Repair of machine components
- Installation of hot water tanks
-



Variants Overview

Artis 170



TIG DC power source up
to 170A

Artis 210



TIG DC power source up
to 210A

Sets



Sets for Artis
170/210

- gas cooled
- including TIG and STICK pulsing up to 1kHz
- STICK incl. CEL Mode

Set content:

- Torch incl. tungsten electrode
- Ground cable
- Gloves
- ToolCase 85

Product Benefits



Energy-saving

40% less power consumption at the same welding current*

**Compared to previous products or competitor devices*



Voltage fluctuations

minus 30% mains voltage tolerance, with maximum output power *

**output voltage 230V*



Duty cycle

up to 40% higher duty cycle compared to competitor devices

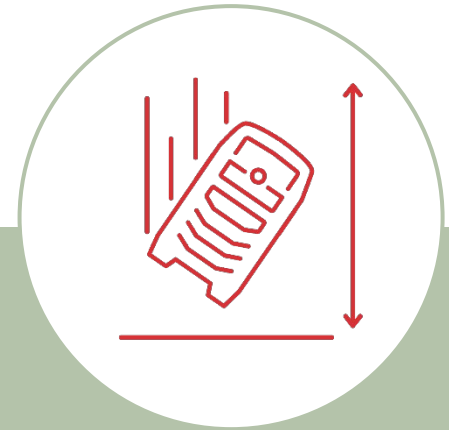


Setting options

6 new functions and setting options*

- drop-down current - Slope 1
- drop-down current - Slope 2
- Drop current up to 200%
- „Str“- Start-Ramp (MMA)
- MMA Pulse
- „Ptd“ (Puls-TAC Display)

**Compared to TransTig 1750*



Drop height

+50% higher drop height than required by the standard was tested

Highlights I

Longer service life due to robust inner life

- All components are assigned at a specific place on the function carrier
- Protection of components from damage
- Quick replacement of PC boards and components
- Improved, targeted air flow inside the device
- Reduced contamination of the PC boards

Robust plastic housing

Protection against any environmental influences

Protected connection and operating area

Optimized fin elements

- Better protection against moisture
- Optimized cooling for a longer duty cycle
- Re-usable dust filter for a better protection of the electronics
- IP23 protection

Improved tilting stability

- Greater ground clearance with optimum protection of the electronics
- Protection of the edges and prevention of wear



Highlights II

Generator operation

Incl. overvoltage protection of up to 400 V without damage

Easy change of mains cable/plug on MV variants

Easy and quick changing of the mains cable/plug according to the place of use due to a water-tight, lockable plug connection on the back side of the machine (Fronius Power Plug)



MV variant

120-230V -30% / + 15%

USB updates

Protected inside the housing – allows special processes to be updated and system information to be read easily

TMC connection socket

For TIG welding torches with U/D function and remote control

Compliance with all relevant standards

CE, UL-/CSA,...

Suitable for CEL-Electrodes

Selectable operating mode for cellulose electrodes for optimal welding results



Functions



Usability

- All important parameters immediately visible and within one minute you are ready to weld
- More than 11 parameters directly selectable without background menu



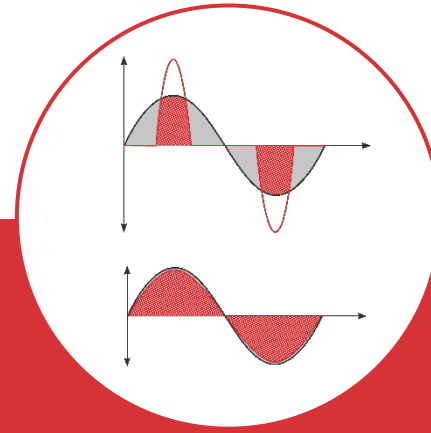
TAC

- Up to 50% time saving - due to pulsing arc - when components are tacked
- No or little tempering colors (better for over-welding) of tacking spots



CEL

- Ideal characteristic for CEL electrodes
- Supported by the principle of digital resonant intelligence
- Highly stable arc with low spatter formation



PFC (Power Factor Correction)

- Large radius of action due to long power supply lines without losses
- Improved generator capability
- Higher welding current without tripping of the circuit breaker



TIG Pulse

- Adjustable pulsed arc makes it easier to tack components
- Outstanding seam look
- Advantages for very thin components

Operation

Set up menu in the background

Incl. many set up possibilities

Status display

Gas-test button

Protected area

For maximum operating comfort

Rotary-push-button

7-segment display

- Display of set values
- Optimal readability

Indicator setting value

Display of welding process

Selection of welding process

2-step, 4-step, electrode mode



TAC | Tacking Mode

- Up to 50% time can be saved when tacking is used
- One work step thanks to the pulsing arc
- Fast tacking points without burning edges away
- No or little tempering colors of tacking spots (better for over-welding)
- No filler material needed, even for small gaps starting with a material thickness of 1,5mm
- Welding process can be continued after tacking without interruption
- The tacking function can be temporally or permanently set to ON
- Tacking function might also be used with the spot function (spt spot time) in order to achieve similar tacking points or tacking spots



MMA and CEL Welding

- Thanks to the intelligent use of available power reserves, the power source behavior adapts to the welding task
- With the DIGITAL resonant intelligence a faster control than with the well known resonant-inverter is possible.

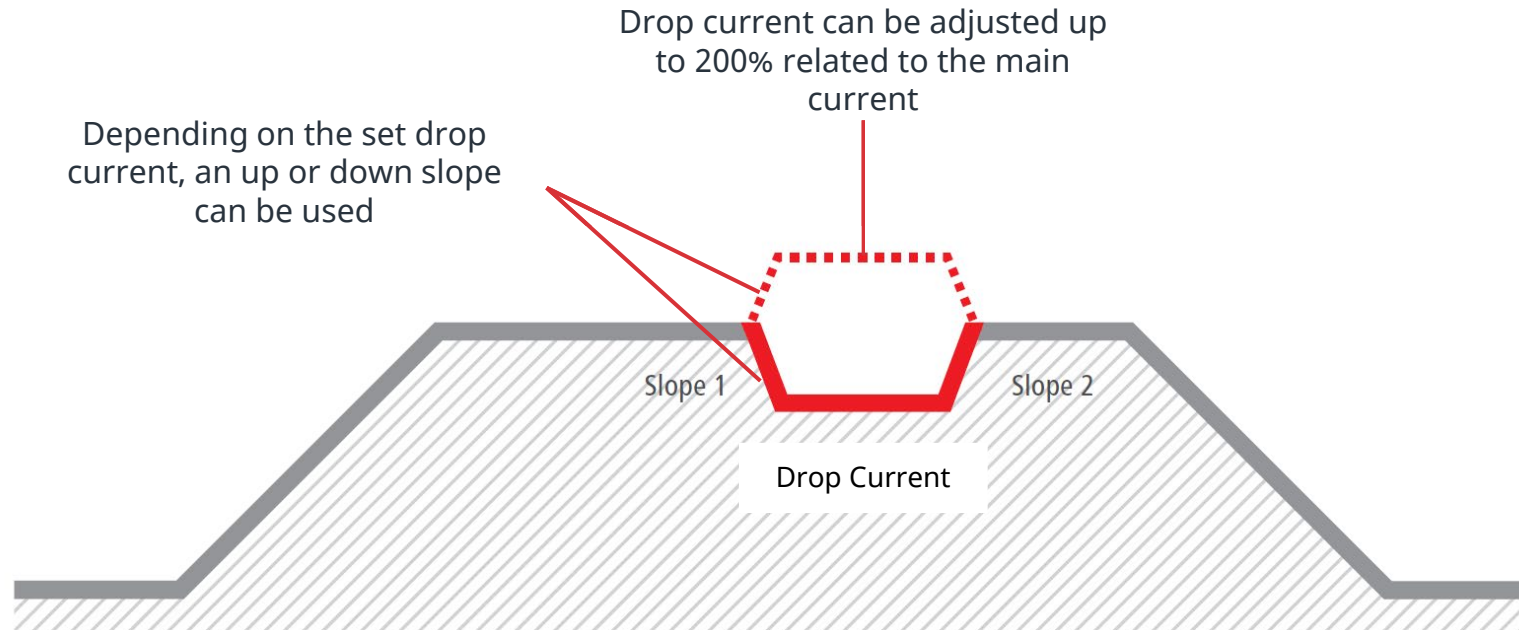


Extremely stable arc and minimal spattering – similar like Ignis 180



Drop Current (I_2) Slope

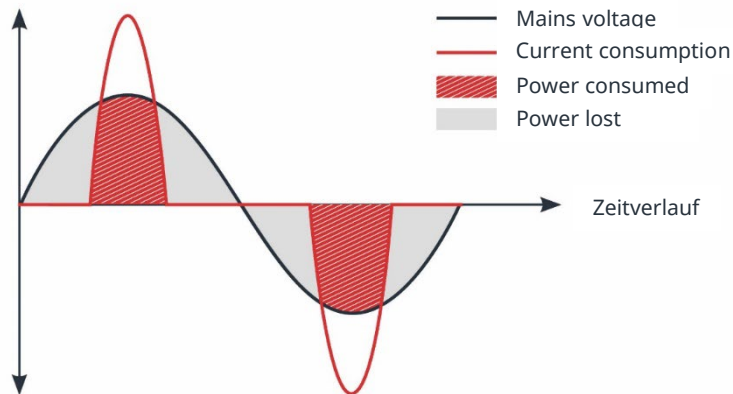
1. Possibility to provide the drop current with a slope time → when the welding rod is changed during welding
2. Drop current can be set up to 200% in relation to the main current → if e.g. a welding spot needs to be over-welded



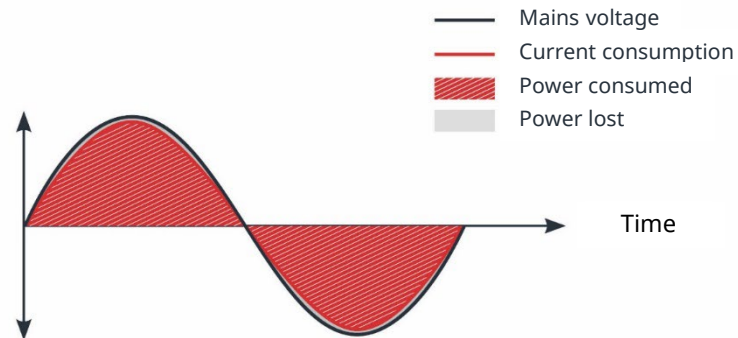
Highest Energy Efficiency

The adaptation of the current consumption to the mains voltage reduces losses (disturbances or reactive power) and improves the power factor.

Voltage and current curve without PFC



Voltage and current curve with PFC



Efficient usage of the available power

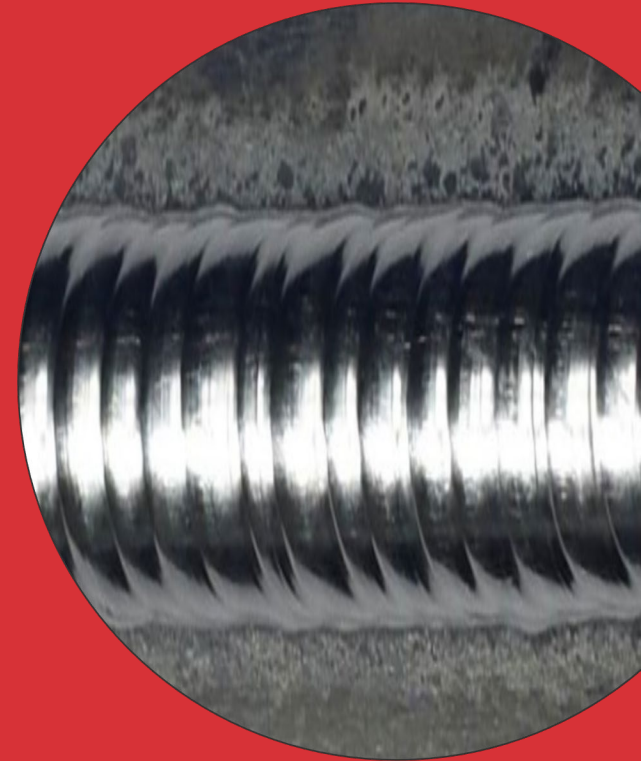


Advantages

- Energy-saving
- Greater operating range due to the use of long mains leads without losses
- Improved generator compatibility
- Higher welding current possible without tripping of the circuit breaker

TIG Pulse

- The welding current set at the beginning of welding is not always suitable for the entire welding process:
 - If the current is too low, the base material is not melted sufficiently
 - In case of overheating, there is a risk that the liquid melting bath drips off
- The TIG pulse function offers a remedy for this problem: TIG welding with pulsating welding current
 - A low base current rises after a steep rise to the significantly higher pulse current and drops back to the base current depending on the duty cycle set.
- TIG pulsing quickly melts small sections of the welding point, which also quickly solidify again – this results in the "scaled" optic of the welding seam.
- TIG pulsing is used for welding of steel pipes in a forced position or for welding of thin sheets.



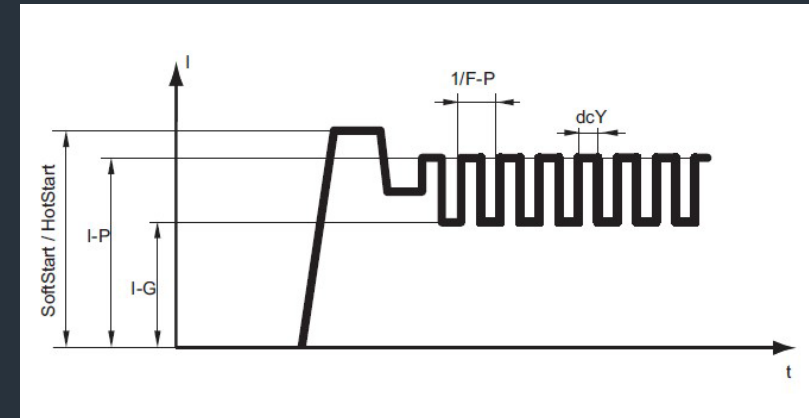
MMA Pulse

The welding current set at the beginning of welding does not always have to be optimal for the entire welding process:

- If the current is too low, the base material is not melted sufficiently.
- In case of overheating, there is a risk that the liquid melting bath drips off.

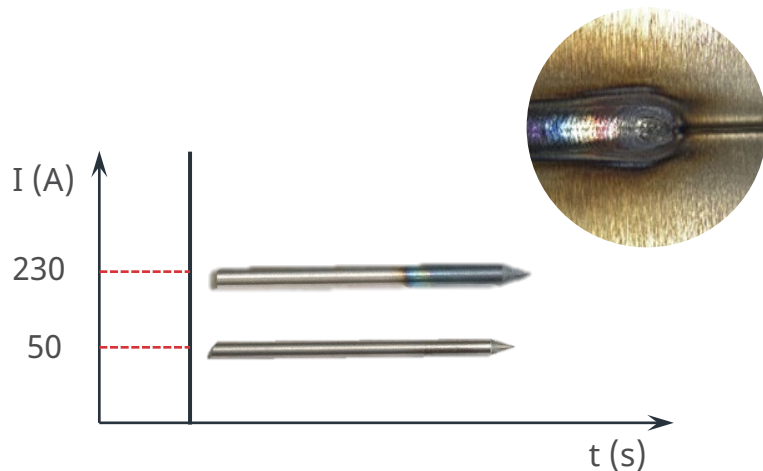
Advantages

- Improved weld properties in case of forced positions and overhead welding
- Very suitable for root welding
- Universal pulse mode
- Better gap bridging
- Ideal for vertical up welding
- Finer-scaled seam optic

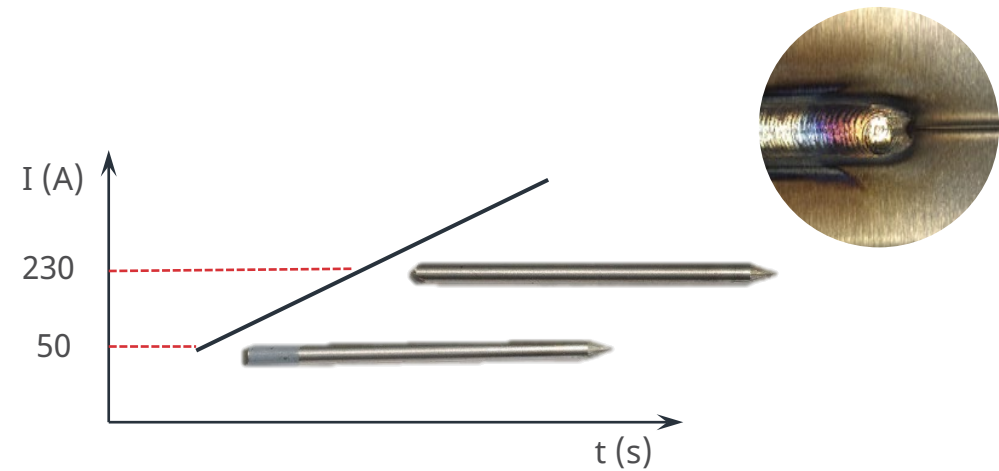


Automatic Gas Post-Flow

- Basic setting for all common applications
- Automatic gas post-flow in correspondence with welding current
- Improved gas protection of tungsten electrode and weld seam at higher currents after the end of the weld



Fixed set after-flow (e.g. 3,5 s)

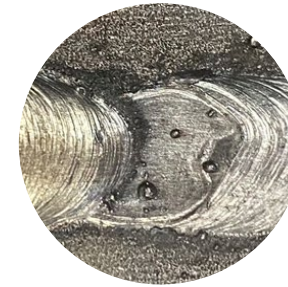


Automatic gas post-flow depending on current and polarity

TrackingArc

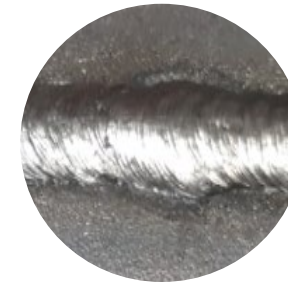
- Ignition of the arc with 8A only → arc works like a „flashlight“
- Advantages of TrackingArc
 - Exact starting position for a re-ignition or after an electrode change can be found
 - No over-welding of the ignition position is necessary
 - Welding defects are avoided (e.g. insufficiently filled end crater, undercut effect (specified weld seam thickness is not reached))
 - Rework and therefore additional time exposure is avoided
 - Especially useful for applications where not automatic welding helmet or hand shield is used
- Target group: especially useful for apprentices, rookies and trainees

Welding Results



Without TrackingArc

*Time intensive rework
(e.g. grinding, repair weld)
necessary*



With TrackingArc

*No rework necessary and
therefore no additional
time exposure*



Parameter Setting

HCU (Hot Start Current) 1% = 8A
Hti (Hot Start Time) 0,1-2 sec adjustable

Save Time with TrackingArc

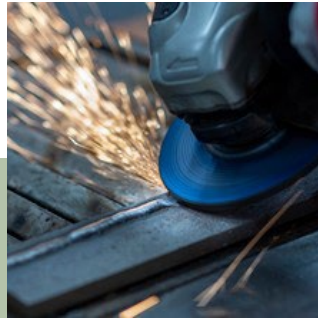
Without TrackingArc - 6 steps required for rework:

1.



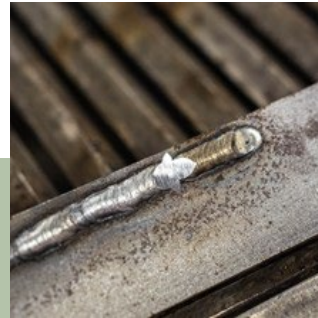
Initial situation:
Insufficiently filled
end crater

2.



Grinding out the
end crater and the
attachment point

3.



Grinding in end
crater and
attachment point

4.



Re-weld the
grinded zone

5.



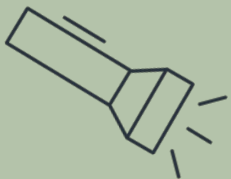
Result: Rewelded
zone

6.



Brush rewelded zone
→ Result: Completely
filled end crater and
perfect overlap

With TrackingArc - no rework necessary:



- Works like a "flashlight"
- No rework necessary, therefore no additional time required

Technical Highlights I



Power consumption

Artis 170 3,5kVA @170A = -40%
Artis 210 4,6kVA @210A = -25%



Mains voltage

-30% / +15% @ max.
power output



Duty cycle MMA mode

Artis 170 40% @ 150A, 100% @ 110A
Artis 210 40% @ 180A, 100% @ 120A



Duty cycle TIG mode

Artis 170 40% @ 170A, 100% @ 140A
Artis 210 40% @ 210A, 100% @ 160A

Technische Highlights II



Current range

Artis 170 (3 - 170A)
Artis 210 (3 - 210A)

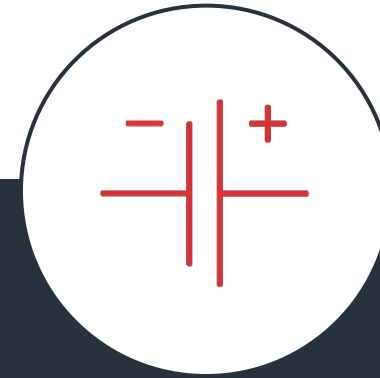


Weight

Only 9,8 kg



CEL mode



**Open circuit
voltage**

97 V



Protection class

IP 23

Variants



Artis 170

Mains plug EF	4,075,271
With cable without mains plug (np)	4,075,271,008
MV – mains plug B	4,075,271,631
MV, with cable without mains plug (np)	4,075,271,638

Artis 210

Mains plug EF	4,075,272
With cable without mains plug (np)	4,075,272,008
MV – mains plug B	4,075,272,631
MV, with cable without mains plug (np)	4,075,272,638

Sets



Artis 170

Mains plug EF	4,075,271,850
MV, with cable without mains plug (np)	4,075,271,858

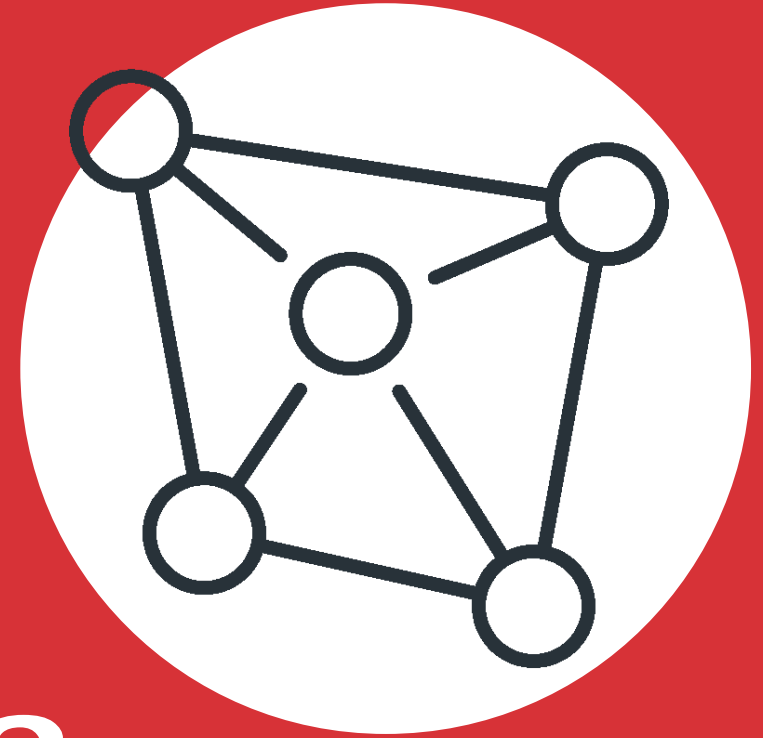
Artis 210

Mains plug EF	4,075,272,850
MV, with cable without mains plug (np)	4,075,272,858

Artis 170/210 VS. TransTig 1750

	Artis 170	Artis 210	TransTig 1750
			
Carrier	Plastic	Plastic	Metal
Input power	2,6 kVA @140A TIG	3,1 kVA @160A TIG	3,8 kVA @120A TIG
Weight	9,8 kg	9,8 kg	9,1kg
Dimensions	435x160x310mm	435x160x310mm	430x180x280mm
Mains voltage	-30%/+15% 230V (MV 120/230V)	-30%/+15% 230V (MV 120/230V)	-20%/+15% 230V
Duty cycle TIG 40%	170A	210A	170A
Duty cycle TIG 100%	140A	160A	120A
Duty cycle MMA 40%	150A	180A	-
Duty cycle MMA 100%	110A	120A	-
HF ignition	Yes	Yes	Yes
Cooling	Gas	Gas	Gas
Protection class	IP23	IP23	IP23
Open circuit voltage	97V	97V	93V

Competitors



Main Competitors

170A	180A	190A	200A	210A
 <p>Lincoln Invertec</p>	 <p>Rehm Tiger</p>		 <p>Lincoln Invertec</p>	 <p>Lorch Micortig</p>
 <p>Fronius Artis</p>	 <p>Uranos TLH</p>	 <p>Merkle MobiTig</p>	 <p>EWM Tetrix</p>	 <p>Migatronik PiTig</p>
	 <p>OTC DTX</p>		 <p>Kemppi Minarc TIG Evo</p>	 <p>Fronius Artis</p>

Comparison Technical Data I

	Fronius Artis 170	Lincoln Invertec 170 TPX	Rehm Tiger 180 DC High	Uranos 1800 TLH	Merkle MobiTig 190 DC	OTC DTX 1800
Power input	3.5 kVA @170A TIG	8.5 kVA	6.1 kVA	5,5 kVA	2.8kVA	
Weight	9.8 kg	12 kg	7.1 kg	9,4 kg	12.8 kg	8.4 kg
Dimensions	435x160x310mm	465 x 212 x 328	480 x 160 x 320	410 x 150 x 330	475 x 222 x 484	450 x 150 x 230
Mains voltage	-30%/+15% 230 V (MV 120/230V)	230 V 50/60 Hz	230 V 50/60 Hz	230V 50/60 Hz	230V 50/60 Hz	230 50 Hz
Duty cycle TIG	40% @170 A	35% @ 170 A	40% @180 A	35% @180A	40% @190 A	60% 165 A
Duty cycle TIG 100%	140 A	130 A	140 A	140A	130 A	130 A
Duty cycle MMA	40% @150A	30% @160	30% @150A	-	-	-
Duty cycle MMA 100%	110 A	110 A	130 A	-	-	-
HF	Yes	Yes	Yes	Yes	Yes	Yes
Cooling	Gas	Gas	Gas/Water	-	Gas	Gas
Protection class	IP 23	IP 23	IP 23 S	IP 23 S	IP 23	IP 23
Open circuit voltage	97V	63 V	91 V	80 V	64 V	90 V

Comparison Technical Data II

	Fronius Artis 210	Lincoln Invertec 205-T	EWM Tetrix 200	Kemppi Minarc TIG Evo 200	Migatronic PiTig 200
Power input	4.6 kVA @210A TIG	8.5 kVA	6.1 kVA	5.6 kVA	-
Weight	9.8 kg	15.1 kg	10 kg	11 kg	22 kg
Dimensions	435x160x310mm	465 x 212 x 328	428 x 181 x 294	449 x 210 x 358	520 x 220 x 360
Mains voltage	-30%/+15% 230 V (MV 120/230V)	230 V 50Hz	230 V 50Hz	230 V 50Hz (+/- 15%)	230 V 50Hz
Duty cycle TIG	40% @210 A	35% @ 200 A	25% @200 A	35% @200 A	60% @200 A (20°C)
Duty cycle TIG 100%	160 A	170 A	140 A	140 A	150A
Duty cycle MMA	40% @180A	-	25% @150A	35% @170A	60% @130A
Duty cycle MMA 100%	120 A	-	100 A	110 A	130 A
HF	Yes	Yes	Yes	Yes	Yes
Cooling	Gas	Gas	Gas/Water	Gas	Gas/Water
Protection class	IP 23	IP 23 S	IP 23	IP 23 S	IP 23
Open circuit voltage	97V	48 V	63V	95 V	95 V



Welding Torches

Multilock and Modularity

- Easily configurable manual welding torch
- Individual adaption to the respective customer requirements
- One hose pack for different torch bodies
 - Different torch body lengths
 - Different torch body geometry
 - Different performances and sizes
 - Flexible torch body
- High facility availability



All new TIG welding torches can also be used as an Up/Down variant for the Artis 170/210.

Easy Handling

1.



Insert torch body in the hose pack

2.

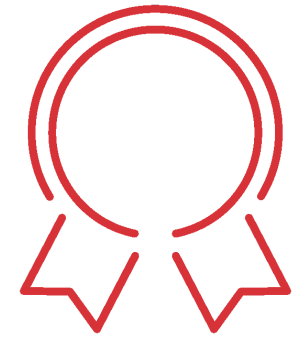


Twist

3.



Torch body engages in the 0 position → ready to weld



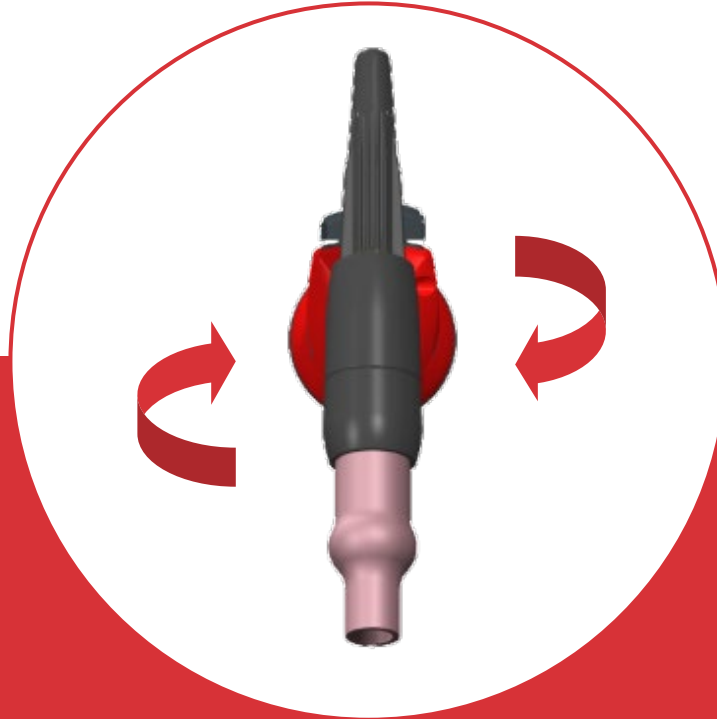
Interface patented

Swivelling Torch Body

Rotatable torch body

360° twisting possible

Indication at the 0° position



Flexible handling

Especially for difficult accessibilities

Tailored to the expectations of the welder

Small Handle Torches

Power categories

- 120A gas cooled (35% DC)
- 150A gas cooled with FS ZA (for TP150 TIG, 15% DC)
- 180A gas cooled (35% DC)
- 300A water cooled (60% DC)

User Interfaces

Long Trigger



Potentiometer



UpDown



Standard



No Trigger



Multilock coupling



Can also be used for
Ignis TIG variants and
TSt Multiprocess power sources

Size Comparison

Comparison of grip shell sizes



Small handle



Standard handle

Alternative Welding Torches

- Welding torch without operation panel for applications with foot remote controller
- Small, lightweight and flexible and very good component accessibility
- Setting Trigger Mode “OFF” necessary at the power source and can be used with TouchHF



Welding torch with flexible bellows instead of grip shell

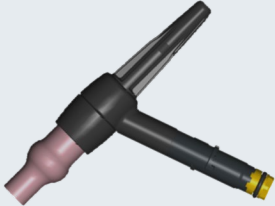

- 4,035,831 TTG 1600A WKZ F/4m
- 4,035,866 TTW 2500A WKZ F++/4m
- Also available as P-version (,630)



Welding torch with grip tube instead of grip shell

- 4,035,818 TTG 2200 TCS F/4m
- 4,035,819 TTG 2200 TCS F/8m
- Also available as P-version (,630)

Small Handle Variants

Gas-cooled		
TIG torch body (TTB)		TIG hose pack (THP)
TTB 160A G ML/70° TTB 160P G ML/70°	TTB 220A G ML/70° TTB 220P G ML/70°	TTB 260A G ML/70° TTB 260P G ML/70°
<i>Standard equipment for ø 2.4mm</i>		
Use of all new gas-cooled MultiLock burner bodies possible (for Artis 170 / 210)		
		
		<p>Up-/Down</p> <p>THP 120 G SH ML/F/UD/Le/4m THP 120 G SH ML/F/UD/Le/8m THP 180 G SH ML/F/UD/Le/4m THP 180 G SH ML/F/UD/Le/8m</p> <p>Long Trigger / Standard</p> <p>THP 120 G <u>SH</u> ML/F/STD/Le/4m THP 120 G SH ML/F/STD/Le/8m THP 120 G SH ML/F/LT/Le/4m THP 120 G SH ML/F/LT/Le/8m THP 180 G SH ML/F/STD/Le/4m THP 180 G SH ML/F/STD/Le/8m THP 180 G SH ML/F/LT/Le/4m THP 180 G SH ML/F/LT/Le/8m</p> <p>No Trigger</p> <p>THP 120 G <u>SH</u> ML/F/NT/Le/4m THP 120 G SH ML/F/NT/Le/8m THP 180 G SH ML/F/NT/Le/4m THP 180 G SH ML/F/NT/Le/8m</p>

Economic and Sustainable

- Lower storage costs
 - Thanks to modular design and independent configurability
- Easy to repair welding torch
 - No disposable product
 - Reduction of service times
 - Independent replacement and repair of welding torch and user interface possible directly at the customer's location
 - No service technician needed
 - Not necessary to replace the entire torch at all times



Accessories and Services



Recommended Accessories



Chipping hammer
44,0450,0064



Wire brush
42,0410,0019



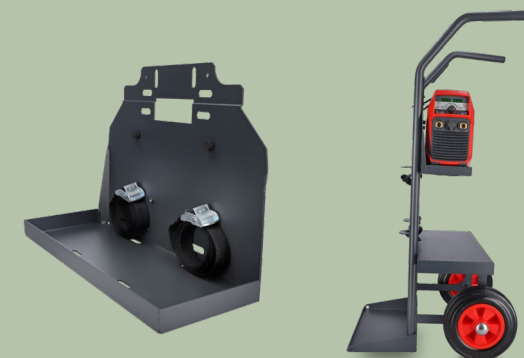
Welding workstation equipment
4,001,040 Artis 170/210 25mm²



MultiMagnet 360° Switch
42,0510,0055



Fazor 1000 Plus
42,0510,0110



Mounting set for TU Car 2 Easy
4,101,389 + 4,077,019

Recommended Accessories



Chipping hammer
44,0450,0064



Wire brush
42,0410,0019



RC panel
4,046,108



RC Bar
4,046,107



Fazor 1000
42,0510,0110



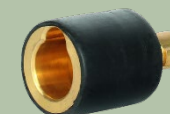
Welding workstation equipment
4,001,039 Ignis 150 (16mm²)
4,001,040 Ignis 180 (25mm²)



MultiMagnet
360 Switch
42,0510,0055



WIG torch
4,035,978 TTG 1600A FS/TL/4m
4,035,862,635 TTG 1600A S/B25/4m System



Bajonett adapter
25mm²/50mm² for Ignis 150
4,001,549



Mounting set for TU Car 2 Easy
4,101,389 + 4,077,019

WPS-Package CrNi

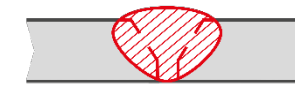
How to use the WPS package?

- 1) Assign welding procedure number on the Fronius WPS used
- 2) Signature of the welding supervisor of the manufacturer puts the WPS into implementation
- 3) WPQR reports are sent on request

Support of the following processes

- MAG dip transfer arc and spray arc
- MAG pulsed arc
- TIG DC
- Material group 8.1
- All welding positions (except PG and J - L045)
- Sheet thickness range 1,4 mm to 16 mm
- For power sources of all manufacturers

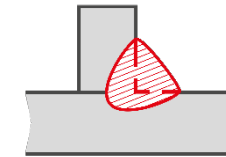
TIG



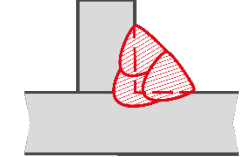
1.5 mm – 2.5 mm



3.0 mm – 6.0 mm



1.4 mm – 4.0 mm



3.0 mm – 16.0 mm



1.4 mm – 3.0 mm
 $\varnothing \geq 20$ mm

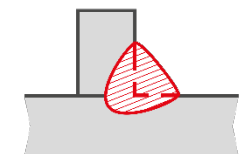


3.0 mm – 6.0 mm
 $\varnothing \geq 30$ mm

MAG



1.5 mm – 4.0 mm



3.0 mm – 10.0 mm

Calibration Certificate & Label

- The calibration certificate and label are delivered as standard with every Artis 170/210.
- Advantages
 - Compliance with standardized quality requirements
 - Reproducibility
 - Transferability
 - Calibration according to EN 60974 - 14



Online Product Activation



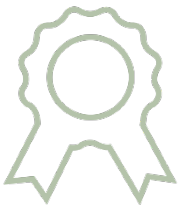
Which products?

- Ignis 150/180
- Ignis Battery 150
- iWave 190i/230i
- TransSteel series
- Artis 170/210
- MagicCleaner



For whom?

Fronius end customer



Why?

Free extension of the warranty period to a total of 3 years!



How does it work?

Create an online account and register your serial number



Fronius Warranty

- 5 years Fronius warranty for your welder
- Onetime payment during the purchase or within the first year



| Artis 170

41,200,607

| Artis 210

41,200,608

Standard Warranty

5 Years Fronius Warranty 

2 Years

3 Years

4 Years

5 Years



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