

Automation Catalogue



STRENGTH THROUGH COOPERATION

Mechanized & Orbital TIG



Aristo® MechTig C2002i

Orbital welding power source

- Mechanized TIG welding increases productivity and reduces the welding costs.
- The Aristo® MechTig C2002i can control two motors; the travelling motor and the wire feed motor.
- Aristo® MechTig C2002i is built on a modular system and have a built-in cooling unit, which gives flexibility when adapting to customer requirements.
- The design of Aristo® C2002i is robust to withstand the wear and tear of many years of daily use in industrial environments.
- User friendly.
- 10" colour monitor.
- Graphical interface.
- Program library and auto generation of programs.



Ordering information

Aristo® MechTig C2002i 0444 700 880
Sales Literature XA00131320

Options & Accessories

Trolley 0301 100 880
Remote control MechT 1 CAN 0460 181 880

Cable between MechTig C2002i and MechT 1 CAN:
Length 5 m 0459 554 880
Length 10 m 0459 554 881
Length 15 m 0459 554 882
Length 25 m 0459 554 883
Length 0.25 m 0459 554 884

Technical data

Mains voltage, V/ph Hz	230/1, 50-60
Fuse, slow, A	16
Mains cable, Ø mm ² (in.)	3x2.5 (3x0.1)
Permitted load at (Tig)	
35% duty cycle, A / V	180 / 17
60% duty cycle, A / V	140 / 16
100% duty cycle, A / V	110 / 14
Setting range, TIG, A	5-200
Open circuit voltage, V	92
Dimensions LxWxH, mm (in.)	470x479x472 (18.5x18.9x18.6)
Weight, kg (lbs.)	30 (66)
Enclosure class	IP 23



Aristo® MechControl 2 and 4

Orbital welding control boxes

- The Aristo® MechControl 2 can control two motors; for travelling and wire feed.
- The Aristo® MechControl 4 can control four motors; for travelling, wire feed, Arc Voltage Control (AVC) and weaving.
- The design of Aristo® MechControl 2 and 4 is robust to withstand the wear and tear of many years of daily use in industrial environments.
- User friendly.
- 10" colour monitor.
- Graphical interface.
- Program library and auto generation of programs.

Ordering information

Aristo® MechControl 2	0444 500 880
Aristo® MechControl 4	0444 500 881
Sales Literature	XA00131420

Options & Accessories

Connection cable 1.7 m	0460 210 880
Connection cable 8.0 m	0460 210 881
Remote control MechT 1 CAN	0460 181 880

Cable between MechControl 2 or 4 and MechT 1 CAN:

Length 5 m	0459 554 880
Length 10 m	0459 554 881
Length 15 m	0459 554 882
Length 25 m	0459 554 883
Length 0.25 m	0459 554 884

Technical data	MechControl 2 and 4
Control voltage, V, Hz	42, 50-60
Dimensions LxWxH, mm (in.)	471x403x364 (18.5x15.9x14.3)
Weight, kg (lbs.)	
MechControl 2	17.4 (38.3)
MechControl 4	18.4 (40.5)
Enclosure class	IP 23



Aristo® MechControl 2 and Aristo® MechTig 4000iw



Aristo® MechTig 3000i and 4000iw

Robust and powerful orbital welding power sources

- The power sources are optimised to operate together with MechControl 2 and 4.
- The control and communication CAN-bus system means less cables, which in turn increases operational reliability.
- The power sources are compact and sturdy. Aristo® MechTig 3000i have a separate cooling unit and Aristo® MechTig 4000iw have a built-in water cooling unit, both are equipped with ELP.
- The patented ESAB LogicPump ELP automatically starts the cooling water pump in the machine when a water cooled tool is connected to the MechControl. This eliminates the risk of overheating the tool. When a self-cooled tool is used, the pump is automatically shut off giving lower noise and longer lifetime for the cooling pump.
- Connection cables up to 8 metres provide a working range of up to 16 metres to suit all your individual needs.

Aristo® MechTig 4000iw



Ordering information

Aristo® MechTig 3000i (3x400V, 50 Hz)	0459 745 882
Aristo® MechTig 4000iw (3x400V, 50 Hz)	0458 625 886
Connection cable 1.7 m	0460 210 880
Connection cable 8.0 m	0460 210 881

Options & Accessories MechTig 3000i

Cool-Midi 1800 MechTig	0459 840 881
Trolley 2-wheel	0459 366 890
Trolley 4-wheel	0460 060 880

Options & Accessories MechTig 4000iw

Multi Voltage unit. Wide body 3x208/230/400/460/475/575 V, 50/60 Hz	0459 145 880
Handles incl mounting screws for Multi Voltage unit (complete set = 2)	0459 307 881
Trolley	0458 530 880
Guide pin (if no trolley)	0458 731 880

Technical data	MechTig 3000i	MechTig 4000iw
Mains voltage, V, Hz	3x400, 50/60	3x400, 50x60
Fuse, slow, A	10	16
Mains cable, mm ²	4x2.5	4x4
Setting range, TIG DC, A	4-300	4-400
Permitted load, 40 °C		
at 35% duty cycle, A / V	300 / 22	400 / 26
at 60% duty cycle, A / V	240 / 19.6	320 / 23
at 100% duty cycle, A / V	200 / 18	250 / 20
Open circuit voltage, V	60	60
Energy save mode (400V), W	30	60
Power factor at maximum current	0.89	0.75
Efficiency at maximum current, %	81.5	97.1
Dimensions L x W x H, mm (in.)	652x249x423 without cooling unit	625x394x776 with cooling unit
Enclosure class	IP 23	IP 23
Insulation class (main trafo)	H	H
Operating temperature, °C	-10 to +40	-10 to +40
Weight, kg (lbs.)	30	81
Water cooling unit:	CoolMidi 1800	Built-in cooling unit
Cooling capacity, W, l/min	1600 at 40°C, 1.2	2500 at 40°C, 1.5
Coolant volume, l	4.2	5.5
Max flow, l/min	4.0	2.0

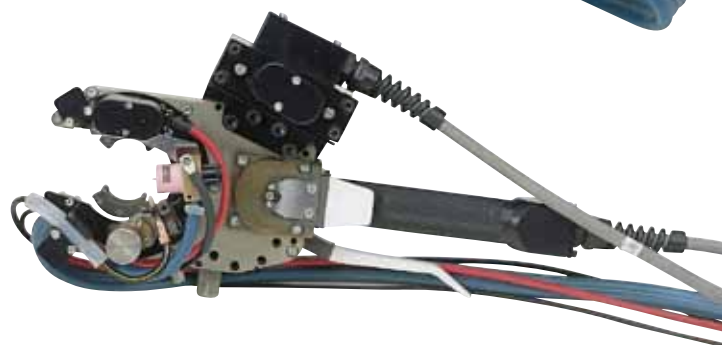
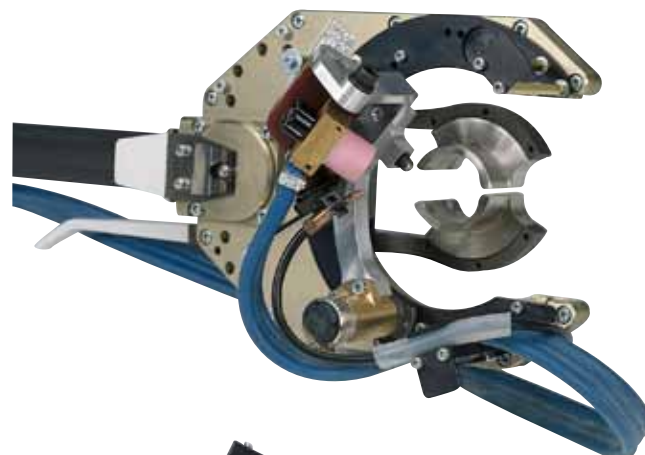


Aristo® MechTig 3000i

A21 PRB and PRC Tube-to-tube TIG welding tools

Small, flexible and lightweight

- Available in three sizes for tubes with outer diameters of 17 to 170 mm (0.67-6.7 inch)
- The PRB tools are available as water-cooled or air-cooled. They offer benefits in a number of application areas for welding stainless tubes in the food industry, process industry as well as heavy-duty engineering such as the energy and power industries.
- The PRC tools are water-cooled. They are available in two configurations with arc length control or with arc length control and weave control of the arc.
- The PRB tools can be used together with ESAB's power source MechTig C2002i or MechTig 4000iw/MechTig 3000i combined with MechControl 2 or 4.
- The PRC tools can be used together with ESAB's power source MedTig 4000iw/MechTig 3000i combined with MechControl 2 or 4.



Ordering information

PRB water-cooled

A21 PRB, 17-49 mm (0.67-2 inch)	0443 750 882
A21 PRB, 33-90 mm (1-3.5 inch)	0443 760 882
A21 PRB, 60-170 mm (2-6.5 inch)	0443 770 882

PRB air-cooled

A21 PRB, 17-49 mm (0.67-2 inch)	0443 750 883
A21 PRB, 33-90 mm (1-3.5 inch)	0443 760 883
A21 PRB, 60-170 mm (2-6.5 inch)	0443 770 883

PRC with Arc Voltage Control

A21 PRC, 17-49 mm (0.67-2 inch)	0443 751 881
A21 PRC, 33-90 mm (1-3.5 inch)	0443 761 881
A21 PRC, 60-170 mm (2-6.5 inch)	0443 771 881

PRC with Arc Voltage Control and weaving

A21 PRC, 17-49 mm (0.67-2 inch)	0443 752 881
A21 PRC, 33-90 mm (1-3.5 inch)	0443 762 881
A21 PRC, 60-170 mm (2-6.5 inch)	0443 772 881

Options & Accessories

Angular support bracket	0443 875 880
Rebuilding kit for PRB/PRC 17-49 for tubes with OD 8-17 mm (0.3-0.7 inch)	0444 002 880
Rebuilding kit for PRB/PRC 33-90 for tubes with OD 20-33 mm (0.8-1.3 inch)	0443 908 880
Rebuilding kit for PRB/PRC 60-170 for tubes with OD 44-60 mm (1.7-2.4 inch)	0443 909 880
Sales Literature	XA00098520

Technical data	PRB 17-49	PRB 33-90	PRB 60-170	PRC 17-49	PRC 33-90	PRC 60-170
Rate of rotation, rpm	0.1-2.4	0.1-1.6	0.05-0.95	0.1-2.4	0.1-1.6	0.05-0.95
Tube OD, mm (in.)	17-49 (0.67-1.93)	33-90 (1.3-3.54)	60-170 (2.36-6.7)	17-49 (0.67-1.93)	33-90 (1.3-3.54)	60-170 (2.36-6.7)
Tube OD optional, mm (in.)	8-17 (0.31-0.67)	20-33 (0.79-1.30)	44-60 (1.73-2.36)	8-17 (0.31-0.67)	20-33 (0.79-1.30)	44-60 (1.73-2.36)
Max welding current at						
100% duty cycle, water-cooled, A	250	250	250	250	250	250
100% duty cycle, air-cooled, A	100	100	100	-	-	-
Electrode diameter, mm (in.)	1.6/2.4 (1/16-3/32)	1.6/2.4 (1/16-3/32)	1.6/2.4 (1/16-3/32)	1.6/2.4 (1/16-3/32)	1.6/2.4 (1/16-3/32)	1.6/2.4 (1/16-3/32)
Weight (less cables), kg (lbs.)	2.8 (6)	3.2 (7)	4.4 (10)	-	-	-
With AVC, kg (lbs.)	-	-	-	3.3 (7)	3.7 (8)	4.9 (11)
With AVC and weaving, kg (lbs.)	-	-	-	5.1 (11)	5.5 (12)	6.7 (15)
Min spacing between two parallel tubes, mm (in.)	D/2+70 *) (D2+2.76) *)	D/2+70 *) (D2+2.76) *)	D/2+70 *) (D2+2.76) *)	D/2+70 *) (D2+2.76) *)	D/2+70 *) (D2+2.76) *)	D/2+70 *) (D2+2.76) *)
Arc adjustment rate, mm/s (ips)	-	-	-	2.5 (0.1)	2.5 (0.1)	2.5 (0.1)

*) Without fine adjustment wheel for wire. Electrode cap and spacer screw may need to be replaced with the shortest variant supplied with the tool.

A21 PRH Enclosed Tube TIG welding head

- Designed for welding thin-walled, stainless steel tubes to provide maximum gas shielding around the tube.
- Rotating part and tungsten electrodes are enclosed in a gas chamber formed by the outer casing, which also constitutes the clamping arrangement for the tube-to-tube to be welded.
- Water-cooled and available in three sizes to weld tubes between 3-76.2 mm (0.12-3 inch).
- Equipped with encoder motors for precise positioning of each sector when welding with different sets of parameters.
- Includes 8 m (26 ft.) connection cable.
- For use with ESAB's orbital TIG power source Aristo® MechTig C2002i or Aristo® MechTig 4000i combined with control box Aristo® MechControl 2 or 4.



Cartridge C
+ Collets C
for PRH 3-12



Cartridge MF
for PRH 3-12

Ordering information

Welding head PRH 3-12	0444 300 880
Welding head PRH 3-38	0444 301 882
Welding head PRH 6-76	0444 302 880
Sales Literature	XA00115920

Options & Accessories

Cartridges and collets are available for all diameters within the working range of each tool. Article numbers to be found in the product fact sheet XA00115920.

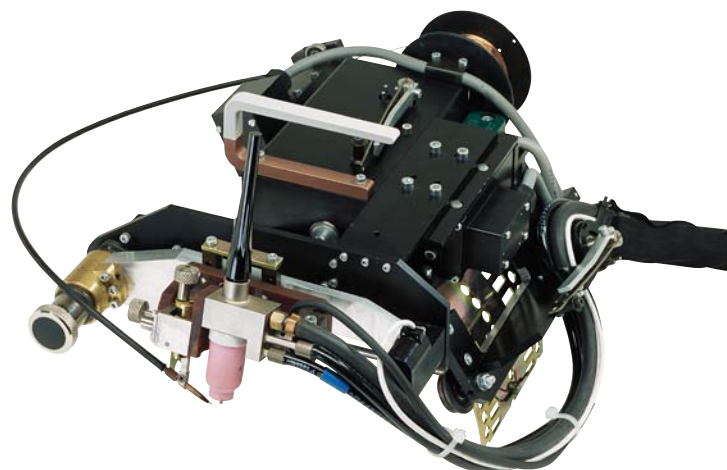
Technical data	PRH 3-12	PRH 3-38	PRH 6-76
Rate of rotation rpm	0.65-12.6	0.5-9.5	0.31-6.15
Tube outer diameter, mm (in.)	3-12.7 (0.12-0.50)	3-38.1 (0.12-1.50)	6-76.2 (0.24-3)
Max cont. welding current at 100% duty cycle, water-cooled, A	15	50	60
Max pulsed welding current, water-cooled, A	40	100	100
Electrode diameter, mm (in.)	1.0 (0.040)	1.6-2.4 (1/16-3/32)	1.6-2.4 (1/16-3/32)
Weight, incl cables, kg (lbs.)	5 (11)	6.5 (14)	7.5 (16.5)

A21 PRD Orbital Tube and Pipe TIG welding head

The ultimate tube welder

A21 PRD 160

- Designed for pipes with an outer diameter of 160 mm (6 inch) or more.
- Carriage travels around the pipe on a rack adapted to match the diameter of the pipe.
- Basic model for thin-walled pipes includes one motor for travel.
- Options for thick walled pipes include wire feed, arc voltage control (AVC) and weaving modules.
- For use with ESAB's orbital TIG power source Aristo® Mech Tig C2002i or MechTig 4000iw combined with MechControl 2 or MechControl 4.



Ordering information

A21 PRD 160 welding head Basic	0444 151 880
<i>for use only when fusion welding with a floating head</i>	
A21 PRD 160 with wire feeder	0444 151 881
A21 PRD 160 with AVC	0444 151 882
A21 PRD 160 with AVC and wire feeder	0444 151 883
A21 PRD 160 w/ AVC, wire feeder, weaving	0444 151 884
Sales Literature PRD 160	XA00106020

Options & Accessories

Standard racks for A21 PRD 160, please contact ESAB for more information.

Wire feed unit	0444 137 880
Arc voltage control (AVC)	0443 656 881
Weaving unit, complete	0444 140 880

Technical data	A21 PRD 160
Max welding current, 100% duty cycle	315A, continuous DC 400A, pulsed DC
Working range, external, mm (in.)	160-1025 (6.3-40.4)
Clearance height, mm (in.)	111-119 (4.4-4.7) for handle + 37 (+1.5)
Min distance to flange, mm (in.)	18 at 0° skew (0.71)
Rotation speed, cm/min (in.)	2-40 (0.8-15.7)
Torch	water-cooled with gas lens
Electrode size, mm (in.)	Ø 1.6-3.2 (1/16-1/8)
Angular adjustment	-30° to +45°
Filler wire; Feed speed, cm/min (ipm)	15-150 (5.9-59)
Nozzle	adjustable in X, Y and Z-axis
Spool, Ø mm (in.)	100 (4)
Weaving; Speed, mm/s (ips)	2-12 (0.08-0.47)
Amplitude, mm (in.)	± 15 (± 0.6)
Rest time at end position, s	0.1-10
AVC; Speed, mm/s (ips)	2.0 (0.8)
Amplitude, mm / (in.)	-
Weight without cables and rack, kg (lbs.)	approx. 8 (17.6)

A22 POC 12-60 Tube-to-Tube Sheet TIG welding head

Exact centering

- Precision-built, robust, versatile welding head for all types of tube-to-tube sheet welding.
- Working range of 12-60 mm (0.5-2.4 inch) outer diameter.
- High centering accuracy.
- Patented centering mandrels area available for inner tube diameters from 9.9 mm (0.38 inch)
- Water-cooled and capable of pulsing at 200A, 60% duty cycle.
- For use with Aristo® MechTig C2002i or MechTig 4000iw/ MechTig 3000i combined with MechControl 2 or 4.



Options & Accessories

Counter-balancing block	0332 330 005
3-point support incl electrode holder for fillet welding up to Ø36 mm (1.4 in.)	0333 897 880
3-point support incl electrode holder for fillet welding Ø36-93 mm (1.4-3.6 in.)	0333 897 883
Additional gas cup	0441 000 880
Internal bore welding torch 9.5-15 mm (0.37-0.59)	0441 131 880
Internal bore welding torch, 15-20 mm (0.59-0.79 in.)	0441 132 880
Internal bore welding torch, 20-30 mm (0.79-1.18 in.)	0441 133 880

For information about Spindles and Centering Mandrels, see fact sheet XA00087220 or contact ESAB.

Ordering information

A22 POC 12-60 welding head with wire feed	0443 930 880
Sales Literature	XA00087220



Technical data

Working range diameter

Electrode parallel with tube axis, mm (in.)	12-60 (0.5-2.4)
Electrode 30° from tube axis, mm (in.)	12-36 (0.5-1.4)

Rotation, rpm	0.2-4.5
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Electrode diameter, mm (in.)	1.6-2.4 (1/16-3/32)
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Rating, A	180 at 60% duty cycle
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Weight, welding head, kg (lbs.)	4.8 (10.6)
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Welding cable length, m (ft.)	8 (26.2)
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Wire feed unit:

Filler wire diameter, mm (in.)	0.8-0.9 (0.030-0.35)
Filler wire speed, m/min (ipm)	0.15-1.5 (5.9-59)
Wire spool diameter, mm (n.)	100 (4)
Wire reel weight, kg (lbs.)	0.5 (1.1)

A25 Mechanized TIG Modular Component System

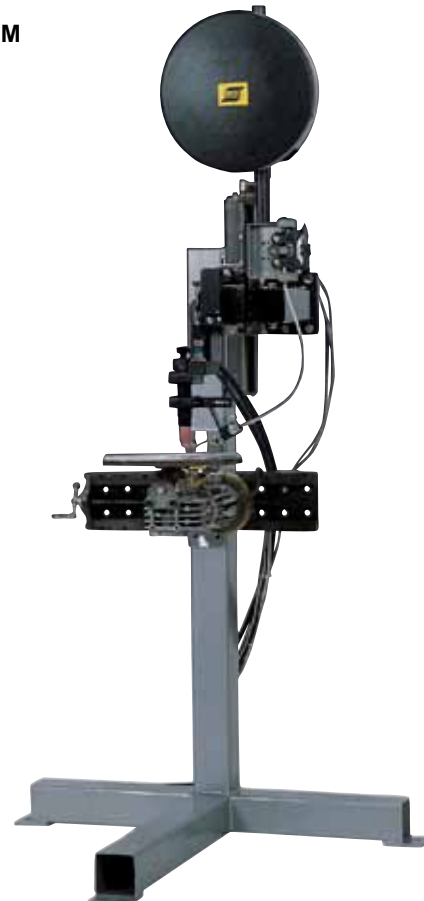
The key to mechanization of your TIG welding

- Modular components can be easily combined to create customized solutions for specific welding requirements.
- TIG Narrow Gap method can be used together with A25 system for extremely small joint angle and subsequent low joint volume.
- Choose between different models with arc voltage control (AVC), weaving slides, manual horizontal and vertical slide, floating slides, circular slides, wire feeder and BTE 250M or BTE 500M torch.
- ESAB's well-proven power source Aristo® MechTig 4000iw/ MechTig 3000i combined with control box MechControl 4 can be used for control of functions like AVC, weaving, wire feed, rotation and other welding parameters.
- The power source Aristo® MechTig 4000iw/MechTig 3000i combined with MechControl 2 are used for control of functions like wire feed, rotation and other welding parameters.



Ordering information

A25 Welding Automat	with BTE 250M	with BTE 500M
With AVC	0443 911 880	0443 911 881
With AVC, weaving slides	0443 911 882	0443 911 883
With AVC, manual horizontal slides	0443 911 884	0443 911 885
With manual vertical and horizontal slides	0443 911 886	0443 911 887
With slides for floating head	0443 912 880	0443 912 881
Complete system with AVC, weaving slides, wire feed unit, VEC motor with turntable, mounted on stand	0443 910 880	0443 910 881
Sales Literature	XA00089520	



Ordering information - components

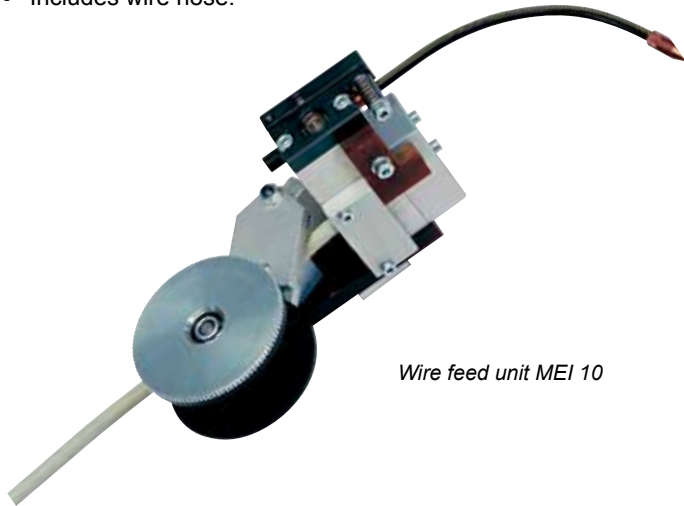
For information about Components, see fact sheet XA00089520 or contact ESAB.

Technical data	
AVC slide amplitude, mm (in.)	76 (3)
AVC slide speed, mm/s (ipm)	2.8 (0.1)
Weaving slide amplitude, mm (in.)	76 (3)
Weaving slide speed, mm/s (ipm)	19 (0.75)
Manual slide amplitude, mm (in.)	93 (3.6)
Floating slide amplitude, mm (in.)	76 (3)
Wire diameter, mm (in.)	0.6-1.6 (0.024-0.063)
Wire feed speed, m/min (ipm)	0.1-2.6 (4-102)
VEC motor with encoder speed, rpm	1000
VEC motor with encoder ratio	672:1

MEI 10 and MEI 21 Wire Feed Units

MEI 21 Wire feed unit

- Four wire rollers for orbital TIG welding.
- Eliminates the need for a wire feed unit and wire spool mounted on the welding head.
- Use with 5 kg (11 lbs.) wire spools.
- For wire diameters of 0.6-0.8 mm (0.023-0.031 inch).
- Includes wire hose.



Wire feed unit MEI 10

MEI 10 Wire feed unit

- Developed for mounting PRB 17-170 tools (PRC 17-49 only with AVC).
- PRB tools with MEI 10 can be used with power source Aristo® MechTig C2002i or MechTig 4000iw combined with MechControl 2 or 4.
- PRC tools with MEI 10 can be used with power source Aristo® MechTig 4000iw combined with MechControl 4.
- Ideal for aluminium welding with short wire feed distance from the reel to the molten pool.
- Also use for mild steel and stainless steel.
- For wire diameters of 0.8-1.0 mm (0.030-0.040 inch) for aluminium, 0.8 mm (0.030 inch) for steel.
- Motor equipped with pulse generator for precise wire feed speed adjustment.



Wire feed unit MEI 21

Ordering information

MEI 21	0443 830 880
MEI 10 for PRB/PRC 17-49 with AVC	0444 211 880
MEI 10 for PRB/PRC 33-90 with AVC and PRC 33-90 with AVC and weaving	0444 212 880
MEI 10 for PRB/PRC 60-170 with AVC and PRC 60-170 with AVC and weaving	0444 213 880
Sales Literature MEI 21	XA00089020
Sales Literature MEI 10	XA00098620

Technical data	MEI 21	MEI 10
Wire diameter, mm (in.)	0.6-0.8 (0.023-0.031)	0.8 (0.031)
Wire feed, m/min (ipm)	0.1-2.6 (0.004-0.1)	0.1-1.2 (0.004-0.05)
Max. spool dimension/weight, Ø mm/kg (in./lbs.)	200/5 (8/11)	60/0.26 (2.4/0.6)
Hub width, mm (in.)	60 (2.4)	-
Hub hole diameter, mm (in.)	51.5 (2)	-
Wire guide length, m (ft.)	4.2 (14)	0.1 (0.3)
Weight, kg (lbs.)	4 (8.8)	0.5 (1.1)