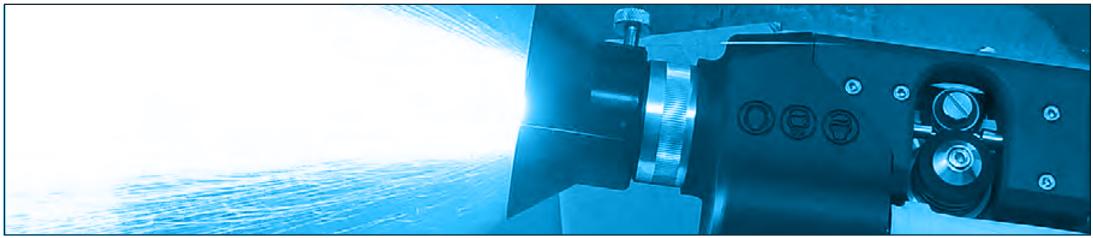


# ARC150(19)





## Equipment Spec

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**OUR MOST** 

**ROBUST TWIN** 

WIRE ARC

**SPRAY** 

UX' AIR

AUX' AIR)

SOPHISTICATED

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# **System Overview**

## **NEW PUSH / PULL PISTOL**

- Industrial 3D printed parts.
- Sarbon fibre reinforced.
- Spray voltage measured at pistol.
- Ergonomic handle design.
- Reversible V-Rollers.
- Sontact tips and air concentrator.

## '19' SERIES ENERGISER

- Fan on demand saves power and reduces noise.
- Robust push button current control.
- k Industrial plugs / sockets.
- kear handle.

## '19' SERIES DRIVE UNIT

- 🧼 Compact design.
- Quick release MIG reel carriers which are easy to disassemble to feed in small access manholes.
- Lighter weight.

# \* \* \*

# NEW FOR 2019

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ROBUST PARTS

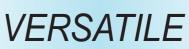




## SUPPLIES PACKS:

- k Lengths to suit.
- Industrial connections.
- Kobust manifold & cover.
- Lightweight cooled
  - conductors.

## POWERFUL





The new ARC150(19) pistol has been adapted to suit the most demanding applications. Ergonomically designed for comfortable operation day after day whilst still using the same standard consumables. It gives consistent throughputs with high coating quality at 500A and thanks to the introduction of 3D printed parts it is now even lighter, whilst retaining its heavy-duty, robust and compact design. The synchronised wire drive allows for longer supplies whilst spray voltage is measured at the pistol for improved reliability and diagnostics.



Metallisation

Ergonomic grip for true comfort

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OPTIONS Part No.

> ARC150-CT16 ARC150-CT20

ARC150-CT23

ARC150-CT25

Reversible U-Rollers mean twice the life

Carbon fibre toughness for the harshest environments.

ROBUST ROBOT MOUNTING

> INDUSTRIAL 3D CARBON FIBRE PRINTED

> > STRENGTH, DURABILITY & COMFORT COMBINED





#### Description

	ARC150 Pistol for 1.6mm wires
	ARC150 Pistol for 2.0mm wires
	ARC150 Pistol for 2.3mm wires
	ARC150 Pistol for 2.5mm wires







Reduced Weight Design



# '19 Series' MIG / SPOOL Wire Dispense



The drive unit is now more compact release MIG covers make it easy to disthan ever, but that doesn't mean it's assemble & fit through small manholes. any less durable. The addition of a top Alternatively there is the option to disset of driven rollers provides an even pense from layer spools which also more reliable, positive wire feed. Quick features the quick release feature.





i arrivo.		
DR150(19)-**M		
DR150(19)-**S		
** Sizes available: 1.6r	nm	, 2





Adjustable Wire Tension



Description

ARC150(19) Drive unit for MIG Dispensing (\*\*mm)

ARC150(19) Drive unit for SPOOL Dispensing (\*\*mm)

2.0mm, 2.3mm, 2.5mm



## Heavy duty (0.55kW) electric inverter drive











# **'19 Series' Drum Dispense**

Through the Metallisation wire dispensing cone, wire is neatly guided to a dispense point, then over the pulley to give a free passage of wire from the drum to pistol. As before the drive unit is now more compact than ever, and there is still the addition of a top set of driven rollers providing even more reliability.

Plastic drum cone with viewing window

Variable position clamp pad assembly

150 / 250 KG FOR ZINC

200 KG FOR ZINC / ALUMINIUM

60 KG FOR ALUMINIUM

Part No. DR150(19)-\*\*D \*\* Sizes available: 1.6mm, 2.0mm, 2.3mm, 2.5mm 21252-51A 21252-56A 21252-59A 6274/5 7144

OPTIONS

Smooth Pulley Action

#### Description

#### ARC145(19) Drive unit for Drum Dispensing (\*\*mm)

Wire Dispensing Cone with Adjustable Reeling Pulley Assembly (51CM)

Wire Dispensing Cone with Adjustable Reeling Pulley Assembly (56CM)

Wire Dispensing Cone with Adjustable Reeling Pulley Assembly (59CM)

Clamp Blocks (Pair) 1/2"

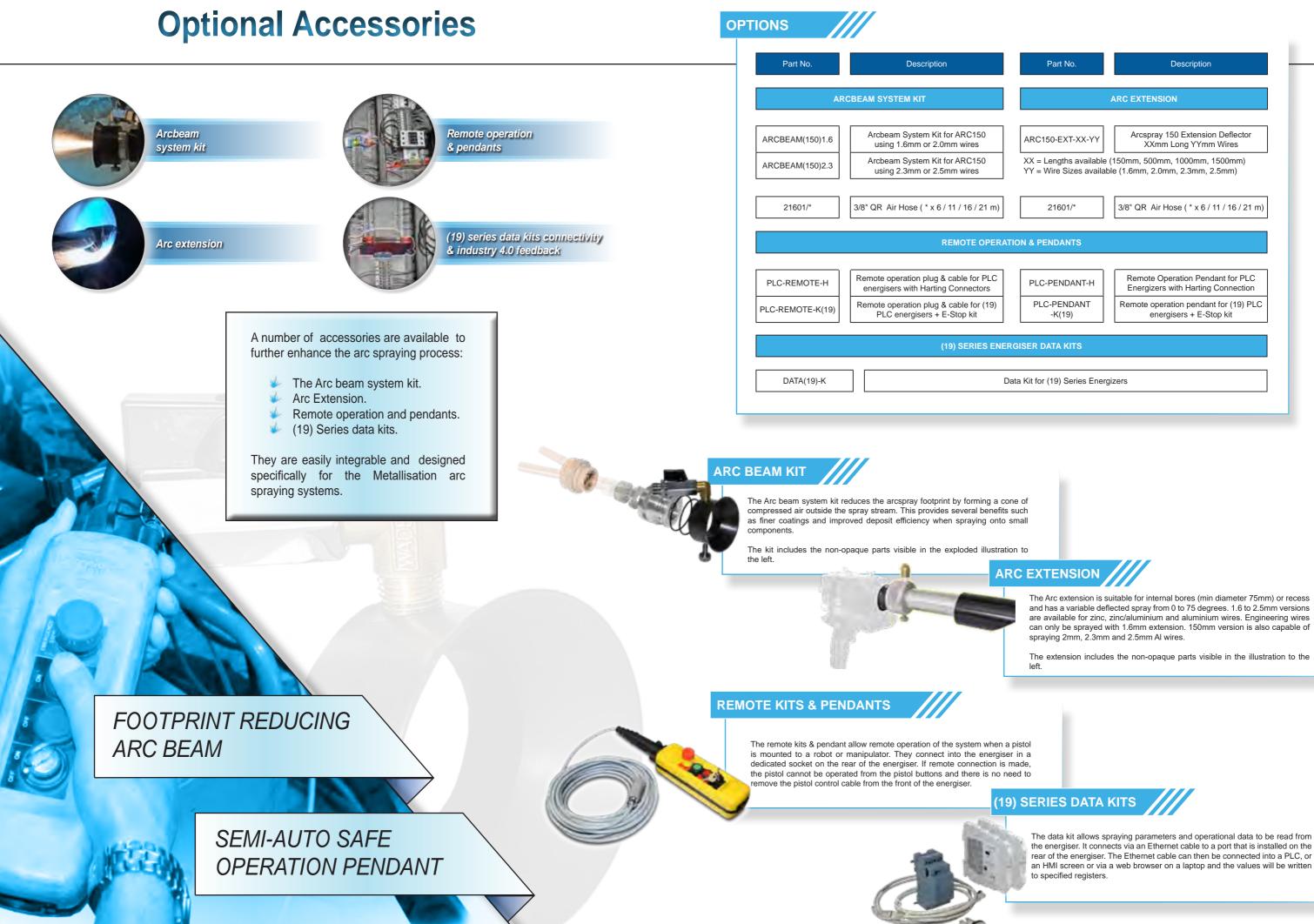
1/2" Dia Ptfe Tubing





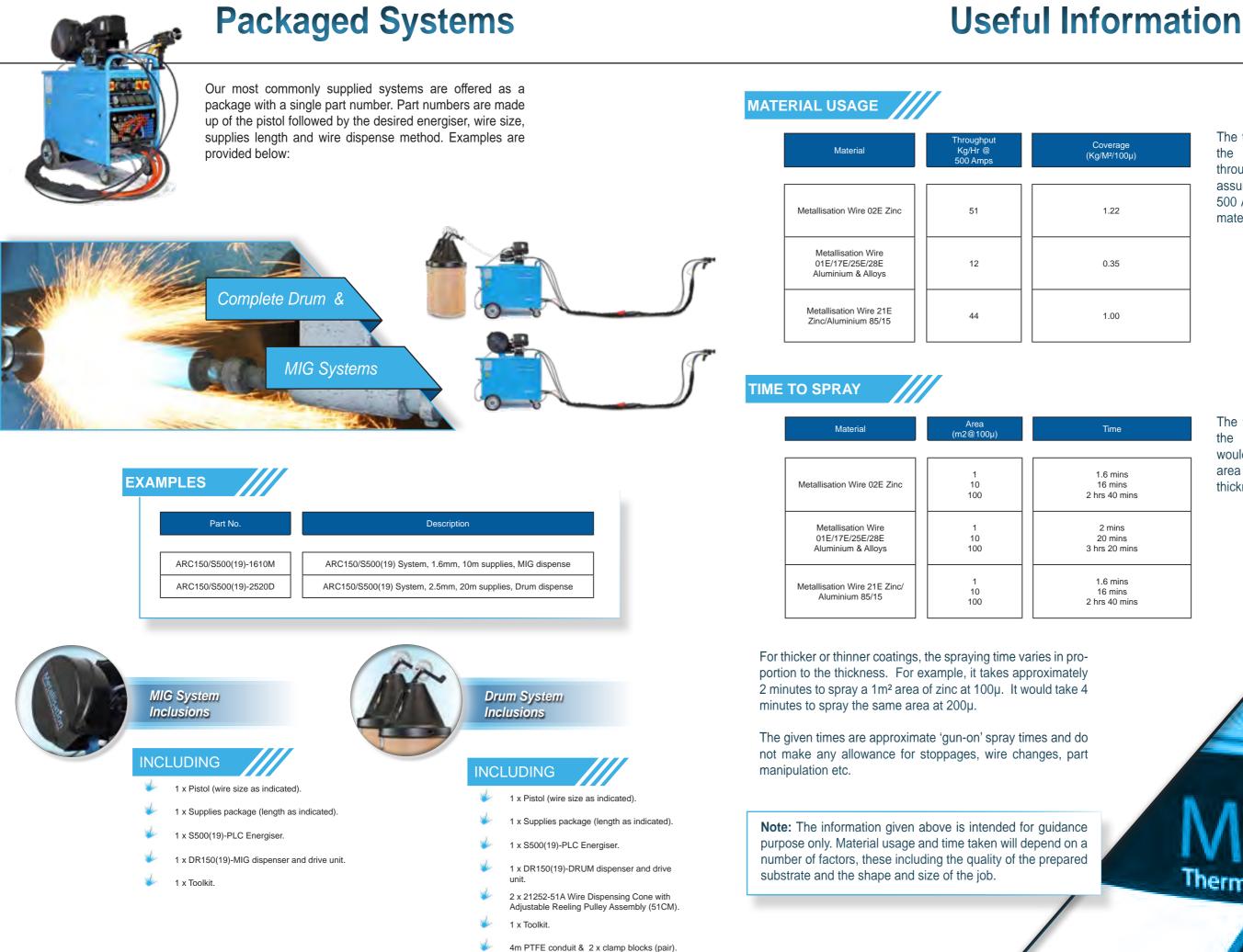






and has a variable deflected spray from 0 to 75 degrees. 1.6 to 2.5mm versions are available for zinc, zinc/aluminium and aluminium wires. Engineering wires can only be sprayed with 1.6mm extension. 150mm version is also capable of

the energiser. It connects via an Ethernet cable to a port that is installed on the rear of the energiser. The Ethernet cable can then be connected into a PLC, or an HMI screen or via a web browser on a laptop and the values will be written



overage M²/100µ)	
1.22	
0.35	
1.00	

The table on the left shows the approximate material throughput and coverage assuming a spray rate of 500 A with 2.3mm diameter material.

#### Time

1.6 mins 16 mins 2 hrs 40 mins

2 mins 20 mins 3 hrs 20 mins

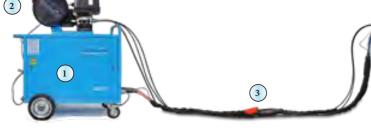
1.6 mins 16 mins 2 hrs 40 mins The table on the left shows the approximate time it would take to spray a given area with 100 µm coating thickness.

Thermal spray equipment

# **Typical System Configurations**

Metallisation has the right configuration for all requirements. Below are some typical set ups. Variations of these configurations may be possible. Please contact Metallisation to discuss your specific application requirements.

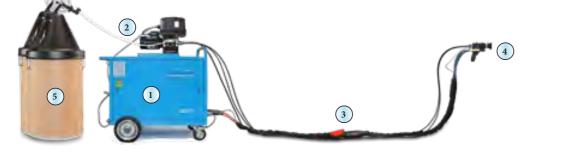
### STANDARD CONFIGURATIONS



Most commonly used for on-site anti-corrosion applications where loading of the smaller MIG reels is more feasible than using drum material.

### PUSH / PULL SYSTEM WITH WIRE IN MIG REELS

- (1) (19) Model Energiser 500A.
- (2) Drive Unit & MIG Reels (can be mounted on Energiser, wall, floor or trolley).
- 3 5 / 10 / 15 / 20m supplies from wire drive to pistol.
- (4) ARC150(19) Pistol.



Most commonly used for in-house or on-site anti-corrosion applications where drums can easily be handled.

Pull only drive

also available

## PUSH / PULL SYSTEM WITH WIRE IN DRUMS

- (1) (19) Model Energiser 500A.
- (2) Push / Pull Drive Unit (can be mounted on Energiser, wall, floor or trolley).
- 3 5 / 10 / 15 / 20m supplies from wire drive to pistol.
- 4 ARC150(19) Pistol.
- (5) Wire in Drums or coils (use 2-tier wire dispenser 3m max. wire to drive).

## THE PERFECT SOLUTION FOR EVERY **APPLICATION**



#### MIG:

Most commonly used in hard to reach areas such as boilers/vessels where access for the energiser is limited. Also used to spray longer objects where easy movement around the workpiece is needed.

#### DRUM:

For very long access applications where there is a benefit to remotely site the energiser away from the spraying area and maintain the benefit of having wire in drums.

2

(4)





MIG and DRUM configurations most commonly used as above but with this configuration the ability to extend the supplies is increased further.



The extension supplies from the energiser to trolley are securely joined and protected.

TYPICAL EXTENDED TROLLEY CONFIGURATIONS					
Extended Supplies		Pistol Supplies	-	Total Max	
10 m					
20 m		10 / 15 / 20 m		50 m	
10+20 m				50 m	
20 + 20 m		10 m			

Note: Maximum total supplies pack length is 50 m. This can be a combination of 30+20 or 40+10.

#### PUSH / PULL SYSTEM WITH DRIVE ON FLOOR

(1) (19) Model Energiser - 500A.

Extension Supplies can be 10 or 20 m complete supplies or a combination of: 10+20 (making 30 m) or 20+20 (making 40 m) - joined with sleeve.

(3) Drive Unit (on floor / shelf) & MIG Reels (or Drum) with quick release connections.

Standard supplies: 5, 10, 15 or 20 m (maximum of 10m when using 20+20 extension).

5 ARC150(19) Pistol.



#### PUSH / PULL SYSTEM WITH DRIVE ON TROLLEY

(1) (19) Model Energiser - 500A.

Extension Supplies can be 10 or 20 m complete supplies or a combination of: 10+20 (making 30 m) or 20+20 (making 40 m) - joined with sleeve.

Drive Unit (on extension trolley) & MIG Reels (or Drum) with quick release connections.

Standard supplies: 5, 10, 15 or 20 m (maximum of 10 m when using 20+20 extension).

5 ARC150(19) Pistol.

## **Detailed Specifications**

# **Detailed Specifications**



#### **Key Information**

Width	95 mm (3.7 ")
Length	265 mm (10.4 ")
Height	240 mm (9.5 ")
Weight	1.96 kg (4.3 lbs)
Weight – at a held height of 1.2 m	4.7 kg (10.4 lbs)
Maximum Current	500 Amps

## PISTOL

## Detailed Specifications

- Industrial 3D printing technology.
- Closed arc for improved spray conditions and efficiency.
- Air concentrator for fine coatings and contact tip cooling.
- Push button design for easy operation and maintenance.
- Standard 1.6, 2.0, 2.3 and 2.5mm wire size.
- Contact tips accessible and easily changed without dis-assembling the spray head.
- Lightweight air-cooled conductor cables are fitted; which reduces the operator supported weight and further improves the overall balance of the pistol.
- Long contact tube and tip arrangement improved coating quality and reliability due to optimised heat dissipation.
- Spray voltage measured at the pistol for improved reliability and diagnostics with long supplies packs.
- Profiled drive rollers suitable for 1.6/2.0mm and 2.3/2.5mm wires. Rollers have 2 grooves and can be reversed for long life operation.
- Retrofittable to (16) range energisers (NB: requires drive modification).

#### **Typical Performance Figures**

MATERIAL	WIRE DIAMETER	THROUGHPUT (KG/HR @ 500 A)	COVERAGE m2/kg/100 μ
Metallisation Wire 01E Aluminium	2.3mm	12	2.88
Metallisation Wire 02E Zinc	2.3mm	51	0.82
Metallisation Wire 21E Zinc/Aluminium 85/15	2.3mm	44	1.00
Metallisation Wire 28E Arctec	2.3mm	12	3.85
Metallisation Wire 72E Inconel 625	1.6mm	13.6(@300A)	1.02

Throughput is assumed to be independent of wire diameter.

All data provided is an approximation and is offered as guidance only as performance can vary depending on application and parameters.



#### **Key Information**

#### S500(19)

Dimensions	670 mm x 1220 mm x 910 mm
(W x L x H)	26.4 " x 48 " x 36 "
Weight	288.8 kg (637 lbs)
Input Power Requirements	380/415/460 V 50-60 Hz 3 Phase
Optional Input Power	200/220 V 3 phase 50/60 Hz
	37 A @ 460 Vac
	40 A @ 415 Vac
Fusing Required	44 A @ 380 Vac
0 1	76 A @ 220 Vac
	84 A @ 200 Vac
Max Power Consumption	29 KVA (46 Vdc/500 A output)
Typical Power Consumption	16 KVA (Zinc 26 Vdc/500 A output) 22 KVA (Aluminium 35 Vdc/500 A output)
Duty	0-500 AMPS @ 100% Duty Cycle
Output Voltage	0-49 Vdc Switched High/Low & 1 – 5 (Nominal Spray Voltage 19 to 44 Vdc)
Air Requirements	1.5 m <sup>3</sup> /min @ 5 bar (53 cfm @ 72.5 psi)



- Easy to read with scale and numerical display.
- Higher accuracy than traditional gauges.
- Warning alert status (ammeter turns red if over-current).
- Wide viewing angle with high contrast for ease of viewing inside or out.
- IP65 rated and Gorilla glass screens.

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#### S500(19)-PLC ENERGISER

Detail	ed Specifications
*	500 Amp Continuous operation (100% duty cycle).
*	Large 'Site Capable' wheels and rigid handle offers portability on site and in workshop.
*	Dust proof push button control - for current setting.
*	Fan on demand (energy saving and noise reduction when not spraying).
*	PLC control for improved reliability and ease of maintenance / fault finding.
*	Sealed electrical control circuit - reduces dust ingress for added reliability.
*	Specifically designed to suit only ARC spraying.
*	LED and Ethernet fault alarm feedback.
*	LED mode indicator for closed / open loop mode.
*	Closed Loop Current Control – easily switchable / reliable spray rate / over-current protection.
*	Robust industrial connections as standard for all control cables.
*	Claw and whip-check air connection.
*	Air regulators with 'lock-off' potential.
*	Digital air pressure switches with display for easy setting and diagnostics
*	Thermal switch on rectifiers.
*	Heat sink increased for better thermal dissipation.
*	Easy access energiser panels & external fuse bank for reduced Mean Time to Repair (MTTR). Shake-proof terminals minimise risk of loose control connections.

- Switched output voltage control.
- 220V/380V/415V input supply options available (hard wired).
- Remote operation E-stop kit allows energiser to be started/ stopped remotely via a pendant or interfaced into an automation E-stop circuit. It comes with a plug that can be wired as required.

# **Detailed Specifications**

# **Detailed Specifications**



#### **Technical Information**

Maximum Current	500 Amps
Compressed Air	0.7m3 / min @ 3.5 Bar

#### ARC BEAM SYSTEM KIT

#### Detailed Specifications

- Reduces Arcspray footprint by forming a cone of compressed air outside the spray stream.
- Finer coatings resulting in lower porosity.
- Improved Deposit efficiency when spraying onto small components (less overspray).
- Increased hardness due to higher oxide content.
- Air hoses with quick release connections to connect the accessories to the auxiliary air supply on the energiser.



#### Data available:

Spray OK indication (on when the spray current is above 15A). Spray Current: output value = actual spray current. Spray Voltage: output value = actual spray voltage. Nozzle Air Pressure: output value = nozzle air pressure in bar. Auxiliary Air Pressure: output value = auxiliary air pressure in bar. Fault indications (over temperature, low air pressure, over current).



#### **Technical Information**

Maximum Current	500 Amps
Compressed Air	0.7m3 / min @ 3.5 Bar



#### Note:

Pendant comes with 10m control cable to connect to energiser (can be longer on request).

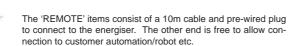
## ARC EXTENSION

#### **Detailed Specifications**

- Suitable for internal bores (min Diameter 75mm) or recesses.
- Variable deflected spray from 0 to 75 Degrees.
- 1.6mm, 2.0mm, 2.3mm and 2.5mm versions available for zinc, zinc/aluminium and aluminium wires.
- Engineering wires can only be sprayed with 1.6mm extension.
- 150mm version is also capable of spraying 2mm, 2.3mm and 2.5mm Al wires.

## REMOTE OPERATION

#### **Detailed Specifications**



- The 'PENDANT' items consist of a remote operation pendant to start/stop the system and also have an E-stop button for safe operation.
- Allows remote operation of the system for when pistol is mounted to a robot or manipulator.
- Connects into energiser in a dedicated socket on the rear of the energiser. If remote connection is made, the pistol cannot be operated from the pistol buttons and there is no need to remove the pistol control cable from the front of the energiser.



#### DATA KIT

#### Detailed Specifications



The data kit allows information to be read from the energiser. It connects via an Ethernet cable to a port that is installed on the rear of the energiser.

The Ethernet cable can be connected directly into a Siemens PLC, into an HMI screen (either programmable or not) that has an Ethernet port (for example, Proface or Simatic screen). or to a web browser on a laptop.



Once connected, the values from the energiser will be written to specified registers.

Industry 4.0 feedback.



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