arc TORCHOLOGY
INTELLIGENT TORCH SOLUTIONS

MAKE WORK
LIFE EASIER

SET-UP AND MAINTENANCE GUIDE

HIGH PERFORMANCE AIR-COOLED SERIES

INTELLIGENT
TORCH SOLUTIONS

ARC AIR-COOLED HIGH PERFORMANCE SERIES

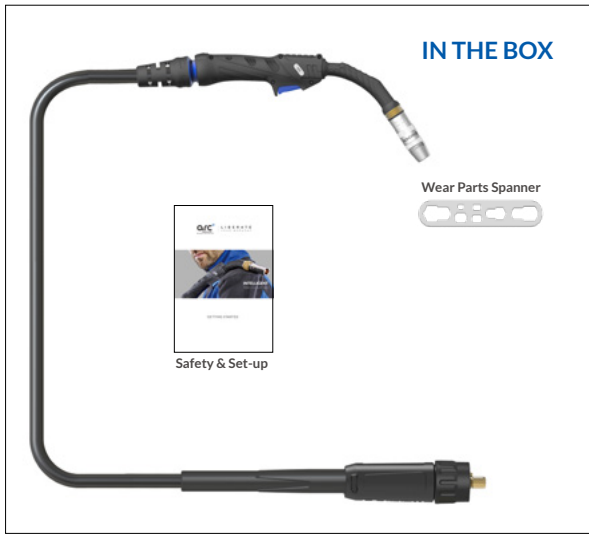
Contents

High Performance Air-Cooled Series

M3 High Performance Air-Cooled

MAKE WORK LIFE EASIER

The Arc M3 is a true 300 Amp Torch which outperforms all Binzel® MB36 derivatives and is ideal for 1.2mm production work.



TECHNICAL SPECIFICATIONS

IEC/EN 60974-7

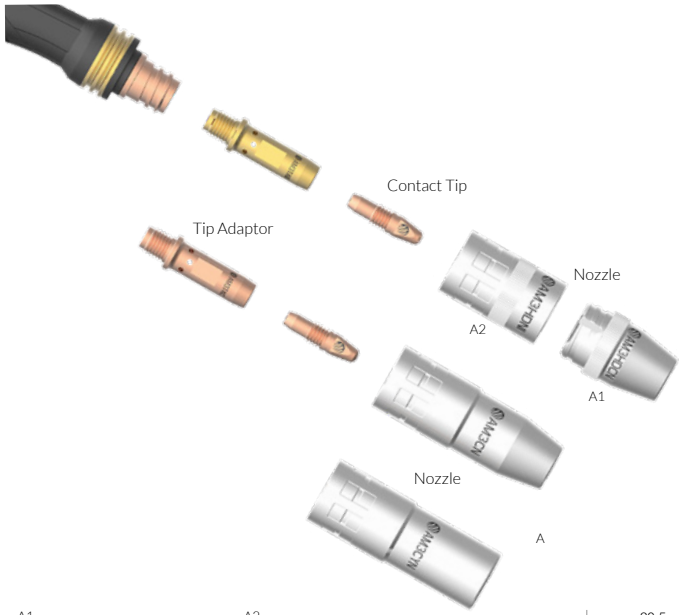
M3

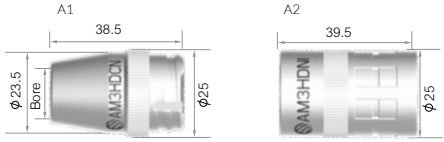
Cooling Method		Air-Cooled	Max. Load
Rating:	CO_2	300A	10.5KW
	Mixed Gas M21	270A	8.9KW
Duty Cycle		60%	
Wire Size		0.9-1.2mm	

M3 SET-UP GUIDE

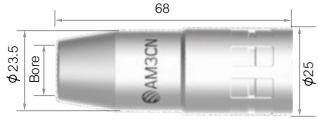
MAKE WORK LIFE EASIER

M3 Torches are supplied “ready to weld” with all wear parts fitted in accordance with the items listed below •

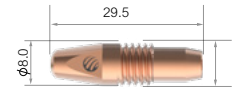




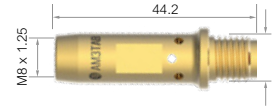
A1	AM3HDTN	12mm	3mm	Copper
•	AM3HDCN	14mm	3mm	Copper
	AM3HDCYN	19mm	3mm	Copper
A2 •	AM3HDNI			Copper



A	AM3TN	12mm	2.25mm	Copper
	AM3CN	14mm	2.25mm	Copper
	AM3CYN	19mm	2.25mm	Copper



Standard Series				
	AM5CT09	M8*29.5	0.9 - 0.035	CuCrZr
	AM5CT10	M8*29.5	1.0 - 0.040	CuCrZr
•	AM5CT12	M8*29.5	1.2 - 0.045	CuCrZr
A Series				
	AM5CT10A	M8*29.5	1.0 - 0.040	CuCrZr
	AM5CT12A	M8*29.5	1.2 - 0.045	CuCrZr
	AM2CT10A	M8*29.5	1.0 - 0.040	Copper
	AM2CT12A	M8*29.5	1.2 - 0.045	Copper



	AM3TAC	CuCrZr
•	AM3TAB	Brass

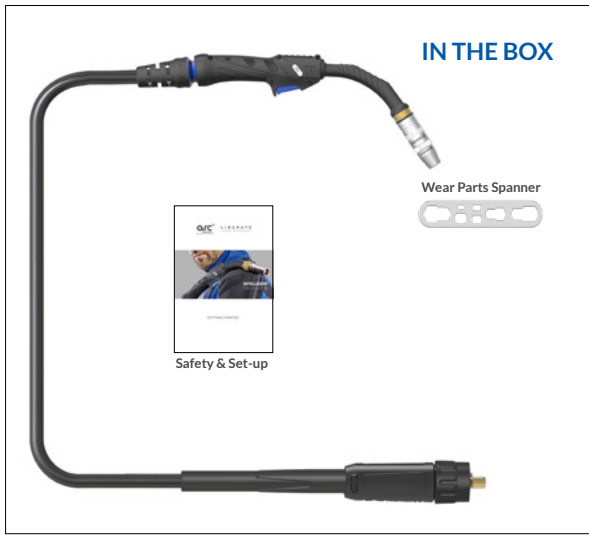
• Denotes torch package standard wear part set-up

M4 High Performance Air-Cooled

MAKE WORK LIFE EASIER

The Arc M4 performance is superior to the Binzel® MB36 and delivers more power than an MB38.

An all-day production torch in solid wire and pulse Mig applications over 300 Amps.



TECHNICAL SPECIFICATIONS

IEC/EN 60974-7

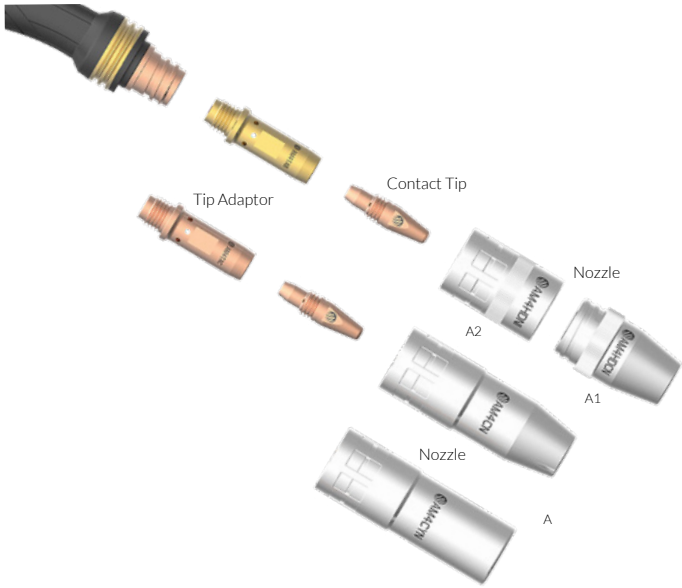
M4

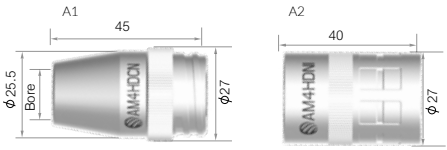
Cooling Method		Air-Cooled	Max. Load
Rating:	CO_2	350A	14.1KW
	Mixed Gas M21	320A	11.4KW
Duty Cycle		60%	
Wire Size		0.9-1.2mm	

M4 SET-UP GUIDE

MAKE WORK LIFE EASIER

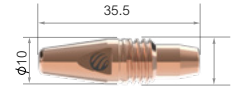
M4 Torches are supplied “ready to weld” with all wear parts fitted in accordance with the items listed below •



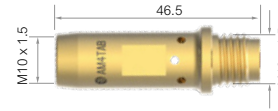


A1	AM4HDTN	13mm	3mm	Copper
•	AM4HDCN	15mm	3mm	Copper
	AM4HDCYN	21mm	3mm	Copper
A2 •	AM4HDNI			Copper

A	AM4TN	13mm	2.25mm	Copper
	AM4CN	15mm	2.25mm	Copper
	AM4CYN	21mm	2.25mm	Copper



Standard Series				
	AM6WCT09	M10*35.5	0.9 - 0.035	CuCrZr
	AM6WCT10	M10*35.5	1.0 - 0.040	CuCrZr
•	AM6WCT12	M10*35.5	1.2 - 0.045	CuCrZr
A Series				
	AM6WCT10A	M10*35.5	1.0-0.040	CuCrZr
	AM6WCT12A	M10*35.5	1.2-0.045	CuCrZr
	AMC6WCT10A	M10*35.5	1.0-0.040	Copper
	AMC6WCT12A	M10*35.5	1.2-0.045	Copper



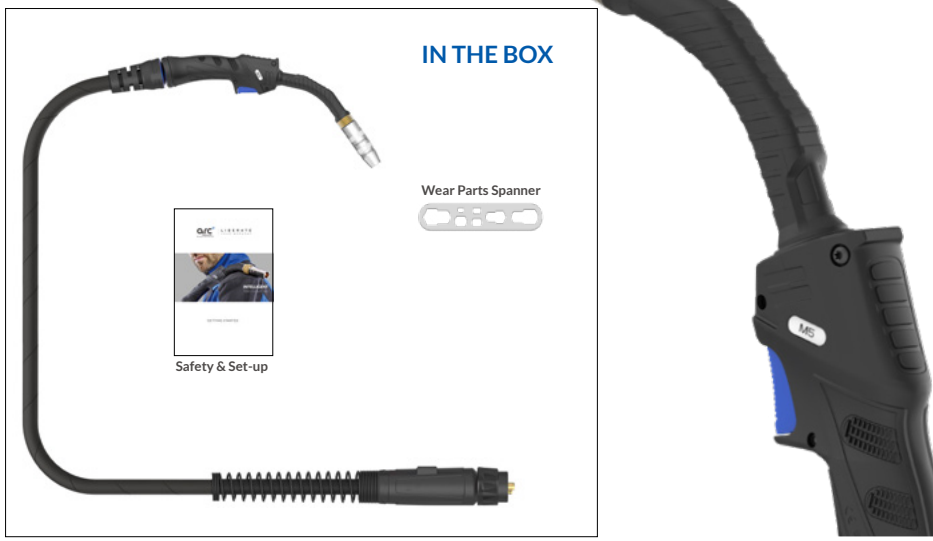
	AM4TAC	CuCrZr
•	AM4TAB	Brass

• Denotes torch package standard wear part set-up

M5 High Performance Air-Cooled

MAKE WORK LIFE EASIER

Constructed for power, performance, and longevity the M5 is ideal for heavy duty 1.2mm and 1.6mm high deposition and pulse applications.
A retrofit heat shield is available for high reflected heat applications.



TECHNICAL SPECIFICATIONS

IEC/EN 60974-7

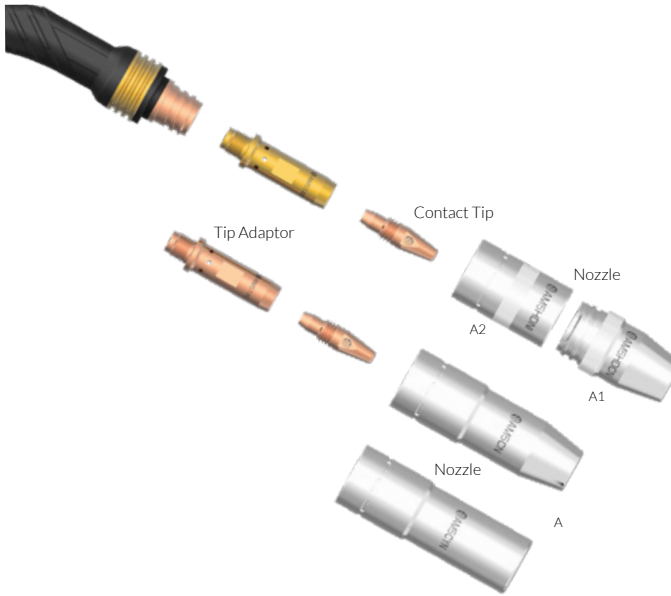
M5

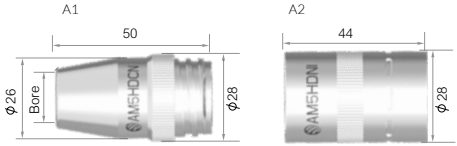
Cooling Method		Air-Cooled	Max. Load
Rating:	CO_2	390A	14.6KW
	Mixed Gas M21	360A	12.2KW
Duty Cycle		60%	
Wire Size		0.9-1.6mm	

M5 SET-UP GUIDE

MAKE WORK LIFE EASIER

M5 Torches are supplied “ready to weld” with all wear parts fitted in accordance with the items listed below •

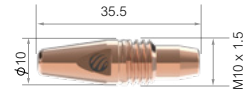




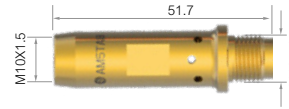
A1	AM5HDTN	13mm	3.5mm	Copper
•	AM5HDCN	15mm	3.5mm	Copper
	AM5HDCYN	21mm	3.5mm	Copper
A2 •	AM5HDNI			Copper

A	AM5TN	13mm	2.5mm	Copper
	AM5CN	15mm	2.5mm	Copper
	AM5CYN	21mm	2.5mm	Copper

• Denotes torch package standard wear part set-up



Standard Series				
	AM6WCT09	M10*35.5	0.9 - 0.035	CuCrZr
	AM6WCT10	M10*35.5	1.0 - 0.040	CuCrZr
•	AM6WCT12	M10*35.5	1.2 - 0.045	CuCrZr
	AM6WCT14	M10*35.5	1.4 - 0.055	CuCrZr
	AM6WCT16	M10*35.5	1.6 - 0.063	CuCrZr
	AM6WCT20	M10*35.5	2.0 - 0.080	CuCrZr
A Series				
	AM6WCT10A	M10*35.5	1.0 - 0.040	CuCrZr
	AM6WCT12A	M10*35.5	1.2 - 0.045	CuCrZr
	AM6WCT16A	M10*35.5	1.6 - 0.063	CuCrZr
	AMC6WCT10A	M10*35.5	1.0 - 0.040	Copper
	AMC6WCT12A	M10*35.5	1.2 - 0.045	Copper

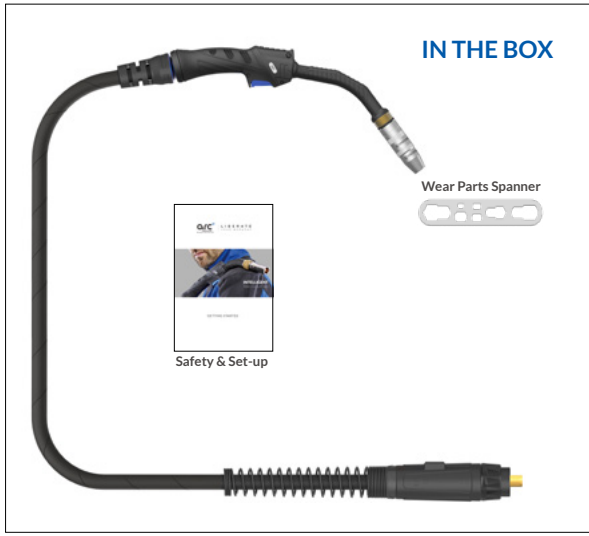


•	AM5TAB	Brass
	AM5TAC	CuCrZr

M6 High Performance Air-Cooled

MAKE WORK LIFE EASIER

An Indestructible 400 Amp Air-Cooled Production Torch.
Perfect for high amps, high deposition, pulse, and high duty applications with 1.2mm and 1.6mm wires.
A retrofit heat shield is available for high reflected heat applications.



TECHNICAL SPECIFICATIONS

IEC/EN 60974-7

M6

Cooling Method		Air-Cooled	Max. Load
Rating:	CO_2	430A	17.6KW
	Mixed Gas M21	400A	14.8KW
Duty Cycle		60%	
Wire Size		0.9-2.0mm	

M6 SET-UP GUIDE

TORCHOLOGY
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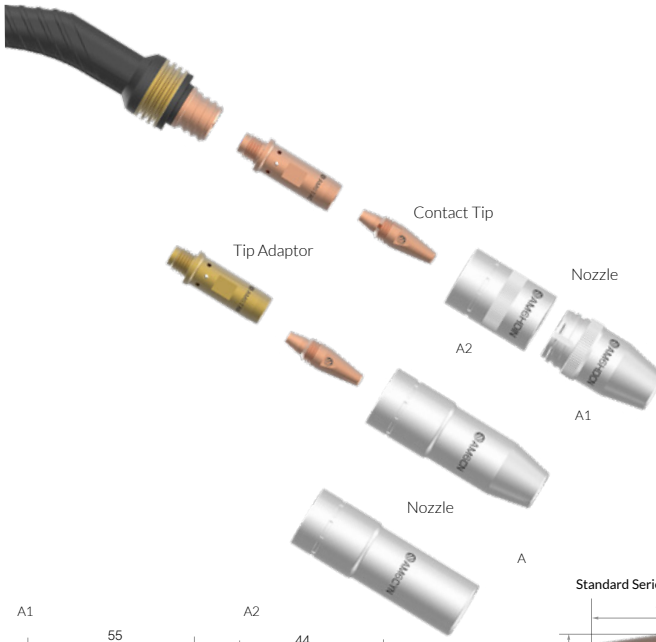
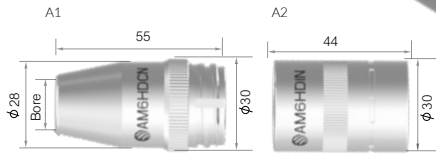
M6 Torches are supplied “ready to weld” with all wear parts fitted in accordance with the items listed below •



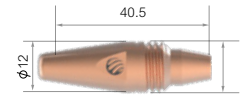


A1	AM6HDTN	13mm	3.5mm	Copper
•	AM6HDCN	15mm	3.5mm	Copper
	AM6HDCYN	23mm	3.5mm	Copper
A2 •	AM6HDNI			Copper

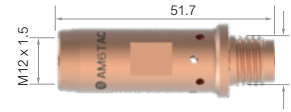
A	AM6TN	13mm	2.5mm	Copper
	AM6CN	15mm	2.5mm	Copper
	AM6CYN	21mm	2.5mm	Copper

• Denotes torch package standard wear part set-up

Standard Series



Standard Series				
	AM6CT09	M12*40.5	0.9-0.035	CuCrZr
	AM6CT10	M12*40.5	1.0-0.040	CuCrZr
•	AM6CT12	M12*40.5	1.2-0.045	CuCrZr
	AM6CT14	M12*40.5	1.4-0.055	CuCrZr
	AM6CT16	M12*40.5	1.6-0.063	CuCrZr
	AM6CT20	M12*40.5	2.0-0.080	CuCrZr
A Series				
	AM6CT10A	M12*40.5	1.0-0.040	CuCrZr
	AM6CT12A	M12*40.5	1.2-0.045	CuCrZr
	AM6CT16A	M12*40.5	1.6-0.063	CuCrZr
	AM6CT20A	M12*40.5	1.0-0.040	CuCrZr
	AMC6CT10A	M12*40.5	1.2-0.045	Copper
	AMC6CT12A	M12*40.5	2.0-0.080	Copper



	AM6TAB	Brass
•	AM6TAC	CuCrZr

LINER OPTIONS

Liners

Filler Metal

Steel Liner Recommended for: Fe, Fe-MC/FC. Light and medium duty applications

Part No.	Description	Contact Tip	Wire Size mm	M3	M4	M5	M6
AM1535-30	Steel Liner x 3mt	Moulded Nipple	0.6-0.9	●	●	○	○
AM1535-40	Steel Liner x 4mt	Moulded Nipple	0.6-0.9	●	●	○	○
AM1535-50	Steel Liner x 5mt	Moulded Nipple	0.6-0.9	●	●	○	○
AM2524-30	Steel Liner x 3mt	Moulded Nipple	1.0-1.2	●	●	○	○
AM2524-40	Steel Liner x 4mt	Moulded Nipple	1.0-1.2	●	●	○	○
AM2524-50	Steel Liner x 5mt	Moulded Nipple	1.0-1.2	●	●	○	○

Filler Metal Fe, Fe-MC/FC

Steel Liner Recommended for: Light and medium duty applications

Part No.	Description	Contact Tip	Wire Size mm	M3	M4	M5	M6
AM6SL-1012-30	Steel Liner x 3mt	Standard Series	1.0-1.2	○	○	●	●
AM6SL-1012-40	Steel Liner x 4mt	Standard Series	1.0-1.2	○	○	●	●
AM6SL-1012-50	Steel Liner x 5mt	Standard Series	1.0-1.2	○	○	●	●
AM6SL-16-30	Steel Liner x 3mt	Standard Series	1.6	○	○	●	●
AM6SL-16-40	Steel Liner x 4mt	Standard Series	1.6	○	○	●	●
AM6SL-16-50	Steel Liner x 5mt	Standard Series	1.6	○	○	●	●
AM6SL-20-30	Steel Liner x 3mt	Standard Series	2.0	○	○	●	●
AM6SL-20-40	Steel Liner x 4mt	Standard Series	2.0	○	○	●	●
AM6SL-20-50	Steel Liner x 5mt	Standard Series	2.0	○	○	●	●

Filler Metal SS, SS-MC/FC

Stainless Steel Liner Recommended for: Heavy Duty Fe. High amperages and heavy deposition welding

Part No.	Description	Contact Tip	Wire Size mm	M3	M4	M5	M6
AM6SSTL-1012-30	Stainless Steel Liner x 3mt	Standard Series	1.0-1.2	○	○	●	●
AM6SSTL-1012-40	Stainless Steel Liner x 4mt	Standard Series	1.0-1.2	○	○	●	●
AM6SSTL-1012-50	Stainless Steel Liner x 5mt	Standard Series	1.0-1.2	○	○	●	●
AM6SSTL-16-30	Stainless Steel Liner x 3mt	A Series	1.6	○	○	●	●
AM6SSTL-16-40	Stainless Steel Liner x 4mt	A Series	1.6	○	○	●	●
AM6SSTL-16-50	Stainless Steel Liner x 5mt	A Series	1.6	○	○	●	●

Welding with Soft Wires
For welding with Aluminum wires use a Combi-liner.
Optimum installation is achieved when using the Combi-liner set-up kit.

● Standard wear part range ● Torch package standard wear part set-up

LINER OPTIONS

Liners

Filler Metal AlMg

Al - Combi Liner Recommended for: Air-Cooled torches, Can be used for SS-MC/FC wires

Part No.	Description	Contact Tip	Wire Size mm	M3	M4	M5	M6
AM1564-30	Combi-Liner x 3mt	A Series	0.8-1.2	●	●	○	○
AM1564-40	Combi-Liner x 4mt	A Series	0.8-1.2	●	●	○	○
AM1564-50	Combi-Liner x 5mt	A Series	0.8-1.2	●	●	○	○

Filler Metal AlMg

Al - Combi Liner Recommended for: Liquid-Cooled torches and frequent /repetitive arc starts

Part No.	Description	Contact Tip	Wire Size mm	M3	M4	M5	M6
AM6CL-1012-30	Combi-Liner x 3mt	Standard Series	1.0-1.2	○	○	●	●
AM6CL-1012-40	Combi-Liner x 4mt	Standard Series	1.0-1.2	○	○	●	●
AM6CL-1012-50	Combi-Liner x 5mt	Standard Series	1.0-1.2	○	○	●	●
AM6CL-1620-30	Combi-Liner x 3mt	A Series	1.6	○	○	●	●
AM6CL-1620-40	Combi-Liner x 4mt	A Series	1.6	○	○	●	●
AM6CL-1620-50	Combi-Liner x 5mt	A Series	1.6	○	○	●	●

Part No.	Description	Contact Tip	Wire Size mm	M3	M4	M5	M6
AMOSW_LINER-T	Soft Wire / Combi-Liner Set-up Kit			●	●	●	●

Welding with Soft Wires
For welding with Aluminum wires use a Combi-liner.
Optimum installation is achieved when using the Combi-liner set-up kit.

● Standard wear part range ● Torch package standard wear part set-up

HARD WIRE LINER SET–UP

Fe, Fe-MC/FC

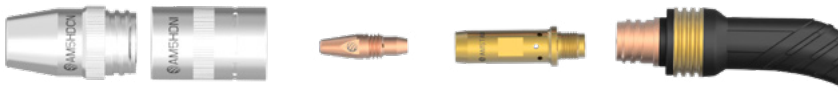
Preparing the Torch and Fitting the Liner

Prepare the Torch **Step 1**

Lay the torch out flat and straight

- Remove the nozzle.
- Remove the contact tip and tip adaptor.
- Remove the liner retaining nut, twist and pull out the old liner if necessary.

Important:
Liners should not be fitted if the torch is bent or coiled



Install the New Liner **Step 2**

- Feed in the new liner in short strokes of 20cm per time. (Figure 1)
- Twist the handle if the liner sticks when feeding the liner through the swan neck. (Figure 2)
- Continue to feed until the liner nipple is inside gun plug body.
- Fit liner nut. The torque is about 2.5Nm. (Figure 3)

Important:
Do not use a kinked liner

(1)

(2)

(3)

HARD WIRE LINER SET-UP

Fe, Fe-MC/FC

Install the New Liner, Cont.

Step 3

- Cut the excess liner so the liner stick out is: M3 - 14mm , M4 - 14mm , M5 - 19mm , M6 - 19mm from the front end of the swan neck.
- Replace the tip adaptor and measure the gap from the tip adaptor to the front of the swan neck thread (Figure 1).
- Remove excess liner material.
- Remove all sharp burrs with a file or grinder.

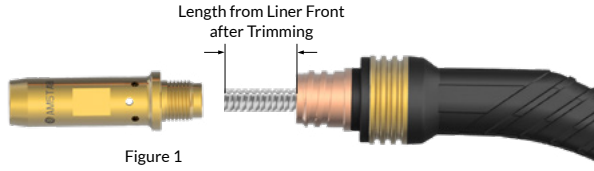
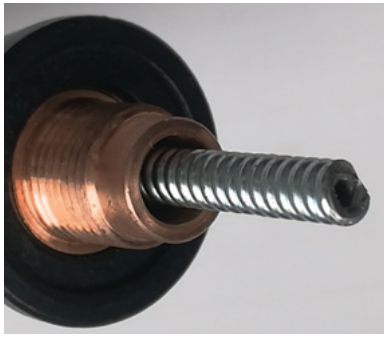


Figure 1



✓

X

Sharp edge
Bore is partly blocked

Important:
The inner bore of the liner must be totally cylindrical and burr free.
Remove any external overhanging material prior to fitting the tip adaptor.

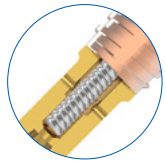
HARD WIRE LINER SET–UP

Fe, Fe-MC/FC

Install the New Liner, Cont.

Step 4

- Refit the tip adaptor.
- The liner front-end sits inside the tip adaptor as shown in Figure A.



Detail A

Figure A

Important:
The liner should always remain under slight compression within the torch.

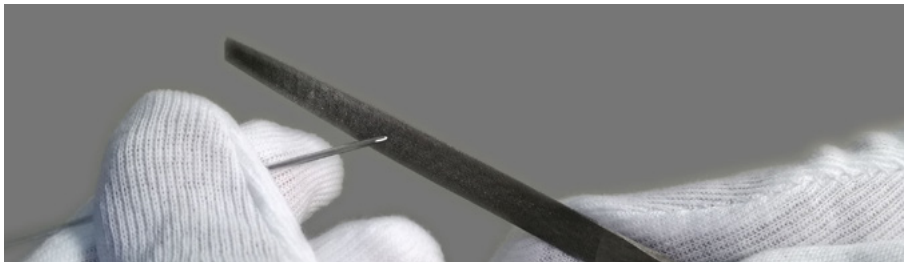
HARD WIRE LINER SET-UP

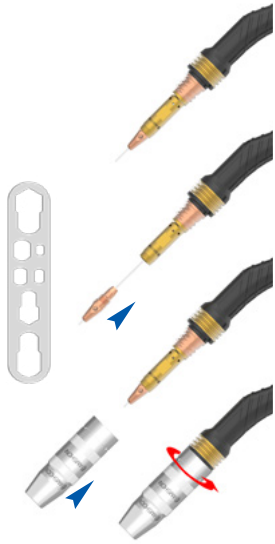
Fe, Fe-MC/FC

Feeding Wire Through the Torch

Preparing the Wire **Step 1**

- Inch the wire out through the machine by 15-20cm. Using a file remove all sharp burrs from the leading edge of the filler metal.
- Feed the wire directly into the torch liner, carefully pulling the torch towards the machine if necessary.
- Mount the torch to the machine or feed unit





Feeding the Wire Through the Torch **Step 2**

- Slowly inch the wire through the torch until it appears at the end of the tip adaptor.
- Feed the wire through the tip being careful not to scratch the bore.
- Tighten the contact tip and refit the nozzle.

You are ready to weld!

COMBI-LINER SET–UP

SS,SS-MC/FC

The Arc M Combi liner system has been developed specifically for aluminium welding wires. It picks up the filler metal directly at the drive rolls and delivers it to the contact tip.

In order to achieve the most reliable torch performance and weld quality it is essential to follow the correct liner set-up procedure.

Optimum installation is achieved when using the Combi-liner set-up kit - stock code reference : AMCLST-KIT

COMBI-LINER SET–UP

SS,SS-MC/FC

MAKE WORK LIFE EASIER

Preparing the Torch and Fitting the Liner

Prepare the Torch **Step 1**

Lay the torch out flat and straight

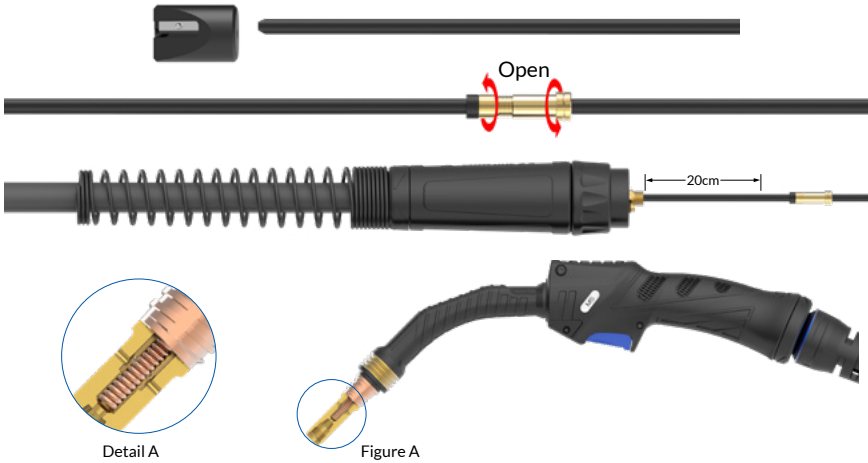
- Remove the nozzle.
- Remove the contact tip.
- Remove the liner retaining nut, twist and pull out the old liner if necessary.

Important:
Liners should not be fitted if the torch is bent or coiled.

Install the New Liner **Step 2**

- Open the liner collet by twisting the two halves.
- Feed in the new combi-liner in short strokes of 20cm per time.
- Twist the handle if the liner sticks when feeding the liner through the swan neck.
- Continue to feed the combi-liner, the liner front-end sits inside the tip adaptor as shown in Figure A.

Important:
Do not use a kinked liner



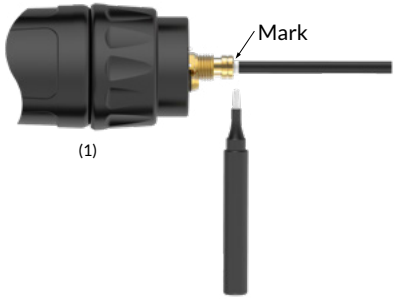
Detail A

Figure A

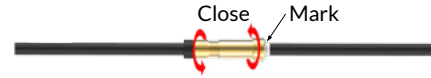
Install the New Liner, Cont.

Step 3

- Ensure the liner is under slight compression within the torch conduit and the front nipple can be seen through the tip adaptor holes. Mark the position at the rear of the liner nipple (Figure 1).
- Retract the liner back slightly and position the collet by tightening it to the liner at the marked position (Figure 2).
- Reposition and tighten the liner retaining nut (Figure 3).



(1)



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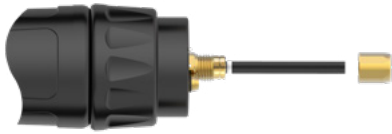
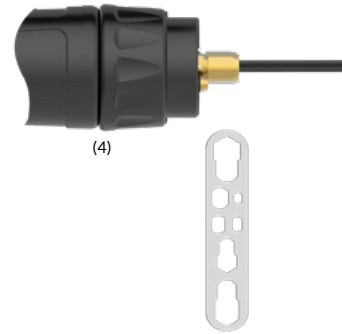


(3)



(4)

Preparing the Machine to Fit the Torch

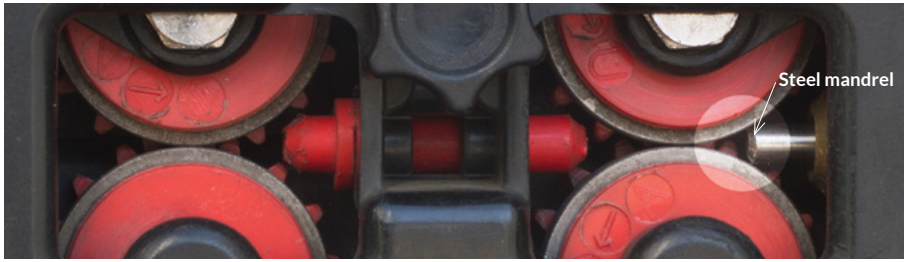
Measuring the Distance to the Drive Rolls **Step 1**

- Remove the old wire guide from the machine / wire feed unit if necessary.
- Insert the liner measuring jig supplied into the machine Euro socket as shown.

- Ensure there is no gap between the shoulder of the plastic gauge and the machine Euro socket.

Using the Liner Measuring Jig, Cont. **Step 2**

- Gently push the steel mandrel until the front-end touches the wire feed rollers.
- Remove the Jig from the machine ensuring there is no movement between the plastic gauge and the mandrel.



COMBI-LINER SET–UP

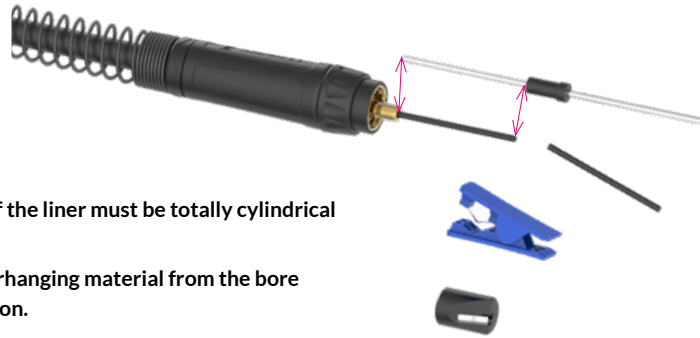
SS,SS-MC/FC

MAKE WORK LIFE EASIER

Cutting and Trimming the Liner

Step 3

- Offer the liner to the Jig and mark the point at the face of the plastic gauge.
- Cut the liner with the liner cutter provided.
- Use the liner sharpener provided to sharpen the leading edge of the liner.
- The sharpener is preset to the correct angle.



Important
The inner bore of the liner must be totally cylindrical and burr free.

Remove any overhanging material from the bore prior to installation.

The Correct Set-up

Step 4

- Refit the torch to the machine and tighten the torch lock nut slowly, being mindful of the interface between the end of the liner and the drive rolls.
- The liner should now sit close to the drive rolls.

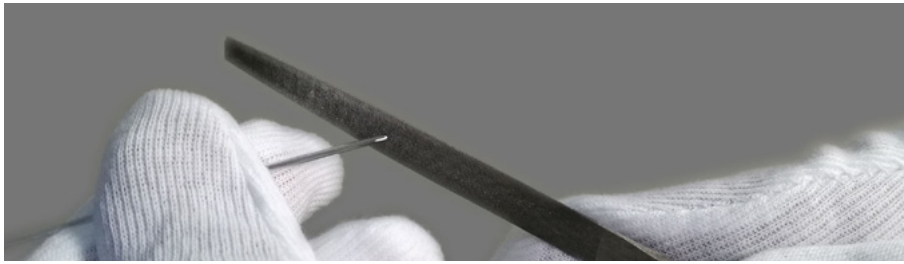
Feeding Wire Through the Torch

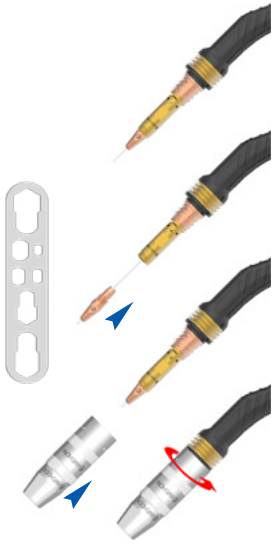
Important:
Remove the torch from the machine / feed unit

Step 1

Preparing the Wire

- Inch the wire out through the machine by 15-20cm. Using a file remove all sharp burrs from the leading edge of the filler metal.
- Feed the wire directly into the torch liner, carefully pulling the torch towards the machine if necessary.
- Mount the torch to the machine or feed unit.





Feeding the Wire Through the Torch

Step 2

- Slowly inch the wire through the torch until it appears at the end of the tip adaptor.
- Feed the wire through the tip being careful not to scratch the bore.
- Tighten the contact tip and refit the nozzle.

You are ready to weld!

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