

# Essentials Guide

What you need for welding and cutting



## Order Placement and Enquiries

Visit your nearest BOC Gas & Gear Centre today.

For the location of your nearest Gas & Gear, or to place an order, call our Customer Engagement Centre on 0800 111 333.

### New Zealand

Auckland Penrose	970 Great South Rd
Auckland West	334 Rosebank Rd, Avondale
Blenheim	Cnr Redwood St & Park Tce
Christchurch	21-27 Epsom Rd, Sockburn
Dunedin	4 Orari St
Gisborne	53d Awapuni Rd
Hamilton	2 Sunshine Ave, Te Rapa
Invercargill	161 Bond St
Lower Hutt	27-33 Seaview Rd, Seaview
Napier	1 Leyland St, Onekawa
Nelson	107 St Vincent St, Nelson
New Plymouth	Cnr Gover & Molesworth St
Palmerston North	584 Tremain Ave
Rotorua	26 Riri St
Tauranga	Cnr Hewlett Rd & Waimarie St
Timaru	Unit 4, 171-183 Hilton Hwy, Washdyke
Whangarei	54 Rewarewa Rd




0800 111 333

[www.boc.co.nz](http://www.boc.co.nz)

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Most products are sold in Gas & Gear Stores unless marked , these products are sold to meet specific market needs.  
Stock availability may vary from store to store, please check beforehand with your local Gas & Gear store to avoid disappointment.  
Indent items are not stocked and will be ordered in, please allow time for delivery.  
Items can be ordered online, or by contacting the BOC Customer Engagement Centre 0800 111 333.

# Welding Gases

## Shielding Gas Selection Chart

for GMA, flux-cored, metal-cored, solid wire welding

Arc Transfer Spray Modified Spray Dip  
Weld Characteristics ★★★★★ Excellent — ★☆☆☆ Poor  
P = Performance Line C = Competence Line

Cylinder Colours	Gas	Material Thickness (mm)		Weld Characteristics					Principal Benefits		
		1-12	13+	Penetration	Spatter free	Speed	Fillet shape	Finish			
GMAW Carbon and Low Alloy Steels											
	ARGOSHIELD® Light	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div><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The gases listed here represent BOC's main range of shielding gases. For the complete range refer to the BOC Shielding Gases brochure on [www.boc.co.nz](http://www.boc.co.nz) under Technical Resources.



## BOC New Zealand Shielding Gases Range Classifications

Brand Name	BOC Gas Code	Nominal Mixture	AS 4882	ISO 14175
Argon Welding	130	99.995% Argon	AS 4882 SG-A	ISO 14175 I1
Argoshield Light	500	5% CO <sub>2</sub> + 2% O <sub>2</sub>	AS 4882 SG-ACO-5/2	ISO 14175 M23-ArCO-5/2
Argoshield MCW	516	10% CO <sub>2</sub>	AS 4882 SG-AC-10	ISO 14175 M20-ArC-10
Argoshield Universal	501	12% CO <sub>2</sub> + 2% O <sub>2</sub>	AS 4882 SG-ACO-12/2	ISO 14175 M24-ArCO-12/2
18% CO <sub>2</sub> in Argon	26584194GS	18% CO <sub>2</sub>	AS 4882 SG-AC-18	ISO 14175 M21-ArC-18
Argoshield Heavy	502	18% CO <sub>2</sub> + 2% O <sub>2</sub>	AS 4882 SG-ACO-18/2	ISO 14175 M26-ArCO-18/2
Argoshield FCW	512	23% CO <sub>2</sub>	AS 4882 SG-AC-23	ISO 14175 M21-ArC-23
Specshield Multi	511	2% O <sub>2</sub>	AS 4882 SG-AO-2	ISO 14175 M13-ArO-2
Stainshield MIG	509	2.5% CO <sub>2</sub>	AS 4882 SG-AC-2.5	ISO 14175 M12-ArC-2.5
Stainshield Heavy	505	38% He + 2% CO <sub>2</sub>	AS 4882 SG-AHeC-38/2	ISO 14175 Z-ArHeC-38/2
Stainshield Universal	504	55% He + 2% CO <sub>2</sub>	AS 4882 SG-AHeC-55/2	ISO 14175 Z-ArHeC-55/2
Formier 5	251	5% N <sub>2</sub>	AS 4882 SG-AN-5	ISO 14175 N2-ArN-5
Stainshield Light	503	85% He + 1.5% CO <sub>2</sub>	AS 4882 SG-AHeC-85/1.5	ISO 14175 Z-ArHeC-85/1.5
Alushield Light	506	30% He	AS 4882 SG-AHe-30	ISO 14175 I3-ArHe-30
Alushield Universal	507	50% He	AS 4882 SG-AHe-50	ISO 14175 I3-ArHe-50
Alushield Heavy	508	70% He	AS 4882 SG-AHe-70	ISO 14175 I3-ArHe-70
Stainshield TIG	510	2% H <sub>2</sub>	AS 4882 SG-AH-2	ISO 14175 R1-ArH-2
Stainshield TIG Plus	230	5% H <sub>2</sub>	AS 4882 SG-AH-5	ISO 14175 R1-ArH-5
Forming Gas A10	231	10% H <sub>2</sub>	AS 4882 SG-AH-10	ISO 14175 R1-ArH-10
Forming Gas A20	233	20% H <sub>2</sub>	AS 4882 SG-AH-20	ISO 14175 R2-ArH-20
Argoplas 35	134	35% H <sub>2</sub>	AS 4882 SG-AH-35	ISO 14175 R2-ArH-35
Carbon Dioxide	169	99.8% CO <sub>2</sub>	AS 4882 SG-C	ISO 14175 C1

## Shielding gas selection is a critical part of cost-effective welding

You can maximise your productivity and improve efficiencies by making one simple decision – investing in the right welding gas for your specific application.

BOC's welding gases range of Argoshield, Stainshield, Alushield and Specshield aren't just commodities. They are actually optimisation tools for the serious welder and are designed to provide you with quality welding performance and improved cost-effectiveness. How?



The typical cost drivers for Gas Metal Arc welding are:

- Labour
- Welding gas
- Welding wire
- Power consumption

If you were to invest in the right BOC welding gas for your specific application, as opposed to using regular gas for your welding, you will notice that while the cost of the welding gas is slightly higher, your actual overall production cost can be reduced dramatically as shown on the diagram.

Welding gases can positively influence your welding result through the following:

- Surface appearance
- Welding speed
- Metallurgy and mechanical properties
- Weld geometry
- Arc stability
- Metal transfer
- Shielding effect

## Re-order Gas & MyAccount Mobile App.

The easiest way to re-order your BOC gas.

- Scan gas cylinder to order
- View your BOC account information
- BOC Gas & Gear® Store Finder
- Pay your invoices
- Search and view over 2,000 products

Now available for download to your mobile.



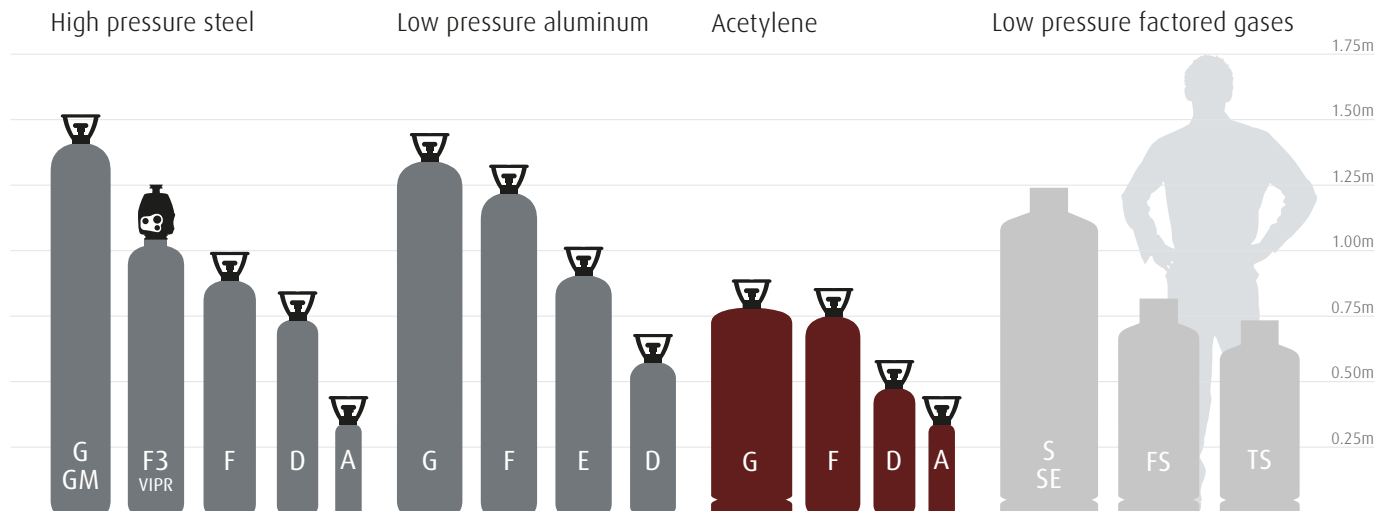
boc.co.nz/iphone



boc.co.nz/android



## Gas Cylinder Sizes



## Gas Cylinder Contents

(Measured in M<sup>3</sup> @ standard temperature and pressure) \*(Measured in kg)

Gas	Code													
		A	D	F	G	F3VIPR	GM	TS	FS	S/SE	G6	G8	G15	MCP15
Argoshield Light	500		2.14		9.79	9.9								
Argoshield Universal	501		2.05	5.14	10.16	10.3							152.34	
Argoshield Heavy	502				10.53	9.2							167.20	
Argoshield Metal Cored	516				10.10	10.2								160.05
Argoshield FCW	512				10.90	9.5					65.40		163.54	
Carbon Dioxide	169		6.80		33.00						192.06		480.15	
Stainshield MIG	509				9.80	9.8								
Specshield Multi	511				9.56	9.7								
Stainshield Light	503		1.63		8.09	8.1								
Stainshield Universal	504		1.67		8.25	8.3								
Stainshield Heavy	505				8.48	8.6								
Argon	130		1.94	4.84	9.63	9.7							142.74	
Alushield Light	506		1.74		8.64	8.7								
Alushield Universal	507		1.67		8.26	8.3								
Alushield Heavy	508				8.09									
Stainshield TIG	510		1.46		7.37									
Stainshield TIG Plus	230						7.10							
Oxygen	100	0.61	2.06	4.90	8.30						49.59		145.50	
Acetylene	120	0.27	0.90	3.00	6.70							53.03		
LPG Handigas	170								18.00	45.00				
LPG Forklift Gas	174							15.00						

■ Cylinders ■ Packs

■ Only available in South Island

# F3VIPR

Smaller package. Same gas.

Our innovative F3VIPR is available in Argon and a range of Shielding Gases.

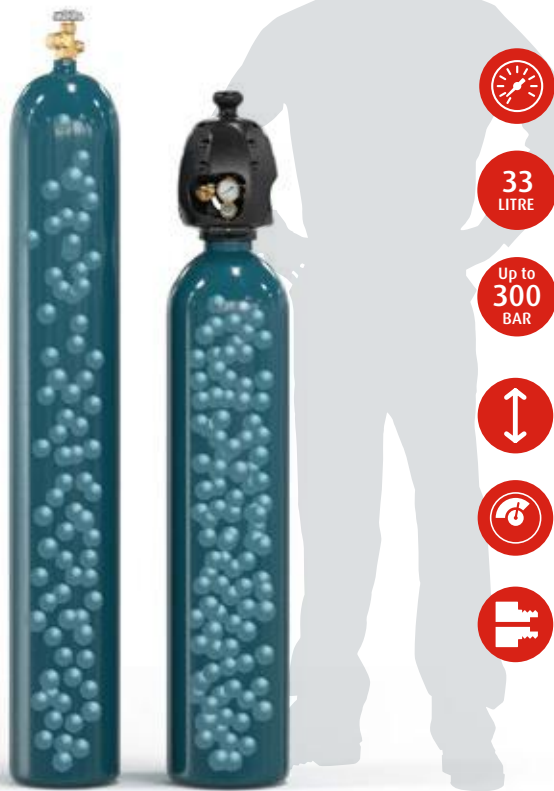
Volume and size

Inbuilt regulator

Portability

Safety

High pressure



Inbuilt Valve with Integrated Pressure Regulator (VIPR) eliminates hassle of acquiring, fitting and maintaining a separate regulator.



Higher pressure cylinder provides significant increase in efficiency with greater safety and convenience.



Higher pressure provides similar gas content in a smaller cylinder.



Enhanced portability due to shorter package height when compared to G/G2 size cylinders.



Track gas usage with contents indicator, showing the amount of gas left in the cylinder.



Standard 5/8" fitting works with existing hoses and connections (provided they meet the relevant New Zealand Standards).



## Did you know?

Your shielding gas can have a significant impact on the quality and appearance of your weld. The gas you choose could save you time and money.

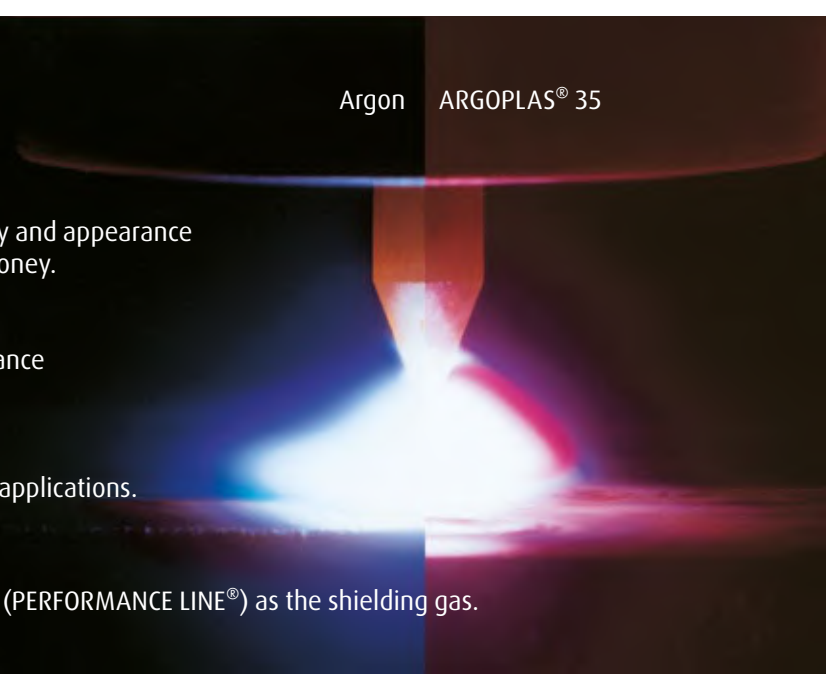
The right blend can improve:

- Arc stability and efficiency
- Weld geometry and appearance
- Minimise clean up time
- Improve weld speed

BOC offers a wide range of shielding gases to suit all welding applications. Talk to us today about the right gas for your application.

Argon ARGOPLAS® 35

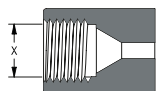
A TIG arc with Argon (COMPETENCE LINE®) and ARGOPLAS® 35 (PERFORMANCE LINE®) as the shielding gas.



# Australian and New Zealand Compressed Cylinder Valve Connections (Australian Standard AS2473.2)

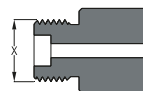
Cylinders and valves supplied by BOC are manufactured to recognised Australian, New Zealand and international standards.

Australian and New Zealand made industrial gases and industrial gas mixtures are supplied with cylinder outlet connections that comply with the requirements of AS2473.2.



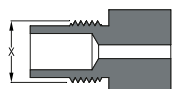
## Type 10

5/8" BSP RH Internal, 14 T.P.I.  
Internal angled sealing face, thread I.D. 21.0mm  
**Gases:** oxygen, helium, argon, non-flammable non-toxic mixtures



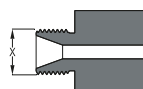
## Type 34

3/4" BSP RH External, 14 T.P.I.  
Flat end sealing face, thread O.D. 26.3mm  
**Gases:** refrigerant gases



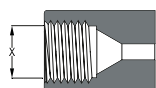
## Type 17

W21.8 RH External, 14 T.P.I.  
Internal angled sealing face, thread O.D. 21.8mm, centre hole 13.3mm x 22mm deep  
**Gases:** oxygen



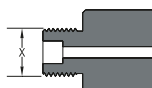
## Type 41

3/8" BSP LH External, 19 T.P.I.  
Internal angled sealing face, thread O.D. 16.5mm  
**Gases:** LPG, butane, propane, propylene



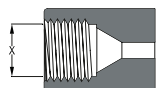
## Type 20

5/8" BSP LH Internal, 14 T.P.I.  
Internal angled sealing face, thread I.D. 21.0mm  
**Gases:** acetylene, carbon monoxide, ethane, ethylene, hydrogen, methane, flammable gases, flammable non-toxic mixtures



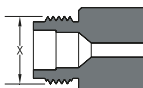
## Type 44

3/8" BSP RH External, 14 T.P.I.  
Flat end sealing face, thread O.D. 16.5mm  
**Gases:** non-flammable toxic mixtures



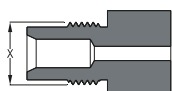
## Type 21

0.885" NGO LH Internal, 14 T.P.I.  
Internal angled sealing face, thread I.D. 21.0mm  
**Gases:** LPG, butane, propane, propylene



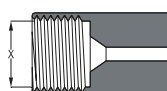
## Type 50

W24x2 RH External, 14 T.P.I.  
Internal angled sealing face, thread O.D. 24.0mm, 1st centre hole 13.3mm x 8.1mm deep  
**Gases:** nitrogen, neon, krypton, xenon, nitrogen/carbon dioxide mixtures, non-flammable non-toxic non-oxidising mixtures



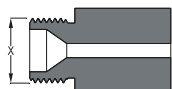
## Type 25

W21.8 LH External, 14 T.P.I.  
Internal angled sealing face, thread I.D. 21.8mm, centre hole 10.0mm x 22mm deep  
**Gases:** acetylene



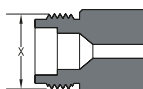
## Type 51

1.045" NGO RH Internal, 14 T.P.I.  
Internal angled sealing face, thread I.D. 24.6mm  
**Gases** (up to 31,500 kPa): argon, helium, nitrogen, neon, krypton, xenon



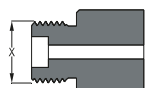
## Type 26

0.903" NGO LH External, 14 T.P.I.  
Internal angled sealing face, thread O.D. 22.9mm, centre hole 15.0mm x 5.6mm deep  
**Gases:** LPG (liquid withdrawal only)



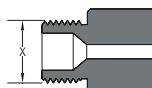
## Type 60

W27x2 RH External, 14 T.P.I.  
Internal angled sealing face, thread O.D. 27.0mm, 1st centre hole 18.2mm x 8.1mm deep  
**Gases:** air



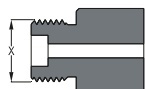
## Type 30

0.860" WHIT RH, 14 T.P.I.  
Flat end sealing face, thread O.D. 21.8mm  
**Gases:** carbon dioxide, nitrous oxide



## Type 61

0.825" NGO RH External, 14 T.P.I.  
Internal angled sealing face, thread O.D. 20.8mm, centre hole 12.8mm x 12.1mm deep  
**Gases** (up to 31,500 kPa): air



## Type 32

1/2" BSP RH External, 14 T.P.I.  
Flat end sealing face, thread O.D. 20.8mm  
**Gases:** ammonia, sulphur dioxide



BE SAFE WITH ACETYLENE.

 **BOC**  
A Member of The Linde Group



Secure it.  
Ventilate it.  
Respect it.

Visit your local Gas & Gear store or [boc.com.au/acetylenesafe](http://boc.com.au/acetylenesafe)  
and [boc.co.nz/acetylenesafe](http://boc.co.nz/acetylenesafe) for more information and advice.

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970-988 Great South Road, Penrose, Auckland, New Zealand

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## Carbon and low alloy steels

### ARGOSHIELD® Light Gas Code 500

Gas	Purity
Oxygen	2%
Carbon Dioxide	5%
Argon	Balance
Water Vapour	≤10 ppm*

\* Full cylinder pressure @ 15°C

#### Applications

- Sheet metal engineering industries
- Automotive components manufacture
- Cabinets/steel furniture manufacture
- Domestic appliance manufacture

#### Features

- Excellent arc stability
- Low arc energy
- Low oxidation potential
- Wide operating envelope

#### Benefits

- Easy to use
- Good appearance and quality finish
- Minimal spatter production negates the need to clean weld
- Can be used with manual, automatic and robotic machines

Outlet Connection – Type 10

### ARGOSHIELD® Universal Gas Code 501

Gas	Purity
Oxygen	2%
Carbon Dioxide	12%
Argon	Balance
Water Vapour	≤10 ppm*

\* Full cylinder pressure @ 15°C

#### Applications

- General fabrication
- Structural steelworks
- Bridgework
- Pressure vessels and boilers

#### Features

- Excellent arc stability
- Fluid weld pool
- Used in dip, pulsed and spray metal transfer modes
- Fast travel speed

#### Benefits

- Improved weld fusion
- Good weld appearance with low reinforcement levels
- Easy to use
- Can be used with manual, automatic and robotic machines

Outlet Connection – Type 10

### ARGOSHIELD® Heavy Gas Code 502

Gas	Purity
Oxygen	2%
Carbon Dioxide	18%
Argon	Balance
Water Vapour	≤10 ppm*

\* Full cylinder pressure @ 15°C

#### Applications

- Heavy engineering
- Heavy structural steel
- Boiler manufacture
- Ship building and repair

#### Features

- Stable welding arc
- Fluid weld pool

#### Benefits

- Improved weld fusion
- Good appearance and finish
- Easy to use
- Can be used on automated machines

Outlet Connection – Type 10

### ARGOSHIELD® Metal Cored Gas Code 516

Gas	Purity
Carbon Dioxide	10%
Argon	Balance
Water Vapour	≤25 ppm*

\* Full cylinder pressure @ 15°C

#### Applications

- General fabrication
- Light to medium plate fabrication
- Structural steelworks
- 2GR pipe spooling

#### Features

- Excellent arc stability
- Minimal spatter
- Fluid weld pool
- Excellent weld shape

#### Benefits

- Low defect levels
- Improved weld fusion
- Good appearance and quality finish
- Minimal clean-up required

Outlet Connection – Type 10

### SPECSHIELD® FCW Gas Code 512

Gas	Purity
Carbon Dioxide	23%
Argon	Balance
Water Vapour	≤25 ppm*

\* Full cylinder pressure @ 15°C

#### Applications

- Heavy structural steel
- Mining equipment
- Pressure vessels and boilers
- Heavy wall piping

#### Features

- High heat input efficiency
- Deep penetration
- Faster weld speeds than CO<sub>2</sub>
- Prevents porosity
- Excellent dip transfer characteristics

#### Benefits

- Higher productivity due to faster welding speeds than CO<sub>2</sub> with flux cored wires
- Versatile
- Low repair rates
- Good weld appearance

Outlet Connection – Type 10

### Carbon Dioxide Industrial Grade, Compressed (CO<sub>2</sub>)

#### Gas Code 169

Gas	Purity
Carbon Dioxide (Liquid Phase)	>99.8%
Water Vapour	≤80 ppm*
Oxygen	≤100 ppm*

\* Full cylinder pressure @ 15°C

#### Application

- For welding carbon and alloy steel and stainless steel with flux cored wires
- BOC recommends the use of the ARGOSHIELD range as the preferred mild steel MIG welding gas

#### Features

- A colourless and odourless gas that can cause the nose to sting in high concentration
- Toxic in high concentrations
- An asphyxiant (does not support life)
- Higher spatter levels compared to ARGOSHIELD® range

#### Benefits

- Higher density than air provides good shielding properties
- This chemical property has led to its use as a reactant in some chemical processes

Outlet Connection – Type 30

## GMAW stainless steels

### STAINSHIELD® MIG Gas Code 509

Gas	Purity
Carbon Dioxide	2.5%
Argon	Balance
Water Vapour	≤10 ppm*

\* Full cylinder pressure @ 15°C

#### Applications

- Pressure vessels and tanks
- Motor vehicle exhaust systems
- Duct work

#### Features

- Excellent arc stability
- Low oxidation potential

#### Benefits

- Good fusion
- Clean weld appearance and finish
- Increase in welding speed

Outlet Connection – Type 10

### SPECSHIELD® Multi Gas Code 511

Gas	Purity
Oxygen	2%
Argon	Balance
Water Vapour	≤10 ppm*

\* Full cylinder pressure @ 15°C

#### Applications

- Railway rolling stock
- Process equipment
- Tanks
- Architectural work

#### Features

- No carbon pick up
- Good arc stability
- Low heat input
- Good edge wetting
- Fast weld speed

#### Benefits

- Improved productivity due to faster weld speed
- Low distortion
- Clean weld appearance and finish
- Optimum corrosion resistance
- Higher operator appeal
- Minimal weld finish

Outlet Connection – Type 10

### STAINSHIELD® Light Gas Code 503

Gas	Purity
Carbon Dioxide	1.5%
Helium	85%
Argon	Balance
Water Vapour	≤10 ppm*
Oxygen	≤25 ppm

\* Full cylinder pressure @ 15°C

#### Applications

- Pressure vessels and tanks
- Motor vehicle exhaust systems
- Duct work

#### Features

- Excellent arc stability
- Low oxidation potential
- Ideal for pipe root pass welding using coldArc® & pipeSolution®

#### Benefits

- Good fusion
- Clean weld appearance and finish
- Increase in welding speed

Outlet Connection – Type 10

### STAINSHIELD® Universal Gas Code 504

Gas	Purity
Carbon Dioxide	2%
Helium	55%
Argon	Balance
Water Vapour	≤10 ppm*
Oxygen	≤25 ppm

\* Full cylinder pressure @ 15°C

#### Applications

- Pressure vessels and tanks
- Motor vehicle exhaust systems
- Duct work

#### Features

- Excellent arc stability
- Low oxidation potential

#### Benefits

- Good fusion
- Clean weld appearance and finish
- Increase in welding speed

Outlet Connection – Type 10

### STAINSHIELD® Heavy Gas Code 505

Gas	Purity
Carbon Dioxide	2%
Helium	38%
Argon	Balance
Water Vapour	≤10 ppm*
Oxygen	≤25 ppm

\* Full cylinder pressure @ 15°C

#### Applications

- Pressure vessels and piping
- Structural high alloy steel work
- Storage tanks
- Petrochemical plants

#### Features

- Excellent arc stability
- Low oxidation potential
- Used in dip, spray and pulsed transfer modes
- Fluid weld pool
- Reduced spatter

#### Benefits

- Low defect levels on thicker sections of material
- Clean, bright appearance and finish
- Reduced clean-up and repair
- Can be used on robotic and mechanical machines

Outlet Connection – Type 10

### GMAW aluminium and alloys Argon Welding Grade, Compressed (Ar) Gas Code 130

Gas	Purity
Argon	>99.99%
Water Vapour	≤10 ppm*
Oxygen	≤10 ppm

\* Full cylinder pressure @ 15°C

#### Applications

- Argon is the prime gas for TIG welding of all metals.
- It is ideal for purging all metals during welding eg. titanium.

#### Features

- Inert to all materials at all temperatures and pressures
- Heavier than air, argon will collect in low-lying areas, ducts and drains
- An asphyxiant

#### Benefits

- Argon produced by BOC has a minimum purity level of 99.995% ideal for welding applications
- The low ionising potential allows easy forming of a welding arc without reacting with the metal components being welded
- When welding thicker materials, other gases are added to the argon base to produce a more fluid weld pool

Outlet Connection – Type 10



## ALUSHIELD® Light

### Gas Code 506

Gas	Purity
Helium	30%
Argon	Balance
Water Vapour	≤5 ppm*
Oxygen	≤8 ppm

\* Full cylinder pressure @ 15°C

#### Applications

- Boat and ship building
- Tankers
- Truck body work
- Water heaters and heat exchangers

#### Features

- Excellent arc stability
- Flatter weld bead with low reinforcement
- Good fusion characteristics
- Little or no spatter

#### Benefits

- Lower spatter reduces clean-up time
- Improved weld metal properties
- Easy to use
- Good appearance and finish with low reinforcement levels

Outlet Connection – Type 10

## ALUSHIELD® Universal

### Gas Code 507

Gas	Purity
Helium	50%
Argon	Balance
Water Vapour	≤5 ppm*
Oxygen	≤8 ppm

\* Full cylinder pressure @ 15°C

#### Applications

- Heat exchangers
- Tanks and vessels
- Rail carriages
- Can be used for copper and stainless steel TIG welding

#### Features

- Stable welding arc
- Excellent appearance and finish
- Excellent fusion characteristics
- Suitable for applications where penetration is critical

#### Benefits

- Faster welding speed
- Reduced porosity
- Improved productivity

Outlet Connection – Type 10

## ALUSHIELD® Heavy

### Gas Code 508

Gas	Purity
Helium	70%
Argon	Balance
Water Vapour	≤5 ppm*
Oxygen	≤8 ppm

\* Full cylinder pressure @ 15°C

#### Applications

- Aluminium castings
- Ship building and armoured vehicles
- Heavy aluminium fabrication
- Road and rail transport

#### Features

- Excellent arc stability
- Low distortion and oxidation potential
- Wide bead shape with low reinforcement
- Good fusion characteristics

#### Benefits

- Improved weld metal properties
- Easy to use
- Lower risk of defect levels
- Good appearance and high quality finish with low reinforcement levels

Outlet Connection – Type 10

## TIG stainless steels

## STAINSHIELD® TIG

### Gas Code 510

Gas	Purity
Hydrogen	2%
Argon	Balance
Water Vapour	≤10 ppm*
Oxygen	≤10 ppm

\* Full cylinder pressure @ 15°C

#### Applications

- Pressure vessels and tanks
- Motor vehicle exhaust systems
- Duct work

#### Features

- Excellent arc stability
- Low oxidation potential

#### Benefits

- Good fusion
- Clean weld appearance and finish
- Increase in welding speed

Outlet Connection – Type 10

## STAINSHIELD® TIG Plus

### Gas Code 230

Gas	Purity
Hydrogen	5%
Argon	Balance
Water Vapour	≤10 ppm*
Oxygen	≤5 ppm

\* Full cylinder pressure @ 15°C

#### Applications

- Automatic and orbital welding
- Pressure and storage vessels
- Structural high alloy steel work

#### Features

- High integrity welds
- Stable, smooth welding arc
- Excellent fusion characteristics

#### Benefits

- Strong weld
- Clean weld appearance and finish
- Improved productivity

Outlet Connection – Type 20

## Argon Welding Grade, Compressed (Ar)

### Gas Code 130

Gas	Purity
Argon	>99.99%
Water Vapour	≤10 ppm*
Oxygen	≤10 ppm

\* Full cylinder pressure @ 15°C

#### Applications

- Argon is the prime gas for TIG welding of all metals.
- It is ideal for purging all metals during welding eg. titanium.

#### Features

- Inert to all materials at all temperatures and pressures
- Heavier than air, argon will collect in low-lying areas, ducts and drains
- An asphyxiant

#### Benefits

- Refer to Argon on previous page

Outlet Connection – Type 10

## Fabrication Gases

### Oxygen Industrial Grade, Compressed (O<sub>2</sub>)

Gas Code **100**



Gas Purity

Oxygen	>99.5%
Air*	Balance

\*Non specific constituents of air

#### Applications

- Widely used with a fuel gas for cutting, welding, brazing and soldering
- Used in plasma and laser cutting steel
- Thermal lancing
- Used as an ingredient in some shielding gas mixtures due to its ability to help stabilise the arc and reduce surface tension

#### Features

- BOC oxygen is typically supplied with a purity of 99.5% or higher
- The use of oxygen and fuel gas gives higher flame temperature than if air is used
- Colourless and odourless
- Does not burn but supports and accelerates combustion

#### Benefits

- Vigorously supports combustion. Introducing oxygen to conventional air-fuel flames increases the temperature of the flame
- When cutting, a 1% reduction in purity increases oxygen consumption by 25% and reduces the cutting speed by a similar amount

Outlet Connection – Type 10  
except for cylinder size A which uses – Type 17

### Acetylene Industrial Grade, Dissolved (C<sub>2</sub>H<sub>2</sub>)

Gas Code **120**



Gas Purity

Acetylene	>98.0%
-----------	--------

(On Acetone Free Basis)

#### Applications

- The only fuel gas that can be used to weld steel
- Flame hardening
- Flame cleaning
- Thermal spraying of various metals and ceramics
- Oxygen and acetylene together produce a flame temperature of approximately 3150°C

#### Features

- Distinctive garlic-like smell, which is recognisable above 2% concentrations in the air
- May cause dizziness in high concentrations
- Low auto-ignition temperature requires minimal energy to ignite in air or oxygen
- Can react over time with some metals to form explosive acetylides
- The hottest and most efficient of all fuel gases

#### Benefits

- The oxy-acetylene flame gives very good localised heating
- In cutting, oxy-acetylene gives the fastest preheating and piercing times of any fuel gas combination
- In oxy-acetylene cutting processes, improved cut quality, higher cutting speed, faster cut initiation time and reduced oxygen use are achieved

Outlet Connection – Type 20  
except for cylinder size A which uses – Type 25

### HANDIGAS®

Gas Code **170** and **174**



Gas Purity

Product complies with  
NZS 5435:1996

#### Applications

- Used in oxy-propane cutting and brazing
- Oxy-propane is widely used for preheating components
- Shrink wrap applications
- As a fuel to power forklift trucks and other industrial vehicles

#### Features

- Heavier than air and collects in low-lying areas such as drains or ducts
- BOC propane is stenched to give a fish-like odour

#### Benefits

- On a profile cutting machine, oxy-propane gives fast, clean cuts on thick plate
- Easily combustible, portable with clean burning characteristics and a high calorific value

Outlet Connection – Type 21

# Gas Cutting, Welding and Brazing

BOC offers a comprehensive range of gas equipment designed for the beginner right through to the professional user.

Our range is made up of high quality BOC gas equipment that includes welding and cutting kits using oxy-acetylene and LPG.

You can choose from our basic Masterstart Kit and build on that to suit the applications you mainly use, or go straight to the Promaster Kit for everything you need or the BOC light-duty kit for your basic needs

BOC gas equipment is backed by a five year conditional warranty on all our gas kits, regulators, cutting attachments, blow pipes and mixers.

Both the BOC and MagMate range of gas equipment comply to AS/NZS standards for your safety.

The MagMate gas kit is ideal for the light user and is a great all rounder at an affordable price. The kit, regulators, cutting attachments, blow pipes and mixer are covered by a 12 month conditional warranty.



## Working Safely with Gas Equipment

The supply of safe equipment and the safe use of that equipment is of utmost importance to BOC. Our products conform to relevant national standards in Australia and New Zealand.

All products supplied to our customers should be maintained in accordance to AS4839 to ensure the safe and effective use of those products.

Always leak test equipment before use. Visually inspect the condition of all equipment before each use and check for any loose fittings at the same time.

According to AS 4839 (The safe use of portable and mobile oxy-fuel gas systems for welding, cutting, heating and allied processes):

- Flashback arrestors should be inspected weekly, tested every year, and replaced every five years.
- Regulators should be inspected weekly, tested every six months, and replaced every five years whether or not they have been in regular use.
- Blow pipes, mixers and attachments should be inspected and leak tested weekly.
- Flexible hoses should be inspected weekly and leak tested and replaced immediately if damaged.

For more information on safety with gases and gas welding refer to the following information available at [www.boc.com.au](http://www.boc.com.au) or [www.boc.co.nz](http://www.boc.co.nz)

[BOC Guidelines for Welding and Cutting](#)

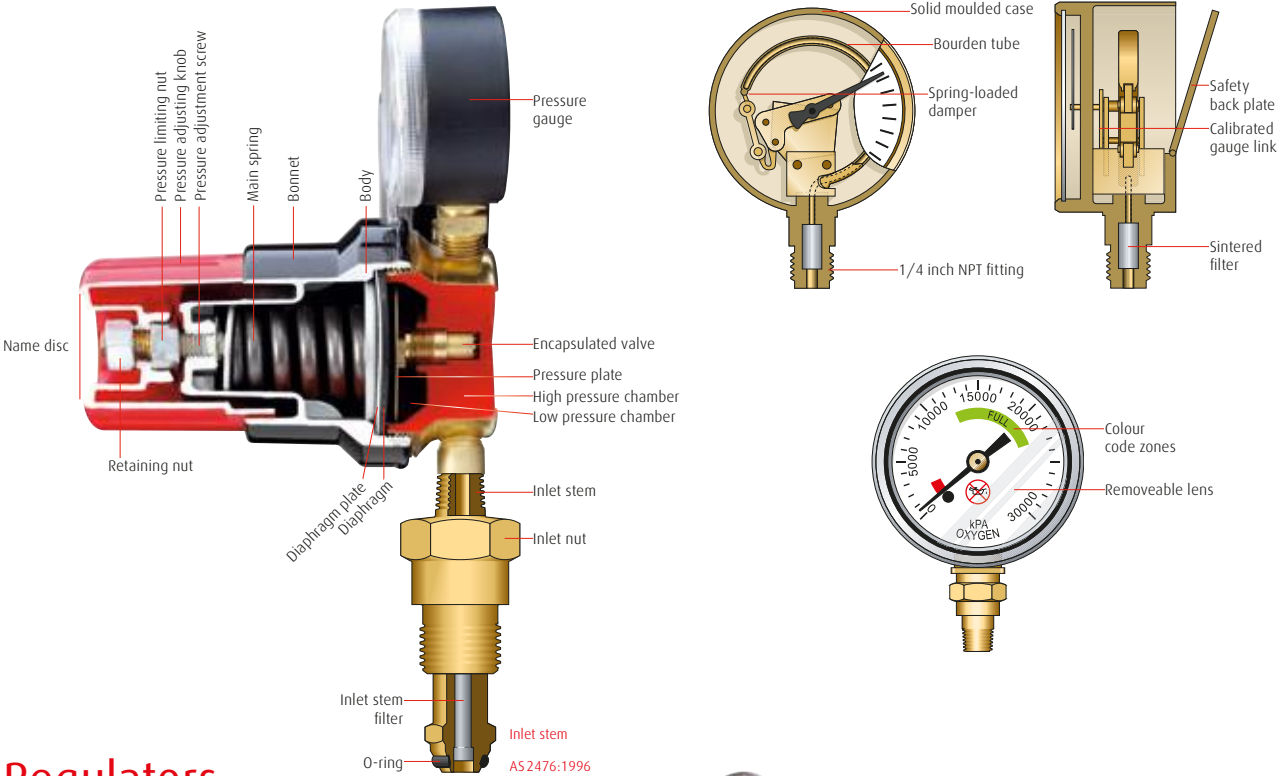
[Guidelines for Gas Cylinder Safety](#)



BOC Setting up for Gas Welding and Brazing

BOC Lighting up and Shutting Down for Gas Welding & Brazing

# Single-Stage Regulator Operation



## Regulators



### BOC 8000 Regulators

BOC Regulators are designed to Australian Standard 4267 under the stringent ISO 9001 certified quality management system.

The encapsulated valve is the most dynamic feature of BOC Regulators. Working in conjunction with the diaphragm, the valve delivers superior performance and control.

#### Features

- A fully encapsulated valve for improved performance
- Fail-safe precision engineered components for greater safety
- A two-stage sintered filter system to extend the life of the regulator
- Easy to read process colour coded gauges
- 45° degree outlet

Description	Part No.
BOC 8000 Acetylene 150 kPa	105101
BOC 8000 Oxygen Vertical inlet 1,000 kPa	105103
Side inlet	105104
BOC 8000 Nitrogen	105107
BOC 8000 Air	105108

### BOC 6000 Regulators

The BOC 6000 range of regulators includes BOC 6000 Argon and CO<sub>2</sub> shielding gas regulators which are designed for MIG and TIG mixed gas and pure gas processes. The 6000 range also includes an LPG regulator.

BOC shielding gas regulators and flowmeters meet the requirements of AS4267 under AS2473: 1990 requirements for cylinder valve connections.

#### Features

- Precision engineered components for greater safety
- A two stage sintered filter system to extend the life of the regulator
- Easy to read process colour coded gauges
- 45° degree outlet

Description	Part No.
BOC 6000 Argon 45 L/min Side inlet	105205
BOC 6000 Argon Preset 200 kPa Side inlet	105222
BOC 6000 CO <sub>2</sub> Shielding Gas 150 kPa	105207
BOC 6000 CO <sub>2</sub> Preset	105218
BOC 6000 LPG 400 kPa	105214



### NGP Scorchers CO<sub>2</sub> Gas Pre-Heater

Connects between the outlet of a cylinder and the inlet of a regulator. This element heats the gas as it flows through the body of the heater.

- Pressure rated to 240 bar
- Capable of gas flows up to 200 lpm\*
- 1.7m connection lead
- 240V
- Inlet: Type 30 RH, Female
- Outlet: Type 30 RH, Male

Gas	Part No.
CO <sub>2</sub>	NGP008

\* Due to the nature of carbon dioxide, gas flows can vary depending on climatic conditions & equipment used.

**Full Regulator Specifications** → See page 17



## MagMate™ Flame Regulators

12-MONTH CONDITIONAL WARRANTY

### Features

- Reliable and safe – ISO 9001
- Conforms to AS 4267

Description	Inlet	Part No.
Acetylene 150 kPa	Vertical	MAG105101
Acetylene C Type 25 – 150 kPa	Side	MAG105301
Oxygen 800 kPa	Vertical	MAG105103
	Side	MAG105104
Oxygen C Type 17 – 800 kPa	Side	MAG105303
Argon 45 L/min	Vertical	MAG105206
	Side	MAG105205
LPG 400 kPa	Side	MAG105214



## Nitrogen Regulators

High quality pressure regulators that are designed specifically for domestic and commercial air conditioning/refrigeration and auto air applications.

Description	Part No.
1,000 kPa Side inlet	60-H-390-5004
3,500 kPa Side inlet	52-H-390-5001
6,000 kPa Side inlet	52-H-390-5002



5-YEAR CONDITIONAL WARRANTY

## BOC Flowmeters

The BOC flowmeter is accurately designed to give easy-to-read flow measurement for MIG or TIG welding.

The BOC flowmeter is built to be a durable, long-lasting product, with a brass and shatter-resistant polycarbonate construction and a shock-absorption fitting to protect the flow tube from high-pressure surges. BOC flowmeters are compatible with, and sold separately from, the BOC Series 6000 pre-set regulators.

Description	Part No.
BOC Flowmeter 0–15 L/min	105215
BOC Flowmeter 10–30 L/min	105216



## CO<sub>2</sub> Beverage Regulator

Description	Part No.
Dual Gauge	801325



## Balloon Gas Regulator

Description	Part No.
Vertical	VBOC

## BOC Regulator Specifications Chart

	Gases	Max. Outlet Pressure (kPa)	Flow rate @ 21,000 kPa Inlet Pressure (L/min)	Max. Pressure @ 15°C (kPa)	Inlet Connection	Outlet Connection	Part No.
BOC 8000 Air Regulator	Air	1,000	1065	20,000	Type 60	5/8"-18 UNF	105108
BOC 8000 Nitrogen Regulator	Nitrogen	1,000	1086	20,000	Type 50	5/8"-18 UNF	105107

	Gases	Outlet Pressure (kPa)	Max. Flow (L/min)	Inlet Gauge Range (kPa)	Outlet Gauge Range	Inlet Connection	Outlet Connection	Part No.
BOC 8000 Oxygen Regulator	Oxygen	1,000	1,650	0-30,000	0-1,600 kPa	5/8" BSP RH Type 10	5/8"-18 UNF RH	105103 105104
BOC 8000 Acetylene Regulator	Acetylene	150	242*	0-4,000	0-240 kPa	5/8" BSP LH Type 20	5/8"-18 UNF LH	105101
BOC 6000 LPG Regulator	LPG	400	250	Not fitted	0-600 kPa	0.880"-14 NGO LH	5/8"-18 UNF LH	105214
BOC 6000 Argon pre-set Regulator	Argon	200	40	0-30,000	Not fitted	5/8" BSP RH Type 10	5/8"-18 UNF RH	105222
BOC 6000 Argon Shielding Gas Regulator	Argon	150	45	0-30,000	0-60 L/min	5/8" BSP RH Type 10	5/8"-18 UNF RH	105205
BOC 6000 CO <sub>2</sub> pre-set Regulator	CO <sub>2</sub>	200	40	0-30,000	Not fitted	0.86"-14 (Nut) Type 30	5/8"-18 UNF RH	105218
BOC 6000 CO <sub>2</sub> Shielding Gas Regulator	CO <sub>2</sub>	150	45	0-30,000	0-60 L/min	0.86"-14 (Nut) Type 30	5/8"-18 UNF RH	105207
Refrigeration Regulators								
Nitrogen Regulator	Nitrogen	1,000	1,200	0-40,000	0-2,000 kPa	Type 50	2x 1/4" flare	60-H-390-5004
Nitrogen Regulator	Nitrogen	3,500	2,083	0-40,000	0-4,000 kPa	Type 50	2x 1/4" flare	52-H-390-5001
Nitrogen Regulator	Nitrogen	6,000	3,333	0-40,000	0-10,000 kPa	Type 50	2x 1/2" flare	52-H-390-5002




















\*At no time should the withdrawal rate of an individual acetylene cylinder exceed 1/7 of the cylinder contents per hour. If additional flow capacity is required, use an acetylene manifold system to supply the necessary volume.

## MagMate® Flame Specifications Chart

	Gases	Outlet Pressure (kPa)	Max. Flow (L/min)	Inlet Gauge Range (kPa)	Outlet Gauge Range	Inlet Connection	Outlet Connection	Part No.
Acetylene Regulator	Acetylene	150	—	0-4,000	0-300 kPa	Type 20	5/8"-18 UNF LH	MAG105101
Acetylene Regulator – C size	Acetylene	150	—	0-4,000	0-150 kPa	Type 25	5/8"-18 UNF LH	MAG105301
Oxygen Regulator	Oxygen	800	—	0-30,000	0-1600 kPa	Type 10	5/8"-18 UNF RH	MAG105103 MAG105104
Oxygen Regulator – C size	Oxygen	800	—	0-30,000	0-1600 kPa	Type 17	5/8"-18 UNF LH	MAG105303
Argon Regulator	Argon	150	55	0-30,000	0-60 L/min	Type 10	5/8"-18 UNF RH	MAG105206 MAG105205
LPG Regulator	LPG	400	250	Not fitted	0-600 kPa	NGO LH	5/8"-18 UNF LH	MAG105214



## Regulator Replacement Parts

Material	Material Description	Gas	HP Gauge	LP Gauge	Inlet Stem	Outlet Conn	O Ring	Washer
105101	Regulator BOC 8000 Acetylene 150 kPa	Acet	105630	105631	105620	105626	105623	none fitted
105103	Regulator 8000 O <sub>2</sub> 1000 kPa Vi	O <sub>2</sub>	105627	105629	105619	105624 	105623	none fitted
105104	Regulator 8000 O <sub>2</sub> 1000 kPa Si	O <sub>2</sub>	105627	105629	105619	105624 	105623	none fitted
105105	Regulator Pr O <sub>2</sub> 8000 600 kPa	O <sub>2</sub>	105627	105628	105619	105624 	105623	none fitted
105107	Regulator BOC 8000 Nitrogen Type 50	N <sub>2</sub>	105632	not available	105766	105624 	105774	none fitted
105108	Regulator BOC 8000 Air Type 60	Air	105632	not available	105767	105624 	105774	none fitted
105201	Regulator BOC 6000 Acetylene 150 kPa	Acet	Use 105630	Use 105631	105620	105626	105623	none fitted
105203	Regulator Pr O <sub>2</sub> 6000 600 kPa	O <sub>2</sub>	Use 105627	105628	105619	105624 	105623	none fitted
105205	Regulator 6000 Argon 45 L/Min	Argon	105632	105633	105653 	105625 	105623	none fitted
105206	Regulator Pr Ar 6000 (45L/Min)	Argon	105632	105633	105653 	105625 	105623	none fitted
105207	Regulator BOC 6000 CO <sub>2</sub> (45 L/Min)	CO <sub>2</sub>	105632	105633	105621	105625 	none fitted	105654 
105214	Regulator BOC Bt 6000 LPG Exp	LPG	105635 	none fitted	105622	105626	105623	none fitted
105217	Regulator BOC 6000 Argon Pre-Set(200 kPa)	Argon	105632	none fitted	105653 	105624 	105623	none fitted
105218	Regulator BOC 6000 CO <sub>2</sub> Preset 200 kPa	CO <sub>2</sub>	105632	none fitted	105621	105624 	none fitted	105654 
105222	Regulator BOC Bt 6000 Argon Preset	Argon	105632	none fitted	105653 	105624 	105623	none fitted

## Nitrogen Regulator Replacement Parts

Material	Material Description	Gas	HP Gauge	LP Gauge	Inlet Stem	Outlet Conn	Pressure Release Valve
60-H-390-5004	Regulator BOC Nitrogen 1000 kPa	N <sub>2</sub>	50-1-190-5013	50-1-190-5012	105766	16-H-190-0003	16-H-190-0005
52-H-390-5001	Regulator BOC Nitrogen 3500 kPa	N <sub>2</sub>	50-1-190-5013	50-1-190-5014	105766	16-H-190-0003	16-H-190-0006
52-H-390-5002	Regulator BOC Nitrogen 6000 kPa	N <sub>2</sub>	50-1-190-5013	50-1-190-5015	105766	16-H-190-0004	16-H-190-0007



## BOC Hose Fittings

Description	Part No.
 BOC Nut Hose – 5/8"-18 RH	BOC200
 BOC Nut Hose – 5/8"-18 LH	BOC201
 BOC Hose end Crimp 5 mm – 5/8" UNR	BOC689
 BOC Hose end Crimp 5 mm – 5/8" UNL	BOC690
 BOC Hose end Crimp 10 mm – 5/8" UNR	BOC691
 BOC Hose Nipple 5 mm	BOC277
 BOC Hose Nipple 10 mm	BOC261
 BOC Elbow Right Angle – 5/8"-18 RH	BOC670
 BOC Elbow Right Angle – 5/8"-18 LH	BOC671
 Connector – 5/8"-18 UNF RH	BOC34
 Connector – 5/8"-18 UNF LH	BOC35



## BOC Hose

Description	Part No.
<b>Assembled – BOC Hose Twin 5 mm</b>	
Oxy-Acet 5 m	BOCTW0505A
Oxy-Acet 10 m	BOCTW0510A
Oxy-Acet 15 m	BOCTW0515A
Oxy-Acet 20 m	BOCTW0520A
Oxy-LPG 5 m	BOCTL0505A
<b>Unassembled – BOC Hose</b>	
Twin 5 mm – Oxygen-Acetylene	BOCTW05100
Twin 5 mm – Oxygen-LPG	BOCTL05100
Single 5 mm – Oxygen	BOCS005100
Single 5 mm – Acetylene	BOCSA05100
Single 5 mm – LPG	BOCSL05100
Single 5 mm – Argon (Black)	BOCS005100/B
Single 10 mm – Oxygen	BOCS010100
Single 10 mm – Acetylene	BOCSA10100
Single 10 mm – LPG	BOCSL10100

Gas	Colour Coding	Gas	Colour Coding
Oxygen	Blue	LPG	Orange
Acetylene	Red	Argon	Black

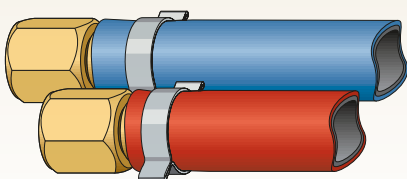
## Welding Gases Hose Reel

- All position positive latching system
- Rugged, lightweight polypropylene reels
- Unique ratchet tensioning system
- Wall mounting system allow the reel to swivel from side to side
- Australian made
- Hose included



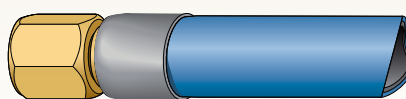
Application	Hose capacity	Part No.
Oxy-Acetylene	15m x twin 6mm	OA615

## Examples of incorrect fitting of gas hose assemblies



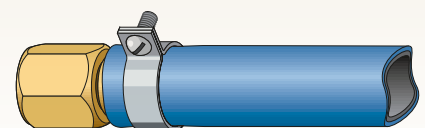
### Double ear clamps

This type of clamping arrangement is not adequate and does not meet the required industry standards. For your safety, assemblies with this arrangement should be refitted with the BOC clamping system.



### Incorrect crimping

BOC crimp fittings should only be fitted by a trained competent person and after fitment should be checked for leaks with leak detector (Part No. HB1010)



### Worm drive clamps

This type of clamping arrangement is not adequate and does not meet the required industry standards. For your safety, assemblies with this arrangement should be refitted with the BOC clamping system.

















## Flashback Arrestors

Flashback arrestors are designed to minimise the risk of flame or explosions associated with a flashback travelling any further through in the oxygen/fuel system. BOC FBAs conform to AS 4603 and carry international approvals. BOC recommends the use of flashback arrestors on both ends as described in AS 4839-2001 *The Safe Use of Portable*





*and Mobile Oxy-Fuel Systems for Welding, Cutting, Heating and Allied Processes.* Clause 7.3.3 of AS 4839-2001 states that optimum protection is provided when a flashback arrestor is fitted at both hose ends.

In Western Australia, a flashback arrestor must be fitted to the operator's side of each regulator connection or gas

discharge of a manifold cylinder pack, and to the blowpipe in accordance with Occupational Health and Safety Regulations 1996 3.98.

			Gases maximum working pressure (kPa)							
			Part No.	5/8"-18 UNF Connection	Acetylene (A)	LPG (P)	Methane (M)	Hydrogen (H)	Oxygen (O)	Air (D)
<b>Regulator End</b>										
Cutting, welding and brazing*		Standard Flow Regulator End QRC Fuel Gas FBA	106411	LH	150	500	500	350	-	-
		Standard Flow Regulator End QRC Oxygen FBA	106421	RH	-	-	-	-	2,000	-
		Standard Flow Regulator End Fuel Gas FBA	106511	LH	150	500	500	350	-	-
		Standard Flow Regulator End Oxygen FBA	106521	RH	-	-	-	-	2,500	-
Heating and Gouging*		High Flow Regulator End Fuel Gas FBA	106512	LH	150	500	500	400	-	-
		High Flow Regulator End Oxygen FBA	106522	RH	-	-	-	-	2,500	-
		Standard Flow Regulator End Fuel Gas FBA - Resettable	106552	LH	150	500	500	350	-	-
		Standard Flow Regulator End Oxygen FBA - Resettable	106562	RH	-	-	-	-	1,500	-
		High Flow Regulator End Fuel Gas FBA - Resettable	106551	LH	150	500	500	400	-	-
		High Flow Regulator End Oxygen FBA - Resettable	106561	RH	-	-	-	-	1,500	-
		Standard Flow Torch End QRC Fuel FBA	106431	LH	150	400	400	400	-	-
		Standard Flow Torch End QRC Oxygen FBA	106441	RH	-	-	-	-	1,500	-
Cutting, welding and brazing*		Standard Flow Torch End Fuel Gas FBA	106531	LH	150	400	400	400	-	-
		Standard Flow Torch End Oxygen FBA	106541	RH	-	-	-	-	1,500	-
Heating and Gouging*		High Flow Torch End Fuel Gas FBA	106532	LH	150	500	500	400	-	-
		High Flow Torch End Oxygen FBA	106542	RH	-	-	-	-	2,500	-

\*Recommendation only.

Regulator End Couplings		Part No.	5/8"-18 UNF Connection	Torch End Couplings		Part No.	5/8"-18 UNF Connection
	QR Coupling Pin Fuel M fits Part No.106411	QPFDMS	LH		QR Coupling Pin Fuel F fits Part No.106431	QPFD5	LH
	QR Coupling Pin Oxygen M fits Part No.106421	QPODMS	RH		QR Coupling Pin Oxygen F fits Part No.106441	QPODF5	RH

# Blowpipes and Attachments



## BOC Blowpipe

5-YEAR CONDITIONAL WARRANTY

- Ergonomic design
- Dual-acting control valve mechanism – it precisely controls the gas flow from low to high for specific volume applications

Description	Part No.
BOC Blowpipe	105501
BOC Blowpipe Control Valve	105615



5-YEAR CONDITIONAL WARRANTY

## BOC Light Duty Blowpipe

- Used in BOC Light Duty gas kit and PortaPack® Kit

Part No.	LT-101
----------	--------



12-MONTH CONDITIONAL WARRANTY

## MagMate® Flame Blowpipe

- Ergonomic handle
- Sturdy design
- 12 Month Warranty

Part No.	MAG105601
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5-YEAR CONDITIONAL WARRANTY

## BOC Cutting Attachment

- Flip-back cutting lever that allows easy attachment of the blowpipe and replacement of cutting valve components
- Rugged head design

Description	Part No.
BOC Cutting Attachment	105502
BOC Cutting Oxy Valve	105699



5-YEAR CONDITIONAL WARRANTY

## BOC Light Duty Cutting Attachment

- Used in BOC Light Duty gas kit and PortaPack® Kit

Part No.	LT-102
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12-MONTH CONDITIONAL WARRANTY

## MagMate® Flame Cutting Attachment

- Easy to fit cutting attachment
- Suitable for 2 seat cutting nozzles
- 12 Month Warranty

Part No.	MAG105602
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5-YEAR CONDITIONAL WARRANTY

## BOC W Mixer

- Incorporates a variable velocity gas mixing process to ensure total mixing for a smooth, stable flame.
- Designed for welding and light heating applications using oxy-acetylene.
- Can also be-used for oxy-LPG brazing.



5-YEAR CONDITIONAL WARRANTY

## BOC Light Duty Mixer

- Used in BOC Light Duty gas kit and PortaPack® Kit

Part No.	LT-103
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12-MONTH CONDITIONAL WARRANTY

## MagMate® Flame Mixer

- Used with MagMate® gas kit

Part No.	MAG105603
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5-YEAR CONDITIONAL WARRANTY

## BOC H Mixer

- Designed for general heating applications using either oxy-acetylene or oxy-LPG.



5-YEAR CONDITIONAL WARRANTY

## BOC M Mixer

- Designed for those large jobs that require maximum heating using oxy-LPG.

Description	Part No.
BOC W Mixer	105503
BOC H Mixer	105505
BOC M Mixer	105511
BOC Mixer O-ring Kit	105618



## Heavy Duty Cutting Torch

- 600 mm length
- 90 degrees head

Description	Part No.
Oxy/LPG	GWCT600
Oxy/Acet	GWCTA600

## Tips and Nozzles



### BOC Welding Tips

• For use with W Mixer (BOC Blowpipe)

Tip	Plate (mm)	DA (kPa)	Oxy (kPa)	DA (L/min)	Oxy (L/min)	Part No.
6W-A	0.5-0.8	50	50	1.5	1.5	105530
8W-A	0.8-1.0	50	50	2	2	105531
10W-A	1.0-1.5	50	50	3	3	105532
12W-A	1.6-2.4	50	50	4	4	105533
15W-A	2.5-3.5	50	50	7	7	105534
20W-A	4.0-6.5	50	50	12	12	105535
26W-A	6.5-8.0	50	50	22	22	105536



### BOC Oxy-Acetylene Cutting Nozzles 2 Seat (Type 41)

Nozzle	Plate (mm)	DA (kPa)	Oxy (kPa)	Speed (mm/min)	DA (L/min)	Oxy (L/min)	Part No.
6C-A	1-5	100	180	450	2	11	105520
8C-A	6-10	100	200	400	3	20	105521
12C-A	12-20	100	220	350	4	40	105522
15C-A	25-40	100	250	300	6	60	105523
15C-A	50-80	100	350	220	7	80	105523
20C-A	100-125	100	400	150	10	150	105524
24C-A	150-200	100	500	120	13	260	105525



### BOC Oxy-LPG Cutting Nozzles 2 Seat (Type 44)

Nozzle	Plate (mm)	LPG (kPa)	Oxy (kPa)	LPG (L/min)	Oxy (L/min)	Part No.
6C-P	3-6	100	200	2	18	106626
8C-P	6-10	100	200	3.5	30	106627
12C-P	10-20	100	250	4.5	58	106628
15C-P	20-40	100	400	5.5	100	106629
15C-P	40-80	100	400	6	120	106629
20C-P	80-125	100	400	6.5	171	106630
24C-P	125-200	100	500	9	256	106631



### MagMate® Oxy-Acetylene Cutting Nozzles 2 Seat (Type 41)

Nozzle	Plate (mm)	DA (kPa)	Oxy (kPa)	Speed (mm/min)	DA (L/min)	Oxy (L/min)	Part No.
12	12-20	100	220	350	4	40	MAG105522
15	25-40	100	250	300	6	60	MAG105523
15	50-80	100	350	220	7	80	MAG105523



### MagMate® Oxy-LPG Cutting Nozzles 2 Seat (Type 44)

Nozzle	Plate (mm)	LPG (kPa)	Oxy (kPa)	LPG (L/min)	Oxy (L/min)	Part No.
8	6-10	100	200	3.5	30	MAG106627
12	10-20	100	250	4.5	58	MAG106628
15	20-40	100	400	5.5	100	MAG106629



### BOC Gouging Nozzles

Oxy-Acetylene (Type 41)

Size	DA (kPa)	Oxy (kPa)	DA (L/min)	Oxy (L/min)	Part No.
32GB	100	500	15	61	BOC41-32GB
32GS	100	500	15	61	BOC41-32GS



## BOC Light Duty Welding Tips

• For use with BOC Light Duty Mixer

Tip	Plate	Part No.
W2	1.0–1.5 mm	DH-W2LD
W7	2.0–3.0 mm	DH-W7LD
W13	3.0–4.5 mm	DH-W13LD
W18	5.0–6.0 mm	DH-W18LD



## BOC Light Duty Oxy-Acetylene Cutting Nozzles

Nozzle	Plate (mm)	DA (kPa)	Oxy (kPa)	DA (L/min)	Oxy (L/min)	Part No.
8	3–6	15	200	3	10	AFN-8LD
12	6–20	15	200	3	11	AFN-12LD



## BOC Oxy-Acetylene Cutting Nozzles 3 Seat

(For use with 3 Seat Cutting Attachment)

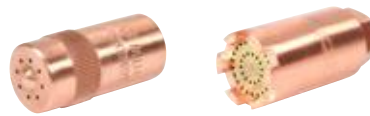
Nozzle	Plate (mm)	DA (kPa)	Oxy (kPa)	DA (L/min)	Oxy (L/min)	Part No.
ANM 16	25–50	20	300	11	13	105562



## BOC Oxy-LPG Cutting Nozzles 3 Seat

(For use with 3 Seat Cutting Attachment)

Nozzle	Plate (mm)	LPG (kPa)	Oxy (kPa)	LPG (L/min)	Oxy (L/min)	Part No.
PNM 12	6–12	20	200	5	24	105567



## BOC Heating Tips

Tip	DA (kPa)	Oxy (kPa)	DA (L/min)	Oxy (L/min)	Heat Output (kJ/hr)	Part No.
Oxy-Acetylene - For use with W Mixer and BBW Barrel						
HTW-A2	100	150	24	27	80,000	105540
HTW-A3	100	350	59	64	192,000	105541
Oxy-Acetylene Maxi - For use with H Mixer and BBH Barrel						
HT-A1	100	150	56	62	185,000	105554
HT-A2	100	200	67	74	220,000	105555
Oxy-LPG Maxi - For use with H Mixer and BBH Barrel						
HT-P1	150	300	54	203	302,000	105550
HT-P2	175	480	81	304	453,000	105551
Oxy-LPG Maxi - For use with M Mixer and BBH Barrel						
HTP-P3	180	570	85	310	500,000	105552
HTP-P4	200	800	116	466	652,000	105553



## Heating Tip Barrels

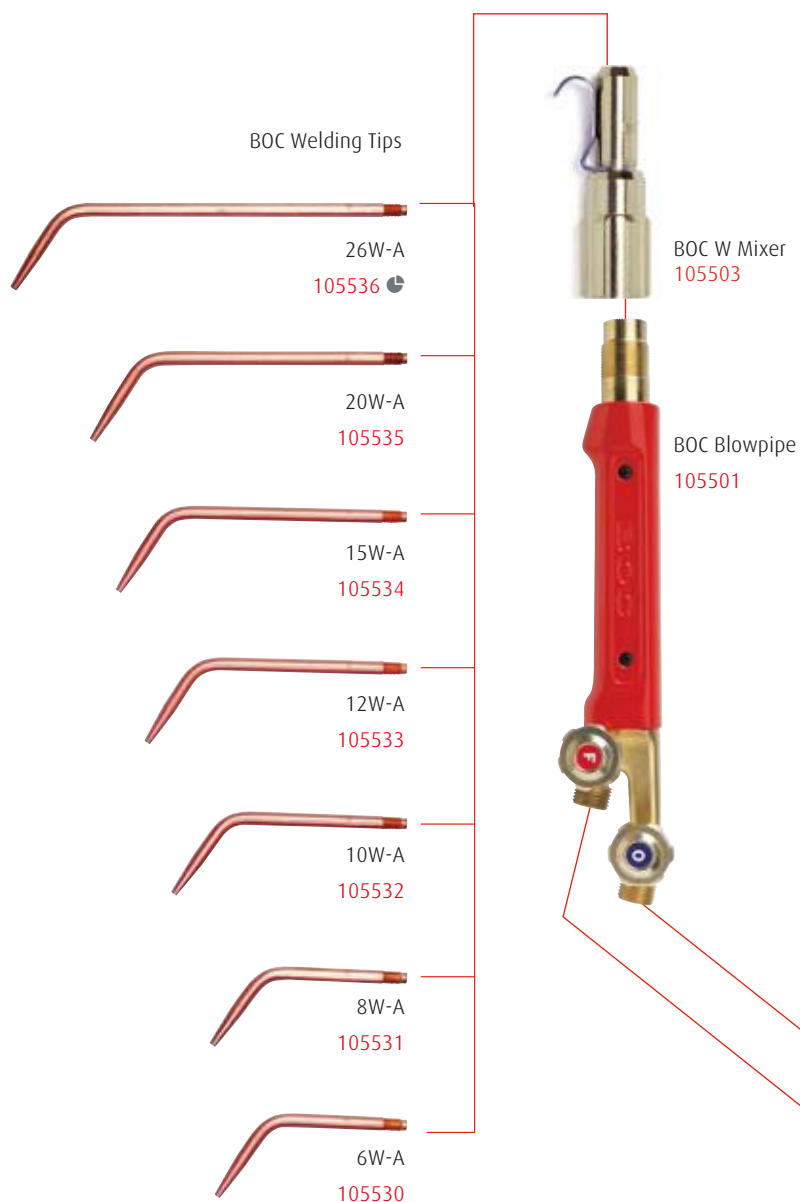
Barrel	Used with	Length	Material	Part No.
BBW-2 Bent	W Mixer	210 mm	Brass	105545
BBH-4 Bent	H or M Mixer	450 mm	Stainless Steel	105546
BBH-7 Bent	H or M Mixer	700 mm	Stainless Steel	105547



## Heating Tip and Barrel in one

Tip	Oxy (kPa)	Acet (kPa)	Oxy (L/min)	Acet (L/min)	Heat Output (MJ/hr)	Part No.
8x12HT	150	100	45–58	41–55	180	105507

## Welding Assembly



## Cutting Assembly



### FOR YOUR SAFETY

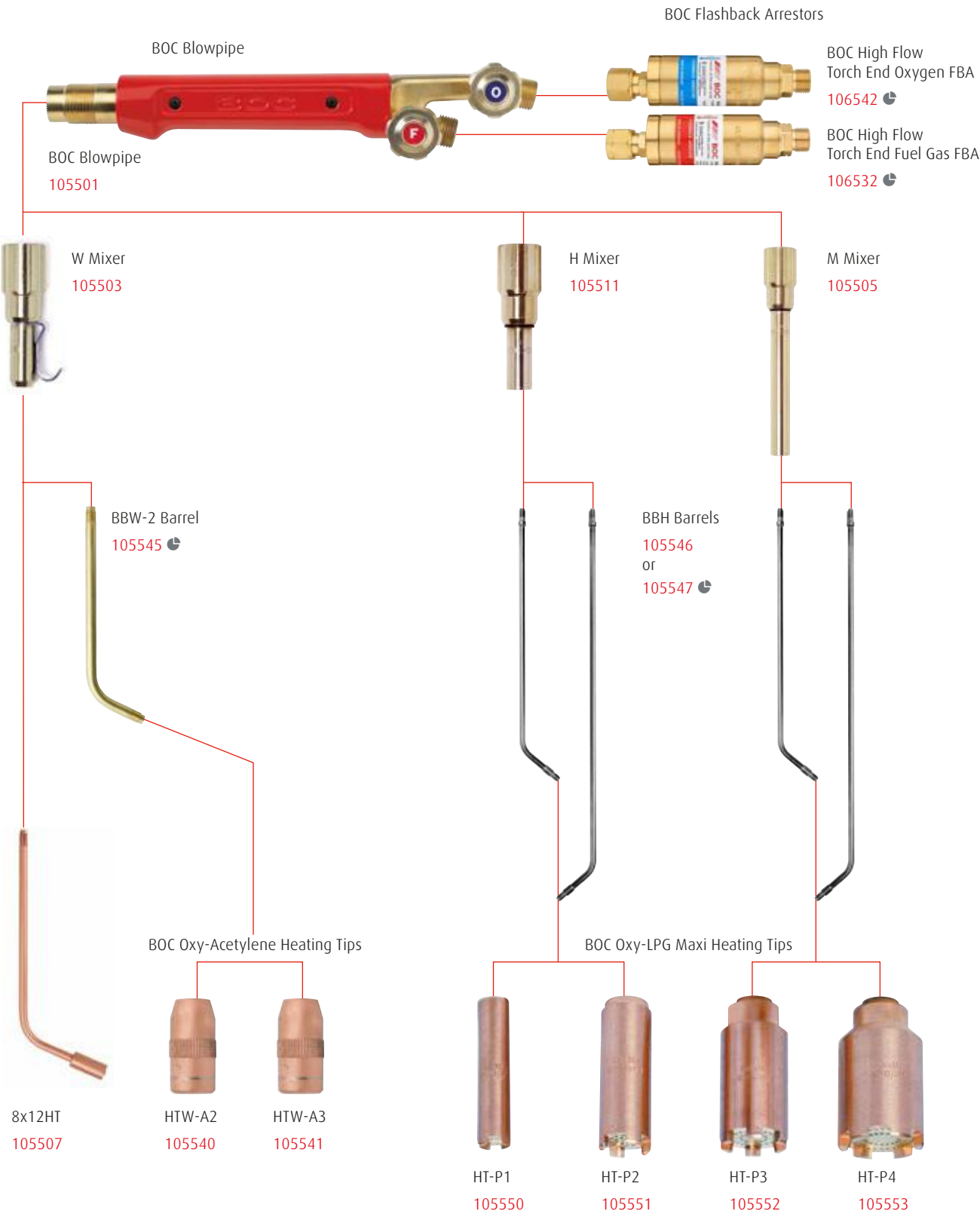
- BOC recommends the use of flashback arrestors on both ends (regulator and torch) for optimum protection as described in AS 4839-2001 'The Safe Use of Portable and Mobile Oxy-Fuel Gas Systems for Welding, Cutting, Heating and Allied Processes'.
- A flashback arrestor must be fitted to the operator's side of each regulator connection or gas discharge of a manifolded cylinder pack, and to the blowpipe in accordance with Occupational Safety and Health Regulations 1996 3.98(1).

### BOC Flashback Arrestors

- |   |   |
|---|---|
| <b>BOC Standard Flow Torch End Fuel FBA</b> | <b>BOC Standard Flow Torch End Oxygen FBA</b> |
| 106531                                      | 106541  |



# Heating Assembly



Please Note: For best results, always use genuine BOC nozzles and BOC parts.





## Gas Kits

BOC has a range of quality gas kits that allows you to weld, braze, heat, and cut with confidence. These sturdy kits provide all the tools you need and are backed by a 5-year national warranty. Each kit is presented in an easy-to-carry durable toolbox or carry case for safe storage and easy transportation.

The range includes:

- BOC ProMaster Kit
- BOC Masterstart Kit
- BOC Masterstart LPG Kit
- BOC Light Duty Kit



5-YEAR CONDITIONAL WARRANTY

### BOC ProMaster Kit

BOC ProMaster is the supreme kit for all your welding, brazing, heating and cutting applications.



5-YEAR CONDITIONAL WARRANTY

### BOC MasterStart Kit

BOC MasterStart Kit gets you started on general oxy-acetylene welding and cutting, with the flexibility to add accessories specific to your personal and job requirements – creating your own specially customised kit.

Description	Part No.
BOC ProMaster Kit	105013
<b>Contents</b>	
BOC 8000 Acetylene Regulator (150 kPa)	105101
BOC 8000 Oxygen Regulator (1,000 kPa)	105104
BOC Blowpipe	105501
BOC Cutting Attachment	105502
BOC W Mixer	105503
BOC Cutting Nozzle - Size 6	105520
BOC Cutting Nozzle - Size 8	105521
BOC Cutting Nozzle - Size 12	105522
BOC Cutting Nozzle - Size 15	105523
BOC Welding Tip - Size 8	105531
BOC Welding Tip - Size 10	105532
BOC Welding Tip - Size 12	105533
BOC Welding Tip - Size 15	105534
BOC Welding Tip - Size 20	105535
BOC Heating Tip HTW-A2 8X12	105540
BOC Barrel	105545
BOC Flashback Arrestor Regulator End Fuel Std Flow	106511
BOC Flashback Arrestor Regulator End Oxy Std Flow	106521
BOC Flashback Arrestor Torch End Fuel Std Flow	106531
BOC Flashback Arrestor Torch End Oxy Std Flow	106541
BOC 5 mm Twin Hose Assembly – 10 m	BOCTW0510A
Flip-Front Goggles	454031BOC
Tip Cleaner	BOC10252
Cup Flint Lighter	BOC10255
BOC Cylinder Spanner	BOC10260
Stainless Steel Toolbox With Tray	*
BOC Guidelines For Cutting & Welding	*

\* Included in kit. Not sold separately.

Description	Part No.
BOC MasterStart Kit	105011
<b>Contents</b>	
BOC 8000 Acetylene Regulator (150 kPa)	105101
BOC 8000 Oxygen Regulator (1,000 kPa)	105104
BOC Blowpipe	105501
BOC Cutting Attachment	105502
BOC W Mixer	105503
BOC Cutting Nozzle - Size 8	105521
BOC Cutting Nozzle - Size 12	105522
BOC Cutting Nozzle - Size 15	105523
BOC Welding Tip - Size 12	105533
BOC Flashback Arrestor Regulator End Fuel Std Flow	106511
BOC Flashback Arrestor Regulator End Oxy Std Flow	106521
BOC Flashback Arrestor Torch End Fuel Std Flow	106531
BOC Flashback Arrestor Torch End Oxy Std Flow	106541
BOC 5 mm Twin Hose Assembly – 10 m	BOCTW0510A
Flip-Front Goggles	454031BOC
Tip Cleaner	BOC10252
Cup Flint Lighter	BOC10255
BOC Cylinder Spanner	BOC10260
Stainless Steel Toolbox With Tray	*
BOC Guidelines For Cutting & Welding	*

\* Included in kit. Not sold separately.



### BOC MasterStart LPG Kit

BOC MasterStart LPG Kit gets you started on general oxy-LPG cutting and brazing with the flexibility to add accessories specific to your requirements.

Description	Part No.
BOC MasterStart LPG Kit	105010
Contents	
BOC 8000 Oxygen Regulator (1,000 kPa)	105104
BOC 6000 LPG Regulator	105214
BOC Blowpipe	105501
BOC Cutting Attachment	105502
BOC W Mixer	105503
BOC Cutting Nozzle - Size 12	106628
BOC Cutting Nozzle - Size 15	106629
BOC Welding Tip - Size 12	105533
BOC Welding Tip - Size 15	105534
BOC Flashback Arrestor Regulator End Fuel Std Flow	106511
BOC Flashback Arrestor Regulator End Oxy Std Flow	106521
BOC Flashback Arrestor Torch End Fuel Std Flow	106531
BOC Flashback Arrestor Torch End Oxy Std Flow	106541
BOC 5 mm Twin Hose Assembly – 5 m	BOCTL0505A
Flip-Front Goggles	454031BOC
Tip Cleaner	BOC10252
Cup Flint Lighter	BOC10253
BOC Cylinder Spanner	BOC10260
Stainless Steel Toolbox With Tray	*
BOC Guidelines For Cutting & Welding	*

\* Included in kit. Not sold separately.



### MagMate® Gas Equipment Kit

Quality oxy-acetylene kit at an affordable price.

Description	Part No.
MagMate® Gas Equipment Kit	MAG105002
Contents	
MagMate® Acetylene Regulator (150 kPa)	MAG105101
MagMate® Oxygen Regulator (800 kPa)	MAG105103
MagMate® Blowpipe	*
MagMate® Cutting Attachment	*
MagMate® Mixer	*
MagMate® Cutting Nozzle - Size 8	*
MagMate® Cutting Nozzle - Size 12	MAG105522
MagMate® Cutting Nozzle - Size 15	MAG105523
MagMate® Welding Tip - Size 12	*
Flashback Arrestor Regulator End Fuel Std Flow	*
Flashback Arrestor Regulator End Oxy Std Flow	*
Flashback Arrestor Torch End Fuel Std Flow	*
Flashback Arrestor Torch End Oxy Std Flow	*
Twin Welding Hose 5m Oxygen/Acetylene	BOCTW0505A
Flip-Front Goggles	454031BOC
Tip Cleaner	BOC10252
Cup Flint Lighter	BOC10255
Cylinder Spanner	BOC10260
Plastic Carry Case	*
Operating Manual	*

\* Included in kit. Not sold separately.

Make your BOC Light Duty Kit portable with these add ons

- Acetylene C Type Regulator (Purchased separately. Part no. [MAG105301](#))
- Oxygen C Type Regulator (Purchased separately. Part no. [MAG105303](#))
- Cylinder carry case (Purchased separately. Part no. [1051006CASE](#))



Full set of 4 FBAs included



5-YEAR CONDITIONAL WARRANTY

BOC Light Duty Kit

BOC Light Duty kit is a multi-purpose oxy-acetylene kit for your basic welding, brazing and cutting applications.

Description	Part No.
BOC Light Duty Kit	<a href="#">1051005</a>
Contents	
BOC Light Duty Blowpipe	<a href="#">LT-101</a>
BOC Light Duty Cutting Attachment	<a href="#">LT-102</a>
BOC Light Duty Mixer	<a href="#">LT-103</a>
BOC Light Duty Cutting Nozzle - Size 8	<a href="#">AFN-8LD</a>
BOC Light Duty Cutting Nozzle - Size 12	<a href="#">AFN-12LD</a>
BOC Light Duty Welding Tip - Size 2	<a href="#">DH-W2LD</a>
BOC Light Duty Welding Tip - Size 7	<a href="#">DH-W7LD</a>
BOC Light Duty Welding Tip - Size 13	<a href="#">DH-W13LD</a>
BOC Light Duty Welding Tip - Size 18	<a href="#">DH-W18LD</a>
BOC Flashback Arrestor Regulator End Fuel Std Flow	<a href="#">106511</a>
BOC Flashback Arrestor Regulator End Oxy Std Flow	<a href="#">106521</a>
BOC Flashback Arrestor Torch End Fuel Std Flow	<a href="#">106531</a>
BOC Flashback Arrestor Torch End Oxy Std Flow	<a href="#">106541</a>
BOC 5mm Twin Hose Assembly - 10m	<a href="#">BOCTW0510A</a>
Light Duty Pigskin/Cotton Gloves	*
Flip-Front Goggles	<a href="#">454031BOC</a>
Tip Cleaner	<a href="#">BOC10252</a>
Cup Flint Lighter	<a href="#">BOC10255</a>
BOC Cylinder Spanner	*
Stainless Steel Toolbox With Tray	*
BOC Guidelines For Cutting & Welding	*

\* Included in kit. Not sold separately.

Host a BBQ with Confidence MT Tracker BBQ™

Guessing you might run out of gas is a thing of the past.

Part no. [GASM1001354](#)



MT Tracker BBQ™ Never run out of LPG again!

MT Tracker BBQ™ detects LPG cylinder fill levels and sends the status via Bluetooth® to your mobile app. You can also rename sensors, set auto alerts or add multiple sensors. Available for both iOS and Android devices.





## Accessories



### Roller Guide

- Roller guides aid in obtaining a clean cut requiring minimum finishing
- Greatly facilitates straight line cutting
- Suits all cutting attachments

Part No. **747774**



### Circle Guide

Rotating head design enables holes to be cut from one position. Holes from 25–650 mm cut with professional results every time.

Part No. **747782**



### Radius Kit

For use on all BOC circle and roller guides, gas and plasma. Fully adjustable, cuts holes up to 1,050 mm in diameter, when used with circle guides.

Part No. **747779**



### BOC Flint Lighter (Cup)

- Metal cup type with replaceable flint
- Ensures quick, easy lighting up

Description	Part No.
Flint Lighter (cup)	<b>BOC10255</b>
Flint Renewal (cup)	<b>BOC10256</b>



### BOC Flint Lighter (3 Flint)

The rigid arm design concentrates more force onto the flint. End cup pockets the gas for quicker lighting. A simple ergonomic design.

Description	Part No.
Flint Lighter (3 flint)	<b>BOC10253</b>
Flint Renewal (3 flint)	<b>BOC10254</b> 🔄



### Sherlock Bubbles Gas Leak Detection Fluid

Detects leaks in pipe joints, tube connections, tanks or any system under gas or air pressure.

- 500 mL

Part No. **126157**



### BOC Tip Cleaner

Suitable for tips, nozzles including hi-speed nozzles. Removes carbon or loose slag without damaging gas parts.

Part No. **BOC10252**



### BOC Cylinder Spanner

Accommodates four nut sizes. Designed to be used for regulator cylinder valve nuts, hose connections, type 40 nozzle nut and roller guide adjusting bolts.

Part No. **BOC10260**



### BOC Cylinder Key

For use with a variety of cylinder valves (NOT handwheel operated types).

Part No. **BOC10259** 🔄

## Cylinder Trolleys and Restraints

### E Size Cylinder Trolley

Allows easy movement of a complete welding or cutting plant and permanent set-up of regulators, hoses and blowpipes.

- Includes standard 100 x 75 mm tool tray with hose hooks

### G Size Cylinder Trolley

Features include full engagement of the tray with the cylinder base and a full bottom base powder-coated finish.

- Includes standard 100 x 100 mm tool tray with hose hooks



Description	Part No.
Twin D size cylinders	<b>400810</b>
Twin E size cylinders	<b>400820</b>
Twin G size cylinders - Pneumatic tyres	<b>400830P</b>

### Bottlechocks

Compact and packaged for easy storage they include Bottlechock restraints, brackets and pins to grip each individual cylinder in two places. The two independent brackets provided can be fixed at heights to suit your application. Kits for multiple cylinders have extended brackets to suit 2.

Medium Cylinders Kits (160–230 mm dia)  
(e.g. D-E size and G steel)

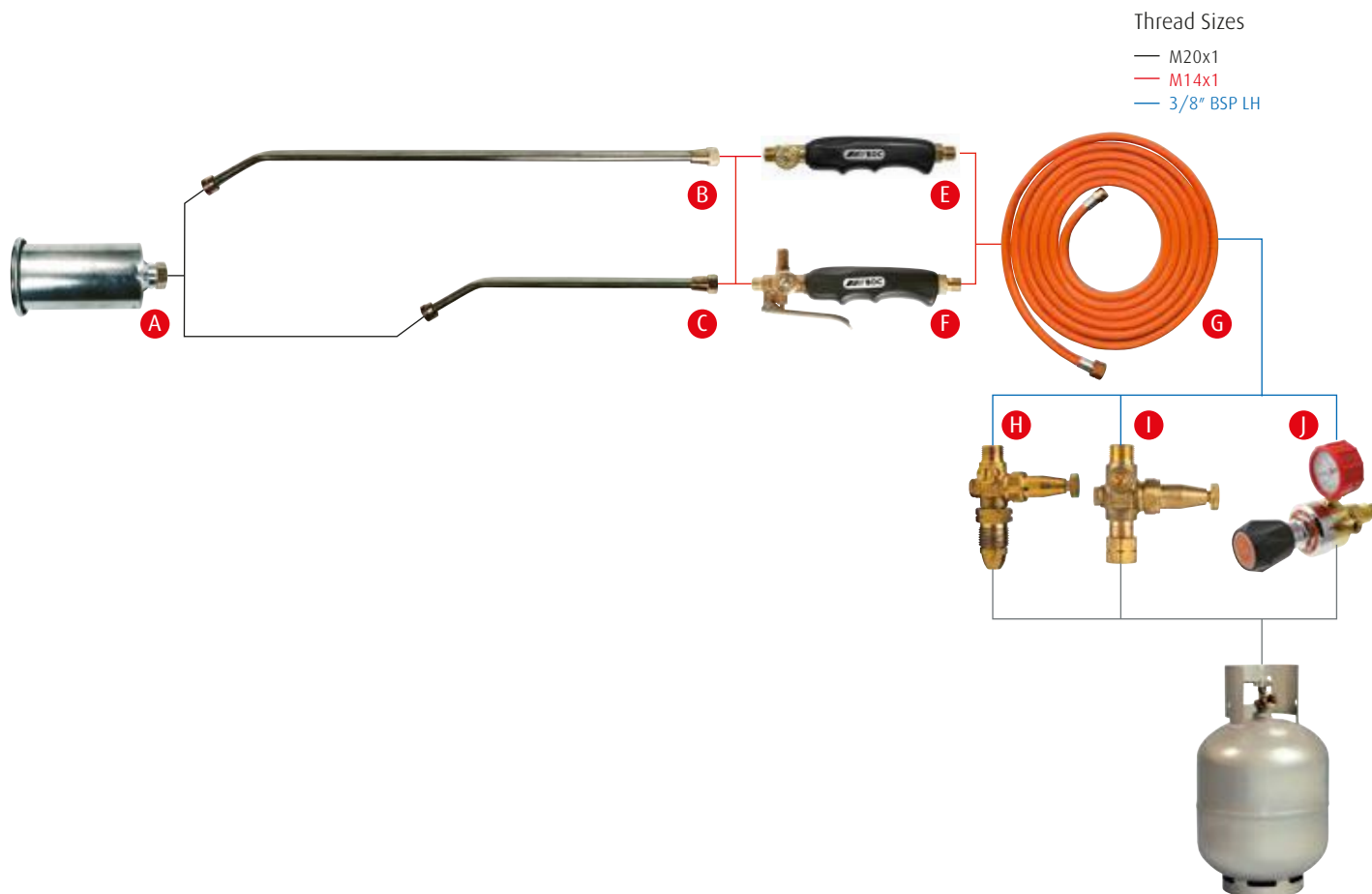
Large Cylinders Kits (245–375 mm dia)  
(e.g. G Acetylene, larger LPG, Refrigerants, Propane)



Material	No. Cylinders	Medium	Large
Galvanised wall Brackets	1	<b>G1M</b>	<b>G1L</b> 🔄
	2	<b>G2M</b>	–
Bench Bracket	1	<b>BRLABM</b>	–
Cylinder Trolley	1	<b>TRER</b>	<b>TRER-L</b>

## LPG Heating Assembly

## BOC Air/Fuel System



### A LPG Broad Flame Burners

- Highly effective full bodied windproof flames, suitable for applications requiring high manageable heat output to a large surface area, such as: Preheating steels prior to welding, flooring, roofing and asphalt work, ceramic tile removal, and automotive applications.
- All burners have a stainless steel body and the BB80-SPX is fully stainless including the body, base plate and nut.

Max. Flame Length	Gas Consum. @150 kPa	Heat Effect	Part no.
30 mm	570 g/h	6,954 kJ	BB30
40 mm	2,000 g/h	24,400 kJ	BB40
50 mm	2,150 g/h	26,230 kJ	BB50
60 mm	5,000 g/h	61,600 kJ	BB60
80 mm	7,000 g/h	85,400 kJ	BB80
80 mm	7,000 g/h	85,400 kJ	BB80-SPX

### Neck Tubes

For a safer distance, reducing radiant heat back onto the hand in operation.

Length	Part no.
1000 mm	BNT1000
600 mm	BNT600
220 mm	BNT220
75 mm	BNT75

### Torch Handles

**Standard** – Ergonomic design for secure and comfortable grip. Integrated solid brass control valve and adjustment knob allows fine adjustment of the flame.

Description	Part no.
LPG Standard	BHP01
LPG Economiser	BHP02

**Economiser** – Equipped with an independently adjustable economiser control valve. Adjust the economiser valve to a pilot flame when no in use to reduce gas consumption by up to 97%, And save time by removing the need to re-ignite the burner after downtime. Full working flame is achieved by depressing the trigger control

### G 8mm LPG Hoses

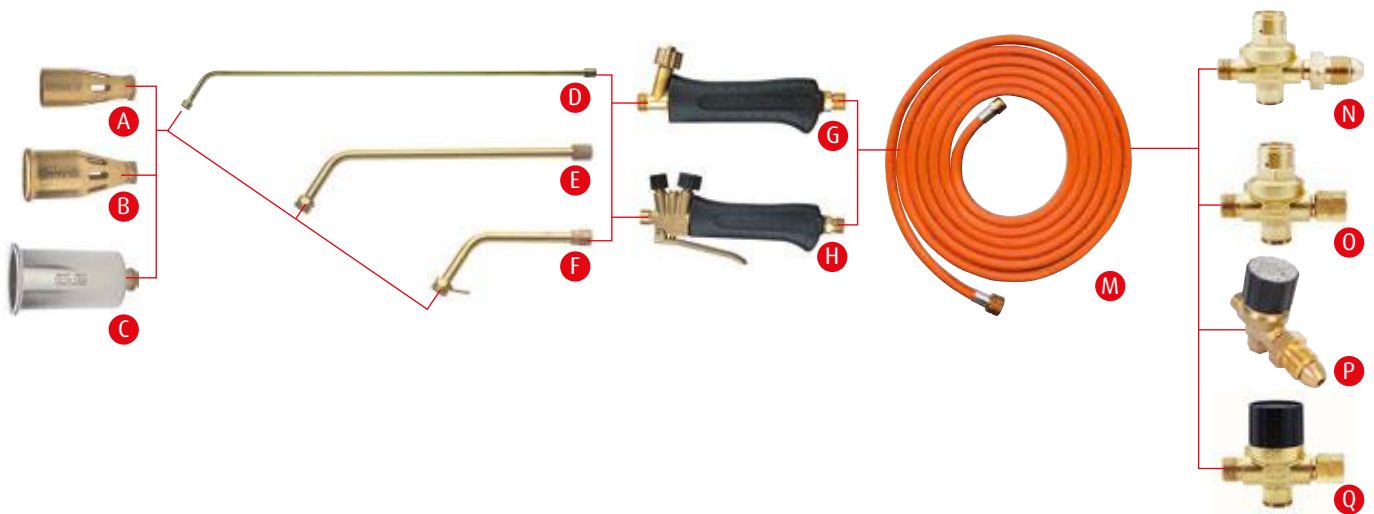
- AGA Approved Hose AS/NZS 1869 Class C
- 2.6 mPa Working pressure
- Inlet: 3/8" BSP LH F
- Outlet: M14 × 1mm F

Length	Part no.
2m	BOCSL0802A-M14
4m	BOCSL0804A-M14
6m	BOCSL0806A-M14
9m	BOCSL0809A-M14

### Regulators

Pressure	Connections Inlet	Outlet	Part no.
400kPa	POL Type 21	3/8" BSP LH	BRNGPOL
400kPa	3/8" BSP LH	3/8" BSP LH	BRNG38
400kPa	POL Type 21	3/8" BSP LH	RC1RLP4-3

# Sievert Pro 86/88 Air/Fuel System



## Sievert Pro Power Burners

Heavy duty, yet light weight. Strong and windproof flames. Ideal for drying, Bitumen laying, detail and field torching, preheating and other heat demanding applications. Recommended working pressure 4 bar.

Dia.	Gas Consumption	Effect	Part No.
<b>Pro Power Burners</b>			
28 mm	600 g/h @ 2 bar	7.7 kW	SV2941
<b>A</b> 35 mm	3,350 g/h @ 4 bar	43.5 kW	SV2943
<b>B</b> 50 mm	6,700 g/h @ 4 bar	86 kW	SV2944
<b>C</b> 60 mm	8,250 g/h @ 4 bar	114 kW	SV2960

## Sievert Pro Neck Tubes

- High quality brass
- Longer neck tube are recommended for larger jobs like roofing and road works

Neck Length	Part no.
<b>D</b> 600 mm	3508
<b>E</b> 350 mm	SV3510
<b>F</b> 180 mm	SV3509



## Sievert Pro 86 Torch Kit

- A professional, powerful torch kit, ideal for soft soldering, brazing, melting, metal works, paint stripping and other heating jobs
- Includes handle (3486), necktube (3511), burner (2941) and 2m hose

Part no.	2197
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## **G** Sievert Pro 86 Handle

- Single valved handle mainly for smaller burners
- The spindle and valve are designed to give a very exact and quick flame setting
- The springloaded metal knob gives a precise and stable setting for the finest of flames
- All metal parts made of high quality brass
- Ergonomic designed plastic composite handle
- Hose connection M14×1mm

Part No.	SV3486
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## **H** Sievert Pro 88 Handle

- Double valved handle mainly for larger burners
- Incorporates one main valve and one economiser valve enabling a gas saving pilot flame
- Trigger for instant shifting between pilot and main flame and for pulsing the main flame
- All metal parts made of high quality brass
- Ergonomic designed plastic composite handle
- Hose connection M14×1mm

Part No.	3488
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## **M** 8mm LPG Hoses

- AGA Approved Hose AS/NZS 1869 Class C
- 2.6 mPa Working pressure.
- Inlet: 3/8" BSP LH F
- Outlet: M14×1mm F

Length	Part no.
2m	BOCSL0802A-M14
4m	BOCSL0804A-M14
6m	BOCSL0806A-M14
9m	BOCSL0809A-M14

## Regulators

Pressure	Max. Capacity	Connections Inlet	Connections Outlet	Part no.
<b>N</b> Fixed 2 bar	6 kg/h	POL	3/8"	309121
<b>O</b> Fixed 2 bar	6 kg/h	3/8" BSP LH	BSP LH	309122
<b>P</b> Adjustable 1-4 bar	5-20 kg/h	POL	3/8"	SV3061-11
<b>Q</b> Adjustable 1-4 bar	5-20 kg/h	3/8" BSP LH	BSP LH	SV306112

## Sievert Promatic Air/Fuel System



### A Soft Flame Burner

- Soft flame design ideal for cable work and other heat shrinking applications
- Sweeping, powerful yellow and blue soot-free windproof flames
- Fresh air sucks in and keeps the burner head cold to minimise the risk of burning the shrink material
- Heat sleeves efficiently but still soft enough not to overheat the shrink material
- Recommended working pressure 2 bar

Burner Dia.	Gas Consumption @ 2 bar	Effect	Part No.
38 mm	900 g/h	11.5 kW	SV3341

### B ProMatic Universal Torch Handle

- Plastic composite handle reinforced with 30% glass for maximum durability
- Piezo ignition with instant trigger on/off function
- Bayonet fitting for burners
- Swivelling hose connection to avoid hose drag
- Combined suspension hook and footstand
- Valve for precise flame setting
- Delivered without hose nipple
- Fitted with M14 × 1 mm hose connection

Part No.	SV3366
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### M 8mm LPG Hoses

- AGA Approved Hose AS/NZS 1869 Class C
- 2.6 mPa Working pressure.
- Inlet: 3/8" BSP LH F
- Outlet: M14 × 1 mm F

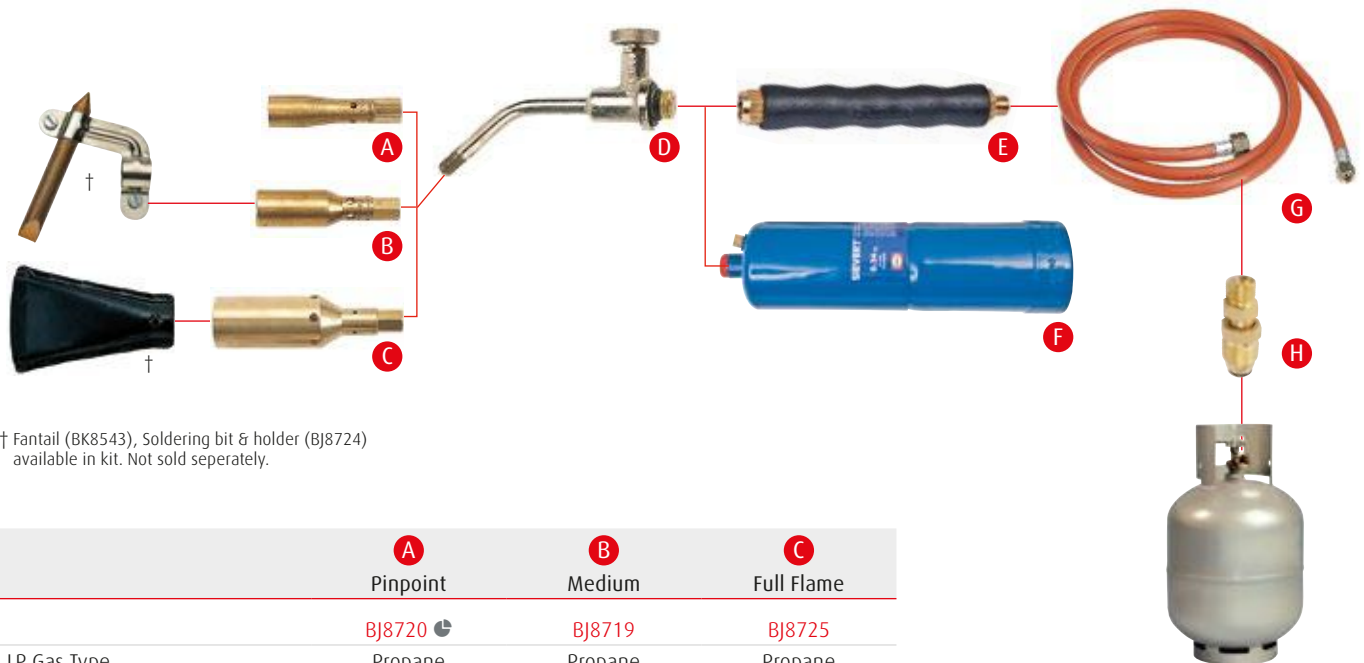
Length	Part no.
2m	BOCSL0802A-M14
4m	BOCSL0804A-M14
6m	BOCSL0806A-M14
9m	BOCSL0809A-M14

### Regulators

	Pressure	Max. Capacity	Inlet Connection	Outlet Connection	Part no.
N	Fixed 2 bar	6 kg/h	POL	3/8" BSP LH	309121
O	Fixed 2 bar	6 kg/h	3/8" BSP LH	3/8" BSP LH	309122
P	Adjustable 1-4 bar	5-20 kg/h	POL	3/8" BSP LH	SV3061-11
Q	Adjustable 1-4 bar	5-20 kg/h	3/8" BSP LH	3/8" BSP LH	SV306112



# TradeFlame Air/Fuel System



† Fantail (BK8543), Soldering bit & holder (BJ8724) available in kit. Not sold separately.

	<b>A</b> Pinpoint	<b>B</b> Medium	<b>C</b> Full Flame
	<b>BJ8720</b>	<b>BJ8719</b>	<b>BJ8725</b>
LP Gas Type	Propane	Propane	Propane
Cartridge Connection	RH Internal	RH Internal	RH Internal
Flame Length mm	120	160	250
Gas Consumption g/h	60	160	460
Effect kW	0.75	2	7
Small Joints Soft Soldeirng	•	•	
Large Joints & Brazing			•
Small Tubing Soft Soldering	•		
Stripping Paint			•
Mending Guttering			•
Glazing & Enamelling	•	•	
Jewellery Work	•		
Bending & Annealing Pipes		•	•
Laving Floor Tiles			•
Mending Bitumen Roofing	•	•	•
Small Hardening & Tempering		•	•
Smelting Light Metals		•	•
Freeing Seized Joints Bolts		•	•
Laboratory Work	•	•	
Aluminium Brazing	•	•	
Small Forging Work		•	•

## Burners

Description	Part no.
<b>A</b> Pinpoint Burner	<b>BJ8720</b>
<b>B</b> Medium Burner	<b>BJ8719</b>
<b>C</b> Full Flame Burner	<b>BJ8725</b>

## D Control Valve

- High-quality brass fitting
- Variable control on/off valve
- Inlet: Primus male thread
- Outlet: M8x1mm M

Part no. **BK8716**

## E Handpiece

High quality brass with grip handle, designed for use with LPG gas for soldering and heating applications.

- Inlet: 1/4" BSP M
- Outlet: Primus female thread

Part no. **BK2119**

## F Refillable Propane Cylinder

- Complies with AS 2468-2005
- Burns at 1900°C /3450°F
- 340 g contents
- Primus internal self closing connection
- RH thread for easy connection, no tools required

Part no. **PRI2000**

## G Hoses

- AGA Approved Hose
- 2.6 mPa working pressure
- Inlet: 3/8" BSP LH F
- Outlet: 1/4" BSP F

Length	Part no.
2m	<b>BK8179</b>
4m	<b>BK8740</b>

## H POL to 3/8" Adaptor

- High quality brass adapter
- Inlet: POL
- Outlet: 3/8" BSP LH M

Part no. **POL21**

## Complete Kit

Handyman Kit with handle and hose for soldering and heating applications.

Description	Part no.
Kit	<b>BJ2102</b>
<b>Contents</b>	
Soldering bit & holder	†
Fantail	†
<b>A</b> Pinpoint Burner	<b>BJ8720</b>
<b>B</b> Medium Burner	<b>BJ8719</b>
<b>D</b> Control valve	<b>BK8716</b>
<b>E</b> Handpiece	<b>BK2119</b>
<b>G</b> 2m Hose	<b>BK8179</b>
Connecting valve	*
Metal box	*

\* Included in kit. Not sold separately.

# Trade flame MAPP System

## Trade flame Blow Torch Kits

- Complete with MAP-Pro gas cylinder 399gm with BOM fitting
- Piezo autoignition
- Ideal for brazing, soft soldering & heating applications
- Super Cyclone Burner with increased tip diameter

## Swivel Blow Torch Kit

### Kit Includes

- Super cyclone burner
- 360° hands free swivel arm with auto ignition
- Disposable TF/ULTRA GAS™ Performance Gas - MAPP® Replacement Cartridge 400g

### Features

- Swivel burner for difficult operating angles
- Solders 3.18 to 76mm copper pipe
- Brazes 1.5 to 25.4mm copper pipe
- Adjustable flame with On/Off control

### Specifications

Part No.	211056
Gas	TF/ULTRA GAS™
Consumption	250 g/h
Fuel Cartridge Size	400 g
Burning Time	100 min
Flame Length	160 mm
Effect	3.5 kW



## Turbo Blow Torch Kit

### Kit Includes

- Super cyclone with auto ignition safety trigger On/Off handle
- Disposable TF/ULTRA GAS™ Performance Gas - MAPP® Replacement Cartridge 400g

### Features

- Ergonomic handle design for precise operation
- Solders 3.18 to 76mm Copper Pipe
- Brazes 1.5 to 25.4mm Copper Pipe
- Adjustable flame with On/Off control
- Full function flame even when inverted

### Specifications

Part No.	211067
Gas	TF/ULTRA GAS™
Consumption	240 g/h
Fuel Cartridge Size	400 g
Burning Time	100 min
Flame Length	120 mm
Effect	3.3 kW



## Disposable TF/ULTRA GAS Cartridge

### Features

- TF/ULTRA GAS disposable cartridge is a Performance Gas - MAPP® replacement. TF/ULTRA GAS is a stable, high energy fuel, offering excellent performance for heating, brazing and soldering
- Compatible with all Trade flame BOM torches designed to be used with TF/ULTRAG AS Performance Gas - MAPP® replacement
- Capacity: 400g

Part No. WMC-US



# Thermic Lancing

Some records show thermic lances was designed back as early as 1905, since then, technology and safety practices has brought the thermic lance as a very effective and efficient tool for the 21st century.

The thermic lance is a steel pipe packed with mixed metal wires. It carries oxygen through the centre of the pipe via a safety thermic lance handle, and ignites once the tip of the lance has reached ignition temperature via a heating source. The thermic lance combusts at the very tip, into a large sparkler reaction, that reaches an approximate temperature of between 4,000-5,000°C.

Due to such a high cutting temperature, there is nothing known to man, that can withstand the temperature of a packed thermic lance. Re-entry for the space shuttle is only 1,650°C.

Also, due to being fed with oxygen, the lance stays alight under water, therefore removal of underwater structures, rails or vessels for demolition makes the thermic lance an extremely versatile cutting tool.

**Ideal Industries:**

- Scrap Metal
- Demolition
- Earthmoving Maintenance
- Foundries/Smelters
- Commercial Divers
- Emergency Services

**Ideal Applications:**

- Cutting down large metal objects for scrap purposes
- For removal of large metal beams/structures in demolition
- Removal of stubborn plugs and pins out of heavy earth moving equipment
- Cutting of large metal castings or frozen masses of metal (spills)
- De-slagging of furnace outlets and maintenance
- Gouging hard facing welding to replace new parts
- Cutting bridge pylons underwater to any depth

**Safety**

A thermic lance splatters more than other forms of welding or cutting, due to the more rapid release of heat and the high temperature. White hot slag is thrown a distance of 4-6m. This means that top quality protective clothing must be worn by the operator and assistant at all times.



## Lance Kit Mini Thermic

Part No.	LANCEMINIKIT
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## Thermic Lances

Description	Part No.
Mini	
6 × 505 mm	LANCE6500
6 × 1000 mm	LANCE61000
10 × 505 mm	LANCE10500
10 × 1000 mm	LANCE101000
Standard	
12 mm	LANCE12
16 mm	LANCE16
16 mm Threaded	LANCE16T
19 mm	LANCE19
19 mm × 4.5 m	LANCE19/45

# Welding Equipment

## Manual Metal Arc Welding – MMA



18-MONTH CONDITIONAL WARRANTY

### Smootharc MMA 131 VRD

- Light industrial use
- Inverter
- MMA and TIG Liftarc
- Duty cycle 130A @ 20%
- Fitted with 10A plug
- Generator required: 7 kVA

**Package consists of:**

- Power source
- Electrode holder with cable (Dinse connector)
- Work clamp with cable (Dinse connector)
- Primary cable with 10A plug
- Operating manual

Part No. MMA131VRD



18-MONTH CONDITIONAL WARRANTY

### Smootharc MMA 171 VRD

- Light industrial use
- Inverter
- MMA and TIG Liftarc
- Duty cycle 170A @ 20%
- Fitted with 15A plug
- Generator required: 9 kVA

**Package consists of:**

- Power source
- Electrode holder with cable (Dinse connector)
- Work clamp with cable (Dinse connector)
- Primary cable with 15A plug
- Operating manual

Part No. MMA171VRD



3-YEAR CONDITIONAL WARRANTY

### Pico 160 cel puls VRD

- Lightweight, portable and robust
- Excellent arc ignition
- Stable arc when using all electrode types
- MMA pulse welding minimises spatter
- Liftarc TIG function
- Ideal for light manufacturing, maintenance and construction

**Package consists of:**

- Power source
- Electrode holder
- Work return lead
- Primary cable with plug
- Operating manual

Part No. 091-002129-28532



## MagMate® MMA 140

18-MONTH CONDITIONAL WARRANTY

- Light industrial use
- Lightweight and portable
- Single phase
- Duty cycle 20% @ 120A
- Fitted with 10A plug
- Generator required: 6 kVA

### Package consists of:

- Power source
- Electrode holder with cable (Dinse connector)
- Work clamp with cable (Dinse connector)
- Primary cable with 10A plug
- Operating Manual

Part No. **MAGMMA140DIY-1**

## MagMate® MMA 160

18-MONTH CONDITIONAL WARRANTY













- Light industrial use
- Lightweight and portable
- Single phase
- Duty cycle 20% @ 140A
- Fitted with 15A plug
- Generator required: 7 kVA

### Package consists of:

- Power source
- Electrode holder with cable (Dinse connector)
- Work clamp with cable (Dinse connector)
- Primary cable with 15A plug
- Operating Manual

Part No. **MAGMMA160DIY-1**

## BOC MMA range at a glance.

Mild Steel Thickness*			Stainless Steel Thickness*			Welding Processes						Power Supply Requirements		VRD Function		
 0-5mm	 5-8mm	 >8mm	 0-3mm	 3-8mm	 >8mm	 MMA	 MIG	 TIG DC Liftarc	 TIG ACDC	 TIG Pulse	 TIG High Freq.	Single phase - Plug	Generator rating	AS 1674.2 compliant Category A+B	C	
Smootharc MMA 131 VRD																
0-5mm			0-4mm			130A @ 20%						10A	7 kVA	✓	✓	
Argon 0-2mm			Argon 0-3mm					130A @ 20%								
Smootharc MMA 171 VRD																
0-8mm			0-6mm			170A @ 20%						15A	9 kVA	✓	✓	
Argon 0-4mm			Argon 0-4mm					170A @ 20%								
EWM Pico 160 cel puls VRD																
0-8mm			0-6mm			150A @ 30%						15A	9.9 kVA	✓	✓	
Argon 0-4mm			Argon 0-4mm					160A @ 30%		✓						
MagMate MMA 140																
0-5mm			0-4mm			120A @ 20%						10A	6 kVA			
MagMate MMA 160																
0-7mm			0-5mm			160A @ 20%						15A	7 kVA			

\*Welding thicknesses shown are a guide only.



# BOC delivers innovative ewm TIG/plasma welding processes

BOC is the exclusive distributor of ewm high-end welding machines in the South Pacific.

Founded in 1957, ewm is Germany's leading manufacturer and technology expert of arc welding machines which offer patented processes such as coldArc, pipeSolution, rootArc, forceArc, impuls and superPuls.

Together BOC and ewm join technical expertise in welding and gas to give our customers an added advantage in welding competency. With our welding systems, we provide customers with the tools to carry out their individual MIG/MAG and TIG welding tasks more effectively no matter how big or small.

## Full three year guarantee

Our welding machines embody top technology at the highest level. Each product is carefully checked to ensure quality is maintained.



## TIG welding processes

EWM has developed functions and processes with which enables you to carry out welding tasks faster, more cost effectively and with the highest quality.

**activArc®** Dynamic TIG arc with compensated arc performance

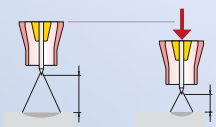
**Spotmatic** Spot for a perfect TIG weld with minimised spot and tacking times



## activArc®

- Dynamic TIG arc for targeted and concentrated heat input
- Safe TIG welding in all positions and panel thicknesses
- Full control over the arc energy
- Influence over the viscosity of the molten pool
- Noticeable concentration of the energy and increasing arc force as the arc becomes shorter
- Prevents mistakes while tack welding – Tungsten electrode does not stick in case of light touching of the molten pool

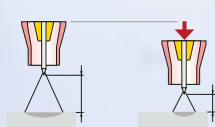
### WITHOUT activArc®



Large distance, approx. 12 V  
Welding current: 60 A

Smaller distance, approx. 10.5 V  
Welding current: 60 A

### WITH activArc®



Large distance, approx. 12 V  
Welding current: 60 A

Smaller distance, approx. 10.5 V  
Welding current: 68.5 A



## Spotmatic

- Saves on manufacturing costs
- Less tacking time thanks to the elimination of the usual trigger pulling
- Easy and accurate welding results
- No special torches required. Any standard TIG welding torch is adequate
- Several hundred tack points can be made without having to grind the tungsten electrode
- Easier handling
- Arc is ignited by touching the tip of the electrode to the work piece instead of using the torch trigger
- Electrode does not stick to metal
- Spots results comparable to automated applications





## A host of functions which save time and money



### Pulsing & AC Pulsing

- With "TIG pulsing", switching occurs back and forth between two different welding current levels, the pulse current and the pause current. The times, and therefore the frequency, can be adjusted individually at the machine or using the remote control. TIG pulsing is possible with direct current (DC) and alternating current (AC) welding.
- Difficult welding applications can be implemented easily
- Improved molten pool control in positional welding, especially in the vertical-up position
- Easy bridging of larger gaps and gaps of differing sizes
- Excellent weld seam quality
- Lower heat input
- Targeted control of the heat input
- Minimised material distortion
- Reduction of the energy per unit length, optimum for stainless steel welding and heat sensitive materials
- Weld seam appearance with extraordinarily even bead ripples – optimal for visible welds



### kHz pulsing

From 0.05 to 15 KHz

- Constriction of the arc with increasing frequency
- Concentration of the arc energy to a smaller surface
- Arc stability, even at very high welding speeds
- Smaller heat-affected zone
- Improved seam surface



### Automated pulsing

- To increase the arc stability and the penetration properties, especially with low currents, the current is pulsed automatically. The ideal area of use is the tacking and spot welding of work pieces.
- Pulse frequency depends on welding current
- Ideal for tacking due to the vibrations in the weld pool



### AC special

- The "AC special" operating mode is a TIG pulse variant in which switching occurs between alternating current in the pulse phase and direct current in the fundamental current phase. The welding current and the respective times can also be set individually for each phase here.
- Highly suitable for welding in the vertical-up position, even without weaving
- Controlled root formation when welding thin metal sheets in the butt joint
- Faster welding speed with fully mechanised and automated applications with and without welding consumables
- Excellent seam appearance, deep penetration thanks to the higher current carrying capacity of the tungsten electrode



### AC waveforms

- Sinusoidal – quiet arc noise, low-vibration molten pool, ideal for welding with welding filler metal, low electrode load
- Trapezoidal – the all-rounder
- Rectangular – good cleaning effect, high electrode load, safe zero crossing



### AC frequency

- 50-200 Hz
- High frequency – narrow, constricted arc with deeper penetration
- Low frequency – wide arc



### AC balance

- 30% to +30%
- Positive current proportion, good cleaning, high electrode load
- Negative current proportion – deep penetration, low electrode load

## TIG Welding

### Smootharc 185 DC TIG

- Light industrial use
- Inverter based TIG welding machine with MMA capability
- Single phase 240V (15A)
- High quality TIG welding of steel, stainless steel and copper
- Ideal for root runs where high quality welds are required



18-MONTH CONDITIONAL WARRANTY

Package consists of:

- Power source
- BOC TIG torch 4m
- BOC TIG torch accessory kit
- Flowmeter and regulator
- Electrode holder and work return lead
- Operating manual

Part No. **BOCDC185-1**

### Smootharc 185 AC/DC TIG

- Light industrial use.
- Inverter based machine with MMA capabilities
- Ideal for sheet metals, stainless steel and aluminium fabrications
- Pulse capability ideal for heat control when working on thin metals
- Generator requirement: 9 kVA
- Foot control sold separately (N-R021014)



18-MONTH CONDITIONAL WARRANTY

Package consists of:

- Power source
- BOC TIG torch 8m
- Electrode holder and work return lead
- Regulator
- Gas hose
- Operating manual

Part No. **BOC185ACDC/FC**

### Tetrix 230 AC/DC Comfort™ 2.0 VRD

- Light/medium industrial use
- Inverter technology performs flawless joining of unalloyed, low-alloy and high alloy steels
- MMA capability with automated pulsing and anti-stick function
- Can be programmed to operate from a 10A outlet
- Fully Australian Standards compliant VRD to AS 1674-2 Category C Environment and IEC 60974-1



3-YEAR CONDITIONAL WARRANTY













































Package consists of:

- Power source
- Regulator
- Gas-cooled torch (SR26) 4m
- Gas hose and connector 2m
- Work return lead 3m
- Operating manual

Part No. **091-000239-28532**



## BOC TIG range at a glance.

Mild Steel Thickness*			Stainless Steel Thickness*			Aluminium Thickness*			Welding Processes							Power Supply Requirements				
 0-5mm	 5-8mm	 >8mm	 0-3mm	 3-8mm	 >8mm	 0-3mm	 3-6mm	 >6mm	 MMA	 MIG	 TIG DC	 TIG DC Liftarc	 TIG AC/DC	 TIG Pulse	 TIG High Freq.	Single phase - plug	III 3 phase	Generator rating	AS 1674.2 compliant VRD	
Smootharc 185 DC TIG																				
TIG  Argon 0-4mm			TIG  Argon 0-5mm								185A @ 30%						15A	9 kVA		
MMA 0-8mm			MMA 0-6mm						140A @ 30%											
Smootharc 185 AC/DC TIG																				
TIG  Argon 0-4mm			TIG  Argon 0-5mm			TIG  Argon 0-4mm					180A @ 30%						15A	9 kVA		
MMA 0-8mm			MMA 0-6mm						135A @ 35%											
Tetrix 200 Comfort 2.0 8P TG																				
TIG 0-7 mm			TIG 0-5 mm								150A @ 60%						15A	8 kVA		
MMA 0-8 mm			MMA 0-6 mm						120A @ 60%											
Tetrix 230 AC/DC Comfort 2.0 VRD																				
TIG 0-8mm			TIG 0-6mm			0-5 mm (AC TIG Only)					200A @ 60% (DC)						15A	8.1 kVA		
MMA 0-10mm			MMA 0-8mm						150A @ 60%											
Tetrix 300-2 Comfort 2.0 8P DC TIG																				
TIG 0-10 mm			TIG 0-8 mm								260A @ 60%								16.3 kVA	
MMA 0-12 mm			MMA 0-10 mm						260A @ 60%											
Tetrix 300 AC/DC Comfort 2.0																				
TIG 0-10 mm			TIG 0-8 mm			0-6 mm (AC TIG Only)							260A @ 60%						15.8 kVA	
MMA 0-12 mm			MMA 0-10 mm						260A @ 60% (DC)											
Tetrix 351 AC/DC Smart 2.0																				
TIG 0-12mm			TIG 0-10mm			0-8mm							350A @ 60%						20.5 kVA	
MMA 0-14mm			MMA 0-12mm						350A @ 60%											

\*Welding thicknesses shown are a guide only.



## EWM Tetrix Range

- 3-Year Conditional Warranty
- High quality and user-friendly welding technology
- EWM activArc® and Spotmatic processes for faster and cost effective results
- Comfort and Smart control panels for easy operation



### Tetrix 200 Comfort 2.0 8P TG™ DC TIG Welder VRD

- Light/medium industrial use
- Portable gas-cooled welder
- MMA functionality
- 8 JOBS can be programmed
- Connection capability for remote control and function torch
- 3m mains supply lead with 16A shock-proof plug
- DC only

#### Package consists of:

- Power source
- TIG 200 GD GRIP 8P 2T UD 8M torch
- Work return lead
- Gas hose
- Regulator
- Operating manual

Part No. [091-000261-28532](#)

### Tetrix 300-2 Comfort 8P™ DC TIG Welder VRD

- Medium/heavy industrial use
- A portable (gas or water cooled) DC inverter welding machine
- 8 JOBS can be programmed
- Connection capability for remote control, function torch and cooling unit
- VRD function

#### Package consists of:

- Power source
- TIG 300 G HD 2T 8P 4M torch
- Work return lead
- Gas hose
- Regulator
- Operating manual

Part No. [091-000238-28532](#)

### Tetrix 300 AC/DC Comfort™ VRD

- Medium/heavy industrial use
- Torch allows easy control of programs and functions
- AC special – reliable joining of aluminium with different thicknesses
- 8 JOBS can be programmed
- VRD function

#### Package consists of:

- Power source
- TIG 300 G HD 2T 8P 4M torch
- Work return lead
- Gas hose
- Regulator
- Operating manual

Part No. [091-000235-00532](#)

### Tetrix 351 AC/DC Smart 2.0

- Medium/heavy industrial use
- Liquid-cooled AC/DC TIG inverter welding machine
- Offers dynamic TIG arc for targeted and concentrated heat input
- Safe, reliable TIG welding in all positions and panel thicknesses
- MMA and air arc gouging capability
- Ideal for root welding
- Spotmatic halves tacking time – anti stick
- Able to connect remote control and function torch
- Can be optionally networked with LAN or WiFi and EWM Xnet software

#### Package consists of:

- Power source
- Torch TIG 450 WD GRIP 8P 2T 8M UD
- Work return lead
- Gas hose
- Regulator
- Operating manual

Part No. [091-000257-00532](#)

## Voltage Reduction Device (VRD)

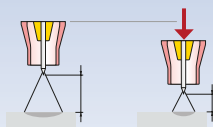
EWM Tetrix 230 ACDC Comfort 2.0 and the Tetrix 200 and 300 Comfort machines are equipped with a built-in voltage reduction device which reduces the open circuit voltage to safer levels when working in and around damp areas. Fully Australian Standards compliant VRD. Compliant to IEC 60974-1 and AS 1674-2 Category C Environment.



**activArc®**

- Dynamic TIG arc for targeted and concentrated heat input
- Safe TIG welding in all positions and panel thicknesses
- Full control over the arc energy
- Influence over the viscosity of the molten pool
- Noticeable concentration of the energy and increasing arc force as the arc becomes shorter
- Prevents mistakes while tack welding – Tungsten electrode does not stick in case of light touching of the molten pool

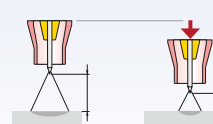
**WITHOUT activArc®**



Large distance, approx. 12 V  
Welding current: 60 A

Smaller distance, approx. 10.5 V  
Welding current: 60 A

**WITH activArc®**



Large distance, approx. 12 V  
Welding current: 60 A

Smaller distance, approx. 10.5 V  
Welding current: 68.5 A



**Spotmatic**

- Saves on manufacturing costs
- Less tacking time thanks to the elimination of the usual trigger pulling
- Easy and accurate welding results
- No special torches required. Any standard TIG welding torch is adequate
- Several hundred tack points can be made without having to grind the tungsten electrode
- Easier handling
- Arc is ignited by touching the tip of the electrode to the work piece instead of using the torch trigger
- Electrode does not stick to metal
- Spots results comparable to automated applications

## TIG Accessories



### RTF1 Foot Control

- Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine.
- Start/stop welding operation
- Current setting directly at the site of welding.
- 5 m control cable, 19 pin connection
- Suits EWM Tetrix and Smootharc Elite® TIG machines only

Part No. **094-006680-00000**



### BOC 185 ACDC/FC Foot Control

- Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine.
- Start/stop welding operation
- Current setting directly at the site of welding.
- 3 m control cable, 5 pin connection
- Suits Smootharc TIG 185ACDC/FC only

Part No. **N-R021014**



### Welding Machine Trolleys

→ See page 80



### Cooling Unit COOL35 U31

- Cooling unit for water-cooled welding torches
- Modular design, tool-free assembly
- Suits Smootharc Elite & EWM Tetrix 300ACDC (Pre Comfort 2.0)

#### Specifications

Part No.	<b>090-008235-00502</b>
Cooling capacity	1 L/min 800 W
Max. flow rate	5 L/min
Max. output pressure	3.5 bar
Tank capacity	4.5 L



### Cooling Unit COOL40 U31

- Cooling unit for water-cooled welding torches
- Modular design, tool-free assembly
- Suits Smootharc Elite TIG & EWM Tetrix 230ACDC

#### Specifications

Part No.	<b>090-008593-00502</b>
Cooling capacity	1 L/min 800 W
Max. flow rate	5 L/min
Max. output pressure	3.5 bar
Tank capacity	4.0 L



### Cooling Unit COOL41 U31

- Cooling unit for water-cooled welding torches
- Modular design, tool-free assembly
- Suits EWM Tetrix 300-2 & Tetrix 300ACDC Comfort 2.0

#### Specifications

Part No.	<b>090-008600-00532</b>
Cooling capacity	1 L/min 800 W
Max. flow rate	5 L/min
Max. output pressure	3.5 bar
Tank capacity	4.0 L

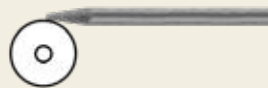


### Turbo-Sharp X Tungsten Grinder

- Standard head for diameters: 1.0 mm, 1.6 mm, 2.4 mm and 3.2 mm
- Tools for assembly and replacement of grinding wheel
- Accessory for stationary mounting
- Adapter for vacuum cleaning
- Pen-style electrode holder
- Multi-functional cover (flatten or grind a truncated cone)
- Fitted 10A Australian plug

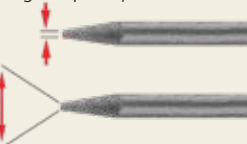
Part No. **TS10-230AUS**

#### Tungsten Grinding



Use a medium (60 grit or finer) diamond or aluminum oxide wheel.

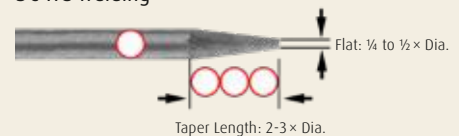
- Grind longitudinally (never radially)
- Truncate (blunt) end
- Diameter of flat spot determines amperage capacity



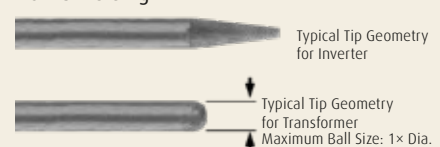
The included angle determines weld bead shape and size. Generally, as the included angle increases, penetration increases and bead width decreases.

#### Tungsten Tip Preparation

##### DC TIG welding



##### AC TIG welding



Ball tip by arcing on non-ferrous metal at low current DCRP (EP) then slowly increase current to form the desired ball diameter. Return setting to AC.



## TIG Torches



### BOC TIG Torches

	Part No.	Cable Length	Torch Body	Valve	Duty Cycle	Cooling	Control Connection
BOC17 Series Torch Range							
TIG TORCH 17 SERIES 4M VALVE	BOC17RV4M	4 m	Rigid	Valve	150A @ 100% DC-	Gas Cooled	-
TORCH TIG 150AMP AIR 4M	BOC17V-4-RF	4 m	Flexible	Valve	150A @ 100% DC-	Gas Cooled	-
TORCH TIG 150AMP AIR 8M	BOC17V-8-RF	8 m	Flexible	Valve	150A @ 100% DC-	Gas Cooled	-
BOC26 Series Torch Range							
TORCH TIG 200AMP AIR 8M F	BOC26V-8-RF	8 m	Flexible	Valve	200A @ 100% DC-	Gas Cooled	-
2 BOC 200A 2PC 8M FLEXI TORCH PACK	BOCACDC-2PC-8F	8 m	Flexible	-	200A @ 100% DC-	Gas Cooled	2 pin
2 BOC 200A 2PC 8M FLEXI TIG PACK	BOCACDC-2PC-8FR	8 m	Flexible	-	200A @ 100% DC-	Gas Cooled	5 pin
MMA TIG Package							
3 MMA 150A TIG Torch Pack	MMA-TIG	4 m	Rigid	Valve	150A @ 100% DC-	Gas Cooled	-
EWM Torch Range							
1 TIG 300 G HD 2T 8P	094-018712-00600	4 m	Rigid	-	300A @ 35% DC-	Gas Cooled	8 pin
	094-018712-00608	8 m					8 pin
TIG 450 WD Grip 4M 8P 2T UD	394-510993-00200	4 m	Rigid	-	400A @ 100% DC-	Liquid Cooled	8 pin
TIG 450 WD Grip 8M 8P 2T UD	394-510993-00208	8 m					8 pin
TIG 18 WD2T KOMBI 8M	094-511490-30608	8 m	Rigid	-	320A @ 100% DC-	Liquid Cooled	-
TIG 26 GD2T KOMBI 8M	094-511621-30608	8 m	Rigid	-	240A @ 60% DC-	Gas Cooled	-
TIG 200 GD GRIP 4M 8P 2T UD	394-510981-00200	4 m	Rigid	-	200A @ 35% DC-	Gas Cooled	8 pin

## Back Ends

Back end connectors ensures maximum protection and safety.

A selection of back end connectors are available for BOC TIG torches to ensure that these torches can be fitted to machines with either 25 or 35 dinse connectors.

The back end is designed to fully enclose and protect the gas connector from accidental impact.

Description	Part No.
Safe-Loc Male Dinse 25: Style 17	BOCSL2-25
Safe-Loc Male Dinse 35: Style 17	BOCSL2-35
Safe-Loc Male Dinse 35: Style 26	BOCSL8-35
Safe-Loc Male Dinse 35: Style 18, Water	BOCSLW-35




## 9 Series Air-Cooled TIG Torch

- Light weight, light duty torch
- Constructed with a hardened brass alloy head to reduce thread damage
- Silicon rubber insulation provides best protection against high frequency leakage

### 9 Series Rigid

- Air-Cooled
- 125 amp ACHF or DCSP @ 100%
- 8m 1 piece cable
- Torch body and handle: 19 cm, 78 g
- 2 Series Head Accessories

Part No. **BOC9-8-RR** 

This torch package is fitted with nozzle, collet body, wedge collet and long backcap.



#### Other options available


Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Rigid Head	1 Piece	4 m	CK9-12-R RG	CK9-12-RSF RG
		8 m	CK9-25-R RG	CK9-25-RSF RG
	2 Piece	4 m	CK9-12-2 RG	CK9-12-2SF RG
		8 m	CK9-25-2 RG	CK9-25-2SF RG
Rigid Head w/ Valve	1 Piece	4 m	CK9V-12-R RG	CK9V-12-RSF RG
		8 m	CK9V-25-R RG	CK9V-25-RSF RG
	2 Piece	4 m	CK9V-12-2 RG	CK9V-12-2SF RG
		8 m	CK9V-25-2 RG	CK9V-25-2SF RG

These products are **Indent only**. Please allow 14 days for delivery.

## 9 Series Air-Cooled TIG Torch UPGRADES

### 9 Series Flex-Loc™

- 360 degree variable angle torch head
- 130 amp,
- 8m 1 piece cable
- Locks in any position
- Interchangeable head allows different configurations and head sizes
- Great for 'walking the cup' on open root welds for pipe welding
- Access hard to reach welds ergonomically

Part No. **BOCFL1325** 

This torch package is fitted with nozzle, collet body, wedge collet and long backcap.

#### Other options available

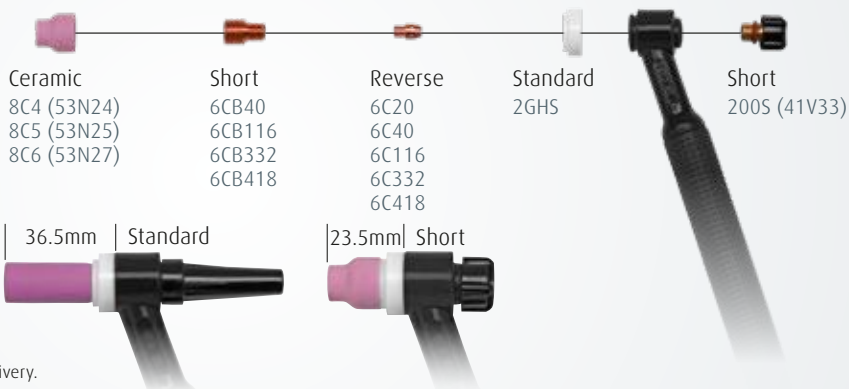
Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
FL2L	1 Piece	4 m	FL1312	FL1312SF
		8 m	FL1325	FL1325SF
FL2L w/ Valve	1 Piece	4 m	FL1312V	FL1312VSF
		8 m	FL1325V	FL1325VSF

These products are **Indent only**. Please allow 14 days for delivery.



### Stubby Consumables

- Shortens front end of torch to access hard to reach weld joints
- Uses 24 Series nozzles
- Reduces overall length by 12.8mm
- Use with short back cap for smallest configuration



These products are **Indent only**. Please allow 14 days for delivery.

### 9 Series Flex

- Gas-Cooled
- 125 amp ACHF or DCSP @ 100%
- Torch body and handle: 20.3 cm, 99 g
- 2 Series Head Accessories



Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Flex Head	1 Piece	4 m	CK9-12-R FX	CK9-12-RSF FX
		8 m	CK9-25-R FX	CK9-25-RSF FX
	2 Piece	4 m	CK9-12-2 FX	CK9-12-2SF FX
		8 m	CK9-25-2 FX	CK9-25-2SF FX
Flex Head w/ Valve	1 Piece	4 m	CK9V-12-R FX	CK9V-12-RSF FX
		8 m	CK9V-25-R FX	CK9V-25-RSF FX
	2 Piece	4 m	CK9V-12-2 FX	CK9V-12-2SF FX
		8 m	CK9V-25-2 FX	CK9V-25-2SF FX

These products are **Indent only**. Please allow 14 days for delivery.

## 17 Series Air-Cooled TIG Torch

- Most popular torch in the world
- More mass in the head of the torch equals more efficient heat dissipation
- Constructed with a hardened brass alloy head to reduce thread damage
- Brass head resists galling and seizing of collet body versus copper head
- Largest metal head insert insures maximum cooling, longer life
- Heavy duty construction allows longer welding time at 150 amps



### 17 Series Rigid

- Gas-Cooled
- 150 amp ACHF or DCSP @ 100%
- Torch body and handle: 20.6cm, 141g
- 3 Series Head Accessories

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Rigid Head	1 Piece	4 m	CK17-12-R RG	CK17-12-RSF RG
		8 m	CK17-25-R RG	CK17-25-RSF RG
	2 Piece	4 m	CK17-12-2 RG	CK17-12-2SF RG
		8 m	CK17-25-2 RG	CK17-25-2SF RG
Rigid Head w/ Valve	1 Piece	4 m	CK17V-12-R RG	CK17V-12-RSF RG
		8 m	CK17V-25-R RG	CK17V-25-RSF RG
	2 Piece	4 m	CK17V-12-2 RG	CK17V-12-2SF RG
		8 m	CK17V-25-2 RG	CK17V-25-2SF RG

These products are Indent only. Please allow 14 days for delivery.

## 17 Series Air-Cooled TIG Torch UPGRADES



### 17 Series Flex-Loc™

- 360 degree variable angle torch head
- 150 amp
- 8m 1 piece cable
- Locks in any position
- Interchangeable head allows different configurations and head sizes
- Great for “walking the cup” on open root welds for pipe welding
- Access hard to reach welds ergonomically

Part No. **BOCFL1525**

This torch package is fitted with nozzle, collet body, wedge collet and long backcap.

### Other options available

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
FL3L	1 Piece	4 m	FL1512	FL1512SF
		8 m	FL1525	FL1525SF
FL3L w/ Valve	1 Piece	4 m	FL1512V	FL1512VSF
		8 m	FL1525V	FL1525VSF

These products are Indent only. Please allow 14 days for delivery.



### 17 Series Flex

- Gas-Cooled
- 150 amp ACHF or DCSP @ 100%
- Torch body and handle: 22.2cm, 141gm
- 3 Series Head Accessories

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Flex Head	1 Piece	4 m	CK17-12-R FX	CK17-12-RSF FX
		8 m	CK17-25-R FX	CK17-25-RSF FX
	2 Piece	4 m	CK17-12-2 FX	CK17-12-2SF FX
		8 m	CK17-25-2 FX	CK17-25-2SF FX
Flex Head w/ Valve	1 Piece	4 m	CK17V-12-R FX	CK17V-12-RSF FX
		8 m	CK17V-25-R FX	CK17V-25-RSF FX
	2 Piece	4 m	CK17V-12-2 FX	CK17V-12-2SF FX
		8 m	CK17V-25-2 FX	CK17V-25-2SF FX

These products are Indent only. Please allow 14 days for delivery.

## 26 Series Air-Cooled TIG Torch

- More mass in the head of the torch equals more efficient heat dissipation
- Constructed with a hardened brass alloy head to reduce thread damage
- Brass head resists galling and seizing of collet body versus copper head
- Largest metal head insert insures maximum cooling, longer life
- Heavy duty construction allows longer welding time at 200 amps



### 26 Series Rigid

- Gas-Cooled
- 200 amp ACHF or DCSP @ 100%
- Torch body and handle: 24.1 cm, 212 g
- 3 Series Head Accessories

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Rigid Head	1 Piece	4 m	CK26-12-R RG	CK26-12-RSF RG
		8 m	CK26-25-R RG	CK26-25-RSF RG
	2 Piece	4 m	CK26-12-2 RG	CK26-12-2SF RG
		8 m	CK26-25-2 RG	CK26-25-2SF RG
Rigid Head w/ Valve	1 Piece	4 m	CK26V-12-R RG	CK26V-12-RSF RG
		8 m	CK26V-25-R RG	CK26V-25-RSF RG
	2 Piece	4 m	CK26V-12-2 RG	CK26V-12-2SF RG
		8 m	CK26V-25-2 RG	CK26V-25-2SF RG

These products are **Indent only**. Please allow 14 days for delivery.

## 26 Series Air-Cooled TIG Torch **UPGRADES**



### 26 Series Trim-Line™

- Smallest 200 amp torch available in the market
- 8m 1 piece cable
- High amperage torch with physical size of 17 Series
- Larger hardened brass head insert allows 200 amp capacity

Part No. **BOCTL26-8-RR**

This torch package is fitted with nozzle, collet body, wedge collet and long backcap.

### Other options available

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Rigid Head	1 Piece	4 m	TL26-12-R	TL26-12-RSF
		8 m	TL26-25-R	TL26-25-RSF
	2 Piece	4 m	TL26-12-2	TL26-12-2SF
		8 m	TL26-25-2	TL26-25-2SF
Rigid Head w/ Valve	1 Piece	4 m	TL26V-12-R	TL26V-12-RSF
		8 m	TL26V-25-R	TL26V-25-RSF
	2 Piece	4 m	TL26V-12-2	TL26V-12-2SF
		8 m	TL26V-25-2	TL26V-25-2SF

These products are **Indent only**. Please allow 14 days for delivery.



150 Amps

### 26 Series Flex-Loc™

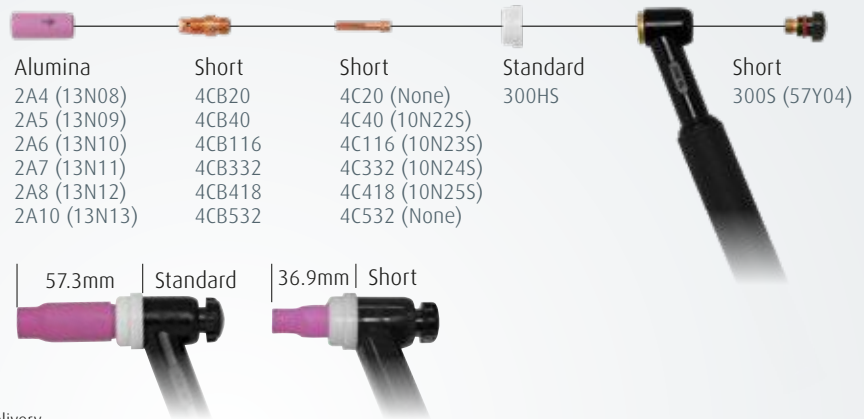
- 360 degree variable angle torch head
- Locks in any position
- Interchangeable head allows different configurations and head sizes
- Great for 'walking the cup' on open root welds for pipe welding
- Access hard to reach welds ergonomically
- Helps prevent carpal tunnel syndrome

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
FL3L	1 Piece	4 m	FL1512	FL1512SF
		8 m	FL1525	FL1525SF
FL3L w/ Valve	1 Piece	4 m	FL1512V	FL1512VSF
		8 m	FL1525V	FL1525VSF

These products are **Indent only**. Please allow 14 days for delivery.

## Stubby Consumables

- Shortens front end of torch to access hard to reach weld joints
- Uses 13N Series nozzles
- Reduces overall length by 19.2 mm
- Use with short back cap for smallest configuration



These products are Indent only. Please allow 14 days for delivery.



## 26 Series Flex

- Gas-Cooled
- 200 amp ACHF or DCSP @ 100%
- Torch body and handle: 24.4 cm, 212 g
- 3 Series Head Accessories

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Flex Head	1 Piece	4 m	CK26-12-R FX	CK26-12-RSF FX
		8 m	CK26-25-R FX	CK26-25-RSF FX
	2 Piece	4 m	CK26-12-2 FX	CK26-12-2SF FX
		8 m	CK26-25-2 FX	CK26-25-2SF FX
Flex Head w/ Valve	1 Piece	4 m	CK26V-12-R FX	CK26V-12-RSF FX
		8 m	CK26V-25-R FX	CK26V-25-RSF FX
	2 Piece	4 m	CK26V-12-2 FX	CK26V-12-2SF FX
		8 m	CK26V-25-2 FX	CK26V-25-2SF FX

These products are Indent only. Please allow 14 days for delivery.

## Weld Penetration profile

### Gas

#### Argon Welding Grade, Compressed (Ar) 130

99.99% Argon

#### ALUSHIELD® Light 506

70% Argon/30% Helium

#### ALUSHIELD® Universal 507

50% Argon/50% Helium

#### ALUSHIELD® Heavy 508

30% Argon/70% Helium

#### Helium 123

99.99% Helium, High Purity

#### ArgoPlas® 35 134

95% Argon/5% Hydrogen



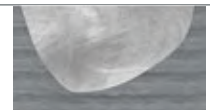
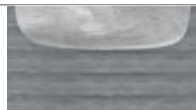
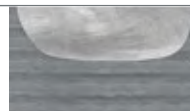
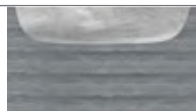
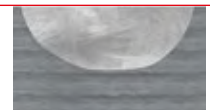
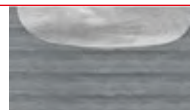
30° Angle  
0.125 mm FLAT



60° Angle  
0.25 mm FLAT



90° Angle  
0.5 mm FLAT



For more information on the fundamentals of GTAW (TIG) welding please refer to page 91.

## 18 Series Water-Cooled TIG Torch

- Largest water jacket available; 300% more cooling
- Largest metal mass insert
- More mass in the head of the torch equals more efficient heat dissipation
- Constructed with a hardened brass alloy head to reduce thread damage
- Brass head resists galling and seizing of collet body versus copper head

- Fail-Safe hose connections eliminates wire ties for positive seal



Fail-Safe™ Hose Connector

### 18 Series Rigid

- Water-Cooled
- 350 amp ACHF or DCSP @ 100%
- 8m 3 piece cable
- Torch body and handle: 24.1cm, 184g
- 3 Series Head Accessories

Part No. **BOC18W-8-R**

This torch package is fitted with nozzle, collet body, wedge collet and long backcap.

#### Other options available

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Rigid Head	3 Piece	4 m	CK18-12	CK18-12SF
		8 m	CK18-25	CK18-25SF
Rigid Head w/ Valve	3 Piece	4 m	CK18V-12	CK18V-12SF
		8 m	CK18V-25	CK18V-25SF

These products are **Indent only**. Please allow 14 days for delivery.

## 18 Series Water-Cooled TIG Torch **UPGRADES**

### 18 Series Trim-Line™

- Smallest 350 amp water-cooled torch at 100% duty cycle
- 8m 3 piece cable
- Large water jacket cools torch more efficiently
- Cooler running torch allows longer life of consumables
- Same physical size as 17 Series
- Lighter weight and size equals greater productivity and less operator fatigue

Part No. **BOCTL18-8**

This torch package is fitted with nozzle, collet body, wedge collet and long backcap.

#### Other options available

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Rigid Head	3 Piece	4 m	TL18-12	TL18-12SF
		8 m	TL18-25	TL18-25SF
Rigid Head w/ Valve	3 Piece	4 m	TL18V-12	TL18V-12SF
		8 m	TL18V-25	TL18V-25SF

These products are **Indent only**. Please allow 14 days for delivery.

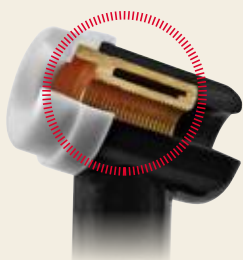
### 18 Series Flex-Loc™

- 250 amp,
- 8m 3 piece cable, variable angle head
- 360 degree variable angle torch head
- Locks in any position
- Interchangeable head allows different configurations and head sizes
- Great for 'walking the cup' on open root welds for pipe welding
- Access hard to reach welds ergonomically
- Helps prevent carpal tunnel syndrome

Part No. **BOCFL2525**

This torch package is fitted with nozzle, collet body, wedge collet and long backcap.

## Max-Flo™ Increased Cooling Capacity



Max-Flo™ Water-Cooled torches provide up to 4 times the cooling capacity - reducing downtime and allowing torches to run longer.

### 18 Series Flex

- Water-Cooled
- 350 amp ACHF or DCSP @ 100%
- Torch body and handle: 24.1cm, 184g
- 3 Series Head Accessories

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Flex Head	3 Piece	4 m	CK18-12 FX	CK18-12SF FX
		8 m	CK18-25 FX	CK18-25SF FX
Flex Head w/ Valve	3 Piece	4 m	CK18V-12 FX	CK18V-12SF FX
		8 m	CK18V-25 FX	CK18V-25SF FX

These products are **Indent only**. Please allow 14 days for delivery.



## 20 Series Water-Cooled TIG Torch

- Most popular water-cooled torch
- Largest water jacket available; 300% more cooling
- Largest metal mass insert
- More mass in the head of the torch equals more efficient heat dissipation
- Constructed with a hardened brass alloy head to reduce thread damage

- Fail-Safe hose connections eliminates wire ties for positive seal



### 20 Series Rigid

- Water-Cooled
- 250 amp ACHF or DCSP @ 100%
- 8m 3 piece cable
- Torch body and handle: 19 cm, 85 g
- 2 Series Head Accessories

Part No. **BOC20W-8-R**

This torch package is fitted with nozzle, collet body, wedge collet and long backcap.



### Other options available

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Rigid Head	3 Piece	4 m	CK20-12	CK20-12SF
		8 m	CK20-25	CK20-25SF
Rigid Head w/ Valve	3 Piece	4 m	CK20V-12	CK20V-12SF
		8 m	CK20V-25	CK20V-25SF

These products are **Indent only**. Please allow 14 days for delivery.

## 20 Series Water-Cooled TIG Torch UPGRADES

### 20 Series Flex-Loc™

- 360 degree variable angle torch head - Locks in any position
- 230 amp ACHF or DCSP @ 100%
- 8m 3 piece cable
- Interchangeable head allows different configurations and head sizes
- Great for "walking the cup" on open root welds for pipe welding
- Access hard to reach welds ergonomically
- Lighter weight and size equals greater productivity and less operator fatigue

Part No. **BOCFL2325**

This torch package is fitted with nozzle, collet body, wedge collet and long backcap.



### Other options available

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
FL2L	3 Piece	4 m	FL2312	FL2312SF
		8 m	FL2325	FL2325SF

These products are **Indent only**. Please allow 14 days for delivery.

## Max-Flo™ Increased Cooling Capacity



Max-Flo™ Water-Cooled torches provide up to 4 times the cooling capacity - reducing downtime and allowing torches to run longer.

### 20 Series Flex

- Water-Cooled
- 250 amp ACHF or DCSP @ 100%
- Torch body and handle: 19 cm, 85 g
- 2 Series Head Accessories

Head style	Cable	Cable length	Standard Part No.	Super-flex Part No.
Flex Head	1 Piece	4 m	CK20-12 FX	CK20-12SF FX
		8 m	CK20-25 FX	CK20-25SF FX
Flex Head w/ Valve	1 Piece	4 m	CK20V-12 FX	CK20V-12SF FX
		8 m	CK20V-25 FX	CK20V-25SF FX

These products are **Indent only**. Please allow 14 days for delivery.



# TIG Machines, Torches and Accessories Selection

● Fitted with machine

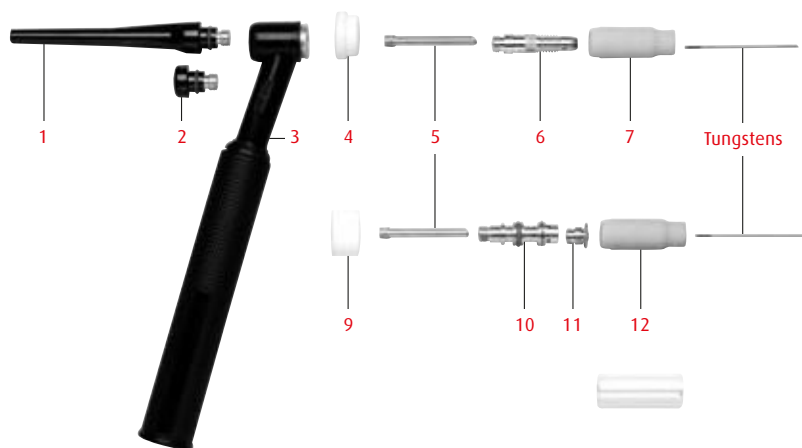
○ Optional - purchased separately

\*1 Discontinued

Machine	Part No.	BOC MMA TIG Pack MMATIG-PACK	BOC ACDC – 2PC – 8F 8m BOCACDC-2PC-8F	BOCACDC-2PC-8FR 8m	BOCACDC-2PC-8FR	TIG 150 Grip GD EZA 4m 394-512291-04000	TIG SR 26 GD 2T Kombi 8m 394-511621-30608	TIG 200 GD 8m 8P 2T UD 394-510981-00208	TIG 450 WD 8P 2T UD 8m 394-510993-00208	BOC17 Flex valve 8m BOC17V-8-RF	BOC 26 Flex valve 8m BOC26V-8-RF	TIG Torch 17 Series 4M valve BOC17RV4M	TIG 26 4m split Torch R-HQ010105
<b>Smootharc</b>													
DC 185 TIG	BOCDC185		●								○		
DC 185 TIG (ver 2)	BOCDC185-1										○		●
TIG 185 ACDC	BOC185ACDC		●								○		
TIG185 ACDC FC	BOC185ACDC/FC			●									
<b>Smootharc Elite®</b>													
TIG 230 ACDC	ELITETIG230ACDCVRD							○	○				
<b>EWM</b>													
Tetrix 200 DC VRD	091-000228-28532							●					
Tetrix 200 Comfort 2.0 DC VRD	091-000261-28532							●					
Tetrix 300-2 DC VRD	091-000238-28532								○				
Tetrix 230 ACDC VRD	091-000239-28532							○					
Tetrix 300 ACDC	TETRIX300ACDCVRD								○				
Tetrix 300 ACDC VRD	091-000235-00532								○				
Tetrix 351 ACDC*1	Tetrix351ACDC								●				
Tetrix 351 ACDC Smart 2.0	091-000257-00532								●				
<b>Machines with optional TIG functions</b>													
<b>Smootharc</b>													
MMA 130P*1	MMA130P	○								○			
MMA 131 VRD	MMA131VRD	○								○			
MMA 170P*1	MMA170P	○								○			
MMA 171 VRD	MMA171VRD	○								○			
175 Multiprocess*1	BOC175MULTI											●	
180 Multiprocess	BOC180MULTI											●	
<b>Smootharc Elite®</b>													
MMA 125*1	ELITEMMA125	○											
MMA 162*1	ELITEMMA162	○								○			
MMA 180*1	ELITEMMA180	○									○		
180 Multiprocess Pulse	091-005135-00032					○							
Elite MIG 451 PP*1	ELITEMIG451PULSE						○						
<b>Smootharc Elite® i series</b>													
Elite 451 i Synergic*1	ELITE451ISYN						○						
<b>EWM</b>													
Taurus 405 Syn S MM TDM	091-005337-00532												
Taurus 505 Syn S MM TDM	091-005338-0B532												
Phoenix 355 Progress Puls	091-005403-00532						○						
Phoenix 405 Progress Puls	091-005321-28532												
Alpha Q 330	091-005402-00532						○						
Alpha Q 351 D	091-005333-29532												
Picomig 305D3*1	091-005435-00532						○						
<b>MagMate®</b>													
MagMate® TIG150*1	MAGTIG150R												
MagMate® TIG200*1	MAGTIG200R												



## BOC TIG Torch Wear Parts Selection



● Compatible with torch

Items		Part no.	BOC ACDC-2PC-8F BOCACDC-2PC-8F	BOCACDC-2PC-8FR BOCACDC-2PC-8FR	BOC17 Flex valve 8m BOC17V-8-RF	BOC 26 Flex valve 8m BOC26V-8-RF	TIG Torch 17 Series 4M valve BOC17RV4M	MagMate® TIG 200 TIG-26 N-HQ01009	MagMate® TIG 150 TIG 17 R-11-0101102-15-00	TIG 300 G HD 2T 8P 4 m 094-018712-00600	TIG 300 G HD 2T 8P 8 m 094-018712-00608
Back caps											
	Long 9. 20 (2 pk)	B41V24									
1	Long 17, 18, 26	B57Y02	●	●	●	●	●	●	●	●	●
2	Short 17, 18, 26	B57Y04	●	●	●	●	●	●	●	●	●
Torch Bodies & Spares											
3	TIG 17 torch body no valve 150A flex	BOC17-FX							●		
	Series 17 valve-flexible	BOC17V-FX			●		●				
	Series 17 valve-rigid	BOC17V-RG			●		●				
	Series 26 no valve-rigid	BOC26-RG						●			
	Series 26 valve-flexible	BOC26V-FX				●					
	26 Series Slimline to suit BOCACDC TIG packs-flexible	BOC26FX	●	●							
	TIG 300 G Flex Body	094-020352-00000								●	
	TIG 300 G Rigid Body	094-020329-00000								●	
Heat Shield											
4	Standard 17, 18, 26	BOC300HS	●	●	●	●	●	●	●	●	●
Collets											
5	1.6 mm 9. 20 (5 pk)	B13N22									
	2.4 mm 9. 20 (5 pk)	B13N23									
	1.6 mm 17, 18, 26 (5 pk)	B10N23	●	●	●	●	●	●	●	●	●
	2.4 mm 17, 18, 26 (5 pk)	B10N24	●	●	●	●	●	●	●	●	●
	3.2 mm 17, 18, 26 (5 pk)	B10N25	●	●	●	●	●	●	●	●	●
BOC (Wedge collet)											
	1.6 mm (standard)	BOC3C16GS	●	●	●	●	●	●	●	●	●
	2.4 mm (standard)	BOC3C24GS	●	●	●	●	●	●	●	●	●
	3.2 mm (standard)	BOC3C32GS	●	●	●	●	●	●	●	●	●
	1.6 mm (short)	BOC4C16GS	●	●	●	●	●	●	●	●	●
Collet body											
6	1.6 mm 9. 20 (5 pk)	B13N27									
	2.4 mm 9. 20 (5 pk)	B13N28									
	1.6 mm 17, 18, 26 (5 pk)	B10N31	●	●	●	●	●	●	●	●	●
	2.4 mm 17, 18, 26 (5 pk)	B10N32	●	●	●	●	●	●	●	●	●
	3.2 mm 17, 18, 26 (5 pk)	B10N28	●	●	●	●	●	●	●	●	●
Collet body - Gas Lens											
	1.6 mm 17.18.26	B45V25	●	●	●	●	●	●	●	●	●
	2.4 mm 17.18.26 (2 pk)	B45V26	●	●	●	●	●	●	●	●	●
	3.2 mm 17.18.26 (2 pk)	B45V27	●	●	●	●	●	●	●	●	●
	1.6 mm 9. 20 (2 pk)	B45V43									
	2.4 mm 9. 20 (2 pk)	B45V44									
Gas Lens Insulator											
	Gas Lens Insulator All Models	B54N01	●	●	●	●	●	●	●	●	●

















● Compatible with torch

		BOC ACDC-2PC-8F BOCACDC-2PC-8F	BOCACDC-2PC-8FR BOCACDC-2PC-8FR	BOC17V-8-RF BOC17 Flex valve 8m	BOC26V-8-RF BOC26 Flex valve 8m	TIG Torch 17 Series 4M valve BOC17RV4M	MagMate® TIG 200 TIG-26 N-HQ01009	MagMate® TIG 150 TIG 17 R-11-0101102-15-00	TIG 300 G HD 2T 8P 4 m 094-018712-00600	TIG 300 G HD 2T 8P 8 m 094-018712-00608
Items	Part no.									
<b>7</b>	<b>Gas cups</b>									
	Alumina cups									
	6 mm	B10N50	●	●	●	●	●	●	●	●
	8 mm	B10N49	●	●	●	●	●	●	●	●
	10 mm	B10N48	●	●	●	●	●	●	●	●
	11 mm	B10N47	●	●	●	●	●	●	●	●
	12.5 mm	B10N46	●	●	●	●	●	●	●	●
	16 mm	B10N45	●	●	●	●	●	●	●	●
	Alumina cups (5 pk)									
	6 mm 9.20 (5 pk)	B13N08								
	8 mm 9.20 (5 pk)	B13N09								
	10 mm 9.20 (5 pk)	B13N10								
	11 mm 9.20 (5 pk)	B13N11								
	12.5 mm 9.20 (5 pk)	B13N12								
	Alumina cups for Gas Lens									
	8 mm 17.18.26 (2 pk)	B54N17	●	●	●	●	●	●	●	●
	10 mm 17.18.26 (2 pk)	B54N16	●	●	●	●	●	●	●	●
	11 mm 17.18.26	B54N15	●	●	●	●	●	●	●	●
	12.5 mm 17.18.26 (2 pk)	B54N14	●	●	●	●	●	●	●	●
	Gas Saver Kits									
	Alumina cups									
	1.6 mm 17.18.26	BOC3GS16	●	●	●	●	●	●		
	2.4 mm 17.18.26	BOC3GS24	●	●	●	●	●	●		
	3.2 mm 17.18.26	BOC3GS32	●	●	●	●	●	●		
	Clear Cups									
	1.6 mm 17.18.26	BOC3GS16-P	●	●	●	●	●	●		
	2.4 mm 17.18.26	BOC3GS24-P	●	●	●	●	●	●		
	3.2 mm 17.18.26	BOC3GS32-P	●	●	●	●	●	●		
	2.4 mm 9	BOCD2GS332LD								
	Gas saver parts to fit BOC gas saver kits BOC3GS16, BOC3GS24 and BOC3GS32									
<b>9</b>	<b>Heat shields</b>									
	Alumina standard	BOC3HSGS	●	●	●	●	●	●	●	●
	Large diameter	BOC4HSGSLM	●	●	●	●	●	●	●	●
<b>10</b>	<b>Collet bodies</b>									
	Standard	BOC3CBGS	●	●	●	●	●	●	●	●
	Short	BOC4CBGS	●	●	●	●	●	●	●	●
	Large diameter	BOC4CBGSLM	●	●	●	●	●	●	●	●
<b>11</b>	<b>Adapter Screens</b>									
	1.6 mm	BOCTAS16GS	●	●	●	●	●	●	●	●
	2.4 mm	BOCTAS24GS	●	●	●	●	●	●	●	●
	3.2 mm (5 pk)	BOCTAS32GS	●	●	●	●	●	●	●	●
	1.6 mm Large diameter	BOCTAS116GSLM	●	●	●	●	●	●	●	●
	3.2 mm Large diameter	BOCTAS332GSLM	●	●	●	●	●	●	●	●
<b>12</b>	<b>Gas lens shield cup</b>									
	8 mm Alumina	BOC3A5GS	●	●	●	●	●	●	●	●
	10 mm Alumina	BOC3A6GS	●	●	●	●	●	●	●	●
	11 mm Alumina	BOC3A7GS	●	●	●	●	●	●	●	●
	12.7 mm clear	BOC3P8GS	●	●	●	●	●	●	●	●



## Binzel and EWM TIG Torch Wear Parts Selection

● Compatible with torch

Items	Part no.	TIG 450 WD GRIP 4M 8PB 2T UD 394-510993-00200	TIG 450 WD HW 12P 2T UD FLEX 4M 094-500098-10200	TIG 200 GD Grip 4M 394-510981-00200
Collets, diffusers, and collet bodies				
Binzel Electrode holders				
1.6 mm	775.0062 	●	●	●
2.4 mm	BP775.0063 	●	●	●
3.2 mm	BP775.0064 	●	●	●
Binzel Gas Diffusers				
1.6 mm	773.0172 	●	●	●
2.4 mm	773.0173 	●	●	●
3.2 mm	773.0174 	●	●	●
Gas cups				
7.5 mm	775.0081 	●	●	●
10 mm	BP775.0082 	●	●	●
13 mm	BP775.0083 	●	●	●
Back caps				
Binzel				
Short	BP773.0053 	●	●	●
Long	BP773.0051 	●	●	●
Torch bodies				
EWM 200 Rigid	774.001 			●
EWM 200 Flexible	774.0130 			●
EWM 450 Rigid	775.0010 	●	●	
Heat shield				
TIG 200/450 Insulator Std	BP775.1043 	●	●	●
TIG 200/450 Diffuser	BP775.1143 	●	●	●

## TIG Torch Wear Parts



BOC Tungstens come in all types. Excellent arc-starting characteristics and long life. Can be used with aluminium, mild steel, stainless and copper.

- Pack of 10

Description	Part No.
<b>Tungsten ZIR 0.8%</b>	
1.6 × 150	BOC503016PK
2.4 × 150	BOC503024PK
3.2 × 150	BOC503032PK
<b>Tungsten Ceriated DC</b>	
1.6 × 150	BOC502016PK
2.4 × 150	BOC502024PK
3.2 × 150	BOC502232PK
<b>Tungsten Lanthiated AC &amp; DC</b>	
1.6 × 150	BOC504016PK
2.4 × 150	BOC504024PK
3.2 × 150	BOC504032PK



## Tungsten Rare Earth Electrodes

- Designed for AC or DC applications
- Maintain sharpened tip configuration for steel and stainless steel welding
- Will form a balled end during AC welding of aluminium
- Pack of 3

Description	Part No.
Tungsten Rare Earth 1.6 mm	BOC60116
Tungsten Rare Earth 2.4 mm	BOC60124
Tungsten Rare Earth 3.2 mm	BOC60132

## Red Tungsten 2% Thoriated Electrodes

- Designed for DC Electrode Negative (DCEN) or straight polarity applications
- Maintain sharpened tip configuration during welding – desirable for welding steels, nickel alloys and most alloys other than aluminium and magnesium
- Not normally used with AC welding due to difficulty in maintaining the balled end without splitting the electrode
- Pack of 10

Description	Part No.
Tungsten THOR 2% 1.6 × 150 DC	BOC501116PK
Tungsten THOR 2% 2.4 × 150 DC	BOC501124PK
Tungsten THOR 2% 3.2 × 150 DC	BOC501132PK

## Color Code for Tungsten Electrodes

Designation		Chemical Composition Impurities ≤0.1%		Tip Color	
ISO 6848	AWS A5.12	Oxide Additive	Tungsten		
WT20	EWTh-2	ThO <sub>2</sub> : 1.70–2.20%	2% Thoriated	Red	
WP	EWP	–	Pure	Green	
WL15	EWL-1.5	LaO <sub>2</sub> : 1.30–1.70%	1.5% Lanthanated	Gold	
WC20	EWCe-2	CeO <sub>2</sub> : 1.80–2.20%	2% Ceriated	Gray	
WL20	EWL-2	La <sub>2</sub> O <sub>3</sub> : 1.80–2.20%	2% Lanthanated	Blue	
WZ8	EWZr-8	ZrO <sub>2</sub> : 0.70–0.90%	0.8% Zirconiated	White	
LaYZr™	EWG	La <sub>2</sub> O <sub>3</sub> : 1.3–1.7%; Y <sub>2</sub> O <sub>3</sub> : 0.06–0.10%; ZrO <sub>2</sub> : 0.6–1.0%	1.5% Lanthanated 0.8% Yttriated 0.8% Zirconiated	Chartreuse	

## Back Ends

Back end connectors ensures maximum protection and safety.

A selection of back end connectors are available for BOC TIG torches to ensure that these torches can be fitted to machines with either 25 or 35 dinse connectors.

The back end is designed to fully enclose and protect the gas connector from accidental impact.

Description	Part No.
Safe-Loc Male Dinse 25: Style 17	BOCSL2-25
Safe-Loc Male Dinse 35: Style 17	BOCSL2-35
Safe-Loc Male Dinse 35: Style 26	BOCSL8-35
Safe-Loc Male Dinse 35: Style 18, Water	BOCSLW-35



## Wedge Collet

- Lasts 10 times longer than standard split collets
- Improves arc starts and arc stability
- Requires less pressure from the back cap improving thread life on torch head
- Tungsten is in direct contact with collet body creating less resistance heating
- Runs cooler, minimising down time replacing collets
- Eliminates twisting and deformation of collet
- Fits any standard collet body or gas lens

Size	Standard	Short
1.6 mm	BOC3C16GS	–
2.4 mm	BOC3C24GS	BOC4C332GS
3.2 mm	BOC3C32GS	BOC4C418GS



## Gas Saver Kits

For BOC17, BOC18, BOC26 Torches

The unique BOC design gas saver kits ensures complete gas coverage of the TIG tungsten even on extended stick out.

Gas saver kits eliminate excessive turbulence in the gas flow that could lead to air entrapment in the weld bead. Saves your gas and offers better weld finish.

The purpose of a gas lens is to make the shielding gas exit the nozzle as a column instead of a turbulent stream of gas that begins to spread out after exiting. The column of gas allows the electrode to stick out farther for visibility allowing for better access to the weld area and a reduction in gas flow.

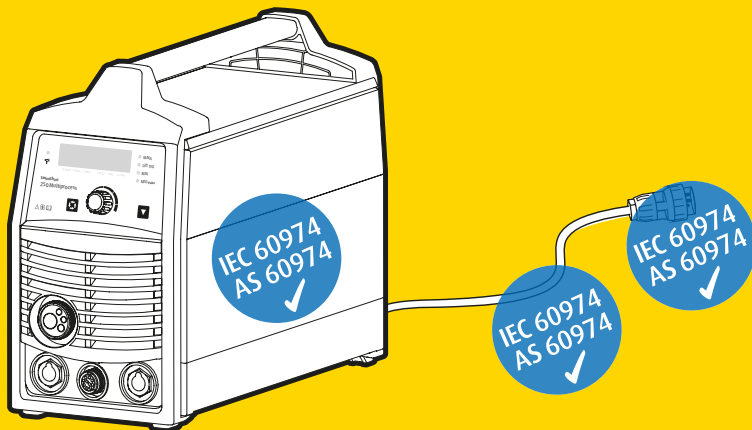
Size	Alumina Cup	Clear Cup
1.6 mm	BOC3GS16	BOC3GS16-P
2.4 mm	BOC3GS24	BOC3GS24-P
3.2 mm	BOC3GS32	BOC3GS32-P

Clear nozzle for gas saver kit

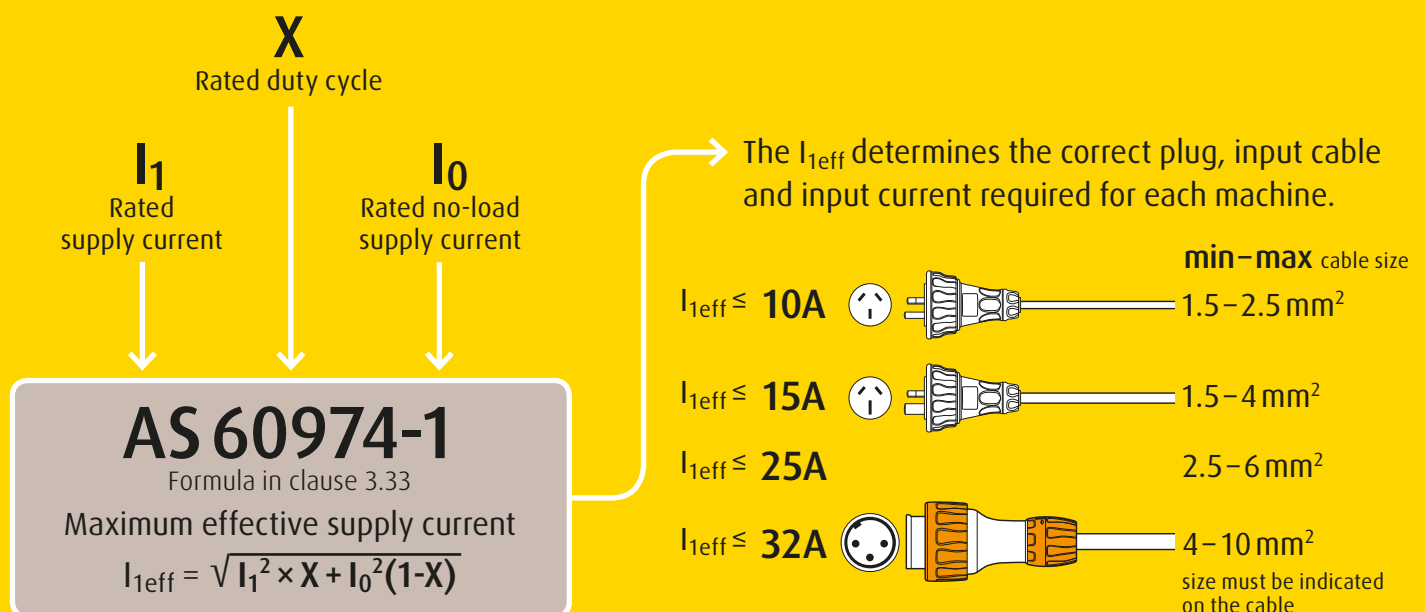
Part No.	BOC3P8GS
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# Switch on to electrical safety

## for single-phase equipment



BOC welding machines are designed and manufactured to conform to IEC 60974 or AS 60974. This Standard not only covers the **machine** but also the **input cable** and **plug requirements** including the size of the plug that should be used.



### Remember...

Before operating your welding machine, follow the instructions in the operating manual provided. For more information refer to WTIA TN 22 – Welding Electrical Safety (Revised 2003) and WTIA TN 07 Health & Safety in Welding. If you have any queries please contact BOC 131 262 (AU), 1800 111 333 (NZ).

# DO

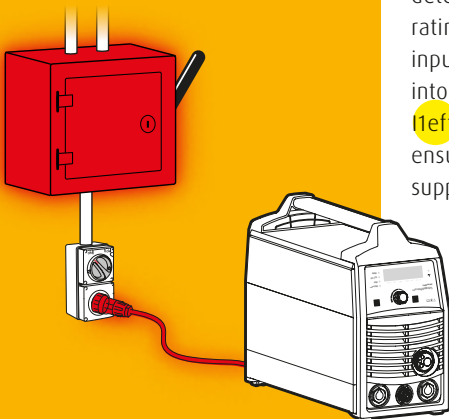
- ✓ Use the **correct input current**,
- ✓ **cable** and ✓ **plug** in accordance with AS 60974-1 for your **safety** and to get the **maximum performance** from your welding machine.

## Example

If the  $I_{1eff}$  rating on your machine is **27A** then you **must use a 32A plug** as a 15A is undersized for the welding current being used and may cause the cable to overheat.

# DON'T

- ✗ Don't risk damage to your machine or cause tripping and/or fire by using the wrong input current, cable or plug.
- ✗ Don't tamper with plugs or file down earth pins. Doing so will void warranty.



## How important is the correct input cable and plug on a welding machine?

The size of the plug depends on a formula that not only uses the maximum current draw but also the duty cycle of the power source. The use of any welding power source will not only cause the machine itself to heat up, but the input cable, plug and mains power circuit will increase in temperature as well. That's why it's important

to understand input and output currents and to make sure that the input circuit is correctly rated to supply the required input draw. This allows the machine to operate at or near maximum output and protects the circuit board from tripping, overheating and/or catching fire.

## For your safety, BOC meets AS/NZS Standards for safe electrical compliance.



**E4824** Regulatory Compliance Mark (RCM) and number














All BOC welding machines undergo an independent certification process to meet Australian and New Zealand regulations regarding electrical safety. The triangle-circle-tick (RCM) symbol signifies that BOC has taken the necessary steps to have the product comply with the electrical safety and/or electromagnetic compatibility (EMC)

legislative requirements as specified by the Electrical Regulatory Authorities Council (ERAC). Depending on the machine, BOC may be required to have a 32A single phase plug to ensure that when the machine runs at its maximum output, the input supply plug and lead will not overheat. For your safety, please check for this symbol before buying any welding machine in Australia and New Zealand.

## Check the rating plate on your machine.

All welding machines that comply with IEC 60974 or AS 60974 must have a rating plate similar to the one shown. Welding machines draw some current when idle (not welding) and a higher current when welding. Effective rated primary current ( $I_{1eff}$ ) combines the conductor heating due to these two levels of current.  $I_{1eff}$  is the maximum rated effective supply current that determines the minimum plug and input cable rating as well as the minimum capacity of the input circuit that the machine gets plugged into to safely operate the machine. Look for the  **$I_{1eff}$**  on the welding machine's rating plate and ensure that you have the correct input circuit to support this power draw.

## Example of BOC rating plate

BOC Limited, 10 Julius Ave, North Ryde NSW 2113, Australia					
250 Multiprocess			 <b>E4824</b>		
1-    			AS/NZS60974-1 IEC/EN60974-10		
	  $U_0=63V$	50A/16.5V-230A/25.5V			
		X	25%	60%	100%
		$I_2$	230A	190A	150A
		$U_2$	25.5V	23.5V	21.5V
	  $U_0=63V$	15A/10.6V-250A/20V			
		X	25%	60%	100%
		$I_2$	250A	200A	160A
		$U_2$	20V	18V	16.4V
	  $U_0=63V$ $U_1=17V$	15A/20.6V-220A/28.8V			
		X	25%	60%	100%
		$I_2$	220A	170A	140A
		$U_2$	28.8V	26.8V	25.6V
 1-(50/60Hz)	U <sub>1</sub> -240V	MIG	$I_{1max}=45A$	$I_{1eff}=26A$	
		TIG	$I_{1max}=39A$	$I_{1eff}=23A$	
		MMA	$I_{1max}=46A$	$I_{1eff}=27A$	
		IP21			
		Air cool			

# Always

- ✓ Inspect cables and plugs regularly.
- ✓ Contact a qualified electrician for advice and/or upgrade and, if needed, to replace any damaged plugs or cables.

## What if I don't have a 240 volt 15 amp or 32 amp outlet?

If you don't have a suitable power outlet, you should contact a qualified electrician to advise whether the wiring in your building will cater for a 15 amp or 32 amp outlet. You may also need

to upgrade your circuit breakers and possibly switchboard to suit. Failure to do this may cause an electrical fire in the building which may void insurances.



# BOC delivers innovative ewm MIG/MAG welding processes

BOC is the exclusive distributor of ewm high-end welding machines in the South Pacific.

Founded in 1957, ewm is Germany's leading manufacturer and technology expert of arc welding machines which offer patented processes such as coldArc, pipeSolution, rootArc, forceArc, impuls and superPuls.

Together BOC and ewm join technical expertise in welding and gas to give our customers an added advantage in welding competency. With our welding systems, we provide customers with the tools to carry out their individual MIG/MAG and TIG welding tasks more effectively no matter how big or small.

## Full three year guarantee

Our welding machines embody top technology at the highest level. Each product is carefully checked to ensure quality is maintained.



## MIG/MAG welding processes



### coldArc®

- Low heat input, low-spatter short circuiting for high dimensional stability welding and brazing of thin materials and root welding with excellent gap-bridging capabilities.



### pipeSolution®

- Powerful short circuiting for sound, high speed root pass welding, with and without gaps, in all positions.



### rootArc®

- Short circuiting with easy weld pool control capabilities for trouble-free gap-bridging and positional welding.



### forceArc®

- Low heat input, highly stable, powerful arcs with deep fusion penetration for the upper power range. For carbon, low alloy and high tensile steels.



### impuls®

- Controlled, short circuit-free pulse arc for all positions, resulting in minimal spatter.



### superPuls®

- The combination of EWM welding processes offers a multitude of possibilities.





# All the right pulse functions you need for aluminium welding and more!

## Phoenix 355 Progress Puls MM TKM Multi-process MIG/MAG pulse welding machine



- Powerful and economical new generation inverter
- Digital Synergic control and monitoring
- Multi-process MIG, FCAW, TIG, MMA and gouging
- Perfect for welding aluminium, stainless steel and mild steel
- Pulse or standard MIG
- superPulse® MIG – Process switching
- Patented forceArc® and rootArc® MIG
- Wire tip conditioning
- MIG and TIG liftarc ignition
- Wire feed creep start
- Select pre-programmed job lists (procedure) on PC2 torch
- Set essential variable limits eg. +/- 2volts.
- Optional key lockout

### Specifications

Part No.	091-005403-00532
Mains voltage (tolerances)	3× 400V (-25% to +20%)
Mains fuses	3× 16A
Open circuit voltage	80V
Setting range for welding current	5 - 350A 350A @ 40%
Duty cycle 40°C	300A @ 60% 270A @ 100%
Dimensions	625 x 300 x 480 mm
Weight	33 kg



### Cooling Unit 50 U40

- Cooling unit for water-cooled welding torches
- For compact machines (TKM)
- Modular design, tool-free assembly

### Specifications

Part No.	090-008598-00502
Cooling capacity	1 L/min 100 W
Max. flow rate	5 L/min
Max. output pressure	3.5 bar
Tank capacity	4.0 L



### Trolley 55-5

- Transport cart for power source, cooling unit and a gas cylinder
- For Picomig 185/305 D3, Phoenix/Taurus 355/405/505 and Tetrix 230/300-2
- Comes as a flat pack

Part No.	090-008632-00001
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# Multiprocess Machines



18-MONTH CONDITIONAL WARRANTY

## BOC Smootharc Multiprocess 180

- Light industrial and repair
- MIG/MAG standard, MMA and TIG (Liftarc)
- Synergic machine, easy to use
- Can be used for aluminium
- Spool gun sold separately

### Package consists of:

- Power source
- Work return lead 3m
- Electrode holder with cable 3m
- Lift TIG 26 torch 4m
- Binzel MB15AK MIG/MAG torch 3m
- Regulator, quick connect gas hose
- Spare feed rolls
- Operating manual

Part No. **BOC180MULTI**

18-MONTH CONDITIONAL WARRANTY

## BOC Smootharc 250 Multiprocess

- Light industrial and repair
- MIG/MAG standard, MIG pulse, MMA and TIG (Liftarc)
- Synergic machine, 32A single phase
- Can be used for aluminium
- Spool gun sold separately

### Package consists of:

- Power source, input cable & plug
- Binzel MB36KD MIG torch
- Aluminium torch conversion kit
- BOC Argon regulator
- Work return lead
- Gas hose with quick release
- Set of Wire feed rollers
- MMA electrode holder
- SR26 TIG torch 4m
- Operating manual

Part No. **BOC250MULTI**

3-YEAR CONDITIONAL WARRANTY

## Picomig 180 Puls

- Light industrial use
- MIG/MAG standard, MMA and TIG (Liftarc)
- Programmable welding tasks
- Perfect for stainless steel and aluminium
- Pulse welding

### Package consists of:

- Power source
- MT221G 3M EZA M6 torch
- Work return lead
- Gas nozzle, innershield
- Regulator and gas hose
- Operating manual

Part No. **091-005545-00532**

3-YEAR CONDITIONAL WARRANTY

















## Picomig 355 D3 Puls

- DC, pulse, gas-cooled
- Multiprocess: MIG/MAG pulse, standard, MMA and Liftarc TIG
- Programmable welding tasks
- Reliable short-arc welding in all positions
- Innovative pulse welding for stainless steel and aluminium

### Package consists of:

- Power source
- MT301G 3M M8 torch
- Work return lead
- Regulator and gas hose
- Operating manual

Part No. **091-005542-00532**

Mild Steel Thickness*			Stainless Steel Thickness*			Aluminium Thickness*			Welding Processes								Power Supply Requirements			
 0-5mm	 5-8mm	 >8mm	 0-3mm	 3-8mm	 >8mm	 0-3mm	 3-6mm	 >6mm	 MMA	 MIG	 TIG DC Liftarc	 TIG DC Only	 TIG Pulse	 TIG High Freq.	 TIG AC	Single phase - plug	III 3 phase	Generator rating	AS 1674.2 compliant VRD	
Smootharc Multiprocess 180																				
Argoshield Light 0-4mm .9mm wire			Stainshield 0-6mm .9mm wire			0-3mm				180A @ 20%							15A		10 kVA	
0-8mm			0-6mm						160A @ 20%											
Argon 0-4mm			Argon 0-4mm			0-3mm					180A @ 25%									
Smootharc 250 Multiprocess																				
Argoshield Light 0-4mm .9mm wire			Stainshield 0-6mm .9mm wire			0-4mm				230A @ 25%							32A		12 kVA	
0-10mm			0-8mm						220A @ 25%											
Argon 0-6mm			Argon 0-6mm			0-4mm					250A @ 25%									
Picomig 180 Puls																				
Argoshield Light 0-4mm .9mm wire			Stainshield 0-6mm .9mm wire			0-3mm				120A @ 60%							15A		10 kVA	
0-8mm			0-6mm						110A @ 60%											
Argon 0-4mm			Argon 0-4mm			0-3mm					140A @ 60%	✓								
Picomig 355 D3 Puls																				
0-13mm			0-10mm			0-8mm (MIG Only)			300A @ 60%	300A @ 60%	300A @ 60%						✓	20 kVA		
Phoenix 355 Progress Puls																				
0-15mm			0-12mm			0-10mm (MIG Only)			300A @ 60%	300A @ 60%	300A @ 60%						✓	20 kVA		
Phoenix 405 Progress Puls																				
0-20mm			0-18mm			0-15mm (MIG Only)			400A @ 100%	400A @ 100%	400A @ 100%						✓	25 kVA	✓	
Alpha Q 351 VRD – single wire feeder																				
0-15mm			0-12mm			0-10mm (MIG Only)			350A @ 100%	350A @ 100%	350A @ 100%						✓	20 kVA	✓	
Alpha Q 551 FDW																				
0-25mm			0-20mm			0-18mm (MIG Only)			420A @ 100%	420A @ 100%	420A @ 100%						✓	39 kVA		

\*Welding thicknesses shown are a guide only.



## EWM® Multiprocess Range

- 3-Year Conditional Warranty
- Water-cooled inverter welding machines
- Multiple processes in one machine - MIG/MAG pulse, Standard, MMA, Liftarc TIG, and arc air gauging
- EWM patented processes - coldArc®, forceArc®, rootArc®, impuls®, superPuls® and pipeSolution® for Alpha Q



3-YEAR CONDITIONAL WARRANTY

### Phoenix 355 Progress Puls

- Medium/heavy industrial use
- Multiprocess: MIG/MAG pulse, standard, MMA and Liftarc TIG
- Portable inverter machine – gas/liquid cooled
- Synergic one knob operation
- Allows you to program welding tasks
- Option to network via LAN or WiFi, Xnet-compatible

#### Package consists of:

- Power source
- MT301G PC2 3M EZA M8 torch
- Work return lead
- Regulator and gas hose
- Operating manual

Part No. **091-005403-00532**



3-YEAR CONDITIONAL WARRANTY

### Phoenix 405 Progress Puls

- DC, pulse, gas-cooled
- Multiprocess: MIG/MAG pulse, standard, MMA, Liftarc TIG and arc air gouging
- Allows you to program welding tasks
- Reliable short-arc welding in all positions
- Option to network via LAN or WiFi, Xnet-compatible
- Compliant to IEC 60974-1 and AS 1674-2 Category C Environment
- Fully Australian Standards compliant VRD for your safety.

#### Package consists of:

- Power source
- 4X EX wire feeder
- Trolley 55-5 DM
- On Trolley 55 (wirefeeder tray)
- 10m Inter-connecting cable
- MT401X PC2 gas cooled MIG torch 4m
- Regulator
- Work return lead 3m
- Operating manual

Part No. **091-005321-28532**



Optional  
extra

### COOL 50-2U40

EWM cooling unit for Phoenix 405 puls MM TDM and 505 puls MM TDM as well as Taurus 355 TDM, 405 TDM and 505 TDM

Part No. **090-008603-00502**



3-YEAR CONDITIONAL WARRANTY

### Alpha Q 351 VRD – single wire feeder

- Multiprocess: MIG/MAG pulse, standard, MMA, Liftarc TIG and arc air gouging
- Allows you to program welding tasks
- Synergic or manual welding operation
- Compliant to IEC 60974-1 and AS 1674-2 Category C Environment
- Fully Australian Standards compliant VRD for your safety
- Option to network via LAN or WiFi, Xnet-compatible

#### Package consists of:

- Power source
- Elite wire feeder 4X HP
- MT451 W PC2 3M EZA M8 torch
- 70qmm 10m W interm. hose pack
- Work return lead
- Regulator
- Operating manual

Part No. **091-005333-28532**

This product is **Indent only**.  
Please allow time for delivery.



3-YEAR CONDITIONAL WARRANTY

### Alpha Q 551 FDW

- Liquid cooled, pulsed inverter machine
- Multiprocess: MIG/MAG pulse, standard, MMA, Liftarc TIG and arc air gouging
- GMAW welding of mild steel, stainless steel and aluminium
- Allows you to program welding tasks
- Synergic or manual welding operation
- Option to network via LAN or WiFi, Xnet-compatible

#### Package consists of:

- Power source
- MT301G 3M M8 torch
- Work return lead
- Regulator and gas hose
- Operating manual

Part No. **091-005334-00502**

This product is **Indent only**.  
Please allow time for delivery.





## MIG/MAG Welding

Portable – from workshop to worksite. Smootharc MIG 181.



### Features and Benefits

Lightweight and portable.

Easy to pick up and move around from workshop to worksite.

Synergic one-knob operation.

Large single dial makes changing settings easy, even with welding gloves on.

Saves you clean up time.

Excellent arc stability, with inductance adjustment, gives you a smoother arc with less spatter.

Welds a wide range.

Use mild steel, stainless steel, flux cored and aluminium wires.

Spool gun compatible

Makes welding jobs easier than a traditional MIG torch. You can change adjustments on the job using the synergic controls on the handle. Holds 1 kg handi-spool of wire. Spool gun is an optional extra – purchased separately.

Pulsing function.

Regulates heat input when welding on thinner material or aluminium.

Reverse polarity.

Suitable for use with both gas-shielded solid and FCAW wire or gasless FCAW wire.

### Applications

- Light manufacturing/engineering
- Maintenance and repair
- Construction and site welding
- Automotive/smash body shops



### Optional extra

Smootharc spool gun is not included in this package. Purchased separately. P art no. R-11-030301-05-00

### Smootharc MIG 181

- Light to medium industrial and maintenance
- Inverter-based welding machine
- Simplified settings, semi-synergic control
- Pulsing function great for welding on thinner material or aluminium
- Spool gun sold separately (R-11-030301-05-00)

Package consists of:

- Power source
- Work return lead 3m
- Binzel MB15AK MIG/MAG torch 3m
- Regulator
- Quick connect gas hose
- Spare feed rolls
- Operating manual

Part No.

BOC181MIG





## Smootharc Advance II MIG Range

- 3-Year Conditional Warranty
- Inverter-based machines with high duty cycle
- Provide infinite control to fine tune settings for optimum results
- Light to heavy industrial applications



3-YEAR CONDITIONAL WARRANTY

### Smootharc Advance® II MIG 200C

- Light industrial fabrication
- MIG/MAG inverter welding with MMA capabilities
- Single phase input, DC output
- Smooth arc characteristics across both ferrous and non-ferrous materials
- Internal wire feeder

#### Package consists of:

- Power source with input cable and plug
- Work return lead 3m
- Binzel MB24KD MIG/MAG torch 3m
- MMA electrode holder and cable
- Regulator
- Quick connect gas hose
- Wire feed rollers:  
U groove 0.8-0.9  
V groove 0.6-0.8/0.9-1.0  
Knurled 0.8-0.9
- Operating manual

Part No. **ADVANCE II 200C**

- The input lead is fitted with a 15A single phase input plug.



3-YEAR CONDITIONAL WARRANTY

### Smootharc Advance® II MIG 250C

- Light industrial use
- MIG/MAG inverter welding with MMA capabilities
- Single phase input, DC output
- Smooth arc characteristics across both ferrous and non-ferrous materials
- Internal wire feeder

#### Package consists of:

- Power source with input cable and plug
- Work return lead 3m
- Binzel MB36KD MIG/MAG torch 3m
- MMA electrode holder and cable
- Regulator
- Quick connect gas hose
- Wire feed rollers:  
U groove 0.8-0.9/1.0-1.2  
V groove 0.6-0.8/0.9-1.0/1.0-1.2  
Knurled 0.8-0.9/1.0-1.2
- Operating manual

Part No. **ADVANCE II 250C**



3-YEAR CONDITIONAL WARRANTY

### Smootharc Advance® II MIG 250R

- Single phase
- Fitted with original quality Binzel torch
- Versatile – use for MIG, MMA and FCAW welding
- Suits steel, stainless steel and aluminium welding

#### Package consists of:

- Power source with input cable and plug
- Binzel MB Grip 36KD torch 3m
- Regulator
- Gas cylinder strap
- MMA electrode holder
- Work return lead
- Wire feeder
- Wire feeder rollers  
U groove 0.8-0.9/1.0-1.2/1.2-1.6  
V groove 0.6-0.8/0.9-1.0/1.0-1.2  
Knurled 0.8-0.9/1.0-1.2/1.2-1.6
- Swindle and 2 spacers for wire feeder
- 1.5m & 10m inter-connecting cables
- Wheels & screws for wire feeder
- Operating Manual

Part No. **ADVANCE II 250R**



3-YEAR CONDITIONAL WARRANTY

### Smootharc Advance® II MIG 400R

- Medium to heavy industrial use
- Three phase
- 4 drive roll remote wire feeder
- Versatile – use for MIG, MMA and FCAW welding
- High duty cycle – weld thick material for longer
- Ideal for mining and construction

#### Package consists of:

- Power source
- Binzel ABIMIG AT455 MIG torch
- Regulator
- Gas cylinder strap
- MMA electrode holder
- Work return lead
- Wire feeder
- Wire feeder rollers  
U groove 0.8-0.9/1.0-1.2/1.2-1.6  
V groove 0.6-0.8/0.9-1.0/1.0-1.2  
Knurled 0.8-0.9/1.0-1.2/1.2-1.6
- Swindle and 2 spacers for wire feeder
- 1.5m & 10m inter-connecting cables
- Wheels & screws for wire feeder
- Operating Manual

Part No. **ADVANCE II 400R**





## EWM® Basic Range

- 3-Year Conditional Warranty
- Ideal for medium to heavy duty applications
- Manual twin knob operation (welding voltage and wire feeding)
- VRD (voltage reduction device) reduces open circuit voltage to safer levels  
Fully Australian Standards compliant VRD. Compliant to IEC 60974-1 and AS 1674-2 Category C Environment.



3-YEAR CONDITIONAL WARRANTY

### Taurus 355 Basic TDM VRD

- Medium industrial use
- Gas cooled or optionally liquid cooled with cool 50 cooling unit (purchased separately)
- Multiprocess: MIG/MAG, FCAW, MMA and arc air gouging (MIG torch included. All other accessories purchased separately)

#### Package consists of:

- Power source
- Drive 4 Basic wire feeder
- 70qmm 10M G 19pol Intermediate hose package
- Trolley 55-5 DM
- ON Trolley 55
- MT401G 3M M8 torch
- Work return lead
- Regulator
- Operating manual

Part No. [091-005286-28532](#) 📄



3-YEAR CONDITIONAL WARRANTY

### Taurus 405 Basic TDM VRD

- Heavy industrial use
- Gas cooled or optionally liquid cooled with cool 50 cooling unit (purchased separately)
- Multiprocess: MIG/MAG, FCAW, MMA and arc air gouging (MIG torch included. All other accessories purchased separately)

#### Package consists of:

- Power source
- Drive 4 Basic wire feeder
- 70qmm 10M G 19pol Intermediate hose package
- Trolley 55-5 DM
- ON Trolley 55
- MT401G 3M EZA M8 torch
- Work return lead
- Regulator
- Operating manual

Part No. [091-005241-18532](#) 📄



3-YEAR CONDITIONAL WARRANTY

### Taurus 405 Basic TDW VRD

- Heavy industrial use
- Liquid cooled standard
- Multiprocess: MIG/MAG, FCAW, MMA and arc air gouging (MIG torch included. All other accessories purchased separately)

#### Package consists of:

- Power source
- Drive 4 Basic wire feeder
- 70qmm 10M W 19pol Intermediate hose package
- Trolley 55-5 DM
- ON Traverse Trolley 55.2-2
- MT451W 4M EZA M8 torch
- Work return lead
- Regulator
- Operating manual

Part No. [091-005438-28532](#) 📄



3-YEAR CONDITIONAL WARRANTY

### Taurus 505 Basic VRD

- Gas cooled or optionally liquid cooled.
- Multiprocess: MIG/MAG, MMA, arc air gouging (accessories purchased separately)
- Manual twin knob operation (welding voltage and wire feeding)
- Ideal for self-shielded flux cored wires

#### Package consists of:

- Power source
- ON CS 405/505 roll cage
- Operating manual

Part No. [091-005261-00532](#) 📄

## EWM® Basic & Synergic range codes

- TDM** Mobile and modular. Gas cooled - optional liquid cooling available
- TDW** Mobile and modular. Standard built-in liquid cooling
- MM** Multimatrix (can network with LAN through EWM Xnet)
- VRD** Voltage Reduction Device - AS 1674-2 Category C Environment and AS 60974.1 compliant

- Basic** Manual twin-knob operation (welding voltage and wire feeding), MIG/MAG, FCAW, MMA and arc air gouging
- Synergic** As with Basic but has MMA, Liftarc TIG, forceArc®, rootArc® and Superpuls® (controlled metal transfer across the arc for spray and short circuit transfer)



## EWM® Synergic Range

- 3-Year Conditional Warranty
- EWM patented processes - rootArc®, forceArc® and superPuls®
- VRD (voltage reduction device) reduces open circuit voltage to safer levels  
Fully Australian Standards compliant VRD. Compliant to IEC 60974-1 and AS 1674-2 Category C Environment.



3-YEAR CONDITIONAL WARRANTY

### Taurus 405 Synergic S MM TDW VRD

- Heavy industrial use
- Liquid cooled standard
- Multiprocess: MIG/MAG, Liftarc TIG, MMA, arc air gouging (MIG torch included. All other accessories purchased separately)
- Program operations with 16 programs per JOB
- Spot welding/tack function
- Compliant to IEC 60974-1 and AS 1674-2 Category C Environment
- Fully Australian standards compliant VRD for your safety.

#### Package consists of:

- Power source with cooling unit
- 4X HP wire feeder
- 70qmm 10M W Intermediate hose package
- Trolley 55-5 DM
- ON Trolley 55
- MT451W 4M EZA M8 torch
- Work return lead
- Regulator
- Operating manual

Part No. 091-005439-28532



## EWM Patented Processes



### forceArc

Efficient and cost-effective welding

Heat-reduced, directionally stable and powerful arc with deep penetration for the upper power range. Non-alloyed, low-alloy and high-alloy steels and high-tensile fine-grained steels

- Smaller included angle due to deep penetration and directionally stable arc
- Fewer passes
- Less distortion thanks to heat-reduced, concentrated arc
- Excellent root and sidewall fusion
- Perfect welding, even with very long stick-outs
- Reduced undercuts
- Virtually spatter-free
- Particularly beneficial for fillet welds, dynamically loaded components such as load-bearing parts for bridges, rolling stock, steel construction and other applications
- Non-alloyed, low-alloy and high-alloy steels, as well as high tensile fine-grained steels
- Manual and automated applications



### rootArc, rootArc puls

The arc with optimum control of the weld pool

**rootArc:** Short arc with perfect weld modelling capabilities for effortless gap bridging and positional welding

**rootArc puls:** The perfect enhancement for focused heat input for the higher performance range

- Optimum reduction of spatter compared to standard short arc
- Perfect for sheet metal from 1 mm onwards
- Optimal for positional and overhead welding
- Reduced-energy short arc
- **rootArc puls** for welding in transitional areas and for initial and final passes
- Excellent, heat-reduced welding in vertical-up positions (PF) through **rootArc superPuls**
- Superb root formation and secure sidewall fusion
- Vertical-up welds without weaving
- Un-alloyed and low-alloy steels
- Manual and automated applications



### superPuls

The superPuls combination of ewm welding processes offers a multitude of possibilities.

- Reliable fusion of the root base
- Effective filling with pulse
- No more weaving required
- Smooth bead ripples result in aesthetically pleasing weld seams
- Controlled reduced heat input
- Reduced spatter formation
- Easy modelling of the molten metal
- Quick and reliable welding of vertical-up welds

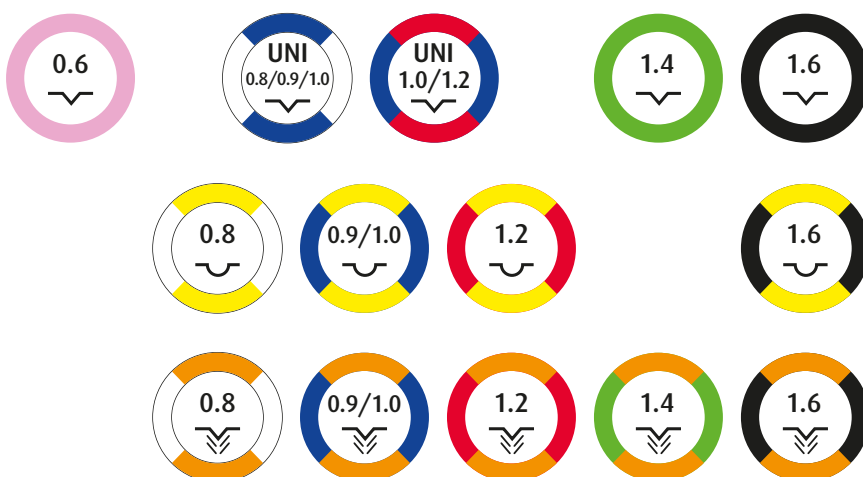
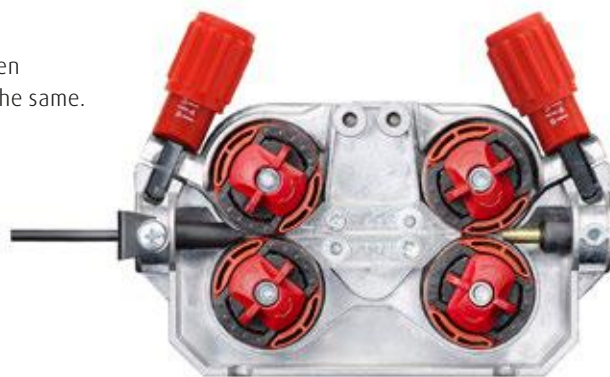
## BOC Elite/EWM Feed Rollers

With the exception of the Elite Multi 180 feed rollers are interchangeable between models. While the material numbers are different, the layouts of the rollers are the same.

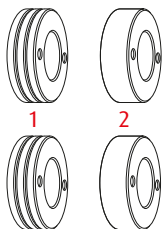
### Colour coded drive roll sets

Each set comes with four wire feed rollers, for various wire diameters and groove shapes

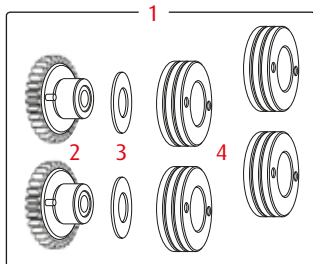
Wire size (mm)	Part No.
V groove – Mild steel, stainless steel, brazing and flux-cored wires	
0.6	092-002770-00006
0.8/0.9/1.0 UNI	092-002770-00009
1.0/1.2 UNI	092-002770-00011
1.4	092-002770-00014
1.6	092-002770-00016
U groove – Aluminium wires	
0.8	092-002771-00008
0.9/1.0	092-002771-00010
1.2	092-002771-00012
1.6	092-002771-00016
Knurled – Flux-cored wires	
0.8	092-002848-00008
0.9/1.0	092-002848-00010
1.2	092-002848-00012
1.4	092-002848-00014
1.6	092-002848-00016



### Wire feed rollers



- 1 Drive rollers, set of two
- 2 Counterpressure rollers, set of two



- 1 Conversion kit (items 2-4)
- 2 Drive pinion, top
- 3 Position washer
- 4 Twin rollers

Type	Designation	Part No.
Wire feed rollers for steel wire		
FE 2DR4R 0.6+0.8	Drive rollers, 37mm, steel	092-000839-00000
FE 2DR4R 0.8+1.0	Drive rollers, 37mm, steel	092-000840-00000
FE 2DR4R 0.9+1.2	Drive rollers, 37mm, steel	092-000841-00000
FE 2DR4R 1.0+1.2	Drive rollers, 37mm, steel	092-000842-00000
FE 2DR4R 1.2+1.6	Drive rollers, 37mm, steel	092-000843-00000
FE/AL 2GR4R	Counterpressure rollers, smooth, 37mm	092-000844-00000
Wire feed rollers for aluminium wire		
AL 4ZR4R 0.8+1.0	Twin rollers, 37mm, for aluminium	092-000869-00000
AL 4ZR4R 1.0+1.2	Twin rollers, 37mm, for aluminium	092-000848-00000
AL 4ZR4R 1.2+1.6	Twin rollers, 37mm, for aluminium	092-000849-00000
AL 4ZR4R 2.4+3.2	Twin rollers, 37mm, for aluminium	092-000870-00000
Wire feed rollers for cored wire		
ROE 2GR4R 0.8/0.9+0.8/0.9	Drive rollers, 37mm, cored wire	092-000834-00000
ROE 2GR4R 1.0/1.2+1.4/1.6	Drive rollers, 37mm, cored wire	092-000835-00000
ROE 2GR4R 1.4/1.6+1.2.0/2.4	Drive rollers, 37mm, cored wire	092-000836-00000
ROE 2GR4R 2.8+3.2	Drive rollers, 37mm, cored wire	092-000837-00000
ROE 2GR4R	Drive rollers, 37mm, cored wire	092-000838-00000
Conversion sets		
URUE VERZ>UNVERZ FE/AL 4R	Conversion kit, 37mm, 4-roller drive on non-toothed rollers (steel/aluminium)	092-000845-00000
URUE AL 4ZR4R 0.8+1.0	Conversion kit, 37mm, 4-roller drive for aluminium	092-000867-00000
URUE AL 4ZR4R 1.0+1.2	Conversion kit, 37mm, 4-roller drive for aluminium	092-000846-00000
URUE AL 4ZR4R 1.2+1.6	Conversion kit, 37mm, 4-roller drive for aluminium	092-000847-00000
URUE AL 4ZR4R 2.4+3.2	Conversion kit, 37mm, 4-roller drive for aluminium	092-000868-00000
ROE 2GR4R 0.8/0.9+0.8/0.9	Conversion kit, 37mm, 4-roller drive for cored wire	092-000830-00000
ROE 2GR4R 1.0/1.2+1.4/1.6	Conversion kit, 37mm, 4-roller drive for cored wire	092-000831-00000
ROE 2GR4R 1.4/1.6+1.2.0/2.4	Conversion kit, 37mm, 4-roller drive for cored wire	092-000832-00000
ROE 2GR4R 2.8+3.2	Conversion kit, 37mm, 4-roller drive for cored wire	092-000833-00000

## BOC MIG range at a glance.

Mild Steel Thickness*			Stainless Steel Thickness*			Aluminium Thickness*			Welding Processes							Power Supply Requirements			
0-5mm	5-8mm	>8mm	0-3mm	3-8mm	>8mm	0-3mm	3-6mm	>6mm	MMA	MIG	TIG DC Liftarc	TIG DC Only	TIG Pulse	TIG High Freq.	TIG AC	Single phase - plug	III 3 phase	Generator rating	AS 1674.2 compliant VRD
<b>MagMate MAGMIG145</b>																			
Argoshield Light 0-3mm			Stainshield 0-4mm							145A @ 15%						10A		8 kVA	
Argoshield Universal 0-5mm 1.0mm wire																			
<b>Smootharc MIG 181</b>																			
Argoshield Light 0-5mm .9mm wire						Argoshield Light 0-3mm 1.0mm wire										✓		10 kVA	
Argoshield Universal 0-6mm 1.0mm wire			Stainshield 0-8mm .9mm wire							180A @ 20%									
<b>Smootharc Advance® II MIG 200C</b>																			
Argoshield Light 0-5mm .9mm wire			Stainshield 0-8mm .9mm wire													15A		12 kVA	
Argoshield Universal 0-8mm 1.0mm wire									103A @ 60%	110A @ 60%									
<b>Smootharc Advance® II MIG 250C</b>																			
Argoshield Light 0-6mm .9mm wire																32A		12 kVA	
Argoshield Universal 0-10mm 1.2mm wire			Stainshield 0-10mm 1.2mm wire			Alushield Light 0-6mm 1.2mm wire													
0-12 mm			0-10 mm						220A @ 30%	250A @ 35%									
<b>Smootharc Advance® II MIG 250R</b>																			
Argoshield Light 0-6mm .9mm wire																32A		12 kVA	
Argoshield Universal 0-10mm 1.2mm wire			Stainshield 0-10mm 1.2mm wire			Alushield Light 0-6mm 1.2mm wire			220A @ 30%	250A @ 35%									
<b>Smootharc Advance® II MIG 400R</b>																			
Argoshield Light 0-6mm .9mm wire						Alushield Light 0-8mm 1.2mm wire											✓	20 kVA	
Argoshield Universal 0-10mm 1.2mm wire			Stainshield 0-10mm 1.2mm wire			Alushield Heavy 0-10mm 1.2mm wire			400A @ 40%	400A @ 45%									
<b>Taurus 355 Basic TDM VRD</b>																			
Argoshield Light 0-6mm .9mm wire						Alushield Light 0-8mm 1.2mm wire											✓	13.1 kVA	✓
Argoshield Universal 0-10mm 1.2mm wire			Stainshield 0-10mm 1.2mm wire			Alushield Heavy 0-10mm 1.2mm wire			350A @ 60%	350A @ 60%									
<b>Taurus 405 Basic TDM VRD</b>																			
Argoshield Light 0-8mm																	✓	25 kVA	✓
Argoshield Universal 0-12mm																			
Argoshield Heavy 0-20mm			Stainshield 0-18mm 1.2mm wire			Alushield Light 0-15 mm (MIG Only) 1.2mm			400A @ 100%	400A @ 100%									
<b>Taurus 405 Basic TDW VRD</b>																			
Argoshield Light 0-8mm																	✓	25 kVA	✓
Argoshield Universal 0-12mm																			
Argoshield Heavy 0-20mm			Stainshield 0-18mm 1.2mm wire			Alushield Light 0-15 mm (MIG Only) 1.2mm			400A @ 100%	400A @ 100%									
<b>Taurus 505 Basic VRD</b>																			
0-25 mm			Stainshield 0-20mm 1.2mm wire			Alushield Light 0-18 mm 1.2mm wire			500A @ 60%	500A @ 60%							✓	35 kVA	✓
<b>Taurus 405 Synergic S MM TDW VRD</b>																			
Argoshield Light 0-8mm																	✓	25 kVA	✓
Argoshield Universal 0-12mm																			
Argoshield Heavy 0-20mm			Stainshield 0-18mm 1.2mm wire			Alushield Light 0-15 mm (MIG Only) 1.2mm			400A @ 100%	400A @ 100%	400A @ 100%								

\*Welding thicknesses shown are a guide only.

# MIG Machines, Torches and Accessories Selection

## EWM & Smootharc Elite® Range

● Fitted with machine

○ Optional - purchased separately

\*1 Discontinued

Items	Part no.	Picomic 180 Puls	180 Multiprocess Pulse*1	MIG 251*1	MIG 351*1	MIG 501*1	MIG 351i*1	MIG 451i*1	MIG 451i-Syn*1	MIG 551i*1	Taurus 355 Basic TDM VRD	Taurus 405 Basic TDM VRD	Taurus 405 Basic TDM VRD	Taurus 405 Synergic S MM TDW VRD	Taurus 505 Basic VRD	Taurus 505 Synergic S MM TDW VRD	Phoenix 355 Progress Puls	Phoenix 405 Progress Puls	451 Progress Puls	Alpha Q 330	Alpha Q 351	Alpha Q 551	Picomic 355 D3
EWM Torches																							
MT221G 3M EZA M6	094-500075-00000	●	●	○																			
MT301G PC2 3M EZA M8	094-500076-00700	●															●			●			
MT301G PC2 EZA 5M M8	094-500076-00705	●															○			○			
MT401G EZA 3M M8	094-500077-00000	●		○	○	●	●	●	●	●	●	●					○	○		○			
MT401G EZA 4M M8	094-500077-00004	●		○	○	○	○	○	○	○	○						○	○		○			
MT401G PC2-X 4M EZA M8	094-500112-00704	●																●					
MT451W EZA M8 3M	094-500079-00000	●			○	○															○		
MT451W EZA M8 4M	094-500079-00004	●			●	●						●	●								○		
MT451W 4M PC2 EZA M8 Water-cooled	094-500079-00704	●																			○		
MT451W 3M PC2 EZA M8 Water-cooled	094-500079-00700	●																		●			
MT551 W 5M PC2 EZA M8 Water-cooled	094-500080-00705	●																	○		○	○	
MT551 W 4M PC2 EZA M8 Water-cooled	094-500080-00704	●																	○		○	●	
MT551 W 3M PC2 EZA M8 Water-cooled	094-500080-00700	●																	●		○	○	
MT551WL PC2 5M EZA M8 (LONG NECK)	094-500080-20705	●																	○		○	○	
MT551W 3M EZA M8	094-500080-00000	●				○									○	○			○		○	○	
MT551W 5M EZA M8	094-500080-00005	●				○									○	●					○	○	
MT301CG PP PC2 10M EZA Efeed	094-500160-00710	●							○								○	○	○	○	○	○	
MT401 GPC2-X4M EZA M8	094-500112-00704	●																●					
Wire Feeder																							
Elite WF351/501	090-004967-00032	●		○	●	●																	
Drive 4X HP	090-005392-00502	●							○					●		●			○		○	○	
Drive 4X EX	090-005511-00502	●																●					
Drive 4 Basic	090-005401-00502	●					○	○		○	●	●	●		○	○							
Feed Roll Kits																							
0.6-0.8mm for steel & stainless steel	092-000839-00000	●	○	○	○	○	○	○	○	○													
0.8-1.0mm for steel & stainless steel	092-000840-00000	●	●	●	●	○	○	○	○	○									○				
0.9-1.2mm for steel & stainless steel	092-000841-00000	●	○	○	○	○	○	○	○	○									○				
1.0-1.2mm for steel & stainless steel	092-000842-00000	●		○	○	●	●	●	●	●									●				
1.2-1.6mm for steel & stainless Steel	092-000843-00000	●		○	○	○	○	○	○	○									○				
Counter pressure roll for steel wire	092-000844-00000	●		○	○	○	○	○	○	○									○				
0.8-0.9mm for cored wire	092-000834-00000	●	○	○	○	○	○	○	○	○									○				
1.0-1.2/1.4-1.6mm for cored wire	092-000835-00000	●		○	○	○	○	○	○	○									○	○	○	○	○
Counter pressure roll for cored wire	092-000838-00000	●		○	○	○	○	○	○	○									○	○	○	○	○

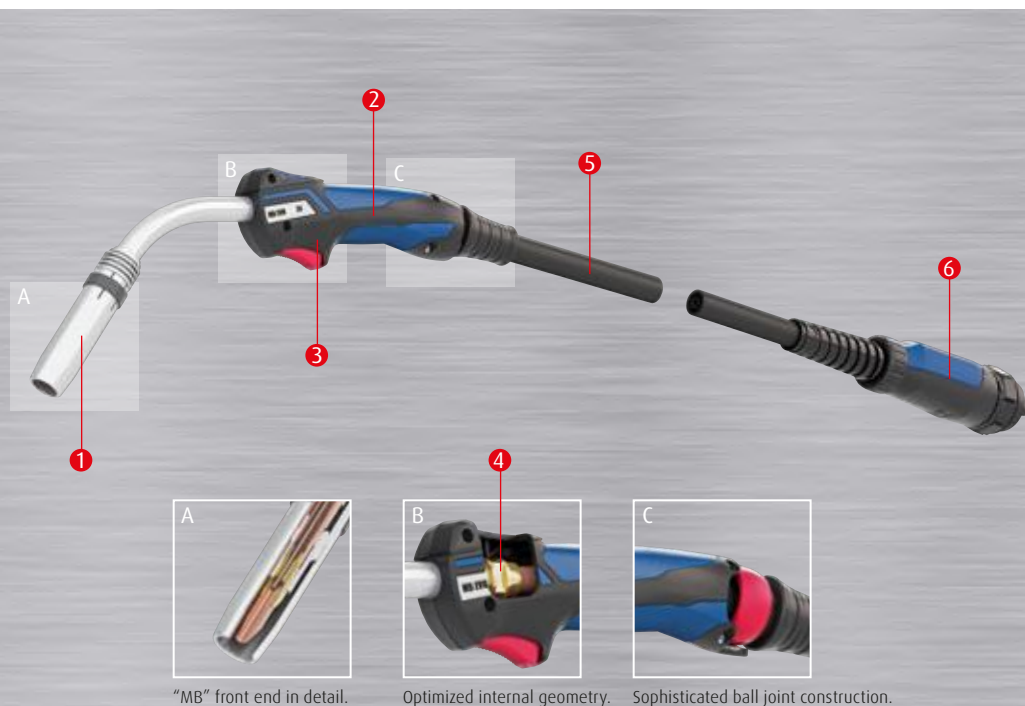


- Fitted with machine  
○ Optional - purchased separately

Items	Part no.	Picmig 180 Puls 091-005545-00532	180 Multiprocess Pulse*1 091-005135-00032	MIG 251*1 ELITEMIG251	MIG 351*1 ELITEMIG351	MIG 501*1 ELITEMIG501	MIG 351i*1 ELITE351i	MIG 451i*1 ELITE451i	MIG 451i-Syn*1 ELITE451iSYN	MIG 551i*1 ELITEMIG551i	Taurus 355 Basic TDM VRD 091-005286-28532	Taurus 405 Basic TDM VRD 091-005241-18532	Taurus 405 Basic TDW VRD 091-005438-28532	Taurus 405 Synergic S MM TDW VRD 091-005439-28532	Taurus 505 Basic VRD 091-005261-00532	Taurus 505 Synergic S MM TDW VRD 091-005441-28532	Phoenix 355 Progress Puls 091-005403-00532	Phoenix 405 Progress Puls 091-005321-28532	451 Progress Puls ELITEMIG451PULSE	Alpha Q 330 091-005402-00532	Alpha Q 351 091-005333-28532	Alpha Q 551 091-005334-00502	Picmig 355 D3 091-005542-00532
Drive kit 4 rolls and 2 pinions for 1.0-1.2mm Al wires	092-000846-00000	●		○	○	○																	
0.8-0.9mm for Al wires	092-000869-00000	●	○	○	○	○	○	○	○	○										○	○	○	○
1.0-1.2mm for Al wires	092-000848-00000	●			○	○	○	○	○	○										○	○	○	○
1.2-1.6mm for Al wires	092-000849-00000	●			○	○	○	○	○	○										○	○	○	○
Feed roll conversion kit for aluminium	092-000845-00000	●			○	○	○	○	○	○										○	○	○	○
0.8mm for steel, stainless solid, and FCAW wires	092-002770-00008	●									○	○	○	○	○	○	○	○					○
1.0-1.2mm for steel, stainless solid wires	092-002770-00011	●									●	●	●	●	●	●	●	●	●	●	●	●	●
1.2mm for Al wires	092-002771-00012	●									○	○	○	○	○	○	○	○	○	○	○	○	○
1.6mm for Al wires	092-002771-00016	●									○	○	○	○	○	○	○	○	○	○	○	○	○
1.2mm for FCAW wires	092-002848-00012	●									○	○	○	○	○	○	○	○	○	○	○	○	○
1.6mm for FCAW wires	092-002848-00016	●									○	○	○	○	○	○	○	○	○	○	○	○	○
Interconnecting Kits																							
50Qmm G 7pol 10m	094-000579-00002	●		●																			
70Qmm W 7pol 10m	094-000406-00032	●		●										●					●		●		
95Qmm W 7pol 10m	094-000407-00032	●			●											●							
70Qmm W 19pol 10m	094-009082-00032	●											●										
70Qmm W 7pol 10m	094-000406-00002	●																					
70Qmm G 19pol 10m	094-011063-00032	●				●	●			●	●												
95Qmm G 19pol 10m	094-011091-00032	●							●						○								
95Qmm W 7pol 1m	094-000407-00032	●																			●		
70Qmm G 7pol 10m	094-000580-00032	●																●					
Work Return Lead																							
WK25Qmm-4M/K	092-000016-00000	●	●																				
WK50Qmm-4M/K	092-000003-00000	●		●													●			●			●
WK70Qmm-4M/K	092-000013-00000	●																●					
Trolleys																							
Trolley 35.2-2	090-008296-00000	●															○						○
ON Trolley 55	092-002700-00000	●								●						●		●					
ON Trolley Picomig	092-000312-00000	●	○	○																			
Trolley 55-5	090-008632-00001	●								●						●	○	●					○
Trolley 55.2-2	090-002700-00000	●																					
Cooling Units																							
Cooling unit 50 U40	090-008598-00502	●															○						
Cooling unit 50-2U40	090-008603-00502	●																○					
Other																							
Hose Bridge	092-007843-00000	●			○	○							○	○		○	○		○	○	○	○	
miniDrive																							
miniDrive WS 10m 70mm <sup>2</sup>	090-005262-01110	●														○	○	○	○	○	○	○	
miniDrive WS 15m 70mm <sup>2</sup>	090-005262-01115	●														○	○	○	○	○	○	○	
miniDrive WS 20m 70mm <sup>2</sup>	090-005262-01120	●														○	○	○	○	○	○	○	

# Binzel MB EVO PRO MIG/MAG welding torch

For easier welding in every position



The MB EVO PRO torch series represents a totally new concept in welding torch design, form and function. The trigger position, trigger design and ball joint construction guarantee optimum balance and comfort in all welding positions.

Air cooled MB EVO PRO welding torches feature the reduced weight BIKOX LW cable assembly, for even better handling and scientifically proven reduced operator fatigue, in all welding positions.

- 1 Proven MB wear parts – for long, economic service life
- 2 Genuine two-component handle – robust and ergonomic
- 3 Optimum trigger position and tapered handle design – for precise predictable handling
- 4 Unique internal geometry for air cooled torches – enabling a cooler grip with maximum mechanical strength
- 5 Low weight BIKOX (LW) – offering weight reduction of up to 34%
- 6 Robust, optimised central connector

Binzel's MB EVO PRO MIG/MAG torch replaces Binzel's GRIP torch for an even better welding experience.

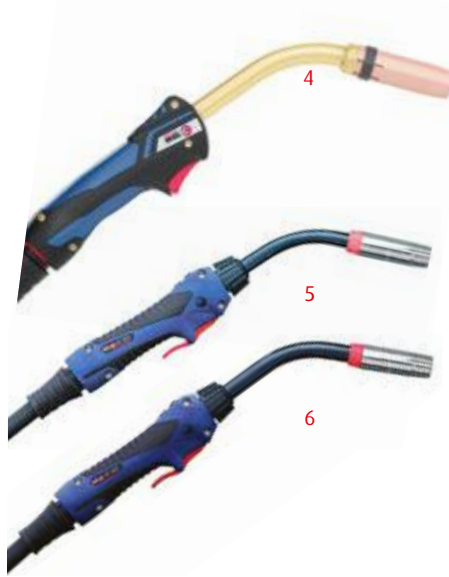
MIG Torches	Cable length	Old Part No.	Evo Pro Part No.
<b>MB EvoPro Torch Range</b>			
MB Evo Pro 15	3 m	002.0604	002.0712.1
	4 m	002.0605	002.0713.1
	5 m	002.0606	002.0714.1
MB Evo Pro 24	3 m	012.0251	012.0371.1
	4 m	012.0252	012.0372.1
	5 m	012.0253	012.0373.1
MB Evo Pro 36	3 m	014.0334	014.0529.1
	4 m	014.0335	014.0530.1
	5 m	014.0336	014.0531.1
MB Evo Pro 501 D	3 m	034.0492	034.0862.1
	4 m	034.0493	034.0863.1
	5 m	034.0494	034.0864.1

Torch Neck	Qty	Old Part No.	Evo Pro Part No.
<b>MB EvoPro Torch Necks</b>			
Torch Neck Evo Pro 15	×1	BP002.0009	BP002.0715.1
Torch Neck Evo Pro 24	×1	BP012.0001	BP012.0374.1
Torch Neck Evo Pro 36	×1	BP014.0006	BP014.0518.1
Torch Neck Evo Pro 501	×1	034.0001	034.0856.1

Sundry	Old Part No.	Evo Pro Part No.
<b>MB EvoPro Torch parts</b>		
Handle	BP180.0127	BP180.0176.1
Trigger	BP185.0101	BP185.0142.1

# MIG Torches



















Binzel Torches



EWM Torches



## MIG Torches

		Cable Length	Part No.	Torch Type	Duty Cycle: Mixed Gases	Cooling	Thread
MB EvoPro Torch Range							
1	MB Evo Pro 15	3 m	002.0712.1	Manual	150 A @ 60 %	Gas-cooled	M6
		4 m	002.0713.1				
		5 m	002.0714.1				
2	MB Evo Pro 24	3 m	012.0371.1	Manual	220 A @ 60 %	Gas-cooled	M6
		4 m	012.0372.1				
		5 m	012.0373.1				
3	MB Evo Pro 36	3 m	014.0529.1	Manual	290 A @ 60 %	Gas-cooled	M8
		4 m	014.0530.1				
		5 m	014.0531.1				
4	MB Evo Pro 501 D	3 m	034.0862.1	Manual	500 A @ 100 %	Liquid-cooled	M8
		4 m	034.0863.1				
		5 m	034.0864.1				
ABIMIG Torch Range							
5	ABIMIG 355 LW turnable	4 m	014.H391.1	Manual	320 A @ 60 %	Gas-cooled	M8
6	ABIMIG ATG 455 LW	4 m	015.D074.1 	Manual	400 A @ 60 %	Gas-cooled	M8
MIG Torches for EWM & Smootharc Elite® Range							
7	MT221G EZA	3 m	094-500075-00000 	Manual	220 A @ 60 %	Gas-cooled	M6
8	MT301G PC2 EZA	3 m	094-500076-00700 	Manual	300 A @ 60 %	Gas-cooled	M8
		4 m	094-500076-00704 				
		5 m	094-500076-00705 				
9	MT401G EZA	3 m	094-500077-00000 	Manual	400 A @ 35 %	Gas-cooled	M8
		4 m	094-500077-00004 				
8	MT451W EZA	4 m	094-500079-00004 	Manual	450 A @ 100 %	Liquid-cooled	M8
	MT451W PC1	5 m	094-500079-00405 				
	MT451W PC2 EZA	3 m	094-500079-00700 				
		4 m	094-500079-00704 				
		5 m	094-500059-00705 				
8	MT551W EZA	5 m	094-500080-00005 	Manual	550 A @ 100 %	Liquid-cooled	M8
	MT551W PC2 EZA	3 m	094-500080-00700 				
		4 m	094-500080-00704 				
		5 m	094-500080-00705 				
10	MT551WL PC2 EZA (LONG NECK)	5 m	094-500080-20705 	Manual	300 A @ 60 %	Gas-cooled	M8
	EWM PP MT301CG PC2 10M EZA EFEEED	10 m	094-500160-00710 				

# EWM MIG Torch Wear Parts Selection

- Compatible with torch

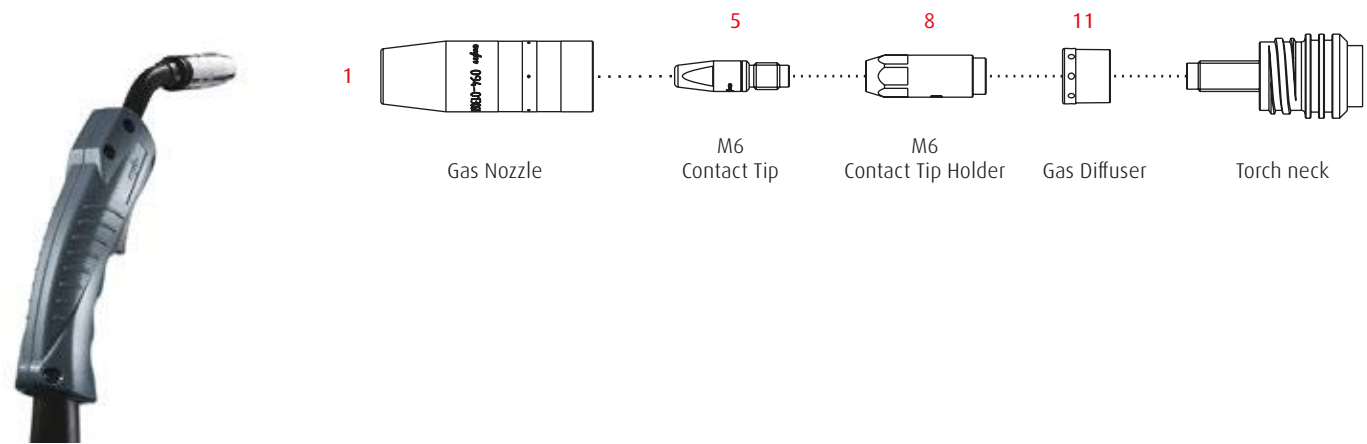
WC Water-cooled

LN Long neck

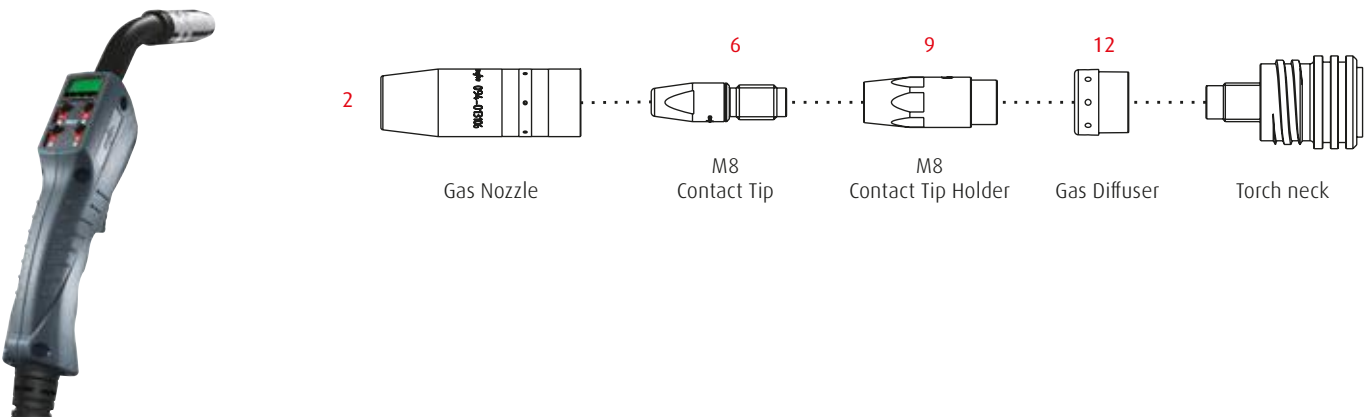
CP Conversion package

			<div>WC Water-cooled</div> <div>LN Long neck</div> <div>CP Conversion package</div>																					
Items			Part no.		<div>MT221G 3M EZA M6</div> <div>094-500075-00000</div> <div>MT301G PC2 EZA 3M M8</div> <div>094-500076-00700</div> <div>MT301G PC2 EZA 4M M8</div> <div>094-500076-00704</div> <div>MT301G PC2 EZA 5M M8</div> <div>094-500076-00705</div> <div>MT401G EZA 3M M8</div> <div>094-500077-00000</div> <div>MT401G EZA 4M M8</div> <div>094-500077-00004</div> <div>MT451W EZA M8 3M</div> <div>094-500079-00000</div> <div>MT451W EZA M8 4M</div> <div>094-500079-00004</div> <div>MT451W 3M PC2 EZA M8 WC</div> <div>094-500079-00700</div> <div>MT451W 4M PC2 EZA M8 WC</div> <div>094-500079-00704</div> <div>MT451W 5M PC2 EZA M8 WC</div> <div>094-500079-00705</div> <div>MT551 W 3M PC2 EZA M8 WC</div> <div>094-500080-00700</div> <div>MT551 W 4M PC2 EZA M8 WC</div> <div>094-500080-00704</div> <div>MT551 W 5M PC2 EZA M8 WC</div> <div>094-500080-00705</div> <div>MT551WL PC2 5M EZA M8 LN</div> <div>094-500080-20705</div> <div>MT551W 3M EZA M8</div> <div>094-500080-00000</div> <div>MT551W 5M EZA M8</div> <div>094-500080-00005</div> <div>EWM PP MT301CG PC2 10M</div> <div>EZA EFED 094-500160-00710</div> <div>MT301 G 3M M8</div> <div>094-500076-00000</div>																			
Gas Nozzle																								
1	13 × 66mm MT22X (2 pk)		094-013061-90002																					
	13 × 71mm MT30XG/MT45XW (2 pk)		094-013105-90002																					
2	15 × 71mm MT30X/MT45XW (2 pk)		094-013106-90002																					
	18 × 71mm MT30XG/MT45XW (2 pk)		094-013107-90002																					
3	17 × 66mm MT55X (2 pk)		094-014180-90002																					
	17 × 66mm MT40X/MT55X (10 pk)		094-014180-00001																					
4	Narrow Gap MT401/551W		094-019702-00000																					
Contact Tips																								
5	0.8 M6 8mm		BP140.0051																					
	0.9 M6 8mm		BP140.0169																					
	1.0 M6 8mm		BP140.0242																					
	1.2 M6 8mm		BP140.0379																					
	0.9 M6 8mm Al		BP141.0004																					
	1.0 M6 8mm Al		BP141.0006																					
	1.2 M6 8mm Al		BP141.0072																					
6/7	0.9 M8		BP140.0214																					
	1.2 M8		BP140.0442																					
	1.6 M8		BP140.0587																					
	1.2 M8 Al		BP141.0015																					
	1.6 M8 Al		141.0022																					
Contact Tip Holders																								
8	Tip Holder MT22X (2 pk)		094-013069-90002																					
9	Tip Holder MT30X/MT45XW M8 (2 pk)		094-013109-90002																					
10	Tip Holder MT40X/MT55XW M8X3 (2 pk)		094-015489-90002																					
Gas Diffuser																								
11	Gas Distributor GV. MT22X (2 pk)		094-013094-90002																					
12	Gas Distributor GV. MT30X/35X/45X (2 pk)		094-013096-90002																					
13	Gas Distributor GV. MT40X/MT55X (2 pk)		094-013111-90002																					
	Gas Distributor GV. MT40X/MT55X (10 pk)		094-013111-00001																					
Insulated Liners																								
		with	for wire																					
	1.5/4.0 Blue	nipple	0.6-0.8mm 3m	BP124.0011																				
	1.5/4.0 Blue	nipple	0.6-0.8mm 4m	BP124.0012																				
	2.0/4.0 Red	nipple	0.9-1.2mm 3m	BP124.0026																				
	2.0/4.0 Red	nipple	0.9-1.2mm 4m	BP124.0031																				
	2.0/4.5 Red	nipple	0.9-1.2mm 5m	BP124.0035																				
	2.4/5.5 Yellow	nipple	1.6-2.0mm 3m	P124.0041																				
PTFE Liner																								
		with	for wire																					
	1.5/4.0 Blue	collett, o-ring	0.6-1.0 3m	BP126.0005																				
	1.5/4.0 Blue	collett, o-ring	0.6-1.0 4m	BP126.0008																				
	2.0/4.0 Red	collett, o-ring	1.0/1.2 4m	BP126.0026																				
	2.0/4.0 Red	collett, o-ring	1.0/1.2 3m	BP126.0021																				
	2.0/4.0 Red	collett, o-ring	1.0/1.2 5m	BP126.0028																				
Brass Liner																								
	Used with PTFE liners 200mm (5 pk)		094-013078-00000 / BP129.0461																					
	Liner retention nut (M10 pk) (10 pk)		094-001080-00000																					
	Collet chuck for liner		094-001291-00000 / 131.0001																					

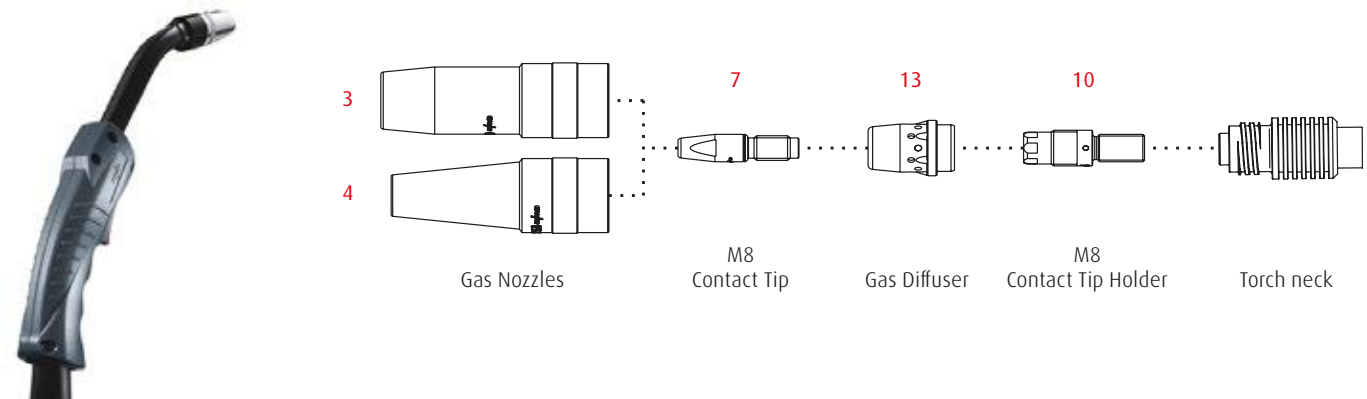
### Consumable Breakdown for MT221G



### Consumable Breakdown for MT301 and MT451W



### Consumable Breakdown for MT401G and MT551W





# MIG Machines, Torches and Accessories Selection

## Smootharc Advance® and MagMate® Ranges

● Fitted with machine

○ Optional - purchased separately

\*1 Discontinued

		Smootharc Advance*										Smootharc				MagMate*	
		200C*1 ADVANCE200C	275C*1 ADVANCE275C	200C ADVANCEII200C	250C ADVANCEII250C	275R*1 ADVANCE275R	350R*1 ADVANCE350R	250R ADVANCEII250R	400R ADVANCEII400R	BOC180MIG*1 BOC180MIG	181 MIG BOC181MIG	BOC175Multi*1 BOC175MULTI	180 Multiprocess BOC180MULTI	Multiprocess 250 BOC250MULTI	MIG150*1 MAGMIG150	MIG145 MAGMIG145	
Items	Part No.																
Binzel Torches																	
MB15AK Grip 3M*1	002.0604									●	●	●	●		●		
MB24KD Grip 3M*1	012.0251	○		●						○	○	○	○		○		
MB24KD Grip 4M*1	012.0252	●								○	○	○	○		○		
MB36KD Grip 3M*1	014.0334				●			●						●			
MB EvoPro 15	3m									○	○	○	○		○		
	4m									○	○	○	○		○		
	5m									○	○	○	○		○		
MB Evo Pro 24	3m			○													
	4m			○													
	5m			○													
MB Evo Pro 36	3m				○									○			
	4m				○									○			
	5m				○									○			
MB Evo Pro 501	3m																
	4m																
	5m																
ABIMIG 355 4M turnable Air-cooled	014.H391.1		○			○	●										
ABIMIG ATG 455 LW 4M	015.D074.1								●								
MIG torch 150A 2.2m	R-11-03-0101-38-00															○	
Wire Feeder																	
BOC Smootharc Advance* 4 roll feeder	ADVANCEFEED					●	●										
Feed roll kits																	
0.6-0.8mm for steel & stainless steel	R-12-020701-15-00									●	●	●	●				
0.8-0.9 mm for aluminium	R-12-020702-31-00									○	○	○	○				
0.9-1.0 mm for aluminium (U-grove)	R-12-020702-46-00									●	●	●	●				
0.8-0.9 mm for FCAW	R-12-020703-05-00									○	○	○	○				
0.6-0.8 for steel and stainless steel	R-12-020702-04-00														●		
0.6-0.8mm for aluminium	R-12-020702-17-00														○		
0.6-0.8mm for Steel & Stainless steel	ADVANCEVROL0608	●	●	●	●	●	●	●	●					●			
0.9-1.0mm for Steel & Stainless steel	ADVANCEVROL0910	●	●	●	●	●	●	●	●					●			
1.0-1.2mm for Steel & Stainless steel	ADVANCEVROL1012	●	●		●	●	●	●	●					●			
0.8-0.9mm knurled for cored wire	ADVANCEKNROL0809	●	●	●	●	●	●	●	●					●			
1.0-1.2mm knurled for cored wire	ADVANCEKNROL1012	●	●		●	●	●	●	●					●			
0.8-0.9mm U groove for Al	ADVANCEUROL0809	●	●	●	●	●	●	●	●								
1.0-1.2mm U groove for Al	ADVANCEUROL1012	●	●		●	●	●	●	●					●			
Interconnecting Kit																	
1m interconnect cable	R-52-3501-00-A0					●	●	●									
10m interconnect cable	R-52-3510-00-A0					●	●	●									
1m interconnect cable	R-52-5001-00-A0								●								
10m interconnect cable	R-52-5010-01-A0								●								
Trolley																	
Multipurpose cart	400840														○		
Regulator																	
BOC 6000 CO2 regulator	105207	○	○	○		○	○			○	○	○	○		○		
TIG Torch																	
TIG Torch 17 Series 4M valve	BOC17RV4M											●					
TIG Torch 180 Multiprocess	R-11-010102-35-00												●				
Gas Hose																	

# Binzel MIG Torches and Wear Parts Selection

## Consumable Breakdown for Abicor Binzel MIG Torches

	MB Evo Pro 15	MB Evo Pro 24	MB Evo Pro 36	MB Evo Pro 501 D	ABIMIG 355 LW	ABIMIG 455 LW
Nozzle Conicals						
Contact Tips						
Contact Tip Holders						
Nozzle Springs/ Diffusers						
					Neck Liner	

# Binzel MIG Torches and Wear Parts Selection





















● Compatible with torch



































\*1 Discontinued

Items	Part no.	Binzel MB Grip 15AK Air-cooled*1	Binzel MB Grip 24KD Air-cooled*1	Binzel MB Grip 36KD Air-cooled*1	Binzel MB Grip 501 D Water-cooled*1	Binzel MB Evo Pro 15 Gas-cooled	Binzel MB Evo Pro 24 Gas-cooled	Binzel MB Evo Pro 36 Gas-cooled	Binzel MB MB Evo Pro 501 D Liquid-cooled	Binzel ABIMIG 355LW Gas-cooled	Binzel ABIMIG ATG 455 LW
Swan Necks											
MB 15 AK	BP002.0009	●									
MB Evo Pro 15, 50°bent	BP002.0715.1	●				●					
MB Evo Pro 24, 50°bent	BP012.0374.1		●				●				
MB Evo Pro 36, 50°bent	BP014.0518.1			●				●			
MB Evo Pro 501 D 50°bent	034.0518				●				●		
ABIMIG 355 45°bent	014.H423.1									●	
ABIMIG 455 45°bent	016.H403.1										●
Contact Tip Holders (2 pk)											
M6 for MB15AK	BP002.0078	●				●					
M6 for MB24KD	BP142.0003		●				●				
M6 for MB36KD	BP142.0005			●				●			
M8 for MB36KD	BP142.0020			●				●			
M8	BP016.D155				●				●		
M8	BP014.D745									●	
M8	BP142.0022										●
Nozzle Spring (2 pk) (not supplied with BP002.0078)	BP002.0058	●				●					
Contact tip holder	BP141.0008			●	●			●	●	●	●
Contact Tips (10 pk)											
0.6 M6 6mm	BP140.0008	●				●					
0.8 M6 6mm	BP140.0059	●				●					
0.9 M6 6mm	BP140.0177	●				●					
1.0 M6 6mm	BP140.0253	●				●					
0.9 M6 6mm Al	BP141.0005	●				●					
0.8 M6 8mm	BP140.0051		●				●				
0.9 M6 8mm	BP140.0169		●				●				
1.0 M6 8mm	BP140.0242		●				●				
1.2 M6 8mm	BP140.0379		●				●				
0.8 M6 8mm Al	BP141.0001		●				●				
0.9 M6 8mm Al	BP141.0004		●				●				
1.0 M6 8mm Al	BP141.0006		●				●				
1.2 M6 8mm Al	BP141.0072		●				●				
0.9 M6 8mm Ccz	BP140.0172		●				●				
0.8 M8	BP140.0114			●	●			●	●	●	●
0.9 M8	BP140.0214			●	●			●	●	●	●
1.0 M8	P140.0313			●	●			●	●	●	●
1.2 M8	BP140.0442			●	●			●	●	●	●
1.6 M8	BP140.0587			●	●			●	●	●	●
1.2 M8 CuCrZr	BP140.0445			●	●			●	●	●	●
1.0 M8 Al	BP141.0008			●	●			●	●	●	●
1.2 M8 Al	BP141.0015			●	●			●	●	●	●
1.6 M8 Al	P141.0022			●	●			●	●	●	●
Gas Nozzles (2 pk)											
Conical 12mm	BP145.0075	●				●					
Cylindrical 16mm	P145.0041	●				●					
Conical 12.5mm	BP145.0080		●				●				
Cylindrical 17mm	BP145.0047		●				●				
Tapered 14mm	BP145.0126			●				●			
Conical 16mm	BP145.0078			●				●			
Cylindrical 19mm	BP145.0045			●				●			
Conical 16mm	BP145.D022									●	
Conical 18mm	BP145.D021									●	
Cylindrical 21mm	BP145.D024									●	

Items	Part no.	Binzel MB Grip 15AK Air-cooled <sup>1</sup>	Binzel MB Grip 24KD Air-cooled <sup>1</sup>	Binzel MB Grip 36KD Air-cooled <sup>1</sup>	Binzel MB Grip 501 D Water-cooled <sup>1</sup>	Binzel MB Evo Pro 15 Gas-cooled	Binzel MB Evo Pro 24 Gas-cooled	Binzel MB Evo Pro 36 Gas-cooled	Binzel MB MB Evo Pro 501 D Liquid-cooled	Binzel ABIMIG 355LW Gas-cooled	Binzel ABIMIG ATG 455 LW
Tapered 13mm	BP145.D243										•
Conical 16mm	BP145.D244										•
Cylindrical 24mm	BP145.D249										•
Conical 14mm	P145.0132				•				•		
Conical 16mm	BP145.0085				•				•		
Cylindrical 20mm	BP145.0051				•				•		
Gas Diffuser (2 pk)											
White Standard	BP012.0183		•				•				
White Standard	BP014.0261			•				•			
Black Long Life	BP014.0026			•				•			
Ceramic	BP014.0023			•				•			
White Standard	BP030.0145				•				•		
Insulated Liners											
Blue for wire 0.6-0.9 mm	3m BP124.0011	•	•	•		•	•	•		•	
	4m BP124.0012	•	•	•		•	•	•		•	
Red for wire 0.9-1.2 mm	3m BP124.0026	•	•	•		•	•	•		•	
	4m BP124.0031	•	•	•		•	•	•		•	
Yellow for wire 1.2-1.6 mm	3m P124.0041			•				•		•	
	4m BP124.0042			•				•		•	
Red for wire 0.9-1.2 mm	5m BP124.D039										•
Non-insulated Liners											
Steel for wire 0.9-1.2 mm	4m 122.0036				•				•		
PTFE Liners For Aluminium											
Blue for wire 0.6-0.9 mm	3m BP126.0005	•	•	•		•	•	•		•	
	4m BP126.0008	•	•	•	•	•	•	•	•	•	
Red for wire 0.9-1.2 mm	4m BP126.0026		•	•	•	•	•	•	•	•	
Red for wire 1.0-1.2 mm	3m BP126.0021		•	•			•	•		•	
	4m BP126.0031		•	•	•		•	•	•	•	
Carbon PTFE Liners Long Life for Aluminium											
Black for wire 0.6-0.9 mm	3m BP127.0002	•	•	•	•	•	•	•	•	•	
	4m BP127.0003	•	•	•	•	•	•	•	•	•	
Black for wire 0.9-1.2 mm	3m BP127.0005	•	•	•	•	•	•	•	•	•	
	4m BP127.0007	•	•	•	•	•	•	•	•	•	
Black for wire 1.2-1.6	4m BP127.0012			•	•			•	•	•	
Swan Neck Liner											
Neck Liner for ABIMIG 355 0.9-1.2	122.D038									•	
Neck Liner for ABIMIG 455 0.9 -1.2	BP122.D077										•
Neck Liner for ABIMIG 455 1.6	BP122.D078										•
Brass Spiral 0.9-1.6mm used with PTFE liners	BP001.0305	•	•	•	•	•	•	•	•	•	
Front End Kit											
Front End Kit MB15AK	BP002.0000	•				•					
Front End Kit MB24KD	BP012.0000		•				•				
Front End Kit MB36KD	BP014.0000			•				•			
Accessories											
Collet for liner	131.0001	•	•	•	•	•	•	•	•	•	•
O-ring 3.5 × 1.5mm	165.0008	•	•	•	•	•	•	•	•	•	•
Brass guide tube for Al liners (200mm)	P129.0461	•	•	•	•	•	•	•	•	•	•
Spanner	BP191.0001	•	•	•		•	•	•		•	
Gas Flow Meter L/Min	BP191.0003										
Alu Wire Kit 1.0/1.2mm 3m	BP141.K123	•	•	•	•	•	•	•	•	•	
Alu Wire Kit 1.0/1.2mm 4m	BP141.K124	•	•	•	•	•	•	•	•	•	
Head Insulator MB15AK	BP002.0050	•				•					

## Other Torch Wear Parts

Description	Part No.
Tweco® compatible parts*	
Contact Tip 0.6mm Mini (5 pk)	B11/23
Contact Tip 0.8mm Mini (5 pk)	B11/30
Contact Tip 0.9mm Mini (5 pk)	B11/35
Contact Tip 1.0mm Mini (5 pk)	B11/40
Contact Tip 1.2mm Mini (5 pk)	B11/45
Contact Tip 0.6mm T2 (5 pk)	B14/23 
Contact Tip 0.8mm T2 (5 pk)	B14/30
Contact Tip 0.9mm T2 (5 pk)	B14/35
Contact Tip 1.0mm T2 (5 pk)	B14/40 
Contact Tip 1.2mm T2 (5 pk)	B14/45
Contact Tip 1.2mm Al (5 pk)	B14AH364
Contact Tip H/D 0.9mm T4 (5 pk)	B14H/35
Contact Tip H/D 1.0mm T4 (5 pk)	B14H/40 
Contact Tip H/D 1.2mm T4 (5 pk)	B14H/45
Contact Tip H/D 1.6mm T4 (5 pk)	B14H/116
Contact Tip H/D 2.0mm T4 (5 pk)	B14H/564
Contact Tip H/D 1.6mm T5 (5 pk)	B15H/116
Contact Tip H/D 0.9mm T5 (5 pk)	B15H/35 
Contact Tip H/D 1.2mm T5 (5 pk)	B15H/45
Contact Tip H/D 1.2mm F/C T5 (5 pk)	B15HFC/45
Contact Tip 0.9mm Trpd (5 pk)	B14T/35
Contact Tip 1.2mm Trpd (5 pk)	B14T/45
Contact Tip 1.6mm Trpd (5 pk)	B14T/116
Nozzle Insulator Adj T2 (2 pk)	B32
Nozzle Insulator Adj T2/T4 (2 pk)	B34A
Nozzle Insulator C/Thread T2/T4 (2 pk)	B34CT
Nozzle Insulator C/Thread T5 (2 pk)	B35CT 
Conduit 0.8-0.9mm WIRE N0.1	B35/40/15 
Conduit 0.8-0.9mm	B42/3035 
Conduit 1.0-1.2mm	B42/4045 
Conduit 0.9 To 1.2mm Wire 15Ft	B42N/3545
Conduit 1.6mm	B44/116
Conduit 0.9-1.2mm	B44/3545
Conduit 2.0mm	B44/564
Conduit 0.9-1.2mm Nylon	B44N/3545 
Conduit 1.6mm Nylon	B44N/116
Conduit 2.0mm	B45/564 
Gas Diffuser Mini Gun (2 pk)	B35/50 
Diffuser Standard T2 (2 pk)	B52
Diffuser Standard T4 (2 pk)	B54A
Diffuser Gas No 5 Torch (2 pk)	B55H 
Diffuser for 1.6-2.8 Liners T5 (2 pk)	B55 
Nozzle Mini 13mm Ins Fixed (2 pk)	B21/50/F 
Nozzle Standard 12.7mm Mini (2 pk)	B21/50 
Nozzle Standard Adj 12.7mm T2 (2 pk)	B22/50
Nozzle Standard Adj 12.7mm T4 (2 pk)	B24A/50 
Nozzle Standard Adj 15.9mm T4 (2 pk)	B24A/62
Nozzle Adj H/D 15.9mm T4 (2 pk)	B24AH/62 
Nozzle No4 10mm Trpd Short Stop (2 pk)	B24AT/37/SS 
Nozzle 13mm CT S (2 pk)	B24CT/50S 
Nozzle 16mm Ct R (2 pk)	B24CT/62/R 

Description	Part No.
Nozzle 16mm Ct S (2 pk)	B24CT/62/S
Nozzle 19mm Ct S (2 pk)	B24CT/75/S 
Nozzle C/Thread 15.9mm T5 (2 pk)	B25CT/62 
Nozzle 25CT/75 19mm CT (2 pk)	B1925CT/75 
Kemppi™ compatible parts*	
Contact Tip M6 0.9mm (5 pk)	B9876633
Contact Tip M6 0.6mm (5 pk)	B9876634
Contact Tip M6 0.8mm (5 pk)	B9876635 
Contact Tip M6 1.0mm (5 pk)	B9876636
Contact Tip M6 1.2mm (5 pk)	B9876637 
Contact Tip M8 0.8mm (5 pk)	B9580122 
Contact Tip M8 0.9mm (5 pk)	B9580121
Contact Tip M8 1.0mm (5 pk)	B9580123 
Contact Tip M8 1.2mm (5 pk)	B9580124
Contact Tip M8 1.4mm (5 pk)	B9580125
Contact Tip M8 1.6mm (5 pk)	B9580126
Contact Tip M8 1.2mm Aluminium (5 pk)	B9580124A 
Contact Tip Adapter Bmg17/20/25 (2 pk)	B9580173
Contact Tip Adapter M8 Mg42I (2 pk)	B426964001 
Contact Tip Adaptor	B4295740
Contact Tip Adapter M6 Pmt273230W (2 pk)	B4294890 
Contact Tip Adapter MG 38 / 42 (2 pk)	B4255420 
Nozzle Gas Bmg20/25 (2 pk)	B9580101
Nozzle Gas Bmg32 (2 pk)	B4259120 
Nozzle Gas Bmg38/42 (2 pk)	B4255530
Gas Nozzle L70 Pmt273230W (2 pk)	B4294970 
Nozzle (2 pk)	B4295760
Gas Diffuser	B4294880
Conduit Steel 0.6-0.8mm Bmg17 2.5M	B4188578 
Conduit Steel 0.6-0.8mm Bmg/Kmg/Pmt 3M	B4188571 
Conduit Steel 0.9-1.2mm Red Bmg/Pmt 4M	B4188582 
Conduit Teflon 0.9-1.2mm Bmg/Kmg/Pmt 3M	B4188521 
Liner Steel 0.6-0.8mm 3M White Mg17I	B4188579 
Liner Steel 0.9-1.2mm 3M Red Mg17I	B4188589 
Liner 0.9-1.2mm 4M Red Mg25I Mg42I	B4188587 
Liner 1.4-1.6mm 4M Yellow Mg25I Mg42I	B4188590 
Insulating Bush Bmg38/42 (2 pk)	B4248710 
Insulating Ring Pmt30 -40 (2 pk)	B4270290 
Insulating Ring Bmg17/20/25 Pmt25 (2 pk)	B9591010
Insulating Ring Bmg20/25 (2 pk)	B9591079
Bernard™ compatible parts*	
E-Z Head Assembly (2 pk)	B4335PK 
Head Assembly 350/400/550A Short Tip (2 pk)	B4435 
E-Z Nozzle 300A Brass (2 pk)	B4391PK 
E-Z Tip 0.9mm (5 pk) (B7489)	B7459 
Contact tip 1.2mm short (5 pk)	B7490PK 
E-Z Nozzle Brass (2 pk)	B4392PK 
Bernard Contact Tip 1.6mm Short (5 pk)	B7491 
Bernard Contact Tip 1.0mm Short (1 pk)	B7496PK 
Nozzle & Insulator 400A (2 pk)	B4491PK 
Nozzle Insulator 400A (2 pk)	B4492PK 
Steel liner suits 400/500A 1.2/1.6mm – 4.6m	B44215 

\*Tweco® is owned by Esab. Bernard™ is a member company of ITW welding. The advertised parts listed above are not manufactured or endorsed by Esab, Kemppi™ or ITW welding.



## Welding Accessories

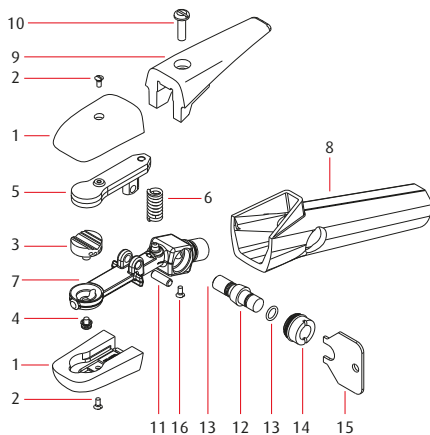


### BOC Gouging Torch

Torch air arc K4000 7ft 1000A

Part No. **BOC4000**

### BOC Gouging Torch parts



Description	Part No.
Complete Torch (assembled)	<b>BOC4000</b>
1 Insulator Assembly	<b>4001-04</b>
2 Screw for Insulator Assembly	<b>3450-02</b>
3 Head Assembly	<b>3450-03</b>
4 Screw for Head Assembly	<b>3450-04</b>
5 Upper Arm	<b>3450-05</b>
6 Spring	<b>3450-06</b>
7 Body	<b>4007-04</b>
8 Handle	<b>4008-04</b>
9 Lever Assembly (with Screws)	<b>4009-04</b>
10 Screw for Lever Assembly	<b>3450-10</b>
11 Dowel Pin	<b>3450-11</b>
12 Spool Assembly	<b>3450-12</b>
13 O Ring for Spool Assembly	<b>3450-13</b>
14 Bonnet	<b>3450-14</b>
15 Spanner Wrench	<b>3450-15</b>
12-15 Valve Bonnet Assembly	<b>3450-11A</b>
16 Screw	<b>3450-16</b>

**Magnetic Earth/Ground Clamp** → See page 139



### BOC Electrode Holders

Durable quality, fully insulated

Description	Part No.
400A electrode holder – twist	<b>BOC10001</b>
600A electrode holder – twist	<b>BOC10002</b>
300A electrode holder – tong	<b>BOC10051</b>



### BOC Cable Connectors

Carbon steel, heat treated plus nickel and chrome plating

Description	Part No.
300A cable connector	<b>BOC10151</b>
500A cable connector	<b>BOC10153</b>
10/25 male dinse connector	<b>BCP10/25</b>
35/50 male dinse connector	<b>BCP35/50</b>



### Field Fitted Cable Lugs

Description	Part No.
19 mm 500 A	<b>BOC10268</b>
13 mm 300 A	<b>BOC10269</b>



### BOC Crimp Fitted Cable Lugs

Cable Size	Hole Size (mm)	Part No.
25 mm <sup>2</sup>	M13	<b>BOC10263PK</b>
35 mm <sup>2</sup>	M13	<b>BOC10264PK</b>
50 mm <sup>2</sup>	M13	<b>BOC10265PK</b>
70 mm <sup>2</sup>	M13	<b>BOC10266PK</b>
95 mm <sup>2</sup>	M19 (Silver)	<b>BOC10267PK</b>



### BOC Welding Lead Sets

With quality work clamps and electrode holders, these welding lead sets provide a premium option for replacing or upgrading welding leads or for purchase with new machines.

- 5m and 8m leads
- Quality electrode holder and earth clamp
- Super-flex quality welding cable

Description	Part No.
250A Welding Lead Set	<b>BOC10270</b>
350A Welding Lead Set	<b>BOC10271</b>



### BOC Work Clamps

Carbon steel, heat-treated plus nickel and chrome plating

Description	Part No.
200A spring loaded work clamp	<b>BOC10101</b>
300A spring loaded work clamp	<b>BOC10103</b>
500A spring loaded work clamp	<b>BOC10105</b>
600A spring loaded work clamp	<b>BOC10106</b>



### G-Clamp Earth T-Bar

Description	Part No.
500A	<b>BOC10107</b>



## BOC Premium Welding Cable

- Oxygen free for consistently higher quality
- High conductivity, double insulated
- Highly flexible and durable
- Australian made
- Manufactured to AS/NZS 5000.1-0.6/1 Kv

Cable Size	Spool Length	Part No.
16 mm <sup>2</sup>	3 m	BOC16/3
	5 m	BOC16/5
25 mm <sup>2</sup>	3 m	BOC25/3
	5 m	BOC25/5
	10 m	BOC25/10
35 mm <sup>2</sup>	3 m	BOC35/3
	5 m	BOC35/5
	10 m	BOC35/10
50 mm <sup>2</sup>	3 m	BOC50/3
	5 m	BOC50/5
	10 m	BOC50/10



## BOC Cam Type Welding Gauge

- High quality stainless steel
- Suitable for a wide range of welding measurements

Part No. **MG-8**



## BOC Hand Wire Brush

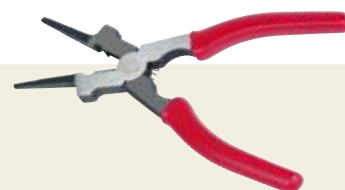
- High quality construction

Description	Part No.
4 row straight – mild steel	BOC10257
4 row straight – stainless steel	BOC10258

## BOC Welding Fillet Gauge

- Economical welding gauge to measure leg length and throat thickness

Part No. **BOCGAUGE**



## BOC MIG Welding Pliers 200 mm → See page 138

## Welding Cable

Long lengths on Spools



Description	Part No.
16 mm <sup>2</sup> × 150m	WC16
25 mm <sup>2</sup> × 150m	WC25
35 mm <sup>2</sup> × 100m	WC35
50 mm <sup>2</sup> × 100m	WC50
70 mm <sup>2</sup> × 50m	WC70



## BOC Chipping Hammers

- Shock resistant

Description	Part No.
Spring handle	BOC10251
Rubber handle	BOCTM80018



## Multi-purpose trolley cart

- Suits small to medium welding machines

Part No. **400840**



## Cooling Unit 50 U40

- Cooling unit for water-cooled welding torches
- For compact machines (TKM)
- Modular design, tool-free assembly

Specifications	
Part No.	090-008598-00502
Cooling capacity 1 L/min	100 W
Max. flow rate	5 L/min
Max. output pressure	3.5 bar
Tank capacity	4.0 L



## Cooling Unit COOL 50-2U40

EWM cooling unit for Phoenix 405 puls MM TDM and 505 puls MM TDM as well as Taurus 355 TDM, 405 TDM and 505 TDM

Specifications	
Part No.	090-008603-00502
Cooling capacity 1 L/min	100 W
Max. flow rate	5 L/min
Max. output pressure	3.5 bar
Tank capacity	4.0 L



## Trolley 55-5

- Transport cart for power source, cooling unit and a gas cylinder
- For Picomig 185/305 D3, Phoenix/Taurus 355/405/505 and Tetrix 230/300-2
- Comes as a flat pack

Part No. **090-008632-00001**

## Metal Treatment Chemicals



### BOC Smootharc Stainless Steel Pickling Gel

BOC Smootharc Pickling Gel is an Australian made product used to remove the heat tint discoloration and black weld scale left following the welding of stainless steel. Effective for use after MIG, TIG or Stick Electrode welding. Pickling provides superior corrosion protection to grinding or sandblasting.

- Strong formula
- Advanced technology ASTM a380 compliant formulation
- Superior packaging and customer information
- Extensive range
- Faster, more effective pickling to improve fabrication efficiency
- Superior gel adhesion allows use on vertical and overhead surfaces – will not run over surface, even in hot weather
- Free acid resistant application brush aids correct use during fabrication and worker safety

#### Specifications

BOC Smootharc Pickling Gel contains 50g/L hydrofluoric acid and 300g/L nitric acid – refer to Technical Data and Material Safety Data Sheet (SDS).

Description	Part No.
Pickling Gel 1 kg*	1107/30
Pickling Gel 2.5 kg*	1107/78
Pickling Gel 25 kg*	1107/51
Pickling Solution 20L*	1117/51
Brush (Red plastic)	24/012

**IMPORTANT NOTE** – These \* items are classified as **HAZARDOUS SUBSTANCE, DANGEROUS GOODS** according to the Criteria of NOHSC and the ADG Code. Please refer to SDS and Technical Data Sheet before use.

### BOC Smootharc

Prevents weld spatter from adhering to metal surfaces and welding components during the welding process. Ideal for steels, aluminium and alloys. Non-flammable, paintable formula produces uniform spray without bubbles.

Description	Part No.
<b>Heavy-Duty Anti-Spatter Spray</b>	
500 ml Aerosol*	1477/500
<b>Anti-Spatter (Water Based) Spray</b>	
750 ml Trigger Pack	1407/28
5L Refill Bottle	1407/42
20L Square Refill Container	1407/51
Empty 500 ml Trigger Pack	1407/500
200L Container	1407/64
<b>Stainless Steel Passivating Gel</b>	
2.5 (kg)	1137/78
<b>Anti-Spatter (Water Based) Gel</b>	
400 g Nozzle Dip Gel	1467/400

### Silver Zinc Guard

A fast drying, high solids, and high performance epoxy zinc-rich coating designed to protect steel against corrosion and at the same time impart a silver appearance to the overall finish.

Ideal for touching up and hiding welded joints on metal structures.

Suitable on all types of ferrous (mild and heavy gauge steel) substrates.

- Zinc purity is 98%
- 65% Zinc content in Dry Film
- Complies to ASTM A780/780M
- 2-in-1 Protect and match in one easy step



Part No.	1481/400
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### BOC Smootharc Aluminium Brightener and Cleaner

BOC Smootharc Aluminium Brightener and Cleaner is an Australian made product designed to quickly remove atmospheric corrosion, road grime and soils from all aluminium surfaces. Commonly used to deoxidise and brighten transport vehicles, boat hulls, aluminium sidings and road-tankers. It can also be used to prepare an aluminium surface before welding, and to remove weld scale and burn marks. Not to be used on polished surfaces. Effective for removing rust stains from stone and cement materials.

#### Features

- Strong formula
- Fast acting
- Completely water rinsable
- Water dilutable
- Fast, effective cleaning to improve fabrication efficiency
- Usually only a 5 minute dwell time is required
- Leaves no residue after rinsing
- Adjust concentration for specific degree of soiling and corrosion

#### Specifications

BOC Smootharc Aluminium Brightener and Cleaner contains sulphuric acid 208g/L and ammonium bifluoride 79g/L – refer to Technical Data and Safety Data Sheet (SDS).

Description	Part No.
5 litre	1307/42
20 litre	1307/51

### BOC Smootharc Neutralising Solution

BOC Smootharc Pickling Gel is an Australian made product used to remove the heat tint discoloration and black weld scale left following the welding of stainless steel. Effective for use after MIG, TIG or Stick Electrode welding. Pickling provides superior corrosion protection to grinding or sandblasting.

- Contains an in-built acid/base indicator
- Neutralises acidic products
- Extensive range
- Low cost
- Provides a visual confirmation of neutralisation
- Aids trade waste compliance and safe handling
- Pack size available for small or large users
- Cost effective

#### Specifications

BOC Smootharc Neutralising Solution is an alkaline agent which is non-regulated under the Australian Dangerous Goods Code – refer to Technical Data and Safety Data Sheet (SDS).

Description	Part No.
20 litre	1157/51

## Plasma Cutting and Plasma Torches



18-MONTH CONDITIONAL WARRANTY

### Smoothcut Plasma 100

- Medium to heavy industrial use
- Three phase plasma cutter
- Delivers quality smooth cut of up to 30 mm mild steel
- Double insulated torch trigger prevent accidental start up
- Compressor required
- Generator 18 kVa

#### Package consists of:

- Power source
- Plasma torch
- Work return lead and clamp
- Air pressure regulator
- Air hose and connectors
- Operating manual

Part no. **CUT100B** 

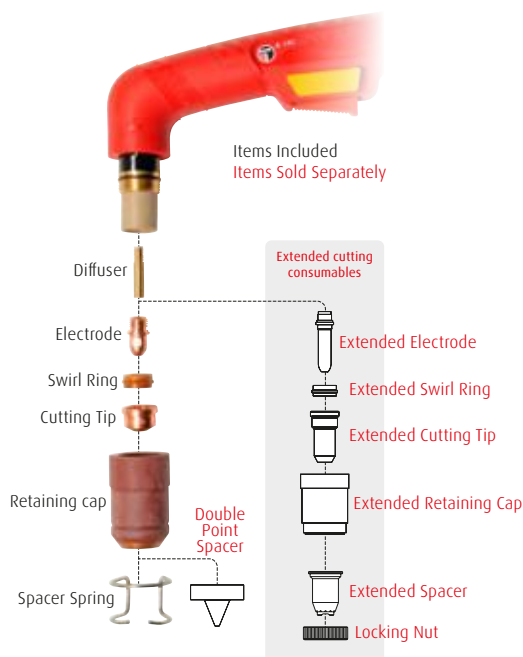
18-MONTH CONDITIONAL WARRANTY

### Smoothcut Plasma 40

- Light and DIY industrial use
- Portable and lightweight
- Quality cutting of mild steel up to 9 mm
- Compressor required
- Generator 11 kVa

#### Package consists of;

- Power source
- BOC Plasma 40 torch
- Work return lead
- Air pressure regulator
- Air hose and connectors
- Operating manual

Part no. **CUT40C**

### Trafimet A141 6M Torch

Part no. **PA1504** 

### BOC Plasma Torches

Description	Part No.
BOC Plasma 40 Torch	<b>BOC40/706HTC</b>
BOC Plasma 25 Torch	<b>BOC25/706HT</b>
BOC Smoothcut Pro Plasma Torch 80A 6M	<b>BOC80/706H</b>

# Plasma Torches and Wear Parts

<div>● Comes with torch</div> <div>○ Optional - purchased separately</div> <div>Not to be used</div>		Smoothcut Plasma 100 CUT100	Smoothcut Plasma 100B CUT100B	Smoothcut Plasma 40 CUT40C	MagMate® Cut 25 MAGCUT25
Items	Part No.				
Standard Cutting					
Shield Cup	BOC9/6003			●	●
Cutting Tip	BOC9/6500			●	●
Electrode	BOC9/6506			●	●
Distributor	BOC9/6507			●	●
O-Ring	BOC100/0100	●	●		
Diffuser	BOC100/0302	●			
Diffuser	BOC100/0303		●		
Electrode	BOC100/0400	●	●		
Swirl Ring	BOC100/0500	●	●		
Cutting Tip 1.1 0-50A	BOC100/0600	○	○		
Cutting Tip 1.4 50-80A	BOC100/0601	○	○		
Cutting Tip 1.7 80-120A	BOC100/0602	●	●		
Cutting Tip 1.9 120-140A	BOC100/0603	○	○		
Gouging Tip 3.0	BOC100/0608	○	○		
Retaining Cap	BOC100/0703	●			
Retaining Cap	BOC100/0700		●		
Spacer Spring	BOC100/0901	●	●		
Double Point Spacer	BOC100/0807	○	○		
Extended Cutting					
Extended Electrode	BOC100/0402	○	○		
Extended Swirl Ring	BOC100/0501	○	○		
Extended Cutting Tip 1.1 0-50A	BOC100/0604	○	○		
Extended Cutting Tip 1.4 50-80A	BOC100/0605	○	○		
Extended Cutting Tip 1.7 80-120A	BOC100/0606	○	○		
Extended Cutting Tip 1.9 120-140A	BOC100/0607	○	○		
Extended Retaining Cap	BOC100/0704	○			
Extended Retaining Cap	BOC100/0701		○		
Extended Spacer	BOC100/0803	○	○		
Locking Nut	BOC100/0906	○	○		
Accessories					
Swirl Ring Extractor	BOC100/1000	○	○		
Electrode Wrench	BOC100/1001	○	○		
Complete Cutting Guide	BOC-CP2061	○	○		
Roller Guide	BOC-TJ1511			○	○
Replacement Torch					
BOC PLASMA 40 TORCH	BOC40/706HTC			●	
BOC PLASMA 25 TORCH	BOC25/706HT				●
Trafimet A141 6M Torch	PA1504	○	●		
Trafimet A101 6M Torch	Not available separately	●			



# Consumables

## Important Safety Information

### ⚠ WARNING

**Protect yourself and others. Read and understand this information. Electric shock can kill.**

Welding can give rise to electric shock, excessive noise, eye and skin burns due to the arc rays, and a potential health hazard if you breathe in the emitted fumes and gases.

Over exposure to the fumes and gases can give rise to dryness of the nose, throat and eyes, respiratory irritation and in some cases, longer term health effects such as lung deposits.

**Read all the manufacturer's instructions to achieve the correct welding conditions and ask your employer for the Safety Data Sheets.** (refer to [www.boc.com.au](http://www.boc.com.au) or [www.boc.co.nz](http://www.boc.co.nz)).

For eye protection and body protection, always wear a welding visor with the correct filter lens, and suitable welding gloves and clothing to prevent injury from burns, radiation, sparks, molten metal and electric shock. Wear ear protection when required.

Adequate ventilation to prevent an accumulation of fumes and gases should be used. Where fume levels cannot be controlled below the recognised exposure limits, use local exhaust to reduce fumes and gases. In confined spaces without adequate ventilation, an air fed breathing system should be used; and outdoors a respirator may be required. Precautions for working in confined spaces should be observed. Refer to AS/NZS 2865 'Safe working in a confined space'.

Keep your head out of the fume.

Arc rays and fume can affect others in your workplace.

Comply with your employer's safety practices and procedures; protect others.

Refer to WTIA Technical Note 7 'Health and Safety in Welding'.

Adherence to recognised occupational exposure standards (such as the threshold limit values (TLVs)) for all fume constituents should be observed during use. See the *Safety Data Sheets* for details.

### Alert Symbols - Type of Hazard



Electrical Hazard



Fire Hazard

### Hazard Source Symbols



Welding electrode causing electric shock



Fumes and gases coming from any source



Fumes and gases coming from welding process



Explosion from pressurised gas cylinders



Hot work pieces from welding and cutting; hot mufflers; hot exhaust pipes



Loud noise from engine, machinery and arc



Flying particles from chipping and grinding



Welding arc rays

### Hazard Avoidance Symbols - Precautionary Measure



Become trained



Wear dry, insulated gloves



Insulate yourself from work and ground



Keep head out of fumes



Use forced ventilation or local exhaust to remove fumes



Wear complete body protection



Use welding helmet with correct shade of filter

## Colour Code Explanation

These colour bands appear on BOC consumable packages as an easy reference for indentifying material groups.

Hardfacing  
RED

Mild Steel  
CYAN BLUE

Stainless Steel  
LIME

Low Alloy and  
Silver Brazing Alloy  
PINK

Gouge  
MINT

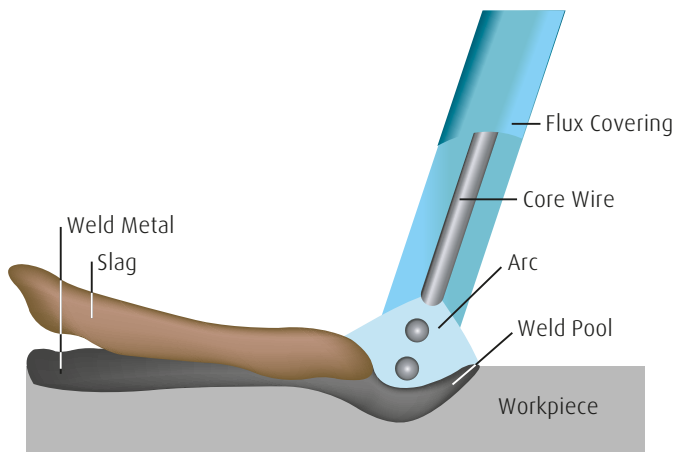
Nickel (Cast FE)  
YELLOW

Aluminium  
PURPLE

Low Hydrogen  
GREEN

Copper  
BROWN

# Fundamentals of Manual Metal Arc (MMA) Welding



## Welding Technique

Successful MMA welding depends on the following factors:

- 1 Selection of the correct electrode
- 2 Selection of the correct size of the electrode for the job
- 3 Correct welding current
- 4 Correct arc length
- 5 Correct angle of electrode to work
- 6 Correct travel speed
- 7 Correct preparation of work to be welded.

## Applications

The MMA process can be used to weld:

- Most steels
- Stainless steels
- Cast irons
- Nickel alloys
- Copper alloys
- Aluminium alloys

MMA is particularly suited to site and external welding applications such as the repair of agricultural equipment.

## Electrode Selection

As a general rule, the selection of an electrode is straight forward, in that it is only a matter of selecting an electrode of similar composition to the parent metal. However, for some metals there is a choice of several electrodes, each of which has particular properties to suit specific classes of work. Often, one electrode in the group will be more suitable for general applications due to its all round qualities.

The table below shows just a few of the wide range of electrodes available from BOC, with their typical areas of application. For example, the average welder will carry out most fabrication using mild steel and for this material has a choice of various standard BOC electrodes, each of which will have qualities suited to particular tasks. For general mild steel work, however, BOC Smootharc 13 electrodes will handle virtually all applications. BOC Smootharc 13 is suitable for welding mild steel in all positions using AC or DC power sources. Its easy striking characteristics and the tolerance it has for work where fit-up and plate surfaces are not considered good, make it the most attractive electrode of its class. Continuous development and improvement of BOC Smootharc 13 have provided in-built operating qualities, which appeal to the beginner and experienced operator alike.

## Electrode Size

The size of the electrode generally depends on the thickness of the section being welded, and the thicker the section the larger the electrode required. In the case of light sheet, the electrode size used is generally slightly larger than the work being welded. This means that, if 2.0 mm sheet is being welded, 2.5 mm diameter electrode is the recommended size.

The following table gives the maximum size of electrodes that may be used for various thicknesses of section.

## Electrodes and Typical Applications

Name	AWS Class.	Application
BOC Smootharc 13	E6013	A premium quality electrode for general structural and sheet metal work in all positions including vertical down using low carbon steels
BOC Smootharc 24	E7024	An iron powder electrode for high speed welding for H-V fillets and flat butt joints. Medium to heavy structural applications in low carbon steels
BOC Smootharc 18	E7018-1	A premium quality all positional hydrogen controlled electrode for carbon steels in pressure vessel applications and where high integrity welding is required and for free-machining steels containing sulphur
BOC Smootharc S 308L	E308L	Rutile basic coated low carbon electrodes for welding austenitic stainless steel and difficult to weld material
BOC Smootharc S 316L	E316L	Rutile basic coated low carbon electrode for welding mild steel to stainless steel and difficult to weld material

### Recommended Electrode Sizes

Average Thickness of Plate or Section	Max. Recommended Electrode Dia.
≤1.5 mm	2.0 mm
1.5–2.0 mm	2.5 mm
2.0–5.0 mm	3.15 mm
5.0–8.0 mm	4.0 mm
≥8.0 mm	5.0 mm

### Welding Current

Correct current selection for a particular job is an important factor in arc welding. With the current set too low, difficulty is experienced in striking and maintaining a stable arc. The electrode tends to stick to the work, penetration is poor and beads with a distinct rounded profile will be deposited.

Excessive current is accompanied by overheating of the electrode. It will cause undercut and burning through of the material, and will give excessive spatter. Normal current for a particular job may be considered as the maximum, which can be used without burning through the work, over-heating the electrode or producing a rough spattered surface (i.e. the current in the middle of the range specified on the electrode package is considered to be the optimum).

In the case, of welding machines with separate terminals for different size electrodes, ensure that the welding lead is connected to the correct terminal for the size electrode being used. When using machines with adjustable current, set on the current range specified. The limits of this range should not normally be exceeded. The following table shows the current ranges generally recommended for BOC Smootharc 13.

### Generally Recommended Current Range for BOC Smootharc 13

Size of Electrode (mm)	Current Range (Amp)
2.5	60–95
3.2	110–130
4.0	140–165

### Arc Length

To strike the arc, the electrode should be gently scraped on the work until the arc is established. There is a simple rule for the proper arc length; it should be the shortest arc that gives a good surface to the weld. An arc too long reduces penetration, produces spatter and gives a rough surface finish to the weld. An excessively short arc will cause sticking of the electrode and rough deposits that are associated with slag inclusions.

For downhand welding, an arc length not greater than the diameter of the core wire will be most satisfactory. Overhead welding requires a very short arc, so that a minimum of metal will be lost. Certain BOC electrodes have been specially designed for 'touch' welding. These electrodes may be dragged along the work and a perfectly sound weld is produced.

### Electrode Angle

The angle that the electrode makes with the work is important to ensure a smooth, even transfer of metal. The recommended angles for use in the various welding positions are covered later.

### Correct Travel Speed

The electrode should be moved along in the direction of the joint being welded at a speed that will give the size of run required. At the same time, the electrode is fed downwards to keep the correct arc length at all times. As a guide for general applications, the table below gives recommended run lengths for the downhand position. Correct travel speed for normal welding applications varies between approximately 100 and 300 mm per minute, depending on electrode size, size of run required and the amperage used. Excessive travel speeds lead to poor fusion, lack of penetration etc, while too slow a rate of travel will frequently lead to arc instability, slag inclusions and poor mechanical properties.

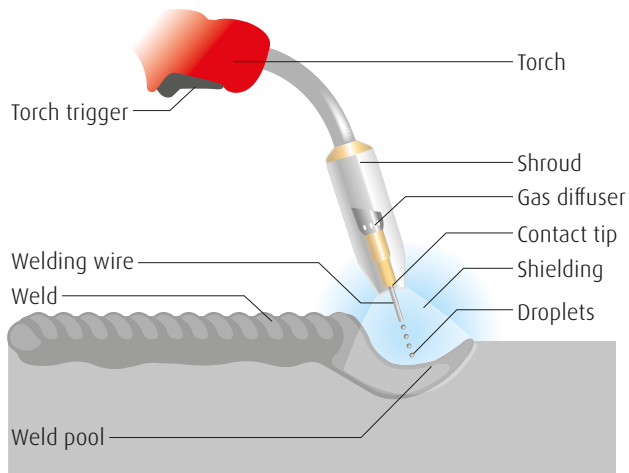
### Run Length per Electrode – BOC Smootharc 13

Electrode Size (mm)	Electrode Length (mm)	Run Length (mm) Min. to Max.
4.0	350	175 to 300
3.2	350	125 to 225
2.5	350	100 to 225

### Correct Work

Preparation The method of preparation of components to be welded will depend on equipment available and relative costs. Methods may include sawing, punching, shearing, machining, flame cutting and others. In all cases edges should be prepared for the joints that suit the application. The following section describes the various joint types and areas of application.

# Fundamentals of Metal Inert Gas (MIG) Welding



## Welding Technique

Successful welding depends on the following factors:

- 1 Selection of correct consumables
- 2 Selection of the correct power source
- 3 Selection of the correct shielding gas
- 4 Selection of the correct application techniques:
  - a Correct angle of electrode to work
  - b Correct electrical stick-out
  - c Correct travel speed
- 5 Selection of the welding preparation.

## Selection of correct consumables

### Chemical composition

As a general rule, the selection of a wire is straightforward, in that it is only a matter of selecting an electrode of similar composition to the parent material. However, there are certain applications for which electrodes will be selected on the basis of mechanical properties or the level of residual hydrogen in the weldmetal. Solid MIG wires are all considered to be of the 'low hydrogen type' consumables.

The following table gives a general overview of some of the BOC range of MIG wires for the most common materials. More detailed selection charts for specific materials can be found in the appropriate materials sections.

### Welding Consumables Selection

Material	Page No
Stainless steel	95
Mild, carbon and low alloy steels	96
Aluminium	98
Quench and tempered steels	98

### Common Materials Welded with BOC MIG Wire

Material	BOC MIG Wire
<b>Mild Steel</b>	
AS2074 C1, C2, C3, C4-1, C4-2, C5, C6	BOC Mild Steel MIG Wire
AS/NZS 3678-9 250, 300, 350, 400	BOC Mild Steel MIG Wire
AS1548-430, 460, 490	BOC Mild Steel MIG Wire
ASTM A36, A106	BOC Mild Steel MIG Wire
<b>Stainless Steel</b>	
Grade 304	BOC Stainless Steel 308LSi
Stainless to Carbon-Mn steels	
Grade 309L	BOC Stainless Steel 309L
<b>Aluminium</b>	
1080	BOC Aluminium MIG 1080
6061, 3004	BOC Aluminium MIG 4043
5005	BOC Aluminium MIG 5356

## Physical condition

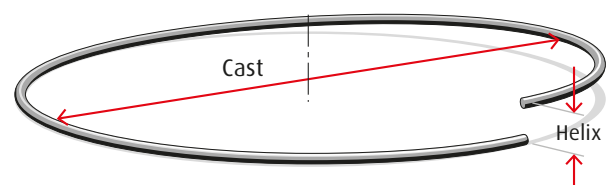
### Surface condition

The welding wire must be free from any surface contamination, including mechanical damage such as scratch marks. A simple test for checking the surface condition is to run the wire through a cloth that has been dampened with acetone for 20sec. If a black residue is found on the cloth, the surface of the wire is not properly cleaned.

### Cast and Helix

The cast and helix of the wire has a major influence on the feedability of MIG wire.

### Cast and Helix



Cast – Diameter of the circle

Helix – Vertical height

If the cast is too small, the wire will dip down from the tip. The result of this is excessive tip wear and increased wear in the liners. If the helix is too large, the wire will leave the tip with a corkscrew effect and cause feeding problems.

### Selection of the Correct Power Source

Power sources for MIG/MAG welding is selected on a number of different criteria, including:

- 1 Maximum output of the machine
- 2 Duty cycle
- 3 Output control (voltage selection, wire feed speed control)
- 4 Portability

The following table gives an indication of the operating amperage for different size wires

Wire Size	Amperage Range (A)
0.8 mm	60–180
0.9 mm	70–250
1.0 mm	90–280
1.2 mm	120–340

### Selection of the Correct Shielding Gas

The selection of the shielding gas has a direct influence on the appearance and quality of the weldbead. The type and thickness of the material to be welded will determine the type of shielding gas that is selected. As a general rule, the thicker the material (C-Mn and Alloy Steels), the higher the percentage of CO<sub>2</sub> in the shielding gas mixture.

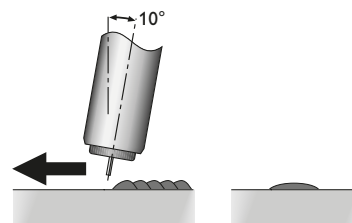
Different grades of shielding are required for materials such as stainless steel, aluminium and copper. The following table gives an indication of the most common shielding gases used for carbon manganese and alloy steels:

Material thickness	Recommended shielding gas
1–8 mm	Argoshield Light
5–12 mm	Argoshield Universal
>12 mm	Argoshield Heavy

### Correct Application Techniques

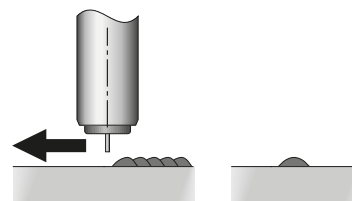
#### Direction of welding

MIG welding with solid wires takes place normally with a push technique. The welding gun is tilted at an angle of 10° towards the direction of welding (push technique).

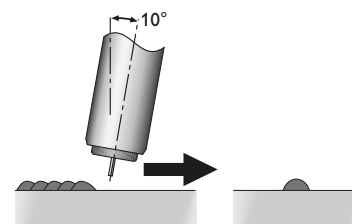


The influence of changing the torch angle and the welding direction on the weld bead profile can be seen below.

Torch perpendicular to workpiece narrow bead width with increased reinforcement.

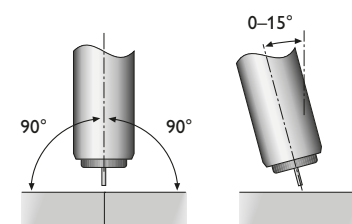


Torch positioned at a drag angle of 10° narrow bead with excessive reinforcement.



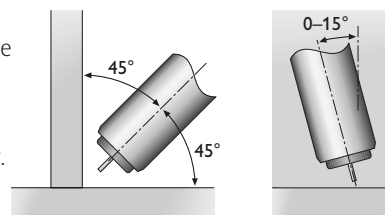
#### Torch position for butt welds

When welding butt welds the torch should be positioned within the centre of the groove and tilted at an angle of  $\pm 15^\circ$  from the vertical plane. Welding is still performed in the push technique.



#### Torch position for fillet welds

When welding fillet welds the torch should be positioned at an angle of 45° from the bottom plate with the wire pointing into the fillet corner. Welding is still performed in the push technique.





# Fundamentals of Flux and Metal Cored Arc Welding

## Welding Technique

Successful flux and metal cored arc welding depends on the following factors:

- 1 Selection of correct consumables
- 2 Selection of the correct power source
- 3 Selection of the correct shielding gas
- 4 Selection of the correct application techniques:
  - a Correct angle of electrode to work
  - b Correct electrical stick-out
  - c Correct travel speed
- 5 Selection of the welding preparation.

## Selection of correct consumables

**Chemical composition** As a general rule, the selection of a wire is straightforward, in that it is only a matter of selecting an electrode of similar composition to the parent material. However, there are certain applications for which electrodes will be selected on the basis of mechanical properties or the level of residual hydrogen in the weldmetal. The classification system for flux cored wires will provide an indication of the residual hydrogen level that can be expected in the weldmetal.

The following table gives a general overview of some of the BOC range of flux and metal cored wires for the most common materials. More detailed selection charts for specific materials can be found in the appropriate materials sections.

## Welding Consumables Selection

Material	Page No
Carbon and Alloy steel castings	97
Quench and tempered steels	98
Mild, carbon and low alloy steels	96

## Common Materials Welded with BOC MIG Wire

Material	BOC MIG Wire
<b>Mild Steel</b>	
AS2074 C1, C2, C3, C4-1, C4-2, C5, C6	BOC SmoothCor 711, SmoothCor 70C6, SmoothCor 715
AS/NZS 3678-9 250, 300, 350, 400	BOC SmoothCor 711, SmoothCor 70C6, SmoothCor 715
AS1548-430, 460, 490	BOC SmoothCor 711, SmoothCor 70C6, SmoothCor 715
ASTM A36, A106, EN8, 8A	BOC SmoothCor 711, SmoothCor 70C6, SmoothCor 715
<b>High Strength Mild Steel</b>	
BS970 EN 43A, AS3597-500	BOC SmoothCor 811K2, BOC SmoothCor Ni1H4
BS970 EN24, AS3597-700	BOC SmoothCor 115
<b>Stainless Steel</b>	
Grade 304	Cigweld Shieldchrome 308LT
Stainless to mild steel	Cigweld Shieldchrome 309LT
Grade 316	Cigweld Shieldchrome 316LT

## Physical condition

### Surface condition

BOC flux and metal cored wires are supplied as an in line baked product and therefore have a typical dark surface appearance. The wire must, however, be free from any surface contamination, including surface rust. Most flux and metal cored wires have a thin film of graphite on the surface of the wire to assist with feedability. BOC SmoothCor wires are supplied in tough vacuum packs to ensure performance as manufactured.

### Cast and Helix

The AWS standard for flux cored wires do not specify a cast or helix, other than to stipulate that it should be of such a nature that the wire can be fed uninterrupted.

## Selection of the Correct Power Source

Power sources for flux and metal cored welding are selected on a number of different criteria, including:

- 1 Maximum output of the machine
- 2 Duty cycle
- 3 Output control (voltage selection, wire feed speed control)
- 4 Portability

The following table gives an indication of the operating amperage for different size wires.

## Current Ranges for FCAW and MCAW

Wire Size (mm)	Direction	Amperage Range (A)
<b>FCAW</b>		
1.2	Horizontal	200–300
1.2	Vertical-up	150–250
1.6	Horizontal	300–400
1.6	Vertical-up	180–250
<b>MCAW</b>		
1.2	Horizontal	150–350
1.6	Horizontal	300–500

## Selection of the Correct Shielding Gas

The selection of the shielding gas has a direct influence on the appearance and quality of the weldbead.

Flux cored wires are manufactured to be welded with either 100% CO<sub>2</sub> or an Argon / CO<sub>2</sub> gas mixture. Mostly, these mixtures will contain 25% CO<sub>2</sub>, as is the case with BOC Argoshield 52.

## Correct Application Techniques

### Direction of travel

Flux cored welding is normally performed using a 'drag' technique. The welding gun is tilted to a 50–60° backhand angle. If, however, a flatter bead profile is required the backhand angle can be reduced. Metal cored wire, because of its similarity to solid wires (no slag formers added to the core mainly metallic powders), are normally welded with the 'push' technique

# Gouging

The arc air gouging process uses the heat generated by an arc struck between the electrode and the workpiece to melt metal, plus a high velocity jet of air to force the melted metal away. Conventional welding power sources are suitable for the process. Electrode holders are designed to provide both the current and the air jet.

The electrodes used are made of carbon covered by a layer of copper. The supply of air is generally provided from a shop compressor.

The main feature of the process is a forceful, piercing arc capable of making deep grooves and cuts.

The process may be used for cutting and removing weld metal in a wide range of ferrous and non-ferrous alloys, although its main use is for cutting carbon and alloy steels.

The main safety issues with the process are electrical concerns, high levels of noise, the ejection of hot metal, and fume generation.



## Welding Position Abbreviations

Symbol	Abbreviation	Description	AS/AWS Symbol	European Symbol
	F	Flat	1G	PA
	H/V-FILLET	Horizontal-Vertical Fillet	2F	PB
	H	Horizontal	2G	PC
	V-UP	Vertical-Up	3G/F	PF
	V-DOWN	Vertical-Down	3G/F	PG
	OH	Overhead	4G/I	PE/D

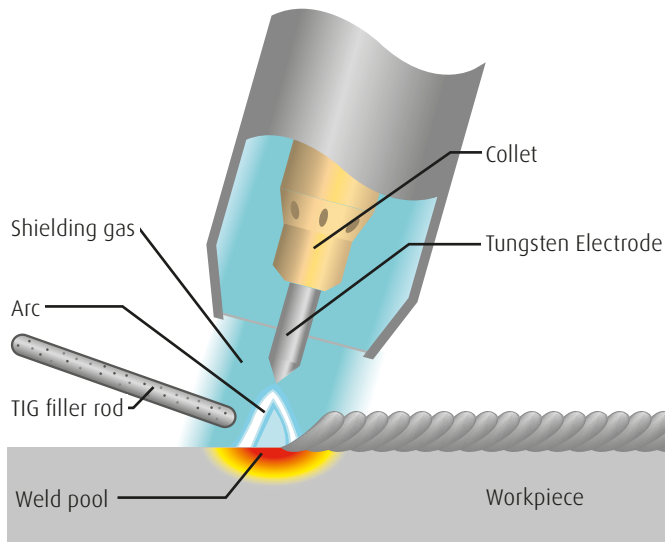
Type of Weld	Fundamental Welding Position*			
	Flat	Horizontal	Vertical	Overhead
Plate				
	1G, PA	2G, PC	3G, PF/PG	4G, PE
Fillet				
	1F, PA	2F, PB	3F, PF/PG	4F, PD
Pipe				
	1G, PA	2G, PC	3G, PC	4G, PE
Fillet				
	1F, PA	2F, PC	3F, PC	4F, PD

Indicates work piece rotating

### \*Notes

- 1 The direction of making a weld is not pertinent to a functional welding position.
- 2 Electrode angle shown is nominal and may be varied in practice.

# Fundamentals of GTAW (TIG) Welding



The Gas Tungsten Arc Welding – commonly referred to as Tungsten Inert Gas (TIG) – process uses the heat generated by an electric arc struck between a non-consumable tungsten electrode and the workpiece to fuse metal in the joint area and produce a molten weld pool. The arc area is shrouded in an inert or reducing gas shield to protect the weld pool and the non-consumable electrode. The process may be operated autogenously (without filler), or filler may be added by feeding a consumable wire or rod into the established weld pool.

- The addition of filler is optional
- Only inert or reducing gases can be used as the shielding gas
- TIG welding is a high quality, versatile and commonly-used process
- TIG is suitable for welding ferrous and non-ferrous materials
- The TIG process can be run on DC-, DC+, or AC

The TIG process is capable of producing very high quality welds in a wide range of materials and in thicknesses up to about 8 or 10 mm. It is particularly suited to welding of sheet material and for putting in the root run of pipe butt welds.

The process tends to be very clean, producing little particulate fume, although it is capable of generating ozone in appreciable amounts and is not regarded as a high-productivity process.

## Operation

Direct or alternating current power sources with constant current output characteristics are normally employed to supply the welding current. For DC operation, the tungsten may be connected to either output terminal, but is most often connected to the negative pole. The output characteristics of the power source can have an effect on the quality of the welds produced. Shielding gas is directed into the arc area by the welding torch, and a gas lens within the torch distributes the shielding gas evenly over the weld area. In the torch, the welding current is transferred to the tungsten electrode from the copper conductor. The arc is then initiated by one of several methods between the tungsten and the workpiece.

## Operating Modes

### DC Electrode Negative (DCEN)

In this mode the tungsten electrode is the negative pole in the welding circuit, the workpiece being the positive pole.

### DC Electrode Positive (DCEP)

In this mode the tungsten electrode is the positive pole in the welding circuit, the workpiece being the negative pole.

### Alternating Current (AC)

In this mode the polarity of the tungsten electrode and the workpiece alternate between negative and positive at the frequency of the applied welding current.

### Process Variants

There are three main variations of the TIG process designed to improve productivity:

- Orbital TIG
- Hot-wire TIG
- Narrow-gap TIG
- Cold-wire TIG

## Application

The TIG process is very versatile and may be used to weld any metal or alloy system over a wide range of thicknesses, but is usually restricted to 10mm and under for economic reasons. It is particularly suited to welding sheet materials and for the root run in pipe butt welds.

**DCEN** is the most common mode of operation and is widely used for welding all carbon, alloy and stainless steels, as well as nickel and titanium alloys. Copper alloys, with the exception of those containing aluminium in significant amounts, can also be welded with this polarity.

**DCEP** is used for aluminium alloys when welding, with pure helium as the shielding gas, since this polarity has a strong cathodic cleaning effect capable of removing the tenacious aluminium oxide film from the surface. It may also be used for TIG welding magnesium alloys.

**AC** polarity is used most commonly when welding aluminium and its alloys with pure argon or argon-helium mixtures to take advantage of the combination of the cyclic heating and cleaning action. It is also suitable for welding magnesium alloys and aluminium bronze.

**Hot-wire TIG** is used predominantly for steel and nickel alloys where the electrical resistance of the wire can be used to increase productivity.

### Applications

- High quality fabrications in stainless steel
- Aluminium, copper and nickel alloys
- Welding reactive and refractory metals such as titanium, tantalum and zirconium

The process is used extensively in the nuclear and aerospace industries and in the construction and maintenance of chemical and cryogenic process plant and pipework. It is also used for fabrication of tube heat-exchangers in petrochemical and power-generation plant, and for brewing and food-processing vessels.

Orbital TIG welding is used in the nuclear, pharmaceutical, semi-conductor and food industries for the installation of pipework – especially where high quality standards are required.

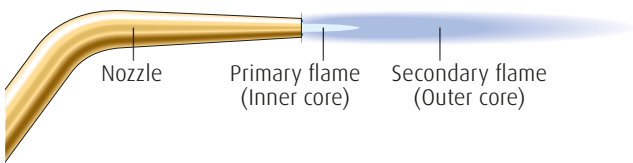
Specialist equipment for tube and tube-plate welding for heat exchangers has been developed. These systems may operate from the outside or inside, depending on tube diameter and the size of the welding head.

## TIG Welding Equipment

The equipment used for TIG welding consists of:

- Power source
- Tungsten electrode
- Welding torch
- Leads and connectors
- Gas supply system
- Arc and re-ignition system

# Fundamentals of Gas Welding and Brazing



## Welding Technique

Successful welding depends on the following factors:

- 1 Selection of the correct consumables
  - 2 Selection of the correct flame setting
  - 3 Selection of the correct application techniques
    - a Correct angle of rod to work
    - b Correct travel speed
  - 4 Selection of the welding preparation
- 2 The flux must be capable of removing the oxides found on the parent materials. Easyflo flux will remove the oxides found on most common engineering materials such as mild steel, brass and copper. Special fluxes may be required on certain types of highly alloyed steel and tungsten carbide tool tips. It is also necessary to use a specially formulated flux on aluminium bronze or aluminium brasses containing more than 2% aluminium.
  - 3 The flux must remain active at the brazing temperature for long enough to allow the brazing operation to be carried out. Fluxes are chemical compounds which dissolve oxides formed in heating. Like most chemical compounds, a flux eventually reaches the point where it is saturated and becomes unable to dissolve any more oxide. If the flux residues appear blackened and glassy, the flux has most likely been exhausted during heating, and a flux with higher time/temperature stability should be used.

## Silver Brazing

### Choice of Filler Metal

An alloy is normally selected for its melting and flow characteristics. The easiest to use filler materials are the high silver, free flowing alloys, because of their low melting temperatures and narrow melting ranges. The higher the brazing temperature and the wider the melting range of the alloy, the more difficult the brazing operation will be.

### Pre-Cleaning

It is important that the mating surfaces of the components to be brazed are free from oil, grease and any surface oxide layer prior to joining. Most engineering components require nothing more than degreasing before assembly.

Oxide removal can be accomplished either chemically or mechanically. Mechanical removal is preferable, because the surface is roughened and excellent bonding is obtained. A medium emery cloth provides about the right amount of surface roughness. Oil and grease removal is best carried out by using a solvent degreasing agent, but hot, soapy water is better than nothing at all.

### Fluxing

The choice of the correct flux is just as important as the choice of filler material. There are three desirable properties of a flux:

- 1 The flux must melt and become active below the melting point of the brazing alloy. Borax or borax based fluxes are not sufficiently molten at the low temperatures at which silver brazing alloys are used. A low temperature fluoride based flux such as Easyflo needs to be employed.

For most engineering requirements, there are two fluxes that will take care of most needs. These are Easyflo flux paste and Tenacity No. 4A flux paste.

### Easyflo Flux

This is the accepted general-purpose flux for use with all low temperature silver brazing alloys that have brazing temperatures not exceeding 800°C. It will successfully flux all the common engineering materials, and its residues are soluble in hot water. Where difficulty is encountered when removing residues, immersion in 10% caustic soda is suggested.

### Tenacity No. 4A

This is a higher temperature flux, suitable for use with alloys with brazing temperatures not exceeding 900°C or where long heating times are involved. In common with Easyflo flux, it will deal with all common engineering materials and may be used on stainless steels. Tenacity No. 4A residues cannot be removed in hot water, and are best removed mechanically or by the use of 10% sulphuric acid.

### Flux Application

The best way to apply a flux is to paint it onto the joint as a paste before assembly. It is common to see operators heating the rod end and dipping it into the flux, and then applying both to the joint. This 'hot rodding' technique has the disadvantages that the flux does not protect the joint during the heating cycle and that the limited amount of flux applied does not allow alloy penetration into the capillary gap.

If a flux powder is used, it should be mixed to a double cream consistency with water and a few drops of detergent. It should also be applied to the joint by means of a paint brush. Too much flux will rarely result in a bad joint, but too little flux will invariably give joints of poor quality.

### Heating the Joint and Applying the Alloy

When heating a joint for brazing, it is essential that it is slowly and evenly heated to the brazing temperature.

The type and size of flame used will depend on the parent materials and the mass of the components. Oxy/Acetylene, Air/Acetylene and Air/Propane or MAPP are commonly used, but care should be taken with the first due to the high flame intensity, which may melt the parent materials.

If the mass of metal is very large, more than one torch should be used to raise the components to temperature before the flux becomes exhausted.

As a temperature guide, either the colour of the metals or the condition of the flux may be used. The flux on a joint that has reached the correct temperature for brazing should be clear, fluid and flow over the joint area like water.

When the brazing temperature is reached, the filler metal is applied by touching the joint gap with the rod and applying some indirect or splash heat from the torch to the parent material. The molten filler metal will follow the heat from the flame as it is directed along the joint. The brazing alloy should be applied according to its flow characteristics; an alloy with free flowing characteristics such as ProSilver 56T should be touched at one point on the joint, from where it will flow into and around the joint by capillary action. A less-free flowing alloy, such as ProSilver 39T, should be applied along or around the entire joint, building up a fillet of alloy.

If phosphorus bearing filler rods are used, such as ProSilver 5, the colour of the metal should be a dull cherry red before the rod is applied to the joint gap.

Once brazing has been completed the heating should be discontinued, as excess heating may cause metallurgical problems with the parent materials and porosity in the filler materials. When the alloy has solidified, the joint can be quenched in water to help remove flux residues.

Quenching should only be carried out when it will not damage the properties of the parent metals, or cause cracking because of stresses caused by the thermal shock (e.g. in the case of tungsten carbide pieces).

### Removal of Flux Residues

The method of residue removal depends on the type of flux that has been used. Easyflo flux residues can be quite simply removed by soaking in hot water, provided they are not in a burnt and blackened condition. Complete flux residue removal is usually possible within 10–15 minutes of soaking in water with a temperature of 60°C or above. After soaking, the joints should be scrubbed under running water to ensure complete cleanliness. Tenacity No.4A flux residues are not water soluble and are best removed by some mechanical means (e.g. shot blasting). Acid pickling is not effective in removing flux unless the residues are in a burnt and blackened condition. If pickling is necessary, it should be carried out after the flux residue removal operation.

### Health and Safety

Brazing alloys and fluxes contain elements which, if overheated, produce fumes that may be harmful or dangerous to health. Brazing should be carried out in a well ventilated area with operators positioned so that any fume generated will not be inhaled. Adequate ventilation to prevent an accumulation of fumes and gases should be used. Where fume levels cannot be controlled below the recognised exposure limits, use a local exhaust to reduce fumes and gases. In confined spaces without adequate ventilation, an air-fed breathing system should be used. When outdoors, a respirator may be required. Precautions for working in confined spaces should be observed.

Apart from fume hazards, flux can be irritating to the skin and prolonged contact should be avoided.

Before use, read all the manufacturer's instructions and refer to the warning labels on the packaging. And ask your employer for the Materials Safety Data Sheet. You can obtain the MSDS by referring to our website at [www.boc.com.au](http://www.boc.com.au) or [www.boc.co.nz](http://www.boc.co.nz) or by calling 131 262 in Australia or 0800 111 333 in New Zealand.



## Joint Design

The best brazed joints are those which have a capillary joint gap into which the molten filler metal can flow. A comparison of the different joint designs used in welding and brazing is shown here.

The most common type of joint used for brazing is the lap joint, or the sleeve joint in the case of tubular components. To design a good lap joint, two criteria should be considered:

- 1 The joint gap
- 2 The degree of overlap

It is these two parameters that determine the ultimate joint strength, rather than the properties of the filler metal.

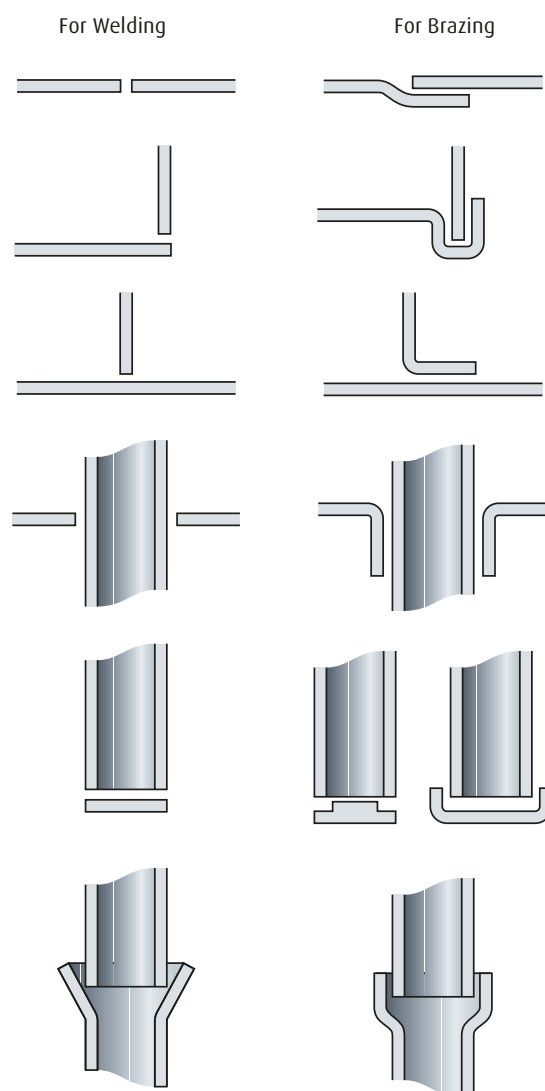
A correctly designed brazed joint will often be stronger than the parent materials from which it is constructed.

The best degree of overlap for a brazed joint is  $3-4t$  where  $t$  is the thickness of the thinnest parent metal part that makes up the joint.

The general rule for tubular parts is that the overlap should be one pipe diameter for sizes up to 25 mm diameter tube.

The most suitable joint gap depends mainly on the flow characteristics of the filler metal. The joint gaps for the various alloys listed in the following section have been indicated. The gaps quoted are those that should be present at the brazing temperature, the cold clearances being adjusted as necessary to account for any difference in the expansion properties of the parent materials.

## Typical Design



# Welding Consumables Selection

## Stainless Steel Filler Metal Selection Chart

Base Metal ASTM, AISI, UNS	201, 202	304	304L	309	310	316	316L	317	317L	321, 347	S30815 (253MA)	904L (N08904)	Ferritic 1.4003, 3Cr12, 5Cr12	Ferritic 409, 410S, 430	Martensitic 410, 420	Duplex S31500 S31803 S32304	Super Duplex 2507	Carbon and Low Alloy Steels
201, 202	307 (308)	307 (308)	307 (308L)	307 (308, 309L)	310	307 (308)	307 (308L, 316L)	317 (307)	317L (307)	347 (307)	308H (307)	385	316L	309L	309L	2209	2209	309L, 307
304	307 (308)	308, 316L (347)	308L, 316L	308H (347, 309L)	310	308H (318, 347)	316L (308L)	317 (316L, 308L)	317L (316L, 308L)	347 (308H)	308H (308L)	385	316L	309L	309L	2209	2209	309L, 307
304L	307 (308L)	308L, 316L	308L, 316L	308H (347, 308L, 309L)	310	308H (347, 308L, 316L)	316L (308L)	308L	317L (316L, 308L)	347 (308L)	308H (308L)	385	316L	309L	309L	2209	2209	309L, 307
309	307 (308, 309L)	308H (347, 309L)	308H (347, 308L, 309L)	309 (309L-Mo, 309L)	310	316H (309L-Mo, 316L, 309L)	309L (316L)	309L	309L	347 (309L-Mo, 309L);	309HT	385	309L, 307	309L	309L	2209	2209	309L, 307
310	310	310	310	310	310	310	310	310	310	310	309HT	385	309L, 307	309L	309L	2209	2209	310
316	307 (308)	308H (318, 347)	308H (347, 308L, 316L)	316H (309L-Mo, 316L, 309L)	310	316H (318, 316L)	316L	316H	317L (316L)	347 (316H, 316L)	309HT	385	316L	309L	309L	2209	2209	309L, 307
316L	307 (308L, 316L)	316L (308L)	316L (308L)	309L (316L)	310	316L	316L	316L	317L (316L)	347 (316L)	309HT	385	316L	309L	309L	2209	2209	309L, 307
317	317 (307)	317 (316L, 308L)	308L	309L	310	316H	316L	317	317L	347 (317)	309HT	385	309L, 307	309L	309L	2209	2209	309L, 307
317L	317L (307)	317L (316L, 308L)	317L (316L, 308L)	309L	310	317L (316L)	317L (316L)	317L	317L	347 (317L)	309HT	385	309L, 307	309L	309L	2209	2209	309L, 307
321, 347	347 (307)	347 (308H)	347 (308L)	347 (309L-Mo, 309L);	310	347 (316H, 316L)	347 (316L)	347 (317)	347 (317L)	347	309HT	385	309L, 307	309L	309L	2209	2209	309L, 307
S30815 (253MA)	308H (307)	308H (308L)	308H (308L)	309HT	309HT	309HT	309HT	309HT	309HT	309HT	309HT	385	309L, 307	309L	309L	2209	2209	309L, 307
904L (N08904)	385	385	385	385	385	385	385	385	385	385	385	385	309L, 307	309L	309L	2209	2209	309L-Mo, 307
Ferritic 1.4003, 3Cr12, 5Cr12	316L	316L	316L	309L, 307	309L, 307	316L	316L	309L, 307	309L, 307	309L, 307	309L, 307	309L, 307	309L, 307	309L	309L	2209	2209	309L-Mo, 307
Ferritic 409, 410S, 430	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	2209	2209	309L, 307
Martensitic 410, 420	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	309L	2209	2209	309L, 307
Duplex, S31500, S31803, S32304	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	309L, 307
Super Duplex 2507	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2209	2510	309L, 307
Carbon and Low Alloy Steels	309L, 307	309L, 307	309L, 307	309L, 307	310	309L, 307	309L, 307	309L, 307	309L, 307	309L, 307	309L, 307	309L-Mo, 307	309L-Mo, 307	309L, 307	309L, 307	309L, 307	309L, 307	

NOTES: (1) Consumable/s listed first for each pair of steels are prequalified to AS/NZS 1554.6: 2012 for joining those two steels.

(2) Consumables shown in brackets are not prequalified and may not achieve matching corrosion resistance or mechanical properties.

(3) 307 listed above is classified EN 12072 18 8 Mn.

(4) Welding procedure qualification should be carried out prior to welding for critical applications.

(5) Consult your BOC technical expert or visit BOCs website for more detailed information.

## Mild, Carbon and Low Alloy Steels

Steel Type	Grade		Welding Process				
	AS, AISI or SAE	ASTM or BS970	MMAW Electrode	GMAW Wire	FCAW Gas Shielded	FCAW Gasless	TIG
Mild Steel	200 250 300 1006 1010 1015 1016 1020 1022 7-430 7-460	A36 A106 EN3A EN201	BOC Smootharc 13	BOC Mild Steel	BOC SmoothCor 711 BOC SmoothCor 711B BOC SmoothCor 70C6	SmoothCor 11 SmoothCor 8 SmoothCor 4	BOC Mild Steel TIG Wire
350 to 500 Mpa Yield Strength Steels	350 400 450 XF500 7-490 1030 X1033 1035 1040 1045 X1320 8620	A105 A106 EN5 EN5B EN8A EN8 EN14A	BOC Smootharc 16 BOC Smootharc 18	BOC Mild Steel	BOC SmoothCor 711 BOC SmoothCor 711B BOC SmoothCor 70C6 BOC SmoothCor 715	SmoothCor 11 SmoothCor 8 SmoothCor 4	BOC Mild Steel TIG Wire
Medium Tensile Steels	1050 1055 X1340	EN43A EN33 EN9 EN15A			BOC SmoothCor 811K2 SmoothCor 81Ni1H4		
High Tensile Steels	U1058 1070 4140 4340 K5140 P20 6F7	EN42 EN19 EN24 EN18D EN25 EN30B			BOC SmoothCor 115		
High Tensile Steels	U1058 1070 4140 4340 K5140 P20 6F7	EN42 EN19 EN24 EN18D EN25 EN30B			BOC SmoothCor 115 SmoothCor 81Ni1H4	NA	
Spring Steels	XK5155S XK5160S XK9258S 9255 XK9261S	EN48 EN45A			BOC SmoothCor 115 SmoothCor 81Ni1H4	NR	
Free Cutting Steels	1137 X1112 1141 1144 1146 X1147 1214	EN1A	BOC Smootharc 18	NR	NR	NR	
Galvanised Steels	–	–	BOC Smootharc 13	BOC Mild Steel	NR	SmoothCor 11 SmoothCor GS	

### NOTES

(1) Steels listed on one line are not necessarily equivalent.

(2) Consumables listed against a steel may not achieve matching mechanical properties depending on the condition (heat treatment history) of the steel.

(3) Welding procedure qualification should be carried out prior to welding for structural and matching strength applications.

(4) Consult your BOC technical expert or visit BOCs website for more detailed information.

NR = Not Recommended, NA = Not Available

## Carbon and Low Alloy Steel Castings

Material Specification			Welding Process				
AS2074	ASTM	BS	MMAW	GMAW	FCAW	SAW	TIG
C1	–	BS3100 AW1	BOC Smootharc 16 BOC Smootharc 18	BOC Mild Steel	BOC SmoothCor 711 BOC SmoothCor 711B BOC SmoothCor 70C6 BOC SmoothCor 715		BOC Mild Steel TIG Wire
C2	–	BS3100 AM1, AM2	BOC Smootharc 13 BOC Smootharc 16				
C3	A27 N-1	BS3100 A1	BOC Smootharc 18				
C4-1	A27 65-35	–	BOC Smootharc 16				
C4-2	A27 70-36	BS3100 A2	BOC Smootharc 18				
C5	–	BS3100 A3					
C6	–	BS3100 AW2					
C7A-1	A214 WCA	BS1504 430					
C7A-2	A214 WCB	BS1504 480					
C7A-3	A214 WCB	BS1504 540					
L1A	–	BS3100 A4	BOC Smootharc 16				
L1B	–	BS3100 A5, A6	BOC Smootharc 18				
L2A	–	BS3100 BW2, BW3					
L2B	–	BS3100 BW4					
L3A	A352 LC2	BS3100 BL2			[BOC SmoothCor 811K2]		
L4A	–	–			BOC SmoothCor 811K2		
L5A-1	A217 WC1	BS3100 B1	[BOC Smootharc 16]				
L5A-2	A356 - 2		[BOC Smootharc 18]				
L5B	A217 WC6, W11	BS3100 B2					
L5C	A217 WC9 A356 - 10	BS3100 B3					
L5D	–	BS3100 B4					
L5E	–	BS3100 B5					
L5F	–	BS3100 B6					
L5G	–	–					
L5H	–	BS3100 B7					
L6	A148 90-60	–			BOC SmoothCor 115		
L6A-1	A148 105-85	BS3100 BT1			BOC SmoothCor 115		
L6A-2							
L6B-1	A148 115-95	BS3100 BT2					
L6B-2	A148 150-135	BS3100 BT3			{BOC SmoothCor 115}		
L6C							

NOTES (1) Products in [ ] brackets have similar specified minimum tensile strength., (2) Products in { } brackets have under matching specified minimum tensile strength., (3) Products in [ ] and { } brackets are not pre-qualified to AS 1988 – 1989., (4) Welding procedure qualification should be carried out prior to welding for structural and matching strength applications., (5) Consult your BOC technical expert or visit BOCs website for more detailed information.

## Cast Irons

Type	MMAW	FCAW	Gas Welding	Gas Brazing
Grey Cast Iron	BOC Smootharc C Cast NiFe BOC Smootharc C Cast Ni			Profill Mang Bronze Profill Nickel Bronze Profill Nickel Coat
SG & Nodular Cast Iron	BOC Smootharc C Cast NiFe BOC Smootharc C Cast Ni			Profill Mang Bronze Profill Nickel Bronze Profill Nickel Coat
White Cast Iron (Chilled Iron)	NR	NR	NR	NR
Malleable Cast Iron	BOC Smootharc C Cast NiFe BOC Smootharc C Cast Ni			Profill Mang Bronze Profill Nickel Bronze Profill Nickel Coat

NOTES (1) Use BOC Smootharc C Cast NiFe for joining, build up and crack repairs., (2) Use BOC Smootharc C Cast Ni for cosmetic repairs., NR = Not Recommended

## Aluminium and Aluminium Alloys

Base Metal	1060, 1100, (1050), 3003	3004	5005, 5050	5052	5083	5086	5154, 5354	5454	5456	6005, 6061	7005	356,0 443,0
1060, 1100, (1050), 3003	1100 (1050) <sup>b,e</sup>	4043 <sup>d,e</sup>	4043 <sup>d,e</sup>	4043 <sup>d,e</sup>	5356 <sup>b,d</sup>	5356 <sup>b,d</sup>	4043 <sup>d,e</sup>	4043 <sup>d,e</sup>	5356 <sup>b,d</sup>	4043 <sup>e</sup>	5356 <sup>b,d</sup>	4043 <sup>e</sup>
3004		4043 <sup>d,e</sup>	4043 <sup>d,e</sup>	4043 <sup>d,e</sup>	5356 <sup>d</sup>	5356 <sup>d</sup>	5356 <sup>a</sup>	5356 <sup>a</sup>	5356 <sup>d</sup>	4043 <sup>d,e</sup>	5356 <sup>b,e</sup>	4043 <sup>e</sup>
5005, 5050			4043 <sup>d,e</sup>	4043 <sup>d,e</sup>	5356 <sup>d</sup>	5356 <sup>d</sup>	5356 <sup>a</sup>	5356 <sup>a</sup>	5356 <sup>d</sup>	4043 <sup>d,e</sup>	5356 <sup>b,d</sup>	4043 <sup>e</sup>
5052				5356 <sup>a,b</sup>	5356 <sup>d</sup>	5356 <sup>d</sup>	5356 <sup>a</sup>	5356 <sup>a</sup>	5356 <sup>d</sup>	5356 <sup>a,b</sup>	5356 <sup>a</sup>	4043 <sup>a,e</sup>
5083					5183 <sup>d</sup>	5356 <sup>d</sup>	5356 <sup>d</sup>	5356 <sup>d</sup>	5183 <sup>d</sup>	5356 <sup>d</sup>	5183 <sup>d</sup>	5356 <sup>b,d</sup>
5086						5356 <sup>d</sup>	5356 <sup>d</sup>	5356 <sup>d</sup>	5356 <sup>d</sup>	5356 <sup>d</sup>	5356 <sup>d</sup>	5356 <sup>b,d</sup>
5154, 5254							5356 <sup>a</sup>	5356 <sup>a</sup>	5356 <sup>a</sup>	5356 <sup>a</sup>	5356 <sup>d</sup>	4043 <sup>a</sup>
5454								5554 <sup>b,d</sup>	5356 <sup>d</sup>	5356 <sup>a,b</sup>	5356 <sup>a</sup>	4043 <sup>a,e</sup>
5456									5556 <sup>d</sup>	5356 <sup>d</sup>	5556 <sup>d</sup>	5356 <sup>b,d</sup>
6005, 6061, 6063, 6351										4043 <sup>a,e</sup>	5356 <sup>a,b</sup>	4043 <sup>a,e</sup>
7005											5356 <sup>d</sup>	4043 <sup>a,e</sup>
356,0 443,0												4043 <sup>c,e</sup>

NOTES (1) The filler metal that is shown for each combination of base metals is that most commonly used. However, the specific filler metal depends upon usage and type of joint and, in a number of cases, acceptable alternates is recommended (footnotes a to c). (2) Filler metals conform to requirements of AWS specification A5.10-80. (3) Exposure to specific chemicals or a sustained high temperature (over 150°F) may limit the choice of the metals. Filler alloys 5183, 5356, 5556 and 5654 should not be used in sustained elevated-temperature service.

a) 5813, 5356, 5554, 5556 and 5654 may be used. In some cases they provide: improved colour match after anodising treatment, higher weld ductility, higher weld strength. 5554 is suitable for elevated-temperature service. Castings welded with these filler metals should not be subjected to post-weld artificial aging. b) 4043 may be used for some applications. c) filler metal with the same analysis as the base metal is sometimes used. d) 5183, 5356 or 5556 may be used. e) 4047 may be used for some applications.

## Quenched and Tempered High Strength Steels and Wear Plate

Material Specification	MMAW		GMAW		FCAW	
	Matching Strength	Lower Strength	Matching Strength	Lower Strength	Matching Strength	Lower Strength
AS/NZS 3597 Grade 500 (eg. Bisplate 60, Welten 60, Weldom 420)	NA	BOC Smootharc 16 BOC Smootharc 18	NA	BOC Mild Steel	BOC SmoothCor 81Ni1H4	BOC SmoothCor 711 BOC SmoothCor 711B BOC SmoothCor 715 BOC SmoothCor 70C6
AS/NZS 3597 Grade 600 (eg. Bisplate 70, Welten 70, Weldom 500)	NA	BOC Smootharc 16 BOC Smootharc 18	Autocraft NiCrMo (OM)	BOC Mild Steel	BOC SmoothCor 115 (OM)	BOC SmoothCor 81Ni1H4 BOC SmoothCor 711 BOC SmoothCor 711B BOC SmoothCor 715 BOC SmoothCor 70C6
AS/NZS 3597 Grade 700 (eg. Bisplate 80, 80PV, Welten 80, Weldom 700)	NA	BOC Smootharc 16 BOC Smootharc 18	Autocraft NiCrMo	BOC Mild Steel	BOC SmoothCor 115	BOC SmoothCor 81Ni1H4 BOC SmoothCor 711 BOC SmoothCor 711B BOC SmoothCor 715 BOC SmoothCor 70C6
Wear Plates (eg Bisplate 320, 360, 400, 500, Welten RE, Hardox 400, 500)	NA	BOC Smootharc 16 BOC Smootharc 18	NA	BOC Mild Steel	NA	BOC SmoothCor 81Ni1H4 BOC SmoothCor 711 BOC SmoothCor 711B BOC SmoothCor 715 BOC SmoothCor 70C6

NOTES: NR = Not Recommended, NA = Not Available or Not Applicable, OM = Over-matching



# BOC Welding Consumables Classifications

## Electrodes

Product Name	Current AS/NZS ISO Classification Superseded AS/NZS Classification	Current AWS/ASME Classification Superseded AWS/ASME Classification
<b>Electrodes</b>		
<b>Mild Steel and Iron Powder Electrodes</b>		
Smootharc 12	AS/NZS 4855 B-E 43 13 A AS/NZS 1553.1 E4112-0	AWS A5.1 E6013
Smootharc 13	AS/NZS 4855 B-E 43 13 A AS/NZS 1553.1 E4113-0	AWS A5.1 E6013
Smootharc 24	AS/NZS 4855 B-E 49 24 A AS/NZS 1553.1 E4824-0	AWS A5.1 E7024
<b>Hydrogen Controlled Electrodes</b>		
Smootharc 16	AS/NZS 4855 B-E 49 16-1 A H5 AS/NZS 1553.1 E4816-4 H5	AWS A5.1 E7016-1 H4
Smootharc 18	AS/NZS 4855 B-E 49 18-1 A H5 AS/NZS 1553.1 E4818-4 H5	AWS A5.1 E7018-1 H4
<b>Stainless Steel Electrodes</b>		
Smootharc S 308L	AS/NZS 4854 B-ES308L-17 AS/NZS 1553.3 E308L-17	AWS A5.4 E308L-17
Smootharc S 316L	AS/NZS 4854 B-ES316L-17 AS/NZS 1553.3 E316L-17	AWS A5.4 E316L-17
Smootharc S 347	AS/NZS 4854 B-ES347-17 AS/NZS 1553.3 E347-17	AWS A5.4 E347-17
Smootharc S 309L	AS/NZS 4854 B-ES309L-17 AS/NZS 1553.3 E309L-17	AWS A5.4 E309L-17
Smootharc S 309MoL	AS/NZS 4854 B-ES309LMo-17 AS/NZS 1553.3 E309MoL-17	AWS A5.4 E309MoL-17
Smootharc S 312	AS/NZS 4854 A-E 29 9 R 32 AS/NZS 1553.3 E312-17	AWS A5.4 E312-17

## Gas Metal Arc Welding (MIG) Wires

Product Name	Current AS/NZS ISO Classification Superseded AS/NZS Classification	Current AWS/ASME Classification Superseded AWS/ASME Classification
<b>Gas Metal Arc Welding (MIG) Wires</b>		
<b>Mild Steel MIG Wires</b>		
BOC Mild Steel MIG Wire	AS/NZS 14341 B-G 49A 3U C S6 AS/NZS 14341 B-G 49A 3U M S6 AS/NZS 2717.1 ES6-GC/M-W503AH	AWS A5.18 ER70S-6
MAGMATE Mild Steel MIG Wire	AS/NZS 14341 B-G 49A 3U C S6 AS/NZS 14341 B-G 49A 3U M S6 AS/NZS 2717.1 ES6-GC/M-W503AH	AWS A5.18 ER70S-6
<b>Stainless Steel MIG Wires</b>		
BOC Stainless Steel MIG Wire 308LSi	AS/NZS ISO 14343 B-SS308LSi AS/NZS 2717.3 ES308LSi	AWS A5.9 ER308LSi
BOC Stainless Steel MIG Wire 309LSi	AS/NZS ISO 14343 B-SS309LSi AS/NZS 2717.3 ES309LSi	AWS A5.9 ER309LSi
BOC Stainless Steel MIG Wire 316LSi	AS/NZS ISO 14343 B-SS316LSi AS/NZS 2717.3 ES316LSi	AWS A5.9 ER316LSi
BOC Stainless Steel MIG Wire 409Nb	AS/NZS ISO 14343 B-SS409Nb	AWS A5.9 ER409Nb or Cb
BOC Stainless Steel MIG Wire 307Si	AS/NZS ISO 14343 A-G 18 8 Mn	AWS A5.9 ER307Si (NE)
<b>Aluminium MIG Wires</b>		
BOC Aluminium MIG Wire 1070	AS/NZS ISO 18273 S Al 1070	AWS A5.10 ER1100 (NE)
BOC Aluminium MIG Wire 4043	AS/NZS ISO 18273 S Al 4043 AS 2717.2 E4043	AWS A5.10 ER4043
BOC Aluminium MIG Wire 4047	AS/NZS ISO 18273 S Al 4047 AS 2717.2 E4047	AWS A5.10 ER4047
BOC Aluminium MIG Wire 5183	AS/NZS ISO 18273 S Al 5183 AS 2717.2 E5183	AWS A5.10 ER5183
BOC Aluminium MIG Wire 5356	AS/NZS ISO 18273 S Al 5356 AS 2717.2 E5356	AWS A5.10 ER5356

## Flux Cored Arc Welding (FCAW) Wires - Mild Steel

Product Name		Current AS/NZS ISO Classification Superseded AS/NZS Classification	Current AWS/ASME Classification Superseded AWS/ASME Classification
Flux Cored Arc Welding (FCAW) Wires			
Mild Steel FCAW Wires			
SmoothCor 711	+ Argoshield 52	AS/NZS ISO 17632 B-T 49 3 T1-1 M A H10	AWS/ASME-SFA A5.36 E71T1-M21A2-CS1 H8
		AS 2203.1 ETP-GMp-W503A.CM1 H10	AWS/ASME-SFA A5.36M E49T1-M21A3-CS1 H8
			AWS/ASME-SFA A5.20 E71T-1M H8
	+ CO <sub>2</sub>	AS/NZS ISO 17632 B-T 49 3 T1-1 C A H10	AWS/ASME-SFA A5.20 E71T-9M H8
		AS 2203.1 ETP-GCp-W503A.CM1 H10	AWS/ASME-SFA A5.36 E71T1-C1A2-CS1 H8
			AWS/ASME-SFA A5.36M E49T1-C1A3-CS1 H8
SmoothCor 711 Bright	+ Argoshield 52	AS/NZS ISO 17632 B-T 49 3 T1-1 M A H10	AWS/ASME-SFA A5.20 E71T-1 H8
		AS/NZS ISO 17632 A-T 42 2 P M 1 H10	AWS/ASME-SFA A5.20 E71T-9 H8
		AS 2203.1 ETP-GMp-W503A.CM1 H10	AWS/ASME-SFA A5.36 E71T1-M21A2 CS1 H8
	+ CO <sub>2</sub>	AS/NZS ISO 17632 B-T 49 3 T1-1 C A H5	AWS/ASME-SFA A5.36M E49T1-M21A3 CS1 H8
		AS/NZS ISO 17632 A-T 42 2 P C 1 H5	AWS A5.20 E71T-1M H8
		AS 2203.1 ETP-GCp-W503A.CM1 H5	AWS A5.20 E71T-9M H8
SmoothCor 715	+ Argoshield 52	AS/NZS ISO 17632 B-T 49 4 T5-1 M AP-U H5	AWS/ASME-SFA A5.36 E71T1-C1 A2 CS1 H4
		AS 2203.1 ETP-GMn-W504A.CM1 H5	AWS/ASME-SFA A5.36M E49T1-C1 A3 CS1 H4
			AWS A5.20 E71T-1C H4
	+ CO <sub>2</sub>	AS/NZS ISO 17632 B-T 49 4 T5-1 C AP-U H5	AWS A5.20 E71T-9 H4
		AS 2203.1 ETP-GCn-W504A.CM1 H5	AWS/ASME-SFA A5.36 E71T5-M21A2-CS1 H4
			AWS/ASME-SFA A5.36M E49T5-M21A4-CS1 H4
SmoothCor 70C6	+ Argoshield 52	AS/NZS ISO 17632 B-T 49 3 T15-0 M A H10	AWS/ASME-SFA A5.20 E71T-5MJ H4
		AS 2203.1 ETD-GMp-W503A.CM1 H10	AWS/ASME-SFA A5.36 E71T5-C1A2-CS1 H4
			AWS/ASME-SFA A5.36M E49T5-C1A4-CS1 H4
	+ CO <sub>2</sub>	AS/NZS ISO 17632 B-T 49 3 T15-0 C A H10	AWS/ASME-SFA A5.20 E71T-5 H4
		AS 2203.1 ETD-GCp-W503A.CM1 H10	AWS/ASME-SFA A5.36 E70T15-M21A2-CS1 H8
			AWS/ASME-SFA A5.36M E49T15-M21A3-CS1 H8
SmoothCor 70C6-H5			AWS/ASME-SFA A5.18 E70C-6M H8
SmoothCor 4		AS/NZS ISO 17632 B-T 49 Z T4-0 N A-H15	AWS A5.20 E70C-6M H8
		AS 2203.1 ETD-GNp-W500A.CM1 H15	AWS/ASME-SFA A5.36 E70T15-C1A2-CS1 H8
			AWS/ASME-SFA A5.36M E49T15-C1A3-CS1 H8
SmoothCor 8		AS/NZS ISO 17632 B-T 49 3 T8-1 N A-H10	AWS/ASME-SFA A5.18 E70C-6C H8
		AS 2203.1 ETP-GNn-W503A.CM1 H10	AWS/ASME-SFA A5.36 E70 0 T15 -M21 A2-CS1 H4
			AWS/ASME-SFA A5.36 M E49 0 T15-M21 A3-CS1 H4
SmoothCor 11		AS/NZS ISO 17632 B-T 49 Z T11-1 N A-H15	AWS/ASME-SFA A5.36 E70T4-A2-CS3 H16
		AS 2203.1 ETP-GNn-W500A.CM1 H15	AWS/ASME-SFA A5.36M E49T4-CS3 H16
			AWS/ASME-SFA A5.20 E70T-4
SmoothCor GS		AS/NZS ISO 17632 B-T 49 Z TG-1 N A-H15	AWS/ASME-SFA A5.36 E71T8-A2-CS3 H8
			AWS/ASME-SFA A5.36M E49T8-A2-CS3 H8
			AWS/ASME-SFA A5.20 E71T-8 H8
MagMate 71C			AWS/ASME-SFA A5.36 E71T11-A2-CS3-H16
			AWS/ASME-SFA A5.36M E49T8-A2-CS3 H8
			AWS/ASME-SFA A5.20 E71T-11
			AWS/ASME-SFA A5.36 E71TG5-A2-CS3-H16
			AWS/ASME-SFA A5.36M E49T14S-AZ-CS3
			AWS/ASME-SFA A5.20 E71T-GS
			AWS/ASME-SFA A5.36 E71T1-C1A4-CS1 H8
			AWS/ASME-SFA A5.36M E49T1-C1A4-CS1 H8
			AWS/ASME-SFA A5.20 E71T-1C-J H8
			AWS/ASME-SFA A5.20E71T-9C-J H8

## Flux Cored Arc Welding (FCAW) Wires - Low Alloy

Product Name		Current AS/NZS ISO Classification Superceded AS/NZS Classification	Current AWS/ASME Classification Superceded AWS/ASME Classification
Flux Cored Arc Welding (FCAW) Wires			
Low Alloy FCAW Wires			
SmoothCor 811K2	+ Argoshield 52	AS/NZS ISO 17632 B-T 55 3 T1-1 M A-N3 H5 AS 2203.1 ETP-GMp-W559A.K2 H5	AWS/ASME-SFA A5.36 E81T1-M21A6-K2 H4 AWS/ASME-SFA A5.36M E55T1-M21A6-K2 H4 AWS/ASME-SFA A5.29 E81T1-K2M H4
	+ CO <sub>2</sub>	AS/NZS ISO 17632 B-T 55 3 T1-1 C A-N3 H5 AS 2203.1 ETP-GCp-W559A.K2 H5	AWS/ASME-SFA A5.36 E81T1-C1A6-K2 H4 AWS/ASME-SFA A5.36M E55T1-C1A6-K2 H4 AWS/ASME-SFA A5.29 E81T1-K2 H4
SmoothCor 81 Ni1 H4	+ Argoshield 52	AS/NZS ISO 17632 B-T 55 4 T1-1 M A-N2 U H5 AS 2203.1 ETP-GMp-W554A.Ni1 H5	AWS/ASME-SFA A5.29 E81T1-Ni1M H4
	+ CO <sub>2</sub>	AS/NZS ISO 17632 B-T 55 4 T1-1 C A-N2 U H5 AS 2203.1 ETP-GCp-W554A.Ni1 H5	AWS/ASME-SFA A5.29 E81T1-Ni1 H4
SmoothCor 115	+ Argoshield 52	AS/NZS ISO 18276 B-T 76 5 T5-0 M AP-N4C1M2 H5 AS 2203.1 ETD-GMp-W769A.K4 H5	AWS/ASME-SFA A5.36 E110T5-M21A5-K4 H4 AWS/ASME-SFA A5.36M E76T5-M21A5-K4 H4 AWS/ASME-SFA A5.29 E110T5-K4M H4
	+ CO <sub>2</sub>	AS/NZS ISO 18276 B-T 76 5 T5-0 C AP-N4C1M2 H5 AS 2203.1 ETD-GCp-W769A.K4 H5	AWS/ASME-SFA A5.36 E110T5-C1A5-K4 H4 AWS/ASME-SFA A5.36M E76T5-C1A5-K4 H4 AWS/ASME-SFA A5.29 E110T5-K4 H4

## Gas and TIG Rods

Product Name	Current AS/NZS ISO Classification Superceded AS/NZS Classification	Current AWS/ASME Classification Superceded AWS/ASME Classification
Gas and TIG Rods		
Mild Steel Gas and TIG Rods		
ProFill Mild Steel Gas Rod	AS/NZS 1167.2 RG	AWS A5.2 R45
ProFill 70S-2 Mild Steel TIG Rod	AS/NZS 1167.2 R2	AWS A5.18 ER70S-2
ProFill 70S-6 Mild Steel TIG Rod	AS/NZS 1167.2 R6	AWS A5.18 ER70S-6
Stainless Steel Gas and TIG Rods		
ProFill 308LSi	AS/NZS ISO 14343 B-SS308LSi AS/NZS 1167.2 R308LSi	AWS A5.9 ER308LSi
ProFill 309LSi	AS/NZS ISO 14343 B-SS309LSi AS/NZS 1167.2 R309LSi	AWS A5.9 ER309LSi
ProFill 316LSi	AS/NZS ISO 14343 B-SS316LSi AS/NZS 1167.2 R316LSi	AWS A5.9 ER316LSi
ProFill 347	AS/NZS ISO 14343 B-SS347 AS/NZS 1167.2 R347	AWS A5.9 ER347
Aluminium Gas and TIG Rods		
ProFill 1070	AS/NZS ISO 18273 S Al 1070	AWS A5.10 ER1100 (NE)
ProFill 4043	AS/NZS ISO 18273 S Al 4043 AS/NZS 1167.2 R4043	AWS A5.10 ER4043
ProFill 4047	AS/NZS ISO 18273 S Al 4047 AS/NZS 1167.2 R4047	AWS A5.10 ER4047
ProFill 5356	AS/NZS ISO 18273 S Al 5356 AS/NZS 1167.2 R5356	AWS A5.10 ER5356

NOTES: (NE) = Nearest equivalent

# Shelf Life, Storage, and Reconditioning Recommendations

## for Smootharc, Smoothcor & Magmate Welding Filler Metals.

The proper care & storage of welding filler metals is an extremely important topic that is often neglected. As a result, the filler metals do not always perform to the customer's satisfaction. Common problems such as weld metal porosity or hydrogen induced cracking (HIC), could be avoided by employing recommended handling and storage techniques. The following are recommended steps to approach correct storage and handling by the end-user.

### PACKAGING

All welding filler materials should be stored in dry, well-ventilated and preferably heated stores. For critical applications it is also recommended that they be held in temperature and controlled humidity conditions, maintaining relative humidity (RH) below 60% and a temperature above the dew point to avoid moisture condensing onto the filler material.

It is important to note the type of packaging used for welding filler metals. MMA electrodes (including low hydrogen types) and FCAW wire can be used directly from the original packaging if hermetically sealed in cans or vacuum sealed aluminium laminated plastic packs, but only if the seal is not damaged in any way.

Cardboard cartons with polythene wrapping on the outside will not provide adequate protection for MMA electrodes. If the packaging has

been damaged or MMA electrodes have been exposed to the air for long periods, they should be reconditioned (baked) before use.

### SHELF LIFE

The shelf life of welding filler metals is largely dependent on the conditions of storage.

The recommended shelf lives listed in the table below assume that:

- Products in hermetically sealed containers such as cans or vacuum sealed aluminium laminated plastic packs are stored unopened under conditions that protect them from direct contact with moisture.
- The hermetic or vacuum seal has not been damaged.
- Products in containers or other forms of packaging that are not hermetically or vacuum sealed are stored unopened under conditions where they are protected from direct contact with moisture and are maintained at the temperature and relative humidity (RH) levels listed below.

5-15°C	<60% RH
15-25°C	<50% RH
>25°C	<40% RH

Shelf life may be substantially reduced if recommended storage conditions are not maintained as recommended for non-hermetically sealed products.

## Recommendations

Type/Group	Reconditioning Info		Heated Storage Recommendations	Shelf Life
Aluminium MIG				
BOC ALUMINIUM MIG 1070	1.2mm - 2.0mm	None	None	Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
BOC ALUMINIUM MIG 4043	0.9mm - 1.2mm			
BOC ALUMINIUM MIG 4047	1.0mm - 1.2mm			
BOC ALUMINIUM MIG 5183	0.9mm - 1.6mm			
BOC ALUMINIUM MIG 5356	0.8mm - 1.6mm			
Aluminium TIG				
BOC ALUMINIUM TIG 4043	1.6mm - 3.2mm	None	None	Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
BOC ALUMINIUM TIG 4047	1.6mm - 3.2mm			
BOC ALUMINIUM TIG 5356	1.6mm - 2.4mm			
Cast Iron MMA				
SMOOTHARC C CAST NI	2.5mm - 3.2mm	Re-dry damp electrodes for 1 hour at 80°C. Re-dry only once.	None	Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
SMOOTHARC C CAST NIFE	3.2mm			
General Purpose MMA				
SMOOTHARC 12	2.5mm - 4.0mm	Re-dry damp electrodes for 2 hours at 80-90°C	40-50°C	Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
SMOOTHARC 13	2.5mm - 4.0mm			
SMOOTHARC 24	3.2mm - 5.0mm	Re-dry damp electrodes for 2 hours at 100-120°C		

Type/Group		Reconditioning Info	Heated Storage Recommendations	Shelf Life
Low Alloy FCAW				
SELECT 80C-NI1	1.6mm	Spooled on plastic hence not recommended.	50°C maximum.	Indefinite in original packaging
SMOOTHCOR 81 NI1 H4	1.2mm - 2.0mm			
Low Hydrogen MMA				
SMOOTHARC 16	2.5mm - 4.0mm	Basic (low hydrogen) type electrodes are redried at temperatures of 350–400°C for 1–2 hours to achieve a hydrogen level of 5–10 ml/100g of weld metal and restricted to 5 redries. To achieve extreme low hydrogen levels, <4 ml/100g, 420–440°C is recommended for 1–2 hours and restricted to 1 re-dry.	80-120°C	Indefinite in original sealed cans or vacuum packs. If packed in rigid cardboard with plastic wrapping: Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
SMOOTHARC 18	2.5mm - 4.0mm			
Mildsteel FCAW				
SMOOTHCOR 711 BRIGHT	1.2mm - 1.6mm	Spooled on plastic hence not recommended.	50°C maximum.	Indefinite in original packaging
MAGMATE 71C	1.2mm - 1.6mm			
Mildsteel Gasless FCAW				
SMOOTHCOR 11	0.9mm - 2.0mm	Spooled on plastic hence not recommended.	50°C maximum.	Indefinite in original packaging
SMOOTHCOR 4	2.4mm - 3.0mm			
SMOOTHCOR 8	1.6mm - 2.0mm			
SMOOTHCOR GS	0.9mm - 1.2mm			
Mildsteel MCAW				
SMOOTHCOR 70C6-H5	1.2mm - 1.6mm	Spooled on plastic hence not recommended.	50°C maximum.	Indefinite in original packaging
Mildsteel MIG				
BOC MIG 70S6	0.6mm - 1.2mm	None	None	Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
MAGMATE MIG 70S6	0.6mm - 1.6mm			
Mildsteel Oxy-Fuel				
WIRE FILLER R45	1.6mm - 3.2mm	None	None	Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
Mildsteel TIG				
WIRE FILLER 70S-2	1.6mm - 2.4mm	None	None	Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
WIRE FILLER 70S-6	1.6mm - 2.4mm			
Stainless Steel MIG				
BOC S/S 307SI	1.2mm	None	None	Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
BOC S/S 308LS	0.9mm - 1.2mm			
BOC S/S 309LSI	0.9mm - 1.2mm			
BOC S/S 316LSI	0.8mm - 1.2mm			
Stainless Steel MMA				
SMOOTHARC S 308L	2.5mm - 4.0mm	Electrodes that have been stored outside of their hermetically sealed cans and have become damaged by moisture pick-up, can be redried at temperatures of 300–350°C for 1–2 hours. Redrying should be restricted to a maximum of 3 cycles.	70-120°C	Indefinite in original sealed cans or vacuum packs. If packed in rigid cardboard with plastic wrapping: Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
SMOOTHARC S 309L	2.5mm - 4.0mm			
SMOOTHARC S 309MOL	2.5mm - 3.2mm			
SMOOTHARC S 312	2.5mm - 4.0mm			
SMOOTHARC S 316L	2.5mm - 4.0mm			
Stainless Steel TIG				
WIRE FILLER ER308LSI	1.6mm - 2.4mm	None	None	Indefinite subject to storage conditions: 5-15°C <60% RH 15-25°C <50% RH >25°C <40% RH
WIRE FILLER ER309LSI	1.6mm - 2.4mm			
WIRE FILLER ER316LSI	0.9mm - 3.2mm			
WIRE FILLER ER347	1.6mm - 2.4mm			





## Smootharc MMA Electrodes wires

### Storage

Electrodes packed in plastic covered cartons must be stored with the plastic wrapping unbroken in a climatically controlled (air conditioned) environment as recommended below to attain shelf lives as per the Recommendations table.

5-15°C	<60% RH
15-25°C	<50% RH
>25°C	<40% RH

If low hydrogen weld metal is specified then electrodes with H4/H5 classifications in plastic covered cartons must be re-dried before use following the instructions provided in the relevant technical data sheet or on the packaging label.

Electrodes packed in hermetically sealed cans or vacuum sealed aluminium laminated plastic packs are completely moisture diffusion-proof and do not therefore require any special storage instructions. Electrodes taken directly from newly opened packaging of this type do not require reconditioning before use. To avoid condensation forming on electrodes that have been stored at a lower temperature than ambient, the unopened packaging should be allowed to reach ambient temperature before being opened independent of packaging type.

H4/H5 classified carbon-manganese unalloyed and low alloyed electrodes, and stainless steel electrodes from opened packaging can be stored in a heated holding oven/storage cabinet held at 80-120°C without the risk of moisture pick-up. It is important that these electrodes are not mixed together with general purpose mild steel electrodes in the same cabinet because these electrodes can transfer moisture to the H4/H5 classified carbon-manganese unalloyed and low alloyed electrodes, and stainless steel electrodes.

Evidence of electrode deterioration includes but is not limited to the presence of white powdery areas on the surface of the coating, cracks in the coating, or missing pieces of coating.

### Handling

Smootharc low hydrogen and stainless steel electrodes are manufactured using moisture resistant coatings that ensures low moisture content when packed and a slow rate of moisture pick-up when exposed to the workshop environment. Exposure times below

are advised for all hermetically sealed or vacuum packed electrodes before reconditioning is necessary.

Condition of packaging	Max. time
Unbroken	Unlimited
Opened but electrodes left in packet	12 hours
Electrodes exposed outside the packet	4 hours

Smootharc low hydrogen (H4/H5) and stainless steel electrodes that have been removed from their cans or vacuum packs should be placed into holding ovens set at a temperature of 100-120°C if the electrodes are not likely to be consumed within the times specified above.

Smootharc low hydrogen (H4/H5) and stainless steel electrodes that are to be removed from a heated holding oven should be placed directly into heated portable canisters/quivers upon removal. Unused electrodes must be returned to heated holding ovens or reconditioned after the work shift or job is completed.

If general purpose mild steel electrodes are placed into heated holding ovens, they should be set at 40-50°C.

The Recommendations table shows the recommended storage conditions for MMA electrodes.

### Scrapping

The electrodes should be scrapped if traces of rust/corrosion are found on the electrode core wire surface (electrode holder end or strike end) or the electrode coating shows any signs of damage such as chipping, cracking or white furriness. The presence of corrosion products indicates that the electrodes have been exposed to unacceptable moisture levels.

### Reconditioning

Generally, MMA electrodes will exhibit poor arc stability, large amounts of spatter, poor slag detachability, finger nailing (excessive cupping of the electrode coating during welding) and weld metal porosity due to moisture pick-up by the flux coating. Fortunately, most MMA electrodes can be reconditioned by re-baking/drying. Reconditioning should be limited to a maximum of 5 cycles. Recommended reconditioning times and temperatures are shown in the Recommendations table.



## Smoothcor (FCAW) Wires

### Storage

The standard package of a spool or wire coil within a plastic bag and a carton will provide acceptable protection for standard Smoothcor wires when they are stored under controlled conditions as below:

5-15°C	<60% RH
15-25°C	<50% RH
>25°C	<40% RH

Packaging should not be placed directly on the floor, but on a plastic or wood pallet or equivalent, at least 10 cm off the floor and outside wall. Transportation to and from storage should be carried out in such a way as to protect the product from exposure to rain.

When the weld metal hydrogen level must be guaranteed, the product must be packaged in aluminium laminated vacuum sealed bags.

All Smoothcor H4/H5 products will have a low weld metal hydrogen level in the as-manufactured condition, but only the vacuum sealed packaging will prevent moisture pickup after extended storage and protect it from environmental contamination.

Once the vacuum sealed bag is opened, unused product should be stored in holding ovens at temperatures not exceeding 50°C for plastic spools. Plastic bags should always be removed when storing at elevated temperatures to allow excess moisture to escape.

### Handling

If welding is performed in an environment that is subject to snow, rain, marine conditions or dust, an enclosed wire feeder should be used.

During outdoor usage, or when used in workshops or premises without temperature regulation, the wire should be moved to a dry, heated storage area or holding oven when not in use for a period of 8 hours or more.

### Scrapping

The wire should be scrapped if traces of rust/corrosion are found on the wire surface. The presence of corrosion products indicates that the wire has not been stored or handled as recommended.

### Reconditioning

Wire on plastic spools cannot be reconditioned.

## BOC Solid wires

### Storage

The standard package of a spool of wire within a plastic bag and a carton or plastic tube will provide acceptable protection for standard solid wires when stored under controlled conditions as below:

5-15°C	<60% RH
15-25°C	<50% RH
>25°C	<40% RH

Packaging should not be placed directly on the floor, but on a plastic or wood pallet or equivalent, at least 10 cm off the floor and outside wall. Transportation to and from storage should be carried out in such a way as to protect the product from exposure to rain.

If the wire is to be put back into general storage under controlled conditions as noted above, it should be protected with its plastic bag or equivalent in the case of a spool, and original tube packaging for TIG/GTAW wire to prevent exposure to dust and water.

### Handling

If MIG/GMAW welding is performed in an environment that is subject to snow, rain, marine conditions or dust, an enclosed wire feeder should be used.

Temperature fluctuations below the dew point while in storage should be avoided. At storage temperatures below 10°C there is a risk of condensation forming on the wire surface when unpacked in an environment that is warmer than the storage environment. This can lead to porosity and possible hydrogen induced cracking in certain metals. Only heated or acclimatised wires should be used at low ambient temperatures. Acclimatisation is as simple as allowing the wire to reach the temperature of the work environment prior to opening the packaging. This is especially important for aluminium wire and rods.

During interruption of the production process for more than 8 hours, wire should be returned to plastic bags or tubes in the above-mentioned storage conditions.

### Scrapping

The wire should be scrapped if traces of rust/corrosion are found on the wire surface. The presence of corrosion products indicates that the wire had not been stored or handled as recommended.

### Reconditioning

Most solid wires and rods do not absorb moisture. The oxide coating on aluminium wire and rod may retain moisture from the atmosphere with extended and/or uncontrolled storage. Solid wire on plastic spools cannot be reconditioned. It is recommended to not attempt to recondition aluminium wires and rods.

## Mild Steel Electrodes

### Smootharc 12

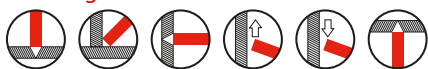
#### Description

Smootharc 12 is a multi-purpose, rutile-cellulosic electrode suitable for a wide range of applications in mild steel. The electrode is fully positional, including very good appeal in the vertical-down position. The electrode welds with a crisp steady arc to produce a smooth weld bead surface to enhance good slag detachability. Performance can be insensitive to rust, dirt and surface coatings, and has good ability to bridge gaps or poor fit-up.

#### Application

For welding mild steels, sheet metal, tank work and general fabrication. Combined with the excellent strike / re-strike and a high tolerance to large gaps or poor fit-up, this electrode is easy to use and recommended for all round fabrication work.

#### Welding Positions



#### Specifications

Coating Type	Rutile-Cellulosic
Classification	
AWS/ASME-SFA A5.1 E6013	
AS/NZS 4855 B-E 43 13 A	
Welding Current*	AC, OCV >50V or DC+-

\* DC- is recommended for root passes.

#### Packaging Data

Dia. (mm)	Packet (kg)	Carton (kg)	Quantity	Part No.
2.5	1.0	10.0	55	184133
2.5	5.0	15.0	278	184135
3.2	1.0	10.0	33	184134
3.2	5.0	15.0	168	184136
4.0	5.0	15.0	109	184137

### Smootharc 13

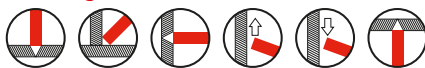
#### Description

Smootharc 13 is a thicker coated all positional rutile electrode that performs very well in the down hand position, exceptionally well in the vertical-up and overhead positions, and can also be used in the vertical-down position. The electrode welds with a very smooth, low spatter arc to produce a finely rippled bead surface with excellent slag detachability.

#### Application

For welding mild steels, sheet metal, tank work and general fabrication. Combined with the excellent strike / restrike and a high tolerance to large gaps or poor fit-up, this electrode is easy to use and recommended for all round fabrication work. Especially good for the less experienced welder.

#### Welding Positions



#### Specifications

Coating Type	Rutile
Classification	
AWS/ASME-SFA A5.1 E6013	
AS/NZS 4855 B-E 43 13 A	

#### Packaging Data

Dia. (mm)	Packet (kg)	Carton (kg)	Quantity	Part No.
2.5	1.0	10.0	46	187143
2.5	5.0	15.0	230	187145
3.2	1.0	10.0	34	187144
3.2	5.0	15.0	170	187146
4.0	5.0	15.0	106	187147

### Smootharc 24

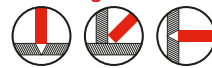
#### Description

Smootharc 24 is a rutile-coated iron powder electrode with 160% recovery designed for high productivity welding in heavier section mild steel. Excellent profile mitre fillets are produced, having a smooth transition with the base material and ensuring excellent slag detachability.

#### Application

Smootharc 24 has been designed to produce the highest possible productivity when depositing fillet welds with a leg length in the 4 to 6 mm range in the heavier section construction steels. This electrode performs exceptionally well when welding 'inside corner' fillets. Fillet welds can also be made in primer treated material without porosity or fusion defects along the top edge.

#### Welding Positions



#### Specifications

Coating Type	Rutile, Iron powder
Classification	
AWS/ASME-SFA A5.1 E7024	
AS/NZS 4855 B-E 49 24 A	

#### Packaging Data

Dia. (mm)	Packet (kg)	Carton (kg)	Quantity	Part No.
3.2	6.0	18.0	91	186166
4.0	6.0	18.0	60	186167
5.0	5.5	16.5	36	186168



# Low Hydrogen Electrodes

## Smootharc 16

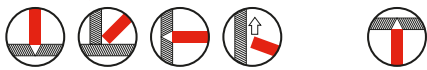
### Description

Smootharc 16 is a basic coated 105% recovery electrode intended for general welding applications where controlled hydrogen and medium tensile properties are required. It has excellent mechanical and X-ray properties.

### Application

For welding section steels, tank work and general fabrication. Suitable for unalloyed, micro alloyed and low alloyed steels.

### Welding Positions



### Specifications

Coating Type	Basic
Classification	
AWS/ASME-SFA A5.1 E7016-1 H4	
AS/NZS 4855 B-E 49 16-1 A H5	
Welding Current*	AC, OCV 60V or DC+-
Hydrogen content /100g weld metal	<4ml
* DC- is recommended for root passes.	

### Packaging Data

Dia. (mm)	Packet (kg)	Carton (kg)	Quantity	Part No.
2.5	3.5	10.5	178	186145N
3.2	3.5	10.5	101	186146N
4.0	3.5	10.5	66	186147N



## Smootharc 18

### Description

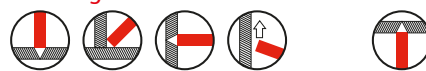
Smootharc 18 is a basic-coated low hydrogen AC/DC electrode for which the outstanding all round operability has been optimised. The smooth, soft arc, easy slag control, all positional welding with low spatter and excellent slag removal provide maximum operator appeal. The electrode is suitable for welding mild and higher strength steels. It combines strength and toughness and is particularly suitable for heavily restrained sections where there can be risk of cracking due to weld stress.

### Application

With its excellent general operability and good positional welding characteristics, the Smootharc 18 is used for general fabrication work as well as pipe welding where the fine spray transfer provides precise weld pool control. The fine arc spray also makes it an ideal electrode for the experienced welder, and for positional work in demanding applications.

The electrode produces a finely rippled bead surface and smooth transition with the base material. This, together with the exceptionally good slag detachability, even in root runs, gives the Smootharc 18 superior radiographic quality. It is also an ideal electrode for use on AC machines with an OCV of 70V.

### Welding Positions



### Specifications

Coating Type	Basic
Classification	
AWS/ASME-SFA A5.1 E7018-1 H4	
AS/NZS 4855 B-E 49 18-1 A H5	
Welding Current*	AC, OCV 70V or DC+-
Hydrogen content / 100g weld metal	<4ml
* DC- is recommended for root passes.	

### Packaging Data

Dia. (mm)	Packet (kg)	Carton (kg)	Quantity	Part No.
2.5	3.5	10.5	148	184155N
3.2	3.5	10.5	89	184156N
4.0	3.5	10.5	64	184157N

## Austarc 16TC E7016

### Description

Smooth running, basic low hydrogen electrode, developed for all positional (except vertical down) welding, using AC or DC power sources. It has exceptional arc stability and weldability and delivers high quality weld deposits with reliable notch toughness to -40°C.

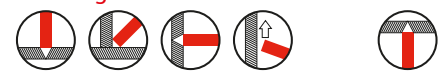
Austarc 16TC is manufactured using a unique twin coating extrusion process, which means all the arc stabilising elements are concentrated in the inner coating. This delivers significantly improved arc stability and control for all applications.

### Application

The ideal hydrogen controlled electrode for welding carbon, carbon-manganese and low alloy high strength steels used in a multitude of critical and non-critical applications.

Typical applications include pipe welding, single sided weld joints, highly restrained joints, maintenance applications, buffer layer prior to hard surfacing build-up, structural steel and sub zero temperature applications.

### Welding Positions



### Specifications

Coating Type	Basic
Classification	
AS/NZS 4855-B - E49 16-A U H10	
AWS A5.1: E7016 H8	
Welding Current*	

\*Please note, 2.5 and 3.2 Austarc 16TC are recommended for DC+ or AC (minimum 45 OCV) operation, whereas 4.0 size requires a minimum of 55 OCV for stable AC operation.

### Packaging Data

Dia. (mm)	Packet (kg)	Part No.
2.5	2.5	16TC25
3.2	5.0	16TC32
4.0	5.0	16TC40
5.0	5.0	16TC50



## Mild Steel MIG Wire

### BOC Mild Steel MIG Wire

#### Description

BOC Mild Steel MIG Wire is a premium quality bronze coated MIG wire produced from high quality double deoxidised rod. The higher manganese and silicon levels ensure improved weld metal deoxidation, making BOC Mild Steel MIG Wire an excellent choice for welding on metal with a medium to high presence of mill scale or rust. The higher silicon levels promote a smooth bead surface and a flat fillet bead profile with equal leg length and uniform wetting is easily achieved.

The wire is designed for both single- and multiple-pass welding in all positions.

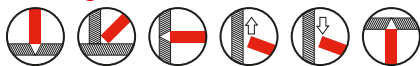
The wire is bronze coated for increased shelf life and to ensure good electrical conductivity with reduced friction during high speed welding.

BOC Mild Steel MIG Wire has excellent, smooth wire feedability and is suitable for welding with dip (short circuit), spray arc and pulsed arc transfer using Ar/CO<sub>2</sub> or CO<sub>2</sub> shielding gases.

#### Application

BOC Mild Steel MIG Wire is recommended for welding of mild and medium tensile strength steels and is an excellent choice for general steel construction, sheet metal applications, pressure vessel fabrication, structural welding and pipe welding.

#### Welding Positions



#### Specifications

Classification	
AWS/ASME-SFA A5.18 ER70S-6	
AS/NZS 14341 B-G 49A 3U C S6, B-G 49A 3U M S6	
*with Ar / CO <sub>2</sub> shielding gas.	

#### Packaging Data

Dia. (mm)	Winding	Pack (kg)	Type	Pallet (kg)	Part No.
0.9	Precision PLW	15	300 mm Spool	810	1091155
1.0	Precision PLW	15	300 mm Spool	810	1101155
1.2	Precision PLW	15	300 mm Spool	810	1121155

### MagMate® Mild Steel MIG Wire

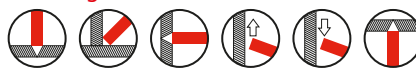
#### Description

MagMate® mild steel MIG wire is a quality copper-coated MIG wire produced from double deoxidised rod. MagMate® mild steel MIG wire is an excellent choice for welding on metal with medium to high presence of mill scale or rust. The wire is designed for both single and multiple pass welding in all positions. The copper coating on the wire increases the shelf life and ensures good electrical conductivity.

#### Application

MagMate® mild steel MIG wire is recommended for welding of mild and medium tensile steels and is an excellent choice for general steel construction, sheet metal applications and structural welding.

#### Welding Positions



#### Specifications

Classification	
AWS/ASME-SFA A5.18 ER70S-6	
AS/NZS 14341 B-G 49A 3U C S6, B-G 49A 3U M S6	

#### Packaging Data

Dia. (mm)	Pack (kg)	Type	Part No.
0.6	5	200mm Spool	706B0506
0.6	15	300mm Spool	706B06-1
0.8	5	200mm Spool	706B0508
0.8	15	300mm Spool	706B08-1
0.9	5	200mm Handi Spool	706B0509
0.9	15	300mm Spool	706B09-1
0.9	250	Smoothpak Drum	706B09250
1.0	15	300mm Spool	706B10-1
1.0	250	Smoothpak Drum	706B10250
1.2	15	300mm Spool	706B12-1
1.2	250	Smoothpak Drum	706B12250
1.6	15	300mm Spool	706B16-1





## Mild Steel MCAW Wire

### Hyundai Ball Pac Mild Steel MIG Wire

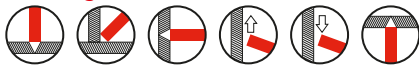
#### Description

Hyundai Ball Pac mild steel MIG wire is an electroplated copper-coated welding wire that provides more accurate and consistent arc when compared to chemically-plated welding wire. This wire is an excellent choice for welding on metal with medium to high presence of mill scale or rust. The pre-tensioned, electroplated wire and marble system provides more consistent starts, more accurate weld tracking, and excellent feedability. The marble system regulates the resistance on top of the wire, compressing the wire to ensure that only one strand is picked up at a time. Ideal for robotic and automated welding applications.

#### Application

Hyundai Ball Pac is ideal for general fabrication and steel and automotive industries.

#### Welding Positions



#### Specifications

Classification
AWS/ASME-SFA A5.18 ER70S-6
ISO 14341-A G 42 2 C 3Se1
ISO 14341-A G 42 4 M 3Se1

#### Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
0.9	300	Drum	NZBP09
1.0	300	Drum	NZBP10
1.2	300	Drum	NZBP12
1.6	400	Drum	NZBP16

### SmoothCor™ 70C6-H5

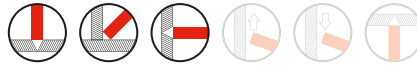
#### Description

SmoothCor™ 70C6-H5 is a metal-cored wire suitable for use with M21 Argon-CO<sub>2</sub> mixtures. Designed for single and multi pass welding, this wire can be used in both the flat and horizontal positions. SmoothCor™ 70C6-H5 welds with a very smooth running, low spatter arc. Deposition efficiency is high and slag islands minimal. With its wide range of welding parameters, excellent feedability and easy arc starting characteristics, SmoothCor™ 70C6-H5 has superb welder appeal.

#### Application

SmoothCor™ 70C6-H5 is ideal for a wide range of high speed fillet and butt welding applications where high productivity is required. SmoothCor™ 70C6-H5 has better wetting action than solid wire, minimising cold lap on heavier sections of steel. SmoothCor™ 70C6-H5 is recommended for general fabrication of mild and medium tensile steels. It is also suitable for use on pressure vessel work and structural welding.

#### Welding Positions



Can be used in other positions using pulse machines.

#### Specifications

Type	Metal cored
Classification	
AWS/ASME SFA A5.36 E70 0 T15-M21 A2-CS1 H4	
AWS/ASMESFAA5.36ME490T15-M21A3-CS1H4	
AS/NZS ISO 17632 B-T 49 3 T15-0 M A H5	
AS/NZS ISO 17632 A-T 42 2 M M 3 H5	
Welding Current	DC+

#### Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
1.2	15	Spool (vacuum packed)	1070C612-H5
1.6	15	Spool (vacuum packed)	1070C616-H5
1.6	200	Drum	1070C616200-H5

## Mild Steel FCAW Wire

Gas: Mixed and CO<sub>2</sub>

### SmoothCor™ 711 Bright

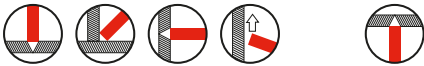
#### Description

SmoothCor™ 711 Bright is a general purpose, rutile flux-cored wire that performs exceptionally well in the downhand, vertical-up and overhead positions at the same parameter settings. It is suitable for use with both Ar/CO<sub>2</sub> or CO<sub>2</sub> shielding gases. Designed for single and multi pass welding, SmoothCor™ 711 Bright produces weld metal that is consistently free of inclusions and porosity for X-ray soundness. SmoothCor™ 711 Bright welds with a very smooth running, low spatter arc and a fine spray type transfer to give excellent weld pool control. Bead surface is extremely smooth with excellent slag detachability. Flat fillet bead profile with equal leg length and uniform wetting is easily achieved. SmoothCor™ 711 Bright has a very wide operating window, excellent feedability and easy arc starting characteristics.

#### Application

SmoothCor™ 711 Bright is recommended for welding of mild and medium tensile strength steels and is an excellent choice for general steel construction, ship building, pressure vessel fabrication and structural welding.

#### Welding Positions



#### Specifications

Flux Type	Rutile
Classification	
AWS/ASME SFA A5.36 E71T1-M21 A2 CS1 H8 E71T1-C1 A2 CS1 H4	
AWS/ASME SFA A5.36M E49T1-M21 A3 CS1 H8 E49T1-C1 A3 CS1 H4	
AS/NZS ISO 17632 B-T 49 3 T1-1 M A H10 B-T 49 3 T1-1 C A H5	
AS/NZS ISO 17632 A-T 42 2 P M 1 H10 A-T 42 2 P C 1 H5	
Welding Current	DC+

\* With Ar / CO<sub>2</sub> and CO<sub>2</sub> shielding gas

#### Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
1.2	15	Spool (vacuum packed)	1071112-B
1.6	15		1071116-B

Gas: CO<sub>2</sub> Only

### MagMate® 71C

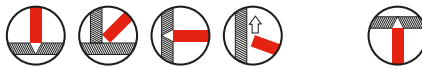
#### Description

- Rutile type flux cored wire designed for use with Carbon Dioxide (CO<sub>2</sub>) shielding gas
- Can be used in all positions, including downhand, vertical-up and overhead
- Designed for single and multi pass applications
- Good impact properties at -40°C
- Precision layer wound (PLW)
- Good operator appeal

#### Application

MagMate® 71C is recommended for welding mild and medium strength steels and low temperature steel. It may be used for general steel fabrication, ship building, storage tanks and structural welding of bridges and buildings.

#### Welding Positions



#### Specifications

Flux Type	Rutile
Classification	
AWS/ASME-SFA A5.36 E71T1-C1A4-CS1 H8	
AWS/ASME-SFA A5.36M E49T1-C1A4-CS1 H8	
AS/NZS ISO 17632 B-T 49 4 T1-1 C A-U H5	
Welding Current	DC+

#### Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
1.2	15	Spool (vacuum packed)	12MAG71C
1.6	15		16MAG71C

Gas: CO<sub>2</sub> Only

### Hyundai Supercored 71H

#### Description

Supercored 71H is a titania flux-cored wire for all position welding with high amperage. Its impact value is very good under high heat input. Arc is smooth and slag detachability is excellent. Proper preheating (50-150°C) and interpass temperature must be used in order to release hydrogen which may cause cracking in weld metal when electrodes are used for medium and heavy plates. One-side welding defects such as hot cracking may occur with wrong welding parameter such as high welding speed. Use 100% CO<sub>2</sub> gas.

#### Application

All position welding in ship building, bridges, building and structural fabrication.

#### Welding Positions



#### Specifications

Classification	
AWS A5.20 / ASME SFA5.20 E71T-1C/-9C/-9C-J	
AS/NZS ISO 17632-B-T 49 4 T1-1 C H5	
Welding Current	DC+

#### Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
1.2	15	Spool (vacuum packed)	71H12
1.6	15		71H16

Gas: CO<sub>2</sub> Only

# Hyundai SF-71LF

## Description

SF-71LF is the most widely used titania type flux cored wire for all position welding with CO<sub>2</sub> shielding gas. As the deposition rate is higher than solid wire and manual metal arc electrodes, highly efficient welding can be performed. Arc stability is excellent. Spatter loss is low and slag covering is uniform with good removability. SF-71LF is effective for use in insufficient ventilation areas. Proper preheating (50-150°C) and interpass temperature must be used in order to release hydrogen which may cause cracking in weld metal when electrodes are used for medium and heavy plates. One-side welding defects such as hot cracking may occur with wrong welding parameter such as high welding speed. Use 100% CO<sub>2</sub> gas.

## Application

All position welding in ship building, machinery, bridges, buildings, vehicles using mild and higher strength steels.

## Welding Positions



## Specifications

Classification	
AWS A5.20 / ASME SFA5.20 E71T-1C/-9C/-9C-J	
AS/NZS ISO 17632-B-T 49 0 T1-1 C H10	
Welding Current	DC-

## Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
1.2	15	Spool (vacuum packed)	SF7112
1.6	15		SF7116

## Mild Steel Self-shielded FCAW Wire (Gasless)

### SmoothCor™ GS

#### Description

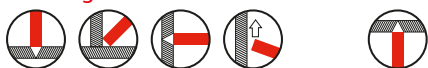
SmoothCor GS is a self-shielded, flux cored wire that has been formulated to perform exceptionally well in the downhand, vertical-up and overhead positions and also to make welds at high speed. The wire has been designed for those applications where the use of shielding gas is inappropriate and where impact toughness is not of prime concern. SmoothCor GS is intended for single pass welding of thin-gauge mild and galvanised, aluminised or other coated steels ranging from 0.7mm to 5mm.

SmoothCor GS operates on DC electrode negative and welds with a very smooth running, soft, spray type transfer which minimises burn-through and facilitates welding joints with gaps or poor fit up. There is virtually no spatter and together with the very wide operating window, good feedability and easy arc starting characteristics assures excellent operator appeal.

#### Application

SmoothCor GS is the natural choice for applications such as lap and fillet welds on galvanised sheet metal, welding ductwork and joining galvanised roofing sheet metal.

#### Welding Positions



#### Specifications

Flux Type	Rutile
Classification	
AWS/ASME-SFA A5.36 E71T14S-AZ-CS3	
AWS/ASME-SFA A5.36M E49T14S-AZ-CS3	
AS/NZS ISO 17632 B-T 49 Z TG-1 N A-H15	
Welding Current	DC-

#### Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
0.8	4.5	Spool	10GS08
0.9	4.5		10GS09
1.2	15		10GS12

### SmoothCor™ 4

#### Description

SmoothCor 4 is a self-shielded, flux cored wire for use in the single and multiple pass welding of mild and medium tensile strength steels. The wire is intended for flat position welding of butts and fillets and horizontal fillet welding with extremely high deposition rates. The basic slag system is designed to produce a weld that is very low in sulphur for improved resistance to hot cracking.

SmoothCor 4 operates on DC electrode positive and welds with a very smooth running, low spatter arc with a globular type transfer. The resultant bead surface is smooth with a full covering, easily detached slag. SmoothCor 4 produces a weld with low penetration which facilitates welding fillets with gaps or poor fit up.

#### Application

SmoothCor 4 is ideally suited for welding applications where gas-shielded wires may have problems, such as outdoors or in windy conditions. These would typically be light gauge steel plate fabrication or general purpose fabrication of mild and medium tensile strength steels. SmoothCor 4 is also a good choice in poor fit up situations or when extended stickouts must be used in hard-to-reach areas.

#### Welding Positions



#### Specifications

Flux Type	Basic
Classification	
AWS/ASME-SFA A5.36 E70T4-CS3 H16	
AWS/ASME-SFA A5.36M E49T4-CS3 H16	
AS/NZS ISO 17632 B-T 49 Z T4-0 N A-H15	
Welding Current	DC+

#### Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
2.4	23	Coil	100424
3.0	23		100430

### SmoothCor™ 8

#### Description

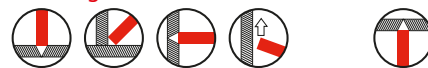
SmoothCor 8 is a self-shielded, flux cored wire that performs exceptionally well in the downhand, vertical-up and overhead positions. The wire has been designed for those applications where the use of shielding gas is inappropriate and where excellent low temperature impact toughness and crack resistance are required. SmoothCor 8 is intended for semi-automatic and automatic welding of mild and medium strength plate and pipes in both single and multiple pass welds.

SmoothCor 8 operates on DC electrode negative and welds with a very smooth running, globular type transfer. Spatter is exceptionally low and together with the wide operating window, good feedability, easy arc starting characteristics and slag removal, assures excellent operator appeal.

#### Application

SmoothCor 8 is well suited for butt, lap and fillet welds on mild and medium strength steels. It is designed for structural applications such as bridge fabrication, ship construction and other general structural fabrication. The versatility of SmoothCor 8 makes it an excellent selection for assembly and maintenance welding in all positions.

#### Welding Positions



#### Specifications

Classification	
AWS/ASME-SFA A5.36 E71T8-A2-CS3 H8	
AWS/ASME-SFA A5.36M E49T8-A2-CS3 H8	
AS/NZS ISO 17632 B-T 49 3 T8-1 N A-H10	
Welding Current	DC-

#### Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
1.6	15	Spool (vacuum packed)	100816
2.0	11.34		100820

# SmoothCor™ 11

### Description

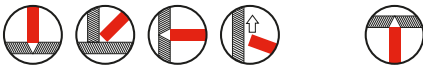
SmoothCor 11 is a self-shielded, flux cored wire that performs exceptionally well in the downhand, vertical-up and overhead positions. The wire has been designed for those applications where the use of shielding gas is inappropriate and where impact toughness is not of prime concern. SmoothCor 11 is intended for semi-automatic and automatic welding of mild and galvanised steels in single pass and limited multiple pass applications.

SmoothCor 11 operates on DC electrode negative and welds with a very smooth running, spray type transfer which minimises burn-through and facilitates welding joints with gaps or poor fit up. Spatter is exceptionally low and together with the very wide operating window, good feedability and easy arc starting characteristics assures excellent operator appeal.

### Application

SmoothCor 11 is well suited for butt, lap and fillet welds on mild and galvanised steels from 1.5mm through to 12mm. The versatility of SmoothCor 11 makes it an excellent selection for assembly and maintenance welding in all positions.

### Welding Positions



### Specifications

Flux Type	Rutile
Classification	
AWS/ASME-SFA A5.36 E71T11-AZ-CS3	
AWS/ASME-SFA A5.36M E49T11-AZ-CS3	
AS/NZS ISO 17632 B-T 49 Z T11-1 N A-H15	
Welding Current	DC-

### Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
0.9	4.5	Spool	101109
1.2	15		101112
1.6	15		101116
2.0	15		101120



# Low Alloy FCAW Wire

## SmoothCor™ 81 Ni1 H4

### Description

SmoothCor 81 Ni1 H4 is a rutile type flux cored wire designed for the welding of carbon and low alloy steels which require moderate tensile strength and good impact toughness at subzero temperatures. It is suitable for use with both Ar/CO<sub>2</sub> or CO<sub>2</sub> shielding gases and can be used in all positions, including downhand, vertical-up and overhead.

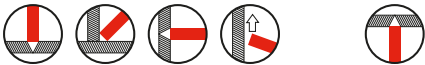
Designed for single and multi pass welding, SmoothCor 81 Ni1 H4 deposits a weld metal containing approximately 1% Ni. The nickel content of the weld metal ensures good impact toughness properties at subzero temperatures and the weld metal is consistently free of inclusions and porosity for X-ray soundness. The very low H4 hydrogen class ensures superior crack resistance.

A rutile based wire, SmoothCor 81 Ni1 H4 welds with a very smooth-running, low spatter arc and a fine spray type transfer to give excellent weld pool control. Bead profile is smooth with minimum convexity.

### Application

SmoothCor 81 Ni1 H4 is recommended for welding finegrained, low alloy steels intended for service at low temperatures and for matching strength on 490MPa yield strength steels. It is also suitable for welding fine-grained and quench and tempered steels where undermatching strength weld metal is desirable.

### Welding Positions



### Specifications

Flux Type	Rutile
Classification	
AWS/ASME-SFA A5.29 E81T1-Ni1 H4	
AWS/ASME-SFA A5.29 E81T1-Ni1M H4	
AS/NZS ISO 17632 B-T 55 4 T1-1 M A-N2 U H5	
B-T 55 4 T1-1 C A-N2 U H5	
Welding Current	DC+

### Packaging Data

Dia. (mm)	Weight (kg)	Type	Part No.
1.2	15	Spool (vacuum packed)	1081Ni112
1.6	15		1081Ni116
2.0	15		1081Ni120

## Mild Steel TIG and Gas Welding Rods

### ProFill 70S-6 Mild Steel TIG Rods

#### Description

BOC mild steel TIG rods are premium quality, copper-coated TIG rods produced from high quality double oxidised rod. The higher manganese and silicon levels ensure improved weld de-oxidation making BOC 70S-6 TIG rods an excellent choice for welding on metal with a medium to high presence of mill scale or rust.

#### Application

BOC 70S-6 TIG rods are recommended for welding of low to medium tensile strength steels and is an excellent choice for general steel fabrication, sheet metal applications, pressure vessel applications, structural welding and pipe welding.

This product is sold in a resealable 5 kg tube.

#### Specifications

Classification			
AWS/ASME-SFA A5.1 ER 70S-6			
AS/NZS 1167.2 R6			

#### Packaging Data

Dia. (mm)	Weight (kg)	Length (m)	Part No.
1.6	5.0	1.0	11605S6
2.4	5.0	1.0	12405S6

Gas: Argon

### Hyundai Carbon Steel TIG Rods

#### Description

Copper coated, low carbon steel rods for gas tungsten arc welding applications. All position welding and steel sheet welding can be performed quite easily.

#### Application

Butt and fillet welding of carbon steel for pressure vessels, tubes for nuclear reactors, ships, penstock and aluminum-killed steel for low temperature service.

#### Specifications

Classification			
AWS A5.18 / ASME SFA5.18 ER70S-6			
AS/NZS 1167.2 R6			

#### Packaging Data

Dia. (mm)	Weight	Length	Part No.
1.6	5.0 kg	1.0 m	MST50-6-16
2.4	5.0 kg	1.0 m	MST50-6-24
3.2	5.0 kg	1.0 m	MST50-6-32

### ProFill 70S-2 Mild Steel TIG Rods

#### Description

BOC mild steel TIG rod (S2) is a premium quality copper-coated TIG rod produced from high quality triple deoxidised rod.

The triple deoxidised wire ensures improved weld deoxidation making the BOC 70S-2 TIG rod an excellent choice where best quality weld metal is required and for welding on metal with a medium level of mill scale or rust.

#### Application

BOC 70S-2 TIG rods are recommended for welding of low to medium tensile strength steel where good root toughness and radiographic soundness is required.

This product is sold in a resealable 5 kg tube.

#### Specifications

Classification			
AWS/ASME-SFA A5.18 ER 70S-2			
AS/NZS 1167.2 R2			

#### Packaging Data

Dia. (mm)	Weight (kg)	Length	Part No.
1.6	5.0	1.0 m	11605S2
2.4	5.0	1.0 m	12405S2

### ProFill Mild Steel Gas Rods

#### Description

ProFill mild steel gas rods are used for general purpose oxy-fuel welding of mild steel. All rods are copper coated and embossed for ease of identification.

#### Application

Suitable for welding light mild steel sections.

This product is sold in a resealable 5 kg tube.

#### Specifications

Classification			
AWS/ASME-SFA A5.2 R45			
AS/NZS 1167.2 RG			

#### Packaging Data

Dia. (mm)	Weight (kg)	Length	Part No.
1.6	1.0	0.5 m	11601R45
1.6	1.0	1.0 m	11601R45-1
1.6	5.0	1.0 m	11605R45
2.4	1.0	1.0 m	12401R45
2.4	5.0	1.0 m	12405R45
3.2	1.0	1.0 m	13201R45
3.2	5.0	1.0 m	13205R45



## Stainless Steel Electrodes

### Smootharc S 308L

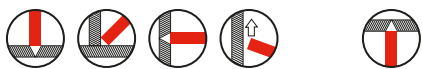
#### Description

Smootharc S 308L is a rutile coated, low carbon grade, AC/DC electrode for the high quality welding of austenitic stainless steel of the 19Cr/9Ni type. The electrode is very easy to strike and restrike. Welding performance is excellent with a very smooth, low spatter arc producing a finely rippled bead surface with excellent slag detachability.

#### Application

Smootharc S 308L is recommended for single and multi-pass welding of austenitic stainless steel 302, 304 and 304L grades. Austenitic stainless steel of the 19Cr/9Ni type may be used in the following applications: brewing equipment, steam piping, vacuum pump parts, dairy equipment, textile drying equipment, chemical handling equipment, pharmaceutical and food handling equipment.

#### Welding Positions



#### Specifications

Coating Type	Rutile
Classification	
AWS/ASME-SFA A5.4	E308L-17
AS/NZS 4854 B-ES308L-17	
Welding current	AC, OCV 50V or DC+
Scaling temperature	Approx. 850°C in air

#### Packaging Data

Dia. (mm)	Length (mm)	Can (kg)	Carton (kg)	Qty	Part No.
2.5	300	2.5	7.5	141	188082
3.2	350	3.0	9.0	86	188083
4.0	350	3.0	9.0	59	188084

### Smootharc S 316L

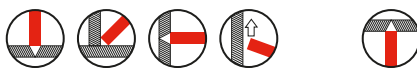
#### Description

Smootharc S 316L is a rutile coated, low carbon, 19Cr, 12Ni, 3Mo, AC/DC electrode for the high quality welding of molybdenum alloyed, acid resisting austenitic stainless steels of the 316/316L type. The electrode is very easy to strike and restrike. Welding performance is excellent with a very smooth, low spatter arc producing a finely rippled bead surface with excellent slag detachability. Fillet welds have a slightly concave profile with excellent toe line blend-in.

#### Application

Smootharc S 316L is recommended for single and multi-pass welding of molybdenum alloyed austenitic stainless steels 316 and 316L. It is also suitable for welding the Nb or Ti stabilised steels, provided service temperatures are below 400°C. Austenitic stainless steels of the 316/316L type may be used for applications such as food handling equipment, structures in marine environments, heat exchangers, chemical storage and transportation tanks, oil refining equipment and pharmaceutical equipment.

#### Welding Positions



#### Specifications

Coating Type	Rutile
Classification	
AWS/ASME-SFA A5.4	E316L-17
AS/NZS 4854 B-ES316L-17	
Welding current	AC, OCV 50V or DC+
Scaling temperature	Approx. 850°C in air

#### Packaging Data

Dia. (mm)	Length (mm)	Can (kg)	Carton (kg)	Qty	Part No.
2.5	300	2.5	7.5	136	188162
3.2	350	3.0	9.0	84	188163
4.0	350	3.0	9.0	58	188164

### Smootharc S 309L

#### Description

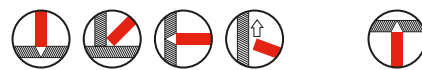
Smootharc S 309L is a rutile coated, AC/DC electrode that deposits a low carbon, 23Cr, 13Ni austenitic stainless steel weld metal. The electrode is very easy to strike and restrike. Welding performance is excellent with a very smooth, low spatter arc producing a finely rippled bead surface with excellent slag detachability.

#### Application

Smootharc S 309L is recommended for welding corrosion resistant and heat resistant steels of the 309 type, which are often used for furnace parts, aircraft and jet engine parts, heat exchangers and chemical processing equipment.

Smootharc S 309L can also be used for welding dissimilar carbon manganese steels and low alloy steels, welding stainless steels to mild steels and as a buffer for hardfacing applications.

#### Welding Positions



#### Specifications

Coating Type	Rutile
Classification	
AWS/ASME-SFA A5.4	E309L-17
AS/NZS 4854 B-ES309L-17	
Welding current	AC, OCV 50V or DC+
Scaling temperature	Approx. 1000°C in air

#### Packaging Data

Dia. (mm)	Length (mm)	Can (kg)	Carton (kg)	Qty	Part No.
2.5	300	2.5	7.5	207	188092
3.2	350	3.0	9.0	126	188093
4.0	350	3.0	9.0	84	188094

## Stainless Steel MIG Wire

### Smootharc S 309 MoL

#### Description

Smootharc S 309MoL is a rutile coated, AC/DC electrode that deposits a low carbon, 23 Cr, 12 Ni, 2.5 Mo austenitic stainless steel weld metal with a ferrite content of FN 20. The high alloy content and ferrite level enable the weld metal to tolerate dilution from dissimilar and difficult-to-weld materials without hot cracking.

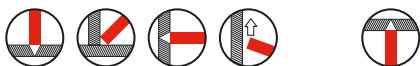
The electrode is very easy to strike and restrike. Welding performance is excellent, with a very smooth, low spatter arc producing a finely rippled bead surface with excellent slag detachability.

#### Application

Smootharc S 309MoL is recommended for welding corrosion-resistant CrNiMo steels to themselves and to mild and low alloy steels without hot cracking. The electrode is suitable for welding armour plate, austenitic manganese steel, medium and high carbon hardenable steels, tools, dies, springs etc. which may be of unknown composition.

Smootharc S 309MoL is also recommended for welding dissimilar steels, such as stainless steels to carbon manganese or low alloy steels and for welding austenitic manganese steel to carbon manganese and low alloy steel.

#### Welding Positions



#### Specifications

Coating Type	Rutile
Classification	
AWS/ASME-SFA A5.4	E309MoL-17
AS/NZS 4854 B-ES	309MoL-17
Welding current	AC, OCV 50V or DC+
Scaling temperature	Approx. 1000°C in air

#### Packaging Data

Dia. (mm)	Length (mm)	Can (kg)	Carton (kg)	Qty	Part No.
2.5	300	2.5	7.5	210	188096
3.2	350	3.0	9.0	129	188097

### Smootharc S 312

#### Description

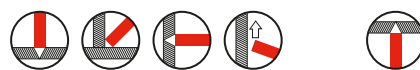
Smootharc S 312 is a rutile coated, AC/DC electrode that deposits a 29 Cr / 9 Ni austenitic / ferritic stainless steel weld metal with a ferrite content of FN 50. The resultant weld metal is high strength with high ductility and the structure is highly resistant to hot cracking and extremely tolerant of dilution from medium and high carbon steels.

The electrode is very easy to strike and restrike. Welding performance is excellent, with a very smooth, low spatter arc producing a finely rippled bead surface with excellent slag detachability.

#### Application

Smootharc S 312 is a universal electrode specifically designed for welding steels of poor weldability. The electrode is suitable for welding armour plate, austenitic manganese steel, medium and high carbon hardenable steels, tools, dies, springs etc that may be of unknown composition. It is also suitable for welding dissimilar steels (e.g. stainless to mild steel).

#### Welding Positions



#### Specifications

Coating Type	Rutile
Classification	
AWS/ASME-SFA A5.4	E312-17
AS/NZS 4854 A-E	29 9 R 32
Welding current	AC, OCV 50V or DC+
Scaling temperature	Approx. 1100°C in air

#### Packaging Data

Dia. (mm)	Length (mm)	Can (kg)	Carton (kg)	Qty	Part No.
2.5	300	2.5	7.5	225	188122
3.2	350	3.0	9.0	141	188123
4.0	350	3.0	9.0	93	188124

### BOC Stainless Steel MIG Wire 308LSi

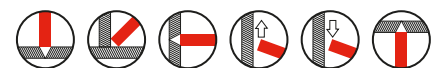
#### Description

High silicon levels improve arc characteristics and weld pool fluidity, and flatten weld bead profile. Low carbon increases resistance to corrosion and maintains mechanical properties.

#### Applications

- Welding of 304 and 304L for matching corrosion resistance and in cryogenic applications.
- Also suitable for welding 301, 302, 444, 3Cr12 & 5Cr12 (1.4003) grades.

#### Welding Positions



#### Specifications

Classification	
AWS/ASME-SFA A5-9	ER308LSi
AS/NZS ISO 14343 B-SS	308LSi

#### Packaging Data

Dia. (mm)	Weight (kg)	Part No.
0.9	15	109308
1.2	15	112308

## BOC Stainless Steel MIG Wire 309LSi

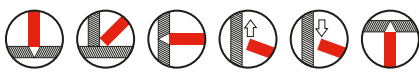
### Description

High silicon levels improve arc characteristics and weld pool fluidity, and flatten weld bead profile. Low carbon increases resistance to corrosion and maintains mechanical properties.

### Applications

- Welding of 23 Cr / 12 Ni type stainless steels
- For welding mild or low alloy steels to 300 and selected 400 series stainless steels
- Ideal for buttering layer on carbon for hardfacing consumables
- A stainless overlay on mild steels

### Welding Positions



### Specifications

Classification		
AWS/ASME-SFA A5-9 ER309LSi		
AS/NZS ISO 14343 B-SS309LSi		

### Packaging Data

Dia. (mm)	Weight (kg)	Part No.
0.9	5.0	1093095
0.9	15	109309
1.2	15	112309

## BOC Stainless Steel MIG Wire 316LSi

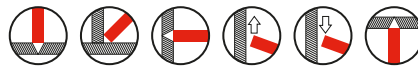
### Description

High silicon levels improve arc characteristics and weld pool fluidity, and flatten weld bead profile. Low carbon increases resistance to corrosion and maintains mechanical properties.

### Applications

- Welding of 316 and 316L for matching corrosion resistance and in cryogenic applications.
- Also suitable for welding 301, 302, 318, 444, 5Cr12 (1.4003) grades.

### Welding Positions



### Specifications

Classification		
AWS/ASME-SFA A5-9 ER316LSi		
AS/NZS ISO 14343 B-SS316LSi		

### Packaging Data

Dia. (mm)	Weight (kg)	Part No.
0.8	1.0	1083161
0.9	5.0	1093165
0.9	15	109316
1.2	15	112316

## BOC Stainless Steel MIG Wire 307Si

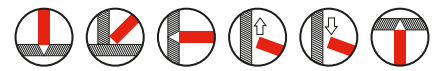
### Description

The BOC Smootharc 307Si MIG wire is a fully austenitic wire electrode for GMAW/MIG welding of high alloy steels to unalloyed or low alloy steels. It is also suitable for depositing crack arresting buffer layers on crack sensitive base metals, as well as cladding jobs. The weld metal is highly work hardenable and is also corrosion resistant. The deposit is non-scaling up to 850°C.

### Application

- Welding of 201, 202 stainless steels and 3Cr12 & 5Cr12 (1.4003) steels.
- Welding of armour plate, austenitic manganese steels & other difficult to weld steels.
- Welding of stainless steels to other steels eg. carbon & low alloy steels.
- Use as buffer layers under hardfacing.

### Welding Positions



### Specifications

Classification		
AS/NZS ISO 14343 A-G 18 8 Mn		

### Packaging Data

Dia. (mm)	Weight (kg)	Part No.
1.2	15	112307



# Stainless Steel TIG and Gas Welding Rods

## ProFill 308LSi

### Description

ProFill 308LSi stainless steel is a high quality, low carbon rod for the gas or gas tungsten arc (TIG) welding of a wide range of low carbon and stabilised 300 series stainless steels.

### Applications

It is recommended for the critical welding of 304 and 304L stainless steels in corrosion resistant and cryogenic applications.

- Resealable 5 kg tube
- Suitable for gas and GTA (TIG) welding

### Specifications

Classification		
AWS/ASME-SFA A5-9 ER308LSi		
AS/NZS ISO 14343 B-SS308LSi		

### Packaging Data

Dia. (mm)	Weight (kg)	Part No.
1.6	5.0	BTGS308L16 
2.4	5.0	BTGS308L24 

## ProFill 309LSi

### Description

ProFill 309LSi stainless steel is a high quality low carbon rod for the gas or gas tungsten arc (TIG) welding of highly alloyed 309 or 309L type stainless steels.


### Applications

- ProFill 309LSi is also suitable for the dissimilar joining of other 300 series austenitic stainless steels to mild and low alloy steels.
- It is ideal for welding martensitic 410 and 420 grades.
- It can also be used for welding ferritic grade 409 and 1.4003 (3Cr12, 5Cr12).
- Suitable for gas and GTA (TIG) welding

### Specifications

Classification		
AWS/ASME-SFA A5-9 ER309LSi		
AS/NZS ISO 14343 B-SS309LSi		

### Packaging Data

Dia. (mm)	Weight (kg)	Part No.
1.6	5.0	BTGS309L16 
2.4	5.0	BTGS309L24 

## ProFill 316LSi

### Description

ProFill 316LSi stainless steel is a high quality low carbon rod for the gas or gas tungsten arc (TIG) welding of molybdenum bearing stainless steels; in particular matching 316 and 316L alloys.



### Applications

- ProFill 316LSi is also suitable for general welding of 304 and 304L grades.
- It can also be used for welding ferritic grade 444.
- Suitable for gas and GTA (TIG) welding

### Specifications

Classification		
AWS/ASME-SFA A5-9 ER316LSi		
AS/NZS ISO 14343 B-SS316LSi		

### Packaging Data

Dia. (mm)	Weight (.0)	Part No.
0.9	5.0	BTGS316L09
1.2	5.0	BTGS316L12
1.6	1.0	BTGS316L161
1.6	5.0	BTGS316L16
2.0	5.0	BTGS316L20 
2.4	5.0	BTGS316L24
3.2	5.0	BTGS316L32 



## Aluminium MIG Wire

### ProFill 347

#### Description

ProFill 347 stainless steel is a high quality gas or gas tungsten arc (TIG) welding rod. Niobium stabilised for improved resistance to intergranular corrosion.

#### Applications

ProFill 347 is recommended for the TIG welding of 347, 348 and 321 type stainless steels stabilised with either niobium or titanium.

ProFill 347 is also suitable for the general purpose welding of other 300 series stainless steels, including 301, 302, 304 and 304L etc.

- Resealable 5 kg tube
- Suitable for gas and GTA (TIG) welding

#### Specifications

Classification
AWS / ASME-SFA A5-9 ER347
AS/NZS ISO 14343 B-SS347

#### Packaging Data

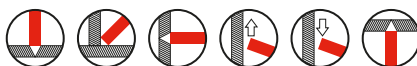
Dia. (mm)	Weight (kg)	Part No.
1.6	5.0	BTGS34716 
2.4	5.0	BTGS34724 

### BOC Aluminium MIG Wire 1070

#### Applications

For welding of 99.9% pure aluminium.




#### Welding Positions



#### Specifications

AS 2717.2 No equivalent  
 AWS / ASME A5.10 No equivalent  
 AS/NZS ISO 18273 S Al 1070

#### Packaging Data

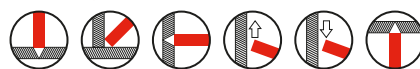
Dia. (mm)	Current (A)	Voltage (V)	Spool (kg)	Part No.
1.2	120-150	24-29	6.0	S971260 
1.6	200-320	25-33	6.0	S971660 
2.0	280-320	30-34	6.0	S972060 

### BOC Aluminium MIG Wire 4043

#### Applications

Used to weld alloys with a maximum of 2% alloying elements and for castings containing up to 7% Si. Also used for many general construction and automotive applications.





#### Welding Positions



#### Specifications

Classification
AWS / ASME A5-10 ER4043
AS/NZS ISO 18273 S Al 4043

#### Packaging Data

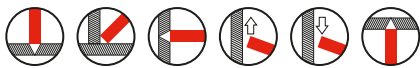
Dia. (mm)	Current (A)	Voltage (V)	Spool (kg)	Part No.
0.9	90-130	17-19	6.0	S430960 
1.0	100-140	17-19	6.0	S431060 
1.2	150-250	20-25	6.0	S431260 
1.6	200-360	20-28	6.0	S431660 

## BOC Aluminium MIG Wire 4047

### Applications

General purpose welding of aluminium sheets, extrusions and castings. Also used for many general construction and automotive applications.

### Welding Positions



### Specifications

#### Classification

AWS / ASME A5-10 ER4047

AS/NZS ISO 18273 S Al 4047

#### Packaging Data

Dia. (mm)	Current (A)	Voltage (V)	Spool (kg)	Part No.
1.0	100-140	17-19	6.0	S471060
1.2	120-150	24-29	6.0	S471260

## BOC Aluminium MIG Wire 5183

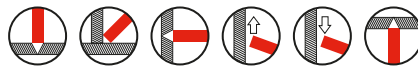
### Description

This product is used where high strength and resistance to sea water are required.

### Applications

Ideal for ship building, offshore, cryogenic equipment, railway constructions and automotive.

### Welding Positions



### Specifications

#### Classification

AWS / ASME A5-10 ER5183

AS/NZS ISO 18273 S Al 5183

#### Packaging Data

Dia. (mm)	Current (A)	Voltage (V)	Spool (kg)	Part No.
0.9	90-130	17-19	6.0	S510960
1.0	100-140	17-19	6.0	S511060
1.2	120-150	24-29	6.0	S511260
1.6	200-320	25-33	6.0	S511660

## BOC Aluminium MIG Wire 5356

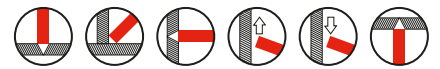
### Description

This product is used to weld aluminium magnesium base metal alloys with a maximum of 5% Mg. Suitable for a wide range of 3XXX, 5XXX, 6XXX and 7XXX series.

### Applications

Ideal for ship building, storage tanks, railways and the car industry.

### Welding Positions



### Specifications

#### Classification

AWS / ASME A5-10 ER5356

AS/NZS ISO 18273 S Al 5356

#### Packaging Data

Dia. (mm)	Current (A)	Voltage (V)	Spool (kg)	Part No.
0.8	50-150	14-21	0.5	S530805
0.8	50-150	14-21	5.0	S530850
0.9	80-180	16-22	0.5	S530905
0.9	80-180	16-22	2.0	S530920
0.9	80-180	16-22	6.0	S530960
1.0	110-220	17-23	0.5	S531005
1.0	110-220	17-23	2.0	S531020
1.0	110-220	17-23	6.0	S531060
1.2	150-250	20-25	0.5	S531205
1.2	150-250	20-25	2.0	S531220
1.2	150-250	20-25	6.0	S531260
1.6	200-320	25-33	6.0	S531660

## Aluminium TIG Rods

### BOC 4043 TIG Rods

#### Description

BOC 4043 TIG rod is a nominal 5% silicon alloy suitable for TIG welding of a wide range of cast and wrought aluminium alloys. It is extensively used for welding aluminium alloy castings. It has a lower weld deposit strength but excellent crack resistance.

#### Applications

Used for many general construction and automotive applications. Also used for welding aluminium busbars.

This product is sold in a resealable 2 kg tube.

#### Specifications

Classification		
AWS / ASME A5-10 ER4043		
AS/NZS ISO 18273 S Al 4043		

#### Packaging Data

Dia. (mm)	Weight (kg)	Part No.
1.6	2.0	<a href="#">S431602</a> 
2.4	2.0	<a href="#">S432402</a> 
3.2	2.0	<a href="#">S433202</a> 

### BOC 4047 TIG Rods

#### Description

General purpose welding and brazing of aluminium sheets, extrusions and castings. It has good mechanical characteristics including excellent corrosion resistance and low melting point.

#### Applications

Mainly used for brazing of aluminium components in refrigeration equipment and heat exchangers for turbo chargers. Suitable for furnace brazing.

This product is sold in a resealable 2 kg tube.

#### Specifications

Classification		
AWS / ASME A5-10 ER4047		
AS/NZS ISO 18273 S Al 4047		

#### Packaging Data

Dia. (mm)	Weight (kg)	Part No.
1.6	2.0	<a href="#">S471602</a> 
2.4	2.0	<a href="#">S472402</a> 
3.2	2.0	<a href="#">S473202</a> 

### BOC 5356 TIG Rods

#### Description

BOC 5356 TIG rod is a nominal 5% magnesium alloy suitable for TIG welding of a wide range of cast and wrought aluminium alloys. It produces intermediate deposit strength, good ductility and corrosion resistance for the welding of a wide range of 3XXX, 5XXX, 6XXX aluminium alloys. All rods are embossed for ease of identification.

#### Applications

Widely used for marine applications such as boats, catamarans, ferries and luxury yachts. Also for welding boarding and loading ramps, scaffolding, ladders and handrails. Also used for the construction of ships, storage tanks, railways and for applications in the automotive industry.

This product is sold in a resealable 2 kg tube.

#### Specifications

Classification		
AWS/ASME A5.10 ER5356		
AS/NZS ISO 18273 S Al 5356		

#### Packaging Data

Dia. (mm)	Weight (kg)	Part No.
1.6	2.0	<a href="#">S531602</a>
2.4	2.0	<a href="#">S532402</a>
3.2	2.0	<a href="#">S533202</a>

# Copper GMAW Wire

## Silicon Bronze S211

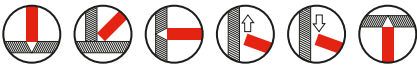
### Description

This product is a copper-based alloy containing approximately three percent silicon. They may also contain small percentages of manganese, tin or zinc. They are used for gas tungsten and gas metal arc welding of copper-silicon and copper-zinc base metals, to themselves and also to steel.

### Application

When gas tungsten arc welding with this product, best results are obtained by keeping the weld pool small. Preheating is not required. Welding can be done in all positions but the flat position is preferred.

### Welding Positions



### Specifications

Classification
AWS/ASME-SFA A5.7 ERCuSi-A
AS/NZS ISO 18273 S

### Packaging Data

Dia. (mm)	Pack Size (kg)	Part No.
0.8	5.0	211508
0.9	5.0	211509
0.9	13.6	211009
1.2	13.6	211012
1.6	13.6	211016

## S215 Al/Bronze A2

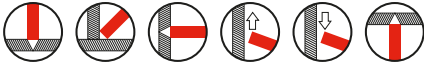
### Description

The S215 Al/Bronze A2 is an iron-bearing aluminium bronze and is generally used for joining aluminium bronzes of similar composition, manganese bronze, silicon bronze, and some copper-nickel alloys, ferrous metals and dissimilar metals. The most common dissimilar metal combinations are aluminium bronze to steel and copper to steel. This alloy is also used to provide wear and corrosion-resistant surfaces.

### Application

This product is recommended for low strength welding of steels. Primary applications include hot water systems, heat exchangers, and marine components for their corrosion resistance.

### Welding Positions



### Specifications

Classification
AWS/ASME-SFA A5.7 ERCuAl-A2

### Packaging Data

Dia. (mm)	Packet (kg)	Part No.
1.2	13	214412

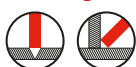
## Cast Iron Electrodes

### Smootharc C Cast Ni

#### Description

BOC Smootharc C Cast Ni is a pure nickel electrode for general purpose welding of all types of cast iron. It is suitable for the joining and repair of grey and malleable cast irons and dissimilar joints between these and steel, monel and stainless steels. Grey and malleable cast irons, machine bases, engine blocks and gear housings.

#### Welding Positions



#### Specifications

Classification			
AWS A5.15-90, E Ni-C1			

#### Packaging Data

Dia. (mm)	Current (A)	Pack (kg)	Part No.
2.5	60-80	4.0	189002
3.2	70-110	4.0	189003

### Smootharc C Cast NiFe

#### Description

BOC Smootharc C Cast NiFe is designed to produce a higher matching strength weld metal for joining malleable, nodular and SG irons. It is also suitable for joining these to mild, low alloy and stainless steels. Smootharc C Cast NiFe is less sensitive to hot cracking sometimes caused by impurities in castings, compared to pure nickel type electrodes. Spheroidal graphite, nodular and ductile cast irons (eg machine bases, transmission housings, gearboxes, engine blocks and pump bodies).

#### Welding Positions



#### Specifications

Classification			
AWS A5.15-90, E NiFe-C1			

#### Packaging Data

Dia. (mm)	Current (A)	Pack (kg)	Part No.
3.2	70-110	4.0	189103N

## Gouging Carbons

### BOC Gouging Carbons

#### Description

BOC carbons have been produced for effective, efficient metal removal by the arc-air gouging process.

They are manufactured for high quality gouging with:

- A first grade quality carbon / graphite mixture
- A premium copper coating to ensure consistent levels of conductivity and resistance
- Densely compacted carbon
- A copper coating that ensures consistent conductivity, resistance and arc stability
- Compacted quality carbon / graphite that ensures fast, efficient metal removal

#### Applications

- Removes metal from a wide range of commonly found metals, both ferrous and non-ferrous
- Pointed carbons are the most popular for general purpose applications of metal removal
- Jointed carbons have a male and female socket design, allowing either semi or completely automated metal removal
- Flat carbons are used when finer detail is required, including scarfing and special joint preparation
- Coating type: premium copper coating

#### Packaging Data

Description	Dia. (mm)	Length (mm)	Pack size	Part No.
Carbon DC	6.5	305	50	65G
Carbon DC	8	305	50	80G
Carbon DC	9.5	305	50	95G
Carbon DC	11	305	50	110G
Carbon DC Flat	15 × 5	—	50	0515S



# Gas Welding, Brazing and Soldering

## ProSilver 2

### Description

Self-fluxing for pure copper brazing due to the action of phosphorous; copper alloys, like brasses and bronzes, will require additional fluxes. It is not suitable for steel or alloys containing more than 10% nickel.

It produces rough-textured fillets of a greyish colour and, when permitted to run uncontrolled over the work, will roughen the surface. Not recommended where good appearance is desired or where subsequent electroplating is necessary.

The alloy has a relatively wide melting range and the parent metals brazed almost always have high thermal conductivity. For these reasons, the work should be heated quickly to brazing temperature and oxy-acetylene is preferable to either natural gas or propane. Brazing of tough pitch copper should be carried out with a slightly oxidizing flame to avoid hydrogen embrittlement.

Due to its wide melting range, there is a tendency for low melting phases to run out of the joint if the heating rate is too low, so care has to be taken to heat quickly to the brazing temperature.

### Application

ProSilver 2 is the main alloy used in plumbing and in the manufacture of copper hot water tanks, where water hammer necessitates a silver content.

It is not recommended for use in shock-loading situations, sulphurised gas or marine environments.

### Specifications

Classification
AS/NZS 1167.1-B2

#### Packaging Data

Size (mm)	Pack Size	Part No.
2.5 × 750	0.5 (kg)	LTAP0205
2.5 × 750	5 Rods	LTAP02B1
2.5 × 750	5.0 (kg)	LTAP0242
3.0 × 750	5.0 (kg)	LTAP0243
3.0 × 750	5 Rods	LTAP02B2

## ProSilver 5

### Description

Self-fluxing for pure copper brazing due to the action of phosphorous; copper alloys, like brasses and bronzes, will require additional fluxes. It is not suitable for steel or alloys containing more than 10% nickel.

It produces rough-textured fillets of a greyish colour and, when permitted to run uncontrolled over the work, will roughen the surface. Not recommended where good appearance is desired or where subsequent electroplating is necessary.

The alloy has a relatively wide melting range and the parent metals brazed almost always have high thermal conductivity. For these reasons, the work should be heated quickly to brazing temperature and oxy-acetylene is preferable to either natural gas or propane. Brazing of tough pitch copper should be carried out with a slightly oxidizing flame to avoid hydrogen embrittlement.

Due to its wide melting range, there is a tendency for low melting phases to run out of the joint if the heating rate is too low, so care has to be taken to heat quickly to the brazing temperature.

ProSilver 5 has improved strength/ductility and gap filling properties compared to ProSilver 2.

### Application

ProSilver 5 is the main alloy used in plumbing and in the manufacture of copper hot water tanks, where water hammer necessitates a silver content.

It is not recommended for use in shock-loading situations, sulphurised gas or marine environments.

### Specifications

Classification
AS/NZS 1167.1-B3

#### Packaging Data

Size (mm)	Pack Size	Part No.
2.0 × 750	0.5 (kg)	LTAP0505
2.0 × 750	5 Rods	LTAP05B1
2.5 × 750	0.5 (kg)	LTAP0506
2.5 × 750	5 Rods	LTAP05B2
2.5 × 750	2.5 (kg)	LTAP0522
3.0 × 750	2.5 (kg)	LTAP0500

## ProSilver 15

### Description

Self-fluxing for pure copper brazing due to the action of phosphorous; copper alloys, like brasses and bronzes, will require additional fluxes. It is not suitable for steel or alloys containing more than 10% nickel.

It produces rough-textured fillets of a greyish colour and, when permitted to run uncontrolled over the work, will roughen the surface. Not recommended where good appearance is desired or where subsequent electroplating is necessary.

The alloy has a relatively wide melting range and the parent metals brazed almost always have high thermal conductivity. For these reasons, the work should be heated quickly to brazing temperature and oxy-acetylene is preferable to either natural gas or propane. Brazing of tough pitch copper should be carried out with a slightly oxidizing flame to avoid hydrogen embrittlement.

Due to its wide melting range, there is a tendency for low melting phases to run out of the joint if the heating rate is too low, so care has to be taken to heat quickly to the brazing temperature.

### Application

ProSilver 15 is used for high vibration joints on refrigerator copper pipes. It is also used for brazing contacts onto copper-based parts because of its good flow characteristics and good electrical conductivity.

It is not recommended for use in shock-loading situations, sulphurised gas or marine environments.

### Specifications

Classification
AS/NZS 1167.1-B4

#### Packaging Data

Size (mm)	Pack Size	Part No.
1.5 × 750	2.5 (kg)	LTAP1524
2.0 × 750	5 Rods	LTAP15B2
2.0 × 750	0.5 (kg)	LTAP1506
2.0 × 750	2.5 (kg)	LTAP1521
2.5 × 750	5 Rods	LTAP15B3
2.5 × 750	0.5 (kg)	LTAP1507
2.5 × 750	2.5 (kg)	LTAP1522
3.0 × 750	0.5 (kg)	LTAP1508
3.0 × 750	2.5 (kg)	LTAP1523



BOC's Prosilver 2, Prosilver 5 and Prosilver 15 products are registered on the WaterMark Certification Scheme.

The WaterMark Certification Scheme is a mandatory certification scheme for plumbing and drainage products to ensure they are fit for purpose and appropriately authorised for use in plumbing and drainage installations. For more information go to [www.abcb.gov.au/product-certification/watermark-certification-scheme](http://www.abcb.gov.au/product-certification/watermark-certification-scheme).



ProSilver 30T

Description

Suitable for brazing of all low alloy and carbon steels, copper and copper alloys, and nickel alloys.

It can be used for brazing where close tolerances on joint gaps cannot be held, and it can form large fillets.

The joint area should be brought to the brazing temperature before application of the alloy to prevent liquation (separation of low melting components from the alloy under slow heating conditions).


To avoid risk of cracking, it should not be quenched after brazing.

Maximum continuous operating service temperature should not exceed 200°C.

Specifications

Classification
AS/NZS 1167.1-A16

Packaging Data

Size (mm)	Pack Size	Part No.
1.5 × 750	0.5 (kg)	LTAT3001 
2.5 × 750	0.5 (kg)	LTAT3003 

ProSilver 34T

Description

This alloy was developed as the cadmium-free replacement for ProSilver 34.

Suitable for carbon and low alloy steels, copper and copper alloys (aluminium bronzes with more than 2% aluminium require special flux), nickel and nickel alloys, and stainless steels (not exposed to continuous contact with water).

Due to its wide melting range, this alloy can be used to fill joint gaps that can not be closely controlled.



It should not be quenched from high temperatures (>300°C). It should also not be quenched when used to braze components with widely differing coefficients of thermal expansion, due to risks with cracking.

It is suitable for continuous service operating temperatures up to 200°C.

Specifications

Classification
AS/NZS 1167.1-A18

Packaging Data

Size (mm)	Pack Size	Part No.
1.5 × 750	5 Rods	LTAT3592
1.5 × 750	0.5 (kg)	LTAT3401 
2.5 × 750	0.5 (kg)	LTAT3403 

ProSilver 39T

Description

Suitable for brazing of all low alloy and carbon steels, copper and copper alloys, and nickel alloys.

It can be used for brazing where close tolerances on joint gaps cannot be held and can form large fillets.

The joint area should be brought to the brazing temperature before application of the alloy to prevent liquation (separation of low melting components from the alloy under slow heating conditions).


To avoid risk of cracking, it should not be quenched after brazing.

Maximum continuous operating service temperature should not exceed 200°C.

Specifications

Classification
AS / NZS 1167.1-A15

Packaging Data

Size (mm)	Pack Size	Part No.
1.5 × 750	0.5 (kg)	LTAT3901 



## ProSilver 45T

### Description

This alloy was developed as the cadmium-free replacement for ProSilver 45.

It is suitable for carbon and low alloy steels, copper and copper alloys (aluminium bronzes with more than 2% aluminium require special flux), nickel and nickel alloys, and stainless steels for food and medical applications (not exposed to continuous contact with water).




Low brazing temperature, coupled with a narrow melting range, makes it free flowing and produces joints with small, smooth fillets.

Good corrosion resistance.

Used widely in marine applications due to its resistance to dezincification.

Suitable for continuous service operating temperatures up to 200°C.

### Specifications

Classification		
AS/NZS 1167.1-A19		
Packaging Data		
Size (mm)	Pack Size	Part No.
1.5 × 500	2 Rods	LTAT4564
1.5 × 500	5 Rods	LTAT4563
1.5 × 750	2.5 (kg)	LTAT4520 
1.5 × 750	0.5 (kg)	LTAT4501
2.5 × 750	0.5 (kg)	LTAT4503 
3.0 × 750	0.5 (kg)	LTAT4504 

## ProSilver 56T

### Description

Cadmium-free brazing alloy with a short melting range, suitable for brazing of most metals such as copper alloys and stainless steels for food and medical applications.


Very free flowing and produces neat joints with small fillets.

Has some resistance to dezincification and is used for brazing of stainless steel food handling equipment.

To avoid risk of cracking, it should not be quenched after brazing.

Maximum continuous operating service temperature should not exceed 200°C.

### Specifications

Classification		
AS/NZS 1167.1-A2		
Packaging Data		
Size (mm)	Pack Size	Part No.
1.5 × 750	0.5 (kg)	LTAT5601 
2.5 × 750	0.5 (kg)	LTAT5603

## ProSilver 402

### Description



Cadmium-free brazing alloy with a wide melting range, suitable for forming fillets.

**WARNING** Brazing can give rise to excessive noise, eye and skin burns due to the flame and its radiation, and can be a potential health hazard if you breathe in the emitted fumes and gases. Brazing should be carried out in a well ventilated area with operators positioned so that any fume generated will not be inhaled. Adequate ventilation to prevent an accumulation of fumes and gases should be used. Where fume levels cannot be controlled below the recognised exposure limits, use local exhaust to reduce fumes and gases; in confined spaces without adequate ventilation, an air-fed breathing system should be used; outdoors a respirator may be required. Precautions for working in confined spaces should be observed. Apart from fume hazards, flux can be irritating to the skin and prolonged contact should be avoided.

### Application

Suitable for brazing of stainless steel for dry applications and for brazing tungsten carbide up to 9 mm long- for longer lengths use ProSilver 494.

### Specifications

Classification		
AS/NZS 1167.1 -A8		
Packaging Data		
Size (mm)	Pack Size	Part No.
1.5 × 750	0.5 (kg)	LTAN4001 
1.5 × 750	5 Rods	LTAN4093 

## ProSilver 494


### Description

This alloy was developed as the cadmium-free replacement for ProSilver 503. It is recommended for brazing of tungsten carbide up to 19 mm long. The presence of nickel and manganese helps in wetting carbides – even those containing titanium.

### Specifications

Classification
AS/NZS 1167.1-A20

#### Packaging Data

Size (mm)	Pack Size	Part No.
1.5 × 750	0.5 (kg)	LTAT5301 
1.5 × 750	5 Rods	LTAT5392 

## SilverCoat 45T

### Description

This alloy was developed as the cadmium-free replacement for SilverCoat 45.

SilverCoat 45T is the extruded flux coated version of the standard ProSilver 45T.

Suitable for carbon and low alloy steels, copper and copper alloys (aluminium bronzes with more than 2% aluminium require special flux), nickel and nickel alloys, stainless steels for food and medical applications (not exposed to continuous contact with water).

Low brazing temperature, coupled with a narrow melting range, makes it free flowing and produces joints with small, smooth fillets.

Good corrosion resistance.

Used widely in marine applications due to its resistance to dezincification.

Suitable for continuous service operating temperatures up to 200°C.

### Specifications

Classification
AS/NZS 1167.1-A19

#### Packaging Data

Size (mm)	Pack Size	Part No.
1.5 × 500	2 Rods	LTAF4550T
1.5 × 500	5 Rods	LTAF4589T
1.5 × 500	500 (g)	LTAF4531T

## SilverCoat 56T

### Description

SilverCoat 56T is the extruded flux coated version of the standard ProSilver 56T.

This cadmium-free brazing alloy with a short melting range is suitable for brazing most metals such as copper alloys and stainless steels for food and medical applications.

Very free flowing and produces neat joints with small fillets.

To avoid risk of cracking, it should not be quenched after brazing.

Maximum continuous operating service temperature should not exceed 200°C.

### Application

This product has some resistance to dezincification and is used for brazing of stainless steel food handling equipment.

### Specifications

Classification
AS/NZS 1167.1-A2

#### Packaging Data

Size (mm)	Pack Size (kg)	Part No.
1.5 × 500	0.5	LTAF563T 

## Profill Gas Welding Rods

### PhosCopper

#### Description

Self-fluxing for pure copper brazing due to the action of phosphorous; copper alloys, like brasses and bronzes, will require additional fluxes. It is not suitable for steel or alloys containing more than 10% nickel.

It produces rough-textured fillets of a greyish colour and, when permitted to run uncontrolled over the work, will roughen the surface. Not recommended where good appearance is desired or where subsequent electroplating is necessary.

The alloy has a relatively wide melting range and the parent metals brazed almost always have high thermal conductivity. For these reasons, the work should be heated quickly to brazing temperature and oxy-acetylene is preferable to either natural gas or propane. Brazing of tough pitch copper should be carried out with a slightly oxidizing flame to avoid hydrogen embrittlement.

Due to its wide melting range, there is a tendency for low melting phases to run out of the joint if the heating rate is too low, so care has to be taken to heat quickly to the brazing temperature.

#### Application

The biggest use of this alloy is in return bends in evaporative air-conditioner heat exchangers. It is also used in auto air-conditioners.

The alloy is used in non-vibration situations and is not recommended for plumbing due to hammering/vibration.

It is not recommended for use in shock-loading situations, sulphurised gas or marine environments.

#### Specifications

Classification
AS/NZS 1167.1-B1

#### Packaging Data

Size (mm)	Pack Size	Part No.
3.0 × 750	0.5 (kg)	LTAP0005 
3.0 × 750	5.0 (kg)	LTAP0043 
5.0 × 750	5.0 (kg)	LTAP0044 

### ProFill Nickel Bronze


#### Description

Fusion welding of similar copper alloys. Suitable for steel, cast iron and malleable iron.

#### Specifications

Coating	Bare
Classification	AWS RBCuZn-D
Joining process	Braze welding and fusion welding
Welding characteristics	High strength and wear resistant, Self-fluxing Brazing of nickel based alloys Build up of worn ferrous components
Melting range	920–935
Tensile strength (MPa)	560

#### Packaging Data

Size (mm)	Pack Size	Part No.
5.0 × 750	2.5 kg	GRNB5025 

### ProFill Nickelcoat



#### Description

Fusion welding of similar copper alloys, brazing of nickel based alloys. Suitable for steel, cast iron and malleable iron.

#### Specifications

Coating	Bare
Classification	AWS RBCuZn-D
Joining process	Braze welding and fusion welding
Welding characteristics	High strength and wear resistant, Self-fluxing Brazing of nickel based alloys Build up of worn ferrous components
Melting range	920–935
Tensile strength (MPa)	560

#### Packaging Data

Size (mm)	Pack Size	Part No.
2.4 × 500	5 rods	GRNC24H5 
3.2 × 750	2.5 kg	GRNC3225 
3.2 × 750	5 rods	GRNC32H5 



## ProFill Mang Bronze

**Description**  
Due to dezincification, not suitable for copper pipes carrying hot water or sea water. Suitable for steel, cast iron and malleable iron.

**Specifications**

Coating	Bare rod
Classification	AWS RBCuZn-C
Joining process	Braze welding
Welding characteristics	Low fume and high strength, Self-fluxing
Melting range	865–890
Tensile strength (MPa)	460

**Packaging Data**

Size (mm)	Pack Size	Part No.
1.6 × 750	5 Rods	GRMB16H5
1.6 × 750	0.5 (kg)	GRMB1605
1.6 × 750	2.5 (kg)	GRMB1625
2.4 × 750	5 Rods	GRMB24H5
2.4 × 750	0.5 (kg)	GRMB2405
2.4 × 750	2.5 (kg)	GRMB2425
3.2 × 750	5 Rods	GRMB32H5
3.2 × 750	0.5 (kg)	GRMB3205
3.2 × 750	2.5 (kg)	GRMB3225

## ProFill Mangcoat

**Description**  
Due to dezincification, not suitable for copper pipes carrying hot water or sea water. Suitable for steel, cast iron and malleable iron.

**Specifications**

Classification	AWS RBCuZn-C
Joining process	Braze welding
Welding characteristics	Low fume and high strength, Self-fluxing
Melting range	865–890
Tensile strength (MPa)	460

**Packaging Data**

Size (mm)	Pack Size	Part No.
2.4 × 500	5 Rod	GRMC24H5
2.4 × 500	0.5 (kg)	GRMC2405
2.4 × 500	2.5 (kg)	GRMC2425
3.2 × 750	5 Rod	GRMC32H5
3.2 × 750	2.5 (kg)	GRMC3225

## ProFill Tobin Bronze

**Description**  
For mild steel, low strength applications (e.g. car panel filling). Suitable for brass and bronzes, mild steel and ferrous materials.

**Specifications**

Coating	Bare rod
Classification	DIN L-Cu40Zn
Joining process	Braze welding and fusion welding
Welding characteristics	Low fume
Melting range	890–900
Tensile strength (MPa)	400

**Packaging Data**

Size (mm)	Pack Size	Part No.
1.6 × 750	2.5 kg	GRTB1625
1.6 × 750	5 rods	GRTB16H5
2.4 × 750	2.5 kg	GRTB2425
2.4 × 750	5 rods	GRTB24H5
3.2 × 750	2.5 kg	GRTB3225
3.2 × 750	5 rods	GRTB32H5

## Gas Welding, Brazing and Soldering



### SB Flux Easyflo

Preferred general purpose flux, suitable for most engineering materials. Also suitable for use with all ProSilver alloys. Residue soluble in hot water or 10% caustic soda.

- Temperature range 550–880°C

Size	Part No.
250g	Efloflux



### GP SB Flux Tenacity 4A

For higher melting point applications and longer heating cycles. Suitable for use with all ProSilver alloys. Preferred for ProSilver 2.5 and 15 if heating cycle is long.

- Temperature range 600–850°C

Size	Part No.
250g	Ten4AFlux



### Flux Tenacity 20

For copper, brass gas welding and steel brazing. Suitable for higher temperatures and extended cycle times. Suitable for ProFill bronze alloy range. Use as a powder or mix with water for a paste.

- Temperature range 750–1000°C

Size	Part No.
250g	Ten20Flux



### Flux Tenacity 6

Flux that is suitable for use with silver brazing filler metals. It is especially designed for use on heat resistant stainless steels, tungsten carbide and the refractory metals.

Suitable for use with silver brazing filler metals melting below 750°C. It is often recommended for use on tungsten carbide components where it helps to provide improved wetting of the brazing alloy. Tenacity™ No.6 Flux Paste should not be used on low nickel or nickel-free stainless steels if interfacial corrosion is likely to be a hazard in service.

- Temperature range 550–800°C

Size	Part No.
250g	Ten6

## Joint Material Quick Selector

	Copper	Mild Steel	Stainless Steel	Brass	Bronze	Cast Iron	Tungsten Carbide
Copper	Phos Copper, ProSilver 2, 5, 15 No flux needed	ProSilver 45T, 39T, 34T Easyflo, Tenacity 4A	ProSilver 56T, 402 Tenacity 4A	ProSilver 2, 5, 15, 45T Easyflo	ProSilver 2, 5, 15, 45T Easyflo	ProSilver 402, 494 Easyflo, Tenacity 4A	NL
Mild Steel	ProSilver 45T, 39T, 34T Easyflo	ProSilver 45T, 39T, 34T Easyflo	ProSilver 56T, 402 Tenacity 4A	ProSilver 39T, 45T Easyflo	ProSilver 39T, 45T Easyflo	ProSilver 402, 494 Easyflo, Tenacity 4A	ProSilver 494, 402 Tenacity 6
Stainless Steel	ProSilver 56T, 402 Tenacity 4A	ProSilver 56T, 402 Tenacity 4A	ProSilver 56T, 402 Tenacity 4A	ProSilver 56T Tenacity 4A	ProSilver 56T Tenacity 4A	ProSilver 56T, 402 Tenacity 4A	ProSilver 494, 402 for non-wet service conditions Tenacity 6
Brass	ProSilver 2, 5, 15, 45T Easyflo	ProSilver 39T, 45T Easyflo	ProSilver 56T Tenacity 4A	ProSilver 2, 5, 15, 39T, 45T Easyflo	ProSilver 2, 5, 15, 39T, 45T Easyflo	ProSilver 402, 494 Easyflo, Tenacity 4A	NL
Bronze	ProSilver 2, 5, 15, 45T Easyflo	ProSilver 39T, 45T Easyflo	ProSilver 56T Tenacity 4A	ProSilver 5, 15, 39T, 45T Easyflo	ProSilver 5, 15, 45T Easyflo	ProSilver 402, 494 Easyflo, Tenacity 4A	NL
Cast Iron	ProSilver 402, 494 Easyflo, Tenacity 4A	ProSilver 402, 494 Easyflo, Tenacity 4A	ProSilver 56T, 402 Tenacity 4A	ProSilver 402, 494 Easyflo, Tenacity 4A	ProSilver 402, 494 Easyflo, Tenacity 4A	ProSilver 402, 494 Easyflo, Tenacity 4A	ProSilver 494, 402 Tenacity 6
Tungsten Carbide	NL	ProSilver 494, 402 Tenacity 6	ProSilver 494, 402 Tenacity 6	NL	NL	ProSilver 494, 402 Tenacity 6	ProSilver 494, 402 Tenacity 6

#### NOTES

NB: Materials indicated above are a guide only. Final selection should be based on customer's full assessment of all relevant factors.

NL = Not a likely engineering combination - consult if encountered

Brazed stainless steel assemblies in contact with water in service require special attention, contact Johnson Matthey

Brasses containing aluminium should not be brazed to steel. Brazing of free-cutting brasses containing lead not recommended

Aluminium bronzes require special Flux. Silicon bronze requires special preparation and procedures, contact Johnson Matthey

Grey cast iron may require special preparation to remove graphite particles from the surface prior to brazing

Trifolds are recommended for long pieces



# metabo®

## Unbeatable reasons you should invest in a Metabo compact angle grinder.

### SAFETY FEATURE



#### Metabo S-automatic Safety Clutch

- No kickback when the disc jams
- You can continue to work immediately after the disc jams
- Unique at Metabo since 1966



#### Quick-System

- Extremely quick, tool-less disc change

#### Auto-stop Carbon Brushes

- Longer service life thanks to auto-stop carbon brushes



MARATHON  
MOTOR

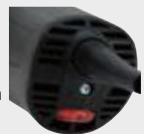


#### Metabo Marathon-Motor

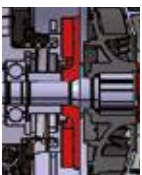
- Proven for decades
- Highest overload capacity
- Highest power density
- Maximum durability

#### Ventilation System

- Convenient ventilation away from the body grip area
- Maximum protection of the motor from overheating and overload



### SAFETY FEATURE



#### Patented Metabo Disc Brake

- Fastest brake system for highest user protection (2 sec.)



#### Metabo dust protection grid

- Longer motor service life due to the new improved Metabo dust protection grid

### SAFETY FEATURE



#### Paddle Switch

- All Watt classes are available in two switch variants (locking switch and deadman switch)
- Motor housing for all switch variants can be rotated at steps of 90 degrees for left or right handed use



# Trade Tools

## Power Tools



125 mm

### Metabo 1250W Angle Grinder

- Powerful and robust angle grinder with highest power density in its class for quick work progress
- 1200 watt motor

Part No. W12-125Q



125 mm

### Metabo 850W Angle Grinder

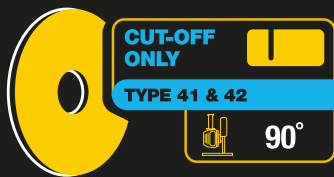
- Side switch for easy operation
- Auto stop carbon brushes
- 850 watt motor

Part No. W85125



### GENERAL WHEEL APPLICATION GUIDE

Determine what task you need to do, the type of wheel determines what application it is suitable for.



#### APPLICATION

- Rebar
- Sheet Metal
- Plate
- Mesh



#### APPLICATION

- Stock Removal
- Blending
- Weld Seams



#### APPLICATION

- Casting Marks
- Light Blending
- Smoothing
- Re-Finishing

### WHEEL TYPES

There are numerous shapes available, here are some common types that cover most jobs. There are more specialised types on offer from different manufacturers, please consult your abrasives supplier about the best wheel for your job.

#### TYPE 41

Flat

#### CUT-OFF ONLY

Thin wheels are for cut-off ONLY. Strong side pressure can break the wheel, and projectiles may injure you severely.

#### TYPE 42

Depressed Centre

#### CUT-OFF

Depressed Centre cutting wheels have the advantage of the recessed flange offering more accessibility.

#### TYPE 27

Depressed Centre

#### GRINDING / POLISHING

These wheels offer easy transition from grinding to polishing without need of a wheel change.

#### SAFETY TIP

Wheels have a use by date and they are affected by humidity levels.

Consult your supplier about using wheels outside the use by date.

### KNOW YOUR FLANGE

Flanges vary in shape and size to match the different wheels. These cutaway diagrams show the different components of common flanges. There are also numerous specialised wheels and flanges available to suit specific applications available. Please refer to your power tool supplier for any replacement or specific flange requirements.



#### A.

#### TYPE 41 FLAT CUT-OFF ONLY

- Minimum flange diameter 1/3 of wheel.
- Flanges must be equal in diameter.
- Cardboard blotters are to be used on wheels greater than 250mm diameter.



#### B.

#### TYPE 42 & 27 CUT-OFF & GRINDING

- For wheels under 180mm diameter
- Flanges must be equal in diameter.

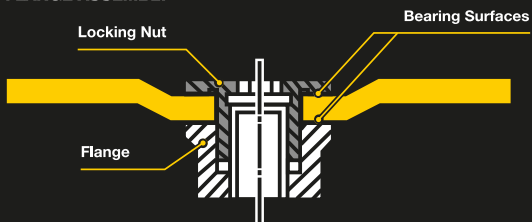


#### C.

#### TYPE 27 & 42 GRINDING & POLISHING

- For TYPE 27 & 42.
- 180mm wheels or larger.

#### FLANGE ASSEMBLY



#### CORRECT MOUNTING TIP

Type 41 flanges must equal in diameter when fitting wheels otherwise serious injury could occur.



### WHEEL GOOD?

Many people think all wheels are made the same. This is not true, some imported wheels are not made to any standard, increasing the risk of injury.

A wheel made to the best standards will display the following.

1. Material
2. Wheel Diameter
3. Wheel Application Type
4. Full Wheel Dimensions
5. AUS Safety Standard
6. EN Safety Standard
7. OSA Standard
8. Protection Warnings
9. Warnings
10. Wheel Mounting
11. Max Speed & Feed
12. Expiry Date

Safety Matters to us, does it matter to you?

Flexovit Wheels are made in Australia from local and imported components



#### BASIC CUTTING TIPS

- Do not "bump" the wheel when starting to cut / grind or while cutting / grinding.
- Do not use excessive pressure! Allow the wheel to do the work.
- Feed the wheel through the work as fast as possible without slowing the wheel in the cut. Don't "baby" the wheel through the cut.

### SAFETY PROCEDURES

- ALWAYS WEAR PROTECTIVE CLOTHING.
- ALWAYS WEAR SAFETY BOOTS AND GLOVES
- ALWAYS WEAR EYE, HEARING AND BREATHING PROTECTION.
- ENSURE YOU READ THE MANUFACTURERS INSTRUCTION MANUAL.
- AS PER AS 1788.2-1987 ABRASIVE WHEELS SELECTION CARE AND USE, SECTION 4.2.



DO always use a safety guard and ensure that it is correctly positioned and securely fitted.



DO always have machine speeds checked regularly, especially after maintenance or repair, and perform regular maintenance.



DO grind at an angle above 30 degrees to the work piece with a depressed centre grinding wheel.



DO always visually inspect all wheels before mounting for possible damage in transit.



DO always use a machine in a comfortable position, where the work piece is held secure and firmly.



DON'T use a machine without a wheel guard.



DON'T EVER exceed the maximum operating speed marked on the wheel.



DON'T use wheels without proper ventilation or dust protection equipment.



DON'T handle wheels in a rough manner, or mount a damaged wheel.



DON'T keep the working area around cutting and grinding operations cluttered, tripping hazards can injure or kill.



DON'T force a wheel onto a machine spindle, to do so can damage the wheel or spindle.



DON'T apply excessive pressure onto the wheel so that the driving motor slows down.



DON'T use mounting flanges which are incorrect, damaged, dirty or burred.



DON'T apply side pressure to cutting-off wheels. You should not bend the wheel.



DON'T store wheels in a damp atmosphere or in extreme temperatures.



DON'T use blotters with depressed centre wheels less than or equal to 406mm (EN 12413).



DON'T stop the wheel by applying pressure to the periphery or face. Always switch the machine off and allow the wheel to stop revolving.



DON'T Overtighten the mounting nut or locking flange, to do so can distort the flange.



DON'T allow the wheel to be trapped or pinched in the cut.



DON'T drop or lower a portable machine by the cable or airline onto the floor.



## Abrasives - Flat Metal Cut-Off Wheels



Ultra thin NorZon® Plus grain, premium grade - for cutting stainless steel, alloy steels and hard ferrous metals. Lasts 50% longer than Mega Line.

Dimensions	Product Specifications	Part No.
125×1.0×22	ZA60Y-BF41 Max	15127010MX



Ultra thin Zirconia, premium grade - for cutting stainless steel, alloy steels and hard ferrous metals. Free of iron, sulphur and chlorine.

Dimensions	Product Specifications	Part No.
------------	------------------------	----------

Ultra Thin Mega Inox Premium Cut-Off Wheels – Stainless Steel		
100×1.0×16	A46T-BF41 Mega Inox	15102010
100×1.6×16	A46T-BF41 Mega Inox	15102016
115×1.0×22	A46T-BF41 Mega Inox	15115010
115×1.6×22	A46T-BF41 Mega Inox	15115016
125×1.0×22	A46T-BF41 Mega Inox	15127010
125×1.0×22 - 25 pk	A46T-BF41 Mega Inox	66253371005
125×1.0×22 - 100 pk Bucket	A46T-BF41 Mega Inox	66252838356
125×1.6×22	A46T-BF41 Mega Inox	15127016
125×2.0×22	A46T-BF41 Mega Inox	1512722
230×1.9×22	A46T-BF41 INOX	15230019
230×2.0×22	A46T-BF41 Mega Inox	15230020



Great for cutting different materials. Masonry, stainless, metal, aluminium, PVC & ceramics.

Dimensions	Product Specs	Part No.
Multi Material Cut Off Wheel		
125×1.0×22	C60T-BF41	66253370636



General purpose cutting of ferrous metals. Iron-free suitable for cutting stainless steel.

Dimensions	Product Specifications	Part No.
General Purpose Flat Metal – All Ferrous Metals - FH38		
100×2.5×16	A36S-BF41	1010216
115×2.5×22	A36S-BF41	1011522
125×2.5×22	A36S-BF41	1012722
180×2.5×22	A36S-BF41	1017822
230×2.5×22	A36S-BF41	1023022
230×2.5×25.4	A36S-BF41	1023025



General purpose cutting of stainless steel and ferrous metals (bar, tubing, etc.).

Dimensions	Product Specifications	Part No.
Metal Cut Off Wheel - Iron Free		
356×3×25.4	A36S-B41	1935625
406×3×25.4	A36SB	1940625
Demolition Saws / Metal Cut-Off Wheels		
356×3.6×25.4	2UE790QR	2835625

## Metal Depressed Centre Discs



General purpose cutting of ferrous metals including structural steel and sheet metals.

Dimensions	Product Specifications	Part No.
General Purpose Depressed Centre Metal Cut-Off Wheels		
100×3.4×16	A30S-BF27	6310234
125×3.4×22	A24/30T-BF27	6012734
180×3.4×22	A24/30T-BF27	6017834
230×3.4×22	A24/30T-BF27	6023034



General purpose grinding of ferrous metal welds and structural steels.

Dimensions	Product Specifications	Part No.
General Purpose Metal Grinding Wheels		
100×6.0×16	A30S-BF27	6310260
115×4.0×22	A30S-BF27	6311560
125×6.8×22	A24/30T-BF27	6012768
180×6.8×22	A24/30T-BF27	6017868
230×6.8×22	A24/30T-BF27	6023068
230×6.8×22	A24/30T-BF27	6123068
Iron Free Inox Standard Grinding Wheels – Stainless Steel		
125×6.8×22	A30S-BF27 Iron Free	6812768
102X6X16	A30S I/FREE	6710260

# UTG

ULTRA THIN  
GRINDING

**Greater  
SPEED**

**More  
CONTROL**

**Less  
FATIGUE**



## Maxx Depressed Centre Ultra-Thin Grinding Disc

- More grinding power with less effort
- Longer life & faster
- Leaves a more precise finish
- Pack of 10 Discs



## Multi Material Depressed Centre Ultra-Thin Grinding Disc

- Grinds a wide variety of material such as masonry, stainless steel, metal, aluminium, pvc and ceramic
- Glides through work piece in any direction without grab or digging.
- Pack of 10 Discs



Dimensions	Product Specifications	Part No.
125×3.0×22	ZA60Y-BF42 Max	66252810938

Dimensions	Product Specifications	Part No.
125×3.0×22	C60T-BF42	66253371768

## Product Specification Code



**A**

ABRASIVE TYPE

**36**

GRIT SIZE

**S**

HARDNESS GRADE

**-**

**BF**

BOND TYPE

**41**

PROFILE TYPE

	FINE	MEDIUM	COARSE	SOFT	MED	HARD	EX HD		
A = ALUMINIUM OXIDE	80	30	16	N	Q	T	W	B = BAKELITE/RESINOID BOND BF = BAKELITE & GLASS FIBRE REINFORCEMENT	Type 41
C = SILICONE CARBIDE	TO	TO	TO	O	R	U	X		Type 42
Z = ZIRCONIA ALUMINIA	100	60	24	P	S	V	Y		Type 27
									Type 28
									Type 29

## Flap Discs

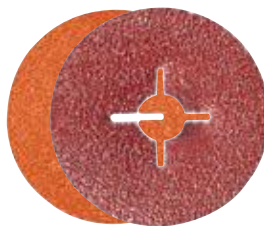


General purpose for all metals. Excellent grinding and finishing. Manufactured using Zirconia premium grain or aluminium oxide grain.

Dimensions	Part No.
<b>Flap Discs – Zirconia</b>	
100×16 40 grit	9800040
100×16 60 grit	9800060
100×16 80 grit	9800080
100×16 120 grit	9800120

Dimensions	Part No.
115×22 40 grit	9801040
115×22 60 grit	9801060
115×22 80 grit	9801080
125×22 40 grit	9803040
125×22 60 grit	9803060
125×22 80 grit	9803080
125×22 120 grit	9803120
180×22 40 grit	9802040
180×22 60 grit	9802060

## Surface Preparation/Finishing



### 3M Cubitron Fibre Discs

Description	Part No.
125×22 mild steel - 36 grit	60440229270
180×22 mild steel - 36 grit	60440229262
<b>Back-Up Pad</b>	
125mm back up pad	XC003410047

### Beartex Rapid Strip Depressed Centre Disc

- Tough multi-purpose
- Fast cleaning & conditioning without loading



Description	Part No.
125×22 mm	30655

### Twist Knot Cup Brush

- Heavy cleaning applications and brushing large surfaces
- Ideal for removal of paint, rust and scale and cleaning prior to welding



Description	Part No.
75mm×1 row M14×2.0	W3340BP
125×1 row M14×2.0	W3500

### Twist Knot Wheel

- Aggressive de burring, rust removal, weld cleaning and rubber removal



Description	Part No.
125×1 row×22	W3750
125×1 row×22 – stainless steel	W3770



## Workshop Tools



### BOC LED Work Light

- 21+5 LED dual function work light
- Power switch for work light & torch control
- Rechargeable 3.7V 1200 MAH lithium battery
- Mains (240V) & Car (12V) chargers included
- Strong magnet base with foldable design and easy hook mounts

Part No. **BOC021D**



### BOC TradeMaster® Folding Utility Knife

- Steel head with aluminium alloy handle and belt clip
- Foldable for easy storage and safety
- Includes 3 spare blades stored inside the handle

Part No. **BOCTM343T**



### BOC TradeMaster® Screwdriver (2 piece) set

- Slotted: 1.2 × 6.5 × 100 mm
- Phillips: No. 2 × 100 mm
- Ergonomic handles
- Cr-V steel blade, chrome plated, with black finished magnetic tip

Part No. **BOCTM880**



### Crescent Adjustable Wrench

- Wider knurl for easier adjustment
- Wide capacity jaw allows each tool to work with more fastener sizes
- Alloy steel and heat treated
- Chrome plated finish resists rust and corrosion

Description	Part No.
250 mm/10" Chrome	<b>AC210VS</b>



### BOC TradeMaster® Organisers

- Removable trays
- Customisable compartments
- Snap-shut latch

Description	Part No.
Organiser (Small)	<b>BOCTM421-SMALL</b>
Organiser (Large)	<b>BOCTM421-LARGE</b>



### BOC TradeMaster® Plier (2 piece) set

- 200 mm Diagonal cutters
- 200 mm Combination pliers
- Soft grips
- Cr-Mo steel, hardened & polished

Part No. **BOCTM8D8C**



### BOC MIG Welding Pliers 200 mm

- Multi purpose
- Trims MIG wire
- Holds tips and nozzles
- Removes weld spatter

Part No. **BOCMIGPLIER**

## Clamps



### BOC TradeMaster® 250mm Curved Jaw Locking Pliers

- CR-MO steel jaws and handles, hardened and black enamelled

Part No. **BOCTM101T**



### BOC TradeMaster® 200mm Locking Sheet Metal Clamp

- For bending, forming and crimping sheet metal
- CR-MO steel jaws and handles, hardened and black enamelled

Part No. **BOCTM081D**



### Ehoma General Duty F-Type Clamp

General purpose clamp for general duty clamping applications. Swivel pad ensures even pressure is applied on angular work pieces.

Description	Span × depth (mm)	Clamping force (kg)	Part No.
T-Spindle	160 x 80	250	<b>ECG16CS</b>
T-Spindle	200 x 100	350	<b>ECG20CS</b>
T-Spindle	250 x 120	600	<b>ECG25CS</b>
T-Spindle	300 x 140	650	<b>ECG30CS</b>
Heavy-Duty	300 x 140	1200	<b>ECGS30C</b>
Heavy-Duty	500 x 140	1200	<b>ECGS50C</b>



### BOC TradeMaster® Locking C-Clamp with Swivel Pads

- Forged CR-V steel jaws with swivel pads
- CR-MO handles, hardened and black enamelled

Description	Part No.
150mm	<b>BOCTM061T</b>
275mm	<b>BOCTM111D</b>



### BOC TradeMaster® 225mm Locking Welding Clamp

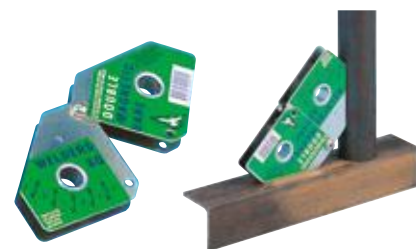
- Jaws lock to hold objects in perfect alignment
- U-shaped jaws provide excellent visibility
- CR-MO steel jaws and handles, hardened and black enamelled

Part No. **BOCTM091D**

## Chipping Hammers

→ See page 80

## Magnetic Tools

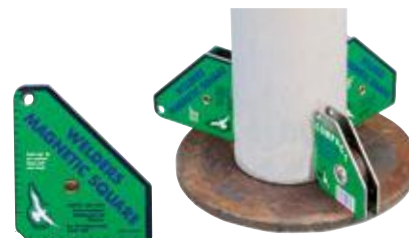


### Compact Double

Small double unit adjustable to any angle. Can be separated and used as single. Holds flat bar or pipe and rod as small as 13 mm.

- For hobbyist, handiperson and also trade applications
- Clamping force >12 kg on 3 mm steel

Part No. **STCDWMS**



### Standard

- Popular trade size, single Welders' Magnetic Square
- Can be supplied as a matched pair in 'Multi-Angle' configuration
- Clamping force >12 kg on 3 mm steel

Part No. **STWMS**



### Magnetic Earth / Ground Clamp

Provides strong, positive electrical connection to job. Replaces conventional earth clamps in any duty and especially useful in situations where conventional clamps are not suitable (e.g. inside tanks and vessels etc). Lever handle assists removal from job. Clean copper stud contact site to ensure good earthing.

- Current capacity up to 800 A
- Clamping force approximately 40 kg on 6 mm steel

Part No. **STMEC800**

## Measuring, Marking and Tape



### Lufkin 8m Measuring Tape

- Hi-viz case - easy to find on the job
- Rubber cushion case exterior protects tape from impact and improves grip

Part No. **TM48M10**



### BOC Welding Fillet Gauge

- Economical welding gauge to measure leg length and throat thickness

Part No. **BOCGAUGE**



### Lufkin Combination Square 300 mm

- Brass knurl nut and scriber head
- Sturdy zinc sock
- Made in U.S.A.
- Metric inch graduations

Part No. **LCS12**



### Engineers Chalk

Description Part No.

10x12x5mm  
144 pieces of chalk per Box **C302**



### BOC Cam Type Welding Gauge

- High quality stainless steel
- Suitable for a wide range of welding measurements

Part No. **MG-8**



### Multi-purpose Duct Tape

- Made from PVC
- Ideal for joining plastic sheets and ducting
- Excellent stretch, conformability and durability

Description Part No.  
Silver – 48 mm x 30m **AT099589**



### General Purpose Gaffer Tape

- Heavy grade cloth (80 mesh)
- Ideal for securing, sealing, holding, repairing, binding and other tasks

Description Part No.  
Silver– 50 mm x 10m **66623336623**



### Electrical PVC Tape

- Excellent stretch, conformability and durability
- Insulates and joins electrical wiring
- 18 mm x 20 m

Description PartNo.  
Black **66623336457**

## Portable Pipe Freezing Equipment



Liquid CO<sub>2</sub> must be used with Jetfreezer

### Jetfreezer® Portable Pipe Freezing Equipment

Jetfreezer saves time and money by eliminating the need for costly draining of pipes before maintaining, repairing or extending a system.

The intensely cold properties of liquid CO<sub>2</sub>, Jetfreezer creates a temporary ice plug in a small section of the pipe. This quickly and economically isolates the area the plumber is to work on. Natural convection melts the ice plug, restoring supply in minutes when the job is completed.

**Fast** – Jetfreezer freezes a 22 mm diameter copper pipe in under 10 minutes.

**Efficient** – Jetfreezer is twice as cold, and therefore faster, than electric or aerosol products.

**Economical** – A 6 kg liquid CO<sub>2</sub> cylinder will provide enough CO<sub>2</sub> for up to 6 freezes on a 22 mm diameter pipe.

**Versatile** – Jetfreezer will freeze metal and plastic pipes from 15 mm to 100 mm diameter, containing water, heavy fuel oils, brine, alcohol solutions and many other liquids.

Convenient and independent – Jetfreezer does not require an external power source.

Jetfreezer is now widely used by water boards, gas companies, local authorities and plumbers throughout Australia and overseas.

Jetfreezer equipment comprises of a flexible, thermally insulated jacket, high pressure hose and washer. The jacket is wrapped around the pipe to be frozen and then connected by the hose to the liquid CO<sub>2</sub> cylinder. When the cylinder valve is opened, the liquid CO<sub>2</sub> is discharged through the special jet in the jacket and forms solid CO<sub>2</sub> or dry ice, which is trapped by the insulated jacket and packs around the pipe. Because dry ice has an extremely low temperature of -78°C, it quickly freezes the water within the pipe to form a secure ice plug.

There is a range of five jackets to suit all pipe sizes up to 100 mm. Jetfreezer is also available in kits, including jacket, hose and two washers for the 15–42 mm sizes; and jacket, two hoses, five washers and tee-piece for the 80–100 mm sizes.

Description	PartNo.
Jetfreezer Kit 15 mm	AWS22330005
Jetfreezer Kit 22 mm	AWS22330001
Jetfreezer Kit 42 mm	AWS22330002
Jetfreezer Kit 80 mm	AWS22330003
Jetfreezer Kit 100 mm	AWS22330004
Jetfreezer Jacket 15 mm	AWS22330105
Jetfreezer Jacket 22 mm	AWS22330101
Jetfreezer Jacket 42 mm	AWS22330102
Jetfreezer Jacket 80 mm	AWS22330103
Jetfreezer Jacket 100 mm	AWS22330104
Jetfreezer Hose 2.4 m 1/4 bsp	AWS22224309
Jetfreezer Tee-Piece	AWS22330601
Jetfreezer Washer 1/4"	AWS22220601
Jetfreezer Hose Coupling Adaptor	AWS22220107



Liquid CO<sub>2</sub> must be used with Snowpack

### Snowpack® Portable CO<sub>2</sub> Dry Ice Making Equipment

Snowpack dry ice making equipment allows pellets of CO<sub>2</sub> dry ice to be made on the spot, wherever and whenever they are wanted. Having dry ice on tap greatly reduces the evaporation losses that occur when dry ice has been brought in and stored until needed, thereby minimising costs.

Whenever localised cooling or freezing is needed, freshly made Snowpack dry ice pellets can be used. For example, it can be used in hospitals for blood, tissue and serum preservation; in research establishments to provide reference temperatures; in schools and laboratories as a cooling agent and cold trap for gases; and in factories, Snowpack can be used for shrink fitting small metal components and other localised cooling applications.

A Snowpack pellet can maintain temperatures down to -70°C, independent of external power sources. Snowpack is available in two sizes: Snowpack 30 produces 30 gram pellets and Snowpack 500 produces a 500 gram pellet.

#### Snowpack 30

Specifications	
Part No.	AWS22330107
Pellet size	50 x 22 mm
Injection time	1 minute
Pellets per DL size liquid	Approx. 30
Cylinder	CO <sub>2</sub>

#### Snowpack 500

Specifications	
Part No.	AWS22330108
Pellet size	100 x 75 mm
Injection time	2.5 minute
Pellets per DL size liquid	Approx. 2
Cylinder	CO <sub>2</sub>

# Welding Protection

## Welding Helmets and Accessories

BOC offers a wide range of quality welding helmets ideal for MIG, TIG and arc welding.



### Weld Guard® High Impact Welding Helmet

The Weld Guard high impact auto-darkening welding and grinding helmet is ideal for MMA, MIG/MAG, and TIG welding. It's variable shade filter lens of shade 9-13 has a fast switching time – light to dark in 0.3 ms. This comfortable helmet is fully standards compliant and fits optional magnifying lenses. It comes with a two year conditional warranty.

- Outer lens (mm): 110 x 97 and Inner lens (mm): 103.5 x 47
- Field of view (mm): 41 x 92
- Complies to AS/NZS 1337

Description	Part No.
High Impact Welding Helmet	WGWH04
Spare Parts	
Sweat band (2pk)	WG2W3010
Front cover lens (10pk)	WG2W4700HR
Inside cover lens (10pk)	WG2W4701



### BOC Lift Front Helmet\*

Description	Part No.
BOC lift front	453833BOC
Spare Parts	
Light duty sweatband	453835BOC
Ratchet harness	453838BOC



## 3M™ Speedglas™ Welding Helmet Series 9100XXi

### “Step up to Speedglas”

- Made in Sweden with Auto-On
- New True-View for colour and contrast
- Largest viewing area on the market with peripheral SideWindows
- Peripheral SideWindows for enhanced vision
- Highest possible optical classification (1/1/1)
- Advanced TST (TIG Sensor Technology) down to industry leading 1 amp
- Weld, Cut, Grind, Hidden Arc, Outdoor, Passive and Tack
- Shades 5, 8, 9-13 with an extra light shade of 3
- Compliant with all relevant Australian & New Zealand standards

### New Speedglas™ 9100XXi TrueView

We have forever changed the way welders see! The True-View lens allows the welder to more easily recognise colour and contrast in every weld.



New 3M Speedglas 9100XXi with True-View

Traditional Auto-Darkening Lens Vision



### 3M™ Speedglas™ Welding Helmet 9100XXi

- New external button for grinding and memory modes
- Aerodynamic exhaust vents to assist in removing exhaled air

Part No. **AWS501826**



### 3M™ Speedglas™ Flip-Up Welding Helmet 9100XXi FX

- Flip-up mechanism reveals a clear high impact grinding visor (AS/NZS1337.1)
- Aerodynamic exhaust vents to assist in removing exhaled air

Part No. **AWS541826**



### 3M™ Speedglas™ Welding & Safety Helmet 9100XXi QR

- Attach or remove the welding helmet with the Quick Release mechanism
- Comfortable safety helmet provides overhead protection at all times (AS/NZS1801)
- Aerodynamic exhaust vents to assist in removing exhaled air

Part No. **AWS503626**

## 3M™ Speedglas™ Welding Helmet Series 9100XXi Parts

Description	1	Part No.	2
1 Speedglas 9100 standard outside cover lenses (pk 10)		<b>AWS526000</b>	
2 Speedglas 9100 hard coated outside cover lenses (pk 10)		<b>AWS527000</b>	
Speedglas 9100 cover lense outer HT (pk 10)		<b>AWS527070</b>	
3 Speedglas 9100XX/9100XXi inside cover lenses (pk 5)		<b>AWS528025</b>	
4 Speedglas 9100 FX/FX Air/MP Air clear grinding visor lens (pk 5)		<b>AWS523000</b>	
5 Speedglas battery lithium (pk 2)		<b>AWS422000</b>	
6 Speedglas head cape protection		<b>AWS169100</b>	
7 Speedglas 9100 & 9100 Air head protection		<b>AWS169005</b>	
8 Speedglas 9100/Air/FX/FX Air ear & throat protection		<b>AWS169010</b>	
9 Speedglas sweatband 9100 & 9100 FX (pk 2)		<b>AWS169502</b>	
Speedglas sweatband 9100 & 9100 FX (pk 5)		<b>AWS169505</b>	
10 Speedglas sweatband 100, 9002NC, SL, 9100 MP (pk 2)		<b>AWS168502</b>	
Speedglas sweatband 100, 9002NC, SL, 9100 MP (pk 5)		<b>AWS168505</b>	





3M™ Speedglas™ Welding Helmet 9100XXi Air with Adflo™ PAPR

- New external button for grinding and memory modes
- New upgraded Adflo is super light with rapid charge
- Required minimum protection factor of 50
- Two adjustable air flow settings 170/200 litres per minute
- Approximately 8 hour battery run time

Part No.      AWS507726



3M™ Speedglas™ Flip-Up Welding Helmet 9100XXi FX Air with Adflo™ PAPR

- Flip-up mechanism reveals a clear high impact grinding visor (AS/NZS1337.1)
- New upgraded Adflo is super light with rapid charge
- Required minimum protection factor of 50
- Two adjustable air flow settings 170/200 litres per minute
- Approximately 8 hour battery run time

Part No.      AWS547726



3M™ Speedglas™ Flip-Up Welding & Safety Helmet 9100XXi MP Air with Adflo™ PAPR

- Comfortable safety helmet provides overhead protection (AS/NZS1801)
- Flip-up mechanism reveals a clear high impact grinding visor (AS/NZS1337.1)
- New upgraded Adflo is super light with rapid charge
- Required minimum protection factor of 50
- Two adjustable air flow settings 170/200 litres per minute
- Approximately 8 hour battery run time

Part No.      AWS577726



1



2



3



4



5

3M™ Adflo Powered Air Purifying Respirator Parts

Description	Part No.
1 Pre-filter for Adflo PAPR (pk 5)	AWS836010
2 Particle filter for Adflo PAPR	AWS837010
3 Organic vapour & acid gas filter for Adflo PAPR	AWS837242
4 A1 gas filter for Adflo PAPR	AWS837542
5 Upgraded Li-Ion standard battery for Adflo PAPR	AWS837630
6 Upgraded Li-Ion heavy duty battery for Adflo PAPR	AWS837631
7 Battery charger for the upgraded Adflo PAPR Li-Ion	AWS833111
8 Self-adjusting breathing tube QRS for Adflo PAPR	AWS834016



7

8



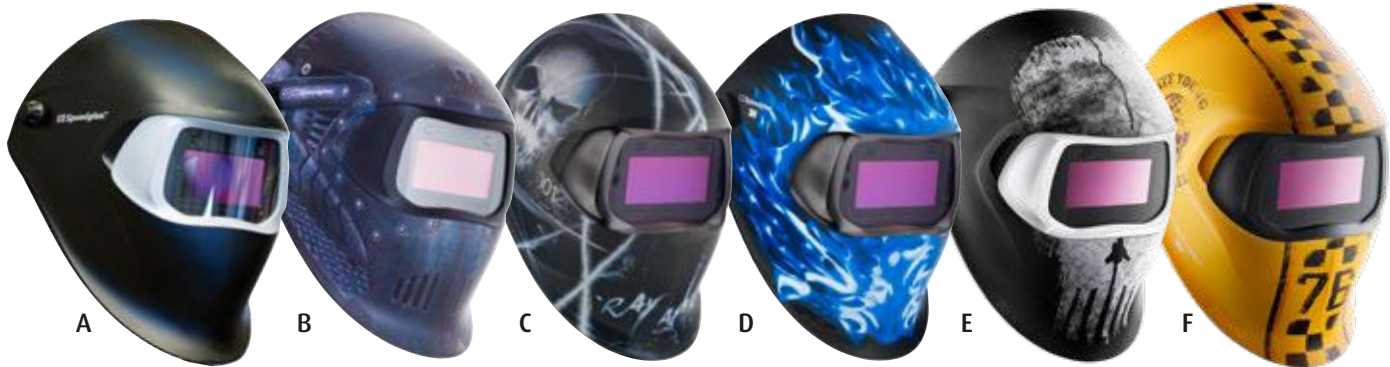
## 3M™ Speedglas™ Welding Helmet Series 9002NC

- New True-View technology for colour and contrast
- Large 55 x 107mm viewing area
- Slim, low profile helmet
- Super light at just 485 grams
- Aerodynamic exhaust vents remove exhaled air
- Shades 8-12 with a light shade of 3 (AS/NZS1338.1)
- Highest possible optical classification (1/1/1)
- Suitable for MMAW, MIG/MAG and low Amp TIG welding
- Advanced TST (TIG Sensor Technology) down to industry leading 1 amp
- High impact protection (AS/NZS1337.1)

Part No. **AWS401385**

## 3M™ Speedglas™ Welding Helmet 9000 Parts

Description	Part No.
1 Speedglas 9000 outside cover lenses (pk 10)	<b>AWS426000</b>
2 Speedglas 9002NC, 9002X inside cover lenses (pk 5)	<b>AWS428010</b>
3 Speedglas 100, 10V & 9002V inside cover lenses (pk 5)	<b>AWS428000</b>
4 Speedglas sweatband 100, 9002NC, SL, 9100 MP (pk 2)	<b>AWS168502</b>
Speedglas sweatband 100, 9002NC, SL, 9100 MP(pk 5)	<b>AWS168505</b>
Towelling sweatband 100 & 9000 (pk 5)	<b>AWS167505</b>
5 Speedglas battery lithium (pk 2)	<b>AWS422000</b>
6 Speedglas head cape protection	<b>AWS169100</b>
Speedglas 9000 hard coated outside cover lenses (pk 10)	<b>AWS427000</b>
7 Head Harness 100 & 9000	<b>AWS705015</b>



## 3M™ Speedglas™ Welding Helmet Series 100



### "Image is Everything"

- Made in Sweden
- New shade 3 grind feature
- New smooth ratchet head harness
- High impact to Australian & New Zealand Standards (AS/NZS 1337)
- Speedglas optical quality and comfort
- TST (TIG Sensor Technology) reacts down to 10 amps
- Magnifying lens holder
- Shades 3/8-12
- Industry leading 3 year warranty on lens

Description	Part No.
<b>A</b> Ninja	<b>AWS751120</b>
<b>B</b> Trojan Warrior	<b>AWS751620</b>
<b>C</b> Xterminator	<b>AWS752220</b>
<b>D</b> Ice Hot	<b>AWS752520</b>
<b>E</b> Skull	<b>AWS752820</b>
<b>F</b> Motor	<b>AWS752920</b>



## 3M™ Speedglas Welding Helmet 100 Parts


Description	Part No.
1 Speedglas 100 outside cover lenses (pk 10)	<a href="#">AWS776000</a>
2 Speedglas 100, 10V & 9002V inside cover lenses (pk 5)	<a href="#">AWS428000</a>
3 Speedglas battery lithium (pk 2)	<a href="#">AWS422000</a>
4 Speedglas head cape protection	<a href="#">AWS169100</a> 
5 Speedglas 100/9000 series head protection	<a href="#">AWS164009</a> 
6 Speedglas sweatband 100, 9002NC, SL, 9100 MP (pk 2)	<a href="#">AWS168502</a>
Speedglas sweatband 100, 9002NC, SL, 9100 MP (pk 5)	<a href="#">AWS168505</a>



## 3M™ Versaflo™ Shield & Safety Helmet M-307 with Adflo™ PAPR

### "The Power to Protect Your World"

- Excellent peripheral and downward vision with exceptional optical clarity
- Coated lens provides chemical and scratch resistance
- Flame resistant face seal
- Head top attached earmuffs are available separately
- New upgraded Adflo is super light with rapid charge
- Required minimum protection factor of 50
- Two adjustable air flow settings 170/200 litres per minute
- Optional head, shoulder and neck cover
- Respiratory, face & head protection (AS/NZS1716, AS/NZS1337.1, AS/NZS1801)
- Up to 8 hour battery operating time

Part No. [AWS890307](#) 



## 3M™ Welding Helmet 10V

- Longest warranty in its class - 2 years
- Only 390 grams
- Three most commonly used dark shades 3/10-12
- Rated for Stick, MIG & (TIG>20A)
- Compliant with Australian Standards AS/NZS1338.1 & AS/NZS1337.1

Part No. [AWS101110](#)

## 3M™ Welding Helmet 10V Parts

Description	Part No.
1 3M 10V outside cover lenses (pk 2)	<a href="#">AWS126000</a>
2 Speedglas 100, 10V & 9002V series inside cover lenses (pk 5)	<a href="#">AWS428000</a>
3 Speedglas towelling sweatband (pk 2)	<a href="#">AWS167502</a> 
Speedglas towelling sweatband (pk 5)	<a href="#">AWS167505</a>
4 Speedglas battery lithium (pk 2)	<a href="#">AWS422000</a>
5 Speedglas head cape protection	<a href="#">AWS169100</a> 







## BOC Magnification Lens

The BOC magnification lens fits into all standard 108 x 51 mm welding helmets and handshields to greatly assist the welder while working.

Description	Size	Part No.
1.5 diopter	108 x 51 mm	454012BOC
2.0 diopter	108 x 51 mm	454010BOC
2.50 diopter	108 x 51 mm	454011BOC



## Omni-View Filters

- Standard Filters (108 x 51 mm)
- Packaging with 1 Filter Lens plus cover lens

Description	Size	Part No.
Shade 10	108 x 51 mm	453924BOC
Shade 11	108 x 51 mm	453925BOC
Shade 12	108 x 51 mm	453926BOC



## BOC Welding Filter Lenses

All BOC glass welding lenses are manufactured from the highest quality glass. They are Australian Standards approved to AS/NZS 1338.1

Standard Filters

Description	Size	Part No.
Shade 9 filter lens	108 x 51 mm	453853BOC
Shade 10 filter lens	108 x 51 mm	453854BOC
Shade 11 filter lens	108 x 51 mm	453855BOC
Shade 12 filter lens	108 x 51 mm	453856BOC



## BOC Chipping Plates

Manufactured from polycarbonate for impact resistance. Comforms to AS/NZS 1338.1

Description	Size	Part No.
Clear	108 x 51 mm	453999BOC



## BOC Cover Plates\*

BOC CR39 and glass cover plates are designed to protect the filter lens from heat and spatter and comply to AS/NZS 1338.1

Coverplates protect your welding filter against metal particles, incandescent projectiles and the like, emitted during the welding process.

Description	Size	Part No.
Clear CR39	108 x 51 mm	453861BOC

\* WARNING:

Anti-spatter plate is not impact resistant and should not be used when grinding.

## Welding Eyewear



## BOC Gas Welding Goggles

- Soft pliable frame – comfortable to wear
- Goggles fit over prescription or safety spectacles
- The lift front goggle has shade 5 glass filter lenses (AS/NZS 1338.1) with polycarbonate chipping lenses
- Non-reflective matt interior finish
- Replaceable lenses are available for the lift front goggle
- Vented to prevent fogging
- Manufactured from PVC plastic and glass filled nylon for lift front

Part No.	454031BOC
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## Welding Filters for Lift Front Goggles

All BOC glass welding lenses are manufactured from the highest quality glass. They are Australian Standards approved and comply to AS/NZS 1338.1 Lic. No. 493.

Description	Part No.
Shade 5 (pair)	453810BOC



## Polycarbonate Lens

Description	Part No.
50mm Cover lens (pair)	453812BOC



## UMATTA® Safety Goggles

- Convertible safety spectacle and goggle, comes complete with temples (arms) and a strap in a soft Umatta pouch
- Shade 5 for gas welding

Description	Part No.
Shade 5 lens (set)	USPOGGLE/SH5



## Welding Gloves



### Weld Guard® Blue Welding Gloves

- High quality butthide, reinforced palm
- Nominal 40 cm length, fully lined

Part No. **W743380**



### Weld Guard® Red Leather Gauntlet

- Red leather gauntlet
- Nominal 40 cm in length, fully lined
- Welding and foundry work glove

Part No. **W743395**



### Weld Guard® Premium Gauntlet

- Reinforced palm for added strength
- Foam lining on palm and back insulates against heat
- Cuff has denim lining for great strength and durability
- Nominal 40 cm in length

Part No. **W2987**



### Weld Guard® Lefties Welding Gloves

- Left hand only (sold in pairs of 2 Lefties)
- Nominal 40 cm length, fully lined

Part No. **W740019**



### Weld Guard® Premium TIG Glove

- Premium TIG welding glove made from selected grain and split leather
- Longer 15 cm cuff for greater protection
- Full glove sewn with flame resistant stitching

Size	Part No.
Small	<b>W8203G/K</b>
Large	<b>W8202G/K</b>
XL	<b>W8204G/K</b>



### Black and Gold Leather Gauntlet

- Popular glove, black and gold leather gauntlet, gold welted seams
- Nominal 40 cm in length, fully lined
- Economical

Part No. **743373**



### Heat Guard™ Aluminised Glovesavers

- Aluminised back
- Welding glove protection from radiant heat
- Leather palm

Size	Part No.
Left Hand	<b>743301</b>
Right Hand	<b>743302</b>

## Welder's Protective Leather Clothing

### Weld Guard® Leather Welder's Jacket

- Selected chrome split leather with metal press stud front opening
- Double-breasted (14 press studs)
- Protection against welding spatter and radiant heat
- 75 cm length



Size	Part No.
M	W740225
L	W740226
XL	W740227

### Weld Guard® Hi-Vis Welder's Jacket with Leather Sleeves

- Day use only
- Fire Retardant cotton drill body, leather sleeves
- Complies to EN531 (protection against heat and flame)
- Orange only
- Sizes: S-4XL



Size	Part No.
M	W740261/OR
L	W740262/OR
XL	W740263/OR
2XL	W740264/OR

### Weld Guard® Leather Welder's Aprons

- Made from selected chrome split leather with webbing straps
- Reinforced webbing straps and strap attachments



Description	Part No.
Bib apron, 106 x 61 cm	W743325
Bib apron, 91 x 56 cm	W743326

### Weld Guard® Leather Welding Sleeves (Pair)

- Premium grade leather
- Full arm coverage, 71 cm length
- Easy-fit snap-on buckle attachment



Part No.	W743332
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W743511

W743512

### Weld Guard® Leather Welder's Trousers

- Premium grade chrome leather trousers with webbing belt and snap-on buckle
- Available seatless for extra comfort
- Generous one size fits all (100 cm length)

Description	Part No.
With belt	W743511
With seat	W743512



### Weld Guard® Leather Welder's Leggings

- 40 cm leather leggings with velcro
- Supported to eliminate sagging and for extra protection
- Minimal exposed seams to work area
- Quick release if required
- Full boot and shin coverage

Description	Part No.
Velcro release	W743518



### Weld Guard® Leather Welder's Spats

- Premium grade, ankle length spats,
- Supported to eliminate sagging, full boot coverage
- Quick release if required
- Minimal exposed seams to work areas

Description	Part No.
Velcro release	W743328



### Weld Guard® Leather Knee Pads

- Chrome leather knee pads with thick dense foam insert and quick release velcro and elastic fastening
- Premium grade leather
- 40 mm foam insert
- Easy to fit or release
- Elbow or knee protection

Part No.	W743335
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# Welder's Protective Fire Retardant Clothing

## Weld Guard® Fire Retardant Welder's Jacket

- Manufactured from flame retardant cotton
- Sewn with aramid thread
- Cool and comfortable
- For light to moderate welding only
- 75 cm length



Size	Part No.
M	W740275
L	W740276
XL	W740277
2XL	W740278

## Weld Guard® Retardant Welder's Snood

- Welder's snood manufactured from lightweight Retardant cotton



Part No.	W743523
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W743340



W743297

## Weld Guard® Retardant Welder's Hood

- Welder's hood manufactured from lightweight Retardant cotton

Description	Part No.
Without cord	W740297
With cord	W743340



## Smootharc Welder's Skull Cap

- 100% cotton with cotton mesh lining.

Part No.	BOCAS-S/CAP
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## Workplace Safety



### Weld Guard® Silica/Vermiculite Insulation/Welding Blanket HT 1600

- 1250 gsm
- 1.5 mm thick
- Temp range to 1100°C (Continuous maximum)
- 1600°C (Intermittent Molten Sparks)
- High temperature range for greater flexibility
- High resistance to corrosive acids for long life span
- Vermiculite treated for improved heat dissipation
- Golden Brown/Tan Colour

Description	Part No.
1.8 × 0.9 m	<a href="#">W740165</a>
1.8 × 1.8 m	<a href="#">W740156</a>



### Weld Guard® Welding Blanket HT 1760

- A continuous filament glass fabric that has undergone a special heat cleaning process
- Heavyweight fabric commonly used for welding and thermal protection, against molten metal slag, fire and sparks
- The heat treatment reduces smoke emissions from the fabric and helps to set the weave pattern

Description	Part No.
1.8 × 1.0 m	<a href="#">W740150</a>
1.8 × 2.0 m	<a href="#">W740151</a>
1.0 × 50 m	<a href="#">W740153</a>



### Weld Guard® Leather Blanket

- Manufactured from premium grade chrome split leather with or without eyelets
- Drop sheets/curtains for equipment and personal protection
- Other sizes are available upon application

Description	Part No.
2.0 × 2.0 m	<a href="#">W744474</a>
2.0 × 3.0 m	<a href="#">744475</a>



### Welding Curtains

- For protection from dangerous ultraviolet rays
- Transparent for increased safety, and more natural light at job
- Fire Retardant, UV stabilised
- Australian Standards Compliance: AS 3957

Description	Part No.
1.8 × 1.8 m - Green	<a href="#">W1818G</a>
1.8 × 2.0 m - Green	<a href="#">W1820G</a>
1.8 × 2.6 m - Green	<a href="#">W1826G</a>

# Personal Protective Equipment



## UniSafe® Safety Caps

Description	Part No.
White Non Vented	TA560WHITE
White Vented	TA570WHITE
Spare Parts and Accessories	
Visor Holder	VH500
Clear Thermotuff+ Chinguard Visor 250 mm × 400 mm	VV501
Sweatband Terry Towelling	TA094

## Faceshields



UVISORCH

UVISORCHCG

### UMATTA® High-impact Complete Faceshields

- Fully assembled
- High-impact
- Ideal for industrial applications
- Indoor/Outdoor

Description	Part No.
Browguard, head harness and clear visor (assembled)	UVISORCH
Browguard, head harness, clear visor and chinguard (assembled)	UVISORCHCG



UVCH

UVCHCG

### UMATTA® Polycarbonate Visors

- UV 385 protection
- Polycarbonate visors
- Rated high-impact
- Durable and lightweight

Description	Level	Part No.
Clear moulded polycarbonate visor Indoor/Outdoor use	High impact	UVCH
Clear polycarbonate visor with chin-guard Indoor/Outdoor use	High impact	UVCHCG

### UMATTA® Browguard and Head Harness

- Lightweight nylon browguard
- Fitted ratchet harness with adjustable knob
- Replaceable sweatband

Description	Part No.
Browguard with head harness (assembled)	UBG

Note All BOC Welding shields and welding lenses meet AS/NZS 1337 and 1338.1.



## Eyewear



### UMATTA® 401

- Hard coat lens
- UV400
- Lightweight frame
- Medium impact resistance

Description	Part No.
Clear lens	U401C
Clear, anti-fog lens	U401CAF
Smoke lens	U401S
Smoke, anti-fog lens	U401SAF



### UMATTA® 612

- One piece wrap around safety spec
- Anti-fog with anti-scratch
- Lightweight
- UV400

Description	Part No.
Clear, anti-fog lens	U612CAF
Smoke, anti-fog lens	U612SAF



### UMATTA® Barkly

- Hard coat lens
- UV400
- Lightweight frame
- Medium impact resistance

Description	Part No.
Clear lens	U0203C
Smoke lens	U0202S



### UMATTA® Redline

- Protection and comfort with style
- Close fitting, anti-fog
- Hard coat, lightweight frames
- UV400 protection
- Black gloss frame

Description	Part No.
Smoke lens	UREDLINE/S
Brown polarised lens	UREDLINE/BRPOL



### UMATTA® OCTANE

- Smoke polarised lens reduces unwanted sunglare while providing better visibility with minimal colour distortion.
- UV400
- Durable and lightweight frame

Description	Part No.
Smoke polarised	UOCTANE/SMPOL



### UMATTA Seal Spec

→ See page 155



## Bollé Prowler

A black, high gloss, hydrated nylon frame with co-moulded temple arms that use TP rubber for improved grip and comfort.

- Black frame

Description	Part No.
Smoke lens	1626402
Blue Flash lens	1626404



## Bollé Prism

Prism is an ultra lightweight (only 22 grams), all polycarbonate frame with no metal parts making it a fully recyclable spectacle. The single piece lens is optically correct and distortion free.

Description	Part No.
Clear lens	1614401
Smoke lens	1614402



## Bollé Bandido

An all polycarbonate frame, Bandido provides brilliant coverage for a wide variety of face shapes. The single piece 10 base curved lens is optically correct and distortion free. The vivid amber lens offers advanced contrast and perception in low light conditions.

Description	Part No.
Clear lens	1667201



## Bollé Hurricane

The Hurricane features a velvet frame finish over hydrated nylon for exceptional comfort, outstanding fit and great style.

- Black frame

Description	Part No.
Smoke lens	1662202
Blue Flash lens	1662204



## Bollé Raptor

- High gloss, dark gunmetal, dual material frame
- Great visual clarity via distortion free lens
- Rubber nose pads and temple tip inserts for superior comfort and fit
- Anti-fog/anti-scratch lens on both sides on clear and smoke lens

Description	Part No.
Silver Flash lens	1613103



## Bollé Sidewinder

The high gloss, dark gunmetal dual material half frame design of Sidewinder provides brilliant eye coverage and the rubber nose pads and temple tips offer superior comfort. The Ultra Light Brown Smoke lens is an innovative coating that eliminates the harmful effects of blue light while offering high definition in low light conditions.

- Dark Gunmetal Frame

Description	Part No.
Clear lens	1615501
Smoke lens	1615502



## Bollé Rush Plus

- Featuring New Platinum Coating - A high performance anti-fog + anti-scratch coating
- Adjustable PVC nose bridge plus co-moulded temple arms for superior comfort and grip
- Ultra light weight, 9 Base lens
- Built in brow protection
- Medium impact
- AS/NZS 1337.1:2010

Description	Part No.
Clear lens	1662301
Smoke lens	1662302



## Bollé Blade

The lightweight, all polycarbonate frame on Blade provides exceptional eye coverage. Features high contour (10 base) lens with crystal clear optics in the clear lens. Hard coatings on all Flash lenses offers added strength and protection.

Description	Part No.
Clear lens	1668201
Smoke lens	1668202



## UMATTA Seal Spec

- 10 base lens, CSA coverage
- Lightweight design (under 20g)
- Special hinge design makes the changing of lens or strap quick and easy
- Strap is interchangeable
- Thin temple design for more earmuff compatibility
- Innovative lens design
- Each set comes with lens, EVA foam cushion, elastic strap and temples

Description	Part No.
Clear Lens Set	U103CAFHC
Smoke Lens Set	U103SAFHC



- 1 Smoke lens with foam cushion and elastic strap
- 2 Smoke lens with temples
- 3 Smoke lens with foam cushion and temples



Clear Lens



Smoke Lens



Foam Cushion



Elastic Strap



## UMATTA® Safety Goggles

- Convertible safety spectacle and goggle, comes complete with temples (arms) and a strap in a soft Umatta pouch
- Available in Shade 5 for gas welding
- Anti-fog UV 400 Protection hard coat lens
- Approved to AS/NZS 1337

Description	Part No.
Clear lens (Set)	USPOGGLE/C



## UMATTA® Wide View Safety Goggle

- Lightweight, flexible and durable
- Indirect ventilation system minimises fogging and provides splash resistance
- Medium impact
- Can be worn over most prescription glasses
- Approved to Australian and New Zealand Standards 1337:1992

Part No.	USG5025
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U911G



U910G

## UMATTA® Dust and Chemical Safety Goggles

- Clear, anti-fog polycarbonate lens
- Medium impact, wide vision, soft moulded and lightweight
- Approved to AS/NZS 1337

Description	Part No.
Safety dust goggles (direct vents)	U911G

Description	Part No.
Chemical goggles (4 indirect vents)	U910G

## Respirators and Filters



### UMATTA® Respiratory Mask **P1**

#### Protection

Dusts and mists produced where sanding, grinding, crushing and processing of minerals is required.

#### Applications

Cement, glass, textiles, lead, coal, grain, wood, dust, asbestos and many others commonly found in mining, building and farm work.

Description	Part No.
Cupped mask (pk 20)	DRM1CP1
Cupped mask with valve (pk 12)	DRM1CP1V

### UMATTA® Respiratory Mask **P2**

#### Protection

Dusts and mists produced where sanding, cutting, handling fibreglass, removing paint, handling timber or plasterboard is required.

#### Applications

Marble, silica, ferrous metals, pharmaceuticals, pollen, ceramics, glass, cotton, coal, aluminium, timbers, asbestos and many others commonly found in foundry, chemical and agricultural industries.

Description	Part No.
Flat fold mask with valve (pk 12)	DRM2FP2V
Cupped mask (pk 20)	DRM1CP2
Cupped mask with valve (pk 12)	DRM1CP2V

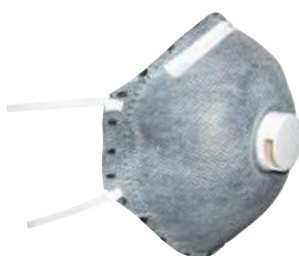


### UMATTA® Flat fold Welding Respiratory Mask with Activated Charcoal and Valve **P2**

Ideal for protection against mechanically and thermally generated particles and nuisance organic vapours such as welding fumes.

Valved for extra comfort and ease of breathing in hot or heavy labour environments.

Description	Part No.
Pack of 12	DRMWFP2V



### UMATTA® Cupped Welding Respiratory Mask with Activated Charcoal and Valve **P2**

Ideal for protection against mechanically and thermally generated particles and nuisance organic vapours such as welding fumes.

Valved for extra comfort and ease of breathing in hot or heavy labour environments.

Description	Part No.
Pack of 12	DRMWCP2V



### 3M™ Welding Respirator with valve **P2**

- Protection against dusts, mists, welding fumes (3M8514) and smoke
- Cake resistant filter media reduces caking of particles on the filter surface
- Heavy duty adjustable straps help provide a secure comfortable fit
- 3M proprietary valve offers easy exhalation and cool, dry comfort

Description	Part No.
Pack of 10	3M8512



3M™ Particulate Respirators

- Lightweight construction for added comfort and increased wearer time.
- Cupped shaped with adjustable nose clip for better seal and fit.
- 3M Proprietary exhalation valve help to reduce heat and moisture build up, offering a cooler, drier comfort.

Description	Part No.
P1 Dust/Mist Mask (pk 20)	3M8710
P2 Dust/Mist/Fume/Smoke with valve (pk 10)	3M8822



3M™ Flat Fold Respirator 9300 Series

High Comfort: These respirators are designed for a high level of comfort, convenience and fit. The unique 3-panel design fits a wide range of face shape and size. Use for protection against hazards, such as, dusts, mists, fumes and smoke. Available in P1 and P2 and also valved and non-valved types.

- Fits a wide range of face sizes
- Low profile design provides a good field of vision and easy use with safety glasses
- 3M™ Cool flow valve help reduce heat and moisture build up

Description	Part No.
P2 Dust/Mist/Fume/Smoke (pk 20)	3M9320
P2 Dust/Mist/Fume/Smoke with valve (pk 10)	3M9322



Respirator Kits

These kits are designed to provide respiratory protection in a convenient and easy way and are an ideal solution to get you started.

All kits include a 3M™ facepiece, filters, a pair of 3M™ Earplugs, 3M™ Respirator Cleaning Wipes and a 3M™ Respiratory Protection Guide

To avoid moisture and contaminant exposure, the respirators and accessories are stored in the handy, resealable container.

Description	Part No.
6000 Series Welding Respirator Kit GP2	3M6228
7000 Series Welding Respirator Kit GP2	3M7528
6000 Series Spraying Respirator Kit A1P2	3M6251



3M™ Half Face Respirator 6000 Series

- Simple and lightweight reusable respirator
- Thermoplastic Elastomer (TPE) facepiece
- Cradle head harness and easy to fasten neck strap
- Low profile and well balanced twin cartridge and filter design
- For use with 3M™ 2000, 5000 and 6000 series cartridges and filters (sold separately)
- Complies with AS/NZS 1716:2012

Description	Part No.
Medium	3M6200B
Large	3M6300B



3M™ Premium Half Face Respirator 7500 Series

- Soft Silicone material for extra comfort
- Cradle head harness and adjustable, easy to fasten neck strap
- Patented 3M Cool Flow exhalation valve provides easier breathing while reducing heat and moisture build up
- Shielded exhalation valve system to protect valve from heat and dust
- Bayonet Filter fixing system, suitable for all 3M disc and cartridge filters
- Meets the requirements of AS/NZS 1716:2003

Description	Part No.
Medium	3M7502B
Large	3M7503B

Note: Filters are not included.



3M™ Full Face Respirator 6000 Series

The 3M Full Face Reusable Respirator 6000 series is a low maintenance respirator that offers the user comfort, convenience and easier breathing.

Comfort

- Lightweight, well balanced respirator
- Silicone face seal enhances comfort and durability

3M Cool Flow Exhalation valve

- Designed to make breathing easier
- Helps reduce heat and moisture build up
- Helps provide cool, dry comfort

Unique Centre Adapter

- Directs exhaled breath and moisture downwards
- Smooth surface allows for quick and easy cleaning
- Helps reduce debris from depositing in valve area

Lens

- Wide field of vision helps provide excellent visibility
- High impact polycarbonate visor

Description	Part No.
Medium	3M6800


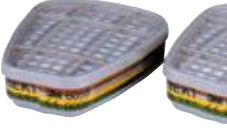

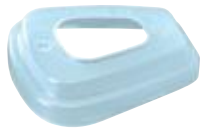




## 3M™ Gas and Vapour Cartridge Filters 6000 series and Particulate Filters 5000 series

The 3M™ Cartridge Filters 6000 Series attach to 3M™ Half and Full Face Respirators to provide gas and vapour protection.

- Low profile and well balanced twin filter design
- 3M™ Bayonet Connection System ensures precise and secure locking
- Meets the performance requirements of AS/NZS 1716:2012
- The Particulate filter (3M5925) attached to the retainer (3M501) provides particulate protection



Image	Applications	Description	Type	Part No.
	For protection against organic vapours and/or acid gases such as sulphur dioxide, hydrogen chloride, chlorine, chlorine dioxide and many other acid gases in a wide range of chemical industries.	Organic Vapours, (boiling point > 65°C) Inorganic and Acid Gases	A1 B1 E1	3M6057B
	For protection against Multi-gas†: organic vapours, chlorine, hydrogen chloride, sulphur dioxide, hydrogen fluoride, ammonia, methylamine and formaldehyde.	Multi-Gas: Organic Vapours, (boiling point > 65°C) Inorganic and Acid Gases, Ammonia and Methylamine	A1 B1 E1 K1	3M6059B
	P2 protection against dusts and mists, including those containing oil. For use with the 6000 series cartridges and the 3M501 retainer.	Particulate Filter used in conjunction with 6000 Series Cartridge Filters (5 Pairs)	P2	3M5925BOX
	Holds the 3M5925 P2 particulate filter onto the 6000 series gas/vapour cartridges to provide combination particle/ gas/ vapour protection to the wearer.	Particulate Filter Retainer to hold the 3M5925 Particulate Filter		3M501

\*Nuisance levels are those levels below the Workplace Exposure Standards (WES).

## 3M™ Particulate Filters 2000 series and 6000 series

These filters attach to the 3M™ Half and Full Face Respirators to provide particulate protection.

- Lightweight and low breathing resistance
- Low profile and well balanced twin filter design
- 3M™ Bayonet Connection System ensures precise and secure locking
- Meets the performance requirements of AS/NZS 1716:2012
- 3M™ Bayonet Fixing System ensures precise and secure locking

Image	Applications	Description	Type	Part No.
	For protection against welding fume, ozone, polishing and grinding particles. Also for spraying pesticides or herbicides with vapour pressure <1.3 Pa @ 25°C.	Particulate, Ozone and Agricultural type Organic Vapours with low vapour pressure, Nuisance level Acid Gas	G P2	3M2128
	For protection against toxic particles such as mould remediation. Also for nuisance level** acid gases and organic vapours with low vapour pressure <1.3 Pa @ 25°C.	Particulate, Ozone and Agricultural type Organic Vapours with low vapour pressure, Nuisance level Acid Gas	G P2 G P3†	3M2138

\*Nuisance levels are those levels below the Workplace Exposure Standard (WES).

†P3 protection achieved only when worn with a 3M Full Face Respirator, provides P2 protection with a half face respirator.

‡Refer to local Government Guidelines (Worksafe NZ or Safe Work Australia).

# Hearing Protection



## UMATTA® Class 4 Earmuffs



- Lightweight
- Padded headband
- Vinyl cushion for comfort
- Headband and swivel pivot on cup
- SLC<sub>80</sub> 27 dB
- AS/NZS 1270:200Z

Part No.	UEM100
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## UMATTA® Class 5 Earmuffs



- Lightweight
- Padded headband
- Vinyl cushion for comfort
- Headband and swivel pivot on cup
- SLC<sub>80</sub> 29 dB
- AS/NZS 1270:200Z

Part No.	UEM102
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## 3M™ EAR Express™ Pod Reusable Plugs

- Soft, smooth, self-adjusting polyurethane foam provides low pressure comfort with excellent attenuation
- Washable and reusable
- All day comfort; non-irritating
- SLC<sub>80</sub> 19 dB, Class 3

Description	Part No.
Express Pod earplugs Corded (Box 100)	321-2115



## UMATTA® Earplugs

Smooth and soft polyurethane disposable earplugs. Cone shaped for easy insertion and excellent seal. With or without Cord.

- SLC<sub>80</sub> 27 dB, Class 5

Description	Part No.
Un-corded (box 200 pairs)	UEPUC
Corded (box 100 pairs)	UEPC



## Howard Leight Max™

- Tapered and pre-shaped, follows the contour of the ear canal providing for easy insertion and a comfortable, natural seal
- SLC<sub>80</sub> 26 dB, Class 5

Description	Part No.
Max foam (box 200 pairs)	MAX-1
Max foam Corded (box 100)	MAX-30
Max refill pack (box 500 pairs)	MAX-1-D

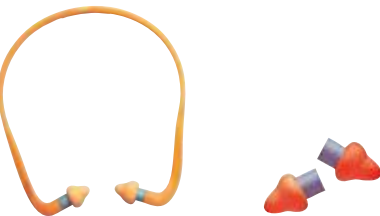


## Howard Leight LaserLite™



- Tapered and pre-shaped to ear canal
- Provides easy insertion, comfortable seal
- SLC<sub>80</sub> 25 dB, Class 4

Description	Part No.
LaserLite foam (box 200 pairs)	LL-1
LaserLite foam Refill (box 500)	LL-1-D



## Howard Leight QB2™ Quiet Bands

- Lightweight, comfortable and compact design
- QB2's Supra-Aural design features pads that are partially inserted into the ear
- SLC<sub>80</sub> 21 dB, Class 3

Description	Part No.
Banded Supra-Aural earcaps (box 10)	QB2
QB2 Replacement foam earcaps (ea)	QB200EA

## Gloves



### UMATTA® Silverback

- Lightweight, comfortable and dexterous glove
- Good grip in dry or oily conditions
- Provides excellent abrasion resistance
- Ideal for a wide range of applications
- Mechanical hazard rating 4211

Description	Part No.
Medium	U5267/M
Large	U5267/L
XL	U5267/XL



### UMATTA® Silverback Lite

- Lightweight, comfortable and dexterous glove
- Repels liquids for excellent wet or dry grip
- Extra ventilation with good tactile sensitivity
- Provides excellent abrasion resistance
- Knitted cuffs fit snugly around the wrist and help prevent particles from entering

Description	Part No.
Small	U5300/S
Medium	U5300/M
Large	U5300/L
XL	U5300/XL



### UMATTA® Mechanic Glove

- Lightweight and comfortable
- Snug fitting glove with adjustable wrist straps
- Extra padding for protection where you need it the most
- Nylon lycra back gives your hand extra manoeuvrability
- Velcro fasteners around the wrist help prevent particles from entering the glove
- Ideal for a wide range of applications

Size	Part No.
Small	U9001/S
Medium	U9001/M
Large	U9001/L
XL	U9001/XL
2XL	U9001/2XL



### Candy Stripe Economical

- Candy stripe style, economical quality 3 piece leather palm, knuckle bar
- General purpose work glove

Part No.	743313
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### Premium Cow Grain Riggers - Beige

- 25 cm length
- General purpose work glove, material handling and driving

Description	Part No.
Small	743405
Medium	743342
Large	743341
XL	470154



### Heat Guard™ Aluminised Glovesavers

- Aluminised back
- Welding glove protection from radiant heat
- Leather palm

Size	Part No.
Left Hand	743301
Right Hand	743302



### Hi-Vis Glove Clip

- Hi-Vis Glove Clip
- High visibility clip attaches work gloves to worker
- Safety breakaway
- Robust
- Dielectric
- Double jaw configuration

Part No.	GK24FLOR
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## Clothing



### Bisley 3M Taped Two Tone Hi-Vis Cool Lightweight Shirt (BS6896)

- 100% Cotton Preshrunk Drill 155gsm, 100% Cotton Open Mesh 200gsm
- 3M 8910 Reflective taped hoop pattern around body
- Vertical cotton mesh back ventilation
- Underarm cotton mesh ventilation
- Two chest pockets with button down flaps
- Left pocket with pen division
- Full gusset sleeve cuff
- Two piece structured contrast coloured collar
- Colours: Yellow/Navy (TT01), Orange/Navy (TT02)

Size	Yellow/Navy	Orange/Navy
Medium	9317326925704	9317326925582
Large	9317326925711	9317326925599
XL	9317326925728	9317326925605
2XL	9317326925735	9317326925612



### Bisley Two Tone Hi-Vis Drill Shirt (BS6267)

- 100% Cotton Preshrunk Drill 190gsm
- Two chest pockets with button down flaps
- Left pocket with pen division
- Two piece contrast coloured structured collar
- Two button adjustable sleeve cuff
- Colours: Orange/Navy (TT02)

Size	Part No.
Medium	9328894580059
Large	9328894580066
XL	9328894580073
2XL	9328894580080

### Bisley Original Cotton Drill Work Pant (BP6007)

- 100% Cotton Preshrunk Drill 310gsm
- Mobile phone pocket on right side
- Seven reinforced belt loops
- Single front pleats
- Back patch pockets
- Two side angled pockets
- Coin pocket in waistband
- YKK zipper
- Colours: Navy (BPCT)

Size	Part No.
82R	9313155739178
87R	9313155739185
92R	9313155739192
97R	9313155739208
102R	9313155841932



### Bisley Original 8 Pocket Cargo Pant (BPC6007)

- 100% Cotton Preshrunk Drill 310gsm
- Adjustable side tab on waistband
- YKK zipper
- Two side angled pockets
- Two side welt pockets
- Two side cargo pockets with touch tape flaps
- Two back flat pockets with touch tape flaps
- Colours: Navy (BPCT)

Size	Part No.
82R	9328894273906
87R	9328894273913
92R	9328894273920
97R	9328894273937
102R	9328894273944



## Bisley TTMC-W Light-weight Coverall with Reflective Tape

TTMC-W reflective tape around coverall body for TTMC-W compliancy

- Concealed press stud at sleeve cuff fastening
- YKK Heavy duty zipper at centre front opening
- Front right chest pocket with zipper opening
- Left front chest pocket with tool/knife division
- Back utility patch pocket & ruler/phone pocket
- 100% Cotton Preshrunk Drill 190gsm
- Colours: Orange/Navy (TT02)

Size	Part No.
92R	9345539841894
97R	9345539841924
102R	9345539841719
107R	9345539841733

## Deane Cotton Long Sleeve Overall with Flex Sleeve

- 100% cotton zip overall with flex shoulder design to maximise mobility. 310gsm.
- UHF chip included in collar
- Comes in Dome fastener or YKK non-conductive vislon zip
- Side vents for easy access to base garments
- 6 pockets - including two chest pockets (both with flap closure, left with pen pocket), two hip pockets, one back pocket and a cell phone pocket on the right leg
- Bar tacked stress points; Dark collar and cuffs for high stain areas
- Underarm gusset to enhance airflow and reduce torso pull
- Colour: Navy
- Sizes 82-132 Regular

Fastener Type	Part No.
Dome	OAL061-820/size
Zip	OAL064-820/size



## Footwear



### STEEL BLUE Hobart Elastic-Sided Safety Boot

- Ankle length pull-on
- Steel-toe capped boot with bump cap
- Polyurethane midsole/Thermo Plastic Urethane outsole
- Water-resistant waxy leather
- Colour: BLK (Black)
- Sizes 5-14 & 6.5-13.5

Part No. **332101/BLK/size**



### STEEL BLUE Argyle Lace-Up Safety Boot

- Steel Toecap, TPU Outsole and Bump Cap
- 145 mm ankle length lace-up safety boot
- Fully lined
- Padded ankle and tongue
- Colour: BK (Black)
- Sizes 5-14

Part No. **332102/BK/size**



### ESCAPE™ Socks

Made from premium quality yarns, ESCAPE socks are soft to touch and very comfortable.

- 92% Bamboo fibre, 8% Elastine
- Anti-bacterial
- Colour: Navy
- Sizes: 6-10, 11-12, 12-15

Description	Part No.
6-10	<b>E600005/NY/6-10</b>
11-12	<b>E600005/NY/11-12</b>
12-15	<b>E600005/NY/12-15</b>



### Howler Kokoda Elastic Sided Steel Cap Boot

- 140mm ankle height, elastic sided, pull on boots with 200J safety steel toe cap making it ideal for light industry and rural work
- Buffalo water-resistant waxy leather and stitched with nylon thread
- Generous and comfortable wide-fit
- Lined with Polymesh which is a soft, non-abrasive, hydrophobic material that wicks perspiration away from the foot, enabling the skin to remain cool and dry
- Directly moulded PU midsole for greater shock absorption, anti-static TPU outsole for superior wear properties, heavy-duty, flexible anti-bacterial non-woven insole
- Full length EVA footbed for additional support and comfort
- Meets AS/NZS 2210.3 standards
- Colour: Black
- Sizes 5-13

Part No. **432452/BLK/size**



### Howler Canyon Lace-Up Boot

- 150mm lace up ankle boot with padded collar and tongue, and 200J safety steel toe-cap
- Buffalo water-resistant waxy leather with full linings stitched with nylon thread
- Non-corrosive lacing
- The boot is lined with Polymesh which is a soft non-abrasive, hydrophobic material that wicks perspiration away from the foot, enabling the skin to remain cool and dry.
- Directly moulded polyurethane midsole for greater shock absorption. The outsole features anti-static thermoplastic urethane (TPU) for superior wear properties
- The full length innersole offers additional support and comfort. It is made from soft EVA that will retain its shape and thickness throughout the life of the boot.
- Meets AS/NZS 2210.3 standards
- Colour: Black
- Sizes 5-13

Part No. **432454/BLK/size**

For more information contact the BOC Customer Engagement Centre on  
0800 111 333  
[www.boc.co.nz](http://www.boc.co.nz)