

Chapter 1

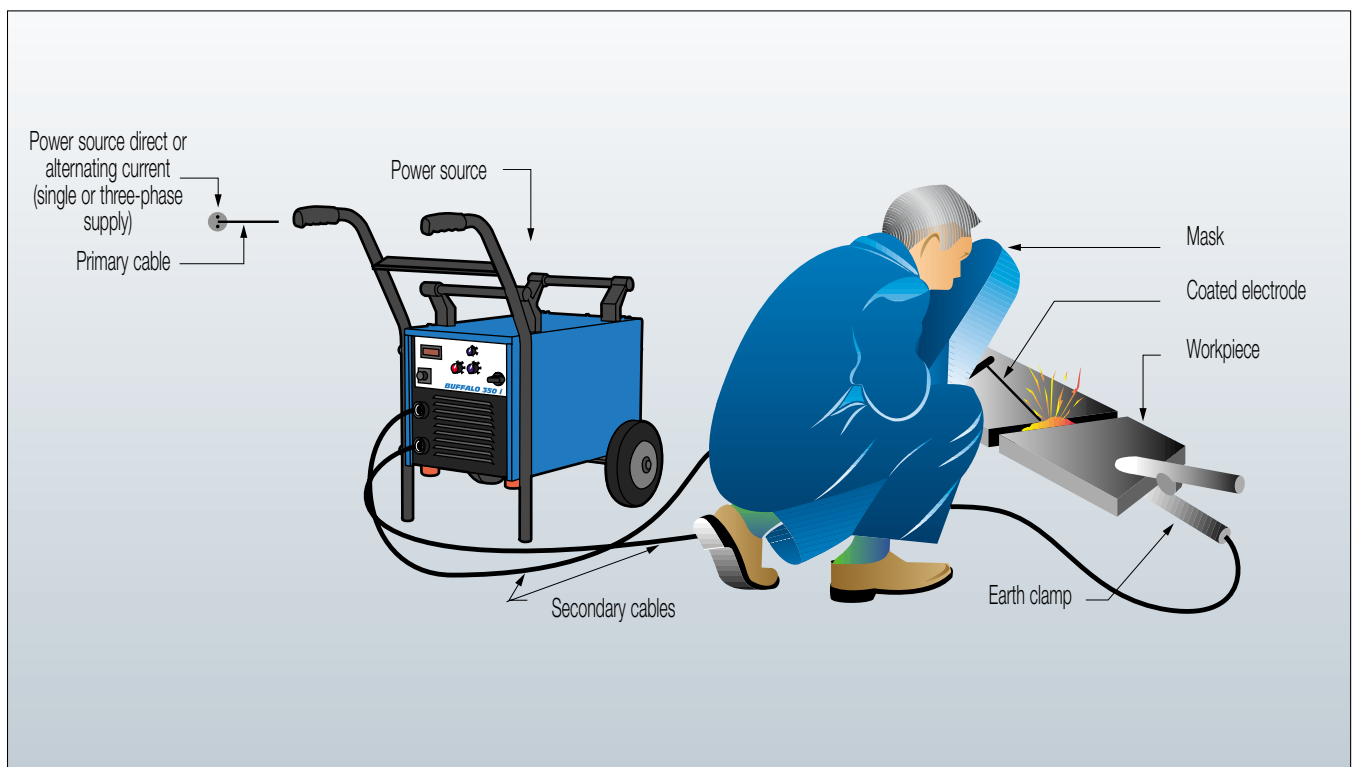
MMA welding



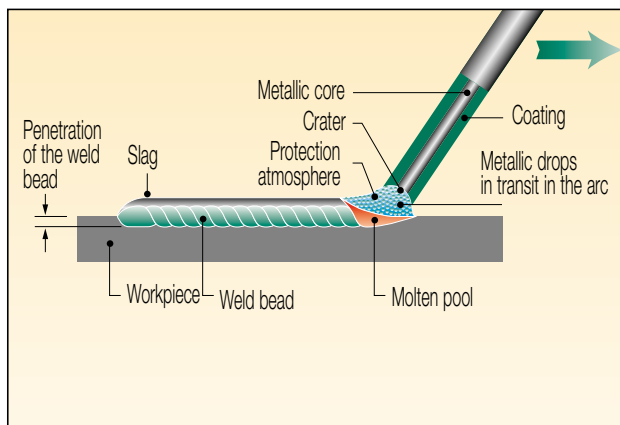
MMA welding



Scheme of a manual installation for welding with coated electrode



The transfer of metal coated electrode



Choice of the intensity of current

Thicknesses for flat welding, butt welding and fillet welding. (mm)	Electrode diameter (mm)	Average intensity (A)
1.6	1.6	40
2.0	2.0	55
2.0-3.0	2.5	70
3.0-5.0	3.2	110
3.0-10.0	4.0	160
> 8.0	5.0	200
> 10.0	6.3	290



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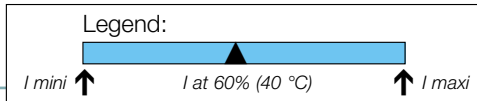
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1

Choice criteria for MMA power sources

Power supply	Nature of current*		No-load voltage (volts)	Setting M = mechanical P = potentiometer	Welding current (Ampere)						Electrode diameter (mm)							Weight (kg)	Name of product
	alternating AC ~	direct DC =			100	200	300	400	500	600	1.6	2.0	2.5	3.2	4.0	5.0	6.3		
Single-phase	✓	-	48	M	[Bar chart: 100-200A]						■	■	■	■	■	-	-	15	PRIMARC 165*
Single-phase	✓	-	50.5	M	[Bar chart: 100-200A]						■	■	■	■	■	-	-	27	PRIMARC 190*
Single-phase	✓	-	48	M	[Bar chart: 100-200A]						-	■	■	■	■	■	-	30	PRIMARC 250*
Single-phase	-	✓	83.5	P	[Bar chart: 100-200A]						■	■	■	■	-	-	-	3.5	SAXO 1300
Single-phase	-	✓	84.3	P	[Bar chart: 100-200A]						■	■	■	■	■	-	-	6.9	SAXO 1500
Single-phase	-	✓	85	P	[Bar chart: 100-200A]						■	■	■	■	-	-	-	9	PRESTO 140 G
Single-phase	-	✓	85	P	[Bar chart: 100-200A]						■	■	■	■	■	-	-	9.5	PRESTO 160 G
Single-phase	-	✓	108	P	[Bar chart: 100-200A]						■	■	■	■	■	-	-	8	PRESTO 170 VRD**
Single-phase	-	✓	82	P	[Bar chart: 100-200A]						■	■	■	■	■	-	-	12	PRESTO 190 GC**
Three-phase	-	✓	105	P	[Bar chart: 100-200A]						■	■	■	■	■	-	-	18	PRESTO 220 GC**
Three-phase	-	✓	93	P	[Bar chart: 100-200A]						-	■	■	■	■	■	-	29	BUFFALO 350 I CC/CV
Three-phase	-	✓	66	M	[Bar chart: 100-200A]						-	-	■	■	■	■	-	70	RODARC 250 DC
Three-phase	-	✓	70	M	[Bar chart: 100-200A]						-	-	■	■	■	■	-	88	RODARC 400 DC
Three-phase	-	✓	71	M	[Bar chart: 100-200A]						-	-	■	■	■	■	■	120	RODARC 450 DC
Three-phase	-	✓	72	M	[Bar chart: 100-200A]						-	■	■	■	■	■	■	108	SAFEX M 340
Three-phase	-	✓	75	M	[Bar chart: 100-200A]						-	-	■	■	■	■	■	125	SAFEX M 450
Three-phase	-	✓	66	P	[Bar chart: 100-200A]						-	■	■	■	■	■	■	235	SAFEX C2
Three-phase	-	✓	80	P	[Bar chart: 100-200A]						-	■	■	■	■	■	■	146	FLEX 4000**
Three-phase	-	✓	68	P	[Bar chart: 100-200A]						■	■	■	■	■	■	■	180	BUFFALO 500 DC**
Three-phase	-	✓	75	P	[Bar chart: 100-200A]						■	■	■	■	■	■	■	190	BUFFALO 650 DC**

* AC: Only for rutile electrodes
DC: Suitable for all types of electrodes (rutile, basic, special ...)



** ideal for welding of cellulosic coated electrodes



0882-050

3551-001

MMA welding sets AC

Flexible and rugged the PRIMARC range of transformers is designed for maintenance and repair applications. Performant and easy to operate, they allow to easily weld rutile and stainless steel electrodes.

1

PRIMARC 165 High performances and easy to use

4 decisive advantages:

- alternating current welding sets for use with coated electrodes,
- easy to use, rugged and powerful,
- destined for repair and maintenance work, small and medium industries, agriculture,
- air-cooled.



To order

- Power source only:
Cat. no. W 000 263 674
- Accessories kit 16C25
Cat. no. W 000 260 680

2

PRIMARC 190 Welding sets which make possible welding of mild steel

4 decisive advantages:

- alternating current welding sets for use with coated electrodes,
- easy to use, rugged and powerful,
- destined for repair and maintenance work, small and medium industries, agriculture,
- air-cooled.



To order

- Power source only:
Cat. no. W 000 263 675
- Accessories kit 16C25
Cat. no. W 000 260 680
- Option:
Wheels kit Cat. no. 0340-4042

3

PRIMARC 250 Ideal for on site and maintenance works

5 decisive advantages:

- alternating current welding sets for use with coated electrodes,
- easy to use, rugged and powerful,
- destined for repair and maintenance work, small and medium industries, agriculture,
- air-cooled,
- 2 open circuit voltage.



To order

- Power source only:
Cat. no. W 000 263 676
- Accessories kit 25C25
Cat. no. W 000 011 138

Technical specifications:

	1 PRIMARC 165	2 PRIMARC 190	3 PRIMARC 250
Power supply single-phase	230 / 400 V ± 10 % 50-60 Hz	230 / 400 V ± 10 % 50-60 Hz	230 / 400 V ± 10 % 50-60 Hz
Primary consumption at I max.	39 A (230 V) - 20 A (400 V)	39 A (230 V) - 23 A (400 V)	55 A (230 V) - 32 A (400 V)
No-load voltage	48 V	50.5 V	52-73 V
Welding current	40 - 160 A	40 - 190 A	40 - 230 A
Protection class	IP 21	IP 21	IP 21
Electrodes per hour	15 x Ø 3.2 mm/h	9 x Ø 4.0 mm/h	15 x Ø 4.0 mm/h
Electrode diameters	1.6 to 4.0 mm	1.6 to 4.0 mm	2.0 to 5.0 mm
Dimensions (L x W x H)	330 x 212 x 280 mm	440 x 245 x 300 mm	440 x 245 x 350 mm
Net weight	15 kg	27 kg	30 kg
Standards	EN 50060; EN 60974-10	EN 50060; EN 60974-10	EN 50060; EN 60974-10

Options:

TIG torches with valve for:

SAXO 1300/1500 - PRESTO 140/160G

- Torch PROTIG 10V R - 5 m (125 A/35 %) Cat. no. 0420-4011
- Maintenance box for PROTIG 10 V Cat. no. 0429-9001

PRESTO 170VRD/ 190GC/ 220GC

RODARC 250/ 400/ 400 intensivo/ 450

SAFEX M340/ M450/ C2

FLEX 400 CELL

BUFFALO 350i CC-CV/500DC/650DC

- Torch PROTIG 30V R - 5 m (200 A/35 %) Cat. no. 0421-4011
- Maintenance box for PROTIG 30 Cat. no. 0429-9003



Portable rectifier sets DC

For maintenance and repair works. Weight and size have been reduced still maintaining an excellent welding quality for non-alloyed and stainless steels.

Technical specifications:	4 SAXO 1300	5 SAXO 1500
Power supply single-phase	230 V ± 10% 50-60 Hz	230 V ± 10% 50-60 Hz
Primary consumption at I max.	24 A	31 A
No-load voltage	83.5 V	84.3 V
Welding current	5 - 130 A	5 - 150 A
Protection class	IP 21	IP 21
Duty cycle		
at 100%	60 A	100 A
10 min. cycle	80 A	120 A
(at 40 °C)		
at 25%	125 A (at 15%)	150 A
Electrode diameter	1.6 to 3.2 mm	1.6 to 4.0 mm
Dimensions (L x W x H)	300 x 110 x 190 mm	440 x 200 x 360 mm
Net weight	3.5 kg	6.9 kg
Standards	EN 60974-1; 10	EN 60974-1; 10



4

SAXO 1300 Ultra-light installation for fast and quality works

5 decisive advantages:

- coated electrode,
- Hot start function,
- Arc Force function,
- anti-sticking device,
- rutile, basic, stainless steel and special electrodes up to 3.2 mm.



2006-804

To order

- **Ready to use complete set including:**
 - power source,
 - primary cable,
 - equipped welding cables,
 - 1 mask,
 - 1 hammer-brush,
 - 1 toolcase.
- **Accessories kit 16C25**
Cat. no. W 000 260 680

5

SAXO 1500 Installation for fast and high quality works with coated electrode

4 decisive advantages:

- Hot start function,
- Arc force function,
- anti-sticking device,
- rutile, basic, stainless steel and special electrodes up to 4 mm.

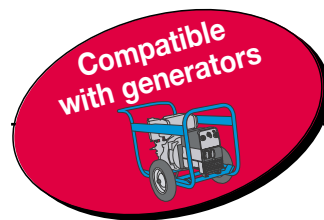


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To order

- **Ready to use complete set including:**
 - power source,
 - primary cable,
 - earth cable with earth clamp,
 - welding cable with electrode holder,
- **Accessories kit 16C25**
Cat. no. W 000 260 680

MMA DC inverters



PRESTO machines have been designed to be used in extremely severe conditions. They offer a great reliability and a high duty cycle.

1

PRESTO 140 G
Indispensable installation for professionals of the maintenance or for on-site welding.

5 decisive advantages:

- portable,
- very smooth fusion (Hot start and Arc Force are built-in),
- easily and quickly connected to plug 16 A,
- TIG option: torch with valve.
- MMA package delivered with accessories kit (2 m earth cable with earth clamp and 3 m welding cable with electrode holder).

To order

- Power source only:
Cat. no. W 000 263 677
- Accessories kit 25C25+
Cat. no. W 000 260 683

2

PRESTO 160 G
Arc force and Hot start

4 decisive advantages:

- portable,
- very smooth fusion,
- TIG option: torch with valve.
- MMA package delivered with accessories kit (2 m earth cable with earth clamp and 3 m welding cable with electrode holder).

To order

- Power source only:
Cat. no. W 000 263 678
- Accessories kit 25C25+
Cat. no. W 000 260 683

3

PRESTO 170 VRD
Quality in welding with safety

6 decisive advantages:

- portable,
- suitable for all kinds of electrodes, cellulosic included,
- Hot-start and Arc-force adjustment,
- TIG option: torch with valve,
- TIG LIFT with up/down slope functions,
- Voltage reduction device built-in (safety).

To order

- Power source only:
Cat. no. W 000 263 849
- Accessories kit 25C50
Cat. no. W 000 260 684

4

PRESTO 190 GC
High quality and heavy duty

6 decisive advantages:

- portable,
- high power: 160 A at 60% duty cycle,
- suitable for welding cellulosic electrodes,
- Arc force regulation on front panel,
- TIG option with touch starting,
- Lift TIG.

To order

- Power source only:
Cat. no. W 000 263 679
- Accessories kit 25C50
Cat. no. W 000 260 684

5

PRESTO 220 GC
Hot Start and TIG LIFT system integrated

9 decisive advantages:

- suitable for heavy duty welding,
- anti-stick built-in function,
- digital display,
- MMA mode / TIG LIFT system,
- suitable for all kind of electrodes, cellulosic included,
- Remote control unit,
- TIG mode with up/down slope functions,
- possibility to modify the Hot Start value (in %) and Arc Force,
- VRD device (safety).

To order

- Power source only:
Cat. no. W 000 263 680
- Accessories kit 35C50
Cat. no. W 000 011 139
- Option:
Remote control with 10 m cable
Cat. no. W 000 242 069

Technical specifications:	1 PRESTO 140 G	2 PRESTO 160 G	3 PRESTO 170 VRD
Power supply	230 V ± 20% 50-60 Hz single-phase	230 V ± 20% 50-60 Hz single-phase	230 V ± 20% 50-60 Hz single-phase
Primary consumption at I max.	28 A	34 A	34 A
No-load voltage	85 V	85 V	108 V (14 V VRD)
Welding current	5 - 140 A	5 - 160 A	5 - 160 A
Protection class	IP 23	IP 23	IP 23
Duty cycle at 100%	100 A	100 A	100 A
10 min. cycle at 60%	120 A	120 A	130 A
(at 40 °C) at 35%	140 A	160 A	160 A (at 30 %)
Electrode diameters	1.6 to 3.2 mm	1.6 to 4.0 mm	1.6 to 4.0 mm
Dimensions (L x W x H)	415 x 186 x 315 mm	415 x 170 x 315 mm	480 x 190 x 350 mm
Net weight	9 kg	9 kg	8 kg
Standards	EN 60974-1; 10	EN 60974-1; 10	EN 60974-1; 10

MMA DC rectifiers

The RODARC and the FLEX 400 have been designed for severe applications on site or in workshops. They offer at the best price an ultra-efficient welding for all coated electrodes.



Technical specifications:	6 RODARC 250	7 RODARC 400 / 400 Intensivo	8 RODARC 450	9 FLEX 400
Power supply three phase	230/400 V ± 10 % 50 Hz	230/400 V ± 10 % 50 Hz	230/400 V ± 10 % 50 Hz	230/400 V ± 10 % 50-60 Hz
Primary consumption at I max.	36 A (230 V) - 21 A (400 V)	57 A (230 V) - 33 A (400 V)	78 A (230 V) - 45 A (400 V)	83 A (230 V) - 48 A (400 V)
No-load voltage	62-66 V	63-70 V	63 - 70 V	80 V
Welding current	45 - 220 A	50 - 325 A	60 - 400 A	10 - 400 A
Protection class	IP 23	IP 23	IP 23	IP 23
Duty cycle at 100%	130 A	190 A	265 A	230 A
10 min. cycle at 60%	170 A	250 A	345 A	300 A
(at 40 °C) at 35%	220 A	325 A	400 A (at 45%)	400 A
Electrode diameter	2.0 to 5.0 mm	2.5 to 6.3 mm	2.0 to 8.0 mm	2 to 6.3 mm
Dimensions (L x W x H)	950 x 340 x 560 mm	1 070 x 550 x 690 mm	1 070 x 550 x 690 mm	970 x 670 x 730 mm
Net weight	57 kg	107 kg	123 kg	146 kg
Standards	EN 60974-1; -10	EN 60974-1; -10	EN 60974-1; -10	EN 60974-1; -10

6

RODARC 250
Ideal for all types of coated electrodes up to 5 mm

3 decisive advantages:

- coated electrodes rutile, basic, stainless steels and special,
- silent cooling,
- large wheels as standard.



To order

- Power source only:
Cat. no. W 000 263 690
- Accessories kit 35C50
Cat. no. W 000 011 139

7

RODARC 400 / 400 Intensivo
Ideal for all types of coated electrodes up to 6.3 mm

5 decisive advantages:

- rectifier set with mechanical adjustment,
- through duty cycle and its high power,
- silent cooling,
- large wheels as standard,
- automatic over load protection (RODARC 400 Intensivo only).



To order

- Power source only:
Cat. no. W 000 263 694
- Power source automatic over load protection:
Cat. no. W 000 265 936
- Accessories kit 50C50
Cat. no. W 000 260 681

8

RODARC 450
Ideal for all types of coated electrodes up to 6.3 mm

5 decisive advantages:

- robust,
- ventilated,
- high power,
- silent cooling,
- large wheels as standard.



To order

- Power source only:
Cat. no. W 000 263 699
- Accessories kit 50C50+
Cat. no. W 000 260 682


4 PRESTO 190 GC	5 PRESTO 220 GC
230 V ± 20% 50-60 Hz single-phase	400 V ± 10% 50-60 Hz three-phase
24 A	14 A
82 V	105 V (14 V VRD)
5 - 160 A	5 - 220 A
IP 23	IP 23
130 A	150 A
160 A	190 A
-	220 A (at 40%)
1.6 to 4.0 mm	1.6 to 5.0 mm
480 x 190 x 350 mm	450 x 250 x 430 mm
12 kg	18 kg
EN 60974-1; 10	EN 60974-1; 10

9

FLEX 400
Thyristor technology dedicated to professional users of coated electrodes

5 decisive advantages:

- pre-setting of the welding current from 10 to 400 A (stepless regulation),
- stabilized output with compensation of the input voltage,
- fan stop automatically after about 8 minutes of rest,
- can be equipped with a remote control box,
- digital Amp/Voltmeters.



To order

- Power source only:
Cat. no. W 000 263 698
- Accessories kit 50C50+
Cat. no. W 000 260 682
- Option:
Remote control with 10 m cable
Cat. no. W 000 219 557

MMA DC rectifiers

The all-terrain arc welding sets. Efficient, rugged and easy to use. SAFEX sets gather performance and reliability. Since more of 20 years, they have proven in worldwide on-site applications their unequal ruggedness.

1

SAFEX M 340
The all-terrain arc welding set.

2 decisive advantages:

- rectifier set with mechanical adjustment.
- very easy to maintain, simply to use.



To order

- Power source only:
Cat. no. W 000 263 703
- Accessories kit 50C50
Cat. no. W 000 260 681

2

SAFEX M 450
Very easy to maintain, simply to use

2 decisive advantages:

- rectifier set with mechanical adjustment,
- manoeuvrable on all terrains thanks to the shafts, big wheels and slinging rings.



To order


- Power source only:
Cat. no. W 000 263 705
- Accessories kit 50C50+
Cat. no. W 000 260 682

3

SAFEX C 2
Excellent for use on worksites for the more difficult working conditions

4 decisive advantages:

- rectifier set with electric adjustment,
- powerful,
- coated electrodes \varnothing 1.6 to 6.3 mm,
- remote control possible.



To order

- Power source only:
Cat. no. W 000 263 702
- Accessories kit 50C50
Cat. no. W 000 260 681
- Options:
Remote control Cat. no. 0320-0011

Technical specifications:	1 SAFEX M 340	2 SAFEX M 450	3 SAFEX C2
Power supply three phase	220/380 V \pm 10 % 50 Hz	220/380 V \pm 10 % 50 Hz	220/380 V \pm 10 % 50 Hz
Primary consumption at I max.	35 A (380 V) - 60 A (220 V)	45 A (380 V) - 78 A (220 V)	30.5 A (380 V) - 52 A (220 V)
No-load voltage	67 V	70 V	66 V
Welding current	45 - 325 A	65 - 405 A	20 - 300 A
Protection class	IP 23	IP 23	IP 23
Duty cycle at 100%	210 A	260 A	230 A
10 min. cycle at 60%	240 A	300 A	270 A
(at 40 °C) at 35%	325 A	405 A	300 A (at 45%)
Electrode diameter	2.0 to 6.3 mm	2.5 to 6.3 mm	1.6 to 6.3 mm
Dimensions (L x W x H)	880 x 670 x 670 mm	880 x 670 x 670 mm	900 x 600 x 710 mm
Net weight	108 kg	125 kg	235 kg
Standards	EN 60974-1; 10	EN 60974-1; 10	EN 60974-1; 10

Options:

Accessories for the implementation of TIG and MIG/MAG welding processes of the RODARC and SAFEX ranges:

MIG/MAG

- DEVIDARC wire-feeder
Cat. no. 9160-0186
- Torch PROMIG NG 341-3 m
Cat. no. W 000 260 894
- Torch PROMIG NG 341-4 m
Cat. no. W 000 260 895

TIG

- M 200 TIG add-on unit
Cat. no. 0375-0016
- Torch PROTIG 30 RLS-5 m
Cat. no. 0420-8213
- Torch PROTIG 30 RLS-8 m
Cat. no. 0420-8214



Inverter and thyristor rectifier sets DC welding and gouging

4

BUFFALO 350i CC/CV Thanks to the inverter technology, this multi-purpose machine is very compact

4 decisive advantages:

- compact installation,
- very compact (29 kg) power set,
- offers high range power and availability, all types of electrodes up to diameter 6.3 mm (cellulosic up to 4 mm),
- coupling two installations is possible.



To order

- **Power source only:**
Cat. no. W 000 263 711
- **Accessories kit 50C50+**
Cat. no. W 000 260 682
- **Options:**
 - MMA B-Box - remote control
Cat. no. 0320-2710
 - MIG box Cat no. 9160-1070
 - DV 44i 10 m wire feeder
Cat. no. 9160-1436
 - MIG/MAG - B-box remote control
Cat. no.9160-1071
 - Torch PROMIG NG 341 - 3 m
Cat. no. W 000 260 894
 - Torch PROMIG NG 341 - 4 m
Cat. no. W 000 260 895

BUFFALO reliability and ruggedness that defy and face the most severe conditions. Gouging and also TIG or MIG welding with additional unit. Whatever your application is you will find in the BUFFALO range the right partner for an efficient welding.

Technical specifications:	BUFFALO		
	4 350i CC/CV	5 500 DC	6 650 DC
Power supply three phase	400 V ± 10 % 50-60 Hz	220-230/380-400/ 415-440 V 50-60 Hz	220-230/380-400/ 415-440 V 50-60 Hz
Primary consumption at I max.	28.5 A	94/54/49 A	130/73/68 A
No-load voltage	93 V	68 V	75 V
Welding current	5 - 350 A	20 - 500 A	30 - 630 A
Protection class	IP 23	IP 23	IP 23
Standards	EN 60974-1;-10	EN 60974-1;-10	EN 60974-1;-10
Duty cycle at 100%	250 A	350 A	370 A
10 min. cycle at 60% (at 40 °C)	300 A	450 A	470 A
at 35%	350 A	500 A (at 45%)	630 A
Electrode diameter	welding 1.6 to 6.3 mm	1.6 to 6.3 mm	1.6 to 6.3 mm
	gouging up to 6.0 mm	up to 10.0 mm	up to 13.0 mm
Dimensions (L x W x H)	525 x 300 x 390 mm	820 x 510 x 570 mm	820 x 510 x 570 mm
Net weight	29 kg	180 kg	190 kg

5 6

BUFFALO 500 DC and 650 DC Especially designed for the welding in the most difficult conditions

5 decisive advantages:

- the BUFFALO range offers an exceptional multi-use,
- they originally have a characteristic's selector CC or CV - MMA/gouging/TIG and MIG,
- in MIG mode (CV) BUFFALO DC sets will provide optimum results with the DEVIDARC add-on unit,
- the power unit is oversized allowing a large reserve of power,
- even with long lengths of welding cables BUFFALO DC sets will remain efficient for all applications.

To order

- **BUFFALO 500 only:**
Cat. no. W 000 263 700
- **BUFFALO 650 only:**
Cat. no. W 000 263 701
- **Accessories kit 50C50+**
Cat. no. W 000 260 682
- **Options:**
 - Ampermeter/voltmeter
Cat. no. 0320-2088
 - 10 m remote control
Cat. no. 0387-4044
 - No-load voltage reducer
Cat. no. 0320-2085
 - Wheels kit Cat. no. 0320-2087
 - Trolley for worksite
Cat. no. 0320-2089
 - DEVIDARC wire-feeder
Cat. no. 9160-0186
 - Torch PROMIG NG 441 - 3 m
Cat. no. W 000 260 897
 - Torch PROMIG NG 441 - 4 m
Cat. no. W 000 260 898



Gouging and bevelling



K 2000 TORCH

Cat. no.	W 000 010 999
Current	400 A
Ø electrode	4.0 to 6.0 mm

K 4000 TORCH

Cat. no.	W 000 010 992
Current	1000 A
Ø electrode	4.0 to 13.0 mm

CARBON ELECTRODES

Version	Ø (mm)	L (mm)	Cat. no.
CARBONAIR	4.0	305	W 000 010 645
	5.0	305	W 000 010 443
	6.0	305	W 000 010 444
	8.0	305	W 000 010 445
	10.0	305	W 000 010 446
CARBONAIR+ (connectable)	8.0	355	W 000 010 448
	10.0	432	W 000 010 449
	13.0	432	W 000 010 450
	16.0	432	W 000 010 451
	19.0	432	W 000 010 452

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