

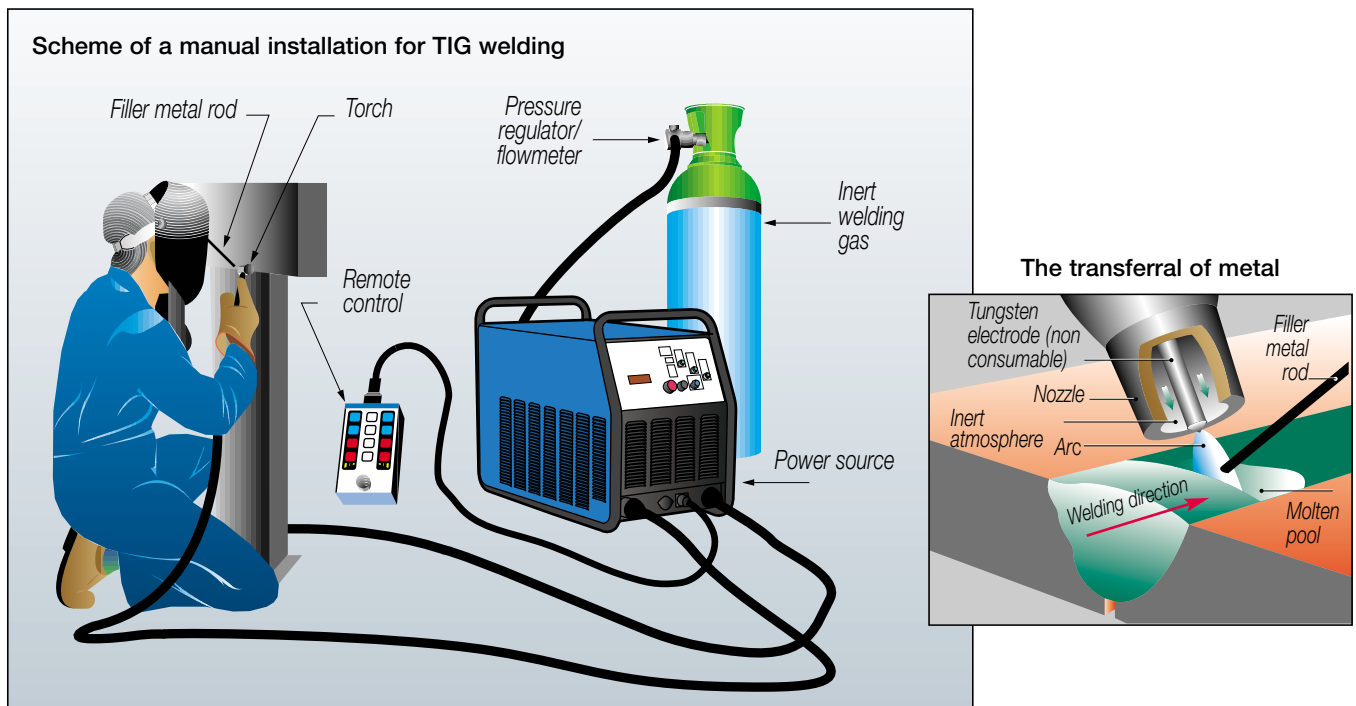
Chapter 2

TIG welding



TIG welding

TIG welding generalities and quick choice criteria

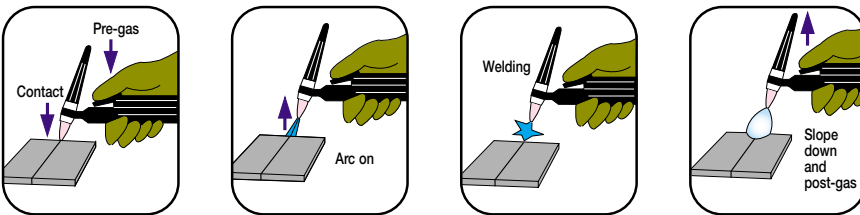


Choice criteria for TIG power sources

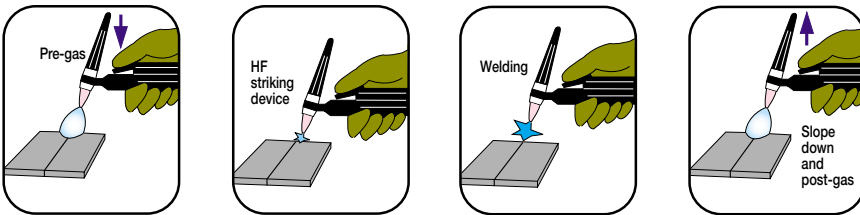
Power supply	Nature of current		PAC striking	HF striking	Welding current (Ampere)				Simple cycle	Complete cycle	Pulse mode	Weight (kg)	Name of product
	alternating AC ~	direct DC =			100	200	300	400					
Single-phase	-	✓	-	✓					✓	-	no	10	SAXOTIG 160
Single-phase	-	✓	✓	✓					-	✓	yes	10	SAXOTECH 170
Single-phase	-	✓	✓	✓					-	✓	yes	19	SAXOTECH 220
Three-phase	-	✓	✓	✓					-	✓	yes	16,5	SAXOTIG 230
Single-phase	-	✓	✓	✓					-	✓	yes	16,5	PRESTOTIG 210
Three-phase	-	✓	✓	✓					-	✓	yes	22	PRESTOTIG 310 / 310 W
Three-phase	-	✓	✓	✓					-	✓	yes	33	PRESTOTIG 410 W
Three-phase	-	✓	-	✓					✓	-	no	104	AVISO 250
Three-phase	-	✓	-	✓					✓	-	no	159	AVISO 350 / 350 W
Three-phase	-	✓	✓	✓					-	✓	yes	99	ADMIRAL 350 W
Single-phase	✓	✓	-	✓					✓	-	yes	22	SAXOTIG 160 AC/DC
Single-phase	✓	✓	✓	✓					-	✓	yes	30	PRESTOTIG 210 AC/DC
Single-phase	✓	✓	-	✓					-	✓	option	182	AVISO 300 AC/DC synchro
Three-phase	✓	✓	✓	✓					-	✓	yes	39	PRESTOTIG 250 AC/DC
Three-phase	✓	✓	✓	✓					-	✓	yes	65	PRESTOTIG 250 W AC/DC
Three-phase	✓	✓	✓	✓					-	✓	yes	74	PRESTOTIG 350 W AC/DC
Three-phase	✓	✓	✓	✓					-	✓	option	149	ADMIRAL 500 W AC/DC



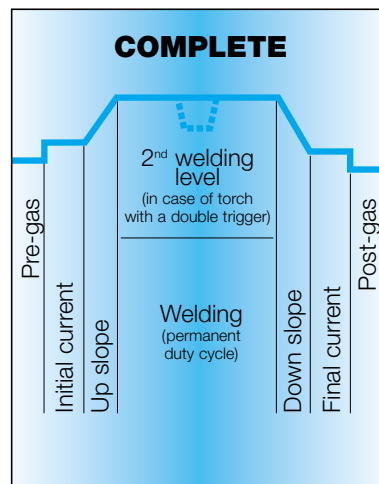
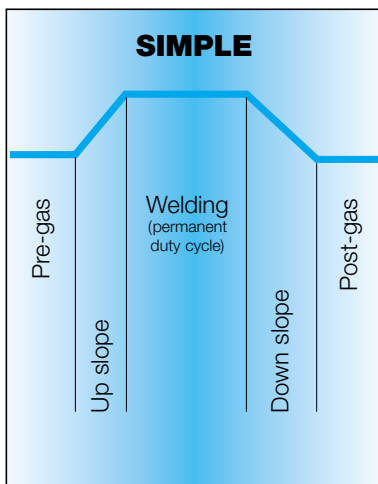
PAC SYSTEM arc striking device



HF arc striking device



TIG welding cycles



Legend for TIG welding

Pre-gas

Torch and harness are purged before striking.

Initial welding current

Allows to pre-heat a piece and to position it correctly on the joint to be welded.

Up slope function

Allows a progressive increasing of the welding current.

Down slope function

Prevents a crater at the end of the welding cycle and prevents the risks of cracking particularly light alloys.

Final welding current

Useful in positional welding for continuing the welding cycle without extinguishing the arc completely.

Post-gas

Protection of the work piece and the electrode after welding completed.

Balance

Accentuates, during AC welding the penetration or the cleaning phase.

Pulsed welding

Makes position welding and welding of thin sheet plate easier, and prevents the collapse of the molten pool. Allows a regular deposit of filler metal and improves the penetration.

Tacking

Allows a quick tacking of the joint before welding.



SAXOTIG, SAXOTECH and PR

Single or three-phase portable inverters for MMA and TIG DC high quality works on non-alloyed or stainless steels.

1

SAXOTIG 160

4 decisive advantages:

- HF striking,
- simple welding cycle: pre-gas, slope-down and post-gas adjustable on the front panel,
- MMA or TIG DC modes,
- 2T-4T modes.



2006-417

To order

- **Standard equipment:**
 - 1 SAXOTIG 160
 - 1 primary cable L = 3 m with SHOKO plug
 - 1 earth cable L = 3 m with earth clamp and DINSE connector
 - 1 equipped gas hose L = 3 m Cat. no. W 000 056 001
- **Add-ons:**
 - PROTIG 10 RLS 5 m torch Cat. no. 0420-2213
 - PROTIG 20 RLS 5 m torch Cat. no. 0420-6213
 - Accessory kit MMA PRO ARC 300 Cat. no. 0042-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 20 Cat. no. 0429-9002
 - PROTIG 10 Cat. no. 0429-9001

2

SAXOTECH 170

7 decisive advantages:

- pulsed TIG current,
- complete welding cycle,
- digital display of the parameters,
- MMA or TIG DC modes,
- HF-PAC arc striking,
- 2T-4T modes,
- choice of two current levels.



2006-881

To order

- **Standard equipment:**
 - 1 SAXOTECH 170
 - 1 primary cable L = 3 m
 - 1 equipped gas hose L = 2 m Cat. no. W 000 263 655
- **Add-ons:**
 - PROTIG 10 RLS 5 m torch Cat. no. 0420-2213
 - PROTIG 20 RLS 5 m torch Cat. no. 0420-6213
 - Accessory kit MMA PRO ARC 300 Cat. no. 0042-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 20 Cat. no. 0429-9002
 - PROTIG 10 Cat. no. 0429-9001
 - Remote control: Cat. no. W 000 242 069
 - Foot pedal: Cat. no. W 000 241 602

3

SAXOTECH 220

8 decisive advantages:

- MMA or TIG DC modes,
- complete welding cycle,
- pulsed TIG current,
- choice of two current levels,
- digital display of the parameters,
- HF-PAC arc striking,
- 2T-4T modes,
- max input current < 16 A.



2006-885

To order

- **Standard equipment:**
 - 1 SAXOTECH 220
 - 1 primary cable L = 3 m
 - 1 equipped gas hose L = 2 m Cat. no. W 000 263 654
- **Add-ons:**
 - PROTIG 20 RLS 5 m torch Cat. no. 0420-6213
 - PROTIG 30 RL 5 m torch Cat. no. 0420-8213
 - Accessory kit MMA PRO ARC 300 Cat. no. 0042-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 20 Cat. no. 0429-9002
 - PROTIG 30 Cat. no. 0429-9003
 - Remote control: Cat. no. W 000 242 069
 - Foot pedal: Cat. no. W 000 241 602

Technical specifications:	1 SAXOTIG 160	2 SAXOTECH 170	3 SAXOTECH 220	4 SAXOTIG 230	5 PRESTOTIG 210
Power supply	230 V (± 10%) 50-60 Hz single-phase	230 V (± 10%) 50-60 Hz single-phase	230 V (± 10%) 50-60 Hz single-phase	400 V (+ 10% -15%) 50-60 Hz three-phase	230 V single-phase 50-60 Hz
Primary consumption at I max.	19 A	22 A	16 A (PFC)	9.6 A	28 A
No-load voltage	82 V	66 V	54 V	80 V	80 V
Welding current	5 - 150 A	5 - 160 A	5 - 220 A	5 - 220 A	5 - 200 A
Protection class	IP 21C	IP 23C	IP 23C	IP 23C	IP 23C
Duty cycle at 100%	100 A	110 A	150 A	110 A	130 A
10 min. cycle at 60%	120 A	140 A	180 A	145 A	150 A
(at 40 °C) at 30%	150 A (at 35%)	160 A (at 35%)	220 A (at 35%)	220 A (at 25 %)	200 A
Electrode diameter	4.0 mm	4.0 mm	5.0 mm	5.0 mm	4.0 mm
Dimensions (L x W x H)	420 x 175 x 300 mm	430 x 190 x 320 mm	430 x 220 x 450 mm	472 x 152 x 385 mm	410 x 180 x 390 mm
Net weight	10 kg	10 kg	19 kg	16.5 kg	16.5 kg
Standards	EN 60974-1; -10	EN 60974-1; -10	EN 60974-1; -10	EN 60974-1; -10	EN 60974-1; -10
Torches types	RL S family	RL S family	RL S family	RL S family	RL C5B family

4

SAXOTIG 230

6 decisive advantages:

- complete welding cycle, pre-gas, slope-down and post-gas adjustable,
- pulsed TIG current,
- MMA or TIG DC modes,
- HF-PAC arc striking,
- 2 current levels,
- 2T-4T, spot mode,



2006-629

To order

- **Standard equipment:**
 - 1 SAXOTIG 230
 - 1 primary cable L = 3 m with SHOKO plug
 - 1 earth cable L = 3 m with earth clamp and DINSE connector
 - 1 equipped gas hose L = 3 m Cat no. W 000 265 121
- **Add-ons:**
 - PROTIG 20 RLS 5 m torch Cat. no. 0420-6213
 - PROTIG 30 RL 5 m torch Cat. no. 0420-8213
 - Accessory kit MMA PRO ARC 300 Cat. no. 0042-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 20 Cat. no. 0429-9002
 - PROTIG 30 Cat. no. 0429-9003
 - Remote control: Cat. no. W 000 263 312
 - Foot pedal: Cat. no. W 000 263 314

5

PRESTOTIG 210

7 decisive advantages:

- complete welding cycle, pre/post-gas, up/down slope current with setting,
- MMA or TIG DC modes,
- pulsed and synergic pulsed TIG current,
- 2T-4T and spot mode selection,
- HF-PAC arc striking,
- digital meter,
- electric generator compatibility.



2006-660

To order

- **Standard equipment:**
 - 1 PRESTOTIG 210
 - 1 equipped primary cable L = 3 m with plug
 - 1 earth cable L = 3 m with earth clamp and DINSE connector
 - 1 equipped gas hose L = 1.5 m Cat no. W 000 262 979
- **Add-ons:**
 - PROTIG 20 RL C5B 5 m torch Cat. no. 0420-6243
 - PROTIG 30 RL C5B 5 m torch Cat. no. 0420-8243
 - Accessory kit MMA PRO ARC 300 Cat. no. 0042-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 20 Cat. no. 0429-9002
 - PROTIG 30 Cat. no. 0429-9003
 - Trolley Cat. no. W 000 263 310
 - Remote control Cat. no. W 000 263 311
 - Foot pedal Cat. no. W 000 263 313

6 7

PRESTOTIG 310 / 310 W

10 decisive advantages:

- thermal safety indicator,
- supply voltage defect indicator,
- complete welding cycle, pre/post-gas, up/down slope current with setting,
- MMA or TIG DC modes,
- pulsed and synergic pulsed TIG current,
- 2T-4T and spot mode selection,
- HF-PAC arc striking,
- digital meter,
- electric generator compatibility,
- built-in cooling unit (310 W).



2006-664

2006-639

To order

- **Standard equipment:**
 - PRESTOTIG 310 Cat no. W 000 262 981
 - PRESTOTIG 310 W Cat no. W 000 265 599 (with equipped primary cable L = 3 m + earth cable L = 3 m + earth clamp and DINSE connector + 1 equipped gas hose L = 1.5 m)
- **Add-ons:**
 - PROTIG 40 RL C5B 5 m torch Cat. no. 0421-2245
 - PROTIG 10 W RL C5B 5 m torch Cat. no. 0423-0243 (for 310 W)
 - Accessory kit MMA PRO ARC 300 Cat. no. 0042-0300
 - COOLERTIG Cat. no. W 000 263 453 (for 310)
- **Options:**
 - Maintenance box for:
 - PROTIG 40 Cat. no. 0429-9004
 - PROTIG 10 Cat. no. 0429-9001 (for 310 W)
 - Trolley Cat. no. W 000 263 310
 - Remote control Cat. no. W 000 263 311
 - Foot pedal Cat. no. W 000 263 313

2

6 PRESTOTIG 310	7 PRESTOTIG 310 W	8 PRESTOTIG 410 W
400 V (+ 20% -15%) 50-60 Hz three-phase	400 V (+ 20% -15%) 50-60 Hz three-phase	400 V (+ 20% -15%) 50-60 Hz three-phase
12.1 A	12.1 A	19.9 A
80 V	80 V	80 V
5 - 300 A	5 - 300 A	5 - 400 A
IP 23C	IP 23C	IP 23C
200 A	200 A	220 A
230 A	230 A	285 A
300 A	300 A	400 A
5.0 mm	5.0 mm	6.0 mm
500 x 180 x 390 mm	499 x 180 x 650 mm	500 x 180 x 650 mm
22 kg	32 kg	33 kg
EN 60974-1; -10	EN 60974-1; -10	EN 60974-1; -10
RL C5B family	RL C5B family	RL C5B family

8

PRESTOTIG 410 W

7 decisive advantages:

- built-in cooling unit,
- digital meter and supply voltage defect indicator,
- complete welding cycle, pre/post-gas, up/down slope current with setting,
- MMA or TIG DC 2T-4T and spot mode selection,
- pulsed and synergic pulsed TIG current,
- HF-PAC arc striking,
- electric generator compatibility.



2006-664

To order

- **Standard equipment:**
 - PRESTOTIG 410 W Cat no. W 000 265 519 (with equipped primary cable L = 3 m + earth cable L = 3 m + earth clamp and DINSE connector + equipped gas hose L = 1.5 m) Cat no. W 000 265 519

- **Add-ons:**
 - PROTIG 30 W RL C5B 5 m torch Cat. no. 0423-2245
 - PROTIG 10 W RL C5B 5 m torch Cat. no. 0423-0243
 - Accessory kit MMA PRO ARC 300 Cat. no. 0042-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 10 Cat. no. 0429-9001
 - PROTIG 30 Cat. no. 0429-9003
 - Trolley Cat. no. W 000 263 310
 - Remote control Cat. no. W 000 263 311
 - Foot pedal Cat. no. W 000 263 313

AVISO and ADMIRAL

Your welding partner in workshops or on-site.
Powerful, rugged and easy to use installations.
HF striking and excellent stability.
Good welding performances in MMA mode.

Powerful, compact welding installation with inverter technology. Multi-purpose installation, recommended for workshop, for non-alloyed and stainless steel welding.

1

AVISO 250

5 decisive advantages:

- user-friendly front panel,
- simple welding cycle,
- MMA or TIG DC modes,
- 2T-4T modes selection,
- HF arc striking.



2006-487

To order

- **Standard equipment:**
 - 1 AVISO 250
 - 1 equipped primary cable L = 5 m
 - 1 ground cable equipped with a screw clamp
 - 1 quick gas coupling
 - Cat. no. W 000 263 713
- **Add-ons:**
 - PROTIG 30 RL S 8 m torch
 - Cat. no. 0420-8214
 - PROTIG 40 RL S 8 m torch
 - Cat. no. 0421-2214
 - Accessory kit MMA PRO ARC 300
 - Cat. no. 0420-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 30 Cat. no. 0429-9003
 - PROTIG 40 Cat. no. 0429-9004
 - Remote control Cat. no. 0389-0310
 - Foot pedal Cat. no. 0389-0311

2

AVISO 350 / 350 W

5 decisive advantages:

- user-friendly front panel,
- simple welding cycle,
- MMA or TIG DC modes,
- 2T-4T modes selection,
- HF arc striking.



2006-482

To order

- **Standard equipment:**
 - 1 AVISO 350
 - 1 equipped primary cable L = 5 m
 - 1 ground cable equipped with a screw clamp
 - 1 quick gas coupling
 - 1 built-in cooling unit for the water cooling version
 - Cat. no. W 000 263 714 (air version)
 - Cat. no. W 000 263 714 + 9157-0413 (for 350 W water version)
- **Add-ons:**
 - PROTIG 40 RL S 8 m torch
 - Cat. no. 0421-2214
 - PROTIG 10W RL S 8 m torch
 - Cat. no. 0423-0214
 - Accessory kit MMA PRO ARC 300
 - Cat. no. 0420-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 40 Cat. no. 0429-9004
 - PROTIG 10W Cat. no. 0429-9001
 - Remote control Cat. no. 0389-0310
 - Foot pedal Cat. no. 0389-0311

3

ADMIRAL 350 W

6 decisive advantages:

- user friendly front panel,
- multi-purpose installation: TIG DC / pulsed TIG / coated electrodes,
- complete TIG welding cycle,
- memorization of 100 programs,
- built-in cooling unit,
- numerical control of the process.



2006-753

To order

- **Standard equipment:**
 - 1 ADMIRAL 350 DC
 - 1 primary cable
 - 1 earth cable,
 - 1 quick action coupling
 - a cooling unit
 - 1 LIQUISAF can
 - Cat. no. W 000 263 715
- **Add-ons:**
 - PROTIG 30 RL C5B 8 m torch
 - Cat. no. 0420-8244
 - PROTIG 10W RL C5B 8 m torch
 - Cat. no. 0423-0244
- **Options:**
 - Remote control Cat. no. 9160-1071
 - Pulsed remote control
 - Cat. no. 0389-0328
 - Foot pedal Cat. no. 0389-0329
 - Maintenance box for:
 - PROTIG 30 Cat. no. 0429-9003
 - PROTIG 10W Cat. no. 0429-9001

Technical specifications:

	1 AVISO 250	2 AVISO 350 / 350 W	3 ADMIRAL 350 W
Power supply three-phase	230/400 V ± 10% 50-60 Hz	230/400 V ± 10% 50-60 Hz	400 V ± 10% 50-60 Hz
Primary consumption at I max.	35 A (230 V) 20 A (400 V)	61 A (230 V) 35 A (400 V)	21.7 A (TIG) 28.6 A (MMA)
No-load voltage	97 V	103 V	98.8 V
Welding current	7 - 250 A	5 - 350 A	4 - 350 A
Protection class	IP 23C	IP 23C	IP 23C
Duty cycle	at 100% 140 A	200 A	220 A
10 min. cycle	at 60% 180 A	260 A	260 A
(at 40 °C)	at 35% 250 A	350 A (at 30%)	350 A
Electrode diameter	5.0 mm	6.3 mm	6.3 mm
Dimensions (L x W x H)	650 x 460 x 720 mm	990 x 660 x 990 mm	1 090 x 610 x 97 mm
Net weight	104 kg	159 kg	99 kg
Standards	EN 60974-1; -10	EN 60974-1; -10	EN 60974-1; -10
Torches types	RL S family	RL S family	RL C5B family

AC/DC single-phase range

Technical specifications:	4 SAXOTIG 160 AC/DC	5 PRESTOTIG 210 AC/DC	6 AVISO 300 AC/DC (W) synchro
Power supply single-phase	230 V ± 10% 50-60 Hz	230 V ± 10% 50-60 Hz	230/380/415 V 50-60 Hz
Primary consumption at I max.	23 A	29.5 A	112 A (220 V) 65 A (380 V) 58 A (415 V)
No-load voltage	82 V	70 V DC	82 V
Welding current	5 - 150 A	3 - 200 A (DC) - 10 - 200 A (AC)	10 - 310 A
Protection class	IP 23C	IP 23C	IP 23C
Duty cycle	100 A	150 A	160 A
10 min. cycle	120 A	-	205 A
(at 40 °C)	150 A	200 A	310 A
Electrode diameter	2.4 mm	4.0 mm	6.3 mm
Dimensions (L x W x H)	430 x 220 x 250 mm	540 x 260 x 510 mm	760 x 515 x 875 mm
Net weight	22 kg	30 kg	182 kg
Standards	EN 60974-1; -10	EN 60974-1; -10	EN 60974-1; -10
Torches types	RL S family	RL C5B family	RL S family

4

SAXOTIG 160 AC/DC

6 decisive advantages:

- user-friendly front panel,
- AC/DC welding currents,
- MMA or 2T-4T TIG and spot mode selection,
- pulsed TIG DC,
- AC with variable frequencies and adjustment of the balance cleaning time/penetration,
- robustness.



2006-400

To order

- **Standard equipment:**
 - 1 SAXOTIG 160 AC/DC
 - 1 equipped primary cable L = 3 m long
 - 1 equipped gas hose L = 2 m long
 - Cat. no. W 000 056 009
- **Add-ons:**
 - PROTIG 10 RL S 5 m torch
 - Cat. no. 0420-2213
 - PROTIG 20 RL S 5 m torch
 - Cat. no. 0420-6213
 - Accessory kit MMA PRO ARC 300
 - Cat. no. 0420-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 10 Cat. No. 0429-9001
 - PROTIG 20 Cat. No. 0429-9002

5

PRESTOTIG 210 AC/DC

8 decisive advantages:

- AC/DC welding currents,
- complete welding cycle: pre/post gas - up/down slope current with setting,
- MMA or 2T-4T TIG modes and spot mode selection,
- pulsed and synergic pulsed TIG current,
- HF-PAC arc striking,
- digital meter,
- memorization of 9 programs,
- electric generator compatibility.



2006-681

To order

- **Standard equipment:**
 - 1 PRESTOTIG 210 AC/DC
 - 1 equipped primary cable L = 3 m with plug
 - 1 ground cable L = 3 m with clamp and DINSE connector
 - 1 equipped gas hose L = 1.5 m
 - Cat. no. W 000 262 987
- **Add-ons:**
 - PROTIG 30 RL C5B 5 m torch
 - Cat. no. 0420-8243
 - Accessory kit MMA PRO ARC 300
 - Cat. no. 0420-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 30 Cat. No. 0429-9003
 - Trolley Cat. no. W 000 263 308
 - Remote control
 - Cat. no. W 000 263 312
 - Foot pedal Cat. no. W 000 263 314

6

AVISO 300 AC/DC (W) synchro

The single-phase multi-voltage welding installation for TIG AC/DC and MMA welding.

6 decisive advantages:

- complete TIG welding cycle,
- pulsed mode welding with a remote controller,
- HF striking with adjustable striking dynamics,
- excellent arc stability thanks to the arc stabilizer,
- memory for 10 programs,
- digital meter.



2007-299

To order

- **Standard equipment:**
 - 1 AVISO 300 AC/DC
 - 1 primary cable
 - 1 earth cable
 - 1 torch connector
 - Cat. no. W 000 264 210
- **Add-ons:**
 - PROTIG 40 RLS 8 m torch
 - Cat. no. 0421-2214
- **Options:**
 - Maintenance box PROTIG 40 torch
 - Cat. no. 0429-9004
 - PROTIG 10 W RLS 8 m torch
 - Cat. no. 0423-0214
 - Maintenance box PROTIG 10/10W torch
 - Cat. no. 0429-9001
 - Trolley Cat. no. 0387-1059
 - Remote control box
 - Cat. no. 0387-4044
 - Remote control box for pulsed current
 - Cat. no. 0387-1123
 - Cooling unit Cat. no. 9157-0412



0382-031

2

AC/DC three-phase range

Technical specifications:	1 PRESTOTIG 250 AC/DC	2 PRESTOTIG 250 W AC/DC	3 PRESTOTIG 350 W AC/DC	4 ADMIRAL 500 W AC/DC
Power supply three-phase	230/400/460 V (± 10%) 50-60 Hz	230/400/460 V (± 10%) 50-60 Hz	400 V (± 10%) 50-60 Hz	230/400 V (± 10%) 50-60 Hz
Primary consumption at I max.	18.8 A (230 V) 10.8 A (400 V) 9.4 A (460 V)	18.8 A (230 V) 10.8 A (400 V) 9.4 A (460 V)	16.9 A	48 A (230 V) 36 A (400 V)
No-load voltage	70 V (DC)	70 V (DC)	70 V (DC)	100 V
Welding current	3 to 250 A (DC) 10 to 250 A (AC)	3 to 250 A (DC) 10 to 250 A (AC)	3 to 350 A (DC) 10 to 350 A (AC)	4 to 500 A (DC) 4 to 500 A (AC)
Protection class	IP 23C	IP 23C	IP 23C	IP 23C
Duty cycle at 100%	220 A	220 A	280 A	400 A
10 min. cycle at 60% (at 40 °C)	250 A (70%)	250 A (70%)	350 A	450 A
at 35%	-	-	-	500 A
Electrode diameter	5.0 mm	5.0 mm	5.0 mm	6.3 mm
Dimensions (L x W x H)	690 x 260 x 550 mm	690 x 260 x 830 mm	690 x 260 x 870 mm	960 x 590 x 1 170 mm
Net weight	39 kg	65 kg	74 kg	149 kg
Standards	EN 60974-1; -10	EN 60974-1; -10	EN 60974-1; -10	EN 60974-1; -10
Torches types	RL C5B family	RL C5B family	RL C5B family	RL C5B family

1 2

PRESTOTIG 250 / 250 W AC/DC

10 decisive advantages:

- user-friendly front panel,
- using AC: adjustment of the balance cleaning time/penetration,
- complete welding cycle: pre/post gas - up/down slope current with setting,
- MMA or 2T-4T TIG modes and spot mode selection,
- pulsed and synergic pulsed TIG current,
- HF, PAC arc striking,
- supply voltage defect indicator,
- digital meter and memorization of 9 programs,
- electric generator compatibility,
- built-in cooling unit (250 W).



To order

- **Standard equipment:**
 - PRESTOTIG 250 AC/DC Cat. no. W 000 265 362
 - PRESTOTIG 250 W AC/DC Cat. no. W 000 262 990
 - (with equipped primary cable L = 3 m + ground cable L = 3 m with clamp and DINSE connector + equipped gas hose 1,5 m)
- **Add-ons:**
 - PROTIG 40 RL C5B 5 m torch Cat. no. 0421-2245
 - PROTIG 10 W RL C5B 5 m torch Cat. no. 0423-0243 (250 W)
 - Accessory kit MMA PRO ARC 300 Cat. no. 0420-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 40 Cat. no. 0429-9004
 - PROTIG 10 W Cat. no. 0429-9001 (250 W)
 - Trolley Cat. no. W 000 263 309
 - Remote control Cat. no. W 000 263 312
 - Foot pedal Cat. no. W 000 263 314

3

PRESTOTIG 350 W AC/DC

10 decisive advantages:

- built-in cooling unit,
- user-friendly front panel,
- using AC: adjustment of the balance cleaning time/penetration,
- complete welding cycle: pre/post gas - up/down slope current with setting,
- MMA or 2T-4T TIG modes and spot mode selection,
- pulsed and synergic pulsed TIG current,
- HF, PAC arc striking,
- supply voltage defect indicator,
- digital meter and memorization of 9 programs,
- electric generator compatibility.



To order

- **Standard equipment:**
 - 1 PRESTOTIG 350 W AC/DC;
 - 1 equipped primary cable L = 3 m
 - 1 ground cable L = 3 m with clamp and DINSE connector
 - 1 equipped gas hose 1,5 m
 - 1 coolertig
 - Cat. no. W 000 262 991
- **Add-ons:**
 - PROTIG 35 W RL C5B 5 m torch Cat. no. W 000 234 864
 - PROTIG 10 W RL C5B 5 m torch Cat. no. 0423-0243
 - Accessory kit MMA PRO ARC 300 Cat. no. 0420-0300
- **Options:**
 - Maintenance box for:
 - PROTIG 35 Cat. no. 0429-9004
 - PROTIG 10 Cat. no. 0429-9001
 - Trolley Cat. no. W 000 263 309
 - Remote control Cat. no. W 000 263 312
 - Foot pedal Cat. no. W 000 263 314

4

ADMIRAL 500 W AC/DC

8 decisive advantages:

- user-friendly front panel,
- complete welding cycle: 2T-4T, up/down slope, pre/post gas,
- multi-process unit: AC/DC TIG, spot and pulsed TIG with a remote controller DC+, DC- or AC in MMA mode,
- AC/DC TIG with a singol cerium electrode with sharpened point,
- AC noise reduction with a range of different wave forms,
- numerical control of the process with DSP (Digital Signal Processor) function,
- memorization of 15 programs,
- compact installation with integrated cooling unit.



To order

- **Standard equipment:**
 - 1 ADMIRAL 500 W AC/DC
 - 1 equipped primary cable L = 3,5 m
 - 1 ground cable equipped with a screw clamp 3,5 m long
 - 1 equipped gas hose L = 3,5 m long
 - 1 built-in cooling unit
 - 1 can of 5 liters liquid cooling
 - Cat. no. W 000 263 716
- **Add-ons:**
 - PROTIG 35W RL C5B 5 m torch Cat. no. W 000 234 864
 - PROTIG 40W RL C5B 5 m torch Cat. no. W 000 234 866
 - Accessory kit MMA 50C50+ Cat. no. W 000 260 682
- **Options:**
 - Maintenance box for:
 - PROTIG 35 W Cat. no. 0429-9004
 - PROTIG 40 W Cat. no. 0429-9005
 - Remote control: current - frequency - balance Cat. no. 0387-1116
 - Remote control: pulsed current - basic current - frequency cycle Cat. no. 0387-1117
 - Remote control: pedal Cat. no. 0387-1119

MICROPLASMA and TIG process

Manual and automatic welding applications

For the manual or automatic assembly of precious metals with a small thickness, 0.05 to 1.0 mm. (stainless steels, Inconel, titanium, silver and gold alloys).

Electric components industries, electronics, small containers, metallic filters and tool repair.

Medical sector, watchmakers, goldsmiths.

1

PLASMAFIX 51:



2007-469

Characteristics:

- User friendly front panel.
- Multilingual display.
- Totally programmable welding cycles.
- Memory of 100 programs.
- Configuration which is adapted to the user's needs.
- Printing of programs.
- Also for TIG welding.
- Equipped of RS 232 for coupling a P.C. or printer
- Cooling by a liquid
- Tungsten electrodes: Ø 1.0 or 1.6 mm, 75 or 150 mm long,
- 4 m harness.

2

REFRIJET 51:



- Cooling unit. Cat. no. 9258-0344.

3638-038

1 - PLASMAFIX 51

Primary power supply:

• power supply (V)	230-400-440 V - 50-60 Hz. Three-phase
• cos φ	0.91
• max. primary power (phased)	6 A (under 400 V)

Secondary:

• PLASMA always smooth and pulsed	mini 80 m A - maxi 50 A at 100%
• TIG smooth and pulsed	mini 0.8 A - maxi 50 A at 60%
• No load voltage	106 V
• pulse frequency	1 Hz to 10 kHz

Other characteristics:

• front programming	by keys and code
• display	by LCD bill sticker
• cooling	by cooling unit outside power source
• HF source	built-in
• main and annular gas circuit	built-in - integrable
• back shielding gas circuit	option
• protection class	IP 23
• weight	95 kg
• dimensions (L x W x H)	650 x 360 x 750 mm

2 - REFRIJET 51 cooling unit.

Assures the cooling by liquid in a closed circuit of the SP 45 torch and the power source

PLASMAFIX 51:

• power supply	230 V / 50-60 Hz
• capacity	6 l
• power consumption	2 200 W at 20 °C
• weight	36 kg
• dimensions (L x W x H)	720 x 360 x 340 mm

To order

- PLASMAFIX 51 (power source only) Cat. no. 9258-0320
- Package for manual application (ready to use) Cat. no. 9258-0326
- Package for automatic application (ready to use) Cat. no. 9258-0349

Options

- **Trolley** Cat. no. 9258-0329, to receive the following equipment:
 - PLASMAFIX 51,
 - REFRIJET 51,
 - 2 gas cylinders.
- **Double footpedal remote control** (replaces the torch's trigger) Cat. no. 9258-0268
- **Trigger and current adjustment pedal** Cat. no. 9258-0354.
- **Back weld gas protection device** Cat. no. 9258-0731 (add a EUROSAP pressure regulator).
- **P.C. software under Windows 3.1, 95 and 98** for PLASMAFIX 51 Cat. no. 9258-0353

Installation on trolley





2007-472

2

MICROPLASMA and TIG process

Torches and wear parts

		<i>To order</i>	
		Manual	Automatic
			
Torch SP 45		9258-0111	9258-0112
Thoriated tungsten electrode (2%)	Ø 1.0 mm	9258-0115	9258-0115
	Ø 1.6 mm	0371-0258	0371-0258
Constricting nozzles	Ø 0.6 mm	9258-0182	9258-0182
	Ø 0.8 mm	9258-0167	9258-0167
	Ø 1.0 mm	9258-0168	9258-0168
	Ø 1.2 mm	9258-0169	9258-0169
	Ø 1.5 mm	9258-0170	9258-0170
	Ø 1.8 mm	9258-0171	9258-0171
Alumina nozzles	Ø 7.0 mm	9258-0176	9258-0176
	Ø 9.0 mm	9258-0177	9258-0177
	Ø 11 mm	9258-0178	9258-0178

SP45 torch maintenance kit



Cat. no. 9258-0113, contains:

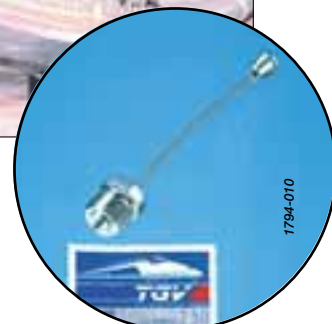
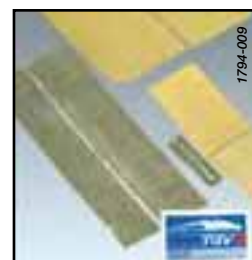
- 2 constricting nozzles Ø 0.8 mm,
- 2 constricting nozzles Ø 1.0 mm,
- 2 constricting nozzles Ø 1.2 mm,
- 2 constricting nozzles Ø 1.5 mm,
- 2 constricting nozzles Ø 1.8 mm,
- 2 electrode holders Ø 1.0 mm,
- 2 electrode holders Ø 1.6 mm,
- 1 alumina nozzle Ø 7 mm,
- 1 alumina nozzle Ø 9 mm,
- 1 alumina nozzle Ø 11 mm,
- 2 electrode centering cases Ø 1.0 mm,
- 2 electrode centering cases Ø 1.6 mm,
- 2 electrode centers Ø 1.0 mm,
- 2 electrode centers Ø 1.6 mm,
- 2 nozzle joints,
- 2 cap joints,
- 1 electrode positioning template,
- 5 electrodes Ø 1.0 mm,
- 5 electrodes Ø 1.6 mm.

Welding lathes



Power supply	230 V - 50 Hz*
Rotation speed	0.1 - 11 tr/min
Concentricity of tail stock	± 0.02 mm
Tail stock force	1 950 Ncm
Central axis	166 mm
Maximum distance between point	500 mm
Maximum admissible diameter	320 mm
Drilling of plug	Ø 48 mm
• with axis 3 bits	Ø 20/32/42 mm
• with fastening holders	Ø 16 mm
Weight	150 kg

* For version 60 Hz and for other dimensions consult us.



PROTIG torches

An extensive and a full range for worksite or workshop applications in which it is possible to choose the product according to the application and wishes of the user. The PROTIG torches are delivered instantly ready for use. The choice is based on the type of handle, a round handle or an ergonomic handle and on the type of connection.

PROTIG standard torches.

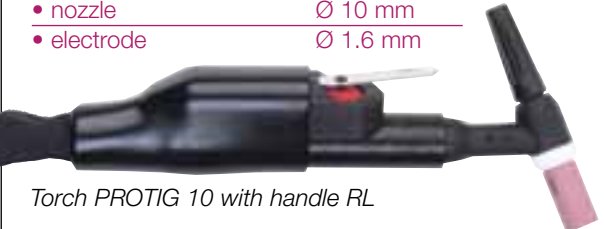
Torches flexible and easy to handle. Easy maintenance. Woven sheath. Flexible harness. High mechanical strength.

Air-cooled torches



PROTIG 10 and PROTIG 10 F + 10 V
 Duty cycle 35%: 125 A
 Fitted as standard:


• back cap	medium
• nozzle	Ø 10 mm
• electrode	Ø 1.6 mm



Torch PROTIG 10 with handle RL

PROTIG 20
 Duty cycle 35%: 150 A
 Fitted as standard:

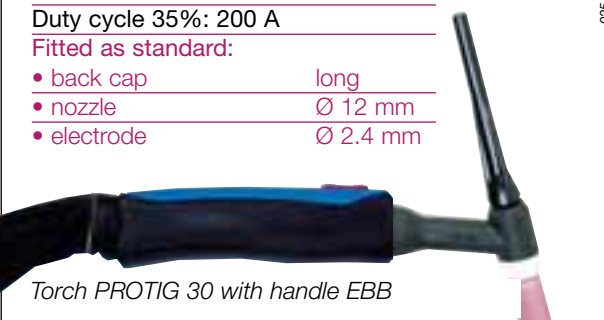
• back cap	long
• nozzle	Ø 10 mm
• electrode	Ø 2.0 mm



Torch PROTIG 20 with handle RL

PROTIG 30 and 30 V
 Duty cycle 35%: 200 A
 Fitted as standard:

• back cap	long
• nozzle	Ø 12 mm
• electrode	Ø 2.4 mm



Torch PROTIG 30 with handle EBB

Water-cooled torches

PROTIG 10 W - 10 W F
 100%: 250 A
 Fitted as standard:

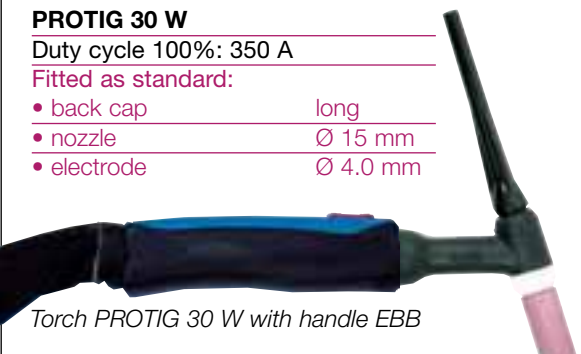
• back cap	long
• nozzle	Ø 12 mm
• electrode	Ø 3.2 mm



Torch PROTIG 10 W with handle EBB

PROTIG 30 W
 Duty cycle 100%: 350 A
 Fitted as standard:


• back cap	long
• nozzle	Ø 15 mm
• electrode	Ø 4.0 mm



Torch PROTIG 30 W with handle EBB

PROTIG 35 W
 Duty cycle 100%: 350 A
 Fitted as standard:

• back cap	long
• nozzle	Ø 15 mm
• electrode	Ø 4.8 mm




Torch PROTIG 35 W with handle EBB

Recommended for aluminium welding

PROTIG 40 W
 Duty cycle 100%: 450 A
 Fitted as standard:

• back cap	long
• nozzle	Ø 14 mm
• electrode	Ø 4.8 mm



Torch PROTIG 40 W with handle EBB

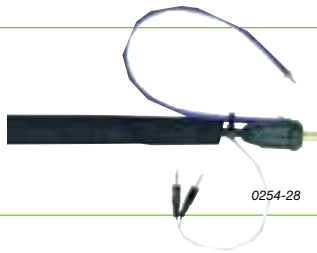


Connection

Choose your connection

S

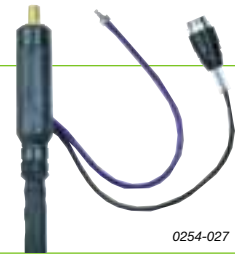
Simple connectors for sets with yellow front and old SAF logo and SAXOTIG/SAXOTECH range.



0254-28

C5B

Separate gas pipe and 5 pin - connectors for sets with white front - new range.



0254-027

V

Simple torch with valve (V) connectors for arc welding power supplies, old or new presentation.



0254-25

Choose your torch handle

R

Round handle for torch with valve (V)



0254-004

RL

Round handle with lever



0254-012

RB

Round handle with button.



0254-016

EB

Ergonomic handle with single button.



0254-010

EBB

Ergonomic handle with double button*.



0254-008

* The double buttons handle is used on inverter sets. Stepping the weld current down at the end of the welding cycle closes the crater cleanly.



0609-057

Torches		RL S	RL C5B	RL CC5B	RB S	EBB C5B	EBB CC5B
PROTIG 10	5 m	04202213	W 000 234 862	04202263	04202113	04202445	04202465
	8 m	04202214	W 000 234 863	04202264	04202114	W 000 236 867	04202466
PROTIG 10 F	5 m	-	-	-	W 000 234 868	W 000 234 874	W 000 234 880
	8 m	-	-	-	W 000 234 869	W 000 234 875	W 000 234 881
PROTIG 20	5 m	04206213	04206243	04206263	04206113	04206445	04206465
	8 m	04206214	04206244	04206264	0420-6114	W 000 236 868	04206466
PROTIG 30	5 m	04208213	04208243	04208263	0420-3113	W 000 236 869	04208365
	8 m	04208214	04208244	04208264	0420-3114	04208446	04208366
PROTIG 40	5 m	04212213	04212245	04212263	-	-	-
	8 m	04212214	04212246	04212264	-	-	-
PROTIG 10 W	5 m	04230213	04230243	04230263	0423-0113	04230445	04230465
	8 m	04230214	04230244	04230264	0423-0114	04230446	04230466
PROTIG 10 W F	5 m	-	-	-	W 000 234 870	W 000 234 876	W 000 234 882
	8 m	-	-	-	W 000 234 871	W 000 234 877	W 000 234 883
PROTIG 30 W	5 m	04232213	04232245	04232263	0423-2113	04232445	W 000 236 870
	8 m	04232214	04232246	04232264	0423-2114	04232446	04232446
PROTIG 35 W	5 m	04233213	W 000 234 864	04233265	W 000 234 872	W 000 234 878	W 000 234 884
	8 m	04233214	W 000 234 865	04343266	W 000 234 873	W 000 234 879	W 000 234 885
PROTIG 40 W	5 m	W 000 234 860	W 000 234 866	04344265	-	-	-
	8 m	W 000 234 861	W 000 234 867	04344266	-	-	-

Accessories and wear parts for PROTIG torches

Version with DIRISAF for welding where access is difficult.

PROTIG 40 W
 A - insulating nut
 Cat. no. 0377-1310
 B - O-ring
 Cat. no. 0377-1307
 C - water distributor
 Cat. no. 0377-1308

6 and 10 choice of nozzle

Welding current (A)	70	70	120	200	350
Diameter (mm)	6	8	10	12	15

2565-037

2565-038

2565-036

	Ø mm	PROTIG							
		10/10V/10F/ 10W/10WF	20		30/30W		35 W	40	40 W
1 Back cap	short	0429-9525	0429-9528		0429-9528		0429-9531		0429-9533
	medium	0429-9526	-		-		-		-
	long	0429-9527	0429-9530		0429-9530		0429-9532		429-9534
2 Back cap O-ring		0429-9536	0429-9536		0429-9536		0429-9537		0429-9538
3 Sealing ring		0429-9511	0429-9512		0429-9512		0429-9513		-
4 Electrode collet		-	standard	straight	standard	straight	-		-
	Ø 1.0	0429-9545	0429-9550	-	0429-9555	-	0429-9561		-
	Ø 1.6	0429-9546	0429-9551	0429-9630	0429-9556	0429-9634	0429-9562		-
	Ø 2.0	0429-9547	0429-9552	-	0429-9557	0429-9635	0429-9563		-
	Ø 2.4	0429-9548	0429-9553	-	0429-9558	0429-9636	0429-9564		0429-9571
	Ø 2.5	0429-9568	0429-9569	-	0429-9570	-	-		-
	Ø 3.2	0429-9549	0429-9554	-	0429-9559	0429-9637	0429-9565		0429-9572
	Ø 4.0	-	-	-	0429-9560	-	0429-9566		0429-9573
Ø 4.8	-	-	-	-	-	0429-9567		0429-9574	
5 Collet body	all diameter	0429-9503	0429-9504		0429-9505		0371-1244**	0429-9506	0377-1301
	Ø 1.0	-	-		-	-	-	-	-
	Ø 1.6	-	-		-	-	-	-	-
	Ø 2.4	-	-		-	-	-	-	-
6 Nozzle	Ø 6	0429-9584	0429-9589		0429-9594		0429-9594		-
	Ø 8	0429-9585	0429-9590		0429-9595		0429-9595		-
	Ø 10	0429-9586	0429-9591		0429-9596		0429-9596		-
	Ø 12	0429-9587	0429-9592		0429-9597		0429-9597		0429-9599 (Ø11)
	Ø 15	-	-		0429-9598		0429-9598		0429-9600 (Ø14)
7 DIRISAF sealing ring		0429-9511	0429-9519		0429-9519		0429-9520		-
8 DIRISAF collet body		0429-9515	0429-9517*		0429-9517		0429-9518		-
9 DIRISAF filter		0429-9521	0429-9522		0429-9522		0429-9522		0429-9522
10 DIRISAF nozzle	Ø 8	0429-9610	0429-9618*		0429-9618		0429-9618		-
	Ø 10	0429-9611	0429-9619*		0429-9619		0429-9619		-
	Ø 12	0429-9612	0429-9620*		0429-9620		0429-9620		-
	Ø 15	-	0429-9621*		0429-9621		0429-9621		-

* Use the electrode collet (sign 4) of the PROTIG 30 standard head.
 ** Possible to use also the PROTIG 40 collet body.

Tungsten electrodes

Comparison of electrodes properties*

Electrode type	Metal type	Arc stability	Arc striking	Lasting	Thermal resistance	
Pure tungsten	Light alloys	**	*	*	*	*** Excellent
Tungsten thorium	Steels and inox	*	***	**	**	** good
Tungsten cerium	Steels and inox	**	*	**	**	* Average
Tungsten lanthane	All	**	***	***	***	

* Color code is in accordance to the DIN/EN 26848 requirements and printed on the electrode end.

11 NERTAL tungsten electrodes

High quality tungsten electrodes (high technology raw materials and elaboration process). They are perfectly appropriated for the most requiring automatic and manual applications.

Advantages:

- higher lifespan
- perfect starting
- very stable arc
- longevity of the point



Pure tungsten

Ø mm	Current (A) DC welding	Cat. no.
1.0	10-50	0371-0250
1.6	40-80	0371-0251
2.0	60-110	0371-0252
2.4	70-120	0371-0506
2.5	70-120	0371-0268
3.0	90-180	0371-0253
3.2	90-180	0371-0507
4.0	160-240	0371-0254
4.8	200-300	0371-0510
5.0	200-300	0371-0255
6.0	300-450	0371-0256

Tungsten with oxide additives: lanthanum, thorium and cerium

Ø mm	Current (A) DC welding	Cat. no. thorium	Cat. no. cerium	Cat. no. lanthane
1.0	10-80	0371-0257	0371-0530	-
1.6	50-120	0371-0258	0371-0531	0371-0651
2.0	90-190	0371-0259	0371-0533	0371-0652
2.4	100-230	0371-0508	0371-0534	0371-0653
2.5	100-230	0371-0267	-	-
3.0	170-300	0371-0260	0371-0536	0371-0654
3.2	170-300	0371-0509	0371-0537	0371-0655
4.0	260-450	0371-0261	0371-0538	0371-0656
4.8	400-650	0371-0512	0371-0539	-

11 WELDLINE tungsten electrodes

Pure tungsten

Ø mm	Current (A) DC welding	Cat. no.	
		Length 150 mm	Length 175 mm
1.0	10-50	W 000 010 009	-
1.6	40-80	W 000 010 010	W 000 010 375
2.0	60-110	W 000 010 011	W 000 010 376
2.4	70-120	W 000 010 012	W 000 010 377
3.0	90-180	W 000 010 013	-
3.2	90-180	W 000 010 014	W 000 010 378
4.0	160-240	W 000 010 015	W 000 010 379



Tungsten with oxide additives: lanthanum, thorium and cerium

Ø mm	Current (A) DC welding	Cat. no. thorium		Cat. no. cerium		Cat. no. lanthane	
		Length 150 mm	Length 175 mm	Length 150 mm	Length 175 mm	Length 150 mm	Length 175 mm
1.0	10-80	W 000 010 002	W 000 010 029	W 000 010 022	-	W 000 010 373	-
1.6	50-120	W 000 010 003	W 000 010 030	W 000 010 023	W 000 010 380	W 000 010 016	W 000 010 385
2.0	90-190	W 000 010 004	W 000 010 030	W 000 010 024	W 000 010 381	W 000 010 017	W 000 010 386
2.4	100-230	W 000 010 005	W 000 010 031	W 000 010 025	W 000 010 382	W 000 010 018	W 000 010 387
3.0	170-300	W 000 010 006	-	W 000 010 026	-	W 000 010 019	-
3.2	170-300	W 000 010 007	W 000 010 032	W 000 010 027	W 000 010 383	W 00 0010 020	W 000 010 388
4.0	260-450	W 000 010 008	W 000 010 374	W 000 010 028	W 000 010 384	W 000 010 021	W 000 010 389

Accessories

Maintenance box

A comprehensive kit for all your applications. The box includes for each torch complete sets of electrode collets, nozzles, back caps and a collet body.

PROTIG 10/10F/10V/10W	0429-9001
PROTIG 20	0429-9002
PROTIG 30/30W	0429-9003
PROTIG 40/35W	0429-9004
PROTIG 40W	0429-9005



0254-034

Extension assemblies

The extension harnesses are 15 m long and fitted with quick-fit connectors and "banana" and "5-pin" type trigger plugs.

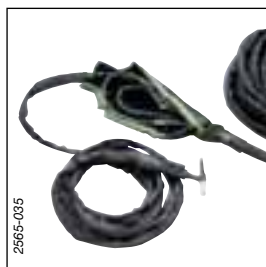
The connectors are protected by a leather cover with "velcro" fasteners.

For torches with separate gas pipe:

- air-cooled version 0429-9080
- water-cooled version 0429-9081

For torches with central gas pipe:

- air-cooled version 0429-9082
- water-cooled version 0429-9083



2565-035

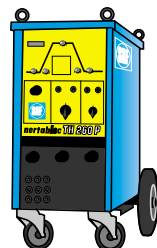
Adapters

Torch with central gas to power supply with separate gas.

0254-30-33



Cat. no. 0377-3432

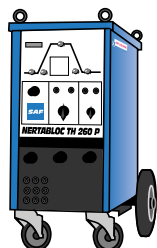


Torch with separate gas to power supply with central gas.

0254-27-31



Cat. no. 0377-3433



PROTIG 10 V on power source with 50 mm² socket.

0254-32



Cat. no. 0377-3503

Sharpening machine TIG-SHARP tungsten electrode



2002-002

Longitudinal sharpening, precise and symmetrical angle.

Individual case including:

- sharpening machine,
- an equerre for blocking in fixed position on established,

Technical characteristics:

- Supply voltage: 220-230 V
- Frequency: 50-60 Hz
- Power: 400 W
- Amperage: 1.8 A
- Rotating speed: 30 000 tr/min
- Weight: 1.85 kg
- Conform to CE standard

- a standard blue head for electrode Ø 1.6 / 2.0 / 2.4 / 3.2,
- a aspiration nozzle connecting on aspiration system for extracting tungsten dust,
- electrode holder, assembling/disassembling of tools.

Cat. no. W 000 011 035

Options:

- Red head for electrodes Ø 1.0/4.0/4.8/6.0
Cat. no. W 000 011 037
- Diamond disc of replacement Cat. no. W 000 011 036

TIG POINT

Chemical sharpening of tungsteng electrodes.

Cat. no. W 000 011 101



2006-528