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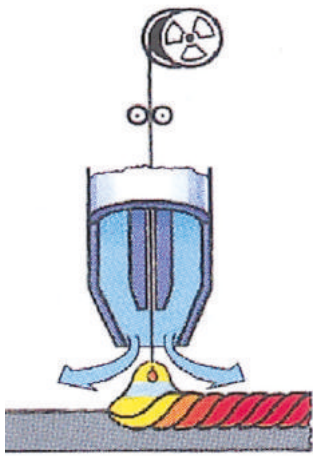
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Welding process, weldable materials and benefits of the various welding technologies.



MIG/MAG welding - Metal Inert Gas - Metal Active Gas

MIG/MAG welding is the most commonly used welding method in the whole world. This is attributable to its versatile application options, the fact that slag polishing is not needed, ease of single-sided, full-penetration welding and excellent penetration depth. The fact that it is easy to use in all welding positions makes this method even more interesting, in particular from a business sense point of view. MIG/MAG is an automated shield gas welding method in which an arc burns between the current-carrying wire electrode and the workpiece under shielding gas (= active or shield gases, and compound gases).

The mechanically fed wire acts as an electrode which melts in its own arc.

The MAG method

Suitable for steel, non-alloy, low-alloy and high-alloy original materials, and thus ideal in production and repair welding. Suitable for applications as of 0.6 mm.

The MIG method

In contrast to the MAG method, MIG and the new MIG soldering method are used for aluminium and copper materials in an inert (= low reaction) gas atmosphere using gases like argon. Wall thicknesses of 2.0 mm or more can be welded (as of 0.5 mm for MIG soldering).

For thinner materials a pulse power source, or the TIG method, are recommended.

MIG/MAG is a very versatile welding method, but with the restriction that, in outdoor welding work, the welding workplace needs to be protected against drafts and moisture, to keep the shield gas effect.

TIG welding - Tungsten Inert Gas

In TIG welding, an arc is created between a tungsten electrode that does not melt and the workpiece. The shield gas that is used here is pure argon - a rare gas that does not form compounds with any element and thus prevents reactions of the molten material. The filler wire is fed without current, either manually (manual welding) or automatically (automatic welding). However, there are also welding processes that do not rely on a filler material. It depends on the material used whether alternating or direct current is applied.

The **main benefit** of TIG welding is the wide range of materials that can be welded. Materials from a thickness of 0.3 mm are weldable (automated process) such as alloy steels, high alloy steels, aluminium, magnesium, copper and its alloys, non alloy steels, nickel, gold, silver, titanium and many more. Useful for welding all material thicknesses and for root positions on thicker cross sections. The TIG method achieves **best-in-class results** compared with other welding processes due to pore-free welds with very high tensile strength.

Alternating current welding:

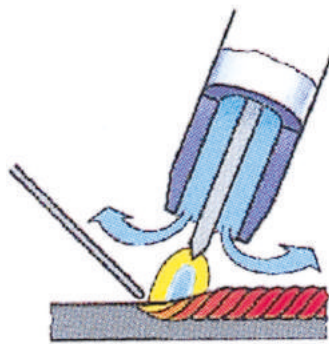
For welding light metals/alloys. A

semi-spherical tungsten lug seat forms on the tungsten electrode and the arc oscillates at a high frequency between the minus and plus poles.

Direct current welding:

For welding alloy steels and non-ferrous metals. The tungsten electrode is ground to a point. The arc is stable.

HF ignition = Zero contact ignition
Lift-arc ignition = contact ignition



Electrode welding

Electrode is an uncomplicated welding method which can be used to weld more or less any metal. This method can also be used outdoors and even underwater with excellent results.

In electrode welding, the arc length is determined manually - the electrode gap determines the length of the arc. Welding is mainly performed with direct current; rutile electrodes, for example, are always easy to weld with negative direct current; alkaline

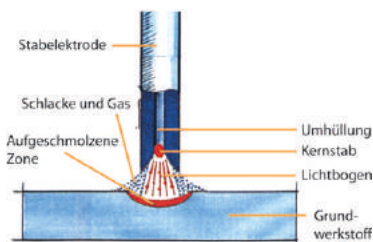
electrodes with positive current.

The electrode is the arc carrier and filler material. It consists of an alloy or non-alloy core wire and a jacket. The jacket protects the pool of molten material against harmful oxygen in the air and stabilises the arc. At the same time slag is created, which protects and shapes the weld seam.

Electrodes are distinguished in terms of thickness, and composition of the jacket, between rutile and alkaline electrodes. Rutile electrodes are

easier to weld and produce an attractive and flat seam. Additionally, the slag is easier to remove. Note that many electrodes need to be dried after an extended period of storage as they accumulate moisture from the air over time.

Otherwise, electrode welding is a very popular and easily manageable welding method.



Plasma cutting

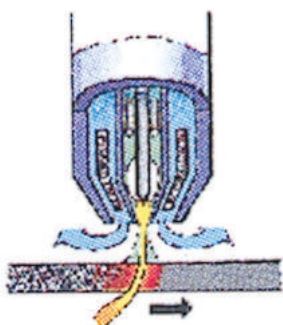
Plasma cutting was originally only used where torch cutting and variants of that method did not produce results, or the results were poor. This is true in particular of high alloy steels, cast iron, light metals/alloys, and non-ferrous metals. Engineering developments in plasma cutting in the last few years, and increases in the cutting speed have lead to plasma cutting being increasingly deployed also in cutting thin-walled workpieces (approx. 0.5 to 20mm) of non-alloy or low-alloy steel.

The exclusively external heat transfer reduces the energy content of the plasma jet on penetrating the workpiece. This leads to a kerf that becomes narrower as the distance to the workpiece surface increases.

The plasma generating medium has a major influence on quality and economy. This can be compressed air or a gas mixture. In the case of compressed air, note that this has to be absolutely pure compressed air.

The plasma gas is fed under pressure into the cavity between the electrode and tip. To start up a plasma torch, a pilot arc is ignited using a high-frequency high voltage discharge. The arc burns at low power between the tip and the electrode; it degrades the gas into a plasma state by means of thermal dissociation and ionisation.

Plasma cutting is perfectly suited for steel, CrNi or aluminium sheet metal.

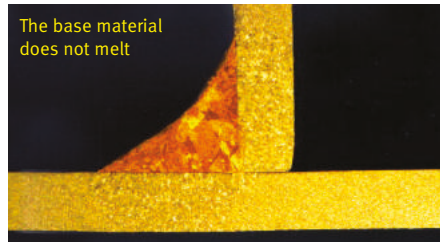


MIG soldering – for new areas of application, new materials and new regulations especially in automotive applications.

Galvanised sheet steel is very much in demand. It is used, e.g., in car making, ventilation and air conditioning technology, facility engineering and the furniture industry.

Why galvanised?

When zinc is applied to steel (by electrolytic treatment or hot-dip galvanising), it creates a barrier layer that provides protection against corrosion. Additionally, zinc provides cathodic protection. If the layer of zinc is damaged, the material in the surrounding area of 1-2 mm of the damage remains protected against corrosion. This remote protection effect that zinc provides means that non-coated cut edges and micro-cracks are also protected.



Using copper-based additives (bronze) means that less heat can be applied. Because less heat is applied, very little zinc vaporises and component distortion is reduced. The strength values are relatively high and the solders seem to have corrosion resistance due to alloy components because the additive is made of bronze.

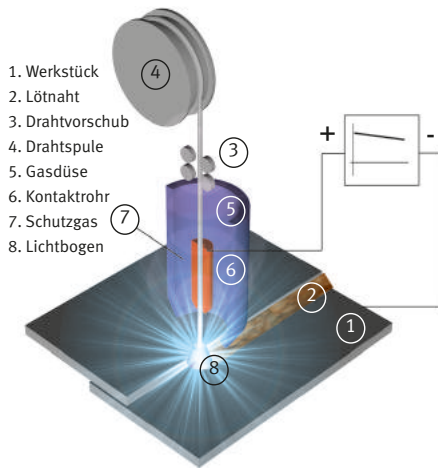
The micro-section shows that the base material does not melt in MIG soldering.

Inert gases

Argon, I1 or Ar compounds including CO₂ or O₂ are typically used in arc soldering. In the case of soldering materials with an Si or Sn component, smaller active CO₂ or O₂ components are beneficial. They stabilise the arc and reduce the risk of porosity, while at the same time enhancing heat input to the base material. In the case of soldering materials with an Al component, Ar-He compounds without an active component are a good choice.

N₂ Additives may stabilise the arc and cause a wide seam, however, they can lead to considerable porosity problems.

H₂ As a shield gas component is suitable for accelerating the soldering feed speed, however, it can also lead to porosity. To perfectly match the shield gas with the soldering task in hand, it is important to draw on the experience of the shield gas supplier.



What is MIG soldering?

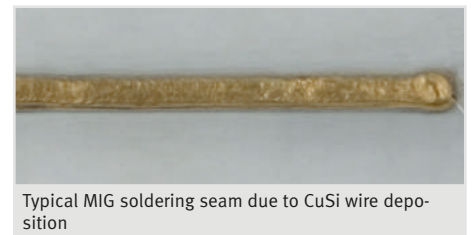
MIG soldering is a hard soldering process for galvanised and coated thin sheets as well as higher strength steel sheet. In contrast to legacy shield gas welding (approx. 1 600 °C), the basic material is not melted in MIG soldering; instead a hard solder joint is created between the workpieces using soldering wire (typically a copper-based additive) with a low melting point of around 1 000 °C. Zinc already starts to vaporise at 480 °C. This means that in legacy welding, the layer of zinc would burn off large areas of the surface. Evaporating zinc and oxides then lead to porosity, cracks and a lack of fusion.

Surface coating and pre-treating

Sheet metal with zinc coating of up to 15 µm can typically be joined without any trouble using arc soldering processes.

Solders containing aluminium are recommended for aluminised base materials. Additionally, galvanised sheet can be organically coated, which requires some adjustment of the processing parameters.

To ensure metallurgical interaction between the base material and the wetting liquid solder, the boundary surface to the solder should be bare metal for the most part; otherwise problems with porosity, a lack of fusion, etc., can occur.



Our recommendation:

PRO-MAG
SYN-MAG
SYN-MIG SC
SYN-MIG i

The benefits of the MIG soldering method at a glance:

- No corrosion on the solder seam
- Minimum weld spatter
- Easy reworking of the solder seam
- Lower working temperature
- Less distortion
- Less impact on the structure in the case of higher strength steels
- Capillary effect of the solder causes 1/3 higher strength in round hole and slot soldering
- Less melting material loss of the coating
- Cathodic protection of the base material in the immediate vicinity of the weld (zinc)
- Corrosion protection without reworking
- Optimum control for keeping the sheet thickness

MIG-MAG welding equipment



Quality
made in
Europe





**Qualität Made
in Germany**



Professional MIG/MAG welding equipment

MIG/MAG shield gas welding equipment



SCHWEIßKRAFT EASY-MAG – the level entry class for MIG/MAG shield gas welding equipment

New

- ▶ Low-budget shield gas welding equipment for car repairs, hobbyists and semi-professionals
- ▶ For steel and stainless steel welding
- ▶ Easy to use and set up
- ▶ The soft and stable arc guarantees low-spatter welding results
- ▶ Continuously variable wire feed
- ▶ Robust chassis with steering rollers for easy transport (chassis for self-assembly)
- ▶ Practical gas cylinder holder
- ▶ S mark: approved for welding in cramped welding conditions with an increased risk of electrical hazard

EASY-MAG 171, 193 and 213-1

- ▶ With 2-reel wire feed

EASY-MAG 213/1

- ▶ Suitable for 230 V and 400 V operations

EASY-MAG 253, 4 and 303-4

- ▶ With 4-reel wire feed
- ▶ With current and voltage display

Process

- ▶ MIG/MAG

Sheet thicknesses

- ▶ 1.0 - 10 mm (MAG)
- ▶ 1.0 - 8 mm (MIG)

Base materials

- ▶ Construction steels
- ▶ CrNi steels ferritic/austenitic
- ▶ Duplex steels

Typical applications

- ▶ Body repairs/maintenance
- ▶ Agriculture
- ▶ Tack welding



EASY-MAG 171



EASY-MAG 253-4



EASY-MAG 303-4



The control system:

① Volt/Ampere switch

② Digital display

③ **Operational modes**
2-cycle, 4-cycle, spot, gas test

④ Control light
Temperature

⑤ Operation control lamp

⑥ Spot welding



⑦ Arc length and voltage display

⑧ Wire speed control:

⑨ On/off switch

⑩ Welding stages

⑪ Torch connection

⑫ Welding current socket

Model		EASY-MAG 171	EASY-MAG 193	EASY-MAG 213/1	EASY-MAG 253-4	EASY-MAG 303-4
Art. no.		1081171	1081193	1081213	1081253	1081303

Scope of supply

EASY-MAG 171/193/213

- EASY-MAG
- Basket spool adapter
incl. torch set SMB 15 (torch 3 m,
ground cable 2 m, pressure regulator)

Scope of supply

EASY-MAG 253-4/303-4

- EASY-MAG
- Basket spool adapter
incl. torch set SMB 25 (torch 4 m,
ground cable 2 m, pressure regulator)

Wire feeder roll for EASY-MAG 171

Designation	Art. no.
0.6/0.8 mm V groove	1015908
Counterpressure roll smooth	1015910

Wire feeder roll for EASY-MAG 193/213/253-4/303-4

Designation	Art. no.
0.6/0.8 mm V groove	1016008
0.8/1.0 mm V groove	1016010
1.0/1.2 mm V groove	1016012
0.8/1.0 mm U groove	1016110
1.0/1.2 mm U groove	1016112
Counterpressure roll smooth	1016202



Wire feeder rolls

Accessories - torch kits

consisting of: torch 4 m, earth cable, 315 bar Argon/CO₂ pressure regulator

Designation	Art. no.
for EASY-MAG 171/193/213	
Torch kit 15/25 SMB 15/4 m gas-cooled, earth cable 25 mm ² 4 m, pressure reg.	1091510
for EASY-MAG 253-4/303-4	
Torch kit 25/35 SMB 25/4 m gas-cooled, earth cable 35 mm 24 m, pressure reg.	1092510

*Prices for torch kits only apply in combination with purchasing a welding device



Torch kit

Wear part set for torch

Designation	Art. no.
Wear part set SMB 15	1091500
consisting of: 1 x gas tip holder, 3 x retaining spring, 3 x each contact tip 0.6/0.8 mm 3 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	
Wear part set SMB 25	1092500
consisting of: 3 x retaining spring, 2 x tip assembly, 5 x each contact tip 0.6/0.8 mm 2 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	



Wear part set
SMB 15

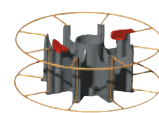
Wear part set
SMB 25

Basket spool adapter

Designation	Art. no.
Basket spool adapter KA 1, single-part, pluggable	1110001
Basket spool adapter KA 2, with quick release coupling	1110005



Basket spool
adapter KA 1



Basket spool
adapter KA 2

SYN-MIG 161i / SYN-MIG 253i – portable MAG inverter 230 V continuously variable control. Perfectly suited for mobile welding of steel.

SYN-MIG 211i MULTI – mobile MAG inverter 230 V continuously variable control

- ▶ The SYN-MIG is an ideal combination of state-of-the-art inverter technology with simple and conventional operation
- ▶ Using only 2 buttons (potentiometers) the operation point is continuously set via the voltage and wire speed
- ▶ Reliable ignition and a stable arc then ensure best possible welding results
- ▶ Also suitable for welding with filler wire electrodes

SYN-MIG 201i MULTI & SYN-MIG 211i MULTI

- ▶ Infinitely variable control Multi-MIG/MAG system for perfect results
- ▶ Electrode and TIG machine
- ▶ Easy to set up no matter what method you use
- ▶ Infinitely variable control Multi-MIG/MAG system for perfect results
- ▶ Electrode and TIG machine
- ▶ Easy to set up no matter what method you use

Process

- ▶ MAG
- ▶ MIG

Sheet thicknesses

- ▶ From 0.8 mm in steel and stainless steel (MAG)
- ▶ From 2 mm in aluminium (MIG)

Base materials

- ▶ Construction steels
- ▶ Non alloy and low alloy materials
- ▶ CrNi steels ferritic/austenitic
- ▶ Aluminium alloy

Typical applications

- ▶ Metalworking, mechanical engineering
- ▶ Agriculture, vehicle workshops
- ▶ Maintenance/repairs

Weldable materials

	Wire Ø	SYN-MIG 161i
Steel	0.6 mm	0.8 mm – 3 mm
stainless steel	0.8 mm	1.0 mm – 4 mm
Filler wire	0.9 mm	2.0 mm – 4 mm



SYN-MIG 161i



SYN-MIG 201i MULTI



SYN-MIG 211i MULTI

The control system:

- 1 LED overheating indicator
- 2 Wire speed control:
- 3 LED display: "On" - "Off"
- 4 Voltage controller
- 5 Welding current socket
- 6 Torch connection
- 7 On/off switch



Operational modes

- 1 2-cycle, 4-cycle, spot, gas test
- 2 Wire speed control:
- 3 Voltage controller
- 4 LED display "on" - "off"
- 5 LED overheating indicator
- 6 Torch connection



- 7 Rotary control for "Arc Force" setting
- 8 On/off switch
- 9 Torch connection
- 10 Welding current socket

Model	SYN-MIG 161i	SYN-MIG 201i MULTI	SYN-MIG 211i MULTI
Art. no.	1089017	1089020	1089021
Technical specifications			
Continuously variable setting range	25 – 160 A	20 – 200 A	20 – 200 A
Duty cycle at I _{max} and 40 °C:	20%	35%	35%
Welding current at DC = 100% and 40 °C	80 A	110 A	110 A
Wire Ø steel/special steel	0.6 - 0.8 mm	0.6 - 0.8 mm	0.6 - 0.8 mm
Wire Ø aluminium	–	1.0 mm	1.0 mm
Gasless filler wire	0.9 mm	0.9 mm	0.9 mm
Wire feed speed	1.0 - 14 m/min	1.0 - 14 m/min	1.0 - 14 m/min
Wire feed rolls/driven	2 / 1	2 / 1	2 / 1
Supply voltage	1 x 230 V	1 x 230 V	1 x 230 V
Fuses slow-blow	16 A	16 A	16 A
Cos phi power factor	0.73	0.96	0.96
Required generator output	10 KW	12 KW	12 KW
Open circuit voltage	17 - 28 V	33 V	33 V
Degree of protection	IP 21	IP 21	IP 21
Dimensions L x W x H	525 x 260 x 340 mm	525 x 260 x 340 mm	795 x 540 x 700 mm
Weight	14.5 kg	16 kg	25 kg
Standards	EN 60 974-1;-3;-10 / S mark / EMC - class A		

Scope of supply

SYN-MIG:

Without torch, earth cable
and pressure regulator

Accessories - torch kits

consisting of: torch 4 m, earth cable, 315 bar Argon/CO₂ pressure regulator

Designation	Art. no.
for SYN-MIG 161i, SYN-MIG 201i MULTI, SYN-MIG 211i MULTI	
Torch kit 15/25 SMB 15/4 m gas-cooled, earth cable 25 mm ² 4 m, pressure reg.	1091510

*Prices for torch kits only apply in combination with purchasing a welding device



Torch kit

Wear part set for torch

Designation	Art. no.
Wear part set SMB 15	1091500
consisting of: 1 x gas tip holder, 3 x retaining spring, 3 x each contact tip 0.6/0.8 mm 3 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	



Wear part set SMB 15

Accessories

Designation	Art. no.
Universal carriage	1090015



Universal carriage

Wire feed rolls for 4-roll wire feed

Designation	Art. no.
V groove for steel and stainless steel	
0.8 + 1.0 mm	1016010
1.0 + 1.2 mm	1016012
1.2 + 1.6 mm	1016016
U groove for aluminium	
0.8 + 1.0 mm	1016110
1.0 + 1.2 mm	1016112
1.2 + 1.6 mm	1016116
K groove for filler wire (FCW)	
1.0 + 1.2 mm	1016210
Counterpressure roll smooth	1016202



Wire feed roll

Wire feeder roll for SYN-MIG 201i MULTI

Designation	Art. no.
Feed roll solid wire 0.8/1.0 mm	1033605
Feed roll solid wire 1.0/1.2 mm	1033606

SYN-MIG series – portable MIG/MAG inverter continuously variable control. Universally deployable workshop machine for steel, stainless steel and aluminium

- ▶ Using 2 potentiometers, the operation point is continuously set via the voltage and wire speed, and the welding current can be adjusted with one-ampere precision during welding.
- ▶ State-of-the-art and proven inverter technology
- ▶ The systems have the following **properties or equipment as standard:**
 - ▶ 2-cycle/4-cycle, spot and interval welding
 - ▶ Gas test function
 - ▶ Operation indicator
 - ▶ Overload indicator
 - ▶ Temperature controlled fan

Totally easy setting thanks to Synergie function:

3 steps for welding:

- ▶ **1st step:** Gas, material, diameter
- ▶ **2nd step:** 2/4 cycle, spot, interval
- ▶ **3rd step:** Adjust material thickness

- ▶ Granular setting thanks to continuous control. Your benefits: Perfect results, fast

Process

- ▶ MAG
- ▶ MIG

Sheet thicknesses

- ▶ From 0.8 mm in steel and stainless steel (MAG)
- ▶ From 2 mm in aluminium (MIG)

Base materials

- ▶ Construction steels
- ▶ Non alloy and low alloy materials
- ▶ CrNi steels ferritic/austenitic
- ▶ Aluminium alloy

Typical applications

- ▶ Metalworking, mechanical engineering
- ▶ Agriculture, vehicle workshops
- ▶ Maintenance/repairs

Weldable materials

	SYN-MIG 253i	SYN-MIG 303i
Steel	0.8 mm – 8 mm	0.8 mm – 10 mm
stainless steel	1.5 mm – 6 mm	1.5 mm – 8 mm
Aluminium	2 mm – 5 mm	2 mm – 7 mm



The control system:

- ① Operation indicator, overload indicator, "Auto" display
- ② Selection switch "Automatic" or Manual
- ③ Wire threading
- ④ Digital display for welding voltage
- ⑤ Digital display for welding current
- ⑥ Selection switch "2- or 4-cycle", "Spot welding" or "Interval welding"
- ⑦ Selection switch "Wire thickness"



- ⑧ Selection switch "Material"
- ⑨ Selection switch "Gas"
- ⑩ Multifunctional head
- ⑪ Arc length setting
- ⑫ Stage switch
- ⑬ On/off switch
- ⑭ Torch connection
- ⑮ Welding current socket

Model	SYN-MIG 253i SC	SYN-MIG 303i SC	SYN-MIG 403i SC	SYN-MIG 403i SC-W	SYN-MIG 403i SC-WS
Art. no.	1089026	1089033	1089040	1089041	1089042
Technical specifications					
Continuously variable setting range	25 – 250 A	30 – 300 A	30 – 400 A	30 – 400 A	30 – 400 A
Duty cycle at I _{max} and 40 °C:	60%	40%	40%	40%	40%
Welding current at DC = 100% and 40 °C	190 A	200 A	250 A	250 A	250 A
Wire Ø steel/special steel	0.8 - 1.0 mm	0.8 - 1.2 mm	0.8 - 1.2 mm	0.8 - 1.2 mm	0.8 - 1.2 mm
Wire Ø aluminium	1.0 - 1.2 mm	1.0 - 1.2 mm	1.0 - 1.2 mm	1.0 - 1.2 mm	1.0 - 1.2 mm
Wire feed speed	1.0 - 22 m/min	1.0 - 22 m/min	1.0 - 22 m/min	1.0 - 22 m/min	1.0 - 22 m/min
Wire feed rolls/driven	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4
Supply voltage	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V
Fuses slow-blow	16 A	16 A	25 A	25 A	25 A
Cos phi power factor	0.93	0.93	0.93	0.93	0.93
Required generator output	14 kW	18 kW	25 kW	25 kW	25 kW
Open circuit voltage	55 V	55 V	63 V	63 V	63 V
Degree of protection	IP 21	IP 21	IP 21	IP 21	IP 21
Dimensions L x W x H	795 x 540 x 700 mm	795 x 540 x 700 mm	795 x 510 x 720 mm	860 x 550 x 815 mm	935 x 550 x 1 290 mm
Weight	29.5 kg	31 kg	33 kg	45 kg	68 kg
Standards	EN 60 974-1;-3;-10 / S mark / EMC - class A				

Scope of supply

SYN-MIG:

Without intermediate hose pack, torch, earth cable and pressure regulator in all cases

Accessories - torch kits

consisting of: torch 4 m, earth cable, 315 bar Argon/CO₂ pressure regulator

for SYN-MIG 253i

Torch kit 25/35 SMB 25/4 m gas-cooled, earth cable 35 mm 24 m, pressure reg. 1092510

for SYN-MIG 303i / SYN-MIG 403i SC

Torch kit 36/50 SMB 36/4 m gas-cooled, earth cable 50 mm², pressure reg. 1093611

for SYN-MIG 403i / SYN-MIG 403i SC-WS

Torch kit 400/50 SMB 400/4 m liquid-cooled, earth cable 50 mm² 4 m, pressure reg. 1094010

Universal torch holder 1090011

Wear part set for torch

Designation	Art. no.
Wear part set SMB 25	1092500
consisting of: 3 x retaining spring, 2 x tip assembly, 5 x each contact tip 0.6/0.8 mm	
2 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	
Wear part set SMB 36	1093600
consisting of: 2 x tip assembly M6, 3 x gas distributor brown, 5 x each contact tip	
0.8/1.0/1.2 mm, 4 x gas tip conical, 1 x gas tip cylindrical, large sorting box	
Wear part set SMB 400	1094000
consisting of: 2 x ring, 2 x tip assembly M8, 3 x gas distributor brown highly heat	
resistant, 5 x contact tip 1.0 mm, 10 x contact tip 1.2 mm, 4 x gas tip cylindrical	
1 x gas tip cylindrical, large sorting box	

Intermediate hose pack for case system

Mandatory for case system purchases!

Designation	Art. no.
For SYN-MIG 403i SC-WS water-cooled	
Hose pack liquid cooled pluggable 1.5 m length, 70 mm ²	1018016
Hose pack liquid cooled pluggable 5 m length, 70 mm ²	1018051
Hose pack liquid cooled pluggable 10 m length, 70 mm ²	1018101

Wire feed rolls for 4-roll wire feed

Designation	Art. no.
V groove for steel and stainless steel	
0.8 + 1.0 mm	1016010
1.0 + 1.2 mm	1016012
1.2 + 1.6 mm	1016016
U groove for aluminium	
0.8 + 1.0 mm	1016110
1.0 + 1.2 mm	1016112
1.2 + 1.6 mm	1016116
K groove for filler wire (FCW)	
1.0 + 1.2 mm	1016210
Counterpressure roll smooth	1016202



Torch kit



Universal torch holder



Wear part set SMB 25



Intermediate hose pack



Wire feed roll

MIG/MAG shield gas welding equipment



SYN-MAG 273/323 – step controlled shield gas welding equipment MIG/MAG all-round machines for trades

New

The state-of-the-art synergie control supports precise regulation of the wire feed with automatic wire adjustment, and fast and easy setting of welding parameters.

- ▶ Inexpensive, but really good!
- ▶ Suitable for thin to thicker materials (0.8 mm up to max. approx. 15 mm in steel)
- ▶ Universally deployable thanks to characteristic curves for steel, stainless steel, aluminium, and gas shielded filler wires (FCW = Flux Cored Wire)
- ▶ Central connection - Binzel system
- ▶ Temperature overload display
- ▶ Powerful 4-roll feed ensures reliable and constant wire feeding and a stable arc
- ▶ Always the right setting with 10 or 21 power stages
- ▶ With current and voltage display
- ▶ With 2-cycle/4-cycle/spot and interval control
- ▶ With automatic wire feed correction
- ▶ With temperature-controlled fan

Process
▶ MAG
▶ MIG
Sheet thicknesses
▶ From 0.8 mm in steel and stainless steel (MAG)
▶ From 2 mm in aluminium (MIG)
Base materials
▶ Construction steels
▶ Non alloy and low alloy materials
▶ CrNi steels ferritic/austenitic
▶ Aluminium alloys
Typical applications
▶ Metalworking, mechanical engineering
▶ Agriculture, vehicle workshops
▶ Maintenance/repairs



SYN-MAG 273



SYN-MAG 323

The control system:

- ① ON – display (green LED)
OVERLOAD – display (orange LED)
- ② Ampere/welding program display
- ③ Wire feed adjustment, multifunctional button
- ④ Operating mode (red LED)
- ⑤ Granular step switch



- ⑥ Step switch - fine 1 – 7
- ⑦ Step switch - coarse 0 – 3
- ⑧ Torch connection
- ⑨ Welding current socket



Model	SYN-MAG 273	SYN-MAG 323
Art. no.	1089273	1089323
Technical specifications		
Wire Ø steel/stainless steel	0.8 - 1.2 mm	0.8 - 1.2 mm
Wire Ø aluminium	1.0 - 1.2 mm	1.0 - 1.2 mm
Wire Ø filler wire	1.0 - 1.2 mm	1.0 - 1.2 mm
Wire feed	1.0 - 22 m/min	1.0 - 22 m/min
Adjusting range	30 - 270 A	40 - 320 A
Duty cycle I _{max.} at 40° C	35 %	30 %
Welding current at 60% DC [40 °C]	190 A	230 A
Welding current at 100% DC [40 °C]	160 A	180 A
Open circuit voltage	16.3 - 33.5 V	14.8 - 37.9 V
Switching stages	10	21
Wire feed rolls/driven	4/4	4/4
Power connector	3 x 400 V	3 x 400 V
Permanent output at 100% DC	5.5 kVA	6.2 kVA
Slow-blow fuse	16 A	16 A
Cos phi power factor	0.96	0.96
Cooling type	AF	AF
Degree of protection	IP 23	IP 23
Torch cooling	Gas	Gas
Gas cylinder max.	20 l	20 l
Dimensions (L x W x H) compact unit	823 x 510 x 735 mm	830 x 540 x 815 mm
Weight	82 kg	94 kg
Standards	EN 60 974-1;-3;-10 / S mark / EMC - class A	

Scope of supply SET
SYN-MAG 273

- Torch SMB 25 / 4 m
- Earth cable 4 m with 35 mm²
- Pressure regulator Argon/CO₂ (large)
- Basket spool adapter

Scope of supply SET
SYN-MAG 323

- Torch SMB 36 4 m
- Earth cable 4 m with 50 mm²
- Pressure regulator Argon/CO₂ (large)
- Basket spool adapter

Accessories - torch kits

consisting of: torch 4 m, earth cable, 315 bar Argon/CO₂ pressure regulator

Designation for SYN - MAG	Art. no.
Torch kit 36/50 SMB 36/4 m gas-cooled, earth cable 50 mm ² , pressure reg.	1093611

*Prices for torch kits only apply in combination with purchasing a welding device

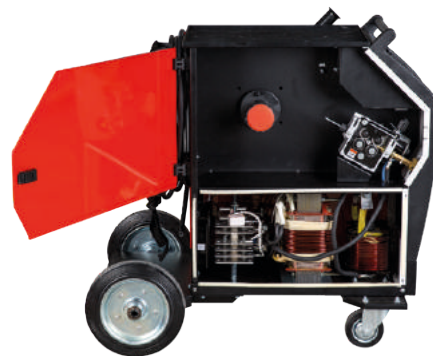
Wear part set for torch

Designation	Art. no.
Wear part set SMB 36	1093600

consisting of: 2 x tip assembly M6, 3 x gas distributor brown, 5 x each contact tip 0.8/1.0/1.2 mm, 4 x gas tip conical, 1 x gas tip cylindrical, large sorting box

Wire feed rolls for 4-roll wire feed

Designation	Art. no.
V groove for steel and stainless steel	
0.8 + 1.0 mm	1016010
1.0 + 1.2 mm	1016012
1.2 + 1.6 mm	1016016
U groove for aluminium	
0.8 + 1.0 mm	1016110
1.0 + 1.2 mm	1016112
1.2 + 1.6 mm	1016116
K groove for filler wire (FCW)	
1.0 + 1.2 mm	1016210
Counterpressure roll smooth	1016202



Torch kit



Wear part set



Wire feed roll

SYN-MAG 353/453 – step controlled shield gas welding systems MIG/MAG all-round machines

New

The state-of-the-art synergic control supports precise regulation of the wire feed with automatic wire adjustment, and fast and easy setting of welding parameters.

- ▶ Perfect for welding work on thicker to thick steel, stainless steel and aluminium components
- ▶ Stable working conditions thanks to chassis width extension, even with a 50 l gas cylinder
- ▶ With characteristic curves for steel, stainless steel, aluminium, and gas shielded filler wires (FCW = Flux Cored Wire)
- ▶ Optionally as compact design or with case and intermediate hose pack for extending the radius of operation

- ▶ Central connection - Binzel system
- ▶ Temperature overload display
- ▶ Basket spool adapter
- ▶ With current and voltage display
- ▶ With 2-cycle/4-cycle/spot and interval control
- ▶ With automatic wire feed correction
- ▶ With temperature-controlled fan
- ▶ **Case system without intermediate hose pack**
- ▶ With case holder
- ▶ Carriage for case with four swivel castors - two of which can be braked (**holder and carriage for self-assembly**)



SYN-MAG 453-4 W
▶ Compact system

SYN-MAG 453-4 WS
▶ Case system
▶ fully assembled
▶ Case quickly and easily removable
▶ Case **with easy-action, robust chassis**

Process
▶ MAG
▶ MIG
Sheet thicknesses
▶ From 1.0 mm in steel and stainless steel (MAG)
▶ From 2 mm in aluminium (MIG)
Base materials
▶ Construction steels
▶ Non alloy and low alloy materials
▶ CrNi steels ferritic/austenitic
▶ Aluminium alloys
Typical applications
▶ Metalworking, mechanical engineering, steel construction
▶ Agriculture, building equipment, commercial vehicle manufacturing, vehicle workshops
▶ Maintenance/repairs

Standard equipment SYN-MAG 353/453
• 4-roll drive • Wire feed 4 driven rolls • With 2-cycle/4-cycle/interval control • Wire feed automatic • Stand-by fan circuitry • Volt and Ampere indicator • Central connection • Basket spool adapter • Mains cable 5 m with CEE plug
All case systems S:
• (for self-assembly) with case holder and chassis with 4 steering rollers, two of which can be braked • Without intermediate hose pack, torch, earth cable and pressure regulator in all cases

The control system:

- ① Digital display for welding current
- ② Digital display for welding voltage
- ③ Overload indicator, "Auto" display
- ④ Wire feed adjustment, multifunctional button
- ⑤ Operating mode (red LED)
- ⑥ Torch connection
- ⑦ Selection switch "Gas", "Material" and "Wire thickness"
- ⑧ Water connection - return red
- ⑨ Water connection - supply blue



- ⑩ ON/OFF switch
- ⑪ Step switch - coarse 1 - 3
- ⑫ Step switch - fine 1 - 10
- ⑬ Ground cable connection

Model	SYN-MAG 353-4	SYN-MAG 453-4 W	SYN-MAG 453-4 WS
Art. no.	1080356	1080456	1080457
Technical specifications			
Wire Ø steel/special steel	0.8 - 1.2 mm	0.8 - 1.6 mm	0.8 - 1.6 mm
Wire Ø aluminium	1.0 - 1.2 mm	1.0 - 1.2 mm	1.0 - 1.2 mm
Wire Ø filler wire	1.0 - 1.2 mm	1.0 - 1.2 mm	1.0 - 1.2 mm
Wire feed	1.0 - 22 m/min	1.0 - 22 m/min	1.0 - 22 m/min
Adjusting range	30 - 350 A	40 - 450 A	40 - 450 A
DC at I _{max} 40 °C	60 %	35 %	35 %
Welding current at 60% DC 40 °C	350 A	400 A	400 A
Welding current at 100% DC 40 °C	260 A	310 A	310 A
Open circuit voltage	15.8 - 36.7 V	16.8 - 44.2 V	16.8 - 44.2 V
Switching stages	21	30	30
Wire feed rolls/driven	4/4	4/4	4/4
Power connector	3 x 400 V	3 x 400 V	3 x 400 V
Permanent output at 100% DC	9.7 kVA	12.5 kVA	12.5 kVA
Fuse	20 A	25 A	25 A
Cos phi power factor	0.94	0.96	0.96
Insulation class	H	H	H
Degree of protection	IP23	IP23	IP23
Torch cooling	Gas	Water	Water
Gas cylinder max.	50 l	50 l	50 l
Weight	121 kg	149 kg	162 kg
Dimensions (L x W x H)	850 x 550 x 720 mm	850 x 550 x 720 mm	935 x 550 x 1 240 mm
Standards	EN 60 974-1;-3;-10 / S mark / EMC - class A		

Accessories - torch kits

consisting of: torch 4 m, earth cable, 315 bar Argon/CO₂ pressure regulator

Designation	Art. no.
for SYN-MAG 353-4: torch kit 36/50, SMB 36 / 4 m gas-cooled	
Ground cable 50 mm ² , pressure regulator large	1093611
for SYN-MAG 453-4 W: torch kit 400/50, SMB 400 / 4 m water-cooled,	
Ground cable 50 mm ² , pressure regulator large	1094010
for SYN-MAG 453-4 WS, torch kit 400/70, SMB 400 / 4 m water-cooled,	
Ground cable 70 mm ² , pressure regulator large	1094011

*Prices for torch kits only apply in combination with purchasing a welding device



Torch kit

Wear part set for torch

Designation	Art. no.
Wear part set SMB 36 consisting of:	1093600
2 x tip assembly M6, 3 x gas distributor brown, 5 x each contact tip 0.8/1.0/1.2 mm, 4 x gas tip conical, 1 x gas tip cylindrical, large sorting box	
Wear part set SMB 400 consisting of:	1094000
2 x ring, 2 x tip assembly M8, 3 x gas distributor brown highly heat resistant, 5 x contact tip 1.0 mm, 10 x contact tip 1.2 mm, 4 x gas tip conical, 1 x gas tip cylindrical, large sorting box	



Wear part set



Intermediate hose pack

Intermediate hose pack for SYN-MAG case systems

Mandatory for case system purchases!

Designation	Art. no.
For SYN-MAG 453-4 WS liquid-cooled	
Hose pack liquid cooled pluggable 1.5 m length, 70 mm ²	1018016
Hose pack liquid cooled pluggable 5 m length, 70 mm ²	1018051
Hose pack liquid cooled pluggable 10 m length, 70 mm ²	1018101



Wire feed rolls for 4-roll wire feed

Designation	Art. no.
V groove for steel and stainless steel	
0.8 + 1.0 mm	1016010
1.0 + 1.2 mm	1016012
1.2 + 1.6 mm	1016016
U groove for aluminium	
0.8 + 1.0 mm	1016110
1.0 + 1.2 mm	1016112
1.2 + 1.6 mm	1016116
K groove for filler wire (FCW)	
1.0 + 1.2 mm	1016210
Counterpressure roll smooth	1016202

All connections on the intermediate hose pack are easily accessible and pluggable without tools



Wire feed roll

Counterpressure roll smooth

Accessories for liquid-cooled welding equipment

Designation	Art. no.
Coolant "RKF 15" 5l - can (pre-mixed)	1030005
Coolant "RKF 15" 10l - can (pre-mixed)	1030010
Coolant "RKF 15" 25l - can (pre-mixed)	1030025



MIG/MAG shield gas welding equipment

SCHWEIßKRAFT PRO-MAG – standard welding devices for thin sheet welding.
Top quality for professionals at a low price.

- ▶ Standard **2-cycle** and **4-cycle function** for short tack welding or long welds. Tire-free work is thus guaranteed for all welding tasks.
- ▶ Thanks to the integrated spot and interval control, visually perfect spot and plug welds and consistently reproducible tack welds are no longer a challenge.
- ▶ The **automatic feed** automatically adjusts the wire speed over a wide range in case of power reduction or increase, thus removing the need for repeated manual adjustment.
- ▶ An **integrated automatic inching and ignition** ensures fast and safe ignition of the arc.
- ▶ **Permanent monitoring of the mains voltage** with compensation for fluctuations guarantees a smooth and even arc for best possible welding results.
- ▶ On completing the welding task, the **automatic burn-back feature** ensures a constant wire length end, thus reliably preventing the wire seizing on the workpiece or contact tip (Individually adjustable).
- ▶ Individually adjustable **gas post-flow time** which automatically adjusts the gas post-flow to the switching stage in question. This protects the pool of molten material until it solidifies at the end of the welding task.
- ▶ The **safety force shutdown** prevents inadvertent ignition and uncoiling of the filler wire in 4-cycle operation, thus removing the risk of fire. And the risk of fire this causes.
- ▶ **Automatic threading** automatically increases the feed speed on threading the wire.

Process

- ▶ MIG/MAG
- ▶ MIG soldering (PRO-MAG 200-2 AM)

Sheet thicknesses

- ▶ from 0.8 mm (MAG)
- ▶ Aluminium from 2.0 mm (MIG)
- ▶ MIG soldering as of 0.6 mm

Base materials

- ▶ Construction steels
- ▶ CrNi steels ferritic/austenitic
- ▶ Duplex steels
- ▶ galvanised, pre-treated steels (MIG soldering)

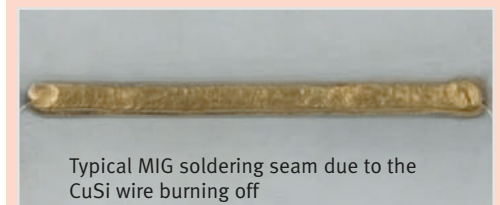
Typical applications

- ▶ Body repairs/maintenance
- ▶ Metalworking/steel construction
- ▶ Agriculture
- ▶ Training
- ▶ Tack welding



PRO-MAG 200-2 AM – the combined system for MIG soldering and MIG/MAG welding

- ▶ Body shops in particular need to adapt their repair methods to reflect continual changes. Bodies made of fully galvanised, partly high strength steel cannot simply be welded using legacy methods after a crash without compromising the crash resistance features designed in by the manufacturer. Various automobile manufacturers already require MIG soldering for repairs.
- ▶ The PRO-MAG 200 AM is the specially-designed combination system for MIG/MAG thin sheet welding and MIG soldering.
- ▶ For MIG soldering with the system, you additionally need the "MIG soldering torch conversion kit".



Easy to use

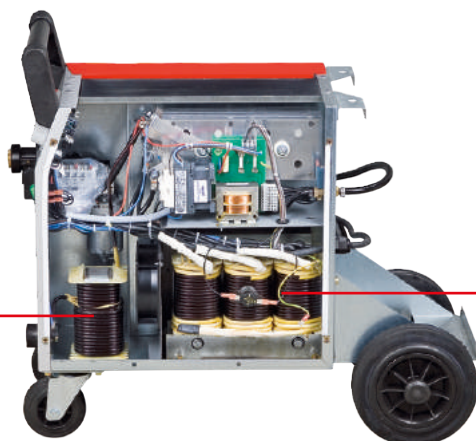
- ▶ OPERATION control lamp
- ▶ TEMPERATURE control lamp
- ▶ Adjusting button for spot and interval time (in seconds)
- ▶ Function selection switch operating mode (2-cycle, 4-cycle, sport or interval)
- ▶ Adjustment button for wire feed speed
- ▶ Stage switch



Model	PRO-MAG 180-2	MIG soldering	
		PRO-MAG 200-2 AM	PRO-MAG 250-2
Art. no.	1080118	1080120	1080125
Recommended Torch kit	15/25	15/25	25/35
Art. no.	1091510	1091510	1092510

Technical specifications			
Wire Ø steel/special steel	0.6 - 0.8 mm	0.6 - 1.0 mm	0.8 - 1.2 mm
Wire Ø aluminium	1.0 mm	1.0 mm	1.0 - 1.2 mm
Wire feed	0.3 - 20 m/min	0.3 - 20 m/min	0.3 - 20 m/min
Drive	2 roll	2 roll	2 roll
Power connector	3 x 230/400 V	3 x 400	3 x 400
Adjusting range	30 - 140/50 - 180 A	25 - 200 A	35 - 250 A
Duty cycle (DC) at I _{max} and 40 °C	25%/25%	30 %	30 %
Welding current at 100% DC 40 °C	95/100 A	100 A	125 A
Switching stages	6/6	8	10
Open circuit voltage	21-35/23-39 V	14-32 V	16-35 V
Permanent output at 100% DC	2.1/2.4 kVA	2.3 kVA	3.1 kVA
Fuse	16 A	16 A	16 A
Cooling type	AF	AF	AF
Torch cooling	Gas	Gas	Gas
Degree of protection	IP 21	IP 21	IP 21
Insulation class	H	H	H
Weight	45 kg	52 kg	55 kg
Dimensions (L x W x H)	760 x 320 x 580 mm		
Standards	EN 60 974-1;-3;-10 / S mark / EMC - class A		

- **Highly dynamic choke system** ensures a particularly soft, stable, and highly-dynamic arc, and ensures optimised, low-spatter welding results in steel, stainless steel and aluminium.



- **High performance transformer** with premium, dual-insulation copper wire cable, insulation class H
- **Level wound and level insulated** with additional vacuum impregnation
- With **thermocouple** for overload protection

Accessories - torch kits

consisting of: torch 4 m, earth cable, 315 bar Argon/CO₂ pressure regulator

Designation		Art. no.
Torch kit 15/25	SMB 15/4 m gas-cooled, earth cable 25 mm ² 4 m, pressure reg.	1091510
Torch kit 25/35	SMB 25/4 m gas-cooled, earth cable 35 mm ² 4 m, pressure reg.	1092510
Torch kit 36/50	SMB 36/4 m gas-cooled, earth cable 50 mm ² 4 m, pressure reg.	1093611
Universal torch holder		1090011

*Prices for torch kits only apply in combination with purchasing a welding device

Wear part set for torch

Designation	Art. no.
Wear part set SMB 15	1091500
consisting of: 1 x gas tip holder, 3 x retaining spring, 3 x each contact tip 0.6/0.8 mm 3 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	
Wear part set SMB 25	1092500
consisting of: 3 x retaining spring, 2 x tip assembly, 5 x each contact tip 0.6/0.8 mm 2 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	
Wear part set SMB 36	1093600
consisting of: 2 x tip assembly M6, 3 x gas distributor brown, 5 x each contact tip 0.8/1.0/1.2 mm, 4 x gas tip conical, 1 x gas tip cylindrical, large sorting box	

Basket spool adapter

Designation	Art. no.
Basket spool adapter KA 1, single-part, pluggable	1110001
Basket spool adapter KA 2, with quick release coupling	1110005

Wire feeder rolls

Designation	Art. no.
Wire feeder roll 0.6/0.8 mm (PRO-MAG 160 - 250)	1012108
Wire feeder roll 0.8/1.0 mm (PRO-MAG 160 - 250)	1012110
Wire feeder roll 1.0/1.2 mm (PRO-MAG 160 - 250)	1012112

MIG soldering in automotive applications

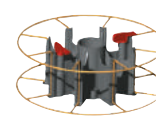
The benefits of MIG soldering

- **No corrosion** on the solder seam
- **Minimum** weld spatter
- **Easy** reworking of the solder seam
- **Lower** working temperature
- **Less impact** on the structure in the case of higher strength steels
- Capillary effect of the solder causes 1/3 higher strength in round hole and slot soldering
- **Less** distortion
- **Less** melting material loss of the coating
- cathodic protection of the base material in the immediate area of the weld (zinc)
- Corrosion protection without reworking
- Optimum control for keeping the sheet thickness

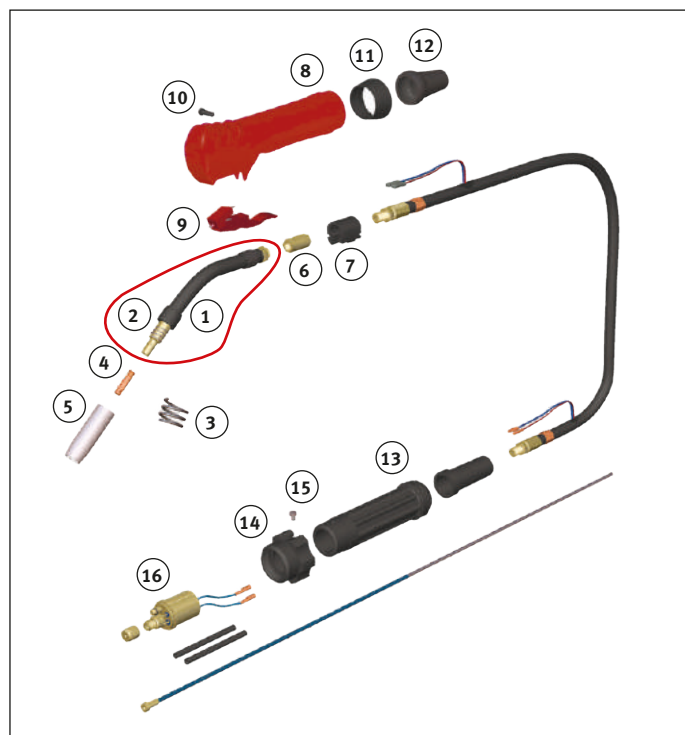
Standard equipment

PRO-MAG

- 2-roll drive
- With 2-cycle/4-cycle/interval control
- Mains cable with connector 5 m
- Central connection system
- Operating and temperature display
- **Without basket spool adapter**
- **Without torch**
- **Without earth cable**
- **Without pressure regulator (see accessories)**



SMB 15 gas-cooled



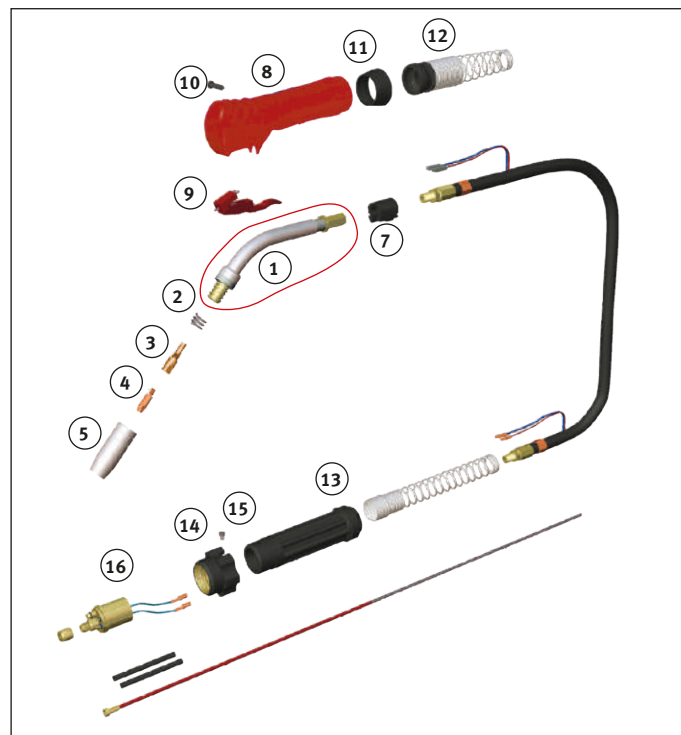
Art. no.	
1091503	SMB 15/3 m with pushbutton
1091504	SMB 15/4 m with pushbutton
1091505	SMB 15/5 m with pushbutton
1091513	SMB 15/3 m for aluminium

No.			
1	Torch swan neck SMB 15 includes	1091530	1
2	Gas tip carrier	1091531	10
3	Holding spring	1091535	10
4	Contact tip M6 Ø 0.6 mm/25 mm	1091540	10
	Contact tip M6 Ø 0.8 mm/25 mm	1091542	10
	Contact tip M6 Ø 1.0 mm/25 mm	1091544	10
	Contact tip aluminium Ø 1.0 mm/25 mm	1091547	10
5	Gas tip conical Ø 12.0/53 mm	1091550	10
	Gas tip, cylindrical Ø 16.0 mm	1091554	10
	Spot gas tip	1091552	10
6	Adapter MS	1091591	10
7	Adapter body black	1091588	10
8	Handle shell red	1091517	1
9	Pushbutton	1091518	1
10	Handle shell screw	1091590	10
11	Ring	1091592	1
12	Anti-kink protection spring	1091587	1
13	Anti-kink protection machine side	1091586	1
14	Connection nut	1091581	1
15	Connection nut screw	1091589	10
16	Centre connector fixed pins	1091582	1
	Wear part set SMB 15	1091500	1

Guide spirals/Teflon core see page 28

Specifications:	
Load:	180 A CO ₂ /150 A mixed gas M21 (EN 60 974-7) DC 60 %
Wire Ø:	0.6-1.0 mm

SMB 25 gas-cooled



Art. no.	Designation
1092503	SMB 25/3 m with pushbutton
1092504	SMB 25/4 m with pushbutton
1092505	SMB 25/5 m with pushbutton
1092513	SMB 25/3 m for aluminium

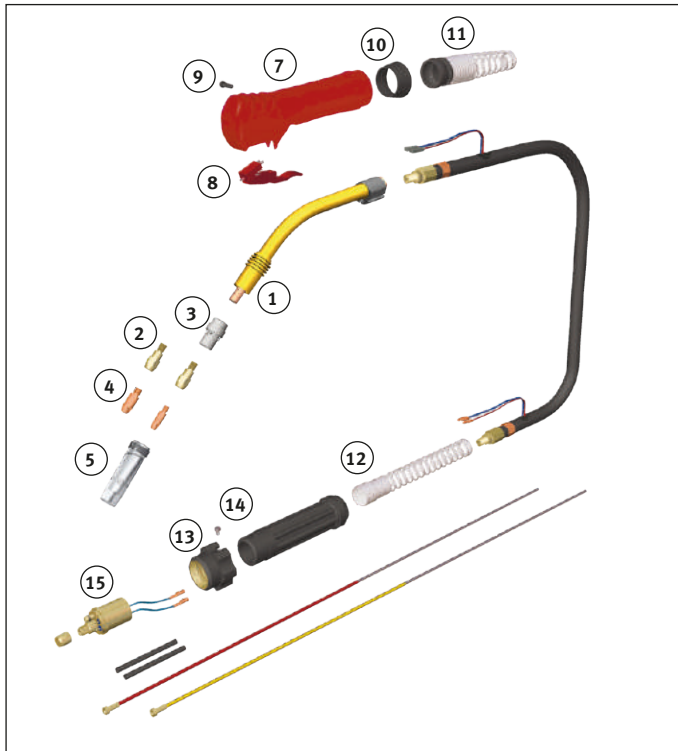
No.	Designation	Art. no.
1	Torch swan neck SMB 25	1092530 1
2	Holding spring	1092535 10
3	tip assembly	1092560 10
4	Contact tip M6 Ø 0.8 mm/28 mm	1092542 10
	Contact tip M6 Ø 1.0 mm/28 mm	1092544 10
	Contact tip M6 Ø 1.2 mm/28 mm	1092546 10
	Contact tip aluminium Ø 1.0 mm/28 mm	1092548 10
	Contact tip aluminium Ø 1.2 mm/28 mm	1092549 10
5	Gas tip conical Ø 14.5/57 mm	1092550 10
	Gas tip, cylindrical Ø 18.0 mm	1092554 10
	Spot gas tip	1092552 10
7	Adapter body black	1091588 10
8	Handle shell red	1091517 1
9	Pushbutton	1091518 1
10	Handle shell screw	1091590 10
11	Ring	1091592 1
12	Anti-kink protection spring	1092561 1
13	Anti-kink protection machine side	1091586 1
14	Connection nut	1091581 1
15	Connection nut screw	1091589 10
16	Centre connector fixed pins	1091582 1
	Wear part set SMB 25	1092500 1

Guide spirals/Teflon core see page 28

Specifications:	
Load:	230 A CO ₂ /200 A mixed gas M21 (EN 60 974-7) DC 60 %
Wire Ø:	0.8-1.2 mm

*PU = Quantity in pieces per packaging unit Purchase only possible in PU

SMB 36 gas-cooled



Art. no.	
1093603	SMB 36/3 m with pushbutton
1093604	SMB 36/4 m with pushbutton
1093605	SMB 36/5 m with pushbutton
1093613	SMB 36/3 m for aluminium

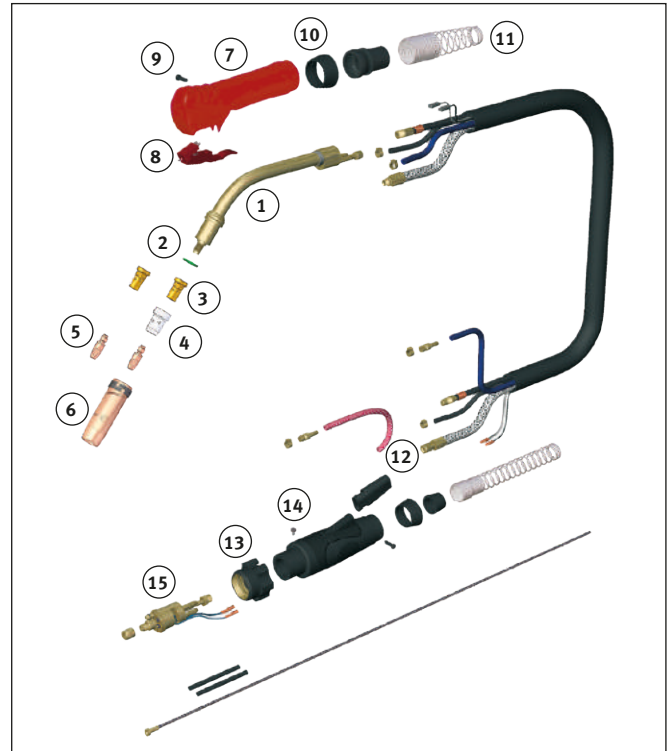
No.		
1	Torch swan neck SMB 36	1093630 1
2	Tip assembly M6/ 28 mm	1093660 10
3	Gas distributor brown S	1093661 10
4	Contact tip M6 Ø 0.8 mm/28 mm	1092542 10
	Contact tip M6 Ø 1.0 mm/28 mm	1092544 10
	Contact tip M6 Ø 1.2 mm/28 mm	1092546 10
	Contact tip aluminium Ø 1.0 mm/28 mm	1092548 10
	Contact tip aluminium Ø 1.2 mm/28 mm	1092549 10
5	Gas tip conical Ø 16.0/84 mm	1093650 10
	Gas tip, cylindrical Ø 19.0 mm	1093651 10
7	Handle shell red	1091517 1
8	Pushbutton	1091518 1
9	Handle shell screw	1091590 10
10	Ring	1091592 1
11	Anti-kink protection spring	1092561 1
12	Anti-kink protection machine side	1091586 1
13	Connection nut	1091581 1
14	Connection nut screw	1091589 10
15	Centre connector fixed pins	1091582 1
	Wear part set SMB 36	1093600 1

Guide spirals/Teflon core see page 28

Specifications:

Load: 300 A CO₂/270 A mixed gas M21 (EN 60 974-7)
DC 60 %
Wire Ø: 0.8-1.2 mm

SMB 400 liquid-cooled



Art. no.	Designation
1094003	SMB 400/3 m with pushbutton
1094004	SMB 400/4 m with pushbutton
1094005	SMB 400/5 m with pushbutton
1094013	SMB 400/3 m for aluminium

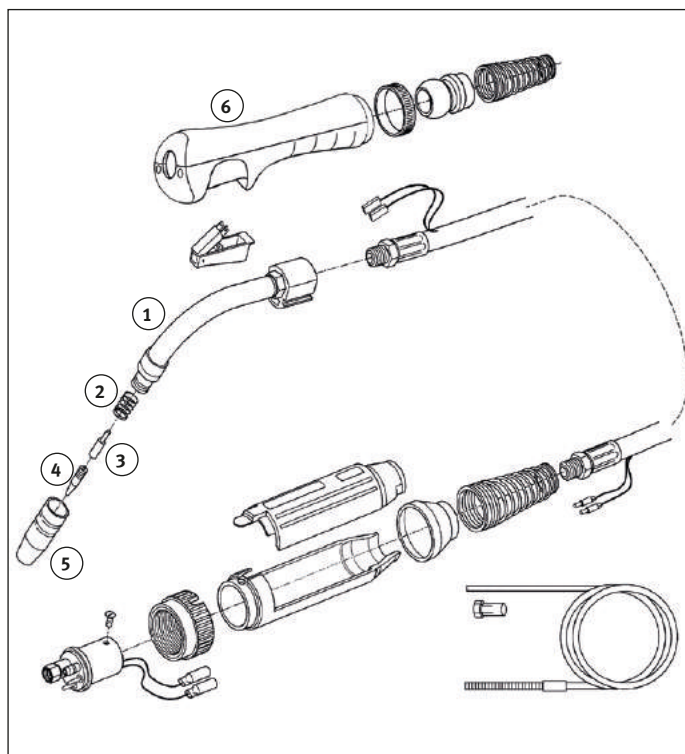
No.	Designation	Art. no.
1	Torch swan neck SMB 400	1094030 1
2	Ring	1094031 10
3	Tip assembly M8/25 mm	1094060 10
4	Gas distributor brown highly heat-resistant	1094061 10
5	Contact tip M8 Ø 0.8 mm/30 mm	1094042 10
	Contact tip M8 Ø 1.0 mm/30 mm	1094044 10
	Contact tip M8 Ø 1.2 mm/30 mm	1094046 10
	Contact tip aluminium Ø 1.0 mm/30 mm	1094048 10
	Contact tip aluminium Ø 1.2 mm/30 mm	1094049 10
6	Gas tip conical Ø 16.0/84 mm	1092650 10
	Gas tip, cylindrical Ø 19.0 mm	1092654 10
	Spot gas tip	1092652 10
7	Handle shell red	1091517 1
8	Pushbutton	1091518 1
9	Handle shell screw	1091590 10
10	Ring	1091592 1
11	Anti-kink protection spring ball joint	1092433 1
	Anti-kink protection machine side compl.	1092562 1
12	Anti-kink protection machine side compl.	1092434 1
13	Connection nut	1091581 1
14	Connection nut screw	1091589 10
15	Centre connector fixed pins	1094082 1
	Wear part set SMB 400	1094000 1

Guide spirals/Teflon core see page 28

Specifications:

Load: 400 A CO₂/350 A mixed gas
DC 100 %
Wire Ø: 0.8-1.6 mm

Torch MB 25 gas-cooled



Art. no.

1052503	MB 25 AK/3 m with pushbutton
1052504	MB 25 AK/4 m with pushbutton
1052505	MB 25 AK/5 m with pushbutton
1052513	MB 25 AK/3 m for aluminium
1053253	MB 25/3 m, Up/Down
1053254	MB 25/4 m, Up/Down
1053255	MB 25/5 m, Up/Down
1055254	MB 25/4 m, with potentiometer
1055255	MB 25/5 m, with potentiometer

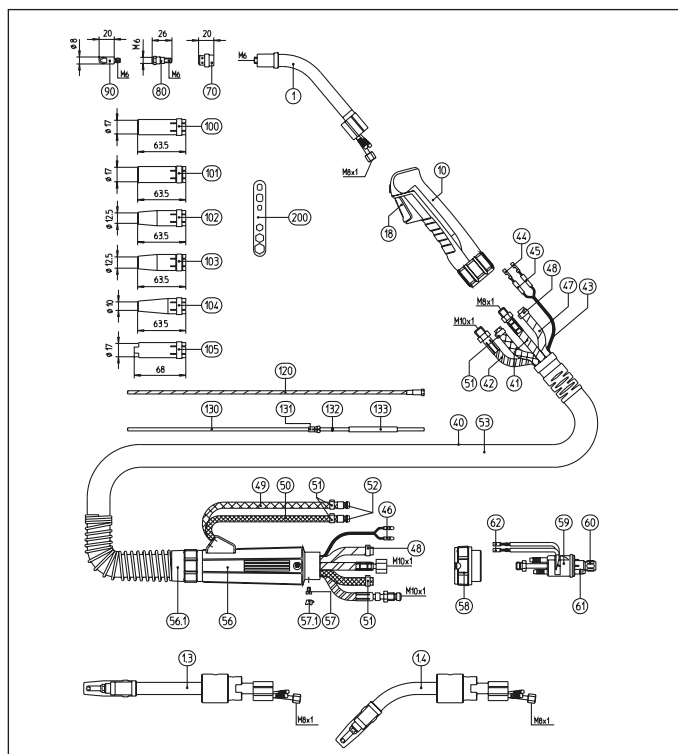
No.	Designation	Art. no.
1	Torch swan neck MB 25 pluggable	1052530 1
2	Holding spring	1052535 10
	Adapter body brass	1052507 1
	Adapter body plastic	1051587 1
6	Handle shell with pushbutton compl.	1051517 1
	Pushbutton 2-pin, orange	1051518 1
	Anti-kink protection spring size 19	1051519 1
	Anti-kink protection machine side	1051538 1
	Connecting nut	1051581 10
	Centre connector	1051582 1
	Union nut M10x1	1051585 10
3	Tip assembly M6 35.0 mm	1052560 10
4	Contact tip M6 E-Cu Ø 0.8 mm	1052542 10
4	Contact tip M6 E-Cu Ø 1.0 mm	1052544 10
4	Contact tip M6 E-Cu Ø 1.2 mm	1052546 10
4	Contact tip aluminium wire Ø 1.0 mm	1052547 10
4	Contact tip aluminium wire Ø 1.2 mm	1052549 10
5	Gas tip, cylindrical Ø 18.0 mm	1052554 10
5	Gas tip, conical Ø 15.0 mm	1052550 10
	Spot gas tip Ø 18.0 mm	1052556 10
	Wear part set MB 25	1052510 1

Specifications:

Load:	230 A CO ₂ /200 A mixed gas
	DC 60 %
Wire Ø:	0.8-1.2 mm

New

Torch MB 240 D water-cooled



Art. no.

1052403	Torch MB 240 D/3 m with pushbutton
1052404	Torch MB 240 D/4 m with pushbutton
1052405	Torch MB 240 D/5 m with pushbutton

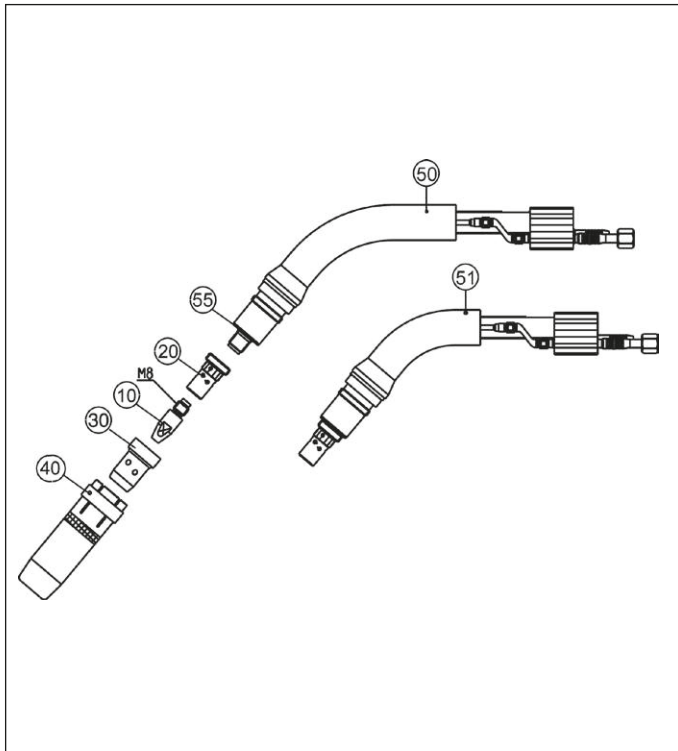
No.	Designation	Art. no.
1	Torch swan neck MB240D pluggable	1052430 1
18	Pushbutton, orange	1051518 1
56	Bend protection, blue cpl.	1054028 1
58	Connecting nut	1051581 1
60	Union nut M10x1	1051585 10
90	Contact tip M6-ECu Ø 0.8 mm	1052542 10
90	Contact tip M6-ECu Ø 1.0 mm	1052544 10
90	Contact tip M6-ECu Ø 1.2 mm	1052546 10
90	Contact tip M6-ECu Ø 0.8 mm aluminium wire	1052545 10
90	Contact tip M6-ECu Ø 1.0 mm aluminium wire	1052547 10
90	Contact tip M6-ECu Ø 1.2 mm aluminium wire	1052549 10
100	Gas tip, cylindrical Ø 17.0 mm	1052454 10
102	Gas tip, conical Ø 12.5 mm	1052450 10
105	Spot gas tip Ø 17.0 mm	1052456 10

Specifications:

Load:	325 A CO ₂ /300 A mixed gas
	DC 100 %
Wire Ø:	0.8-1.2 mm

*PU = Quantity in pieces per packaging unit Purchase only possible in PU

Torch 9W D/9W FD/9W-Rt/9W-S



Designation 9W D	Art. no.
Torch 9W D/3 m, long swan neck	1480903
Torch 9W D/4 m, long swan neck	1480904

Designation 9W FD	Art. no.
Torch 9W FD/3 m, short swan neck	1480913
Torch 9W FD/4 m, short swan neck	1480914

Designation 9W Rt	Art. no.
Torch 9W Rt* Rehmtronic/3 m	1480933
Torch 9W Rt* Rehmtronic/4 m	1480934
Torch 9W Rt* Rehmtronic/5 m	1480935

*short swan neck

Designation 9W S	Art. no.
Torch 9W S*/3 m	1480923
Torch 9W S*/4 m	1480924
Torch 9W S*/5 m	1480925

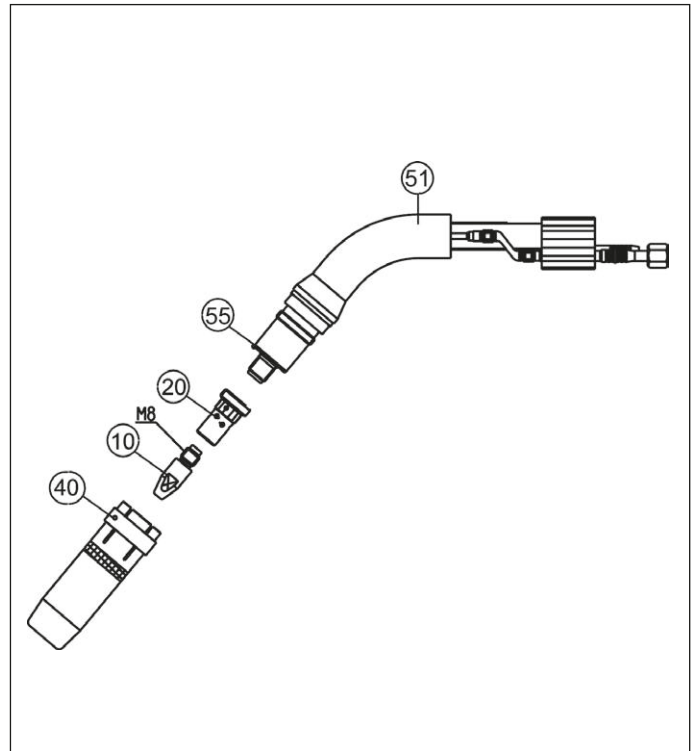
*short swan neck

No.	Designation	Art. no.
51	Torch swan neck FD/S/Rt 50° yel. short	1480930 1
50	Torch swan neck FD 50° yel./green long	1480931 1
20	Tip assembly D/FD	1480960 10
	Tip assembly S/Rt	1480959 10
10	Contact tip E-Cu Ø 0.8 mm	1480908 10
	Contact tip E-Cu Ø 1.0 mm	1480910 10
	Contact tip E-Cu Ø 1.2 mm	1480912 10
	Contact tip E-Cu Ø 1.6 mm	1480916 10
30	Gas distributor HP	1480961 10
40	Gas tip conical size 16	1480950 10
	Gas tip conical size 16 HP	1480951 10
55	Insulating washer	1480940 20
	Wear part set 9 W	1480941 1

Specifications:

Load: 560 A CO₂/500 A mixed gas M21
as per DIN EN 439, 100% duty cycle
Wire Ø: 1.0-1.6 mm

Torch 9W-Alu



Designation 9W Alu	Art. no.
Torch 9W Alu*/3 m	1481903
Torch 9W Alu*/4 m	1481904
Torch 9W Alu*/5 m	1481905

*short swan neck

No.	Designation	Art. no.
51	Torch swan neck FD/S/Rt 50° yel. short	1480930 1
20	Tip assembly D/Rt	1480959 10
10	Contact tip E-Cu Ø 1.0 mm	1481910 10
	Contact tip E-Cu Ø 1.2 mm	1481912 10
	Contact tip E-Cu Ø 1.6 mm	1481916 10
	Splatter guard	1481951 10
40	Gas tip conical size 14	1481952 10
	PA core alum. 1.2-1.6 mm, 3 m	1481953 1
	PA core alum. 1.2-1.6 mm, 4 m	1481954 1
	PA core alum. 1.2-1.6 mm, 5 m	1481955 1
55	Insulating washer	1480940 20
	Wear part set 9 W alum.	1481960 1

Specifications:

Load: 560 A CO₂/500 A mixed gas M21
as per DIN EN 439, 100% duty cycle
Wire Ø: 1.0-1.6 mm

*PU = Quantity in pieces per packaging unit Purchase only possible in PU

Accessories MIG/MAG torches

Interior and guide spirals

Designation	Art. no.
Guide spirals with retention nipple and o-ring recommended for steel and stainless steel	
Blue, insulated 1.5/4.5; for Ø 0.6-0.8 mm; SMB 15-36	
3.0 m	1051573
4.0 m	1051574
5.0 m	1051575
Red, insulated 2.0/4.5; for Ø 1.0-1.2; SMB 15-36	
3.0 m	1052576
4.0 m	1052577
5.0 m	1052578
Bare metal, 2.0/4.5; for Ø 1.0-1.2; SMB 400	
3.0 m	1054073
4.0 m	1054074
5.0 m	1054075
Bare metal, 2.5/4.5; for Ø 1.6; SMB 400	
3.0 m	1054076
4.0 m	1054077
5.0 m	1054078
Teflon cores with retention nipple and o-ring recommended for non-ferrous metals such as Alu, Cu & CuSi	
Blue, 1.5/4.0; for Ø 0.8-1.0 mm; SMB 25-36	
3.0 m	1051593
4.0 m	1051594
5.0 m	1051595
Red, 2.0/4.0; for Ø 1.0-1.2; MB 25-36	
3.0 m	1052590
4.0 m	1052591
5.0 m	1052592
Yellow, 2.7/4.7; for Ø 1.6; SMB 400	
3.0 m	1053666
4.0 m	1053667
5.0 m	1053668
PA cores with retention nipple and o-ring recommended for alum.	
Grey, 2.0/4.0; for Ø 1.0 -1.2mm; SMB 25-36	
3.0 m	1052583
4.0 m	1052584
5.0 m	1052585
Grey, 2.9/4.7; for Ø 1.6 mm; SMB 400	
4.0 m	1052586
Combined Teflon cores with retention nipple, o-ring and brass spiral recommended for higher amperage aluminium	
Red, 2.0/4.0; for Ø 1.0 -1.2mm; SMB 25-36	
3.5 m	1052593
4.5 m	1052594
5.5 m	1052595
Carbon Teflon cores with retention nipple, o-ring and brass spiral recommended for stainless steel and alum.	
Black, 2.0/4.0; for Ø 1.0 -1.2mm; SMB 25-36	
3.0 m	1052596
4.0 m	1052597
5.0 m	1052598
Carbon Teflon cores with retention nipple, o-ring and brass spiral recommended for stainless steel and alum.	
Black, 2.7/4.7; for Ø 1.6 mm; SMB 400	
Designation	Art. no. PQ
4.0 m	1052599 1
O-Ring 3.5 x 1.5	1051583 20
Retention nipple Ø 4 mm	1051596 20
RN for F spiral bare metal 1.5/4.0	1051598 20
RN for F spiral bare metal 2.0 - 2.5/4.0	1051599 20
Guiding tube brass Ø 4 mm	1051597
Brass spiral assembled 200 mm	1051524



Accessories for MIG soldering

Designation	Art. no.	
MIG soldering torch conversion kit SMB 15/4 m for wire 0.8 mm consisting of 10 x contact tip Ø 0.8 mm and Teflon core blue Ø 0.8-1.0 mm, 4 m	1091521	
MIG soldering conversion kit SMB 15/4 m for wire 1.0 mm consisting of 10 x contact tip Ø 1.0 mm and Teflon core red Ø 1.0-1.2 mm, 4 m	1091522	
Filler wire CuSi 3 For copper, low alloy copper and copper zinc alloys. Good choice for galvanised sheets.		
Designation	Weight	Art. no.
Small spool D200		
Ø 0.8 mm	5 kg	1131620
Ø 1.0 mm	5 kg	1131619
Basket spool K300		
Ø 0.8 mm	15 kg	1131625
Ø 1.0 mm	15 kg	1131624
Filler wire CuAl 8 For manganese and nickel copper aluminium alloys. Good choice for highly stressed and higher strength steel		
Designation	Weight	Art. no.
Small spool D200		
Ø 0.8 mm	5 kg	1131630
Ø 1.0 mm	5 kg	1131629
Basket spool K300		
Ø 0.8 mm	15 kg	1131635
Ø 1.0 mm	15 kg	1131634
<i>(further filler wires available on request)</i>		
Argon inert gas Seamless steel cylinders, complete with cylinder valve, with thread as per DIN 477, cap DIN 4667 and fill		
Designation	Fill	Art. no.
New cylinder	10 l	1741012
New cylinder	20 l	1741021
Fill	10 l	1741013
Fill	20 l	1741023
Designation	Art. no.	
MIG/MAG special gun for cutting, time-saving cleaning and honing of the shield gas tip (Ø 15-18 mm) and loosening and tightening the contact tip	1092000	
Basket spool adapter KA 1 single-part, pluggable	1110001	
Basket spool adapter KA 2 with quick release coupling	1110005	
Centring adapter for D 200 spools Two-part	1110007	



Die intelligente
Welding device generation
by SCHWEIßKRAFT



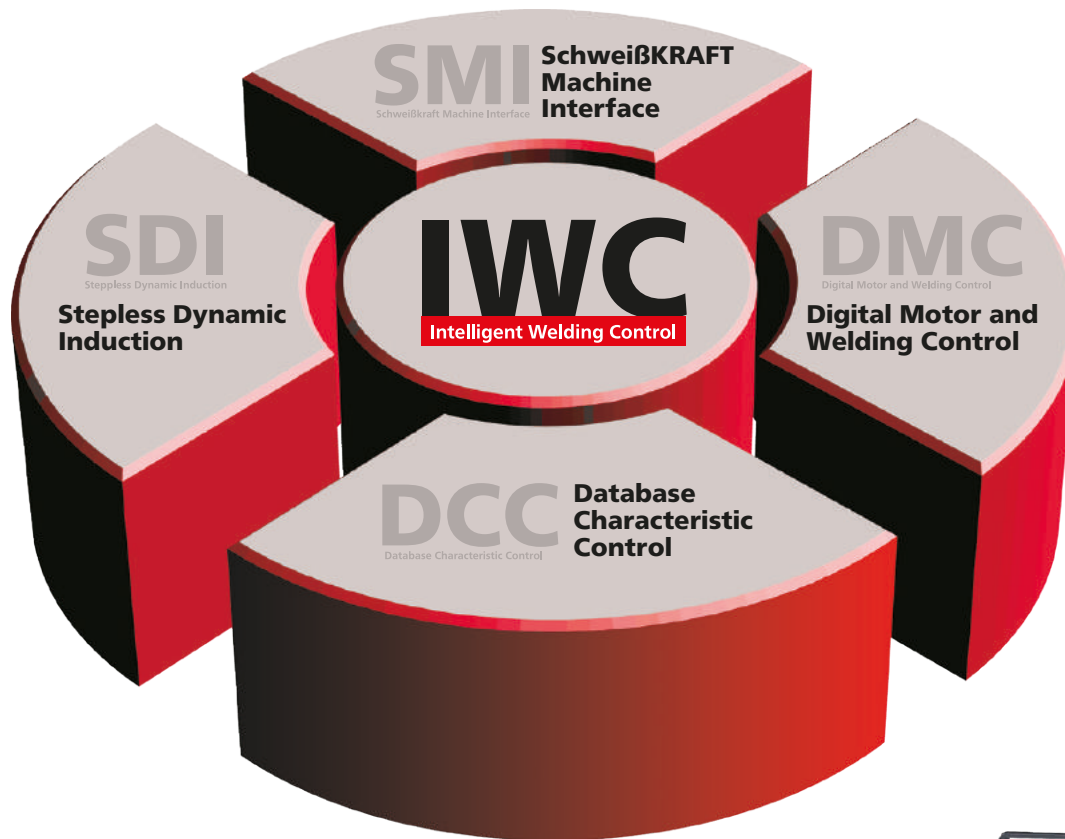
Qualität Made
in Germany



Professional MIG/MAG welding equipment

PRO-MIG synergie – step controlled inert gas welding equipment

Best in class welding results and easy control thanks to automated settings and IWC smart processor control



“IWC is a superordinate controller for the entire system”

IWC

Intelligent Welding Control

The arc length is not just controlled by measuring the arc voltage and welding current, but additionally by digitally acquiring the wire feed speed.

- ▶ During the entire ignition and arc process, the droplet transition point is continuously monitored and digitally controlled – like with the latest pulse power sources
- ▶ Setting the correct welding parameters is easy and safe thanks to the integrated DCC welding parameter database and the convenient SMI control solution
- ▶ The integrated microprocessor uses this to quickly and efficiently compensate for changes, thus keeping the arc significantly constant.

SDI

Stepless Dynamic Induction

SDI technology - Automatic choke compensation

SDI boost economic efficiency: because the heat transfer can be controlled in an improved way compared with legacy step controlled MIG/MAG systems, and spatter in the mixed arc is greatly reduced, visibly less rework is required.

This means that the weld properties can be adapted to the welding conditions in an even better way, e.g., in **out of position welding, such as vertically rising welds, overhead welds, or welding with a long stick out** in positions that are difficult to access.

With its SDI technology, the PRO-MIG has excellent ignition properties and a very stable arc. The choke effect is optimised by the integrated processor control. This reduces spatter to a minimum.



PRO-MIG 450-4 WS synergie

DCC automatic adjustment: Three easy steps – off we go...

You simply select the material and wire thickness.

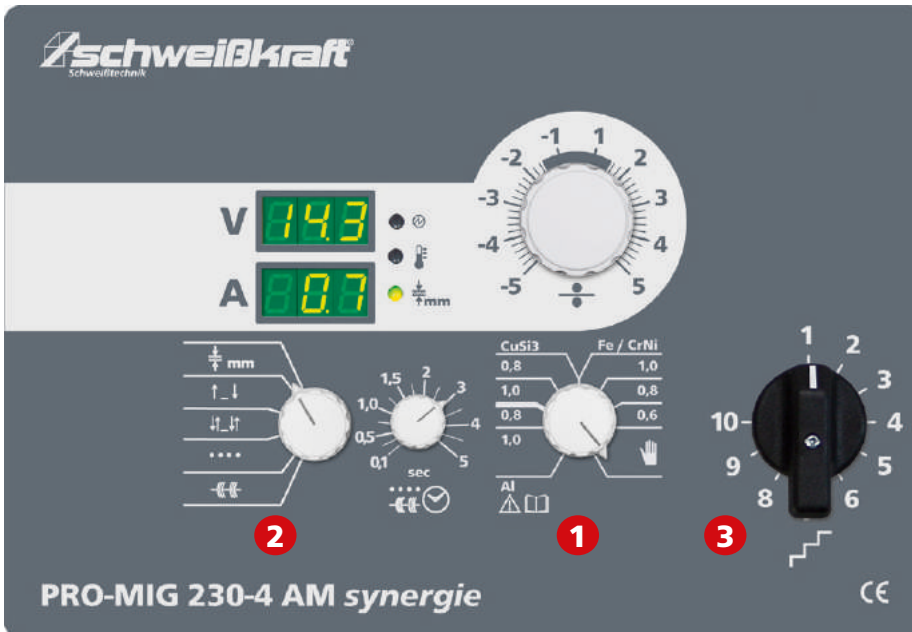
The machine tells you the weldable material thickness – and off you go.

Our PRO-MIG synergie takes care of modifying the other welding parameters on the basis of the stored synergie characteristic curves and DCC itself.

The wire feed speed and all other critical parameters are automatically optimised, depending on the voltage level, for the programmed materials: steel, stainless steel and aluminium and for various wire electrode diameters and gas types.

**Standard equipment for all
PRO-MIG types**

DCC
Database Characteristic Control



Step 2
Selection display
Material thickness

Step 1
Material and
wire diameter selection

Step 3
Press the torch button and use the stage
switches to select the material thickness to
be welded. The digital display (A) shows
the material thickness in mm.

DMC

Digital Motor and Welding Control

DMC technology - Digital motor control

Arc length changes, e.g., caused by voltage fluctuations in resistances in the hose pack are compensated for more quickly and efficiently thanks to DMC.

In addition to measuring the arc voltage, the feed speed is also captured using incremental sensors on the feed motor. DMC detects and corrects arc length changes at an early stage.

DMC guarantees constant wire feed speeds – independently of the feed motor temperature or hose pack soiling.

DCC

Database Characteristic Control

DCC technology - Automatic setting of welding parameters to reflect the material thickness.

All related welding parameters are automatically selected with optimum parameter defaults. The comprehensive, integrated welding parameter database (DCC) is jam packed with practical expert knowledge. The combination of material, wire diameter and voltage level is used to preset the synergie parameters required for a successful welding process from the database.

During welding, the actual values are continually compared with these process defaults and corrected in next to no time, as needed. All parameters required for perfect welding (more than 900) are selected by DCC to match the individual machine requirements.

SMI

Schweißkraft Machine Interface

SMI technology - Easy as pie – rules out incorrect operation:

SMI ensures fast and safe setting of the correct welding parameters while guaranteeing easiest possible handling at the same time – choose the material, set the material thickness – weld.



PRO-MIG 280-4 synergie

MIG/MAG

Multifunctional inverter

TIG inverters

Electrode inverters

Plasma cutting equipment

Electrochemical processing

Welding accessories

PRO-MIG synergie – longest duty cycle, easiest operation, best welding results and maximum reliability

- ▶ Smart, superordinate IWC control
- ▶ **Electronic choke sync SDI** for an even better ignition process
- ▶ **Synergie operation DCC** via integrated database with stored characteristic curves
- ▶ Special MIG soldering characteristic curves for 230 AM models
- ▶ Special aluminium characteristic curves in addition with 230-4 AM, 300-4 to 450-4 WS models
- ▶ Automatic wire threading, current and gas free in rapid motion
- ▶ Automatic feed
- ▶ Automatic inching for reliable ignition
- ▶ Hold function
- ▶ Permanent mains voltage monitoring for a stable arc
- ▶ Automatic wire burn-back for constant wire end lengths and an individually configurable burn-back time
- ▶ Customisable gas post-flow time
- ▶ Safety forced shutdown in 4-cycle operation to prevent undesirable wire uncoiling
- ▶ **Temperature controlled fan and water pump with standby circuit** for low noise emission
- ▶ Thermal protection switch
- ▶ Gas-cooled and liquid-cooled models available
- ▶ Two large steering and fixed rollers

Features:

- ▶ Powerful wire feed; digitally controlled with real-time monitoring
- ▶ Clear-cut control panel
- ▶ Two easy-to-read digital displays with Hold function for **welding voltage, welding current and weldable material thickness**
- ▶ Excess temperature display
- ▶ Wire spool easy to change
- ▶ Wire feed roll change without tools
- ▶ Ergonomic design
- ▶ Ergonomic design, industrial standard housing as per IP 23 for outdoor welding
- ▶ Easily manoeuvrable thanks to robust chassis with large wheels

Operational modes

- ▶ 2-cycle operation
- ▶ 4-cycle operation
- ▶ Spot welding
- ▶ Synergie operation
- ▶ Manual operation

Configurable parameters

- ▶ Spot/interval time
- ▶ Welding output

Program/characteristic curves	Fe/CrNi				Aluminium			CuSi	
	0.6	0.8	1.0	1.2	0.8	1.0	1.2	0.8	1.0
Synergie operation DCC	●	●	●					●	●
PRO-MIG 230-2 AM	●	●	●		●	●		●	●
PRO-MIG 230-4 AM	●	●	●					●	●
PRO-MIG 280-4		●	●	●					
PRO-MIG 310-4		●	●	●					
PRO-MIG 300-4		●	●	●		●	●		
PRO-MIG 350-4 W		●	●	●		●	●		
PRO-MIG 450-4 WS		●	●	●		●	●		

Process

- ▶ MIG/MAG
- ▶ MIG soldering (PRO-MIG 230 AM synergie)

Sheet thicknesses

- ▶ from 0.5 mm (MAG)
- ▶ Aluminium from 0.8 mm (MIG)
- ▶ MIG soldering as of 0.5 mm

Base materials

- ▶ Construction steels, non alloy and low alloy materials
- ▶ CrNi steels ferritic/austenitic
- ▶ Duplex steels
- ▶ Aluminium (MIG)
- ▶ galvanised, pre-treated steels (MIG soldering)

Typical applications

- ▶ Plant, container, machine, steel construction
- ▶ Maintenance/repairs
- ▶ Automobile industry and automotive supplies
- ▶ Vehicle maintenance and repairs
- ▶ Vehicle manufacturing/construction machinery
- ▶ Rail vehicle manufacturing
- ▶ Shipbuilding

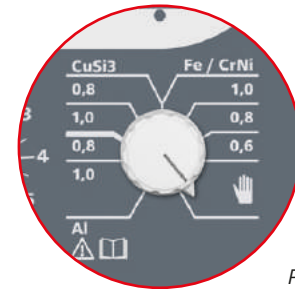


Fig. left
Synergie program
selection
PRO-MIG 230-4 AM

MIG soldering with the PRO-MIG

Welding as of a sensational 15 A

The PRO-MIG 230-4 AM and 230-2 AM are specially designed for use in thin sheet processing with a sensational welding current of 15 A or more. The special Synergie programs for MIG/MAG welding and

MIG soldering of galvanised and aluminised body sheet metal make them the ideal machines for vehicle workshops.

With its powerful 4-roll drive and additional Synergie characteristic curves for welding aluminium materials, the PRO-MIG 230-4 AM is a genuine all-rounder for welding aluminium materials. Anyone who needs to weld with thin wires, will not want to do without this 4-roll drive. It helps you to perform fine welding work on thin sheets with even better process assurance.



PRO-MIG 300-4 synergie

Unique in this class

For all PRO-MIG types:

Revolutionary IWC control solution

- ▶ In contrast to some other suppliers, you benefit from the benefits of a smart control solution from the smallest to the largest system.

Digital volt and amperage display with Hold function for the parameters used

- ▶ Ideal for certification welding work for welding data transfer. The parameters used here remain in place until next used and are displayed.

Automatic setting of welding parameters to reflect the material thickness.

- ▶ Fast, easy and safe thanks to database support

Extremely long duty cycle

Best in class price/performance ratio

- ▶ State-of-the-art engineering and maximum equipment level



PRO-MIG synergy 230-2 AM to 310-4
Compact design with steering rollers and
generously dimensioned fixed rollers

PRO-MIG synergy 300-4 to 350-4 W
Industrial design for up 50 l gas cylinders, chassis
width extension, steering rollers and generously
dimensioned fixed rollers.

PRO-MIG synergy 450-4 WS
WS design with liquid cooling and a separate,
removable wire feed case

Complies with DIN EN 1090: With a Schweißkraft WPQR/WPS package for DIN EN 1090 compliance

Thanks to the Schweißkraft WPQR/
WPS package for the PRO-PULS SPEED,
PRO-ARC SPEED and PRO-MIG models,
manufacturers of load-bearing steel
structures can now benefit from an
inexpensive option for implementing
welding procedure specifications
(WPS) for the most common welding
applications.
For the companies involved, this

removes the need for time-consuming
and expensive work for creating
their own specifications, while at
the same time meeting an important
requirement in terms of certification
and compliance with CE marks. The
folder with 12 procedure tests and 169
welding specifications is available as
Art. no. WPQR-SK
(For further information see page 36)

Welding specifications (WPS) valid for:

PRO-MIG 280-4
PRO-MIG 310-4
PRO-MIG 350-4W
PRO-MIG 450-4 WS



WPQR package

Art. no. WPQR-SK

Control elements

SMI
Schweißkraft Machine Interface

Digital display for
welding voltage
with Hold function

Digital display for
welding current and
material thickness

Operational modes
Material thickness
display, 2-cycle,
4-cycle, spot, interval

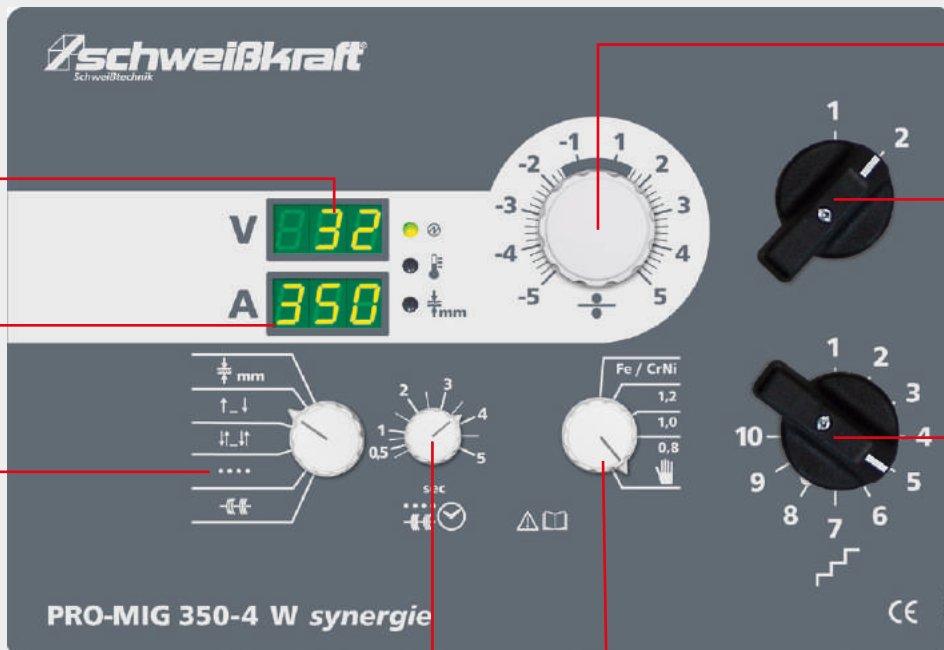
Setting the spot
and interval time

Synergie program selection:
Material/wire diameter program
or manual operation e.g., for
welding aluminium

Rotary button for wire
speed and arc length
correction

Rough step switch

Granular step
switch



MIG/MAG shield gas welding equipment

Compact series, gas-cooled, for 20l gas cylinder

Model	MIG soldering	MIG soldering	PRO-MIG	PRO-MIG
	PRO-MIG synergie 230-2 AM	PRO-MIG synergie 230-4 AM		
Art. no.	1081025	1081024	synergie 280-4 1081028	synergie 310-4 1081031
Recommended Torch kit	15/25	15/25	25/35	25/35
Art. no.	1091510	1091510	1092510	1092510
Technical specifications				
Wire Ø steel/special steel*	0.6 - 1.0 mm	0.6 - 1.0 mm	0.8 - 1.2 mm	0.8 - 1.2 mm
Wire Ø aluminium*	-	0.8 - 1.0 mm	-	-
Wire Ø CuSi*	0.8 - 1.0 mm	0.8 - 1.0 mm	-	-
Wire feed	0.3 - 20 m/min	0.3 - 20 m/min	0.3 - 20 m/min	0.3 - 20 m/min
Adjusting range	15 - 230 A	15 - 230 A	35 - 280 A	35 - 300 A
Duty cycle at I _{max} , 40 °C	40 %	40 %	40 %	40 %
Welding current at 100% DC 40 °C	150 A	150 A	180 A	210 A
Open circuit voltage	15 - 37 V	15 - 37 V	17 - 37 V	17 - 40 V
Switching stages	10	10	10	12
Wire feeders	2-roll	4-roll	4-roll	4-roll
Power connector	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V
Permanent output at 100% DC	4.9 kVA	4.9 kVA	6.3 kVA	6.6 kVA
Fuse	16 A	16 A	16 A	32 A
Cos phi power factor	0.96	0.96	0.96	0.96
Insulation class	H	H	H	H
Cooling type	AF	AF	AF	AF
Torch cooling	Gas	Gas	Gas	Gas
Degree of protection	IP 21	IP 21	IP 21	IP 21
Weight	68 kg	68 kg	72 kg	78 kg
Dimensions (L x W x H)	800 x 320 x 620 mm			
Standards	EN 60 974-1;-3;-10 / S mark / EMC - class A			

*weldable materials, program-supported

Industrial series, gas and liquid cooled, for 50l gas cylinder

Model	PRO-MIG	PRO-MIG	PRO-MIG
	synergie 300-4	synergie 350-4 W	synergie 450-4 WS
Art. no.	1081030	1081036	1081045
Recommended Torch kit	25/35	400/50	400/70
Art. no.	1092510	1094010	1094011
Technical specifications			
Wire Ø steel/special steel*	0.8 - 1.2 mm	0.8 - 1.6 mm	0.8 - 1.6 mm
Wire Ø aluminium*	1.0 - 1.2 mm	1.0 - 1.2 mm	1.0 - 1.2 mm
Wire feed	0.3 - 20 m/min	0.3 - 20 m/min	0.3 - 20 m/min
Adjusting range	40 - 300 A	40 - 350 A	45 - 450 A
Duty cycle at I _{max} , 40 °C	50 %	50 %	50 %
Welding current at 100% DC 40 °C	210 A	260 A	320 A
Open circuit voltage	17 - 42 V	18-43 V	18-51 V
Switching stages	12	20	30
Wire feeders	4-roll	4-roll	4-roll
Power connector	3x 400 V	3x 400 V	3x 400 V
Permanent output at 100% DC	6.9 kVA	9.6 kVA	12.7 kVA
Fuse	32 A	32 A	32 A
Cos phi power factor	0.96	0.97	0.96
Insulation class	H	H	H
Cooling type	AF	AF	AF
Torch cooling	Gas	Gas/liquid	Gas/liquid
Degree of protection	IP 23	IP 23	IP 23
Weight	110 kg	120 kg	137 kg
Dimensions (L x W x H)	1 040 x 560 x 850 mm		1 040 x 560 x 1 400 mm
Standards	EN 60 974-1;-3;-10 / S mark / EMC - class A		

*weldable materials, program-supported

Standard equipment

PRO-MIG

- With 2- or 4-roller drive
- optionally gas or liquid-cooled and available as a compact or case system
- With 2-cycle/4-cycle/interval control
- Mains cable with connector 5 m
- Central connection
- Digital display for welding voltage, current and material thickness
- Operating and temperature display
- **Without torch in each case**
- **Without earth cable**
- **Without pressure regulator and without intermediate hose pack (see accessories)**



Optional equipment PRO-MIG synergie

Designation	Art. no.
Air filter attachment PRO-MIG 350-4 W AM and 450-4 WS complete	1034004
Trolley for feed case	1033667

Accessories - torch kits

consisting of: torch 4 m, earth cable, 315 bar Argon/CO₂ pressure regulator

Designation	Art. no.
Torch kit 15/25: SMB 15/4 m gas-cooled, earth cable 25 mm ² 4 m, pressure reg.	1091510
Torch kit 25/35: SMB 25/4 m gas-cooled, earth cable 35 mm ² 4 m, pressure reg.	1092510
Torch kit 36/50: SMB 36/4 m gas-cooled, earth cable 50 mm ² 4 m, pressure reg.	1093611
Torch kit 400/50: SMB 400/4 m liquid-cooled, earth cable 50 mm ² 4 m, pressure reg.	1094010
Torch kit 400/70: SMB 400/4 m liquid-cooled, earth cable 70 mm ² 4 m, pressure reg.	1094011
Universal torch holder	1090011

*Prices for torch kits only apply in combination with purchasing a welding device

Wear part set

Designation	Art. no.
Wear part set SMB 15 consisting of: 1 x gas tip holder, 3 x retaining spring, 3 x each contact tip 0.6/0.8 mm, 3 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	1091500
Wear part set SMB 25 consisting of: 3 x retaining spring, 2 x tip assembly, 5 x each contact tip 0.6/0.8 mm 2 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	1092500
Wear part set SMB 36 consisting of: 2 x tip assembly M6, 3 x gas distributor brown, 5 x each contact tip 0.8/1.0/1.2 mm, 4 x gas tip conical, 1 x gas tip cylindrical, large sorting box	1093600
Wear part set SMB 400 consisting of: 2 x ring, 2 x tip assembly M8, 3 x gas distributor brown highly heat resistant, 5 x contact tip 1.0 mm, 10 x contact tip 1.2 mm, 4 x gas tip conical, 1 x gas tip cylindrical, large sorting box	1094000

Basket spool adapter

Designation	Art. no.
Basket spool adapter KA 1, single-part, pluggable	1110001
Basket spool adapter KA 2, with quick release coupling	1110005

Intermediate hose pack for PRO-MIG 450-4 WS

Designation	Art. no.
Intermediate hose pack pluggable 1.4 m length	1010235
Intermediate hose pack pluggable 5.0 m length	1010236
Intermediate hose pack pluggable 10.0 m length	1010237

Wire feed rolls for 2-roll wire feed

Designation	Art. no.
Wire feed roll 0.6/0.8 mm for 2-roll drive	1013706
Wire feed roll 0.8/1.0 mm for 2-roll drive	1013708
Wire feed roll 1.0/1.2 mm for 2-roll drive	1013710

Wire feed rolls for 4-roll wire feed

Designation	Art. no.
Feed roll pair solid wire with 0.6 mm gear	1033600
Feed roll pair solid wire with 0.8 mm gear	1033601
Feed roll pair solid wire with 1.0 mm gear	1033602
Feed roll pair solid wire with 1.2 mm gear	1033603
Feed roll pair solid wire with 1.6 mm gear	1033604
Feed roll pair aluminium with 4 x 1.0 mm gear	1033619
Feed roll pair aluminium with 4 x 1.2 mm gear	1033620
Feed roll pair aluminium with 4 x 1.6 mm gear	1033621
Feed roll pair flux-core wire with 1.2 mm gear	1033612
Feed roll pair flux-core wire with 1.6 mm gear	1033616
Feed roll pair flux-core wire with 1.8 to 2.4 mm gear	1033618



Air filter attachment



Torch kit



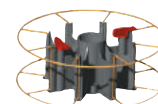
Universal torch holder



Wear part set



Basket spool adapter KA 1



Basket spool adapter KA 2



Intermediate hose pack



Wire feeder rolls



Feed roll pair solid wire with 1.2 mm gear



Feed roll pair aluminium with 4 x 1.0 mm gear



Feed roll pair flux-core wire with gear ring 1.6 mm

DIN EN 1090

Schweißkraft for a fast and easy approach to DIN EN 1090 certification

DIN EN 1090 – The standard since July 2014

The new DIN EN 1090 standard means fundamental changes for manufacturers of steel and aluminium parts for building and civil engineering. Since 1 July 2014, contracts for metal construction work can only be awarded to

companies that have been tested and certified by a notified body. As of this point CE marking for all steel and aluminium load-bearing constructions is mandatory in Europe. The key issue in DIN EN 1090 is the introduction, documentation and maintenance

of a quality management system for in-house production checks that covers the entire manufacturing process in the enterprise from order intake to delivery.

Which EXC class applies to whom?

Classification into execution classes EXC1 to EXC4 to reflect the consequential damage, stress category and manufacturing category is new in DIN EN 1090.

Companies in the scope of class EXC 1 must have in-house production checks as per DIN

EN 1090-1; they must employ certified welders with a valid welder document as per DIN EN 287-1. Companies in the scope of classes EXC 2, 3 and 4 need to meet further requirements on top of this, such as a qualified welding inspector, and certified welders with valid welder documents as per DIN EN 287-1.

The following applies to all execution classes: the continuous quality of the welding results must be ensured by the processes and actions defined in the in-house production check manual.

Class	EXC 1	EXC 2	EXC 3	EXC 4
Quality requirements staff	Elementary	Standard	Expert	Expert
Welding supervision	None	SFM/ST	SFI	SFI
Inspection staff/certified welders	Required	Required	Required	Required
Quality documentation materials	No	Yes	Yes	Yes
Material certificates	Yes	Yes	Yes	Yes
Material traceability	No	In part	Yes	Yes
Weld evaluation group	D	C	B	B

5 steps to CE marking – how it is done



Welding procedure qualification – achieve your objective of creating welding instructions faster with Schweißkraft

■ For EXC1 and EXC2, Schweißkraft can provide welding instructions for the materials S235 to S355 as per EN ISO 15612.

■ For EXC1 and EXC2, Schweißkraft can provide templates for creating your own welding instructions as per EN ISO 15610 for the materials S235 to S275.



Schweißkraft special offers – Save time and money now with a package deal!

The Schweißkraft WPQR/WPS package for EXC1 und EXC2 – for the PRO-ARC SPEED, PRO-PULS SPEED and PRO-MIG model ranges, all in one book.

Welding procedure specifications (WPS) are required for all execution classes. REHM WPQR/WPS packages contain WPQR-certified welding instructions for standard welding procedures.

The welding instructions cover most steel welding applications for the materials S235 to S355 used to manufacture construction products in the construction industry.

Qualification methods DIN EN ISO 15609	EXC 1	EXC 2	EXC 3	EXC 4
Welding procedure approval testing DIN EN ISO 15614	No	X	X	X
Advance work sample testing DIN EN ISO 15613	No	X	X	X
Standard welding procedure DIN EN ISO 15612	No	X up to S275	Ø	Ø
Expertise in welding technology Experience DIN EN ISO 15611	X up to S275	X up to S275	Ø	Ø
Use of approved filler metals DIN EN ISO 15610				

X Permissible Ø Not permissible

Your benefits:

- You can purchase the Schweißkraft book with **169 WPS** Schweißkraft welding procedure specifications and 12 procedure tests for a price of just 600.00 €.
- Your compliant Schweißkraft welding equipment has the WPQR badge
- And you can extend the Schweißkraft WPQR/WPS packages to include your own welding instructions – without any additional procedure testing

**Schweißkraft
WPQR package**
Art. no. WPQR-SK

Creating your own welding instructions for use of approved filler metals (DIN EN 15610)

Users can create their own welding instructions without needing to audit the procedure by using approved and qualified filler metals for the execution class EXC1, EXC2 for steel grades up to 275 (not permissible for high strength materials) with sheet thicknesses from 3 to 40 mm and an a dimension ≥ 3 mm.

The WPS templates provided by Schweißkraft facilitate the process of creating your own welding instructions.



**Qualität Made
in Germany**



MIG/MAG pulse shield gas welding equipment

MIG/MAG pulse shield gas welding equipment

The new PRO.PULS series – state-of-the art welding technology for exacting requirements

- ▶ Easy to use
- ▶ Clear-cut operation
- ▶ More productivity and lower production costs thanks to increasing the deposition performance
- ▶ Less torsion thanks to controllable heat input
- ▶ Far less rework thanks to low-spatter welding
- ▶ Find the optimum setting quickly
- ▶ Have the right welding process in place for any application
- ▶ WPQR-certified processes
- ▶ Versatile and flexible deployment for all popular materials

Process	
▶ Normal welding POWER.ARC (continuous)	
▶ Pulse welding POWER.PULS	
Base materials	
▶ Steel	
▶ stainless steel	
▶ Aluminium	

- ▶ TOP clear-cut operation
- ▶ TOP performance
- ▶ TOP price/performance ratio



▶ Proven Schweißkraft quality!

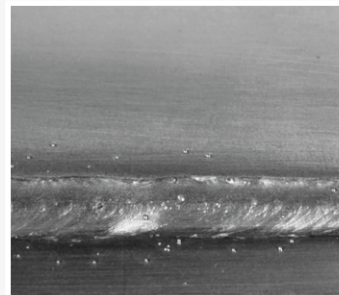


SAVES YOU TIME!

EARN MONEY WITH PULSING

Even talk of "rework" should make you think again. Completed work should stay that way without needing rework. The cost of working hours, grinding media and the considerable dust load in the workshop are all avoidable. The PRO.PULS welding process ensures a low-spatter approach, thus helping to substantially reduce rework.

Welding results as clean as only TIG otherwise achieves. Throughput can be almost doubled by removing the need for rework.



CONVENTIONAL ARC



SCHWEISSKRAFT PRO.PULS

1. Welding method

- ▶ Double pulse
- ▶ Pulse
- ▶ Conventional
- ▶ El. manual/joining

2. Operating mode

- ▶ 4-cycle with/without down-slope
- ▶ 2-cycle with/without down-slope
- ▶ Spot

3. Digital display

- ▶ Welding current
- ▶ Wire feed m/min
- ▶ Material thickness
- ▶ Welding voltage

4. Controller

- ▶ Welding power



5. Controller

- ▶ Arc length tuning

6. Selector switch

- ▶ Wire diameter
- ▶ II/UI controller

7. Selector switch

- ▶ Inert gas

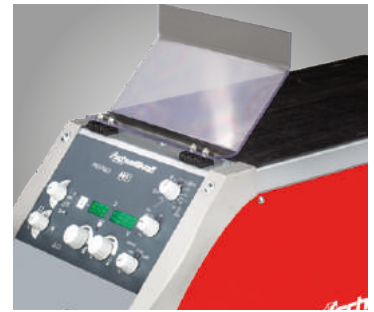
8. Selector switch

- ▶ Additional filler

Model	PRO.PULS 230	PRO.PULS 330 W	PRO.PULS 430 W
Art. no.	1085230	1085332	1085432
Technical specifications			
Wire Ø steel/special steel	0.8 - 1.2 A	0.8 - 1.2 A	0.8 - 1.2 A
Wire Ø aluminium	1.0 - 1.2 A	1.0 - 1.2 A	1.0 - 1.2 A
Wire roll Ø		38 mm	
Wire feeders		4 roll	
Wire feed		max. 24 m/min	
Setting range (MIG/MAG)	10-230 A	10-330 A	10-430 A
Electrode setting range	20-230	20-330	20-430
Setting range (MIG)	10-230	10-330	10-430
Duty cycle at I _{max} 40 °C		60 %	
Continuous operation 60% DC 40 °C	230 A	330 A	430 A
Continuous operation 100% DC 40 °C	180 A	260 A	340 A
Wire diameter steel/stainless steel		0.8 / 1.0 / 1.2 mm	
Wire diameter aluminium		1.0 / 1.2 mm	
Open circuit voltage, approx.		78 V	
Power supply 50Hz		3 x 400 V	
Permanent output at 100% DC	8.1 kVA	13.8 kVA	15.8 kVA
Slow-blow fuse	16 A	32 A	32 A
Degree of efficiency		0.92 cos phi	
Insulation class		H	
Cooling type		AF	
Degree of protection		IP 23	
Torch cooling	Air	Water	Water
Weight	125 kg	129 kg	129 kg
Dimensions (L x W x H)		1 030 x 800 x 1 270 mm	
Standards		EN 60 974-1;-3;-10 / S mark / EMC - class A	



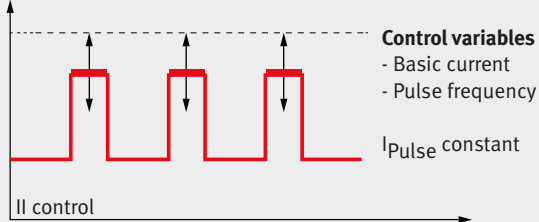
PRO.PULS 230



► Cover flap for control panel (standard equipment)

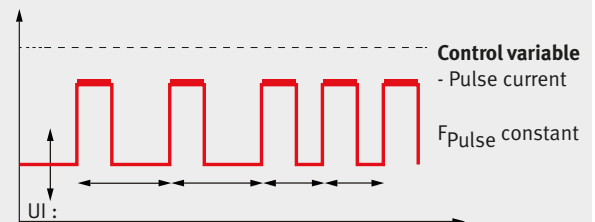
PRO.PULS II: THE SPECIALIST FOR Al AND CrNi

This directionally stable pulse arc is frequency controlled for both Al and CrNi: a universal arc with a wide range of applications. Thanks to variable droplet frequency control, it ensures great flow behaviour and assured edge zone wetting.



PRO.PULS UI: THE SPECIALIST FOR STEEL AND CrNi

This directionally stable pulse arc with its perfect, ultrasonic control and variable droplet volume is the universal arc for welding steel. It is the number one arc for steel welding with a high deposition rate



Torches for PRO.PULS (gas cooled)

Designation	Art. no.
MB 26 KD, 4.0 m length with pushbutton	1052604

Torch for PRO.PULS (liquid-cooled)

Designation	Art. no.
SMB 400, 4.0 m with pushbutton	1094004
MB 240 D, 3.0 m length, with pushbutton	1052403
MB 240 D, 4.0 m length, with pushbutton	1052404
MB 240 D, 5.0 m length, with pushbutton	1052405

Accessories

Designation	Art. no.
Pressure regulator Argon/CO ₂ large	1700050
Earth cable 35 mm ² / 4 m length, complete for 300-4	1250235
Earth cable 70 mm ² / 4 m length, complete	1250270

Wire feeder rolls

Designation	Art. no.
Feed roll solid wire 0.8/1.0 mm	1033605
Feed roll solid wire 0.9/1.2 mm	1033611
Feed roll solid wire 1.0/1.2 mm	1033606
Feed roll aluminium 1.0/1.2 mm	1033609

SYN-MIG 200i – Portable MIG/MAG inverter 230 V - small, light and handy - for workshops and especially for use on the construction site

- ▶ Portable, continuously variable control MIG/MAG inverter with 230 V mains voltage
- ▶ A great choice for welding flux core wire without shield gas - the polarity change required for this is easily achieved

State-of-the-art microprocessor-controlled inverter power sources with two operation modes:

1. MIG/MAG - manual:

- ▶ Conventional setting of the operating point via 2-button control
- ▶ Setting for voltage and wire speed required

2. MIG/MAG - Synergie:

- ▶ The system gives you the perfect setting for any operating point automatically and with continuously variable control based on characteristic curves
- ▶ There is no easier way: settings via the sheet thickness and single button control
- ▶ Incorrect settings are virtually ruled out: very easy and virtually self-explanatory user guidance via LCD display
- ▶ Control over heat input and the weld shape by changing the arc length
- ▶ Visualisation of weld shape or a dimension changes
- ▶ Benefits in Synergie mode: easy to leverage the versatile operating mode options: 2-cycle, 4-cycle, spot (and interval) welding

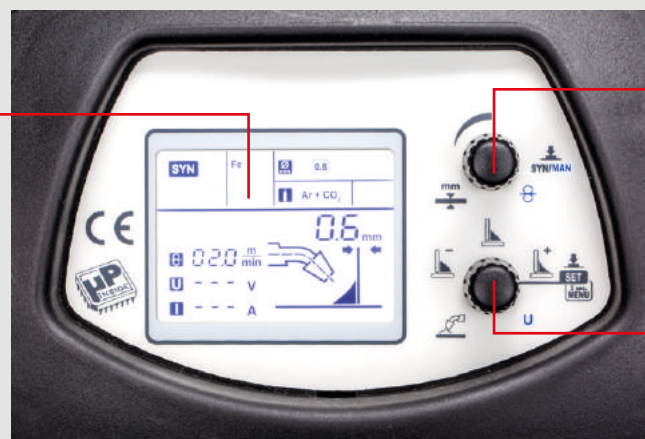
Process
▶ MAG
▶ MIG
Sheet thicknesses
▶ From 0.8 mm in steel and stainless steel (MAG)
▶ From 2 mm in aluminium (MIG)
Base materials
▶ Construction steels
▶ Non-alloy and low-alloy materials
▶ CrNi steels ferritic/austenitic
▶ Aluminium alloy
Typical applications
▶ Metalworking/mechanical engineering
▶ Agriculture/vehicle workshops
▶ Body repairs/maintenance



Synergie characteristic curves for:	
Steel	0.6 + 0.8 + 1.0 mm
stainless steel	0.8 + 1.0 mm
Aluminium (AlMg5 + AlSi)	0.8 + 1.0 mm
MIG soldering (CuSi 3 + CuAl8)	0.8 + 1.0 mm
Flux (flux core wires without shield gas)	0.8 + 0.9 mm

Control elements

LCD display



Welding performance adjustment (synergetic operation) or wire feed speed (manual operation). Pressing the button selects the operating mode, **SYNERGETIC** or **MANUAL**

Arc length adjustment (synergetic operation) or welding voltage (manual operation). Pressing the button calls up the various menus for setting up the welding system.

Multifunctional display with easy settings

Model	SYN-MIG 200i
Art. no.	1089200
Technical specifications	
Setting range MIG/MAG	20 - 200 A
2-roll wire feed	2 - 20 m/min
Mains voltage + 10%	230 V
Frequency	50/60 Hz
Fuse	16 A
Open circuit voltage	60 V
Power consumption MIG/MAG	7.1 kVA
MIG/MAG duty cycle at I _{max} 200 A and 40 °C	15 %
MIG/MAG welding current at DC=60% and 40 °C	100 A
MIG/MAG welding current at DC=100% and 40 °C	80 A
Required generator output	9 kVA
Degree of efficiency	0.86
Cos phi power factor	0.7
Degree of protection	IP 23 S
Operating temperature	max. 40 °C
Dimensions (L x W x H)	460 x 240 x 360 mm
Weight	13.3 kg
Standards: EN 60 974-1;-3;-10 / S mark / EMC - class A	



Scope of supply SYN-MIG 200i

- Torch MT 15, 3 m
- Earth cable 3 m
- Basket spool adapter
- Gas hose 2 m
- Pressure regulator small
- With content and operation
manometer

Torch

Designation	Art. no.
Torch SMB 15/3 m	1091503
Torch SMB 25/3 m	1092503

Accessories

Designation	Art. no.
Trolley (self-assembly kit)	1090015

Wear part set

Designation	Art. no.
Wear part set SMB 15 consisting of: 1 x gas tip holder, 3 x retaining spring, 3 x each contact tip 0.6/0.8 mm, 3 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	1091500
Wear part set SMB 25 consisting of: 3 x retaining spring, 2 x tip assembly, 5 x each contact tip 0.6/0.8 mm, 2 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	1092500

Filler wires (D 200)

Designation	Weight	Art. no.
Filler wire SG2 0.6 mm	5 kg	1110206
Filler wire SG2 0.8 mm	5 kg	1110208
Filler wire SG2 1.0 mm	5 kg	1110210
Filler wire 1.4316 0.8 mm	5 kg	1130238
Filler wire 1.4316 1.0 mm	5 kg	1130231
Filler wire AlMg4.5 mn 1.0 mm	2 kg	1124210
Filler wire CuSi 3 0.8 mm	5 kg	1131620
Filler wire CuSi 3 1.0 mm	5 kg	1131619
Filler wire CuAl8 0.8 mm	5 kg	1131630
Filler wire CuAl8 1.0 mm	5 kg	1131629
Filler wire MT-FD 0.9 mm 4.5kg/D200		1132000

Wire feeder rolls

Designation	Art. no.
Wire feed roll 0.6/0.8 mm V groove for steel and stainless steel	1019010
Wire feed roll 0.6/0.9 mm V groove for steel and stainless steel	1019011
Wire feed roll 1.0 mm U groove for aluminium	1019012
Wire feed roll 0.9/1.2 mm K groove for flux core wire	1019013



SMB 15/3 m

SMB 25/3 m



Wear part set



Filler wires



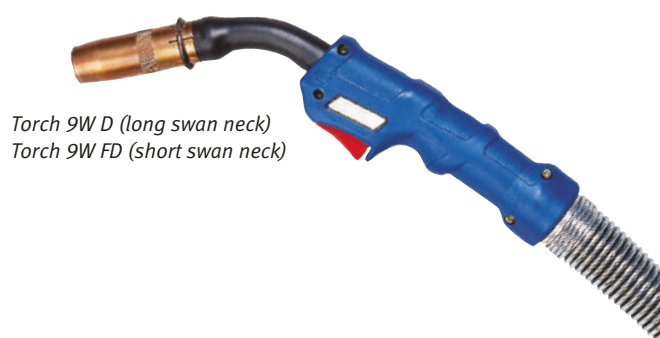
Wire feeder rolls

Accessories

Welding torches for PRO-PULS SPEED

Designation	Art. no.
Torch 9W D/3 m, long swan neck	1480903
Torch 9W D/4 m, long swan neck	1480904

Designation	Art. no.
Torch 9W FD/3 m, short swan neck	1480913
Torch 9W FD/4 m, short swan neck	1480914



Torch 9W D (long swan neck)
Torch 9W FD (short swan neck)

Welding torch 9W RT

Using an additional pushbutton on the welding torch, you can select and set between one and four operating points **before and during welding**.

Designation	Art. no.
Torch 9W Rt* Rehmtronic/3 m	1480933
Torch 9W Rt* Rehmtronic/4 m	1480934
Torch 9W Rt* Rehmtronic/5 m	1480935

*short swan neck



9W RT

Welding torch 9W S

A **potentiometer** on the torch gives users the ability to adjust the arc output or arc length. The function can be selected at the wire feed case.

Designation	Art. no.
Torch 9W S*/3 m	1480923
Torch 9W S*/4 m	1480924
Torch 9W S*/5 m	1480925

*short swan neck



9W S

Welding torch 9W Alu

Torches with **special shield gas guidance and coverage** can be used for welding aluminium materials; these torches have proved their value in many production applications.

Designation	Art. no.
Torch 9W Alu*/3 m	1481903
Torch 9W Alu*/4 m	1481904
Torch 9W Alu*/5 m	1481905

*short swan neck



9W Alu

Pluggable intermediate hose pack	Art. no.
Liquid-cooled pluggable intermediate hose pack 1.4 m	1060204
Liquid-cooled pluggable intermediate hose pack 5.0 m	1060205
Liquid-cooled pluggable intermediate hose pack 10.0 m	1060210
Liquid-cooled pluggable intermediate hose pack 15.0 m	1060215



Intermediate hose pack

Wear part set

Designation	Art. no.
Wear part set 9W consisting of: 3 x HP gas distributor, 3 x tip assembly M8, 1 x cap nut, 10 x each contact tip 1.0/1.2 mm, 2 x gas tip conical 16 mm, large sorting box	1480941



Wear part set
Similar to fig.

WPQR package for PRO-PULS SPEED	Art. no.
Complies with DIN EN 1090 Thanks to the Schweißkraft WPQR/WPS package, manufacturers of load-bearing steel structures can now benefit from an inexpensive option for implementing welding procedure specifications (WPS) for the most common welding applications. For the companies involved, this removes the need for time-consuming and expensive work for creating their own specifications, while at the same time meeting an important requirement in terms of certification and compliance with CE marks.	WPQR-SK





Multifunctional inverter
Inverter TIG welding devices

KOMBI model range for MIG/MAG, TIG and electrode welding

Light and robust multifunctional inverters, ideal for use on the construction site

Hot-start function

- Ignition aid for igniting the arc on a stick electrode for electrode welding. An automatic, short-term increase in the welding current ensures immediate stable ignition of the arc

Arc force control

- The welding output in electrode welding is kept as constant as possible at the preset value. The arc is stable (even with difficult electrodes or positions). Benefits: the welding results are more uniform.

Anti-stick function

- If the electrode inadvertently sticks on the workpiece, the welding current is switched off. The electrode does not anneal and can be easily removed from the workpiece.

Pulse welding in TIG mode with pulse box

- Weld faults at the start and end of the weld, e.g., in pipe welding, are avoided by pulsing.

MIG welding without a cylinder (KOMBI 171 ED)

- The KOMBI 171 ED extends the field of application through the ability to use flux core

wires. This makes MIG welding possible, e.g., on construction sites without a gas cylinder, a major mobility benefit.

Lift-arc ignition

(KOMBI 171 ED, KOMBI 270, KOMBI 350)

- Scratch start ignition in TIG welding with minimal current. The preset welding current is not released until the arc has ignited. The benefit is easy ignition without the tungsten tip sticking on the workpiece, and thus a stable arc.

Configurable electronic choke

(KOMBI 171, KOMBI 270, KOMBI 350)

- For optimum adaptation of the arc, from hard to soft, to meet requirements

4-roll feed

(KOMBI 270, KOMBI 350)

- For precise wire feeding, also perfect for aluminium wires

Process

- MIG/MAG
- TIG DC with LIFT-ARC (KOMBI 171/270 /350)
- Electrode welding
- Flux core wire welding without gas (KOMBI 171 ED)

Sheet thicknesses

- TIG from approx. 0.5 mm
- MIG/MAG from approx. 1 mm
- Electrode from approx. 2 mm

Base materials

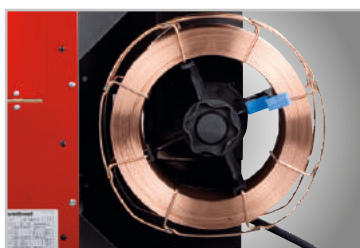
- Low alloy materials
- High alloy materials
- Construction steels
- Coated construction steels
- CrNi steels ferritic/austenitic
- Duplex steels
- Nickel-based materials
- Copper
- Aluminium
- Special materials

Typical applications

- Plant, container, machine, steel construction
- Maintenance/repairs
- Vehicle manufacturing/construction machinery
- Plant and pipeline construction
- Construction site and mobile use



Polarity inversion for the use of flux core wires with the KOMBI 171 ED



The open design of the KOMBI 171 ED means that 15 kg wire spools can be used.

The controls



The controls on the KOMBI 270 and KOMBI 350 are identical



Model		KOMBI 171 ED	KOMBI 270	KOMBI 350
Art. no.		1087057	1087055	1087056
Technical specifications				
Weldable electrode Ø	mm	4.0	1.6 - 6.0	
Setting range MIG/MAG	A	15 - 170	15 - 270	15 - 350
Power consumption MIG	VA	4.4	6.4	8.6
MIG AC duty cycle 40 °C	%	50 (170 A)	50 (250 A)	30 (320 A)
MIG AC welding current at DC 100%	A	125	180	230
TIG DC setting range	A	5 - 170	5 - 250 A	5 - 320
Power consumption TIG DC	kVA	3.3	5.6	7.8
TIG DC duty cycle	%	60 (170 A)	70 (250 A)	60 (320 A)
TIG DC welding current DC 100%	A	130	210	260
Electrode setting range	A	5 - 170	5 - 250	5 - 320
Electrode power consumption at 100%	kVA	4.6	8.0	9.8
Electrode electrode	%	50 (170 A)	60 (250 A)	40 (320 A)
Electrode welding current DC 100%	A	125	195	230
Mains voltage	V	230 ±10%	3 x 400 ±10%	
Open circuit voltage	V	75		
Maximum current consumption	A	27	16	24
Frequency	Hz	50/60		
Fuse	A	16		
Degree of protection		IP 23S		
Insulation class		F		
Operating temperature	C	-10 +40 °C		
Weight	kg	17.5	24.5	24.5
Dimensions (L x W x H)	mm	520 x 200 x 370	760 x 475 x 228	760 x 475 x 228
Standards		EN 60 974-1;-3;-10 / S mark / EMC - class A		



KOMBI 171 ED
With Lift arc ignition



KOMBI 270



KOMBI 350

Torches for the KOMBI model range

Designation	Art. no.
Torch MIG/MAG SMB 15/3 m with pushbutton	1091503
Torch MIG/MAG SMB 25/3 m with pushbutton	1092503
Torch MIG/MAG SMB 36/3 m with pushbutton	1093603
Brenner WIG WP 17 V/4 m mit Gasregler für KOMBI 171 ED	1461745
Torch TIG WP 26 V/4 m for KOMBI 270 and KOMBI 350	1462614

Welding workplace equipment

Consisting of: welding cable PVC 5 m with electrode holder and welding cable plug, earth cable PVC 3 m with ground clamp, and welding cable plug, chipping hammer, wire brush 2-row, manual protection shield polypropylene (CE) welding visor DIN 9, lens 90x110 mm, 5-finger gloves

SPA 16 mm²/KS 10-25 mm²/ Pratica 1/ground clamp 200 A	1240400
SPA 25 mm²/KS 35-50 mm²/ Pratica 1/ground clamp 200 A	1240445
SPA 35 mm²/KS 35-50 mm²/ Pratica 2/ground clamp 600 A	1240450

Basket spool adapter

Basket spool adapter KA 2, with quick release coupling	1110005
Basket spool adapter KA 3, two-part	1110006
Centring adapter for D 200 coils two-part	1110007

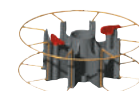
Accessories KOMBI

Manual remote control with 5 m control cable, accessories for multifunctional inverter SCHWEIßKRAFT KOMBI 171 ED, for remotely controlling the welding current in electrode and TIG welding	1090001
PULSE BOX with 5 m control cable	1090000
Supports, e.g., welding of thin sheets and out-of-position welding	
Remote control foot pedal , with 8 m control cable	1090002
With the remote control foot pedal, you can switch the arc on and off independently of the torch button. This also gives the welder the ability to adapt the arc to various requirements while welding.	
G-BOX - Adapter for operation with generator (for KOMBI 171 ED). The G-Box is an adapter for operations with generators. It sits between the generator and the welding equipment and protects the inverter against power peaks, max. 400 V, rated current 27 A 60%, max. output current 20 A	1090006
Trolley for all portable SK devices and gas cylinder up to max. 20 L	1090015
Pressure regulator Argon/CO ₂ , large	1700050
Gasless filler wire MT-FD 4.5kg, D200, 0.9 mm*	1132000
Gasless filler wire MT-CS 15 kg, K 300, 1, 2 mm*.	1132001

*For more details see MIG/MAG wire/filler wire in the Filler wire section



Welding workplace equipment



Basket spool adapter KA 2



Basket spool adapter KA 3



Centring adapter



Manual remote control



PULSE-BOX



G-Box



Remote control foot pedal



Drive trolley

Inverter TIG welding devices

New

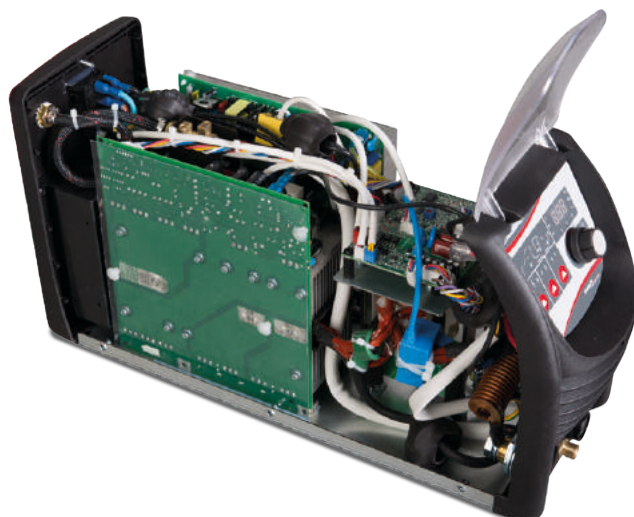
EASY-Tig 201 DC PULSE – portable TIG DC inverter for workshops and mobile use

EASY-TIG 201 AC/DC PULSE – portable TIG DC inverter for workshops and mobile use

- ▶ All devices implemented with state-of-the-art inverter technology
- ▶ Perfectly suited for mobile work (on ladders, on scaffolding, etc.) and also generally suitable for outdoor work thanks to IP 23 degree of protection
- ▶ TIG DC function = supports easy TIG welding
- ▶ Precise setting of the correct welding parameters via digital display
- ▶ Universally deployable for welding with all popular electrode types
- ▶ Suitable for use with generator, e.g., in company workshops, schools, metalworking, on building sites, or for agricultural applications
- ▶ TIG pulse supports welding with lower heat input
- ▶ **HF high-frequency ignition** ignites the arc in TIG welding without touching the workpiece
- ▶ The low-noise fans capably dissipate heat from the devices thus ensuring a high duty cycle



EASY-TIG 201 AC/DC PULSE



The control system:

① MMA/LIFT/HF TIG selection switch

② AC/DC selection switch

③ TIG 2T/4T mode selection switch



④ Parameter selection and setting button

⑤ TIG parameter setting

⑥ Mode Display / Data Display
- Hot start
- Welding current
- Arc power



Model	EASY-TIG 201 DC PULSE	EASY-TIG 201 AC/DC PULSE
Art. no.	1074020	1074021
Technical specifications		
Weldable electrode Ø	1.6~4.0 mm	1.6~4.0 mm
Sheet thicknesses	1.0~8.0 mm	1.0~8.0 mm
TIG DC setting range	5~200 A	10~200 A
Electrode setting range	5~200 A	10~170 A
Supply voltage 50/60 Hz	1 Ph / 230 V±10%	1 Ph / 230 V±10%
Duty cycle at I _{max} . 40 °C TIG DC	30 %	35 %
Duty cycle at I _{max} . 40 °C electrode	30 %	40 %
Current at 100 % duty cycle 40 °C TIG DC	120 A	120 A
Current at 100 % DC 40 °C electrode	120 A	110 A
Pulse frequency	0.5~200 Hz	0.5~200 Hz
Power draw	4.9/6.2 kVA	7.0/9.5 kVA
Dimensions (L x W x H)	430 x 150 x 280 mm	460 x 150 x 280 mm
Net weight	7.8 kg	7 kg

EN 60974-1:2006-07/EN 60974-10:2008-10; all devices degree of protection IP23



Mapping table for material type and material thickness

Material	Large ceramic gas tip	Material thickness mm	Tungsten electrode Ø mm	Welding current, Ampere
Steel/ Stainless steel	4	1.0	1.0	10-60
	5	1.5	1.0-1.6	40-80
	5	2.0	1.6	70-120
	6	3.0	1.6-2.4	90-150
	7	4.0-6.0	2.4-3.2	140-180
Aluminium (only with AC/DC)	4	1.0	1.0	10-60
	5	1.5	1.6	40-80
	5	2.0	1.6	70-120
	6	3.0	2.4	90-150
	7	4.0	3.2	140-180
Copper/ Copper alloys	7	5.0	3.2	170-180
	4	1.0	1.0	60-80
	5	1.5	1.6	100-150
	6	3.0	2.4	150-180

Scope of supply EASY-TIG 201DC PULSE

- Gas hose 4 m incl. quick connector
- Torch TIG 26 4m
- 3 m earth cable 16 mm² with ground clamp
- 3 m welding cable 16 mm² with electrode holder

Scope of supply EASY-TIG 201 AC/DC PULSE

- Gas hose 4 m incl. quick connector
- Torch TIG 26 4m
- 3 m earth cable 16 mm² with ground clamp

Set articles

Designation	Art. no.
EASY-TIG 201 DC PULSE SET	1074020SET
Consisting of: Gas hose 4 m incl. quick connector, torch TIG 26 4 m, VarioProtect XXL W welding helmet, 3 m ground cable 16 mm² with ground clamp, 3 m welding cable 16 mm² with electrode holder	
EASY-TIG 201 AC/DC PULSE SET	1074021SET
Consisting of: Gas hose 4 m incl. quick connector, torch TIG 26 4 m, VarioProtect XXL W welding helmet, 3 m ground cable 16 mm² with ground clamp	

Torch for TIG DC and AC/DC

Designation	Art. no.
TIG 26 with 4 m	On request

Accessories for EASY-TIG 201 DC PULSE

Designation	Art. no.
① Wireless manual remote control	1174004
② Up/down torch	On request
③ Remote control torch	On request
④ Foot pedal, 5 m	1174009

Accessories for EASY-TIG 201 AC/DC PULSE

Designation	Art. no.
② Up/down torch	On request
③ Remote control torch	On request
④ Foot pedal, 5 m	1174009



Inverter TIG welding devices New

CRAFT-TIG 201 DC P PULSE – portable TIG DC inverter for workshops and mobile use

CRAFT-TIG 201 AC/DC P PULSE – portable TIG AC/DC inverter for workshops and mobile use

- ▶ All devices implemented with state-of-the-art inverter technology
- ▶ Perfectly suited for mobile work (on ladders, on scaffolding, etc.) and also generally suitable for outdoor work thanks to IP 23 degree of protection
- ▶ Universally deployable for welding with all popular electrode types
- ▶ TIG pulse supports welding with lower heat input
- ▶ **HF high-frequency ignition** ignites the arc in TIG welding without touching the workpiece
- ▶ The low-noise fans capably dissipate heat from the devices thus ensuring a high duty cycle
- ▶ **Sealed PC ensures** protection against moisture, salt spray mist and corrosion Thus also suitable for offshore use
- ▶ Precise setting of the correct welding parameters via digital display with job memory
- ▶ Device equipped with **PFC** (power factor correction) for best possible use also when connected to cable drums

Always the right wave for your task:

- ① **Alternating current triangle wave welding output**
 - ▶ Lower heat input with the same current setting. Particularly useful for welding thin metals
- ② **Alternating current sinus wave welding output**
 - ▶ Traditional AC TIG welding wave form. Quieter "soft" arc characteristic
- ③ **Alternating current square wave**
 - ▶ Focused arc for maximum penetration fast move speed and best possible directional control



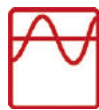
Generator Friendly



Multivoltage Einsatz weltweit

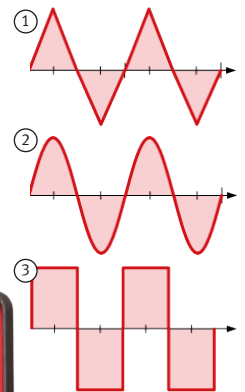


PROTEC 440V
440V Tested in production 220V



Power Factor Correction

With pulse function



CRAFT-TIG 201 DC P PULSE

CRAFT-TIG 201 AC/DC P PULSE

The control system:

- ① Parameter selection and setting button
- ② Digital display multifunction display
- ③ Selection switch TIG HF, Lift Arc and MMA
- ④ Selection switch AC / DC



- ⑤ Selection switch gas or water-cooled
- ⑥ TIG 2T/4T mode selection switch
- ⑦ MMA Display
- ⑧ TIG parameter setting



Model	CRAFT-TIG 201 DC P PULSE	CRAFT-TIG 201 AC/DC P PULSE
Art. no.	1074201	1074202
Technical specifications		
Weldable electrode Ø	1.6~4.0 mm	1.6~4.0 mm
Sheet thicknesses	1.0~8.0 mm	1.0~8.0 mm
TIG DC setting range	5~200 A	5~200 A
Electrode setting range	5~200 A	5~200 A
Supply voltage	1 Ph / 230 V±10%	1 Ph / 90~275 V
Duty cycle at I _{max} , 40 °C TIG DC	50 %	60%
Duty cycle at I _{max} , 40 °C electrode	30 %	35%
Current at 100 % duty cycle 40 °C TIG DC	145 A	155 A
Current at 100 % DC 40 °C electrode	135 A	110 A
Pulse frequency	0.5~200 Hz	0.5~200 Hz
Power draw	10.0/8.0 kVA	7.0/4.8 kVA
Dimensions (L x W x H)	430 x 150 x 280 mm	580 x 190 x 350 mm
Net weight	9 kg	15 kg

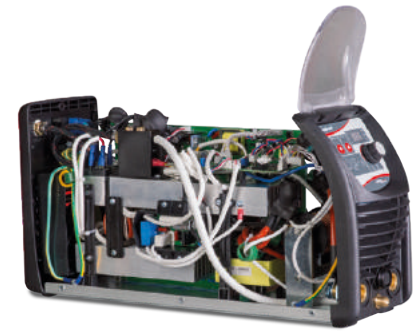
EN 60974-1:2006-07/EN 60974-10:2008-10; all devices degree of protection IP23

Scope of supply CRAFT-TIG 201 DC P PULSE

- Gas hose 4 m incl. quick connector
- Torch TIG 26 4m
- Pressure regulator
- 3 m earth cable 16 mm² with ground clamp
- 3 m welding cable 16 mm² with electrode holder

Scope of supply CRAFT-TIG 201 AC/DC P PULSE

- Gas hose 4 m incl. quick connector
- Torch TIG 26 4m
- Pressure regulator
- 3 m earth cable 16 mm² with ground clamp



CRAFT-TIG 201 DC P PULSE



CRAFT-TIG 201 AC/DC P PULSE

Set articles

Designation	Art. no.
CRAFT-TIG 201 DC P PULSE SET	1074201SET
Consisting of: Gas hose 4 m incl. quick connector, torch TIG 26 4 m, pressure regulator, VarioProtect XXL W welding helmet, 3 m ground cable 16 mm² with electrode holder	
CRAFT-TIG 201 AC/DC P PULSE SET	1074202SET
Consisting of: Gas hose 4 m incl. quick connector, torch TIG 26 4 m, pressure regulator VarioProtect XXL W welding helmet, 3 m ground cable 16 mm² with ground clamp	

Torch for TIG DC and AC/DC

Designation	Art. no.
TIG 26 with 4 m	1101126
Water-cooled torches	On request
⑤ Up/down torch	On request
⑥ Remote control torch	On request

Accessories for CRAFT-TIG 201 AC/DC P Pulse

Designation	Art. no.
① Carriage	1174001
② Water cooler 230 V 4 l	1174002
③ Wireless foot pedal remote control	1174007
④ Wireless manual remote control	1174003
⑦ Foot pedal, 5 m	1174009

Accessories for CRAFT-TIG 201 DC P Pulse

Designation	Art. no.
④ Wireless manual remote control	1174004
⑤ Up/down torch	On request
⑥ Remote control torch	On request
⑦ Foot pedal, 5 m	1174009



Carriage with water cooler 230 V 4 l



FINANCING *THROUGH* LEASING

Leasing offers companies a number of advantages over purchase or credit financing. The most important aspects are:

Tax benefits

Leasing instalments are fully tax deductible as operating expenses if the leased object is assigned to the lessor for tax purposes.

Balance sheet neutral

Leasing objects do not appear in the lessee's balance sheet. Only the leasing instalments are recorded as operating expenses in the profit and loss account. The equity ratio and the debt ratio do not change. The lessor capitalises the leased asset as fixed assets or leased assets. (Off-balance-sheet financing)

Calculation basis

The leasing rate is not influenced by changes in interest rates or ratings, even in the long term, and thus serves as a reliable basis for calculation.

Liquidity

Since the leasing company is responsible for financing the object, the lessee has more financial leeway for future decisions. Additionally, dependency on banks is reduced.

"Pay as you earn" considerations

As the leasing instalments are due parallel to the use of the object, the leasing object more or less finances itself (effect/cost congruity). Financing costs are spread over the duration of use and thus also over the period in which income is generated from the object. Advance financing is thus avoided.

Planning reliability

The amount of the leasing instalments and contract term are fixed from the start.

Individual contract design

The individual contract design with regard to term, amortisation and payment flow, and method of payment makes it possible to adapt to different needs.



Please ask us for your personal quotation!

Talk to your retailer or request information by email **free of charge and without obligation** at leasing@stma.de.





**Qualität Made
in Germany**



Professional inverter TIG welding systems

HIGH-TIG / HIGH-TIG PLUS – Ultra-compact high performance TIG inverter with state-of-art design and revolutionary control solution. TIG welding has never been so simple or safe!

- ▶ High-performance primary inverter technology
- ▶ State-of-the-art engineering guarantees perfect tacking and welding
- ▶ Totally easy to control thanks to unique, graphical, dynamic, high-res display
- ▶ Built for the daily grind: device survives drops from a height of up to 90 cm
- ▶ Dust-protected electronics: cooling air ducting in special channel for optimal cooling and protection of the electronics against soiling
- ▶ The lightest TIG welding system in its performance class with a weight of just 7.1 to 7.9 kg
- ▶ Huge feature scope included as standard
- ▶ Up to 230 Ampere from 230 Volt

All 230 A systems ...

- ▶ prepare for quick connection of a liquid-cooling system
- ▶ work with PFC, thus enabling use on any type of power generator and global deployment thanks to multiple voltage
- ▶ work safely with mains voltages of 100 to 250 V

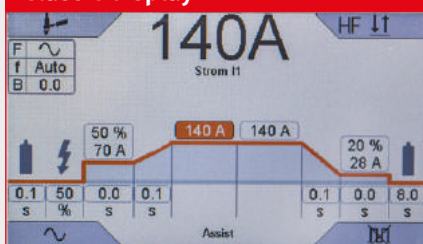
PLUS models with additional highlights:

- ▶ Hyper pulse at 17,500 Hz
- ▶ DUAL.WAVE technology
- ▶ Spot function as of 0.01 seconds
- ▶ Configurable ignition power
- ▶ Final current adjustable
- ▶ Start-up current adjustable
- ▶ AC frequency adjustable
- ▶ Triangular or square wave form selectable
- ▶ Welding voltage display
- ▶ Up to 99 program memory slots

The lightweight model
among TIG systems!

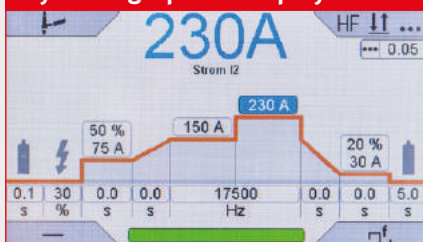
Revolutionary simple and safe operating solution!

Classic display



- ▶ Self-explanatory graphics show all settings at a glance. Relationships become transparent and understandable

Dynamic graphical display



- ▶ Welding parameter changes are displayed graphically
- ▶ Incorrect settings are immediately detected. The display only shows settings that are actually active

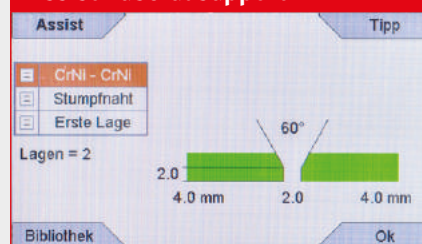
Fast and easy storing of four current welding tasks



Fast and easy navigation in the respective application field.

Four multifunctional selection switches

Assist - useful support



- ▶ Many years of experience in TIG welding are stored here. They can serve as useful practical tips for the welder, or be immediately applied as settings. This improves work safety and quality

Welding tips for everyone

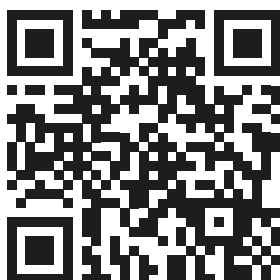
Assist	Wert	Tip
Spaltbreite	2.0 mm	
Lagenanzahl	2	
Gasart	Argon	
Gasdurchflussmenge	7.0 l/min	
Gasdüsengröße	10.0 mm	
Vorwärmtemperatur	---	
Zusatzwerkstoff Ø	2.0 mm	
Elektrodetyp	WCe 20	
Wolframelektroden Ø	2.4 mm	
Bibliothek		Zurück

- ▶ The HIGH-TIG supports the user with comprehensive facts relating to the welding task the user faces. This improves both safety and quality

Concentrated knowledge

Assist	Wert	Tip
WIG Elektroden		
Zusatzwerkstoff		
Gas		
Schweißposition		
Bibliothek		Zurück

- ▶ A library ensures that setting up is child's play. This guarantees a fast and easy selection for both simple and complex welding tasks. Setup via selection of the basic material, the weld form and material thickness.



Technical data HIGH-TIG	180 DC	180 AC/DC	180 DC PLUS	180 AC/DC PLUS	230 DC	230 AC/DC	230 DC PLUS	230 AC/DC PLUS
Art. no.	1084018	1084019	1084180	1084181	1084023	1084024	1084230	1084231
TIG setting range	4-180 A				4-230 A			
Duty cycle (DC) at I _{max.} (10 min.) at 40 °C TIG	40%				35%			
Power supply/mains frequency					1 x 230 V 50/60 Hz			
Fuse					16 A			
Torch cooling					Gas/liquid			
Degree of protection					IP 23 S			
Cos phi power factor	0.98				0.99			
Power consumption at I _{max.}	6.1k VA				5.8 kVA			
Insulation class					F			
Welding cable socket					13 mm			
Weight					7.1 kg			
Dimensions (L x W x H)					480 x 160 x 320 mm			
Standards					EN 60 974-1:-3:-10 / S mark / EMC - class A			

Similar to image. Subject to technical changes. Additional equipment on the devices shown is available for a surcharge. Standards:  mark/EN 60974-1;-10/EMC class A



► Safe thanks to floating electronics

Complete set in aluminium transport box

Consisting of: Aluminium transport box, HIGH-TIG 180/230, ABITIG 200 19 4m UD GRIP, ground cable 25 mm², pressure regulator Argon/CO₂

Designation	Art. no.
HIGH-TIG 180 DC Set	1084018SET
HIGH-TIG 180 AC/DC	1084019SET
HIGH-TIG PLUS 180 DC	1084018SET
HIGH-TIG PLUS 180 AC/DC	1084181SET
HIGH-TIG 230 DC	1084023SET
HIGH-TIG 230 AC/DC	1084024SET
HIGH-TIG PLUS 230 DC	1084230SET
HIGH-TIG PLUS 230 AC/DC	1084231SET

Accessories

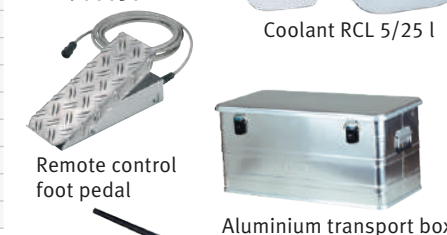
Designation	Art. no.
Wear part set ABITIG 200	1490102
Wear part set ABITIG 260W	1490103
Ground cable 25 mm ² 4m 13 mm with 400 A terminal	1250225
Electrode cable 25 mm ² 5 m 13 mm with 260 A bracket	1250361
Pressure regulator Argon/CO ₂	1700050
Gas hose 1.4 m	1499002
Coolant RCL 5 l	1030005
Coolant RCL 25 l	1030025
Remote control foot pedal HIGH-TIG 180/230	1499010
Torch Duo cable 19-pole	1499011
Adapter cable torch HIGH-TIG 170/210 to HIGH-TIG 180/230 liquid-cooled	1499012
Adapter cable torch HIGH-TIG 170/210 to HIGH-TIG 180/230 gas-cooled	1499013
Aluminium transport box for HIGH-TIG	1499900

TIG torch with 19-pin plug connector

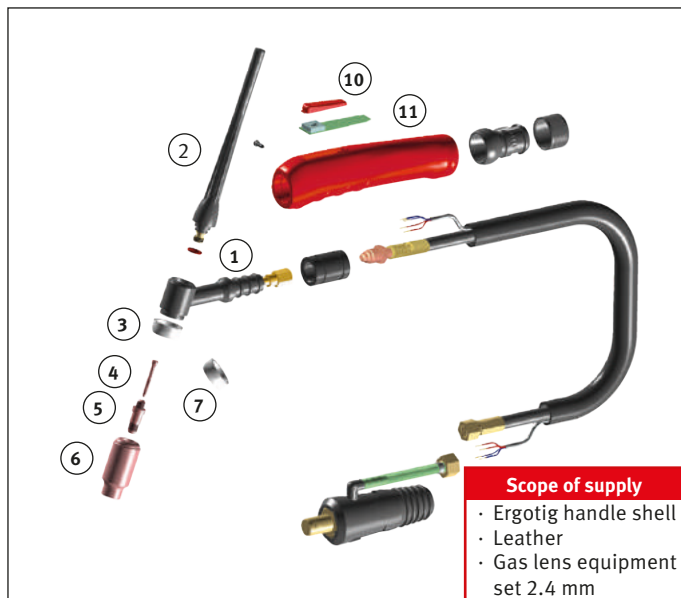
Gas-cooled up to max. 240A DC	Art. no.
ABITIG 200 19 4 m UD GRIP HighFlex leather	1490034
ABITIG 200 19 8 m UD GRIP HighFlex leather	1490038
Liquid-cooled up to max. 240A DC	
ABITIG 260W 19 4 m UD GRIP LITTLE HighFlex leather	1490054
ABITIG 260W 19 8 m UD GRIP LITTLE HighFlex leather	1490058

Optional equipment for HIGH-TIG 230 DC and AC/DC

Designation	Art. no.
Water cooling unit	1499905



SSR 17 DD with potentiometer and leather, gas-cooled (for HIGH-TIG 160 DC/HIGH-TIG 170 DC)

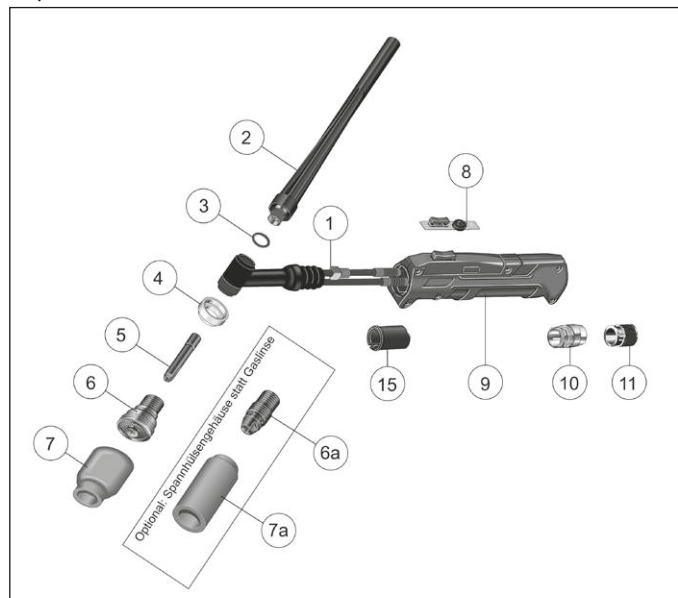


Designation	Art. no.
SSR 17 DD Potentiometer/4 m	1100174
SSR 17 DD Poti/8 m	1100178

No.	Designation	Art. no.
1	Torch body SSR 17	1100750 1
2	Short torch cap	1100101 2
	Long torch cap	1100100 2
3	Teflon seal for tip	1100105 10
4	Clamping sleeve 1.0 mm	1100110 10
	Clamping sleeve 1.6 mm	1100116 10
	Clamping sleeve 2.4 mm	1100124 10
	Clamping sleeve 3.2 mm	1100132 10
	Clamping sleeve 4.0 mm	1100140 10
5	Clamping sleeve housing 1.0 mm	1100210 10
	Clamping sleeve housing 1.6 mm	1100216 10
	Clamping sleeve housing 2.4 mm	1100224 10
	Clamping sleeve housing 3.2 mm	1100232 10
	Clamping sleeve housing 4.0 mm	1100240 10
6	Gas tip Ø 6.4 mm	1100304 10
	Gas tip Ø 8.0 mm	1100305 10
	Gas tip Ø 9.8 mm	1100306 10
	Gas tip Ø 11.2 mm	1100307 10
	Gas tip Ø 12.7 mm	1100308 10
	Gas tip Ø 15.7 mm	1100310 10
	Gas tip Ø 19.0 mm	1100312 10
7	Teflon seal for gas lens	1100107 10
8	Gas lens 1.0 mm	1103010 5
	Gas lens 1.6 mm	1103016 5
	Gas lens 2.4 mm	1103024 5
	Gas lens 3.2 mm	1103032 5
	Gas lens 4.0 mm	1103040 5
9	Gas tip for gas lens size 4; Ø 6.4 mm	1100314 10
	Gas tip for gas lens size 5; Ø 8.0 mm	1100315 10
	Gas tip for gas lens size 6; Ø 9.8 mm	1100316 10
	Gas tip for gas lens size 7; Ø 11.2 mm	1100317 10
	Gas tip for gas lens size 8; Ø 12.7 mm	1100318 10
10	Double pushbutton	1100102 1
	Potentiometer 10k	1100112 1
11	Handle shell halves potentiometer	1100113 1
	Wear part set SR 17	1101700 1

Specifications:	SSR 17 DD Potentiometer
Direct current DC:	140 A (35%)
Alternating current AC:	125 A (35%)
Electrode Ø:	0.5 - 2.4 mm
Gas flow:	5 - 12 l/min

R-SR 7-20 DD with continuously variable potentiometer, water-cooled (for HIGH-TIG in connection with RWK 1000)

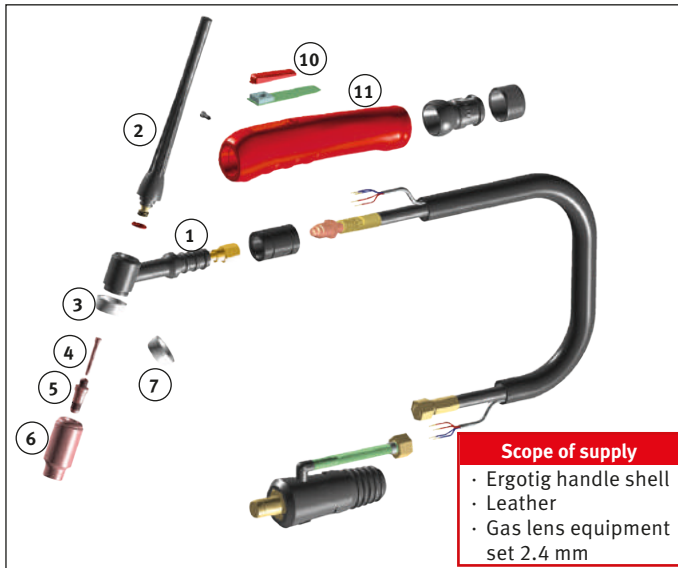


Designation	Art. no.
R-SR 7-20/4 m DD, potentiometer, liquid-cooled	1470204
R-SR 7-20/8 m DD, potentiometer, liquid-cooled	1470208

No.	Designation	Art. no.
1	Torch body R-SR 7-20	1472201 1
2	Long torch cap	1472202 2
3	O-ring	1472203 10
4	Teflon seal for gas lens	1472204 2
5	Clamping sleeve 0.5 mm	1472205 10
	Clamping sleeve 1.0 mm	1472210 10
	Clamping sleeve 1.6 mm	1472216 10
	Clamping sleeve 2.4 mm	1472224 10
	Clamping sleeve 3.2 mm	1472232 10
6	Gas lens 0.5 mm	1472305 5
	Gas lens 1.0 mm	1472310 5
	Gas lens 1.6 mm	1472316 5
	Gas lens 2.4 mm	1472324 5
	Gas lens 3.2 mm	1472332 5
6a	Clamping sleeve housing 0.5 mm	1472405 10
	Clamping sleeve housing 1.0 mm	1472410 10
	Clamping sleeve housing 1.6 mm	1472416 10
	Clamping sleeve housing 2.4 mm	1472424 10
	Clamping sleeve housing 3.2 mm	1472432 10
7a	Gas tip size 4; Ø 6.3 mm	1463054 10
	Gas tip size 5; Ø 8.0 mm	1463055 10
	Gas tip size 6; Ø 9.5 mm	1463056 10
	Gas tip size 7; Ø 11.0 mm	1463057 10
	Gas tip size 8; Ø 12.8 mm	1463058 10
	Gas tip size 10; Ø 16.0 mm	1463059 10
7	Gas tip for gas lens size 4; Ø 6.3 mm	1463064 10
	Gas tip for gas lens size 5; Ø 8.0 mm	1463065 10
	Gas tip for gas lens size 6; Ø 9.5 mm	1463066 10
	Gas tip for gas lens size 7; Ø 11.0 mm	1463067 10
	Gas tip for gas lens size 8; Ø 12.8 mm	1463068 10
8	Printed circuit board cpl. with potentiometer	1472852 1
9	Handle shell cpl. with potentiometer 10k Ohm	1472752 1
10	Hose holder for rubber hose	1473611 1
11	Clamping part for rubber hose (potentiometer)	1473612 1

Specifications:	R-SR 7-20
at 100 % duty cycle AC:	220 A
at 100 % duty cycle DC	220 A
Electrode Ø:	0.5 - 3.2 mm
Gas flow:	5 - 12 l/min

SSR 7-17 DD with potentiometer and leather, gas-cooled (for HIGH-TIG 160/170 DC Digital and HIGH-TIG 160/170 AC/DC Digital)



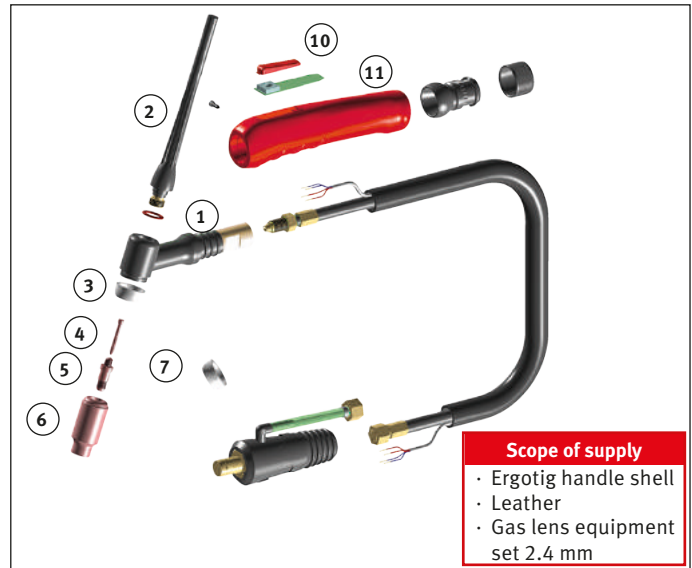
Designation	Art. no.
SSR 7-17 DD Potentiometer/4 m	1101740
SSR 7-17 DD Poti/8 m	1101780

No.	Designation	Art. no.
1	Torch body SSR 17	1100750 1
2	Short torch cap	1100101 2
	Long torch cap	1100100 2
3	Teflon seal for tip	1100105 10
4	Clamping sleeve 1.0 mm	1100110 10
	Clamping sleeve 1.6 mm	1100116 10
	Clamping sleeve 2.4 mm	1100124 10
	Clamping sleeve 3.2 mm	1100132 10
	Clamping sleeve 4.0 mm	1100140 10
5	Clamping sleeve housing 1.0 mm	1100210 10
	Clamping sleeve housing 1.6 mm	1100216 10
	Clamping sleeve housing 2.4 mm	1100224 10
	Clamping sleeve housing 3.2 mm	1100232 10
	Clamping sleeve housing 4.0 mm	1100240 10
6	Gas tip Ø 6.4 mm	1100304 10
	Gas tip Ø 8.0 mm	1100305 10
	Gas tip Ø 9.8 mm	1100306 10
	Gas tip Ø 11.2 mm	1100307 10
	Gas tip Ø 12.7 mm	1100308 10
	Gas tip Ø 15.7 mm	1100310 10
	Gas tip Ø 19.0 mm	1100312 10
7	Teflon seal for gas lens	1100107 10
8	Gas lens 1.0 mm	1103010 5
	Gas lens 1.6 mm	1103016 5
	Gas lens 2.4 mm	1103024 5
	Gas lens 3.2 mm	1103032 5
	Gas lens 4.0 mm	1103040 5
9	Gas tip for gas lens size 4; Ø 6.4 mm	1100314 10
	Gas tip for gas lens size 5; Ø 8.0 mm	1100315 10
	Gas tip for gas lens size 6; Ø 9.8 mm	1100316 10
	Gas tip for gas lens size 7; Ø 11.2 mm	1100317 10
	Gas tip for gas lens size 8; Ø 12.7 mm	1100318 10
10	Double pushbutton	1100102 1
	Potentiometer 10k	1100112 1
11	Handle shell halves potentiometer	1100113 1
	Wear part set SSR 7-17	1101700 1

Specifications:	SSR 7-17 DD Potentiometer
Direct current DC:	140 A (35%)
Alternating current AC:	125 A (35%)
Electrode Ø:	0.5 - 2.4 mm
Gas flow:	5 - 12 l/min

*PU = Quantity in pieces per packaging unit Purchase only possible in PU

SSR 7-26 DD with potentiometer and leather, gas-cooled (for HIGH-TIG 200/210 AC/DC Digital)



Designation	Art. no.
SSR 7-26 DD Potentiometer/4 m	1102640
SSR 7-26 DD Potentiometer/8 m	1102680

No.	Designation	Art. no.
1	Torch body SSR 26	1100650 1
2	Short torch cap	1100101 2
	Long torch cap	1100100 2
3	Teflon seal for tip	1100105 10
4	Clamping sleeve 1.0 mm	1100110 10
	Clamping sleeve 1.6 mm	1100116 10
	Clamping sleeve 2.4 mm	1100124 10
	Clamping sleeve 3.2 mm	1100132 10
	Clamping sleeve 4.0 mm	1100140 10
5	Clamping sleeve housing 1.0 mm	1100210 10
	Clamping sleeve housing 1.6 mm	1100216 10
	Clamping sleeve housing 2.4 mm	1100224 10
	Clamping sleeve housing 3.2 mm	1100232 10
	Clamping sleeve housing 4.0 mm	1100240 10
6	Gas tip Ø 6.4 mm	1100304 10
	Gas tip Ø 8.0 mm	1100305 10
	Gas tip Ø 9.8 mm	1100306 10
	Gas tip Ø 11.2 mm	1100307 10
	Gas tip Ø 12.7 mm	1100308 10
	Gas tip Ø 15.7 mm	1100310 10
	Gas tip Ø 19.0 mm	1100312 10
7	Teflon seal for gas lens	1100107 10
8	Gas lens 1.0 mm	1103010 5
	Gas lens 1.6 mm	1103016 5
	Gas lens 2.4 mm	1103024 5
	Gas lens 3.2 mm	1103032 5
	Gas lens 4.0 mm	1103040 5
9	Gas tip for gas lens size 4; Ø 6.4 mm	1100314 10
	Gas tip for gas lens size 5; Ø 8.0 mm	1100315 10
	Gas tip for gas lens size 6; Ø 9.8 mm	1100316 10
	Gas tip for gas lens size 7; Ø 11.2 mm	1100317 10
	Gas tip for gas lens size 8; Ø 12.7 mm	1100318 10
10	Double pushbutton	1100102 1
	Potentiometer 10k	1100112 1
11	Handle shell halves potentiometer	1100113 1
	Wear part set SSR 7-26	1102600 1

Specifications:	SSR 7-26 DD Potentiometer
Direct current DC:	240 A (35%)
Alternating current AC:	200 A (35%)
Electrode Ø:	0.5 - 4.0 mm
Gas flow:	5 - 12 l/min

MIG/MAG

Multifunctional inverter

TIG inverters

Electrode inverters

Plasma cutting equipment

Electrochemical processing

Welding accessories

The HIGH-TIG AC/DC control concept: comprehensive functionality – fast and easy-to-use

Multifunctional head

The large and clear-cut control panel is self-explanatory. A multifunctional button arranged at the centre provides fast and reliable access to the important welding parameter areas for the user.

Program memory

The HIGH-TIG AC/DC lets you save up to 99 programs. This saves time while also speeding up your work and guaranteeing reproducible welding results at any time.

QUICK CHOICE buttons

The QUICK CHOICE buttons P1 and P2 give you

the ability to quickly and easily save two current settings for a welding task. You can access these welding programs simply by pressing one of the balance or by pressing the R-TIG Up/Down-button on the torch.



- 1 Digital display shows:**
 - ▶ Amperes (A)
 - ▶ Seconds (S)
 - ▶ Frequency (Hz)
 - ▶ Balance (%)
- 2 Multifunctional button for setting:**
 - ▶ Gas pre-flow time
 - ▶ Ignition energy I_z
 - ▶ Start-up current I_s
 - ▶ Current ramp time t_u
 - ▶ Welding current I₁
 - ▶ I₁ pulse time t₁
 - ▶ Welding current I₂
 - ▶ I₂ pulse time t₂
 - ▶ Current reduction time t_d
 - ▶ End crater current I_e
 - ▶ Gas post-flow time
 - ▶ AC frequency Hz
 - ▶ AC balance %
- 3 Welding method setting**
 - ▶ TIG
 - ▶ Electrode welding
- 4 Electrode welding setting**
 - ▶ Welding current
 - ▶ Arc force
 - ▶ Hot start
- 5 Load/Save programs**
 - ▶ Load
 - ▶ Save
- 6 QUICK CHOICE buttons**
 - ▶ P1
 - ▶ P2
- 7 Indicator lights**
 - ▶ Remote control active
 - ▶ Operation
 - ▶ Temperature
- 8 Setting 4-cycle/2-cycle**
 - ▶ 4-cycle
 - ▶ 2-cycle
- 9 Setting high frequency ignition (HF)**
 - ▶ HF On
 - ▶ HF Off
- 10 Pulse setting**
 - ▶ Pulse Off
 - ▶ Conventional pulse (0.1 - 5.0 sec)
 - ▶ High frequency pulse (10 - 3000 Hz)
- 11 Polarity setting**
 - ▶ Direct current minus (DC)
 - ▶ Alternating current AC:
 - ▶ Direct current plus (DC)
 - ▶ DUAL WAVE



Integrated 1500 W liquid cooling device with temperature monitoring, standby function, and plug and play for optimum communication between the cooling device and the HIGH-TIG AC/DC.



HIGH-TIG 280 AC/DC

Industrial design for up 50 l gas cylinders; chassis width extension, steering rollers and generously dimensioned fixed rollers. Features integrated liquid-cooling device.



HIGH-TIG 350 AC/DC

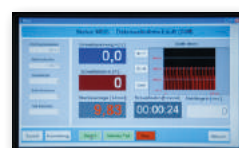
Industrial design for up 50 l gas cylinders; chassis width extension, steering rollers and generously dimensioned fixed rollers. Features integrated liquid-cooling device.

New

Weld data monitoring - for logging and documenting the welding parameters current, voltage and arc time

- ▶ Computation of energy input per unit of length and heat input
- ▶ Transfer of the welding parameters and energy input per unit of length evaluation to a PC by means of a USB stick; analysis of the data and parameter characteristics on the device's internal viewer
- ▶ Single user solution for parameter entry
- ▶ Option recording of cooling time $t_{8/5}$, pre-heating temperature and interpass temperatures

- ▶ Option recording of wire feed speed
- ▶ Option recording of gas flow volume
- ▶ Direct print-out of energy input per unit of length via optional printer



Experience the device's unrivaled ease of handling and performance! In combination with the unbeatable price-performance ratio, there is no documentation system on the market that supports your welding jobs in an equally practice proven, inexpensive and precise way! If you have questions or required further information, please contact us at info@stuermer-maschinen.de



HIGH-TIG AC/DC – next generation TIG welding system. 350 Amperes at 100% duty cycle – liquid-cooling integrated

The HIGH-TIG AC/DC combined premium welding equipment technology with best-in-class user-friendliness. The unique combination of the Dual-Power inverter with the precise, digital welding process control offers perfect welding properties. Includes integrated torch liquid cooling as a factory standard.

100% duty cycle for all devices

Maximum user-friendliness thanks to easy and safe handling

- Clear-cut self-explanatory handling: easy and fast operation of the HIGH-TIG is no problem, even when wearing gloves!

Perfectly stable arc

- Fast and precise welding process control: the arc is kept stable in any position. Innovative ignition management guarantees reliable ignition.

High frequency pulse up to 3000 Hz

- High-frequency pulse operation in a frequency range above 2000 Hz ensures a precise, focused arc with a high output density. This ensures reliable and uniform penetration while at the same time reducing the heat impact zone. The higher arc pressure naturally supports faster welding speeds. The virtually unavoidable gap fluctuations between the torch and the weld pool in manual welding thus have virtually no influence on the welding results.

Intelligent ignition management

- Thanks to advanced processor control, the optimum ignition energy setting is chosen as a function of the selected welding current for both HF and Lift-Arc ignition. This quickly and easily produces a stable arc - independently of the tungsten electrode you are using - and is gentle on both the workpiece and the electrode.

TIG AC welding

- The AC arc remains smooth and stable even with critical and highly oxidised material surfaces. The quiet and appealing arc noise, is well below the legally required limit.

Dual Wave Aluminium welding method

- This custom mode is a combination of AC and DC welding. While welding the processor control automatically switches between 0.2 seconds of DC and then 0.3 seconds of AC welding current. The selected values for welding current I1 or I2, the frequency and balance are taken into consideration, just like in DC- or AC-only welding. The Dual-Wave method means improved manageability of the weld pool and is used for welding difficult workpieces (out-of-position welding), when welding workpieces of different thicknesses and when processing thin sheet aluminium and aluminium alloys.

AC Balance control

- AC Balance control controls the heat in the tungsten electrode. The arc can be focused based on the heat input, e.g., in welding thin sheets or for welded-on edges. Reducing the heat input also reduces the wear on the electrode.

Automatic frequency control

- The frequency is automatically adapted to match the current level in AC welding. The AC arc is focused at low welding currents. This ensures reliable root coverage, e.g., for fillet welds on thin sheets. The wear on the tungsten electrode is reduced at higher currents. The results are a long service life, and best-in-class economic efficiency. Automatic frequency control offers benefits, especially if you work with a remote control foot pedal. Additionally, the AC frequency can be manually configured in the range of 30 - 300 Hz.

Generator capability

- More flexibility in mobile applications

ELSA.PRO system

- The proven ELSA (Electronic Stabilized Arc) technology was enhanced for PRO-TIG. This highly dynamic digital welding process, with its unique precision and precise reproducibility, ensures excellent welding properties even for melt pools with large surfaces.

Electrode welding

- The HIGH-TIG is also a full-fledged electrode welding device. In addition to the welding current, hot start and arc force are freely configurable. The electrode polarity is selectable on the device (no need to unplug and plug the welding and workpiece cables). Of course, the HIGH-TIG has the tried and trusted anti-stick function which prevents the stick electrode sticking and burning out.

Optimised energy efficiency

- The Dual-Power inverter has a uniquely effective mode of operation. Thanks to intelligent energy management, in combination with the use of innovative components, almost all of the supplied power is converted into an arc. As energy costs continue to rise, the HIGH-TIG also contributes to your economic success in terms of energy consumption.

Process
► TIG
► Electrode welding
► Remotely controllable/programmable
Sheet thicknesses
► from 0.3 mm
Base materials
► Non alloy and low alloy materials
► High alloy materials
► Stainless steels
► Construction steels
► CrNi steels ferritic/austenitic
► Duplex steels
► Aluminium
► Nickel-based materials
► Magnesium materials
► Copper materials
► Special materials
Typical applications
► Plant, container, machine, steel construction
► Chemical plant construction
► Automobile industry and automotive supplies
► Plant and pipeline construction
► Construction site and mobile use

**200 kHz Dual-power inverter
Up to 350 A at 100% duty cycle**

Plug&Play

- HIGH-TIG works with a smart CAN networked multiprocessor architecture. All components are automatically detected and configured by the HIGH-TIG. For the user this means: Plug & Play – just plug in and start!

Integrated torch liquid-cooling

- Torch cooling with a cooling performance of 1500 W it is also activated by plug and play. Percent of fugal pump is requirements-driven (Auto/On/Off). Once the torch's schooling is sufficient, the liquid cooling system switches to standby (torch temperature monitoring). This reduces energy consumption and noise emission. A flow monitor is also integrated.

► Control elements
see page 56



Model	HIGH-TIG 280 AC/DC	HIGH-TIG 350 AC/DC
Art. no.	1085255	1085350

Specifications:

Continuously variable setting range	3 - 280 A	3 - 350 A
Current at 100% DC 40 °C TIG	280 A	350 A
Current at 100% DC 40 °C electrode	260 A	350 A
Duty cycle at I max 40 °C TIG	100 %	100 %
Duty cycle at I max 40 °C electrode	60 %	100 %
Open circuit voltage	91 V	91 V
Power connector	3 x 400 V	3 x 400 V
Fuse	16 A	32 A
Degree of protection	IP 23	IP 23
Torch cooling	Water	Water
Premium set recommendation	R-TIG 260 W/50	R-TIG 450 W/70
Weight	78.5 kg	82 kg
Dimensions (L x W x H)	840 x 600 x 980 mm	840 x 600 x 980 mm

Schweißkraft equipment has the S mark and complies with standard EN 60 974-1; -10/EMC class A



Torch-Sets HIGH-TIG AC/DC

Designation	Art. no.
Torch set R-TIG 260 W/50 consisting of: R-TIG 12-260 W/8 m, earth cable 4 m, pressure regulator	1462651
Torch set R-TIG 450 W/70 consisting of: R-TIG 12-450 W/8 m, earth cable 4 m, pressure regulator	1464570



Torch HIGH-TIG AC/DC

Designation	Art. no.
R-TIG 12-260 W/4 m, Up/Down, Plug & Play	1465264
R-TIG 12-260 W/8 m, Up/Down, Plug & Play	1465268
R-TIG 12-260 W/12 m, Up/Down, Plug & Play	1465265
R-TIG 12-450 W/4 m, Up/Down, Plug & Play	1465454
R-TIG 12-450 W/8 m, Up/Down, Plug & Play	1465458
R-TIG 12-450 W/12 m, Up/Down, Plug & Play	1465455



Wear part set

Designation	Art. no.
Wear part set R-TIG 12-260 W consisting of: 1 x sorting box large, 1 x each clamping sleeve housing 1.6/3.6 mm, 2 x clamping sleeve housing 2.4 mm, je 1 x gas diffusor 1.6/2.4/3.2 mm, 1 x isolator, 1 x each gas nozzle 8.0/10.0/11.5 mm, 1 x short torch cap 1 x medium torch cap, 1 x long torch cap, 1 x each tungsten electrode grey 1.6/3.6 mm, 2 x tungsten electrode grey 2.4 mm	1461226
Wear part set R-TIG 12-450 W consisting of: 1 x sorting box large, 1 x each clamping sleeve housing 2.4/4.0 mm, 2 x clamping sleeve housing 3.2 mm, je 1 x gas diffusor 2.4/3.2/4.0 mm, 1 x isolator, 1 x each gas nozzle 10.0/15.0 mm, 2 x gas nozzle 13.0 mm, 1 x short torch cap, 1 x long torch cap, 1 x each tungsten electrode grey 2.4/4.0 mm, 2 x tungsten electrode grey 3.2 mm	1461245



Torch R-TIG with
UP/DOWN function

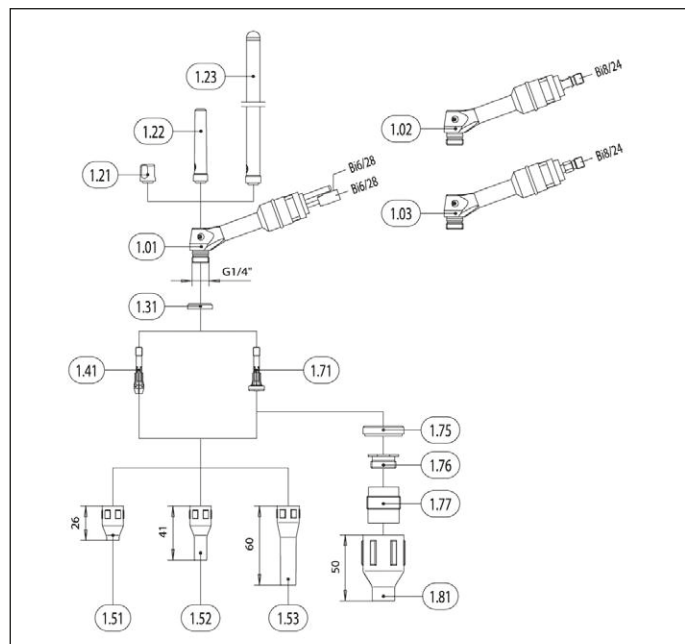
Accessories HIGH-TIG AC/DC

Designation	Art. no.
Earth cable 50 mm ² /4 m, complete with clamp	1250250
Earth cable 70 mm ² /4 m, complete with clamp	1250270
Earth cable 95 mm ² /4 m, complete with clamp	1250295
Pressure regulator with content and operation manometer, Argon/CO ₂	1700050
Remote control foot pedal, Plug & Play	1416001
Adapter cable 7 to 12 pin. Torch for HIGH-TIG AC/DC, air/water without potentiometer	1466001
Adapter cable 7 to 12 pin. Torch for HIGH-TIG AC/DC, air-cooled with potentiometer	1466002
Coolant BTC 50 5 litre can (pre-mixed)	1031005
Coolant BTC 50 20 litre can (pre-mixed)	1031020



Inverters TIG welding devices digital

ABITIG 200 liquid-cooled for HIGH-TIG 180/230

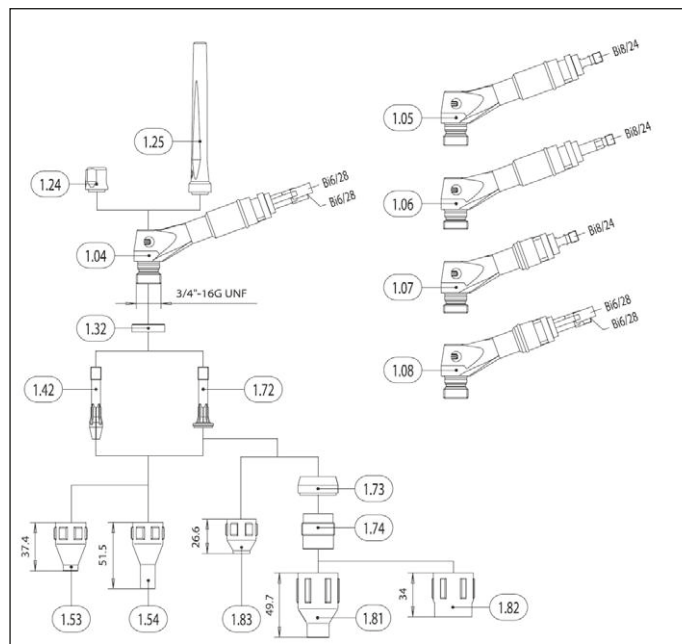


Designation	Art. no.
R-TIG 12-260 W/4 m, Up/Down, Plug & Play	1465264
R-TIG 12-260 W/8 m, Up/Down, Plug & Play	1465268
R-TIG 12-260 W/12 m, Up/Down, Plug & Play	1465265

No.	Designation	Art. no.	PQ
1.41	Electrode holder 1.6 mm	1466037	5
	Electrode holder 2.4 mm	1466039	5
	Electrode holder 3.2 mm	1466040	5
1.71	Gas diffuser 1.0 mm	1466049	5
	Gas diffuser 1.6 mm	1466050	5
	Gas diffuser 2.4 mm	1466052	5
	Gas diffuser 3.2 mm	1466053	5
1.31	Insulator	1466035	10
1.51	Gas tip 6.5 mm	1466041	10
	Gas tip 8 mm	1466042	10
	Gas tip 10 mm	1466043	10
	Gas tip 11.5 mm	1466044	10
1.21	Short torch cap	1466032	1
1.22	Medium torch cap	1466033	1
	Long torch cap	1466034	1
	Wear part set R-TIG 12-260 W	1461226	1

Specifications:	R-TIG 260 W	
Load:	280 A (DC)	260 A (DC)
	195 A (AC)	185 A (AC)
Duty cycle	60 %	100 %
Electrode Ø:	1.0 - 3.2 mm	

R-TIG 12-450 W for HIGH-TIG 350 AC/DC



Designation	Art. no.
R-TIG 12-450 W/4 m, Up/Down, Plug & Play	1465454
R-TIG 12-450 W/8 m, Up/Down, Plug & Play	1465458
R-TIG 12-450 W/12 m, Up/Down, Plug & Play	1465455

No.	Designation	Art. no.	PQ
1.42	Electrode holder 1.6 mm	1466009	5
	Electrode holder 2.4 mm	1466011	5
	Electrode holder 3.2 mm	1466012	5
	Electrode holder 4.0 mm	1466013	5
	Electrode holder 4.8 mm	1466014	5
1.72	Gas diffuser 1.6 mm	1466025	5
	Gas diffuser 2.4 mm	1466027	5
	Gas diffuser 3.2 mm	1466028	5
	Gas diffuser 4.0 mm	1466029	5
	Gas diffuser 4.8 mm	1466030	5
1.32	Insulator	1466008	10
1.53	Gas tip 7.5 mm	1466015	10
	Gas tip 10 mm	1466016	10
	Gas tip 13 mm	1466017	10
	Gas tip, reinforced 13 mm	1466018	10
	Gas tip 15 mm	1466019	10
	Gas tip, reinforced 15 mm	1466020	10
1.24	Short torch cap	1466006	1
1.25	Long torch cap	1466007	1
	Wear part set R-TIG 12-450 W	1461245	1

Specifications:	R-TIG 450 W	
Load:	420 A (DC)	400 A (DC)
	300 A (AC)	280 A (AC)
Duty cycle	60 %	100 %
Electrode Ø:	1.6 - 4.8 mm	

*PU = Quantity in pieces per packaging unit Purchase only possible in PU



Inverters electrode welding devices

PRO-STICK 161 – 230 V electrode inverter with ultra-compact and ultra-light design

- ▶ Automatic hot start
- ▶ Automatic arc force
- ▶ Integrated anti-stick function
- ▶ Intelligent ignition management
- ▶ Ultra-modern inverter unit
- ▶ Generator capability
- ▶ Fully protected
- ▶ Ultra-compact and light design

Process

- ▶ Electrode welding

Sheet thicknesses

- ▶ From 1.5 mm (electrode)

Base materials

- ▶ Non alloy and low alloy materials
- ▶ Construction steels
- ▶ Stainless steels
- ▶ CrNi steels ferritic/austenitic
- ▶ Duplex steels

Typical applications

- ▶ Plant, container, machine, steel construction
- ▶ Chemical plant construction
- ▶ Maintenance/repairs
- ▶ Plant and pipeline construction
- ▶ Construction site and mobile use



The controls

- ① Operation indicator (green)
- ② Control light Temperature (yellow)
- ③ Rotary switch for welding current pre-selection



Model	PRO-STICK 161
Art. no.	1082161
Technical specifications	
Electrode setting range	5 – 150 A
TIG setting range	5 – 150 A
Duty cycle at I _{max} 40 °C electrode	20 %
Current at 100% DC 40 °C electrode	100 A
Power consumption at I _{max} Electrode	4.2 kVA
Power supply 50/60Hz AC	230 V
Slow-blow fuse	16 A
Degree of efficiency	0.7 cos phi
Degree of protection	IP 23
Torch cooling	Air
Weight	2.3 kg
Dimensions (L x W x H)	280 x 125 x 140 mm
Standards	EN 60 974-1;-3;-10 / S mark / EMC - class A



Scope of supply
PRO-STICK 161

- Electrode holder
- Without earth cable

Set articles

Designation	Art. no.
PRO-STICK 161 SET	1082161SET
Consisting of: Electrode inverter, transport case, 5 m welding cable 16 mm² with electrode holder, 3 m ground cable 16 mm² with ground clamp 200 A, manual protection shield with welding visor, welders' gloves, chipping hammer, wire brush	



Accessories

Designation	Art. no.
Transport case	1240003
rugged design, padded, fixed compartments in interior, perfect for storing your inverter, incl. welding workplace equipment, TIG torch, etc., dimensions approx. 590 x 360 x 200 mm	
Pressure regulator Argon/CO ₂ small	1700054
Pressure regulator Argon/CO ₂ large	1700050
Welding workplace equipment SPA 16	1240400
5 m welding cable 16 mm² with electrode holder and plug KS 25, 3 m earth cable 16 mm² with plug KS25 and ground clamp 200 A, wire brush, chipping hammer, manual protection shield with welding visor and lens, welders' gloves	



Transport case

MIG/MAG

Multifunctional inverter

TIG inverters

Electrode inverters

Plasma cutting equipment

Electrochemical processing

Welding accessories

EASY-STICK 141 – Standard electrode inverter for 230 V applications

- ▶ All devices implemented with state-of-the-art inverter technology
- ▶ Perfectly suited for on-site work (on ladders, on scaffolding, etc.) and also generally suitable for outdoor work thanks to IP 23 degree of protection
- ▶ Suitable for use with generator, e.g., in company workshops, schools, metalworking, on building sites, or for agricultural applications
- ▶ **Hot Start:** Short-term automatic listing of the welding current reliably ignites the arc and is immediately stable
- ▶ **Anti-Stick:** if the electrode inadvertently sticks, the welding current is automatically reduced, thus preventing annealing of the electrode
- ▶ **Arc force control:** internal monitoring of the welding current and welding voltage reliably and safely resolves short-circuits. This stabilises the arc, and the electrode can be processed without any problems



EASY-STICK 141

The controls

- ① Operation control lamp
- ② Control light Temperature
- ③ Rotary switch for welding current pre-selection



Model	EASY-STICK 141
Art. no.	1073014

Specifications:

Weldable electrode Ø	1.6~3.2 mm
Electrode setting range	10~140 A
Current consumption	35 A
Mains plug	16 A
Required generator output	>8.0 kVA
Open circuit voltage	76 V
Electrode power consumption	4.9 kVA
Total power	8 kVA
Supply voltage	1 Ph / 160~275 V
Electrode duty cycle at I _{max}	15%
Electrode welding current at DC = 100%	55 A
Sheet thicknesses	1.0~4.0 mm
Degree of protection	IP 23
Insulation class	H
Operating temperature	10~40 °C
Weight	3.6 kg
Dimensions (L x W x H)	320 x 135 x 255 mm

Schweißkraft equipment has the **S mark** and complies with standard EN 60 974-1; -10/EMC class A



Scope of supply **EASY-STICK 141**

- 2 m welding cable 16 mm² with electrode holder
- 2 m earth cable 16 mm² with ground clamp 200 A



With sealed PCB

Accessories

	Art. no.
Welding workplace equipment 25 mm²; KS 50/Pratica 1/ground clamp 200 A Consisting of: welding cable PVC 5 m with electrode holder and welding cable plug, earth cable PVC 3 m with ground clamp, and welding cable plug, chipping hammer, wire brush 2-row, manual protection shield polypropylene (CE) welding visor DIN 9, lens 90 x 110 mm, 5-finger gloves	1240445



Welding workplace equipment

Welder's helmets

VarioProtect L-W, for electrode, MIG/MAG and TIG	1653995
Vario Protect XL, for electrode and MIG/MAG	1654001
Vario Protect XXL W, for electrode and MIG/MAG and TIG	1654010
VarioProtect 3XL-W, for electrode, MIG/MAG and TIG	1654020



CRAFT-STICK – Standard electrode inverter for 230 V applications with sealed PCB

- ▶ All devices implemented with state-of-the-art inverter technology
- ▶ Perfectly suited for on-site work (on ladders, on scaffolding, etc.) and also generally suitable for outdoor work thanks to IP 23 degree of protection
- ▶ Suitable for use with generator, e.g., in company workshops, at ports, chemical plants, schools, metalworking, on building sites, vessels, or for agricultural applications
- ▶ **Protected against moisture, salt spray mist, corrosion thanks to sealed PCB. Thus also suitable for offshore use**
- ▶ **Hot Start:** Short-term automatic listing of the welding current reliably ignites the arc and is immediately stable
- ▶ **Anti-Stick:** if the electrode inadvertently sticks, the welding current is automatically reduced, thus preventing annealing of the electrode
- ▶ **Arc force control:** internal monitoring of the welding current and welding voltage reliably and safely resolves short-circuits. This stabilises the arc, and the electrode can be processed without any problems
- ▶ Longer duty cycle than the EASY-STICK Series



CRAFT-STICK 161

The controls

- ① Operation control lamp
- ② Control light Temperature
- ③ Rotary switch for welding current pre-selection



Model	CRAFT-STICK 141	CRAFT-STICK 161
Art. no.	1073141	1073161

Specifications:

PCB	sealed	sealed
Weldable electrode Ø	1.6~3.2 mm	1.6~3.2 mm
Electrode setting range	10~140 A	10~160 A
Current consumption	34 A	38 A
Mains plug	16 A	16 A
Required generator output	>7.8 kVA	>8.7 kVA
Open circuit voltage	60 V	74 V
Electrode power consumption	4.5 kVA	5.2 kVA
Total power	7.8 kVA	8.7 kVA
Supply voltage	1 Ph / 160~275 V	1 Ph / 160~275 V
Electrode duty cycle at I _{max}	30 %	40 %
Electrode welding current at DC = 100%	80 A	90 A
Sheet thicknesses	1.0~6.0 mm	1.0~6.0 mm
Degree of protection	IP 23	IP 23
Insulation class	H	H
Operating temperature	10~40 °C	10~40 °C
Weight	4.6 kg	4.8 kg
Dimensions (L x W x H)	320 x 135 x 255 mm	320 x 135 x 255 mm

Schweißkraft equipment has the **S mark** and complies with standard EN 60974-1:2006-07/EN 60974-10:2008-10/EMV class A



Scope of supply

CRAFT-STICK 141/161

- 2 m welding cable 16 mm² with electrode holder
- 2 m earth cable 16 mm² with ground clamp 200 A



With sealed PCB

Accessories

	Art. no.
Welding workplace equipment 25 mm²; KS 50/Pratica 1/ground clamp 200 A	1240445
Consisting of: welding cable PVC 5 m with electrode holder and welding cable plug, earth cable PVC 3 m with ground clamp, and welding cable plug, chipping hammer, wire brush 2-row, manual protection shield polypropylene (CE) welding visor DIN 9, lens 90 x 110 mm, 5-finger gloves	



Welding workplace equipment

Welder's helmets

VarioProtect L-W, for electrode, MIG/MAG and TIG	1653995
Vario Protect XL, for electrode and MIG/MAG	1654001
Vario Protect XXL W, for electrode and MIG/MAG and TIG	1654010
VarioProtect 3XL-W, for electrode, MIG/MAG and TIG	1654020



MIG/MAG

Multifunctional inverter

TIG inverters

Electrode inverters

Plasma cutting equipment

Electrochemical processing

Welding accessories

Electrode inverters

EASY-STICK 251/410 – Electrode inverter 3-phase 400 Volt. Compact high-performance with up to 250 A or 400 A

- ▶ State-of-the-art and proven inverter technology
- ▶ Maximum power and duty cycle (DC)
- ▶ Deployable for stationary or mobile applications
- ▶ **Hot start function:** thanks to an automatic, short-term increase of the welding current, the arc lights immediately and is stable
- ▶ **Arc force control:** automatic welding output synchronisation with the preset value
- ▶ **Anti-stick function:** prevents the electrode sticking
- ▶ **Digital display:** easy setting of the welding parameters through function selection switch and setting control

Special features EASY-STICK 251:

- ▶ TIG Lift arc ignition: scratch ignition for TIG welding at minimum current without the TIG needle sticking
- ▶ TIG pulse function: perfectly suited for welding thin materials

Special features EASY-STICK 410:

- ▶ Adjustment options: Go to Hot-Start and Arc force
- ▶ Remote control: can be enabled/disabled

Process

- ▶ Electrode welding
- ▶ TIG DC (EASY-STICK 251 only)

Sheet thicknesses

- ▶ From 1.5 mm (electrode)
- ▶ from approx. 0.5 mm (TIG)

Base materials

- ▶ Non-alloy and low alloy materials
- ▶ High-alloy materials
- ▶ Stainless steels
- ▶ Construction steels
- ▶ CrNi steels ferritic/austenitic
- ▶ Duplex steels
- ▶ Nickel-based materials
- ▶ Magnesium materials
- ▶ Special materials

Typical applications

- ▶ Plant, container, machine, steel construction
- ▶ Assembly operations



EASY-STICK 251 showing scope of supply (without accessories)



EASY-STICK 410

The controls



EASY-STICK 410
Rear view

Model		EASY-STICK 251	EASY-STICK 410
Art. no.		1087025	1087046
Electrode			
Weldable electrodes Ø	mm	1.6 - 5.0	1.6 - 8.0
Adjusting range			
Electrode	A	20 - 250	30 – 400
TIG DC	A		
Duty cycle			
At max. current 40 °C electrode	%	25	60
At max. Strom 40 °C TIG DC	%	40	
Current at 100 % DC 40 °C electrode	A	125	310
Current at 100% duty cycle 40 °C TIG DC	A	140	
Electrical connection			
Slow-blow fuse	A	16	32
Mains voltage	V	3 x 400	
Mains voltage tolerance	%	-10 – +15	
Mains frequency	Hz	50/60	
Open circuit voltage	V	65	66
Power draw			
Electrode	kVA	6.2	13
TIG DC	kVA	4.8	
Standards and certifications			
Standard		EN 60 974-1; -10	
Degree of protection		IP 23	IP 21
Insulation class		F	H
Identifier		CE, S	
Operating temperature	C	-10 – +40	
Dimensions and weights			
Weight	kg	13.5	24.0
Length x width x height	mm	450 x 460 x 385	618 x 330 x 441

Accessories

Designation	Art. no.
Manual remote controls EASY-STICK	
The manual remote control lets you remotely controlled welding current for both electrodes welding and TIG welding.	
The standards control cable length is 5 m.	
Manual remote control with 5 m control cable for EASY-STICK 410	1090013
Remote control foot pedal, with 8 m control cable	
With the remote control foot pedal, you can switch the arc on and off independently of the torch button. This also gives the welder the ability to adapt the arc to various requirements while welding.	1090002

Designation	Art. no.
Welding workplace equipment	
Consisting of: welding cable PVC 5 m with electrode holder and welding cable plug, earth cable PVC 3 m with ground clamp, and welding cable plug, chipping hammer, wire brush 2-row, manual protection shield polypropylene (CE) welding visor DIN 9, lens 90x110 mm, 5-finger gloves	
SPA 25 mm² - KS 50, 35-50 mm²/Pratica 1/ground clamp 200 A	1240445
SPA 35 mm² - KS 50, 35-50 mm²/Pratica 2/ground clamp 400 A	1240450

Designation	Art. no.
TIG torches	
WP 17 V/4 m with gas regulator	1461745
WP 26 V/4 m with gas regulator	1462614

Designation	Art. no.
Wear part set	
Wear part set WP 17/26	1463103
consisting of: 1 x each torch cap short/long with o-ring, 2 x Teflon seal, 2 x each clamping sleeve 1.0/1.6/2.4 mm, 2 x each clamping sleeve housing 1.0/1.6/2.4 mm; 2 x each gas tip size 4/5/6, 2 x each tungsten electrode red 1.0/1.6/2.4 mm, large sorting box	

Designation	Art. no.
Trolley for device and gas cylinder to max. 20 L	1090015
<i>Suitable for all portable Schweißkraft devices. For self-assembly!</i>	

Designation	Art. no.
Pressure regulator Argon/CO ₂ large Schweißkraft	1700050



Manual remote control
EASY-STICK 410

Remote control foot pedal



Welding workplace equipment



WP 17 V



Wear part set



Drive trolley



Pressure regulator

Accessories

Cable reel

- ▶ Automatic cable rewinders for hobby, agriculture, trade and industry
- ▶ Keeps any workshop tidy
- ▶ Swivelling thanks to stable wall or ceiling mount

- ▶ The cable can be easily arrested or automatically rolled up, simply by pulling
- ▶ With thermal overload protection as standard
- ▶ Cable quality H05VV-F
- ▶ All models TÜV and GS approved
- ▶ **KAR PRO Series special features**

- aircraft**
Drucklufttechnik
- ▶ Housing made of impact-proof plastic material
 - ▶ Locking mechanism can be switched off
 - ▶ With strong return spring made of special steel
 - ▶ Very uniform and complete return of the electrical cable

Cable reel KAR

- ▶ 230 volt model with safety plug and socket
- ▶ All suspension devices are included in the delivery volume
- ▶ Rated load cable rolled: 1 100 W
- ▶ Rated load cable unrolled: 3 200 W



Model	KAR 3 x 1.5 10 metres	KAR 3 x 1.5 15 metres
Art. no.	2161211	2161213
Technical specifications		
Cable dimensions	3 x 1.5 mm ²	3 x 1.5 mm ²
Cable length	10 m	35 m
Weight	3.6 kg	7.0 kg

Cable reel KAR PRO

- ▶ 230 volt model with safety plug and socket
- ▶ Rated load cable rolled: 800 W
- ▶ Rated load cable unrolled: 2000 W



Model	KAR PRO 3 x 1.5 18 metres	KAR PRO 3 x 1.5 25 metres
Art. no.	2162318	2162325
Technical specifications		
Cable dimensions	3 x 1.5 mm ²	3 x 1.5 mm ²
Cable length	18 m	25 m
Length	360 mm	420 mm
Width	200 mm	200 mm
height	330 mm	390 mm
Weight	4.8 kg	8.3 kg

Cable reel KAR PRO

- ▶ 400 volt model with 5 x 16 A Euro standard plug and socket
- ▶ Rated load cable rolled: 1 000 W
- ▶ Rated load cable unrolled: 3,000 W



Model	KAR PRO 5 x 1.5 10 metres	KAR PRO 5 x 1.5 20 metres
Art. no.	2164010	2164020
Technical specifications		
Cable dimensions	5 x 1.5 mm ²	5 x 1.5 mm ²
Cable length	10 m	20 m
Length	360 mm	420 mm
Width	260 mm	260 mm
height	330 mm	390 mm
Weight	5.3 kg	9.8 kg

Tungsten electrodes

Tungsten electrodes - for use in Tungsten Inert Gas (TIG) welding, plasma fusion cutting and similar procedures



Tungsten electrodes "WC 20" grey (thorium-free)

- ▶ Environmental compatibility: the optimum emission-free alternative to thorium-containing electrodes
- ▶ Typical applications: TIG welding, plasma welding, plasma cutting, plasma spraying
- ▶ Current type: direct current/alternating current
- ▶ Recommended base materials: corrosion-, acid- and heat-resistant steels, nickel and nickel alloys, metals with a high melting point, e.g., molybdenum, tantalum, niobium and their alloys, copper, bronze, titanium and titanium alloys, silicon bronze

Size	Art. no.	PU*
1.0 x 175 mm	1420110	10
1.6 x 175 mm	1420116	10
2.4 x 175 mm	1420124	10
3.2 x 175 mm	1420132	10
4.0 x 175 mm	1420140	10



Tungsten electrodes "W" green (pure)

- ▶ Typical applications: TIG welding
- ▶ Current type: alternating current
- ▶ Recommended base materials: Aluminium and aluminium alloys, aluminium bronze, magnesium and magnesium alloys, nickel and nickel alloys

Size	Art. no.	PU*
1.0 x 175 mm	1420210	10
1.6 x 175 mm	1420216	10
2.4 x 175 mm	1420224	10
3.2 x 175 mm	1420232	10
4.0 x 175 mm	1420240	10

*PU = Quantity in pieces per packaging unit Purchase only possible in PU



Professional inverter electrode welding systems

CRAFT-STICK series – rugged 230 V electrode inverter

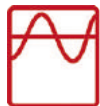
- ▶ All devices implemented with state-of-the-art inverter technology
- ▶ Perfectly suited for mobile work (on ladders, on scaffolding, etc.) and also generally suitable for outdoor work thanks to IP 23 degree of protection
- ▶ Suitable for use with generator, e.g., in company workshops, schools, metalworking, on building sites, or for agricultural applications
- ▶ **Protected against moisture, salt spray mist, corrosion thanks to sealed PCB. Thus also suitable for offshore use**
- ▶ Devices feature **PFC** (power factor correction), **VRD** (voltage reduction in idle mode)
- ▶ TIG DC function = supports easy TIG welding with contact ignition

- ▶ Precise setting of the correct welding parameters via digital display
- ▶ Universally deployable for welding with all popular electrode types
- ▶ The low-noise fans capably dissipate heat from the devices thus ensuring a high duty cycle
- ▶ Constant welding current ensures a consistent deposition rate
- ▶ This means that small and light electrode devices can be manufactured
- ▶ At least 30% ED for all devices
- ▶ **Protected against moisture, salt spray mist, corrosion thanks to sealed PCB, thus also suitable for offshore use**

- ▶ **All CRAFT-STICKs have the following features as factory standard:**
- ▶ **Hot Start:** Short-term automatic listing of the welding current reliably ignites the arc and is immediately stable
- ▶ **Anti-Stick** if the electrode inadvertently sticks, the welding current is automatically reduced, thus preventing annealing of the electrode
- ▶ **Arc force control:** internal monitoring of the welding current and welding voltage reliably and safely resolves short-circuits
- ▶ This stabilises the arc, and the electrode can be processed without any problems



Generator
Friendly



Power
Factor
Correction



440V Tested
in production
220V



The controls

- 1 Current indicator
- 2 Control light Operation (green)
- 3 Control light Temperature (yellow)
- 4 TIG
- 5 VRD = Voltage reduction in idle mode
- 6 TIG DC function
- 7 Rotary control for setting the welding current
- 8 Selection switch



Model	CRAFT-STICK 161P	CRAFT-STICK 201P
Art. no.	1073162	1073201

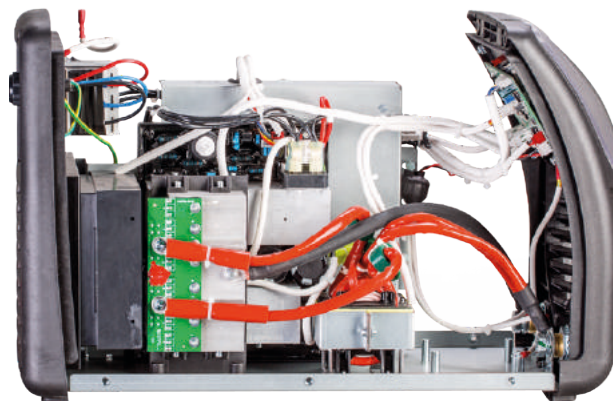
Specifications:

Weldable electrode Ø	1.6~4.0 mm	1.6~4.0 mm
Electrode setting range	10~160 mm	10~200 mm
TIG DC setting range	10~160 mm	10~200 mm
Supply voltage at 50/60 Hz	160~275 V	160~275 V
Frequency	50/60 Hz	50/60 Hz
Open circuit voltage	14.5 V	14.5 V
Required generator output	1.0~7.0 mm	1.0~8.0 mm
Slow-blow fuse	16 A	16 A
Duty cycle at max. current 40 °C TIG DC	30%	30%
Duty cycle at max current 40 °C electrode	30%	30%
Current at 100% duty cycle 40 °C TIG DC	90 A	110 A
Current at 100% DC 40 °C electrode	90 A	110 A
Power consumption TIG DC	3.5 kVA	4.8 kVA
Electrode power consumption	5 kVA	7 kVA
Power cable length	2.2 m	2.2 m
Degree of protection	IP23	IP23
Insulation class	H	H
Operating temperature	10~40 °C	10~40 °C
Weight	6.1 kg	6.1 kg
Dimensions (L x W x H)	365 x 150 x 280 mm	365 x 150 x 280 mm

Schweißkraft equipment has the **S mark** and complies with standard EN 60 974-1; -10/EMC class A



CRAFT-STICK 161P



Sealed PCB

Scope of supply
CRAFT-STICK 161P/201P

- 3 m welding cable 16 mm² with electrode holder
- 3 m earth cable 16 mm² with ground clamp 200 A

Accessories

	Art. no.
Welding workplace equipment 25 mm²; KS 50/Pratica 1/ground clamp 200 A consisting of: welding cable PVC 5 m with electrode holder and welding cable plug, earth cable PVC 3 m with ground clamp, and welding cable plug, chipping hammer, wire brush 2-row, manual protection shield polypropylene (CE) welding visor DIN 9, lens 90 x 110 mm, 5-finger gloves	1240445



Welding workplace equipment

Welder's helmets

VarioProtect L-W, for electrode, MIG/MAG and TIG	1653995
Vario Protect XL, for electrode and MIG/MAG	1654001
Vario Protect XXL W, for electrode and MIG/MAG and TIG	1654010
VarioProtect 3XL-W, for electrode, MIG/MAG and TIG	1654020


Argon/CO₂ pressure regulator with content and operation manometer

Schweißkraft small, Ø 50 mm	1700054
Schweißkraft large, Ø 63 mm	1700050



Pressure regulator (large)

Pressure regulator small

TIG torches and wear part sets for EASY-STICK model range

TIG torches	
TIG torch WP 17 V/4 m gas regulator	1461745
Wear part set WP 17 V	1463103
Consisting of: 1 x each torch cap long/short with o-ring, 2 x Teflon seal, je 2 x clamping sleeve 1.0/1.6/2.4 mm, 2 x each clamping sleeve 1.0/1.6/2.4 mm, 2 x each gas tip size 4/5/6, 2 x each tungsten electrode red 1.0/1.6/2.4 mm, large sorting box	

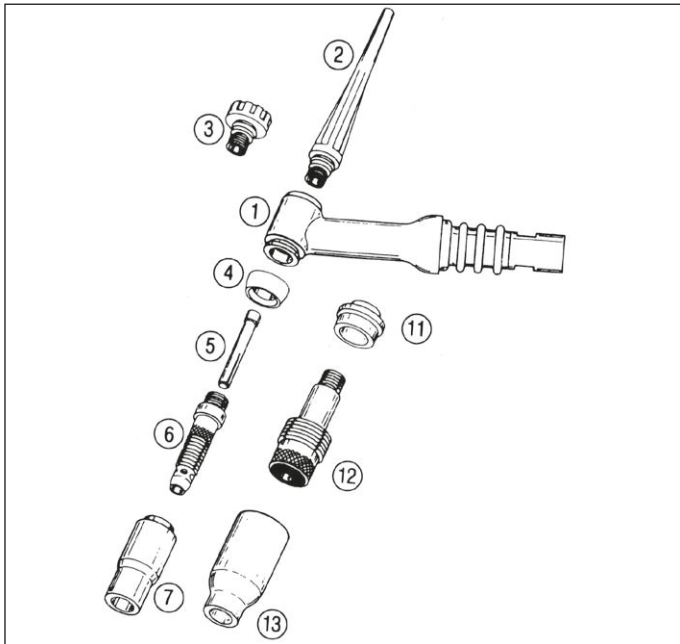


WP 17 V



Wear part set

WP 17 V gas-cooled – CRAFT-Sticks



Designation	Art. no.
WP 17 V/4 m DC with gas regulator	1461745

No.	Designation	Art. no.	PU*
1	Torch body WP 17	1462750	1
2	Torch cap long with o-ring	1462100	10
3	Torch cap short with o-ring	1462101	10
4	Teflon seal for tip	1462102	10
5	Clamping sleeve 1.0 mm/50 mm	1463111	10
	Clamping sleeve 1.6 mm/50 mm	1463117	10
	Clamping sleeve 2.4 mm/50 mm	1463125	10
	Clamping sleeve 3.2 mm/50 mm	1463133	10
6	Clamping sleeve housing 1.0 mm	1463210	10
	Clamping sleeve housing 1.6 mm	1463216	10
	Clamping sleeve housing 2.4 mm	1463224	10
	Clamping sleeve housing 3.2 mm	1463232	10
7	Gas tip size 4; Ø 6.3 mm	1463304	10
	Gas tip size 5; Ø 8.0 mm	1463305	10
	Gas tip size 6; Ø 9.5 mm	1463306	10
	Gas tip size 7; Ø 11.0 mm	1463307	10
	Gas tip size 8; Ø 12.8 mm	1463308	10
11	Teflon seal for gas lens	1462103	10
12	Gas lens 1.0 mm	1463510	10
	Gas lens 1.6 mm	1463516	10
	Gas lens 2.4 mm	1463524	10
13	Gas tip for gas lens		
	Size 4; Ø 6.3 mm	1463604	10
	Size 5; Ø 8.0 mm	1463605	10
	Size 6; Ø 9.5 mm	1463606	10
	Size 7; Ø 11.0 mm	1463607	10
	Size 8; Ø 12.8 mm	1463608	10
	Handle shell as above cpl. with nut	1462752	1
	Wear part set WP 17 V/KM	1463103	1

Specifications:	WP 17
Direct current duty cycle 60%:	150 A

*PU = Quantity in pieces per packaging unit Purchase only possible in PU

Tungsten electrodes

Tungsten electrodes - for use in Tungsten Inert Gas (TIG) welding, plasma fusion cutting and similar procedures

Tungsten electrodes "WC 20" grey (thorium-free)

- Environmental compatibility: the optimum emission-free alternative to thorium-containing electrodes
- Typical applications: TIG welding, plasma welding, plasma cutting, plasma spraying
- Current type: direct current/alternating current
- Recommended base materials: corrosion-, acid- and heat-resistant steels, nickel and nickel alloys, metals with a high melting point, e.g., molybdenum, tantalum, niobium and their alloys, copper, bronze, titanium and titanium alloys, silicon bronze

Size	Art. no.	PU*
1.0 x 175 mm	1420110	10
1.6 x 175 mm	1420116	10
2.4 x 175 mm	1420124	10
3.2 x 175 mm	1420132	10
4.0 x 175 mm	1420140	10



Tungsten electrodes "W" green (pure)

- Typical applications: TIG welding
- Current type: alternating current
- Recommended base materials: Aluminium and aluminium alloys, aluminium bronze, magnesium and magnesium alloys, nickel and nickel alloys

Size	Art. no.	PU*
1.0 x 175 mm	1420210	10
1.6 x 175 mm	1420216	10
2.4 x 175 mm	1420224	10
3.2 x 175 mm	1420232	10
4.0 x 175 mm	1420240	10



Tungsten electrodes "WL 15" gold (1,5% Lanthan LaO₂)

- Special feature: excellent ignition properties and maximum service life
- Current type: direct current/alternating current
- Recommended base materials: suitable for all base materials

Size	Art. no.	PU*
1.0 x 175 mm	1420310	10
1.6 x 175 mm	1420316	10
2.4 x 175 mm	1420324	10
3.2 x 175 mm	1420332	10
4.0 x 175 mm	1420340	10



Tungsten electrodes "WR 2" turquoise (mixed oxides, free from thorium)

- Special feature: radiation-free universal electrode with excellent ignition behaviour and great loadability values
- Current type: direct current/alternating current
- Recommended base materials: suitable for all base materials

Size	Art. no.	PU*
1.0 x 175 mm	1420410	10
1.6 x 175 mm	1420416	10
2.4 x 175 mm	1420424	10
3.2 x 175 mm	1420432	10
4.0 x 175 mm	1420440	10





Quality
made in
Europe

Plasma cutting equipment

PRO-CUT plasma cutting devices – compact, economically efficient and powerful through thick and thin

Excellent economic efficiency and first-class cutting quality are the special characteristics of the portable Schweißkraft Plasma cutting systems. Guaranteed reliability in tough deployment in industry and crafts.

Universally deployable

- ▶ Stainless steel, aluminium, steel, non-ferrous metals, and other electrically conductive metals, even with a coated surface, are cut without any problems
- ▶ from thin sheet to thick sheet
- ▶ Separating and quality cutting

Optimum cut quality with a steep cutting edge in manual and contour Cutting

- ▶ through precisely controlled cutting current
- ▶ continuously variable
- ▶ High power reserves guarantee best-in-class material penetration, even at the end of the cut, which is otherwise critical

Reliable ignition

- ▶ HF pilot arc ignition (PRO-CUT 35 S/70/90/120)
- ▶ Possible in both contact and non-contact mode

Operator and machine safety

- ▶ IP degree of protection IP 21, suitable for use
- ▶ at workplaces with an increased risk of electrical hazard (PRO-CUT 35 S/70/90)
- ▶ IP degree of protection IP 23 for PRO-CUT Tornado and PRO-CUT 120

Maximum economic efficiency

- ▶ thanks to fast cutting speed
- ▶ thanks to long service life
- ▶ because less rework is required thanks to excellent cut quality, even at the end of the cut
- ▶ due to requirements-driven gas post-flow time
- ▶ thanks to quick-start function for immediately ignition, even in the gas post-flow time
- ▶ due to a lower power rating, high efficiency and power factor

Easiest handling

- ▶ thanks to compact and mobile design
- ▶ portable and thus suitable for almost any field of application
- ▶ PRO-CUT 35 S globally deployable thanks to sinusoidal inverter technology
- ▶ easy handling during transport due to low weight
- ▶ with carrying handle

Inexpensive operating costs

- ▶ No costs for carrier gases, unlike oxyacetylene cutting
- ▶ Compressed air for plasma gas is inexpensive

Process

- ▶ Plasma cutting

Cutting performance

- ▶ up to max. 40 mm separating cut

Base materials

- ▶ all electrically conductive metals, even if coated
- ▶ stainless steel
- ▶ Aluminium
- ▶ Steel
- ▶ Non-ferrous metals

Applications

- ▶ Plant, container, machine, steel construction
- ▶ Chemical plant construction
- ▶ Maintenance/repairs
- ▶ Plant and pipeline construction
- ▶ Construction site and mobile use

State-of-the-art inverter technology! Extremely light!



PRO-CUT Tornado
Plasma cutting system with
integrated compressor
(no external compressed air source needed)



Cutting performance

PRO-CUT Tornado

Quality cutting approx. 4 mm*

4 mm

PRO-CUT 35 S

Quality cutting approx. 10 mm*

10 mm

PRO-CUT 70

Quality cutting approx. 20 mm*

20 mm

PRO-CUT 90

Quality cutting approx. 25 mm*

25 mm

PRO-CUT 120

Quality cutting approx. 35 mm*

35 mm

*in steel



Quality
made in
Europe

Model	PRO-CUT Tornado	PRO-CUT 35 S	PRO-CUT 70	PRO-CUT 90	PRO-CUT 120
Art. no.	1087059	1087065	1087061	1087062	1087120
Technical specifications					
Torch type (connection)	fixed installation	fixed installation	Euros	Euros	Euros
Adjusting range	12 - 25 A	5 - 35 A	25 - 70 A	25 - 90 A	25 - 120 A
Quality cutting steel (ST37) approx.	4 mm	10 mm	20 mm	25 mm	35 mm
Separating cut steel (ST37) approx.	5 mm	12 mm	25 mm	30 mm	40 mm
Quality cutting stainless steel approx.	3 mm	10 mm	20 mm	25 mm	28 mm
Separating cut stainless steel approx.	4 mm	12 mm	23 mm	27 mm	32 mm
Quality cutting ALUMINUM approx.	4 mm	7 mm	18 mm	23 mm	28 mm
Separating cut ALUMINUM approx.	6 mm	10 mm	21 mm	25 mm	32 mm
Air consumption	-	100 l/min	200 l/min	200 l/min	230 l/min
Pressure	-	3.5-4.0 bar.	5 bar	5 bar	6 bar
Mains voltage*	230 V ±10%	230 V ±10%	3 x 400 ±10%	3 x 400 ±10%	3 x 400 ±10%
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Open circuit voltage	270 V	270 V	250 V	250 V	450 V
Power consumption Plasma at 100%	2.4 kVA	2.3 kVA	9.9 kVA	9.9 kVA	15.5 kVA
Maximum current consumption	18 A	18 A	19 A	26 A	38 A
Fuse	16 A	16 A	16 A	25 A	25 A
Duty cycle plasma	25 A - 50 %	35 A - 40 %	70 A - 60 %	90 A - 40 %	120 A - 40 %
Current at 100% duty cycle 40 °C Plasma	20 A	22 A	70 A	90 A	120 A
Cos phi power factor	0.85	0.99	0.85	0.85	0.85
Degree of protection	IP 23	IP 21	IP 21	IP 21	IP 23
Insulation class	F	F	F	F	F
Operating temperature	-10 +40 °C	-10 +40 °C	-10 +40 °C	-10 +40 °C	-10 +40 °C
Weight	10 kg	8 kg	16 kg	17 kg	32 kg
Dimensions (L x W x H), mm	470 x 150 x 245	475 x 150 x 220	470 x 180 x 225	420 x 180 x 270	610 x 230 x 460

Schweißkraft equipment has the **S mark** and complies with standard EN 60 974-1; -10/EMC class A

***Does not support generator operation!**

Scope of supply PRO-CUT TORNADO

- Plasma device
- Torch 4 m
- Ground cable

Scope of supply PRO-CUT 35 S

- Plasma device
- Torch 5 m
- Ground cable

Scope of supply PRO-CUT 70/90/120:

- Plasma device
- Torch 6 m
- Ground cable



TIG torches

Designation	Art. no.
Plasma torch S25K, 4 m	1339606
Plasma torch S45, 5 m	1333100
Plasma torch A81, 6 m	1339201
Plasma torch A151, 6 m	1339600

Wear part set

Designation	Art. no.
Wear part set S 25K consisting of: 5 x each electrode short S30/S45, 2 x diffusor S45, 3 x cutting tip 0.6 S 20/30 45, 3 x cutting tip 0.8 S 30/S 45, 2 x tip retaining cap S 25K, 3 x spacer spring S 45	1333104
Wear part set S 45 Consisting of: 5 x each electrode short S30/S45, 2 x diffusor S45, 3 x cutting tip 0.6 S 20/30 45, 3 x cutting tip 0.8 S 30/S 45, 1 x sorting box, 2 x tip retaining cap S 45, 3 x spacer spring S 45	1333101
Wear part set A81 consisting of: 3 x electrode short A81, 3 x plasma tip 1.0 mm A60/A80, 1 x diffusor A60/A80, 1 x tip retaining cap A80, 1 x sorting box, 1 x spacer 4 tips A60, 1 x diffusor tube, short A81	1339230
Wear part set A151 consisting of: 3 x electrode R 145, 1 x plasma tip 1.4 mm R 145, 1 x tip retaining cap cylindrical 1x plasma tip 1.6 mm R 145, 1 x plasma tip 1.8 mm R 145, 1 x sorting box, 1 x insulator (vortex ring) R 145, 1 x diffusor tube A 151, 1 x spacer 4 tips R 145	1339640



S25K, 4 m



S45, 5 m



A81, 6 m



A151, 6 m



Wear part set
Plasma



Wear part set
A151

Nanofilters

For separating solid impurities up to **0.01 µm**. Residual oil aerosol content of up to **0.01 mg/m³** at 20 °C and 1 bar, operating temperature 1.5 to 65 °C, absolute compressed air quality as per ISO 8573-1.

Designation	Art. no.
Nanofilter ANF 0060 complete	2053430
Spare filter element	2053431

Nanofilter 0.01 micron



Condensate drain AOK 16 B

Circular cutting device

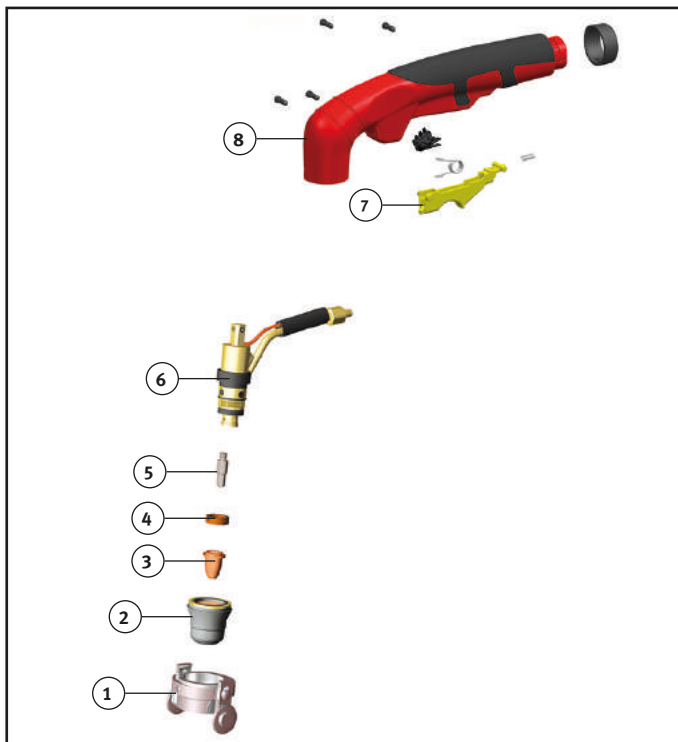
Designation	Art. no.
Circular cutting device for plasma cutters S25K and S45	1333121
Circular cutting device for plasma cutter A81	1330115
Circular cutting device for plasma cutter A151	1339560



Circular cutting device for
plasma cutters S25K and S45

Plasma cutting equipment

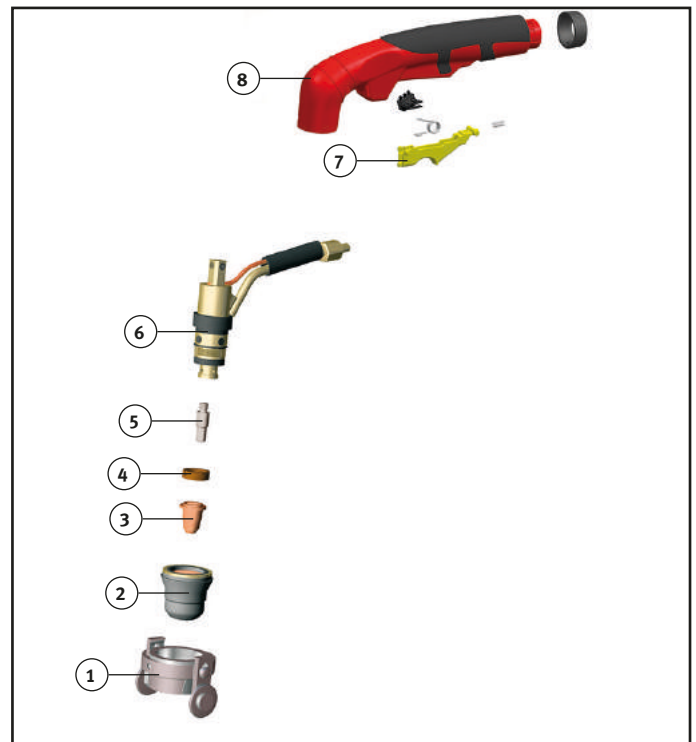
Plasma torch S25K, air-cooled for PRO-CUT Tornado



Designation		Art. no.	
Plasma torch S25K, 4 m		1339606	
No.	Designation	Art. no.	PQ
6	Torch body	1333125	1
5	Plasma electrode short	1333109	10
	Plasma electrode medium	1333110	10
	Plasma electrode long	1333111	10
4	Diffuser	1333112	2
3	Cutting tip 0.6 mm, 20 A	1333113	10
3	Cutting tip 0.8 mm, 30 A	1333118	10
3	Cutting tip 0.9 mm, 40 A	1333117	10
	Cutting tip 1.0 mm	1333123	10
	Cutting tip long 0.65 mm	1333142	10
	Cutting tip long 0.90 mm	1333143	10
2	tip retaining cap	1333127	4
	Spacer spring*	1333120	10
1	Guide carriage	1333141	1
8	Handle shell complete	1333124	1
7	Switch short, 2-pin	1333126	1
11	Circular cutting device	1333121	1
12	Wear part set S25K	1333104	1

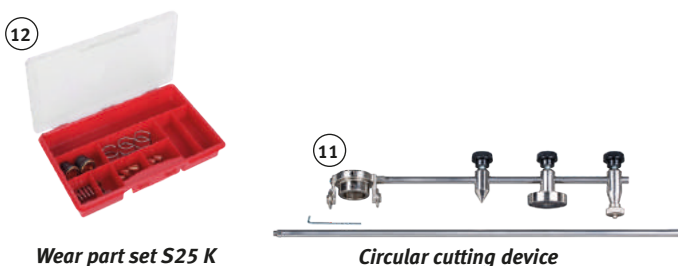
*A short electrode (1333109) and a cutting tip (1333123) are required for use

Plasma torch S45, air-cooled for PRO-CUT 35 S



Designation		Art. no.	
Plasma torch S45, 5 m		1333100	
No.	Designation	Art. no.	PQ
6	Torch body	1333125	1
5	Electrode short	1333109	10
	Electrode medium	1333110	10
	Electrode long	1333111	10
4	Diffuser	1333112	2
3	Cutting tip 0.6 mm	1333113	10
3	Cutting tip 0.8 mm	1333118	10
3	Cutting tip 0.9 mm	1333117	10
	Cutting tip 1.0 mm	1333123	10
	Cutting tip long 0.65 mm	1333142	10
	Cutting tip long 0.90 mm	1333143	10
2	tip retaining cap	1333119	4
	Spacer spring *	1333120	10
1	Guide carriage	1333141	1
8	Handle shell complete	1333124	1
7	Switch short, 2-pin	1333126	1
13	Circular cutting device	1333121	1
14	Wear part set S45	1333101	1

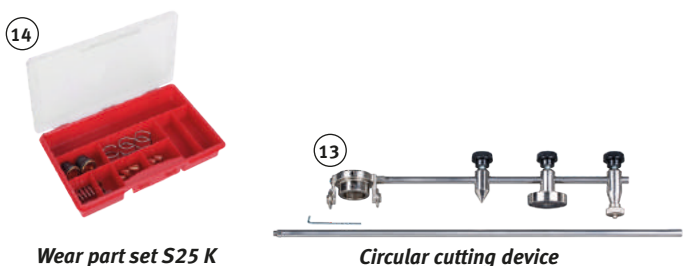
*A short electrode (1333109) and a cutting tip (1333123) are required for use



Wear part set S25 K

Circular cutting device

Specifications:	
Load:	20 A (DC 35%)
Pressure	2.0 bar
Compressed air consumption:	31 l/min



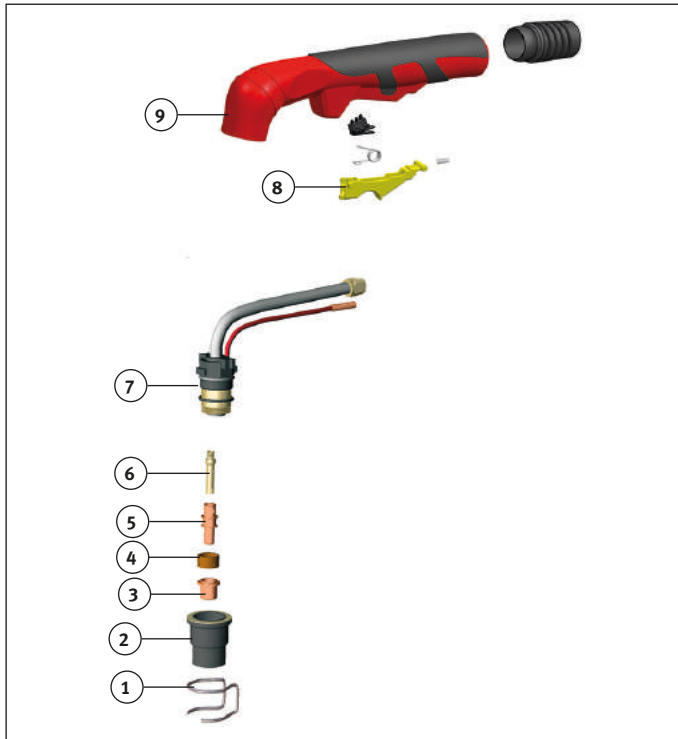
Wear part set S25 K

Circular cutting device

Specifications:	
Load:	40 A (DC 60%)
Pressure	5.0 bar
Compressed air consumption:	115 l/min

**PU = Quantity in pieces per packaging unit Purchase only possible in PU

Plasma torch A81, air-cooled for PRO-CUT 70/90



Designation		Art. no.	
Plasma torch A81, 6 m		1339201	
No.	Designation	Art. no.	PQ
7	Torch body	1339221	1
	O-ring (for 1339221)	1339015	10
6	Diffusor tube short	1339222	2
	Diffusor tube long	1339223	2
4	Diffuser	1339016	2
5	Electrode short	1339225	10
	Electrode long	1339226	10
	Cutting tip 50 A 1.0 mm	1339020	10
3	Cutting tip 80 A 1.2 mm	1339022	10
	Cutting tip long 1.2 mm	1339025	10
2	tip retaining cap	1339030	2
1	Spacer spring	1339034	10
	Spacer 2 tips	1339033	2
	Spacer 4 tips	1339036	2
	Guide carriage Ø 24.3 mm	1339040	1
	Contact protection long	1339041	1
9	Handle shell complete	1339518	1
8	Switch short, 2-pin	1339632	1
	Ball joint with clamping ring	1339224	1
	Wear part set A81	1339230	1



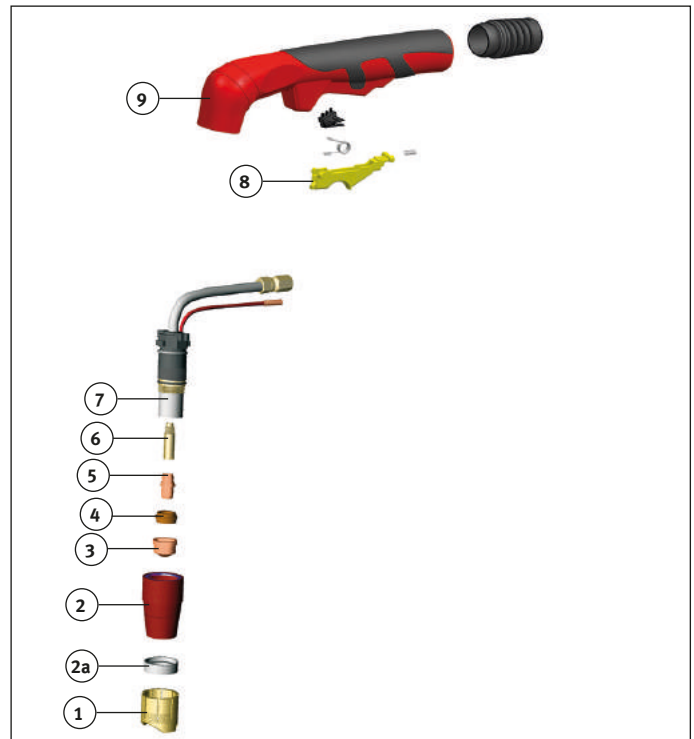
Wear part set A81



Wear part set A151

Specifications:	
Load:	60 A (DC 100%)/80 A (DC 60%)
Pressure	5.0 bar
Compressed air consumption:	155 l/min

Plasma torch A151, air-cooled for PRO-CUT 120



Designation		Art. no.	
Plasma torch A151, 6 m		1339600	
No.	Designation	Art. no.	PQ
7	Torch body	1339621	1
	O-Ring (for 1339621)	1339515	10
6	Diffusor tube	1339622	2
5	Electrode short 20.5 mm	1339520	10
	Electrode long 43.1 mm	1339521	10
4	Diffuser	1339522	2
3	Cutting tip 100 A, 1.4 mm	1339524	10
	Cutting tip 130 A, 1.6 mm	1339526	10
	Cutting tip 140 A, 1.8 mm	1339528	10
	Cutting tip Plasma, 3.0 mm	1339530	10
	Cutting tip long 50 A 1.1 mm	1339523	10
	Cutting tip long 100 A 1.4 mm	1339634	10
	Cutting tip long 130 A 1.7 mm	1339637	10
	Cutting tip long 140 A 1.9 mm	1339639	10
2	Tip retaining cap conical	1339546	2
	Tip retaining cap cylindrical	1339541	2
	Tip retaining cap contact	1339626	2
2a	Spacer	1339544	10
	Spacer 28 mm	1339550	2
1	Spacer 30 mm	1339545	2
	Spacer	1339543	10
	Spring support mount	1339548	10
	Spacer spring	1339549	10
	Spacer 2 tips	1339552	2
	Spacer 4 tips	1339553	2
	Guide carriage	1339559	1
	Tip guard contact	1339627	10
	Tip guard	1339628	10
9	Handle shell complete	1339518	1
8	Switch short, 2-pin	1339632	1
	Ball joint with clamping ring	1339631	1
	Wear part set A151	1339640	1

Specifications:	
Load:	120 A (DC 100%)/150 A (DC 60%)
Pressure	5.0 bar
Compressed air consumption:	230 l/min

Electrochemical metal processing



CLEANO 3 – Easy and safe cleaning and polishing of TIG welds with the professional entry level model. And additionally also for light and dark signing

Tools and accessories

- ▶ Tools are completely in stainless steel - thus no corrosion
- ▶ Tools have a bayonet connection - thus supporting ultra-fast changing
- ▶ All electrolytes are environmentally friendly and can be used in the food industry

BYMAT 1120 RS made of stainless steel supports versatile applications and includes 1 program:

- ▶ Cleaning with high-performance brush
- With high-performance carbon fibre brush** can reach hard-to-access places and clean long welds
- ▶ And with excellent quality
- ▶ Efficient cleaning of TIG welds in seconds

Features:

- ▶ 10 Volt AC
- ▶ Stainless-steel body
- ▶ Robust carrying handle
- Proven transformer technology allows for:**
 - ▶ a compact device design
 - ▶ Highly reliable operation
 - ▶ Robust handling
 - ▶ Easy and safe operation
 - ▶ Use in the workshop and on-site



Technical specifications

Art. no.

CLEANO 3

1231120SK

Technical specifications

Primary voltage	230 V, 50 - 60 Hz
Secondary voltage	10 V AC
Current output	80 A
Services	800 W
Weight	7.9 kg
Dimensions (L x W x H)	298* x 145 x 225 mm

*without cable connection

Initial equipment set for CLEANO 3

1231120ES

comprising:

- 1x 1231124KK plastic case
- 1x 1236026ST High-performance brush Brushline
- 1x 1235024KS ground cable black, 3 m with bayonet connection
- 1x 1235024KR ground cable red, 3 m with bayonet connection
- 1x 1232500WB Wide-necked container, 500 ml
- 1x 1232040DC Electrolyte C Plus, 1 litre



You will find a wide range of accessories and descriptions in the **BYMAT price list 2018** or on **www.schweisskraft.de**!

Electrochemical metal processing

CLEANO 4 – Easy and safe cleaning and polishing of TIG welds with the professional entry-level model. And additionally also for light and dark signing

Very easy and safe operation:

- ▶ Via men with colour display and user-friendly single-button operation
- ▶ Enter the required voltage type and voltage value, and display of matching electrolyte
- ▶ Menu guidance in 11 local languages

Tools and accessories:

- ▶ Tools are completely in stainless steel - thus no corrosion
- ▶ Tools have a bayonet connection - thus supporting ultra-fast changing
- ▶ All electrolytes are environmentally friendly and can be used in the food industry

The BYMAT 1130 RS made of stainless steel supports versatile applications and includes 4 programs:

- ▶ Cleaning with high-performance brush
- ▶ Polishing with high-performance brush
- ▶ Dark signing
- ▶ Light signing

With high-performance carbon fibre brush can reach hard-to-access places and clean long welds

- ▶ And with excellent quality
- ▶ Efficient cleaning of TIG and MIG/MAG welds in seconds

Features:

- ▶ Digital display
- ▶ 3-stage switch
- ▶ Programs (cleaning/polishing, etc.) and language
- ▶ freely selectable
- ▶ Stainless-steel body
- ▶ Robust carrying handle

Proven transformer technology allows for:

- a compact device design
- ▶ Highly reliable operation
- ▶ Robust handling
- ▶ Easy and safe operation
- ▶ Use in the workshop and on-site



Technical specifications	CLEANO 4
Art. no.	1231130SK

Technical specifications	
Primary voltage	230 V, 50 - 60 Hz
Secondary voltage	10 / 12 V AC, 12V DC
Current output	80 A
Services	800 W
Weight	11.9 kg
Dimensions (L x W x H)	345* x 180 x 285 mm

*without cable connection

Initial equipment set for CLEANO 4

1231130ES

comprising:

- 1x 1231124KK plastic case
- 1x 1236026ST High-performance brush Brushline
- 1x 1235024KS ground cable black, 3 m with bayonet connection
- 1x 1235024KR ground cable red, 3 m with bayonet connection
- 1x 1232500WB Wide-necked container, 500 ml
- 1x 1232040DC Electrolyte C Plus, 1 litre

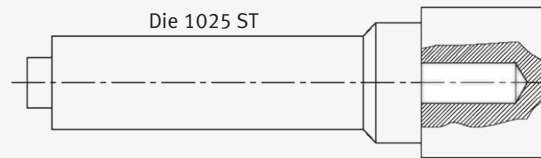
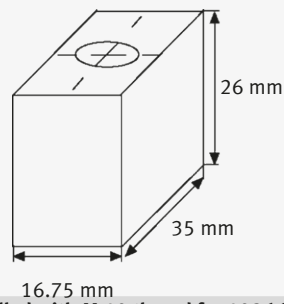


You will find a wide range of accessories and descriptions in the **BYMAT price list 2018** or on www.schweisskraft.de!

Replacement carbon brushes for cleaning, polishing, signing and galvanising dies

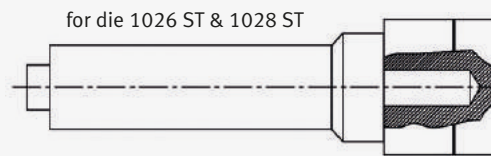
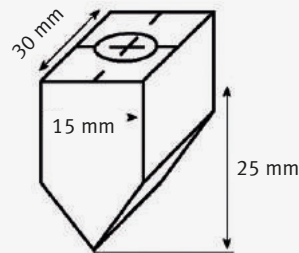
1026 OT replacement carbon brush 90°, drilled with M 10 thread for die 1025 ST

1231026AG



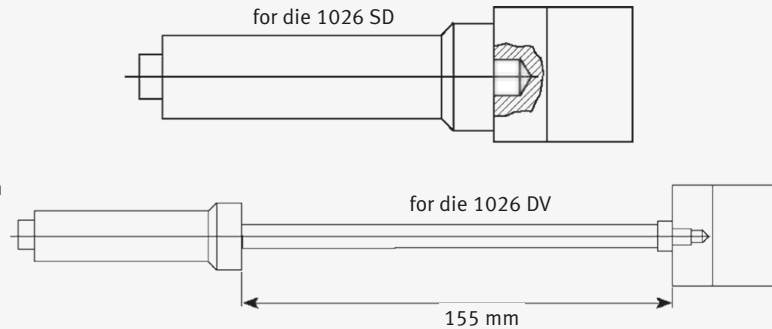
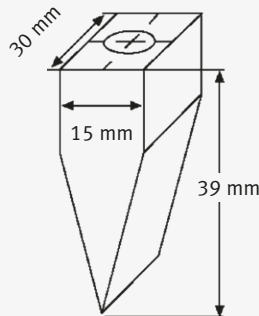
Replacement carbon brush 60°, drilled with M 10 thread for 1026 ST and 1028 ST

1231026AS



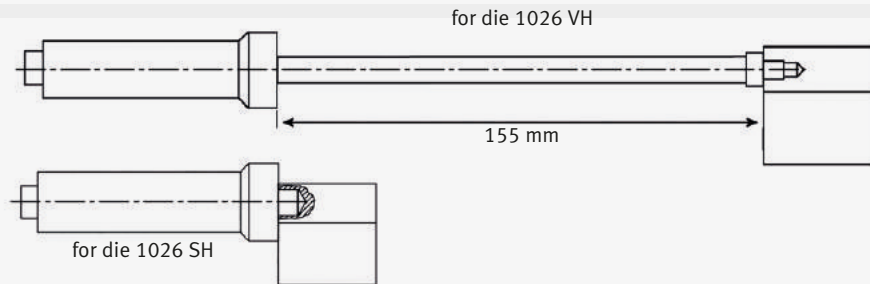
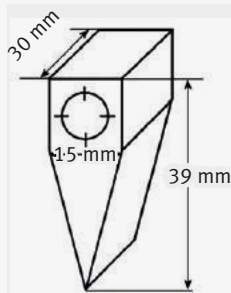
Replacement carbon brush 30°, drilled with M 10 thread for die 1026 DV and 1026 SD

1231026AD



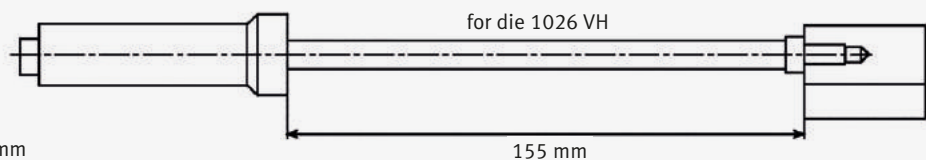
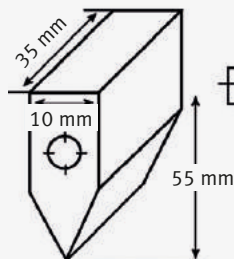
Replacement carbon brush 30°, drilled at side with M 10 thread for 1026 SH and 1026 VH

1231025AD



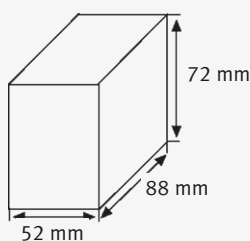
Replacement carbon brush 60°, drilled at side with M 6 thread for 1026 VH

1231026AK



Carbon block for processing 88 x 72 x 52 mm

1231026BB



MIG/MAG

Multifunctional inverter

TIG inverters

Electrode inverters

Plasma cutting equipment

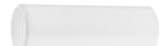
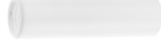
Electrochemical processing

Welding accessories

Electrochemical metal processing

PREMIUMLINE / BRUSHLINE accessories

BYMAT accessories	Product description	Art. no.	
	5024 KR Premiumline Ground cable red, 3 m with bayonet connection and ground clamp	1235024KR	
	5024 KS Premiumline Ground cable black, 3 m with bayonet connection	1235024KS	
	5024 KL ground clamp for welding cable	1235024KL	
	502430 Adapter for Brushline and Premiumline	123502430	
	5024 AK Adapter with carbon anode 90°	1235024AK	
	6024 VL Replacement nonwoven filter for 6024 RS (bag of 5)	1236024VL	
	5024 HG PTFE (Teflon) handle, extremely resistant to acids and heat	1235024HG	
	5024 ST PTFE (Teflon) polishing die, extremely resistant to acids and heat with 60° carbon anode	1235024ST	
	5025 ST PTFE (Teflon) polishing die, extremely resistant to acids and heat with 90° carbon anode	1235025ST	
	6025 ST High performance brush with PTFE (Teflon) handle, extremely acid-resistant, heat-resistant, with brush A small 8 mm and adjustment sleeve	1236025ST	
	6026 ST High-performance brush with PTFE (Teflon) handle, highly acid-resistant, heat-resistant, with brush B medium 10 mm and adjusting sleeve	1236026ST	
	6027 ST High-performance brush with PTFE (Teflon) handle, highly acid-resistant, heat-resistant, with brush C large 14 mm and adjusting sleeve	1236027ST	
 Info & video The right approach with a high-performance brush			
	6025 PI Brush A small 8 mm (blue) and adjusting sleeve made of PTFE	1236025PI	
	6026 PI Brush B medium 10 mm (black) and adjusting sleeve made of PTFE	1236026PI	
	6027 PI Brush C large 14 mm (red) and adjusting sleeve made of PTFE	1236027PI	
	6025 PO Replacement brush A small 8 mm (blue)	1236025PO	
	6026 PO Replacement brush B medium 10 mm (black)	1236026PO	
	6027 PO Replacement brush C large 14 mm (red)	1236027PO	

BYMAT accessories	Product description	Art. no.	
	6025 VH Adjusting sleeve made of PTFE (Teflon) A small for replacement brush 6025 PO, Ø 8 mm	1236025VH	
	6026 VH Adjusting sleeve made of PTFE (Teflon) B medium for replacement brush 6026 PO, Ø 10 mm	1236026VH	
	6027 VH Adjusting sleeve made of PTFE (Teflon) C large for replacement brush 6027 PO, Ø 14 mm	1236027VH	
	Cleaning and marking pads (made of Nomex) 1206 SF cleaning and marking pads 38 x 60 x 2.6 mm, 20 pcs. 1207 SF cleaning and marking pads 38 x 60 x 2.6 mm, 100 pcs.	1231206SF 1231207SF	
	Cleaning and marking pads (made of Nomex) 1208 SF cleaning and marking pads, roll, 1m x 60mm x 2.6mm, 10 pcs. 1209 SF cleaning and marking pads, roll, 5m x 60mm x 2.6mm	1231208SF 1231209SF	
	Polishing pads made of Kevlar - Aramid 1216 PF Polishing pads, 40 x 60 x 2.5 mm, 20 pcs. 1217 PF Polishing pads, 40 x 60 x 2.5 mm, 100 pcs.	1231216PF 1231217PF	
	Polishing pad roll, Kevlar - Aramid 1214 PF Polishing pad roll, 1 m x 60mm x 2.5mm, 10 rolls 1215 PF Polishing pad roll, 5 m x 60 mm x 2.5 mm 1218 PF Polishing pad roll, 25 m x 60 mm x 2.5 mm	1231214PF 1231215PF 1231218PF	
	Polishing pads made of Kevlar 1219 PP Professional polishing pads 38 x 60 x 2.0 mm, 20 pcs. 1220 PP Professional polishing pads 38 x 60 x 2.0 mm, 100 pcs.	1231219PP 1231220PP	
	Polishing pads made of Aramid 1212 AF Aramid belt roll, 5 m x 40 mm x 2 mm 1213 AF Aramid belt roll, 25 m x 40 mm x 2 mm	1231212AF 1231213AF	
	1205 OR spare o-rings 26 x 2 mm, bag with 10 pcs. 1127 OR spare o-rings 26 x 2 mm, bag with 100 pcs. (also for CLASSICLINE)	1231205OR 1231127OR	
	2500 WB wide-necked container, 500 ml (also for CLASSICLINE)	1232500WB	
	2100 SF Spraying bottle for water, 1 litre for filling with water or Neutralyt (also for CLASSICLINE)	1232100SF	
	2150 DS Pressure spraying bottle for water, 1.5 litre for filling with water or Neutralyt (also for CLASSICLINE)	1232150DS	

Electrolytes for cleaning/polishing

Electrolytes for cleaning TIG welds	Art. no.
Brush gel NON-DRIP A 500 ml	1232020PG
Basis: Phosphoric acid	
Electrolyte A, for cleaning glossy steels	
1000 ml	1232030DH
5000 ml	1232035DH
Electrolyte LF, for cleaning glossy steels,	
1000 ml	1232030LF
5000 ml	1232035LF
Electrolyte B, for cleaning matt steels	
1000 ml	1232011DB
5000 ml	1232015DB
For polishing TIG welds	
Electrolyte C, for electro-chemical polishing	
500 ml	1232020DC
1000 ml	1232021DC
5000 ml	1232025DC
For cleaning and polishing TIG & MIG/MAG welds	
Electrolyte C Plus, for electro-chemical polishing	
2040 DC – 1000 ml	1232040DC
2045 DC – 5000 ml	1232045DC

Electrolyte for marking

For marking	
100 ml	1232101ET
500 ml	1232105ET
1000 ml	1232111ET
5000 ml	1232115ET
For negative marking	
100 ml	1232170EN
For light marking (similar to engraving)	
500 ml	1232175EN
1000 ml	1232171EN
5000 ml	1232185EN
For dark marking	
100 ml	1232101EC-S
500 ml	1232105EC-S
1000 ml	1232111EC-S
5000 ml	1232115EC-S

For dark marking of chrome vanadium	
100 ml	1232120EC
500 ml	1232125EC
1000 ml	1232126EC
5000 ml	1232127EC
For marking Ms, Cu, Zinn	
100 ml	1232130EM
500 ml	1232135EM
Electrolyte for marking aluminium	
100 ml	1232140EA
500 ml	1232145EA
Special electrolyte for marking chrome	
500 ml	1232615SC
For dark marking of stainless steel with a high chrome content	
100 ml	1232601ER
500 ml	1232600ER
For dark marking of stainless steel with a high nickel content	
100 ml	1232601CA
500 ml	1232600CA
1000 ml	1232610CA

Electrolyte for neutralising

Neutralyte for neutralising electrolytes,	
500 ml	1232215NT
1000 ml	1232211NT
5000 ml	1232250NT

Electrolyte for electroplating

Electrolyte for electroplating - zinc	
100 ml	1232410GZ
500 ml	1232450GZ
Electrolyte for electroplating - gold	
100 ml	1232510GG
500 ml	1232550GG
Electrolyte for electroplating - silver	
100 ml	1232710GS
500 ml	1232750GS

Comparison of electrolytes

Cleaning with carbon fibre brush:

- ▶ Electrolyte C
- ▶ Electrolyte C Plus
- ▶ Electrolyte LF
- ▶ Electrolyte A



Info & video



Label printers and lettering tapes

Designation	Art. no.
Label printer BROTHER P-Touch	123D600VP



Professional desktop lettering device with PC connection, desktop device for printing TZ tapes in the widths 3.5 to 24 mm. incl. USB connection for use on PC and MAC. All fonts and symbols installed in Windows/Mac can be used. Links to databases, or add-ins for Microsoft Excel, Word and Outlook can be defined, e.g., for printing logos or symbols. Tape widths 3.5 / 6 / 9 / 12 / 18 and 24 mm, 14 built-in fonts, 8 font sizes and 10 font aspects, colour display, multiple print-out up to 99 times, consecutive numbering, automatic tape cutter, barcode printing.

Scope of delivery: Hard shell case, mains adapter, USB cable, CD-ROM (software/drivers PC/MAC), 1 TZ lettering tape cassette (24 mm black on white), user manual

Special lettering tapes for Brother P-Touch devices

Special lettering tape for Brother,	
18 mm x 3 m	1231410ST
Special lettering tape for Brother,	
24 mm x 3 m	1231510ST
Special lettering tape for Brother,	
36 mm x 3 m	1231610ST

Label printer P-Touch 9700 PC	1239700PC
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Professional labelling device for the PC, for strips with a width of up to 36 mm. For TZ lettering tapes of 3.5/6/9/12/18/24 and 36mm width, for HG lettering tapes of 6/9/12/18/24 and 36 mm width, automatic cutting unit for full and half-cut, adjustable label length, USB and serial interface, up to 20 mm/sec. printing speed and 360 dpi print resolution (TZ), up to 80 mm/s print speed or 720 dpi print resolution (HG), uni- and two-dimensional barcodes, import of Excel tables and databases, printing of imported graphics and logos, use of all fonts and symbols integrated in the PC, incl. comprehensive software and lettering tape cassette.

Special lettering tapes for Casio C500 KL label printer

Special lettering tape for Casio label printer	
18 mm x 3 m	1231800XR
Special lettering tape for Casio label printer	
24 mm x 3 m	1232400XR

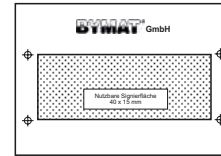
Electrochemical metal processing

Templates

Designation	Art. no.
Temporary templates	
• Suitable for producing your own templates • For lettering with a typewriter, ballpoint, or dot-impact printer • For continuous serial numbers, tool labelling, etc. • Also available on rolls for dot-impact printers	
	
Temporary template, blue, 75 x 180 mm, 100 pcs.	1231011KS
Temporary template, blue, 215 x 275 mm, 10 pcs.	1231015KB
Permanent templates	
• Created individually to your specs • Manufactured to your specs with graphics, trademarks, type plates, device numbers, ID numbers, scales, fonts and logos provided by you • Very long service life: up to 5000 marking operations possible with one template	
	
One-off layout costs for permanent template	
Layout costs in case of repro-capable original	1231000SD
based on original (e.g., business card, letter-head, fax)	1231000SK
External dimensions 35 x 40 mm - usable area 25 x 15 mm	
in plastic frame	1231001SB
framed	1231001SU
External dimensions 1/2 DIN A8 (74 x 36 mm) - usable area 54 x 16 mm	
in plastic frame	1231012SB
framed	1231012SU
External dimensions DIN A8 (74 x 52 mm) - usable area 54 x 32 mm	
in plastic frame	1231002SB
framed	1231002SU
External dimensions 1/2 DIN A7 (105 x 47 mm) - usable area 85 x 27 mm	
in plastic frame	1231013SB
framed	1231013SU
External dimensions DIN A7 (105 x 74 mm) - usable area 85 x 54 mm	
in plastic frame	1231003SB
framed	1231003SU
External dimensions 1/2 DIN A6 (148 x 62.5 mm) - usable area 128 x 42.5 mm	
in plastic frame	1231014SB
framed	1231014SU
External dimensions DIN A6 (148 x 105 mm) - usable area 128 x 85 mm	
in plastic frame	1231004SB
framed	1231004SU
External dimensions 1/2 DIN A5 (210 x 94 mm) - usable area 170 x 54 mm	
in plastic frame	1231015SB
framed	1231015SU
External dimensions DIN A5 (210 x 148 mm) - usable area 170 x 108 mm	
in plastic frame	1231005SB
framed	1231005SU
External dimensions 1/2 DIN A4 (297 x 125 mm) - usable area 257 x 85 mm	
in plastic frame	1231016SB
framed	1231016SU
External dimensions DIN A4 (297 x 210 mm) - usable area 257 x 170 mm	
with aluminium frame	1231006SA
in plastic frame	1231006SB
framed	1231006SU
Permanent template custom size	1231007SG

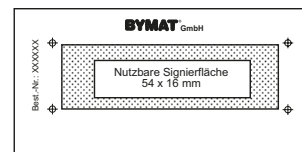
External dimensions 25 x 40 mm

1231001SB	1231001SU
Permanent template in plastic frame (usable area 40 x 15 mm)	Framed permanent template (usable area 40 x 15 mm)



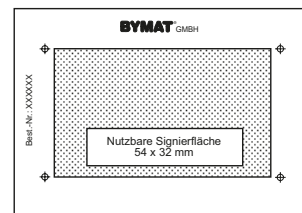
External dimensions 1/2 A 8 (74 x 36 mm)

1231012SB	1231012SU
Permanent template in plastic frame (usable area 54 x 16 mm)	Framed permanent template (usable area 54 x 16 mm)



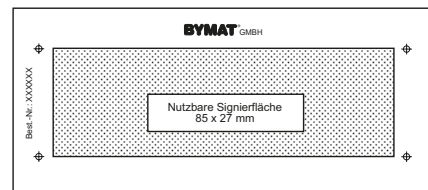
External dimensions DIN A 8 (74 x 52 mm)

1231002SB	1231002SU
Permanent template in plastic frame (usable area 54 x 32 mm)	Framed permanent template (usable area 54 x 32 mm)



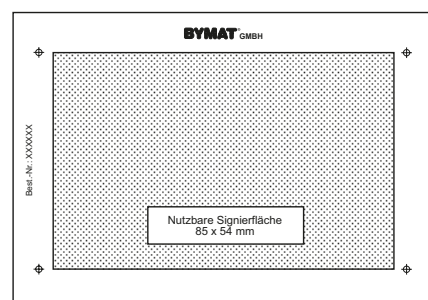
External dimensions 1/2 A 7 (105 x 47 mm)

1231013SB	1231013SU
Permanent template in plastic frame (usable area 85 x 27 mm)	Framed permanent template (usable area 85 x 27 mm)



External dimensions DIN A 7 (105 x 74 mm)

1231003SB	1231003SU
Permanent template in plastic frame (usable area 85 x 54 mm)	Framed permanent template (usable area 85 x 54 mm)



Electrode grinder EG 1 – best welding results thanks to optimally ground electrodes

- ▶ For grinding electrodes from 1.0 - 4.0 mm
- ▶ Minimal material removal on the electrode of just 0.3 mm thanks to integrated setting gauge
- ▶ The electrode can be reground up to 200 times, instead of just 50-100 times
- ▶ Does not anneal during the grinding process
- ▶ Integrated extraction unit with P3 dust filter, thus optimum protection for the operator
- ▶ Optimised for use in the workshop and on site
- ▶ Precise electrode guiding in a clamping bracket
- ▶ For electrode lengths up to 22 mm
- ▶ Also for grinding short electrodes (up to 15 mm), e.g., for orbital welding equipment
- ▶ 3 grinding levels of the diamond disc can be used through a simple setting; this gives you three times the disc service life
- ▶ Continuously variable grinding angle of 15-180°
- ▶ Electrodes with metal drops can be ground directly; this saves time and avoids breaking the electrode
- ▶ Powerful 850 Watt motor

Why grind electrodes?

To avoid ignition problems and an instable arc in direct current (DC) TIG welding (DC), the electrode needs to be ground to a point in the current flow direction. For alternating current (AC) TIG welding, a chamfer must be ground in current flow direction for electrodes of Ø 1.6 mm or more to ensure a narrow arc!

The EG 1 lets you reground electrodes (as of 15 mm length, up to Ø 4.0 mm) up to 200 times!

Scope of supply EG 1

- Drive motor
- Grinding head with filter housing and filter
- Electrode holder
- Diamond disc Ø 40 mm
- Collet for electrodes 1.6/2.4/3.2 mm
- Operating tool, 2 x Allen key 2/4 mm, 2 x flat spanner 13-17/13-14
- Waste disposal bag for disposable filter
- In plastic case

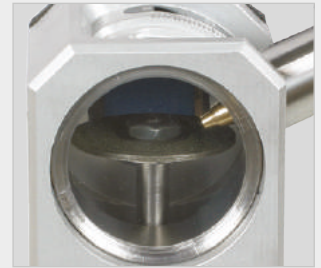
Electrode grinder	EG 1
Art. no.	1690100

Technical specifications	
Electrode Ø:	1.0 - 4.0 mm
Continuously variable grinding angle	15°-180°
Max. electrode length	22 mm
Output 50-60 Hz	850 W
Power connector	230 V
Continuously variable speed	8 000 - 22 000 rpm
Diamond disc	Ø 40 mm
Weight	3.8 kg



Scope of supply with case

Accessories	Art. no.
Diamond disc 40 mm	1690102
Electrode holder	1690103
Collet 1.0 mm	1690105
Collet 1.6 mm	1690106
Collet 2.0 mm	1690107
Collet 2.4 mm	1690108
Collet 3.2 mm	1690109
Collet 4.0 mm	1690110
Filter cassette	1690117
Waste disposal bag	1690121



▶ Integrated view window



▶ Integrated extraction unit with disposable filter element



▶ Continuously adjustable angle adjustment from 15°-180°



▶ Continuously adjustable speed control via adjusting knob



Comparison test

Mobile filter devices with disposable filters

Test conditions

Welding current: 312 A
Welding voltage: 30.3 V
Wire diameter: 1.2 mm
Wire feed: 11 m/min

Permanent measurement: *Welding time and filler wire consumption before filter change*



Device type	Recommen- ded applica- tions	Filter surface area	Welding time in hours (arc on)	Consumption Filler wire in kg	Filter service life (factor)
SRF Master	sporadic	13 m ²	6 ¾	40.7	100%
SRF Profi	Occasionally	17 m ²	13	86	210%
SRF Maxi	Regular	42 m ²	33 ¼	218	540%

SRF Master, SRF Profi and SRF Maxi – compact and robust filter devices with extraction arms for low to moderate fume and dust volumes. For sporadic to regular use.

SRF Master

Application area

- ▶ Low volume of fumes/dust
- ▶ Sporadic use

Benefits

- ▶ Little tracking with the extraction hood required
- ▶ More flexible thanks to additional hose connection at rear

Properties

- ▶ Safe operation thanks to filter monitoring
- ▶ Extraction hood rotates and pivots through 360 degrees
- ▶ Push handle and cable tidy



SRF Profi

Application area

- ▶ Low to moderate volume of fumes/dust
- ▶ Occasional to frequent use

Benefits

- ▶ Little tracking with the extraction hood required
- ▶ Little tracking required with the extraction hood
- ▶ Safe operation due to rotating field detection

Properties

- ▶ Safe operation thanks to filter monitoring
- ▶ Extraction hood rotates and pivots through 360 degrees
- ▶ Automatic start/stop (optional)

SRF Maxi

Application area

- ▶ Moderate volume of fumes/dust
- ▶ Regular use

Benefits

- ▶ Little tracking with the extraction hood required
- ▶ Contamination-free filter replacement
- ▶ Safe operation due to rotating field detection
- ▶ Excellent economy thanks to long filter service life

Properties

- ▶ Safe operation thanks to filter monitoring
- ▶ Extraction hood rotates and pivots through 360 degrees
- ▶ Automatic start/stop (optional)
- ▶ Workplace lighting (optional)



Bundesamt
für Wirtschaft und
Ausfuhrkontrolle

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• 2 m extraction arm

• 3 m extraction arm

• 3 m extraction arm



SRF Master



SRF Profi



SRF Maxi

Model	SRF Master	SRF Profi	SRF Maxi
Art. no.	1800020	1800025	1800030
Technical specifications			
Filter			
The process	3-stage	2-stage	2-stage
Filter type	Disposable filter	Disposable filter	Disposable filter
Filter surface area	approx. 13 m ²	approx. 17 m ²	approx. 42 m ²
Separation class	> 99 %	> 99 %	> 99 %
Filter material	Fibreglass non-woven	Fibreglass non-woven	Polyester non-woven
Welding fume separation class	W3	W3	W3
Additional filters	Two pre-filters	Pre-Filter	Pre-filter (alum. mesh)
Basic data			
Extraction performance	max. 950 m ³ /h	max. 1 100 m ³ /h	max. 1 100 m ³ /h
Extraction arm	Ø 150 mm	Ø 150 mm	Ø 150 mm
Length of extraction arm	2 m	3 m	3 m
Vacuum connection	Ø 150 mm	Ø 150 mm	Ø 150 mm
Electrical connection	230 V/50 Hz	3 x 400 V/50 Hz	3 x 400 V/50 Hz
Motor output	1.1 kW	1.1 kW	1.1 kW
Sound pressure level	72 dB(A)	70 dB(A)	70 dB(A)
Weight	approx. 71 kg	approx. 106 kg	approx. 120 kg
Dimensions (L x D x H)	705 x 655 x 900 mm	785 x 730 x 950 mm	790 x 815 x 1 080 mm

Accessories SRF Master	Art. no.
Main filter	1810020
Pre-filter cassette	1810021
10 x pre-filter mats	1810022

Accessories SRF Profi	Art. no.
Main filter	1810025
10 x pre-filter mats	1810026
Automatic start/stop	1810100

Accessories SRF Maxi	Art. no.
Replacement filter	1810030
Automatic start/stop	1810100

Additional equipment on request

SRF Master XL and SRF Maxi C – self-cleaning filter devices with extraction arms for large volumes of fumes and dust. For regular to continuous operation.

SRF Master XL

Applications

- ▶ Large volume of fumes/dust
- ▶ Regular use

Benefits:

- ▶ Little tracking with the extraction hood required
- ▶ Little tracking required with the extraction hood
- ▶ Dust extracted to collecting bin
- ▶ Excellent economy thanks to automatic filter cleaning

Properties:

- ▶ Safe operation thanks to filter monitoring
- ▶ Extraction hood rotates and pivots through 360 degrees
- ▶ Extraction arm up to 4 m (optional)



- Automatic filter cleaning
- 3 m extraction arm

SRF Maxi C

Applications

- ▶ Large volume of fumes/dust
- ▶ Continuous use

Benefits:

- ▶ Little tracking with the extraction hood required
- ▶ Safety due to contamination-free dust extraction in cartridges
- ▶ Safe operation due to rotating field detection
- ▶ Excellent economy thanks to automatic filter cleaning

Properties:

- ▶ Safe operation thanks to filter monitoring
- ▶ Extraction hood rotates and pivots through 360 degrees
- ▶ Extraction arm up to 4 m (optional)
- ▶ Spark pre-separator trap
- ▶ Automatic start/stop (optional)
- ▶ Workplace lighting (optional)
- ▶ On/Off on extraction hood (optional)

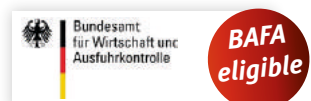


Model	SRF Master XL	SRF Maxi C
Art. no.	1800040	1800035
Technical specifications		
Filter		
The process	2-stage	3-stage
Filter type	Cleanable filter	Cleanable filter
Filter surface area	approx. 10 m ²	approx. 15 m ²
Separation class	> 99 %	> 99.97 %
Filter material	ePTFE membrane	PTFE membrane
Welding fume separation class	W3	W3
Additional filters	Activated carbon filter	Centrifugal pre-separating trap
Basic data		
Extraction performance	max. 1,000 m ³ /h	max. 1 100 m ³ /h
Extraction arm	Ø 150 mm	Ø 150 mm
Length of extraction arm	3 m	3 m
Compressed air connection	5 - 6 bar	6 - 8 bar
Electrical connection	3 x 400V/50Hz	3 x 400V/50Hz
Motor output	1.5 kW	1.5 kW
Sound pressure level	69 dB(A)	72 dB(A)
Weight	approx. 135 kg	approx. 135 kg
Dimensions (L x D x H)	655 x 655 x 1,355 mm	790 x 885 x 1,180 mm

Accessories SRF Master XL	
Replacement filter	1810040

Accessories SRF Maxi C	
Replacement filter	1810035
Set of 4 dust cartridges	1810036
Automatic start/stop	1810100

Additional equipment on request



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SRF Kompakt und SRF Mini – Lightweight high vacuum filter devices for small to medium smoke and fume volumes. Perfectly suited for use with and connecting smoke gas extraction torches

SRF Kompakt

Application area

- Moderate volume of fumes/dust
- Occasional to frequent use
- Fume extractor torch

Benefits

- Perfect for changing workplaces and service vehicles due to low weight and built-in rollers
- Easy dust disposal thanks to dust collecting bin
- Multiple workplace capable: 2 connection points for intake hoses

Properties

- Continuously adjustable suction power control
- Safe operation thanks to filter monitoring
- Manual filter cartridge cleaning
- Two intake ducts

SRF Mini

Application area

- Moderate volume of fumes/dust
- Occasional to frequent use
- Fume extractor torch

Benefits

- Compact design guarantees excellent mobility for frequent workplace changes, for example, with torch extraction unit
- Improved safety thanks to contamination-free filter replacement
- Energy-saving work with integrated automatic start/stop

Properties

- Continuously adjustable suction power control
- Safe operation thanks to filter monitoring
- Contamination-free filter replacement
- Spark pre-separator trap
- Automatic start/stop



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SRF Kompakt



SRF Mini

Model	SRF Kompakt	SRF Mini*
Art. no.	1800010	1800015
Technical specifications		
Filter		
The process	2-stage	3-stage
Filter type	Cleanable filter	Disposable filter
Filter surface area	1.35 m ²	12 m ²
Separation class	> 99 %	> 99 %
Filter material	ePTFE membrane	Polyester non-woven
Filter class	-	W3 / H13
Additional filters	-	Prefilter (alum. mesh)
		Centrifugal pre-separating trap
Basic data		
Extraction performance	340 m ³ /h	150 m ³ /h
Vacuum connection	2 x Ø 45 mm	1 x Ø 45 mm
Electrical connection	230 V	230 V
Motor output	1.6 kW	2 x 1.0 kW
Sound pressure level	74 dB(A)	72 dB(A)
Weight	21 kg	25 kg
Dimensions (L x D x H)	300 x 300 x 690 mm	425 x 365 x 790 mm

Accessories SRF Kompakt	Art. no.
Replacement filter for SRF Kompakt	1810010

Accessories SRF Mini	Art. no.
Replacement filter for SRF Mini	1810015
① Trolley for SRF Mini	1810016
Automatic start/stop	1810100
② Fume extractor torch	

Accessories SRF Kompakt & SRF Mini	Art. no.
③ Suction hose, D=45 mm, 2.5 m	1810200
③ Suction hose, D=45 mm, 5.0 m	1810201
③ Suction hose, D=45 mm, 10.0 m	1810202
④ Slot nozzle 300 mm with magnetic base	1810203
⑤ Slot nozzle 600 mm with magnetic base	1810204

Additional equipment on request

Welding accessories



Automatic welding helmets –
premium quality, tried and trusted by thousands!

VarioProtect[®] solar power

***Top marks**
Classification
1/1/1/1

VarioProtect helmet benefits at a glance:

- ▶ Full protection of face and front of neck against radiation and sparks
- ▶ Effective eye protection
- ▶ **Fully-automatic darkening within just 1/30 000 sec. as soon as the arc is ignited**
- ▶ Protection class DIN 9 to 13, continuously variable selection on exterior side of helmet, no need to remove the helmet
- ▶ **Both hands free for positioning the torch and material**
- ▶ Automatic switch on/off
- ▶ Solar cell operation
- ▶ **Manufactured and tested as per standards EN 379 and EN 175**
- ▶ Checked for production capability by welding engineers
- ▶ No need to push a button thanks to automatic switch-on/off
- ▶ The dark to light transition time can also be set via a delay switch, if required



- ▶ This welding helmet has been tested as per EN 175 and guarantees full neck protection. The special helmet shape protects the lens against scratches, e.g., when depositing the helmet. A bulge at the top and bottom of the helmet provides additional spark protection

- ▶ For use in MIG/MAG, TIG and electrode welding, and grinding. Not suitable for use in laser welding, oxygen and acetylene welding and cutting procedures.

Tested as per standards EN 379 and EN 175
Extremely lightweight - just 450 g!



VarioProtect L-W; field of vision 98 x 43 mm



VarioProtect XL; field of vision 98 x 55 mm



VarioProtect XXL W; field of vision 100 x 65 mm



VarioProtect 3XL-W; field of vision 100 x 93 mm

Automatic welding filter

- ▶ VarioProtect automatic welding filters are continuously adjustable from DIN 9-13
- ▶ The built-in UV/IR filter keeps out hazardous radiation

- ▶ Electronically controlled liquid crystal elements act as filters that detect the welding arc and immediately react by displaying a dark or light image

- ▶ All VarioProtect models additionally let the user adjust the sensitivity and dark to light transition response time in multiple stages

- ▶ Additionally, automatic darkening of the welding filter can be disabled using a selection switch. In "Grinding" mode, the VarioProtect helmet can also be used for grinding

Automatic welding helmets

VarioProtect L-W

- ▶ Continuously variable DIN 4-8 and DIN 9-13
- ▶ Response time 1/30 000 s
- ▶ 4 sensors
- ▶ For electrode, MIG/MAG and TIG



Model	VarioProtect L-W
Art. no.	1653995

Technical specifications	
View window	98 x 43 mm
Cassette dimensions	122 x 125 x 9 mm
Power supply	Solar cells
On/off	Fully automatic
UV/IR protection	permanent DIN 16
Protection levels	DIN 4 to 8 and DIN 9 to 13
Light shade level	4
Class*	1/1/2/1
Transition response time	1/30 000 s (from light to dark)
Dark to light transition time	0.25 – 0.8 s (continuously variable)
Sensitivity	Continuously variable
Material	Nylon
Overall weight	490 g

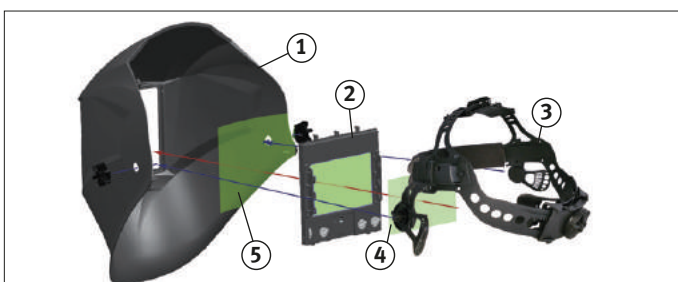
VarioProtect XL

- ▶ Continuously variable DIN 9-13
- ▶ Response time 1/30 000 s
- ▶ 4 sensors
- ▶ Carbon design
- ▶ For electrode and MIG/MAG



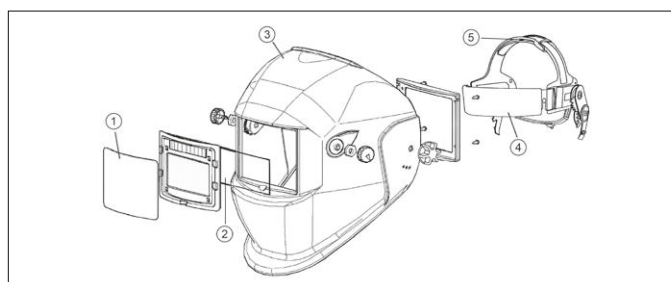
Model	VarioProtect XL
Art. no.	1654001

Technical specifications	
View window	98 x 55 mm
Cassette dimensions	110 x 90 x 9 mm
Power supply	Solar cells + replaceable battery
On/off	Fully automatic
UV/IR protection	permanent DIN 16
Protection levels	DIN 9 to 13
Light shade level	4
Class*	1/2/1/1
Transition response time	1/30 000 s (from light to dark)
Dark to light transition time	0.25 - 0.8 s (configurable in two stages: „Short“ - „Long“)
Sensitivity	Continuously variable
Material	Premium, impact-resistant polyamide nylon
Overall weight	480 g



Spare parts VarioProtect L-W

No.	Designation	PQ	Art. no.
5	Outer lens	10	1662030
4	Inner lens	10	1662040
3	Headband complete		1662032
	Sweatband for forehead		1662023
	Battery		1662034
1	Welder's helmet casing		1662041
2	Filter cassette L-W		1662042



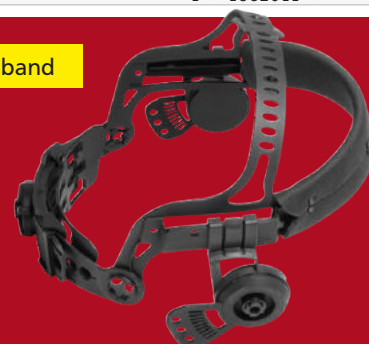
Spare parts VarioProtect XL

No.	Designation	PQ	Art. no.
1	Outer lens	10	1662001
2	Inner lens	10	1662003
5	Headband complete	1	1662006
4	Sweatband for forehead	1	1662005
5	Battery	1	1662007
3	Welder's helmet casing	1	1662008
	Filter cassette XL	1	1662011

The comfortable headband in the VarioProtect model range

- Maximum comfort for the user thanks to an adjustable headband. The headband can be quickly replaced thanks to the click mechanism. The sweatband is replaceable.

With replaceable headband



VarioProtect XXL W

Specially designed for TIG welding perfect choice

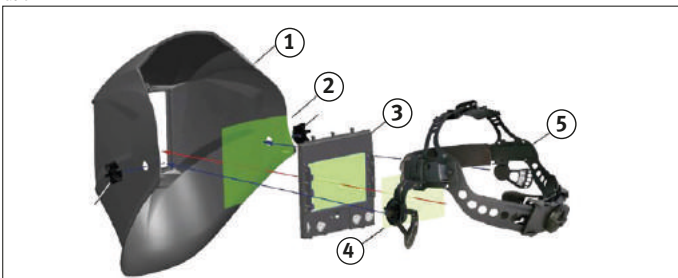
- ▶ Continuously variable DIN 4-8 & DIN 9-13
- ▶ Response time 1/30 000 s
- ▶ 4 sensors
- ▶ Extra large field of vision
- ▶ Easy battery replacement
- ▶ For electrode, MIG/MAG and TIG



Model	VarioProtect XXL W
Art. no.	1654010

Technical specifications	
View window	100 x 65 mm
Cassette dimensions	122 x 125 x 9 mm
Power supply	Solar cells + replaceable battery
On/off	Fully automatic
UV/IR protection	permanent DIN 16
Protection levels	DIN 4 to 8 & DIN 9 to 13
Light shade level	4
Class**	1/1/1/1
Transition response time	1/30 000 s (from light to dark)
Dark to light transition time	0.25 – 0.8 s (continuously variable)
Sensitivity	Continuously variable
Material	Premium, impact-resistant polyamide nylon
Overall weight	460 g

*Top marks in the optical class/scatter class/homogeneity class/angle property class evaluation



Spare parts VarioProtect XXL W

No.	Designation	PQ	Art. no.
2	Outer lens	10	1662030
4	Inner lens	10	1662031
5	Headband complete	1	1662032
	Sweatband for forehead	1	1662023
	Battery	1	1662034
1	Welder's helmet casing	1	1662033
3	Filter cassette XXL-W	1	1662035

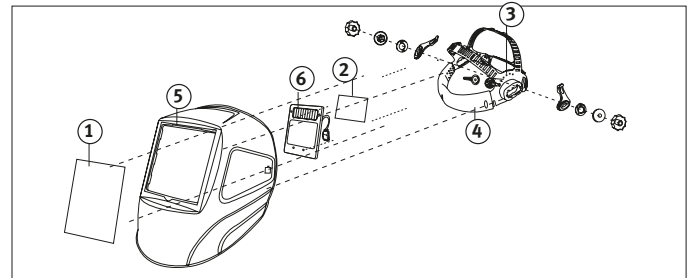
VarioProtect 3XL-W

- ▶ Continuously variable DIN 5-9 & DIN 9-13
- ▶ Response time 1/10 000 s
- ▶ 4 sensors
- ▶ Extra large field of vision
- ▶ Easy battery replacement
- ▶ For electrode, MIG/MAG and TIG



Model	VarioProtect 3XL-W
Art. no.	1654020

Technical specifications	
View window	100 x 93 mm
Cassette dimensions	133 x 114 mm
Power supply	Solar cells
On/off	Fully automatic
UV/IR protection	permanent DIN 16
Protection levels	DIN 5 to 9 & DIN 9 to 13
Light shade level	4
Class*	1/1/1/2
Transition response time	1/10 000 s (from light to dark)
Dark to light transition time	150-800 ms
Sensitivity	Continuously variable
Material	Nylon
Overall weight	535 g



Spare parts VarioProtect 3XL-W

No.	Designation	PQ	Art. no.
1	Outer lens	10	1662100
2	Inner lens	10	1662101
3	Headband complete	1	1662102
4	Sweatband for forehead	1	1662103
5	Welder's helmet casing	1	1662104
6	Filter cassette	1	1662105

VarioProtect XL W headband everything for the perfect fit

- The fit is very finely adjustable for optimum comfort
- Adjustable to hat sizes 50 (6 1/8th) to 64 (7 7/8ths)
- Soft, moving sweatband automatically adapts to the forehead contour
- Easy, nine-stage latching angle adjustment of the helmet
- Distance from helmet to face adjustable in four stages
- Easy action flipping up and down of the helmet thanks to low pivot point, gentle on the neck muscles
- Improved stability and optimised comfort for the user thanks to two adjustable cross-straps



VarioProtect XL W



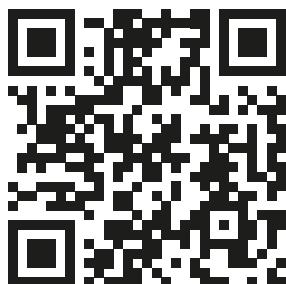
VarioProtect L
VarioProtect XL

Automatic welding helmets

New

VarioProtect XXL-W TC AIR – Welder's helmet with air filter system

- ▶ The air filter system supplies the welder with filtered, clean air, thus preventing inhalation of dangerous and health-hazardous particles and welding fumes
- ▶ Excellent filter effect: 99.99% = 0.3µm
- ▶ Easy to operate, even when wearing welder's gloves
- ▶ Welding in true colours thanks to **True Color** cassette
- ▶ Integrated Li-ION rechargeable battery for up to 8 hours of operation
- ▶ 3 blower stages selectable
- ▶ Uniform air distribution in fresh-air helmet



Model	VarioProtect XXL-W TC AIR
Art. no.	1654050
Technical specifications	
View window	83.4 x 100 mm
Cassette dimensions	114 x 133 x 9.5 mm
Power supply	Solar cells + replaceable battery
On/off	Fully automatic
UV/IR protection	15
Light shade level	4
Class	1/1/1/1*
Number of sensors	4
Transition response time	1/80,000 s (from light to dark)
Dark to light transition time	0.1 – 0.9 s (continuously adjustable)
Filter type	TH2 P R SL
Power supply	Solar cells + replaceable battery
Battery service life	Level 1: > 8h Level 2: > 6h Level 3: > 4h
Air flow blower breathing protection	Level 1: > 170 l/min Level 2: > 200 l/min Level 3: > 230 l/min
On/off	Fully automatic
Noise level	> 73 dB
Batterie type	Rechargeable LI-ION battery (440 mAh)
Material	Nylon
Total weight (helmet + filter + battery)	1,370 g

*Top marks in the optical class/scatter class/homogeneity class/angle property class evaluation

Scope of supply
VarioProtect XXL-W TC AIR
Welder's helmet with air filter system
Lens inside/outside
Prefilter & fine particle filter
Spark protection screen
Rechargeable LI-ION battery (440 mAh)
Battery charger 120
Breathing hose and cover (1 m)
Flowmeter
Padded hip belt and double shoulder belt
Black carrying bag





Spare parts VarioProtect XXL-W TC AIR			
No.	Designation	PQ	Art. no.
1	Outer lens	1	1662200
2	Inner lens	1	1662201
3	Headband complete	1	1662202
4	Sweatband for forehead	1	1662203
5	Spare filter cassette	1	1662204
6	Welder's helmet casing	1	1662205
7	Filter cover	1	1662206
8	Filter	1	1662207

Spare parts VarioProtect XXL-W TC AIR			
No.	Designation	PQ	Art. no.
9	Pre-Filter	1	1662208
10	Spark blocker	1	1662209
11	Air filter system	1	1662210
12	Li-ION battery	1	1662211
13	Air hose	1	1662212
14	Belt attachment	1	1662213
15	Charger	1	1662214
16	Air flow rate tester	1	1662215
17	Holding frame for filter cassette	1	1662216

Welding fumes are harmful to health! Options for avoiding welding fumes:

A **1 kg filler wire roll** generates approx. **5.2 g welding fumes**, which are extremely **hazardous to health**

- One approach to reducing welding fumes is to use a welding system that generates less welding fumes due to its arc.



Welding fumes created by welding 1 kg SG wire

VarioProtect XXL-W TC AIR

The most effective solution: air is fed directly into the welder's helmet

- To prevent illnesses, the VarioProtect XXL-W TC AIR offers a safe alternative for worry-free welding work.



Filter units or welding fume extraction units

For extracting welding fumes directly at the welding workplace

- The toxic welding fumes increase the risk of lung cancer for the welder and the immediate environment. Inhaling these fumes must be avoided at all cost.



Automatic welding helmets

Speedglas® Automatic welders' helmets – the must haves

Speedglas™ 9100 – The new generation! Tailor-made protection for welders.

- ▶ **Previously unknown safety and comfort!**
- ▶ 3 m SPEEDglas 9100 welders' visor - the latest generation of the original with many innovative features and details:
- ▶ New optimised welders' visor design
- ▶ Unique patented headband
- ▶ Newly-developed high-tech automatic welding filter, available in three versions: 9100V/9100X/9100XX

- ▶ Eye protection as per EN 379, Class 1/1/1/2, response time 0.1 ms, dark to light transition time adjustable from 40-1 300 ms, UV/IR protection class 13 permanent, light shade level 3, safety shade level 5, 2x 3V Lithium battery

Speedglas™ filter:

- ▶ Delay function for individual pre-setting of the dark to light transition time
- ▶ The most reliable transition response due to advance sensitivity settings
- ▶ Spot welding comfort mode, prevents eye fatigue

Welding visor **without** side panes and automatic welding filter

Designation	Art. no.
Speedglas™ 9100 V	1621970
Speedglas™ 9100 X	1621960
Speedglas™ 9100 XX	1621980

Welding visor **with** side panes and automatic welding filter

Designation	Art. no.
Speedglas™ 9100 V SF	1621971
Speedglas™ 9100 X SF	1621961
Speedglas™ 9100 XX SF	1621981

Automatic welders' filter for welders' visor

Designation	Art. no.
for Speedglas™ 9100 V	1630060
for Speedglas™ 9100 X	1630061
for Speedglas™ 9100 XX	1630062

The new headband: fits with millimetre precision!

An easy-action rotary knob allows for precise, granular adjustment.

Small, Medium, Large; setting of hat size 50 (6 1/8th) to 64 (7 7/8ths).

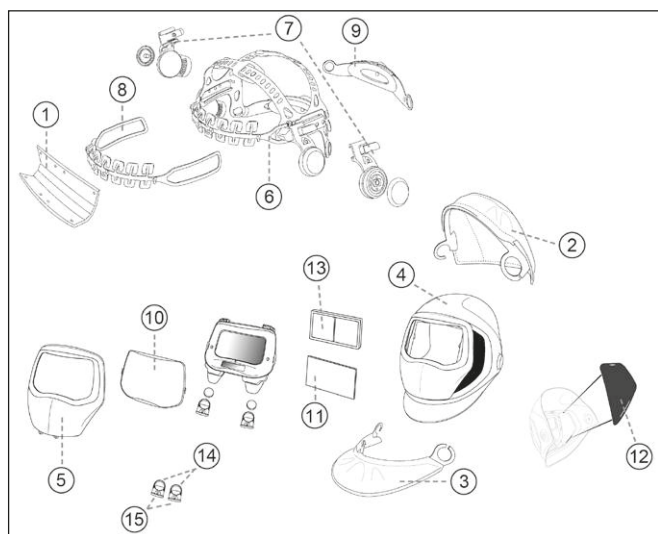
Locking stages define the gap between the face and the mask. Nine-fold latching ensures easy adjustment of the mask angle.



Two adjustable cross-straps enhance the mask stability and optimise the weight distribution

Specially designed padding automatically adapts to the forehead contour

Extremely low pivot point and centre of gravity relieves the strain on the neck muscles and ensures improved handling



Spare parts Speedglas™ 9100

No.	Designation	Art. no.	PU (pcs.)
1	Sweatband	1634001	3
2	TeclaWeld head protection	1634002	
3	TeclaWeld head and neck protection	1634003	
4	Welders' visor with side windows without headband	1634004	
5	Heat shield silver (front coverage)	1634005	
6	Headband incl. fasteners	1634006	
7	Holding pins for headband, right and left	1634007	
8	Headband, front part	1634008	
9	Headband, rear part	1634009	
10	Outer lens, standard	1634010	10
	Outer lens, scratch-resistant	1634011	10
	Outer lens, heat-resistant	1634012	10
11	Inner lens 9100 V	1634013	5
	Inner lens 9100 X	1634014	5
	Inner lens 9100 XX	1634015	5
12	Cover film for side windows	1634016	2
13	Magnifying lens		upon request
14	Batteries, pack of 2	1632012	
15	Battery holder, pack of 2	1634018	

3 m SPEEDglas 9100 welders' visor: more protection, more comfort!



New side windows for improved peripheral vision

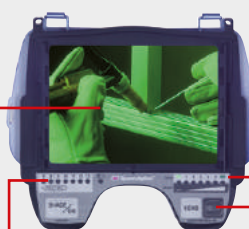
Breath out system prevents CO₂ build up while preventing visor fogging.

Lightweight, impact- and radiation-resistant visor shell for improved protection

Heat reflecting front shield

The new welders's filter generation: best vision, many features!

The SPEEDglas 9100 model range includes three new automatic filters which differ in size:
V: 45 x 93 mm,
X: 54 x 107 mm,
XX: 73 x 107 mm



The most reliable transition response due to advance sensitivity settings.

Spot welding comfort mode, prevents eye fatigue.

Seven individually pre-selectable protection classes: protection class 5 for oxyacetylene welding and cutting, class 8 for micro-plasma welding and TIG welding in the lower Ampere ranges, and variable protection classes 9-13

Delay function for individual pre-setting of the dark to light transition time

3 m™ Speedglas™ 9100 AIR with 9100V automatic welders' filter & Adflo™ fan respirator

► With its elegant, compact design, the international award-winning 3 m™ Adflo™ respiratory protection system was designed specifically for your welding requirements. The constant air flow delivers treated air which dissipates the heat in the mask and helps prevent sweating. Adflo offers enhanced protection and maximum comfort all day long.

► The motor unit feeds the air through pre-filters and particulate filters (and gas filters, if used), in order to filter out these hazardous materials before they reach the user's airways. They then guide the air through the air hose into the welders' mask. Mask seals and a constant nominal flow rate ensure that no unfiltered air penetrates into the mask.



Model	3 m™ Speedglas™ 9100 Air welding mask		
Art. no.	with 9100V ADF***	with 9100X ADF***	with 9100XX ADF***
	1623001	1623002	1623003
Technical specifications	9100V Filter	9100X Filter	9100XX Filter
Welding filter	9100V Filter	9100X Filter	9100XX Filter
Manual arc welding (Electrode)	*	*	*
MIG/MAG	*	*	*
TIG (>20A)	*	*	*
TIG (1A-20A)	*	*	*
Plasma (welding and cutting)	*	*	*
Hidden arc	*	*	*
Tack welding	*	*	*
Grinding (welding filter)	**	**	**
Field of vision (welding filter)	45 x 93 mm	54 x 107 mm	73 x 107 mm
Battery service life	2 800 hours	2 500 hours	2 000 hours
Solar cell	Yes	Yes	No
Class	1/1/1/2		
Dark protection level	Protection level 5, 8, 9–13		
Light shade level	Protection level 3		
UV/IR protection	Protection class 13 (permanent)		
Auto ON	No		
Response time light/dark	0.1 ms (+23° C)		
Delay (dark to light transition time)	40 – 1 300 ms		
Side window option (Side Windows)	Yes		
Exhaust air ducting	Yes (version without Air)		
Number of sensors	3		

*Perfectly suited ** Well suited ***ADF = Auto Darkening Filter

Spare parts 3 m™ Speedglas™ 9100 Air		Art. no.
1	Adapter for connecting older air hoses	1637000
	9100 Air duct channel	1637001
	9100 Air face seal	1637002
	9100 Air welding visor without head-band, without air duct, without face seal, without ADF***	1637003
	9100 Air welders's visor without ADF***	1637004
2	Storage pouch	1637020
	Adflo filter housing with air hose QRS, adapter for QRS air hoses, air flow meter, pre-filter, spark blocker, particulate filter and rechargeable battery without charger	1637030
	Adflo filter housing with air hose QRS, adapter for QRS air hoses, air flowmeter, pre-filter, spark blocker, particulate filter and rechargeable battery, with charger and strap	1637035
3	Air hose, self-adjusting (52.5 to 85 cm) with QRS	1637005
4	Spark blocker	1637006
5	Pre-filter, pack of 5	1637007
6	Particulate filter THP	1637008
6	Particulate filter THP, pack of 20	1637009
7	Odour filter	1637010
8	Odour filter pad	1637011
9	Gas filter A1B1E1	1637012
10	Gas filter A1B1E1 filter and Li-ION high-performance rechargeable battery	1637013
11	Gas filter A2	1637014

Automatic welding helmets

3 m™ Speedglas™ 100V automatic entry level welders's helmet

3 m™ Speedglas™ dazzle protection filter: single-stage or variable!
The dazzle protection filter in the 3 m™ Speedglas™ 100V has a variable dark shade

level between 8 – 12 and light shade level of 3. The filter in the Speedglas 100V is equipped with variably configurable dark shade level from 8-12; the light shade level is also 3.

Additionally, the Speedglas 100V offers three sensitivity levels for optimal adjustment to various welding conditions:

Class 1 if other welders are working in the immediate vicinity, **Class 2** the standard setting for most typical welding procedures, and **Class 3** for low-amperage welding, TIG welding or welding with a high-frequency inverter.

Suitable for most arc welding methods, including electric manual, MIG/MIG and high amperage TIG welding.

I.e., perfect for electrode welding and MIG/MAG welding; restrictions apply for TIG welding in the low amperage range, and for high-frequency inverters.

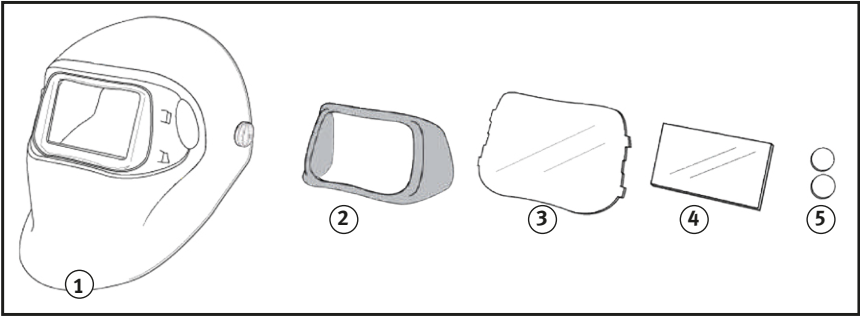


Transition time light/dark 0.1 ms. With a new delay function for individual adjustment of the dark to light transition delay.

3 m™ Speedglas™ 100 V welder's filter: five configurable dark shade levels 8 - 12 and one light shade level 3. Three sensitivity levels.

Protection class 3 can be set for, e.g., grinding.

Enhanced impact-protection as per European standard EN 175 B.



Model	3 m™ Speedglas™ 100V
Art. no.	1620100

Technical specifications	
Welders' visor	complies with EN 175
Inner and outer lens	complies with EN 166
Dazzle protection filter	complies with EN 379
Classification	1/2/2/3
Transition time light/dark	0.1 ms (+23° C)
Dark to light transition delay	100 – 250 ms
UV/IR protection	Protection class 12 (permanent)
Field of vision	44 x 93 mm
Light shade level	Protection level 3
Dark protection level	Protection class 8 – 12 (variable)
Solar cells	None
Number of sensors	2
Battery life	1 500 hours
Overall weight	440 g

Pos.	Spare parts 3 m™ Speedglas™ 100V	PQ	Art. no.
1	Welders' mask, black, with headband	pieces	1635000
2	Front cover, silver	pieces	1635001
3	Outer lens, Standard (pack of 10) 140 x 85 mm	Pack	1635002
3	Outer lens, extra scratch-resistant (pack of 10) 140 x 85 mm	Pack	1635003
3	Outer lens, heat-resistant (pack of 10) 140 x 85 mm	Pack	1635004
4	Inner lens, Standard (pack of 5) 42 x 91 mm	Pack	1635005
5	Battery, standard (pack of 2)	Pack	1635006
6	Leather sweatband, Standard (1 pc.)	pieces	1635007



TIG

Designation	Art. no.
Welders' gloves cowhide size 10	1611000
• TOP cowhide nappa leather, beige • very soft and supple leather • Cuffs made of split leather • sewn with thread containing Du Pont™ Kevlar • DIN EN 12477 design A • length: approx. 35 cm	



MIG/MAG

Designation	Art. no.
Welders' gloves cowhide size 10.5	1611001
• Professional quality • full leather palm • back of hand and cuff made of split leather • sewn with cotton thread containing DuPont™ Kevlar • Piped seams • pulse protection • EN 388 DIN EN 12477 design A	



MIG/MAG

Designation	Art. no.
Welders' gloves cowhide size 10.5	1611002
• Standard quality • full leather palm • piped seams • Back of hand and cuff made of split leather • pulse protection • Length: approx. 35 cm • DIN EN 12477 design A	



Welders' protective sleeves 1611006



Protective spats 1611007



Split leather apron 80 x 100 cm
Welding apron - cowhide 1611008

MIG/MAG

Multifunctional inverter

TIG inverters

Electrode inverters

Plasma cutting equipment

Electrochemical processing

Welding accessories

Welding accessories



Designation	Art. no.	PQ
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Full view visor clear 1600100 10

- ▶ made of flexible, clear plastic
- ▶ Ventilation opening covered by mesh
- ▶ suitable for acid, vapours, dust, and for grinding
- ▶ as per EN 166 B 0196 CE



Designation	Art. no.	PQ
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Welders' goggles, clear, shatter-free 1600200 10

Welders' goggles 5 A DIN 1600205 10

- ▶ for DIN lenses 50 mm diameter



Designation	Art. no.	PQ
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Flip-up welders' goggles P 1600305 10

- ▶ Soft and stable PVC body
- ▶ Also suitable for spectacle wearers
- ▶ Flip-up DIN lenses with clear lenses underneath
- ▶ for DIN lenses 50 mm diameter, clear, shatter-free and 5 A DIN
- ▶ as per EN 166 3 4 F 0196 CE



Designation	Art. no.	PQ
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Nylon safety goggles, clear, shatter-free 1600400 10

Nylon safety goggles 5 A DIN 1600465 10

- ▶ Easy lens change with knurled screw
- ▶ Soft frame
- ▶ for DIN lenses 50 mm diameter

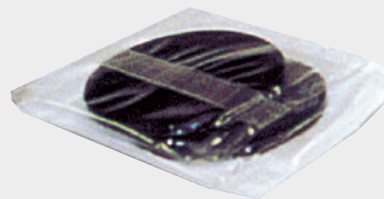


Designation	Art. no.	PQ
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Nylon safety goggles adjustable, clear, shatter-free 1600500 10

Nylon safety goggles adjustable, 5 A DIN 1600505 10

- ▶ End piece length and angle adjustable
- ▶ Lightweight and comfortable design
- ▶ Moulded lens 66 x 56 mm convex



Designation	Art. no.	PQ
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DIN lenses, 5 A DIN 1600805 10

round, 50 mm diameter

DIN lenses, clear, shatter-free 1600800 10

round, 50 mm diameter

AULEKTRO - welder's safety visors and their intended use in gas welding
AULEKTRO 3-8 FW 1 DIN

How to interpret the table correctly.

Read off the current output in Ampere (A) at the transformer for your selected welding method. Read off the current in the vertical column of figures in the chart. Now move from the amperage you read off to the column for your choice of welding procedure. You can now read off the AULEKTRO protection class (the figure in the corresponding box).

		Schweißverfahren							
		umhüllte Elektroden	MIG bei Stahlwerkst.	MIG bei Leichtm.-Leg.	WIG bei Metallen u. Leichtmetall-Lg.	MAG	Lichtbogen-fugenhobeln	Plasma-schmelz-schneiden	Mikro-plasma-schweißen
Stromstärke (A) Trafostellung	700 -					16			
	650 -					16			
	600 -					15			
	550 -					15			
	500 -					15	16		
	450 -	14	14	15		15	15		
	400 -	13	13	14		14	14		
	350 -				14	14	14		
	300 -			13			13		
	275 -				14			13	
	250 -	12	12				12		13
	225 -			12	13	13			
	200 -						11		12
	175 -								
	150 -								
	125 -	11	11	11	12	12	10		
	100 -					11			11
	80 -								
60 -	10			11	10				
40 -									
30 -	9			10					
20 -									
15 -									
10 -									
5,0 -				10					
2,5 -									
1,0 -									
0,5 -									
									10
									9
									7
									5
									4

Protection level	Flame cutting (l. oxygen/hr.)
3 FW 1 DIN	Simple flame cutting work
4 FW 1 DIN	< 900 l
5 FW 1 DIN	900 - 2 000 l
6 FW 1 DIN	2 000 - 4 000 l
7 FW 1 DIN	4 000 - 8 000 l
8 FW 1 DIN	> 8 000 l

Protection level	Flame cutting (l. oxygen/hr.)
3 FW 1 DIN	Simple flame cutting work
4 FW 1 DIN	< 900 l
5 FW 1 DIN	900 - 2 000 l
6 FW 1 DIN	2 000 - 4 000 l
7 FW 1 DIN	4 000 - 8 000 l
8 FW 1 DIN	> 8 000 l



Designation	Art. no.
Manual shield D	1600610

- ▶ Made of diamond fibre, straight design
- ▶ For lens size 90 x 110 without safety visors



Designation	Art. no.
Manual shield D	1600620

- ▶ Made of fibreglass right-angle design
- ▶ For lens size 90 x 110 without safety visors



Designation	Art. no.
Free view manual shield G	1600600

- ▶ Made of fibreglass right-angle design
- ▶ With insulated mechanical system, for lens size 90 x 110 without safety visors



Designation	Art. no.
Head protector G	1600710

- ▶ Fibreglass with headband
- ▶ For lens size 90 x 110 without safety visors



Designation	Art. no.
Head protector P	1600720

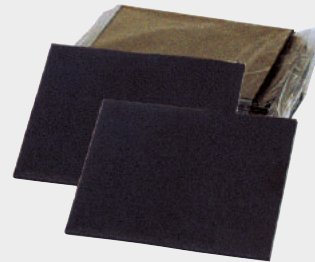
- ▶ made of polypropylene with headband
- ▶ For lens size 90 x 110 without safety visors



Designation	Art. no.
Headband with latch adjustment	1600711

- ▶ for head protector G
- ▶ Continuously variable
- ▶ with sweatband for forehead

Designation	Art. no.
Headband for head protector P	1600721



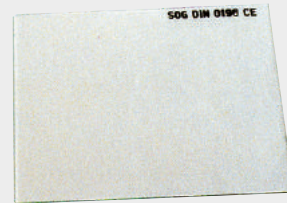
Designation	Art. no.
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Welders' safety visors 90 x 110 as per DIN

9 A DIN	1601009
10 A DIN	1601010
11 A DIN	1601011
12 A DIN	1601012
13 A DIN	1601013

Welders' safety visors mirrored 90 x 110 as per DIN

9 A DIN mirrored	1601109
10 A DIN mirrored	1601110
11 A DIN mirrored	1601111
12 A DIN mirrored	1601112
13 A DIN mirrored	1601113



Glass lens (clear)

90 x 110	1601300
40 x 110	1601301

1 000 hour visor 90 x 110

Plastic CR 39	1601310
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Designation	Art. no.
Welders' protective leather mask	1600050

- ▶ Made of soft leather sewn with Kevlar thread
- ▶ for out-of-position shield gas welding
- ▶ Flip-up plastic goggles Ø 50 mm

TransEco safety screen

Safety wall self-supporting via 2 uprights and mobile

- ▶ Easily combined and extended, many benefits:
- ▶ Protection against radiation during arc welding
- ▶ Protection against dirt, moisture, drafts and annoying insolation
- ▶ Sight protection for welding and grinding
- ▶ Easy assembly, tubular steel frame, powder coated
- ▶ Covered with TransTec foils in tried and trusted quality
- ▶ Stable as single walls, cabins or complete workpiece partitions
- ▶ Space-saving packaging (can be sent by parcel post)
- ▶ Certified as per DIN EN 1598, hazard class < 1

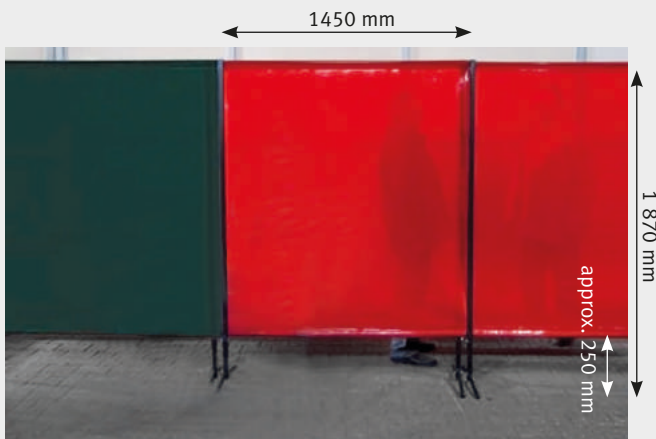


Figure shows multiple safety walls in series

Designation	Weight	Art. no.
TransEco safety screen 1450 V red-orange 1 450 x 1 870 mm	9.3 kg	1611450
TransEco safety walls 1 450 V dark green matt 1 450 x 1 870 mm	9.3 kg	1611451
TransEco safety walls 2 050 V red-orange 2 050 x 1 870 mm	10.5 kg	1612000
TransEco safety walls 2 050 V dark green matt 2 050 x 1 870 mm	10.5 kg	1612001

Delivered as an assembly kit with installation guide for self-assembly (for TransEco and TransFlex)

TransFlex safety wall

Safety wall wheeled, mobile

- ▶ TransFlex is based on a stable, welded frame made of square tube and 1" round tube, fully powder-coated
- ▶ TransFlex basic elements are mobile and 2100 mm wide.
- ▶ 2 arms as booms 800 mm width
- ▶ 3 curtains in 2 designs: red-orange or dark green matt, 1 300 mm width x 1 600 mm height, non-seamed
- ▶ 4 rollers Ø 100 mm, of which 2 with brake

Product benefits:

- ▶ Adapts flexibly to changing welding situations
- ▶ Inexpensive protection as a single screen
- ▶ Ideal also in combination with multiple walls
- ▶ Easy to assemble
- ▶ Ground clearance 300 mm
- ▶ Certified as per DIN EN 1598, hazard class < 1

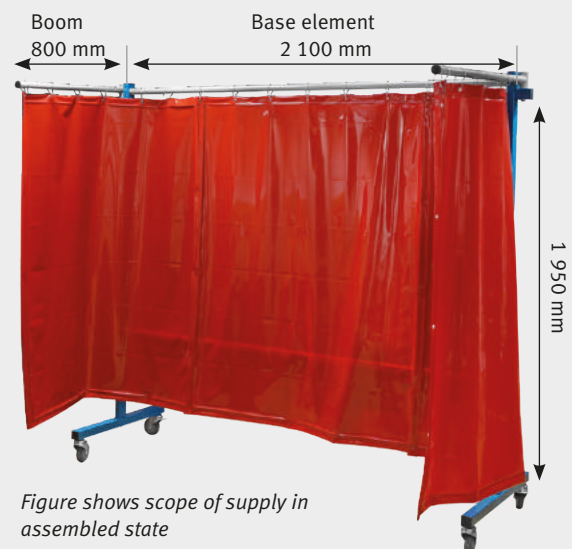


Figure shows scope of supply in assembled state

Designation	Weight	Art. no.
TransFlex safety wall with non hemmed curtain, red-orange 3 700 x 1 950 mm	35 kg	1613000
TransFlex safety wall with non hemmed curtain dark green matt, 3 700 x 1 950 mm	35 kg	1613001

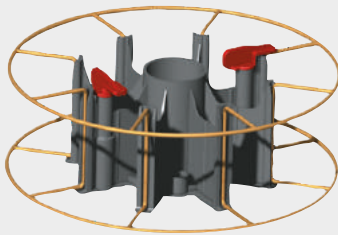
Typical application:



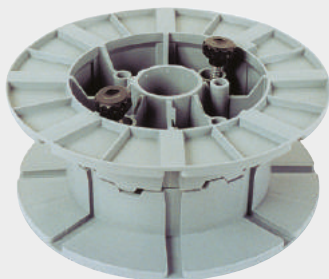
Two TransFlex safety walls combined to form an enclosed cabin. Outer walls and booms pivot



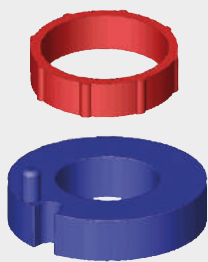
Designation	Art. no.
Basket spool adapter KA 1	1110001
▶ pluggable	



Designation	Art. no.
Basket spool adapter KA 2	1110005
▶ with quick release coupling	



Designation	Art. no.
Basket spool adapter KA 3	1110006
▶ Two-part	



Designation	Art. no.
Centring adapter for D 200 spools	1110007
▶ Two-part	



Designation	Art. no.
MIG/MAG special gun	
Size 1, for 12-15 mm tips	1091000
Size 2, for 15-18 mm tips	1092000
▶ Fast and dimensionally true cutting of the filler wire	
▶ Time-saving cleaning and honing of the shield gas tip, and loosening and tightening the contact tip	

Accessories for Argon/CO₂ pressure regulator (Art. no. 1700054) with content pressure gauge and flow pressure gauge

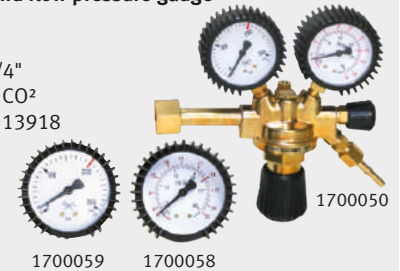
Max. pressure: 200 bar
Max. flow rate: 15 l/min
Connection: W 21.8 x 1/14"-1/4"
For gases: Argon, mix Ar/CO₂, CO₂
As per standard: EN 2503, EN 13918



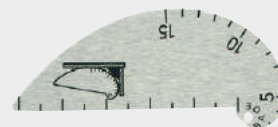
Designation	Art. no.
Schweißkraft small, Ø 50 mm	1700054
Content pressure gauge Ø 50 mm 0-315 bar	1700451
Flow pressure gauge Ø 50 mm 0-15 l/min	1700452

Accessories for Argon/CO₂ pressure regulator (Art. no. 1700050) with content pressure gauge and flow pressure gauge

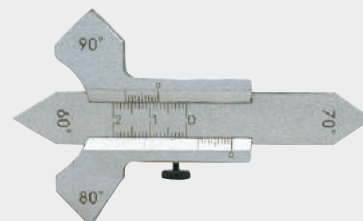
Max. pressure: 200 bar
Max. flow rate: 30 l/min
Connection: W 21.8 x 1/14"-1/4"
For gases: Argon, mix Ar/CO₂, CO₂
As per standard: EN 2503, EN 13918



Designation	Art. no.
Schweißkraft large, Ø 63 mm	1700050
Content pressure gauge Ø 63 mm 0-315 bar	1700059
Flow pressure gauge Ø 63 mm 0-30 l/min	1700058



Designation	Art. no.
Weld gauge SL 1	1252201
▶ made of aluminium	



Designation	Art. no.
Weld gauge SL 2	1252202
▶ Precision design for measuring flat welds and welds in corners 60°/80°/90°	



Designation	Art. no.
Tip spray 400 ml (VE 12)	1096401
▶ water-free	
▶ silicon-free, odourless and CFC-free	
▶ Releasing agent on plant basis	

Welding accessories

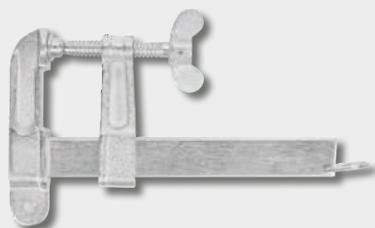


Designation	Art. no.
Pratica 1 (200 A - 35% DC/electrodes max. 3.2 mm)	
Pratica 2 (350 A - 35% DC/electrodes max. 5 mm)	1240143
Pratica 3 (520 A - 35% DC/electrodes max. 8 mm)	1240163
► Insulated as per EN 60974-11 with impact-proof insulated shells made of glass fabric laminate for Allen cable shoe connection	

Designation	Art. no.
Insulating shells for electrode holder	
Pratica 1	1240124
Pratica 2	1240144
Pratica 3	1240164



Designation	Art. no.
Electrode holder Superior 4	1240040
► 250 A - 35% DC/200 A - 60% DC/Electrodes 2.4-4 mm/ cable 25-35 mm²/480 gr. handle and head flame- and heat-resistant	
► Body made of brass with insulated pressure spring	
► Electrode is clamped by turning the electrode holder head	
► with cable shoe connection	
► as per EN 60974-11 and IEC 974-11, B200 TÜV CE	



Designation	Art. no.
Terminal welding clamp made of steel 400 A	1250140
Terminal welding clamp made of steel 600 A	1250160
Tempered casting, clamping width 150 mm, throat 80 mm, with cable strain relief	



Designation	Art. no.
ground clamps	
200 A, braided copper, 180 mm, M6	1240220
400 A, m. copper core, terminal conn. brass strap, 200 mm, M10	1240240
600 A, braided copper, 200 mm, M10	1240260



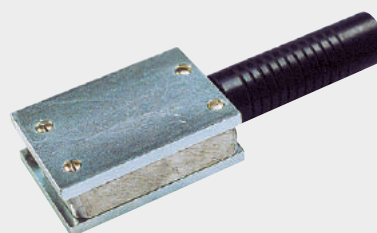
Designation	Art. no.
ground clamps Nevada as per BS 638-5 CE	
Nevada 3 (300 A - 60%/400 A - 35%)	1240235
Nevada 5 (400 A - 60%/500 A - 35%)	1240265



Designation	Art. no.	PQ
Press-fit cable lugs 16 mm²	1250416	10
Press-fit cable lugs 25 mm²	1250425	10
Press-fit cable lugs 35 mm²	1250435	10
Press-fit cable lugs 50 mm²	1250450	10
Press-fit cable lugs 70 mm²	1250470	10



Designation	Art. no.	PQ
Screw-type cable lugs CU 25 mm²	1250525	10
Screw-type cable lugs CU 35 mm²	1250535	10
Screw-type cable lugs CU 50 mm²	1250550	10
Screw-type cable lugs CU 70 mm²	1250570	10



Designation	Art. no.
Magnetic terminal clamp MPK 400 A	1240340
Magnetic terminal clamp MPK 600 A	1240360
► Excellent magnetic hold on pipes	



Designation	Art. no.
Chipping hammer	1250300
► approx. 440 g	
► Oval tube Ø 28 mm	
► All steel construction	



Earth cable 4 m Complete with earth clamp	Art. no.
16 mm ² , KS 25/9 mm, clamp 200 A	1250215
25 mm ² , KS 25/9 mm, clamp 200 A	1250224
16 mm ² , KS 50/13 mm, clamp 200 A	1250216
25 mm ² , KS 50/13 mm, clamp 200 A	1250225
35 mm ² , KS 50/13 mm, clamp 400 A	1250235
50 mm ² , KS 50/13 mm, clamp 600 A	1250250
70 mm ² , KS 70/13 mm, clamp 600 A	1250270



Welding cable 4 m complete with electrode holder	Art. no.
16 mm ² , KS25/9 mm, electrode holder 260 A	1250353
25 mm ² , KS25/9 mm, electrode holder 260 A	1250354
16 mm ² , KS50/13 mm, electrode holder 260 A	1250360
25 mm ² , KS50/13 mm, electrode holder 260 A	1250361
35 mm ² , KS50/13 mm, electrode holder 400 A	1250362
50 mm ² , KS50/13 mm, electrode holder 600 A	1250363
70 mm ² , KS50/13 mm, electrode holder 600 A	1250364



Designation	Art. no.	PQ
Welding cable coupling connector KS 25, 10-25 mm ²	1250635	10
Welding cable coupling connector KS 50, 35-50 mm ²	1250650	10



Designation	Art. no.	PQ
Welding cable coupling socket KB 25, 10-25 mm ²	1250735	10
Welding cable coupling socket KB 50, 35-50 mm ²	1250750	10



Designation	Art. no.	PQ
Welding cable installable socket EB 25, 10-25 mm ²	1250836	10
Welding cable installable socket EB 50, 35-50 mm ²	1250851	10



Designation	Art. no.
Welding workplace equipment	
SPA 16 mm ² /KS 10-25 mm ² / Pratica 1/ ground clamp 200 A	1240400
SPA 25 mm ² /KS 35-50 mm ² / Pratica 1/ ground clamp 200 A	1240445
SPA 35 mm ² /KS 35-50 mm ² / Pratica 2/ ground clamp 600 A	1240450
▶ Welding cable PVC 5 m with electrode holder and welding cable plug	
▶ Earth cable PVC 3 m with ground clamp and welding cable plug	
▶ Chipping hammer	
▶ Wire brush 2-row	
▶ Manual shield polypropylene (CE)	
▶ Welder's visor DIN 9	
▶ Lens 90x110 mm	
▶ Gloves 5-finger	



Designation	Art. no.
Welding cable 5 m pre-assembled	
25 mm ² /10-25 mm ² /9 mm pin/M8	1250227
35 mm ² /16-35 mm ² /13 mm pin /M10	1250236
50 mm ² /35-50 mm ² /13 mm pin/M10	1250252
▶ as per H01 N2 D VDE 0250	
▶ 5 m complete with welding cable plug and crimp cable shoe	
▶ for attaching an ground clamp or electrode holder	



Designation	Art. no.
Welding cable per metre 16 mm ²	1250316
Welding cable per metre 25 mm ²	1250325
Welding cable per metre 35 mm ²	1250335
Welding cable per metre 50 mm ²	1250350
Welding cable per metre 70 mm ²	1250370
▶ as per H01 N2 D VDE 0250, part 6	
▶ highly flexible	
▶ Cold- and flame-resistant	

Technical gases and additives

Technical gases

- Seamless steel cylinders, complete with cylinder valve, with thread as per DIN 477, cap DIN 4667 and fill



Mixed gas (82% Argon, 18% CO₂)

Size	Contents	Length	Weight	Art. no.
5 l	1.2 m ³	520 mm	6 kg	1741005
10 l	2.4 m ³	820 mm	18 kg	1741010
20 l	4.7 m ³	840 mm	40 kg	1741020
50 l	11.8 m ³	1515 mm	87 kg	1741050

Argon (99.996 Vol. %)

Size	Contents	Length	Weight	Art. no.
5 l	1.1 m ³	520 mm	6 kg	1741006
10 l	2.1 m ³	820 mm	17 kg	1741012
20 l	4.3 m ³	840 mm	40 kg	1741021
50 l	10.7 m ³	1515 mm	85 kg	1741055

for V2A + ALU (TIG/alum. soldering/MIG)

Argon mixed gas (97.5% Argon, 2.5% CO₂)

Size	Contents	Length	Weight	Art. no.
10 l	2.1 m ³	820 mm	17 kg	1744010
20 l	4.3 m ³	840 mm	40 kg	1744020

For V2A welding (MAG)

Oxygen* (gas welding)

Size	Contents	Length	Weight	Art. no.
10 l	2.1 m ³	845 mm	20 kg	1743010
20 l	4.3 m ³	810 mm	40 kg	1743020
50 l	10.0 m ³	1620 mm	85 kg	1743050

Acetylene* (gas welding)

Size	Contents	Length	Weight	Art. no.
10 l	1.6 m ³	850 mm	25 kg	1742010
20 l	3.2 m ³	840 mm	42 kg	1742020
50 l	6.4 m ³	1620 mm	95 kg	1742050

*Only available in Germany

Fill ¹⁾ Mixed gas (82 % Argon, 18% CO₂)

Size	Art. no.
5 l	1741105
10 l	1741011
20 l	1741022
50 l	1741025

Fill ¹⁾ Argon (99.996% Argon)

5 l	1741007
10 l	1741013
20 l	1741023
50 l	1741024

Fill ¹⁾ Argon mixed gas (97.5% Argon, 2.5% CO₂)

10 l	1744011
20 l	1744021
50 l	1744022

Fill ¹⁾ oxygen

10 l	1743011
20 l	1743021
50 l	1743051

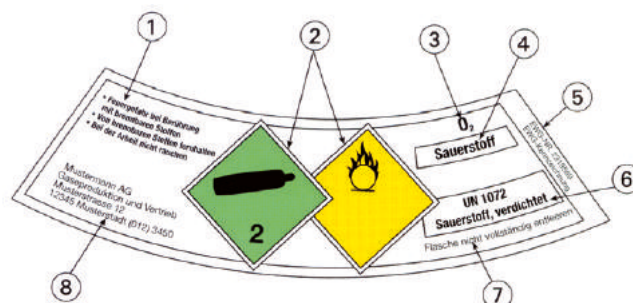
Fill ¹⁾ Acetylene

10 l	1742011
20 l	1742022
50 l	1742041

¹⁾ Fill: Price assumes return of empty cylinder. Only available in Germany.

Delivery as of 8 fills.

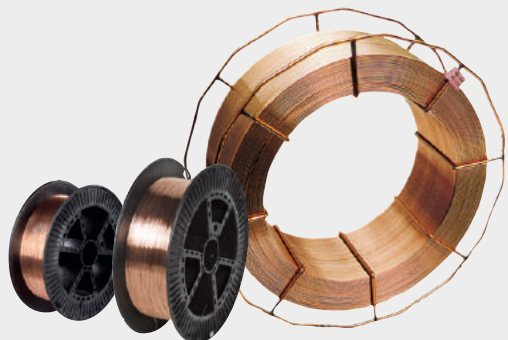
The hazardous materials labels shown meet the transport regulation requirements (GGVS/GGVE); they contain, for technical oxygen for example, the information explained in the following:



Zahlenerklärung:

- Risiko und Sicherheitssätze
- Gefahrzettel
- Zusammensetzung des Gases beziehungsweise des Gasgemisches
- Produktbezeichnung des Herstellers
- EWG-Nummer bei Einzelstoffen oder das Wort „Gasgemisch“
- Vollständige Gasbenennung nach GGVS
- Herstellerhinweis
- Name, Anschrift und Telefonnummer des Herstellers

MAG steel filler wires low alloy



SG 2 material no. 1.5125 DIN 8559/DIN EN 440

- ▶ for the following base materials:
- ▶ Tubular steels St 35, St 45, St 52, St 55;
- ▶ Fine sheet metal St 12, St 13, St 14
- Shipbuilding steels A, B, C, D, E;
- Pressure vessel steels H 1, H 2, H 3; cast steel GS-38, GS-45, GS-52
- Construction steels St 34, St 37, St 42, St 46, St 52, St 55, St 60
- Fine-grained construction steels St E 26, St E 29, St E 32, St E 36, St E 39, St E 4
- ▶ Low alloy wire electrode for joining and deposit welding
- ▶ Shield gas: CO₂ and mixed gases

Basket spool K 300 longitudinally wound 15.0 kg

	Art. no.
0.8 mm	1116008
1.0 mm	1116010
1.2 mm	1116012

D 300 spool, normally wound 15.0 kg

0.8 mm	1110008
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D 300 spool, normally wound 5.0 kg

0.8 mm	1115008
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*larger quantities on request.

SG 3 material no. 1.5130 DIN 8559/DIN EN 440

- ▶ for the following base materials:
- Tubular steels St 35, St 45, St 52, St 55;
- Fine sheet metal St 12, St 13, St 14
- Shipbuilding steels A, B, C, D, E;
- Pressure vessel steels H 1, H 2, H 3; cast steel GS-38, GS-45, GS-52
- Construction steels St 34, St 37, St 42, St 46, St 52, St 55, St 60
- Fine-grained construction steels St E 26, St E 29, St E 32, St E 36, St E 39, St E 43
- ▶ Low alloy wire electrode for joining and deposit welding
- ▶ Shield gas: CO₂ and mixed gases

Basket spool K 300 longitudinally wound 16.0 kg

	Art. no.
0.8 mm	1113008
1.0 mm	1113010
1.2 mm	1113012

Filler wires low alloy/rutile, for welding without gas DIN EN 758

Low alloy/rutile for the following basic materials:

With MT-FD: St 33, St37-2 bis St52-3, St37.4-St52.4, St35.8, St45.8, St37 to St52, H1, H11, 17 Mn 4

Basket spool D 200 normally wound 4.5 kg

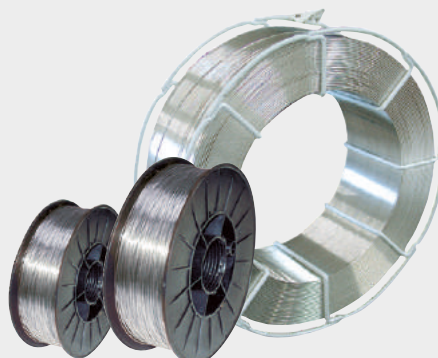
MT-FD 0.9 mm	1132000
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Basket spool K 300 longitudinally wound 15.0 kg

MT-CS 1.2 mm	1132001
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With MT-CS: s185, S235JR, S355Jo, P295GH, P235GH, P265GH, S355GT

MIG aluminium filler wires



Al Mg 3 material no. 3.3536 DIN 1732

- ▶ for the following base materials: Al Mg 3, Al Mn 1, Al Mg 1, 8
- ▶ Welding rolled and cast aluminium-magnesium alloys
- ▶ Shield gas: pure argon or argon/helium mix

D 300 spool 7.0 kg

	Art. no.
1.0 mm	1123008
1.2 mm	1123010

Al Mg 5 material no. 3.3556 DIN 1732

- ▶ for the following base materials: Al Mg 5, Al Mg 3, Al Mg Si 1, Al Mg 1
- ▶ Welding rolled and cast aluminium-magnesium alloys
- ▶ Shield gas: pure argon or argon/helium mix

D 300 spool 7.0 kg

	Art. no.
1.0 mm	1125010
1.2 mm	1125012

Al Si 5 material no. 3.2245 DIN 1732

- ▶ for the following base materials: Al Mg Si 1, Al Zn 4.5 MG 1, Al Cu MG 1
- ▶ Shield gas: pure argon or argon/helium mix

D 300 spool 7.0 kg

	Art. no.
1.0 mm	1126010
1.2 mm	1126012

Al Mg 4.5 Mn material no. 3.3548 DIN 1732

- ▶ for the following base materials: Al Mg 4.5 Mn, Al Mg 3, Al Mg 5
- ▶ Welding rolled and cast aluminium-magnesium alloys
- ▶ Shield gas: pure argon or argon/helium mix

D 300 spool 7.0 kg

	Art. no.
1.0 mm	1124010
1.2 mm	1124012

D 200 spool 2.0 kg

1.0 mm	1124210
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MIG filler wires for MSG soldering

Filler wire CuSi 3

For copper, low alloy copper and copper zinc alloys.
For deposit welding on non alloy or low alloy steels and cast iron.

Small spool D200, 5 kg

Ø 0.8 mm	1131620
Ø 1.0 mm	1131619

Basket spool K300, 15 kg

Ø 0.8 mm	1131625
Ø 1.0 mm	1131624

Filler wire CuAl 8

For manganese and nickel copper aluminium alloys. For highly-stressed corrosion resistant deposit welding on non alloy or low alloy steels and cast iron.

Small spool D200, 5 kg

Ø 0.8 mm	1131630
Ø 1.0 mm	1131629

Basket spool K300, 15 kg

Ø 0.8 mm	1131635
Ø 1.0 mm	1131634

! Other dimensions, alloys, spool types, and larger volumes on request.

Due to raw material price fluctuations
All prices are subject to change.



MAG stainless steel filler wires

1.4316 DIN 8556: SG X 2 Cr Ni 19 9

- ▶ for the following base materials: 1.4301, 1.4306, 1.4308, 1.4311, 1.4303, 1.4310, 1.4319, 1.4541, 1.4550, 1.4552
- ▶ Joint and depositing welding of stainless and acid-resistant Cr and Cr-Ni steels.
- ▶ Not for use in a medium with high sulphur content.
- ▶ For operating temperatures from -196 °C to 350 °C.
- ▶ Shield gas: Argon S 1 - S 3, mixed gases

D 300 spool 15.0 kg Art. no.

0.8 mm	1130208
1.0 mm	1130210
1.2 mm	1130212

D 200 spool 5.0 kg

0.8 mm	1130238
1.0 mm	1130231

1.4551 DIN 8556: SG X 5 Cr Ni Nb 19 9

- ▶ for the following base materials: 1.4301, 1.4306, 1.4308, 1.4310, 1.4312, 1.4319, 1.4541, 1.4550
- ▶ TIG or MIG/MAG welding of stainless, austenitic steels
- ▶ Not for use in a medium with high sulphur content.
- ▶ For operating temperatures up to 400 °C, scaling resistant up to +800 °C
- ▶ Shield gas: Argon, mixed gases, e.g., M11, M23

D 300 spool 15.0 kg Art. no.

1.0 mm	1131610
1.2 mm	1131612

Hardfacing shield gas filler wires

MSG material 6-60 no. 1.4718 DIN 8555

- ▶ Materials and applications: Deposit welding on machine parts exposed to wear made of constructional or cast steel. The welding material has good viscous strength and is wear-resistant. For bulldozer parts, conveyor screws, roller crushers, percussion hammers, rollers and running surfaces.
- ▶ Vickers hardness: 650 - 775 HV
- ▶ Rockwell hardness: 56 - 62 HR
- ▶ Shield gas: Argon S 1 - S 3, mixed gases

D 300 spool 15.0 kg Art. no.

1.0 mm	1130110
1.2 mm	1130112
1.6 mm	1130116

! Other filler wires for deposit welding, dimensions, alloys, spool types, and larger volumes on request.



MAG stainless steel filler wires

1.4430 DIN 8556: SG X 2 Cr Ni Mo 19 12

- ▶ for the following base materials: 1.4401, 1.4404, 1.4408, 1.4429, 1.4435, 1.4436, 1.4541, 1.4550, 1.4552, 1.4571, 1.4573, 1.4580, 1.4581, 1.4583, 1.6901, 1.6902, 1.6903, 1.6905
- ▶ Welding stainless, cryogenic and austenitic steels. For operating temperatures up to 400 °C
- ▶ Shield gas: Argon S 1 - S 3, mixed gases

D 300 spool 15.0 kg Art. no.

0.8 mm	1130508
1.0 mm	1130510
1.2 mm	1130512

1.4576 DIN 8556: SG X 5 Cr Ni Mo Nb 19 12

- ▶ for the following base materials: 1.3401, 1.4408, 1.4435, 1.4436, 1.4436, 1.4573, 1.4580, 1.4581, 1.4583
- ▶ Different types of steels (black&white joints); steels with a high carbon content, and hard-to-weld steels, e.g., manganese high-carbon steel, buffer layers for hardfacing, viscous nickel steels
- ▶ For operating temperatures from -120 °C (viscous) to 300 °C

D 300 spool 15.0 kg Art. no.

0.8 mm	1130308
1.0 mm	1130310
1.2 mm	1130312

1.4370 DIN 8556: SG X 10 Cr Ni Mn 18 8

- ▶ for the following base materials: 1.4301, 1.4306, 1.4308, 1.4312, 1.4401, 1.4404, 1.4408, 1.4410, 1.4435, 1.4436, 1.4541, 1.4550, 1.4571, 1.4573, 1.4580, 1.4583 with H 1 to H 2
- ▶ Welding of stainless and acid-resistant Cr and Cr-Ni-Mn steels. For stricter requirements in terms of crack safety and viscosity. Cold hardening. Joint welding on different types of steels (black&white joints). Temperatures up to 850 °C.
- ▶ Shield gas: Argon S 1 - S 3, mixed gases

D 300 spool 15.0 kg Art. no.

0.8 mm	1130408
1.0 mm	1130410
1.2 mm	1130412

1.4842 DIN 8556: SG X 12 Cr Ni 25 20

- ▶ for the following base materials: 1.4832, 1.4837, 1.4841, 1.4845, 1.4840
- ▶ Welding heat-resistant austenitic steels. The steel can be used in air up to 1100 °C. Scaling resistant up to 1100 °C
- ▶ Shield gas: Argon S 1 - S 3, mixed gases

D 300 spool 15 kg Art. no.

0.8 mm	1130708
1.0 mm	1130710
1.2 mm	1130712

Low alloy filler wires - chemical composition

(guide values % of welded material)

Material no.:	Designation	C	Si	Mn	Cr	Ni	Cu
1,615	G II	0.15	0.2	0.9	-	-	-

Medium alloy filler wires - chemical composition

(guide values % of welded material)

Material no.:	Designation	C	Si	Mn	Cr	Ni	Cu
1,615	G III	0.09	0.1	1.1	0.4	-	-

High alloy filler wires - chemical composition

(guide values % of welded material)

Material no.:	AWS/AISI	DIN	C max.	Si	Mn	Ni	Cr	Mo	Nb min.	S max.	P max.
1.4316	308L-Si	X 2 CrNi 19 9	0.025	0.8	1.7	10	20	-	-	0.015	0.02
1.4551	347-Si	X 5 CrNiNb 19 9	0.07	0.7	1.7	10	19.5	-	12 x C	0.015	0.02
1.4430	316L-Si	X 2 CrNiMo 19 12	0.025	0.8	1.7	12	18	2.7	-	0.015	0.02
1.4576	318	X 5 CrNiMoNb 19 12	0.05	0.7	1.4	11.5	18.5	2.6	12 x C	0.015	0.02
1.4370	307-Si	X 10 CrNiMn 1 8 8 6	0.10	0.7	6.5	9	19	-	-	0.015	0.02
1.4842	310	X 12 CrNi 25 20	0.12	0.5	1.7	20.5	25	-	-	0.015	0.02

High alloy filler wires - mechanical properties

Not heat-treated, at 20 °C, MIG welding with Argon +2% oxygen, TIG and plasma welding with Argon as shield gas (guide values)

Material no.:	Yield stress	Tensile strength	Elongation	Notched bar impact work	Hardness
1.4316	450 N/mm ²	550 N/mm ²	40 %	70 J	200 HB
1.4551	320 N/mm ²	580 N/mm ²	30 %	65 J	220 HB
1.4430	330 N/mm ²	540 N/mm ²	35 %	80 J	210 HB
1.4576	350 N/mm ²	590 N/mm ²	30 %	50 J	220 HB
1.4842	300 N/mm ²	550 N/mm ²	30 %	65 J	

Hardfacing - chemical composition

(guide values % of welded material)

Material no.:	DIN	C max.	Si	Mn	Cr	Ni	Mo	Nb min.	S max.	P max.
1.4718	MSG 6-60	0.5	3.0	0.4	9.2	-	-	-	-	-

Aluminium filler wires - chemical composition

(guide values % of welded material)

Material no.:	DIN	Mn	Mg	Cr max.	Ti max.	Si	Al	Miscellaneous
3.3536	AlMg 3	0.4	3.0	0.3	0.25	-	Remainder	as per DIN 1732
3.3556	AlMg 5	0.3	5.0	0.3	0.25	-	Remainder	as per DIN 1732
3.3548	AlMg 4.5 Mn	0.8	5.0	0.25	0.25	-	Remainder	as per DIN 1732
3.2245	AlSi 5	-	-	-	-	5.0	Remainder	as per DIN 1732

Aluminium filler wires - mechanical properties

Material no.:	Yield stress	Tensile strength	Elongation
3.3536	175-205 N/mm ²	80-100 N/mm ²	15-20 %
3.3556	100-135 N/mm ²	220-260 N/mm ²	15-25 %
3.3548	110-150 N/mm ²	275-335 N/mm ²	15-20 %
3.2245	min. 50 N/mm ²	120-150 N/mm ²	10-18 %

Aluminium filler wires - applications

Material no.:	Ampere/wire Ø	1.0 mm	1.2 mm	1.6 mm	2.4 mm
3.2245	75 - 150	95 - 210	110 - 240	150 - 350	220 - 500
3.3536	80 - 150	100 - 210	120 - 240	175 - 360	220 - 500
3.3556	80 - 150	100 - 210	120 - 240	175 - 360	220 - 500
3.3548	80 - 150	100 - 210	120 - 240	175 - 360	220 - 500

Tungsten electrodes

Composition					Identifier		Wire Ø	Amperes
Abbreviation	Oxide additive	impurities	Tungsten		Abbreviation	Colour code as per RAL		
	% m/m	Type	% m/m	% m/m		Colour tone	Colour no.	
W	-	-	< 0.20	99.8	W	green	6018	1.6 mm 24-65 A
WT 20	0.35 to 0.55	ThO ₂	< 0.20	Remainder	WT 20	red	3000	2.4 mm 60-120 A
WC 20	1.80 to 2.20	CeO ₂	< 0.20	Remainder	WC 20	grey	7011	3.2 mm 120-180 A
								4.0 mm 150-225 A

Welding sticks TIG

Due to raw material price
fluctuations
All prices are subject to change.



TIG welding sticks low alloy 1000 mm

WSG 2 material no. 1.5125 DIN 8559

- ▶ for the following base materials: St 35 - St 55, St 35.4 - St 55.4, St 33 - St 52.3, St 38.8 - St 45.8, grade A - E, A 32 - A 36, Pressure vessel plate H 1 - H 3, StE 255 - StE 380, 17 Mn 4, 19 Mn 6, GS 38 - GS 52
- ▶ Welding non alloy and low alloy steels, melts evenly and smoothly, well suited for out-of-position welding.
- ▶ Shield gas: Pure argon

Designation	PQ	Art. no.
1.6 mm	5 kg	1450016
2.0 mm	5 kg	1450020
2.4 mm	5 kg	1450024
3.0 mm	5 kg	1450032

TIG welding sticks medium alloy 1000 mm

SG Mo material no. 1.5424 DIN 8575

- ▶ for following base materials: St 37-3, St 44-3, St 52-3, H 1 - H 4, 17 Mn 4, 19 Mn 5, 19 Mn 6, StE 36 - StE 47, St 45.8, Ast 35 - Ast 45
- ▶ Mo alloyed welding sticks for shield gas welding of heat-resistant steels and higher strength fine grain constructional steels. Suitable for operating temperatures up to 550 °C. The smooth and manageable melting behaviour of the welding stick is useful in out-of-position welding.
- ▶ Shield gas: Pure argon

Designation	PQ	Art. no.
2.0 mm	5 kg	1457020
2.4 mm	5 kg	1457024
3.0 mm	5 kg	1457032

High alloy TIG welding sticks

1.4316 DIN 8556: SG X 2 Cr Ni 19 9

- ▶ for following base materials: 1.4301, 1.4306, 1.4308, 1.4311, 1.4312, 1.4450, 1.4541, 1.4543, 1.4550, 1.4552, 1.4878, 1.4961, 1.6901, 1.6902, 1.6903, 1.6905
- ▶ Joint and depositing welding of stainless and acid-resistant Cr and Cr-Ni steels. Not for use in a medium with high sulphur content. For operating temperatures from -196 °C to 350 °C.
- ▶ Shield gas: Pure argon

Designation	PQ	Art. no.
1.0 mm	5 kg	1451010
1.6 mm	5 kg	1451016
2.0 mm	5 kg	1451020
2.4 mm	5 kg	1451024
3.2 mm	5 kg	1451032

1.4551 DIN 8556: SG X 5 Cr Ni 19 9

- ▶ for the following base materials: 1.4301, 1.4306, 1.4308, 1.4310, 1.4312, 1.4319, 1.4541, 1.4550, 1.4840
- ▶ TIG or MIG/MAG welding of stainless, austenitic steels
- ▶ Not for use in a medium with high sulphur content.
- ▶ For operating temperatures up to 400 °C, scaling resistant up to +800 °C
- ▶ Shield gas: Argon, mixed gases, e.g., M11, M23

Designation	PQ	Art. no.
1.0 mm	5 kg	1455010
1.6 mm	5 kg	1455016
2.0 mm	5 kg	1455020
2.4 mm	5 kg	1455024
3.2 mm	5 kg	1455032

! Other dimensions, alloys, spool types, and larger volumes on request.

Delivered in packaging unit quantities (1 or 3 packs)



TIG Aluminium welding sticks 1000 mm

Al Mg 3 material no. 3.3536 DIN 1732

- ▶ for the following base materials: Al Mg 3, Al Mg 1, Al Mg 2, Al Mg Mn, Al Mg Si 0.5, G-Al Mg 3
- ▶ Welding rolled and cast aluminium-magnesium alloys
- ▶ Shield gas: Pure argon

Designation	PQ	Art. no.
1.6 mm	5 kg	1450316
2.0 mm	5 kg	1450320
2.4 mm	5 kg	1450324
3.2 mm	5 kg	1450332
4.0 mm	5 kg	1450340

Al Mg 5 material no. 3.3556 DIN 1732

- ▶ for the following base materials: Al Mg 5, Al Mg 3, Al Mg Mn, Al Mg 3 Si, G-Al Mg 3, G-Al Mg 5
- ▶ Welding rolled and cast aluminium-magnesium alloys
- ▶ Shield gas: Pure argon

Designation	PQ	Art. no.
1.6 mm	5 kg	1450416
2.0 mm	5 kg	1450420
2.4 mm	5 kg	1450424
3.2 mm	5 kg	1450432
4.0 mm	5 kg	1450440

Al Mg 4.5 Mn material no. 3.3548 DIN 1732

- ▶ for the following base materials: Al Mg 4.5 Mn, Al Mg 3, Al Mg 5, Al Mg Si 0.5, Al Mg Si 1, Al Zn Mg 1
- ▶ Welding rolled and cast aluminium-magnesium alloys
- ▶ Shield gas: Pure argon

Designation	PQ	Art. no.
1.6 mm	5 kg	1450516
2.0 mm	5 kg	1450520
2.4 mm	5 kg	1450524
3.2 mm	5 kg	1450532
4.0 mm	5 kg	1450540

Al Si 5 material no. 3.2245 DIN 1732

- ▶ for the following base materials: Al Si 5, Al Mg Si 1, Al Cu Mg alloys, Al Zn Mg alloys
- ▶ Shield gas: Pure argon

Designation	PQ	Art. no.
1.6 mm	5 kg	1450616
2.0 mm	5 kg	1450620
2.4 mm	5 kg	1450624
3.2 mm	5 kg	1450632
4.0 mm	5 kg	1450640

Al 99.5 material no. 3.0259 DIN 1732

- ▶ for the following base materials: I 99.5, Al 99, E-Al 99.5
- ▶ Welding pure aluminium and aluman
- ▶ Shield gas: Pure argon

Designation	PQ	Art. no.
1.6 mm	5 kg	1450716
2.0 mm	5 kg	1450720
2.4 mm	5 kg	1450724
3.2 mm	5 kg	1450732
4.0 mm	5 kg	1450740

**Due to raw material price
fluctuations
All prices are subject to change.**

TIG welding sticks for hardfacing

W 600 material no. 1.4718 DIN 8555

- Materials and applications:
Deposit welding on machine parts exposed to wear made of constructional or cast steel. The welding material has good viscous strength and is wear-resistant. For bulldozer parts, conveyor screws, roller crushers, percussion hammers, rollers and running surfaces.
- **Vickers hardness:** 650 - 775 HV. **Rockwell hardness:** 56 - 62 HR
- Shield gas: Pure argon

Designation	PQ	Art. no.
1.6 mm	5 kg	1456016
2.0 mm	5 kg	1456020
2.4 mm	5 kg	1456024



Gas welding sticks low alloy

G II material no. 1.0349 DIN 8554

- for the following base materials:
St 34 - St 360-2, St 42, H 1, H 2, St 35, St 45, St 35.4, St 45.4
- Joint welding in equipment, pressure vessel, pipe, vehicle and machine making.
- Welding gases: Oxygen-acetylene

Designation	PQ	Art. no.
2.0 mm	5 kg	1450120
2.5 mm	5 kg	1450125
3.0 mm	5 kg	1450130

Gas welding sticks medium alloy

G III material no. 1.6215 DIN 8554

- for the following base materials:
St 34 - St 360-2, St 52-3, H 1, H 2, H 3, 17 Mn 4, St 35.4 St 45.4, St 35.8, St 45.8, GS 40 - GS 45
- Joint welding in equipment, pressure vessel, pipe, vehicle and machine making.
- Welding gases: Oxygen-acetylene

Designation	PQ	Art. no.
2.0 mm	5 kg	1450220
2.5 mm	5 kg	1450225
3.0 mm	5 kg	1450230



Aluminium adhesive tape 50 m

- Heat resistant with PE foil cover, DIN4102 part 1 A2. Construction class non-flammable, if adhesion bonded to metal substrate. DIN4102 part 1 class B Construction class flame resistant if adhesion bonded to at least one flame resistant Aluminium laminated mineral fibre product.

Designation	PQ	Art. no.
Width 25 mm	5 kg	1251025
Width 38 mm	5 kg	1251038
Width 50 mm	5 kg	1251050

1.4370 DIN 8556: SG X 15 Cr Ni Mn 18 8

- for the following base materials:
1.4301, 1.4306, 1.4308, 1.4312, 1.4401, 1.4404, 1.4408, 1.4410, 1.4435, 1.4436, 1.4541, 1.4550, 1.4571, 1.4573, 1.4580, 1.4583, with H 1 to H 2
- Welding of stainless and acid-resistant Cr and Cr Ni Mn steels. For strict requirements in terms of crack safety and viscosity. Work hardening. Temperatures up to 850 °C.
- Shield gas: Pure argon

Designation	PQ	Art. no.
1.0 mm	5 kg	1453010
1.6 mm	5 kg	1453016
2.0 mm	5 kg	1453020
2.4 mm	5 kg	1453024
3.2 mm	5 kg	1453032

1.4430 DIN 8556: SG X 2 Cr Ni Mo 19 12

- for the following base materials:
1.4301, 1.4306, 1.4308, 1.4312, 1.4401, 1.4404, 1.4408, 1.4410, 1.4417, 1.4429, 1.4435, 1.4436, 1.4541, 1.4550, 1.4571, 1.4573, 1.4580, 1.4581, 1.4583, 1.6901, 1.6902, 1.6903, 1.6905
- Welding stainless, cryogenic and austenitic steels. For operating temperatures up to 400 °C
- Shield gas: Pure argon

Designation	PQ	Art. no.
1.0 mm	5 kg	1452010
1.6 mm	5 kg	1452016
2.0 mm	5 kg	1452020
2.4 mm	5 kg	1452024
3.2 mm	5 kg	1452032

1.4576 DIN 8556: SG X 2 Cr Ni Mo 19 12

- for the following base materials:
1.4301, 1.4306, 1.4401, 1.4408, 1.4410, 1.4429, 1.4435, 1.4436, 1.4437, 1.4523, 1.4541, 1.4543, 1.4550, 1.4552, 1.4571, 1.4573, 1.4580, 1.4581, 1.4583
- Due to the niobium additive, this steel is high strength and highly resistant against inter-crystalline corrosion.
- Shield gas: Pure argon

Designation	PQ	Art. no.
1.0 mm	5 kg	1454010
1.6 mm	5 kg	1454016
2.0 mm	5 kg	1454020
2.4 mm	5 kg	1454024
3.2 mm	5 kg	1454032

1.4842 DIN 8556: SG X 12 Cr Ni 25 20

- for following base materials:
1.4762, 1.4832, 1.4837, 1.4841, 1.4845, 1.4848, 1.4849, 1.4543, 1.4550, 1.4552, 1.4878, 1.4961, 1.6901, 1.6902, 1.6903, 1.6905
- Welding heat-resistant austenitic steels. The steel can be used in air up to approx. 1100 °C. Scaling resistant up to 1100 °C
- Shield gas: Pure argon

Designation	PQ	Art. no.
1.0 mm	5 kg	1454510
1.6 mm	5 kg	1454516
2.0 mm	5 kg	1454520
2.4 mm	5 kg	1454524
3.2 mm	5 kg	1454532

Electrodes

**Due to raw material price fluctuations
All prices are subject to change.**

Stick electrodes for welding stainless and corrosion-resistant steels, cast irons, and for deposit welding

Our **electrodes** are "Made in Germany". They are characterised by high quality, excellent welding properties and good scaling detachability.

1. Certifications

ABS	American Bureau of Shipping
OBC	Bureau Veritas
gl	Germanischer Lloyd
lr	Lloyd's Register of Shipping
NV	Det Norske Veritas
RRS	Russian Register of Shipping
PRS	Polski Rejestr Statków
DB	Deutsche Bahn AG
Ü	Certificate of conformity
TÜV	Technischer Überwachungsverein
UDT	Urząd Dozoru Technicznego

3. Current type

=+	Direct current, electrode on plus pole
=-	Direct current, electrode on minus pole
~	Alternating current

2. Welding positions

PA	(w) horizontal (butt welds, fillet weld in flat position)
PB	(h) horizontal (fillet welds)
PC	(q) transverse (horizontal welding on a vertical wall)
PU	(ü) overhead
PF	(s) rising (bottom up)
PG	(f) falling (top down)

Schweißkraft R(C)3

Factory designation	E 51 32 R(C)3, E38 0 RC 11, E 6013 as per DIN 1913/8529 /EN 499/AWS A5.1
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Current type/welding position	=- ~/PA, PB, PC, PE, PF, PG
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Application, properties, certifications

Easy to handle universal electrode medium thickness, rutile cellulose sheathed, for versatile use in machine, steel, ship and pipeline constructions. Excellent weldability in all positions, including vertical-down welding. Good weld surface appearance, self-loosening weld slag, low spatter loss, good re-ignition capability.

Dimensions Ø x L	PU/outer packaging pack x pc.	Weight	Art. no.
2.0 x 250 mm	1 x 170	1.6 kg	1161020
2.5 x 350 mm	1 x 250	4.8 kg	1161025
3.2 x 350 mm	1 x 166	5.0 kg	1161032
2.0 x 250 mm	20 units	0.19 kg	1161020SB
2.5 x 350 mm	17 units	0.33 kg	1161025SB
3.2 x 350 mm	7 units	0.22 kg	1161032SB

Schweißkraft RRC6

Factory designation	E 42 0 RC 11, E 51 32 RR(C) 6, E 6013 as per DIN EN ISO 2560-A, DIN 1913, AWS A 5.1
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Current type/welding position	=- ~/PA, PB, PC, PE, PF
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Application, properties, certifications

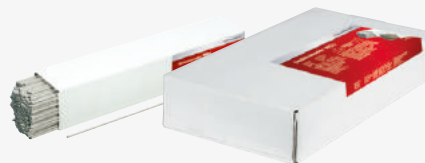
For joint and repair welds on non alloy construction steels. Excellent gap bridging capability, easy to ignite and re-ignite, low spatter loss. Creates smooth, fine-grained weld surfaces. Also on base materials with incipient corrosion and primer.

Dimensions Ø x L	PU/outer packaging pack x pc.	Weight	Art. no.
2.0 x 250 mm	1 x 175	1.6 kg	1165020
2.5 x 350 mm	1 x 252	4.8 kg	1165025
3.2 x 350 mm	1 x 147	4.8 kg	1165032
4.0 x 350 mm	3 x 103	4.8 kg	1165040

Schweißkraft RR6

Factory designation	E 51 32 RR6, E38 0 RR12, E 6013 as per DIN 1913/8529/EN 499/AWS A5.1
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Current type/welding position	=+ ~/PA, PB, PC, PE, PF
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Application, properties, certifications

Electrode (thick, rutile sheathed) for versatile use in industry and trades. For joint welding in vehicle, container, pressure vessel, pipeline, ship, steel and machine building with non and low alloy steels. Excellent ignition properties, soft arc, little spatter, finely structured and smooth weld appearance, flat concave fillet welds, weld slag typically self-loosening.

Dimensions Ø x L	PU/outer packaging pack x pc.	Weight	Art. no.
2.0 x 250 mm	1 x 172	1.7 kg	1162020
2.5 x 350 mm	1 x 206	4.6 kg	1162025
3.2 x 350 mm	1 x 128	4.6 kg	1162032
4.0 x 350 mm	1 x 85	4.6 kg	1162040

Schweißkraft RR(B)7

Factory designation	E 43 33 RR(B)7, E38 2 RB 12, E 6013 as per DIN 1913/DIN EN 499/AWS A5.1
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Current type/welding position	=+ ~/PA, PB, PC, PE, PF
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Application, properties, certifications

Universal electrode dick, rutile-base jacket, very useful for root and out-of-position welding in pipeline, container, pressure vessel and ship building. Fine-grained, well-formed, X-ray proof welds with notch-free transition to the base material. Slag easy to remove, even from the root.

Dimensions Ø x L	PU/outer packaging pack x pc.	Weight	Art. no.
2.5 x 350 mm	3 x 242	4.8 kg	1163025
2.5 x 350 mm	3 x 144	5.0 kg	1163032

Schweißkraft B(R)10

Factory designation	E 51 54 B(R)10, E42 3 B 12 H 10, E 7016 as per DIN 1913/8529/EN 499/AWS A5.1
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Current type/welding position	=+ ~/PA, PB, PC, PE, PF
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Application, properties, certifications

Universal electrode (thick, alkaline jacket with non-alkaline components) features high mechanical grade values for industry and trades for welding non and low alloy steels. Worthy of note: good weldability in out-of-position and AC current welding.

Dimensions Ø x L	PU/outer packaging pack x pc.	Weight	Art. no.
2.5 x 350 mm	3 x 205	4.3 kg	1164025
3.2 x 350 mm	3 x 126	4.3 kg	1164032

**3 packs in outer packaging per order*

**Due to raw material price
fluctuations
All prices are subject to change.**

Stick electrodes for welding stainless and corrosion-resistant steels

Schweißkraft 4316 AC Factory designation	E 19 9 LR 23, E 308 L-16 as per DIN 8556/AWS A5.4
Current type/welding position	== ~/PA, PB, PC, PE, PF



Application, properties, certifications

Rutile sheathed electrode for welding joints in low-carbon, non stabilised and stabilised, austenitic, chemical resistant CrNi steels at operating temperatures up to 350 °C, for corrosion resistant Cr and heat resistant Cr and CrNi steels, for viscous austenitic steels and for plating with similar properties to alloys.

Material no.: 1.4300, 1.4301, 1.4306, 1.4308, 1.4311, 1.4312, 1.4541, 1.4543, 1.4550, 1.4552, 1.4878, 1.6905.

Dimensions Ø x L	PU/Plastic/ Cardboard box Pck. x pc.	Weight	Art. no.
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2.5 x 300 mm	1 x 234	4.2 kg	1166025
3.2 x 350 mm	1 x 124	4.5 kg	1166032
2.5 x 300 mm	1 x 67	1.2 kg	1166026
3.2 x 350 mm	1 x 36	1.3 kg	1166033

Schweißkraft 4430 AC Factory designation	E 19 12 3 LR 23, E 316 L-16 as per DIN 8556/AWS A5.4
Current type/welding position	==+ ~/PA, PB, PC, PE, PF



Application, properties, certifications

Rutile-sheathed electrode for joint welding of low-carbon, non stabilised and stabilised, austenitic, chemical resistant CrNiMo steels at operating temperatures up to 400 °C, for corrosion resistant Cr and CrMo steels, for plating with similar properties to alloys and austenite-ferrite joints.

Material no.: 1.4401, 1.4404, 1.4408, 1.4429, 1.4435, 1.4436, 1.4437, 1.4571, 1.4580, 1.4583

Dimensions Ø x L	PU/Plastic/ Cardboard box Pck. x pc.	Weight	Art. no.
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2.5 x 300 mm	1 x 233	4.2 kg	1166125
3.2 x 350 mm	1 x 136	4.9 kg	1166132
2.5 x 300 mm	1 x 68	1.2 kg	1166126
3.2 x 350 mm	1 x 39	1.4 kg	1166133

Stick electrodes for welding steels

Schweißkraft 4370 AC Factory designation	E 18 8 Mn R26, ca. E 307-16 as per DIN 8556/AWS A5.4
Current type/welding position Ø in mm	==+ ~/PA, PB, PC, PE, PF 2.5 - 5.0



Application, properties, certifications

Rutile sheathed electrode for welding joints between non and low alloy steels and high alloy and cast steel grades, for austenite-ferrite joints at operating temperatures up to 300 °C, for welding high carbon and hard-to-weld steels as well as austenitic hard manganese steels, for welding buffer layers and for wear-free depositing in case of work-hardening, impact, compression and rolling load. The welded material is fully austenitic, corrosion resistant, scaling resistant up to 850 °C, and work-hardening capable up to a hardness of approx. 350 HB.

Dimensions Ø x L	PU/Plastic/ Cardboard box Pck. x pc.	Weight	Art. no.
---------------------	--	--------	----------

3.2 x 350 mm	1 x 132	4.8 kg	1167032
4.0 x 350 mm	1 x 92	5.0 kg	1167040
3.2 x 350 mm	1 x 39	1.4 kg	1167033
4.0 x 350 mm	1 x 24	1.3 kg	1167041

Schweißkraft 4337 AC Factory designation	E 29 9 R23, E 312-16 as per DIN 8556/AWS A5.4
Current type/welding position Ø in mm	==+ ~/PA, PB, PC, PE, PF 2.0 - 5.0



Application, properties, certifications

Rutile-sheathed electrode for joint and deposit welding on identical and similar steels and cast steel grades, for joint welding of higher strength non and low alloy construction steels, reinforcement steels and tool steels, on hard manganese steel and joint welding between different steel grades and with high alloy, stainless steels. The electrode is also suitable for crack-resistant and viscous intermediate layers in hardfacing, and for wear-resistant, cold and hot working deposits. The austenitic-ferritic welded material is stainless, corrosion resistant and suitable for operating temperatures up to 300 °C. The increased delta ferrite component in the welded material assures protection against hot cracking in black&white joints.

Dimensions Ø x L	PU/Plastic/ Cardboard box Pck. x pc.	Weight	Art. no.
---------------------	--	--------	----------

2.5 x 300 mm	1 x 224	4.0 kg	1167125
3.2 x 350 mm	1 x 136	4.8 kg	1167132
2.5 x 300 mm	1 x 62	1.1 kg	1167126
3.2 x 350 mm	1 x 37	1.3 kg	1167133

Stick electrodes for welding cast iron

Schweißkraft KI Factory designation

E NI BG 11, E NI-C1
as per DIN 8573/AWS A5.15

Current type/welding position

=- =+ ~/PA, PB, PC, PS



Application, properties, certifications

Alkaline-graphite sheathed nickel electrode for mechanical welding of grey, tempered and cast steel and for welding of fatigued cast parts. For removing inclusions and processing errors. The NI has excellent welding properties even at low amperage settings. Its flow is smooth and intensive, with low spatter loss, and easy slag removal. The weld stays soft for filing and can be machined including the transition zones to the base material.

Dimensions Ø x L	PU/Plastic/ Cardboard box Pck. x pc.	Weight	Art. no.
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2.5 x 350 mm	1 x 74	1.5 kg	1168025
3.2 x 350 mm	1 x 43	1.5 kg	1168032

Schweißkraft NIFE

Factory designation

E NiFe-1 BG 11, E NiFe-C1
as per DIN 8573/AWS A5.15

Current type/welding position

=- =+ ~/PA, PB, PC, PS



Application, properties, certifications

Alkaline-graphite sheathed nickel-iron electrode for mechanical welding of grey cast with lamellar and globular graphite structure. Also suitable for joining cast iron (flake graphite and ductile iron grades) with non alloy steel materials. The alloy on the welded material is mainly made up of the flux core wire, 60%Ni and 40%Fe. The welded material is machinable and characterised by good crack protection. It is very similar in colour to the base material and corrodes later than the base material. The soft welding electrode has good wetting properties.

Dimensions Ø x L	PU/Plastic/ Cardboard box Pck. x pc.	Weight	Art. no.
---------------------	--	--------	----------

2.5 x 300 mm	1 x 82	1.3 kg	1168125
3.2 x 350 mm	1 x 47	1.5 kg	1168132

Stick electrodes for deposit welding

Schweißkraft 60 factory designation

E 6-UM-60 F/approx. E 307-16 as
per DIN 8555

Current type/welding position

=+ / w, h, q, s

Ø in mm

2.5 - 5.0



Application, properties, certifications

Alkaline sheathed electrode for viscous, impact-resistant, and low-wear depositing on non and low alloy, high strength materials. Specially designed for depositing on machine parts, bulldozer teeth, impact rails, scrapers, screw conveyors, milling bars, mixer blades, crusher jaws, crusher cones, etc.

The welded material can only be ground; it can be soft-annealed and tempered.

Dimensions Ø x L	PU/Plastic/ Cardboard box Pck. x pc.	Weight	Art. no.
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3.2 x 450 mm	1 x 133	6.3 kg	1169032
4.0 x 450 mm	1 x 88	6.3 kg	1169040

Various packaging units...



Your benefits:

- All stick electrodes are packed in a practical plastic pack or outer box for moisture protection.
- Many types are available in inexpensive small packs.

Our **electrodes** are "Made in Germany". They are characterised by high quality, excellent welding properties and good scaling detachability.

1. Certifications

ABS	American Bureau of Shipping
OBC	Bureau Veritas
gl	Germanischer Lloyd
lr	Lloyd's Register of Shipping
NV	Det Norske Veritas
RRS	Russian Register of Shipping
PRS	Polski Rejestr Statków
DB	Deutsche Bahn AG
Ü	Certificate of conformity
TÜV	Technischer Überwachungsverein
UDT	Urząd Dozoru Technicznego

2. Welding positions

PA	(w) horizontal (butt welds, fillet weld in flat position)
PB	(h) horizontal (fillet welds)
PC	(q) transverse (horizontal welding on a vertical wall)
PU	(ü) overhead
PF	(s) rising (bottom up)
PG	(f) falling (top down)

3. Current type

=+	Direct current, electrode on plus pole
=-	Direct current, electrode on minus pole
~	Alternating current

USZ model range - 4-in-1 all-steel screw clamp with toggle handle

- ▶ quenched and tempered single-piece sliding and fixed brackets for resilient and elastic clamping
- ▶ Single-piece fixed bracket and pressure plate, quenched and tempered, torsion-stiff
- ▶ For clamping, pipe clamping, spreading and clamping around edges
- ▶ Scope of supply includes V clamping set for pipes and additional block for clamping around edges
- ▶ Easy-action surface-coated spindle with trapezoid thread avoids tilting
- ▶ Best in class force transfer during clamping due to rounded edges on the locking handle
- ▶ Fast conversion of the sliding bracket for spreading applications by inverting the clamping rail and the additional block
- ▶ For use with wood and steel



Incl. exchangeable V clamping set and additional block for clamping round bends and spreading

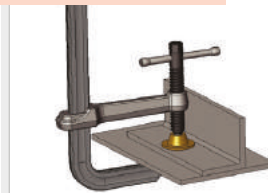
Accessories



Magnetic V clamping attachment

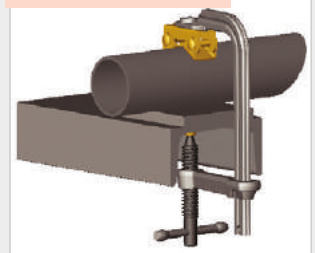
Art no. 1790006

Clamping



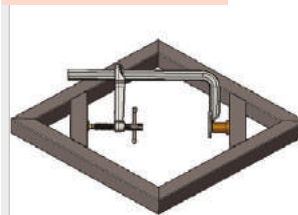
- ▶ Standard application, efficient and easy to perform

Pipe clamping



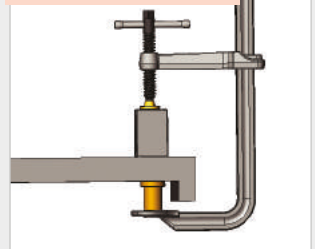
- ▶ No problem with the self-adjusting V clamping set

Spreading



- ▶ fast retooling with just a few actions

Clamping around edges



- ▶ Clamping around edges with bolt-on additional block



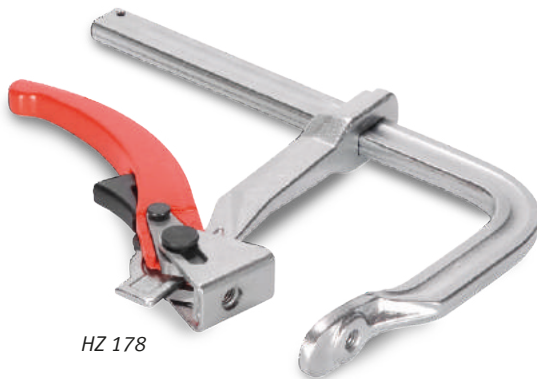
USZ 216

USZ 318

USZ 419

HZ model range - lever clamp with latching mechanism for efficient and low-vibration clamping

- ▶ Single-piece fixed bracket and pressure plate, quenched and tempered, torsion-stiff
- ▶ with 38 mm wide movable pressure plate
- ▶ Functional latching mechanism for vibration-proof clamping
- ▶ Really useful in cramped working conditions
- ▶ Fast, two-step conversion of the sliding bracket for spreading applications by inverting the clamping rail and the additional block
- ▶ Five times quicker than legacy clamps thanks to single-finger quick clamping and release lever
- ▶ For use with wood and steel



HZ 178



HZ 178 - Fig. shows the scope of delivery



HZ 254 - Fig. shows the scope of delivery

Accessories



V clamping attachment
Art no. 1790005



Magnetic V clamping attachment
Art no. 1790006



Additional block clamping around edges and spreading
Art. no. 1790007

Model	max. clamping force	Span	Throat	Fixed bracket cross-section	Threading	Weight	Art. no.
USZ 216	550 kg	216 mm	121 mm	24 x 12 mm	M10	1.9 kg	1790001
USZ 318	1100 kg	318 mm	140 mm	30 x 14 mm	M10	3.5 kg	1790002
USZ 419	1100 kg	419 mm	140 mm	30 x 14 mm	M10	4.0 kg	1790003
HZ 178	460 kg	178 mm	121 mm	22 x 11 mm	M10	1.2 kg	1790010
HZ 254	460 kg	254 mm	121 mm	22 x 11 mm	M10	1.3 kg	1790011

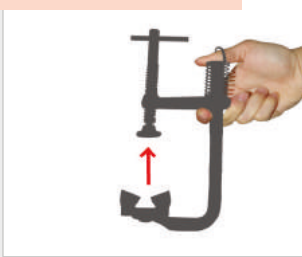
Welding clamps

MSZ model range - magnetic screw clamp with quick-clamping spring and magnetic V clamping attachment

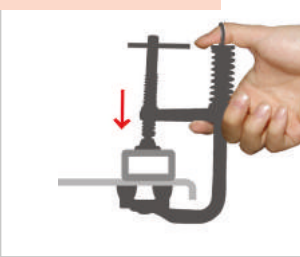
- ▶ for steel workpieces
- ▶ with spring-loaded sliding bracket for single-handed work
- ▶ the clamp holds the workpiece magnetically after positioning
- ▶ from quenched and tempered nickel-chrome-plated steel for a long service life
- ▶ a V clamping attachment is included in scope of supply
- ▶ with threaded hole, extensible through optional V clamping set or bolt

Easy single-handed operation in three steps:

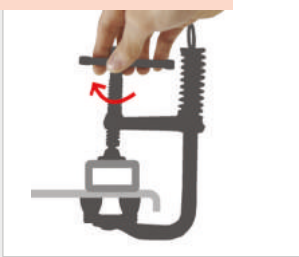
Open the clamp



Apply



Fix in place



MSZ 90 - Fig. shows scope of supply

MSZ 140 - Fig. shows scope of supply

Accessories

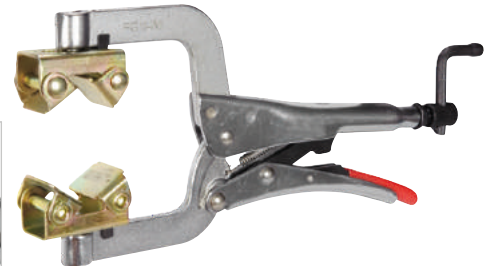
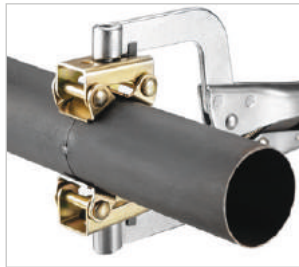
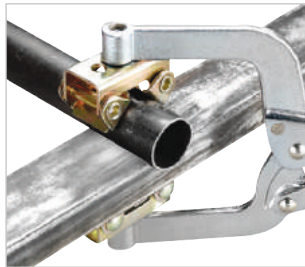
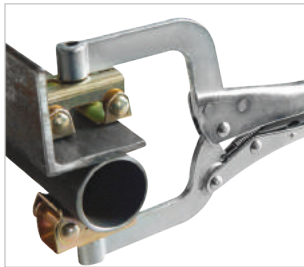


Additional block for clamping around edges
matches MSZ 140
Art no. 1790022

· suitable for RGZ 280
Art. no. 1790007

RGZ 280 – Pipe grip specially for holding round workpieces

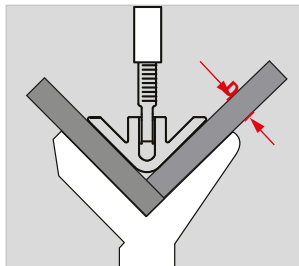
- ▶ With two self-adjusting V clamping attachments, thus also suitable for clamping flat material onto pipes
- ▶ single-handed use



RGZ 280 - Fig. shows scope of supply, optionally available additional block for clamping around edges, see accessories above

WGZ 76 – Angle grippers - a helping hand for working with rectangular workpieces

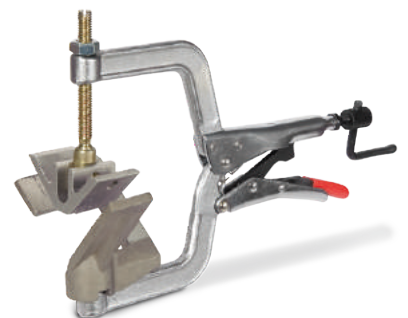
- ▶ For holding, aligning and clamping workpieces of different thicknesses at an angle of 90°
- ▶ single-handed use
- ▶ Usable for wood and steel, as well as synthetic materials



▶ For clamping right angled joints

▶ Also suitable for working with wood and synthetic materials

▶ for workpieces up to 1 1/4 inch (32 mm) thickness (D)



WGZ 76 - Fig. shows scope of supply

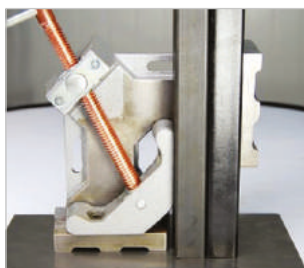
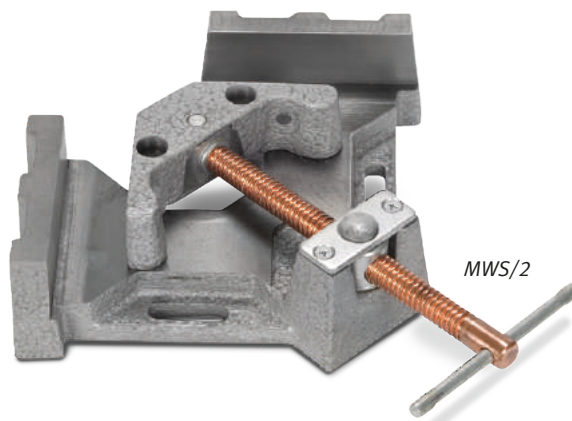
Model	max. clamping force	Span	Throat	Transverse cut	Threading	Weight	Art. no.	
MSZ 90	140 kg	90 mm	64 mm	13 x 6 mm	M6	0.4 kg	1790020	
MSZ 140	230 kg	140 mm	89 mm	16 x 8 mm	M 8	0.5 kg	1790021	
Model	Clamping width min./max.			Length	Threading	Weight	Art. no.	
RGZ 280	40 - 64 mm			280 mm	M10	1.3 kg	1790090	
Model	max. clamping force	Span	Throat	Length		Weight	Art. no.	
WGZ 76	75 kg	32 mm	76 mm	216 mm	-	0.6 kg	1790080	

MWS model range – metal angle clamp, 2-axis or 3-axis design

- ▶ For use in metalworking, welding and workshops
- ▶ Stable jaws and base body made of grey cast
- ▶ For holding, aligning and clamping workpieces of different thicknesses at an exact angle of 90°
- ▶ Automatic adjustment of the pressure jaw to the different workpiece thickness due to articulated-bearing spindle nut
- ▶ With pushbutton for quick clamping of the workpiece (except MWS-2 56)
- ▶ Weld spatter will not stick on the copper-plated trapezoid spindle with T handle
- ▶ Easy to mount on welding or machine tables thanks to slots at side

MWS-2 model range

- ▶ For workpieces with two axes
- ▶ Open design makes it possible to clamp T joints and allows free access to the workpiece for welding and assembly work



▶ Milled sides for standing up the metal angle clamp



▶ With attachment for improved clamping of sections



▶ Open design makes it possible to clamp T joints



▶ Also suitable for clamping round material

MWS-3 model range

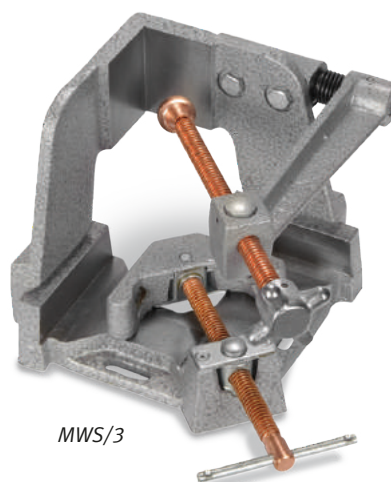
- ▶ for workpieces with three axes
- ▶ Fast removal of the workpiece simply by moving out the third clamping arm



▶ With quick clamping mechanism for fast and convenient setup (except MWS-2 56)



▶ The third clamping arm can be simply rotated out



Model	Span	Jaws length/height	T clearance	Mounting slot		Weight	Art. no.	
				Length	Width			
MWS-2 56	56 mm	90 x 33 mm	47 mm	35.5 mm	11 mm	4.0 kg	1790099	
MWS-2 95	95 mm	122 x 35 mm	62 mm	40 mm	11 mm	5.0 kg	1790100	
MWS-2 121	121 mm	135 x 64 mm	100 mm	51 mm	11 mm	10.6 kg	1790101	
MWS-3 95	95 mm	122 x 35 mm	62 mm	–	–	11.1 kg	1790102	
MWS-3 121	121 mm	100 x 64 mm	100 mm	–	–	19.6 kg	1790103	

SWM-2 30 – Switchable welding angle magnets for fixing sheet metal, round and square workpieces or pipes

- ▶ With high magnetic holding force for professional applications
- ▶ Magnet can be switched on and off with toggle switch
- ▶ Easy to wipe down in switched-off state



For holding metal workpieces at 45° or 90° angles



Model	Holding force*	Angle	Dimensions	Weight	Art. no.
SWM-2 30	30 kg	45° / 90°	110 x 95 x 25 mm	0.5 kg	1790029

* Holding force spec. based on application with 9.5 mm steel plate

VSWM 15 – Adjustable welding angle magnet - for continuously variable angle adjustment between 30° and 270°

- ▶ With high magnetic holding force for professional applications
- ▶ Ideal for round and square tube, angled and flat material
- ▶ The desired angle can be easily set between 30° and 270° via hexagon hole
- ▶ Fastening holes to connect two magnets



Model	Holding force*	Angle	Dimensions	Weight	Art. no.
VSWM 15	15 kg	30° - 270° continuously variable	156 x 156 x 20 mm	0.9 kg	1790051

* Holding force spec. based on application with 10 mm steel plate

WM 125 – Two inside and outside angle magnets for 90° and 270° angles

- ▶ With high magnetic holding force for professional applications
- ▶ Ideal for round and square tube, angled and flat material
- ▶ Fastening holes to connect two magnets



Hexagon hole for releasing the magnetic bracket

Scope of supply WM 125:

- 1 angle magnet up to 9 kg holding force
- 1 angle magnet up to 15 kg holding force

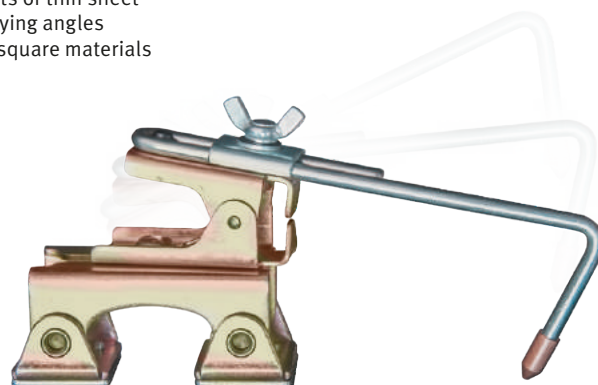
Model	Holding force*	Angle	Dimensions	Weight	Art. no.
WM 125	9 kg 15 kg	90° / 270°	75.5 x 52 x 14 mm 125 x 85 x 18 mm	0.5 kg	1790042

* Holding force spec. based on application with 10 mm steel plate



MHS 203 – material holding stop

- ▶ For holding, positioning and machining steel workpieces
- ▶ Holding rod with brass tip 360°, length adjustable
- ▶ Perfectly suited for nuts, bolts or thin sheet metal for tack welding at varying angles
- ▶ For use with round, flat and square materials in low-load applications



Model	Holding force*	Angle	Dimensions	Weight	Art. no.
MHS 203	15 kg		178 x 102 x 102 mm	0.55 kg	1790077

* Holding force spec. based on application with 10 mm steel plate

BHW 100 – TIG torch holder

- ▶ Put down the welding torch wherever you need it right now
- ▶ Adjustable cable holder
- ▶ The fully enclosed magnetic baseplate facilitates cleaning of metal residues



Model	Holding force*	Angle	Dimensions	Weight	Art. no.
BHW 100	–	–	Ø 89 x 160 mm	0.85 kg	1790078

* Holding force spec. based on application with 10 mm steel plate

UGZ Series – Universal grip pliers

- ▶ Crank for fast opening, closing and adjustment
- ▶ With quick release lever
- ▶ Toothed jaws for additional grip
- UGZ 40**
 - ▶ With hammer head and longitudinal groove in upper jaw
 - ▶ Hard-soldered components with excellent durability

- UGZ 75**
 - ▶ Large jaw reach (64 mm)
 - ▶ V-shaped notch in upper jaw for clamping small parts



UGZ 40



UGZ 75

Model	Throat	Opening range	Tool length	Weight	Art. no.
UGZ 40	–	40 mm	300 mm	0.6 kg	1790091
UGZ 75	64 mm	6 ~ 75 mm	250 mm	0.7 kg	1790092

* Holding force spec. based on application with 10 mm steel plate

Welding angle magnets

SWM-2 and SWM series – switchable weld angle magnets for fixing sheet metal, round and square workpieces or pipes

- ▶ With strong magnetic holding for professional applications
- ▶ Magnet can be switched on and off with toggle switch
- ▶ Easy to brush off in switched-off state
- ▶ Ideal for round and square tube, angled and flat material

SWM-2 model range



For holding metal workpieces at 45° or 90° angles



SWM-2 35



SWM-2 65

SWM model range

- ▶ For holding metal workpieces at 90° angle
- ▶ Pole piece with prism, thus suitable for flat and round material



Professional design for exacting quality requirements



Two independently acting on/off switches



SWM 35



SWM 70

VSWM series – Adjustable weld angle magnet - for continuously variable angle adjustment between 30° and 275°

- ▶ With strong magnetic holding for professional applications
- ▶ Pole piece with prism, thus suitable for flat and round material
- ▶ The desired angle can be easily set between 30° and 275° and easily held with a practical lever



Angle can be easily read off on scale

WM 90 – angle magnet

- ▶ For creating exterior 90° angles for obstacle free interior welding
- ▶ Exterior magnetic edges can be used for 60° material angle



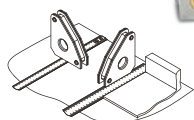
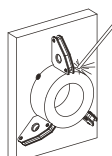
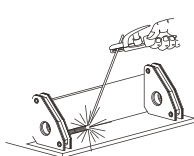
Scope of supply WM 90:
· 2 angle magnets each

Model	Holding force*	Angle	Dimensions	Weight	Art. no.	
SWM-2 35	40 kg	45° / 90°	111 x 95 x 29 mm	0.7 kg	1790030	
SWM-2 65	75 kg	45° / 90°	152 x 130 x 35 mm	1.4 kg	1790031	
SWM 35	55 kg	90°	152 x 152 x 38 mm	1.2 kg	1790040	
SWM 70	120 kg	90°	197 x 197 x 48 mm	2.7 kg	1790041	
VSWM 41	50 kg	30° - 275° continuously variable	197 x 197 x 95 mm	2.4 kg	1790050	
WM 90	14 kg	60°/90°	83 x 95 x 16 mm	0.2 kg	1790071	

* Holding force spec. based on application with 10 mm steel plate

MSWM and SSWM model ranges – permanent welding angle magnets for 30°, 45°, 60° and 90° holding angles

- ▶ For precise angular holding of round and flat iron workpieces
- ▶ Practical helper for welding and assembly work



MSWM 10

- ▶ Specially designed for small workpieces
- ▶ Scope of supply includes two miniature welding magnets



SSWM 20

- ▶ 20 kg holding force despite small size
- ▶ Very useful for typical applications
- ▶ Figure shows scope of delivery

Model	Holding force*	Angle	Dimensions	Weight	Art. no.
MSWM 10 **	10 kg	30°/60°/45°/90°	59 x 51 x 16 mm	0.3 kg	1790060
SSWM 20	40 kg	30°/60°/45°/90°	140 x 111 x 19 mm	0.5 kg	1790070

* Holding force spec. based on application with 10 mm steel plate ** two magnets included in scope of supply, price is for scope of supply

MM model range – compact earth magnets with up to 50 kg holding force

- ▶ V attachment for safe holding on round and flat material surfaces
- ▶ Easy operation with on/off switch, also with gloves
- ▶ Metal swarf drops off directly after switching off the magnet
- ▶ Cable rotation through max. 360° possible



Model	Distance	Duty cycle	Holding force	Dimensions	Weight	Art. no.
MM 300	300 A	60 %	34 kg	50 x 50 x 64 mm	0.4 kg	1790072
MM 500	500 A	60 %	50 kg	50 x 70 x 64 mm	1.1 kg	1790073

* Holding force spec. based on application with 10 mm steel plate ** two magnets included in scope of supply, price is for scope of supply

MHA model range – magnetic holding stops for positioning smaller workpieces in tack welding

- ▶ For use on metal profiles, such as round materials, flat steel or square tubes
- ▶ MHA 111 made of die cast alum. for precise work
- ▶ Adjustable holding stops vertically or horizontally position and fix the workpiece



MHA 100 -

Fig. shows the scope of delivery



MHA 111 -

Fig. shows the scope of delivery

MVS set – Magnetic V clamping attachment

- ▶ For holding, positioning and machining steel workpieces
- ▶ 4 magnets per clamping attachment
- ▶ For use with round, flat and square materials in low-load applications



Model	Holding force	Dimensions	Weight	Art. no.
MHA 100	8.0 kg	100 x 76 x 32 mm	0.2 kg	1790074
MHA 111	8.0 kg	111 x 73 x 38 mm	0.25 kg	1790075
MVS set	8.0 kg	60 x 35 x 30 (2x)/60 x 35 x 30 (2x) mm	0.4 (total) kg	1790076

Assembly and welding bench

New

SCHWEIßKRAFT MAT 300 S – Flexible assembly and workbench for workshops and on-site, no tools required

- Fixing, clamping, welding, assembly:
Universally deployable thanks to comprehensive range of accessories
- Stable table with 6 cm height-adjustable support legs
- Table top is also available individually and can also be used with existing base elements



MAT 300 S incl. table base

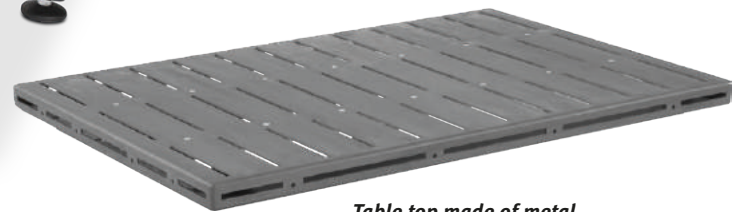


Table top made of metal, without table base

Model	MAT 300 S
Article no.	1520000
Technical specifications	
Load-carrying capacity	300 kg
Dimensions (L x W x H)	1 200 x 800 x 850 mm
Weight	76 kg
Transport packaging flat rate*	

Model	Table top made of metal
Article no.	1520001
Technical specifications	
Dimensions (L x W x H)	1 200 x 800 x 50 mm
Weight	47 kg
Transport packaging flat rate*	

Starter set – clamping system for assembly and worktable for all popular aluminium sections and groove widths

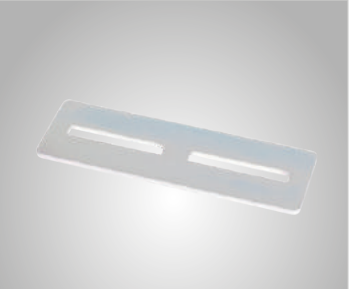
- Press–turn–clamp, there can't be anything easier or quicker
- Click clamps can be used virtually anywhere, and are delivered to match profiles by all brand-name manufacturers with groove widths of 6, 8 and 10 mm
- They are used to clamp workpieces, clad machines of all types, ensure safety as enclosures

Scope of delivery:

- Tidy panel with receiving pins
- 6 quick clamps Ø 30 mm
- 2 eccentric clamps Ø 30 mm made of PU
- 4 pivot bearings with grub screw for eccentric clamp Ø 30 mm
- 1 adapter platen round with clamp horizontal length 250 mm
- 1 adapter platen round with upright clamp length 250 mm
- 2 adapter blocks
- 4 adapter brackets 80 x 40 x 60 mm
- 4 stop screws
- 6 adapter platens 180 x 40 mm

Model	Starter set clamping system for assembly and work table
Article no.	1528100



Accessories				
	Stop rail metal Length: 1,190 mm (Art. no.: 1528120)	Stop and clamping element (Art. no.: 1528150)	Eccentric clamp Ø 30 mm Size 100 x 44 mm (Art. no.: 1528152)	
				
	Pivot bearing with grub screw for eccentric clamp Ø 30 mm (Art. no.: 1528154)	Stop screw (Art. no.: 1528155)	Plate 200 x 60 mm (Art. no.: 1528156)	Plate 180 x 40 mm with thread (Art. no.: 1528157)
				
Bracket 80 x 40 x 60 mm (Art. no.: 1528158)	Bracket 80 x 80 x 60 mm (Art. no.: 1528159)	Adapter block 50 x 50 x 12 mm (Art. no.: 1528160)	Vise horizontal - vertically attachable (Art. no.: 1528170)	
				
Adapter platen round with horizontal clamp length 180 mm (Art. no.: 1528161)	Adapter platen round with horizontal clamp length 250 mm (Art. no.: 1528162)	Adapter platen round with upright clamp length 180 mm (Art. no.: 1528163)	Adapter platen round with upright clamp length 250 mm (Art. no.: 1528164)	
				
Stand - horizontal clamp (height 300 mm clamping range 8 mm) (Art. no.: 1528165)	Stand - horizontal clamp (height 300 mm clamping range 13 mm) (Art. no.: 1528166)	Stand - upright clamp (height 300 mm clamping range 20 mm) (Art. no.: 1528167)	Stand - upright clamp (height 300 mm clamping range 35 mm) (Art. no.: 1528168)	

Rotary tables and roller block rotating device

New

SPS POWER-SERIES – Rotary table positioning device with manually swivelling

- ▶ Suitable for electrode, MIG, MIG-MAG and plasma welding, as well as plasma cutting
- ▶ Clear-cut control elements
- ▶ Continuously variable speed
- ▶ The control electronics are protected by a robust and closed housing
- ▶ With Start/Stop foot pedal

SPS POWER 66

- ▶ Load-bearing capacity 100 kg
- ▶ Ø 200 mm
- ▶ Rotation by DC current motor

SPS POWER 120 I

- ▶ Load-bearing capacity 120 kg
- ▶ Ø 400 mm
- ▶ Rotation by AC electric motor, with inverter and transmission

SPS POWER 360 I M

- ▶ Load-bearing capacity 360 kg
- ▶ Ø 500 mm
- ▶ Rotation by AC electric motor, with inverter and transmission



More models and information on request.

POWER SERIES

1500006	SPS POWER 120 I PLC
1500011	SPS POWER 360 I M PLC

Standard series

1500030	SPS 30
1500050	SPS 50
1500070	SPS 70
1500075	SPS 75
1500150	SPS 150
1500200	SPS 200

S series

1500031	SPS 30S
1500051	SPS 50S
1500071	SPS 70S
1500076	SPS 75S
1500151	SPS 150S
1500201	SPS 200 S

HC series

1500052	SPS 50HC
1500077	SPS 75HC
1500152	SPS 150HC
1500155	SPS 150 HC 200

S HC series

1500053	SPS 50S HC
1500078	SPS 75S HC

S PLC series

1500079	SPS 75S PLC
1500154	SPS 150S PLC
1500202	SPS 200 S PLC

S HC PLC series

1500080	SPS 75S HC PLC
1500156	SPS 150 S HC 200 PLC

Model	SPS POWER 66	SPS POWER 120 I	SPS POWER 360 I M
Art. no.	1500000	1500005	1500010
Technical specifications			
Horizontal load-bearing capacity	100 kg	120 kg	360 kg
Vertical load-bearing capacity	50 kg	60 kg	180 kg
Speed	0.6 – 6.0 rpm	0.6 – 6.0 rpm	0.2 – 6.0 rpm
Voltage	230 V	230 V	230 V
Current type	DC	AC	AC
Dimensions (L x W x H)	470 x 400 x 350 mm	750 x 523 x 800 mm	1 079 x 700 x 859 mm
Turntable dimensions	Ø 200 mm	Ø 400 mm	Ø 500 mm
Weight	17 kg	60 kg	120 kg

Accessories

for SPS POWER 120 I PLC and SPS POWER 360 I M PLC

Pneumatic torch holder for MIG/TIG welding	1510000
Cross torch adjustment, manual control 50 x 50 mm	1510005

SR POWER 1200 M+F – Roller block rotating device

- ▶ For machining cylindrical workpieces
- ▶ Frame with flat design
- ▶ Swivel rollers with polyurethane coating
- ▶ Clear-cut control elements
- ▶ Continuously variable speed

- ▶ The control electronics are protected by a robust and closed housing
- ▶ With Start/Stop foot pedal
- ▶ AC current driven electric motors and transmission

More models and information on request

Roller block rotating devices

1501350	SR POWER 3500 B M+F
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Model	SR POWER 1200 M+F
Art. no.	1501120
Technical specifications	
Load-carrying capacity	1 200 kg
Speed	80 – 1 600 mm/min
Workpiece Ø	20 – 800 mm
Voltage	230 V
Current type	DC
Dimensions (L x W x H)	520 x 470 x 390 mm
Weight	56 kg



IHG 3500 – Rotary table positioning device with manually swivelling

- ▶ Powerful and simple operation with up to ten parameters
- ▶ Attachments replaceable for many different applications
- ▶ Timer for high repetition accuracy
- ▶ Easy to transport thanks to compact design and low weight
- ▶ Integrated liquid-cooling
- ▶ Easy to fill thanks to level display

Application options

- ▶ Loosening smaller trim parts, jammed and corroded parts, such as bolts, nuts, screws, bearings, gear wheels, etc.
- ▶ Local heating of parts for soldering, pressing, bending or adhesion bonding
- ▶ Melting materials with a low melting point
- ▶ Inexpensive, safe and clean alternative to heating with a torch

- › Easy to transport
- › Easy loosening of nuts and bolts
- › Heating of parts for pressing, bending or adhesion bonding



IHG 3500

Scope of delivery:

- Handle for reel with 2 m cable
- › Focusing coil lateral (Art. no. 6412002)
- › Coolant circuit capacity 2.5 l

Model		IHG 3500
Art. no.		6400035

Technical specifications

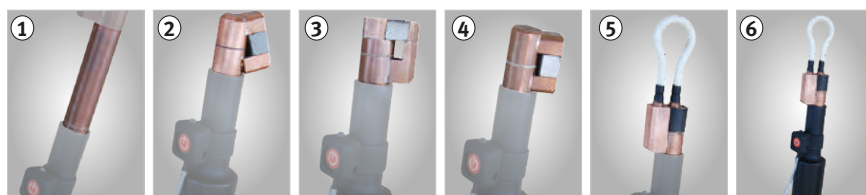
Induction output	kW	3.5
Output frequency	kHz	18 – 60
Degree of protection		IP 22
Coolant volume	l	2.5

Electrical connection

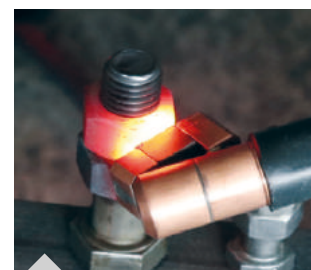
Power draw	kVA	3.5
Fuse	A	16
Supply voltage	V	230
Mains frequency	Hz	50 Hz

Dimensions and weights

Length x width x height		440 x 240 x 200 mm
Device weight		13.5 kg



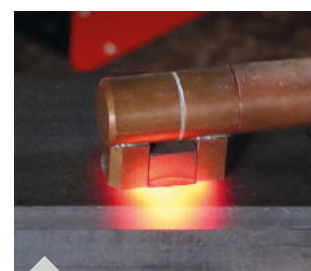
Accessories	Article no.
① Handle extension	6412000
② Focusing coil angled	6412001
③ Focusing coil lateral	6412002
④ Focusing coil straight	6412003
Adapter for liquid-cooled coils	6412004
⑤ Liquid-cooled coil Ø20 mm	6412005
⑥ Liquid-cooled coil Ø25 mm	6412006
Coolant 5l canister	6412007



Heating a nut with the angled focusing coil



Heating a threaded bolt with the liquid-cooled coil



Heating a component with the straight focusing coil

Gas welding



Designation	Art. no.	PQ
Universal cylinder trolley		
for 2 x 10-20 l cylinders	1700005	1

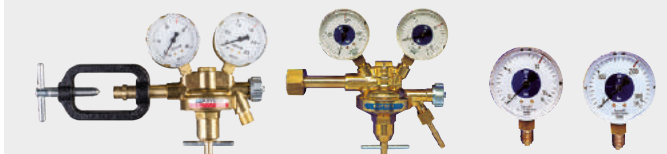
Mobile welding and cutting device

- ▶ Cylinder trolley for 2x10 l, or 2x20 l steel cylinders
- ▶ Steel cylinder oxygen and acetylene (10 l or 20 l)
- ▶ Pressure regulator oxygen - single-stage and acetylene - single-stage
- ▶ Hose guard acetylene and oxygen
- ▶ Comb. welding and cutting device in steel case (KE/17) (for welding 0.5 - 9 mm, for cutting 3 - 100 mm)
- ▶ Oxygen and acetylene hose 10 m length integrated

FSSG 10 L	1700010	1
FSSG 20 L	1700020	1

Pressure regulator

Oxygen	1700030	1
Acetylene	1700040	1



Replacement manometer Ø 63 mm, connection G1/4		
Acetylene 40 bar	1700041	1
Acetylene 2.5 bar	1700042	1
Oxygen 315 bar	1700031	1
Oxygen 16 bar	1700032	1
Argon 315 bar	1700051	1
Argon 30 litres	1700052	1



Flow check valve

Acetylene	1700045	1
Oxygen	1700035	1



Designation	Art. no.	PQ
Teflon seal CO ₂ /Argon	1700033	10
For CO ₂ /ARGON connection (18 x 11.5 x 2 mm)		



Teflon seal oxygen	1700034	10
For oxygen connection (20 x 11 x 2 mm)		



Fibre seals	1700036	10
For oxygen + argon connection		



Aluminium seals (acetylene)	1700046	10
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Designation	Art. no.	PQ
Manometer protective cap		
Blue - oxygen	1700037	1
Red - acetylene and other flammable gases	1700047	1
White/grey - other technical gases	1700057	1
▶ For manometer 63 mm diameter		
▶ Slotted type with safety opening		



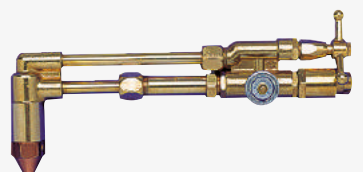
Manometer hoop guard		
Yellow design for flammable gas	1700048	1
Blue design for oxygen	1700038	1
▶ Protects the manometer against damage		



KEK/17 Set	1700117	1
▶ Combined welding and cutting device		
▶ Shaft diameter 17 mm		
▶ For welding 0.5 - 9 mm		
▶ For cutting 3 - 100 mm		
▶ In steel case		



Handle type KEK/17	1700127	1
▶ Shaft diameter 17 mm		



Cutting insert type KEK/17	1700137	1
▶ Shaft diameter 17 mm; without tips		



Guide carriage for KEK 17/25.5 mm	1700150	1
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Round guide bar (protractor)	1700151	1
▶ For guide carriage KEK 17		

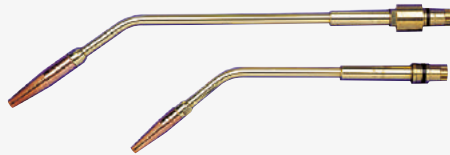


Designation	Art. no.	PQ
Cutting tips		
Cutting tip S0 3-12 mm	1700202	1
Cutting tip S1 12-25 mm	1700203	1
Cutting tip S2 25-50 mm	1700204	1
Cutting tip S3 50-100 mm	1700205	1



Heating tips for acetylene torch gas

Size H1 3-100 mm	1700231	1
Size H2 100-300 mm	1700232	1



Welding inserts type KEK/17

Size 1 0.5- 1.0 mm	1700210	1
Size 2 1.0- 2.0 mm	1700211	1
Size 3 2.0- 4.0 mm	1700212	1
Size 4 4.0- 6.0 mm	1700213	1
Size 5 6.0- 9.0 mm	1700214	1
Size 6 9.0-14.0 mm	1700215	1

Shaft diameter 17 mm



Copper tips

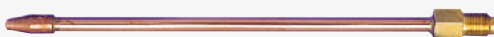
0.5 - 1.0 mm	1700220	1
1.0-2.0 mm	1700221	1
2.0-4.0 mm	1700222	1
4.0-6.0 mm	1700223	1
6.0 - 9.0 mm	1700224	1
9.0 - 14.0 mm	1700225	1



Pipe welding insert type KEK/17

Size 2 1-2 mm	1700118	1
Size 3 2-4 mm	1700119	1
Size 4 4-6 mm	1700120	1
Size 5 6-9 mm	1700121	1

Cu pipe 6 mm diameter, flexible, with soldered on mouthpiece



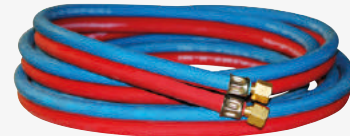
Pipe welding insert front parts type KEK/17

Size 2 1-2 mm	1700122	1
Size 3 2-4 mm	1700123	1
Size 4 4-6 mm	1700124	1
Size 5 6-9 mm	1700125	1

Cu pipe 6 mm diameter, flexible, with soldered on mouthpiece



Designation	Art. no.	PQ
Hoses		
40 m Acetylene 9 x 3.5 red	1701701	1
40 m oxygen 6 x 5 blue	1701702	1
40 m twin hose 6 x 9	1701703	1



Gas twin hose crimped

5 m	1701205	1
10 m	1701210	1
15 m	1701215	1
20 m	1701220	1

► Interior Ø 6 mm, exterior Ø 9 mm



Twin hose clamp steel

Galvanized steel	1701023	20
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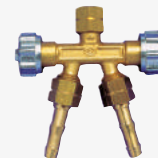
► 16 / 16 mm



Magnetic welding mirror

1701050	1
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► With magnetic foot and movable guide



Double diverter valve

1/4" right-hand, oxygen/argon with 6 mm nozzles	1701037	1
3/8" left-hand, acetylene/propane with 9 mm nozzle	1701040	1

► Nuts and nozzles



Gas igniter gun shape

► With flint 2.6 x 5.0 mm	1701200	1
► nickel-plated		
100 replacement flints 3.0 x 20 mm	1701201	1



Gas igniter roller file	1701100	1
► With flint 3.0 x 20 mm		
10 replacement flints 3.0 x 20 mm	1701101	1

Soft soldering/heating and hard soldering

Soft soldering



Designation	Art. no.	PQ
Complete soldering iron		
Handle: G 3/8" L	1711501	1
► Consisting of: handle, hammer soldering iron 350 g, iron torch, iron holder, wind guard		



Handle		
Hose connection: M 10 x 1 LH	1711502	1

Hammer soldering iron, straight		
250 g	1711503	1



Hammer soldering iron, right-angled		
350 g	1711504	1
500 g	1711505	1



Pointed tip soldering iron		
250 g	1711506	1
350 g	1711507	1



Wind guard



Iron torch



Iron holder

Wind guard/iron torch/iron holder		
Wind guard	1711508	1
Iron torch	1711509	1
Iron holder	1711510	1



Soldering iron complete for propane		
G 3/8" LH	1711500	1
► Scope of supply: Complete soldering iron with copper piece 350 g, High pressure hose (length 1.5 m, cap nuts both sides), low pressure regulator "MINI" with miniature cylinder connection. Not included in scope of supply: manometer, miniature cylinder, torch key.		

Heating and hard soldering



Designation	Art. no.	PQ
Propane handle	1711403	1
With main shut-off valve, torque lever and controllable pilot flame setting Operating pressure: 1.5 - 4 bar Hose connection: G 3/8" LH, connection for insert: M 14 x 1		



Propane soft soldering inserts		
Size 3 drill hole 3 mm	1711404	1
Size 5 drill hole 5 mm	1711405	1
Size 7 drill hole 7 mm	1711406	1
Operating pressure: 1.5 - 2.5 bar		



Propane hard soldering inserts		
Size 12 for copper pipes ø 12 mm	1711407	1
Size 14 for copper pipes ø 18 mm	1711408	1
Size 17 for copper pipes ø 22 mm	1711409	1
Size 20 for copper pipes ø 28 mm	1711410	1
Operating pressure: 1.5 - 2.5 bar		



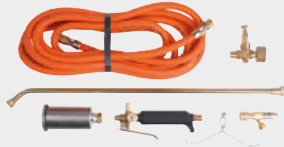
Torch head - stainless steel/aluminium		
ø 30 mm, approx. 600 g/h*; 15.5 kW/h at 1.5 bar	1711411	1
ø 40 mm, approx. 2,000 g/h*; 27 kW/h at 1.5 bar	1711412	1
ø 50 mm, approx. 3,000 g/h*; 47.6 kW/h at 1.5 bar	1711413	1
ø 60 mm, approx. 5,000 g/h*; 70.8 kW/h at 1.5 bar	1711414	1
ø 80 mm, approx. 6,200 g/h*; 93.6 kW/h at 1.5 bar	1711415	1
Operating pressure 1.5 - 2.5 bar *Gas consumption at 1.5 bar		



Connecting pipe steel		
Connecting pipe 75 mm length	1711416	1
Connecting pipe 150 mm length	1711417	1
Connecting pipe 220 mm length	1711418	1
Connecting pipe 350 mm length	1711419	1
Connecting pipe 600 mm length	1711420	1
Connecting pipe 700 mm length	1711421	1
Connecting tube 1 000 mm length	1711422	1
Cap nut M 14 X 1 on one side, other side AG M 20 x 1		



Hard soldering set for propane	1711400	1
► Consisting of. Propane handle, low pressure regulator "MINI" with combined connection and manometer, hard soldering inserts: size 12, 14, 17, 20, 1.5 m HP hose, cap nut G 3/8" LH both sides, torch key, gas igniter, in steel case		



Designation	Art. no.	PQ
Professional heating set for propane	1711401	1
Consisting of: propane handle, connecting pipe 600 mm, torch head $\varnothing$ 50 mm, depositing device, 5 m HP hose, cap nuts both sides G 3/8" LH, low pressure regulator "MINI" with combined connection, without manometer, hose failure safety device 12 kg/h		

Accessories



Designation	Art. no.	1
Miniature cylinder for propane 425 g	1711520	
- TÜV approved. Seamless drawn steel cylinder with valve and hook - Connection: G 3/8" LH - With base		



Filling neck	1711521	1
For filling the miniature cylinder 425 g from 5 kg and 11 kg cylinders (domestic connection)		



Liquid gas low pressure regulator "Mini"	1711522	1
- Without manometer - Back pressure adjustable: 0 - 6 bar - Output: 6 kg/h - Hose connection: G 3/8" LH - LH for miniature cylinder		



Liquid gas low pressure regulator	1711523	1
- With manometer and combined connection - Back pressure adjustable: 0 - 6 bar - Output: 18 kg/h - Hose connection: G 3/8" LH		



Hose failure safety device - propane	1711524	1
- The hose failure safety device prevents gas escaping in case of damage or loosening of the hose; it shuts off the gas flow as soon as the prescribed operating volume is exceeded by 10 %. For manual re-opening. Not mandatory for miniature cylinders! 0.5 - 4.0 bar- 4.8 - 10 kg/h - Nominal pressure: 0.5 - 4 bar - Nominal flow rate: 4.8 -10 kg/h - Intake: G 3/8" LH IG - Outlet G 3/8" LH AG		



Designation	Art. no.	PQ
High pressure hoses PB 30		
High pressure hose 6.3 x 5 mm T 3/8"LH x T 3/8" LH x 5 000 mm	1711525	1
High pressure hose 6.3 x 5 mm T 3/8"LH x T 3/8" LH x 10 000 mm	1711526	1
High pressure hose 4 x 4 mm T 3/8"LH x T 3/8" LH x 2 000 mm	1711527	1
High pressure hose 4 x 4 mm T 3/8"LH x T 3/8" LH x 5 000 mm	1711528	1

Piezo soldering system

Designation	Art. no.
Propane torch system	



Multiple handle with plug-lock connection	1711601	1
- For tool-free torch use - Combination of automatic ignition and lockable torque lever - For hard and soft soldering, fine soldering and shrinking, for propane operation based on Bunsen principle - Ergonomic plastic handle - Automatic ignition for single-handed use at lever pressure - Gas regulator with separate regulating and shut-off valve - Hose connection rotatable G 3/8 LH - Multi-handle matches hard soldering iron size 17/19 and soft soldering iron size 5/7 - Gas pressure: max. 4 bar - Flow rate: max. 6 kg/h		



Hard soldering iron gas outlet 17 mm/ $\varnothing$ Gas consumption kg/h at 2.0 bar: 0.320	1711602	1
Hard soldering iron gas outlet 19 mm/ $\varnothing$ Gas consumption kg/h at 2.0 bar: 0.41	1711603	1
Soft soldering iron gas outlet 5 mm/ $\varnothing$ Gas consumption kg/h at 2.0 bar: 0.12	1711604	1
Hard soldering iron gas outlet 7 mm/ $\varnothing$ Gas consumption kg/h at 2.0 bar: 0.222	1711605	1



Similar to fig.

Hard and soft soldering set with cylinder	1711600	1
Handle with piezo igniter, turbo torch 17 mm, HP hose 2.0 m, G 3/8 LH, small regulator fixed at 2.0 bar, miniature cylinder 425 g fill, hanging hook		