schweißkraft
Schweißtechnik

MIG/MAG
Pulse
Combined
TIG inverters
WIG
Electrode inverters
Plasma cutting
Workpiece processing
Weld smoke extraction units
Health and safety
Additives and fillers
Clamping tools
Gas welding
Soft and hard soldering

Welding and cutting equipment
Welding accessories

Main Catalogue 2016

Sales and service Germany at Hallstadt / Bamberg

Dear customers,

There are many good reasons for taking a close look at this catalogue!

Your requirements are our target.

We specialise in the distribution of premium welding equipment which, with very few exceptions, is manufactured and supplied to our specifications by well-known German and European manufacturers. Each one of our products impresses with its quality, long service life and value stability. We put all of our experience into the ongoing development and improvement of our products, and into completing our product portfolio.

The products.

Are you looking for a functional welding system that offers a comprehensive feature set at an attractive price? Then Schweißkraft welding equipment is the right choice. Our machines impress with excellent quality, precise manufacturing, and an optimum price-performance ratio.

Quality.

Schweißkraft products are subject to very strict production and final checks. The use of premium materials, excellent welding capabilities, and ease of use are our focus. Manufacturing complies with applicable standards and is accompanied by careful individual checks. 100% performance and functional end-of-line checks are performed.

The SLD **STÜRMER Logistics Centre** with approx. 20,000 m² of storage space

STÜRMER Support

The Stürmer Maschinen Group of companies employs around 220 staff at its Hallstadt facility. Some 50 experienced and appropriately qualified service staff are also available on the customer sites, when needed.

Incoming customer requests are processed directly, or distributed to the appropriate departments, at the STÜRMER Service Centre. The adjacent comprehensive spare parts warehouse ensures rapid delivery of spare parts in case of need.

We understand that customers' need a competent partner who is available to quickly and efficiently find a solution; and we implement these solutions every day at the STÜRMER Service Centre. At the centre alone, we employ 14 master craftsmen from the fields of electrical engineering, electronics, automotive mechanics, mechanical engineering and mechatronics.

Kilian Stürmer
General Manager

Robert Stürmer
Sales Manager

STÜRMER Logistics

More than 345,000 articles are available for delivery from stock at the STÜRMER Logistics Centre. This allows for fast shipment of almost all of our products to Germany and throughout Europe.
Qualified staff ensure the orderly delivery of the goods. Every year, more than 100,000 items leave the company's premises, with our own delivery vehicles, by carrier, or by parcel service.

SCHWEISSKRAFT welding equipment

Quality at an attractive price

Production.

Our products are always in a forward-looking development workflow. **Schweißkraft welding equipment is mainly produced by leading manufacturers in Germany and throughout Europe**.

Sales.

Schweißkraft welding equipment is only distributed through specialist retailers. You can benefit from a nationwide network of specialist retailers and sales partners, who are happy to provide advice and support.

After-Sales Service.

Repairs are completed quickly and inexpensively. Additionally, our local dealer, or our experienced Service department are there to help you with service cases. Our well-stocked spare parts warehouse guarantees rapid delivery of replacement parts when needed. **Our service portfolio guarantees the value stability of your Schweißkraft welding equipment for years**. And many of our sales partners will lend you a replacement unit if you need one.

Comprehensive warranty.

We give **3 years' guarantee** on all Schweißkraft PRO series (with the exception of the PRO-CUT) and **5 years' guarantee on the main transformers in these devices,** as per our warranty conditions. Correct handling and use of our products in line with our Owner's Manuals are a prerequisite for our granting warranty claims. Wear parts and consumables are excluded from warranty. This does not affect your legal entitlements as per our General Terms and Conditions. Our warranty conditions are included with the products.

Training.

Successful use of our products depends and is driven to a great extent by the fact that we pass on our technology know-how to our Sales and Service staff at regular training sessions. Customers and dealers can also benefit from these qualifications, whether in the form of workshops on our premises, or on-site training.

Demonstration service.

Why not organise an on-site welding demonstration on your premises to experience the quality and excellent welding results first hand? We have of application engineers for precisely this task who will be happy to visit you and explain and demonstrate the welding equipment. And of course you can perform trial welding yourself at the same time.

Test service.

We offer you the option of testing welding devices under practical conditions in your on-site application environment.
Call us for details!

Initial device training & expert training

Our recommendation for customers purchasing a Schweißkraft welding system is to call in a specialist for commissioning and training on-site.

Initial device training includes:

- Connecting the device supplies installed at the workplace, such as the power cable, gas or compressed air (depending on the device type) and individual supplies; connecting the torch and ground cables
- Assembling modular systems (e.g., power source, liquid cooling device, carriage)
- Installing the additives (MIG/MAG)
- Setting the operating voltage and filler wire feed speed (MIG/MAG)
- Setting the shield gas flow (MIG/MAG/TIG)
- Notes on maintenance and care
- Introduction to features and settings
- Duration approx. 60 minutes

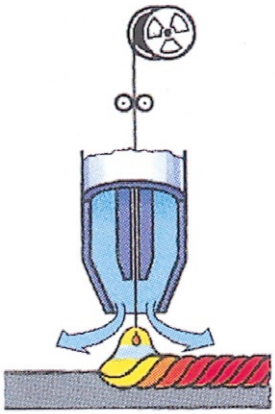
Expert training includes:

- MIG/MAG, TIG, manual electric or plasma cutting
- Comprehensive training for all device features including welding exercises
- Customer-specific application benefits and their implementation on a sample part that you provide directly from your production
- Duration as per individual agreement, Minimum duration three hours

Price list	Article no.
Initial device training	EINWSCHWEIßT
Expert training	SCHULUNG-SCHWEIß

schweißkraft Schweißtechnik

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



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

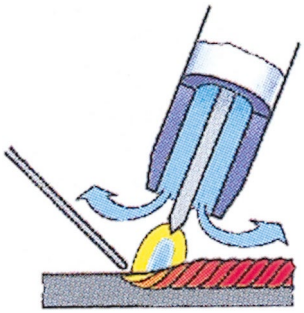
MIG/MAG welding is the most commonly used welding method in the whole world. This is attributable to its versatile application options, the fact that slag polishing is not needed, ease of single-sided, full-penetration welding and excellent penetration depth.
The fact that it is easy to use in all welding 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 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.



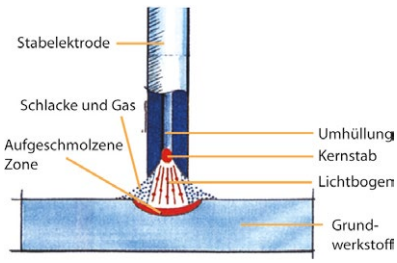
TIG welding - Tungsten Inert Gas

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 with a thickness as of 0.3 mm can be (automatically) welded, for example, alloy steels, high alloy steels, aluminium, magnesium, copper and their alloys, non-alloy steels, nickel, gold, silver, titanium and many others. 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



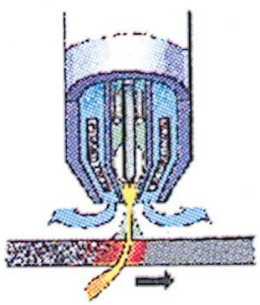
Electrode welding

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 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 20 mm) 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.

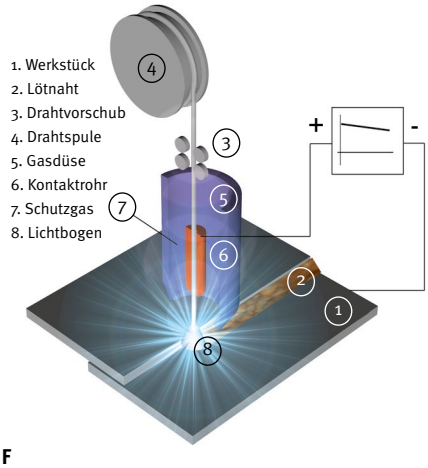
The plasma gas is fed under pressure into the cavity between the electrode and tip. To start up a plasma torch, a pilot arc is ignited using a high-frequency high voltage discharge. The arc burns at low power between the tip and the electrode; it degrades the gas into a plasma state by means of thermal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



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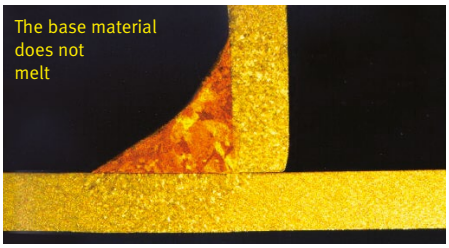
What is MIG soldering?
MIG soldering is a hard soldering process for galvanised and coated thin sheets as well as higher strength steel sheet.
In contrast to legacy shield gas welding (approx. 1600 °C), the basic material is not melted in MIG soldering; instead a hard soldier joint is created between the workpieces using soldering wire (typically a copper-based additive) with a low melting point of around 1000 °C.
Zinc already starts to vaporise at 480 °C. This means that in legacy welding, the layer of sync would burn off large areas of the surface. Evaporating zinc and oxides then lead to porosity, cracks and a lack of fusion.



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 soldiers seem is 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.

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.

Additives and auxiliary materials
Wire electrodes and welding rods made of ML CuSi3 and ML CuAl8 are typically used in arc soldering. In Germany, ML CuSi3 is more widespread, while other countries often use an ML CuAl8 alloy for similar tasks. ML CuAl8 is used for MIG soldering of stainless steel as well as the joints in which the visual appearance of the weld surface is important. This can be of great importance in the furniture industry, for example.

Inert gases
Argon, I1 or Ar compounds including CO_2 or O_2 a typically used in arc soldering. In the case of soldering materials with an Si or Sn component, smaller active CO_2 or O_2 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.

N_2 Additives may stabilise the arc and cause a wide seam, however, they can lead to considerable porosity problems.
H_2 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.

Typical MIG soldering seam due to the CuSi wire melting

Our recommendation:
PRO-MAG 200-2 AM
PRO-MIG 230-4 AM
TRI-MIG 240
SYN-MIG 200 i

The benefits of the MIG soldering method At a Glance:

- *No corrosion on the soldering seam*
- *Minimum weld spatter*
- *Easy reworking of the soldering 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 controls for keeping the sheet thickness*

SchweißKRAFT MIG/MAG torches

SMB 15 gas-cooled
SMB 15 Flex gas-cooled

for model series:
EASY-MAG, TRI-MIG, PRO-MAG, PRO-MIG, KOMBI

P.9

SMB 25 gas-cooled
SMB 25 Flex gas-cooled

a

for model series:
PRO-MIG, EASY-MAG, TRI-MIG, SYN-MAG PRO-MAG, PRO-ARC SPEED, KOMBI

P.10

SMB 36 gas-cooled

for model series:
SYN-MAG, PRO-MIG, PRO-ARC SPEED, KOMBI

P.11

SMB 400 liquid-cooled

for model series:
PRO-MIG, SYN-MAG, PRO-ARC SPEED

P.11

MB 25 gas-cooled

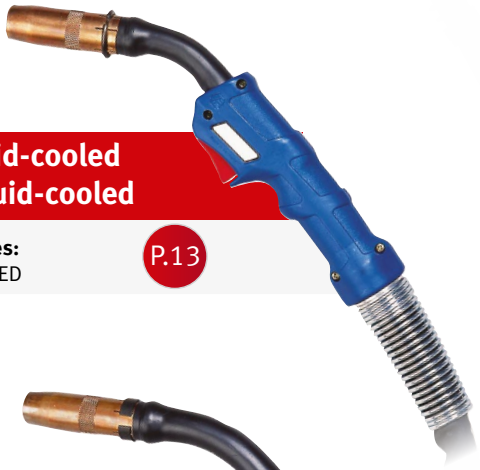
for model series:
PRO-ARC SPEED 300-4

P.12

ABIMIG 452 DW liquid-cooled

for model series:
PRO-ARC SPEED 450-4 WS,

P.12



9W D liquid-cooled
9W FD liquid-cooled

for model series:
PRO-PULS SPEED

P.13

9W RT

for model series:
PRO-PULS SPEED

P.13

9W S

for model series:
PRO-ARC SPEED, PRO-PULS SPEED

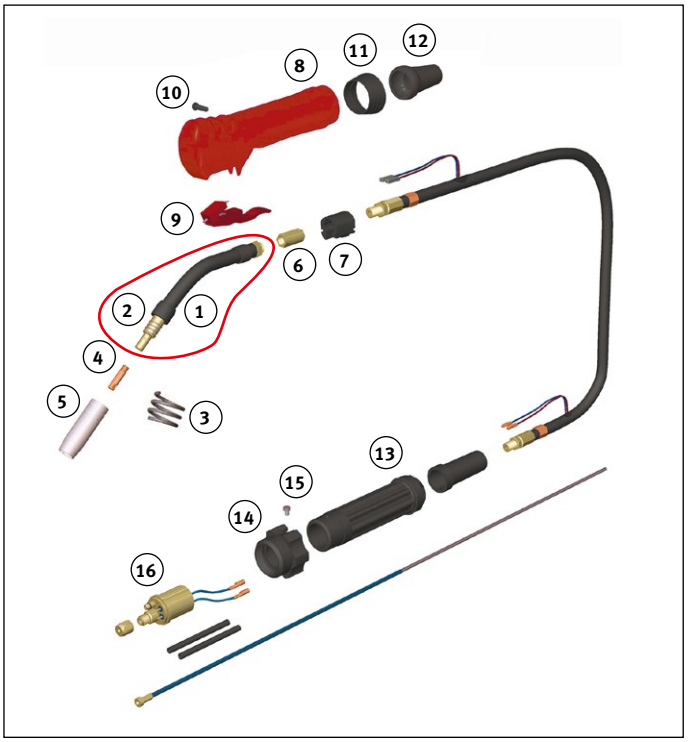
P.13

9W Alu

for model series:
PRO-ARC SPEED, PRO-PULS SPEED

P.13

SMB 15 gas-cooled



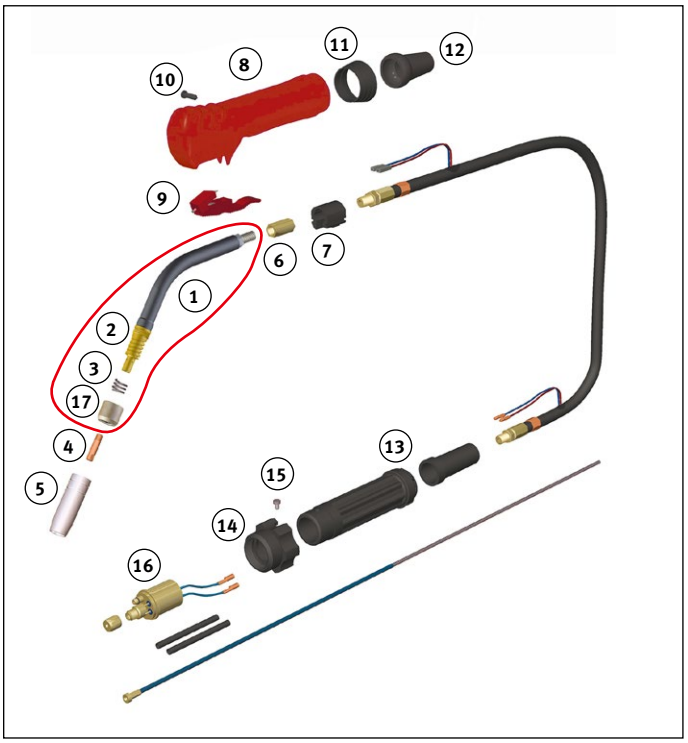
Art. no.	Designation
1091503	SMB 15/3 m with pushbutton
1091504	SMB 15/4 m with pushbutton
1091505	SMB 15/5 m with pushbutton
1091513	SMB 15/3 m for aluminium

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

Guide spirals/Teflon core see page 24

Technical data:	
Load:	180 A CO_2/150 A mixed gas ED 60 %
Wire Ø:	0.6-1.0 mm

SMB 15 Flex gas-cooled
with flexible torch swan neck



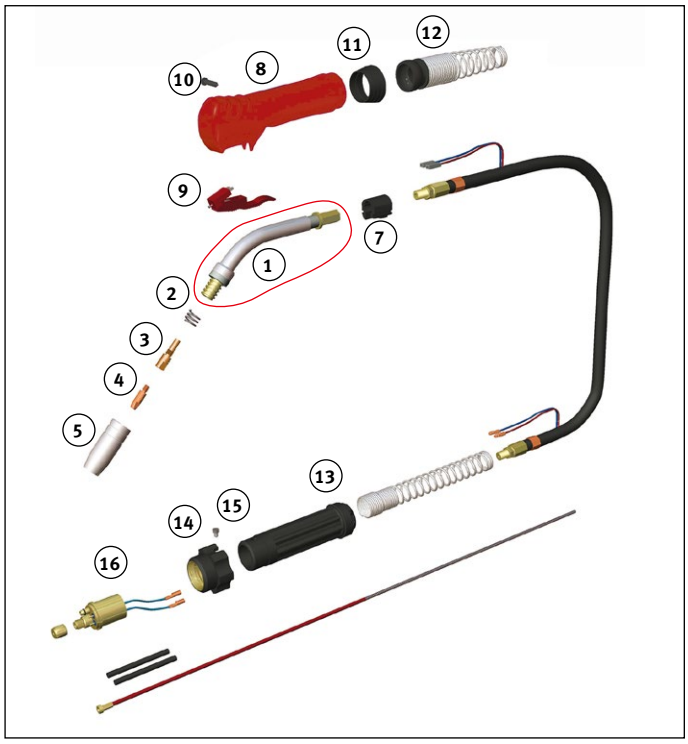
Art. no.	Designation
1091513	SMB 15 Flex, 3 m with pushbutton
1091514	SMB 15 Flex, 4 m with pushbutton

No.	Designation	Art. no.
1 2 3 17	Torch swan neck SMB 15 includes Gas tip carrier (1091531) Holding spring (1091535) Insulator SMB 15 Flex (1091533)	1091532
4	Contact tip M6 Ø 0.6mm/25mm	1091540
	Ø 0.8mm/25mm	1091542
	Ø 1.0mm/25mm	1091544
	Contact tip aluminium Ø 1.0mm/25mm	1091547
5	Gas tip conical Ø 12.0/53 mm	1091550
	Gas tip, cylindrical Ø 16.0 mm	1091554
	Spot gas tip	1091552
6	Adapter MS	1091591
7	Adapter body black	1091588
8	Handle shell red	1091517
9	Pushbutton	1091518
10	Handle shell screw	1091590
11	Ring	1091592
12	Anti-kink protection spring	1091587
13	Anti-kink protection machine side	1091586
14	Connection nut	1091581
15	Connection nut screw	1091589
16	Centre connector fixed pins	1091582
	Wear part set SMB 15	1091500

Guide spirals/Teflon core see page 24

Technical data:	
Load:	180 A CO_2/150 A mixed gas ED 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

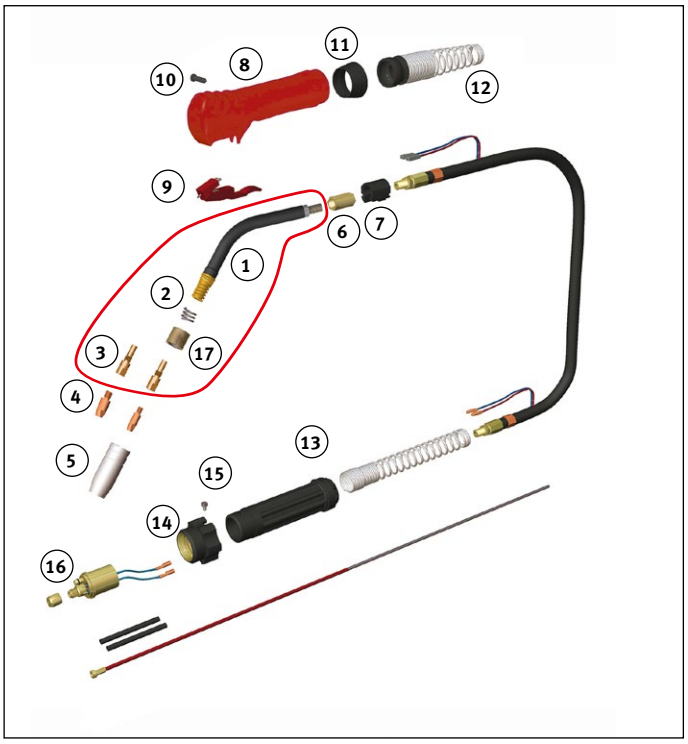
No.	Designation	Art. no.
1	Torch swan neck SMB 25	1092530
2	Holding spring	1092535
3	tip assembly	1092560
4	Contact tip M6 Ø 0.8 mm/28 mm	1092542
	Ø 1.0 mm/28 mm	1092544
	Ø 1.2 mm/28 mm	1092546
	Contact tip aluminium Ø 1.0 mm/28 mm	1092548
	Ø 1.2 mm/28 mm	1092549
5	Gas tip conical Ø 14.5/57 mm	1092550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

Guide spirals/Teflon core see page 24

Technical data:	
Load:	230 A CO_2/200 A mixed gas
	ED 60 %
Wire Ø:	0.8-1.2 mm

SMB 25 Flex gas-cooled

with flexible torch swan neck



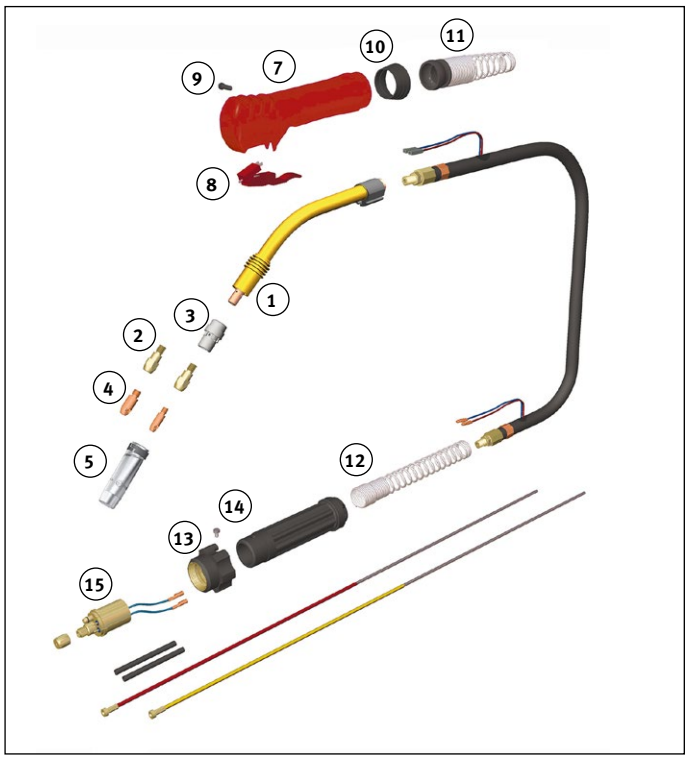
Art. no.	Designation
1092523	SMB 25 Flex, 3 m with pushbutton
1092524	SMB 25 Flex, 4 m with pushbutton

No.	Designation	Art. no.
1	Torch swan neck SMB 25 Flex includes	
2	Holding spring (1092535)	1092531
3	Tip assembly (1092560)	
17	Insulator SMB 25 Flex (1092533)	
4	Contact tip M6 Ø 0.8mm/28mm	1092542
	Ø 1.0 mm/28 mm	1092544
	Ø 1.2 mm/28 mm	1092546
	Contact tip aluminium Ø 1.0 mm/28 mm	1092548
	Ø 1.2 mm/28 mm	1092549
5	Gas tip conical Ø 14.5/57 mm	1092550
	Gas tip, cylindrical Ø 18.0 mm	1092554
	Spot gas tip	1092552
6	Adapter MS	1091591
7	Adapter body black	1091588
8	Handle shell red	1091517
9	Pushbutton	1091518
10	Handle shell screw	1091590
11	Ring	1091592
12	Anti-kink protection spring	1092561
13	Anti-kink protection machine side	1091586
14	Connection nut	1091581
15	Connection nut screw	1091589
16	Centre connector fixed pins	1091582
	Wear part set SMB 25	1092500

Guide spirals/Teflon core see page 24

Technical data:	
Load:	230 A CO_2/200 A mixed gas
	ED 60 %
Wire Ø:	0.8-1.2 mm

SMB 36 gas-cooled



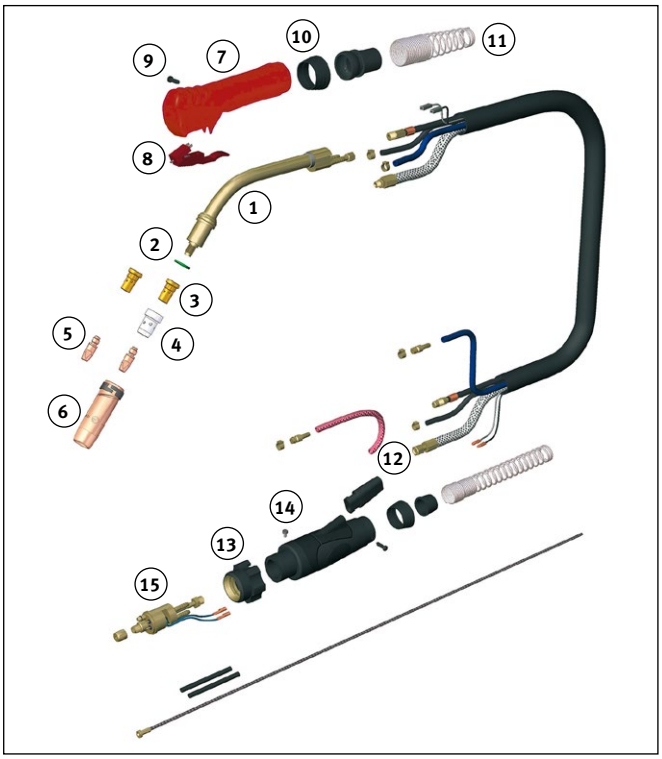
Art. no.	Designation
1093603	SMB 36/3 m with pushbutton
1093604	SMB 36/4 m with pushbutton
1093605	SMB 36/5 m with pushbutton
1093613	SMB 36/3 m for aluminium

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

Guide spirals/Teflon core see page 24

Technical data:	
Load:	300 A CO_2/270 A mixed gas ED 60 %
Wire Ø:	0.8-1.2 mm

SMB 400 liquid-cooled



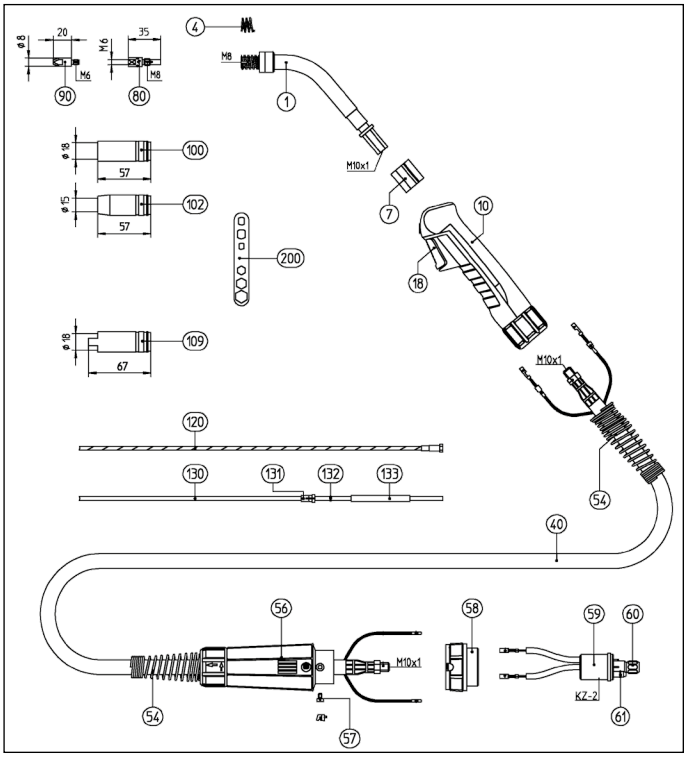
Art. no.	Designation
1094003	SMB 400/3 m with pushbutton
1094004	SMB 400/4 m with pushbutton
1094005	SMB 400/5 m with pushbutton
1094013	SMB 400/3 m for aluminium

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

Guide spirals/Teflon core see page 24

Technical data:	
Load:	400 A CO_2/350 A mixed gas DC 100 %
Wire Ø:	0.8-1.6 mm

Torch MB 25 gas-cooled



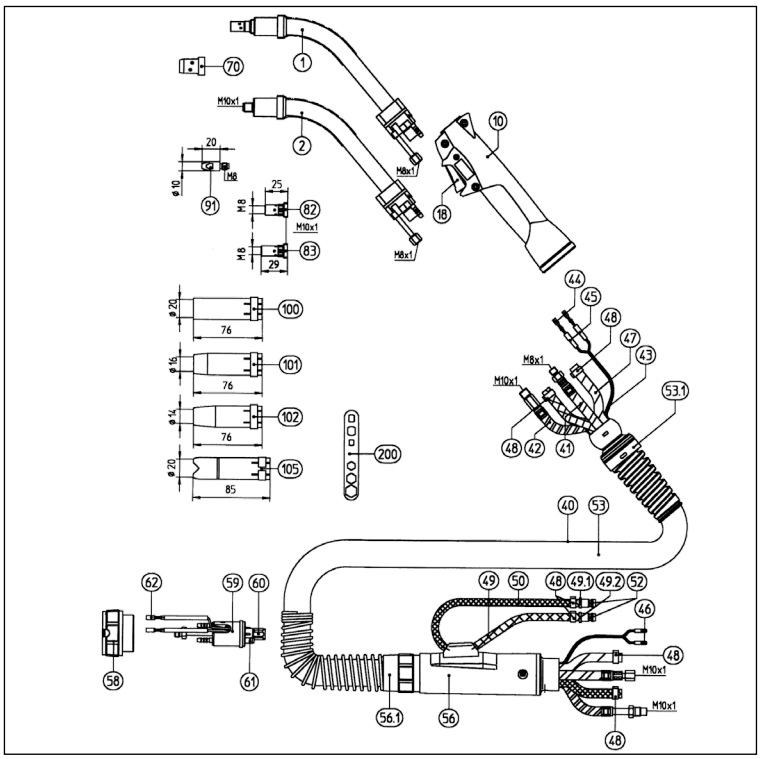
Art. no.	Designation
105 2503	MB 25 AK/3 m with pushbutton
105 2504	MB 25 AK/4 m with pushbutton
105 2505	MB 25 AK/5 m with pushbutton
105 2513	MB 25 AK/3 m for aluminium
105 3253	MB 25/3 m, Up/Down
105 3254	MB 25/4 m, Up/Down
105 3255	MB 25/5 m, Up/Down
105 5253	MB 25/3 m, with potentiometer
105 5254	MB 25/4 m, with potentiometer
105 5255	MB 25/5 m, with potentiometer

No.	Designation	Art. no.
1	Torch swan neck MB 25 pluggable	105 2530
4	Holding spring	105 2535
6	Adapter body brass	105 2507
7	Adapter body plastic	105 1587
10	Handle shell with pushbutton compl.	105 1517
18	Pushbutton 2-pin, orange	105 1518
54	Anti-kink protection spring size 19	105 1519
56	Anti-kink protection machine side	105 1538
58	Connecting nut	105 1581
59	Centre connector	105 1582
60	Union nut M10x1	105 1585
80	Tip assembly M6 35.0 mm	105 2560
90	Contact tip M6 E-Cu Ø 0.8 mm	105 2542
	Ø 1.0 mm	105 2544
	Ø 1.2 mm	105 2546
	Contact tip aluminium wire Ø 1.0 mm	105 2547
	Contact tip aluminium wire Ø 1.2 mm	105 2549
100	Gas tip, cylindrical Ø 18.0 mm	105 2554
102	Gas tip, conical Ø 15.0 mm	105 2550
109	Spot gas tip Ø 18.0 mm	105 2556
	Wear part set MB 25	105 2510

Technical data:

Load:	230 A CO_2/200 A mixed gas DC 60 %
Wire Ø:	0.8-1.2 mm

ABIMIG 452 DW liquid-cooled



Art. no.	Designation
1485453	Torch ABIMIG 452 DW, 3.0 m length with pushbutton
1485454	Torch ABIMIG 452 DW, 4.0 m length with pushbutton
1485455	Torch ABIMIG 452 DW, 5.0 m length with pushbutton
1487453	Torch ABIMIG 452 DW, 3.0 m length with potentiometer
1487454	Torch ABIMIG 452 DW, 4.0 m length with potentiometer
1487455	Torch ABIMIG 452 DW, 5.0 m length with potentiometer
1489453	Torch ABIMIG 452 DW, 3.0 m length with Up/Down function
1489454	Torch ABIMIG 452 DW, 3.0 m length with Up/Down function
1489455	Torch ABIMIG 452 DW, 5.0 m length with Up/Down function

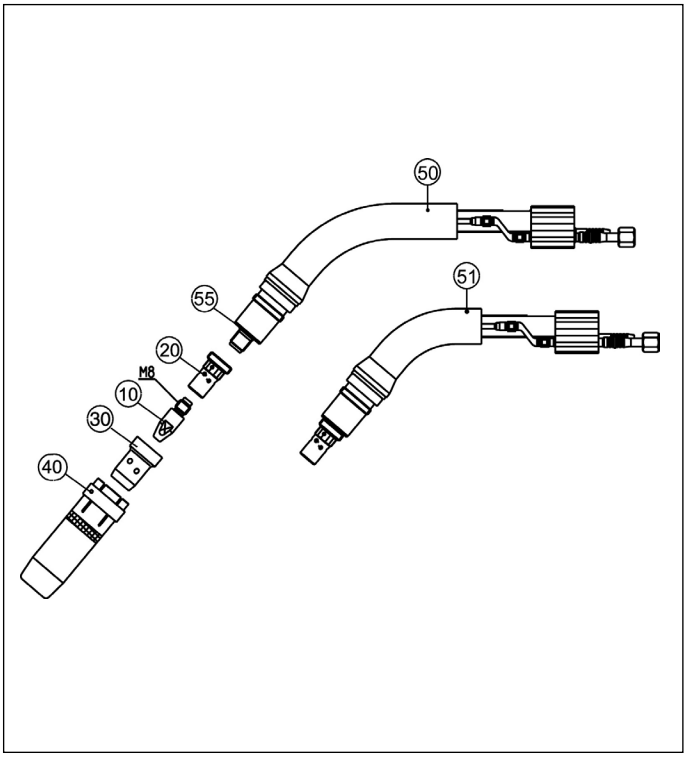
No.	Designation	Art. no.
2	Torch swan neck ABIMIG 452 DW	1059001
	Insulating washer for tip holder	1059002
10	Handle with pushbutton	1059003
18	Pushbutton 2-pin, orange	1051518
56	Anti-kink protection machine side compl.	1054028
70	Gas distributor	1054061
56.1	Connecting spring machine-side	1054029
58	Connection nut	1051581
60	Union nut M10x1	1051585
82	Tip assembly M8/ 25 mm	1059011
83	Tip assembly M8/ 29 mm	1059012
91	Contact tip M8 E-Cu Ø 0.8 mm	1054042
	Ø 1.0 mm	1054044
	Ø 1.2 mm	1054046
	Ø 1.6 mm	1054045
	Contact tip aluminium wire Ø 1.0 mm	1054047
	Contact tip aluminium wire Ø 1.2 mm	1054049
100	Gas tip, cylindrical Ø 20.0 mm	1052654
101	Gas tip, conical Ø 16.0 mm	1052650
	Spot gas tip Ø 20.0 mm	1052656
	Wear part set ABIMIG 452	1059036

Guide spirals/Teflon core see page 24

Technical data:

Load:	450 A CO_2/300 A pulse DC 100 %
Wire Ø:	0.8-1.6 mm

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

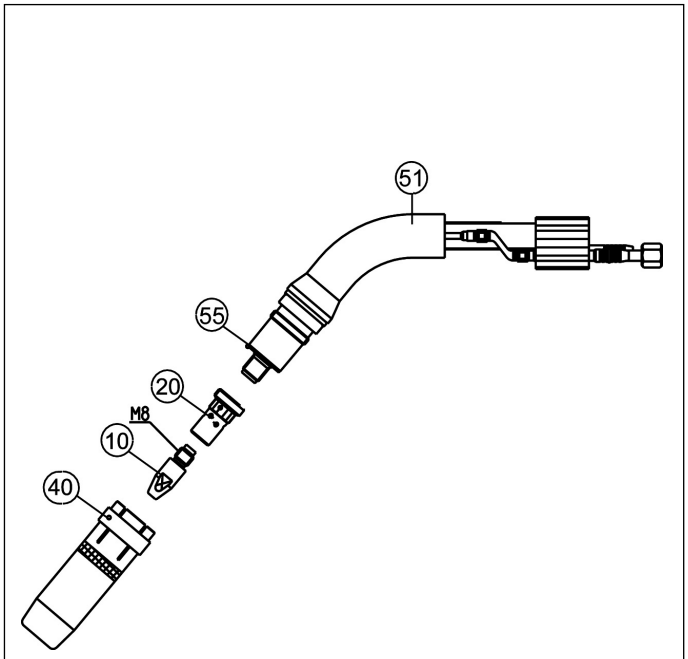
No.	Designation	Art. no.
51	Torch swan neck FD/S/Rt 50° yel. short	1480930
50	Torch swan neck FD 50° yel./green long	1480931
20	Tip assembly D/FD	1480960
	Tip assembly S/Rt	1480959
10	Contact tip E-Cu Ø 0.8 mm	1480908
	Ø 1.0 mm	1480910
	Ø 1.2 mm	1480912
	Ø 1.6 mm	1480916
30	Gas distributor HP	1480961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

Technical data:

Load: 560 A CO_2/500 A mixed gas M21 as per DIN EN 439, 100 % DC

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
20	Tip assembly D/Rt	1480959
10	Contact tip E-Cu Ø 1.0 mm	1481910
	Ø 1.2 mm	1481912
	Ø 1.6 mm	1481916
	Spatter guard	1481951
40	Gas tip conical size 14	1481952
	PA core alum. 1.2-1.6 mm, 3 m	1481953
	4 m	1481954
	5 m	1481955
55	Insulating washer	1480940
	Wear part set 9 W alum.	1481960

Technical data:

Load: 560 A CO_2/500 A mixed gas M21 as per DIN EN 439, 100 % DC

Wire Ø: 1.0-1.6 mm

MIG-MAG welding equipment

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

Quality made in Europe

- Low-budget shield gas welding equipment for crafts, semi-professionals and occasional professional use
- 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 not pre-assembled
- Practical gas cylinder holder
- S mark: approved for welding in cramped welding conditions with an increased risk of electrical hazard
- **EASY-MAG with 2-roll wire feed**
- EASY-MAG 170 with 1 driven roll
- EASY-MAG 190/210 with 2 driven rolls

EASY-MAG with 4-roll wire feed
- EASY-MAG 250-4/300-4 with 4 driven rolls

EASY-MAG 210
- **Suitable for 230 V and 400 V** operations

Method
- MIG/MAG

Sheet thicknesses
- from 0.8 (MAG)

Base materials
- Construction steels
- CrNi steels ferritic/austenitic
- Duplex steels

Typical applications
- Body repairs/maintenance
- Agriculture
- Tack welding

Model	New EASY-MAG 170	EASY-MAG 190	EASY-MAG 210	EASY-MAG 250-4	EASY-MAG 300-4
Article no.	1080170	1080191	1080211	1080251	1080302
Technical Data					
Wire Ø	0.6 - 0.8 mm	0.6 - 1.0 mm	0.6 - 1.0 mm	0.8 - 1.0 mm	0.8 - 1.2 mm
Wire feed	2 roll			4 roll	
Wire feed speed,	1 - 14 m/min	1 - 18 m/min	1 - 18 m/min	1 - 20 m/min	1 - 20 m/min
Power supply	230 V	3 x 400 V	230/400 V	3 x 400 V	
Adjusting range	30-170 A	30-190 A	30-140 A/ 140-200 A	30-250 A	30-300 A
DC at $I_{max.}$ and 40 °C	10 %			35 %	
Welding current at DC 100% at 40 °C	60 A	90 A	65 A	140 A	160 A
Switching stages	6	7	9	10	10
Cos phi power factor	0.8	0.8	0.75	0.8	0.8
Effective power consumption	2.5 kVA	2 kVA	2.6 kVA	5.3 kVA	6.6 kVA
Required generator output	5 kVA	4 kVA	5 kVA	8 kVA	10 kVA
Open circuit voltage	18-43 V	18 - 33 V	24 - 51 V	16 - 32 V	16 - 35 V
Fuse	16 A			16 A	
Cooling type	AF			AF	
Torch cooling	Gas			Gas	
Degree of protection	IP 21I			IP 23	
Insulation class	H			H	
Torch	SMB 15/3m			SMB 25/4m	
Weight	34 kg	37 kg	39 kg	66 kg	85 kg
Dimensions (LxWxH) in mm	760 x 390 x 630			840 x 410 x 680	

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

Scope of supply EASY-MAG 170/190/210:
- Torch SMB 15/3m
- Earth cable 2m
- Pressure regulator
- Basket spool adapter

Scope of supply EASY-MAG 250-4/300-4:
- Torch SMB 25/4m
- Earth cable 2m
- Pressure regulator
- Basket spool adapter

Designation	Art. no.
Wire feeder roll for EASY-MAG 170	
0.6/0.8 mm V groove	1015908
Counterpressure roll smooth	1015910
Wire feeder rolls for EASY-MAG 190, 210, 250-4, 300-4	
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

SchweißKRAFT TRI-MIG 240 – the universal inert gas welding device with up to 3 available torches – ready for immediate use without retooling!

The state-of-the-art synergie control supports precise regulation of the wire feed and fast and easy setting of welding parameters

- For welding work on steel, stainless steel and aluminium thin sheets
- For processing MIG soldering wires such as copper silicon (CuSi) or copper aluminium (CuAl) used for processing of high strength and higher strength steels

- Left side set up for CuSi3 0.8/1.0 mm by default; with precisely adjustable 4 roll wire feed; wire roll up to max. 300 mm and torch SMB 15/3 m

- Right side set up by default for steel/stainless steel 0.8/1.0 mm, with powerful 4-roll wire feed; wire roll up to max. 300 mm and torch SMB 25/4 m

Optional spool gun 200:
Spool gun with holder for small spool 100 mm - thus allowing an extension to a third torch with third wire type.
The gas connection and solenoid valve required for this are included with the system as a factory standard.

- Torch selection via pre-selection switch - only the selected torch is active and live

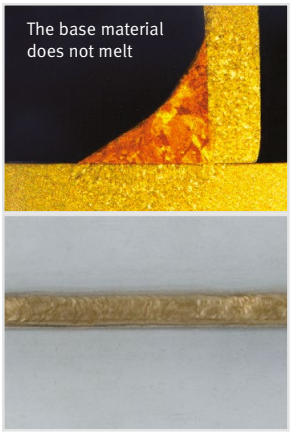
Method
- MAG
- MIG
- MSG soldering

Sheet thicknesses
- as of 0.6 mm (MAG)
- Aluminium as of 1.0 (MIG)
- MIG soldering as of 0.6 mm

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

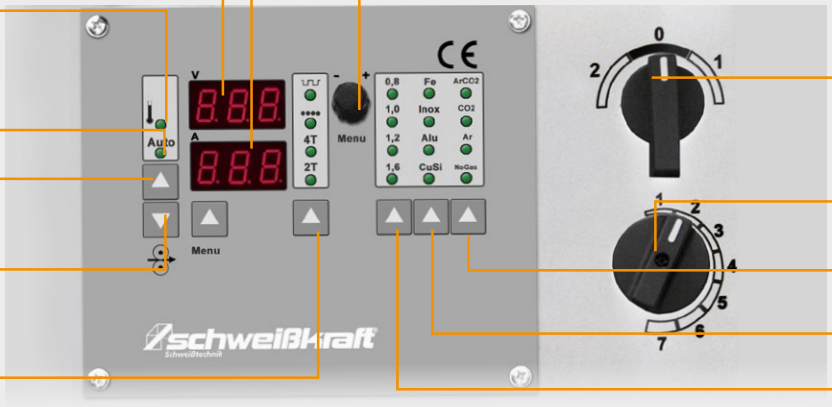
Typical applications
- Body repairs/maintenance
- Metalworking/steel construction
- Metal processing
- Training
- Vehicle workshops

TRI-MIG 240
Fig. shows standard scope of supply



The TRI-MIG control

- *A meter and display*
- *V meter*
- *Overload display*
- *"Auto" indicator*
- *Selection switch "Automatic" or Manual*
- *Wire threading*
- *Selection switch "2- or 4-cycle", "Spot welding" or "Interval welding"*
- *Multifunctional head*
- *0 = Off*
- *1 = Weld*
- *2 = Solder*
- *Stage switch*
- *Selection switch "Gas"*
- *Selection switch "Material"*
- *Selection switch "Wire thickness"*



TRI-MIG 240

Model	TRI-MIG 240
Article no.	1080324

Technical Data	
Wire Ø steel/special steel	0.6 - 1.2 mm
Wire Ø aluminium	0.8 - 1.2 mm
Wire Ø MIG soldering	0.6 - 1.0 mm
Wire Ø spool gun	0.8 mm
Wire feed system	2 x 4-roll
Wire feed speed	1 - 18 m/min
Spool gun option	4 - 14 m/min
Wire roll	2 x up to 300 mm
Power supply	3 x 400 V
Setting range MIG/MAG	30 - 240 A
Setting range MIG soldering	20 - 130 A
Duty cycle (DC) at $I_{max.}$ 40°C	20 %
Welding current at 60% DC 40°C	140 A
Welding current at 100% DC 40°C	110 A
Switching stages for MIG soldering & MIG/MAG	2 x 7
Open circuit voltage	11.0 - 33.0 V
Effective power consumption	6.9 kVA
Fuse	16 A
Power factor	0.8 cos phi
Cooling type	AF
Torch cooling	Gas
Degree of protection	IP 23
Insulation class	H
Required generator output approx.	10
Weight	60 kg
Dimensions (LxWxH)	880 x 496 x 900 mm

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

With universal torch holder

Standard equipment:
2 x 4-roll drive,
1 x 2-/4-cycle spot/interval control,
2 x Solenoid valve,
2 x Gas connection

Scope of supply TRI-MIG 240:
- 2 x Basket spool adapter
- 2 x gas hose 1.5 m
- 1 x holder for 2 torches
- 1 x holder for 2 x 10 l gas cylinders
- 1 x torch SMB 15/3m
- 1 x MIG soldering torch conversion kit for SMB 15 0.8 mm
- 1 x torch SMB 25/4m
- 1 x earth cable 25 mm2 /4 m
- 2 x Pressure regulator

Wear part set for torch

Designation	Art. no.
Wear parts 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 parts 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

TRI-MIG spool gun 200 (Option)

Designation	Art. no.
Spool gun 200 - 6 m, set up for alum. 0.8 mm, without small spool	1090200
Holder for spool gun	1090201

Spare parts spool gun 200

DV - roll for alum. 0.8 mm	1016309
DV - roll for steel 0.8 mm	1016308

Wear parts spool gun 200

Contact tip 0.8 mm (for steel + alum.)	1090108
Gas tip	1090111

Spool gun 200 with small spool D 100

Small spools spool gun 200

Wire AlSi5	0.8 mm	on D 100 spool	0.5 kg	1126108
Wire AlSi12	0.8 mm	on D 100 spool	0.5 kg	1126109
Wire CrNi-316	0.8 mm	on D 100 spool	0.64 kg	1126111
Wire CuSi3	0.8 mm	on D 100 spool	0.72 kg	1126112
Wire SG2	0.8 mm	on D 100 spool	0.64 kg	1126113

New

Quality made in Europe

SYN-MAG 270/320 – step controlled shield gas welding equipment MIG/MAG all-round machines for trades

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)
- 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

Method
- 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 270-4

SYN-MAG 320-4

Model	New	SYN-MAG 270-4	New	SYN-MAG 320-4
Article no.		1089270		1089320
Technical Data				
Wire Ø steel/special 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
DC at $I_{max.}$ 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 supply		3 x 400 V		3 x 400 V
Permanent output at 100% DC		5.5 kVA		6.2 kVA
Fuse		16 A		16 A
Mains plug		CEE 16		CEE 16
Cos phi power factor		0.96		0.96
Insulation class		H		H
Cooling type		AF		AF
Degree of protection		IP 23		IP 23
Torch cooling		Gas		Gas
Gas cylinder max.		20 l		20 l
Weight		77 kg		79 kg
Dimensions (LxWxH), mm		820 x 460 x 715 mm		820 x 460 x 715 mm

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

Standard equipment SYN-MAG 270-4:
Torch SMB 25/4m
- Earth cable 4 m with 35 mm2
- Pressure regulator (large)
- Basket spool adapter

Standard equipment SYN-MAG 320-4:
Torch SMB 36/4m
- Earth cable 4 m with 50 mm2
- Pressure regulator (large)
- Basket spool adapter

Torch set
- Premium accessories are included in the SYN-MAG 270's/320's scope of supply

SYN-MAG 350/450 – step controlled shield gas welding systems
MIG/MAG all-round machines – for thicker materials

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.

- 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

SYN-MAG 350-4 W
- Compact system

SYN-MAG 450-4 WS
- Case system
- fully assembled
- Case quickly and easily removable
- Case **with easy-action, robust chassis**

Method
- 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

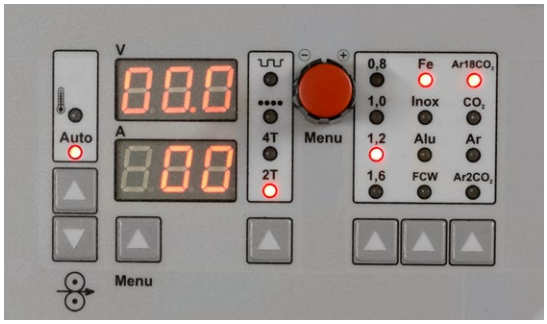
Standard equipment:
4-roll drive
- Wire feed 4 driven rolls
- With 2-cycle/4-cycle/interval control
- Wire feed automatic
- Stand-by fan circuitry
- Volt and Ampere indicator
- Central connection
- Basket spool adapter
- Mains cable 5 m with CEE plug

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

Model	SYN-MAG 350-4	SYN-MAG 350-4 S	SYN-MAG 350-4 W	SYN-MAG 350-4 WS	SYN-MAG 450-4 W	SYN-MAG 450-4 WS
Article no.	1080350	1080351	1080354	1080355	1080450	1080451
Technical Data						
Wire Ø steel/special steel	0.8 - 1.2 mm	0.8 - 1.2 mm	0.8 - 1.2 mm	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	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	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	1.0 - 22 m/min	1.0 - 22 m/min	1.0 - 22 m/min
Adjusting range	30 - 350 A	30 - 350 A	30 - 350 A	30 - 350 A	40 - 450 A	40 - 450 A
DC at $I_{max.}$ 40°C	60 %	60 %	60 %	60 %	35 %	35 %
Welding current at 60% DC 40°C	350 A	350 A	350 A	350 A	400 A	400 A
Welding current at 100% DC 40°C	260 A	260 A	260 A	260 A	310 A	310 A
Open circuit voltage	15.8 - 36.7 V	15.8 - 36.7 V	15.8 - 36.7 V	15.8 - 36.7 V	18.3 - 42.2 V	18.3 - 42.2 V
Switching stages	21	21	21	21	30	30
Wire feed rolls/driven	4/4	4/4	4/4	4/4	4/4	4/4
Power supply	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V
Permanent output at 100% DC	9.7 kVA	9.7 kVA	9.7 kVA	9.7 kVA	12.5 kVA	12.5 kVA
Fuse	20 A	20 A	20 A	20 A	25 A	25 A
Mains plug	CEE 32	CEE 32	CEE 32	CEE 32	CEE 32	CEE 32
Cos phi power factor	0.94	0.94	0.94	0.94	0.96	0.96
Insulation class	H	H	H	H	H	H
Cooling type	AF	AF	AF	AF	AF	AF
Degree of protection	IP23	IP23	IP23	IP23	IP23	IP23
Torch cooling	Gas	Gas	Water	Water	Water	Water
Gas cylinder max.	50 l	50 l	50 l	50 l	50 l	50 l
Weight	121 kg	135 kg	126 kg	140 kg	132 kg	149 kg
Dimensions (LxWxH), mm	910 x 590 x 875	910 x 590 x 1240	910 x 590 x 875	910 x 590 x 1240	910 x 590 x 875	910 x 590 x 1240

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



Controller SYN-MAG 350/450

The controller is identical with the SChweißKRAFT TRI-MIG controller for the most part, differing only in terms of material and gas selection.

The following parameters can be modified via sub-menus:

- Wire feed speed,
- Motor ramp
- Spot and interval time
- Gas pre- and post-flow
- Wire burn-back

Case easily rotatable

Accessories - torch kits

consisting of: torch 4m, earth cable, 315 bar Argon/CO_2 pressure regulator

Designation	Art. no.
for SYN - MAG 270 gas-cooled	
Torch kit 25/35 SMB 25/4m gas-cooled, earth cable 35mm 24m, pressure reg.	1092510
For SYN - MAG 320 and 350 gas-cooled	
Torch kit 36/50 SMB 36/4m gas-cooled, earth cable 50 mm², pressure reg.	1093611
For SYN-MAG 350 liquid-cooled	
Torch kit 400/50 SMB 400/4m liquid-cooled, earth cable 50 mm², pressure reg.	1094010
For SYN-MAG 450 liquid-cooled	
Torch kit 400/70 SMB 400/4m liquid-cooled, earth cable 70 mm², pressure reg.	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 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 resistent, 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 for SYN-MAG case systems

Mandatory for case system purchases!

Designation		Art. no.
For SYN-MAG 350 gas-cooled		
Hose pack gas-cooled pluggable	1.5 m length, 50 mm²	1017015
Hose pack gas-cooled pluggable	5 m length, 50 mm²	1017050
Hose pack gas-cooled pluggable	10 m length, 50 mm²	1017100
For SYN-MAG 350 liquid-cooled		
Hose pack liquid cooled pluggable	1.5 m length, 50 mm²	1018015
Hose pack liquid cooled pluggable	5 m length, 50 mm²	1018050
Hose pack liquid cooled pluggable	10 m length, 50 mm²	1018100
For SYN-MAG 450 liquid-cooled		
Hose pack liquid cooled pluggable	1.5 m length, 70 mm²	1018016
Hose pack liquid cooled pluggable	5 m length, 70 mm²	1018051
Hose pack liquid cooled pluggable	10 m length, 70 mm²	1018101

Intermediate hose pack

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

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

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

SchweißKRAFT PRO-MAG – standard welding devices for thin sheet welding. Professional quality on a low budget.

Qualität Made in Germany

- 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.
- **Automatic threading** automatically increases the feed speed on threading the wire.

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

Sheet thicknesses
as of 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 180-2

PRO-MAG 250-2

MIG soldering

PRO-MAG 200-2 AM

Easy to use

- *OPERATION control lamp*
- *TEMPERATUR*

  E 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*

PRO-MAG model range

		MIG soldering	
Model	**PRO-MAG 180-2**	**PRO-MAG 200-2 AM**	**PRO-MAG 250-2**
Article no.	1080118	1080120	1080125
Recommended torch kit	**15/25**	**15/25**	**25/35**
Article no.	1091510	1091510	1092510
Technical Data			
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 supply	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 (DD) 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 (LxWxH), mm	760 x 320 x 580 mm		

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

MIG soldering

Standard equipment:
2-roll drive, 2-/4-cycle/spot/interval control, power cable with plug 5m, central connection system, operating and temperature display, **without basket spool adapter, without torch, without earth cable, without pressure regulator (see accessories)**

Accessories - torch kits

consisting of: torch 4m, earth cable, 315 bar Argon/CO_2 pressure regulator

Designation	**Art. no.**
Torch kit 15/25 SMB 15/4m gas-cooled, earth cable 25 mm² 4m, pressure reg.	1091510
Torch kit 25/35 SMB 25/4m gas-cooled, earth cable 35 mm² 4m, pressure reg.	1092510
Torch kit 36/50 SMB 36/4m gas-cooled, earth cable 50 mm² 4m, pressure reg.	1093611
Universal torch holder	1090011

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

Torch kit

Universal torch holder

Wear part set for torch

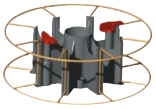
Designation	**Art. no.**
Wear part set SMB 15 consisting of: 1 x gas tip holder, 3 x retaining spring , 3 x each contact tip 0.6/0.8 mm 3 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	1091500
Wear part set SMB 25 consisting of: 3 x retaining spring , 2 x tip assembly, 5 x each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

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

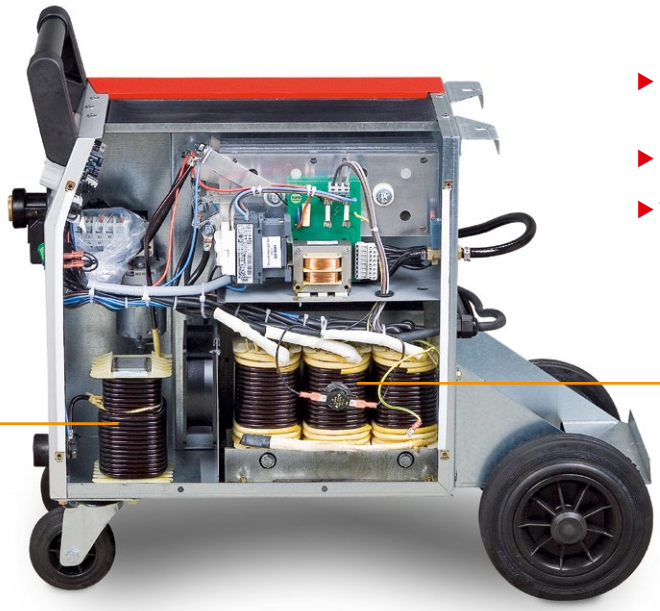
Wire feeder rolls

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

Wire feed roll

- Powerful wire feed
- Robust chassis
- Stable steering rollers for easy manoeuvring

Optional universal torch holder for** self-assembly. Universally deployable. **Torch not included in scope of supply Art.Nr.: 1090011,



- **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

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”.

Typical MIG soldering seam due to the CuSi wire burning off

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
- **Reduced** 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

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 0.6-0.8mm; 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 0.8-1.0mm; 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 ; 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 *bronze 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; SMB 400**	
4.0 m	1052599
O-Ring 3.5x1.5 (PU 20 pcs.)	1051583
Retention nipple Ø 4 mm (PU 20 pcs.)	1051596
RN for F spiral bare metal 1.5/4.0 (PU20)	1051598
RN for F spiral bare metal 2.0-2.5/4.0 (PU20)	1051599
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	Art. no.
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. Good choice for highly stressed and higher strength steels

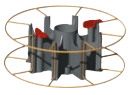
Designation	Art. no.
Small spool D200, 5 kg	
Ø 0.8 mm	1131630
Ø 1.0 mm	1131629
Basket spool K300, 15 kg	
Ø 0.8 mm	1131635
Ø 1.0 mm	1131634
(further filler wires available on request)	

Argon inert gas
Seamless steel cylinders, complete with cylinder valve, with thread as per DIN 477, cap DIN 4667 and fill

Designation	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	1072000
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



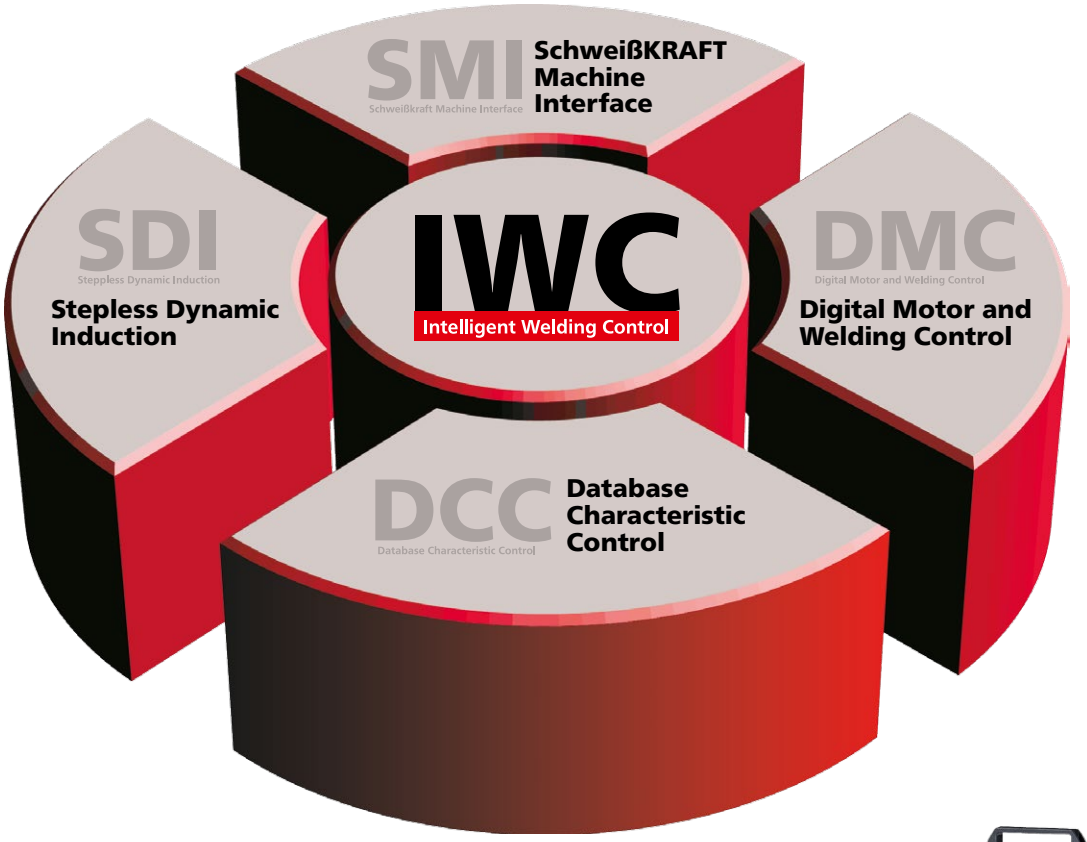


Professional MIG/MAG welding equipment

The intelligent welding device generation by SchweißKRAFT

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 drop 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

Steppless 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.

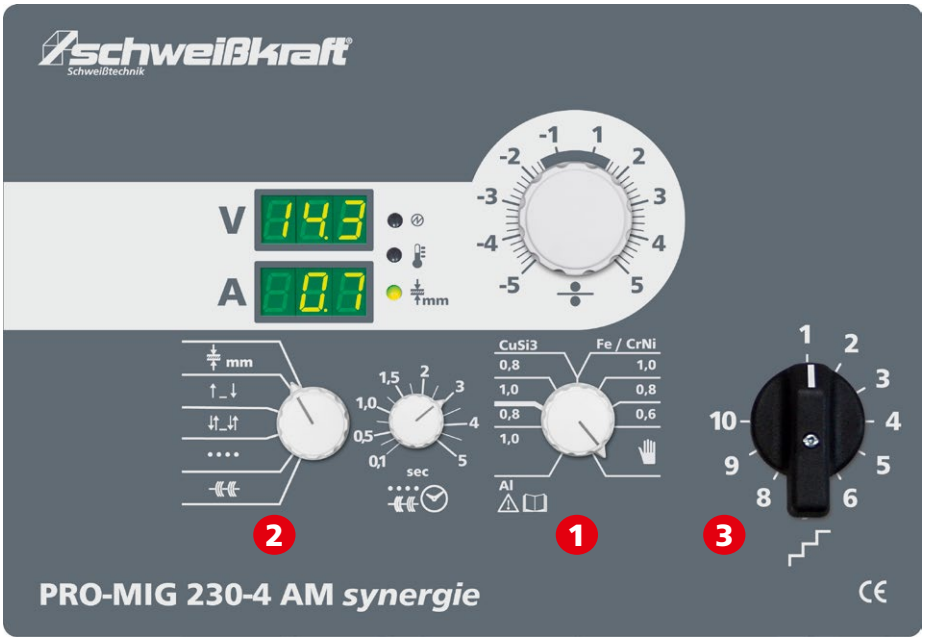
PRO-MIG 450-4 WS synergie

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

Standard equipment for all PRO-MIG types

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.

DCC
Database Characteristic Control



Step 1
Select the material and wire diameter

Step 2
Select display “Material thickness”

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

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

Arguments
- 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 (230 AM)
- Special aluminium characteristic curves in addition with PRO-MIG 230-4 AM, 300-4 to 450-4 WS
- 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
- 2 large steering and fixed rollers

Equipment features:
- Powerful 2- or 4-roll 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, housing as per IP 23 for outdoor welding.
- Easily manoeuvrable thanks to robust chassis with large wheels

Operating modes
- 2-cycle operation
- 4-cycle operation
- Spot welding
- Synergie operation
- Manual operation

Configurable parameters
- Spot/interval time
- Welding output

Method
- 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

Program/characteristic curves	Fe/CrNi				Alu			CuSi	
Synergie operation DCC	0.6	0.8	1.0	1.2	0.8	1.0	1.2	0.8	1.0
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		●	●	●		●	●		

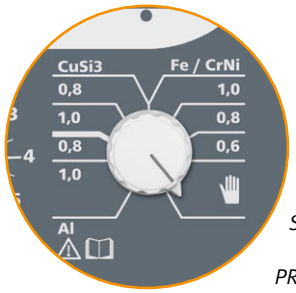
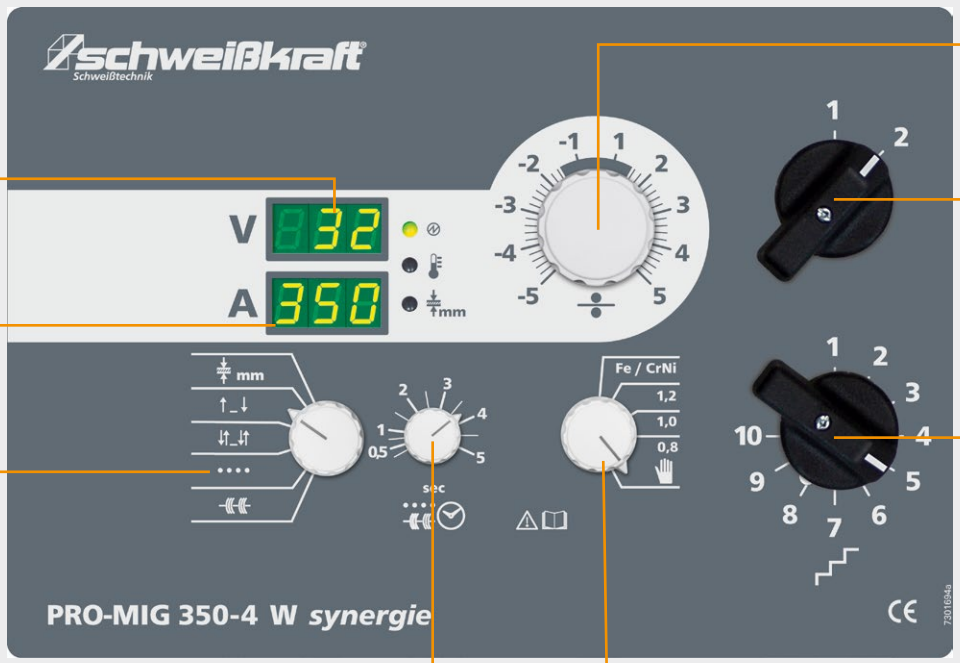


Fig. left
Synergie program selection
PRO-MIG 230-4 AM

Controls

SMI
Schweißkraft Machine Interface



Digital display for welding voltage with Hold function

Digital display for welding current and material thickness

Operating modes: Material thickness display, 2-cycle, 4-cycle, spot, interval

Setting the spot and interval time

Rotary button for wire speed and arc length correction

Rough step switch

Granular step switch

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

Optional universal torch holder for** self-assembly. Universally deployable. **Torch not included in scope of supply, Art.no. 1090011,

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

PRO-MIG synergie 300-4 to 350-4 W
Industrial design for up 50 l gas cylinders, chassis width extension, steering rollers and generously dimensioned fixed rollers. Gas-cooled and liquid-cooled models available

PRO-MIG synergie 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**
(See page 5 for more details)

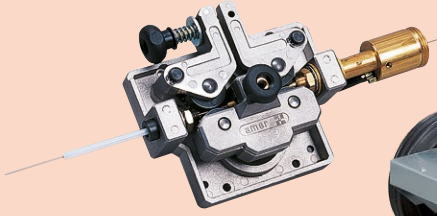
Welding Procedure Specifications (WPS) valid for:
PRO-MIG 280-4
PRO-MIG 310-4
PRO-MIG 350-4W
PRO-MIG 450-4 WS

WPQR package for PRO-ARC SPEED
Art. no. WPQR-SK
600.00

WPQR EN 1090
zertifiziert · certified

MIG soldering with the PRO-MIG

Ideal for automotive applications – 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

Compact PRO-MIG synergie gas-cooled model range

for 20 l gas cylinders

	MIG soldering	MIG soldering		
Model	**PRO-MIG synergie 230-2 AM**	**PRO-MIG synergie 230-4 AM**	**PRO-MIG synergie 280-4**	**PRO-MIG synergie 310-4**
Article no.	1081025	1081024	1081028	1081031
Recommended torch kit	**15/25**	**15/25**	**25/35**	**25/35**
Article no.	1091510	1091510	1092510	1092510
Technical Data				
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 supply	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 (LxWxH)	800 x 320 x 620 mm			

***weldable materials, program supported**

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

PRO-MIG synergie industrial model range, gas- and liquid-cooled

for 50 l gas cylinders

Model	**PRO-MIG synergie 300-4**	**PRO-MIG synergie 350-4 W**	**PRO-MIG synergie 450-4 WS**
Article no.	1081030	1081036	1081045
Recommended torch kit	**25/35**	**400/50**	**400/70**
Article no.	1092510	1094010	1094011
Technical Data			
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 supply	3x 400 V	3x 400 V	3x 400 V
Permanent output at 100% DC	6.9 kVA	9.6 kVA	0.96 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 (LxWxH)	1040 x 560 x 850 mm		1040 x 560 x 1400 mm

PRO-MIG synergie 450-4 WS
Design with separately removable wire feed case

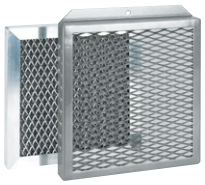
***weldable materials, program supported**

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

Standard equipment: step controlled MIG/MAG welding devices with 2- or 4-roll drive, optional gas- or liquid-cooled and as compact or cased systems, 2-/4-cycle, spot/interval control, power cable with plug 5m, central connection, digital display for welding voltage, welding current and material thickness, operation and temperature display, **without torch, without earth cable, without pressure regulator and without intermediate hose pack in each case (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



Air filter attachment

Accessories - torch kits

consisting of: torch 4m, earth cable, 315 bar Argon/CO_2 pressure regulator

Designation	Art. no.
Torch kit 15/25 SMB 15/4m gas-cooled, earth cable 25 mm² 4m, pressure reg.	1091510
Torch kit 25/35 SMB 25/4m gas-cooled, earth cable 35 mm² 4m, pressure reg.	1092510
Torch kit 36/50 SMB 36/4m gas-cooled, earth cable 50 mm² 4m, pressure reg.	1093611
Torch kit 400/50 SMB 400/4m liquid-cooled, earth cable 50 mm² 4m, pressure reg.	1094010
Torch kit 400/70 SMB 400/4m liquid-cooled, earth cable 70 mm² 4m, pressure reg.	1094011
Universal torch holder	1090011

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

Torch kit

Universal torch holder

Wear part set

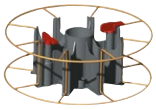
Designation	Art. no.
Wear part set SMB 15 consisting of: 1 x gas tip holder, 3 x retaining spring, 3 x each contact tip 0.6/0.8 mm, 3 x gas tip conical, 1 x gas tip cylindrical size 12, large sorting box	1091500
Wear part set SMB 25 consisting of: 3 x retaining spring , 2 x tip assembly, 5 x each contact 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 resistent, 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	1094000

Wear part set

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

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

Intermediate hose pack

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 feeder rolls

Wire feed rolls for 4-roll wire feed

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

Feed roll pair with gear ring

MIG/MAG shield gas welding equipment

PRO-ARC SPEED– continuously variable MIG/MAG inter gas welding equipment.

The link between step controlled MIG/MAG systems and continuously variable pulse power sources with innovative IWC control

IWC Intelligent Welding Control

IWC® by Schweißkraft based on the intelligent combination of continuously variable, electronic choke, SDI®-Plus
- Digital feed control RSC®
- Welding database CCM
- User interface SMI

The innovative, superordinate machine control solation guarantees excellent welding results and makes use easy and absolutely safe.

SDI®-Plus STEPLESS DYNAMIC INDUCTION

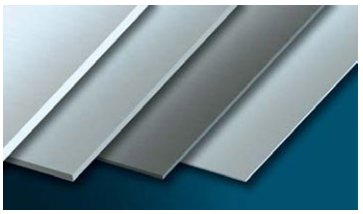
Stepless Dynamic Induction
The continuously variable, electronic welding choke with ultra-fast control ensures excellent ignition properties and a very stable arc.
- Optimally stabilised arc in the ignition and welding phase
- Minimising spatter in the mixed arc
- Considerably less rework
- Optimum adaptation of the welding characteristics to match the welding conditions, e.g., in out of position welding

RSC®

Realtime Speed Control
RSC® guarantees constant wire feed thanks to real-time monitoring and precision control of the wire feed speed with a digital signal encoder.
- Fast and efficient compensation of arc length changes
- Constant wire feed speeds

CCM

Characteristic Curve Memory
CCM is the integrated welding parameter database with the concentrated hands-on knowledge and experience of experts.
- Automatic setting of the optimal welding parameters to reflect the material thickness, wire diameter and shield gas.
- Continuous comparison of the actual values with the process specifications during welding.



SMI Schweißkraft Machine Interface

SchweißKRAFT Machine Interface
The consistently logical structure of the interface shows users all options at a glance.
- Really easy
- Fast and safe setting of the correct welding parameters
- Rules out incorrect operation

FAST.SPEED WELDING PROCESS INSIDE

***FAST.SPEED WELDING PROCESS INSIDE* – powerful and focused arc**
Your advantage with SPEED: faster welding, lower weld opening angle with fewer layers, and less heat transfer thanks to a "short" arc with less distortion.
Pressing the SPEED button selects a "short" arc with excellent arc stability. Under these conditions, you achieve very deep penetration.

Even with a long stick-out (distance between the contact tip and arc) of more than 30 mm, SPEED technology offers precise, premium quality welds.
At the same time, when the SPEED function is active, very little spatter is produced despite the short spray arc setting. If you need to lengthen the stick-out, the SPEED method welds longer with the spray arc than legacy MIG/MAG systems.
This avoids the spatter-prone transition arc for longer.
The results are unusually low-spatter welds that pay dividends in terms of best-in-class weld appearance and reduced rework.

PRO-ARC SPEED – continuously variable MIG-MAG model range for highly professional and flexible use. Fully digitally controlled and remotely controllable.

Infinitely variable industrial model range PRO-ARC *SPEED*

SCheißKRAFT thus closes the gap between conventional step controlled MIG/MAG power sources, and state-of-the-art pulse power sources in MIG/MAG shield gas welding.

The new PRO-ARC *SPEED* welding devices are robust and easy to use, like a step controlled device - continuously variable like a pulse welding source.

The benefits of the new PRO-ARC *SPEED* at a glance:

- Now featuring integrated **JOB Manager**
  With up to 4 settings per characteristic curve that can also be selected using Up-Down torches
- **Interval welding**
  For controlled heat transfer
- **Gouging torch** (450 WS only)
  No additional equipment required
- **SPEED**
  The highly-focused arc is predestined for applications where the major requirement is deeper penetration and reliable root wetting. The SPEED effect can be easily enabled and disabled in the spray arc by pressing a button
- **SDI® PLUS setting controller**
  Continuous adjustment of the welding choke means that the arc can be precisely adapted to meet a wide range of requirements.
- 4-roll wire feed, tachometer controlled
- **Synergie operation DCC via integrated database with 4500 stored characteristic curves**
- Special **MIG soldering characteristic curves**
- special **aluminium characteristic curves**
- Automatic wire threading, current and gas free in rapid motion
- Automatic feed for automatic wire speed adjustment
- Automatic inching for reliable ignition
- **Hold function**
- Permanent mains voltage monitoring
- Multiple remote control options
- **Automatic wire burn-back** for constant wire end lengths and an individually configurable burn-back time
- Safety forced shutdown in 4-cycle operation to prevent undesirable wire uncoiling
- **Standby circuit** for fan and water pump
- Gas checking function
- Generator capable
- Thermal protection switch

- **Features:**
- 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
- Quiet operation thanks to optimise housing design and standby switch for the fan
- Wire spool easy to change
- Wire feed roll change without tools
- Ergonomic design, housing as per IP 23 for outdoor welding.
- Features automation interface as standard equipment

- **Configurable parameters**
- Start-up current
- Reduced temperature time
- Reduced temperature current
- Fan and water pump post-run periods
- Inching speed
- Burn back time
- Gas pre-flow time
- Gas post-flow time
- Spot time
- Welding output

Method
- MIG-MAG SPEED continuously variable
- MIG-MAG continuously variable
- MIG soldering continuously variable
- Gouging torch (450 WS only)

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
- Certified production of quality approved standard parts
- Plant, container, machine, steel construction
- Automobile industry and automotive supplies
- Vehicle manufacturing/construction machinery
- Rail vehicle manufacturing
- Shipbuilding

Operating modes
2-cycle operation/4-cycle operation/spot welding
Synergie operation
Manual operation

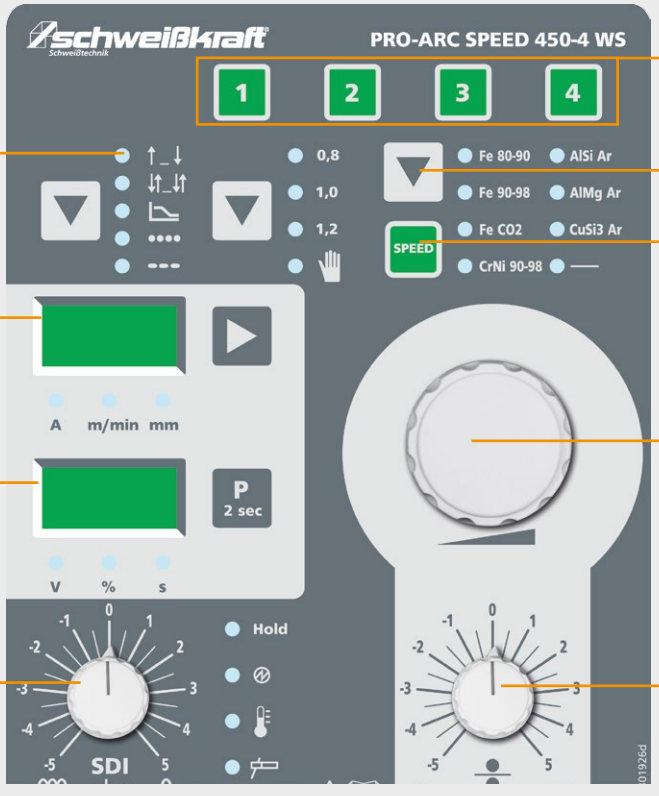
Controls

LED display:
2-/4-cycle, 4-cycle with down slope , spot

7-segment display:
Welding current, wire speed, material thickness
Hold function: displays the welding current after welding

7-segment display:
Welding voltage, custom parameters and spot time
Hold function: displays the welding voltage after welding - choke

Arc hardness setting (SDI® techology):
continuously variable hard - medium - soft.
Also for adapting the weld shape.



Job memory

Synergie program selection:
Wire diameter and material/material type combination

***SPEED** can be switched on and off as needed*
Safe and simple =
faster and more economical

Rotary switch (incremental encoder):
- Welding power setting via Ampere display, wire speed, material thickness, welding voltage, settings
- Spot time/Down-slope time

Wire speed control:
Arc length correction in Synergie mode,
Continuously variable wire speed

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.
The book with 12 procedure tests and 169 welding specifications (WPS) is available as Art. no. WPQR-SK.

WPQR package for PRO-ARC SPEED
Art. no. WPQR-SK
600.00

For more information on DIN EN 1090, turn to page 46

*Fig. **PRO-ARC SPEED 300-4 compact design***

Fig. shows liquid-cooled PRO-ARC SPEED 450-4 WS

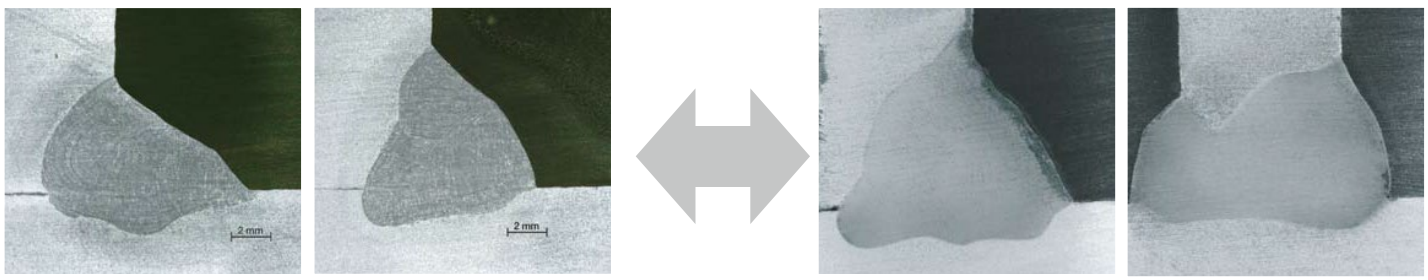
Fig. shows gas-cooled PRO-ARC SPEED 300-4

PRO-ARC SPEED– Your benefits:

Easy handling:
Focus on welding and let SMC handle everything else®
FAST.SPEED WELDING PROCESS INSIDE
Safe and simple = faster and more economical
Revolutionary SMC® control technology
For more efficiency and quality
Innovative SDI®-Plus technology
For adapting the weld shape to the task in hand
Maximum duty cycle
Ideal for industrial applications
No end of power
High performance for demanding applications
Job memory
For absolute reproducibility
Wide range of remote control options
The right solution for any application scenario
Automation interface as standard equipment
For partly and fully automated production

Seminal *FAST.SPEED WELDING PROCESS INSIDE*

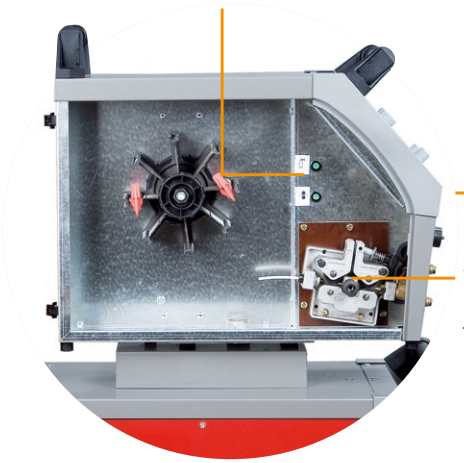
Deep penetration and reliable root coverage.



Without FAST.SPEED *With FAST.SPEED* *Without FAST.SPEED* *With FAST.SPEED*

SChweißKRAFT PRO-*ARC SPEED* – Quality standard Made in Germany
For a permanently high performance and reliability

Automatic electronic threading and gas check function



Removable, rotating wire feed case with connections for pluggable intermediate hose packs

Electronically controlled 4-roll wire feed for constant wire feed speed

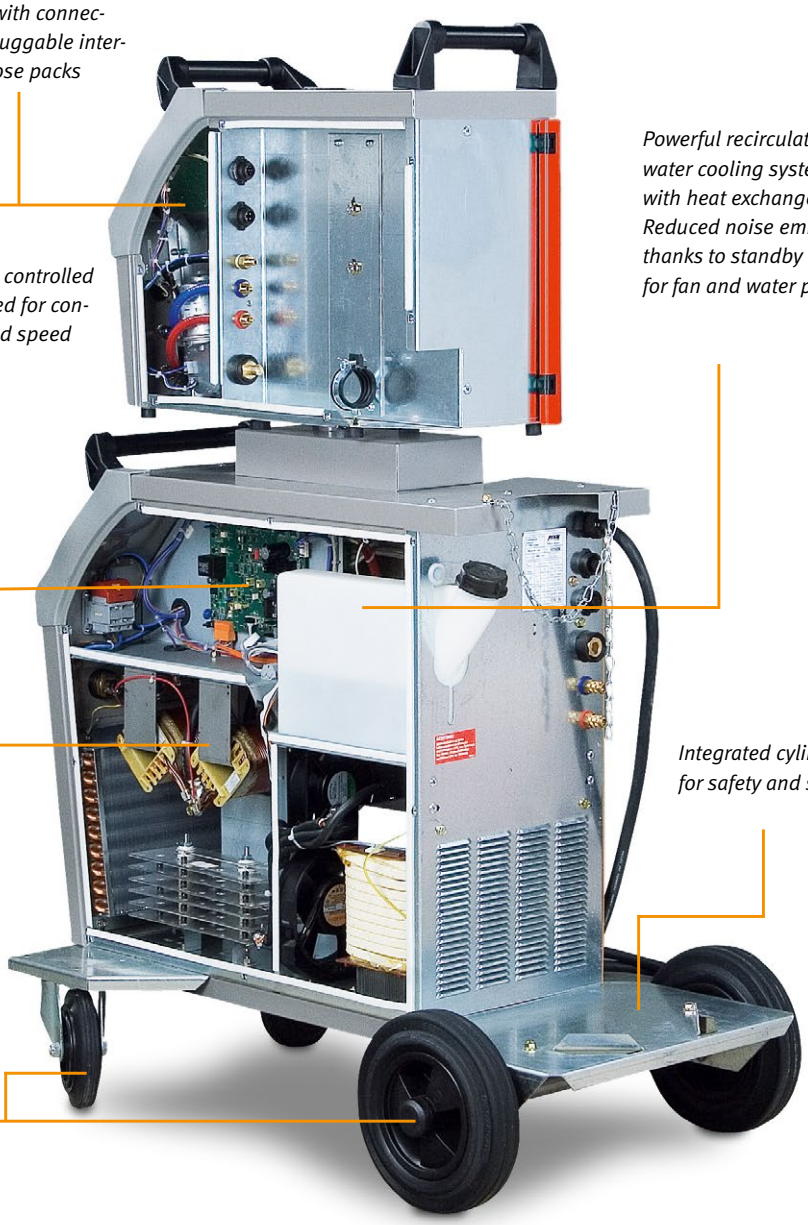
Powerful recirculating water cooling system with heat exchanger. Reduced noise emission thanks to standby circuit for fan and water pump

Digital multiprocessor for high precision and best-in-class welding results

Integrated cylinder holder for safety and stability

Robust, tried and trusted, electronically controlled power components for daily use in rough conditions

Highly mobile thanks to two stable steering and fixed rollers

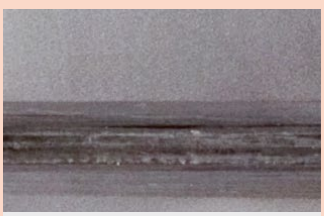


*Illustrations show **PRO-ARC SPEED 450-4 WS***

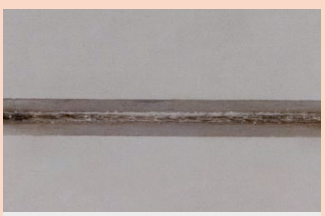
Sample welds PRO-ARC

Base material : AlMg 1.5 mm
Filler material: AlMg5 1.0 mm
Gas: 100% Ar
Welding current: 75A

Base material: Zinkor 1.0 mm
Filler material: CuSi3 1.0 mm
Gas: 100% Ar
Welding current: 72A



Base material: Steel 1.0 mm
Filler material: SG2 0.8 mm
Gas: 82/18
Welding current: 95A



Base material: CrNi 1.0 mm
Filler material: 1.4430 0.8 mm
Gas: 98/2
Welding current: 55A

PRO-ARC *SPEED* model range, MIG/MAG continuously variable control

Qualität Made in Germany

Model	PRO-ARC SPEED 300-4	PRO-ARC SPEED 450-4 WS
Type	Compact	with case
Article no.	1086300	1086450
Technical Data		
Wire Ø steel/special steel	0.6 - 1.2 mm	0.8 - 1.6 mm
Wire Ø aluminium	1 mm	1.0 - 1.2 mm
Wire feed	0.3 - 20 m/min	0.3 - 20 m/min
Continuously variable setting range	25 - 300 A	25 - 450 A
Duty cycle at $I_{max.}$ 40 °C	50 %	50 %
Welding current at 100% DC 40°C	220 A	320 A
Open circuit voltage	68 V	68 V
Power supply	3 x 400 V	3 x 400 V
Permanent output at 100% DC	7.6 kVA	13.4 kVA
Fuse	16 A	32 A
Efficiency	0.98 cos phi	0.98 cos phi
Insulation class	H	H
Cooling type	AF	AF
Torch cooling	Gas	Water
Degree of protection	IP 23	IP 23
Weight	124 kg	176 kg with case
Dimensions (LxWxH)	1030 x 605 x 845 mm	1030 x 605 x 1410 mm with case

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

Standard equipment:
Continuously variable control MIG/MAG welding device with 4-roll drive, power cable with plug, central Euro connection, 2-cycle/4-cycle spot control, remotely controllable via torch or remote control, digitally controlled with Synergie characteristic curves, operation and temperature display, material thickness display, voltmeter and ampere meter with Hold function, temperature controlled fan and water pump with standby circuit, with gas hose, with operating instructions.
With new and additional **procedure variants:**
SPEED, SDI®-Plus and gouging torch (450 only).
With new and additional functions:
Interval welding and job manager (with 4 settings per characteristic curve).

Scope of supply and price
Without Torch, pressure regulator and earth cable, and 450-4 WS without intermediate host pack (please order separately).

Accessories PRO-ARC *SPEED*

Designation	Art. no.
Manual remote control MIG Plus 2	1044512
Trolley for feed case	1033667
Air filter attachment	1033669
Metal filter cell	1033671
Pressure regulator Argon/CO_2	1700050
Earth cable 50 mm² / 4m length, complete	1250250
Earth cable 70 mm² / 4m length, complete	1250270

Air filter attachment

Manual remote control MIG Plus 2

Torch for PRO-ARC *SPEED* 300-4 (gas-cooled)

Designation	Art. no.
Torch MB 25, 3.0 m length with pushbutton	1052503
Torch MB 25, 4.0 m length with pushbutton	1052504
Torch MB 25, 5.0 m length with pushbutton	1052505
Brenner MB 25, 3.0 m length, with Up/Down function and pushbutton	1053253
Brenner MB 25, 4.0 m length, with Up/Down function and pushbutton	1053254
Brenner MB 25, 5.0 m length, with Up/Down function and pushbutton	1053255
Brenner MB 25, 3.0 m length with potentiometer	1055253
Brenner MB 25, 4.0 m length with potentiometer	1055254
Brenner MB 25, 5.0 m length with potentiometer	1055255

Torch

Wear part set (gas-cooled)

Designation	Art. no.
Wear part set MB 25 consisting of: 1 x retaining spring, 3 x tip assembly, 10 x each contact tip 0.8/1.0 mm, 1 x cap nut, 2 x gas tip conical 15 mm, 1 x gas tip cylindrical 18mm, large sorting box	1052510

Wear part set

Accessories for liquid-cooled welding equipment

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

Torches for PRO-ARC *SPEED* 450-4 WS (liquid-cooled)

Designation	
MB 401 D, 3.0 m length, ERGO design with pushbutton	1054503
MB 401 D, 4.0 m length, ERGO design with pushbutton	1054504
MB 401 D, 5.0 m length, ERGO design with pushbutton	1054505
MB 401 D, 3.0 m length, ERGO design with Up/Down function	1054703
MB 401 D, 4.0 m length, ERGO design with Up/Down function	1054704
MB 401 D, 5.0 m length, ERGO design with Up/Down function	1054705
MB 401 D, 3.0 m length, ERGO design with potentiometer	1054903
MB 401 D, 4.0 m length, ERGO design with potentiometer	1054904
MB 401 D, 5.0 m length, ERGO design with potentiometer	1054905
Torch ABIMIG 452 DW, 3.0 m length with pushbutton	1485453
Torch ABIMIG 452 DW, 4.0 m length with pushbutton	1485454
Torch ABIMIG 452 DW, 5.0 m length with pushbutton	1485455
Torch ABIMIG 452 DW, 3.0 m length with potentiometer	1487453
Torch ABIMIG 452 DW, 4.0 m length with potentiometer	1487454
Torch ABIMIG 452 DW, 5.0 m length with potentiometer	1487455
Torch ABIMIG 452 DW, 3.0 m length with Up/Down function	1489453
Torch ABIMIG 452 DW, 4.0 m length with Up/Down function	1489454
Torch ABIMIG 452 DW, 5.0 m length with Up/Down function	1489455
Torch 9W-S, 3.0 m length, short swan neck, with potentiometer	1480923
Torch 9W-S, 4.0 m length, short swan neck, with potentiometer	1480924
Torch 9W-S, 5.0 m length, short swan neck, with potentiometer	1480925

Torch

Intermediate hose pack for PRO-ARC *SPEED* 450-4 WS

Intermediate hose 1.4 m length	1061101
Intermediate hose 5.0 m length	1061105
Intermediate hose 10.0 m length	1061110
Intermediate hose 15.0 m length	1061115

Intermediate hose pack

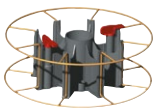
Wear part set (liquid-cooled)

Wear part set MB 401 consisting of: 3 x 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, 1 x gas tip cylindrical 20mm, large sorting box	1054110
Wear part set ABIMIG 452 DW consisting of: 3 x 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, Gas tip cylindrical, large sorting box	1059036
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

Basket spool adapter

Designation	Art. no.
Basket spool adapter KA 2, with quick release coupling	1110005
Basket spool adapter KA 3, two-part	1110006



Basket spool adapter KA 2

Accessories for 4-roll wire feed

Feed roll pair solid wire with gear ring 0.6 mm	1033600
Feed roll pair solid wire with gear ring 0.8 mm	1033601
Feed roll pair solid wire with gear ring 1.0 mm	1033602
Feed roll pair solid wire with gear ring 1.2 mm	1033603
Feed roll pair solid wire with gear ring 1.6 mm	1033604
Feed roll pair flux-core wire with gear ring 1.2 mm	1033612
Feed roll pair flux-core wire with gear ring 1.6 mm	1033616
Feed roll pair flux-core wire with gear ring 1.8 mm to 2.4 mm	1033618
Feed roll pair aluminium with gear ring 2 x 1.0 mm (not as shown)	1033619
Feed roll pair aluminium with gear ring 2 x 1.2 mm (not as shown)	1033620
Feed roll pair aluminium with gear ring 2 x 1.6 mm (not as shown)	1033621
Counterpressure roll	1033420
Gear ring	0134013
Drive pinion	0134014
Key	0134015
Metal washer	0134016
PVC washer	0134017
Capillary tube 95 mm length	0117022

Basket spool adapter KA 3

Feed roll pair with gear ring

MIG/MAG pulse shield gas welding equipment

The new PRO-PULS *SPEED* 400 WS

The best MIG-MAG PULS ever for easy operation!

No matter what challenges you face, the PRO-PULS *SPEED* gives you the most economical way of achieving that perfect weld. The PRO-PULS *SPEED* is currently not just one of the fastest MIG/MAG welding systems on the market due to its high deposition rate, but also one of the coolest thanks to reduced heat input. From conventional arc and pulse welding through to double pulse, from electric manual through to specific ignition, welding or crater filling programs, the power source is included as standard equipment with this all-inclusive solution. With 5 processes and 170 characteristic curves, **Schweißkraft helps you avoid additional costs for program characteristic curves or procedure extensions.**

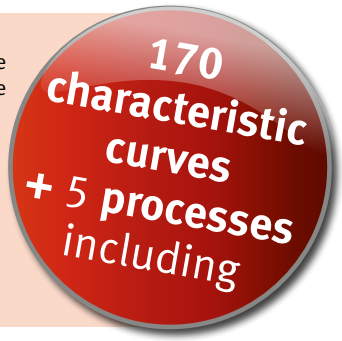
Define the perfect parameter combination yourself:

1. Select the characteristic curve
Material type

2. Select the method
Double pulse
Pulse
Normal
Stick electrode

3. Choose the operating mode
4-cycle with/without down-slope
2-cycle with/without down-slope
Spot

Smart
The system automatically sanity checks all input, thus ruling out incorrect settings



ABSOLUTELY.fast
- The *PRO-PULS SPEED* lets you weld up to 30 % faster than with comparable, competitive methods

ABSOLUTELY.economical
- Save up to 30 % power thanks to the mega-efficient SPEED welding process
- Avoid expensive rework and torsion due to the really cool *PRO-PULS SPEED*

ABSOLUTELY.certainly
- Five processes in a single machine and 170 optimised characteristic curves for CrNi, FE, AL and MIG soldering guarantee perfect results.
- Tests prove that when other pulse arcs start to fail as welding speed increases, the only UI-controlled *PRO-PULS SPEED* always gives you perfect results – up to a welding speed of 4 m/min

ABSOLUTELY.easy
- Easily and economically remotely controllable with the RT torch and its four accessible operating points or jobs (RT4)

Method
MIG-MAG continuously variable
- MIG/MAG pulse
- MIG/MAG double pulse
- MIG soldering continuously variable
- Electrode welding

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

Base materials
Aluminium
- Copper
- Low alloy materials
- High alloy materials
- Construction steels
- Coated construction steels
- CrNi steels ferritic/austenitic
- Duplex steels
- Nickel-based materials
- Galvanised, pre-treated (primer) steels
- Special materials

Typical applications
- Certified production of quality approved standard parts
- Plant, container, machine, steel construction
- Maintenance/repairs
- Automobile industry and automotive supplies
- Vehicle manufacturing/construction machinery
- Rail vehicle manufacturing
- Shipbuilding

Fully digital

Controls

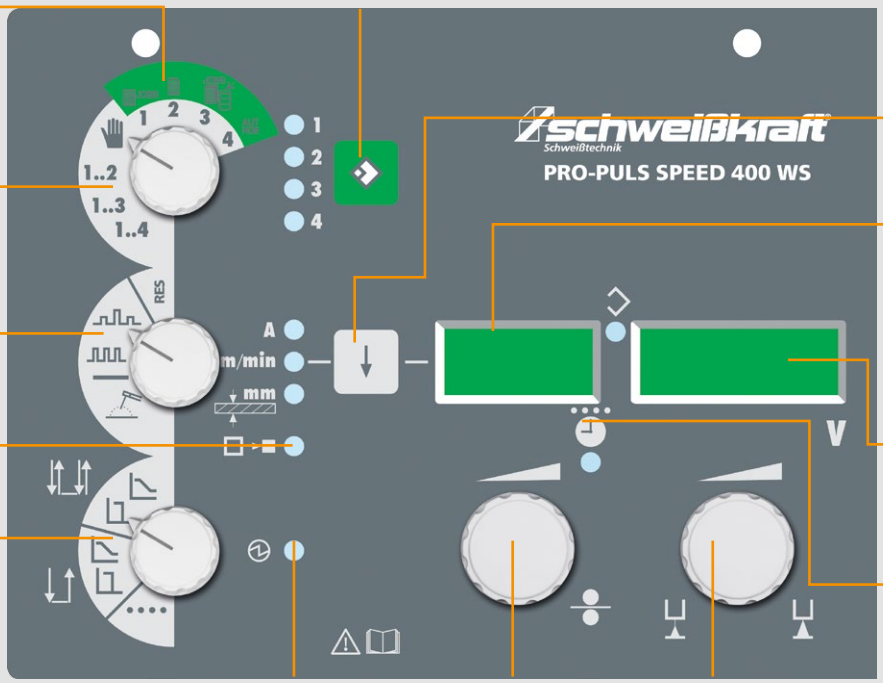
Jobs
Use
Create
Copy/delete
Robots/automation

Programs
Stop point
Manual
Memory operation

Welding process
Double pulse
Pulse
Continuously variable
Stick electrode

LED
Custom parameters

Operating modes
4-cycle with/without down-slope
2-cycle with/without down-slope
Spot



PRO-PULS *SPEED* UI – genuinely fast in steel, efficient and with **approx. 30% less welding fumes**

The new PRO-PULS *SPEED* UI pulse arc offers excellent results in terms of deposition rate and the resulting welding speed. The low-energy, but highly concentrated pulse arc gives you freedom of choice every day:

Standard arc

VD 10.0 m/min at 8100 W
Arc output

up to 30% higher speed

Faster with PRO-PULS

VD 13.1 m/min at 8000 W
arc output

up to 30% less power consumption

More efficient with PRO-PULS

VD 10.0 m/min at 5740 W
arc output

Fig. shows
*PRO-PULS SPEED 400 WS with intermediate hose pack, but **without** torch set*

Four other optimised processes for perfect welding results

FAST.SPEED Welding process inside
- Focused conventional arc, specially for steel
- Reliable root coverage.
- Particularly deep penetration
- Reduced heat input and undercut

POWER.ARC
- Focused conventional arc, specially for thin steel plate
- Universally deployable
- Wide penetration
- Ideal for welds that need higher linear energy

POWER.PULS II
- Directionally stable pulse arc specially for Al and CrNi
- Wide range of applications
- Fast control with variable drop frequency
- Reliable edge wetting

POWER.PULS UI
- Directionally stable pulse arc specially for steel
- Ultra-fast control with variable droplet volume
- Top arc for steel welding with a high deposition rate

Welding process	Arc	Alu	CrNi	Fe up to 2 mm	Fe 3 - 8 mm	Fe › 8 mm
POWER.ARC	**conventional arc**			+ +		+
SPEED	**focused conventional arc**					+
POWER.PULS II	**Impuls-LB**	+ +	+ +			
POWER.PULS UI	**Impuls-LB**			+	+	+
PRO-PULS SPEED UI	**highly-focused pulse arc**				+ +	+ +

+ = well suited++ = perfectly suited

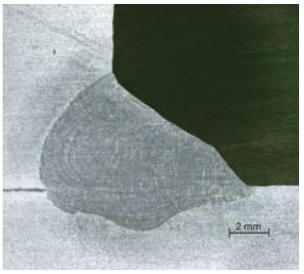
CrNi
- Extremely fine droplet detachment (controlled and reliable droplet detachment)
- Uniform edge wetting
- Reduced heat transfer (visible as tarnishing of the base material and weld surface)
- Spatter-free
- Excellent flow properties with optimal edge formation (wetting)
- Highly directionally stable arc –› droplets transferred directly to the root

Al
- Fine, uniform ripple
- Very homogeneous and good edge formation (edge wetting)
- Narrow, even cleaning zone
- No undercut
- No excess weld
- No spatter
- Optimum ignition process
- Less hot cracks through double pulses

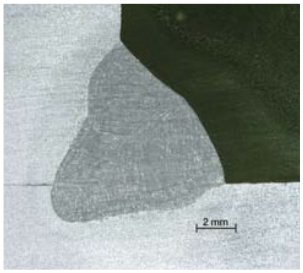
Steel
- Five arc processes
- Deep penetration
- Reliable root coverage.
- Configurable heat input
- Short and powerful arc
- Spatter-free/low spatter

Seminal *FAST.SPEED WELDING PROCESS INSIDE*

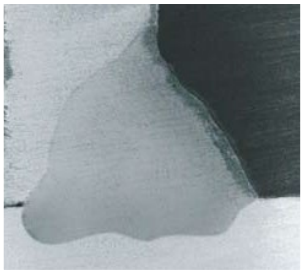
Deep penetration and reliable root coverage.



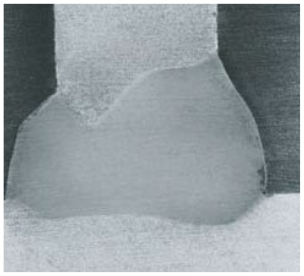
Without FAST.SPEED



With FAST.SPEED



Without FAST.SPEED



With FAST.SPEED

PRO-PULS *SPEED* model range

Model	PRO-PULS *SPEED* 400 WS
Article no.	1085400
Technical Data	
Wire Ø steel/special steel	0.8 - 1.0 - 1.2 - 1.6 mm
Wire Ø aluminium	1.0 / 1.2 / 1.6 mm
Wire feed	0.3 - 25 m/min
Drive	4-roll
Power supply	3 x 400 V
Adjusting range	10 - 400 A
Duty cycle (DC) at $I_{max.}$ (10 min.)	60%
Welding current at 100% DC	330 A
Switching stages	Continuously variable
Open circuit voltage	75 V
Permanent output at 100% DC	19.1 kVA
Fuse	25 A
Cos phi power factor	0.98
Cooling type	AF
Torch cooling	Water
Degree of protection	IP 23
Insulation class	H
Weight	190 kg
Dimensions (LxWxH)	820 x 440 x 1565 mm

PRO-PULS SPEED 400 WS

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

Scope of supply and price: without intermediate hose pack, torch, earth cable and pressure regulator

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.
The book with 12 procedure tests and 169 welding specifications (WPS) is available as Art. no. WPQR-SK

WPQR package for PRO-PULS SPEED
WPQR-SK
600.00

Accessories

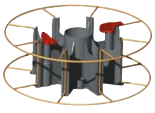
Designation	Art. no.
Pressure regulator Argon/CO_2	1700050
Earth cable 70 mm² / 4m length, complete	1250270
Trolley for wire feed case	1031370
Air filter with filter (metal filter cell)	1031360
Manual remote control MIG Plus 2	1044512

Pressure regulator Argon/CO_2

Manual remote control MIG Plus 2

Basket spool adapter

Designation	Art. no.
Basket spool adapter KA 2, with quick release coupling	1110005
Basket spool adapter KA 3, two-part	1110006

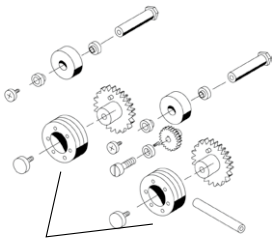


Basket spool adapter KA 2

Basket spool adapter KA 3

Accessories 4-roll wire feed

Designation	Art. no.
Feed roll pair solid wire 0.8/1.0 mm	1033605
Feed roll pair solid wire 1.0/1.2 mm	1033606
Feed roll pair solid wire 1.2/1.6 mm	1033607
Feed roll pair solid wire 1.0/1.6 mm	1033608
Feed roll pair aluminium1.0/1.2 mm	1033609
Feed roll pair aluminium1.2/1.6 mm	1033610



Wire feeder rolls

Accessories for liquid-cooled welding equipment

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

Welding torches for PRO-PULS *SPEED*

Welding torch 9W D (long swan neck), 9W FD (short swan neck)
Tipptronik: With the standard torch, you can use the torch pushbutton to toggle between four previously stored operating points, **but not while you are welding.**

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.

New

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

Quality made in Europe

- 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 setting are virtually rule 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

MIG/MAG inverter SYN-MIG 200i with 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**

Scope of supply SYN-MIG 200i:
- Torch MT 15, 3m
- Earth cable 3m
- Basket spool adapter
- Gas hose 2 m
- Pressure regulator small
- With content and operation manom

Model	SYN-MIG 200i
Article no.	1089200
Technical Data	
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} 200A 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
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: S-marks/EN 60974-1; -10/EMC class A

Accessories	Article 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
Counterpressure roll smooth	1019014
Filler wire SG2 0.6 mm 5kg/D200	1110206
Filler wire SG2 0.8 mm 5kg/D200	1110208
Filler wire SG2 1.0 mm 5kg/D200	1110210
Filler wire 1.4316 0.8 mm 5kg/D200	1130238
Filler wire 1.4316 1.0 mm 5kg/D200	1130231
Filler wire AlMg4.5Mn 1.0 mm 2kg/D200	1124210
Filler wire CuSi3 0.8 mm 5kg/D200	1131620
Filler wire CuSi3 1.0 mm 5kg/D200	1131619
Filler wire CuAl8 0.8 mm 5kg/D200	1131630
Filler wire CuAl8 1.0 mm 5kg/D200	1131629
Filler wire MT-FD 0.9 mm 4.5kg/D200	1132000
Torch SMB 15/3m	1091503
Torch SMB 25/3m	1092503
Trolley (self-assembly kit)	1090015

New

SYN-MIG 200i PULS – Portable inverter pulse system 230 V
Universally deployable for thin sheet in workshops and on the road

Quality made in Europe

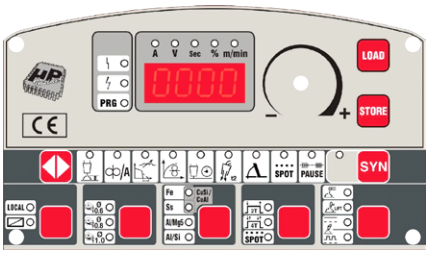
- Portable inverter pulse system with 230 V mains voltage
- A great choice for welding flux core wire without shield gas - the polarity change required for this is easily achieved
- Very easy, fast and safe setting of all parameters via the control panel
- The guide value for Synergie single-button operation is the arc output
- The optimum welding parameters determined here can be easily stored in 10 program slots for re-use
- In MIG/MAG (pulse) welding in particular, the system demonstrates its all-round capabilities with the operating modes: 2-cycle, 4-cycle, spot (and interval) welding
- For totally versatile and flexible use in combination with a wide range of accessories
- Set up for steel wire 0.8 mm as a factory standard

State-of-the-art microprocessor-controlled inverter power source for three welding methods:

1. **MIG/MAG manual** and **MIG/MAG Synergie** (continuously variable and pulse)
2. **TIG DC** with contact ignition
3. **Electrode DC welding**

Inverter pulse system SYN-MIG 200i PULS with 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**



Scope of supply SYN-MIG 200i PULS:

- Torch MT25, 3m
- Earth cable 3m
- Basket spool adapter
- Gas hose 2 m
- Pressure regulator small
- With content and operation manomet
- Adapter cable (CEE three-pin plug)

Model	SYN-MIG 200i PULS
Article no.	1089210
Technical Data	
Setting range MIG/MAG	5 - 200 A
2-roll wire feed	1 - 20 m/min
Mains voltage + 10%	230 V
Frequency	50/60 Hz
TIG DC setting range	5 - 200 A
Fuse rating for 230 V (with three-pin plug)	16 T up to 160 A
Fuse rating for 400 V (with CEE plug)	25 T up to 200 A
Open circuit voltage	65 V
Power consumption MIG/MAG	8 kVA
Electrode power consumption	9 kVA
TIG DC power consumption	6 kVA
Required generator output	12 kVA
Duty cycle at Imax 200 A and 40°C	35 %
Electrode setting range	10 - 200 A
Welding current at DC = 100% and 40°C	120 A
Efficiency	0.85
Cos phi power factor	0.7
Degree of protection	IP 23 S
Operating temperature	max. 40°C
Dimensions (L x W x H)	505 x 250 x 430 mm
Weight	25.8 kg

Standards: S-marks/EN 60974-1; -10/EMC class A

Accessories	Article no.
Wire feed roll 0.6/0.8 mm V groove for steel and stainless steel	1019001
Wire feed roll 1.0/1.2 mm V groove for steel and stainless steel	1019002
Wire feed roll 0.8/1.0 mm U groove for aluminium	1019003
Counterpressure roll smooth	1019004
Adapter kit for D 300 spools	1019020
Manual remote control 1 potentiometer	1019021
Manual remote control 2 potentiometers	1019022
Filler wire SG2 0.6 mm 5kg/D200	1110206
Filler wire SG2 0.8 mm 5kg/D200	1110208
Filler wire SG2 1.0 mm 5kg/D200	1110210
Filler wire 1.4316 0.8 mm 5kg/D200	1130238
Filler wire 1.4316 1.0 mm 5kg/D200	1130231
Filler wire AlMg 4.5Mn 1.0 mm 2kg/D200	1124210
Filler wire CuSi3 0.8 mm 5kg/D200	1131620
Filler wire CuSi3 1.0 mm 5kg/D200	1131619
Filler wire CuAl8 0.8 mm 5kg/D200	1131630
Filler wire CuAl8 1.0 mm 5kg/D200	1131629
Torch SMB 15/3m	1091503
Torch SMB 25/3m	1092503
WP 17V/4m DC with gas regulator	1461745
WP 26V/4m DC with gas regulator	1462614
Welding cable with electrode holder 25 mm²/4m	1250354
Trolley (self-assembly kit)	1090015

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 S355.

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	⌀	⌀
Existing experience in welding technology DIN EN ISO 15611	X up to S275	X up to S275	⌀	⌀
Use of approved filler metals DIN EN ISO 15610				

X *Permissible* ⌀ *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 €.
- 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
plus VAT
600
€ 714.00 incl. VAT.
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.

Multifunctional inverters

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 autom., 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.

HF high frequency ignition (KOMBI 160 HF)
- Ignites the arc in TIG welding without touching the workpiece. Due to the high voltage pulse, the air gap between the workpiece and the tungsten tip become electrically conductive (ionised).

Configurable power reduction and gas post-flow time (KOMBI 160 HF)
- Ensures optimal welding results through conservative handling of the electrode and welding subject.

Pulsing in TIG function with Pulse Box (Option KOMBI 160 HF)
- Weld faults at the start and end of the weld, e.g., in pipe welding, are avoiding by pulsing.

MIG welding without a cylinder (KOMBI 170 ED)
- The KOMBI 170 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 170 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 170, 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

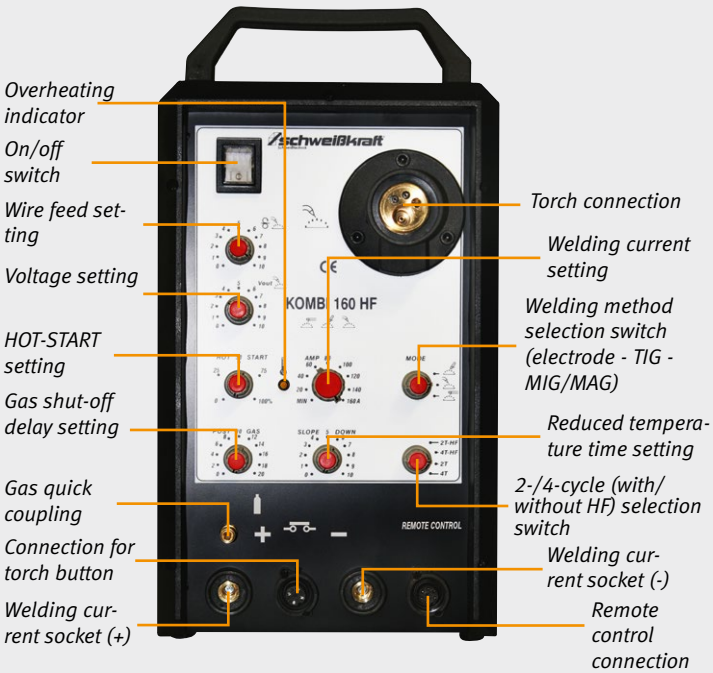
Method
- MIG/MAG
- TIG DC with HF (KOMBI 160 HF)
- TIG DC with LIFT-ARC (KOMBI 170/270 /350)
- Electrode welding
- Flux core wire welding without gas (KOMBI 170 ED)

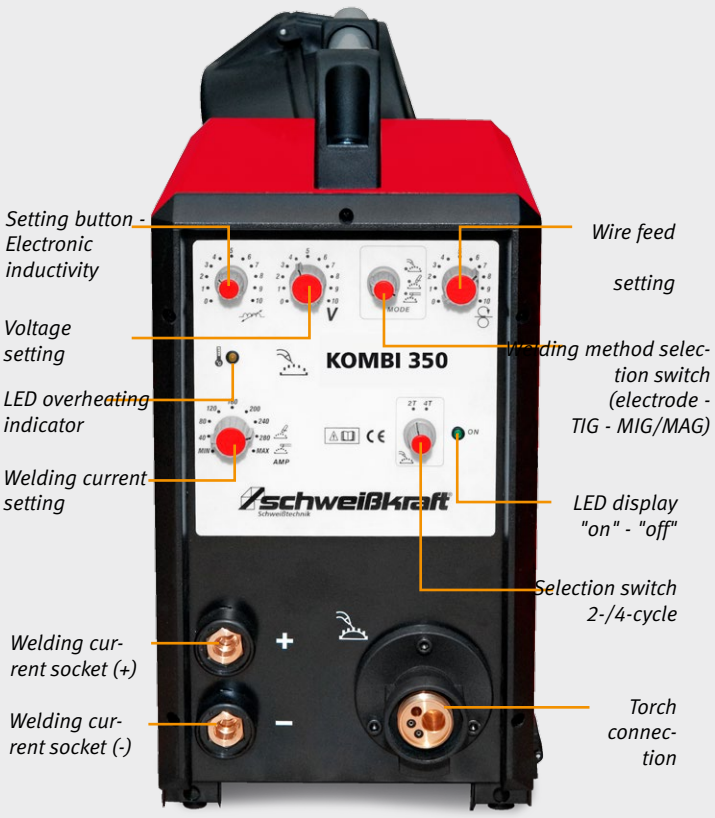
Sheet thicknesses
- TIG from approx. 0.5 mm
- MIG/MAG from approx. 1 mm
- Electrode from approx. 2 mm

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

The controls

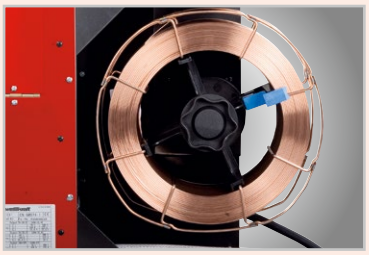




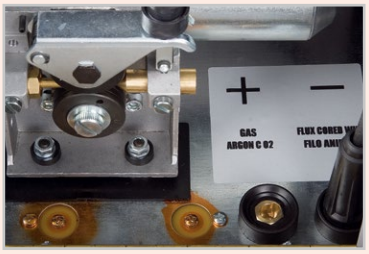
The controls on the KOMBI 270 and KOMBI 350 are identical

KOMBI 160 HF
with high frequency ignition

KOMBI 170 ED
With Lift-arc ignition and an electronic choke



The open design of the KOMBI 170 ED means that 15 kg wire spools can be used.



Polarity inversion for the use of flux core wires with the Kombi 170 ED

Fig. shows KOMBI 270
with trolley as an optional accessory

More optional accessories can be found on the next page...

KOMBI 270
with 15-270 A
MIG/MAG setting range,
for electrodes up to 6.0 mm

KOMBI 350
with 15-350 A
MIG/MAG setting range,
for electrodes up to 6.0 mm

Model	KOMBI 170 ED	KOMBI 160 HF	KOMBI 270	KOMBI 350
Article no.	1087052	1087051	1087055	1087056
Technical Data				
Weldable electrode Ø	4.0 mm	4.0 mm	1.6 - 6.0 mm	1.6 - 6.0 mm
Setting range MIG/MAG	20 - 170	20 - 160 A	15 - 270 A	15 - 350 A
Power consumption MIG	4.4 kVA	4.4 kVA	6.4 kVA	8.6 kVA
MIG AC duty cycle 40°C	50% (170 A)	70% (160 A)	50% (250 A)	40% (320 A)
MIG AC welding current at DC 100%	125 A	135 A	180 A	320 A
TIG DC setting range	5 - 170 A	5 - 160 A	5 - 250 A	5 - 320 A
Power consumption TIG DC	3.3 kVA	3.3 kVA	5.6 kVA	7.8 kVA
TIG DC duty cycle	70% (170 A)	70% (160 A)	70% (250 A)	60% (320 A)
TIG DC welding current DC 100%	135 A	135 A	210 A	260 A
Gas post-flow time	-	0-20 s	-	-
Power reduction	-	0-10 s	-	-
TIG DC control	-	2-4-step	-	-
Electrode setting range	5 - 160 A	5 - 160 A	5 - 250 A	5 - 320 A
Electrode power consumption	5.3 kVA	5.3 kVA	8.0 kVA	9.8 kVA
Electrode electrode	60% (170 A)	60% (160 A)	60% (250 A)	40 % (320 A)
Electrode welding current DC 100%	125 A	125 A	195 A	230 A
Mains voltage	230 ±10 V	230 ±10 V	3 x 400 ±10 V	3 x 400 ±10 V
Open circuit voltage	85 V	85 V	75 V	75 V
Maximum current consumption	27 A	27 A	16 A	24 A
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Fuse	16 A	16 A	16 A	16 A
Degree of protection	IP 21	IP 21	IP 21	IP 21
Insulation class	F	F	F	F
Operating temperature	-10 +40 °C	-10 +40 °C	-10 +40 °C	-10 +40 °C
Weight	17.5 kg	21.5 kg	26.5 kg	26.5 kg
Dimensions (LxWxH), mm	520x200x37	550x235x375	760x475x228	760x475x228

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

KOMBI 160 HF
with HF ignition

KOMBI 170 ED
with Lift-arc ignition

KOMBI 270

KOMBI 350

Torches for the KOMBI model range

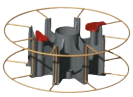
Designation	Art. no.
Torch MIG/MAG SMB 15/3 m with pushbutton	1091503
Torch MIG/MAG SMB 25/3 m with pushbutton	1092503
Torch MIG/MAG SMB 36/3 m with pushbutton	1093603
Torch TIG WP 17 DD/4 m for KOMBI 160 HF	1461749
Torch TIG WP 17 V/4 m with gas pressure regulator for KOMBI 170 ED	1461745
Torch TIG 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 earth clamp, and welding cable plug, chipping hammer, wire brush 2-row, hand protection shield polypropylene (CE) welding visor DIN 9, lens 90x110 mm, 5-finger gloves	
SPA 16 mm²/KS 10-25 mm²/Pratica 1/Earth clamp 200 A	1240400
SPA 25 mm²/KS 35-50 mm²/Pratica 1/Earth clamp 200 A	1240445
SPA 35 mm²/KS 35-50 mm²/Pratica 2/Earth clamp 600 A	1240450

Welding workplace equipment

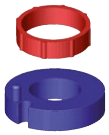
Basket spool adapter

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



Basket spool adapter KA 2

Basket spool adapter KA 3



Centring adapter

Accessories KOMBI

Welding workplace equipment SPA 25	1240445
PULS-BOX with 5m control cable (for KOMBI 160 HF)	1090000
Manual remote control with 5 m control cable, accessories for multifunctional inverter SCHWEIßKRAFT Kombi 160 HF and KOMBI 170 ED, for remotely controlling the welding current in electrode and TIG welding	1090001
Remote control foot pedal, with 8m 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
G-BOX - Adapter for operation with generator (for Kombi 160 HF and KOMBI 170 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 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, 2mm*.	1132001

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

PULS-BOX

Manual remote control

G-Box

Remote control foot pedal

Trolley

Inverter TIG welding devices

New

SchweißKRAFT EASY-TIG 200 HF – the portable DC-TIG inverter with HF ignition and 200 A from a 230 Volt socket

- The EASY-TIG 200 HF is an absolutely reliable, and proven TIG system that impresses with excellent value for money and ease of use.
- With its compact design and low weight, this system is perfect for use on the construction site and on the road.

Settings and operation really could not be easier:

- After setting the current output to match the material type and material thickness, the TIG system automatically configures all other TIG parameters.

1. You only need to customise the current reduction time (0 - 5 seconds).
2. **Torch function selection:** 2-cycle or 4-cycle
3. **Method selection:** TIG or electrode
4. **Pulse function selection:** without pulse or long pulse (0.5 - 2 Hz) or fast pulse (50 - 200 Hz)
5. **Welding current setting:** (10 - 200A for TIG)

Method
- TIG
- Electrode welding

Sheet thicknesses
- TIG from approx. 0.5 mm
- Electrode from approx. 2 mm

Base materials
- Non alloy and low alloy materials
- High alloy materials
- Stainless steels
- CrNi steels ferritic/austenitic
- Duplex steels
- Nickel-based materials
- Copper materials

Typical applications
- Maintenance/repairs
- Plant and pipeline construction
- Construction site and mobile use

EASY-TIG 200 HF

Scope of supply EASY-TIG 200 HF:
- Torch TIG 26 / 4m
- Earth cable 3m 25mm²
- Gas connecting hose 1.5m
- Pressure regulator small

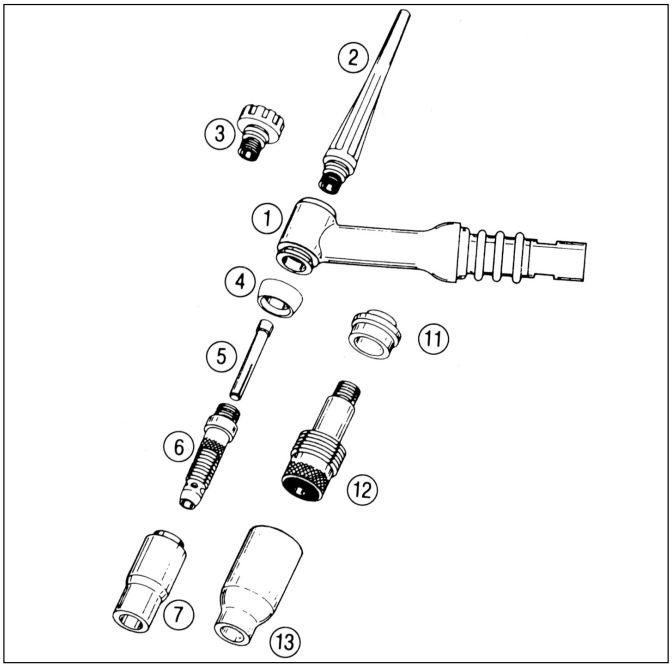
Model	EASY-TIG 200 HF
Article no.	1080220
Technical Data	
TIG welding range	10 - 200 A
TIG DC at $I_{max.}$ & 40°C	40 %
100 % DC at 40 °C	140 A
DC pulse frequency	2 Hz or 200 Hz
Electrode DC at $I_{max.}$ & 40°C	40 %
100 % DC at 40 °C	115 A
Electrode welding range	30 A - 160 A
Weldable electrodes	1.6 – 4.0 mm
Power supply	230V, 50/60Hz
Slow-blow fuse	16 A
Open circuit voltage	58 V
Cos phi power factor	0.74
Ignition	HF
Degree of protection	IP 23
Insulation class	H
Weight	9 kg
Dimensions (LxWxH)	370 x 115 x 300 mm

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

Controls and torch connections

1. *Current reduction time setting*
2. *Selection switch 2-/4-cycle*
3. *TIG/electrode selection switch*
4. *Pulse setting*
5. *Welding current setting*
6. *Operation indicator*
7. *Overload indicator*
8. *Gas connection*
9. *Torch connection*

TIG 26 gas-cooled for EASY-TIG model range
TIG 26-2 gas-cooled for TIG model range



Designation	Art. no.
Only for Easy-TIG 200 HF (DC) and 200 AC/DC*	
TIG 26/4m	1100026
TIG 26/8 m	1100028
Only for TIG 200 DC and 210 AC/DC*	
TIG 26-2/4m	1101126
TIG 26-2/8 m	1101128

* Differ in terms of torch connections only

No.	Designation	Art. no.
1	Torch body WP 26	1462260
2	Torch cap long with o-ring	1462106
3	Torch cap short with o-ring	1462107
4	Teflon seal for tip	1462102
5	Clamping sleeve 1.0 mm/50 mm	1463111
	1.6 mm/50 mm	1463117
	2.4 mm/50 mm	1463125
	3.2 mm/50 mm	1463133
6	Clamping sleeve housing 1.0 mm	1463210
	1.6 mm	1463216
	2.4 mm	1463224
	3.2 mm	1463232
7	Gas tip size 4; Ø 6.3 mm	1463304
	Size 5; Ø 8.0 mm	1463305
	Size 6; Ø 9.5 mm	1463306
	Size 7; Ø 11.0 mm	1463307
	Size 8; Ø 12.8 mm	1463308
11	Teflon seal for gas lens	1462103
12	Gas lens 1.0 mm	1463510
	1.6 mm	1463516
	2.4 mm	1463524
13	Gas tip for gas lens	
	Size 4; Ø 6.3 mm	1463604
	Size 5; Ø 8.0 mm	1463605
	Size 6; Ø 9.5 mm	1463606
	Size 7; Ø 11.0 mm	1463607
	Size 8; Ø 12.8 mm	1463608
	Handle shell as above cpl. with nut	1462854
	Wear part set WP 17/26	1463103

Technical data:	TIG 26 and TIG 26-2
Direct current DC:	180 A (35%)
Alternating current AC:	150 A (35%)
Electrode Ø:	1.0 - 4.0 mm
Gas flow:	5 - 12 l/min

Tungsten electrodes

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

Tungsten electrodes "WT 20" red (2% thorium)
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	PU	Article no.
1.0 x 175 mm	10	1421100
1.6 x 175 mm	10	1421160
2.4 x 175 mm	10	1421240
3.2 x 175 mm	10	1421320
4.0 x 175 mm	10	1421400

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	PU	Article no.
1.0 x 175 mm	10	1423100
1.6 x 175 mm	10	1423160
2.4 x 175 mm	10	1423240
3.2 x 175 mm	10	1423320
4.0 x 175 mm	10	1423400

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	PU	Article no.
1.0 x 175 mm	10	1424100
1.6 x 175 mm	10	1424160
2.4 x 175 mm	10	1424240
3.2 x 175 mm	10	1424320
4.0 x 175 mm	10	1424400

Mapping table for material type and material thickness

Material	Large ceramic gas tip	Material thickness, mm	Ø mm Tungsten electrode	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
	7	5.0	3.2	170-180
Copper/ Copper alloys	4	1.0	1.0	60-80
	5	1.5	1.6	100-150
	6	3.0	2.4	150-180

New

TIG 200 DC - portable TIG DC inverter for workshops and mobile use

- Featuring 200 A from 230 V mains
- The ideal device for all materials except aluminium
- Perfect for TIG and electrode welding in the workshop and on the road
- No problem with fuses or extension cables thanks to PFC
- Totally clear-cut and easy to use
- Direct and immediate access to all parameters
- With branch current function
- With 9 storage slots
- HF can be enabled/disabled
- Remotely controllable via option accessories (remote control foot pedal, or torch with potentiometer)

Direct selection via control panel

High frequency ignition: On or off

- **Welding mode:** 2-cycle or 4-cycle, or 4-cycle with branch current
- **Method selection:** TIG or electrode
- **Gas test:** On or off
- **Programs: Save or access**
- **Pulse function:** On of off

Parameters directly configurable via control panel:

- Forwards and backwards via setting button

For electrode welding:

Hot start current (for reliable ignition)

- Hot start time (for reliable ignition)
- Arc force control (for a stable arc)

For TIG welding:

- Gas pre-flow time
- Start-up current
- Current ramp time
- Welding current I1
- Welding current I2 (branch current)
- DC pulse frequency
- Ratio high to low current
- Current reduction time
- Final current
- Gas post-flow time

Method

- TIG
- Electrode welding

Sheet thicknesses

- TIG from approx. 0.5 mm
- Electrode from approx. 2 mm

Base materials

- Non alloy and low alloy materials
- High alloy materials
- Stainless steels
- CrNi steels ferritic/austenitic
- Duplex steels
- Nickel-based materials
- Copper materials

Typical applications

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

With pulse function

Scope of supply TIG 200 DC:

- incl. torch TIG 26-2; 4m
- Earth cable 4m with 25 mm²
- Pressure regulator (large)
- Gas hose 2m with threaded connection

Fig. shows the scope of delivery

Model	TIG 200 DC
Article no.	1087210

Technical Data	
Supply voltage	230V, 50/60Hz
TIG welding range	5 A – 200 A
TIG DC at $I_{max.}$ & 40°C	35%
100 % DC at 40 °C	120 A
Electrode welding range	10A – 160 A
Electrode DC at $I_{max.}$ & 40°C	35%
100 % DC at 40 °C	100 A
Weldable electrodes	1.6 – 4.0 mm
Slow-blow fuse	16 A
Open circuit voltage	62 V
Pulse frequency	0.5 Hz - 500 Hz
Cos phi power factor	0.99
Degree of protection	IP 21
Dimensions (L x W x H)	450 x 185 x 360 mm
Weight	12 kg

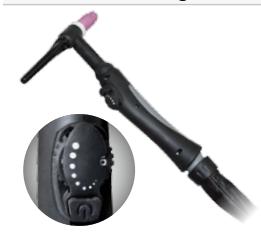
Schweißkraft equipment has the S mark and complies with standard EN 60 974-1; -10/EMC class A

Torch for TIG DC and AC/DC

Designation	Art. no.
TIG 26-2 with 4m	1101126
TIG 26-2 with 8 m	1101128
Potentiometer torch for remote control	
TIG 26-2P with 4 m	1101224
TIG 26-2P with 8 m	1101228

Accessories

Designation	Art. no.
Remote control foot pedal with 5m connecting cable	1090030



New

TIG 210 AC/DC- portable TIG AC/DC inverter - also for aluminium

- Featuring 210 A from 230 V mains
- The ideal device for all materials including aluminium and its alloys
- Perfect for TIG and electrode welding in the workshop and on the road
- No problem with fuses or extension cables thanks to PFC
- Totally clear-cut and easy to use
- Direct and immediate access to all parameters
- With branch current function
- With 9 storage slots
- HF can be enabled/disabled
- Remotely controllable via option accessories (remote control foot pedal, or torch with potentiometer)

Direct selection via control panel

High frequency ignition: On or off

- **Welding mode:** 2-cycle or 4-cycle, or 4-cycle with branch current
- **Method selection:** TIG or electrode
- **Gas test:** On or off
- **Programs: Save or access**
- **Pulse function:** On or off

additionally selectable - only for AC/DC systems:

- **Polarity change for electrode:** AC or DC- or DC+
- **AC wave form:** Square or sinus or trapezoid or triangular

Parameters directly configurable via control panel:

- Forwards and backwards via setting button

For electrode welding:

Hot start current (for reliable ignition)

- Hot start time (for reliable ignition)
- Arc force control (for a stable arc)

For TIG welding:

- Gas pre-flow time
- Start-up current
- Current ramp time
- Welding current I1
- Welding current I2 (branch current)
- DC pulse frequency
- Ratio high to low current
- Current reduction time
- Final current
- Gas post-flow time

additionally selectable for AC/DC systems only:

- AC frequency
- AC balance

Method

- TIG
- Electrode welding

Sheet thicknesses

- TIG from approx. 0.5 mm
- Electrode from approx. 2 mm

Base materials

- Non alloy and low alloy materials
- High alloy materials
- Stainless steels
- CrNi steels ferritic/austenitic
- Duplex steels
- Nickel-based materials
- Copper materials
- **Aluminium**

Typical applications

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

With pulse function

Scope of supply TIG 210 AC/DC:

- incl. torch TIG 26-2; 4m
- Earth cable 4m with 25 mm²
- Pressure regulator (large)
- Gas hose 2m with threaded connection

Fig. shows the scope of delivery

Model	TIG 210 AC/DC
Article no.	1087215

Technical Data	
Supply voltage	230V, 50/60Hz
TIG welding range	5 A – 210 A
TIG DC at $I_{max.}$ & 40°C	35%
100 % DC at 40 °C	120 A
Electrode welding range	10 A – 160 A
Electrode DC at $I_{max.}$ & 40°C	35%
100 % DC at 40 °C	100 A
Weldable electrodes	1.6 – 4.0 mm
Slow-blow fuse	16 A
Open circuit voltage	62 V
Pulse frequency	0.5 Hz - 500 Hz
Cos phi power factor	0.99
Degree of protection	IP 21
Dimensions (L x W x H)	520 x 235 x 455 mm
Weight	22 kg

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

Torch for TIG DC and AC/DC

Designation	Art. no.
TIG 26-2 with 4m	1101126
TIG 26-2 with 8 m	1101128
Potentiometer torch for remote control	
TIG 26-2P with 4 m	1101224
TIG 26-2P with 8 m	1101228

Accessories

Designation	Art. no.
Remote control foot pedal with 5m connecting cable	1090030

PRO-TIG 170 DC – the portable TIG inverter with 170 A from 230 Volt. Maximum output despite a compact 4.9 kg.

Perfect for use on construction sites. High performance electronics, specially developed for this device, support 170 A TIG current!

- **HF ignition** can be disabled to support welding near very sensitive electronic equipment, e.g., repair welding on CNC machines, or in sensor-monitored processing equipment

- The selectable **2-cycle and 4-cycle function** supports fast and controlled tack welding, and welding of longer weld seams conveniently and without tiring the welder.

- **Remote control socket integrated as standard**
  This enables the attachment of an optional remote control foot pedal, or a remotely controllable TIG torch SSR 17 DD Poti with a highly flexible hose pack, leather protection and potentiometer.

- **INTIG Energy (Intelligent Ignition Energy)**
  The smart approach to ignition control. 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 reliably avoids damage caused by the ignition process at the start of the weld in thin sheet welding.

- Premature wear of the tungsten electrode is prevented in **Lift-Arc ignition**. In electrode welding, the INTIG-Energy configures an ignition overshoot that guarantees safe and soft ignition.

- The **configurable current reduction and gas post-flow times** ensure optimum welding results.

- **EPC - Electronic Power Control**
  Continuous electronic mains voltage monitoring ensures operational safety and prevents damage through switching on/off. At the same time, the integrated overvoltage protection considerably extends the service life.
- **Fuse Hold function**
  The fuse hold function has proved its value many tens of thousands times. The mains current draw is monitored, and the output power reduced if needed, to prevent the mains fuse blowing. The welding current for this function is limited to 140 A.

- **E-Max function**
- With this setting, the PRO-TIG 170 DC outputs a max. of 150 A electrode current with a 50% duty cycle.

- **Anti-stick function**
- If the electrode inadvertently sticks, the PRO-TIG 170 DC automatically reduces the welding current to approx. 35 A. This avoids the electrode annealing. The stick electrode can then be easily released from the workpiece.

- **Mains cable lengths of 100 m? - No problem!**
- With the ELSA (Electronic Stabilised Arc) system, the PRO-TIG 170 DC guarantees uninterrupted welding - even with mains cable lengths of 100 m (with a 1.5 mm² diameter, of course). ELSA makes welding interruptions a thing of the past!

- **Modular construction**
- The individual components are designed as completely encapsulated modules. The sensitive electronic components are perfectly protected against dust and moisture. This improves operational safety and ensures a long service life.

- **Temperature controlled fan circuit**
- The temperature-controlled fan circuit automatically and optimally adapts the cooling performance to meet requirements, and reduces noise emissions. The temperature is measured inside the power module - that is, at the hot-spot. This ensures that the power component is always optimally protected against overheating.

Method
TIG DC
Electrode welding
Remotely controllable

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
Nickel-based materials
Magnesium materials
Copper materials
Special materials

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

• Ideal for the construction site
• 170 Ampere from 230 V
• Only 4.9 kg

The controls

Selection switch HF ignition device

Current reduction time

Gas post-flow time

Selection switch for TIG, electrode, E-Max

Function selection switch TIG 2-cycle, TIG 4-cycle

Rotary switch for welding current pre-selection

Indicators for excess temperature and operation

Model	PRO-STICK 170 DC*	PRO-TIG 170 DC
Article no.	1083262	1085160
Technical Data		
Weldable electrode Ø	1.6 - 3.25 mm	2.5 - 3.2 mm
TIG setting range	5 - 170 A	5 - 170 A
Electrode setting range	5 - 150 A	5 - 150 A
Fuse hold setting range	5 - 140 A	5 - 140 A
Duty cycle at $I_{max.}$ 40°C TIG	40 %	20 %
Duty cycle at $I_{max.}$ 40°C electrode	30 %	25 %
Duty cycle at $I_{max.}$ 40°C fuse hold	30 %	30 %
Current at 100% DC 40°C TIG	100 A	100 A
Current at 100% DC 40°C electrode	100 A	100 A
Current at 100% DC 40°C fuse hold	100 A	100 A
Power consumption at $I_{max.}$ TIG	5.1 kVA	5.1 kVA
Power consumption at $I_{max.}$ Electrode	6.3 kVA	6.3 kVA
Power consumption at $I_{max.}$ Fuse hold	6.0 kVA	6.0 kVA
Mains voltage	230 V	1 x 230 V
Mains frequency	50 Hz	50/60 Hz
Fuse	16 A	16 A
Power factor	0.7 cos phi	0.7 cos phi
Open circuit voltage	68 V	100 V
Protection class	IP 23	IP 23
Insulation class	F	F
Weight	3.5 kg	4.9 kg
Dimensions (LxWxH)	240 x 105 x 160 mm	300 x 145 x 195 mm

* See page 80/81 for a description

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

PRO-STICK 170 DC

PRO-TIG 170 DC

Complete set in mobile case

Designation	Art. no.
PRO-STICK 170 DC TIG SET Consisting of an electrode inverter with gas management, TIG torch WP 17 KM, welding workplace equipment SPA 16: 5 m welding cable 16 mm² with electrode holder and plug KS 25, 3 m earth cable 16 mm² with plug KS 25, with earth clamp 200 A, wire brush, chipping hammer, with hand protection shield and lens, welders gloves in a metal transport case	1083265
PRO-TIG 170 DC TIG SET consisting of: TIG primary inverter PRO-TIG 170 DC, TIG torch SSR 17 DD Poti/4 m Poti/leather, pressure regulator small, welding workplace equipment set SPA 25 (see below), carrying strap, in transport case	1085165

PRO-STICK 170 DC SET

PRO-TIG 170 DC SET

Accessories

Designation	Art. no.
Remote control foot pedal TIG Plus 1	1410010
Manual remote control TIG Plus 2	1410020
Pressure regulator Argon/CO_2 small	1700054

TIG Plus 1

TIG Plus 2

Pressure regulator

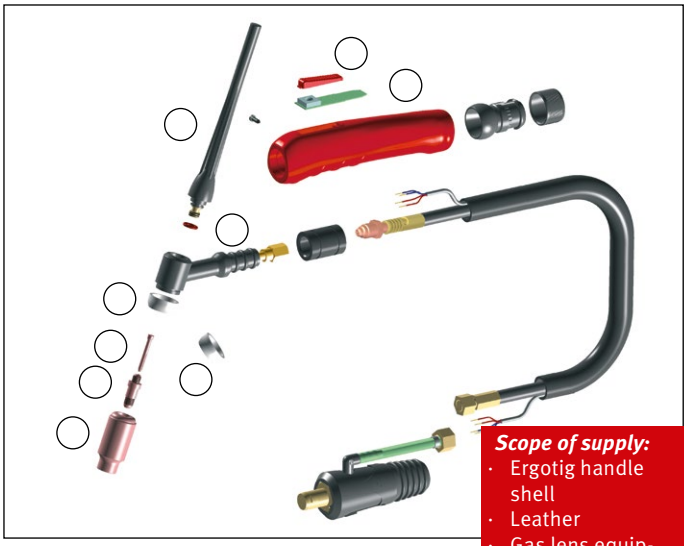
Wear part set for torch

Designation	Art. no.
Wear part set SSR 17 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 6.4/8/9.8, 2 x each tungsten electrode red 1.0/1.6/2.4 mm, large sorting box	1101700
Transport case 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	1240003
Welding workplace equipment set SPA 25 Set: Welding cable PVC 25 mm² 5 m with electrode holder Pratica 1 and welding cable plug KS 35, earth cable PVC 25 mm² 3 m with earth clamp 200A and welding cable plug KS35, chipping hammer, wire brush, manual protection shield cpl. with welding visor and lens, welder's gloves 5-finger	1240445

Transport case

SPA 25

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



Scope of supply:
- Ergotig handle shell
- Leather
- Gas lens equipment set 2.4 mm

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

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

Technical data:	SSR 17 DD Poti
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

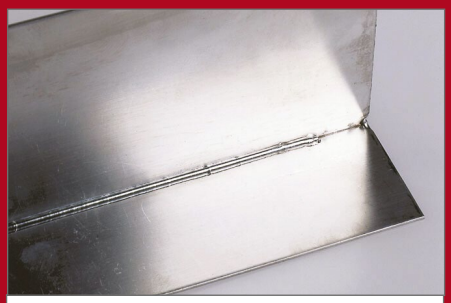
Why TIG?

The TIG welding method achieves the best results compared with other welding methods, due to pore-free and spatter-free welds with very high tensile strength.

Another benefit of TIG welding is the wide range of materials that you can weld. 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.

Minimal heat input, a narrow welding zone (especially for visible welds), and welding without the use of filler materials, are the other benefits.

Direct current (DC) for welding steel, stainless steel, copper, and non-ferrous metals, alternating current (AC) for welding light metals such as aluminium and magnesium.



Welding Cr-Ni steel with TIG

Welding aluminium with TIG AC

Welding thin aluminium with TIG AC

Inverter TIG welding devices DIGITAL

PRO-TIG Digital: portable, remotely controllable, fully digital. 210 Ampere from 230 Volt.

State-of-the-art 100 kHz TIG primary inverter technology for use on the construction site or in the workshop. The reinforced housing, with an IP degree of protection of IP 23, enables outdoor welding.

- **Maximum flexibility...**
  Perfectly suited for mobile and stationary TIG or electrode welding of construction or stainless steels, and even aluminium.

- Thanks to **INTIG Energy (Intelligent Ignition Energy)** the PRO-TIG Digital offers smart ignition control. 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 reliably avoids damage caused by the ignition process at the start of the weld in thin sheet welding.

- **HF free aluminium, AC welding without concurrent high voltage pulses**. Lift-Arc ignition on aluminium is possible. This is important for applications in which high-voltage pulses could cause malfunctions, e.g., CNC systems or computers. This function of the PRO-TIG Digital allows for smooth pool of molten material and vastly improves the quality of the weld in aluminium welding.

- **Individually configurable current reduction time and gas post-flow time...**
  individual setting help you always achieve optimum welding results.

- **E-Max function**
- In electrode welding with the E-Max function, you can draw on 170 A or 150 A electrode current with a 90% or 55% duty cycle.

- **Fuse hold function**
- Tripping the mains fuse is a thing of the past! The fuse hold function prevents tripping the mains fuse by continuously monitoring the mains current draw and adapting the output current to match. It achieves a maximum current of 160 A or 140 A with a duty cycle of 75% or 50%.

- **Balance control**
- The comprehensive balance control enables small electrode diameters at top welding speeds and with optimum penetration in TIG AC current welding

- **Anti-stick function**
- If the electrode inadvertently sticks, the PRO-TIG Digital automatically reduces the welding current to approx. 35 A. This avoids the electrode annealing. The stick electrode can then be easily released from the workpiece.

- **EPC (Electronic Power Control)**
- EPC - Electronic Power Control
  Continuous electronic mains voltage monitoring ensures operational safety and prevents damage through switching on/off. At the same time, integrated overvoltage protection considerably extends the service life.
- **ELSA system (Electronic Stabilised Arc)**
- No more worries about welding outages! Thanks to the ELSA system you can weld without outages in electrode welding - guaranteed - even when using mains supply cables with a length of up 100 m (and a diameter of 1.5 mm², of course).

- **Integrated remote control socket...**
- In combination with the remotely controllable TIG SSR 7-17 DD Poti/ 7-26 DD Poti torch with a highly-flexible hose pack, leather protection and potentiometer, the PRO-TIG Digital also meets the highest demands in construction site use. Also remotely controllable via the optional remote control foot pedal TIG Plus 1 or manual remote control TIG Plus 2.

- **Software updates**
- This welding device generation is fit for the future thanks to processor control. New procedure variants and optimised applications can be easily retrofitted via a software update.
- **PRO-TIG Digital automation**
- Integration with simple automation is easy to implement thanks to precise processor control.

100 kHz digital inverter technology for up to 210 A from 230 V

Method
- TIG
- Electrode welding
- Remotely controllable/programmable

Sheet thicknesses
- from 0.3 mm

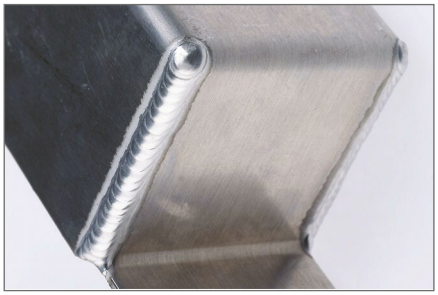
Base materials
- Non alloy and low alloy materials
- High alloy materials
- Stainless steels
- Construction steels
- CrNi steels ferritic/austenitic
- Duplex steels
- Aluminium
- Nickel-based materials
- Magnesium materials
- Copper materials
- Special materials

Typical applications
- Plant, container, machine, steel construction
- Chemical plant construction
- Automobile industry and automotive supplies
- Plant and pipeline construction
- Construction site and mobile use

- **Program memory**
  Store and load up to **99 different parameter settings** under a freely-selectable program number.

Welding Cr-Ni steel with TIG

Welding aluminium with TIG AC



Welding thin aluminium with TIG AC

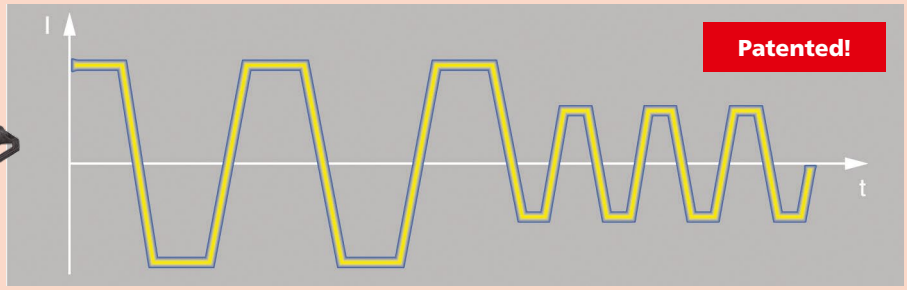
- **Optimised ergonomics**
  In addition to immediately identifiable ergonomic benefits, such as single button control for both right- and left-handers, the carrying strap, or the clear-cut, easily-understandable interface design, there are many details that feature a user-friendly design, e.g., the shape and design of the control button.

- **Temperature-controlled fan circuit**
  The temperature-controlled fan circuit automatically and optimally adapts the cooling performance to meet requirements, and reduces noise emissions. The temperature is measured inside the power module - that is, at the hot-spot. This ensures perfect protection of the power component against overheating at all times.

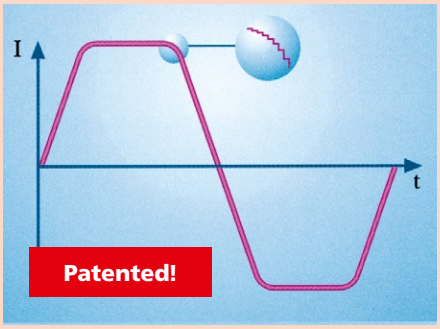
- **All-round protection** The PRO-TIG Digital offers you operational safety to the max. and maximum performance. Individual modules are completely encapsulated and sensitive electronic components are perfectly protected with protective paint against dust and moisture.

PRO-TIG 210 AC/DC Digital TIG SET

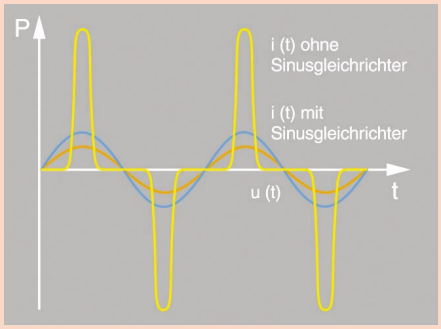
Fig. PRO-TIG on liquid-cooled device RWK 1000
with optional accessories: cylinder trolley with locking case, torch, torch holder and gas cylinder



Automatic frequency control
This method is also patented. The frequency is automatically adapted to match the current level in AC welding. This reduces the wear on the tungsten electrode. The results are a long service life, and best-in-class economic efficiency.
For particularly fine work, manual setting of the frequency from 50 - 200 Hz is also possible.

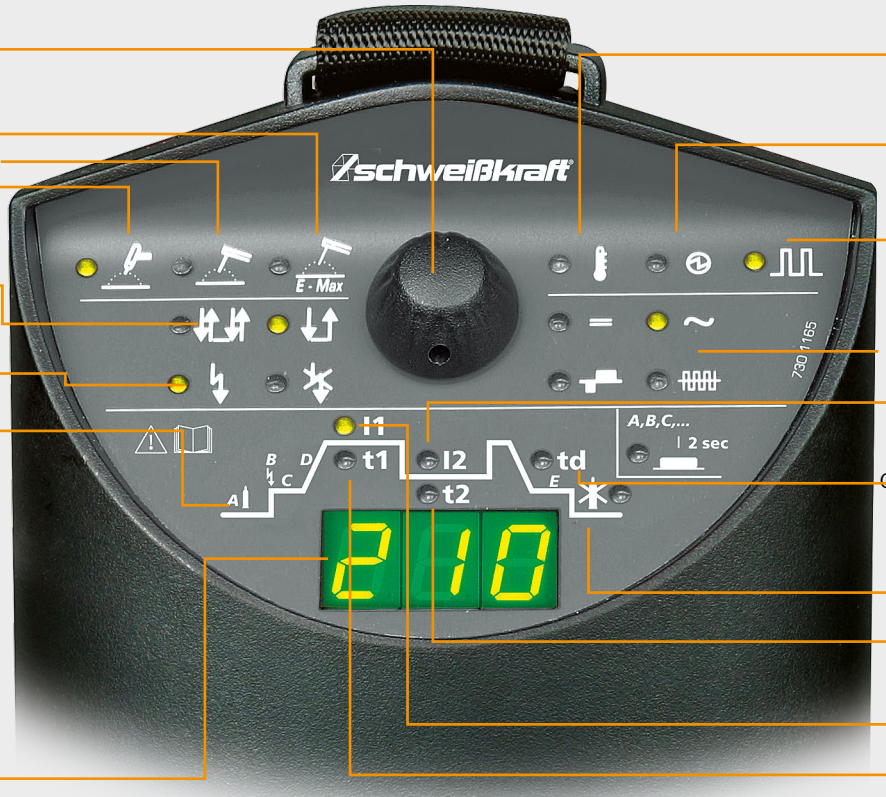


Switch-over level reduction
In AC welding, the processor control configures the switch-over area as a gentle curve. This drastically reduces noise emission in aluminium welding.



Sinus inverter (power factor corrector)
The PFC guarantees an adapted sinusoidal current draw. This means that the PRO-TIG 210 AC/DC Digital can use a maximum welding current of 210 A with 230 V mains voltage.

The innovative single-button control – one for all!



Custom mode

- Custom mode guarantees the availability and configurability of all welding parameters (see above)

Dual Wave custom mode
Aluminium welding made easy

- Dual Wave gives you excellent manageability of the weld pool, thus resulting in tangibly improved quality even in out of position welding.

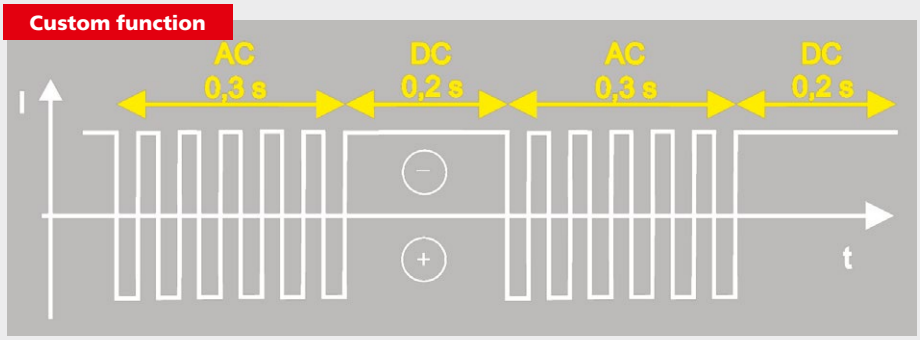
Program memory

- You can store and load total of **99 different parameter settings** under a freely-selectable program number. The values for all settings the machine offered are stored or loaded. This means that the device settings that you identify for recurring welding tasks can be set at the welding machine **in just seconds**.
- This saves time and guarantees consistent quality. At the same time, you can save and quickly reinstate the individual basic settings of the welding device, such as the start and end crater current, ignition energy, etc., for each user in case of multiple-user use.

Welding aluminium with TIG AC

Welding thin aluminium with TIG AC

Custom function



Dual Wave Aluminium welding method

*The Dual-Wave method 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 difficult welding scenarios (out-of-position welding), when welding **workpieces of different thicknesses** and when processing thin sheet **aluminium and aluminium alloys**.*

PRO-TIG Digital – TIG primary inverter

Model	PRO-TIG 170 AC/DC Digital	PRO-TIG 210 AC/DC Digital
Article no.	1085173	1085200
Technical Data		
Weldable electrode Ø	1.6 - 3.2 mm	1.6 - 3.2 mm
TIG setting range	5 - 170 A	5 - 210 A
E-Max setting range	5 - 150 A	5 - 170 A
Fuse hold setting range	5 - 140 A	5 - 160 A
Duty cycle at $I_{max.}$ 40°C TIG	30 %	30 %
Duty cycle at $I_{max.}$ 40°C electrode	30 %	30 %
Duty cycle at $I_{max.}$ 40°C fuse hold	30 %	30 %
Current at 100% DC 40°C TIG	90 A	130 A
Current at 100% DC 40°C electrode	100 A	120 A
Current at 100% DC 40°C fuse hold	90 A	110 A
Power consumption at I max. TIG	4.0 kVA	3.9 kVA
Power consumption at I max. Electrode	6.0 kVA	5.5 kVA
Power consumption at I max. Fuse hold	5.6 kVA	5.2 kVA
Mains voltage	1 x 230 V	1 x 230 V
Mains voltage compensation	-15/+10 %	-15/+10 %
Fuse	16 A	16 A
Power factor	0.7 cos phi	0.99 cos phi
Open circuit voltage	100 V	100 V
Protection class	IP 23	IP 23
Insulation class	F	F
Torch cooling	Gas	Gas
Weight	7.8 kg	8.4 kg
Dimensions (LxWxH)	340 x 150 x 275 mm	340 x 150 x 275 mm

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

PRO-TIG 210 AC/DC Digital

Scope of supply PRO-TIG:
- TIG primary inverter
- Mains cable 3 m with plug
- Adjustable carrying strap

Designation	Art. no.
PRO-TIG 170 AC/DC Digital TIG SET consisting of: TIG primary inverter, TIG torch SSR 7-17 DD 4 m Poti/leather, pressure regulator, welding workplace equipment set SPA 25 (electrode holder 5m, earth cable PVC 25 mm² 3m with earth clamp 200A , chipping hammer, wire brush, manual protective shield, safety goggles, welder's gloves 5-finger), adjustable carrying strap in carrying case	1085175
PRO-TIG 210 AC/DC Digital TIG SET consisting of: TIG primary inverter, TIG torch SSR 7-26 DD 4 m Poti/leather, pressure regulator, welding workplace equipment set SPA 25 (electrode holder 5m, earth cable PVC 25 mm² 3m with earth clamp 200A , chipping hammer, wire brush, manual protective shield, safety goggles, welder's gloves 5-finger), adjustable carrying strap in carrying case	1085202

PRO-TIG 210 AC/DC Digital TIG SET

Wear part set

Wear part set SSR 7-17 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 6.4/8/9.8, 2 x each tungsten electrode red 1.0/1.6/2.4 mm, large sorting box	1101700
Wear part set SSR 7-26 consisting of: 1 x each torch cap short/long with o-ring, 1 x Teflon seal, 3 x each clamping sleeve 1.6/2.4/3.2 mm, 3 x each clamping sleeve housing 1.6/2.4/3.2 mm; 3 x each gas tip size 8.0/9.5/11.0, 3 x each tungsten electrode red 1.6/2.4/3.2 mm, large sorting box	1102600

TIG Plus 1

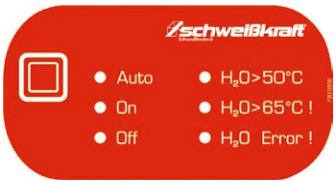
TIG Plus 2

Designation	Art. no.
Remote control foot pedal TIG Plus 1	1410010
Manual remote control TIG Plus 2	1410020
Pressure regulator Argon/CO_2 small	1700054
Pressure regulator Argon/C=2 large	1700050
Welding workplace equipment set SPA 25 consisting of: cable PVC 25 mm² 5m with electrode holder Pratica 1 and welding cable plug KS 35, earth cable PVC 25 mm² 3m with welding cable plug KS35 and earth clamp 200A, chipping hammer, wire brush, manual protection shield with welding visor and lens, welder's gloves 5-finger	1240445
Electrode grinder EG 1 for grinding electrodes from 1.0-4.0 mm continuously variable grinding angle 15°-180°	1690100
Transport case PRO-TIG	1240005

Small *Large*

Liquid-cooled device RWK 1000
for PRO-TIG 170/PRO-TIG 210

- Processor control
- Requirements-driven pump and fan control
- Welding current detection via socket current
- Setting modes: Auto - On - Off
- Water circuit monitored by flow meter
- Temperature monitoring via sensor on tank
- Signalling via LEDs and buzzer
- Holder for torch and earth cable
- Practical tank filler neck and water-tight cap (device can be transported horizontally)
- Mobile



Control panel RWK 1000

Fig. RWK 1000 *with optional torch*

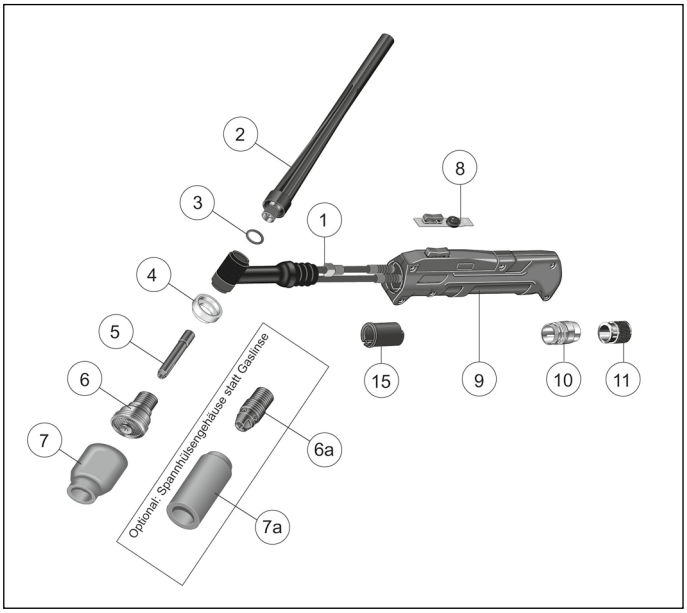
Fig. PRO-TIG on liquid-cooled device RWK 1000 *with optional accessories: cylinder trolley with locking case, torch, torch holder and gas cylinder*

Designation	Art. no.
RWK 1000	1411310
Cylinder trolley RWK / PRO-TIG	1411315

Technical data:	
Tank capacity	5 l
Output	1000 Watts at 20°C
Flow rate	1.4 l/min
Dimensions	380 x 300 x 900 mm
Weight	15 kg (20 kg with 5 l coolant)
Dimensions	380 x 300 x 900 mm

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

R-SR 7-20 DD with potentiometer, continuously variable, liquid-cooled
for PRO-TIG in combination with RWK 1000

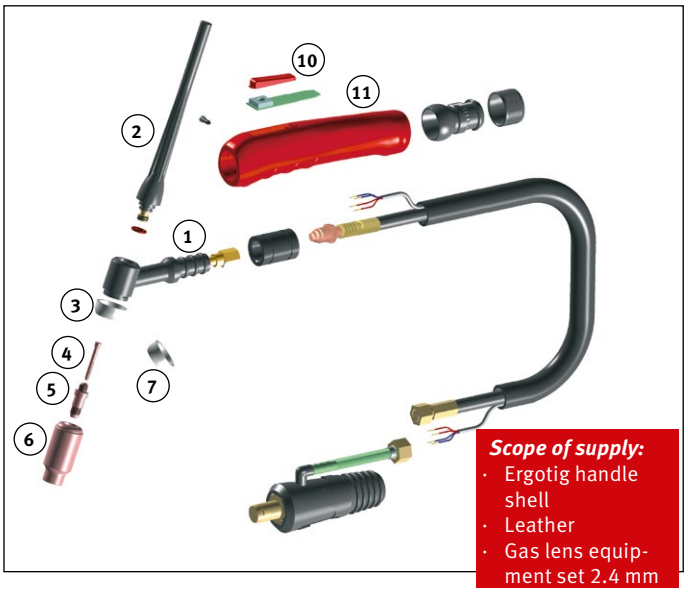


Designation	Art. no.
R-SR 7-20/4 m DD, potentiometer, liquid-cooled	1470204
R-SR 7-20/8 m DD, potentiometer, liquid-cooled	1470208

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

Technical data:	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 PRO-TIG 160/170 DC Digital and PRO-TIG 160/170 AC/DC Digital



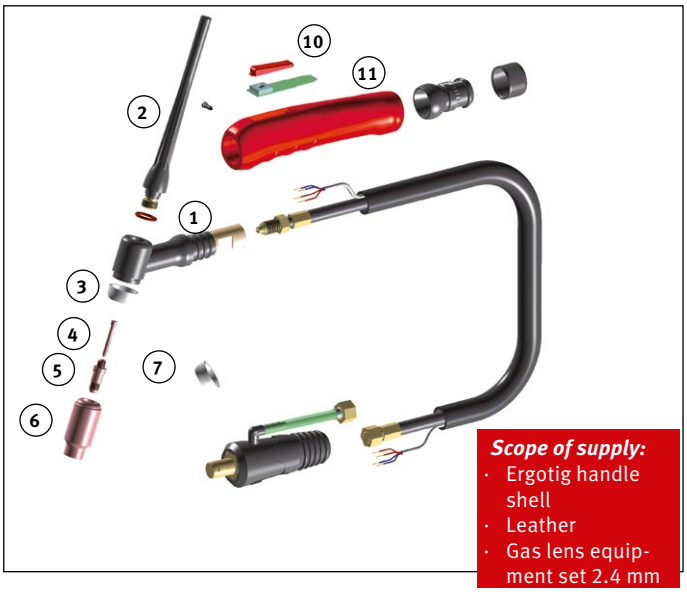
Scope of supply:
- Ergotig handle shell
- Leather
- Gas lens equip-ment set 2.4 mm

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

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

Technical data:	SSR 7-17 DD Poti
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

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



Scope of supply:
- Ergotig handle shell
- Leather
- Gas lens equip-ment set 2.4 mm

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

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

Technical data:	SSR 7-26 DD Poti
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

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

The PRO-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 PRO-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 PRO-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 PRO-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 PRO-TIG also contributes to your economic success in terms of energy consumption.

Method
- TIG
- Electrode welding
- Remotely controllable/programmable

Sheet thicknesses
- from 0.3 mm

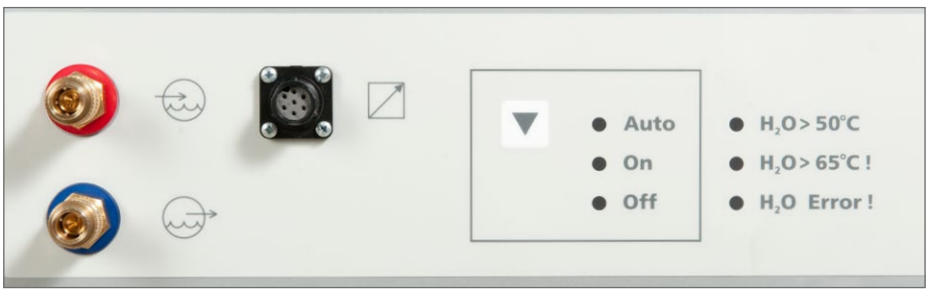
Base materials
- Non alloy and low alloy materials
- High alloy materials
- Stainless steels
- Construction steels
- CrNi steels ferritic/austenitic
- Duplex steels
- Aluminium
- Nickel-based materials
- Magnesium materials
- Copper materials
- Special materials

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
- PRO-TIG works with a smart CAN networked multiprocessor architecture. All components are automatically detected and configured by the PRO-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.



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

PRO-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.

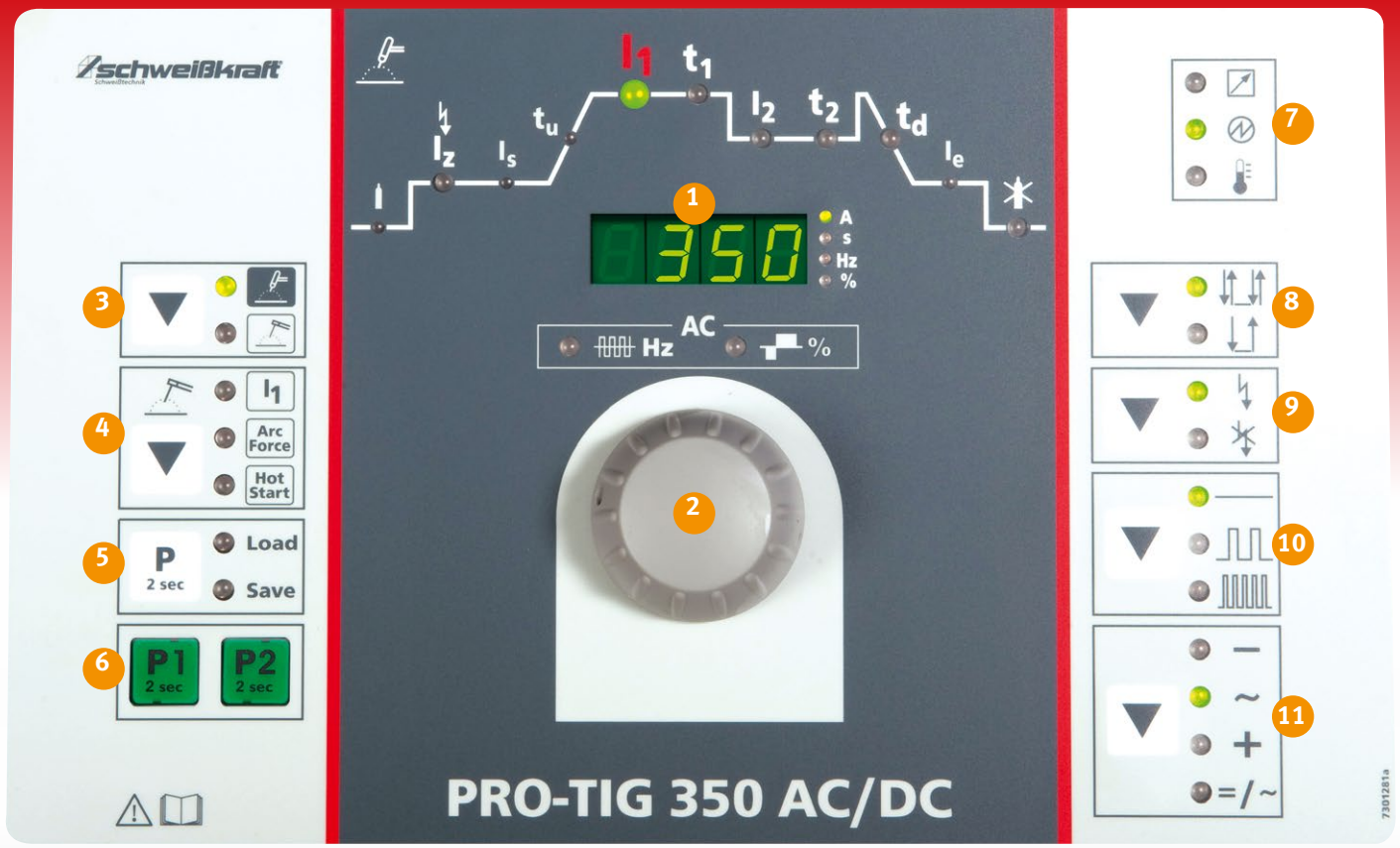
PRO-TIG 350 AC/DC
Industrial design for up 50 l gas cylinders, chassis width extension, steering rollers and generously dimensioned fixed rollers. Features integrated liquid-cooling device.

The PRO-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 PRO-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 Iz
- Start-up current Is
- Current ramp time tu
- Welding current I1
- I1 pulse time t1
- Welding current I2
- I2 pulse time t2
- Current reduction time td
- End crater current Ie
- 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 Indicators
- 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

PRO-TIG AC/DC model range, TIG liquid-cooled

Model	PRO-TIG 280 AC/DC	PRO-TIG 350 AC/DC
Art. no.	1085255	1085350
Technical data:		
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 supply	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 PRO-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 PRO-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

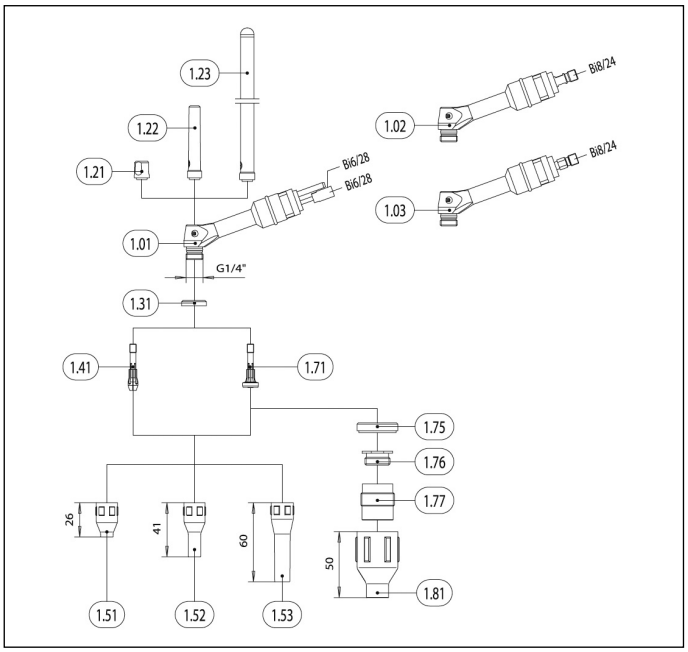
Designation	Art. no.
Wear part set R-TIG 12-260 W consisting of: 1 x large sorting box, je 1 x clamping sleeve housing 1.6/3.6 mm, 2 x clamping sleeve housing 2.4 mm, 1 x each gas diffusor 1.6/2.4/3.2 mm, 1 x insulator, 1 x each gas tip 8.0/10.0/11.5 mm, 1 x torch cap short, 1 x torch cap medium, 1 x torch cap long, 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 large sorting box, je 1 x clamping sleeve housing 2.4/4.0 mm, 2 x clamping sleeve housing 3.2 mm, 1 x each gas diffusor 2.4/3.2/4.0 mm, 1 x insulator, 1 x gas tip 10.0/15.0, 2 x gas tip 13.0 mm 1 x torch cap short, 1 x torch cap long, 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 PRO-TIG AC/DC

Designation	Art. no.
Earth cable 50 mm²/4 m, complete with clamp	1250250
Earth cable 70 mm²/4 m, complete with clamp	1250270
Earth cable 95 mm²/4 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 PRO-TIG AC/DC, air/water without potentiometer	1466001
Adapter cable 7 to 12 pin. Torch for PRO-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

R-TIG 12-260 W
for PRO-TIG 280 AC/DC

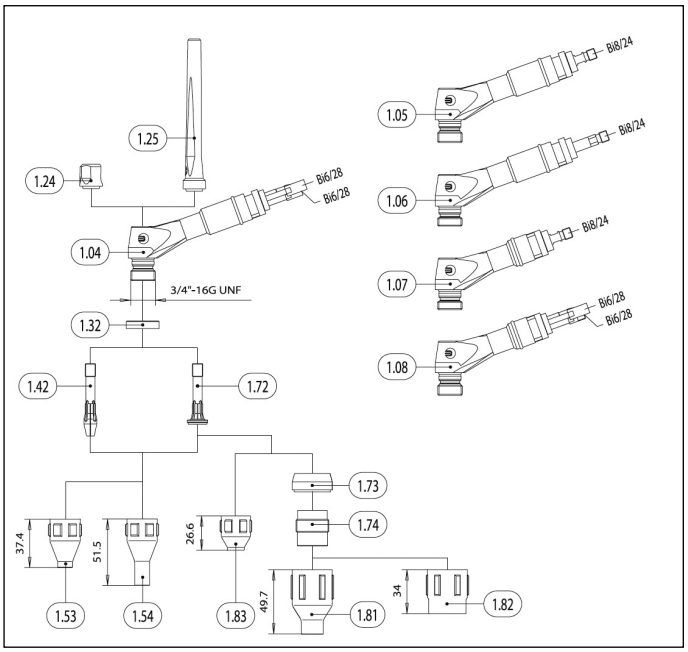


Designation	Art. no.
R-TIG 12-260 W/4 m, Up/Down, Plug & Play	1465264
R-TIG 12-260 W/8 m, Up/Down, Plug & Play	1465268
R-TIG 12-260 W/12 m, Up/Down, Plug & Play	1465265

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

Technical data:	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 PRO-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.
1.42	Electrode holder 1.6 mm	1466009
	Electrode holder 2.4 mm	1466011
	Electrode holder 3.2 mm	1466012
	Electrode holder 4.0 mm	1466013
	Electrode holder 4.8 mm	1466014
1.72	Gas diffusor 1.6 mm	1466025
	Gas diffusor 2.4 mm	1466027
	Gas diffusor 3.2 mm	1466028
	Gas diffusor 4.0 mm	1466029
	Gas diffusor 4.8 mm	1466030
1.32	Insulator	1466008
1.53	Gas tip 7.5 mm	1466015
	Gas tip 10 mm	1466016
	Gas tip 13 mm	1466017
	Gas tip, reinforced 13 mm	1466018
	Gas tip 15 mm	1466019
	Gas tip, reinforced 15 mm	1466020
1.24	Short torch cap	1466032
1.25	Long torch cap	1466006
	Wear part set R-TIG 12-450 W	1461245

Technical data:	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	

Inverters electrode welding devices

EASY-STICK model ranges – standard electrode inverter for 230 V applications

- Universally deployable for welding with all popular electrode types
- Constant welding current ensures a consistent deposition rate
- All devices implemented with state-of-the-art inverter technology
- This means that small and light electrode devices can be manufactured
- Thus, perfectly suited for mobile work (on ladders, on scaffolding, etc.); and also for outdoor work thanks to IP 23 degree of protection
- The low noise integrated fans capably dissipate heat from the devices thus ensuring a high duty cycle
- **All EASY-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.

Method
- Electrode welding
- TIG DC

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
- Construction site and mobile use

Valid for EASY-STICKs 130 + 145 + 185
- Special control functions provide effective protection against overvoltage.
- In case of overvoltage, these EASY-STICK devices interrupts the welding current and then automatically switch it back on as soon as the problem has been resolved.
- The system was specially developed for use with power generators.

Quality made in Europe

New

Model	EASY-STICK 130	EASY-STICK 145	EASY-STICK 185
Art. no.	1087005	1087006	1087007
Technical data:			
Weldable electrode Ø, mm	1.6 - 2.0	1.6 - 2.5	1.6 - 4.0
Electrode setting range	5 - 110 A	5 - 125 A	5 - 160 A
TIG DC setting range	5 - 110 A	5 - 125 A	5 - 160 A
Mains voltage (±10 %) at 50/60 Hz	1 x 230 V	1 x 230 V	1 x 230 V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Open circuit voltage	95 V	95 V	95 V
Electrode power consumption	3.35 kVA	3.9 kVA	5.3 kVA
TIG DC power consumption	2 kVA	2.3 kVA	3.3 kVA
Fuse	16 A slow blow	16 A slow blow	16 A slow blow
Electrode duty cycle at I_{max}	110A - 30 %	125 A - 30%	160 A – 30%
Electrode welding current at DC = 100%	60 A	70 A	90 A
TIG DC duty cycle at I_{max}	110A - 35 %	125A - 35 %	160A - 35 %
TIG DC welding current at DC = 100%	65 A	75 A	95 A
Cos phi power factor	0.85	0.85	0.85
Degree of protection	IP 23	IP 23	IP 23
Insulation class	F	F	F
Operating temperature	-10 +40 °C	-10 +40 °C	-10 +40 °C
Weight	3.4 kg	3.5 kg	4.7 kg
Dimensions (L x W x H), mm	245 x 130 x 215		

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

Degree of protection IP 23

EASY-STICK 185
showing scope of supply (without accessories)

Accessories

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

Welder's helmets	
Vario Protect L, for electrode and MIG/MAG	1654000
Vario Protect XL, for electrode and MIG/MAG	1654001
Vario Protect XL W, for electrode and MIG/MAG and TIG	1654005

Welding workplace equipment

VarioProtect L

VarioProtect XL

VarioProtect XL W

See page 115 for matching welding cables and cables

EASY-STICK model range

Degree of protection IP 23

Valid for EASY-STICKs 131 + 151 + 171

- These EASY - STICK devices have a toggle switch for the operating modes electrode welding and TIG DC welding
- For TIG-DC an internal switch over to the TIG characteristic curve occurs and ignition can then use the Lift-Arc system

EASY-STICK 151

Scope of supply for EASY-STICK 131, 151, 171

Model	EASY-STICK 131	EASY-STICK 151	EASY-STICK 171
Art. no.	1087012	1087014	1087016
Technical data:			
Weldable electrode Ø, mm	1.6 - 2.5	1.6 - 3.2	1.6 - 4.0
Electrode setting range	10 - 120 A	10 - 140 A	25 - 160 A
TIG DC setting range	10 - 120 A	10 - 140 A	10 - 160 A
Mains voltage (±10 %) at 50/60 Hz	1 x 230 V	1 x 230 V	1 x 230 V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Open circuit voltage	67 V	56 V	67 V
Electrode power consumption	3.0 kVA	3.6 kVA	3.7 kVA
TIG DC power consumption	2.4 kVA	2.7 kVA	2.8 kVA
Fuse	16 A slow blow	16 A slow blow	16 A slow blow
Electrode duty cycle at I_{max}	120A - 40%	140A - 40%	160A -25%
Electrode welding current at DC = 100%	80 A	95 A	115 A
TIG DC duty cycle at I_{max}	120A - 40%	140A - 40%	160A -25%
TIG DC welding current at DC = 100%	80 A	95 A	115 A
Cos phi power factor	0.85	0.85	0.85
Degree of protection	IP 23	IP 23	IP 23
Insulation class	F	F	F
Operating temperature	-10 +40 °C	-10 +40 °C	-10 +40 °C
Weight	4.1 kg	4.7 kg	5.2 kg
Dimensions (L x W x H), mm	268 x 120 x 198	290 x 120 x 198	313 x 120 x 198

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

Scope of supply EASY-STICK - SET:

Including welding workplace equipment

SPA 16 consisting of:

- 5 m welding cable 16 mm² with electrode holder
- 3m earth cable 16mm² with earth clamp 200 A
- Manual shield with welding visor
- Welders' gloves
- Chipping hammer
- Wire brush
- **In an aluminium case**

Argon/CO_2 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/4m gas regulator	1461745
Wear part set WP 17 V consisting of: 1 x each torch cap long/short with o-ring, 2 x Teflon seal, 2 x each 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	1463103

WP 17 V

Wear part set

See page 115 for matching welding cables and cables

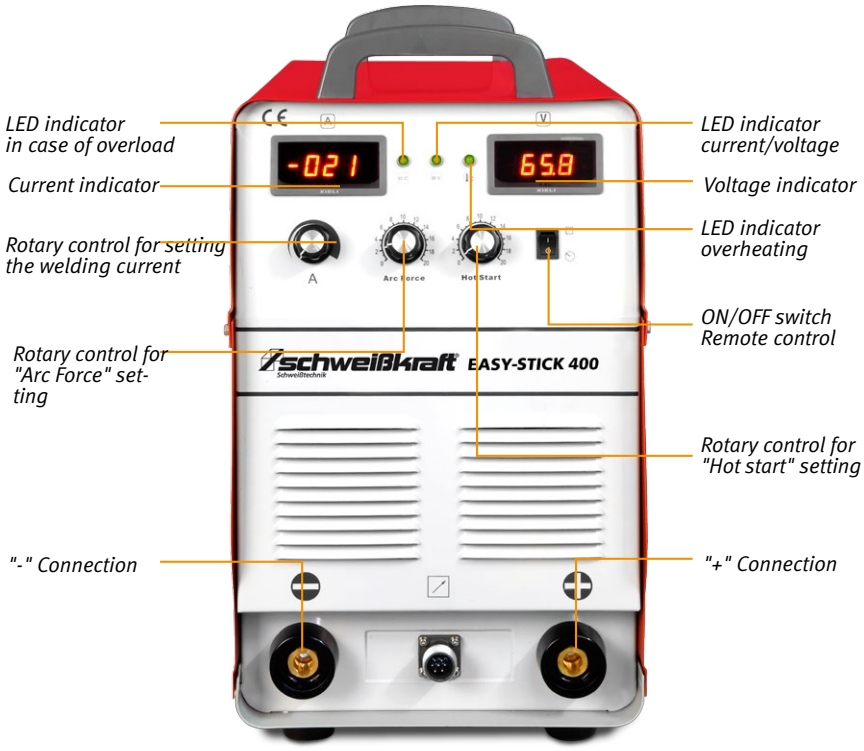
EASY-STICK 250/400 – Electrode inverter 3-phase 400 Volt. Compact high-performance with up to 250A or 400A

- Modern inverter technology
- Maximum power and duty cycle (DC)
- For welding with size 5 electrode (at 250) or size 8 electrode (at 400)
- Approved for use outdoors (P23)
- 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
- **Anti-stick function;** prevents the electrode sticking
- **Arc force control;** automatic welding output synchronisation with the preset value
- **Digital display;** easy setting of the welding parameters through function selection switch and setting control

Special features Easy-Stick 250:
- **TIG pulse function;** perfectly suited for welding thin materials
- **Lift arc ignition;** scratch ignition for TIG welding with minimum current. Avoids the TIG tip sticking

Special features Easy-Stick 400:
- **Additionally supports remote control**

The EASY-STICK 400 operation concept



EASY-STICK 400 *showing scope of supply (without accessories)*

EASY-STICK 250 *showing scope of supply (without accessories)*

Model	EASY-STICK 250	EASY-STICK 400
Art. no.	1087025	1087040
Technical data:		
Weldable electrode Ø	1.6 - 5.0 mm	1.6 - 8.0 mm
Adjusting range	20 - 250 A	20 - 400 A
Mains voltage (-10+15%)	3 x 400 V	3 x 400 V
Frequency	50/60 Hz	50/60 Hz
Open circuit voltage	65 V	66 V
Electrode power consumption	6.2 kVA	13 kVA
Power consumption TIG DC	4.8 kVA	-
Maximum current consumption	14 A	20 A
Fuse	16 A slow blow	32 A slow blow
TIG DC duty cycle at I_{max} 40° C	50 %	-
Current at 100% duty cycle 40°C TIG DC	180 A	-
Duty cycle at $I_{max.}$ 40°C electrode	40 %	60 %
Current at 100% DC 40°C electrode	160 A	250 A
Cos phi power factor	0.85	0.85
Degree of protection	IP 23	IP 21 S
Insulation class	F	H
Operating temperature	-10 +40 °C	-10 +40 °C
Weight	13.5 kg	31.0 kg
Dimensions (L x W x H)	450 x 460 x 385 mm	530 x 270 x 430 mm

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

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 200 CEL	1089001
Manual remote control with 5 m control cable for EASY-STICK 400	1090013
Remote control foot pedal, with 8m control cable for EASY-STICK 200 CEL 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
G-BOX (adapter for operation with a power generator) for EASY-STICK 200 CEL It simply sits between the generator and the welding equipment and protects the inverter against power peaks.	1080006

Manual remote control EASY-STICK 200 CEL

Manual remote control EASY-STICK 400

Remote control foot pedal

G-Box

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 earth 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/Earth clamp 200 A	1240445
SPA 35 mm² - KS 50, 35-50 mm²/Pratica 2/Earth clamp 400 A	1240450

Welding workplace equipment

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

WP 17 V

Designation	Art. no.
Wear part set	
Wear part set WP 17/26 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	1463103

Wear part set

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

Trolley

Designation	Art. no.
Pressure regulator Argon/CO_2 large Schweißkraft	1700050

Pressure regulator

EASY-STICK 200 CEL – electrode inverters with 170 A and TIG pulse function. Compact high-performance and multiple voltage – global deployment on site possible

The EASY-STICK Digital is built on state-of-the-art, operationally safe inverter technology. It features excellent welding properties in TIG and electrode welding operations.

Digital display
- Easy setting of the welding parameters through function selection button and selection control

Supply cables up to 50 m – no problem!
- Uninterrupted welding guaranteed for mains cable lengths of up to 50 m (with 1.5 mm² diameter).

TIG functions

Pulse function
- Perfectly suited for welding thin sheets whose materials must not be excessively heated. Improved arc stability and thus improved welding precision. Finally adjustable heat input in TIG pulse welding enables good get coverage, an excellent root weld and improved out of position welding.

Lift-arc ignition
- 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.

Electrode functions

Hot-start function
- Ignition aid for igniting the arc on a stick electrode for electrod welding. Thanks to an automatic, short-term increase of the welding current, the arc lights immediately and is stable.

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.

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.

Welding with cellulose electrodes
- 100 % vertical-down weld reliability when welding with cellulose electrodes, particularly in the lower output range (EASY-STICK 200 CEL)

Method
- TIG DC
- Electrode welding
- CEL capable

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
- Chemical plant construction
- Automobile industry and automotive supplies
- Plant and pipeline construction
- Construction site and mobile use

Equipment features:
- State-of-the-art inverter technology
- Digital control panel
- TIG pulse function
- High-performance fan
- Lightweight and compact
- Remotely controllable

The EASY-STICK 200 CEL digital operation concept – precise setting of the welding parameters

Welding mode display:
When you start welding, the indicator changes from "PREVIEW" to "WELDING"

Welding method display:
The selected method appears in the digital display. When you switch on, this is always the last welding method to be selected.

Selection control:
The desired welding current is set with the selection control and shown in the display Amperes

Welding current display:
Depending on the last welding mode displayed, the actual welding current is shown in "Welding" mode.
The "Preview" chose the preset welding current.

Remote control connection:
The devices is also remotely controllable with a manual control or foot pedal. After connecting the remote control is automatically assumes the function of the selection control. Manual control and foot pedal control optionally available

Function selection button:
The function selection button is used to set the welding method.
The available methods are:
- STICK
- STICK + ARC FORCE
- Lift
- LIFT PULSE 3 Hz
- LIFT PULSE 175 Hz

Multiple voltage - global deployment on site possible with mains voltage from 90 to 270 V!

Quality made in Europe

- PFC technology enables this multiple voltage capability
- PFC (Power Factor Correction) requires more complex control technology in the machine
- However, these power sources offer the user a whole bunch of additional **benefits:**
- Maximum mains power, but the fuse still holds reliably
- cos phi power factor of 0.99 means energy savings and thus cost savings
- No problems when using generators with different characteristics
- No problems with extension cables because voltage drops are no longer critical

STICK 170 *showing scope of supply (without accessories)*

- Excellent electrode welding
- Protection against overvoltage

EASY-STICK 200 CEL Digital *showing scope of supply (without accessories)*

- Electrode: switchable to cellulose (CEL)
- With digital control panel
- Remotely controllable for electrode and TIG
- TIG - DC welding with contact ignition
- TIG - DC with pulse welding

TIG 170 DC HF *showing scope of supply (without accessories)*

- Combined device for TIG and electrode
- With digital control panel
- TIG ignition with HF or scratch ignition
- TIG pulse at 1 - 300 Hz
- TIG - 7 configurable parameters
- TIG - 2- and 4-cycle
- TIG - 3 storage slots

Model	New STICK 170	EASY-STICK 200 CEL Digital	New TIG 170 DC HF
Art. no.	1087175	1087220	1087170
Technical data:			
Weldable electrode Ø	1.6 - 4.0 mm	1.6 - 4.0 mm	1.6 - 4.0 mm
TIG operation setting range	5 - 170 A	5 - 200 A	5 - 170 A
Electrode setting range	5 - 170 A	5 - 170 A	5 - 170 A
Mains voltage (multiple voltage)	90 - 270 V	90 - 270 V	90 - 270 V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Open circuit voltage	95 V	100 V	95 V
Electrode power consumption	3.3 kVA	3.6 kVA	3.3 kVA
TIG DC power consumption	2.3 kVA	2.4 kVA	2.2 kVA
Fuse	16 A slow blow	16 A slow blow	16 A slow blow
TIG DC duty cycle at Imax	170 A - 45 %	200 A - 35 %	170 A - 45 %
TIG DC welding current at DC = 100%	130 A	135 A	135 A
Electrode duty cycle at Imax	170 A - 35 %	170 A - 40 %	170 A - 35 %
Electrode welding current at DC = 100%	115 A	125 A	115 A
Frequency pulser		3 or 175 Hz	
Pulser duty cycle		50 %	
Power factor	0.99 cos phi	0.99 cos phi	0.99 cos phi
Degree of protection	IP 23 S	IP 23 S	IP 23 S
Insulation class	F	F	F
Operating temperature	-10 to + 40 °C	-10 to + 40 °C	-10 to + 40 °C
Weight	7.0 kg	8.3 kg	8.8 kg
Dimensions (L x W x H)	285 x 155 x 220 mm	285 x 180x 220 mm	405 x 155 x 220 mm

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

Accessories

Accessories STICK 170	Art. no.
WP 17 V/4m with gas regulator	1461745

Accessories 200 CEL Digital	Art. no.
Torch TIG WP 26 V, 4m	1462614
Remote control foot pedal, 8 m	1090002
G-Box (overvoltage protection)	1090006

Accessories TIG 170 DC HF	Art. no.
Welding cable with electrode holder 25 mm²/4m	1250354
Remote control foot pedal, 8 m	1090002
Torch TIG 17, 4m	1101702

Tungsten electrodes

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

Tungsten electrodes "WT 20" red (2% thorium)
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	PU	Article no.
1.0 x 175 mm	10	1421100
1.6 x 175 mm	10	1421160
2.4 x 175 mm	10	1421240
3.2 x 175 mm	10	1421320
4.0 x 175 mm	10	1421400

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	PU	Article no.
1.0 x 175 mm	10	1423100
1.6 x 175 mm	10	1423160
2.4 x 175 mm	10	1423240
3.2 x 175 mm	10	1423320
4.0 x 175 mm	10	1423400

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	PU	Article no.
1.0 x 175 mm	10	1424100
1.6 x 175 mm	10	1424160
2.4 x 175 mm	10	1424240
3.2 x 175 mm	10	1424320
4.0 x 175 mm	10	1424400

Inverters electrode welding devices

PRO-STICK 140 - tried and trusted standard electrode inverter – Great performance at a low price

The PRO-STICK is characterised in particular by its rugged housing and low weight of just 4.9 kg. This makes it the perfect companion for tough work on the road and in the workshop. Universally deployable for welding stainless, high alloy and low alloy steels.

Anti-stick function
- If the electrode inadvertently sticks, the PRO-STICK automatically reduces the welding current. This avoids the electrode annealing.

Latest 100 kHz inverter technology
- Excellent welding characteristics thanks to innovative 100 kHz inverter technology in SMD engineering.

Arc force
- Monitors the welding current handholding voltage. This means that a short-circuit in the droplet transmission can be quickly resolved and sticking of the electrode during welding is prevented. Even electrodes that produce large droplets can thus be used without any problems.

Hot-start function
- Ensures excellent ignition properties and a fast and stable arc.

Supply cables up to 50 m – no problem!
- Uninterrupted welding is guaranteed for mains cable lengths of up to 50 m (with 1.5 mm² diameter).

Method
- Electrode welding
- TIG DC

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

Base materials
- Non alloy and low alloy materials
- Construction 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

PRO-STICK 140

Scope of supply PRO-STICK 140
- Electrode inverters
- Mains cable 3 m with plug
- Adjustable carrying strap

The controls

PRO-STICK 140 Set
Ideal for mobile use and on the construction site. All parts are tidily and compactly stowed in a metal case

Model	PRO-STICK 140
Art. no.	1083240
Technical data:	
Weldable electrode Ø	2.0 - 3.2 mm
Adjusting range	5 - 140 A
Duty cycle at $I_{max.}$ 40°C	30 %
Current at 100% DC 40°C	95 A
Input voltage at 50/60 Hz	1 x 230 V
Fuse	16 A
Open circuit voltage	91 A
Degree of protection	IP 23
Weight	4.9 kg
Dimensions (L x W x H)	310 x 125 x 180 mm

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

Designation	Art. no.
PRO-STICK 140 SET Consisting of: inverter, welding workplace equipment SPA 16, welding cable 16mm² with electrode holder and plug KS 10-25, 3m earth cable 16mm² with plug KS 10-25, with earth clamp 200 A, wire brush, chipping hammer, with manual protection shield and lens, welders' gloves, in a metal transport case	1083242

Optional accessories

Stick electrodes in various packaging sizes
start on page 112

VarioProtect XL

VarioProtect XL W

Welding shields and helmets, protective goggles in various DIN categories and class covers start on page 95

Transport case, stable design, padded, perfect for storing inverter, cables, etc., approx. 590 x 360 x 200 mm
Art. no. 1240003;

Welding workplace equipment set SPA 16
Welding cable PVC 16 mm² 5m with electrode holder Pratica 1 and welding cable plug KS 10-25, earth cable PVC 16 mm² 3m with earth clamp 200A and welding cable plug KS 10-25, chipping hammer, wire brush, manual protection shield cpl. with welding visor and lens, welder's gloves 5-finger
Art. no. 1240400;

PRO-STICK 170 – Electrode inverter with 170 A from 230 Volt. DC model with TIG welding function and gas management.

With a weight of just 3.5 kg, the PRO-STICK 170 achieves a welding current of 170 A from a 230 V supply voltage with a duty cycle of 50%. The rugged housing with protection class IP 23 makes the PRO-STICK a reliable specialist for tough deployment on the construction site.

INTIG-Energy (Intelligent Ignition Energy)
- In electrode welding, the INTIG-Energy configures an ignition overshoot that guarantees safe and soft ignition. Ignition in TIG welding relies on Lift-arc; thanks to INTIG-Energy, the optimum ignition energy setting is chosen as a function of the selected welding current. This prevents premature wear of the tungsten electrode, or tungsten particles entering the weld.

EPC - Electronic Power Control
- Continuous electronic mains voltage monitoring guarantees operational safety and prevents damage through switching on/off. At the same time, the overvoltage protection this provides considerably extends the service life of the device.

Gas management (TIG function)
- offers a DC TIG welding option. The TIG function (controlled gas pre-flow and post-flow, current-on and current-off function, and automatic current ramp and reduction) is controlled via the optional TIG torch WP 17 KM in a 4-cycle function; this ensures optimal gas coverage of the weld, and effective gas consumption (only PRO-STICK 170 DC).

E-Max function
- The E-Max function gives you a maximum of 150 A (140 A) electrode welding current output with a duty cycle of 60%(50 %).

Fuse hold function
- The mains current draw is electronically monitored, and the output power reduced if needed, to prevent the mains fuse blowing. In this mode, PRO-STICK achieves a welding current of 140 A.

100 m power cable? - No problem!
- With the ELSA (Electronic Stabilised Arc) system, the PRO-STICK guarantees uninterrupted welding - even with mains cable lengths of 100 m (with a 1.5 mm² diameter, of course). ELSA makes welding interruptions a thing of the past!

Anti-stick function
- If the electrode inadvertently sticks, the PRO-STICK automatically reduces the welding current to approx. 35 A. This avoids the electrode annealing; and it can be easily removed from the workpiece.

Temperature controlled fan circuit
- The PRO-STICK 170 has a temperature-controlled fan circuit which automatically optimises the cooling performance, thus achieving minimal noise emissions.

Method
- Electrode welding
- TIG DC

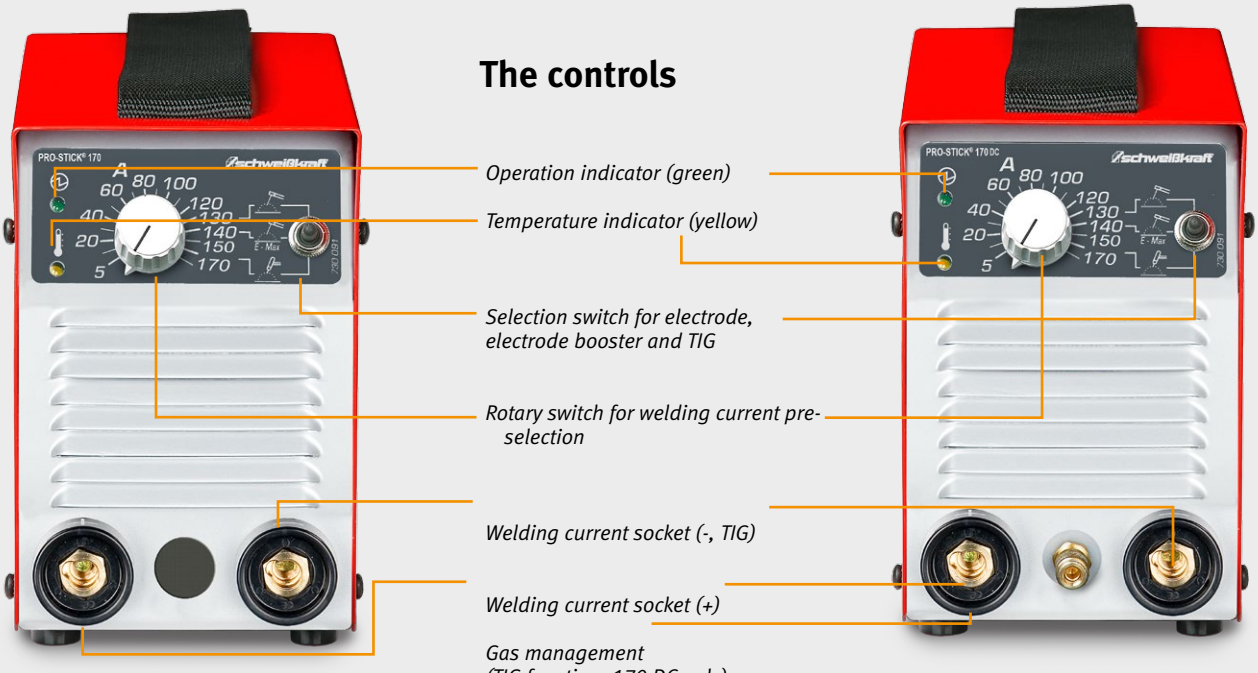
Sheet thicknesses
- From 1.5 mm (electrode)
- from approx. 0.5 mm (TIG)

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

3.5 kg - 170 A - 230 V
TIG function/Gas management

The controls



PRO-STICK 170

PRO-STICK 170 DC

Model	PRO-STICK 170	PRO-STICK 170 DC
Article no.	1083260	1083262
Technical Data		
Weldable electrode Ø	1.6 - 3.25 mm	1.6 - 3.25 mm
Max. weldable material thickness TIG operation	-	5.0 mm
TIG setting range	5 - 170 A	5 - 170 A
Electrode setting range	5 - 150 A	5 - 150 A
Fuse hold setting range	5 - 140 A	5 - 140 A
Duty cycle at $I_{max.}$ 40°C TIG	40 %	40 %
Duty cycle at $I_{max.}$ 40°C electrode	30 %	30 %
Duty cycle at $I_{max.}$ 40°C fuse hold	30 %	30 %
Current at 100% DC 40°C TIG	100 A	100 A
Current at 100% DC 40°C electrode	100 A	100 A
Current at 100% DC 40°C fuse hold	100 A	100 A
Power consumption at $I_{max.}$ TIG	5.1 kVA	5.1 kVA
Power consumption at $I_{max.}$ Electrode	6.3 kVA	6.3 kVA
Power consumption at $I_{max.}$ Fuse hold	6.0 kVA	6.0 kVA
Mains voltage	230 V/50 Hz	230 V/50 Hz
Mains voltage compensation	-15/+10 %	-15/+10 %
Fuse	16 A	16 A
Power factor	0.7 cos phi	0.7 cos phi
Open circuit voltage	68 V	68 V
Protection class	IP 23	IP 23
Insulation class	F	F
Weight	3.5 kg	3.5 kg
Dimensions (LxWxH)	240 x 105 x 160 mm	240 x 105 x 160 mm

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

Designation	Art. no.
PRO-STICK 170 SET Consisting of an electrode inverter, welding workplace equipment SPA 16: 5m welding cable 16mm² with electrode holder and plug KS 25, 3m earth cable 16mm² with plug KS 25, with earth clamp 200 A, wire brush, chipping hammer, manual protection shield with welding visor and lens, welders' gloves in a metal transport case	1083261
PRO-STICK 170 DC TIG SET Consisting of an electrode inverter with gas management, TIG torch WP 17 KM, welding workplace equipment SPA 16: 5 m welding cable 16 mm² with electrode holder and plug KS 25, 3 m earth cable 16 mm² with plug KS 25, with earth clamp 200 A, wire brush, chipping hammer, manual protection shield with welding visor and lens, welders' gloves, in a metal transport case	1083265

Accessories

Designation	Art. no.
Transport case 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	1240003
Pressure regulator Argon/CO_2 small	1700054
Pressure regulator Argon/CO_2 large	1700050
Welding workplace equipment SPA 16, 5 m welding cable 16mm² with electrode holder and plug KS 25, 3 m earth cable 16mm² with plug KS25 and earth clamp 200 A, wire brush, chipping hammer, manual protection shield with welding visor and lens, welders' gloves	1240400

TIG torches

Designation	Art. no.
TIG torch WP 17 V/4 m with gas regulator for PRO-STICK 170	1461745
TIG torch WP 17 KM/4 m for PRO-STICK 170 DC	1461747

Wear part set

Designation	Art. no.
Wear part set WP 17 V/KM 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	1463103

PRO-STICK 170

PRO-STICK 170 DC

PRO-STICK 170 SET

PRO-STICK 170 DC SET

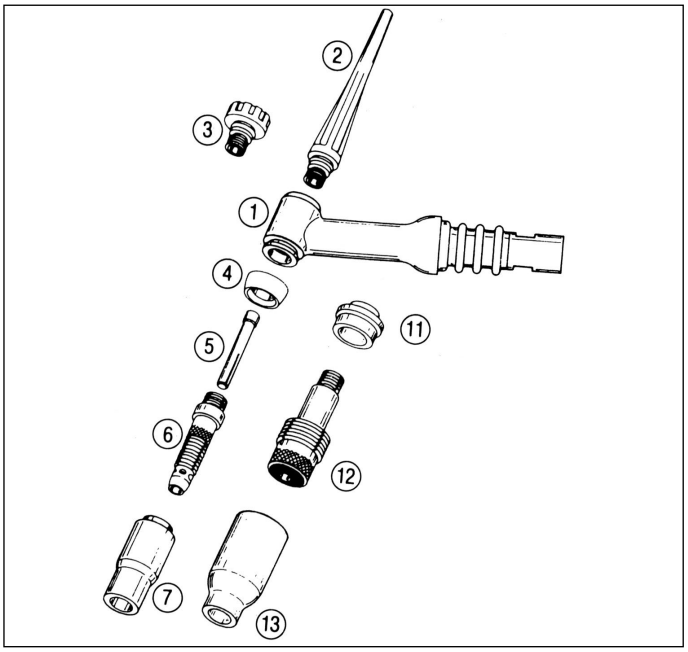
Transport case

Small *Large*

SPA 16

Wear part set

WP 17 V gas-cooled – PRO-STICK 170
WP 17 KM gas-cooled – PRO-STICK 170 DC



Designation	Art. no.
WP 17V/4 m DC with gas regulator	1461745
WP 17 KM/4 m for PRO-STICK 170 DC	1461747

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

Technical data:	WP 17
Direct current duty cycle 60%:	150 A

Tungsten electrodes

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

Tungsten electrodes "WT 20" red (2% thorium)

- 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	PU	Article no.
1.0 x 175 mm	10 pcs.	1421100
1.6 x 175 mm	10 pcs.	1421160
2.4 x 175 mm	10 pcs.	1421240
3.2 x 175 mm	10 pcs.	1421320
4.0 x 175 mm	10 pcs.	1421400

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	PU	Article no.
1.0 x 175 mm	10 pcs.	1423100
1.6 x 175 mm	10 pcs.	1423160
2.4 x 175 mm	10 pcs.	1423240
3.2 x 175 mm	10 pcs.	1423320
4.0 x 175 mm	10 pcs.	1423400

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	PU	Article no.
1.0 x 175 mm	10 pcs.	1424100
1.6 x 175 mm	10 pcs.	1424160
2.4 x 175 mm	10 pcs.	1424240
3.2 x 175 mm	10 pcs.	1424320
4.0 x 175 mm	10 pcs.	1424400

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

PRO-CUT Tornado with integrated compressor
- No external compressed air source needed

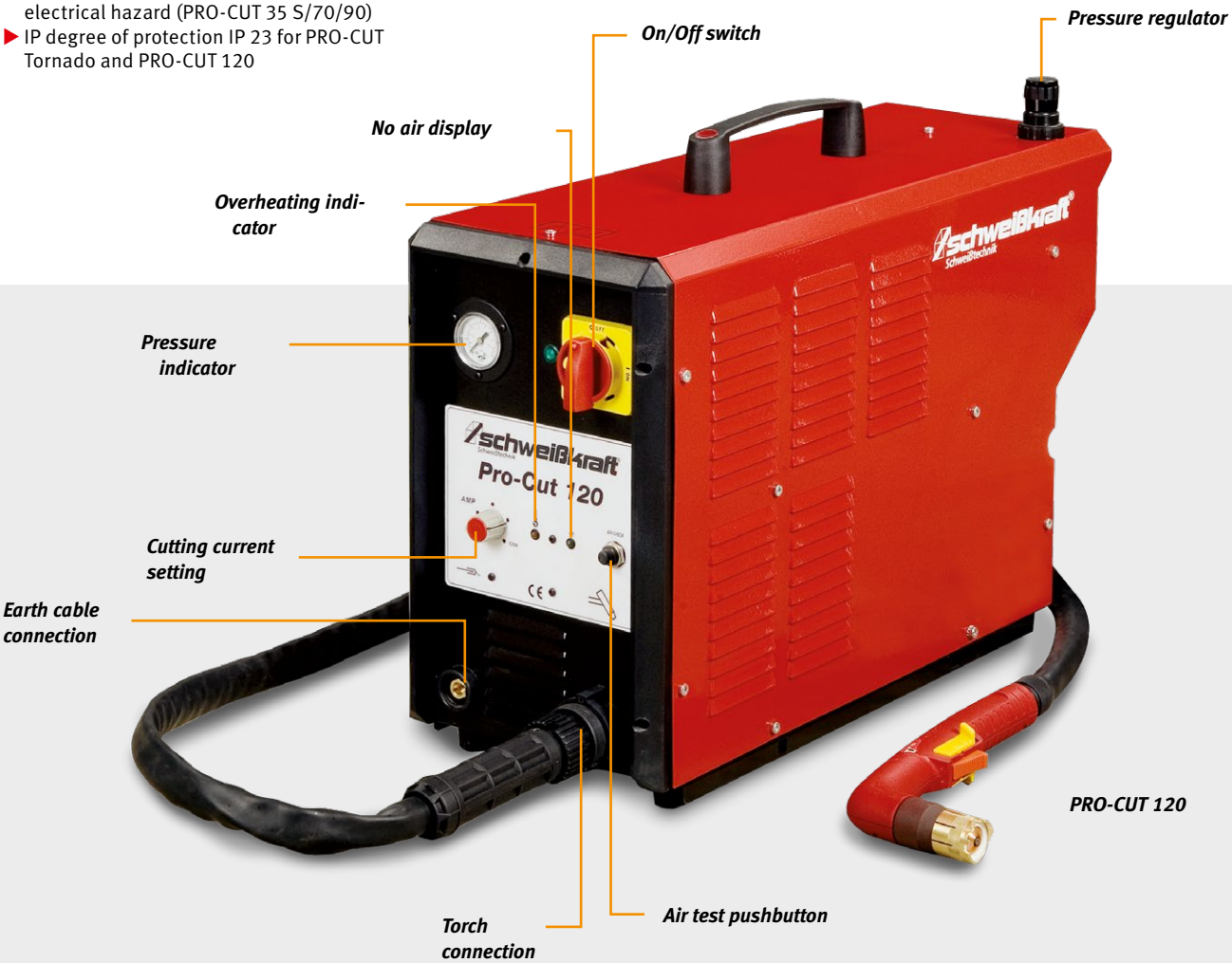
Method
- Plasma cutting

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!



Model	PRO-CUT Tornado	PRO-CUT 35 S	PRO-CUT 70	PRO-CUT 90	PRO-CUT 120
Article no.	1087059	1087065	1087061	1087062	1087120
Technical Data					
Torch type (connection)	fixed installation	fixed installation	Euro	Euro	Euro
Adjusting range	15 - 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	155 l/min	155 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	2.4 kVA	2.3 kVA	11.2 kVA	15.3 kVA	13.2 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 - 50 %	35 - 40 %	70 -60 %	90 - 40 %	120 - 40%
Current at 100% duty cycle 40°C Plasma	20 A	22 A	55 A	55 A	80 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
Arbeitstemperatur	-10 +40 °C	-10 +40 °C	-10 +40 °C	-10 +40 °C	-10 +40 °C
Weight	10 kg	8 kg	16 kg	17 kg	29 kg
Dimensions (LxWxH), mm	470x150x245	475x150x220	470x180x225	420x180x270	420x180x270

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

Scope of supply PRO-CUT Tornado:
- Plasma device
- Torch 4m
- Earth cable

Scope of supply PRO-CUT 35 S:
- Plasma device
- Torch 5m
- Earth cable

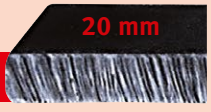
Scope of supply PRO-CUT 70/ PRO-CUT 90/PRO-CUT 120:
- Plasma device
- Torch 6m
- Earth cable

Cutting performance

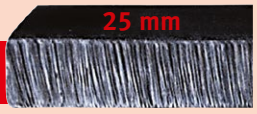
PRO-CUT Tornado
*Quality cutting approx. 4 mm**

PRO-CUT 35 S
*Quality cutting approx. 10 mm**

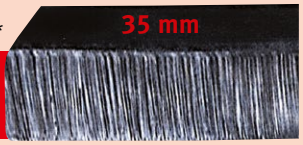
PRO-CUT 70
*Quality cutting approx. 20 mm**



PRO-CUT 90
*Quality cutting approx. 25 mm**



PRO-CUT 120
*Quality cutting approx. 35 mm**



*in steel

Accessories

TIG torches

Designation	Article 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	Article no.
Wear part set plasma see p. 25 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 plasma 1 (S 45), 1 x sorting box 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 A 81 consisting of: 3 x each 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 each 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

Wear part set Plasma see p. 25

Microfilter

Designation	Article no.
Special filter for plasma cutter	1310100
Spare filter for micro-fine filter	1310105

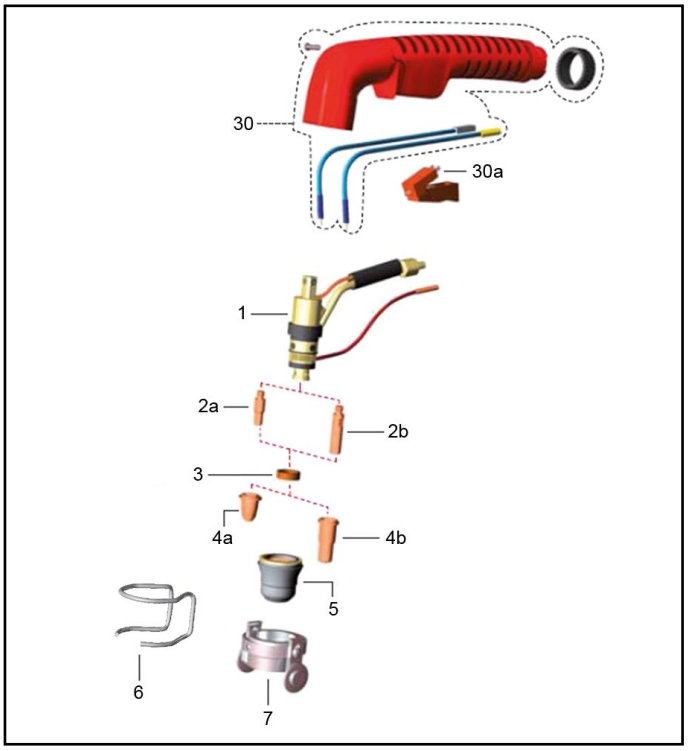
Micro-fine filter

Circular cutting device

Designation	Article 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

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



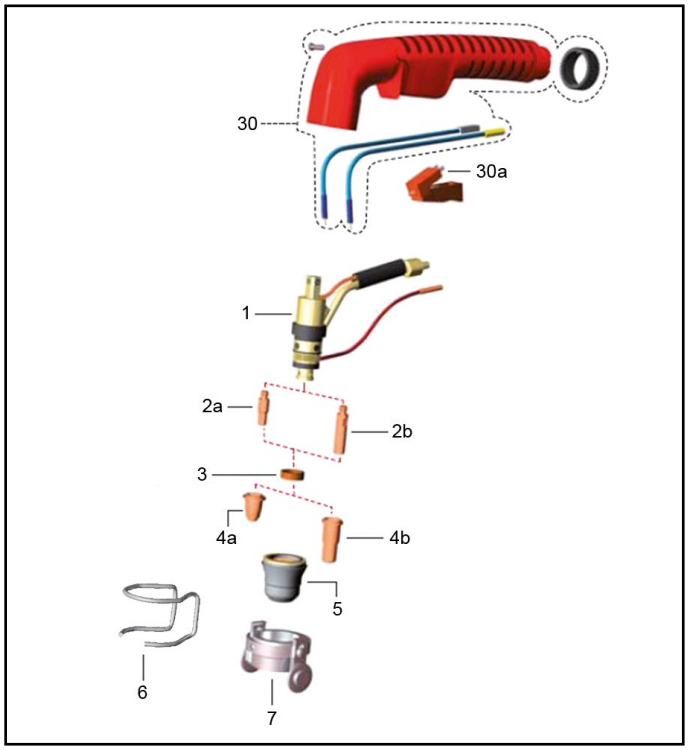
Designation	Article no.
Plasma torch S25K, 4 m	1339606

No.	Designation	Art. no.
1	Torch body	1333125
2a	Electrode short	1333110
2b	Electrode long	1333111
3	Diffusor	1333112
4a	Cutting tip 0.6 mm	1333113
4a	Cutting tip 0.8 mm	1333118
4a	Cutting tip 0.9 mm	1333117
4b	Cutting tip long 0.65 mm	1333142
4b	Cutting tip long 0.90 mm	1333143
5	tip retaining cap	1333127
6	Spacer spring*	1333120
7	Guide carriage	1333141
30	Handle shell complete	1333124
30a	Switch short, 2-pin	1333126
	Circular cutting device	1333121
	Wear part set S25 K	1333104

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

Technical data:	
Load:	20 A (ED 35%)
Pressure	2.0 bar
Compressed air consumption:	31 l/min

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

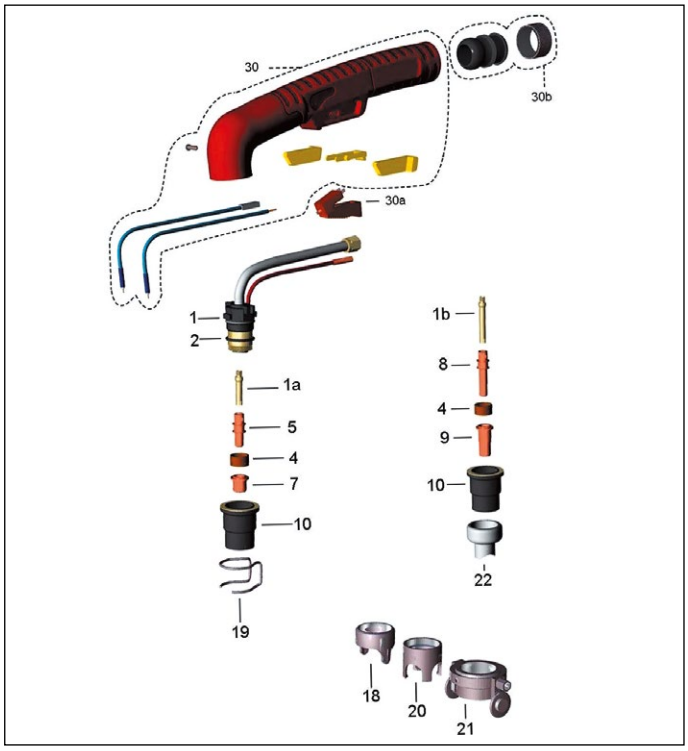


Designation	Article no.
Plasma torch S45, 5 m	1333100

No.	Designation	Art. no.
1	Torch body	1333125
2a	Electrode short	1333110
2b	Electrode long	1333111
3	Diffusor	1333112
4a	Cutting tip 0.6 mm	1333113
4a	Cutting tip 0.8 mm	1333118
4a	Cutting tip 0.9 mm	1333117
4b	Cutting tip long 0.65 mm	1333142
4b	Cutting tip long 0.90 mm	1333143
5	tip retaining cap	1333119
6	Spacer spring	1333120
7	Guide carriage	1333141
30	Handle shell complete	1333124
30a	Switch short, 2-pin	1333126
	Circular cutting device	1333121
	Wear part set S45	1333101

Technical data:	
Load:	40 A (ED 60%)
Pressure	5.0 bar
Compressed air consumption:	115 l/min

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

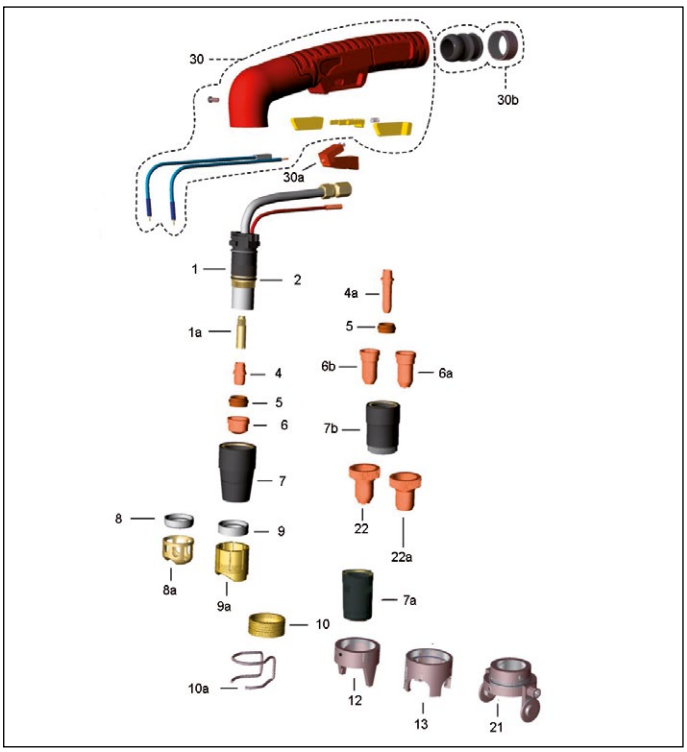


Designation	Article no.
Plasma torch A81, 6 m	1339201

No.	Designation	Art. no.
1	Torch body	1339221
1a	Diffusor tube short	1339222
1 b.	Diffusor tube long	1339223
2	O-ring	1339015
4	Diffusor	1339016
5	Electrode short	1339225
7	Cutting tip 50 A 1.0 mm	1339020
7	Cutting tip 80 A 1.2 mm	1339022
8	Electrode long	1339226
9	Cutting tip long 1.2 mm	1339025
10	tip retaining cap	1339030
18	Spacer 2 tips	1339033
19	Spacer spring	1339034
20	Spacer 4 tips	1339036
21	Guide carriage	1339040
22	Contact protection long	1339041
30	Handle shell complete	1339518
30a	Switch short, 2-pin	1339632
30b	Ball joint with clamping ring	1339224
	Wear part set A81	1339230

Technical data:	
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	Article no.
Plasma torch A151, 6 m	1339600

No.	Designation	Art. no.
1	Torch body	1339221
2	O-ring	1339515
1a	Diffusor tube	1339622
4	Electrode short	1339520
4a	Electrode long	1339521
5	Diffusor	1339522
6	Cutting tip 1.4 mm	1339524
6	Cutting tip 1.6 mm	1339526
6	Cutting tip 1.8 mm	1339528
6	Cutting tip 3.0 mm	1339530
6a	Cutting tip long 50A 1.1 mm	1339523
6b	Cutting tip long 1.4 mm	1339634
6b	Cutting tip long 1.7 mm	1339637
6b	Cutting tip long 1.9 mm	1339639
7	tip retaining cap conical	1339546
7a	tip retaining cap cylindrical	1339541
7b	tip retaining cap contact	1339626
8	Spacer	1339544
8a	Spacer	1339545
9	Spacer	1339543
9a	Spacer	1339550
10	Spring support mount	1339548
10a	Spacer spring	1339549
12	Spacer 2 tips	1339552
13	Spacer 4 tips	1339553
21	Guide carriage	1339559
22	Tip guard contact	1339627
22a	Tip guard	1339628
30	Handle shell complete	1339518
30a	Switch short, 2-pin	1339632
30b	Ball joint with clamping ring	1339631
	Wear part set A151	1339640

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

Electrochemical metal processing

CLEANO 2 – stainless steel cleaning, polishing and marking device (dark)

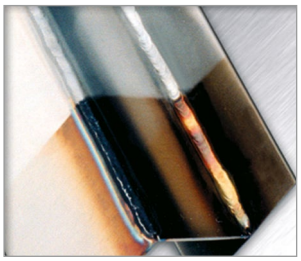
SChweißKRAFT CLEANO 2 - the AC/DC generator for electrochemical processing of stainless steel and steel (dark marking).

State-of-the-art technology and a fascinating method enable a totally new approach to cleaning TIG welds. (Not suitable for cleaning MIG-MAG welds.)

Puts an end to the drawbacks of mechanical or chemical processing.

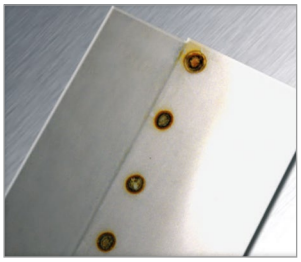
Easily usable on site, inexpensive and easy on humans, the environment and the product.

...Cleaning



The oxide layer is easily removed without leaving tide marks. At the same time, the location is passivated (protected against corrosion), thus avoiding another step downstream. Compared with cleaning and pickling with acis, the approach is far less expensive. The chemicals used here do not contain any hazardous materials and are not subject to mandatory labelling.

...Electrical polishing



Grey edges (heat affected zones) next to the weld, cause by material changes during welding, are easily removed. Stainless steel can be polished to a high gloss finish with this approach. Even achieves a uniform finish on 3-D mirror material.

...Dark marking

The effect of an electrolyte in combination with a template manufactured to your design means that you can mark graphics, trademarks, type plates, device numbers, scales, lettering and logos, even on cylindrical components; with permanently deep black marking. The electrolyte is PH neutral and does not need to be neutralised.

Scope of supply CLEANO 2
1231125SK - CLEANO 2 incl. starter kit:
1231028ST - Polishing stamp
1231125KS - Cable black, 2 m
1231125KR - Cable red, 2 m
1231206SF - Cleaning and marking pads 20 pcs. in a bag
1232500WB - Wide-necked container, 500 ml
1232310DH - Electrolyte A for cleaning, 1 litre
1232020DC - Electrolyte C for polishing, 500 ml
1232101ET - Electrolyte ET for dark marking, 100 ml
1231216PF - Polishing pads 20 pcs. in a bag
1231126KL - Crocodile clip red

Similar to fig.

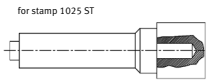
Cleaning/electro-polishing/marking	
Model	**CLEANO 2**
Art. no.	1231125 SK

Technical Data	
Primary voltage	230 V, 50 - 60 Hz
Secondary voltage	24 V, 12 A, 50 Hz
Output	320 W
Weight	8.5 kg
Dimensions (W x H x D)	150 x 290 x 300* mm

**without cable connection*

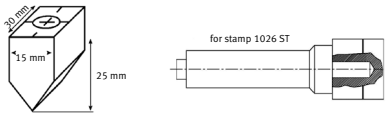
Designation	Article no.
Carbon stamp anode 90°	1231025 ST

Replacement carbon anode 90°, horizontally drilled with thread	1231026 AG



Carbon stamp anode 60°	1231026 ST

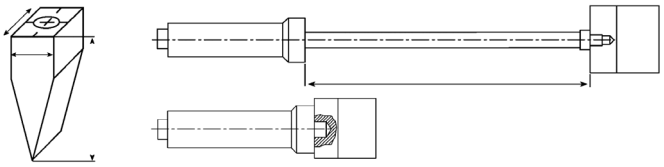
Replacement carbon anode 60°, horizontally drilled with thread	1231026 AS



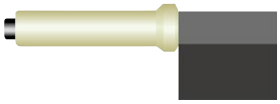
Carbon stamp anode 30°, vertical	1231026 SD

Carbon stamp anode 30° vertical, with extension	1231026 DV

Replacement carbon anode 30°, vertically drilled with M 10 thread	1231026 AD

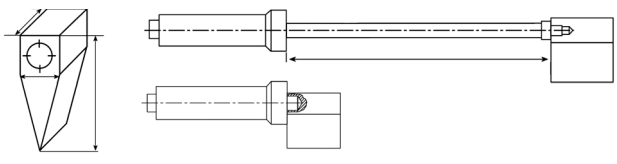


Carbon stamp anode 30°, horizontal	1231026 SH



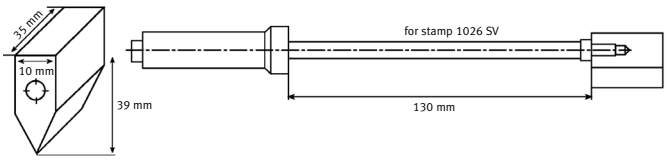
Carbon stamp anode 30°, horizontal, with extension	1231026 VH

Replacement carbon anode 30°, horizontally drilled with M 10 thread	1231025 AD



Carbon stamp anode 60°, horizontal, with extension	1231026 SV

Designation	Article no.
Replacement carbon anode 60°, horizontally drilled with M 6 thread	1231026 AK

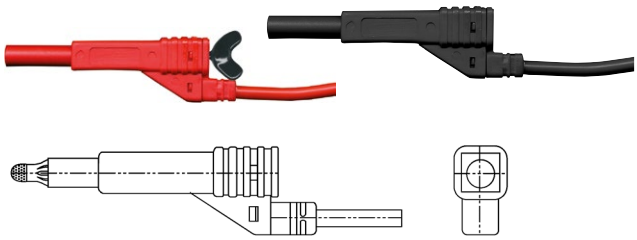


Cleaning stylus 130 mm	1231027 ST

Cleaning probe set 130 mm incl. 100 tips	1231027 RS

Round tip inserts: 28.5 mm (bag of 100)	1231027 OS

Replacement o-rings	
26 x 2 mm (bag of 10)	1231205 OR
26 x 2 mm (bag of 100)	1231127 OR

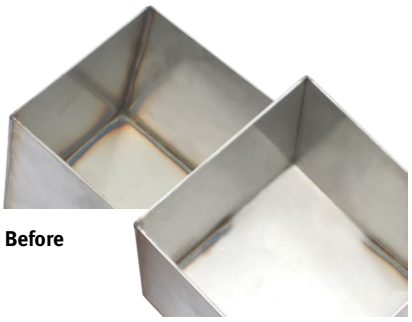


Measuring cable	
red 2 m incl. plug, ø 4 mm connecting cable	1231125 KR
black 2 m incl. plug, ø 4 mm connecting cables	1231125 KS
red 5 incl. plug, ø 4 mm connecting cables	1231150 KR
black 5 m incl. plug, ø 4 mm connecting cables	1231150 KS

Crocodile clip red for plug ø 4 mm	1231126 KL
Acid apron	1231200 SS
Dust mask	1231201 SM
Full goggles	1231202 SB
Safety gloves (1 pair)	1231203 HS
Shears made of VA steel 8”	1231204 AS
Skin protection cream in dispenser 150 ml	1232400 HC
Wide-necked container, 500 ml incl. cap	1232500 WB

Cleaning brush for Cleano devices

- Cleaning brush for TIG welds. Perfect for removing annealing marks, also at reachable locations (see figures).



Designation	Article no.
Brush for cleaning stainless steel	1231029PI

Designation	Article no.
Hand stamp with carbon brush	1231029ST

Designation	Article no.
Hand stamp with extension and carbon brush	1231029ST


Marking pad roll


Marking pad


Polishing pad


Aramid belt roll

Designation	Article no.
Cleaning and marking pads	
38 x 60 x 2.6 mm Bag of 20	1231206SF
38 x 60 x 2.6 mm Bag of 100	1231207SF
Marking pad roll, 1 m x 60 mm x 2.6 mm	1231208SF
Marking pad roll, 5 m x 60 mm x 2.6 mm	1231209SF
Polishing pads	
40 x 60 x 2.5 mm Bag of 20	1231216PF
40 x 60 x 2.5 mm Bag of 100	1231217PF
Roll 1 m x 40 mm x 2.1 mm	1231214PF
Roll 5 m x 40 mm x 2.1 mm	1231215PF
Roll 25 m x 40 mm x 2 mm	1231218PF
Professional polishing pads 38 x 60 x 2 mm	1231219PP
Professional polishing pads 38 x 60 x 2 mm	1231220PP
Aramid belt roll	
5 m x 40 mm x 2 mm	1231212AF
25 m x 40 mm x 2 mm	1231213AF

Electrolyte A

Electrolyte B

Designation	Article no.
Electrolyte	
for cleaning glossy steels, Dusa “AH” 1 l	1232030DH
for cleaning glossy steels, Dusa “AH” 5 l	1232035DH
for cleaning matt steels, Dusa “B” 1 l	1232011DB
for cleaning matt steels, Dusa “B” 5 l	1232015DB
for electro-chemical polishing, Dusa “C” 500 ml	1232020DC
for electro-chemical polishing, Dusa “C” 1 l	1232021DC

Designation	Article no.
Label printer P-touch 2700 VP	1232700VP

- *Desktop device for marking TZ tapes in widths 3.5 to 24 mm, with USB connection*
- *USB connection for use on PC, time and date function, incl. software package for PC/MAC, tape width 3.5/6/9/12/18 and 24 mm, 8 fonts, 10 different printing styles, frame function, backlit display, multiple print-out up to 99x, consecutive numbering, automatic belt cut, 9 different barcodes, configurable label length*
- *Scope of supply: mains adapter, 1 TZ print cassette (24mm, black on white), USB cable and case*

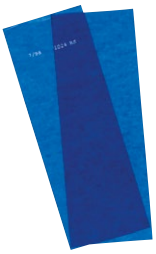
Designation	Article no.
Label printer Brother P-touch 3600	1233600PT

- *Comfort lettering system with USB connection for TZ print cassettes 6 - 36 mm*
- *Z print tapes for tape widths up to 36 mm, max. print height 27 mm, up to 16 lines of print, 360 dpi print resolution, 20 mm/sec. printing speed, automatic tape cutting, automatic half-cutting, 8 different multiple cut variants, integrated mains adapter, large LC display with 3 lines of 20 characters, USB interface (V 1.1), 30 frames/ watermarks, tabulator function*
- *Scope of supply: manual, 1 TZ print cassette (24 mm, black on white), editor software for PC/MAC on CD, USB, 1 separating and transfer stylus, mains adapter*

Designation	Article no.
Brother label printer 9700 PC	1239700 PC

- *Professional lettering system for PC and MAC*
- *Tape width 6, 9, 12, 18, 24 and 36 mm, automatic tape half- and full-cutting, configurable label length, interfaces: RS-232 C serial and USB, Editor software 4.0 for Windows and MAC, many automatic formats, optionally network-capable, printing speed up to 40 mm/sec., resolution 360 dpi, 16 different barcodes, graphics mode up to 720 dpi resolution, import from Excel tables and databases, prints imported graphics and logos, use of all fonts and symbols installed on the PC*
- *Scope of supply: Manual, 1 TZ print cassette, software on CD, USB cable, tape receptacle*

Designation	Article no.
Special lettering tape for brother label printer	
18 mm x 3 m	1231410ST
24 mm x 3 m	1231510ST
36 mm x 3 m	1231610ST
Special lettering tape for Casio label printer	
18 mm	1231216PF
24 mm	1231217PF
Temporary templates	
blue, 210 x 275 mm, 100 pcs.	1231015KB
white, 230 x 385 mm, 10 pcs.	1231011KS



- *Suitable for producing your own templates*
- *For lettering with a typewriter,*
- *Ball-point or dot-impact printer*
- *For continuous serial numbers, tool labelling, etc.*
- *Also available on rolls for dot-impact printers*

Designation	Article no.
Permanent template 1	
Usable area 25 x 15 mm, framed	1231001SB
Usable area 25 x 15 mm, unframed	1231001SU

Permanent templates

- *are manufactured individually to your specifications*
- *Manufactured to your specs with your graphics, trademarks, type plates, device numbers, ID numbers, scales, fonts and logos*
- *Very long service life*
- *Up to 5000 marking actions with a single template*

Designation	Article no.
Permanent template 2	
Usable area 54 x 32 mm, framed	1231002SB
Usable area 54 x 32 mm, unframed	1231002SU
Usable area 54 x 16 mm, framed	1231012SB
Usable area 54 x 16 mm, unframed	1231012SU
Permanent template 3	
Usable area 85 x 54 mm, framed	1231003SB
Usable area 85 x 54 mm, unframed	1231003SU
Usable area 85 x 27 mm, framed	1231013SB
Usable area 85 x 27 mm, unframed	1231013SU
Permanent template 4	
Usable area 128 x 85 mm, framed	1231004SB
Usable area 128 x 85 mm, unframed	1231004SU
Usable area 128 x 42.5 mm, framed	1231014SB
Usable area 128 x 42.5 mm, unframed	1231014SU
Permanent template 5	
Usable area 170 x 108 mm, aluminium frame	1231005SA
Usable area 170 x 108 mm, framed	1231005SB
Usable area 170 x 108 mm, unframed	1231005SU
Usable area 170 x 54 mm, framed	1231015SB
Usable area 170 x 54 mm, unframed	1231015SU
Permanent template 6	
Usable area 257 x 170 mm, aluminium frame	1231006SA
Usable area 257 x 170 mm, framed	1231006SB
Usable area 257 x 170 mm, unframed	1231006SU
Usable area 257 x 85 mm, framed	1231016SB
Usable area 257 x 85 mm, unframed	1231016SU
Permanent template custom size	
above A4	1231007SU
Aluminium frame (20 x 20 mm) for permanent templates up to A4	1231010AR
Layout costs for permanent template from repro-capable original (each)	1231000SD
Layout costs for permanent template from original (each)	1231000SK

Marking - galvanising

Designation	Article no.
Electrolyte for marking	
stainless steel (1.4301), 100 ml	1232101ET
stainless steel (1.4301), 500 ml	1232105ET
stainless steel (1.4301), 1 L	1232111ET
chrome vanadium, 100 ml	1232120EC
chrome vanadium, 500 ml	1232125EC
chrome vanadium, 1 L	1232126EC
chrome vanadium, 5 L	1232127EC
Ms, Cu, tin, 100 ml	1232130EM
Ms, Cu, tin, 500 ml	1232135EM
Electrolyte for negative marking	
100 ml	1232170EN
500 ml	1232175EN
Preservative for stainless steel care	
100 ml	1231004SB
500 ml	1231004SU
1000 ml	1231014SB

Electrode grinder

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 disk can be used through a simple setting; this gives you three times the disk 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?

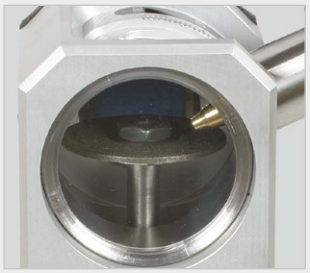
To avoid ignition problems and an instable arc in direct current (DC) TIG welding (DC), the electrode needs to be ground to a point in the current flow direction. For alternating current (AC) TIG welding, a chamfer must be ground in current flow direction for electrodes of Ø 1.6 mm or more to ensure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

The EG 1 lets you regrind 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 disk Ø 40 mm
- Collect chuck 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

Scope of supply with case



Integrated view window

Integrated extraction unit with disposable filter element

Continuously adjustable angle adjustment from 15°-180°

Continuously adjustable speed control via adjusting knob

Electrode grinder	EG 1
Article no.	1690100

Technical Data	
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 supply	230 V
Continuously variable speed	8,000 - 22,000 rpm
Diamond disk	Ø 40 mm
Weight	3.8 kg

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

Weld fume extraction units

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	Recommended applications	Filter surface area	Welding time in hours (arc on)	Filler wire consumption in kg	Filter service life (factor)
SRF Master	sporadic	13 m²	6 ¾	40.7	100%
SRF Profi	occasional	17 m²	13	86	210%
SRF Maxi	regular	42 m²	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

Applications
- 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

Applications
- 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

Applications
- 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)

• 2m extraction arm

SRF Master

• 3m extraction arm

SRF Profi

• 3m extraction arm

SRF Maxi

Model	SRF Master	SRF Profi	SRF Maxi
Article no.	1800020	1800025	1800030
Technical Data			
Filter			
Method	3-stage	2-stage	2-stage
Filter type	Disposable filter	Disposable filter	Disposable filter
Filter surface area	approx. 13 m²	approx. 17 m²	approx. 42m²
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	Prefilter (alum. mesh)
Basic data			
Extraction performance	max. 950 m³/h	max. 1,100 m³/h	max. 1,100 m³/h
Diameter extraction arm	Ø 150 mm	Ø 150 mm	Ø 150 mm
Length of extraction arm	2 m	3 m	3 m
Extraction duct diameter	Ø 150 mm	Ø 150 mm	Ø 150 mm
Electrical connection	230V/50Hz	3 x 400V/50Hz	3 x 400V/50Hz
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	
Main filter	1810025
10 x pre-filter mats	1810026
Automatic start/stop	1810100
Accessories SRF Maxi	
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 4m (optional)

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 4m (optional)
- Spark pre-separator trap
- Automatic start/stop (optional)
- Workplace lighting (optional)
- On/Off on extraction hood (optional)

SRF Master XL

•Automatic filter cleaning
• 3m extraction arm

SRF Maxi C

Model	SRF Master XL	SRF Maxi C*
Article no.	1800040	1800035
Technical Data		
Filter		
Method	2-stage	3-stage
Filter type	Cleanable filter	Cleanable filter
Filter surface area	approx. 10 m²	approx. 15 m²
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 m³/h	max. 1,100 m³/h
Diameter 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 400 V/50 Hz	3 x 400 V/50 Hz
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	Art. no.
Replacement filter	1810040
Accessories SRF Maxi C	
Replacement filter	1810035
Dust cartridge	1810036
Automatic start/stop	1810100

Additional equipment on request

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

Applications
- 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

Applications
- 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

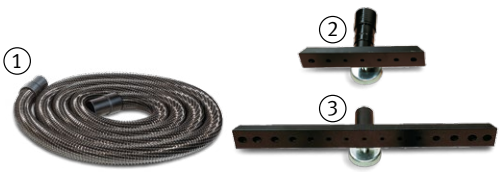
SRF Kompakt

SRF Mini

Model	SRF Kompakt	SRF Mini*
Article no.	1800010	1800015
Technical Data		
Filter		
Method	2-stage	3-stage
Filter type	Cleanable filter	Disposable filter
Filter surface area	1.35 m²	12 m²
Separation class	› 99 %	› 99 %
Filter material	ePTFE membrane	Polyester non-woven
Welding fume separation class	-	W3
Additional filters	-	Prefilter (alum. mesh)
		Centrifugal pre-separating trap
Basic data		
Extraction performance	340 m³/h	150 m³/h
Suction connection	2 x NW 45	1 x NW 45
Electrical connection	230V	230V
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	
Replacement filter for SRF Mini	1810015
Trolley for SRF Mini	1810016
Automatic start/stop	1810100
Accessories SRF Kompakt & SRF Mini	
① suction tube, D=45 mm, 2,5 m	1810200
① suction tube, D=45 mm, 5,0 m	1810201
① suction tube, D=45 mm, 10,0 m	1810202
② slotted nozzle 300 mm with magnetic base	1810203
③ slotted nozzle 600 mm with magnetic base	1810204

Additional equipment on request



Welding accessories

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

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!

VarioProctect L; field of vision 98 x 43 mm

VarioProctect XL; field of vision 98 x 55 mm

VarioProctect XL W; field of vision 98 x 55 mm

Automatic welding filter

- ▶ VarioProtect automatic welding filters are continuously adjustable from DIN 9-13
- ▶ The integrated UV/IR filter keeps damaging radiation at bay
- ▶ Electronically controlled, the liquid crystal elements act as lenses that detect the welding arc and immediately react by displaying a dark or light image
- ▶ All VarioProtect models let you infinitely control the sensitivity and transition response time from dark to light in several stages in each case
- ▶ 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

VarioProtect L-2 automatic welders's helmet

- Continuously variable DIN 9-13
- Response time 1/30,000 s
- 2 sensors

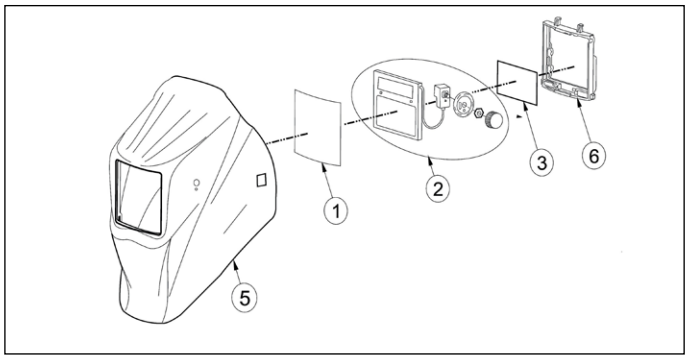
New

Response time 1/30,000 s

For electrode and MIG/MAG

Model	VarioProtect L-2
Article no.	1653005

Technical Data	
View pane	100 x 41mm
Cassette dimensions	110 x 90 x 9mm
Power supply	Solar cells
On/off	Fully automatic
UV/IR protection	permanent DIN 16
Protection classes	DIN 9 to 13
Light shade level	4
Class	1/1/1/2
Transition response time	1/30,000 s (from light to dark)
Dark to light transition time	0.1 - 1.0 s (continuously variable)
Sensitivity	Continuously variable
Material	Premium, impact-resistant polyamide nylon
Overall weight	490 g



Spare parts VarioProtect L-2

No.	Designation	PU	Art. no.
1	Outer lens	10	1663001
3	Inner lens	10	1663002
	Headband		1663003
	Sweatband for forehead		1663004

VarioProtect L automatic welders's helmet

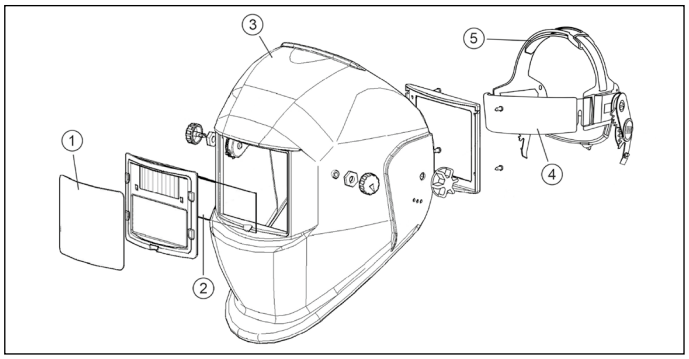
- Continuously variable DIN 9-13
- Response time 1/30,000 s
- 2 sensors

Response time 1/30,000 s

For electrode and MIG/MAG

Model	VarioProtect L
Article no.	1654000

Technical Data	
View pane	98 x 43 mm
Cassette dimensions	110 x 90 x 9 mm
Power supply	Solar cells
On/off	Fully automatic
UV/IR protection	permanent DIN 16
Protection classes	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 three stages: "Short" - "Middle" - "Long")
Sensitivity	Continuously variable
Material	Premium, impact-resistant polyamide nylon
Overall weight	460 g



Spare parts VarioProtect L

No.	Designation	PU	Art. no.
1	Outer lens	10	1662001
2	Inner lens	10	1662002
3	Welder's helmet casing	1	1662004
4	Headband front part including leather sweatband	1	1662005
5	Headband rear part	1	1662006

The comfortable headband in the VarioProtect model range

With replaceable headband

- 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.

VarioProtect XL automatic welders's helmet

- Continuously variable DIN 9-13
- Response time 1/30,000 s
- 4 sensors
- Carbon design

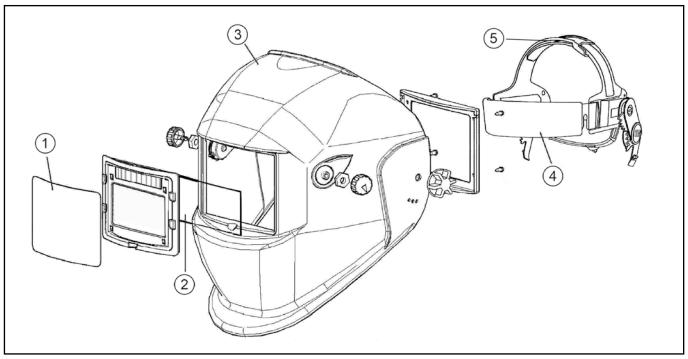
Extra large field of vision

Response time 1/30,000 s

For electrode and MIG/MAG

Model	VarioProtect XL
Article no.	1654001

Technical Data	
View pane	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 classes	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 XL

No.	Designation	PU	Art. no.
1	Outer lens	10	1662001
2	Inner lens	10	1662003
3	Welder's helmet casing	1	1662008
4	Headband front part including leather sweatband	1	1662005
5	Headband rear part	1	1662006
	Replacement battery	1	1662007

VarioProtect XL W automatic welders's helmet

- Specially designed for **TIG welding**
- Recommended for electrode, MIG/MAG and TIG
- Continuously variable DIN 9-13
- Response time 1/30,000 s
- 4 sensors

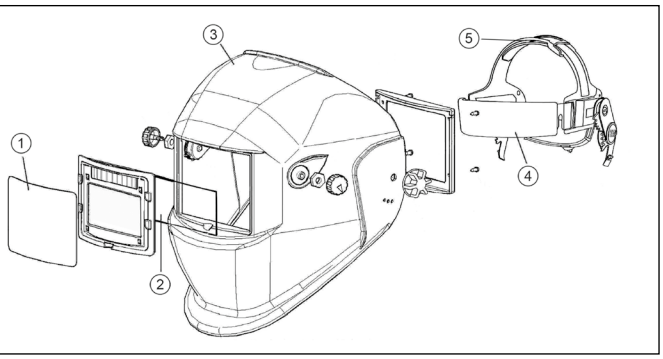
Extra large field of vision

Response time 1/30,000 s

For electrode, MIG/MAG and TIG

Model	VarioProtect XL W
Article no.	1654005

Technical Data	
View pane	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 classes	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	450 g



Spare parts VarioProtect XL W

No.	Designation	PU	Art. no.
1	Outer lens	10	1662020
2	Inner lens	10	1662021
3	Welder's helmet casing	1	1662024
4	Sweatband for forehead	1	1662023
5	Headband complete	1	1662022

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

VarioProctect XL W

VarioProctect L
VarioProctect XL

Speedglas® Automatic welders' helmets – the must haves

SPEEDglas 9100 – The new generation! tailor-made protection for welders.

- **Previously unknown safety and comfort!**
- 3M 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 40-1300 ms,
UV/IR protection class 13 permanent, light shade level 3, safety shade level 5,
2x 3V Lithium battery

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.

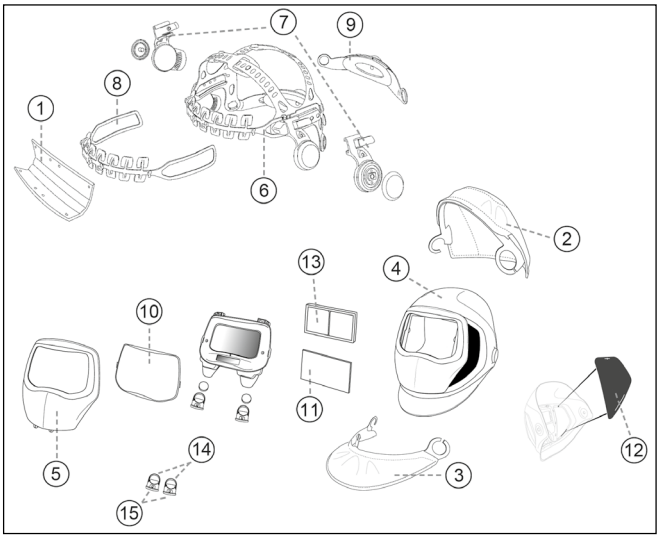
Two adjustable cross-straps enhance the mask stability and optimise the weight distribution

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

Welding visor with side windows and automatic welders' filter	
Designation	**Art. no.**
SPEEDglas 9100 V SF DIN 5/8/9-13	1621971
SPEEDglas 9100 X SF DIN 5/8/9-13	1621961
SPEEDglas 9100 XX SF DIN 5/8/9-13	1621981

Automatic welders' filter for welders' visor	
Designation	**Art. no.**
SPEEDglas 9100 V SF DIN 5/8/9-13	1620060
SPEEDglas 9100 X SF DIN 5/8/9-13	1620061
SPEEDglas 9100 XX SF DIN 5/8/9-13	1620062



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	1631011	10
	Outer lens, heat-resistant	1631012	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	on request	
14	Batteries, pack of 2	1632012	
15	Battery holder, pack of 2	1634018	

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

New side windows for improved peripheral vision

Breath out system prevents CO_2 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.

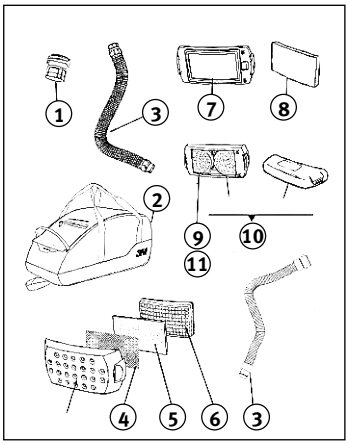
Spot weld convenience mode prevents the eyes from tiring.

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

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

With its elegant, compact design, the international award-winning 3M™ 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	3M™ Speedglas™ 9100 Air welding mask with 9100V ADF***	with 9100X ADF***	with 9100XX ADF***
Article no.	1623001	1623002	1623003
Technical Data			
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	2800 hours	2500 hours	2000 hours
Solar cell	Yes	Yes	No
Class	1/1/1/2		
Dark protection level	Protection level 5, 8, 9–13		
Light shade level	Protection class 3		
UV/IR protection	Protection level 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	Yes		
Exhaust air ducting	Yes (version without Air)		
Number of sensors	3		

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

	Spare parts 3M™ 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 bag	1637020
	Adflo filter housing with air hose QRS, adapter for QRS air hoses, air flow me-ter, pre-filter, spark blocker, particulate filter and rechargeable battery without charger and without strap	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

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

3M™ Speedglas™ dazzle protection filter: single-stage or variable!
The dazzle protection filter in the 3M™ 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.

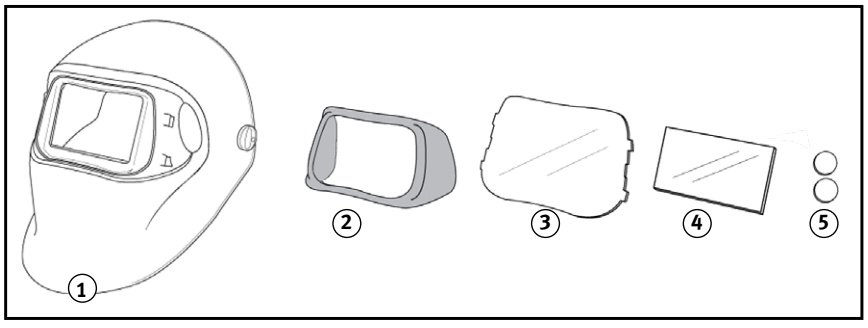
I.e., perfect for electrode welding and MIG/MAG welding; restrictions apply for TIG welding in the low amperage range, and for high-frequency inverters.

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

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

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

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



Model	3M™ Speedglas™ 100V
Article no.	1620100
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 class 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 3M™ Speedglas™ 100V	PU	Article no.
1	Welders' mask, black, with headband	Pc.	1635000
2	Front cover, silver	Pc.	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.)	Pc.	1635007

TIG

Designation	Article 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

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

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 388 DIN EN 12477 design A

Welders' protective sleeves	1611006

Protective spats	1611007

Split leather apron 80 x 100 cm cowhide protector	1611008

Designation	Article no.	PU
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	Article no.	PU
Welders' goggles , clear, shatter-free	1600200	10
Welders' goggles 5 A DIN	1600205	10

- For DIN lenses 50 mm diameter

Designation	Article no.	PU
Flip-up welders' goggles P	1600305	10

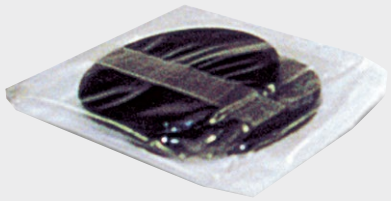
- Soft and stable PVC body
- Also suitable for spectacle wearers
- Flip-up DIN lenses with clear lenses underneath
- For DIN lenses 50 mm diameter, clear, shatter-free and 5 A DIN
- As per EN 166 3 4 F 0196 CE

Designation	Article no.	PU
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	Article no.	PU
Nylon safety goggles adjustable, clear, shatter-free	1600500	10
Nylon safety goggles adjustable 5 A DIN	1600505	10

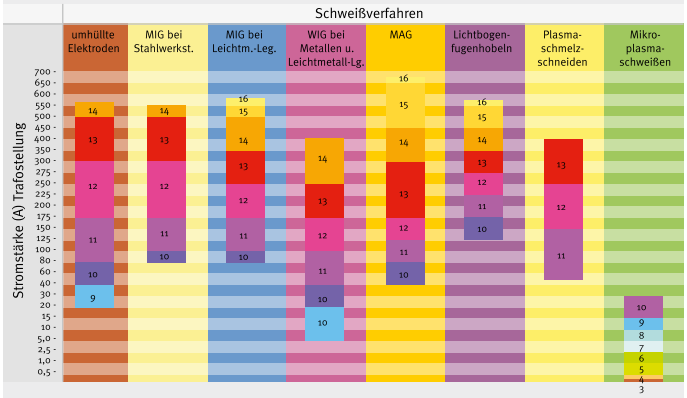
- Endpiece length and angle adjustable
- Lightweight and comfortable design
- Moulded lens 66 x 56 mm convex



Designation	Article no.	PU
DIN lenses, 5 A DIN round, 50 mm diameter	1600805	10
DIN lenses, clear, shatter-free round, 50 mm diameter	1600800	10

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).



Protection class	Flame cutting (l. oxygen/hr.)
3 FW 1 DIN	Simple flame cutting work
4 FW 1 DIN	‹ 900 l
5 FW 1 DIN	900 - 2000 l
6 FW 1 DIN	2000 - 4000 l
7 FW 1 DIN	4000 - 8000 l
8 FW 1 DIN	› 8000 l

Protection class	Flame cutting (l. oxygen/hr.)
3 FW 1 DIN	Simple flame cutting work
4 FW 1 DIN	‹ 900 l
5 FW 1 DIN	900 - 2000 l
6 FW 1 DIN	2000 - 4000 l
7 FW 1 DIN	4000 - 8000 l
8 FW 1 DIN	› 8000 l

Designation	Article no.
Manual shield D	1600610
▶ Made of diamond fibre, straight design ▶ For lens size 90 x 110 without safety visor	

Manual shield D	1600620
▶ Made of fibreglass right-angle design ▶ For lens size 90 x 110 without safety visors	

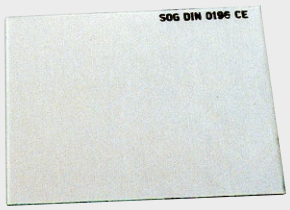
Free view manual shield G	1600600
▶ Made of fibreglass right-angle design ▶ With insulated mechanical system, for lens size 90 x 110 without safety visors	

Head protector G	1600710
▶ Fibreglass with headband ▶ For lens size 90 x 110 without safety visors	

Head protector P	1600720
▶ Made of polypropylene with headband ▶ For lens size 90 x 110 without safety visors	

Designation	Article no.
Headband with latch adjustment	1600711
▶ For head protector G ▶ Continuously variable ▶ With sweatband for forehead	
Headband for head protector P	1600721

Designation	Article no.
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
1000 hour visor 90 x 110	
Plastic CR 39	1601310

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 wall

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

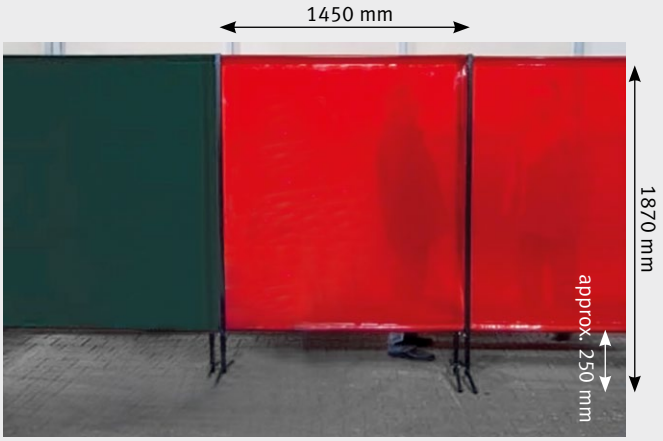


Figure shows multiple safety walls in series

Designation	Weight	Art. no.
TransEco safety wall 1450 V red-orange 1450 x 1870 mm	9.3 kg	1611450
TransEco safety walls 1450 V dark green matt 1450 x 1870 mm	9.3 kg	1611451
TransEco safety walls 2050 V red-orange 2050 x 1870 mm	10.5 kg	1612000
TransEco safety walls 2050 V dark green matt 2050 x 1870 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, 1300 mm width x 1600 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
- Certifed as per DIN EN 1598, hazard class ‹ 1

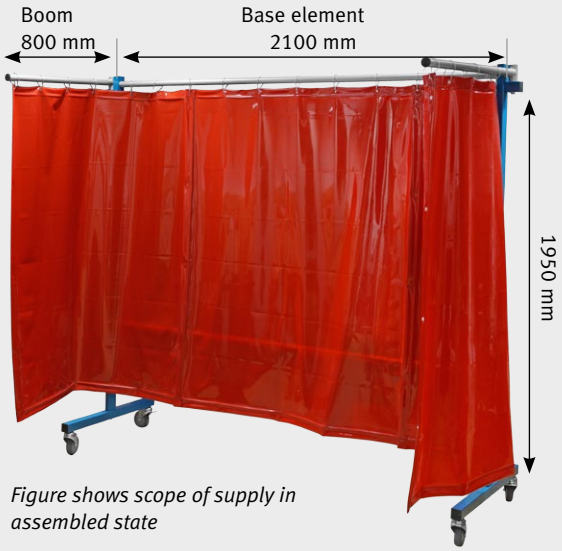


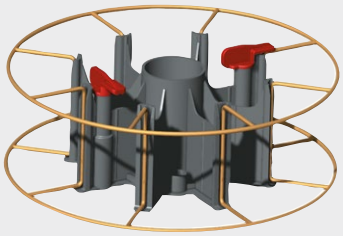
Figure shows scope of supply in assembled state

Designation	Weight	Art. no.
TransFlex safety wall with non hemmed curtain, red-orange 3700 x 1950 mm	35 kg	1613000
TransFlex safety wall with non hemmed curtain, dark green 3700 x 1950 mm	35 kg	1613001

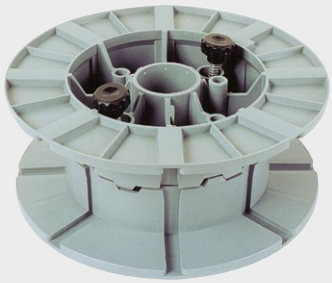
Typical application:

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

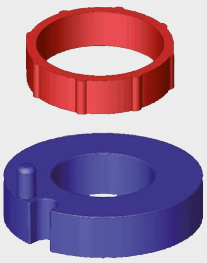
Designation	Article no.
Basket spool adapter KA 1	1110001
▶ Pluggable	



Designation	Article no.
Basket spool adapter KA 2	1110005
▶ With quick release coupling	



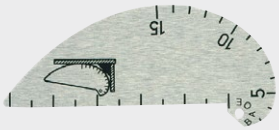
Designation	Article no.
Basket spool adapter KA 3	1110006
▶ Two-part	



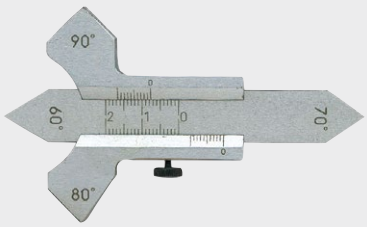
Designation	Article no.
Centring adapter for D 200 spools	1110007
▶ Two-part	

Designation	Article no.
MIG/MAG special gun	
Size 1, for 12-15 mm tips	1071000
Size 2, for 15-18 mm tips	1072000
▶ 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	

Designation	Article no.
Argon/CO_2 pressure regulator with content and operation manometer	
Content manometer SK Ø 63 mm	1700058
Pressure manometer SK Ø 63 mm	1700059
Pressure manometer SK Ø 50 mm	1700451
Content manometer SK Ø 50 mm	1700452



Designation	Article no.
Weld gauge SL 1	1252201
▶ Made of aluminium	



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

Designation	Article no.
Tip spray 400 ml (VE 12)	1076401
▶ Water-free	
▶ Silicon-free, odourless and CFC-free	
▶ Releasing agent on plant basis	

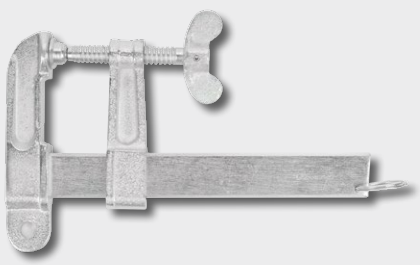
Designation	Article no.
Pratica 1 (260 A- 35% DC/electrodes max. 3.2 mm)	1240123
Pratica 2 (350 A- 35% DC/electrodes max. 5 mm)	1240143
Pratica 3 (520 A- 35% DC/electrodes max. 8 mm)	1240163

- Insulated as per EN 60974-11 with impact-proof insulated shells made of glass fabric laminate for Allen cable shoe connection

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

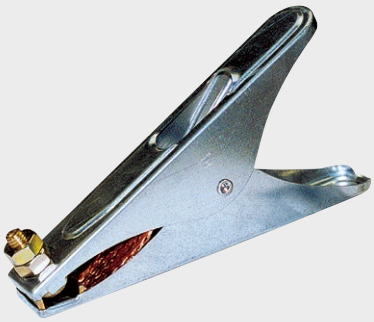
Designation	Article no.
Electrode holder Superior 4	1240040

- 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



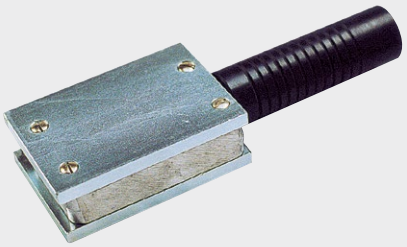
Designation	Article no.
Terminal welding clamp made of steel 400 A	1250140
Terminal welding clamp made of steel 600 A	1250160

Tempered cast, clamping width 150 mm, reach 80 mm, with cable strain relief



Designation	Article no.
Earth 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	Article no.
Earth clamps Nevada as per BS 638-5 CE	
Nevada 3 (300 A - 60%/400 A - 35%)	1240235
Nevada 5 (400 A - 60%/500 A - 50%)	1240265



Designation	Article no.
Magnetic terminal clamp MPK 400 A	1240340
Magnetic terminal clamp MPK 400 A	1240360

- Excellent magnetic hold on pipes

Designation	Article no.
Chipping hammer	1250300

- approx. 440 g
- Oval tube Ø 28 mm
- All steel construction

Designation	Article no.
Welding workplace equipment	
SPA 16 mm²/KS 10-25 mm²/ Pratica 1/Earth clamp 200 A	1240400
SPA 25 mm²/KS 35-50 mm²/ Pratica 1/Earth clamp 200 A	1240445
SPA 35 mm²/KS 35-50 mm²/ Pratica 2/Earth clamp 600 A	1240450

- Welding cable PVC 5 m with electrode holder and welding cable plug
- Earth cable PVC 3 m with earth 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	Article no.
Welding cable 5 m pre-assembled	
25 mm²/10-25mm2/9 mm pin/M8	1250227
35 mm²/16-35 mm2/13 mm pin/M10	1250236
50 mm²/35-50 mm2/13 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 earth clamp or electrode holder

Designation	Article no.
Welding cable per metre 16 mm²	1250316
Welding cable per metre 25 mm²	1250325
Welding cable per metre 35 mm²	1250335
Welding cable per metre 50 mm²	1250350
Welding cable per metre 70 mm²	1250370

- As per H01 N2 D VDE 0250, part 6
- Highly flexible
- Cold- and flame-resistant

Earth cable 4m, complete with earth clamp	Article no.
16 mm², KS 25/9 mm, clamp 200 A	1250215
25 mm², KS 25/9 mm, clamp 200 A	1250224
16 mm², KS 50/13 mm, clamp 200 A	1250216
25 mm², KS 50/13 mm, clamp 200 A	1250225
35 mm², KS 50/13 mm, clamp 400 A	1250235
50 mm², KS 50/13 mm, clamp 600 A	1250250
70 mm², KS 70/13 mm, clamp 600 A	1250270

Welding cable 4 m complete with electrode holder	Article no.
16 mm², KS25/9 mm, electrode holder 260 A	1250353
25 mm², KS25/9 mm, electrode holder 260 A	1250354
16 mm², KS50/13 mm, electrode holder 260 A	1250360
25 mm², KS50/13 mm, electrode holder 260 A	1250361
35 mm², KS50/13 mm, electrode holder 400 A	1250362
50 mm², KS50/13 mm, electrode holder 600 A	1250363
70mm², KS50/13mm, electrode holder 600A	1250364

Designation	Article no.	PU
Welding cable coupling connector KS 25, 10-25 mm²	1250635	10
Welding cable coupling connector KS 50, 35-50 mm²	1250650	10

Designation	Article no.	PU
Welding cable coupling socket KB 25, 10-25 mm²	1250735	10
Welding cable coupling socket KB 50, 35-50 mm²	1250750	10

Designation	Article no.	PU
Welding cable installable socket EB 25, 10-25 mm²	1250836	10
Welding cable installable socket EB 50, 35-50 mm²	1250851	10

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% CO_2)				
Size	**Content**	**Length**	**Weight**	**Art. no.**
5 l	1.2 m³	520 mm	6 kg	1741005
10 l	2.4 m³	820 mm	18 kg	1741010
20 l	4.7 m³	840 mm	40 kg	1741020
50 l	11.8 m³	1515 mm	87 kg	1741050
Argon (99.996 Vol. %)				
Size	**Content**	**Length**	**Weight**	**Art. no.**
5 l	1.1 m³	520 mm	6 kg	1741006
10 l	2.1 m³	820 mm	17 kg	1741012
20 l	4.3 m³	840 mm	40 kg	1741021
50 l	10.7 m³	1515 mm	85 kg	1741055
for V2A + ALU (TIG/alum. soldering/MIG)				
Argon mixed gas (97.5 % Argon, 2.5% CO_2)				
Size	**Content**	**Length**	**Weight**	**Art. no.**
10 l	2.1 m³	820 mm	17 kg	1744010
20 l	4.3 m³	840 mm	40 kg	1744020
For V2A welding (MAG)				
Oxygen* (gas welding)				
Size	**Content**	**Length**	**Weight**	**Art. no.**
10 l	2.1 m³	845 mm	20 kg	1743010
20 l	4.3 m³	810 mm	40 kg	1743020
50 l	10.0 m³	1620 mm	85 kg	1743050
Acetylene* (gas welding)				
Size	**Content**	**Length**	**Weight**	**Art. no.**
10 l	1.6 m³	850 mm	25 kg	1742010
20 l	3.2 m³	840 mm	42 kg	1742020
50 l	6.4 m³	1620 mm	95 kg	1742050

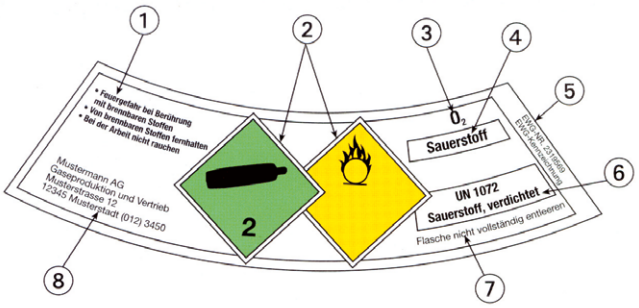
*Only available in Germany

Fill [1] Mixed gas (82 % Argon, 18% CO_2)	
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% CO_2)	
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:

1. Risiko und Sicherheitssätze
2. Gefahrzettel
3. Zusammensetzung des Gases beziehungsweise des Gasgemisches
4. Produktbezeichnung des Herstellers
5. EWG-Nummer bei Einzelstoffen oder das Wort „Gasgemisch"
6. Vollständige Gasbenennung nach GGVS
7. Herstellerhinweis
8. Name, Anschrift und Telefonnummer des Herstellers

Designation	Article no.
Cylinder holder 20	1740020

- For 20 l cylinders
- Prevents damage to connecting cable, torch, earth cable and pressure regulator
- Keeps things clear-cut and tidy
- Tip spray always available and will not fall over

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 St 12, St 13, St 14
shipbuilding steels A, B, C, D, E;
pressure vessel plate 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 E4
- Low alloy wire electrode for joining and deposit welding
- Shield gas: CO2 and mixed gases

Basket spool K 300 longitudinally wound 16.0 kg	Article no.
0.8 mm	1112008
1.0 mm	1112010
1.2 mm	1112012
D 300 spool, normally wound 15.0 kg	
0.8 mm	1110008
D 300 spool, normally wound 5.0 kg	
0.8 mm	1110108
D 200 spool, normally wound 5.0 kg	
0.6 mm	1110206
0.8 mm	1110208
1.0 mm	1110210

***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 St 12, St 13, St 14
Shipbuilding steels A, B, C, D, E;
pressure vessel plate 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 F 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	Article 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 base materials:
With MT-FD: St 33, St37-2 to St52-3, St37.4-St52.4, St35.8, St45.8, St37 to St52, HI, HII, 17 Mn 4

Basket spool D 200 normally wound 4.5 kg	Article no.
MT-FD 0.9 mm	1132000
Basket spool K 300 longitudinally wound 15.0 kg	
MT-CS 1.2 mm	1132001

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	Article 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	Article 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	Article 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	Article no.
1.0 mm	1124010
1.2 mm	1124012
D 200 spool 2.0 kg	
1.0 mm	1124210

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.

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	Article no.
0.8 mm	1132008
1.0 mm	1132010
1.2 mm	1132012
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	Article 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	Article 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	Article 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, 1.4435, 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	Article 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, 1.441 0, 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. Work 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	Article 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 7.0 kg	Article 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/mm²	550 N/mm²	40 %	70 J	200 HB
1.4551	320 N/mm²	580 N/mm²	30 %	65 J	220 HB
1.4430	330 N/mm²	540 N/mm²	35 %	80 J	210 HB
1.4576	350 N/mm²	590 N/mm²	30 %	50 J	220 HB
1.4842	300 N/mm²	550 N/mm²	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/mm²	80-100 N/mm²	15-20 %
3.3556	100-135 N/mm²	220-260 N/mm²	15-25 %
3.3548	110-150 N/mm²	275-335 N/mm²	15-20 %
3.2245	min. 50 N/mm²	120-150 N/mm²	10-18 %

Aluminium filler wires - applications

Material no.:	Ampere/wire Ø				
	0.8 mm	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				
Abbreviation	Oxide additive		Contamination	Tungsten
	% m/m	Type	% m/m	% m/m
W	-	-	‹ _ 0.20	99.8
WT 20	0.35 to 0.55	ThO2	‹ _ 0.20	Remainder
WC 20	1.80 to 2.20	CeO2	‹ _ 0.20	Remainder

Marking		
Abbreviation	Colour code as per RAL	
	Colour tone	Colour no.
W	Green	6018
WT 20	Red	3000
WC 20	Grey	7011

Wire Ø	Ampere
1.6 mm	24-65 A
2.4 mm	60-120 A
3.2 mm	120-180 A
4.0 mm	150-225 A

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	PU	Article 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	PU	Article 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 the 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	PU	Article 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	PU	Article 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	PU	Article 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	PU	Article 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	PU	Article 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	PU	Article 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: l 99.5, Al 99, E-Al 99.5
- Welding pure aluminium and aluman
- Shield gas: Pure argon

Designation	PU	Article 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

TIG welding sticks for hardfacing

W 600 material no. 1.4718 DIN 8555

- Materials and application:
  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	PU	Article 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	PU	Article 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	PU	Article 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	PU	Article 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	PU	Article 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	PU	Article 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, 1.441 0, 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	PU	Article 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 the following base materials:
  1.4762, 1.4832, 1.4837, 1.4841, 1.4845, 14848, 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	PU	Article 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

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
BV 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)
PE (ü) overhead
PF (s) rising (bottom up)
PG (f) descending (top down)

3. Current type

=+ Direct current, electrode on plus pole
=- Direct current, electrode on minus pole
~ Alternating current

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
Current type/welding position =- ~/PA, PB, PC, PE, PF, PG

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

Schweißkraft RR6
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
Current type/welding position =- ~/PA, PB, PC, PE, PF

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

3 packs in outer packaging per order

Schweißkraft RR6
Factory designation E 51 32 RR6, E38 0 RR12, E 6013 as per DIN 1913/8529/EN 499/ AWS A5.1
Current type/welding position =+ ~/PA, PB, PC, PE, PF

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, 5E 6013 as per DIN 1913/DIN EN 499/ AWS A5.1
Current type/welding position =+ ~/PA, PB, PC, PE, PF

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
Current type/welding position =+ ~/PA, PB, PC, PE, PF

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

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 Pack x pc.	Weight	Art. no.
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.
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, approx. E 307-16 as per DIN 8556/AWS A5.4
Current type/welding position	=+ ~/PA, PB, PC, PE, PF
Ø in mm	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	=+ ~/PA, PB, PC, PE, PF
Ø in mm	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 NI	
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.
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 materia. 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/ca. 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.
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.

1. Certifications

ABS	American Bureau of Shipping
BV	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)
PE	(ü) overhead
PF	(s) rising (bottom up)
PG	(f) descending (top down)

3. Current type

=+	Direct current, electrode on plus pole
=-	Direct current, electrode on minus pole
~	Alternating current

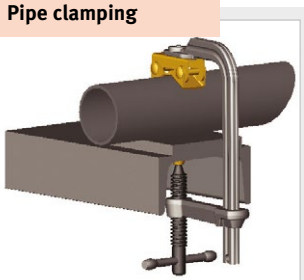
USZ model range - 4-in-1 all-steel screw clamp With locking handle

- 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

Clamping

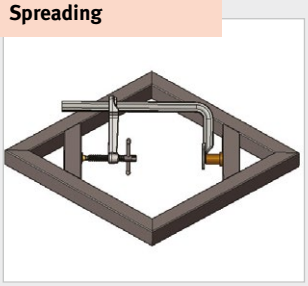
Standard application, efficient and easy to perform

Pipe clamping



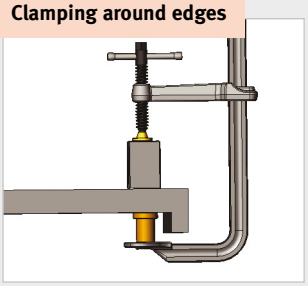
No problem with the self-adjusting V clamping set

Spreading



fast retooling with just a few actions

Clamping around edges



Clamping around edges with bolt-on additional block

Incl. exchangeable V clamping set and additional block for clamping round bends and spreading

Accessories

Magnetic V clamping attachment *Article no.: 1790006*

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

Accessories

V clamping attachment
Article no.: 1790005

Magnetic V clamping attachment
Article no.: 1790006

HZ 178 - Fig. shows the scope of delivery

HZ 254 - Fig. shows the scope of delivery

Additional block clamping around edges and spreading
Article no. 1790007

Model	max. clamping force	Span	Reach	Fixed bracket cross-section	Thread	Weight	Article no.
USZ 216	550 kg	216 mm	121 mm	24 x 12 mm	M 10	1.9 kg	1790001
USZ 318	1100 kg	318 mm	140 mm	30 x 14 mm	M 10	3.5 kg	1790002
USZ 419	1100 kg	419 mm	140 mm	30 x 14 mm	M 10	4.0 kg	1790003
HZ 178	460 kg	178 mm	121 mm	22 x 11 mm	M 10	1.2 kg	1790010
HZ 254	460 kg	254 mm	121 mm	22 x 11 mm	M 10	1.3 kg	1790011

MSZ model range - magnetic screw clamp with quick-clamping spring and magnetic V clamping attachment

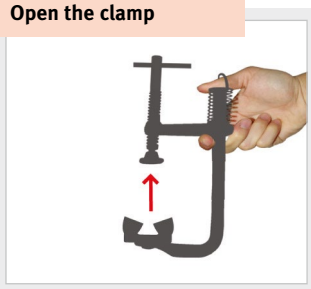
- for steel workpieces
- with spring-loaded sliding bracket for single-handed work
- the clamp holds the workpiece magnetically after positioning
- from quenched and tempered nickel-chrome-plated steel for a long service life
- a V clamping attachment is included in scope of supply
- with threaded hole, extensible through optional V clamping set or bolt

MSZ 90 - Fig. shows scope of supply

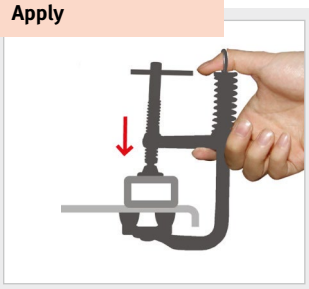
MSZ 140 - Fig. shows scope of supply

Easy single-handed operation in three steps:

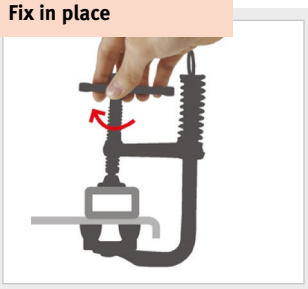
Open the clamp



Apply



Fix in place



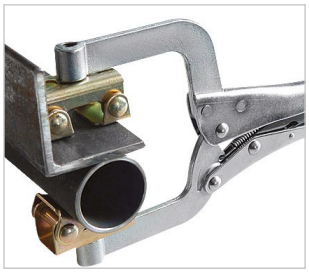
Accessories

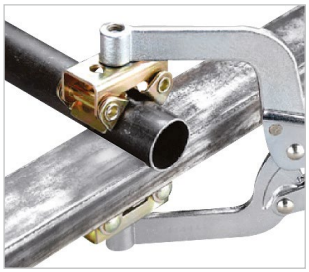
Additional block for clamping around edges
Matches MSZ 140
Article no. 1790022

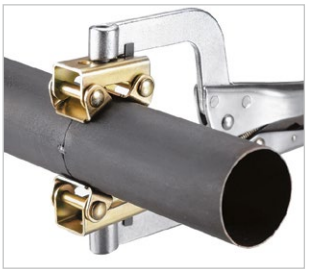
- *Matches RGZ 280*
  Article no. 1790007

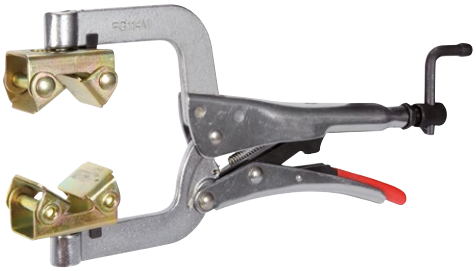
RGZ 280 - Pipe grip specially for holding round workpieces

- With two self-adjusting V clamping attachments, thus also suitable for clamping flat material onto pipes
- single-handed use









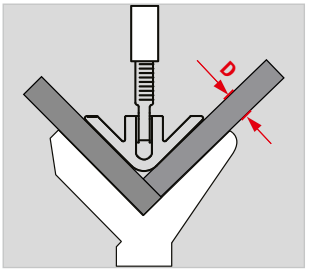
RGZ 280 - Fig. shows scope of supply, optionally available additional block for clamping around edges, see accessories above

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 1/4 inch (32 mm) thickness (D)*

WGZ 76 - Fig. shows scope of supply

Model	max. clamping force	Span	Reach	Cross-section	Thread	Weight	Article no.
MSZ 90	140 kg	90 mm	64 mm	13 x 6 mm	M 6	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	Thread	Weight	Article no.
RGZ 280	40 - 64 mm	280 mm	M 10	1.3 kg	1790090

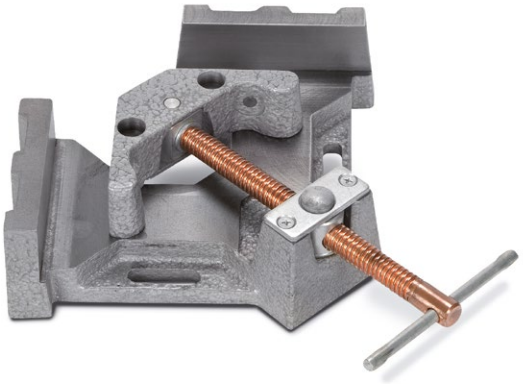
Model	max. clamping force	Span	Reach	Length		Weight	Article no.
WGZ 76	75 kg	32 mm	76 mm	216 mm	-	0.6 kg	1790080

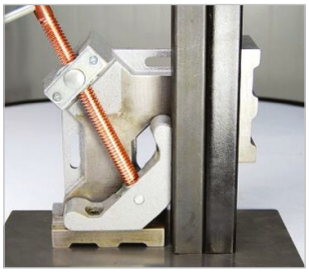
MWS model range – metal angle clamp, 2-axis or 3-axis design

- 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

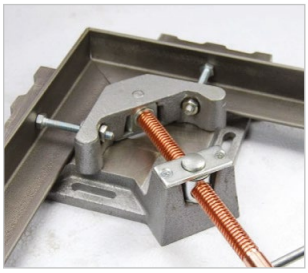
MWS-2 model range

- 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

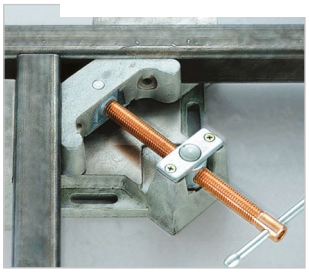




Milled sides for standing up the metal angle clamp



With attachment for improved clamping of sections

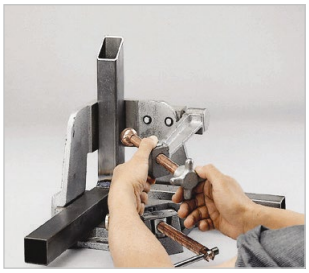


Open design makes it possible to clamp T joints

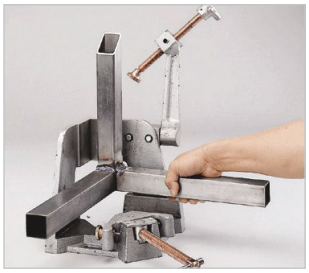
Also suitable for clamping round material

MWS-3 model range

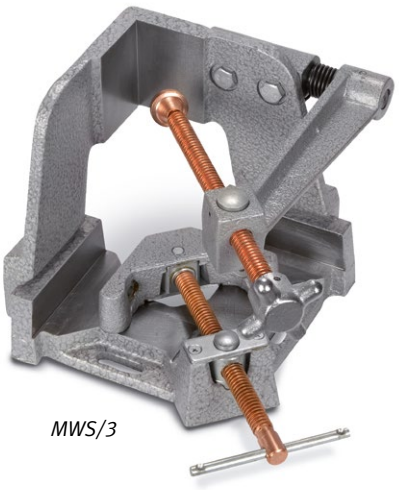
- For workpieces with three axes
- Fast removal of the workpiece simply by moving out the third clamping arm



With quick clamping mechanism for fast and convenient setup (except MWS-2 56)



The third clamping arm can be simply rotated out



MWS/3

Model	Span	Jaws length/height	T clearance	Weight	Article no.
MWS-2 56	56 mm	90 x 33 mm	47 mm	4.0 kg	1790099
MWS-2 95	95 mm	122 x 35 mm	62 mm	5.0 kg	1790100
MWS-2 121	121 mm	135 x 64 mm	100 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

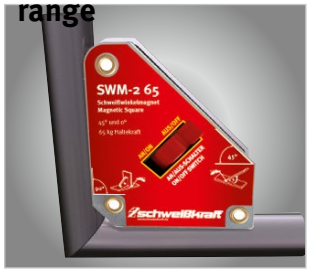
SWM-2 and SWM model range – switchable welding angle magnets for fixing sheet metal, round and square workpieces or pipes

- With strong magnetic holding for 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 35

SWM-2 65

SWM-2 model range



For holding metal workpieces at 45° or 90° angles

SWM model range

- For holding metal workpieces at 90° angle
- Pole piece with prism, thus suitable for flat and round material

SWM 35

SWM 70

Professional design for exacting quality requirements

Two independently acting on/off switches

VSWM model range - adjustable welding angle magnet - for continuously variable angle adjustment between 30° and 2

- With strong magnetic holding for 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

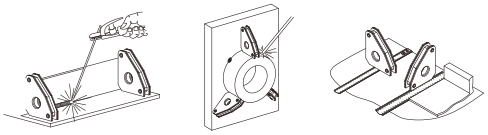
Scope of supply WM 90:
· 2 angle magnets each

Model	Holding force*	Angle	Dimensions	Weight	Article 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	Article 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 holdin

- 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	Amperage	Duty cycle	Holding force	Dimensions	Weight	Article 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

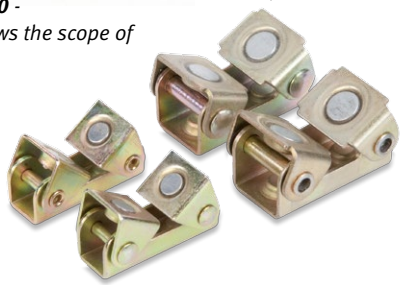
- For use on metal profiles, such as round materials, flat steel or square tubes
- MHA 111 made of die cast alum. for precise work
- Adjustable holding stops vertically or horizontally position and fix the workpiece

MHA 111 -
Fig. shows the scope of delivery

MHA 100 -
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	Article 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

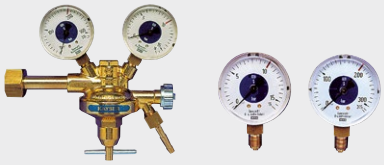
FSSG 20 L
(Similar to fig.)

Universal cylinder trolley 10-20 L
(Similar to fig.)

Designation	Article no.
Universal cylinder trolley	
for 2 x 10-20 l cylinders	1700005
for 2 x 40-50 l cylinders	1700004

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
FSSG 20 L	1700020
Pressure regulator	
Oxygen	1700030
Acetylene	1700040



Replacement manometer Ø 63 mm, connection G1/4	
Acetylene 40 bar	1700041
Acetylene 2.5 bar	1700042
Oxygen 315 bar	1700031
Oxygen 16 bar	1700032
Argon 315 bar	1700051
Argon 30 litres	1700052

Flow check valve	
Acetylene	1700045
Oxygen	1700035

Designation	PU	Article no.
Teflon seal CO^2/Argon	10	1700033
For CO^2/ARGON connection (18 x 11.5 x 2 mm)		

Teflon seal oxygen	10	1700034
For oxygen connection (20 x 11 x 2 mm)		

Fibre seals	10	1700036
For oxygen + argon connection		

Aluminium seals (acetylene)	10	1700046

Designation	Article no.
Manometer protective cap	
Blue - oxygen	1700037
Red - acetylene and other flammable gases	1700047
White/grey - other technical gases	1700057

- For manometer 63 mm diameter
- Slotted type with safety opening

Manometer hoop guard	
Yellow design for flammable gas	1700048
Blue design for oxygen	1700038

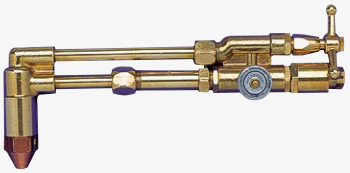
- Protects the manometer against damage

KEK/17 Set	1700117

- 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

- Shaft diameter 17 mm



Cutting insert type KEK/17	1700137

- Shaft diameter 17 mm; without tips

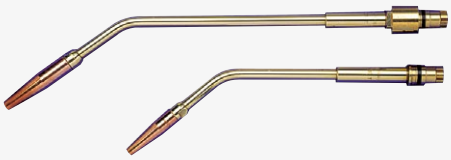
Guide carriage for KEK 17/25.5 mm	1700150

Round guide bar (protractor)	1700151

- For guide carriage KEK 17

Designation	Article no.
Cutting tips	
Cutting tip S0 3-12 mm	1700202
Cutting tip S1 12-25 mm	1700203
Cutting tip S2 25-50 mm	1700204
Cutting tip S3 50-100 mm	1700205

Heating tips for acetylene torch gas	
Size H1 3-100 mm	1700231
Size H2 100-300 mm	1700232



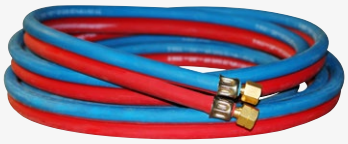
Welding inserts type KEK/17	
Size 10.5- 1.0 mm	1700210
Size 21.0- 2.0 mm	1700211
Size 32.0- 4.0 mm	1700212
Size 44.0- 6.0 mm	1700213
Size 56.0- 9.0 mm	1700214
Size 69.0- 14.0 mm	1700215
Shaft diameter 17 mm	

Copper tips	
0.5-1.0 mm	1700220
1.0-2.0 mm	1700221
2.0-4.0 mm	1700222
4.0-6.0 mm	1700223
6.0-9.0 mm	1700224
9.0-14.0 mm	1700225

Pipe welding insert type KEK/17	
Size 21-2 mm	1700118
Size 32-4 mm	1700119
Size 44-6 mm	1700120
Size 56-9 mm	1700121
Cu pipe 6 mm diameter, flexible, with soldered on mouthpiece	

Pipe welding insert front parts type KEK/17	
Size 21-2 mm	1700122
Size 32-4 mm	1700123
Size 44-6 mm	1700124
Size 56-9 mm	1700125
Cu pipe 6 mm diameter, flexible, with soldered on mouthpiece	

Designation	Article no.	PU
Hoses		
Acetylene 9x3.5 red	1701701	40
Oxygen 6x5 blue	1701702	40
Twin hose 6x9	1701703	40



Gas twin hose crimped	
5 m	1701205
10 m	1701210
15 m	1701215
20 m	1701220
▶ Interior Ø 6mm, exterior Ø 9mm	

Twin hose clamp steel	1701023	10
Galvanized steel		
▶ 16/16 mm		

Magnetic welding mirror	**1701050**
▶ With magnetic foot and movable guide	

Double diverter valve	
1/4” right-hand, oxygen/argon with 6 mm nozzle	1701037
3/8” left-hand, acetylene/propane with 9 mm nozzle	1701040
▶ Nuts and nozzles	

Gas igniter gun shape	1701200	5
▶ With flint 2.6 x 5.0 mm		
▶ nickel-plated		
Replacement flints 2.6 x 5.0 mm	1701201	100

Gas igniter roller file	1701100	10
▶ With flint 3.0 x 20 mm		
Replacement flints 3.0 x 20 mm	1701101	10

Soft soldering

Designation	Article no.
Complete soldering iron	
Handle: G 3/8“ L	1711501

▶ Consisting of: handle, hammer soldering iron 350 g, iron torch, iron holder, wind guard

Handle	
Hose connection: M 10 x 1 LH	1711502

Hammer soldering iron	
Hammer soldering iron 250 g right-angled	1711503
Hammer soldering iron 350 g right-angled	1711504
Hammer soldering iron 500 g right-angled	1711505

Pointed tip soldering iron	
Pointed tip soldering iron 250 g	1711506
Pointed tip soldering iron 350 g	1711507

Wind guard

Iron torch

Iron holder

Wind guard/iron torch/iron holder	
Wind guard	1711508
Iron torch	1711509
Iron holder	1711510

Soldering iron complete for propane	
G 3/8“ LH	1711500

▶ 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	Article no.
Propane handle	1711403

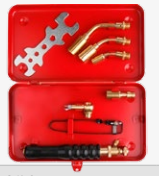
With main shut-off valve, torque lever and controllable pilot flame setting
Operating pressure: 1.5 - 4 bar
Hose connection: G 3/8“ LH, connection for insert: M 14 x 1

Propane soft soldering inserts	
Size 3 drill hole 3 mm	1711404
Size 5 drill hole 5 mm	1711405
Size 7 drill hole 7 mm	1711406
Operating pressure: 1.5 - 2.5 bar	

Propane hard soldering inserts	
Size 12 for copper pipes ø 12 mm	1711503
Size 14 for copper pipes ø 18 mm	1711504
Size 17 for copper pipes ø 22 mm	1711505
Size 20 for copper pipes ø 28 mm	1711409
Operating pressure: 1.5 - 2.5 bar	1711410

Torch head - stainless steel/aluminium	
ø 30 mm, approx. 600 g/h*; 15.5 kW/h at 1.5 bar	1711411
ø 40 mm, approx. 2,000 g/h*; 27 kW/h at 1.5 bar	1711412
ø 50 mm, approx. 3,000 g/h*; 47.6 kW/h at 1.5 bar	1711413
ø 60 mm, approx. 5,000 g/h*; 70.8 kW/h at 1.5 bar	1711414
ø 80 mm, approx. 6,200 g/h*; 93.6 kW/h at 1.5 bar	1711415
Operating pressure 1.5 - 2.5 bar *Gas consumption at 1.5 bar	

Connecting pipe steel	
Connecting pipe 75 mm length	1711416
Connecting pipe 150 mm length	1711417
Connecting pipe 220 mm length	1711418
Connecting pipe 350 mm length	1711419
Connecting pipe 600 mm length	1711420
Connecting pipe 700 mm length	1711421
Connecting pipe 100 mm length	1711422
Cap nut M 14 X 1 on one side, other side AG M 20 x 1	



Hard soldering set for propane	1711400

▶ 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	Article no.
Professional heating set for propane	1711401

- Consisting of propane handle, connecting pipe 600 mm, torch head ø 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	Article no.
Miniature cylinder for propane 425 g	1711520

- TÜV approved. Seamless drawn steel cylinder with valve and hook
- Connection: G 3/8“ LH
- With foot

Filling neck	1711521

- For filling the miniature cylinder 425 g from 5 kg and 11 kg cylinders (domestic connection)

Liquid gas low pressure regulator "Mini"	1711522

- 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

- 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

- 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	Article no.
High pressure hoses PB 30	
High pressure hose 6.3 x 5 mm G 3/8“LH x G 3/8“ LH x 5000 mm	1711525
High pressure hose 6.3 x 5 mm G 3/8“LH x G 3/8“ LH x 10000 mm	1711526
High pressure hose 4 x 4 mm G 3/8“LH x G 3/8“ LH x 2000 mm	1711527
High pressure hose 4 x 4 mm G 3/8“LH x G 3/8“ LH x 5000 mm	1711528

Piezo soldering system

Designation	Article no.
Propane torch system	

Multiple handle with plug-lock connection	1711601

- 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/ø Gas consumption kg/h at 2.0 bar: 0.320	1711602
Hard soldering iron gas outlet 19 mm/ø Gas consumption kg/h at 2.0 bar: 0.41	1711603
Soft soldering iron gas outlet 5 mm/ø Gas consumption kg/h at 2.0 bar: 0.12	1711604
Hard soldering iron gas outlet 7 mm/ø Gas consumption kg/h at 2.0 bar: 0.222	1711605

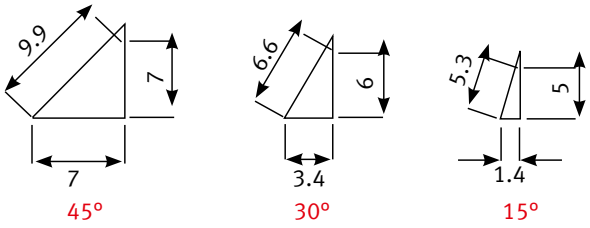
Similar to fig.

Hard and soft soldering set with cylinder	1711600

- 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

KE 100 – Edge deburrer for exterior edges, for mobile and stationary use

- For creating clean visible edges and preparing welds
- Device for stationary or mobile use
- Easy and quick change-over from stationary to mobile use with wing nuts and removable foot
- Tool-free setting of the chamfer depth
- Standard angle settings at 15°, 30° and 45°
- Manual feed
- patented technology
- Handy and powerful device
- For machining construction steel, non-ferrous metals and plastics
- Functional arrangement of the handles allows for safe guiding of the device in mobile operation
- Guide plate equipped with adjustable ball heads for smooth running of the workpiece
- Automatic safety shutoff in case of overheating



Scope of supply
Edge deburring device KE 100
- *Milling head with cutting plates*
- *3 rubber feet*
- *Workpiece slide*

Model	KE 100
Article no.	3992000

Technical Data	
Chamfer angle	15° / 30° / 45°
Chamfer width at 15°	approx. 5 mm
Chamfer width at 30°	approx. 6 mm
Chamfer width at 45°	approx. 7 mm
Electrical connection	230 V
Output	750 W
Speed (continuously variable)	2,000 - 5,000 rpm
Dimensions (L x W x H)	360 x 230 x 280 mm
Weight	10.5 kg

SM 100 - Satinising machine for grinding, polishing, satinising, structuring, and for cleaning soiled surfaces, or removing paint residues

- For grinding, smoothing, brushing, structuring, roughing, satinising and polishing
- For processing stainless steel, cast iron, aluminium, non-ferrous metals, plastics, etc.
- Highly resilient motor with soft start and overload protection
- With constant electronics for constant speed, even under load
- Adapts perfectly to the workpiece by continuously variable speed adjustment
- Speed can be set conveniently via thumbwheel on rubberised handle
- Very robust gear housing
- Tire-free work thanks to ergonomic two-handed operation
- With hook and loop fastener for reworking of assembled stainless steel railings

Scope of supply
- *Plastic case*
- *Pneumatic rubber roller*
- *Air pump for pneumatic rubber roller*
- *Grinding sleeve non-woven coarse*
- *Grinding sleeve K 60*
- *Grinding sleeve K 100*
- *Grinding sleeve K 180*
- *Drive roll for sanding belts*
- *Hook and loop non-woven*
- *Hook and loop sanding belt K 120*
- *Hook and loop drive belt*
- *Non-woven roller fine*
- *Spacer ring set 10-part*

Model	SM 100
Article no.	3990100

Technical Data	
Sanding disc Ø	100 mm
Grinding width	30 – 100 mm
Shaft seating	Ø19 mm x 100 mm
Output	1200 W
Electrical connection	230 V / 50 Hz
Weight approx.	4.8 kg

Scope of supply SM 100

RSM 620 - Pipe grinding machine with pivoting grinding arm

- With continuously variable setting of the belt speed for optimum adjustment for various applications
- Pipe grinding machine with pivoting grinding arm for optimum adjustment to the required grinding position
- The flexible sanding belt guide allows the sanding belt to adapt to the pipe diameter in hand.
- Tire-free work thanks to ergonomic two-handed operation
- Handle can be screwed in at various positions for optimised handling
- Weld grinding on flat surfaces without tilting or ripple thanks to large contact roller
- Ideal for grinding of stainless steel welds without blue discolouration due to heat dissipation via the sanding belt
- Highly resilient motor with soft start and overload protection
- With constant electronics for constant belt speed, even under load
- Easy sanding belt replacement without tools
- Speed can be set conveniently via thumbwheel on the handle

Scope of supply RSM 620:
Handle
- *Sanding belt 60 grain*
- *Sanding belt 100 grain*
- *Sanding belt 180 grain*
- *Grinding pad coarse*

Model	RSM 620
Article no.	3990620

Technical Data	
Max. belt length	620 mm
Belt width	40 mm
Pipe Ø min.	15 mm
Belt speed	15 - 28 m/sec.
Output	1500 W
Electrical connection	230 V / 50 Hz

RSM 760 - Pipe grinding device for handy and flexible use for grinding, polishing and satinising work

- Pipe grinding device for handy and flexible use for metalworking, steel construction work and railing construction
- Designed for grinding and polishing pipe constructions
- Specially suited for grinding satinising and high-gloss polishing of installed railings
- Ideal for working in cramped conditions, as the handle rotates through 180°
- Highly resilient motor with soft start and overload protection
- With constant electronics for constant belt speed, even under load
- With continuously variable setting of the belt speed for optimum adjustment for various applications
- Speed can be set conveniently via thumbwheel on the handle
- Easy sanding belt replacement without tools
- 360° circumferential grinding in just two steps
- Premium 270° grinding arm made of lightweight metal with 2 deflection rollers
- Handle can be screwed in at various positions for optimised handling

Fig. shows complete scope of supply of RSM 760

Scope of supply RSM 760:
- *Plastic case*
- *Grinding pad coarse*
- *5 pcs. sanding belt 120 grain*
- *5 pcs. sanding belt 220 grain*

Model	RSM 760
Article no.	3990760

Technical Data	
Max. belt length	760 mm
Belt width	40 mm/20 mm
Pipe Ø min.	15 mm
Belt speed	3 - 12 m/sec.
Output	1200 W
Electrical connection	230 V / 50 Hz

MTS 356 - Metal dry cutting, sawing metal without coolant

- Extremely stable and robust structure
- Easy to transport
- For virtually burr-free sawing of sections and pipes made of steel, iron, copper, brass, aluminium, plastics, composited and stainless steels, without needing a coolant
- For use in metalworking, carpentry, interior fitting, etc.
- Soft-start motor for easier handling on switching on the saw
- Includes prism clamping jaws for clamping pipes as standard equipment
- Easily adjustable clamps
- Stable thanks to die-cast aluminium feet
- Angle for mitre cuts right 45°, left 39°
- With length stop for precise cutting
- With spindle lock for easy saw blade replacement

Scope of supply
4, 6 and 8 mm Allen key
- *Protective goggles*
- *1 Prism clamping jaw*
- *Without saw blade*

Prism clamping jaw
1 pc. included in scope of supply

Chassis
foldable
Art no. 3630000

Model		MTS 356
Article no.		3840355
Technical Data		
Motor output 230 V / 50 Hz		2.2 kW
Speeds		1300 rpm
Cutting range 0°	▭	100 x 180 mm (H x W)
Cutting range 0°	□	120 x 120 mm
Cutting range 0°	○	132 mm
Cutting range right 45°, left 39°	▭	120 x 90 mm (H x W)
Cutting range right 45°, left 39°	□	90 x 90 mm
Cutting range right 45°, left 39°	○	105 mm
Saw blade diameter		Ø 355 mm
Weight		23.5 kg

Metallkraft MBS - particularly quiet and precise mitre metal bandsaws. Ideal for use on the construction site and on the road

- Ideal for sawing steel, aluminium, copper, PVC and Teflon
- Low noise
- Low vibration and wear thanks to special gearbox with two large hardened steel gears
- Guaranteed cutting precision of max. 0.3 mm run-out over 100 mm cut length
- Two moving, adjustable sawband guides with chip scraper made of metal
- DC drive motor, low speed and carbon brushes for up to 10x longer service life
- Electronic temperature and amperage draw monitoring prevents overload
- Cast band pulleys with ground running surface, without rubber supports, thus suitable for dry and wet cutting
- Very stable base plate with anti-slip feet
- Easy to service as all components are easily accessible
- Includes material stop and bi-metal sawband
- MBS 155 K with chassis, coolant device and coolant baffle plate
- Sawband with 10 – 14 teeth included in scope of supply

Manual

MBS 105

MBS 125

MBS 150

Technical Data	MBS 105	MBS 125	MBS 150	MBS 155 K
Article no.	3630105	3630125	3630150	3630152
Technical Data				
Motor output 230 V / 50 Hz	850 W	1200 W	1.5 kW	1.5 kW
Sawband speed	30 – 80 m/min	30 – 80 m/min	30 – 80 m/min	30 – 80 m/min
Sawband dimensions	1335 x 13 x 0.65 mm	1440 x 13 x 0.65 mm	1735 x 13 x 0.65 mm	1735 x 13 x 0.65 mm
Dimensions (L x W x H)	720 x 320 mm	720 x 320 mm	1000 x 390 mm	1000 x 390 mm
Weight	18 kg	19 kg	30 kg	86 kg

Mobilboy 311/50

- Premium universal compressors for home, hobby, trades and on-site work
- Standard equipment includes **high quality Condor pressure switch, filter pressure switch, a premium quick release coupling** and two manometers
- Quality electric motors with powerful torque

Mobile compressors for trades with belt drive

- Two-cylinder high performance, highly efficient grey cast engine
- Very low speed reduces vibration and guarantees a longer service life
- With all safety equipment as standard; delivered ready for connecting
- **ASSY build sample approved** - removes the need for TÜV approval (see below for explanation*)
- Mobile models as of AIRSTAR 403/50: with **premium Condor pressure switch, filter pressure regulator** and **quality quick release couplings**
- **Filter pressure regulator** for a controlled compressed air supply, free of coarse contamination
- Mobile Airprofis additionally with mist oiler

TÜV approval mandatory

MOBILBOY 311/50

AIRSTAR 401/50 E

- *Simple design*
- *With pressure regulator, quick release couplings and pressure switch*
- *Plastic wheels at rear and suction pads at front*

AIRSTAR 853/100

AIRPROFI 853/200

AIRPROFI 853/100

Model	MOBILBOY 311/50	AIRSTAR 401/50 E	AIRSTAR 403/50	AIRSTAR 853/100	AIRSTAR 853/200	AIRPROFI 503/50	AIRPROFI 853/100
Article no.	2003330	2009413	2009430	2009831	2009832	2018530	2018831
Technical Data							
Highest flow rate	284 l	365 l	390 l	850 l	850 l	510 l	850 l
Fill capacity approx.	190 l	266 l	285 l	680 l	680 l	400 l	680 l
Maximum pressure	10 bar	10 bar	10 bar	10 bar	10 bar	10 bar	10 bar
Pressure vessel capacity	50 l	50 l	50 l	100 l	200 l	50 l	100 l
Cylinders/stages	1/1	2/1	2/1	2/2	2/2	2/1	2/2
Speed	2,850 rpm	1375 rpm	1470 rpm	1240 rpm	1240 rpm	1310 rpm	1240 rpm
Motor output	2.2 kW	2-2 kW	2.2 kW	5.5 kW	5.5 kW	3 kW	5.5 kW

The handy universal compressors for on-site applications

- Quality electric motors with high torque and motor starting current limiter to avoid start-up problems
- Thermal overload protection protects the motor against overheating and overload
- Fully automatic On/Off operation
- Good protection of all parts exposed to risk during transportation
- Rubberised carrier handle prevents slipping
- With all safety devices in a compact design for convenient transportation
- Perfectly suited for on-site applications thanks to all-round protection

EQUIPMENT		
Electric models	Standard	
○		Automatic pressure switch
	●	Automatic CONDOR pressure switch
○	●	One manometer each for displaying the vessel and working pressure
	●	Water trap for separating dirt, oil and condensate
○		Two single-handed, quick release couplings
	●	Two premium, single-handed, quick release couplings
○		Aluminium compressed air lines
	●	Copper compressed air lines
	●	10-year guarantee on the pressure vessel against corrosion penetration

Model	COMPACT-AIR 311/20	COMPACT-AIR 321/20
Article no.	2005290	2005300
Technical Data		
Intake capacity	284 l/min	310 l/min
Fill capacity approx.	190 l/min	240 l/min
Maximum pressure	10 bar	10 bar
Pressure vessel capacity	20 l	20 l
Cylinders/stages	1 / 1	2 / 1
Speed	2850 rpm	1420 rpm
Motor output	2.2 kW/ 230 V	2.2 kW/ 230 V
Weight	33.5 kg	39.5 kg
Dimensions (L x W x H)	470 x 490 x 720 mm	470 x 490 x 720 mm

COMPACT-AIR 311/20

COMPACT-AIR 321/20

Quality made in Europe

IHG 1500 – induction heater unit

- Extremely versatile for bodywork and work on commercial vehicles thanks to an ample range of accessories (additional accessories available separately)
- Easy to transport due to compact dimensions and low weight of only 4.5 kg

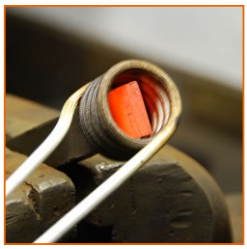
- **Applications**
- Removing minor dents caused by hail without corroding the paintwork
- Removing small trim panels
- Detaching and removing sealing compound and polyfilla
- Treating jammed and corroded parts, such as screws, lugs, seals, hinges, nuts, etc.

- Also suitable for heating and loosening parts that are hard to access (e.g. axle components, ball joints, sensors, etc.), providing a special type of twisted wire is used in the process

Loosening parts that are hard to access by using a special type of twisted wire

For heating and loosening jammed and corroded parts

Easily removing small trim panels



Removing rust

IHG 1500 - ample range of accessories included in the delivery scope *(illustration on the bottom left)*

Model	**IHG 1500**
Article no.	6400015

Technical Data	
Power supply	230 V
Mains frequency	50/60 Hz
Output	1.5 kVA
Fuse	16 A
Degree of protection	IP 21
Output frequency	25 - 60 kHz
Dimensions (L x W x H)	200 x 75 x 140 mm
Device weight	4.5 kg

Control concept

- Targeted, precisely metered and exactly positioned application with the required amount of heat within seconds thanks to cutting-edge microprocessor technology
- Heats up parts to over 800°C
- Fast and easy operation

- Prevents overheating and maintains a high degree of efficiency thanks to two fans
- High degree of operational safety with auto-monitoring feature and on-screen status messages

IHG 1500 delivery scope in black case:
IHG 1500 with spool holder, ①*Side spool M 8,* ②*Side spool M 10,* ③*1 Winding cord,* ④*Spiral spool*

	Accessories	**Article no.**
	Front coil (L = 220 mm) M6 (15)	6411015
	Front coil (L = 220 mm) M8 (19)	6411019
	Front coil (L = 220 mm) M8 (20)	6411020
	Front coil (L = 220 mm) M10 (23)	6411023
	Front coil (L = 220 mm) M12 (26)	6411026
	Front coil (L = 220 mm) M16 (32)	6411032
	Front coil (L = 220 mm) M20 (38)	6411038
	Front coil (L = 220 mm) M22 (45)	6411045
	Side coil (L = 220 mm) M6 (15)	6411115
	Side coil (L = 220 mm) M8 (19)	6411119
①	Side coil (L = 220 mm) M8 (20)	6411120
	Side coil (L = 220 mm) M10 (23)	6411123
②	Side coil (L = 220 mm) M12 (26)	6411126
	Side coil (L = 220 mm) M16 (32)	6411132
	Side coil (L = 220 mm) M20 (38)	6411138
	Side coil (L = 220 mm) M22 (45)	6411145
	Focus - coil with diameter = 20 mm	6411004
③	Winding cord with L = 1,000 mm (flexible heating coil)	6411003
	Flat helical coil (PAD coil)	6411002
④	User-defined heating coil (L=750mm, D=4mm)	6411001

Function and benefits of the induction principle for bodywork and work on commercial vehicles

Function:
The induction heater unit and its accessories exclusively apply non-contact, targeted heat in areas where it is actually necessary. Based on the principle that electromagnetic induction works with conductive materials only so that non-conductive surfaces (such as glass, rubber, plastic, painted surfaces, etc.) are not heated up to prevent damage to these components. Open flames are no longer required and hence the linked fire risk has been almost entirely eliminated.

Application and benefits:
- Fast and easy removal of parts on vehicles by applying heat, e.g. glass, trim panels, stickers, foil, etc.
- Targeted, precisely metered and exactly positioned application with the required amount of heat within seconds thanks to cutting-edge microprocessor technology
- Complete protection of the surrounding areas and no damage to painted surfaces, glass, rubber, plastic, etc.

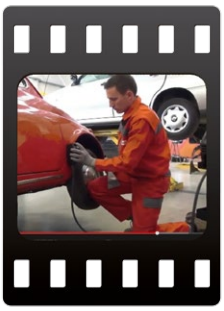
Quality made in Europe

IHG 2400 – induction heater unit

- Extremely versatile for bodywork and work on commercial vehicles thanks to its outstanding performance and wide range of standard accessories (additional accessories available separately)
- Easy to transport thanks to its compact dimensions and a low weight of only 6.0 kg

Application

- Removing dents caused by hail without corroding the paintwork
- Removing larger sections of trim panels
- Treating jammed and corroded parts, such as bolts, nuts, screws, bearings, gear wheels, etc.
- Detaching and removing sealing compound and polyfilla
- Convenient car and commercial vehicle windscreen removal for painting – supports reuse windscreens with integrated seals



Prepare to be fascinated!
For more information, check out our video presentation on www.unicraft.de!

Touching up hailstone dents without damaging the paintwork

Loosening jammed and corroded parts

Only 6.0 kg

***IHG 2400** - wide range of accessories included in scope of delivery (shown bottom left)*

Model	IHG 2400
Article no.	6400100

Technical Data	
Power supply	230 V
Mains frequency	50/60 Hz
Power consumption	2.4 kVA
Output	2.3 kW
Fuse	16 T A
Degree of protection	IP 21
Output frequency	35 - 100 kHz
Dimensions (L x W x H)	390 x 260 x 225 mm
Weight including accessories	12.5 kg
Device weight	6 kg

IHG 2400 scope of supply:
IHG 2400, *(1) combined scraper/lever (3-part), (2) Windscreen remover, (3) Metal remover, (4) Induction pad, (5) pneumatic footswitch*

Induction coil starter set scope of supply
Connection adapter for coils, (9) 1x induction coil V M8+M10, (10) 1x induction coil V M12+M14

Control concept

- Thanks to our innovative overall concept, users benefit from the following features: intelligent control technology and matching
- Accessories:
- Fast and easy operation
- Automatically detects connected accessories
- Manual or automatic mode
- Automatically controls output and frequency
- Acoustic status messages

	Accessories	Article no.
(1)	Combined scraper/lever (unit price)	6410001
(2)	Windscreen remover	6410002
(3)	Metal remover	6410003
(4)	Induction pad	6410004
(5)	Pneumatic foot switch	6410007
(6)	Hail damage repair tool	6410005
(7)	Precision windscreen remover	6410006
	Mobile IHG 2400 cabinet	6410000
	Fibreglass belt set 25 x 50 mm (10 units)	6410008
	Fibreglass belt set 50 x 150 mm (10 units)	6410009
(8)	Induction coil starter kit (connection adapter for coil + 1x V M8/M10, V M12/M14 induction coil each)	6410020
(9)	Induction coil set V M8/M10 (set = 2 units)	6410021
	Induction coil set V M12/M14 (set = 2 units)	6410022
	Induction coil set V M16/M18 (set = 2 units)	6410023
(10)	Induction coil set H M8/M10 (set = 2 units)	6410024
	Induction coil set H M12/M14 (set = 2 units)	6410025
	Induction coil set H M16/M18 (set = 2 units)	6410026

V = vertical/H = horizontal

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