



PROFESSIONAL
WELDING TECHNOLOGY

VAS 821 003
Volkswagen
 Approval



Premium
 Shielded gas welding machine



- Energy efficient
- Labor saving
- Updateable
- Advice & Service
- Local support

ASE 821 003 80 000 - 3 x 400 V
 Item no. 932230
 ASE 821 003 80 023 - 3 x 200 V
 Item no. 932231

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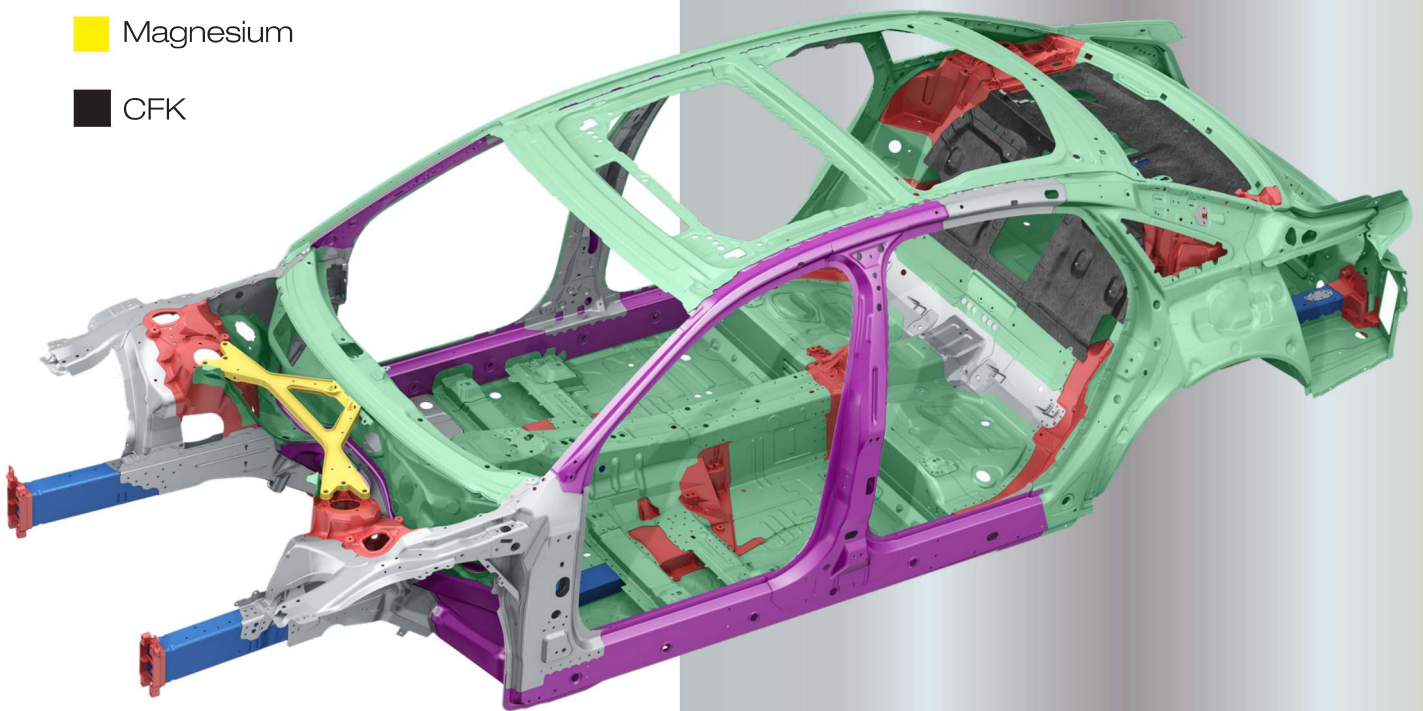
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Scope of delivery VAS 821 003

- 1 x Welding device 400 V incl. castors
- 1 x 3G torches for steel welding, 3 m
- 1 x Kit wire wheels for steel welding 0,6 / 0,8 mm
- 1 x 3G torches for aluminium welding, 3 m
- 1 x Kit wire wheels for aluminium welding 1,0 / 1,2 mm
- 1 x Set current nozzle (5 x 2 pcs.)
- 1 x Storage for 2 x 20 liter gas bottles
- 1 x Ground cable, 5 m
- 1 x User's manual

- Aluminium sheet
- Aluminium profile
- Aluminium casting
- Conventional steel
- Ultra high strength steel
- Magnesium
- CFK

MODERN AND ADVANCED CAR BODY STRUCTURES HAVE THE DEMAND FOR INNOVATIVE AND VERSATILE APPLICABLE WELDING EQUIPMENT.



The 100% synergic welding machines with inverter technology from WS Wieländer+Schill are designed to master all requirements in the field of car body repair with process reliability. A continuous further development of our welding machines guarantees our customers a futureproof investment.

These features are optimally complemented by our services, which are more than above average. A worldwide network of experienced sales partners guarantees first-class consulting and technical knowledge for our customers.

- **MIG brazing - CuSi3, AlBz8, CuAl8**
- **Aluminium welding**
- **Steel welding**
- **Thin sheet steel welding (ACT)**
- **TIG WIG welding**
- **Filler wire welding**
- **Electrode welding**

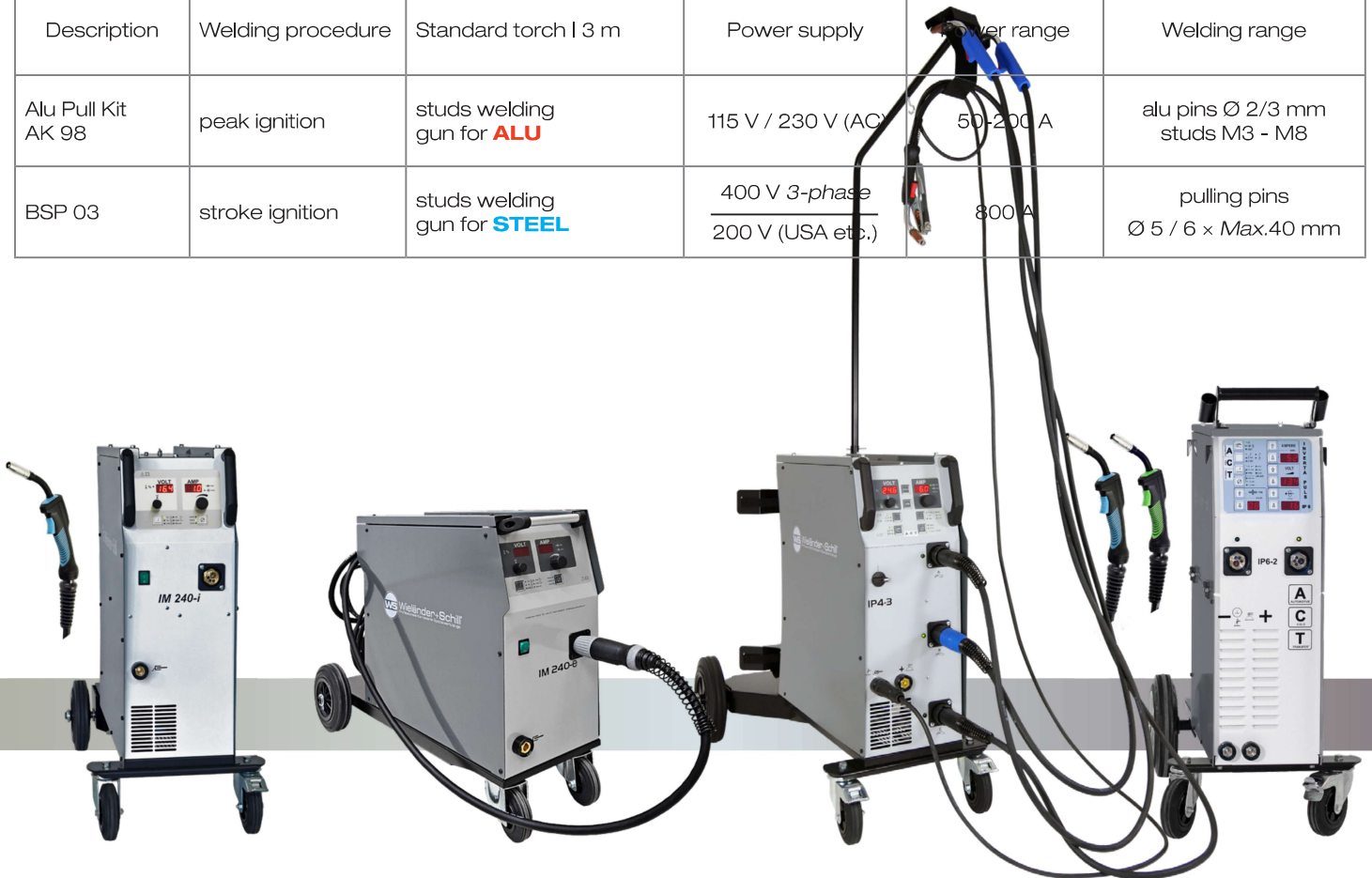
NEU

Description	Configuration	Torch	Power supply	Power range	Pulse	Cycle
IM240-i	STEEL welding 0.6-1.0 mm	1 x F200 3 m	230 V / 1-phase	20-200 A		2
IM240-Eco	STEEL welding MIG brazing 0.6-1.0 mm 0.8-1.0 mm	1x F200 3 m	230 V / 1-phase	20-200 A		2
IP4-3 InvertaPuls	STEEL welding ALU welding MIG brazing 0.6-1.0 mm 0.8-1.2 mm 0.8-1.0 mm	3 x 3G 3 m	$\frac{400\text{ V } 3\text{-phase}}{200\text{ V (USA etc.)}}$	10-240 A	•	2/4
IP6-2 InvertaPuls	STEEL welding MIG brazing 0.8 mm 1.0 mm	2 x F200 3 m	$\frac{400\text{ V } 3\text{-phase}}{200\text{ V (USA etc.)}}$	10-280 A	•	2/4
IP6-2 D InvertaPuls	STEEL welding ALU welding 0.8-1.0 mm 1.0-1.2 mm	2 x 3G 3 m	$\frac{400\text{ V } 3\text{-phase}}{200\text{ V (USA etc.)}}$	10-280 A	•	2/4
IP7-2 InvertaPuls	STEEL welding MIG brazing 0.6-1.0 mm 0.8-1.0 mm	2 x 3G 3 m	$\frac{400\text{ V } 3\text{-phase}}{200\text{ V (USA etc.)}}$	10-280 A	•	2/4
IP7-2 InvertaPuls	STEEL welding ALU welding 0.6-1.0 mm 1.0-1.2 mm	2 x 3G 3 m	$\frac{400\text{ V } 3\text{-phase}}{200\text{ V (USA etc.)}}$	10-280 A	•	2/4

WS TIG 200	TIG welding AC/DC	TIG torch, 4 m	230 V	200 A	TIG only	2/4
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Stud welding machines

Description	Welding procedure	Standard torch 3 m	Power supply	Power range	Welding range
Alu Pull Kit AK 98	peak ignition	studs welding gun for ALU	115 V / 230 V (AC)	50-200 A	alu pins Ø 2/3 mm studs M3 - M8
BSP 03	stroke ignition	studs welding gun for STEEL	$\frac{400\text{ V } 3\text{-phase}}{200\text{ V (USA etc.)}}$	800 A	pulling pins Ø 5 / 6 x Max.40 mm



IM 240-i

IM 240-Eco

IP4-3

IP6-2

Thin sheet welding	TIG WIG DC V2A	Drive	Wire rollers	Wire coil Ø	Gas bottle holder	Updateable	Item no.	ref.
	•	2 drives	4 guidance	1 × K300 < 15 kg	1 × 20 liter	•	341290	page 69
	•	2 drives	4 guidance	2 × D200 2 & 5 kg	1 × 20 liter	•	341288	page 70
•*	•	2 drives	4 guidance	3 × D200 2 & 5 kg	2 × 20 liter (50 l optional)	•	<u>341298</u> 341299	page 68
•*	•	4 drives	4 guidance	2 × D200 2 & 5 kg	1 × 20 liter (50 l optional)	•	<u>331006</u> 332006	page 67
•*	•	4 drives	4 guidance	2 × D200 2 & 5 kg	2 × 20 liter (50 l optional)	•	<u>331007</u> 332007	page 66
•*	•	4 drives	4 guidance	2 × D200 2 & 5 kg	2 × 20 liter (50 l optional)	•	<u>331026</u> 332026	page 64
•*	•	4 drives	4 guidance	2 × D200 2 & 5 kg	2 × 20 liter (50 l optional)	•	<u>331027</u> 332027	page 65

*ACT = Automotive Cold Transfer | welding mode for thin sheets

	MMA / TIG WIG				1 × 5 liter		331061	page 70
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Welding sequence	Welding time	Material	Certification	Weight	Item no.	ref.
up to 20 studs/min. (depending on the diameter)	1-3 ms	aluminium, steel stainless steel, brass metal	UL	11 kg incl. gun	361000	page 80
up to 3 pins/min. (with Ø 6 mm)	1-199 ms (adjustable)	steel and heat resistance steel	UL	32 kg	341001	page 82



IP7-2



TIG 200



AK 98

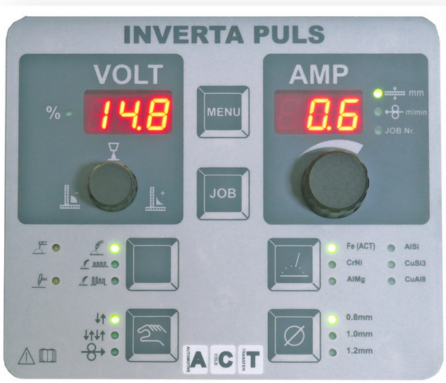


BSP 03

InvertaPuls IP 7-2 ACT	Power supply	Welding power
Item no. 331026 steel / brazing kit	3 x 400 V	10-280 A
Item no. 332026 steel / brazing kit	3 x 200 V	10-280 A

High performance welder for steel and brazing

This welding machine with inverter technology has a very simple, self-explanatory, intuitive operation due to the 2-button handling. The digital synergy control (automatic adjustment) regulates the welding parameters optimally. High-end 2 x 4-roller drive for precise wire feed with extra large 37 mm wire rollers for a large welding wire drive support surface. Equipped with a robust industry-compliant, powder-coated sheet steel housing, an ergonomic torch removal and a narrow housing construction with two swivel castors ensure efficient use in any body shop.



Top features

- welding programs for MIG brazing (CuSi3, AlBz8, CuAl8), steel/stainless steel, TIG (WIG), FLUX-cored arc and electrode welding
- special mode for thin sheet steel - ACT technology*
- pulse- and double pulse welding / 2-cycle and 4-cycle mode
- two torches welding machine
- automatic recognition of welding torch
- automatic „Hold-function“ of welding parameters
- 25 memories for individual welding parameters
- USB interface for software update
- very good gap-bridging (gap-filling)
- less material distortion due to lower heat input effects less rework
- high welding velocity



picture shows optional accessories

Scope of delivery:

- 1 x Device IP 7-2 incl. castors
- 1 x Kit wire drives for steel 0.6/0.8 mm
- 1 x Kit wire drives for steel 0.8/ 1.0 mm
- 1 x 3G torch steel, 3 m
- 1 x 3G torch MIG brazing, 3 m
- 1 x Ground cable, 5 m
- 1 x Starter set current nozzle
- 1 x User's manual

Info

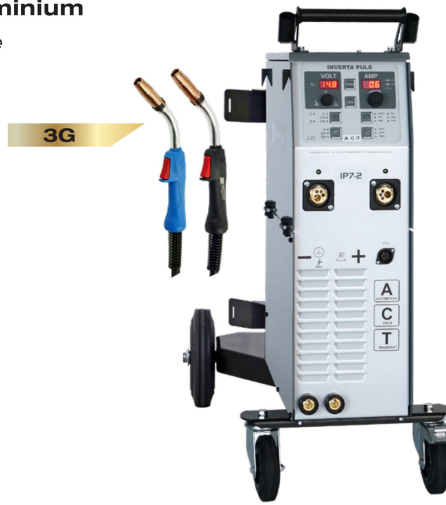
*ACT = Automotive Cold Transfer welding mode for thin sheet metal
 ** WG = wire guidance



InvertaPuls IP 7-2 ACT	Power supply	Welding power
Item no. 331027 steel / ALU Kit	3 × 400 V	10-280 A
Item no. 332027 steel / ALU Kit	3 × 200 V	10-280 A

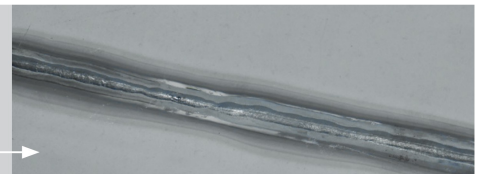
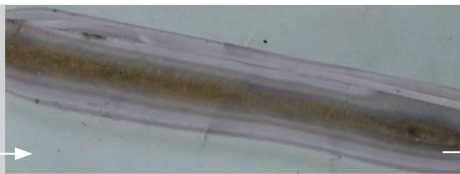
High Performance welder for steel and aluminium

Function and technical equipment corresponds to the description item no. 331026 /332026.



Scope of delivery:

- 1 × Device IP 7-2 incl. castors
- 1 × Kit wire drives for steel 0.6/0.8 mm
- 1 × Kit wire drives for steel 0.8/1.0 mm
- 1 × Kit wire drives for ALU 1.0/1.2 mm
- 1 × 3G torch steel, 3 m
- 1 × 3G torch ALU, 3 m
- 1 × Ground cable, 5 m
- 1 × Starter set current nozzle
- 1 × User's manual



Accessories for InvertaPuls devices

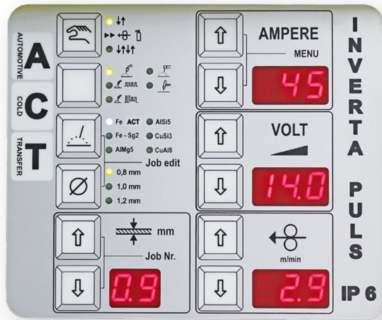
Item no.	337204	337236	338018
Description	hanger for 3 torches	wheel space front traverse 50 liter gas bottles	Cover for IP7-2
QTY	1 pc.	1 pc.	1 pc.



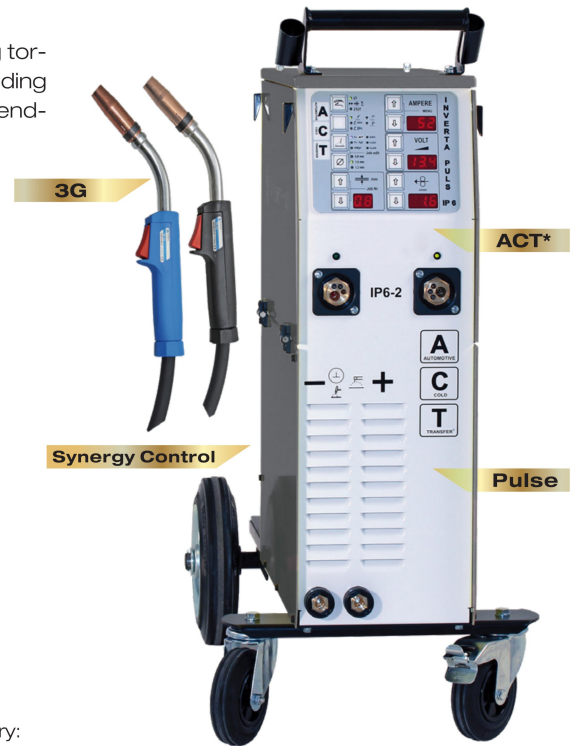
InvertaPuls IP 6-2 ACT	Power supply	Welding power
Item no. 331007 steel / ALU kit	3 x 400 V	10-280 A
Item no. 332007 steel / ALU kit	3 x 200 V	10-280 A

Shielded Gas Welding Machine with inverter technology

for MIG brazing aluminium, steel, WIG and thin sheet steel welding. Two 3G welding torches and two welding wire holders in one machine. Outstanding steel thin sheet welding (ACT*). The simple adjustment of the sheet thickness makes the IP 6-2 very user-friendly. A welding machine perfectly adapted for car body repairs.



tested and approved by



Top features

- high end 4 wheels wire drive
- two torches welding machine
- automatic recognition of welding torch
- automatic „Hold-function“ of welding parameters
- 25 memories for individual welding parameters
- USB interface for software update
- very good gap-bridging (gap-filling)
- less material distortion due to lower heat input effects less rework
- high welding velocity

Scope of delivery:

- 1 x IP 6-2 device 400 V incl. castors
- 1 x 3G torch for steel welding, 3 m
- 1 x 3G torch for aluminium welding, 3 m
- 2 x Kits wire drives for steel 0,8/1.0 mm
- 1 x Kit wire drives for ALU 1.0/1.2 mm
- 1 x Ground cable, 5 m
- 1 x User's manual

Accessories for IP 6 devices

Item no.	337173	337184	311045
Description	Handle for torch holder (2 x)	Cable holder for power cable, ground cable etc.	Sheet adapter for second gas bottle fitting for IP 6-2
QTY	1 pc.	1 pc.	1 pc.

item supplied without torches



InvertaPuls IP 6-2 ACT	Power supply	Welding power
Item no. 331006 steel / brazing kit	3 × 400 V	10-280 A
Item no. 332006 steel / barzing kit	3 × 200 V	10-280 A

Shielded Gas Welding Machine - MIG-MAG version

Function and technical equipment correspond to the description Item no. 331007 / 332007

Info

*ACT = Automotive Cold Transfer welding mode for thin sheet metal

Scope of delivery:

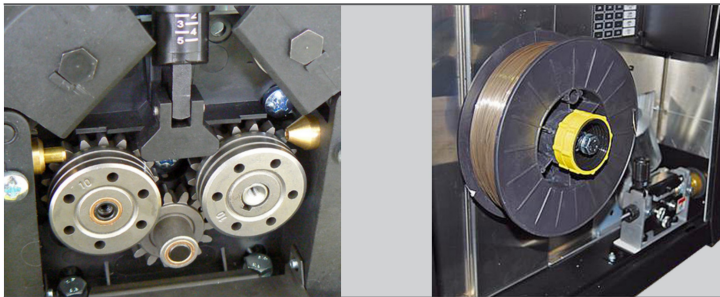
- 1 × Device IP 6-2 400 V incl. castors
- 1 × Steel torch F200 with steel conductor 3 m, Ø 0.8 mm
- 1 × MIG torch F200 with plastic conductor 3 m, Ø 1.0 mm
- 2 × Kits wire guidance for steel 0.8/1.0 mm
- 1 × Ground cable with clamp, 5 m
- 1 × Manometer
- 1 × T-valve
- 1 × User's manual

Force 200

tested and approved by

Ford

Opel



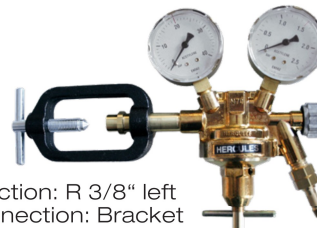
Accessories for welding machines

Item no.	311046	311047	338017
Description	Pressure regulator Oxygen	Pressure regulator Azetylene	Cover hood suitable for InvertaPuls devices
QTY	1 pc.	1 pc.	1 pc.

0-10 bar
 Hose connection: R 1/4"
 Cylinder connection: R 3/4"



0-1.5 bar
 Hose connection: R 3/8" left
 Cylinder connection: Bracket



Item no.	311042	311044
Description	Manometer / Pressure reducer CO ₂ / Argon / mixed gas	Double branch valve 1/4" for manometer CO ₂ / Argon
QTY	1 pc.	1 pc.

stepless adjustment with high accuracy

Hose connection: G 1/4 RH
 Cylinder connection: W21.80 × 1/14 „RH

Measuring range:
 - Argon: 5-32 l/min - red line at 24 l/min
 - CO₂: 5-30 l/min - red line at 23 l/min



InvertaPuls IP 4-3	Power supply	Welding power
Item no. 341298 steel / brazing / ALU kit	3 × 400 V	10-240 A
Item no. 341299 steel / brazing / ALU kit	3 × 200 V	10-280 A

MIG-MAG / ALU Inverter welding machine

The ALL-ROUNDER for the car body professional for steel welding, MIG brazing and aluminium welding. With connections for 3 hose packages. A welding machine perfectly adapted to vehicle repair.

NEW



welding programs for:

- MIG brazing
- Aluminium welding
- Steel/stainless steel
- TIG (WIG)
- FLUX-cored arc and electrode welding

3G

Tesla

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Top features

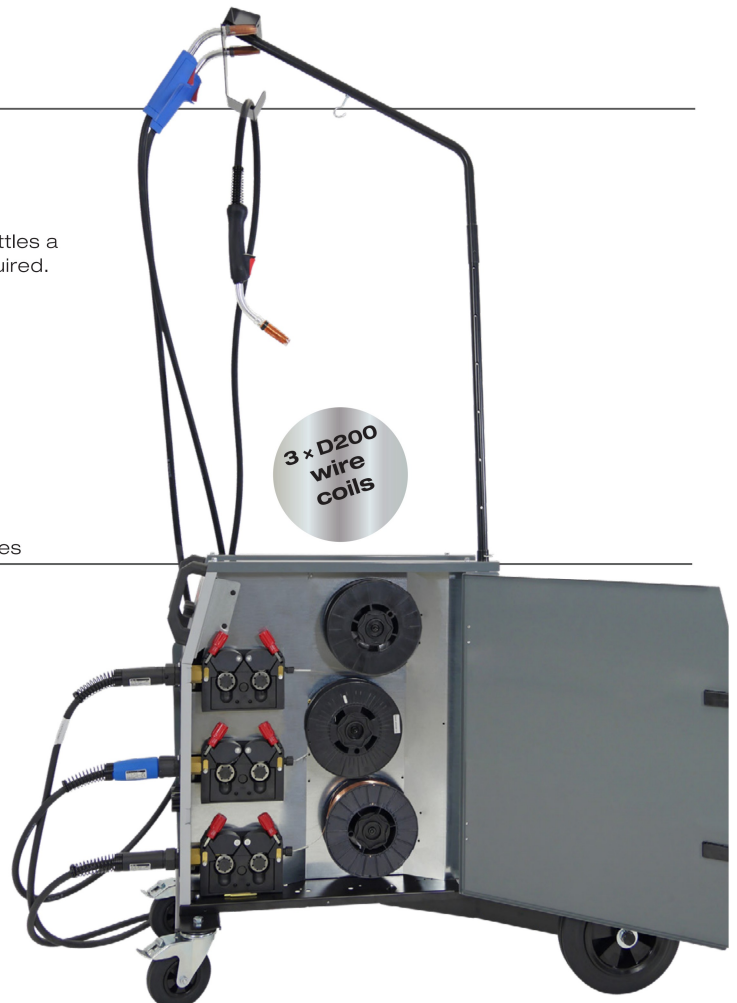
- welding power 240 A
- pulse- and double pulse welding / 2-cycle and 4-cycle mode
- automatic recognition of welding torch
- automatic „Hold-function“ of welding parameters
- wire feeding system with 4 wheel drive
- memories for individual welding parameters
- less heat input
- very good gap-bridging (gap-filling)



Info

for the use of 2 × 50 litre gas bottles a wheel spacer front traverse required. Item no. 337236 on page 67

item supplied without gas bottles



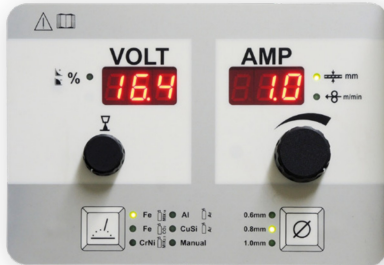
Scope of delivery:

- 1 × InvertaPuls device IP4-3 cpl.
- 1 × Kit wire liner for steel welding 0.6/0.8 mm
- 1 × Kit wire liner for MIG brazing 0.8/1.0 mm
- 1 × Kit wire liner for aluminium 1.0/1.2 mm
- 1 × 3G torch for steel welding 3 m
- 1 × 3G torch for MIG brazing, 3 m
- 1 × 3G torch for aluminium welding, 3 m
- 1 × Ground cable, 5 m
- 1 × Starter set with current nozzels
- 1 × User's manual

IM 240-i welding machine	Power supply	Welding power
Item no. 341290 steel kit	230 V	20-200 A

Standard welding machine

A welding system that is very easy to adjust, absolutely uncomplicated, very robust design - withstands even hard treatment.

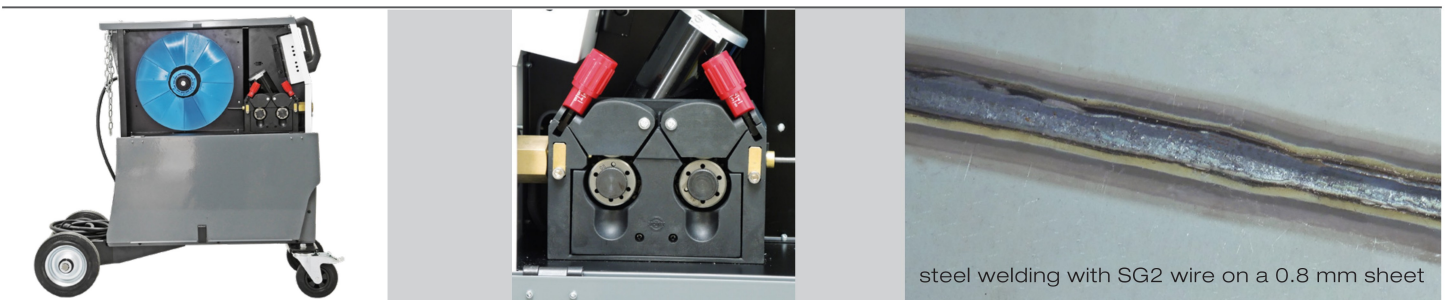


Scope of delivery:
 1 x IM 240-i device incl. castors
 1 x Gas bottle attachment
 1 x Force 200 torch for steel, 3 m with wire guidance spiral
 1 x Kit wire guidance for steel 0.8/0.6 mm
 1 x Ground cable, 5 m
 1 x User's manual



Top features

- MIG MAG brazing / welding
- 4 wheel drive with fine adjustment / wire velocity 1.5-15 m/min.
- fixture for K300 coils (17 kg max.)
- automatic „Hold-function“ for welding power and welding voltage
- dynamic adjustment - end pulse to release the ball at the end of the wire
- good welding performance in the thin sheet metal range, e.g. with 0.6 mm sheet steel



steel welding with SG2 wire on a 0.8 mm sheet

Accessories welding machines

Item no.	311043	374415	304053
Description	magnetic holder for torches	ground clamp without cable	ground clamp with cable 5 m
QTY	1 pc.	1 pc.	1 pc.



Welding inverter IM 240-Eco	Power supply	Welding power
Item no. 341288 steel / brazing kit	230 V	20-200 A

The IM 240-Eco welding machine is a compact MIG-MAG welding inverter specially developed for car body repairs. A unique advantage is the excellent MIG soldering characteristic. The very good steel welding characteristics enable all types of repairs to be carried out on vehicles with very good results.

Benefits

- 2-button control - intuitive and simple operation
- Synergic control for all processes
- 200 A welding current / 230 V inverter technology for optimised welding processes



- Equipped with:
- 1 x 337219 Wire feed rollers | steel | 0.6 mm & 0.8mm
 - 1 x 308103 Torch Force 200 | Steel welding | 3.0 m
 - 1 x Ground cable | 4 m
 - 1 x Operating instructions



TIG welding

WS TIG 200 welding machine AC/DC	Power supply	Weight	Welding power
Item no. 331051	230 V	14,8 kg	200 A

AC/DC

Dynamic AC/DC current for aluminium and stainless steel welding. Freely adjustable balance control for best welding results in aluminium welding.

AC Wave/Current modulation

Preselection of sine, trapezoid or rectangle modulation - defined welds and modulated weld geometry

MixTIG

Particularly suitable for aluminium out-of-position welding. Automated switching from AC to DC significantly reduces the energy input.

Active Boost

Protects against tripping of the mains fuse

Hyper Active Arc

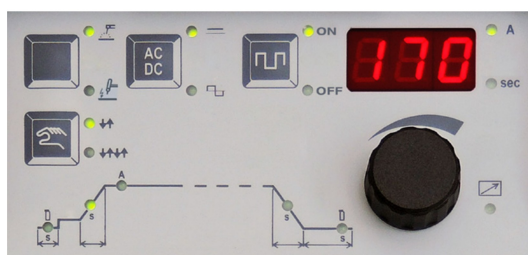
The new active arc for constant heat input

High-frequency impulse welding

Pulse welding with dynamic control of the arc. Fully usable spectrum of current setting parameters. Constricted and stable arc for deep penetration into the material. Reduced heat input.

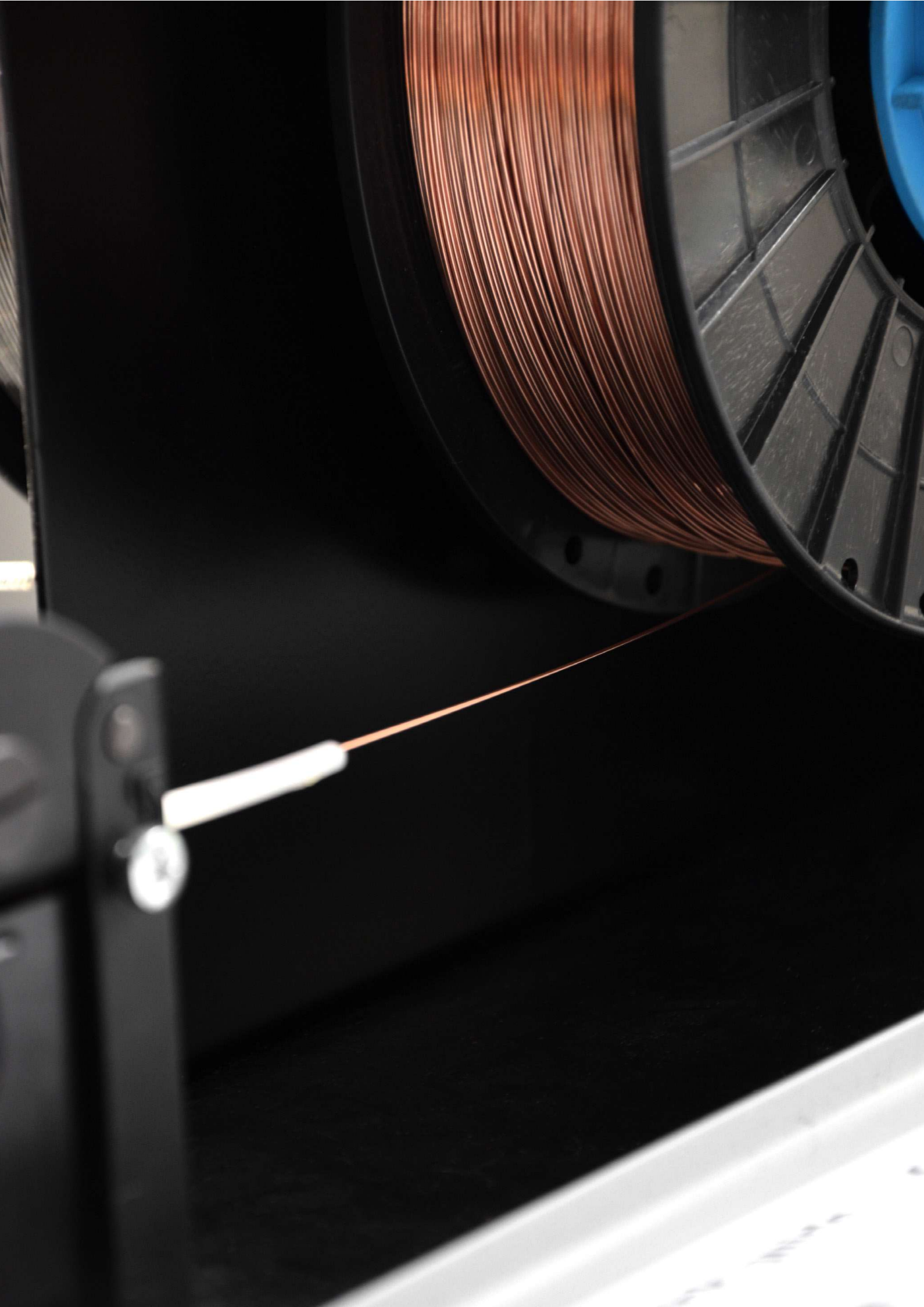
Low-frequency impulse welding

Controlled welding with very good weld pool control and reduced heat input. Particularly suitable for strong material and out-of-position welding.



- Scope of delivery:
- 1 x TIG 200 A device
 - 1 x TIG torch SR26, Ø 2.4 mm, 4 m
 - 1 x Ground cable, 5 m with clamp
 - 1 x Pressure reducer Arg/Co2
 - 1 x User's manual

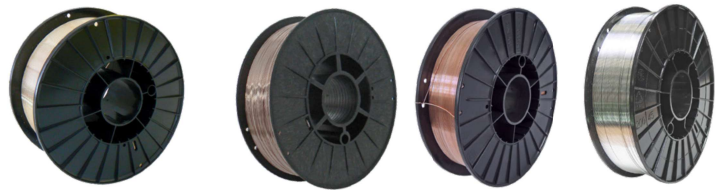




Welding wire for welding machines IP4 | IP6 | IP7 | IM 240-3



D200

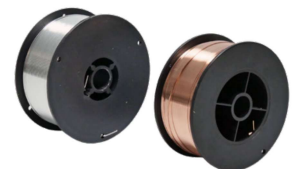


Item no.	311074	311075	311082	311093	311076	311077	311078	311079
Description	SG2 Tivb	SG2 Tivb	SG2	SG2	AlMg5	AlMg5	AlSi5	AlSi5
Diameter	0.8 mm	1.0 mm	0.8 mm	0.6 mm	1.0 mm	1.2 mm	1.0 mm	1.2 mm
Coil type	D200	D200	D200	D200	D200	D200	D200	D200
Weight QTY	5.0 kg	5.0 kg	5.0 kg	5.0 kg	2.0 kg	2.0 kg	2.0 kg	2.0 kg

Item no.	311080	311081	311070	311071	311072	311073	311036	311087
Description	AlSi12	AlSi12	CuSi3	CuSi3	AlBz8/ CuAl8	AlBz8/ CuAl8	NimoCro	Union X96
Diameter	1.0 mm	1.2 mm	0.8 mm	1.0 mm	1.2 mm	1.0 mm	0.8 mm	0.8 mm
Coil type	D200	D200	D200	D200	D200	D200	D200	D200
Weight QTY	2.0 kg	2.0 kg	5.0 kg	5.0 kg	5.0 kg	5.0 kg	5.0 kg	5.0 kg



D100

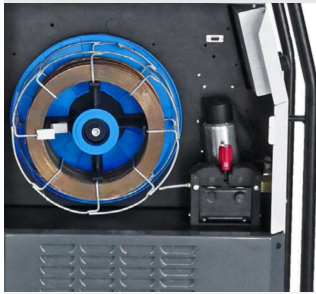


Item no.	311090	311091	311092	821454	311089	821455		
Description	AlSi12	AlSi5	AlMg5	AlSi12	AlSi5	AlMg5		
Diameter	1.0 mm	1.0 mm	1.0 mm	0.8 mm	0.8 mm	0.8 mm		
Coil type	D100	D100	D100	D100	D100	D100		
Weight QTY	0.5 kg	0.5 kg	0.5 kg	0.5 kg	0.5 kg	0.5 kg		

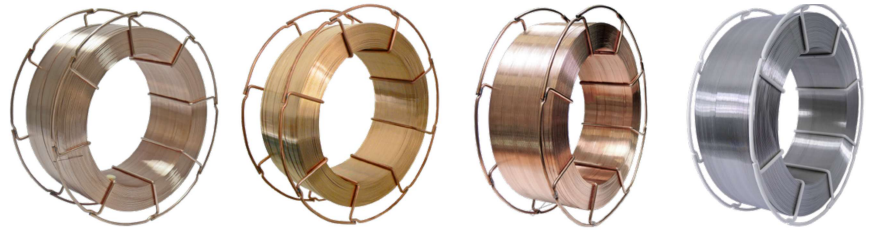
Wire type	Application	Recommended inert gas ISO 14175, EN 439, DIN 32526	OEM used*
CuSi3	MIG brazing	Argon 4.6	Ford MB Honda JLR Opel PSA
AlBz8/CuAl8	MIG brazing	Argon 4.6	MB PSA
NimoCro	low-alloy & high-strength steel	mixed gas Argon / Co ₂ M21C(R)18, 80/20, 82/18	
Union X96	MAG welding high & highest strength steel	mixed gas Argon / Co ₂ M21C(R)18, 80/20, 82/18	Honda Tesla

Approval

Welding wire K300 for IM240-i



K300

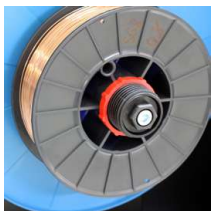


Item no.	311001	311002	311015	311024	311025	311016	311022	311023
Description	SG2	SG2Tivb	AlMg5	AlMg5	AlSi5	AlSi5	AlSi12	AlSi12
Diameter	0.8 mm	0.8 mm	1.0 mm	1.2 mm	1.0 mm	1.2 mm	1.0 mm	1.2 mm
Coil type	K300	K300	K300	K300	K300	K300	K300	K300
Weight QTY	15.0 kg	15.0 kg	7.0 kg	7.0 kg	7.0 kg	7.5 kg	7.0 kg	7.0 kg

Item no.	311018	311019	311027	311004	311028		311010	311007
Description	CuSi3	CuSi3	AlBz8/ CuAl8	AlBz8/ CuAl8	AlBz8/ CuAl8		NimoCro	Union X96
Diameter	0.8 mm	1.0 mm	1.2 mm	1.0 mm	1.2 mm		0.8 mm	0.8 mm
Coil type	K300	K300	K300	K300	K300		K300	K300
Weight QTY	15.0 kg	15.0 kg	5.0 kg	15.0 kg	15.0 kg		15.0 kg	15.0 kg

Accessories for welding wire

Item no.	307004	307003	307002
Description	adapter for wire coil D200	adapter for basket wire coil 2 parts	adapter for basket wire coil 1 part
QTY	1 pc.	1 pc.	1 pc.



Scope of delivery
 1 x Adapter for wire coil
 1 x Spacer ring | wide 15 mm | Ø 55 mm
 2 x Spacer rings | wide 10 mm | Ø 55 mm



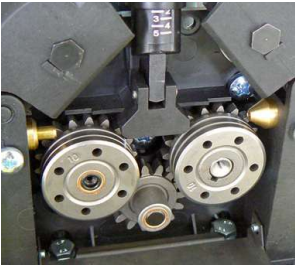
Info

*we offer welding wire that corresponds to the OEM configuration in material and quality

Wire	Application	Recommended inert gas ISO 14175, EN 439, DIN 32526	OEM used*
SG2	steel	mixed gas Argon / Co ₂ M21C(R)18, 80/20, 82/18	VW JLR
SG2 Tivb bronzed	steel galvanized	mixed gas Argon / Co ₂ M21C(R)18, 80/20, 82/18	VW
AlMg5	aluminium	Argon 4.6	Honda
AlSi5	aluminium	Argon 4.6	BMW / MB / Honda / JLR
AlSi12	aluminium	Argon 4.6	Audi / MB / Honda / JLR

Wire wheels sets

Item no.		337219	337220	337221	337215	337216	337217
Welding device		IP4 IP6 IP7 IM 240	IP4 IP6 IP7 IM 240	IP4 IP6 IP7 IM 240	IM 240-i (V1)	IM 240-i (V1)	IM 240-i (V1)
Diameter		0.6 + 0.8 mm	0.8 + 1.0 mm	1.0 + 1.2 mm	0.6 + 0.8 mm	0.8 + 1.0 mm	0.8 + 1.0 mm
Type		Steel MIG	Steel MIG	ALU	Steel MIG	Steel MIG	ALU
QTY		2 pcs.	2 pcs.	2 pcs.	1 pc.	1 pc.	1 pc.



Wire liner and conductor

Item no.	337106	337107	337108
Description	wire liner conductor blue 4 m wire sizes Ø 0.8 + 1.0 mm Steel	wire liner conductor blue 3 m wire sizes Ø 1.0 + 1.2 mm Steel	PTFE wire liner red Ø 1.0 + 1.2 mm incl. copper neck liner 220 mm ALU
QTY	1 pc.	1 pc.	1 pc.



Item no.	337109	337147	
Description	PTFE wire liner black Ø 0.8 + 1.0 mm incl. copper neck liner 220 mm MIG	polyimide plastic liner incl. copper neck 3.5 m wire sizes Ø 0.8 + 1.0 mm MIG	
QTY	1 pc.	1 pc.	



Service Hotline
+49 (0)7464 9898 125

Info

- * CL = conductor liner
- PL = plastic liner
- TWL = PTFE wire liner

Item no.	337139	337142	337015
Description	PTFE liner blue 3.5 m wire sizes Ø 0.8 + 1.0 mm ALU	PTFE liner red 3.5 m wire sizes Ø 1.0 + 1.2 mm ALU	PTFE wire liner red 4.5 m wire sizes Ø 1.0 + 1.2 mm ALU
QTY	1 pc.	1 pc.	1 pc.



Item no. 337143
O-ring for PTFE liners
QTY 1 pc.



Item no. 337110
copper neck liner 220 mm for
plastic wire liner red and black
QTY 1 pc.

3G torches for InvertaPuls IP4 | IP6 | IP7 | TWIN

High-End manual welding torches with mini handle offer a combination of handiness and outstanding accessibility, even under difficult working conditions.

Top features

- cooling type gas cooled
- load capacity 180 A mixed gas (60%)
- wire diameter 0.8-1.2 mm
- easy to service due to exchangeable nozzle holder

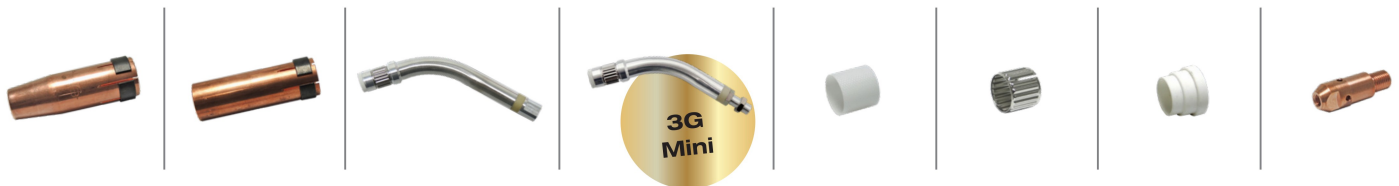


Item no.	308110	308111	308116
Description	3G torch Steel 3 m Ø 0.8 mm nozzle blue CL liner	3G torch ALU 3 m Ø 1.0 mm nozzle red PL liner	3G torch MIG 3 m Ø 0.8 + 1.0 mm nozzle PTFE liner
QTY	1 pc.	1 pc.	1 pc.



Spare parts for 3G torches

307010	307011	307015	307018	307012	307014	307016	307013
gas nozzle conical	gas nozzle cylindrical	torch neck	torch neck mini	splash protec. for gas nozzle	clamping piece for gas distrib.	isolation sleeve	gas distributor
1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.



Force 200 torch for IM 240-i | IM 240-3

Item no.	308101	308102	308103
Description	Force 200 torch ALU 3 m Ø 1.0 mm nozzle red PL liner	Force 200 torch MIG 3 m Ø 0.8 mm nozzle black PTFE liner	Force 200 torch Steel 3 m Ø 0.8 mm nozzle blue CL liner
QTY	1 pc.	1 pc.	1 pc.



Spare parts for Force 155 | 200 torches

Item no.	307008	307009	307070	307040	307071	307072
Description	insulation sleeve for torch neck	nozzle holder	torch neck	gas nozzle conical	hexagon nut short M10 x 1 x 5 mm	hexagon nut long M10 x 1 x 26 mm
QTY	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.



MB24 | TIG | Spool Gun torches

Item no.	308105	308107	308109
Description	torch MB24 Steel 3 m nozzle Ø 0.8 mm	torch MB24 ALU 3 m nozzle Ø 1.2 mm	torch MB24 MIG 3 m with PA liner* nozzle Ø 1.0 mm
QTY	1 pc.	1 pc.	1 pc.



* polyamide

Item no.		308115	332222
Description		torch Spool Gun ALU length 3 m	torch TIG SR 17 hand gas valve
QTY		1 pc.	1 pc.



spare parts for MB15/MB24 torches

Item no.	307025	307034	307030	307031	307032	307024
Description	gas diffuser Ø 17 mm / MB24	retaining spring MB14 / MB15	gas distr. holder MB24	gas distr. holder MB15	gas distr. holder MB25	protective sleeve MB15
QTY	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.



Item no.	307021	307022	307023
Description	swan neck standard for MB15	swan neck flexible MB15	swan neck standard for MB24
QTY	1 pc.	1 pc.	1 pc.



Gas tester

This gas flow tester is used to precisely measure the flow rate of **Argon/CO2**. The gas flow tester is very accurate and gives very accurate results.

Item no. 311048

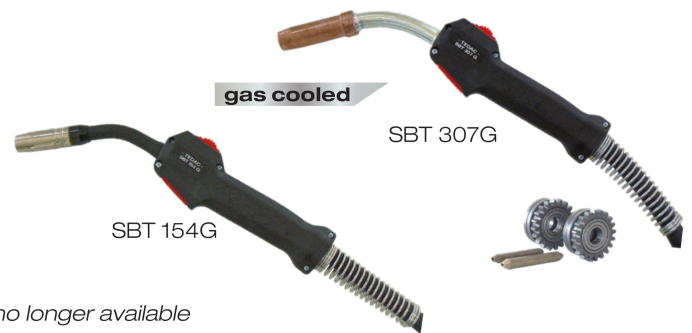
Service Hotline
+49 (0)7464 9898 125

Torches **SB | SBT 154G* | SBT 307G***

Manual welding torch for optimum welding results for step-switched MIG-MAG units.

Top features

- optimal torch cooling by double gas guiding system (*only SBT 307G*)
- insulated torch body construction (*SBT 307G only*)
- kink protection on the hose package
- screwed, impact-resistant grip plates
- easy to service due to exchangeable nozzle holder
- screwed gas nozzles
- encapsulated micro switch in the torch switch



Info

*SBT 154 / 307G torch for InvertPuls IP8 and IP10 - note this devices no longer available

Item no.	332216	332217		332219		332201	332211
Description	SB 157G	SBT 157G		SBT 157G		SBT 307G	SBT 307G
Length	4 m	3 m		3 m		3 m	3 m
Diameter	0.8 mm	1.0 mm		1.0 mm		0.8 mm	1.0 + 1.2 mm
Type	Steel	Steel		ALU		Steel	ALU
Power	180 A, 60%	180 A, 60%		180 A, 60%		300 A, 60%	300 A, 60%
QTY	1 pice	1 piece		1 piece		1 set	1 set
Item supplied incl.						wire wheels 25/4 2 x Wire nozzles 2 x Nozzles	wire wheels 26 2 x Wire nozzles 2 x Nozzles

spare parts for torch **SB / SBT 154 G**

spare parts for torch **SBT 307 G**

Item no.	337100	337103	337102	337104
Description	torch body SB/SBT 154 G	gas distributor holder SB/SBT 154 G	gas diffuser SBT 307 G	gas distributor holder SBT 307 G
QTY	1 pc.	1 pc.	1 pc.	1 pc.



Item no.	337209	337210	337211	337212		337213	337214
Description	DV25/4	DV25/4	DV25/4	DV25/4		DV26	DV26
Diameter	1.0 mm	0.8 mm	1.0 mm	1.2 mm		0.8 + 1.0 mm	1.0 + 1.2 mm
Type	Steel MIG	Steel MIG	ALU	ALU		Steel MIG	ALU
QTY	1 set	1 set	1 set	1 set		2 pcs.	2 pcs.



Current nozzles



Item no.	307033	307035	307036	307037	307045	307046	307050	307051
Size	M6 × 25	M6 × 25	M6 × 25	M6 × 28	M6 × 25	M6 × 25	M6 × 28	M6 × 28
Diameter	0.6 mm	0.8 mm	1.0 mm	0.8 mm	1.0 mm	1.2 mm	1.0 mm	1.2 mm
Type	Steel / MIG	Steel / MIG	Steel / MIG	Steel / MIG	ALU	ALU	ALU	ALU
Material	ECu*	ECu*	ECu*	ECu*	ECu*	ECu*	ECu*	ECu*
Torch	MB15/24/25 MB26 / 3G Force 155/200	MB15/24/25 MB26 / 3G Force 155/200	MB15/24/25 MB26 / 3G Force 155/200	MB15/24/25 MB26 / 3G Force 155/200	MB15/24/25 MB26 / 3G Force 155/200	MB15/24/25 MB26 / 3G Force 155/200	MB15/24/25 MB26 / 3G Force 155/200	MB15/24/25 MB26 / 3G Force 155/200
QTY	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.



Item no.	307052	307053	307054			337115	337116	337117
Size	M6 × 28	M6 × 28	M6 × 28			M8 × 27	M8 × 27	M8 × 27
Diameter	0.8 mm	1.0 mm	0.6 mm			0.8 mm	1.0 mm	1.2 mm
Type	Steel / MIG	Steel / MIG	Steel			Steel / MIG	Steel / MIG	ALU
Material	ECu*	ECu*	ECu*					
Torch	MB15/24/25 MB26 / 3G Force 155/200	MB15/24/25 MB26 / 3G Force 155/200	MB15/24/25 MB26 / 3G Force 155/200			SBT 307 G	SBT 307 G	SBT 307 G
QTY	10 pcs.	10 pcs.	10 pcs.			10 pcs.	10 pcs.	10 pcs.

Info

*E-copper - particularly high conductivity with high corrosion resistance and high temperature coefficients

Gas nozzle



Item no.	307010	307011	307040	307042	307043	307044
Length	63.5 mm	63.5 mm	54 mm	57 mm	63.5 mm	75.5 mm
Ø (inside)	12.5 mm	17 mm	12.5 mm	15 mm	12.5 mm	16 mm
Form / type	conical, pluggable	cylindrical, pluggable	conical, pluggable	conical, pluggable	conical, pluggable	conical, pluggable
Model coating	copper	copper	chrome-plated	chrome-plated	copper	copper
Torch	3G	3G	MB14 MB15 Force 155/200	MB25	MB24	MB26
QTY	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.



Item no.	307047	337125	337126	337132	337130	337131
Length	63 mm (56)	55 mm	74 mm	47 mm / Gr. 5	47 mm / Gr.6	47 mm / Gr.7
Ø (inside)	16 mm	14.5 mm	15 mm	8 mm	9.5 mm	11 mm
Form / type		conical, screwable	conical, screwable	pluggable	pluggable	pluggable
Model coating	chrome-plated	chrome-plated	chrome-plated	ceramics	ceramics	ceramics
Torch	MB14 MB15 Force 155/200	SB/SBT 154G	SB/SBT 307G	TIG SR17 26	TIG SR17 26	TIG SR17 26
QTY	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.

Welding accessories

Item no.	311041	311026	311040
Description	special plier for gas welder with 4 functions	protection paste for gas nozzle 350 ml	cleaner kit 13 pcs. for current nozzle
QTY	1 pc.	1 pc.	1 pc.



For all welding nozzles. Fast and accurate trimming of the welding wire, time-saving cleaning of the shielding gas nozzle, pulling off the shielding gas nozzle, loosening and tightening the nozzle.

silicon-free



Prevents rapid clogging of the welding torches by welding spatter on gas and current nozzles.



12-piece nozzle cleaning needle kit in the practical, hinged metal box. With approx. 90 mm long needle files from Ø 0.4 to 1.6 mm including 1 flat file for cleaning welding nozzles.

Alu Pull Kit AK98	Power supply	Welding sequence / min.	Weight
Item no. 361000	230 V / 115	20 bolt /studs	11 kg

The innovative stud welding technology with automatic gun and 100% microprocessor control revolutionises the dent removal of aluminium sheets in bodywork and vehicle construction. Stud welding with capacitor discharge technology and capacitor discharge ignition, is a cold stud welding process. The aluminium body sheet is protected, no burn marks are left on the back of the body sheet.

tested and approved by



- Scope of delivery:
- 1 x Control unit AK98
 - 1 x Welding gun aluminium incl. welding cable 3 m
 - 1 x Adapter stud welding diam 4 mm
 - 100 x Alu-studs M4 x 15 mm
 - 2 x Earth cable 3 m
 - 1 x Assembling tool
 - 1 x Transport case
 - 3 x Pulling rods
 - 3 x Screw pins
 - 1 x Working instructions



Range of application:

includes small dents, dents, longitudinal scratches and hail damage. The **Alu Pull Kit** is used on modern passenger cars, truck bodies, bus covers, camper vans, mobile homes and in container construction. All dent removal work is carried out from the outside, there is no need for laborious pressing from the inside.

The precise digital display of the charge voltage enables precise adjustment of the performance parameters. Dent removal with the **Alu Pull Kit AK 98** is easy to learn, saves working time and reduces repair costs.

Tech. Data for standard welding application:

aluminium studs Ø 4 mm | welding sequence up to 20 studs/^{min.} | welding process: tip ignition
welding time: 0.001-0.003 sec. | 66.000 µF

Accessories for Alu Pull Kit AK98

Item no.	368001	368005	368002
Description	stud welding gun for aluminium studs	special attachment type Audi for stud welding gun steel	stud welding gun for steel studs Ø 3-8 mm
QTY	1 pc.	1 pc.	1 pc.

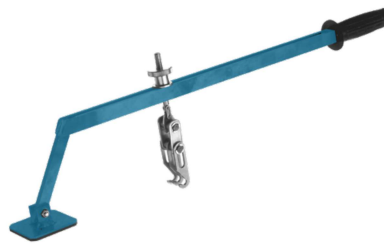


Accessories for Alu Pull Kit AK98

Item no.	368104	368105	368106
Description	contact piece M4 for welding studs ALU	contact piece M5 for welding studs ALU	contact piece M6 for welding studs ALU
QTY	1 pc.	1 pc.	1 pc.



Item no.	368060	351060	368020
Description	welding studs gripper for 4 mm studs	Maxilift with 3-finger claws	side cutter 160 mm
QTY	1 pc.	1 pc.	1 pc.

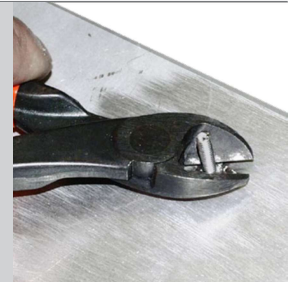
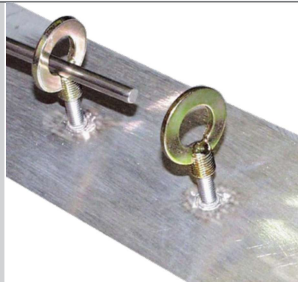


For pinching off the aluminium studs. With polished head, handles covered with plastic.

Item no.	368043	368040	368050
Description	pull gripper screwable M4	pull gripper screwable M4	pull rod V2A steel length 160 mm
QTY	3 pcs.	10 pcs.	3 pcs.


Aluminium studs - metric thread | T-thread (self lock)


Item no.	367015	367016	367017	367045	367050	367030	367035	367040
Thread length	M4 × 15 mm	M4 × 15 mm	M4 × 15 mm	M6 × 12 mm	M6 × 16,5 mm	T5 × 10,5 mm	T5 × 15,5 mm	T5 × 25 mm
Material type	AlSi12	AlSi12	AlMg3	AlSi12	AlSi12	AlSi12	AlSi12	AlSi12
QTY	100 pc.	1000 pcs.	100 pcs.	100 pcs.	100 pcs.	100 pcs.	100 pcs.	100 pcs.



BSP 03	Power supply	Ø pulling bolts	Weight
Item no. 341001	3 × 400V	5 × 16 × 40 mm	32 kg

Special stud welding device e.g. opening of series punch rivet connections. In this process stainless steel studs are welded onto self-pierce rivets.

With mobile workshop trolley incl. gas cylinder holder (max. 5 liters).



tested and recommended by



- Scope of delivery:
- 1 × BSP 03 welding unit
 - 1 × BSP03 gun cpl. with welding cable
 - 2 × Earth cable complete with pliers
 - 1 × Studholder Ø 6 mm (type V2A-SA)
 - 1 × Plug wrench 17-17 for mounting studholder
 - 1 × Pulling bolts V2A-SA Ø 6 × 40 mm, QTY 500 pcs.
 - 1 × Gas hose
 - 1 × Trolley
 - 1 × Operation instruction

Top features

- easy operation due to infinitely variable up and down regulation of the charging voltage
- automatic maintenance of constant charging voltage
- high power reserves in marginal cases and for difficult welding tasks
- no negative impact on the system in case of mains voltage fluctuations (-10/-15%)

<p>1. Weld pulling stud onto rivet</p>	<p>2. Pull the pulling stud and the punch rivet by using the BR80 pulling adapter (page 22). <i>The stud can also be pulled with the WS battery-powered riveting pliers (page 81).</i></p>
<p>Adapter Kit BSP 03 Item no. 341002</p>	

This adapter set extends the range of application of the stud welder BSP 03 many times over. The contact pieces can be used to weld single balls, double balls, T-pins, thread welding studs and coarse threaded studs with the BSP03 welding gun onto body parts in the rear area or trunk. A practical tool is the placement tool for single, double ball and T-pins.



- Scope of delivery:
- 1 × Contact piece no. 1 for single balls
 - 1 × Contact piece no. 2 for double ball
 - 1 × Contact piece no. 3 for T-pin
 - 1 × Contact piece no. 4 for coarse thread bolt
 - 1 × Contact piece no. 5 for thread welding bolt
 - 1 × Equipping tool for contact pieces
 - 1 × Gas attachment



Flammable coating set | content 8 pcs.

Item no. 341003

Scope of delivery: 1 x Burner | 1 x Burner stand | 2 x 50 ml Pyrosil® | 2 x 50 ml coupling agent | 2 x Spatula

For the preparation of small to medium sized aluminium surfaces prior to the rivet-bonding process, prevents direct oxidation of the aluminium.

The manual flaming set is a surface silicization tool that works on the principle of flame pyrolysis. In this process, a gas mixture of propane/butane and PYROSIL® (consisting of organosilicon compounds) burns in the flame and forms a SiO₂ layer on metal surfaces that is only a few nanometers thick but very dense and firmly adherent.



Pyrosil®
 coupling agent
 50 ml
 Item no. 347004



Pyrosil®
 refill cartridge
 27.5 g
 Item no. 347005



Item no.	341007	367085	347001
Description	rivet head drill bit 6.4 x 70 mm	pull rods V2A (for AK98) 4 x 35 mm	pull rods V2A-SA Ø 6 x 40 mm
QTY	5 pcs.	200 pcs.	500 pcs.



Accessories for BSP 03

Item no.	344005	344004	344003
Description	gun leg BSP 03	micro fuse F2 BSP 03 3.15 A slow	micro fuse F1 BSP 03 4.4 A slow
QTY	4 pcs.	1 pc.	1 pc.



WS Rivet tool cordless	Power supply	setting force	Weight
Item no. 571000	230 V 115 V	13 kN	5,3 kg

Riveting tool for opening the punch rivet joints - in connection with BSP 03 - and setting the special blind rivet joints. Also for the different work, head (nose pieces) are exchangeable.

mouth piece | Ø 10/14 mm
 QTY 3 pcs. per type
 Item no. 574000



extension 100 mm
 Item no. 578112



Scope of delivery:
 1 x Powerbird cordless
 1 x Li-Ion charger 230 V 1ph
 2 x Li-Ion battery 14.4 V
 1 x Gripping head for BSP03 (mounted)
 1 x Gripping head Powerbird
 1 x Mouthpiece rivet head Ø 14 mm (mounted)
 1 x Mouthpiece rivet head Ø 10 mm
 1 x Mouthpiece 17/45 mm Powerbird/Taurus



Aluminium crack testing

Item no.	311051	311050	311052
Description	Cleaner for test agent 400 ml	Penetration test fluid for aluminium cracks - 400 ml	Developer for test agent 400 ml
QTY	1 pc.	1 pc.	1 pc.

Test Stage 1 + 3 | Cleaner

The surface must be carefully cleaned **before and after** applying the penetration fluid.

Test stage 2 | Indicator

Spray on red liquid, waiting time approx. 15-20 minutes, after 20 min. wipe off with a cloth.

Test stage 3 | Developer

Spray the entire surface completely thin. Application time 20-30 min.



Item no.	311062	311063	311064
Description	temperature indicator stick red melting point 100 °C	temperature indicator stick green melting point 204 °C	temperature indicator stick yellow melting point 400 °C
QTY	1 pc.	1 pc.	1 pc.

Application:

Mark the workpiece before or during heating. When the nominal temperature is reached, the marking melts (runs) and is clearly visible.



Item no.	311060	311061	311065
Description	Temp indicator strip with 6 points up to 160 °C	Temp indicator strip with 6 points up to 127 °C	temperature indicator stick blue melting point 500 °C
QYT	10 pcs.	10 pcs.	1 pc.

Apply indicator by applying light pressure to clean, grease-free surface. When the temperature threshold is reached, the color of the measuring point changes.



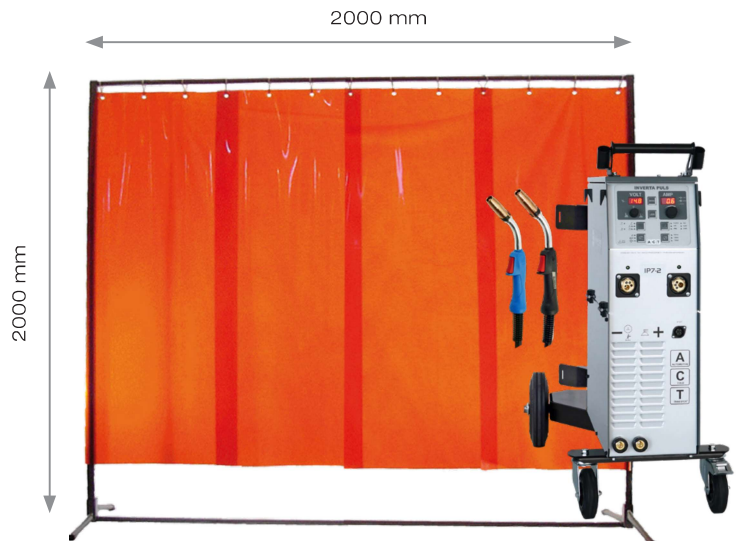
Landskit 2000 - mobile welding protection curtains stand

Item no. 881220

Fixed protective wall for welding work.
Lamella length 1800 mm with running clamps
ground clearance approx. 300 mm



colour orange



An advantage of welding curtains in orange is their transparency, which allows you to observe the welding process without suffering radiation damage to your eyes.

Item no.	311041	311026	311040
Description	special plier for gas welder with 4 functions	protection paste for gas nozzles 350 ml	cleaner kit 13 pcs. for current nozzles
QTY	1 pc.	1 pc.	1 pc.



For all welding nozzles. Fast and accurate trimming of the welding wire, time-saving cleaning of the shielding gas nozzle, pulling off the shielding gas nozzle, loosening and tightening the nozzle.

silicon-free



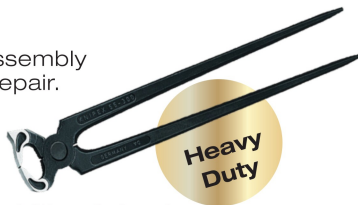
Prevents rapid clogging of the welding torches by welding spatter on gas and current nozzles.



12-piece nozzle cleaning needle kit in the practical, hinged metal box. With approx. 90 mm long needle files from Ø 0.4 to 1.6 mm including 1 flat file for cleaning welding nozzles.

Item no.	561030	311020	311048
Description	nipper plier weight 790 g	welding protection spray Trennfix silicon free, 400 ml	gas tester
QTY	1 pc.	1 pc.	1 pc.

Designed for disassembly work in car body repair.



Cutting edges are additionally hardened. Blade hardness approx. 59 HRC. Made of forged special tool steel, oil-hardened. The pliers are black atramentised with polished head.

Release agent and lubricant, very economical. Prevents rapid clogging of the welding torch by welding spatter on gas and current nozzles.



This gas flow tester is used to measure the flow rate of **Argon/CO2**. Due to the accuracy of its workmanship, it provides very precise results.



Item no.	881036	311044	311042
Description	welder gloves size XL	double branch valve 1/4" for manometer CO2 / Argon	ProControl, pressure regulator for CO2 / Argon / MIX and noble gas
QTY	1 pair	1 pc.	1 pc.

Thick, flexible grained cowhide, oil and water resistant welder gloves. Padded back of the hand, palm unlined for better grip, sewn with 4 x Kevlar thread. size XL, length 36 cm | 14"



up to gas purity 4.6
 5 - 24 l/min adjustable
 outlet G 1/4" AG
 inlet W21.8 x 1/14"
 scale only for argon and CO2
 max. cylinder pressure 200 bar
 scale only for argon and CO2



Item no.	311043	374415	304053
Description	magnetic holder for torches	ground clamp without cable	ground clamp with cable 5 m
QTY	1 pc.	1 pc.	1 pc.



Welding protection blanket

Item no. 881011 1000 x 1000 mm

High Level Protection

Indispensable for welding, soldering and tinning

The collected welding drops do not penetrate the protective mat. Fire holes are thus effectively prevented. No health hazard as with asbestos mats etc.

Material: Tectalon® 1100 Niro / stainless steel Fabric core
max. temperature resistance **700 °C**



Spark protection blanket set

Item no.	882001
	3 pcs.
QTY	1 set



Spark protection blankets in 4 sizes

Item no.	881004	881003	881002	881001
Dimensions	1000 x 1000 mm	2000 x 1500 mm	2500 x 1250 mm	3000 x 2500 mm
QTY	1 pc.	1 pc.	1 pc.	1 pc.

Material: stainless steel fabric core with max. temperature resistance **500 °C**

Advantages that pay off

Car windows splashed by flying sparks or paint damage, which are usually replaced at the cost of a garage, are many times more expensive than the purchase of the inexpensive and effective protective mats.



Scope of delivery:
1 x Welding protection blanket | 881011
1000 x 1000 mm
1 x Spark protection blanket | 881003
2000 x 1500 mm
1 x Spark protection blanket | 881002
2500 x 1250 mm

Grinding protection door cover

Item no. 881005 1000 x 1250 mm

Optimal protection for car doors

The material carbon fiber has the properties of high temperature resistance, is not flammable and a cloth-like soft handle guarantees easy handling. Hot, sharp-edged abrasive particles cannot penetrate the cloth material. Simply shake out after use.



Glass fabric spark protection blanket in 3 sizes

Item no.	881007	881009	881010	881008
Dimensions	1000 x 1500 mm	2000 x 1500 mm	2500 x 1250 mm	3000 x 2500 mm
QTY	1 pc.	1 pc.	1 pc.	1 pc.

Material: glass fabric with Alufix coating
Permanent temperature resistance up to **550 °C**, short term up to **600 °C**



Optimal protection

The most important measure to prevent incipient fires during welding or flexing work is to cover flammable areas with a classified spatter/spark protection blanket. Special coatings in combination with the fabric weave and thickness provide the highest protection against mechanical stress.

Flame retardant: B - s2, d0 according to DIN EN 13501-1
Protection against flying sparks and flex spatters
Weight: approx. 650 g/m²
thickness: 0.7 mm | non-slip, gray on one side

Welding protection helmet **WS07 Pro**

Item no. 881047

Top features

- viewing window 30% larger than comparable models
- most modern sensor technology and automatic dimming
- variable blackout protection levels from # 9-13
- fastest reaction time - 0.00005 sec. (1/20.000)
- fine adjustment of the optical sensitivity
- adjustable rebrightening time min. 0.1 / max 1 sec
- 4 independent arc sensors
- automatic power saving shut-off after 20 min.
- extra wide and well padded headband reduces remarkably tiredness effects
- solar cells supported battery operation



Welding protection helmet **KAIMAN**

Item no. 881043

The **KAIMAN** auto-darkening welding helmet is suitable for all applications. It is equipped with 4 sensors, internal control and the **True Color** System, for a sharp and clear view, which allows the operator to distinguish easily the objects in the work area with lower eye strain.

Application areas:

- MIG-MAG (GMAW)
- WIG (GTAW) > 20 A
- electrode
- OXYGAS
- Grinder



Welding protection helmet **P850**

Item no. 881042

P850 is the entry-level auto-darkening welding helmet. It is perfect for those who want an affordable, reliable and aesthetic product. The helmet is provided with two darkening sensors and external regulation of the DIN grade. Provided with the True Color system, which ensures a clean and clear vision, it enables the operator to distinguish easily the objects in the work area with a lower eye strain. The external regulation allows the transition to the grinding modality without having to remove the helmet.

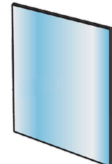
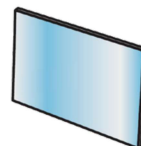
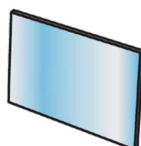
Perks:

- optical class 1/1/1/2
- field of view: 96 × 39 mm
- filter size: 110 × 90 × 9 mm
- 2 sensors
- response time < 0.3 ms
- external degree control DIN 4 / 9-13
- internal delay time 0.1 - 1.0 s
- internal sensitivity regulation
- battery supply + solar cells
- weight: 485 g



Spare parts **KAIMAN & P850**

Item no.	884055	884054	884053	884052
Description	head mounting	inside protector glas	inside protector glas	outside cover lens
spare part for	Welding helmet P850 & KAIMAN	Welding helmet KAIMAN	Welding helmet P850	Welding helmet P850 & KAIMAN
QTY	1 St.	5 St.	5 St.	10 St.



Spare parts **WS07 Pro & accessories**

Item no.	804048	884042	884043	884047
Description	auto darkening lens CP	outside protector glas	inside protector glas	battery CR2450
QTY	1 pc.	10 pcs.	10 pcs.	1 pc.



Item no.	884044	884048	884050	884051
Description	head mounting kpl.	sweatband with velcro fastener	Athermal® welding glas A1 DIN 90 × 110 mm	front glass DIN /CE 90 × 110 mm
QTY	1 pc.	2 pcs.	10 pcs.	10 pcs.



Proven welding protection glass according to DIN EN 166/169. For use in welding shields, head hoods or welding protection hoods. The glass is tinted in protection level DIN A11. Recommended protection levels for eye protection: Electrode welding: 50 - 149 A | MAG welding: 40 - 99 A | MIG welding: 80 - 174 A | MIG welding ALU sheets: 100-174 A | WIG welding: 100 - 174 A Hollow electrode: 80 - 124 A