





# Bodywork repair



Product Catalogue 2018 /19



# **ELMA-Tech The Welding Process - Versteher**

In the field of plasma, arc and resistance technology we use our self-developed microprocessor-based process control "Virtual Machine" (after P. Puschner) in our welding equipment produced in Germany.

With this welding process control, we achieve unrivaled results at the customer, above all with regard to welding quality, process reliability and energy efficiency.

Since the founding of ELMA-Tech on the basis of the acquisition of the arc division of DALEX in 2002, we developed ourselves as a plant manufacturer in the field of welding technologies to the solution provider for complex processes in the arc and plasma, as well as the resistance spot welding technology.

Our claim: Welding today the materials of tomorrow!





Produced in ...

# Premium welding quality through technological development cooperation with the manufacturers!

For years car repair shops, car body construction and body repair shops around the world rely on ELMA-Tech welding machines. Especially the Plug & Weld spot welding machines with their fully automatic welding process control, their Aluminum welding function and the integrated quality assurance system offer bodyshops the ultimate in technologically advanced spot welding technology.

Why? Because ELMA-Tech spot welding technology has always been developed in close connection with the requirements of the automotive industry and is in practical use in its pilot halls, in pre-assembly, in rework stations as well as in small series production. For this reason, our machines already weld aluminum, magnesium or new composites such as Litecor (ThyssenKrupp).

With ELMA-Tech spot welding machines and arc welding machines, you are on the safe side of technology and invest in the welding technology of tomorrow with the materials of tomorrow! We have the automotive welding technology for you!



# **Your contact**

# Countable benefit ...

- Best reproducible and fast welding quality
- Highest process reliability
- Maximum energy cost savings
- Comfortable handling



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MATECH GMBH

technologies

machines

# Service

- Expert advice at your site with machine presentation
- Service on site
- Rental equipment and rental welding guns available
- Competent help from our sales and service staff
- Careful testing of malfunctioning machines in our service department
- Detailed cost estimate
- · Fast execution of the repair



# **PREMIUMspot VISION** ....

## Multifunction spot welding machine in the premium class with complete software package for worry-free automotive repair!

Body repair easier than ever before! Quality welding without manual settings! The machine takes on responsibility for:

- · Automatic control of the energie yield
- Automatic detection of total sheet thickness
- Automatic detection of material type
- · Automatic parallel resistance detection
- Automatic energy tracking

Fully automatic welding particularly of components made of high- or maximum strength and also coated and laminated steel panels. Aluminum welding for thin aluminum sheets up to 3 mm. All required welding tasks performed by a single device:

- Spot welding in automatic mode without prior adjustments
- Conventional spot welding in standard mode with setting of current and time
- Spot-welding with guality assurance and energy control: Welding programs for coated panels and panels still containing traces of paint or adhesive residues, including independent parallel resistance detection system and stabilizing control as well as vehiclespecific programs with approved parameters of vehicle manufacturers
- Spotting, dent repair, pulling of steel plates, welding-on of pins and T-pins (with optional spotter)

# Characteristics PREMIUMspot VISION

- Welding process control Virtual Machine (VM3)
- High welding currents even with low fuse protection
- High quality performance "spot by spot"
- Energy control
- Parallel resistance detection
- · Reproducible welding quality
- Welding parameters can be updated via USB-Stick at any time
- Welding data documentation with the use of Spot QS Viewer (optional)
- Complete software package
- Equates to the exposure limit values of the EU-Directive 2004/40/EG
- Easy and guick exchanging of C- and X-gun



# 2\_1028.1\_1

Item no.

# **Standard equipment**

C-gun with 6 m cable hose packet Arms: 40 / 80 / 350 / 500 mm outreach 10 m main connection with 32 Amp. plug Electrode case

### Delivered software package:

VISION-AUTO, VISION-SPEZIAL, VISION-ALU, ELMA-QS, STANDARD, SINGLE, OPEL, OPEL-VP

## **Option (i.a.)**

It may come to higher loads of the spot welding guns in the production of larger sized body construction. In such cases, it is advisable to equip our PREMIUMspot VISION with an internal active cooler in order to achieve maximum cooling of the flow temperature of the water in the cooling circuit of the guns.

# ... with welding process control Virtual Machine (VM)

## **Optimize workshop processes. Save working time.** Innovative - uncomplicated - fast - safe!

Also according to the market, ELMA-Tech spot welding systems are technological leaders. 10 kHz medium frequency technology, small transformers, light spot welding guns, virtual measuring technology and the fully automatic welding mode together with the integrated quality assurance system offer the customer easy work with the highest welding quality.

The innovation of the ELMA-Tech spot welding technology consists in the type of process control of the spot welding process with the unique process control virtual machine - now in the 3rd generation (VM3).

7" TFT color display (16:9) 800 x 480 px resolution LED-Backlight Signaling machine status Signaling quality status USB interface

Are your employees still setting parameters or do they already weld?

Spot welding with Virtual Machine: For fast and uncomplicated work processes in body repair!





## **Operation panel of VM3**

# The Plug & Weld principle

Switch on ... Electrode check ... Address automatic mode ... Weld!



# **ELMAspot VISION**

# Multifunction spot welding machine with fully automatic welding process

For the resistance welding of components made of hight-strength steels as well as multiple sheet panel connections, coated and laminated steel panels with quality statement regarding the welding process (welding result) - no parameter settings neccessary. This unique control technology with Virtual Machine also enables the welding of new materials without the requirement of further adjustments.

## **Characteristics ELMAspot VISION**

- Control of welding process with Virtual Machine (VM3)
- 5,5 kN electrode force in all C centre-arm distances (80, 350, 500 mm) at 6 bar
- 5 m mains cable with 32 Amp. CEE connector
- Main circuit breaker
- Extremely low spot welding gun weight (eg. C-gun 10.5 kg)
- Quick coupling connection for plugable cable hose package (4 m)
- Internal (not active) water cooling with a large 70 liter tank
- High welding currents even with low fuse protection
- Digital welding control Virtual Machine with quality assurance system and display
- Precise process regulation, energy control, parallel resistance detection
- Reproducible welding quality
- Update-ability via USB-interface
- Printout of the welding parameters via SpotQS-Viewer Software (optional)

# The new efficiency in spot welding

Elmaspot Vision - the "little sister" of PREMIUMspot VISION does not have to hide behind its "big sister" in terms of technology, because the control technology is the same!

Both spot welding machines differ from each other only in the equipment.

For operating a spot welding gun in C or X design.

With 70 l water tank (without active cooling) or with active cooling (cooling unit with adjustable flow temperature).

Individual solutions, e.g. for connection to an external ring line or to an external active cooler are possible (e.g. at continuous operation request)! Ask us.

# Fully automatic welding with Plug & Weld

# ELMAspot VISION with boom and balancer

# **Options (i.a.)**

- ELMAspot T without VM process control
- Internal active cooling unit

- documentation

**ELMAspot VISION with** internal, active water cooler for higher demands in body repair or in body construction.

# Item no.

# Spotter / multifunction guns W G





welding tasks.

this topic.

- Boom with snap hook





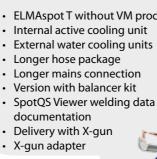
2 1008.1

5 m mains connection with 32 Amp. plug Electrode case with C-electrode shafts Delivered software package: VISION-AUTO, STANDARD

**Standard equipment** 

C-gun with 4 m cable hose packet Arms: 80 / 350 / 500 mm outreach











**Balancer-Kit** 



# MIDI MIG 300 DC G W

## Multifunction welding inverter with process control Virtual Machine

The multifunction knob allows the machine to be adjusted easily and speedily to specific welding tasks like the welding or MIG-brazing of different materials like steel, aluminum, magnesium or galvanized sheets..



The arc welding machine MIDI MIG is not only the best-selling pulse system in collision repair, but has also been used in industry and in the automotive industry for many years due to its versatility and robustness.

MIDI MIG 300 AC/DC G W

# **Standard equipment**

- Integrated 4-rolls wire feed unit; Remote control DC: 1 Welding torch ML 24/3 S ZA
- AC/DC W:
- 1 Welding torch MW EV 45/3 m AC/DC G:
- 1 Welding torch ML EV-20/3 m
- 1 Earth cable 5 m, 1 Pressure regulator • 1 Basket coil adapter
- 1 gas hose 1,5 m
- 1 Trolley with gas bottle holder



MIG, MAG, MIG-Puls, MIG soldering, DUAL pulse welding, stick electrode welding

MIG AC pulse welding, MIG DC pulse welding, MIG / MAG, DUAL pulse welding, MIG soldering

## AC/DC: premium technology for alu processes

- Avoiding of strong warping due to the very good heat control with the help of the negative ground current
- Premium gap bridging
- Reduced penetration depth at a higher deposition rate
- Minimal spattering
- Improved droplet dissolution
- Highest reproducibility and adjustment accuracy
- Especially suitable for welding aluminum thin sheets
- < 1mm thickness



6

AC/DC, water-cooled (W)

AC/DC, gas-cooled (G)

# 1\_3577.1\_7\_SET (G) 1\_3577.1\_8\_SET (W)

Item no.

# (G) (W)

# The special advantages of AC welding in the arc

The spot welding machines from ELMA-Tech with their fully automatic welding mode have been known in body repair for years. With the "VISION ALU" aluminum mode, maximum total sheet thicknesses of up to 3.0 mm can be spotted - the parameters are selected by the system itself.

But also in the arc sector, especially the AC systems from ELMA-Tech offer convincing advantages to the body and vehicle operation. Further developments in the field of inert gas welding took already place in the 1990s with the introduction of HF-free commutating AC generators for both TIG and MIG / MAG machines.

The importance of these innovations lies in the possibility of shifting the energy balance between the electrode and the base material, which makes it possible to weld thin sheets or pairings with higher gaps in unprecedented ways. At the same time, AC frequencies independent of the mains frequency can be generated with freely selectable phase shifts. The results of these innovations are impressive:



Tried and tested thousands of times in industry and automotive.

# The leading process control for aluminum welding processes

• "Coldest" AC process in the market







**Absolute Flexibility!** 

• 2 x 7 switching steps for MIG / MAG and

• 2 x 4 roller drives for coils up to 300 mm

x welding torch MB 25/3 ZA (3 m)

• 2 / 4 stroke operation spot / interval control 1 x welding torch MB 25 /4 ZA (4 m)

**Standard equipment** 

# **MIG 240 DUO**



**Step machine** 

# • 2 x gas hose 1,5 m

# Welding methods

• 2 x torch holder

MIG brazing

MAG, MIG, MIG soldering

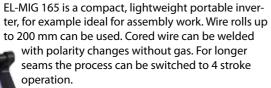
2 x pressure regulator

• 2 x basket coil adapter

• 1 x workpiece lead 4 m

**EL-MIG 165** 

Handy universal inverter



The device has a PFC function installed. Thus welding goes up to 200 A with only 16 A fuse. PFC reduces the connection current by 35%, the power consumption is correspondingly lower. This means that the device is very economical.

Step machine

## Functions: MIG 2/4 stroke, polarity change, central connector. Energy-saving with PFC, wire soft start. Holder for disposable gas bottle. Single phase. Portable, for 5 kg wire coils.

# **Standard equipment**

Welding torch MG 150 / 3m, earth cable, gas hose, pressure regulator

Welding methods

MIG, MMA

# **Special feature**

Maximum flexibility! Weld with 3 different types of wire! Without conversion, it is possible to connect a third welding torch with a wire coil attachment (spool gun). The selection of the respective torch is done by toggle switch.

# **Technical data**

Supply voltage	3 x 400 V	
Setting range MIG/MAG	30 – 240 A	
Open circuit voltage	11 – 33 V	
Duty cycle (40°C)	HSB 35 % ED: 240 A	
	HSB 60 % ED: 140 A	
	HSB 100% ED: 110 A	
Protection	IP 23	
Isolation class	н	
Weight	60 kg	
Dimensions L x W x H	880 x 496 x 900 mm	
	94_0133.4_SET	

# **Technical data**

Supply voltage	230/240 V 50/60 Hz	
Fuse (slow-blow)	16 A	
Welding range MIG	30 - 165 A	
Open circuit voltage MIG	17 - 25 V	
Duty cycle MIG (40° C)	100 % - 120 A	
	60 % - 140 A	
	25 % - 200 A	
Welding wire	0,6 - 0,8 mm (Stahl)	
Protection	IP 21	
Isolation class	Н	
Cooling	AF	
Dimensions L x W x H	525 x 260 x 340 mm	
Weight	14 kg	

94\_0141.4\_SET

# **Energy saver!**

# Item no.

# **KARoMIG**



 Seam welding (10 steps) • Long-pulse welding (2 steps)

# **MIG 202**

• MIG soldering (level 1)



Seam welding, spot welding, MIG soldering

# **Standard equipment**

MIG / MAG system, welding torch Ergoplus 15/3 ZA, workpiece lead, pressure regulator, basket coil adapter, gas hose

- 10 -

## Item no.

## Powerful inert gas welder especially for car repair

With air-cooled welding torch, particularly suitable for welding thin to

MIG / MAG system, 3 m welding torch Ergoplus 15/3 ZA, 3 m workpiece lead, pressure regulator, basket

work horse!

**Compact universal inverter** 

brazing for coated sheets.

Characteristics

2 roller drive

Gas test

wire feeder

type of gas

rectifier

# **Technical data**

Supply voltage	3 x 400 V 50/60 Hz
Max. power output	6,8 kVA
Continuous- / max. current	2,9 / 9,8 A
Fuses	16 A (slow-blow)
Connecting cable	4 x 1,5 mm² Cu
Power factor cos.	φ: 0,75
Setting range	30 - 180 A
Open circuit voltage	16,5 - 43 V (approx.)
Duty cycle:	
HSB 20% ED	180 A / 22 V
HSB 60% ED	90 A / 19 V
DB 100% ED	70 A / 18 V
Solid wires	
Steel / stainless steel	0,8 mm - 1,9 mm
Aluminum	1,0 mm
Dimensions L x W x H	816 x 460 x 660 mm
Weight	67 kg
Gas bottle holder	Up to 20 l (mixed gas)
	1_3641.1

## The compact MIG / MAG inert gas system MIG 202 is equipped with an air-cooled welding torch and is particularly suitable for vehicle repairs, workshop operations and locksmiths. Areas of application include welding with thin to medium thick sheets and MIG

# Classic!

 Overtemperature protection 2 / 4 stroke operation, central connector, adjuster for wire burn-back time,

• Welding capacity in 7 settings Simplified operation thanks to automatic

• Adjusting the wire feeding speed to the

 Adjuster for wire burn-back time Thermal protection of main transformer and

· Indicating lamps "Ready" and "Failure"

# **Technical data**

Supply voltage	3 x 400 V 50/60 Hz
Connection load	7,2 kVA
Current	10 A
Fuse	10 A (slow-blow)
Connecting cable	4 x 1,5 mm² Cu
Setting range	30 - 200 A
Open circuit voltage	15,5 - 33 V (approx.)
Duty cycle	
HSB 20%	200 A
HSB 60%	139 A
DB 100%	100 A
Solid wires	
Steel / stainless steel	0,8 - 1 mm
Aluminum	1,0 mm
Dimensions L x W x H	790 x 440 x 730 mm
Weight	58 kg
Protection	IP 23
Isolation class	Н
Certification	S-Zeichen
	94_0107.4



# **Overview accessories & consumables spot welding**



# **Order accessories & spare parts**

No.	Product description
1	Accessories box with electrode caps
2	Electrode cap, standard, Ø 13 mm
3	Electrode cap, special, Ø 13 mm, L = 12 mm
4	Electrode cap, special, Ø 13 mm, L = 12 mm
5	Electrode cap, standard, Ø 16 mm
6	Special electrode cap M8 for spherical head electrode
7	Electrode cap for spotter, Ø 13 mm
8	Electrode cap (Spade shape)
9	Electrode cap (D-shape, conical)
10	Special eye for pulling, three sides (Packaging unit = 20 pcs.)
11	Carbon electrode
12	Corrugated wire (Packaging unit = 50 pcs.)
13	Electrode cap spanner
14	Electrode cap file (for Ø 13 and 16)
15	Electrode cap milling machine (incl. 1 cutter) Ø 13 mm
	Electrode cap milling machine (incl. 1 cutter) Ø 16 mm
16	Electrode cap cutter (incl. blade) Ø 13 mm
	Electrode cap cutter (incl. blade) Ø 16 mm
17	Spare blade for cutter Ø 13 mm
	Spare blade for cutter Ø 16 mm
18	Weld nugget solvent MIDI Drill
19	Drill 3-cutter Ø 8 mm
20	Schleiffix universal cleaner
21	Anti-sticking paste, can
22	Accessories box (empty)
23	Coolant CS 330, container with 3 l
	Coolant CS 330, container with 10 l
24	Cover hood for PREMIUMspot VISION
25	SpotQS-Viewer software for welding data recording PREMIUMspot, evaluation and archiving and DIN A printouts via USB via any PC pos- sible. System requirement: As of Microsoft .NET Framework 2.xx under Windows XP, Vista, 7, 10
26	HL ball cutter for axial grinder Ø 8 mm, golden head
	HL ball cutter for axial grinder Ø 10 mm, golden head

Customer number:			
Company:			
Name:		Forename:	
Address:			
Post code:			
City:			
ELMA-Tech GmbH	Wisseraue 1	51597 Morsbach	Tel. +49 (0)2

Item No.		Number
16_0040.3		
90_1330.4		
90_1330.4_3		
90_1330.4_2		
90_1627.4_1		
90_1331.4		
90_1345.4		
90_1400.4		
90_1336.4		
90_1228.4		
90_1229.4	Ala	
91_4750.4	Ask	
X-Schlüssel_53	VOUK	
90_1704.4	your	
90_1367.4	supplier	
90_1367.4_1	Supplier	
90_1366.4	for the best	
90_1364.4		
90_1366.4_1	price	
90_1364.4_1		
83_0289.4		
83_0513.4		
X_Schleiffix_120		
90_1323.4		
9_8572.4		
1_6115.3		
1_6116.3		
1_6231.3_D		
1_7617.3_QS		
600100		
600101		

Phone number: E-Mail: Order date: Company stamp, signature



# **Overview accessories & consumables arc welding**











Welding accessories

Consumables

Spare parts

No.	Product description	Item No.	Number
	MIG 202 - spare parts & accessories		
1	MIG welding torch Ergoplus 15/3 ZA	91_4873.4	
2	Pressure regulator DM 1	9_1704.4	
3	MIG welding torch Ergoplus 15/4 ZA (Option)	91_4874.4	
	KARoMIG - spare parts & accessories		
4	MIG welding torch Ergoplus 15/3 ZA	91_4873.4	
5	Pressure regulator DM 1	9_1704.4	
6	MIG welding torch Ergoplus 15/4 ZA (Option)	91_4874.4	
	MIG 240 DUO - spare parts & accessories		
7	Welding torch MG 250/3, 3 m Länge	91_6262.4	
8	Welding torch MG 250/4, 4 m Länge	91_6263.4	
9	Pressure regulator DM 1	91_6283.4	
10	Pressure regulator DM 2	91_6284.4	
11	Gas hose GS 1,5	1_6175.2	
12	Gas hose GS 3	1_6023.2_A3	
13	Earth cable	90_1022.4	
14	Basket coil adapter	91_0320.4	
	EL-MIG 165 - spare parts & accessories		
15	MIG welding torch MG 15.3	91_6285.4	
16	Earth cable	90_1022.4	
17	Gas hose	1_6175.2	
18	Pressure regulator DM	91.6284.4	
	MIDI MIG 300 DC - spare parts & accessories		
19	MIG welding torch ML 24 / 3 S ZA, gas-cooled	91_1280.4	
20	Polyamide core 2 x 4 für 4 m	91_6100.4	
21	Pressure regulator DM 1	9_1704.4	
22	Earth cable 50 qmm, 5 m	90_1022.4	
23	Basket coil adapter KT 1	91_0320.4	
24	Gas hose 1,5 m	1_6175.2	
25	Trolley with gas bottle holder	1_4581.1	
26	Water cooling	1_4587.1	
27	MIG welding torch ML 24/4 S ZA, gas-cooled (Option)		
28	MIG welding torch MW 240/3 S ZA, water-cooled (Option)		
29	MIG welding torch MW 240/4 S ZA, water-cooled (Option)		
30	Active cooling unit MIDI cooling shuttle (Option		
	(option)		

# **Overview accessories & consumables arc welding**

No.	Product description	Item No.	Number
31	Welding wire CuSl 3, 1.0 mm Ø, 5 kg coil	91_4671.4	
32	Welding wire CuSl 3, 1.0 mm Ø, 15 kg coil	91_4555.4	
33	Welding wire Alu AISI 5, 1,2 mm Ø, 7 kg coil	91_1125.4	
34	Welding wire SG 2 D 300, 0,8 mm Ø, 15 kg coil	91_1100.4	
35	Welding wire SG 2 D 300, 1,0 mm Ø, 15 kg coil	91_1101.4	
36	Wire feeding rolls (Packaging unit=2) 1,0 / 1,2 Alu	9_4532.4	
37	Helmet Solar DIN 9-13 (Option)	91_4917.4	
	MIDI MIG 300 AC/DC - spare parts & accessories		
38	MIG Welding torch ML EV-20/3 m, gas-cooled	91_6250.4	
39	MIG Welding torch MW EV 45/3 m, water-cooled	91_6254.4	
40	Pressure regulator DM	9_1704.4	Ask
41	Earth cable 50 qmm, 5 m	90_1022.4	ASK
42	Gas hose 1,5 m	1_6175.2	Vour
43	Basket coil adapter KT 1	91_0320.4	your supplier for the best
44	Polyamide core 2 x 4 für 4 m	91_6100.4	supplier
45	Water cooling	1_4587.1	
46	Trolley with gas bottle holder	1_4581.1	for the best
47	MIG welding torch ML EV-20/4 m, gas-cooled (Option)	91_6251.4	
48	MIG welding torch MW EV 45/4 m, water-cooled (Option)	91_6255.4	price
49	Welding wire CuSi 3, 1.0 mm Ø, 5 kg coil	91_4671.4	
50	Welding wire CuSi 3, 1.0 mm Ø, 15 kg coil	91_4555.4	
51	Welding wire Alu AlSi 5, 1.2 mm Ø, 7 kg coil	91_1125.4	
52	Welding wire SG ALMg 4,5 Mn, 1.2 mm Ø, 7 kg coil	91_1116.4	
53	Welding wire SG 2 D 300, 0.8 mm Ø, 15 kg coil	91_1100.4	
54	Welding wire SG 2 D 300, 1.0 mm Ø, 15 kg coil	91_1101.4	
55	Wire feeding roll Alu 1.0 / 1.2	9_4532.4	
56	Wire feeding roll steel 0.8 / 1.0 Trapez DV 12	9_4180.4	
57	Wire feeding roll steel 1.2 / 1.6 Trapez DV 12	9_4214.4	
58	Helmet Solar DIN 9-13	91_4917.4	

Customer number:			
Company:			
Name:		Forename:	
Address:			
Post code:			
City:			
ELMA-Tech GmbH	Wisseraue 1	51597 Morsbach	Tel. +49 (0)22

Phone number:

E-Mail:

Order date:

Company stamp, signature

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# Bodywork repair Product catalogue 2018/19



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