

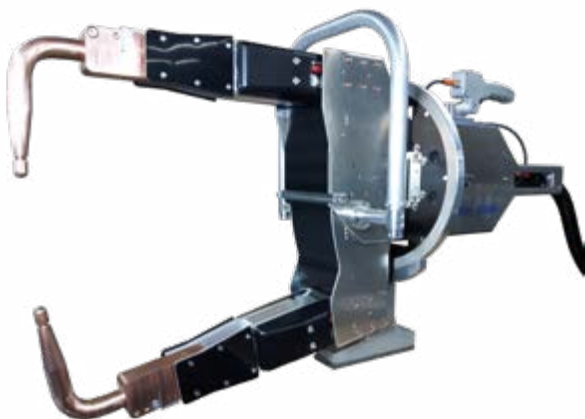
ELMA CONTROL VISION

Fully automatic spot welding control system

Process-controlled fully automatic spot welding control system for flexible deployment on manual and robot-guided production lines in the automotive sector.

Many of the materials used today exhibit highly specific properties. Processing such materials to a high-standard means that requirements on the production line are changing fundamentally.

The unique control technology developed by ELMA-Tech enables a flexible and targeted real-time response to precisely these rapidly changing requirements. The revolutionary and self-adjusting ELMA CONTROL VISION spot welding control unit is designed and developed for flexible deployment on production lines in the automotive sector.



Spot welding gun
ELMA VISION VM



Spot welding gun
ELMA VISION CM

REFERENCES

ELMA-Tech references from the automotive industry

Audi Ferrari Fiat Krupp Drauz

Opel GM Saab Vauxhall

Honda Jaguar Lamborghini

Landrover Nissan Ford Peugeot

Citroen Porsche Renault Volvo

BMW Mini Smart Maybach

Mercedes Benz Chrysler Toyota VW



Hand-held device for configuring the process control

ELMA CONTROL VISION

Technical data

ELMA CONTROL VISION switch cabinet

Welding performance

Maximum current	13 kA / 15 kA
Welding current	Direct current
Open circuit voltage (gun transformer)	12,5 V DC

Mains connection data

Mains voltage	3 x 400 V, 50 Hz
Maximum power	130 kVA
Continuous power (100% ED)	10 kVA
Fuse (slow-blow)	32 A
Connection cable (Cu)	4 x 10 mm ² / 16 mm ²
Protection class	IP 53

Connection data - gun

Voltage	560 V / 10 kHz
Maximum current (eff.)	230 A / 300 A
Compressed air (proportional valve)	6-10 bar

Coolant

Flow rate	min. 6 l/min
Pressure	min. 2 bar
Dimensions (H x B x T)	900 x 700 x 600 (incl. HIP)
Weight	95 kg

ELMA VISION C-AV & X-AV

Connection data

Primary voltage (transformer) / frequency	560 V / 10 kHz
Primary power (50 % ED)	13,5 kVA
Protection class	IP 21
Insulation class	F
Cooling method	WF

Welding circuit

Welding current	13 kA
Open circuit voltage	12,5 V DC

Mechanical data

Electrode force	0 - 5,5 kN
Weight (without arms)	14,5 kg (X-gun) 10,5 kg (C-gun)

Subject to technical and substantive alterations.

ELMA VISION CM & CR/VR

Connection data

Primary voltage (transformer) / Frequency	560 V / 10 kHz
Primary power (50 % ED)	18,7 kVA

Welding circuit

Max. welding current	13 / 15 kA
Open circuit voltage	12,5 V DC

Water cooling

Flow rate (min.) at flow temperature of 22°C	6 l / min.
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ELMA VISION CM / CR

Mechanical data

Window size	Customer-specific
Electrode force, max.	5,5 kN at 6 bar

Weight

CM (without arms, without hose set)	34 kg
CR (without arms, without hose set)	52 kg

Mechanical data

Arm length	Customer-specific
Electrode force	Arm-specific

Weight

without arms, without hose set	35 kg
without arms, without hose set	5 7 kg

CM = C-version for manual production

CR = C-version for robot-guided production

VR = V-version for robot-guided production

ELMA CONTROL VISION

Fully automatic spot welding control system

The ELMA CONTROL VISION fully automatic spot welding control system is designed for all ELMA-Tech 10 kHz transformer spot welding guns

All necessary welding processes in a single device:

- Current / time control KSR conventional
Settings: single parameter
- Energy control: bypass and partial isolation compensation, QA system
Settings: total sheet thickness, material type
- VISION Automatic: additionally for energy control, automatic detection of material type and total sheet thickness
Settings: NONE - just press START!
- Spotting (optional)

i Unique - self-adjusting spot welding guns

The 10 kHz transformer rectifier unit with potentiometer built into the ELMA-Tech spot welding guns for measuring electrode spacing meets every requirement of a production line in the automotive sector thanks to its lightweight design and the integrated cooling system. The lightweight hose set contains all the necessary supply lines for power, control, water and compressed air.

ELMA CONTROL VISION FEATURES

- Individually customised solutions thanks to the modular system
- Compatible with all 10 kHz ELMA-Tech transformer guns
- Digital control with QS-system and display
- Precision process control
- Energy control
- Parallel resistance detection
- Reproducible welding quality
- Updatable via USB interface
- Connection for external cooling with water monitors for cooling the gun, transformer, cable and electrodes
- Configurable hall installation panel (HIP) | optional
- Hand-held device for configuring the process control
- Can be connected to conventional bus systems, such as interbus or profinet

