

ELMA VISION CM ALU & VMC VISION ALU

Aluminium spot welding system for industrial use



ELMA VISION CM Alu
Hand-held industrial spot welding gun



External control panel for configuring the process control system

FOR RELIABLE USE IN INDUSTRIAL APPLICATIONS

Spot welding gun equipment features

- ELMA VISION CM Alu
- Aluminium version with higher transformer and cooling capacity
- Ca. 5 kN on 6 bar compressed air network
- Electronic precision pressure regulator
- Linear potentiometer for automatic detection of the sheet thickness
- 6 m hose set pluggable on both sides
- With swivel head and gripping ring
- 16 mm copper-chrome-zirconium electrode caps on standard electrode shafts
- Depending on the sheet metal combination, 600 spot welds can be spot welded reliably



ELMA VISION CM Alu - switch cabinet

for the connection of either a (1) ELMA VISION CM Alu or a (1) ELMA VISION VM Alu*.

Upright configuration.



Hall installation plate (HIP)

Rear-mounted media supply unit for media connection of (1) ELMA-Tech spot welding gun (aluminium version). Digital flow monitor, water supply and return, distributor, pressure gauge, compressed air maintenance unit.

Switch cabinet features

- Digital process control for fully automatic spot welding
- Includes ,VISION AV Alu' welding program
- Includes welding programs for high- and ultra-high-strength steels
- Other welding programs according to customer requirements
- Static / dynamic control with ,SpotQS Viewer' quality monitoring system
- Flow monitor, electric precision pressure regulator
- HIP (hall installation plate) rear-mounted media distributor
 - Connection for external cooling, such as ring circuit
 - Alternatively, connection for external water re-cooling unit
- For operation of ELMA-Tech ,Alu' spot welding guns with 10 kHz medium-frequency inverter technology

ELMA VISION CM ALU & ELMA VMC VISION ALU

Technical information

ELMA VISION CM Alu spot welding gun

Welding performance

Setting range	0 - 32 kA
Welding current	Direct current
Maximum current	32 kA
Open circuit voltage	11,1 V DC
Maximum force at 6 bar	5 kN
Weight (without arms, hose set)	88 kg



spot welding gun
ELMA VISION CM Alu



switch cabinet
ELMA VMC VISION Alu

Switch cabinet ELMA VMC VISION Alu

Connection data

Mains voltage	3 x 400 V, 50 Hz
Maximum power	540 kVA (10 ms)
Fuse	125 A
Compressed air supply	min. 6 bar / max. 10 bar
Protection class	IP 21
Insulation class	F
Noise emission	≤ 70 dB (A)
Dimensions (HxBxT)	1520 x 600 x 700 mm
Weight	170 kg

Subject to technical and substantive alterations.

SMC HRS 50

Water re-cooling unit for optimum cooling of the spot welding gun and switch cabinet

- Industrial cooler with 4700 W cooling capacity
- Compact unit for installing in enclosed spaces
- Mobile, digital display, self-diagnosis function and test display
- Compatible mains voltages
(single-phase 100 V AC (50 / 60 Hz), 115 V AC (60 Hz))
- Single-phase 200 to 230 V AC (50/60 Hz)
- Adjustable temperature range: 5 - 40 °C
- Temperature stability: +/- 0.1 °C
- Configuration B x H x T (mm): 377 x 976 x 592
- Weight: 69 kg



SOFTWARE SPOT QS VIEWER

Record, analyse, and archive welding data



SPOTQS VIEWER WELDING DATA DOCUMENTATION (OPTIONAL)

The welding parameters for the individual spot welded joints are recorded and analysed using the SpotQS Viewer welding data documentation system. These include the program selected, the material thickness, the electrode force and the welding result, for example.

The welding parameters and the result of the process are written to the USB stick after completion of a welding job. The result of a process sequence is also indicated by the progress of the QA traffic lights on the control panel.

Given the substantial number of aluminium-based alloys on the market and taking into account the complexity of the aluminium spot welding process, ELMA-Tech is currently not able to guarantee that the aluminium welding process shown in this information can be used to reliably weld every aluminium-based alloy with the same maximum number of spot welds.

To date, positive welding results have been achieved with 5000, 6000 and 7000 series aluminium.

Note

It will only be possible to make dependable statements as to whether aluminium joints or a particular aluminium-based alloy can be spot welded reliably after welding tests have been conducted.