ELMATECH GMBH
electronics machines technologies

ELMA VISION CM Alu & VMC VISION Alu

Aluminium spot welding system for industrial use

For process-safe use in industrial applications

ELMA VISION CM Alu
Hand-guided industrial spot welding gun

Equipment features spot welding gun

- ELMA VISION CM Alu
- Aluminium version with higher transformer and cooling capacity
- Approx. 5 kN at 6 bar compressed air network
- Electronic precision pressure regulator
- Linear potentiometer for automatic sheet thickness detection
- Cable hose package 6 m, pluggable on both sides
- With slewing ring and handrim
- 16 mm CopperChromeZircon electrode caps with standard electrode shafts
- Depending on the sheet combination, 600 welding spots can be reliably spotted.

ELMA VMC VISION Alu control cabinet with VM3 welding process control for the connection of
either one (1) ELMA VISION CM Alu
or one (1) ELMA VISION VM Alu*.
Standing version.

* in the pipeline

Equipment features control cabinet

- Digital process control Virtual Machine (VM3) for fully automatic spot welding
- Incl. welding program „VISION AV Alu“
- Incl. welding programs for high-strength / ultrahigh-strength steels
- Further welding programs according to customer requirements
- Static / dynamic control with „Spot QS Viewer“ quality monitoring system
- Integrated inverter
- Flow monitor, electrical precision pressure regulator
- HIP media distributor installed at the rear (hall installation panel)
  - Connection for external cooling, e.g. ring line
  - Alternative: Connection for external water recooling unit
- For the operation of ELMA-Tech spot welding guns version „Alu“ in 10 kHz medium-frequency inverter technology

External operating panel for process control configuration Virtual Machine (VM) version 3, with 2.5 m connection cable. (optional)

Hall installation panel (HIP)
Media supply unit mounted on the rear side for the media connection of (1) ELMA-Tech spot welding gun aluminium version. Digital indicating flow monitor, water flow and return, Distributor, pressure gauge, compressed air maintenance unit.

Spot welding gun ELMA VISION CM Alu
Technical data

Welding power

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

Control cabinet ELMA VMC VISION Alu
Technical data

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
Isolation class	F
Noise emission	≤ 70 dB (A)
Dimensions (HxWxD)	1520 x 600 x 700 mm
Wight	170 kg

SMC HRS 50

Water recooling unit for optimum cooling of the spot welding gun and the control cabinet (Optional. Recommended.)

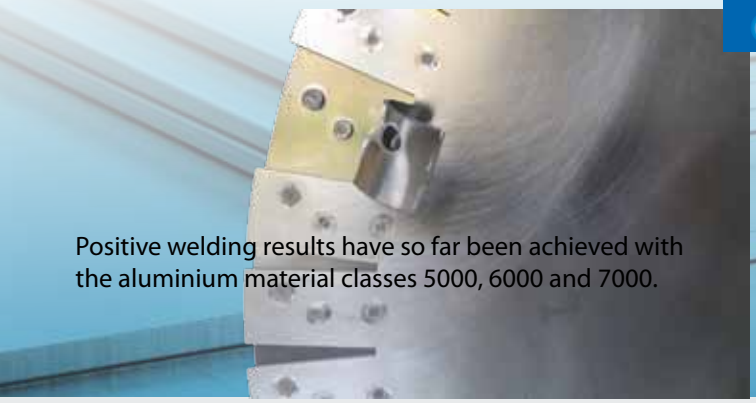
- Industrial cooler with 4,700 W cooling capacity
- Compact unit for installation in enclosed spaces
- Mobile, digital display, self-diagnosis function and test display
- Compatible mains voltages (Single phase 100 V AC (50 / 60 Hz), 115 V AC (60 Hz)
- Single phase 200 up to 230 V AC (50 / 60 Hz)
- Adjustable temperature range: 5 - 40 °C
- Temperature stability: +/- 0,1 °C
- Dimensions W x H x D (mm): 377 x 976 x 592
- Wight: 69 kg

Welding data documentation
SpotQS Viewer Software (Optional)

With the SpotQS Viewer welding data documentation, welding parameters of the individual spot welds are recorded and evaluated. This includes, for example, the selected program, the material thickness, electrode force, welding result etc.

The welding parameters and the result of the process are written on a USB flash drive after completion of a welding task. The result of a process sequence is also reflected in the image of the quality control led lights in the operating front of the VM3 process control.

Software SPOT QS Viewer
Record, evaluate and archive welding data



Positive welding results have so far been achieved with the aluminium material classes 5000, 6000 and 7000.

In view of the large number of aluminium alloys on the market and the complexity of the aluminium spot welding process, ELMA-Tech cannot guarantee at this time that the aluminium welding process presented in this information will allow every aluminium alloy to be welded reliably with the same maximum number of spots.

Only after welding tests have been performed, precise statements can be made whether a certain aluminium alloy or aluminium joints can be reliably spotted.

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Subject to technical and content changes.

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