

M42L-AS



General:

The Magirus turntable ladder M42L-AS according to EN 1846 and DIN EN 14043 meets optimally the manifold requirements by fire departments in their daily operations.

The vehicle performs reliably, and without any problems, all operational tasks demanded to it: rescuing people from greater heights, fire fighting or technical assistance operations.

Research and development lead to improvements in product design and quality. Therefore, we reserve the right to implement modifications without prior notice.

The dimensional drawing may show parts that are not included in the basic configuration of the vehicle and need to be ordered separately.

Further information is detailed in our specifications and brochures for the chassis, the turntable ladder appliance, and the AluFire superstructure system.

Specifications of the M42L-AS

- Penetration into previously unknown space for ladders
- Driving behind Galleries
- Greater underfloor working area

Body, Superstructure:

Substructure with Vario jacking system; podium covered with anodized aluminum sheet quintet (R11); in total of 8 compartments, high compartment behind the cab with 20% more volume; turret with operator stand for turntable ladder; Ladder set.

Technical description



Substructure:

Construction: Substructure with closed side members and cross member made of high strength fine-grained steels. High strength MSH profiles for Vario jacking system. Paint: Cataphoretic total immersion painting at 180° C and multi-coat bicomponent paint (black) up to a coat thickness of 120µm.

Hydraulic system:

Variable displacement pump fitted in the chassis, driven from a power take-off via the cardan shaft. Oil supply via a 140 litre oil tank. Pressure oil supply via a load-dependent control system (Load-Sensing-System). Finely adjustable control slide valves for continuous speed setting. Oil pressure can be switched on and off by means a footswitch (dead man's switch). Hydraulic emergency operation in the event of any electric faults. Manual pump for emergency operation in the event of a vehicle engine failure.

Vario jacking system and springs locking:

Jacking safety system "ASS":

Hydraulically operated bowden cable for rear axle springs locking.

Hydraulically extendable telescopic square tubes transfer the jacking forces into the ground and, in combination with the wheel pressure sensors, guarantee a perfect and even ground contact which is continuously monitored.

Switches at the jacking points additionally monitor stationary stability. The ladder by means of the IVECO MAGIRUS-Vario jacking system, can be jacked up across any width. Jacking width: Variable from 2.800 mm up to max. 5.200 mm.

Outreach control system: Continuous, for different jacking widths there will therefore be an automatic switchover of the electronic safety devices in the computer and on the operating field panel to the respective widest possible outreach.

Control system: All 4 outriggers can be pairwise or individually extended, so that the jacking basis can be adapted optimally to the existing space conditions.

Ground compensation capability: Up to 800 mm.



Technical description

Platform and equipment lockers:

Skeleton structure out of "AluFire" profiles. 8 equipment lockers integrated in the podium. New designed, very quiet and smooth aluminum roller shutters with lockable barlock system. High compartment behind the cab with 20% more volume and design cover. Lateral equipment compartments with one shelf. Compartment illumination via integrated LED light strip on the right and left side.

Warning light for open roller shutter in the cab.

Rear of the vehicle with an attractive design. Optional integrated rear protection lights, possible with up to 8 LED strobe lights.



On the side, LED scene light integrated in the cover profile, almost though the entire body length.



Furthermore the AluFire system features:

- Freedom from maintenance as corrosion damage is excluded
- Longer service life
- Flexibility of interior outfit due to the screwed construction
- Easy repair in case of damage
- Clear layout in the equipment lockers
- Highly robust and torsion-proof superstructure

Compliance with the technical and technological specifications is permanently monitored by a quality

Technical description

management system in accordance with DIN / ISO 9001.

At the end of the service life the high aluminum content of the superstructure enables to simple and low cost recycling capability.

Main control stand on the turret:

The control of the ladder movements is carried out from a central main control stand. The generous operator seat, with seat heating, is optimally adapted to the ergonomic main control stand. A wide access with stable handrail and LED lighting completes the package.

To put the operator always in good working position, the seat together with the deadman switch is adapting automatic to the angle of the ladder set.



Control philosophy: The main control stand has priority over the cage control.

Main control elements ergonomically arranged and assembled at the swivelling operator seat with two integrated control levers for:

- Extension / retraction
- Elevation / lowering and rotation (left/right)
- Dead man's footswitch for ladder release
- Swivelling colour monitor with TFT technology
- Emergency drive lever.

Further control elements:

- Motor start / stop
- Lighting on / off
- Establish rungs alignment
- Automatic side plumbing on / off
- Emergency stop switch with interlocking.

Soft keys to call up menu programs for:

- Intercom system microphone between rescue cage and control stand seat
- Loudness control
- Electric searchlight adjustment.

Ladder set in 5 sections

The front part is designed as an articulated arm, 4,8 m long and up to 75 degrees from swiveling.

Material: High quality special steel profile.

Guides: Synthetic material gliders on stainless steel rails and rollers in one another.

Extension and

retraction cables: Dual cable set, laterally disposed, diameter of 7 mm for the 1st ladder section and up to 11 mm for the 3rd ladder section.

Climbing area: Free throughout, width 450 mm

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Handrails:	Height 380 mm (in the top laddersection).
Paint:	Cataphoretic total immersion painting at 180° C and multi-coat bicomponent paint (light grey RAL 7035) up to a coat thickness of 120µm. Rungs covered with an anti-skid and temperatureinsulating material.
Safety factor:	No stumbling points within the climbing area, no risk of slipping on the rungs. High safety due to high side handrails.



Electronic control / Colour monitor:

A modular electronic system specially developed for the tough operations in vehicle construction, controls and monitors all ladder movements and safety devices. Comprehensive information on the current ladder status are shown on the color screen. The complete electronic control system with microprocessor has been tested for electromagnetic compatibility (EMC).

Important functions are monitored redundantly by several computers which communicate via CANBUS, standardized in automotive engineering. The system is pre-arranged for future services (such as e.g. remote diagnosis etc.) by appropriate interfaces.

Upon reaching the operating limit, ladder movement is automatically switched off, this is indicated optically on the operating field diagram.

In the event of any faults occurring in safety devices, the ladder remain fully functional but will be automatically retracted to the maximum operating field range still possible.

CANBUS – redundantly monitored by more computers!

CS Function:

All ladder oscillations can be stabilized or actively dampened through a special software program (CS = computer stabilized).

Self-levelling system:

Automatic proportionally operating level adjustment system for the continuous horizontal positioning of the ladder set (ladder rungs).

Compensation range up to 10 degrees = 22%

Working range from -17 to +75 degrees.

Adjusting compensation is effected between slewing ring substructure and turntable top section.

The main control stand with operator seat is in the meantime also adjusted. Automatic return to rest position when lowering ladder set.

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Load indicator with safety device:

The actual ladder load is measured by means of 4 strain gauges and processed in the computer. When the ladder is overloaded, a signal is sounded and the ladder movements are interrupted (load moment reducing movements are released). If an oil line fractures, the cylinders are stopped through hydraulically unlockable non-return valves and pipe fracture protection devices. Two spring-loaded hydro brakes on the extension winches and on the turntable gear secure the ladders in any operational position.

Rescue cage:

RC300

Cage control stand at centre with the following control elements:

- Control lever for elevation / lowering, rotation left and right
- Control lever for extension / retraction
- Pushbutton for ladder rungs alignment with control lamp
- Pushbutton automatic side plumbing on / off with control lamp
- Pushbutton for limited cage operation, with control lamp
- Pushbutton for engine on / off
- Emergency stop with interlocking
- Pushbutton lighting on / off
- Lever for emergency operation
- Control lamp for operating status

Control elements identical to those on the main control stand, this facilitates the operators. LCD technology display indicating the operating status and the operating field diagram.

2 multi-function columns for taking up special equipment.

All ladder safety devices are fully effective during cage operations.

Maximum speed is also possible from the cage control stand.

3 entrance/exit doors with unobstructed access, allow upright position even e.g. when wearing breathing apparatus.

Paint: Cataphoretic total immersion painting at 180° C and multi-coat bicomponent paint, electrostatic coating process allows paint penetration around the corners and edges (light grey RAL 7035).



Electrical system of superstructure:

Equipment lockers lighting with contactless switches and control lamp in the cab.

Lighting equipment in LED according to StVZO (German Road Traffic Approval Regulations).

Socket A DIN 14690 for batteries charging.

Short range interference suppression for the electrical equipment's according to VDE 0879

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Performance data:

Ladder movements speeds:	
Elevation to 75 degrees:	approx. 30 sec.
Extension to a ladder length of 40 m:	approx. 45 sec.
Rotation of 90 degrees:	approx. 20 sec.
Extending outriggers:	approx. 25 sec.
Retracting outriggers:	approx. 20 sec.
Setup time according EN14043:	approx. 85 sec.

Paint:

Body/superstructure, turret: Red gloss RAL 3000
Ladder set: Light grey RAL 7035
Roller shutters: Unpainted, eloxated aluminium, natural color

Pictures can include further options

We reserve the right to make technical changes or improvements at any time without advance notice.
Errors excepted.
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