

METAL- MASTER Company

METAL- MASTER COMPANY

***Metal-Master is privately-owned company
firmly based in the modern world.***

The firm was established in 2000 and from the beginning it has focused on progress and innovation. The company operates in the following sectors: automotive, construction, advertising, and aviation.

We successfully construct, produce and develop technological lines for industry, especially for manufacturing car parts for every European car maker.

The modern machinery park has allowed us to specialize in the production of complex steel structures, machining and welding.

The robotic production system allowed to achieve high efficiency and quality of production.

We have a research and development office, equipped with specialized CAD/CAM software, process testing and simulation systems, and a laboratory.

We are a certified system integrator of KUKA ROBOTECH GmbH products and an exclusive representative of MiniTec Maschinenbau GmbH.

We export 80% of our products, mainly to Europe, America, and Africa.



Headquarters:

**METAL-MASTER Sp. z o.o.
ul. Nowa 4, 58-562 Podgórzyn/Poland**



Production potential

Metal-Master has a wide range of production capacities and an extensive machine park

- *The ability to produce large-size structural elements in the range of 1500 to 3000 mm, e.g. main frames, chassis legs was made using numerical milling technology.*
- *Thanks to the numerical milling technology, we are able to make very precise elements.*
- *Robotic welding production line 30 meters long.*
- *Production capacity in the field of carbon pre-impregnates used in modern aviation structures.*

Over 80% of FLARIS LAR 1 aircraft parts are manufactured in Metal- Master.





METAL
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FLARIS
LAR 01

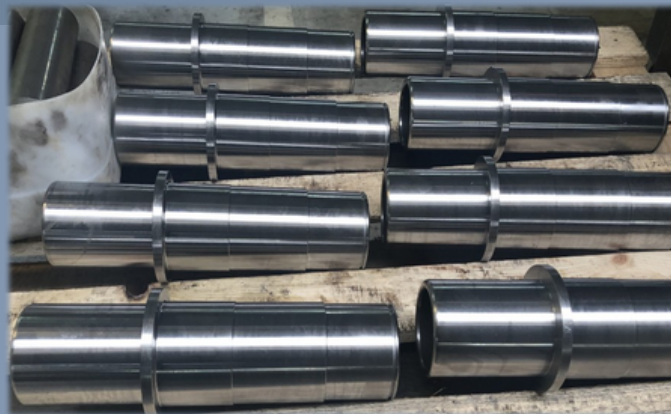
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Production potential

Serial production examples:

- chassis for agricultural machines;
- transport bridges;
- machine parts;
- crane elements;
- transport conveyors;
- tent halls;
- parts and equipment of mining machines;
- advertising pylons;
- advertising masts;
- chassis for semi-trailers, cars;
- systems of aluminum profiles.

*Metal-Master has a welding certificate
DIN EN ISO 1090-2 - construction class
EXC3 and EXC2 awarded by the DVS
Zert Welding Institute Duesseldorf.
We work according to DIN EN 3834-2
and ISO 9001:2015.*



FLARIS
LAR 01

FLARIS LAR 1 very fast, very light jet

 | Metal
Master

Production potential

*Serial production hall of
Flaris LAR01 aircrafts.*





The tests were carried out at the headquarters of Metal-Master in Podgórzyn. The tests were performed on a complete aircraft in a configuration with the landing gear retracted and were conducted up to a speed of 0.74 Ma.

FLARIS LAR 1- TECHNICAL DATA

Dimensions

- Length-8,32 m
- Span- 8,68 m •Height-2,43 m
- Wing area-10 m2
- Engine weight-125 kg

The design allows for quick disassembly of the wings. Easy transport in a 20 ft container.



FLARIS LAR 1- TECHNICAL DATA

Ultra light composite structure jet, single-body drop-shaped fuselage, ease of use and safety.

- turbofan jet engine Williams FJ33-5A, static thrust 8,4 kN, EASA, FAA certificate;
- proprietary on-board computer **FFAS (Flaris Flight Assistance System)**;
- cruising speed of Mach 0.67 at FL250, TAS = 405 kn (750 km/h);
- max service ceiling- 34.000 ft (the use of an oxygen system is required);
- range- 1600 nm (3.000 km);
- fuel consumption- below 150 liters per flight-hour;
- **rate of climb 6000 ft/min (1.800 m/min)**;
- stall speed- 62 kn (115 km/h);
- empty weight- 900 kg, max T/O weight- 1.800 kg;
- **payload useful- 900 kg**;
- gliding - with the drive switched off, it is possible to cover 18 km for each 1 km of altitude loss aerodynamics L/D=18;
- **take off/ landing roll is 200 meters** (the possibility of operating from grass airfields); SAFETY SYSTEM- parachute rescue system for the whole aircraft;
- safe door-closing system equipped with 11 pins;
- the possibility of air-tight sealing of the cabin;
- crew of 4/5 people.





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LAR 01

FLARIS LAR 1- TECHNICAL DATA

Parachute Rescue System



Navigation System



The avionic system of Flaris LAR 1 uses a popular G600Txi system which provides maximal safety and convenience for the user. The GTN-750 navigation system (GPS) placed in the center of the dashboard, combines navigating function with operating additional devices, including a radio station and a transponder. It is equipped with a touch screen which helps to navigate a user-friendly icon menu.



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FLARIS
LAR01

FLARIS LAR 1- TECHNICAL DATA

Cabin (car-like?) and baggage space



Safe door-closing system-
11 pins, ensuring airtightness.

Comfortable semi-monocoque
cabin.

Made of pre-impregnated
carbon fibers.

Structure reinforced with
aluminium.



Stylish and functional cockpit.

Light and comfortable seats upholstered in
smooth leather.

FLARIS LAR 1 revolution of flying economy

- Extensive flight testing confirmed the jet's exceptionally low fuel consumption— below 150 liters per flight-hour at a true airspeed of 325 kn (600 km/h).

• Low operating cost including fuel, maintenance, spare parts.

• A compact but comfortable cabin allows for reduced aircraft mass which increases overall flight economy and range.



FLARIS LAR 1

grEEEn dEal

- **Economical** (ultra low fuel consumption and low operating costs)
- **Efficient** (aerodynamics, engine, performance)
- **Environmentally-friendly** (noise reduction, grass airfields operation, low gas emission)

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LAR 01

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www.flaris.com



QUESTIONS ?



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