MET-PRO.pl | PRODUCTION CAPABILITIES

Comprehensive Offer and Machinery Park Specification

At MET-PRO, we combine a modern machinery fleet with advanced practical experience, offering comprehensive support for metalworking processes in one place - from raw material, through precision processing, to a finished product with a protected surface. All processes are carried out based on a quality management system compliant with ISO 9001:2015 and full material verification.

1. LASER CUTTING of sheet metal/tubes/profiles

Execution of fast and repeatable thermal cutting processes while maintaining maximum dross-free edges and optimal material utilization.

TECHNOLOGY / SPECIALIZATION	WORKING RANGE / PARAMETERS	PROCESSING CAPABILITIES
6 kW fiber laser (Sheet metal cutting)	Working area: ***3000 × 1500 mm*** Positioning accuracy: ***±0.1 mm***	Carbon steel: up to ***25 mm*** Stainless steel: up to ***30 mm*** Aluminium: up to ***30 mm***
3D laser (Tube and profile cutting)	Max. loading length: ***6500 mm*** No thermal distortion	Tube diameters and closed-section profiles from ***Ø 15 mm to Ø 150 mm***

2. CNC BENDING

Bending processes are performed on modern numerically controlled press brakes equipped with real-time automatic angle correction systems and active crowning systems, ensuring full angular repeatability in production batches.

MACHINE MODEL	MAXIMUM TONNAGE	MAXIMUM BENDING LENGTH
AMADA HRB 1703	***170 tons***	***3100 mm***
AMADA HFE M2 1003	***100 tons***	***3100 mm***

3. CNC MILLING AND TURNING (machining)

An advanced metal machining department adapted both to high-volume production of components with high repeatability and to large-size machining in accuracy classes up to ***20 µm***.

MACHINE MODEL / SYSTEM	KINEMATICS AND WORKING AREA	PRODUCTION PROFILE
DN Solutions DVF 5000	5-axis machining center, continuous simultaneous machining	Complex 3D geometries
Brother SPEEDIO R650X2	Dual-Pallet milling center	High-volume serial production
CINCINNATI SABRE 2000	Working area: **2032 × 762 × 820 mm**	Heavy-duty large-format machining
Tsugami B0 326E-III	Swiss-type lathe, range: **Ø 8 - 32 mm**	Serial small-size components
GILDEMEISTER TWIN 65	Twin-spindle turning center	Complex turn-mill operations
GILDEMEISTER CTX 400	Heavy-duty CNC lathe	Standard serial turning

4. WELDING, ROBOTIZATION AND MECHANICAL ASSEMBLY

- **YASKAWA Robotic Welding Cells:** Industrial welding arms ensuring 100% repeatability of the weld bead, elimination of human errors and high efficiency for high-volume orders.
- **Manual and Robotic Welding:** Professional TIG / MIG/MAG stations and advanced laser welding technology, characterized by a minimal heat-affected zone and no material deformation.

Component Assembly (Hardware Insertion): Dedicated lines for mechanical insertion of fastening elements (pins, rivet nuts, press-in screws) in the size range **M3 - M12**, combined with threading and edge chamfering operations.

5. POWDER COATING PLANT AND SURFACE FINISHING

Our in-house surface protection technological line ensures the highest coating aesthetics and corrosion resistance.

- **Application System:** **5 powder coating booths** by Swiss brand **Gema**, guaranteeing precise and uniform powder application.
- **Thermal Capacity:** A system of **4 curing ovens** ensuring continuity of the paint polymerization process.
- **Dimensional Capabilities:** Powder coating of structural elements up to **8 meters** in length (maximum oven chamber dimensions: 8000 × 2000 × 2000 mm).
- **Surface Preparation:** Multi-stage chemical surface preparation (degreasing, technological washing and phosphating), ensuring optimal adhesion of the paint coating.

6. QUALITY CONTROL AND METROLOGY

Product verification is carried out based on rigorous internal procedures in an air-conditioned measuring room equipped with laboratory equipment:

- Coordinate measuring machine **CMM Global Lite** (range: 700 × 700 × 500 mm, measurement error: ***1.9 µm + L/300***).
- Measuring machine **CMM ETALON Derby 454** for spatial inspection of part geometry.
- Digital height gauge **Mitutoyo QM-Height** (accuracy 2.4 µm), **Mitutoyo CV-2100** contour measuring instrument and **Swift-Duo** non-contact measuring microscope.