

ENGINEERING AND METALLURGICAL GROUP



UNEX®

CASTINGS AND FORGINGS

STEEL CASTINGS

IRON CASTINGS

DIE FORGINGS





UNEX[®]

FOUNDRIES AND FORGING SHOP

Our foundry and forging production is supported by two foundries and one forging shop located in our manufacturing plants in Uničov and Olomouc.

Our total annual production capacity is approximately 39,000 tons of castings and about 9,000 tons of forgings.

Our castings and forgings are primarily used in the automotive, railway and military industries; heavy engineering and energy; mining, construction and agricultural machinery; handling equipment; hydraulic, heating and air-conditioning systems.

We supply raw, rough or finally machined and surfaced treated products according to our customers' request.

**WE PRODUCE UP TO 39,000 TONS
OF CASTINGS PER YEAR.**

WE PRODUCE PRODUCTS FROM 50 GRAMS TO 18 TONS

Production of castings from carbon, low, medium and high-alloy steel

- Weight of castings: 5–18,000 kg
- Maximum flask dimensions for machine moulding: 900 × 700 × 600 mm
- Maximum flask dimensions for hand moulding: 4,000 × 4,000 mm or ø 3,500 mm

Production of castings from manganese steel

- Weight of castings: 5–3,500 kg
- Maximum flask dimensions for machine moulding: 900 × 700 × 600 mm
- Maximum flask dimensions for hand moulding: 4,000 × 4,000 mm or ø 3,500 mm

Production of castings from nodular cast iron

- Weight of castings: 0.05–3,500 kg
- Maximum flask dimensions for automatic moulding: 920 × 600 × 120/120 mm (two patternplates 435 × 600 × 120/120 mm)
- Maximum flask dimensions for machine moulding: 900 × 700 × 600 mm
- Maximum flask dimensions for hand moulding: 4,000 × 4,000 mm or ø 3,500 mm

Production of castings from grey cast iron

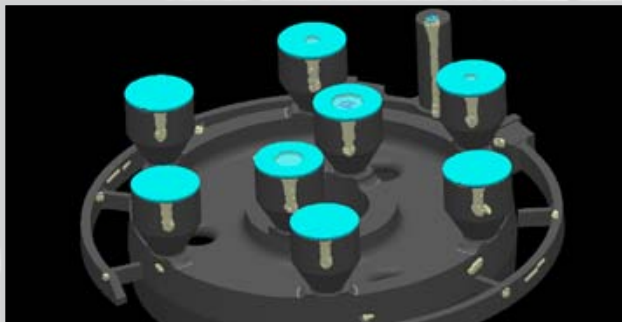
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- Maximum flask dimensions for hand moulding: 4,000 × 4,000 mm or ø 3,500 mm

Production of die forgings from carbon, alloy and structural steel

- Weight of forgings: 2–25 kg
- Rotating forgings: up to a diameter of 300 mm and maximum height of 350 mm
- Non-rotating forgings: up to a maximum length of 500 mm and a maximum height of 300 mm

WE PRODUCE UP TO 9,000 TONS
OF FORGINGS PER YEAR.

TECHNICAL AND PRODUCTION CAPABILITIES



Metallurgy Technical Support

We use a wide range of software tools to help us achieve production efficiency and cost savings, i.e. programmes MAGMASoft, CATIA and Simufact.forming 8.0. We offer support to business partners in the development or technical modification of their products.



Pattern Production on the 3D Printer

Within the framework of speeding up the production of small test castings, we offer production of model on a 3D printer. The advantage is the lower acquisition cost of prototypes, test samples and orders up to 1000 pieces.



Foundries Equipment

The melting shops have induction and electric arc furnaces, holding furnace and automatic casting machines. We offer automatic and semi-automatic moulding in bentonite mixtures, hand moulding in furan mixture.



Forge Shop Equipment

Production of rotating and non-rotating forgings are provided by forging lines – crank presses LZK 4000 and LZK 2500, counter blow EK13 and also double-acting hammer B1000.



Heat Treatment

We offer normalization, annealing, quenching and tempering, stress relieving, soft annealing, stress relieving after welding and ferritizing annealing.



Machining

We are able to perform both rough and precision finishing machining of parts with dimensions from several centimetres up to sizable workpieces. We process both rotating and non-rotating parts, including those involving intricately shaped surfaces, such as forging dies, etc.

QUALITY FIRST

Our certified laboratories and test-rooms are fully equipped to help us monitor, test, analyze and evaluate the quality of all produced materials and final products.

Chemical laboratory

- chemical composition analysis of input selected materials and ferroalloys

Sand laboratory

- monitoring, checking and evaluation of the quality of moulding mixtures

Non-destructive testing of materials

- ultrasonic testing
- X-ray testing
- magnetic control
- penetration method

Mechanical testing facility

- carries out i.a. tensile test, impact bend test, hardness test according to Brinell, Vickers, Rockwell, notched impact test and guided bend test

Metallographic laboratory

- ensuring evaluation of the microstructure and macrostructure of material

We guarantee specified chemical composition, mechanical properties and other requirements for all castings and forgings.

PRODUCTION CERTIFICATES

We own all necessary certificates and production permits i.a. of companies ABS, BV, ČD, DNV, DB, GL,...



FROM FITTINGS TO POURING LADLES

0.05
KG



Elbow

0.65
KG



Holder of wheel disc

1.1
KG



Yoke of reduction

1.7
KG



Flywheel

2.8
KG



Flywheel ring

3.5
KG



Bottom part

6.2
KG



Lever

6.4
KG



Driving flange

9
KG



Head of cylinder

10
KG



Track link

15
KG



Brake block holder

50
KG



Spring basket

250
KG



Axle

350
KG



Travelling wheel

750
KG



Underframe

6,950
KG



Hub

9,500
KG



Frame

18,000
KG



Ladle

CONTACTS



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