UNEX®

COMPANY PROFILE

Start of production: 1950
Product portfolio:
castings, forgings, cut parts, weldments and heavy steel structures; our products´ lightest weight is 50 grams, the heaviest 120 tons

Industrial production capacity (t/year): up to 39,000 tons of castings, 9,000 tons of forgings and 24,000 tons of weldments

Industrial production capacity (SH/month): Standard hours
engineering plants 149,800 SH, foundries 82,400 SH, forge 4,430 SH

Production and warehouse space:
more than 250,000 square meters





TRADITION
QUALITY
FLEXIBILITY

UNEX a.s.

From fittings to pouring ladles

0,05kg



Elbow

0,65kg



Holder of wheel disc

1,1kg



Yoke of reduction

1,7kg



Flywheel

2,8kg



Flywheel ring

3,5kg



Bottom part

6,2kg



Lever

6,4kg



Driving flange

9kg



Head of cylinder

10kg

15kg

50kg

250kg

350kg

750kg

6 950kg

9 500kg

18 000kg



Track link



Brake block holder



Spring basket



Axle



Travelling wheel



Underframe



Hub



Frame



Ladle

UNEX plants

• UNIČOV, Czech Republic

- Welded steel parts and heavy steel structures up to 120 t in weight and 40 m in length
- Steel castings from 5 kg up to 20 t, manganese steel and grey iron castings from 5 kg to 5 t, nodular iron castings from 5 kg to 3.5 t
- Cut parts from standard and special materials

• OLOMOUC, Czech Republic

- Nodular and grey iron castings from 50 g to 6.5 kg
- Forgings from 2 kg to 25 kg

• TRNAVA, Slovak Republic

- Nodular and grey iron castings from 1 kg to 40 kg
- DISAMATIC line

• SNINA, Slovak Republic

- Welded steel parts and heavy steel structures up to 64 t in weight and 45 m in length











FORGING SHOP OLOMOUC PLANT

Closed die forgings



Machining



Certification

COMPANY´S FUNDAMENTAL CERTIFICATION:

- **Quality Management System certificate according to EN ISO 9001:2015**
- **Certificate EMS ISO 14001:2015**
- **Occupational Health and Safety Management Systam certificate according to: ISO 45001:2018**
- **Energy Management System certificate according to: ISO 50001:2018**

PRODUCTION CERTIFICATES:

- **Certificate for manufacturers of closed die forgings for pressure purposes:**
  AD Merkblatt 2000 W0 (rozšíření DGRL 2014/68/EU nebo EN 764-5)
- **České dráhy**
  Certificate of competence of the supplier according to: ČD V6/1


DNV·GL

CERTIFIKÁT SYSTÉMU ŘÍZENÍ

UNEX a.s.


DNV·GL

CERTIFIKÁT SYSTÉMU ŘÍZENÍ

UNEX a.s.

OHSAS 18001:2007


DNV·GL

CERTIFIKÁT SYSTÉMU ŘÍZENÍ

UNEX a.s.

ISO 14001:2015


DNV·GL

CERTIFIKÁT SYSTÉMU ŘÍZENÍ

UNEX a.s.

ISO 9001:2015

Reference



Automotive



Railway industry



Construction industry



Construction and earthworking machines



Heating and air-conditioning systems



Hydraulic systems



Handling equipment



Agricultural machinery



Robotics

Products

Closed die forgings

- Material – carbon, alloy and structural steel
- New – austenitic and martensitic steel „stainles steel"

- Weight – from 2 to 25 kg

Rotating forgings

- With the diameter up to 300 mm
  - and max. height of 350 mm

Non-rotating forgings

- Up to the length max. 500 mm
  - and max. height of 300 mm
- New – up to 800 mm length

Complex production including heat treatment and sand blasting

Min. production batch – 100 pcs
Industrial capacity – 9,000 t/year





Technology

FORGING LINES

1x LZK 4000 ŠMERAL

- Crank press with forging force 40 MN with induction heating and automatic billet temperature sorting machine

1x LZK 4000 ŠMERAL + forging rolls EUMUCO RW1a

- Crank press with forging force 40 MN with induction heating and automatic billet temperature sorting machine
- The line includes machine RW1 for pre-forging of long semi-finished products

LZK 2500 ŠMERAL

Crank press with forging force 25 MN with induction heating and automatic billet temperature sorting machine

LL 1000 ŠMERAL

- Cold calibration press for higher precision forgings

EK 13 DIGÉP

- Line suitable also for processing austenitic steels has been put back into operation.
- Counterblow hammer with an impact energy of 130 kJ
- Gas oven for heating of non-magnetic steels





HEAT TREATMENT

Annealing electric chamber furnaces 3 x

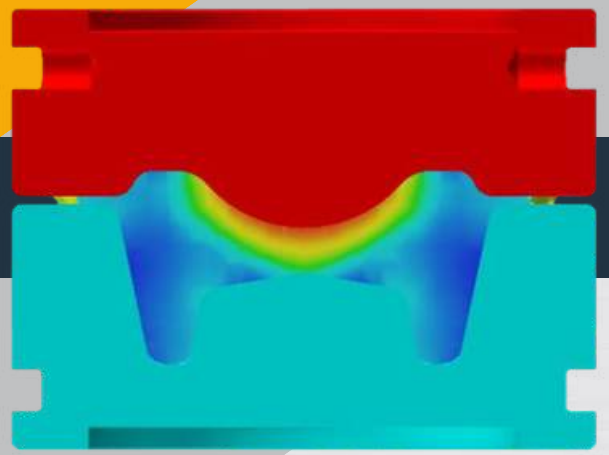
- Normalising (+N)
- Soft annealing (+A)
- BG annealing
- Ferit Perlit normalising
- Controlled cooling technology from forging temperature (+BY)
- Quenching and tempering (+QT) – in Uničov plant

Support

TECHNICAL SUPPORT

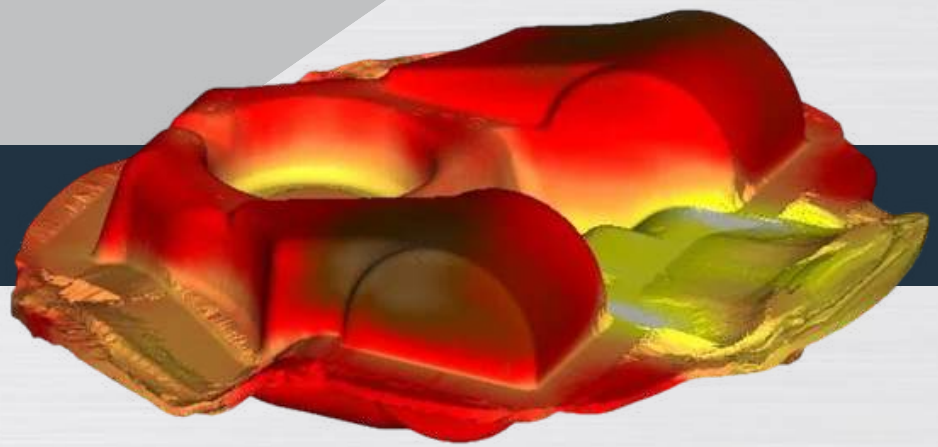
CATIA V5

- Complex process of product design, its optimization, management of items lists, creation of CNC programs for production, including the production process itself and maintenance
- Including a module for serial machining of forgings and castings



SIMUFACT.FORMING 13.0

- Modeling software is tool for simulation of material shaping, optimization of component shape, verification of technology of forging and construction of forging dies



Quality

TESTING

We guarantee the chemical composition and mechanical values of final parts

We own certificates of Czech laboratories

LABORATORY OF DESTRUCTIVE TESTING:

Název měřidla / Name of gauge	Typ / Type	Výrobce / Producer
Trhací stroj / Tensile testing machine	Z 400E	Zwick
Průtahoměr / Extensometer	BT2-Exmacro.H12	Zwick
Kyvadlové kladivo / Charpy impact testing machine	HIT 450	Zwick

- **Laboratory of non destructive testing:**
- Chemical composition test
- Evaluation of metallography

- **Visual inspection of forgign parts:**
  Inspection and testing of forgings using MT according to EN 10228-1


Sdružení českých zkušeben a laboratoří
Czech Testing Laboratories Association

UDĚLUJE

Zkušební laboratoři
UNEX a. s.
pořadové číslo 049

PRÁVO POUŽÍVÁNÍ RAZÍTKA

ZKUŠEBNÍ LABORATOŘ
S ČINNOSTÍ UZNANOU SČZL

Zlín, 19. 6. 2019

prezident SČZL | člen Rady SČZL | člen Rady SČZL

Platnost oprávnění pro používání razítka Sdružení českých zkušeben a laboratoří je od 1. ledna běžného roku do 30. června následujícího roku

2019 2020 2021 2022 2023



Machining

- Own tooling and jigs development
- SERIAL MACHINING OF FORGINGS AND CASTINGS
- Turning max. product diameter 500 mm
- Milling max. dimension 600 mm x 500 mm



MACHINING SHOP EQUIPMENT

CNC TURNING LATHES

- Kovosvit SP430Y
- Kovosvit SPT32
- Doosan Puma GT3100M
- Cincinnati Hawk 250
- 2x FAMAR Pronto 3 – the vertical turning center

CNC MILLING MACHINES

5 axes CNC milling centres

- Hedelius Acura65
- DMG Mori DMU60

3 axes CNC milling centres:

- DMG Mori DMF250
- DMG Mori DMC835
- Brother TC 32QT – the vertical dual-pallet milling center



UNEX®

OLOMOUC FORGE UPDATES

Examples of potential production :





- **Forging rolls EUMUCO RW1a** are a new component of the line LZK 4000
- Machine for optimal preforming of semifinished products
- Forgings with significant cross-section differences along the length
- It enables the production of more geometrically complex forgings

Vertical lathes FAMAR Pronto

- Advantages:

- High productivity
- High rigidity
- Automatic loading into the next operation – Line composed of two machines



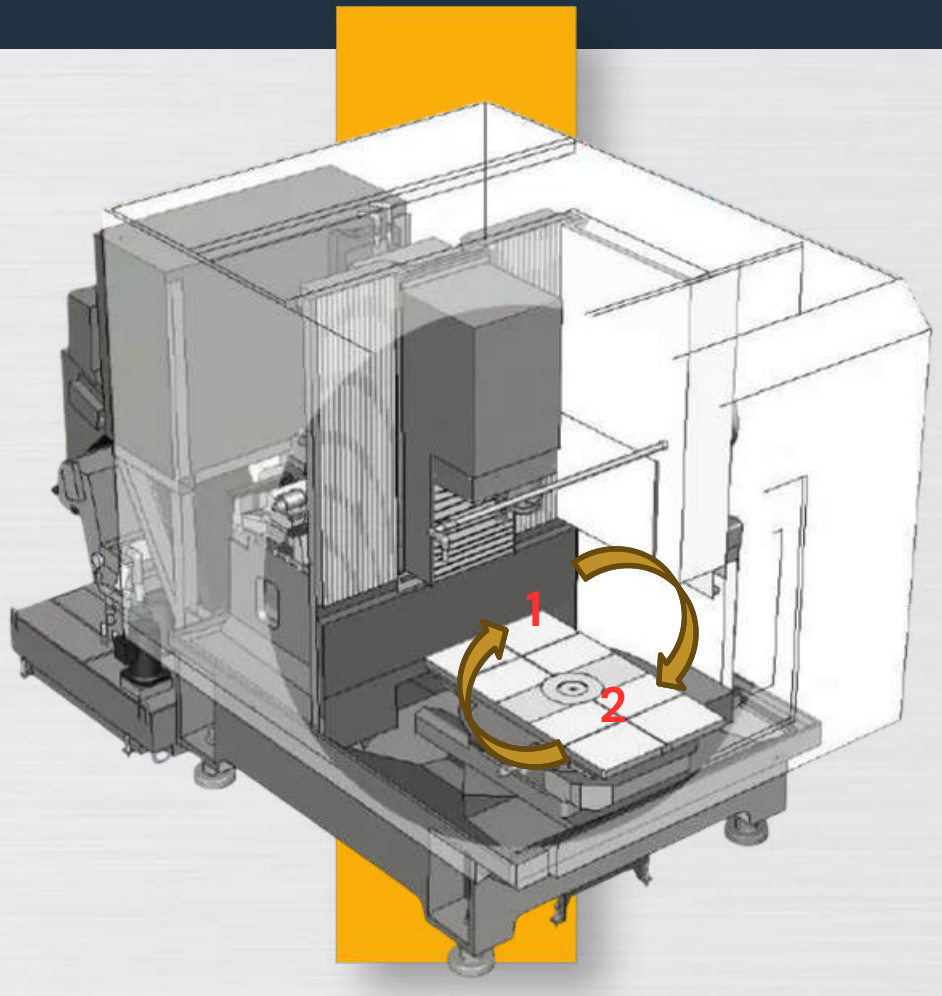


New machining machines for serial production

3-axis machining center Brother TC 32

- - Fast tool changes and rapid movements outside the cut
  -Two- Pallet solution with two positions on a rotary table = high productivity for larger series – non-productive periods are almost eliminated





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