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■ OUR NETWORK OF EXPERIENCE AND COMPETENCE

LIGO Livarna Gorica d.o.o. Nova Gorica

- Pattern shop
- Casting
- Machining of castings

With over 100 employees, we manage an high level production. We offer best customer service and flexible logistics services. Our modern and efficient manufacturing system reaches a capacity of over 12,000 tons/year. A large number of our production are thin-wall castings with complex cores.

ZÜRN GmbH & Co. KG München

- Distribution
- Marketing
- Development
- Construction

Competent and reliable employees guarantee a successful co-operation. Our in-house construction department support you with extensive and best experience to develop your components. We make sure that every project, is carefully prepared, planned and supervised to ensure successful and reliable implementation.

ZÜRN GmbH & Co. KG Niederschönenfeld

- Machining of castings
- Stainless steel components
- Stock
- Logistics

Turning, milling, hardening, coating and assembling: we machine with modern manufacturing centers efficiently and reliable cast components in small and large series. The planning of logistic and storage is reliable in-house. Our distribution management control the timely delivery of our orders.



Company

Livarna Gorica d.o.o.
Cesta IX. Korpus 116
5250 Solkan - Nova Gorica (SLO)

Legal form of the company

- d.o.o. (equivalent to a limited liability company)

Managing Directors

- Antonio Böckmann
- Simona Stegne-Ceraj

Shareholder

- ZÜRN GmbH & Co.KG
 Munich (Germany)

Company datas

- 100% related company of ZÜRN GmbH & Co. KG, Munich
- More than 70 years of experience in cast iron technology
- Over 50% of castings with cores
- DISAMATIC 230 A, with core setter
- Operating area approx 25,000 sqm
- 90 % Export, among other: Denmark, Germany, France, Italy, Austria, Sweden, Slovakia

Integrated Management System

for quality, environment protection and safety

- Quality management
 DIN EN ISO 9001:2008
- Environmental certificate
 DIN EN ISO 14001:2004
- Occupational safety
 of our employees

With the fusion of this three elements, we realize with great success, continuous improvement of our complete production process.





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Portfolio

Materials

- Grey cast iron
DIN EN 1561 (lamellar graphite)
EN-GJL 150 to 300
- Ductile cast iron
DIN EN 1563 (spheroidal casting)
EN-GJS 400-18 to 600-3
- Special cast iron, special alloys,
e. g. wear-resistant castings

Range of components

- 0,1 kg to 25 kg
- Complex cores and core packages
- Thin-wall castings

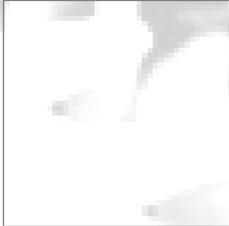
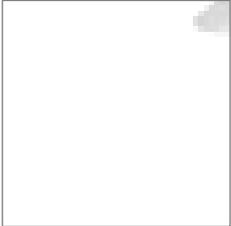
Machining of castings

- Mechanical processes: turning, milling, drilling, etc.
- Thermal post-treatment: low-stress annealing, ferritization annealing, hardening

Pattern shop and machining tools

- Manufacture of pattern equipment
- Maintenance and repair of pattern
- Preparation of machining tools





ONE-STOP-SOLUTION

- DEVELOPMENT
- PRODUCTION
- MACHINING
- LOGISTIC

Coating and painting

- Dip coating and wet painting
- Electrostatic powder coating, and whirl sintering method
- Enamelling

Assembling of components

- Preparation of components for assembly lines
- Assembling of components
- Mounting of parts on cast iron components

Laboratory and documentation

- Tensile strength tests
- Hardness measurements
- Spectral analyses
- Thermal solidification analyses
- Optical analyses
- Complete sand analyses
- Preparation of documents and certificates

Logistics

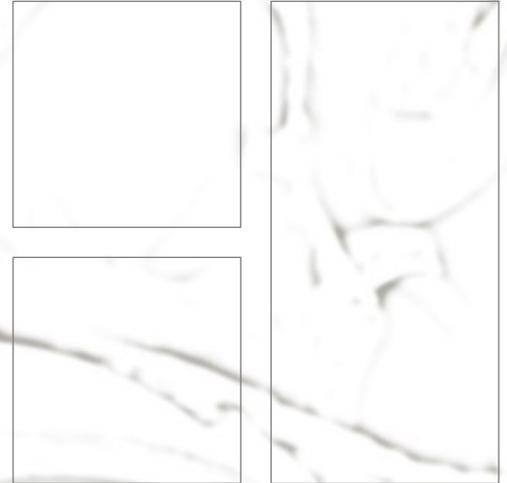
- Consignment store
- Transport packaging and protective packaging
- Logistics management





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- THE OPTIMAL RESULT CREATED BY EXPERIENCE AND FEELING FOR MATERIAL



Core manufacturing process

- Shell
- Hot Box
- Pur Cold Box
- Resol CO²
- Furan self-curing

Core shooter

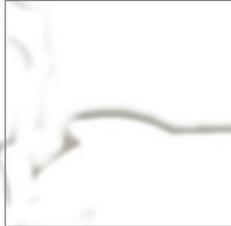
- Hottinger CS 22 SA
- PGM 20
- Gostol (License by Hottinger)

Inductive melting operation

- Electric melting operation with automatic melt processor
- Mid-frequency induction furnace ABP 3,5 t / 2,300 kW
- Mid-frequency induction furnace ABP 2,0 t / 1,250 kW



- AND THE USE OF MODERN TECHNOLOGY AND EXPERIENCED TECHNICANS



Molding

- DISAMATIC 230 A
- Flaskless moulding plant, vertical parted
- With automatic core setter
- Mold size 600 x 480 mm
- Capacity up to 550 molds/hour

Casting equipment

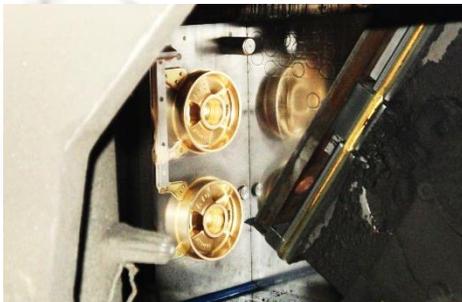
- Fully automatic and camera controlled casting process
- Progelta 1,5 t / 2,0 t

Moulding line

- 63 m cooling section with followed
- 14 m shake-out grid and vibration transport line

Sand preparation

- Sand mixer type Speedmuller
- 50 t prepared greensand per hour
- Preparation with sieving, water cooling and removing of metal residues
- Automatic water dosage with Michenfelder system





▪ **QUALITY AT EVERY STAGE
FROM THE RAW MATERIAL
TO THE FINISHED PRODUCT**



Pattern shop

- Manufacture of pattern and core boxes
- Use of durable and precise aluminum patterns and core boxes made of different materials
- Pattern modifications
- Maintenance and repairs

Shot blasting systems

- Drum blasting machines with rubber band and metal band
- Shot blasting houses with monorails

Machining of castings

- Mechanical processes: turning, milling, drilling, etc.
- Thermal post-treatment: low-stress annealing, ferritization annealing, hardening

Grinding

- Grinding stations with pneumatic tools for the mechanical process

**Assembling
of components**

- Preparation of components for the assembly line
- Mounting of parts on casting components
- Assembling of components

Coating and painting

- Dip coating and wet painting
- Electrostatic powder coating and whirl sintering method
- Enamelling



▪ AND OF THE DOCUMENTATION TO DELIVERY



Support

Laboratory

- Quasar 200 Galdabini: tensile strength tests according to DIN EN 6892
- ZHU Zwick: Universal hardness measurement equipment for Vickers, Brinell, Rockwell
- Emcotest Wolpert: hardness measurement
- Leica microscope ILM: optical and metallographic analyses
- Spectrometer Spectromaxx: spectral analyses
- TEC Typ Sidermes: thermal analyses
- Sand laboratory Georg Fischer: complete sand analyses
- Digital sand tester Georg Fischer: mechanical analyses of sand

Final inspection

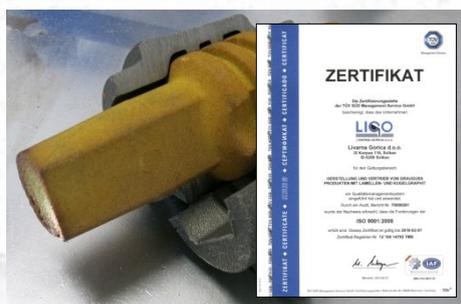
- Visual inspection
- 3-D tests

Logistics

- Logistics management
- Transport packaging and protective packaging
- Consignment store

Quality documents

- Inspection certificates according to EN 10204
- Measurement reports
- Test certificates according to customer





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Sustainability

Products Branches

■ SUSTAINABILITY IS THE FUTURE

Environment

- Cast iron is made of natural raw materials

Material

- Cast iron is made of up to 100% recycled material
- Casting products are completely reusable and are recycled without any loss of material

Resistance

- Highly resistant to most environmental influences
- Solid and durable, partly over centuries

Production

- We are one of the foundries with the lowest emission levels in Europe.
- Constant investment of energy saving (eg. melting processes)
- Modern sand processing to reduce the dust discharge

Logistics

- Saving of CO² by rail transport
- Decongesting transport routes by means of intelligent route guidance
- Energy reduction through ideal capacity used vehicles



A WIDE RANGE OF

- DIMENSIONS
- DESIGNS
- MATERIALS

Products

- Gearboxes
- Bearing housing
- Pump housing
- Gear hubs
- Engine parts
- Gear levers
- Bearings
- Brake drums
- Weights
- Flanges, etc.

Customer branches

- Gear industry
- Bearing industry
- Pump industry
- Building industry
- Hydraulic industry





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