

# URB GROUP

GENERAL PRESENTATION

# URB



URB Group - Rulmenti S.A.  
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Who we are: History & Facilities & References



Design Capabilities & Applications



Manufacturing Processes & Controls



Quality Control & Certificates

# WHO WE ARE



1953

Barlad Factory started production



1973

The Forging technology from Haterbur and Wagner Germany was applied successfully



1975  
–  
1982

Modernization of turning and grinding workshops



1992  
–  
1996

Continuous modernization of various machinery and equipment



2000

Finalization of privatization process



2001  
–  
2005

A period of big investments in machine technologies



2006

Founding Anadolu Rulman factory (ART) in Turkey



2007

Acquisition of MGM factory in Hungary



2011

Established URB India organization with dedicated sales and aftermarket team



2023

70-Year Anniversary of Rulmenti S.A. plant in Barlad, Romania.



## RULMENTI S.A. (Romania)



Established in **1953**

Total Area: **1.300.000 m<sup>2</sup>**

Covered Area: **400.000 m<sup>2</sup>**

BEARING TYPES	SIZE RANGE (MM)	
Radial Ball Bearings	$150 \leq d \leq 400$	$300 \leq D \leq 600$
Thrust Bearings	$10 \leq d \leq 320$	$24 \leq D \leq 420$
Cylindrical Roller Bearings	$15 \leq d \leq 750$	$30 \leq D \leq 910$
Spherical Roller Bearings	$40 \leq d \leq 450$	$80 \leq D \leq 650$



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## Anadolu Rulman (Turkey)



Established in **2005**

Total Area: **125.000 m<sup>2</sup>**

Covered Area: **10.000 m<sup>2</sup>**

### BEARING TYPES

### SIZE RANGE (MM)

Single Row Deep Groove  
Ball Bearings

$10 \leq d \leq 250$        $50 \leq D \leq 300$

Tapered Roller Bearings

$10 \leq d \leq 160$        $100 \leq D \leq 250$

Induction Coated Shaft

$8 \leq d \leq 70$



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## MGM (Hungary)



Established in **1950**

Total Area: **64.000 m<sup>2</sup>**

Covered Area: **40.000 m<sup>2</sup>**

BEARING TYPES	SIZE RANGE (MM)	
Single Row Tapered Roller Bearings	$50 \leq d \leq 160$	$100 \leq D \leq 300$
Paired or Double Row Tapered Roller Bearings	$50 \leq d \leq 160$	$100 \leq D \leq 300$
Single Row Deep Groove Ball Bearings	$50 \leq d \leq 130$	$100 \leq D \leq 200$





# MAIN CUSTOMERS - RAILWAY



**ROMANIAN** Railways



**POLISH** Railways



**TURKISH** Railways



**BULGARIAN** Railways



**GREEK** Railways



**VIETNAMESE** Railways

# REFERENCES

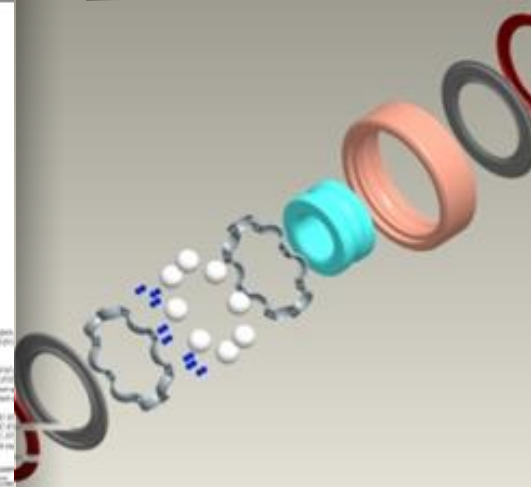
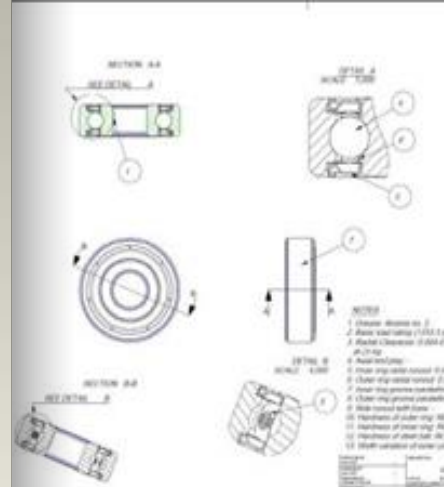
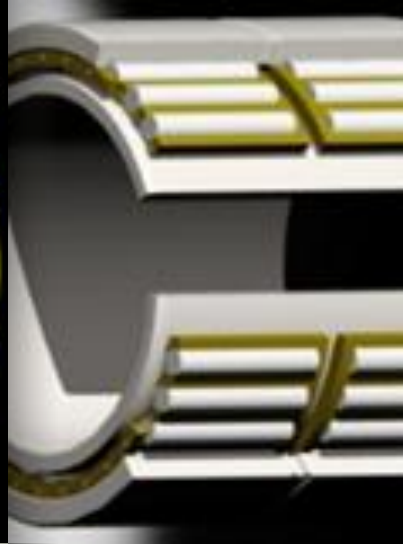
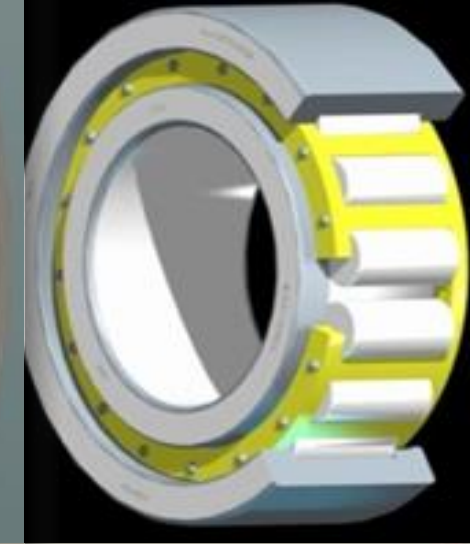
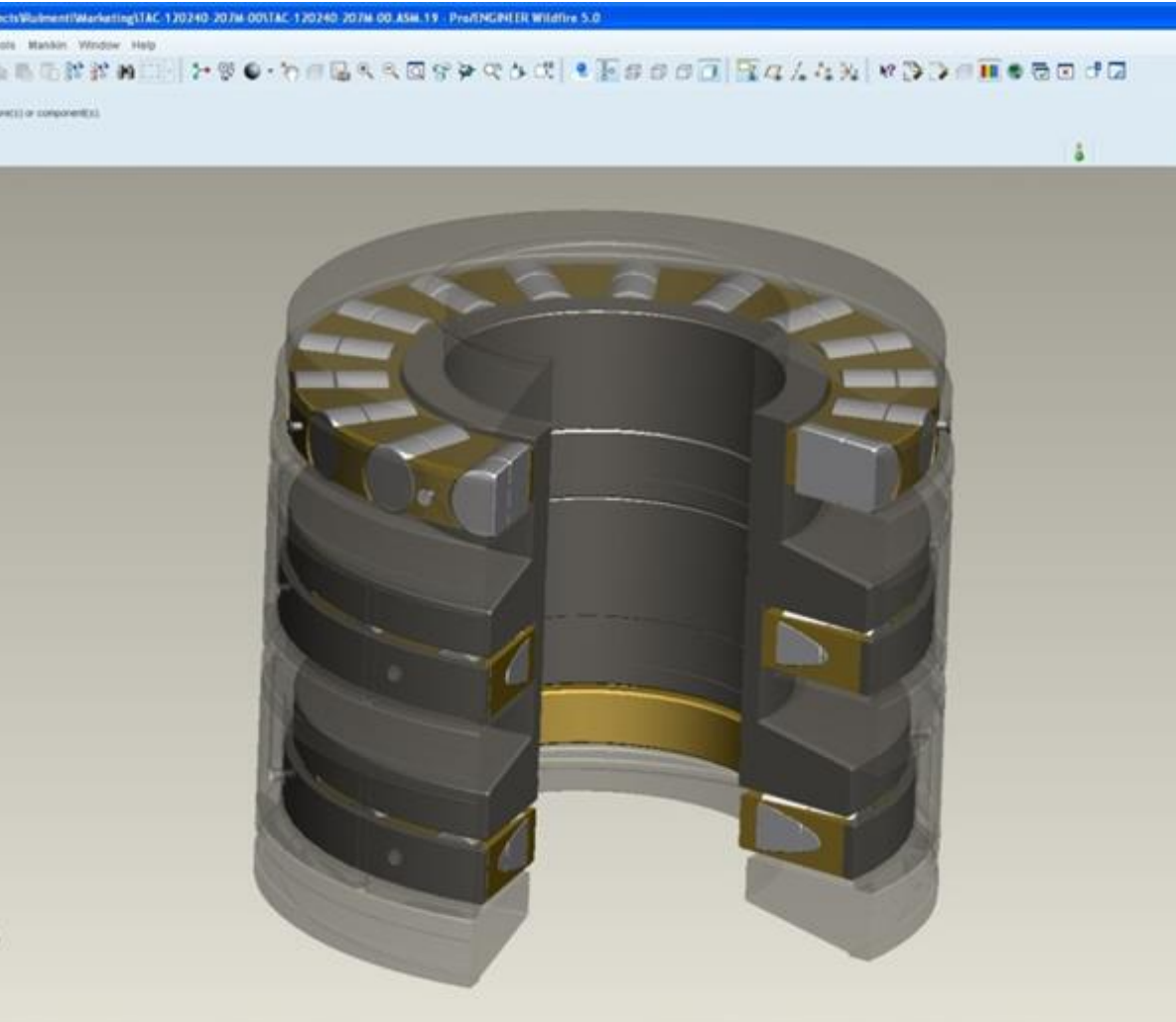


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## 2. DESIGN CAPABILITIES & APPLICATIONS

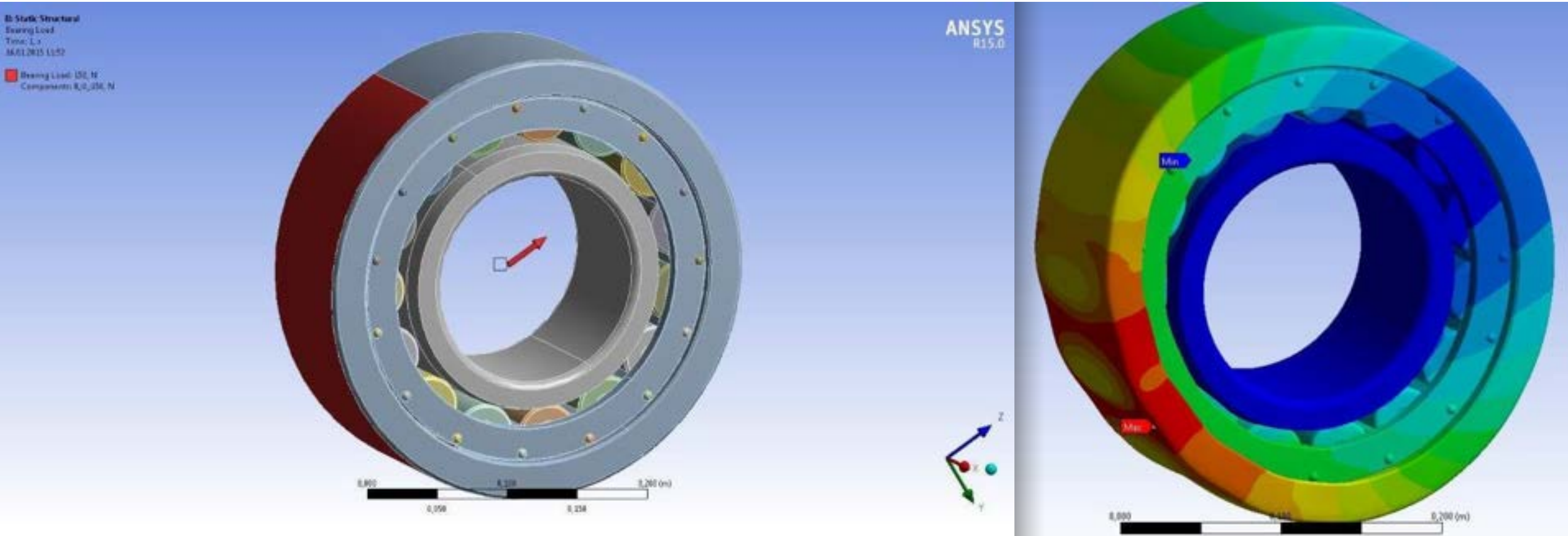
### COMPUTER AIDED DESIGN PROENGINEER - URB SOFTWARE



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## 2. DESIGN CAPABILITIES & APPLICATIONS

### COMPUTER AIDED ANALYSIS **ANSYS - URB SOFTWARE**



Dedicated R&D Team

Cooperation with Technical University

More Accurate Analysis

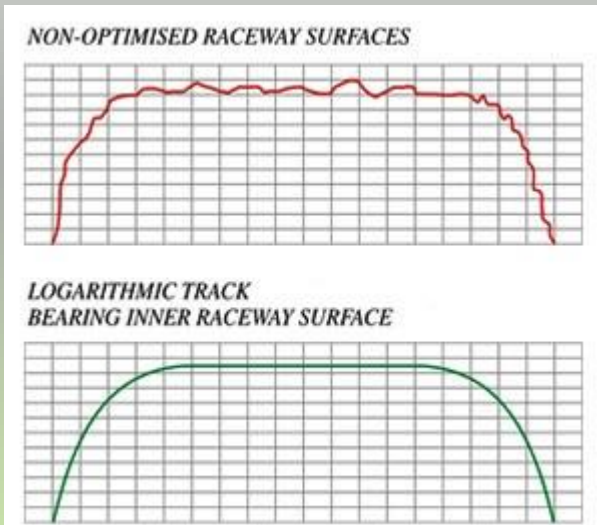


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### ENGINEERING SOLUTIONS

#### Shape and Geometry

Optimized raceway surfaces



Rollers with logarithmic profile



#### Changes in construction



Drilled rollers



Higher load capacity



### ENGINEERING SOLUTIONS

### Product Developments

#### Special Bearings



#### New cage types

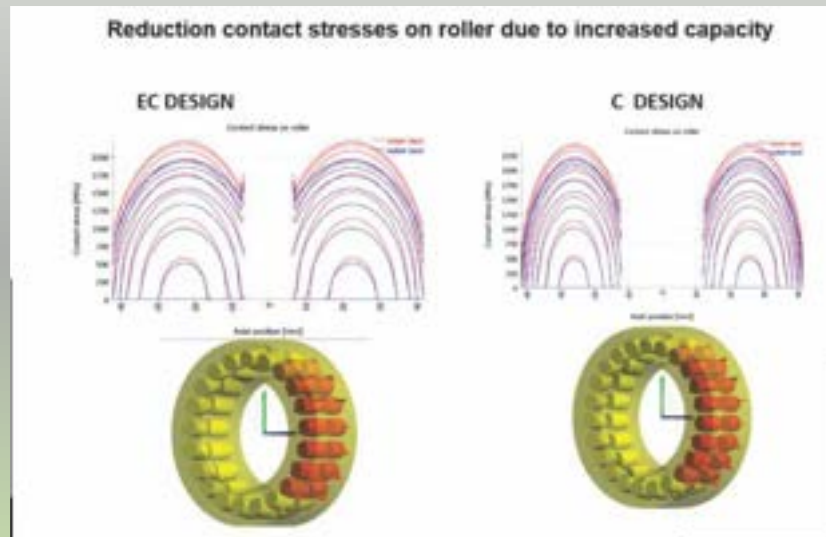


#### Combined Bearings



#### Product Developments

#### SPHERICAL ROLLER BEARINGS – EC DESIGN

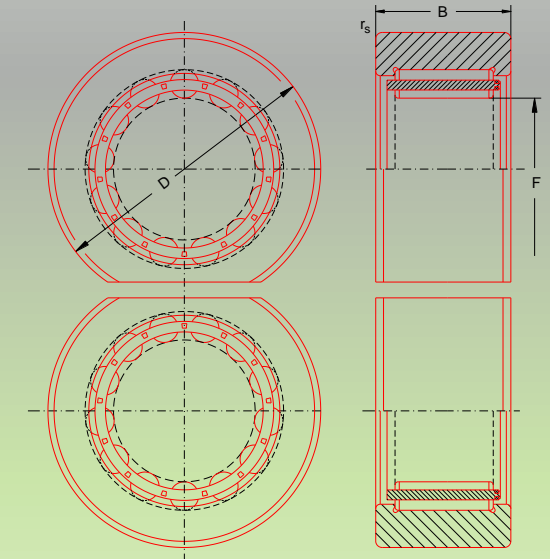
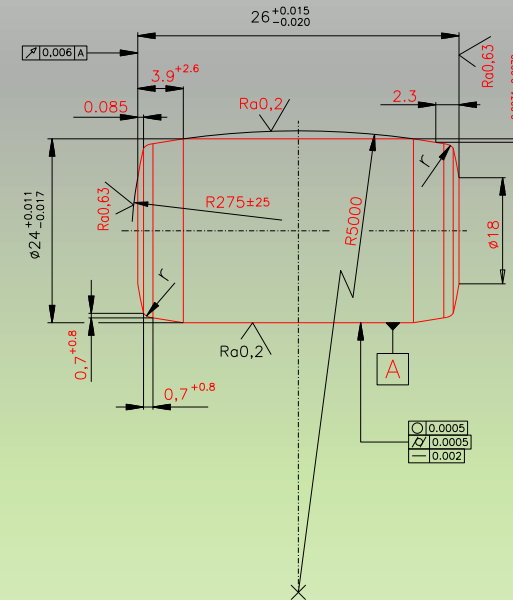
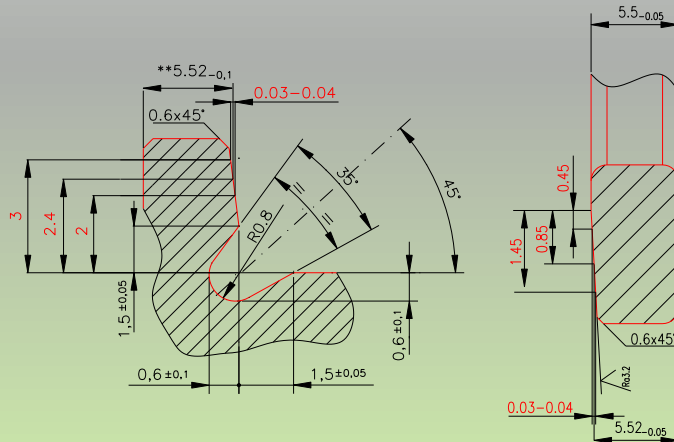
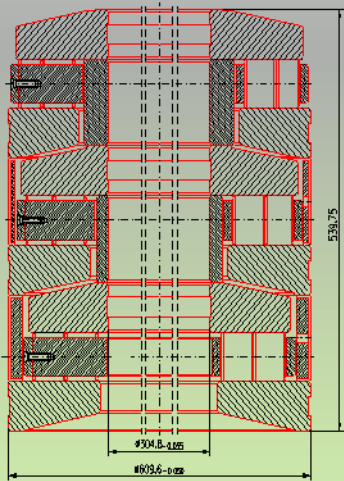
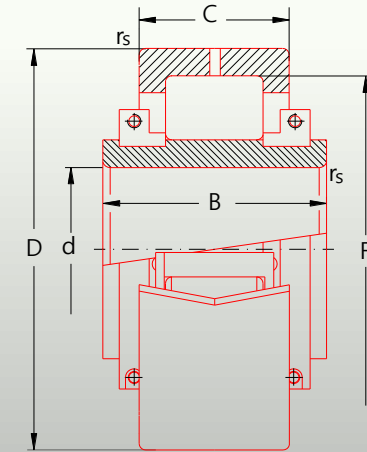
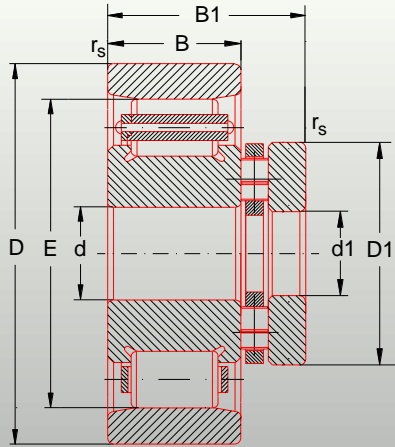


- ✓ Higher load capacity
- ✓ Longer service life
- ✓ Optimized rolling surfaces
- ✓ Low residual austenitic content
- ✓ Reduced contact stress on rollers

## ENGINEERING SOLUTIONS

### Product Developments

**\* Our dedicated R&D team can provide specially designed products with application and service engineering on non-standard applications**





## 2. DESIGN CAPABILITIES & APPLICATIONS

### Applications



OIL INDUSTRY



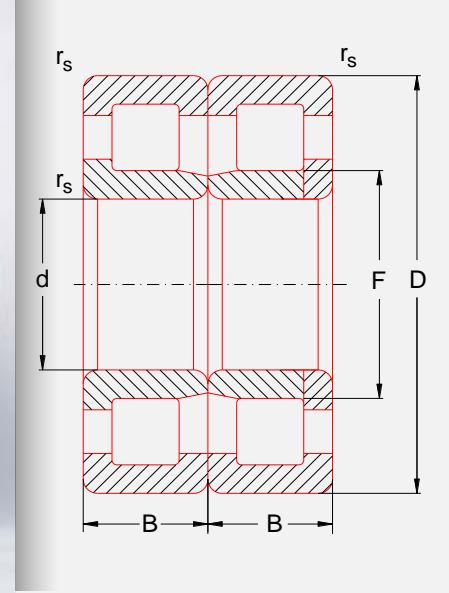
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## 2. DESIGN CAPABILITIES & APPLICATIONS

### Applications



RAILWAYS





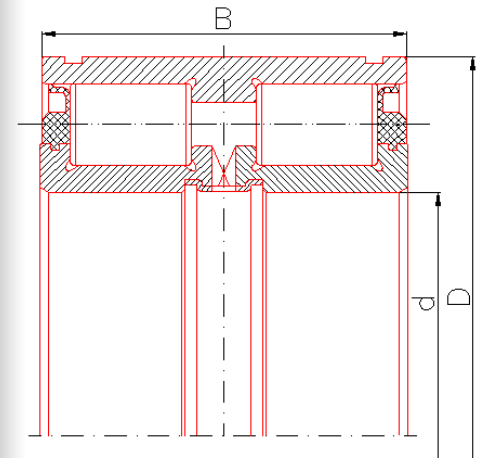
### Applications



### WIND ENERGY

small and medium sizes

- Rotary motors
- Gearbox



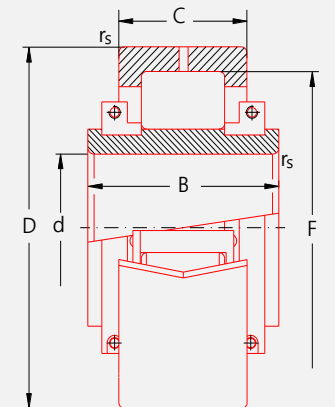


## 2. DESIGN CAPABILITIES & APPLICATIONS

### Applications



METALLURGY

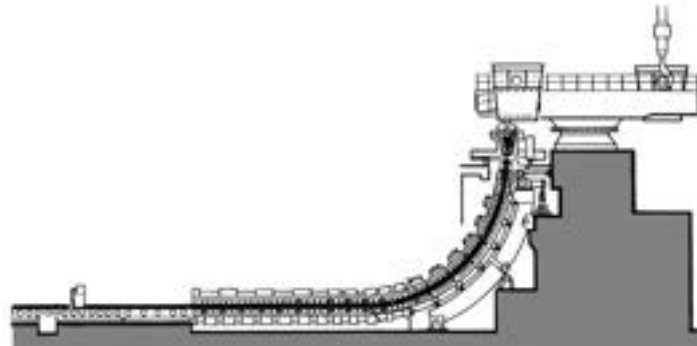


## 2. DESIGN CAPABILITIES & APPLICATIONS

### Applications



AGRICULTURE, MINING, CEMENT, METALS, TRUCKS, CRANES



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## 2. DESIGN CAPABILITIES & APPLICATIONS

### Applications



ELEVATORS, ROPE SHEAVES



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# MAIN STEEL SUPPLIERS



Ovako - **Sweden**



Ascometal Hagondange Sas - **Italy**



Saarstahl - **Germany**



Kobe Steel - **Japan**



Sanyo - **Japan**



Moravia Steel - **Czech**



Jiangyin Xing Cheng Special Steel Works - **China**

### 3. MANUFACTURING PROCESSES & CONTROLS

## 1. Material Control

### Storage

- Raw material checking
  - According to ISO 683-17
  - According to specific technical requirements by customer





# 1. Material Control

## Incoming Inspection

- Raw material pre-production analysis:
  - Hardness (Rockwell, Brinell, Vickers)
  - Microstructure/macrostructure (carbides network, carbides streaks, martensitic structure, decarburized layers)
  - Spectral analysis (chemical composition, % of elements in used steel)





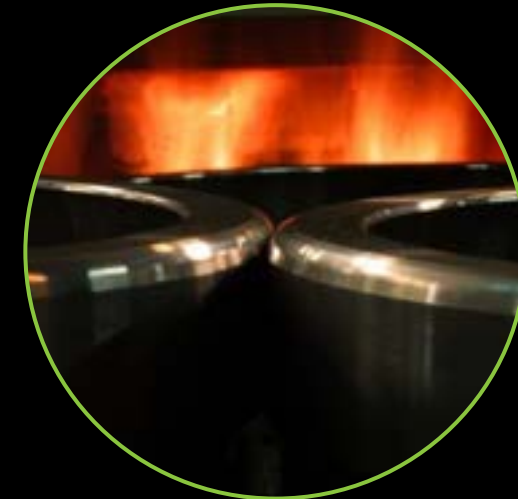
- Outer & inner ring forging equipment's:
  - Wagner 250
  - Wagner 400V, 400N
  - Wagner 630V, 630N
  - AMP 20
  - AMP 30
  - AMP 50
  - Hammers (1 & 2 tons)
- Primary heat treatment- Annealing equipment:
  - Siemens 1500-1/2
  - Siemens 750-1
  - Uttis
- Sand blasting:
  - TK1/3;
  - Rosler
- Dimensional (ID/OD/H), hardness, microstructure and surface checking

## 2. Forging



- Outer & inner ring soft turning equipment:
  - CNC machine
  - Automatic lathes
- Quality Control
  - Dimensional (ID/OD/H, angles, raceways, recess, radius)
  - Form deviations (ovality, profile deviation, parallelism, conicity, raceway deviations)
  - Surface checking (surface defects, roughness)
- Secondary heat treatment-  
Quenching and tempering equipment's:
  - EBNER 1/2
  - MD318 1/2
- Dimensional, microstructure  
Residual austenite, hardness checking

### 3. Turning & Heat Treatment





## 4. Grinding

- Outer & inner ring grinding equipment's:
  - CNC - grinding machines
  - Centerless grinding machines
  - Classic grinding machines
- Quality Control:
  - Dimensional (ID/OD/H, angles, raceways, recess, radius)
  - Form deviations (ovality, profile deviation, parallelism, conicity, raceway deviations)
  - Surface checking (surface defects, roughness)





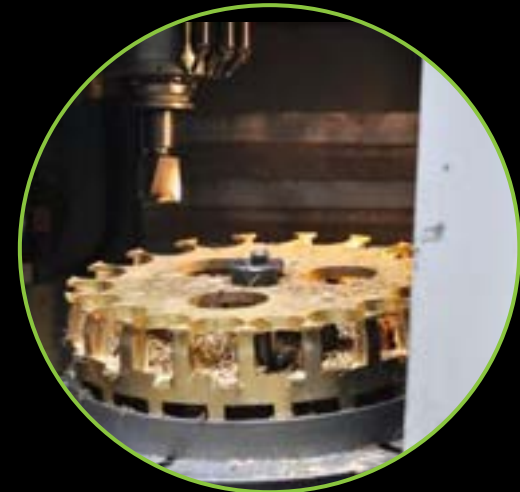
- Coil phosphating
  - Cold pressing with Sakamura Presses
  - Roller turning
- 
- Face & outer grinding
- 
- Quality control:
    - Dimensional
    - Form deviations
    - Surface checking (visual defects)
- 
- Heat treatment (Quenching and Tempering)
    - MD318 1/2
- 
- Rollers grinding
  - Vibrosmoothing using Kromas equipment's
- 
- Sorting of rollers(OD/H) 0,5/1  $\mu\text{m}$ 
    - Speedy
    - TRLa

## 5. Rollers



## 6. Cages

- Brass cages:
  - In-house centrifugal casting
  - CNC milling, turning and drilling
  - Chemical bath
- Polyamide cages are produced through injection at the Tooling Dept.
- Steel cages:
  - Cold pressing of steel sheets (deep-drawing, cutting)
  - Turning and vibro-smoothing
  - Sand-blasting





- Non destructive testing for railway industry
  - Ultrasonic testing
  - Magnetic powder inspection
  - Eddy currents
  - Expansion test
- Post-assembly demagnetizing and washing
- Final characteristics checking
- Final assembly
- 3D dimensional testing
- Preserving with conservative for 24 months guarantee

## 7. Bearing Elements' Reception and Assembly





## Tooling Workshop

- Total area of 10,900 m<sup>2</sup>
- 357 direct machines & 114 auxiliary machines
- Capable of:
  - Turning
  - Milling
  - Grinding
  - Metallic structuring (bending, shocking, rolling, welding)
  - Heat treatment



## 4. QUALITY CONTROL

### Quality & Measurement Laboratories





## 4. QUALITY CONTROL

### 3D Testing in Quality & Measurement Laboratories





## 4. QUALITY CONTROL

### Bearing Life-Time Testing Lab



## 4. QUALITY CONTROL

### Dynamic Bearing Testing Rig

- Able to test bearings up to  $\text{Ø}500$  mm outer diameter
- Axial load simulation





# 4. QUALITY CONTROL

## Packaging



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## Certification **QMC- ISO 9001 : 2015 / TUV SUD**

certificate Registration No.: 12 100 52718 TMS from 20.07.2021

Certificate validity: 19.07.2024

## Certification **QMC – IATF 16949 : 2016 / TUV SUD**

certificate Registration No.: 12 111 52718 TMS from 20.07.2021/ IATF Certificate No.:0412083

Certificate validity: 19.07.2024

## Certification **ISO/TS 22163:2017 / LLOYD'S REGISTER**

certificate –Register -No.: BUC6018759 from 03.10.2018, valid from 30.07.2018

Certificate validity: 15.12.2024

## Certification **EMS – ISO 14001:2015/ LLOYD'S REGISTER**

certificate No.:10294582 from original approval 22.09.2011; current certificate: 28.09.2020

Certificate validity: 21.09.2026

## Certification **ISO 45001:2018 / LLOYD'S REGISTER**

certificate No.:10330206 from original approval 29.09.2011; current certificate: 28.09.2020

Certificate validity: 28.09.2026



# THANK YOU

FOR YOUR ATTENTION

