3 UNIDR®

UNIOR COMPONENTS DOO Company presentation Broaching solutions

CHINA PARTY

Special tools excellence since 1853



Tradition, quality and innovation, combined with customer centricity and competitive prices, is what makes UNIOR COMPONENTS one of the leaders in the field of broaching technology. We are very proud of our presence in 25 countries, as well as the trust provided by our customers, who are some of the most eminent manufacturers in the automotive and aviation industry.

At UNIOR COMPONENTS we are manufacturing special tools since 1853, while broaching tools production started in 1955 within well known Zastava Group. After the acquisition process in 2005, we became proud member of Unior Group.



Tradition, Quality and Innovation

We are offering solutions in three different segments

ZUNIDR[®]



BROACHING SOLUTIONS

Broaching Tools Portfolio :

- Broaches for interneal broaching
- Broaches for surface broaching
- Broaches for helical broaching
- Holders for round and flat broaches

Specifics:

 Max. Ø250mm, Max. lenght of broaches is 2.2 m (3 m in concept with holders)

Additional services:

- Contract broaching
- Contract sharpening



HEAT TREATMENT*

We are treating all types of steel using two main technologies:

1. Salt baths technology (Degussa <>>):

- Small battery : Ø230x600
- Mid-sized battery: Ø230x1200
- Large battery: Ø250x2200

2. Vacuum technology:

- Oven dimensions: 600x600x900 mm
- Maximum weight: 800 kg
- Maximum pressure:12 bar



WELDING & MACHINING

Welded constructions product portfolio:

- Welded steel constructions
- Machines foundation
- Other welded subassemblies of machines

Specifics:

- Max. dimensions: 3500x2500x1500
- Weight: 6500 Kg
- Elimination the corrosion in a process of sandblasting
- Surface protection with application of two components epoxy paints

*This presentation is focusing on providing insights on our broaching technology solutions. Contact us about more details on rest of our portfolio

Our broaching technology solutions

We are manufacturing world class broaching tools for three different broaching processes





INTERNAL

Round broaches portfolio:

- · Broaches with evolving teeth profile
- Broaches with three-cornered teeth profile
- Broaches for cylindrical holes
- Broaches for making the grooves of the hubs
- Broaches for making polygonal profiles
- Custom made profiles according to customer specific requests



SURFACE

Flat broaches portfolio:

- Broaches for the dowel groove
- Single or complex broaches
- Custom made profiles according to customer specific requirements



HELICAL (SPIRAL)

Helical (Spiral) broaches are finding their application in broad scope of industries mainly due to advantages they are offering in broaching process. We are offering single or complex broaches with helical (spiral) or cylindrical tee.

Broaching tools manufacturing for various industries

We are equipped with state-of-the-art machinery for broaches manufacturing









Aerospace













Tools

Automotive

Metalworking

Agriculture

Energy

5

Quality is our unique selling proposition

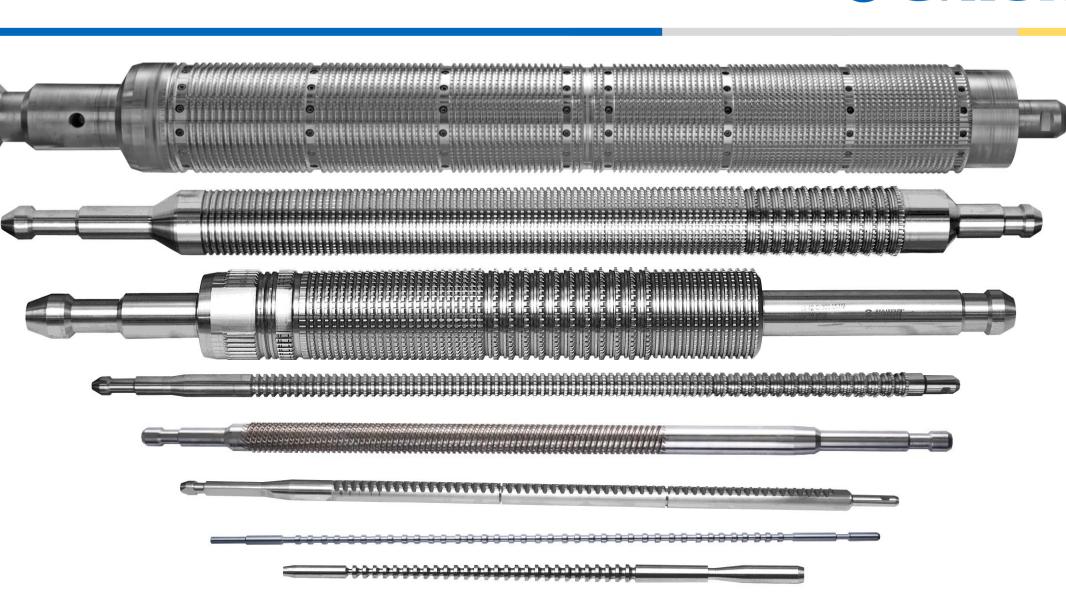
Our own heat treatment is key pillar of world class quality of our tools





Our products for automotive industry

Our tools are used in various segments of automotive industry



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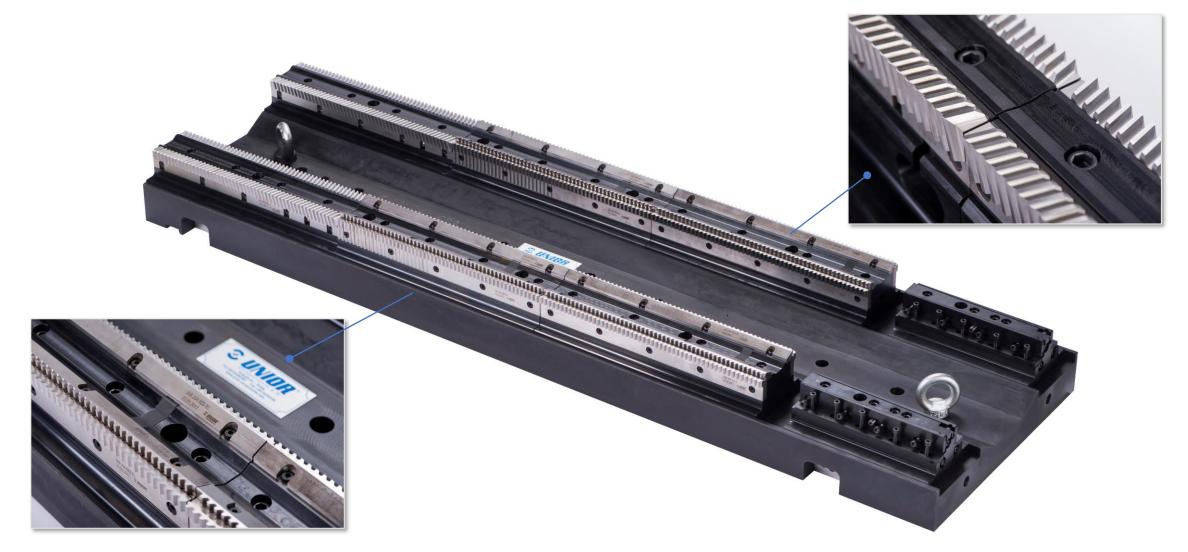




Our products for automotive industry

Our tools used during manufacturing process of braking calipers





Our products for aerospace industry

Set of our tools used for broaching of the turbine disc

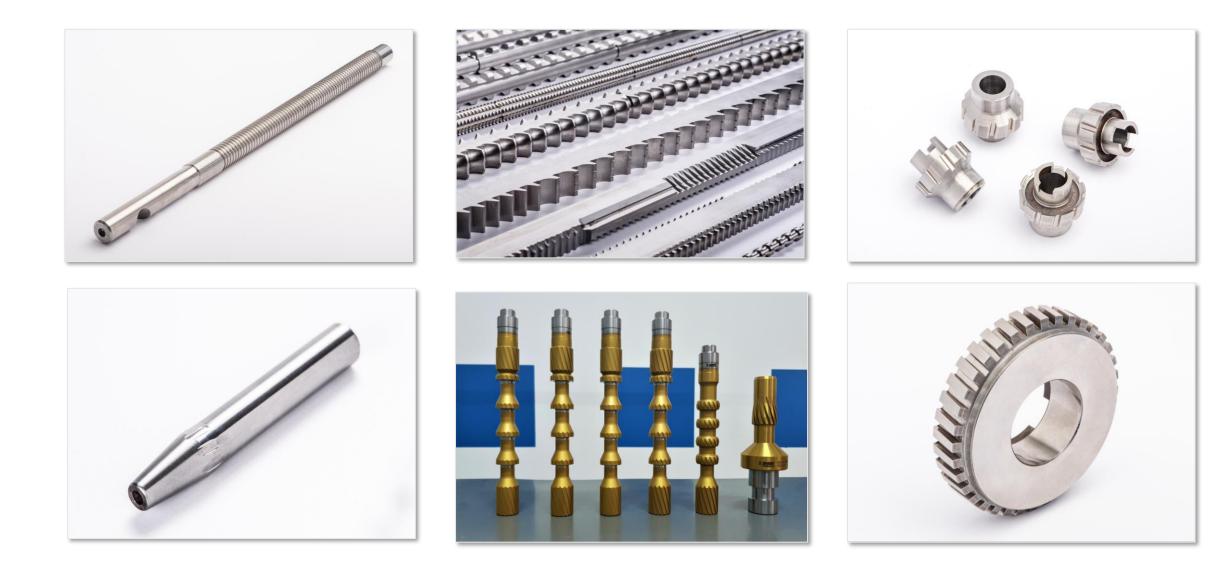




Our products for defense and military industry

Our button tools used for broaching of firearms components





Broaching tools used for hydraulic motors production

We are specialized in manufacturing broaching tools used for production of key components of hydraulic motors





Broached components of hydraulic motor:



Broaching tools used for hydraulic motors production

Sets of tools are fully customized according to our customers specific requirements





Broaching solutions per industries of application

Essential components for automotive, aviation, as well as other industries are produced as an outcome of the broaching process





In the automotive industry, our broaches are used for production of engine parts, gearboxes, steering systems, braking systems and pumps.





In aviation industry our broaches are used for production of **engines and turbines**







OTHER INDUSTRIES

In other industries, our broaches are used for production of components in the **defense industry**, **gas turbines**, **agro-mechanization and machinery production**.



References for our broaching solutions

Selection of our references per industries of application





Contact us

Allow us to exceed your highest expectations

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We are located in the Southeastern Europe, in central part of Serbia, at city of Kragujevac, which is located 150 km southern of Serbian capitol Belgrade.

We are looking forward to provide any additional information. Your contact person



Ivan Radojicic
Business Development Manager
☑ i.radojicic@unior-components.com
♥ +381 64 8778 945

More info about <u>Unior Components DOO</u> More info about <u>our welded constructions portfolio</u> More info about <u>our heating treatment portfolio</u> More info about <u>Unior Group</u>





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