botek
Partner to the aerospace industry
Safety in precision
We are **botek**.

We develop tools that take you higher.
Welcome to a world of quality without compromise.

Welcome to botek.

In our fast-paced times as technology advances in leaps and bounds, globalisation and cost pressure in the aerospace business, experienced partners are more important than ever.

New materials demand new production strategies and new tools. Development expertise is the most important skill on board.

The properties of new materials make high demands on machining. Success hinges on the use of high-precision tools.

Drilling systems by botek help aircraft construction to reach new heights and ensure uncompromising safety of operation.
We go deeper to let you go higher.
botek – Quality from Germany for the world.
In 1974 Lothar Herrmann, Gotthold Schur and Karl-Heinz Wenzelburger teamed up to develop deep hole drilling tools designed to satisfy the customers’ specific requirements: Machining of deep and precise holes.

The company’s team of six has now increased to more than 750 employees. It is a family business, still owner-managed up to the present day: a **global player and full-range supplier** of precision drilling tools and the best of working atmospheres.

Based in Riederich (Germany), the company has factories in France, Hungary and India, where highly trained specialists develop and produce single and two fluted drills, BTA and Ejector deep hole drill systems and special tools. And botek is always just a call away with 50 sales and support partners. **Worldwide.**

The highest standards in development and production together with consistently high quality: this tenet has held true for 40 years at the parent factory in Riederich and beyond.
botek – Tools that provide safety.
botek ranks among the world’s leading suppliers of deep hole drilling systems.

We get going where others give up. Every application is different, every process calls for a customized solution.

Our development department is already working to meet tomorrow’s requirements. This unshakeable determination to take things to the next level has made us what we are today.

Innovative advanced technology is routine at botek. Expertise, experience, commitment and creativity are our greatest assets.

Our customers’ processes make their debut in our test department. This is where success is engineered. No product leaves the factory before it is approved.
botek aerospace –
Taking things higher
with customized
precision drilling technology.
- Qualified advice by an experienced team of aerospace application engineers.

- Customized tool and process design by our in-house R&D and test department.

- Optimally equipped test department with semi-automated ADUs and EDUs, CNC machining centres, deep hole drilling machines and modern measurement technology.

- Varied portfolio for top drilling quality in wet MQL and dry machining.

- One-shot machining for small and large diameters and drilling depths possible.

- High vertical range of manufacture.

- Fast reaction times.
The botek leading edge:
- Highest machining quality in solid drilling, boring, countersinking and drilling of forms.
- Large drilling diameters and depths possible in one shot.
- Low costs per hole due to regrindable and indexable tools.
- Modern cutting materials and coatings for efficient machining of challenging materials like Inconel, titanium and stainless steel.
- PCD and diamond coating for drilling and countersinking of CFRP and CFRP stacks.

botek aerospace — Taking quality to new heights.
### Description, benefits, tool qualities

- **Benefits of our tools**
  - High processing quality in terms of roundness, surface roughness, bore diameter, hole straightness, concentricity
  - Drilling of large diameters and depths
  - Solid drilling, counterboring, pull boring
  - Precision diameter adjustment of tools
  - Drilling of forms like flat bottom, full radius, steps, radius, cone and combinations of such
  - Tools with indexable inserts, no regrinding necessary
  - Various carbide grades for processing challenging materials

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<table>
<thead>
<tr>
<th>Part</th>
<th>Main and nose landing gear</th>
<th>Drive shafts</th>
<th>Cylinder for flight control</th>
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</thead>
<tbody>
<tr>
<td><strong>Materials (Examples)</strong></td>
<td>35NCD16, 300M, titanium alloys, aluminium</td>
<td>Inconel/Maraging 250</td>
<td>17-4PH/15-5PH/PH13-8Mo/titanium</td>
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<tr>
<td><strong>Tools</strong></td>
<td>BTA and Ejector standard and special tools</td>
<td>Type 34</td>
<td>Type 12</td>
</tr>
<tr>
<td><strong>Tools (Example images)</strong></td>
<td>Type 99-34</td>
<td>Type 99-12</td>
<td>Type 99-34</td>
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**botek**

Nothing is too hard for us.
### Description, benefits, tool qualities

**Benefits of our tools**
- High processing quality in terms of roundness, surface roughness, bore diameter, hole straightness, concentricity
- Drilling of large diameters and depths
- Solid drilling, counterboring, pull boring
- Precision diameter adjustment of tools
- Drilling of forms like flat bottom, full radius, steps, radius, cone and combinations of such
- Tools with indexable inserts, no regrinding necessary
- Various carbide grades for processing complicated materials

**Benefits of our tools**
- High processing quality in terms of roundness, surface roughness, bore diameter, delamination and fraying
- Drilling of large diameters and depths
- One shot drilling
- Drilling and countersinking in one shot (Type 111, Type 154)
- Highest quality counterboring, also for pre-holes with offset (Type 112/Type 113, Type 122/Type 125)
- PCD and diamond coatings for long tool life in CFRP and CFRP stacks
- PCD regrindable
- Dry machining in Al, CFRP, Al/CFRP with high performance coating (Type 158)

### Structural component (fuselage)

<table>
<thead>
<tr>
<th>Components</th>
<th>Material</th>
<th>Tools</th>
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<tbody>
<tr>
<td>Main and nose landing gear</td>
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<td>Cylinder for flight control</td>
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<tr>
<td>Structural component (fuselage)</td>
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<tr>
<td>Connection of large components (power unit, wings)</td>
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<td>Compressor discs</td>
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<tr>
<td>Hydraulic valve blocks for flight control</td>
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<tr>
<td>Turbine for air conditioning (air management)</td>
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<tr>
<td>Distributors for air conditioning (air management)</td>
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</tr>
</tbody>
</table>

- Al, CFK, AL/CFK, Ti/CFK, Al/CFK/Ti
- Inconel
- Titanium
- Al, CFK, AL/CFK, Ti/CFK, Al/CFK/Ti
- Inconel
- Titanium

**New**
- Type 112 PCD
- Type 112
- Type 113
- Type 01
- Type 110
- Type 158

**Benefits of our tools**
- High processing quality in terms of roundness, surface roughness, bore diameter, hole straightness, concentricity
- Drilling of large diameters and depths
- Various carbide grades for processing challenging materials
- Regrindable or indexable tools
botek – Since specialists don’t fall from the sky ...
... we provide sound training on the ground for
we need specialists who satisfy our high standards.

And we seem to do a good job, because
most of the people we train stay with us at botek.

Our great experience in offering a wide range
of apprenticeships, varied career options
and permanent further training at a high level
make us a popular employer.

Or as our employees say:

**we are botek.**
botek – always one step ahead.
• Please note our safety notes at www.botek.de.
• Our General Standard Terms and Conditions, which we assume as known, apply.
• We reserve the right to make modifications in the interests of technical improvement. Such modifications cannot, in principle, be accepted as justificable reasons for complaint.
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