

INDUSTRY SOLUTIONS

AEROSPACE



**100% SAFETY –  
FOR THE MOST PRECIOUS CARGO**

Clamping solutions for the aerospace industry

[www.hainbuch.com](http://www.hainbuch.com)

**HAINBUCH**  
WORKHOLDING TECHNOLOGY

# AVIATION AND AEROSPACE – CHALLENGE US!



## You are experts in aerospace

Aerospace is one of the most technically demanding industries in the world. With increasing difficulties to machine materials, exacting specifications and constant time restraints, the manufacture of aerospace parts has many limitations – but also production rates are set to increase greatly.

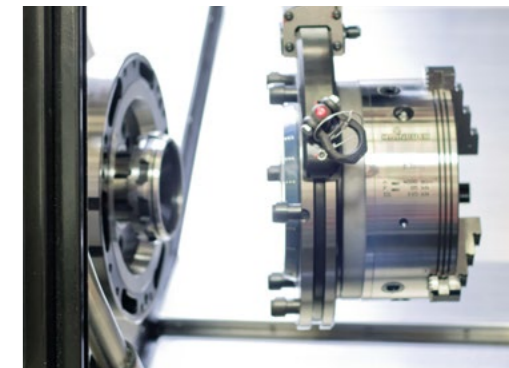
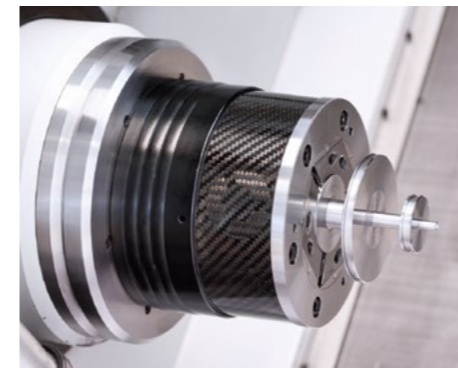
## HAINBUCH – experts in workholding

- Innovators and trendsetters of creative workholding solutions
- High-precision clamping solutions that are superior in terms of durability, accuracy, and versatility
- High level engineering with more than 100 patents and many awards, especially for the first intelligent chuck and the first CFK lightweight clamping system
- Problem solvers for particularly tricky clamping situations
- Set-up specialist with quick change-over
- Reliable partner in process optimization and continuous improvement

## Together we can be experts for 100% safety

Do you have a challenging application? Count on HAINBUCH's 65 years of experience and the originality of our workholding engineering team.

Contact us at [www.hainbuch.com](http://www.hainbuch.com) | [sales@hainbuch.de](mailto:sales@hainbuch.de)



# OUR PERFORMANCE – YOUR ADVANTAGE

## APPLICATIONS



Hydraulic valve housing



Valve block housing



Hydraulic pump housing



Bracket



Seat slide bracket

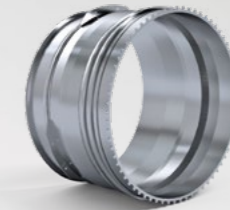
Interior equipment

Landing flap control

Frame structure and airfoil



Turbine shaft



Turbine housing part



Compressor wheel



Shaft fan



Turbine wheel



Turbine gear wheel



Turbine blade

Power plant / turbine



Landing gear components



Break system housing



Main landing gear housing



Bearing journal

Undercarriage

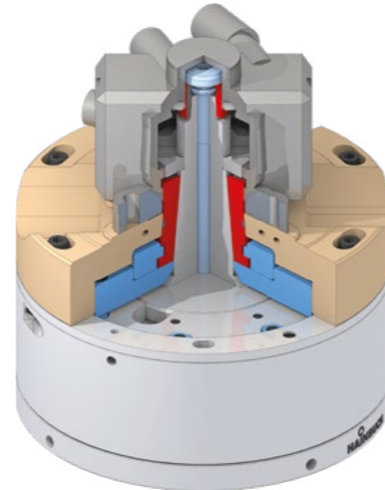


**Workpiece** Hydraulic valve housing  
**Clamping task** I.D. clamping  
**Machining** Milling of valve channels

**Solution:** Double independent I.D. clamping

**Workholding technology**

- Mandrel with two independent hydraulic clamping positions and pull-back effect
- Vulcanized segmented clamping bushing for vibration-dampening effect
- Rigid clamping with optimized chuck body for tool contour

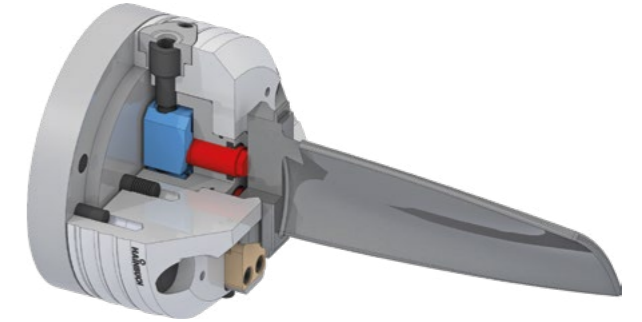


**Workpiece** Turbine blade  
**Clamping task** O.D. clamping  
**Machining** Milling

**Solution:** Turbine blade chuck

**Workholding technology**

- Workpiece positioning
- Feasible for automation
- Two pins instead of one ensure high clamping force, compensating clamping, precise clamping device and high rigidity

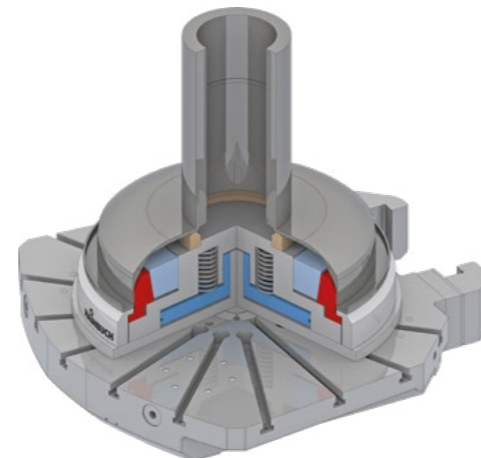


**Workpiece** Shaft fan  
**Clamping task** I.D. clamping with deadlength effect  
**Machining** Milling of outer diameter

**Solution:** Segmented bushing chuck

**Workholding technology**

- I.D. clamping with deadlength effect for precise radial clamping
- Full cylindrical surface contact and large opening stroke between this huge workpiece and segmented bushing
- Segmented bushing chuck mounted on a workpiece carrier for easy production handling

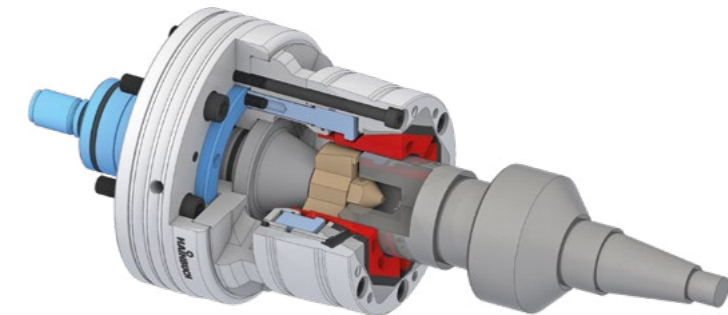


**Workpiece** Bearing journal  
**Clamping task** O.D. clamping  
**Machining** Turning of outer diameter

**Solution:** TOPlus pull-back chuck

**Workholding technology**

- TOPlus technology – full surface contact between hexagonal clamping head and chuck body
- Inner workpiece end-stop with coolant flush and chip evacuation channel



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