

BERGHOFF **PRESENTATION**

PURE PERFORMANCE | ABSOLUTE PRECISION



WHO WE ARE

BERGHOFF Group Germany



For more than 30 years, the internationally operating BERGHOFF Group, with its approximately 120 employees, a production area of more than 5,000 sq ft, has been one of the world market leaders in the mechanical processing of **highly complex workpieces and components** of titanium, tungsten, aluminum, copper, steel, tool steel, high-alloy steel, stainless steel, and cast iron in the field of:

- **High Mix**
high variant diversity of workpieces and components
- **Low Volume**
batch sizes of 10 - 3.000 parts per year
- **High Complexity**
high tolerance and process requirements

OUR MACHINERY

5-Axis-Milling-/ Turning of rotation-symmetric Parts



DMC 340 FD

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 3.400 mm
Y-axis 3.400 mm
Z-axis 2.000 mm
Turning-Ø 2.500 mm



DIXI 210

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.800 mm
Y-axis 2.100 mm
Z-axis 1.250 mm



DMC 125 FD

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.250 mm
Y-axis 1.250 mm
Z-axis 1.000 mm
Turning-Ø 1.100 mm



DMC 200 FD

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.800 mm
Y-axis 2.000 mm
Z-axis 1.100 mm
Turning-Ø 1.850 mm



DMC 210 U

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 2.100 mm
Y-axis 2.100 mm
Z-axis 1.250 mm



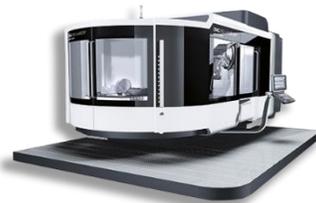
DMC 125 U

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.250 mm
Y-axis 1.000 mm
Z-axis 1.000 mm



DMU 200 P

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.800 mm
Y-axis 2.000 mm
Z-axis 1.100 mm



DMC 160 U

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.600 mm
Y-axis 1.250 mm
Z-axis 1.000 mm



DMC 100 H (3x)

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.000 mm
Y-axis 1.000 mm
Z-axis 1.250 mm

OUR MACHINERY

5-Axis-Milling-/ Turning of rotation-symmetric Parts



DMC 80 H

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 800 mm
Y-axis 710 mm
Z-axis 750 mm



DMC 60 U

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 600 mm
Y-axis 700 mm
Z-axis 600 mm



DMC 65 monoBLOCK

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 735 mm
Y-axis 650 mm
Z-axis 560 mm



DMC 125 U

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.250 mm
Y-axis 1.000 mm
Z-axis 1.000 mm



DMC 1035 V

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.035 mm
Y-axis 650 mm
Z-axis 750 mm



DMC 80 H linear

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 800 mm
Y-axis 900 mm
Z-axis 1.050 mm



DMU 105 FD

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.135 mm
Y-axis 1.050 mm
Z-axis 750 mm
Turning-Ø 1.050 mm



DMC 100 H (3x)

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.000 mm
Y-axis 1.000 mm
Z-axis 1.250 mm



DMC 80 FD

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 800 mm
Y-axis 1.050 mm
Z-axis 850 mm
Turning-Ø 800 mm

OUR MACHINERY

5-Axis-Milling-/ Turning of rotation-symmetric Parts



DMC 60 U

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 600 mm
Y-axis 700 mm
Z-axis 600 mm



DMU 60 H

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 600 mm
Y-axis 560 mm
Z-axis 560 mm



DMC 1035 V

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.035 mm
Y-axis 650 mm
Z-axis 750 mm



CTX 510

Manufacturer DMG
Type turning center
X-axis 300 mm
Z-axis 1.050 mm
Turning-Ø 465 mm



DMU 105 FD

Manufacturer DMG
Type 5-axis-milling/
turning center
X-axis 1.135 mm
Y-axis 1.050 mm
Z-axis 750 mm
Turning-Ø 1.050 mm

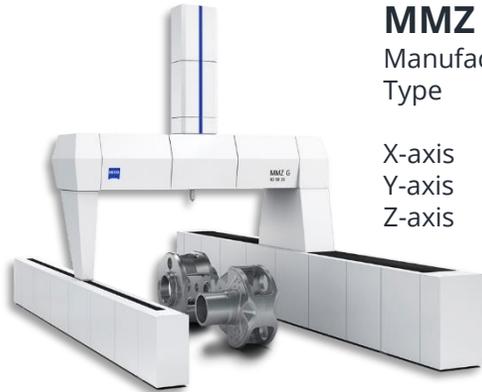


NEF 600

Manufacturer DMG
Type turning center
X-axis 398 mm
Z-axis 1.250 mm
Turning-Ø 600 mm

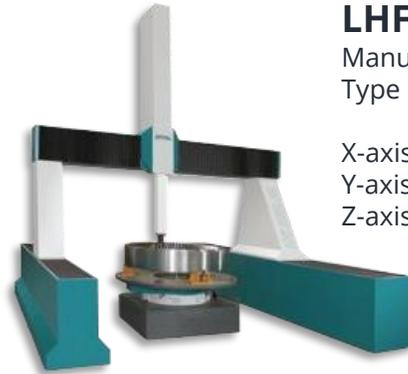
OUR MACHINERY

Quality Assurance – Measuring up to 6.000 mm



MMZ G 30/60/20

Manufacturer Zeiss
Type 3D-coord.-
meas.machine
X-axis 3.000 mm
Y-axis 6.000 mm
Z-axis 2.000 mm



LHF 3020

Manufacturer Wenzel
Type 3D-coord.-
meas. machine
X-axis 3.000 mm
Y-axis 5.000 mm
Z-axis 2.000 mm



LH 108

Manufacturer Wenzel
Type 3D-coord.-
meas. machine
X-axis 1.000 mm
Y-axis 2.500 mm
Z-axis 800 mm



Deutroflux UWS 2000

Manufacturer Karl Deutsch
Type Magnetpowder crack
detection for non-
destructive examination
Diameter 390 mm
Length 2.000 mm



W150H9

Manufacturer Render GmbH
Type Washing machine for
Cleaning / Deburring /
Degreasing of Workpieces
Diameter 1.500 mm

KEY-CAPABILITY

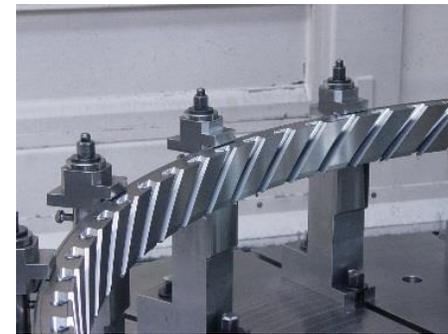
Supply Chain Management / One Stop Shop

BEST EXPERTISE IN MACHINING OF LARGE HIGH COMPLEX PARTS

In order to keep the supply chain management **streamlined** and **efficient**, BERGHOFF supports its customers as a **One Stop Shop**. Customers receive all process along the vertical integration from a **single source** – from one partner.

This means BERGHOFF customers can keep their supplier base to a minimum and **reduce the burden** on their own human **resources**. Typical interface conflicts can be avoided and the **total cost of the supply chain** can be reduced significantly.

In order to develop the greatest possible momentum, BERGHOFF only works together with customers within the scope of strategic partnerships, which are long-term and characterized by a high level of communication. This also means that there are no limits when it comes to a **transfer of know-how**.



KEY-CAPABILITY

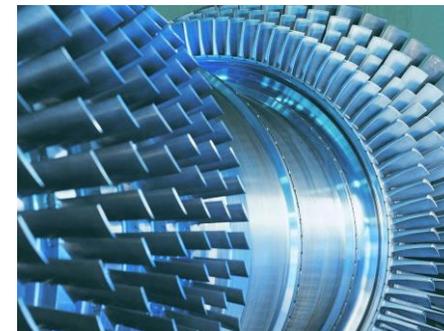
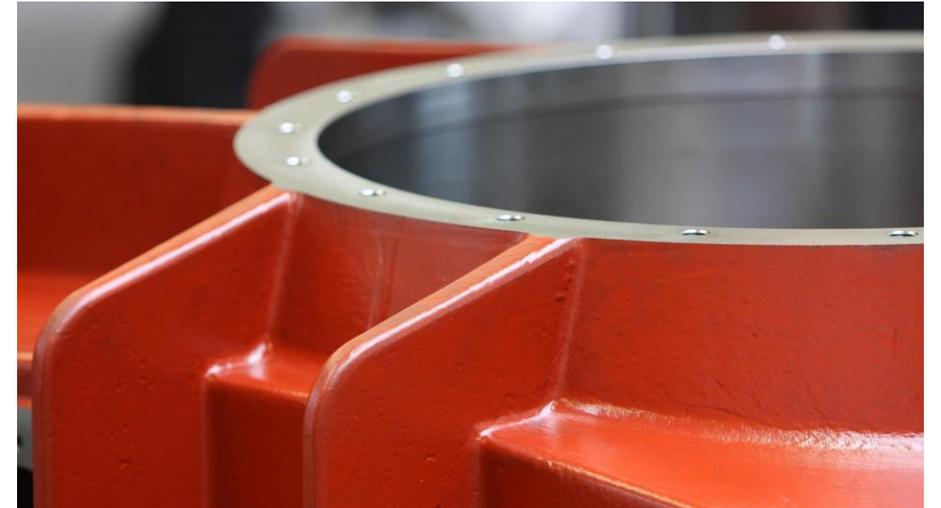
Precision machining of large complex parts

BEST EXPERTISE IN MACHINING OF LARGE HIGH COMPLEX PARTS

BERGHOFF's key-capability to manufacture rotation-symmetric workpieces from \varnothing 400mm of up to \varnothing 3,500 mm are unique.

In the **two German** plants BERGHOFF produces mill-turn parts up to **\varnothing 3,500mm**.

BERGHOFF's **mill – turn machining centers** implements the benefit of 5-axis milling and efficient turning **in one operation**. This avoid additional set-up operations and leads to greater flexibility **and more precise components**.



REFERENCES **AEROSPACE / SPACE**



A400M



**LEAP 1A
LEAP 1B**



A350 XWB



A320 NEO

Parts:

- Fuel pipes
- Housings
- Structural engine parts
- Fittings
- Discs
- Landing gear components

Materials:

- Titanium
- Inconel
- Aluminium
- High-Alloy Steel

Processes:

- 5- / 4-axis milling
- 5-axis mill-turning (up to dia. 5.000 mm)
- Turning (Ø 700mm x 2000mm)

REFERENCES **AEROSPACE / SPACE**



Together
ahead. **RUAG**



CERTIFICATES

Quality Management Systems



Certificate: **DIN ISO 9001**
Auditor: Dekra
Type: Quality Management



Certificate: **EN / AS 9100**
Auditor: Dekra
Type: Certification for aerospace industry



Rolls-Royce SABRE approval
for classified parts

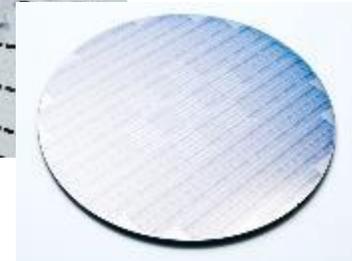
REFERENCES SEMICONDUCTOR / VACCUM TECHNOLOGY



DUV Lithography



EUV Lithography



Parts:

- Structural Frames
- Carrier Structures
- Vacuum Chambers
- Rings/Fittings
- Mechanical parts

Materials:

- Titanium
- Aluminium
- High-Alloy Steel

Processes:

- 5- / 4-axis milling
- 5-axis mill-turning (up to dia. 5.000 mm)

REFERENCES SEMICONDUCTOR / VACCUUM TECHNOLOGY



CERTIFICATES

Quality Management Systems



Certificate: **DIN ISO 9001**
Auditor: Dekra
Type: Quality Management



Certificate: **EN / AS 9100**
Auditor: Dekra
Type: Certification for aerospace industry

OUR CERTIFICATIONS



Qualitätsmanagement
ISO 9001
www.dekra-siegel.de

DEKRA
Zertifiziert

QM-SYSTEM

ISO 9001
QUALITY MANAGEMENT

EN ISO 9001 establishes the minimum requirements of a quality management system (QM system) that an organization has to meet in order to provide products and services that both meet customer expectations and satisfy all regulatory requirements. The management system should also be subject to a process of continuous improvement.



Qualitätsmanagement
DIN EN 9100
www.dekra-siegel.de

DEKRA
Zertifiziert

INDUSTRY

EN 9100:2009
AEROSPACE

The EN 9100 standard provides the framework for comprehensive quality management systems for suppliers in the aerospace industry on the basis of the general quality management standard EN ISO 9001. EN 9101 defines audit requirements for organizations in the aerospace and defense industries.



LLOYD'S REGISTER • LRQA

Industries

APPROVAL RR-GERMANY
AEROSPACE

This approval grants us to deliver aeronautical products and/or services.



ISO

PROCESS

EN ISO 9712 / DIN EN 473
NONDESTRUCTIVE TESTING

This document (EN ISO 9712:2012) was compiled by the ISO/TC 135 "nondestructive testing" technical committee – whose secretariat is held by JISC (Japan) – in collaboration with the CEN/TC 138 "Zerstörungsfreie Prüfung" technical committee as part of the Vienna agreement. This international standard sets the basic requirements for qualifying and certifying personnel responsible for industrial nondestructive testing.

CAD/CAM TECHNOLOGY

PRODUCTION STRATEGY AND CAD/CAM

BERGHOFF programs and simulates the processing of components on **cutting-edge CAD/CAM systems** based on 3D datasets provided by the customers.

All processing centers are linked to one another, in order to ensure data can be exchanged seamlessly. **Collision control systems and viewers** for the operators of each machine ensure **process security** and support the BERGHOFF experts to ensure smooth, **trouble-free processing**.

The BERGHOFF Construction department **develops the most efficient equipment and machining systems individually**, to ensure components can be processed **cost-efficiently** and effectively, in line with the respective delivery deadlines.

OUR PARTNERS

