

Plant List

Millturn Centers

- » WFL Millturn M60
- » WFL Millturn M40
- » 2 x Gildemeister TWIN 500
- » Gildemeister TWIN 42

Milling Centers

- » Deckel Maho DMU 125 P hi-dyn
- » Deckel Maho DMC 103 V
- » 2 x Deckel Maho DMU 100 T
- » 2 x Deckel Maho DMC 63 V
- » Deckel Maho DMC 60 U
- » Deckel Maho DMU 60 P
- » 3 x Deckel Maho DMU 50 T
- » Deckel Maho DMC 80 U
- » Deckel Maho DMC 60 H

Turning Centers

- » 2 x Gildemeister CTV 250
- » Gildemeister CTX 520 linear
- » 2 x Gildemeister CTX 500 S2
- » Gildemeister CTX 500 E
- » Gildemeister CTX 400 E
- » 2 x Gildemeister NEF 520

Grinding Centers

- » Junker JUCRANK 5000-50
- » 2 x Kellenberger Kel-Varia VR 175/1000
- » 2 x Kellenberger Kel-Vista

Quality Assurance

- » ADCOLE 1200H
- » Zeiss Prismo 7
- » Zeiss Vista
- » Zeiss Contura
- » Zeiss Rondcom 60A
- » Zeiss Contourrecord 1800D
- » Zeiss EVO 60 XVP
- » Hommel Tester T8000
- » 2 x Zeiss Handysurf E-30A
- » Wirtz-Buehler Micromet 5101
- » Wirtz-Buehler Delta Abrasimet
- » Wirtz-Buehler Phoenix Alpha
- » 2 x Wolpert Testor 971-250
- » 2 x Tiede Universal 900 WE
- » Micromat 2101
- » Olympus BX 40
- » Olympus BX 51
- » Spectrotest
- » Krautkrämer MicroDur II

**Typical batch sizes from 5 to 500.
Larger batches on request.**

MAXIMUM BLANK DIMENSIONS

Crankshafts	∅ 200 x 750 mm (7.9 x 29.5 in.)
Camshafts	∅ 200 x 750 mm (7.9 x 29.5 in.)
Other shafts	∅ 500 x 1500 mm (19.7 x 59.1 in.)
Cubical parts	∅ 1000 x 1000 x 1000 mm (39.4 x 39.4 x 39.4 in.)

We machine all common steels and alloys.

FORMULA 1

NASCAR and IndyCar

Endurance, 24h

Defense Applications

Civil Aircraft



Thielert Aircraft Engines GmbH

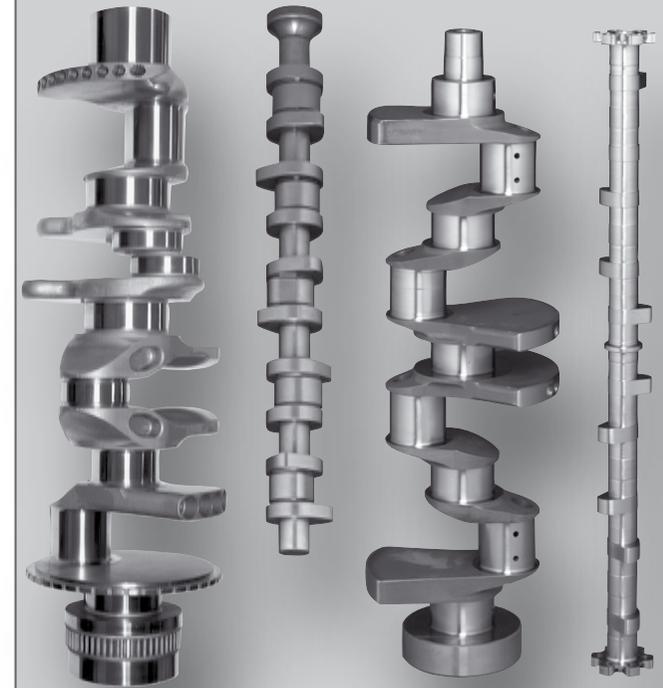
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1.0 A - 1. Aufl. 11/2011 - Printed in Germany - TAE 003 - PR 11 EN



**Crankshafts and Camshafts for
Motorsports and OEM Prototyping**

WWW.THIELERT.COM

THIELERT
AIRCRAFT ENGINES



CNC Machining of Crankshafts

We manufacture crankshafts with complex freeform surfaces on our 5-axes millturn centers. Every step of the manufacturing process is handled in-house. Among others we can offer the following manufacturing capabilities:

Crankshaft Products

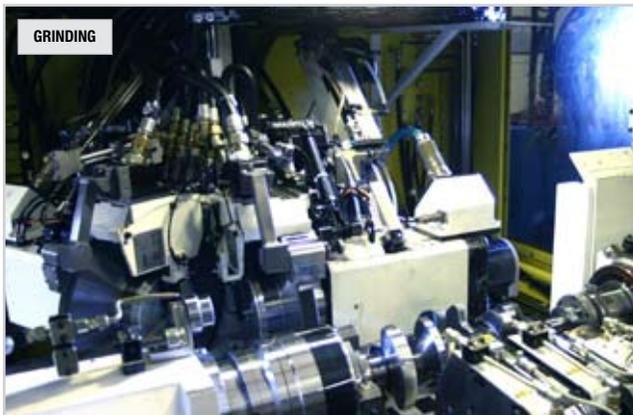
- » billet crankshafts
- » forged crankshafts
- » cast crankshafts

Production Facilities

- » involute teeth
- » splitpin crankpin
- » up to 1000 mm (39.4 in.) work piece length

Processes

- » development
- » millturning
- » CBN grinding
- » nitriding
- » induction hardening
- » measuring against inspection plan



CNC Machining of Camshafts

We perform all manufacturing processes from turning and milling of the raw material to the grinding of complex cam profiles in modern specialized machines in-house. We mainly concentrate on parts for engine prototypes and components for the automotive and racing industry. Our camshafts differ in that they meet the most tight tolerances even with very sophisticated cam profiles:

Camshaft Products

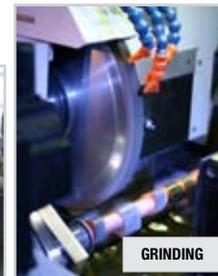
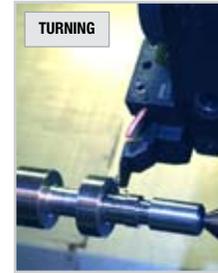
- » billet camshafts
- » forged camshafts
- » cast camshafts
- » assembled camshafts

Production Facilities

- » profiles with concave radii down to 40 mm (1.575 in.)
- » up to 1000 mm (39.4 in.) work piece length

Processes

- » turning from the bar stock
- » milling lobes and flanges
- » gun drilling
- » grinding of lobes and journals
- » nitriding and case hardening
- » cryogenic treatment
- » super finishing



Quality Assurance

All manufacturing processes and products are subject to a strict quality assurance. A data recording and specification system facilitates seamless electronic traceability of all manufactured products. Internally, the best possible measurement techniques and quality management systems (e.g. Six Sigma) are employed.

Process Control

- » exact definition and monitoring of production
- » permanent process control
- » all shafts and gears receive 100 percent geometric inspection, Barkhausen noise based non-destructiv testing or magnetic particle inspection if required

Traceability

- » perfect documentation for reliability of production process
- » survey and quality control for all suppliers through own audits
- » perfect documentation of material flow
- » traceability „to molten mass“

