DEUTSCHER MATERIAL EFFIZIENZ PREIS

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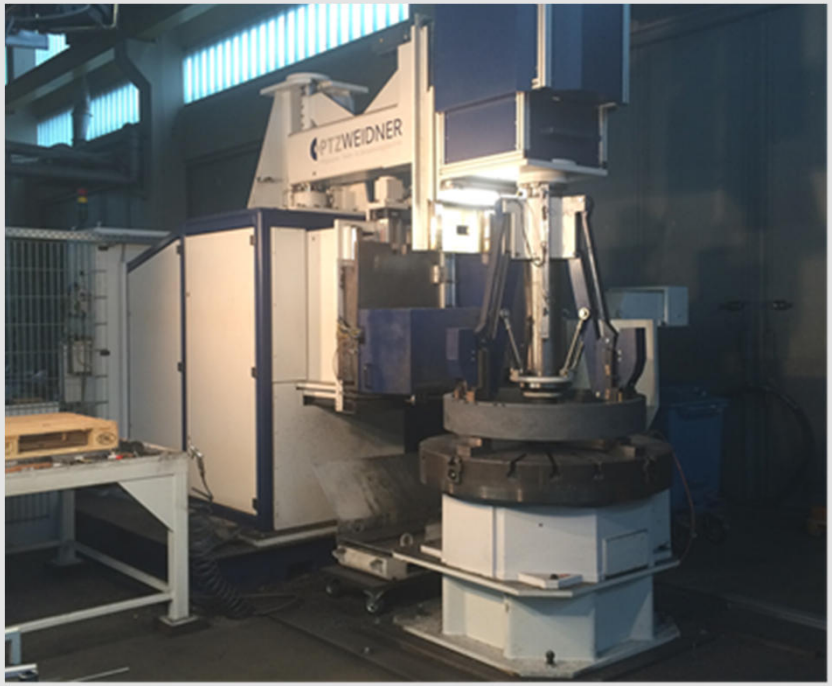
Präzisions- Trenn- & Zerspanungstechnik

Presentation PTZ Weidner

„The new world of patented cutting technology“



Ensure a competitive advantage with resource efficiency

PTZ Weidner

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Structure and advancement from PTZ-Weidner

1999-2008	Development, construction and operating of a prototype from Ring Cutter, in sideline cutting about 12.000 rings in customer´s order.
2009-2010	Constructing of a prototype from Giant-Ring-Cutter for rings with an outer diameter to 1500 mm Awarding of the german material efficiency price in 2010.
2011-2014	Publication of the Giant-Ring-Cutter in the specialist press machinery market, steel and iron.
2011	Awarding of the Hightech Award Cyber-One price
2013	Nomination from the IHK for the german environment price, Purchasing from a DMG CNC controlled carrousel driven on tools.
2014	Certification for DIN ISO 9001 Moving in a new and bigger company building Upgrading of GRC for cutting rings with a diameter to 2300 mm Recruitment of the first commercial employee Beginning with contructing from a new machine cutting rings to 5300 mm
2015	Leasing from another hall at the producting location in Sigmaringen, Recruitment of four more employee and two trainees.

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Cutting in commission – saving potential

For example: production of 8 rings made of chrome steel, height of each cut ring 22 mm, finish dimension 19 mm

- Ring OD 1375 / ID 1075 mm, material 1.4006
- necessary height of the raw ring for cutting: 290 mm / weight 1313 kg
- necessary height of the raw ring with the new PTZ procedure: 200 mm / weight 920 kg

→ **Material savings due to the PTZ procedure: approx. 390 kg**

Ring forging

Process of cutting with 3 mm slitting width

8 cutted rings

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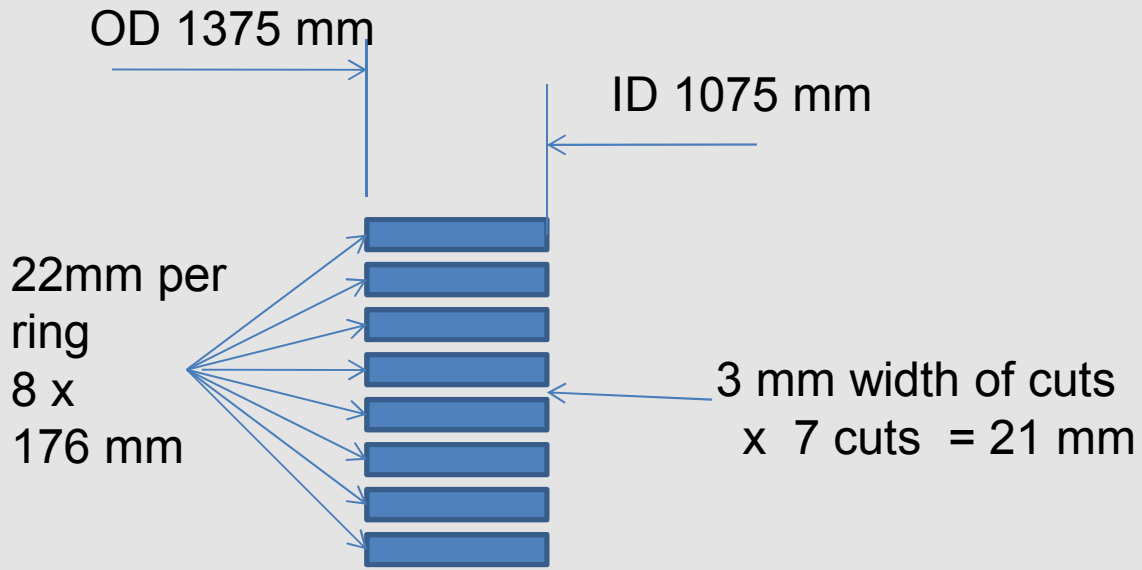
Calculation example chrome steel 1.4006



Optimized height of the ring forging 200 mm

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Dimensions

- **We can cut the following dimensions:**

• Outer diameter	max. 5.300 mm
• Inside diamter	min. 100 mm
• Height	max. 500 mm
• Minimal height of each ring	about 3 – 6 mm
• Plane- parallelism	0,1 – 0,3 mm
• Flatnes	0,1 – 0,3 mm

- Surface finish Ra 3,2 µm

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GRC5300-1000CNC for big rings

The biggest ringcutting machine worldwide

Ringdimensions on the GRC5300-1000CNC

Outside diameter up to	5300 mm
Ring wall thickness up to	550 mm
Ring height up to	1000 mm
Ring height min.	6 mm

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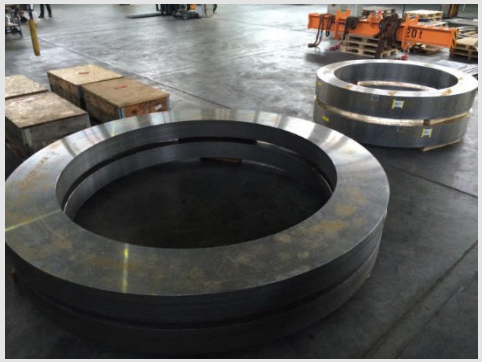
Cutting examples big rings

Ringdimension

Outside diameter	3526 mm
Inner diameter	3006 mm
Ring wall thickness	260 mm
Single ring height	180 mm
Plane-parallelism	0,8 mm
Material	St52-3
Ring weight	about 3.8 t



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Examples of cut, non-ferrous metal rings

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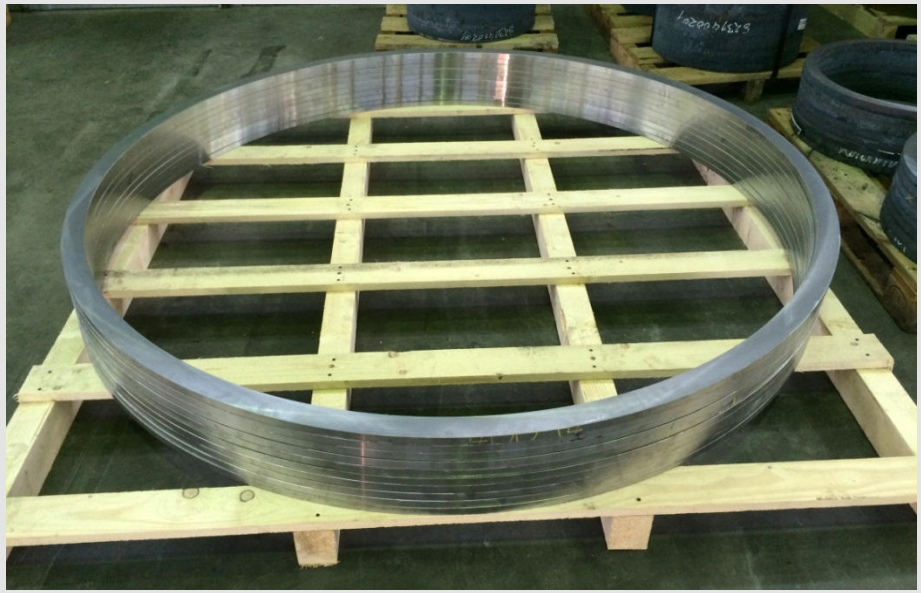
Examples of cut steel rings



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Examples of cut stainless steel and nickel-based alloy rings

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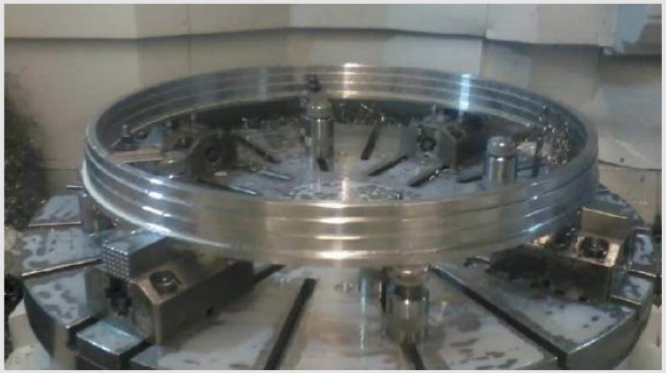
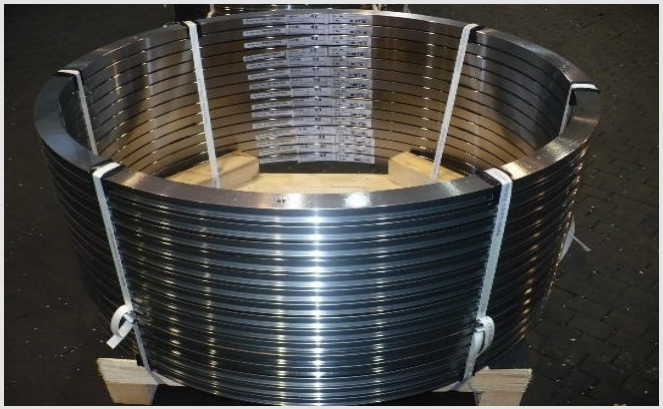
Machining

- Of course we are pleased to take care of the further machining with the support of our partners.





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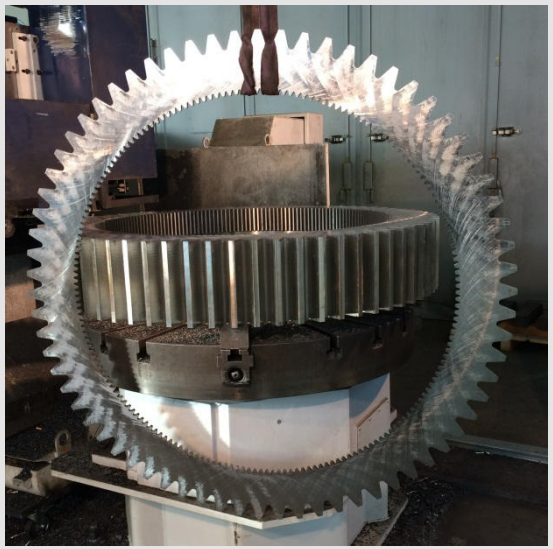
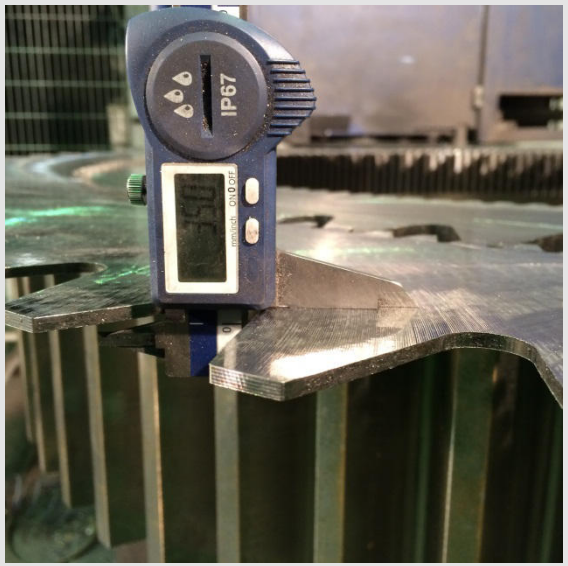
Cutting examples gear-wheel





- Material 42CrMo4
- Quenched and tempered to 1200 N/mm²
- Outer diameter 1440 mm, width 160 mm
- Temperature during slitting approx. 25° C
- Height of the cut gear-wheel 3,50 mm

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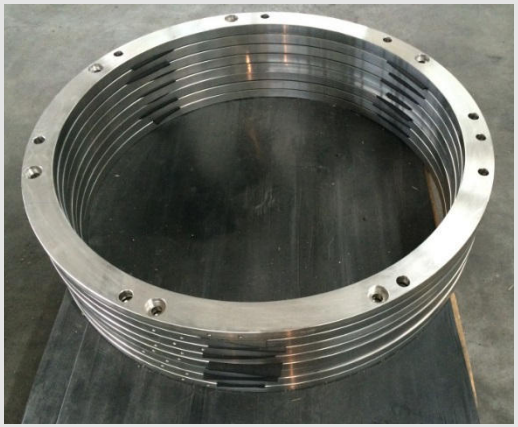
From blank to the end product

Material efficient high rolled

Precise cutted rings



Pre – finished machined rings

Material X5CrNi18-10 (1.4301)
Non – rusted austenitic chrome nickel steel
Outside diameter 970 mm, inner diameter 800 mm, height 27 mm
After cutting the rings were pre – finished machined.

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Options of transport for big rings

Forklift with 18 to and two indoor crane with 20 to loading capacity

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Summary of the advantages of cutting

Significant advantages of costs and quality

cold cutting of rings without tension

* **Less time** of cutting and energy savings
* **Material savings** due to less cutting width
* **Cost savings** of machine tools due to higher tool life
* Better plane-parallelism and surface finish
* Less time for further machining
* High material efficiency

Additional advantages regarding accident prevention/safety/environment

* Secured processing and automatically depositing of cut rings/pipes
* small chips and a burr- free cut
* Low heat development: no risk of burns and material stresses
* Low noises of cutting and less need of cutting tools

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Materials

- **There is nothing we do not slit:**

• Construction steel	for example: 1.0116, 1.0570
• Low alloyed, alloyed tempered steel	for example: 1.0503, 1.0601, 1.7225, 1.6582
• High temperature steel	for example: 1.0426, 1.5415, 1.6368, 1.4922
• Fine- grained structural steel	for example: 1.0487, 1.8932, 1.8933
• Stainless steel	for example: 1.4301, 1.4404, 1.4541, 1.4571
• Duplex	for example: 1.4462, 1.4410, 1.4501
• Nickel-based alloys	for example: 2.4602, 2.4665
• Titanium	for example: 3.7025, 3.7165
• Aluminium	for example: 3.3547, 3.3211
• Non-ferrous metals	for example: 2.1293, 2.0070, 2.0966, 2.0971

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Company philosophy

„The new world of the PTZ cutting technology“

highest material efficieny

lowest energy consumption

very environment friendly

Ensuring of your competitive advantages

Zertifiziertes Management-System
ZDH ZERT
DIN EN ISO 9001
Reg.-Nr.: Q1 0213001

…with PTZ…

you are **always** one „cut“ ahead

ATION BW INNOV 2015
Innovationspreis Baden-Württemberg
Dr. Rudolf Eberle Preis
Preisträger 2015

ZERTIFIKAT

Die ZDH-ZERT GmbH - Partner für Qualität in Handwerk und Mittelstand
bescheinigt, dass das Unternehmen

PTZWEIDNER
Präzisions- Trenn- & Zerspanungstechnik

Binger Straße 28, Halle 125
72488 Sigmaringen

in den Tätigkeitsbereichen:

Mechanische Bearbeitung von Ringen, Rohren und Vollmaterial

ein Qualitätsmanagementsystem eingeführt hat und anwendet.
Ein Audit von ZDH-ZERT hat den Nachweis erbracht,
dass dieses Qualitätsmanagementsystem die Forderungen der folgenden Norm erfüllt:

DIN EN ISO 9001

Qualitätsmanagementsysteme - Anforderungen (Ausgabe Dezember 2008)

Dieses Zertifikat ist gültig bis 08.04.2017.

Zertifikat-Registrier-Nr.: Q1 0213001

Bonn, den 09.04.2015

Vorsitzender des Lenkungsgremiums

Leiter der Zertifizierungsstelle

IAF MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT

DAkkS Deutsche Akkreditierungsstelle D-ZM-16013-01-02

ZDH ZERT

ZDH-ZERT GmbH, Ennemoserstr. 10, 53119 Bonn