



A business of BARNES GROUP INC

# SEEGER-ORBIS

ISO/TS 16949:2002 DIN ISO 14001:2005 OHSAS 18001:1999

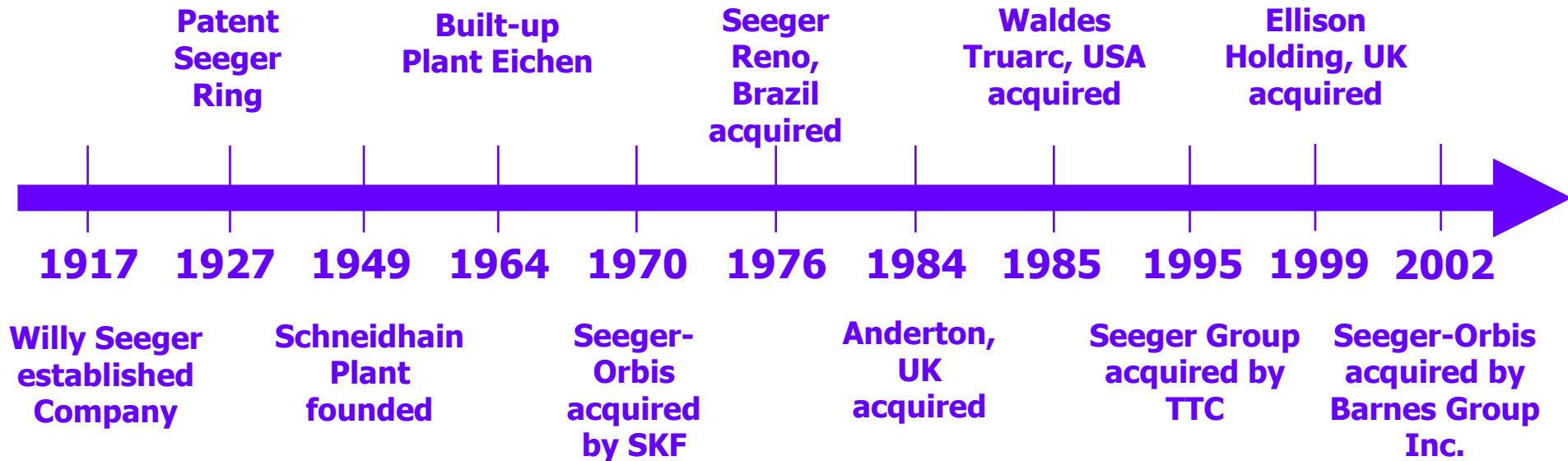
Welcome



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## History







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- 1857 founded
- 2008 Sales: \$ 1,439.5 million
- 71 Locations World Wide
- 2007 Employee: 6.523

**Barnes**  
DISTRIBUTION  
A business of BARNES GROUP INC  
**2008 Sales: \$537.7 million**

**Barnes**  
AEROSPACE  
A business of BARNES GROUP INC  
**2008 Sales: \$392.0 million**

**Barnes**  
INDUSTRIAL  
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**2008 Sales: \$511.1 million**

\* Intersegment Sales \$1.3 million





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## Barnes Industrial World Wide Support

### Germany

Seeger-Orbis GmbH & Co. OHG  
Wiesbadener Straße 243  
D-61462 Königstein  
Germany  
Phone: 49-6174-205-0,  
Fax: 49-6174-205-209

### Switzerland

H. Hänggi AG  
Unterer Einschlag  
CH-2544 Bettlach  
Switzerland  
Phone: +41-3264-43311  
Fax: +41-3264-43333

### Sweden

Strömsholmen AB  
Verkstadsgatan 16  
(Mail) P.O. Box 216  
SE-573 23 Tranas  
Sweden  
Phone: 46-140-57100,  
Fax: 46-140-57199

### United Kingdom

Barnes Precision Valve & Components  
Plumpton Road  
Hoddesdon, Hertfordshire  
England EN11 0EE  
Phone: +44 (0)1992 708800  
Fax: +44 (0)1992 708801

### Thailand

90/2 Moo 4,  
Latkrabang Industrial  
Estate, Bangkok  
10520 Thailand  
Tel: +66.2.739.6116  
Fax: +66.2.739.6117

### Canada

3100 Mainway, Burlington,  
Ontario L7M 1A3  
Phone: (905) 335-6688,  
Fax: (905) 336-1336

### Mexico

Avenida Central 85,  
Nueva Industrial Vallejo,  
Mexico, D.F., 07700  
(Mail) Apartado Postal 756  
Mexico, D.F., 06000  
Phone: (525)(5)5747-5300,  
Fax: (525)(5)5747-5310

### Brazil

Industria e Comercio Limitada  
Campinas - SP, Brazil  
(Mail) Caixa Postal 1288,  
13054-701 Campinas-SP, Brazil  
Phone: 19-3725-1000,  
Fax: 19-3725-1001



### Singapore

28 Tuas avenue 2,  
Jurong,  
Singapore 639459  
Phone: 65-863-9251,  
Telex: 33336,  
Fax: 65-861-3142

### China

No. 1 Weisanul Road  
Microelectronics Industrial  
Park  
Jin Gan Highway  
Tianjin 300385  
86 22 8396 2995  
Phone: 86-22-27217089,  
Fax: 86 22 8396 2994



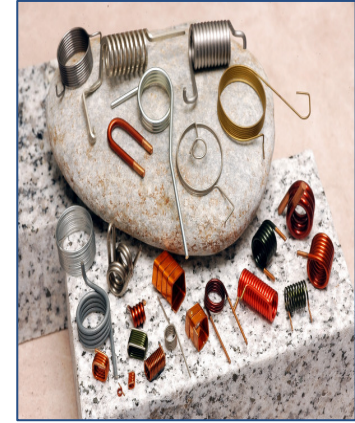


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## Barnes Industrial Products



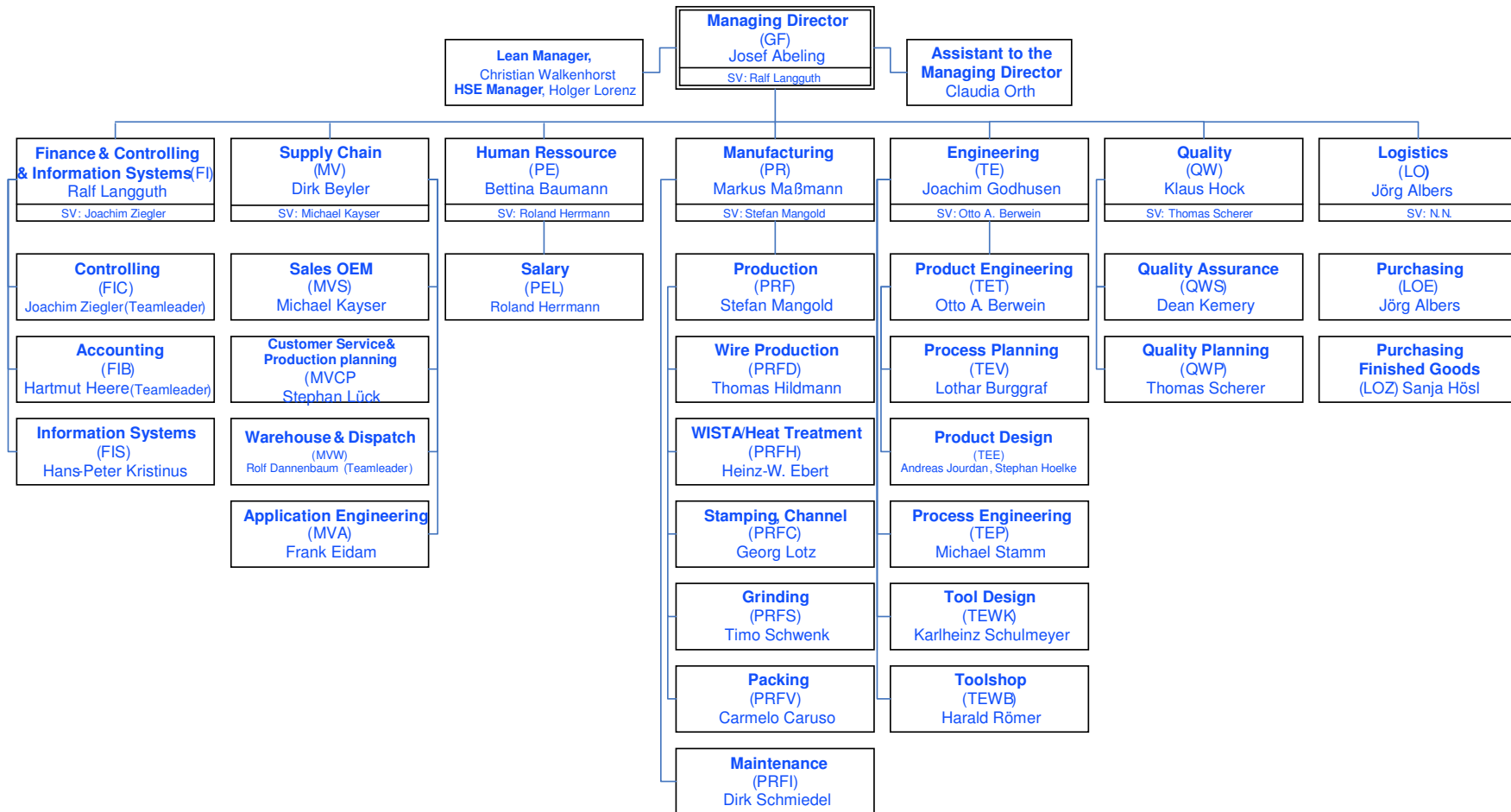


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## Seeger-Orbis Organization







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# SEEGER-ORBIS

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## Certificates

**ZERTIFIKAT** 

für das Managementsystem nach  
**ISO/TS16949:2002**  
(2. Ausgabe, 2002-03-01)

Der Nachweis der regelkonformen Anwendung wurde erbracht und wird gemäß TÜV CERT-Verfahren bescheinigt für

 **Seeger-Orbis GmbH & Co. OHG**  
Wiesbadener Str. 243  
D-61462 Königstein

Geltungsbereich  
**Herstellung von Sicherungsringen, Sprengringen, Paß- und Stützscheiben**

mit Produktentwicklungsverantwortung

IATF-Registrier-Nr. 0035573 Gültig von 15. September 2006  
Zertifikat-Registrier-Nr. 73 111 388 Gültig bis 14. September 2009

TÜV CERT Zertifizierungsstelle des TÜV Hessen  Darmstadt, den 15. September 2005  
Der Zertifizierungsstellenleiter

Diese Zertifizierung wurde gemäß TÜV CERT-Verfahren durchgeführt und wird regelmäßig überwacht. Die aktuelle Gültigkeit ist nachprüfbar unter [www.tuv-cert.de](http://www.tuv-cert.de)  
TÜV Technische Überwachung Hessen GmbH, Rüdelsheimerstr. 119, D-64285 Darmstadt.





Seite 1 von 1



**CERTIFICATE**

The TÜV CERT Certification Body of TÜV Hessen

hereby certifies in accordance with TÜV CERT-procedures that

 **Seeger-Orbis GmbH & Co. OHG**  
Wiesbadener Str. 243  
D-61462 Königstein

has established and applies an operational safety management system for

**Design, Production and Distribution of Circlips, Snaprings, Shims and Washers**

An audit was performed, Report No. 4131 4291  
Proof has been furnished that the requirements according to

**OHSAS 18001 : 1999**

are fulfilled. The certificate is valid until  
First certificate  
Certificate Registration No. 73 116 388



Darmstadt, 18th December 2005

Validity verifiable [www.tuvcert.com](http://www.tuvcert.com)



TÜV CERT Certification Body of TÜV Hessen



**CERTIFICATE**

The TÜV CERT Certification Body of TÜV Hessen

hereby certifies in accordance with TÜV CERT-procedures that

 **Seeger-Orbis GmbH & Co. OHG**  
Wiesbadener Str. 243  
D-61462 Königstein

has established and applies an environmental management system for

**Design, Production and Distribution of Circlips, Snaprings, Shims and Washers**

An audit was performed, Report No. 4030 4584  
Proof has been furnished that the requirements according to

**DIN EN ISO 14001 : 2005**

are fulfilled. The certificate is valid until  
First certificate January 1999  
Certificate Registration No. 73 104 388



Darmstadt, 28th April 2005

Validity verifiable [www.tuvcert.com](http://www.tuvcert.com)



TÜV CERT Certification Body of TÜV Hessen



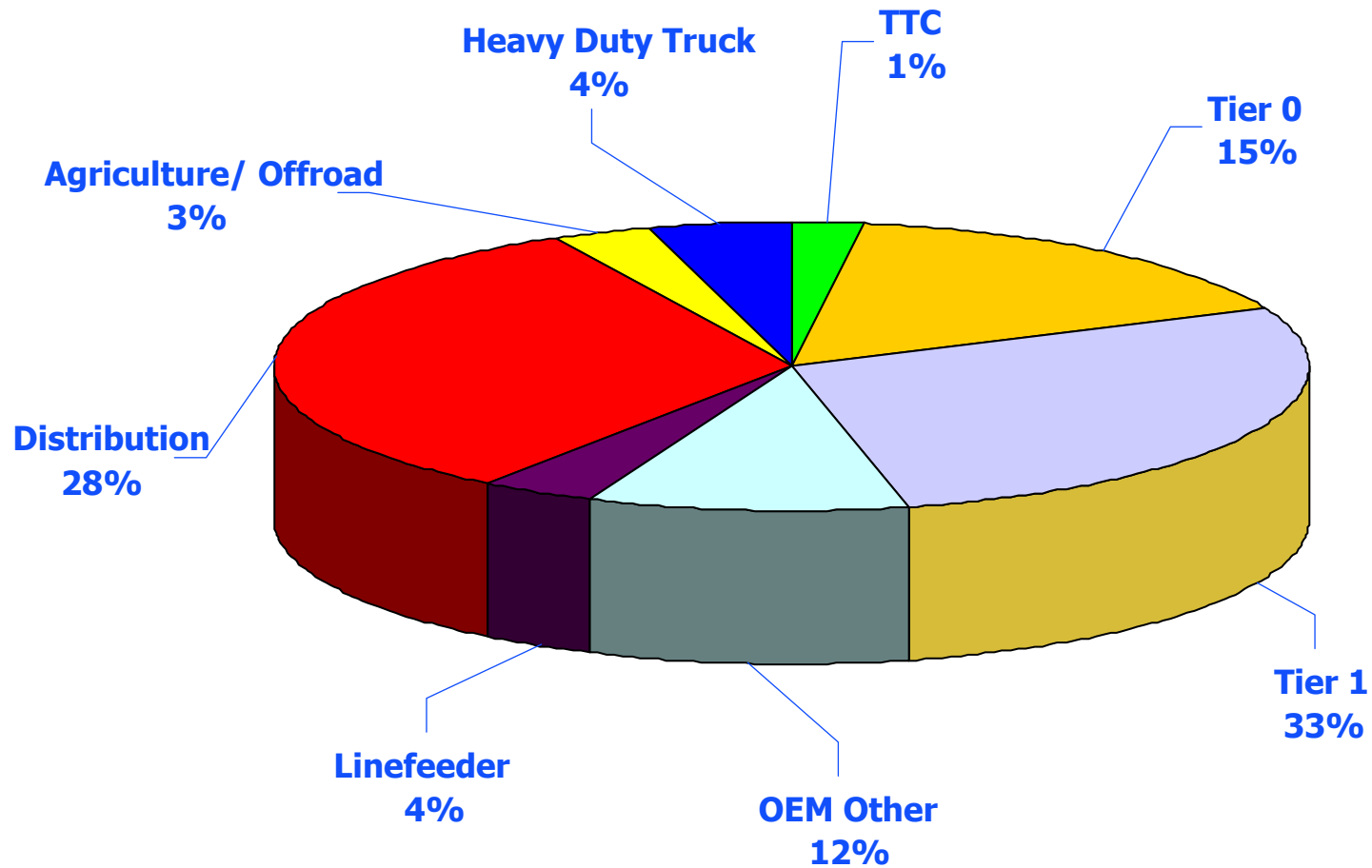


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## Sales per Customer Segment



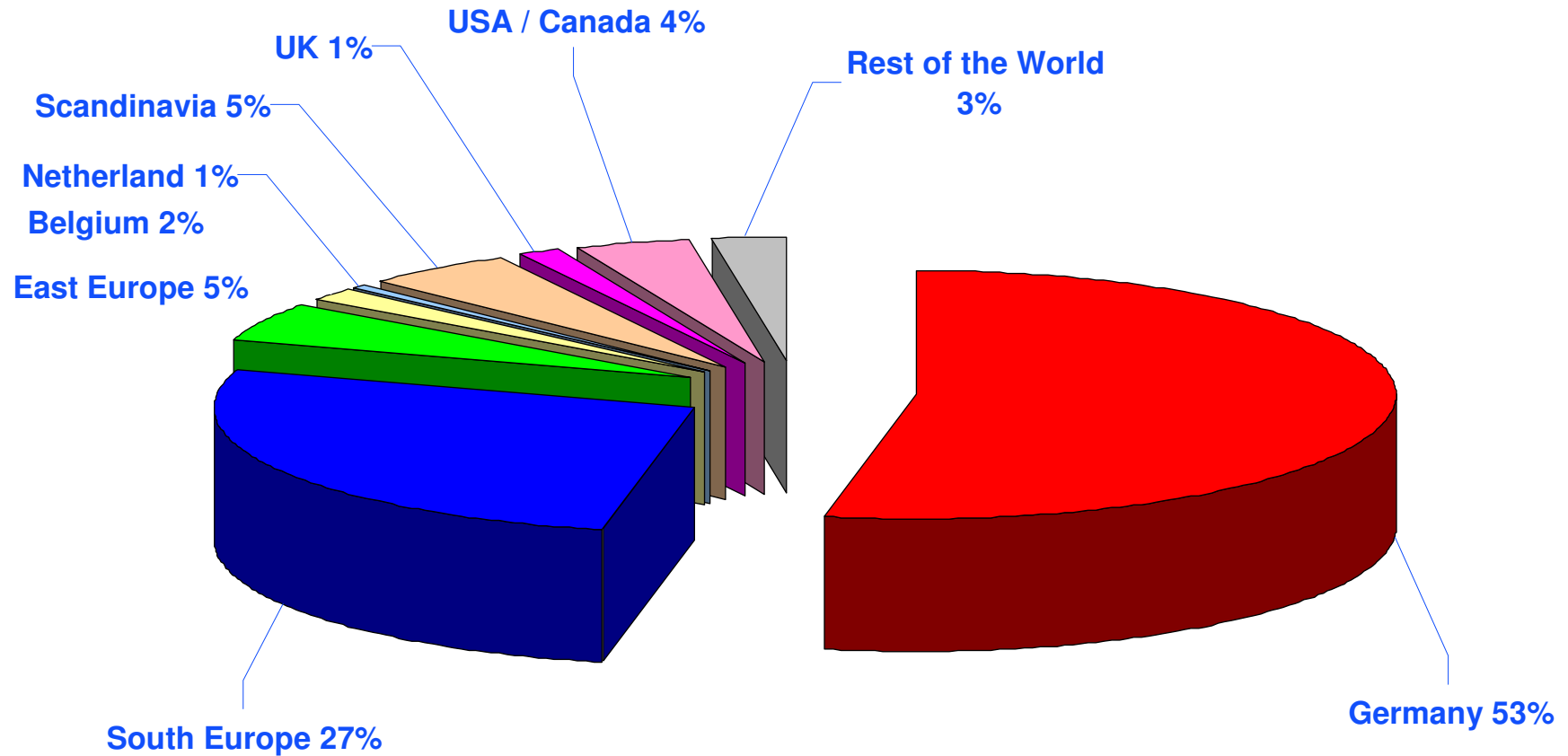


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## Sales per Country





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## Seeger Ring Production





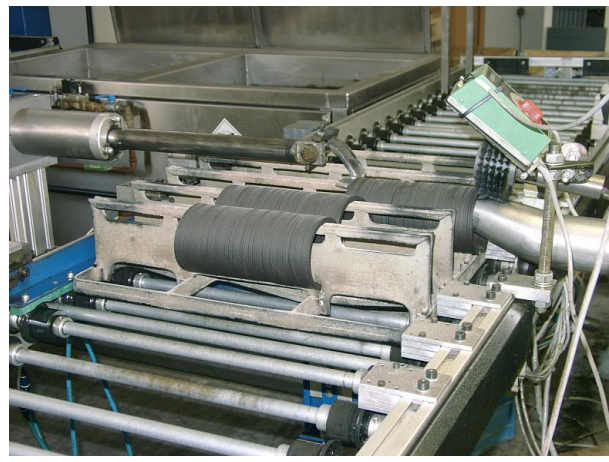


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## Seeger Ring Production





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# SEEGER-ORBIS

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## Snap Ring Production







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## Wire Profiling





















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## Product Range

Bezeichnung / Designation Désignation           Maßliste / Data chart Table dimensionnelle	<b>Seegering / Seeger rings DIN 471/472</b> <b>Segments d'arrêts Seeger DIN 471/472</b> für Wellen for shafts pour arbres A 3 – A1000  10 für Bohrungen for bores pour alésages J 8 – J 1000  11	<b>Seeger-V-Ringe / Seeger V rings</b> <b>Segments d'arrêt type V</b> für Wellen for shafts pour arbres AV 10 – AV 100  14 für Bohrungen for bores pour alésages JV 10 – JV 100  15	<b>Seeger-K-Ringe / Seeger K rings</b> <b>Segments d'arrêt type K</b> für Wellen for shafts pour arbres AK 16 – AK 140  16 für Bohrungen for bores pour alésages JK 16 – JK 170  17
Bezeichnung / Designation Désignation           Maßliste / Data chart Table dimensionnelle	<b>Seegeringe schwere Ausführung</b> <b>Seeger rings heavy-duty</b> <b>Segments d'arrêt renforcés</b> <b>DIN 471/472</b> AS 12 – AS 100  18 JS 20 – JS 100  19	<b>Greifringe</b> <b>Grip rings</b> <b>Colliers d'étranglement</b> G 1,5 – G 30  21	<b>Klemmscheiben</b> <b>Reinforced circular self locking rings</b> <b>Anneaux dentelés renforcés KS</b> KS 1,5 – KS 10  23
Bezeichnung / Designation Désignation           Maßliste / Data chart Table dimensionnelle	<b>Zackenringe / Tooth rings</b> <b>Anneaux dentelés</b> für Wellen for shafts pour arbres ZA 1,5 – ZA 45  24 für Bohrungen for bores pour alésages ZJ 8,0 – ZJ 50  25	<b>Sicherungsscheiben</b> <b>Retaining rings</b> <b>Colliers d'épaulement</b> <b>DIN 6799</b> RA 1,2 10 – RA 24,0  32	<b>Halbmondringe</b> <b>Crescent rings</b> <b>Croissants</b> H 3 – H 55  33



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## Product Range

<p>Bezeichnung / Designation Désignation</p>	<p>Seeger-L-Ringe / Seeger L rings Segments d'arrêt L für Wellen for shafts pour arbres AL 16 – AL 100 für Bohrungen for bores pour alésages JL 16 – JL 100</p>	<p>Keil-Ringe / Bevelled rings Segments chanfreinés für Bohrungen for bores pour alésages JB 40 – JB 140</p>	<p>Seeger-Sprengringe / Seeger circlips Anneaux expansifs DIN 5417 SP 30 – SP 400</p>
<p>Maßliste / Data chart Table dimensionnelle</p>			
<p>Bezeichnung / Designation Désignation</p>	<p>Seeger-Sprengringe / Seeger circlips Anneaux expansifs für Wellen for shafts pour arbres SW 4 – SW 460 für Bohrungen for bores pour alésages SB 7 – SB 440</p>	<p>Sprengringe / circlips DIN 7993 Anneaux expansifs DIN 7993 für Wellen for shafts pour arbres RW 4 – RW 125 für Bohrungen for bores pour alésages RB 7 – RB 125</p>	<p>Stützscheiben Support washers Rondelles d'appui SS 3 – SS 170 Paßscheiben Shim washers Rondelles d'ajustage PS 3 – PS170</p>
<p>Maßliste / Data chart Table dimensionnelle</p>			
<p>Bezeichnung / Designation Désignation</p>	<p>Spezial Teile, Special components, Pièces spéciales nach Kunden-Zeichnung, auf Anfrage manufactured on request fabriquées sur demande</p>	<p>Montagezange / Assembly pliers Pinces de montage für Wellen for shafts pour arbres DIN 5254 ZGA für Bohrungen for bores pour alésages DIN 5256 ZGJ</p>	<p>Montagegeräte / Assembly devices Outils de montage</p>

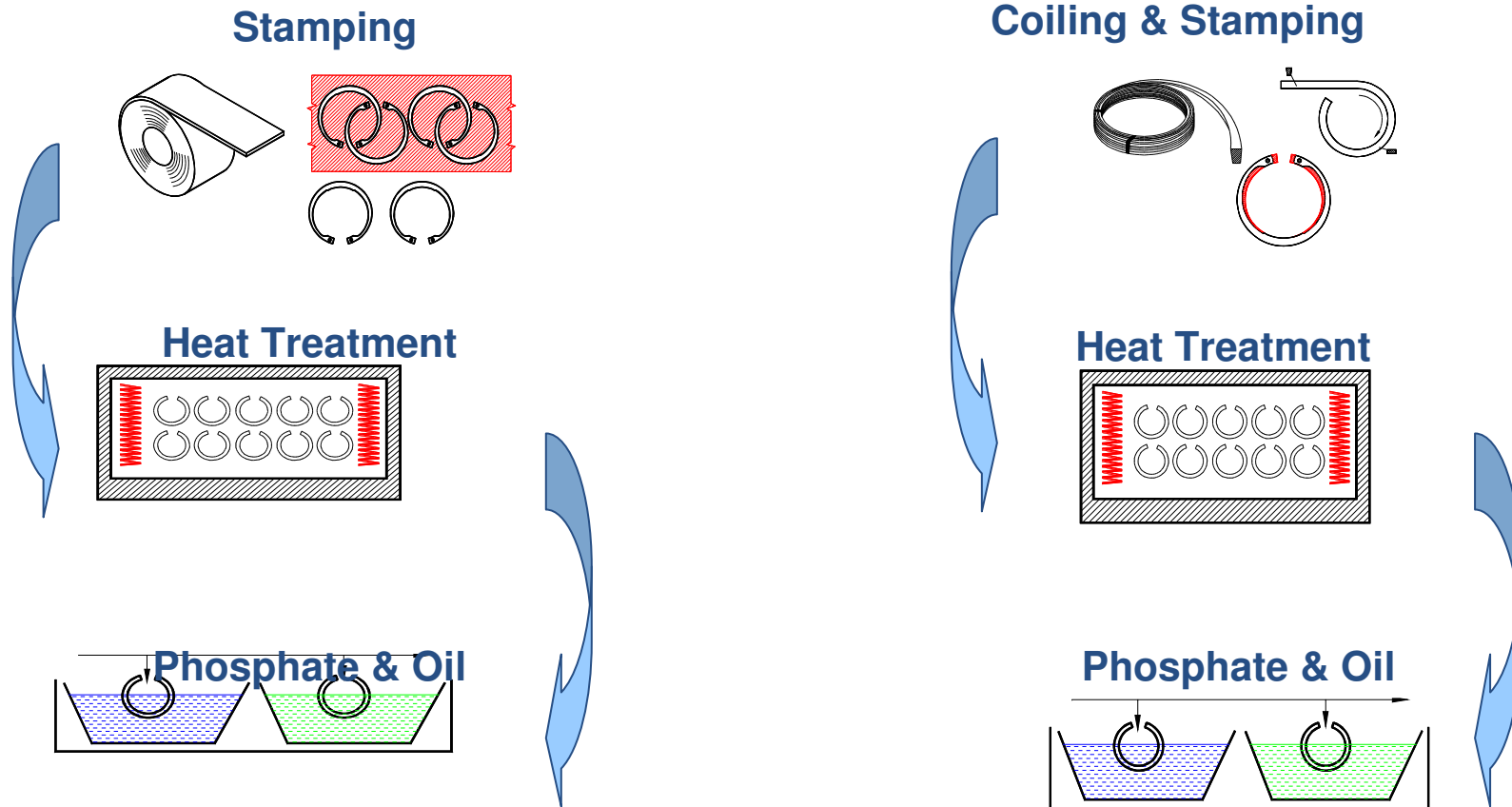


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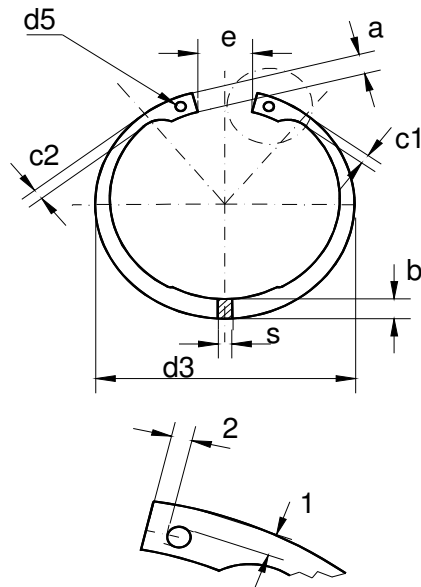
ISO/TS 16949:2002 DIN ISO 14001:2005 OHSAS 18001:1999

## Seeger-Ring Production





## Seeger Ring



1. Raw material soft trapezoidal wire
2. Coiling
3. Stamping
4. Heat Treatment
5. Phosphating/Oiling
6. Packing

1. Raw material soft trapezoidal wire
2. Coiling/stamping [WISTA]
3. Heat Treatment
4. Phosphating/Oiling
5. Packing

1. Raw material soft trapezoidal wire
2. CHANNEL LINE



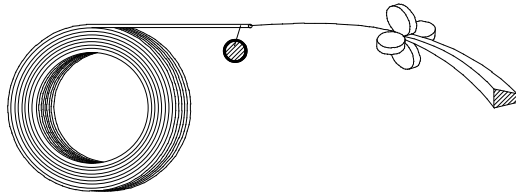
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# SEEGER-ORBIS

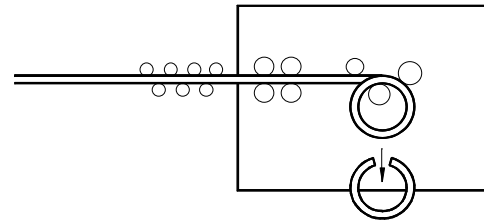
ISO/TS 16949:2002 DIN ISO 14001:2005 OHSAS 18001:1999

## Snap Ring Production

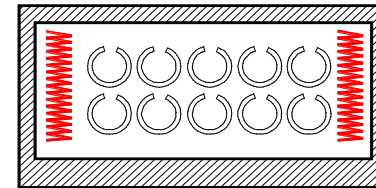
Wire Forming



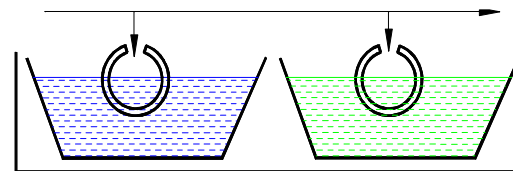
Coiling



Tempering

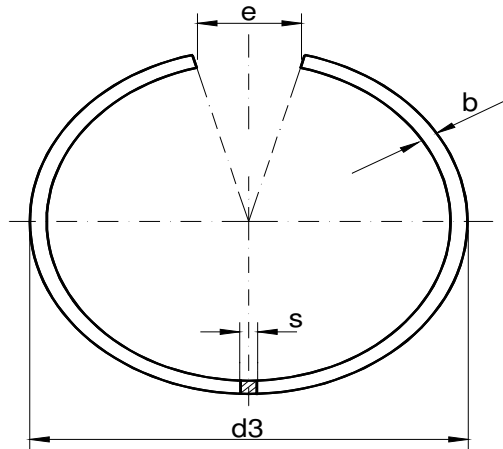


Corrosion Protection





## Snap Ring



1. Raw material  
Hard trapezoidal wire

2. Coiling

3. Tempering

4. Phosphating/Oiling

5. Packing

1. Raw material  
Patent round wire

2. Wire profiling

3. Coiling

4. Tempering

5. Phosphating/Oiling

6. Packing



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## Core Competencies

Excellent Product Quality

Broadest product range

Service in product engineering and application engineering

Strongest Brand Name

Distribution channels

### Key processes:

Coiling/Stamping (WISTA's)

Heat Treatment

Grinding tight tolerances

Wire profiling for selective thicknesses

Tooling



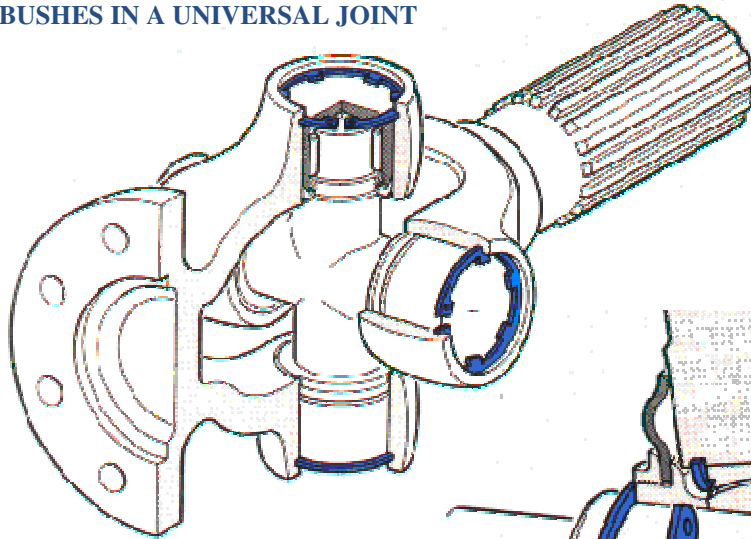
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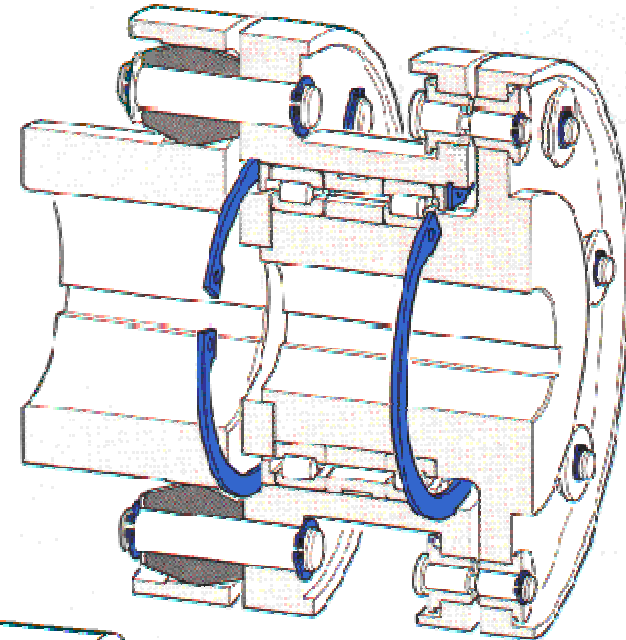
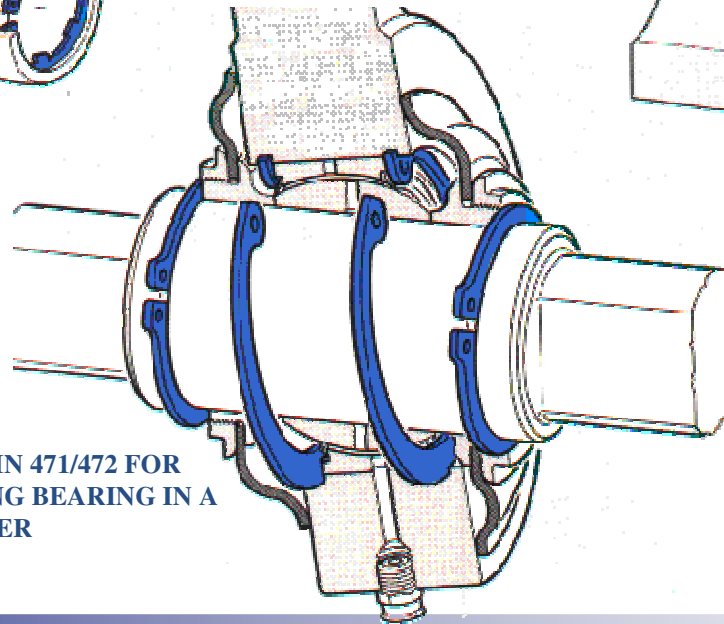
ISO/TS 16949:2002 DIN ISO 14001:2005 OHSAS 18001:1999

## Applied Technologies

SEEGER-K-RINGS FOR BORES FOR  
RETAINING NEEDLE BEARING  
BUSHES IN A UNIVERSAL JOINT



SEEGER-RINGS TO DIN 471/472 FOR  
RETAINING AN PIVOTING BEARING IN A  
STABILIZER



SEEGER-RINGS TO DIN 471/472 IN A  
COMBINATION OF AN  
ELASTIC CLUTCH AND SAFETY CLUTCH





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## Applied Technologies





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## Applied Technologies

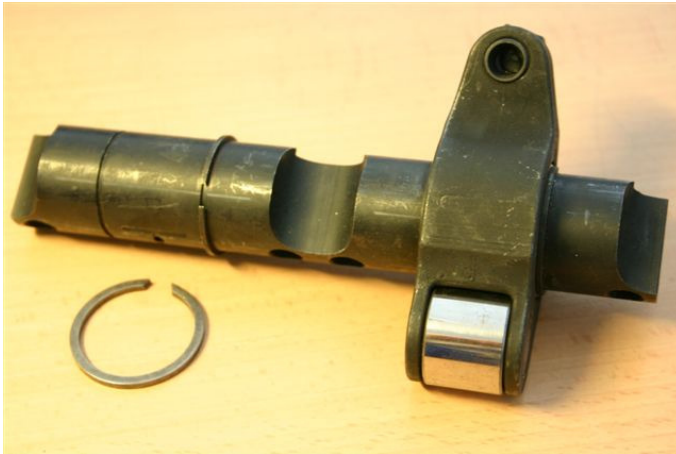




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## Applied Technologies







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## Packaging Standards (standard)

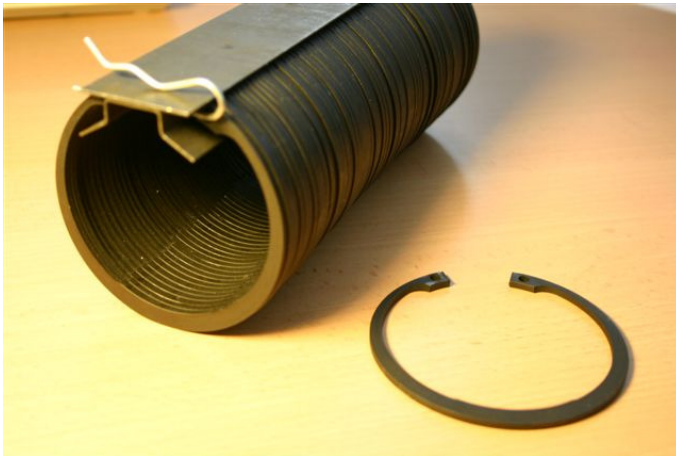




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## Packaging Standards (specials)



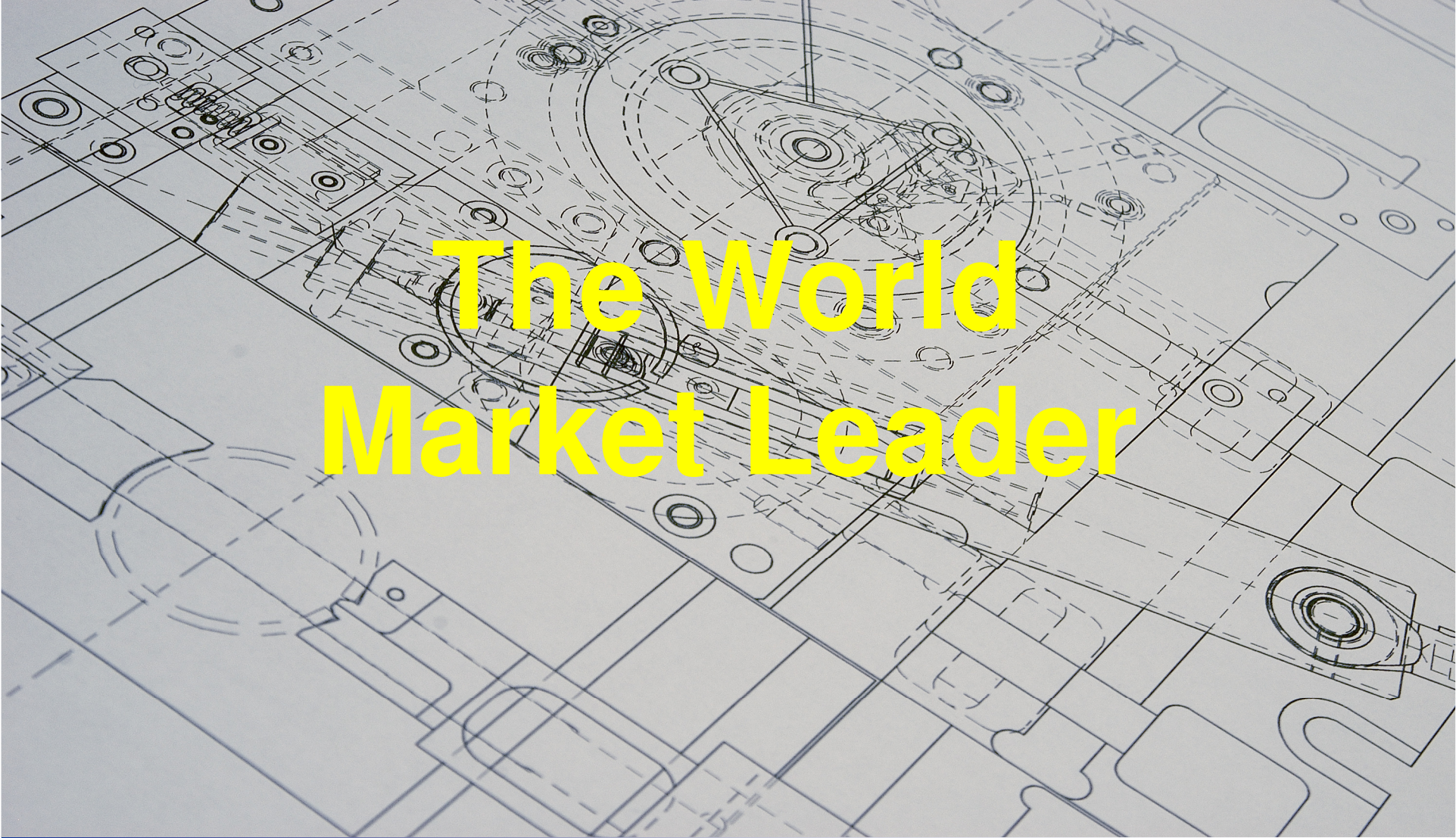




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The background of the slide is a detailed technical drawing of a complex mechanical component, likely a valve or a similar industrial part. The drawing is rendered in a light blue color and shows various circular features, bolts, and internal structures. The text "The World Market Leader" is overlaid on this drawing in a large, bold, yellow font.

## The World Market Leader