

**TRISUN® 三**

*TRISUN PARTS MANUFACTURE*





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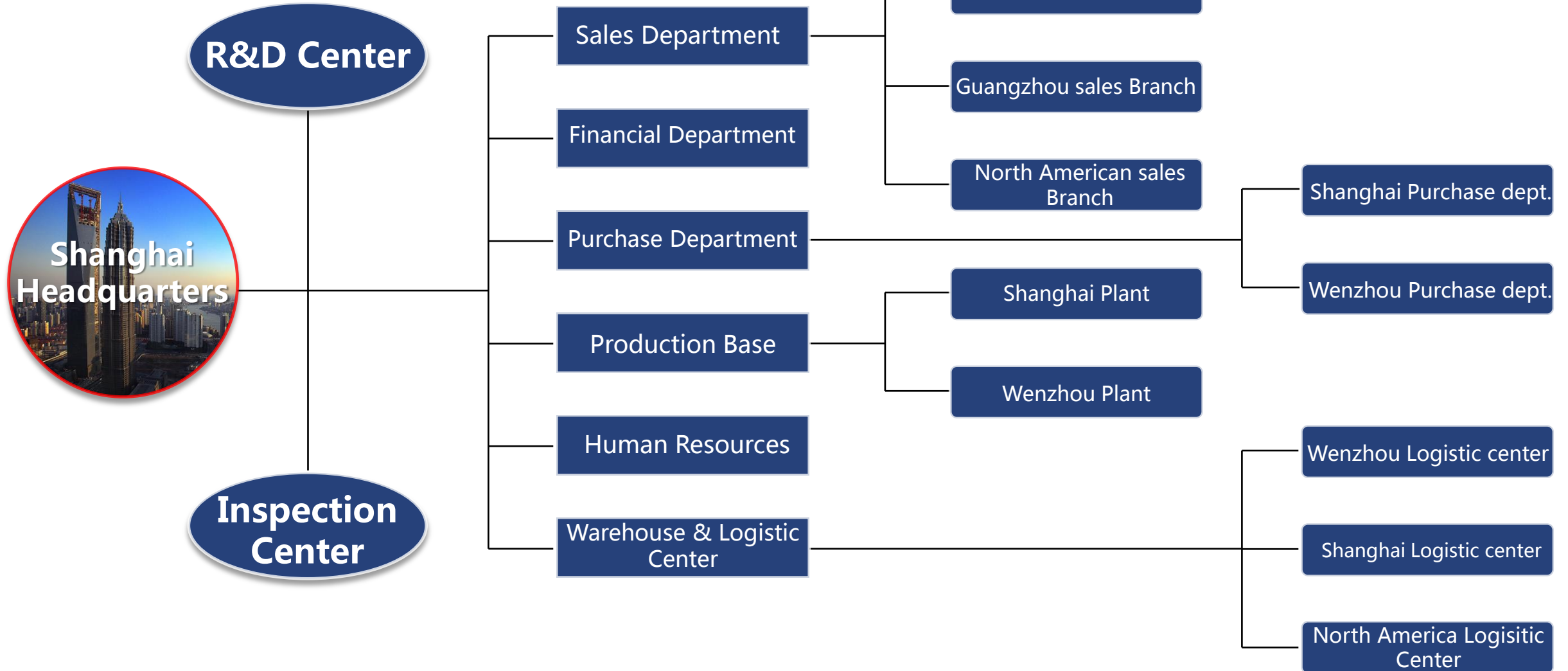
*High Efficient, Clean and Green*

- 1998 Establish Wenzhou Trisun Seal Manufacture Co., Ltd.
- 1999 Pass ISO9001:2000 Certificate
- 2002 Establish Shanghai Trisun Parts Manufacture Co., Ltd.
- 2003 Set up Guangzhou Sales Branch
- 2004 Pass TS14001:2004 Environment System Certificate
- 2005 Establish Shanghai Songjiang Plant and equip with the global famous Company
- 2006 Develop and manufacture the metal bellows and cartridge seals



- 2008 Pass TS16949:2009 Certificate
- 2009 Develop the high technology product — dry gas seals
- 2010 Manufacture high-quality PPS impeller, and relocate Sales Headquarters to Lujiazui Financial Center
- 2011 The production ability of Wenzhou plant exceeded 1 million sets per month and Shanghai plant moved to the new building
- 2013 Pass FDA and WRAS Certificates, Establish North American Sales & Logistics Center
- 2014 Pass API Certificate for cartridge seals, and set up Shanghai R&D and Logistics Center
- 2016 Wenzhou new production building is completed







**Shanghai Trisun Production Base:** 10000m<sup>2</sup> and 50 employees

**Wenzhou Trisun Production Base:** 30000m<sup>2</sup> and 170 employees



# Overview



Shanghai Sales Headquarters



Wenzhou Sales branch



Guangzhou Sales branch

North America Sales branch



# Products

TRISUN 兆



Metal Bellows & Cartridge Seal



Dry Gas seal



Single-Spring Mechanical seal



Thermosiphon Vessel



Cooling Pump Seal & Impellers



A/C Compressor Seal & Valve









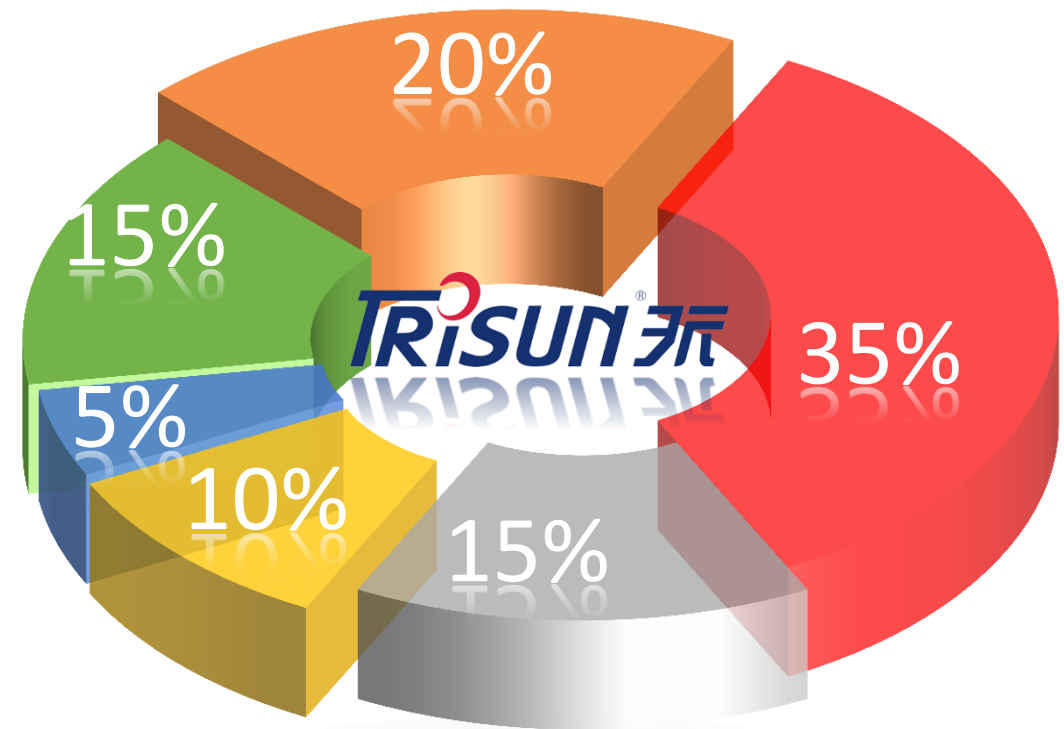
Kalrez ®



Testing Equipment

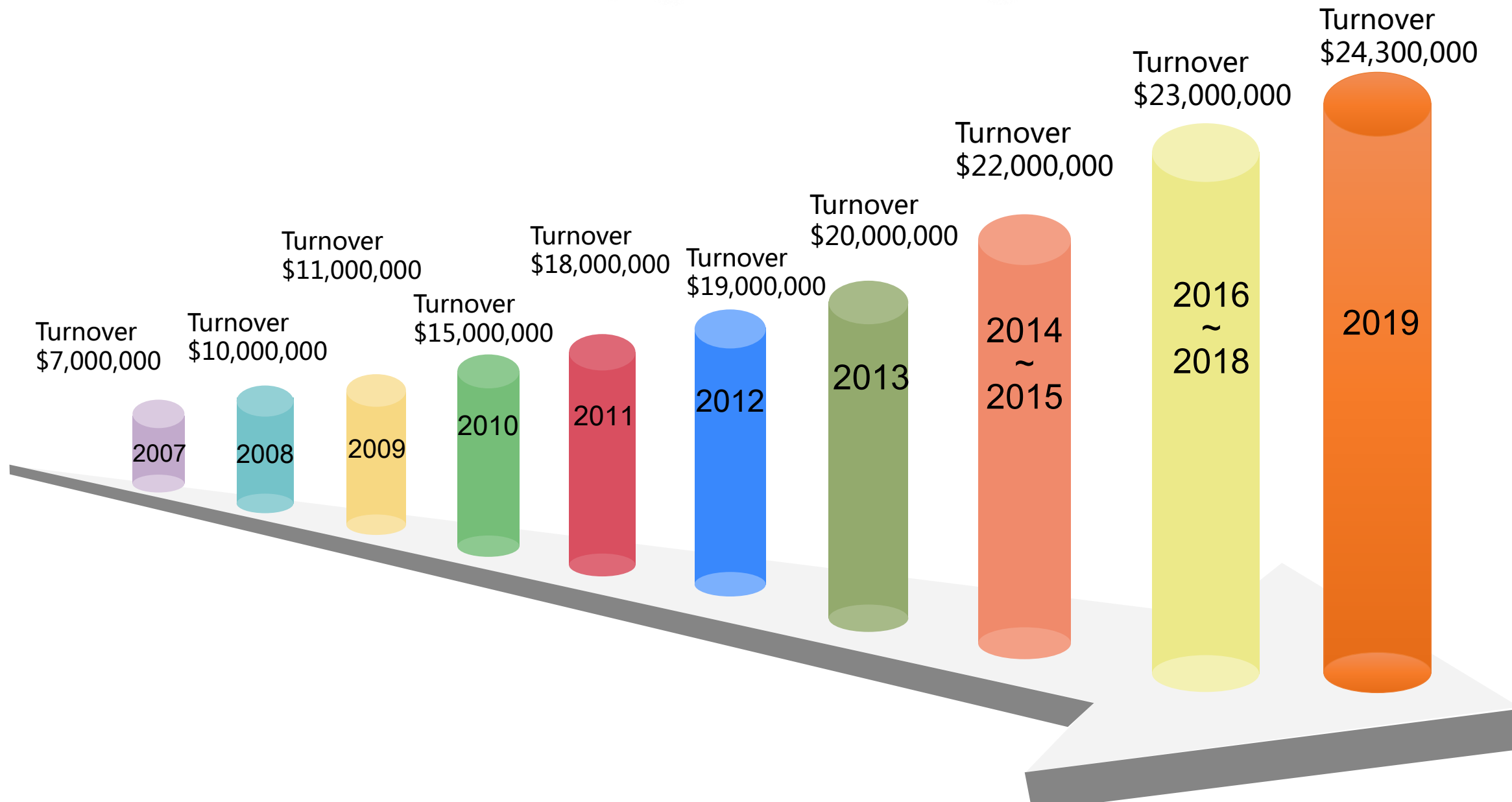


-  Auto Cooling Pump Seal ( 20% )
-  Single-Spring Mechanical seals(35%)
-  Metal Bellow Seal, Cartridge Seal, Dry Gas Seal ( 15% )
-  A/C Compressor Seal & Valve ( 10% )
-  Impeller and Nozzel(5%)
-  Test machine and other equipment ( 15% )



# Growth

**TRISUN** 天



## Turnove

- Annual Turnover : \$ 23,000,000

## Company Scale

Total 270 employees  
20 R&D personnel  
20 Quality Checkers

3 Process Engineers  
20 Salesmen  
7 Purchasers

189 Workers  
5 Financial Staff  
6 administration Staff



## Our Capacity

Mechanical seals : 10,000,000 pcs/Year  
Impellers : 2,000,000 Pcs/Year  
Control Valves : 300,000 Pcs/Year

Metal Bellows : 10,000 pcs/Year  
Cartridge Seals : 5,000 pcs/Year  
Thermosiphon Vessels : 5,000 pcs/Year



# Certification



ISO9001



TS16949



ISO14001

# Certification



FDA



API



WRAS





**Workshop**



**Rubber Injection**



**Polishing**



**Metal Bellows Welding**



**Impeller Injection**



**Production Line**



**CNC Machining Center**



**Molding Process**



**Assembly**



**Warehouse**



- Auto cooling pump seal, dish-washing machine seal, sanitary pump seal



**Dust Free Workshop**



**Automatic Retainer Healing**



**Automatic Leakage Testing**



**Infrared Ceramic  
Inspection**

**We assemble more than 7 million sets of seals annually , Product aims to OEM market. For sanitary industry, all the parts and material have FDA and WRAS certification, also meet to NSF standard. 100% passed static testing before shipment.**

---



Physical and chemical laboratory



Seal Rotating Life Test Bench



Chemical pumps Rotating Life Test Bench



Auto-cooling pump testing system



Compressor Test Bench



Seal Static leakage testing system



Vacuum Leakage Detector



Runout Detector





Auto Control Valve Detector



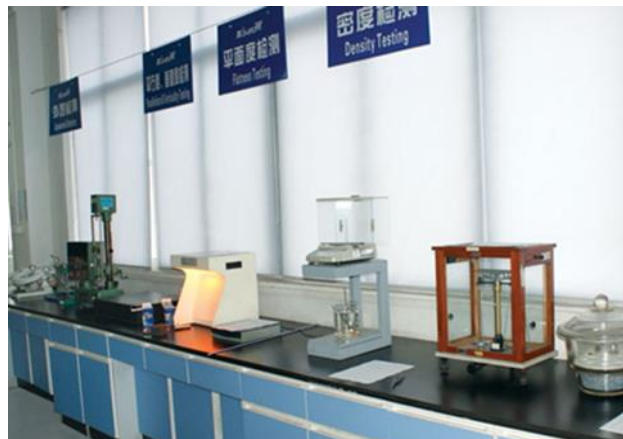
Optical Flatness Tester



Sulfide Tester



Rubber Tensile Tester



Laboratory



3D Testing&Design Instrument



# CTI environment ROHS Testing Report

**CTI 华测检测**  
CHINA TESTING INTERNATIONAL

## 检测报告 Test Report

报告编号: ECL031800380000E  
Report No.: ECL031800380000E 第 1 页 共 8 页  
Page 1 of 8

申请单位: 温州市天成密封件制造有限公司  
Applicant: TRISUN SEAL MANUFACTURE CO.,LTD.  
地址: 浙江省温州市瓯海区三溪工业区康宁西路29号  
Address: NO.29,KANGHONG WEST ROAD,SANXIND ZONE,OUHAI,WENZHOUI, ZHEJIANG

以下测试之样品及样品信息由申请单位提供并确认  
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

样品名称	三元乙丙橡胶
Sample Name	EPDM Rubber
样品批号	000161PW-PC-4
Item Lot No.	000161PW-PC-4
样品颜色	黑色
Color	Black
材料名称	EPDM
Material	EPDM
供应商	QSS
Supplier	QSS
样品接收日期	2015.06.19
Sample Received Date	Jun. 19, 2015
样品检测日期	2015.06.19-2015.06.26
Testing Period	Jun. 19, 2015 to Jun. 26, 2015

**检测要求**  
根据客户要求, 对所提交样品中的铅(Pb), 镉(Cd), 汞(Hg), 六价铬(Cr(VI)), 多溴联苯(PBBs), 多溴二苯醚(PBDEs), 邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)进行测试。  
As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyl (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP) in the submitted sample(s).

**Test Requested**

**检测依据/检测结果** 请参见下文。  
Test Method/Test Result(s) Please refer to the following page(s).

主检: Xiang Yang Jiang  
Tested by: Xiang Yang Jiang  
日期: 2015.06.26  
Reviewed by: Lin Zhang  
Date: 2015.06.26

Wei Miao  
Approved Signatory  
No. R138203817  
温州市天成密封件制造有限公司  
Wenzhou Tiancheng Seal Manufacturing Co., Ltd.  
744711, Building A, No. 29 Kangqiang Road, Gaoxin District, Ningbo, Zhejiang, China

CENTRE TESTING INTERNATIONAL CORPORATION  
Consent call: 0755-25681702 Consent E-mail: comp@cti-cert.com © mail@cti-cert.com www.cti-cert.com

EPDM

**CTI 华测检测**  
CHINA TESTING INTERNATIONAL

## 检测报告 Test Report

报告编号: ECL031800380000E  
Report No.: ECL031800380000E 第 1 页 共 5 页  
Page 1 of 5

申请单位: 温州市天成密封件制造有限公司  
Applicant: TRISUN SEAL MANUFACTURE CO.,LTD.  
地址: 浙江省温州市瓯海区三溪工业区康宁西路29号  
Address: NO.29,KANGHONG WEST ROAD,SANXIND ZONE,OUHAI,WENZHOUI, ZHEJIANG

以下测试之样品及样品信息由申请单位提供并确认  
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

样品名称	氟胶
Sample Name	VITON Rubber
样品批号	BOF-H2702E
Item Lot No.	BOF-H2702E
样品颜色	黑色
Color	Black
材料名称	VITON
Material	VITON
供应商	QSS
Supplier	QSS
样品接收日期	2015.06.19
Sample Received Date	Jun. 19, 2015
样品检测日期	2015.06.19-2015.06.26
Testing Period	Jun. 19, 2015 to Jun. 26, 2015

**检测要求**  
根据客户要求, 对所提交样品中的多环芳烃(PAHs)进行测试。  
As specified by client, to test Polycyclic Aromatic Hydrocarbon (PAHs) in the submitted sample(s).

**Test Requested**

**检测依据/检测结果** 请参见下文。  
Test Method/Test Result(s) Please refer to the following page(s).

主检: Xiang Yang Jiang  
Tested by: Xiang Yang Jiang  
日期: 2015.06.26  
Reviewed by: Lin Zhang  
Date: 2015.06.26

Wei Miao  
Approved Signatory  
No. R138203817  
温州市天成密封件制造有限公司  
Wenzhou Tiancheng Seal Manufacturing Co., Ltd.  
744711, Building A, No. 29 Kangqiang Road, Gaoxin District, Ningbo, Zhejiang, China

CENTRE TESTING INTERNATIONAL CORPORATION  
Consent call: 0755-25681702 Consent E-mail: comp@cti-cert.com © mail@cti-cert.com www.cti-cert.com

VITON

**CTI 华测检测**  
CHINA TESTING INTERNATIONAL

## 检测报告 Test Report

报告编号: ECL031800380000E  
Report No.: ECL031800380000E 第 1 页 共 8 页  
Page 1 of 8

申请单位: 温州市天成密封件制造有限公司  
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Address: NO.29,KANGHONG WEST ROAD,SANXIND ZONE,OUHAI,WENZHOUI, ZHEJIANG

以下测试之样品及样品信息由申请单位提供并确认  
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

样品名称	丁腈橡胶
Sample Name	NBR Rubber
样品批号	N004EA
Item Lot No.	N004EA
样品颜色	黑色
Color	Black
材料名称	NBR
Material	NBR
供应商	QSS
Supplier	QSS
样品接收日期	2015.06.19
Sample Received Date	Jun. 19, 2015
样品检测日期	2015.06.19-2015.06.26
Testing Period	Jun. 19, 2015 to Jun. 26, 2015

**检测要求**  
根据客户要求, 对所提交样品中的铅(Pb), 镉(Cd), 汞(Hg), 六价铬(Cr(VI)), 多溴联苯(PBBs), 多溴二苯醚(PBDEs), 邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)进行测试。  
As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyl (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP) in the submitted sample(s).

**Test Requested**

**检测依据/检测结果** 请参见下文。  
Test Method/Test Result(s) Please refer to the following page(s).

主检: Xiang Yang Jiang  
Tested by: Xiang Yang Jiang  
日期: 2015.06.26  
Reviewed by: Lin Zhang  
Date: 2015.06.26

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744711, Building A, No. 29 Kangqiang Road, Gaoxin District, Ningbo, Zhejiang, China

CENTRE TESTING INTERNATIONAL CORPORATION  
Consent call: 0755-25681702 Consent E-mail: comp@cti-cert.com © mail@cti-cert.com www.cti-cert.com

NBR

**CTI 华测检测**  
CHINA TESTING INTERNATIONAL

## 检测报告 Test Report

报告编号: ECL031800380000E  
Report No.: ECL031800380000E 第 1 页 共 8 页  
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地址: 浙江省温州市瓯海区三溪工业区康宁西路29号  
Address: NO.29,KANGHONG WEST ROAD,SANXIND ZONE,OUHAI,WENZHOUI, ZHEJIANG

以下测试之样品及样品信息由申请单位提供并确认  
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

样品名称	水封密封胶
Sample Name	Water seal glue beforehand
样品颜色	蓝色
Color	Blue
供应商	QSS
Supplier	QSS
样品接收日期	2015.06.19
Sample Received Date	Jun. 19, 2015
样品检测日期	2015.06.19-2015.06.26
Testing Period	Jun. 19, 2015 to Jun. 26, 2015

**检测要求**  
根据客户要求, 对所提交样品中的铅(Pb), 镉(Cd), 汞(Hg), 六价铬(Cr(VI)), 多溴联苯(PBBs), 多溴二苯醚(PBDEs), 邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)进行测试。  
As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyl (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP) in the submitted sample(s).

**Test Requested**

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Consent call: 0755-25681702 Consent E-mail: comp@cti-cert.com © mail@cti-cert.com www.cti-cert.com

# AUTO COOLING PUMP SEAL Silicon Glues

**Products** TÜVRheinland® Precisely Right.

**Test Report No.:** 0154123551a 010 Page 1 of 6

**Client:** SHANGHAI TRISUN PARTS MANUFACTURE CO.,LTD  
Room 05-06, 10th Floor, Xiangqiang Building, No.388 Fudan Rd Putung, Shanghai  
China 201203 (SH, 3000341)

**Test Item(s):** Not pressing Carbon (CA)

**Identification / Model No(s):** T32015-06

**Sample Receiving date:** 2015-09-02

**Testing Period:** 2015-09-02 to 2015-09-02

**Test specification:** Test conclusion:

Selected test(s) by client: PASS

Specific Release of Metals

**Other Information:** For detailed sample picture please refer to last page.  
Selected test condition(s) by client.

For and on behalf of TÜV Rheinland (Shanghai) Co., Ltd.

2015-10-09 *See Pouly*  
Date Name / Position  
Sven Pouly / Technical Expert

This report is drawn according to the test and/or standard of test performed.  
This test report is valid only for the test sample. Without permission of the test center the test report is not permitted to be duplicated or  
reproduced. This test report does not entitle to carry any safety test on the test sample.

TÜV Rheinland (Shanghai) Co., Ltd. Shanghai TÜV Rheinland Building, No. 177, Lane 777, West Siping Road, Shanghai 200131, P.R. China  
Tel.: +86 21 6108 1188 Fax: +86 21 6108 1099 Email: shanghai@tuv.com Web: www.tuv.com

## Carbon

**Products** TÜVRheinland® Precisely Right.

**Test Report No.:** 0154123551a 006 Page 1 of 6

**Client:** SHANGHAI TRISUN PARTS MANUFACTURE CO.,LTD  
Room 05-06, 10th Floor, Xiangqiang Building, No.388 Fudan Rd Putung, Shanghai  
China 201203 (SH, 3000341)

**Test Item(s):** Ceramic (CE)

**Identification / Model No(s):** H42215-02

**Sample Receiving date:** 2015-09-02

**Testing Period:** 2015-09-02 to 2015-09-02

**Test specification:** Test conclusion:

Selected test(s) by client: PASS

Release of Lead and Cadmium from Ceramic Ware / Glassware

**Other Information:** For detailed sample picture please refer to last page.  
Selected test condition(s) by client.

For and on behalf of TÜV Rheinland (Shanghai) Co., Ltd.

2015-10-09 *See Pouly*  
Date Name / Position  
Sven Pouly / Technical Expert

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Tel.: +86 21 6108 1188 Fax: +86 21 6108 1099 Email: shanghai@tuv.com Web: www.tuv.com

## Ceramic

**Products** TÜVRheinland® Precisely Right.

**Test Report No.:** 0154123551a 009 Page 1 of 6

**Client:** SHANGHAI TRISUN PARTS MANUFACTURE CO.,LTD  
Room 05-06, 10th Floor, Xiangqiang Building, No.388 Fudan Rd Putung, Shanghai  
China 201203 (SH, 3000341)

**Test Item(s):** Silicon Carbide (SC)

**Identification / Model No(s):** T32015-06

**Sample Receiving date:** 2015-09-02

**Testing Period:** 2015-09-02 to 2015-09-02

**Test specification:** Test conclusion:

Selected test(s) by client: PASS

Specific Release of Metals

**Other Information:** For detailed sample picture please refer to last page.  
Selected test condition(s) by client.

For and on behalf of TÜV Rheinland (Shanghai) Co., Ltd.

2015-10-09 *See Pouly*  
Date Name / Position  
Sven Pouly / Technical Expert

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## Silicon Carbide

**Products** TÜVRheinland® Precisely Right.

**Test Report No.:** 0154123551a 004 Page 1 of 6

**Client:** SHANGHAI TRISUN PARTS MANUFACTURE CO.,LTD  
Room 05-06, 10th Floor, Xiangqiang Building, No.388 Fudan Rd Putung, Shanghai  
China 201203 (SH, 3000341)

**Test Item(s):** Stainless Steel SS304

**Identification / Model No(s):** T32015-06

**Sample Receiving date:** 2015-09-02

**Testing Period:** 2015-09-02 to 2015-09-02

**Test specification:** Test conclusion:

Selected test(s) by client: PASS

Specific Release of Metals Silicon Carbide (SC)

**Other Information:** For detailed sample picture please refer to last page.  
Selected test condition(s) by client.

For and on behalf of TÜV Rheinland (Shanghai) Co., Ltd.

2015-10-09 *See Pouly*  
Date Name / Position  
Sven Pouly / Technical Expert

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## Stainless Steel SS304

**Products** TÜVRheinland® Precisely Right.

**Test Report No.:** 0154123551a 005 Page 1 of 6

**Client:** SHANGHAI TRISUN PARTS MANUFACTURE CO.,LTD  
Room 05-06, 10th Floor, Xiangqiang Building, No.388 Fudan Rd Putung, Shanghai  
China 201203 (SH, 3000341)

**Test Item(s):** Stainless Steel SS316

**Identification / Model No(s):** T32015-05

**Sample Receiving date:** 2015-09-02

**Testing Period:** 2015-09-02 to 2015-09-02

**Test specification:** Test conclusion:

Selected test(s) by client: PASS

Specific Release of Metals

**Other Information:** For detailed sample picture please refer to last page.  
Selected test condition(s) by client.

For and on behalf of TÜV Rheinland (Shanghai) Co., Ltd.

2015-10-09 *See Pouly*  
Date Name / Position  
Sven Pouly / Technical Expert

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Tel.: +86 21 6108 1188 Fax: +86 21 6108 1099 Email: shanghai@tuv.com Web: www.tuv.com

## Stainless Steel SS316

**Products** TÜVRheinland® Precisely Right.

**Test Report No.:** 0154123551a 001 Page 1 of 6

**Client:** SHANGHAI TRISUN PARTS MANUFACTURE CO.,LTD  
Room 05-06, 10th Floor, Xiangqiang Building, No.388 Fudan Rd Putung, Shanghai  
China 201203 (SH, 3000341)

**Test Item(s):** VITON Rubber

**Identification / Model No(s):** BCF 44755E

**Sample Receiving date:** 2015-09-02

**Testing Period:** 2015-09-02 to 2015-09-02

**Test specification:** Test conclusion:

Selected test(s) by client: PASS

Global Migration from Rubber  
Specific Migration of Primary Aromatic Amine from Rubber  
Specific Migration of Nonaqueous Amine

**Other Information:** For detailed sample picture please refer to last page.  
Selected test condition(s) by client.

For and on behalf of TÜV Rheinland (Shanghai) Co., Ltd.

2015-10-09 *See Pouly*  
Date Name / Position  
Sven Pouly / Technical Expert

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Tel.: +86 21 6108 1188 Fax: +86 21 6108 1099 Email: shanghai@tuv.com Web: www.tuv.com

## VITON

**Products** TÜVRheinland® Precisely Right.

**Test Report No.:** 0154123551a 003 Page 1 of 6

**Client:** SHANGHAI TRISUN PARTS MANUFACTURE CO.,LTD  
Room 05-06, 10th Floor, Xiangqiang Building, No.388 Fudan Rd Putung, Shanghai  
China 201203 (SH, 3000341)

**Test Item(s):** NBR Rubber

**Identification / Model No(s):** K500P-13P40C

**Sample Receiving date:** 2015-11-05

**Testing Period:** 2015-11-05 to 2015-11-05

**Test specification:** Test conclusion:

Selected test(s) by client: PASS

Global Migration from Rubber  
Specific Migration of Primary Aromatic Amine from Rubber  
Specific Migration of Nonaqueous Amine

**Other Information:** For detailed sample picture please refer to last page.  
Selected test condition(s) by client.

For and on behalf of TÜV Rheinland (Shanghai) Co., Ltd.

2015-11-19 *See Pouly*  
Date Name / Position  
Sven Pouly / Technical Expert

This report is drawn according to the test and/or standard of test performed.  
This test report is valid only for the test sample. Without permission of the test center the test report is not permitted to be duplicated or  
reproduced. This test report does not entitle to carry any safety test on the test sample.

TÜV Rheinland (Shanghai) Co., Ltd. Shanghai TÜV Rheinland Building, No. 177, Lane 777, West Siping Road, Shanghai 200131, P.R. China  
Tel.: +86 21 6108 1188 Fax: +86 21 6108 1099 Email: shanghai@tuv.com Web: www.tuv.com

## NBR

**Products** TÜVRheinland® Precisely Right.

**Test Report No.:** 0154123551a 008 Page 1 of 6

**Client:** SHANGHAI TRISUN PARTS MANUFACTURE CO.,LTD  
Room 05-06, 10th Floor, Xiangqiang Building, No.388 Fudan Rd Putung, Shanghai  
China 201203 (SH, 3000341)

**Test Item(s):** Graphite (GR)

**Identification / Model No(s):** K42205

**Sample Receiving date:** 2015-11-05

**Testing Period:** 2015-11-05 to 2015-11-05

**Test specification:** Test conclusion:

Selected test(s) by client: PASS

Specific Release of Metals

**Other Information:** For detailed sample picture please refer to last page.  
Selected test condition(s) by client.

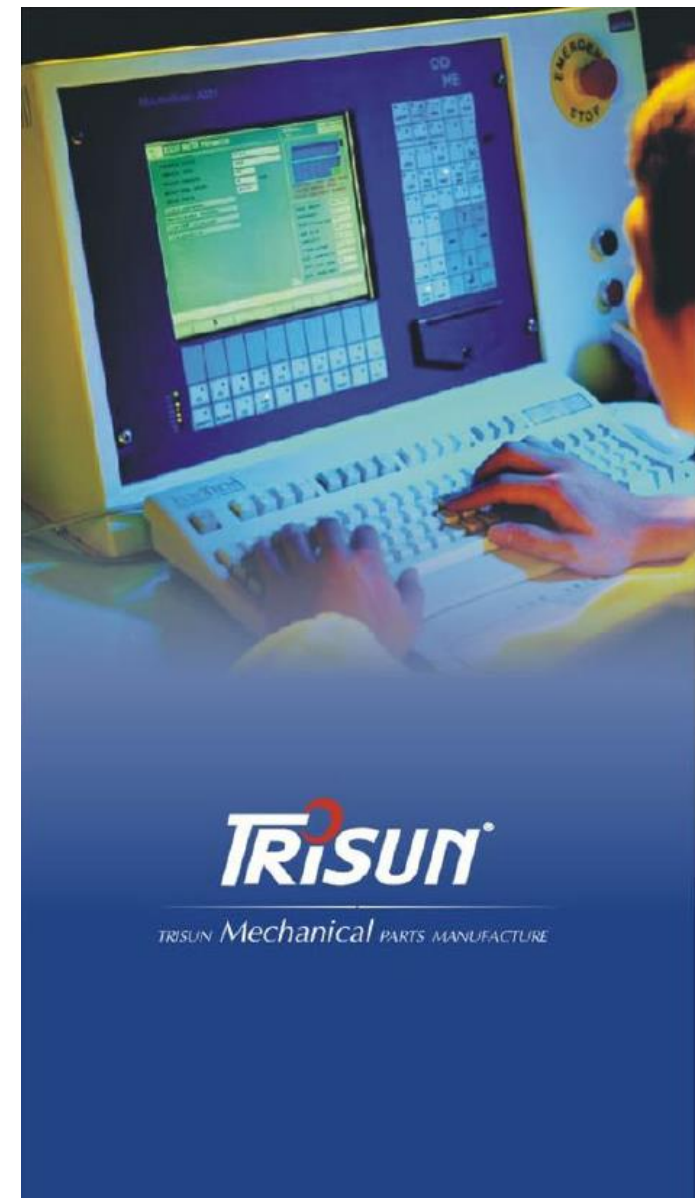
For and on behalf of TÜV Rheinland (Shanghai) Co., Ltd.

2015-11-19 *See Pouly*  
Date Name / Position  
Sven Pouly / Technical Expert

This report is drawn according to the test and/or standard of test performed.  
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Tel.: +86 21 6108 1188 Fax: +86 21 6108 1099 Email: shanghai@tuv.com Web: www.tuv.com

## Graphite



**SGS**

**Test Report** No. SHREC1313274201 Date: 15 Jul 2013 Page 1 of 5  
WENZHOU TRISUN SEAL MANUFACTURE CO., LTD.  
NO.29 KANGKONG WEST ROAD, SANKING ZONE, JUNAN WENZHOU CITY, ZHEJIANG PROVINCE

The following sample(s) were submitted and identified on behalf of the client as: Ceramic

SGS Job No.: SP13-019651 - SH  
Model No.: Rotary Ring  
Material No.: A203  
Date of Sample Received: 08 Jul 2013  
Testing Period: 08 Jul 2013 - 15 Jul 2013  
Test Requested: Selected test(s) as requested by client  
Test Method: Please refer to next page(s)  
Test Results: Please refer to next page(s)  
Conclusion: Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polychlorinated biphenyls (PCBs), Polychlorinated dibenzofuran (PCDF), Polychlorinated dibenzodioxin (PCDD) comply with the limits as set by RoHS Directive 2011/65/EU Annex II, meeting 2002/95/EC.

Signed for and on behalf of  
SGS-CECTC LM

Ji Fan  
Approved Signatory

SHA13-132742 ( CE )

**SGS**

**Test Report** No. SHREC1313274205 Date: 15 Jul 2013 Page 1 of 7  
WENZHOU TRISUN SEAL MANUFACTURE CO., LTD.  
NO.29 KANGKONG WEST ROAD, SANKING ZONE, JUNAN WENZHOU CITY, ZHEJIANG PROVINCE

The following sample(s) were submitted and identified on behalf of the client as: EPDM Rubber

SGS Job No.: SP13-019651 - SH  
Model No.: Mechanical Seal Bellows/Cup Gasket Series  
Material No.: EPDM  
Date of Sample Received: 08 Jul 2013  
Testing Period: 08 Jul 2013 - 15 Jul 2013  
Test Requested: Selected test(s) as requested by client  
Test Method: Please refer to next page(s)  
Test Results: Please refer to next page(s)  
Conclusion: Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polychlorinated biphenyls (PCBs), Polychlorinated dibenzofuran (PCDF), Polychlorinated dibenzodioxin (PCDD) comply with the limits as set by RoHS Directive 2011/65/EU Annex II, meeting 2002/95/EC.

Signed for and on behalf of  
SGS-CECTC LM

Ji Fan  
Approved Signatory

SHA13-132742(EPDM)

**SGS**

**Test Report** No. SHREC1313274202 Date: 15 Jul 2013 Page 1 of 5  
WENZHOU TRISUN SEAL MANUFACTURE CO., LTD.  
NO.29 KANGKONG WEST ROAD, SANKING ZONE, JUNAN WENZHOU CITY, ZHEJIANG PROVINCE

The following sample(s) were submitted and identified on behalf of the client as: Carbon

SGS Job No.: SP13-019651 - SH  
Model No.: Stationary Ring  
Material No.: MK  
Date of Sample Received: 08 Jul 2013  
Testing Period: 08 Jul 2013 - 15 Jul 2013  
Test Requested: Selected test(s) as requested by client  
Test Method: Please refer to next page(s)  
Test Results: Please refer to next page(s)  
Conclusion: Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polychlorinated biphenyls (PCBs), Polychlorinated dibenzofuran (PCDF), Polychlorinated dibenzodioxin (PCDD) comply with the limits as set by RoHS Directive 2011/65/EU Annex II, meeting 2002/95/EC.

Signed for and on behalf of  
SGS-CECTC LM

Ji Fan  
Approved Signatory

SHA13-132742 ( MK )

**SGS**

**Test Report** No. SHREC1313274206 Date: 15 Jul 2013 Page 1 of 7  
WENZHOU TRISUN SEAL MANUFACTURE CO., LTD.  
NO.29 KANGKONG WEST ROAD, SANKING ZONE, JUNAN WENZHOU CITY, ZHEJIANG PROVINCE

The following sample(s) were submitted and identified on behalf of the client as: NBR Rubber

SGS Job No.: SP13-019651 - SH  
Model No.: Mechanical Seal Bellows/Cup Gasket Series  
Material No.: NBR  
Date of Sample Received: 08 Jul 2013  
Testing Period: 08 Jul 2013 - 15 Jul 2013  
Test Requested: Selected test(s) as requested by client  
Test Method: Please refer to next page(s)  
Test Results: Please refer to next page(s)  
Conclusion: Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polychlorinated biphenyls (PCBs), Polychlorinated dibenzofuran (PCDF), Polychlorinated dibenzodioxin (PCDD) comply with the limits as set by RoHS Directive 2011/65/EU Annex II, meeting 2002/95/EC.

Signed for and on behalf of  
SGS-CECTC LM

Ji Fan  
Approved Signatory

(SHA13-132742(NBR))

**SGS**

**Test Report** No. SHREC1313274201 Date: 15 Jul 2013 Page 1 of 5  
WENZHOU TRISUN SEAL MANUFACTURE CO., LTD.  
NO.29 KANGKONG WEST ROAD, SANKING ZONE, JUNAN WENZHOU CITY, ZHEJIANG PROVINCE

The following sample(s) were submitted and identified on behalf of the client as: SIC

SGS Job No.: SP13-019651 - SH  
Model No.: Rotary Ring  
Material No.: SIC  
Date of Sample Received: 08 Jul 2013  
Testing Period: 08 Jul 2013 - 15 Jul 2013  
Test Requested: Selected test(s) as requested by client  
Test Method: Please refer to next page(s)  
Test Results: Please refer to next page(s)  
Conclusion: Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polychlorinated biphenyls (PCBs), Polychlorinated dibenzofuran (PCDF), Polychlorinated dibenzodioxin (PCDD) comply with the limits as set by RoHS Directive 2011/65/EU Annex II, meeting 2002/95/EC.

Signed for and on behalf of  
SGS-CECTC LM

Ji Fan  
Approved Signatory

SHA13-132742 ( SIC )

**SGS**

**Test Report** No. SHREC1400829201 Date: 16 Jan 2014 Page 1 of 5  
WENZHOU TRISUN SEAL MANUFACTURE CO., LTD.  
NO.29 KANGKONG WEST ROAD, SANKING ZONE, JUNAN WENZHOU CITY, ZHEJIANG PROVINCE

The following sample(s) were submitted and identified on behalf of the client as: Silicone rubber

SGS Job No.: SP14-031054 - SH  
Model No.: Mechanical Seal Bellows/Cup Gasket Series  
Material No.: SR  
Date of Sample Received: 14 Jan 2014  
Testing Period: 14 Jan 2014 - 16 Jan 2014  
Test Requested: Selected test(s) as requested by client  
Test Method: Please refer to next page(s)  
Test Results: Please refer to next page(s)

Signed for and on behalf of  
SGS-CECTC LM

Mary Ma  
Approved Signatory

SHA14-008292 ( PS )

**SGS**

**Test Report (SVHC)** No. SHREC1400830301 Date: 20 Jan 2014 Page 1 of 13  
WENZHOU TRISUN SEAL MANUFACTURE CO., LTD.  
NO.29 KANGKONG WEST ROAD, SANKING ZONE, JUNAN WENZHOU CITY, ZHEJIANG PROVINCE

The following sample(s) were submitted and identified on behalf of the client as: Silicone rubber

SGS Job No.: SP14-031054 - SH  
Model No.: Mechanical Seal Bellows/Cup Gasket Series  
Material No.: SR  
Date of Sample Received: 14 Jan 2014  
Testing Period: 14 Jan 2014 - 20 Jan 2014  
Test Requested: As requested by client, SVHC screening is performed according to (1) One hundred and fifty one (151) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Dec. 18, 2013 regarding Regulation (EC) No. 1907/2006 concerning the REACH.  
Please refer to next page(s).

Test Results:  
Summary  
According to the specified scope and analytical techniques, concentrations of tested (SVHC) are < 0.1% (w/w) in the submitted sample. PASS

Signed for and on behalf of  
SGS-CECTC LM

Ji Fan  
Approved Signatory

SHA14-008303(PAHS)

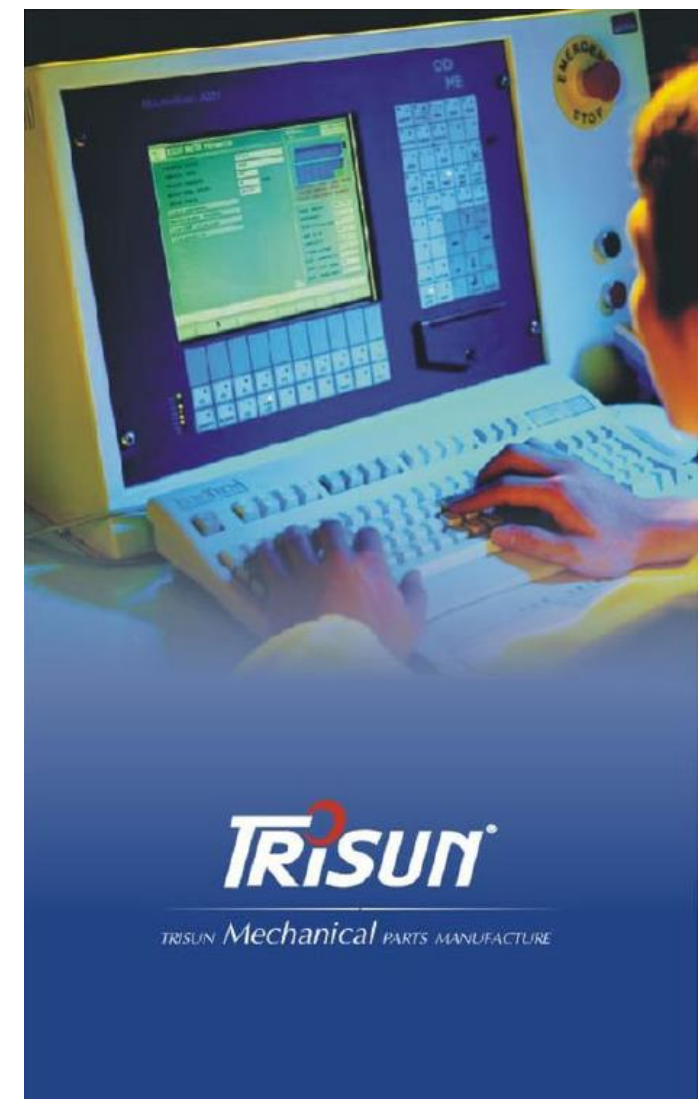
**REACH**  
Certificate of Compliance

Certificate No. TR20155041

According to the Assessment Report Prepared in Compliance With REACH (Directive 2006/122/EC), we draw the conclusion that:  
This document certifies that the product NBR RUBBER (Type Model: M004) supplied by the client is manufactured by TRISUN SEAL MANUFACTURE CO., LTD.  
NO. 29, KANGKONG WEST ROAD, SANKING ZONE, JUNAN WENZHOU CITY, ZHEJIANG PROVINCE  
Comply with REACH Regulation (EC) No 1907/2006 about SVHC as it currently stands.

Issued by: Hangzhou C&E Testing Technic Co., Ltd.  
Date of Issue: Dec. 15, 2015  
Authorized Signature: Mark Li  
WWW.C&E-CC.COM

NBR SVHC (163)



**TRISUN**  
TRISUN Mechanical PARTS MANUFACTURE



## ◆ Our R & D team members :

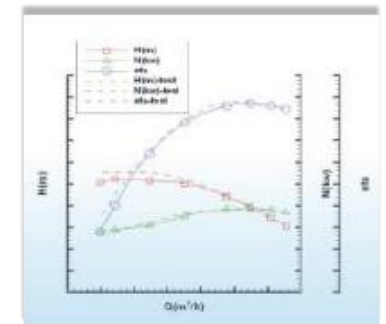
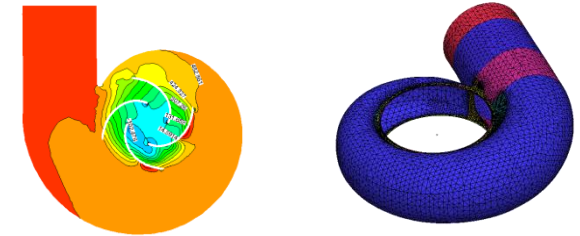
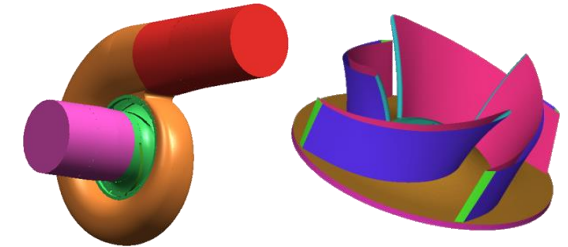
PhD supervisor:1 person , PhD: 3 persons, Senior engineer:2 persons,  
5 years working experience engineer(fluid industry, polymer materials): 6 persons

## Research & Development

- Impeller hydraulic model design of centrifugal pump, mixed-flow pump, axial flow pump and other special pump.
- Performance optimization of all types of turbine and pump
- Flow field numerical simulation and performance prediction of fluid machinery

## Project Performance

- (National "South-to-North water diversion" project )
- Chemical axial pump' s numerical analyze and optimization
- ( National Natural Science Foundation )
- Chemical axial pump's numerical simulation and performance and prediction (One domestic famous pump factory's project)
- The Research & develop of the centrifugal pump with inlet guide vane.
- Centrifugal pump' s cavitation performance prediction.



## 3D Printing applied in the tooling design and new products development

- We use 3D printing technology in industrial product design and development process (such as pump housing, thermostat, pulley, impeller, etc.). Designers can use this method to quickly convert the computer graphics to physical model in order to improve the accuracy of design and shorten the product development cycle.



Nozzel Prototype by 3D printing



Final Products by Tooling

## State-of-the-art Technology

- Through computer numerical simulation , we obtain accurate parameters of mechanical and thermodynamic properties to design outstanding, stable and reliable dry gas seals.

## Advanced Processing Techniques

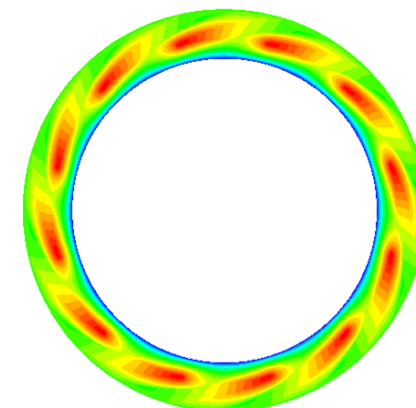
- The high-performance laser equipment can process all kinds of dynamic pressure grooves on the surfaces of the different material rings

## Abundant Product Models

- The product range covers pump seals, compressor seals and agitator seals. Besides our standard product models, we can also provide special design according to customers requirements.

## The First-class R&D Team

- R&D team is composed of Masters and PHD. Meanwhile , we have close cooperation with famous universities and institutions.





# Wave spring



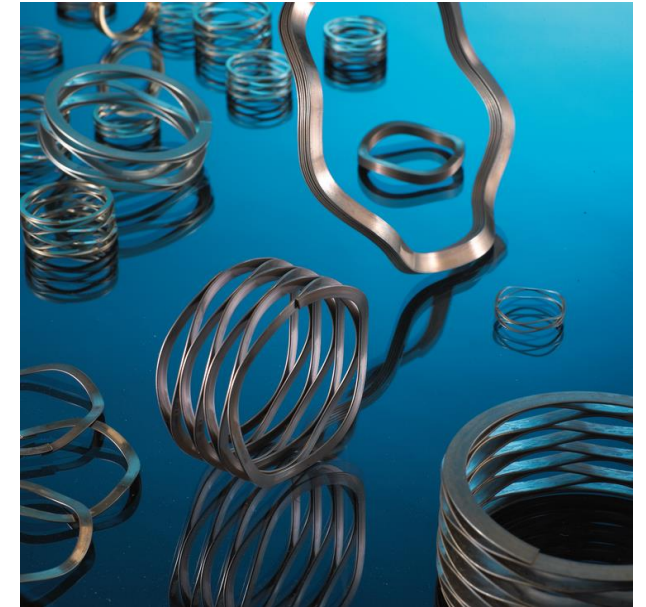
Monolithic wave spring (Divided into open type and lap-type)



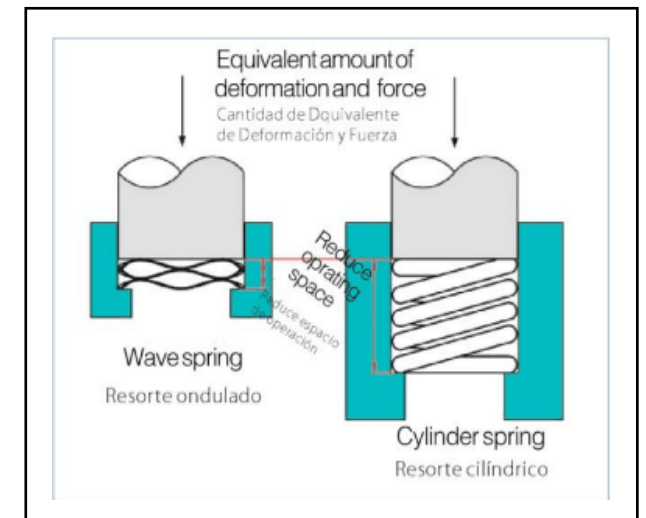
Multilayer standard wave spring  
(Divided into standard type and flat-head-type )



Multilayer superposition wave spring



Material	Non-proportional extension strength Rp0.2/Mpa	Tensile strength Rm/Mpa	Elongation after fracture A(%)	Section shrinkage Z(%)	Hardness		
					HBW	HRB	HV
<b>SUS304</b>	205	520	40	60	187	90	200
<b>SUS316</b>	205	520	40	60	187	90	200
<b>SUS631(17-7PH)</b>	1030	1230	4	10	388		



Carbon



Germany-SGL



Britain-MORGAN



Schunk

Rubber



Japan DAIKIN



*The miracles of science™*

American DUPONT



American DOW Corning



Japan Zeonex

American  
ROYALENE

Uniroyal Chemical Inc

SIC



Saintgobain

PTFE



Spring



Japan GMB

Other



Germany GPM

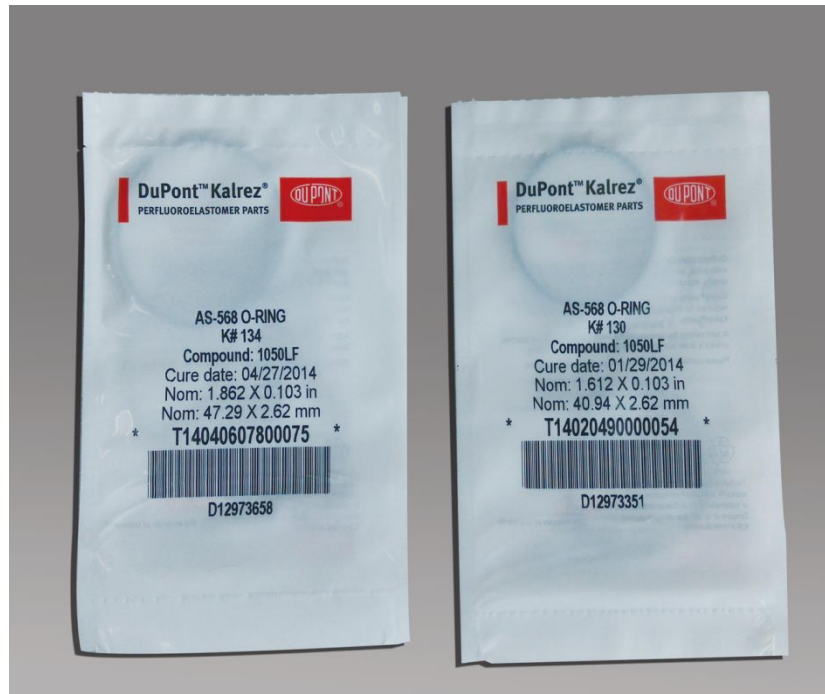
'TORAY'

Japan- TORAY

**Polyplastics**

Solution Platform for Engineering Plastics

Apan- POLYPLASTICS



**Dupont-Kalrez, FFKM**



**Spring energized seal**





河南西峡汽车  
水泵股份有限公司



一汽富奥汽车零部件  
有限公司（辽泵）



上海乾通汽车  
附件有限公司



南京南汽金鼎汽车  
零部件有限公司



洛拖集团  
（中国一拖集团有限公司）



韩国 KIA（起亚）  
OEM 配套



伊朗标致  
OEM 配套



南非大众



河北宏业机械股份有限公司  
泊头宏扬铝业分公司



北京京威



美国三电



中国上海三电



动源  
广州动源  
压缩机有限公司



汉钟精机股份有限公司



上海甘森利汽车配件有限公司



意大利富士豪制冷压缩机

## Chemical Industry



巴基斯坦国家炼油厂



加拿大石油公司

Scomi

Scomi Group BHD

Bisaton power  
Generation



ICL FERTILIZERS GROUP



IRAN ALUMINA COMPANY



Shanghai Electric

Shanghai Electric Group



Wartsila

## Pump



GMB



日本工进公司



KUBOTA Corporation



EBARA



Flowserve Corporation



Procon pumps



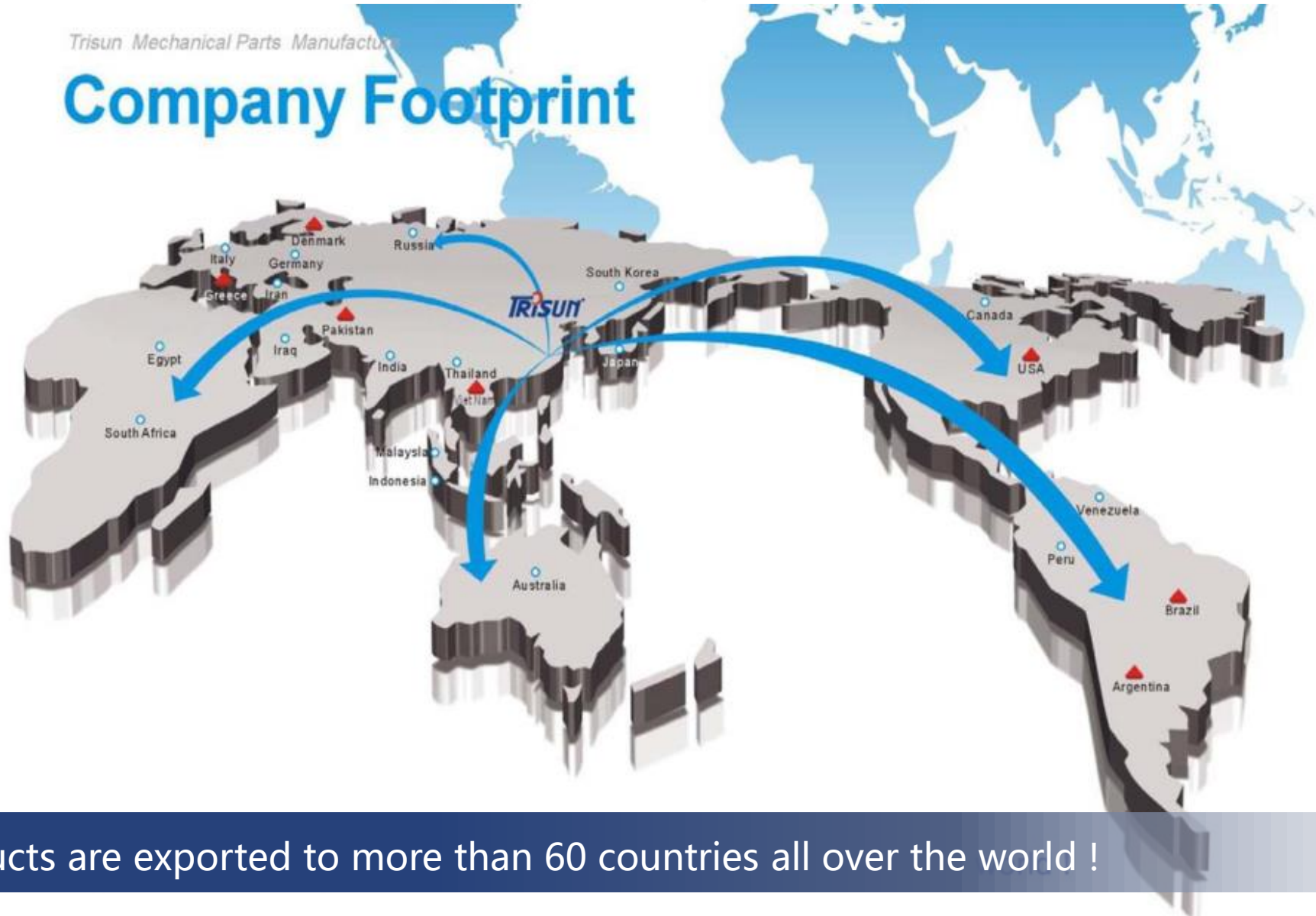
ANDRITZ  
TECHNOLOGIES LTD.



Germany SIHI Pump

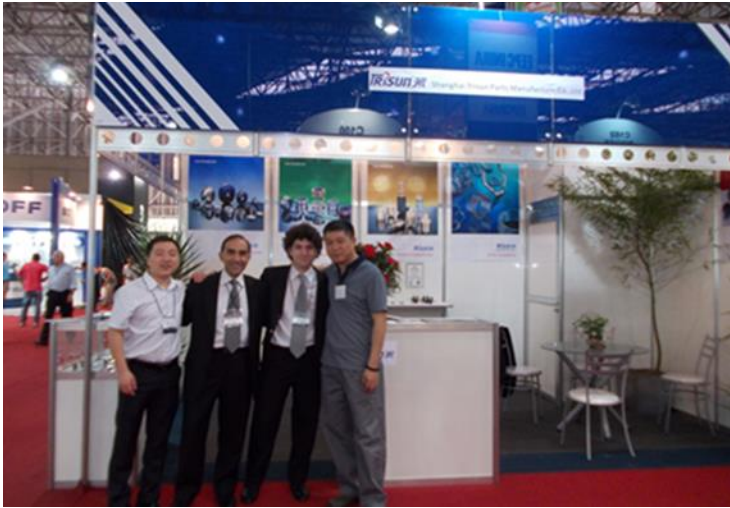
Trisun Mechanical Parts Manufacture

## Company Footprint



- 80% products are exported to more than 60 countries all over the world !





**Brazil-AUTOMEC**



**Germany-ACHEMA**



**Beijing-ACHEMA**



**Guang Zhou-Canton Fair**



**Guang Zhou-Canton Fair**



**Italy-EIMA show**





USA-WEFTEC



Shanghai - FLOWTECH



Shanghai - CIAAR



Shanghai - CIAPE



Turkey - ISK-SODEX

# TRISUN<sup>®</sup> 三尔

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Tel: 0086-21-58355541 58353145 50102677

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<http://www.trisunltd.com>

